

The Andhra Pradesh Mineral Development Corporation Limited.,

(A State Government Undertaking)
Mangampet Barytes Project.

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APMDC/M'Pet/APPCB/ 1032 /2017 - 18

Date: 05.07.2017.

To
The Environmental Engineer,
A.P. Pollution Control Board,
1st Floor, APSFC Building,
Narasimha Theertham Road,
Tirupati - 517502.

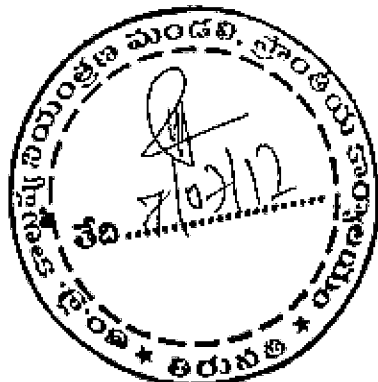
Sir,

Sub: Submission of Environmental Monitoring Test Reports for Mangampet
Barytes Project Conducted by EPTRI, Hyderabad -Reg.

With reference to the above subject, we are here with submitting 3 copies of
Environmental Monitoring Test Reports with Ground Water Table Levels of
Mangampet Barytes Project, Mangampet.

Submitted for your perusal and records please.

Thanking you,



Yours Faithfully,

General Manager.

Encl: As above

Copy to:

1. The Dy.GM (Mines), MSR, BO, M'Pet.
2. T'file.

ANALYSIS REPORT

Page 1 of 8

Registration Number : 17/DWC-19 Issue date : 09.05.2017
Sample received : 01.05.2017 Customer ref : APMDC/EPTRI/MBP/
Date of Commencement : 01.05.2017 2015-16/168
Date of Completion : 05.05.2017 and date : 20.08.2015

Name & Address of the customer : Sri M. Sudharshan Reddy,
Manager
The A.P. Mineral Development Corporation Ltd.,
No. 6-2-915, HMWSSB Premises, Rear Block,
3rd Floor, Khairatabad,
Hyderabad - 500 004

Sample Particulars : Water samples
Qty-received : ~ 5 ltr + 2.5 ltr each - in plastic containers and glass bottles
Type of Sampling : Grab samples
Sample condition : Suitable for analysis.
Sampling Procedure : Samples collected and submitted by EPTRI.
Sample Code : Sample Location
S-1 : Mine pit water - M/s. The A.P. Mineral Development
Corporation Ltd, Mangampeta Barytes
S-2 : CMR discharge - M/s. The A.P. Mineral Development
Corporation Ltd, Mangampeta Barytes

Date of Sampling : 30.04.2017
Sampled by : Sri A. Gopalkrishna, Lab Analyst, EPTRI
Industry representative : Sri M. Sudharshan Reddy, Manager
Sub-Contracting : Sub-Contracting was not awarded

Deviation from Standard methods : No deviation in the test method
Sample Tested : As per the Standard Methods and IS Test methods for the
Examination of water & wastewater by APHA, WEF, &
AWWA, 22nd Edition

Remarks : Nil


Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ENVIRONMENT PROTECTION TRAINING & RESEARCH INSTITUTE (EPTRI)

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As per ISO/IEC 17025:2005

ANALYSIS REPORT

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Encls: 17/DWC-19

Test Results

S.No	Test Parameter(s)	Unit	Test Method	GSR (801) (E), EPA 1986, 1993 as per Inland Surface Water Standards	Results	
					S-1	S-2
1	pH	-	4500. H ⁺ B	5.5 - 9.0	7.6	7.6
2	Electrical Conductivity	µmhos/cm	2510-B	-	1450	1600
3	Chlorides as Cl ⁻	mg/L	4500. Cl ⁻ .B	-	150	152
4	Calcium as Ca	mg/L	3500. Ca.B	-	139	155
5	Magnesium as Mg	mg/L	3500. Mg.B	-	169	150
6	Fluoride as F ⁻	mg/L	4500. F ⁻ .C	2	0.758	0.753
7	Sulphates as SO ₄	mg/L	4500. SO ₄ ²⁻ .E	-	81	143
8	Sulfide as S ²⁻	mg/L	4500-S ²⁻ .F	-	BDL	BDL
9	Nitrates as NO ₃ ⁻	mg/L	4500. NO ₃ ⁻ .B	10	0.55	0.49
10	Biochemical Oxygen Demand	mg/L	IS: 3025/44	30	BDL	BDL
11	Chemical Oxygen Demand	mg/L	5220. B	250	10	10
12	Oil & Grease	mg/L	5520. B	10	<1	<1
13	Total Dissolved Solids at 180 °C	mg/L	2540. C	-	840	940
14	Total Suspended Solids at 105 °C	mg/L	2540. D	-	12	9
15	Barium as Ba	mg/L	3120-B	-	0.03	0.05
16	Iron as Fe	mg/L	3120-B	3	0.18	0.13
17	Manganese as Mn	mg/L	3120-B	2	BDL	BDL
18	Nickel as Ni	mg/L	3120. B	3	BDL	BDL

Opinion and Interpretation: Not Applicable.

BDL - Below detection limit

Detection limit - Biochemical Oxygen Demand as BOD -3 mg/L; Manganese - 0.01 mg/L; Nickel as Ni -0.02 mg/L; Sulfide as S²⁻ -0.05 mg/L

NOTE : The test result relates to the items tested only

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

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Registration Number : 17/DWC-19 **Issue date** : 09.05.2017
Sample received : 01.05.2017 **Customer ref** : APMDC/EPTRI/MBP/
Date of Commencement : 01.05.2017 2015-16/168
Date of Completion : 05.05.2017 **and date** : 20.08.2015

Name & Address of the customer : Sri M. Sudharshan Reddy,
 Manager
 The A.P. Mineral Development Corporation Ltd.,
 No. 6-2-915, HMWSSB Premises, Rear Block,
 3rd Floor, Khairatabad,
 Hyderabad - 500 004

Sample Particulars : Water samples
Qty-received : ~ 5 ltr + 2.5 ltr each - in plastic containers and glass bottles
Type of Sampling : Grab samples
Sample condition : Suitable for analysis.
Sampling Procedure : Samples collected and submitted by EPTRI.
Sample Code : **Sample Location**
S-1 : Mine pit water - M/s. The A.P. Mineral Development
 Corporation Ltd, Mangampeta Barytes
S-2 : CMR discharge - M/s. The A.P. Mineral Development
 Corporation Ltd, Mangampeta Barytes

Date of Sampling : 30.04.2017
Sampled by : Sri A. Gopalkrishna, Lab Analyst, EPTRI
Industry representative : Sri M. Sudharshan Reddy, Manager
Sub-Contracting : Sub-Contracting was not awarded

Deviation from Standard methods : No deviation in the test method
Sample Tested : As per the Standard Methods and IS Test methods for the
 Examination of water & wastewater by APHA, WEF, &
 AWWA, 22nd Edition

Remarks : Nil


 Authorized Signatory
 Dr. C.T. Kamala
 Head-Laboratory

ANALYSIS REPORT

Encis: 17/DWC-19

Test Results

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S.No	Test Parameter(s)	Unit	Test Method	GSR (801) (E), EPA 1986, 1993 as per Inland Surface Water Standards	Results	
					S-1	S-2
19	Methyl Orange Alkalinity as CaCO_3	mg/L	2320. B	-	231	242
20	Total Hardness as CaCO_3	mg/L	2340. C	-	1045	1005
21	Sodium Na	mg/L	3500 Na.B	-	108	117
22	Potassium as K	mg/L	3500. K.B	-	10	11
23	Phosphates as P	mg/L	4500. P.D	5	BDL	BDL

Opinion and Interpretation: Not Applicable.

Opinion and Interpretation: Not Applicable.

BDL - Below detection limit

Detection limit - Phosphates as P - 0.02 mg/L

NOTE : The test result relates to the items tested only

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ANALYSIS REPORT

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Registration Number : 17/DWC-19 Issue date : 09.05.2017
Sample received : 28.11.2016 Customer ref : APMDC/EPTRI/MBP/
Date of Commencement : 01.12.2016 2015-16/168
Date of Completion : 27.12.2016 and date : 20.08.2015

Name & Address of the customer : Sri M. Sudharshan Reddy,
Manager
The A.P. Mineral Development Corporation Ltd.,
No. 6-2-915, HMWSSB Premises, Rear Block,
3rd Floor, Khairatabad,
Hyderabad - 500 004

Sample Particulars : Water samples
Qty-received : ~ 5 ltr + 2.5 ltr each - in plastic containers and glass bottles
Type of Sampling : Grab samples
Sample condition : Suitable for analysis.
Sampling Procedure : Samples collected and submitted by EPTRI.
Sample Code : Sample Location
S-3 : Colony Water - M/s. The A.P. Mineral Development
Corporation Ltd, Mangampeta Barytes

Date of Sampling : 30.04.2017
Sampled by : Sri A. Gopalakrishna, Lab Analyst, EPTRI
Industry representative : Sri M. Sudharshan Reddy, Manager
Sub-Contracting : Sub-Contracting was not awarded

Deviation from Standard methods : No deviation in the test method
Sample Tested : As per the Standard Methods for the Examination of water &
wastewater by APHA, WEF, & AWWA, 22nd Edition
Remarks : Nil

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Dr. C.T. Kamala
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e-mail : jssvas@eptri.com; enquiry@eptri.com



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ANALYSIS REPORT

Encls: 17/DWC-19

Test Results

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S.No	Test Parameter(s)	Unit	Test Method	*Requirement acceptable Limit as per IS:10500: 2012	*Permissible Limit in the absence of Alternative source as per IS 10500:2012	Results S-3
1	pH	--	4500. H ⁺ B	6.5 to 8.5	No relaxation	7.0
2	Electrical Conductivity	µmhos/cm	2510-B	-	-	1800
3	Total Hardness as CaCO ₃	mg/L	2340. C	200	600	1882
4	Methyl Orange Alkalinity as CaCO ₃	mg/L	2320. B	200	600	347
5	Chlorides as Cl ⁻	mg/L	4500. Cl ⁻ B	250	1000	102
6	Calcium as Ca	mg/L	3500. Ca.B	75	200	311
7	Magnesium as Mg	mg/L	3500. Mg.B	30	100	220
8	Fluoride as F ⁻	mg/L	4500. F ⁻ C	1.0	1.5	0.806
9	Sulphates as SO ₄	mg/L	4500. SO ₄ ²⁻ E	200	400	109
10	Nitrates as NO ₃ ⁻	mg/L	4500. NO ₃ ⁻ B	45	No relaxation	BDL
11	Biochemical Oxygen Demand	mg/L	IS: 3025/44	-	-	BDL
12	Total Dissolved Solids at 180 °C	mg/L	2540. C	500	2000	1120
13	Barium as Ba	mg/L	3120-B	0.7	No relaxation	0.05
14	Iron as Fe	mg/L	3120-B	0.3	No relaxation	0.21
15	Manganese as Mn	mg/L	3120-B	0.1	0.3	0.08
16	Nickel as Ni	mg/L	3120. B	0.02	No relaxation	BDL

Opinion and Interpretation: Not Applicable

NOTE : 1. The test result relates to the items tested only

BDL - Below detection limit

Detection limit - Nitrates as NO₃ - 0.03 mg/L; Nickel as Ni - 0.02 mg/L

2. * As per drinking water standards IS 10500 : 2012, all the parameters are not covered in the report

C.T. Kamala
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Dr. C.T. Kamala
Head-Laboratory

Date : 23/02/2012

Issue : 02

F-1 (AAR)

Revision : 02

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ANALYSIS REPORT

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Registration Number : 17/DWC-19 Issue date : 09.05.2017
Sample received : 01.05.2017 Customer ref : APMDC/EPTRI/MBP/
Date of Commencement : 01.05.2017 2015-16/168
Date of Completion : 05.05.2017 and date : 20.08.2015

Name & Address of the customer : Sri M. Sudharshan Reddy,
Manager
The A.P. Mineral Development Corporation Ltd.,
No. 6-2-915, HMWSSB Premises, Rear Block,
3rd Floor, Khairatabad,
Hyderabad - 500 004

Sample Particulars : Water samples
Qty-received : ~ 5 ltr + 2.5 ltr each - in plastic containers and glass bottles
Type of Sampling : Grab samples
Sample condition : Suitable for analysis.
Sampling Procedure : Samples collected and submitted by EPTRI.
Sample Code : Sample Location
S-3 : Colony Water - M/s. The A.P. Mineral Development
Corporation Ltd, Mangampeta Barytes

Date of Sampling : 30.04.2017
Sampled by : Sri A. Gopalakrishna, Lab Analyst, EPTRI
Industry representative : Sri M. Sudharshan Reddy, Manager
Sub-Contracting : Sub-Contracting was not awarded

Deviation from Standard methods : No deviation in the test method
Sample Tested : As per the Standard Methods for the Examination of water &
wastewater by APHA, WEF, & AWWA, 22nd Edition
Remarks : Nil

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

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Encls: 16/DWC-19

Test Results

S.No	Test Parameter(s)	Unit	Test Method	*Requirement acceptable Limit as per IS:10500: 2012	*Permissible Limit in the absence of Alternative source as per IS 10500:2012	Results S-3
17	Chemical Oxygen Demand	mg/L	5220. B	-	-	20
18	Total Suspended Solids at 105 °C	mg/L	2540. D	-	-	16
19	Sulfide as S ²⁻	mg/L	4500-S ²⁻ .F	-	-	BDL
20	Oil & Grease	mg/L	5520. B	-	-	<1
21	Sodium Na	mg/L	3500 Na.B	-	-	89
22	Potassium as K	mg/L	3500. K.B	-	-	6
23	Phosphates as P	mg/L	4500. P.D	-	-	BDL

Opinion and Interpretation: Not Applicable

BDL - Below detection limit

Detection limit - Sulfide as S²⁻ -0.05 mg/L; Phosphates as P - 0.02 mg/L

NOTE : 1. The test result relates to the items tested only

2. * As per drinking water standards IS 10500 : 2012, all the parameters are not covered in the report

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

Page 1 of 9

Registration Number	: 17/DWC-17	Issue date	: 22.05.2017
Sample received	: 01.05.2017	Customer ref	: APMDC/EPTRI/MBP/
Date of Commencement	: 01.05.2017		2015-16/168
Date of Completion	: 18.05.2017	and date	: 20.08.2015
Name & Address of the customer	: Sri M. Sudharshan Reddy, Manager The A.P. Mineral Development Corporation Ltd., No. 6-2-915, HMWSSB Premises, Rear Block, 3 rd Floor, Khairatabad, Hyderabad - 500 004		
Sample Particulars	: Groundwater samples		
Qty-received	: ~ 5 ltr +1+ 2.5 ltr + 300+300 mL each - in plastic containers and glass bottles		
Type of Sampling	: Grab samples		
Sample condition	: Suitable for analysis.		
Sampling Procedure	: Samples collected and submitted by EPTRI.		
Sample Code	: Sample Location		
GW-1	: B.P. Rajupalli		
GW-2	: Bothemeddapalli		
GW-3	: Chinnavorampadu		
GW-4	: Y-Kota		
Date of Sampling	: 29.04.2017		
Sampled by	: Sri A. Gopalkrishna, Lab Analyst, EPTRI		
Industry representative	: Sri M. Sudharshan Reddy, Manager		
Sub-Contracting	: Sub-Contracting was not awarded		
Deviation from Standard methods	: No deviation in the test method		
Sample Tested	: As per the Standard Methods and IS Test methods for the Examination of water & wastewater by APHA, WEF, & AWWA, 22 nd Edition		
Remarks	: Nil		

C.T. Kamala
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ANALYSIS REPORT

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Encls: 17/DWC-17

Test Results

S.No	Test Parameter(s)	Unit	Test Method	Requirement acceptable Limit as per IS:10500:2012	Permissible Limit in the absence of Alternative source as per IS 10500:2012	Results			
						GW-1	GW-2	GW-3	GW-4
1	pH	-	4500. H'B	6.5 to 8.5	No relaxation	6.8	6.8	7.0	6.9
2	Temperature	°C	-	-	-	25.1	25.2	25.3	25.4
4	Total Dissolved Solids at 180°C	mg/L	2540. C	500	2000	530	940	1440	780
5	Turbidity	NTU	2130. B	1	5	0.02	0.04	0.07	0.04
6	Total Hardness as CaCO ₃	mg/L	2340. C	200	600	398	512	736	542
7	Total Alkalinity as CaCO ₃	mg/L	2320. B	200	600	387	577	630	488
8	Chlorides as Cl ⁻	mg/L	4500. Cl.B	250	1000	77	140	405	130
9	Calcium as Ca	mg/L	3500. Ca.B	75	200	88	80	114	102
10	Magnesium as Mg	mg/L	3500. Mg.B	30	100	19	76	110	70
11	Fluoride as F ⁻	mg/L	4500. F.C	1.0	1.5	0.394	0.989	1.18	1.02
12	Sulphates as SO ₄	mg/L	4500. SO ₄ .E	200	400	23	82	63	33
13	Nitrates as NO ₃ ⁻	mg/L	4500. NO ₃ .B	45	No relaxation	39	28	31	33
14	Phenolic Compounds as C ₆ H ₅ OH	mg/L	5530. D	0.001	0.002	BDL	BDL	BDL	BDL
15	Hexavalent Chromium as Cr ⁺⁶	mg/L	3500. Cr ⁺⁶ .B	-	-	BDL	BDL	BDL	BDL
16	Cyanide as CN ⁻	mg/L	4500. CN.F	0.05	No relaxation	BDL	BDL	BDL	BDL

Opinion and Interpretation: Not Applicable.

NOTE: The test result relates to the items tested only

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ANALYSIS REPORT

Encls: 17/DWC-17

Test Results

Page 3 of 9

S.No	Test Parameter(s)	Unit	Test Method	Requirement acceptable Limit as per IS:10500:2012	Permissible Limit in the absence of Alternative source as per IS 10500:2012	Results			
						GW-1	GW-2	GW-3	GW-4
17	Iron as Fe	mg/L	3120. B	0.3	No relaxation	0.13	0.10	0.16	0.14
18	Manganese as Mn	mg/L	3120. B	0.1	0.3	BDL	BDL	BDL	BDL
19	Cadmium as Cd	mg/L	3120. B	0.003	No relaxation	BDL	BDL	BDL	BDL
20	Selenium as Se	mg/L	3120. B	0.01	No relaxation	BDL	BDL	BDL	BDL
21	Total Arsenic as As	mg/L	3120. B	0.01	0.05	BDL	BDL	BDL	BDL
22	Zinc as Zn	mg/L	3120. B	5	15	0.43	BDL	0.03	BDL
23	Lead as Pb	mg/L	3120. B	0.01	No relaxation	BDL	BDL	BDL	BDL
24	Barium as Ba	mg/L	3120. B	0.7	No relaxation	0.19	0.02	0.17	0.27
25	Aluminum as Al	mg/L	3120. B	0.03	0.2	0.04	BDL	0.22	BDL
26	Boron as B	mg/L	3120. B	0.5	1.0	BDL	BDL	0.23	BDL
27	Copper as Cu	mg/L	3120. B	0.05	1.5	BDL	BDL	BDL	BDL
28	Total Chromium as Cr	mg/L	3120. B	0.05	No relaxation	BDL	BDL	BDL	BDL
29	Nickel as Ni	mg/L	3120. B	0.02	No relaxation	BDL	BDL	BDL	BDL
30	Molybdenum as Mo	mg/L	3120. B	0.07	No relaxation	BDL	BDL	BDL	BDL
31	Silver as Ag	mg/L	3120. B	0.1	No relaxation	BDL	BDL	BDL	BDL

Opinion and Interpretation: Not Applicable.

BDL - Below detection limit

Detection limit - Phenols - 0.1 mg/L; Hexavalent Chromium as Cr⁶⁺ - 0.05 mg/L; Cyanide as CN⁻ - 0.05 mg/L; Manganese as Mn - 0.01 mg/L; Cadmium as Cd - 0.01 mg/L; Selenium as Se - 0.04 mg/L; Total Arsenic as As, - 0.04 mg/L; Zinc as Zn - 0.01 mg/L; Lead as Pb - 0.04 mg/L; Aluminium as Al - 0.04 mg/L; Boron as B - 0.02 mg/L; Copper as Cu - 0.02 mg/L; Total Chromium as Cr - 0.03 mg/L; Nickel as Ni - 0.03 mg/L; Molybdenum as Mo - 0.03 mg/L; Silver as Ag - 0.01 mg/L

NOTE : The test result relates to the items tested only

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

Date : 23/02/2012 Issue : 02 F-1 (AAR) Revision : 02 www.eptri.com

ANALYSIS REPORT

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Registration Number	: 17/DWC-17	Issue date	: 22.05.2017
Sample received	: 01.05.2017	Customer ref	: APMDC/EPTRI/MBP/
Date of Commencement	: 01.05.2017		2015-16/168
Date of Completion	: 18.05.2017	and date	: 20.08.2015
Name & Address of the customer	: Sri M. Sudharshan Reddy, Manager The A.P. Mineral Development Corporation Ltd., No. 6-2-915, HMWSSB Premises, Rear Block, 3 rd Floor, Khairatabad, Hyderabad – 500 004		
Sample Particulars	: Groundwater samples		
Qty-received	: ~ 5 ltr + 1 + 2.5 ltr + 300+300 mL each – in plastic containers and glass bottles		
Type of Sampling	: Grab samples		
Sample condition	: Suitable for analysis.		
Sampling Procedure	: Samples collected and submitted by EPTRI.		
Sample Code	: Sample Location		
GW-1	: B.P. Rajupalli		
GW-2	: Bothemeddapalli		
GW-3	: Chinnavorampadu		
GW-4	: Y-Kota		
Date of Sampling	: 29.04.2017		
Sampled by	: Sri A. Gopalkrishna, Lab Analyst, EPTRI		
Industry representative	: Sri M. Sudharshan Reddy, Manager		
Sub-Contracting	: Sub-Contracting was awarded to M/s. Lucid Laboratories Pvt.Ltd, for the estimation of PAH's, Pesticides & Total Trihalomethanes & Mineral Oil		
Deviation from Standard methods	: No deviation in the test method		
Sample Tested	: As per the Standard Methods and IS Test methods for the Examination of water & wastewater by APHA, WEF, & 8010-F, G & H AWWA		
Remarks	: Nil		


 Authorized Signatory
 Dr. C.T. Kamala
 Head-Laboratory

Date: 23/02/2015

Issue: 02

F-1(AAR)

Revision: 02

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ANALYSIS REPORT

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Encs: 17/DWC-17

Test Results

S.No	Test Parameter(s)	Unit	Test Method	Requirement acceptable Limit as per IS:10500:2012	Permissible Limit in the absence of Alternative source as per IS 10500:2012	Results			
						GW-1	GW-2	GW-3	GW-4
32	Colour	Pl.Co	2120. B	5	15	<5	<5	<5	<5
33	Odour	TON	2150. B	Agreeable	Agreeable	No Odour is observed	No Odour is observed	No Odour is observed	No Odour is observed
34	Taste	FTN	2160. B	Agreeable	Agreeable	No flavor is observed	No flavor is observed	No flavor is observed	No flavor is observed
35	Sulfide as S ²⁻	mg/L	4500. S ²⁻ . B	-	-	BDL	BDL	BDL	BDL
36	Residual free chlorine	mg/L	4500-Cl ⁻ . B	0.2	0.1	BDL	BDL	BDL	BDL
37	Anionic Detergents	mg/L	IS:13428 2005 K	0.2	1.0	<0.2	<0.2	<0.2	<0.2
38	Mercury as Hg	µg/L	3500. Hg.B	0.001	No relaxation	BDL	BDL	BDL	BDL

Opinion and Interpretation: Not Applicable.

BDL – Below detection limit

Detection limit - Sulfide as S²⁻ 0.05 mg/L; Residual free chlorine - 1 mg/L; Mercury as Hg – 20 µg/L

NOTE : 1. The test result relates to the items tested only

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

Encls: 17/DWC-17

Test Results

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S.No	Test Parameter(s)	Unit	Test Method	Requirement t acceptable Limit as per IS:10500: 2012	Permissible Limit in the absence of Alternative source as per IS 10500:2012	Results			
						GW-1	GW-2	GW-3	GW-4
	Total Trihalomethanes								
i)	Bromoform	mg/L	APHA, 6232	0.1	No relaxation	BDL	BDL	BDL	BDL
ii)	Dibromochloromethane	mg/L	APHA, 6232	0.1	No relaxation	BDL	BDL	BDL	BDL
iii)	Bromodichloromethane	mg/L	APHA, 6232	0.06	No relaxation	BDL	BDL	BDL	BDL
iv)	Chloroform	mg/L	APHA, 6232	0.2	No relaxation	BDL	BDL	BDL	BDL
	Pesticides :								
i)	Arachlor	µg/L	USEPA, 525.2	20	-	BDL	BDL	BDL	BDL
ii)	Atrazine	µg/L	USEPA, 525.2	2	-	BDL	BDL	BDL	BDL
iii)	Aldrin	µg/L	USEPA, 508	0.03	-	BDL	BDL	BDL	BDL
iv)	Dieldrin	µg/L	USEPA, 508	0.03	-	BDL	BDL	BDL	BDL
v)	Alpha HCH	µg/L	USEPA, 508	0.01	-	BDL	BDL	BDL	BDL
vi)	Beta HCH	µg/L	USEPA, 508	0.04	-	BDL	BDL	BDL	BDL
vii)	Butachlor	µg/L	USEPA, 525.2	125	-	BDL	BDL	BDL	BDL
viii)	Chlorpyrifos	µg/L	USEPA, 525.2	30	-	BDL	BDL	BDL	BDL
ix)	Delta HCH	µg/L	USEPA, 508	0.04	-	BDL	BDL	BDL	BDL
x)	2,4-Dichlorophenoxyacetic acid	µg/L	USEPA 516.1	30	-	BDL	BDL	BDL	BDL
xi)	o,p-DDD, o,p-DDD, p,p-DDD, o,p-DDT, p,p-DDD, p,p-DDT	µg/L	USEPA, 508	1	-	BDL	BDL	BDL	BDL
xii)	Alpha Endosulfan, Beta Endosulfan, and Endosulfan, Sulfate)	µg/L	USEPA, 508	0.4	-	BDL	BDL	BDL	BDL
xiii)	Ethion	µg/L	USEPA, 508	3	-	BDL	BDL	BDL	BDL
xiv)	Gamma HCH	µg/L	USEPA, 508	2	-	BDL	BDL	BDL	BDL
xv)	Isoproturon	µg/L	USEPA, 532	9	-	BDL	BDL	BDL	BDL
xvi)	Malathion	µg/L	USEPA, 525.2	190	-	BDL	BDL	BDL	BDL
xvii)	Methyl Parathion	µg/L	USEPA, 525.2	0.3	-	BDL	BDL	BDL	BDL
xviii)	Monocrotophos	µg/L	USEPA, 525.2	1	-	BDL	BDL	BDL	BDL
xiv)	Phorate	µg/L	USEPA, 525.2	2	-	BDL	BDL	BDL	BDL
	PCBs	mg/L	USEPA-508	0.0005	-	ND	ND	ND	ND
	PAHs	mg/L	USEPA-508	0.0001	-	ND	ND	ND	ND
	Mineral Oil	mg/L	Clause 6 of IS 3025/Part-39	0.5	-	Absent	Absent	Absent	Absent

Opinion and Interpretation: Not Applicable

BDL: - Below Detection Limit.

Detection Limit: Pesticides - 0.00002 mg/L; Total Trihalomethanes - 0.01 mg/L; PCB - 0.00002 mg/L;

NOTE : 1. The test result relates to the items tested only

2. Sub-contracting was awarded to M/s. Lucid Laboratories Pvt. Ltd., Hyderabad for PAH's, Pesticides & Total Trihalomethanes & Mineral Oil

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head - Laboratory

ANALYSIS REPORT

Page 7 of 9

17/DWC- 17 Test Results

S.No	Test Parameter(s)	Unit	Test Method	Results	
				GW -1	GW-2
1.	Fish Bio-assay test (LC ₅₀)	%	8010-F, G & H	LC ₅₀ value for 96 hours does not lie upto 100% concentration. The results indicated that the sample is not toxic to the test organism	LC ₅₀ value for 96 hours does not lie upto 100% concentration. The results indicated that the sample is not toxic to the test organism

S.No	Test Parameter(s)	Unit	Test Method	Results	
				GW -3	GW-4
1.	Fish Bio-assay test (LC ₅₀)	%	8010-F, G & H	LC ₅₀ value for 96 hours does not lie upto 100% concentration. The results indicated that the sample is not toxic to the test organism	LC ₅₀ value for 96 hours does not lie upto 100% concentration. The results indicated that the sample is not toxic to the test organism

Opinion and Interpretation: Not Applicable

NOTE : 1. The test result relates to the items tested only


 Authorized Signatory
 K. Vamsi Krishna
 Project Faculty



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NABL ACCREDITED
NABL T-0812, T-1451
As per ISO/IEC 17025:2005

ANALYSIS REPORT

Page 8 of 9

Registration Number	: 17/MWC-13	Issue date	: 22.05.2017
Sample received	: 01.05.2017	Customer ref	: APMDG/EPTRI/MBP/
Date of Commencement	: 01.05.2017		2015-16/168
Date of Completion	: 04.05.2017	and date	: 20.08.2015
Name & Address of the customer	: Sri M. Sudharshan Reddy, Manager The A.P. Mineral Development Corporation Ltd., No. 6-2-915, HMWSSB Premises, Rear Block, 3 rd Floor, Khairatabad, Hyderabad - 500 004		
Sample Particulars	: GroundWater samples		
Qty-received	: - 5 ltr +1+ 2.5 ltr + 300+300 mL each - in plastic containers and glass bottles		
Type of Sampling	: Grab samples		
Sample condition	: Suitable for analysis.		
Sampling Procedure	: Samples collected and submitted by EPTRI.		
Sample Code	: Sample Location		
GW-1	: B.P. Rajupalli		
GW-2	: Bothemeddapalli		
GW-3	: Chinnavorampadu		
GW-4	: Y-Kota		
Date of Sampling	: 29.04.2017		
Sampled by	: Sri A. Gopalkrishna, Lab Analyst, EPTRI		
Industry representative	: Sri M. Sudharshan Reddy, Manager		
Sub-Contracting	: Sub-Contracting was not awarded		
Deviation from Standard methods	: No deviation in the test method		
Sample Tested	: As per the Standard Methods and IS Test methods for the Examination of water & wastewater by APHA, WEF, & AWWA, 22 nd Edition		
Remarks	: Nil		


Authorized Signatory
K. Vamsi Krishna
Project Faculty



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ANALYSIS REPORT

Page 9 of 9

S.No	Test Parameter(s)	Unit	Test Method	Requirement acceptable Limit as per IS:10500: 2012	Permissible Limit in the absence of Alternative source as per IS 10500:2012	GW-1	GW-2
1	Total Coliform	MPN/100 mL	9221A & B	-	-	<1.8	<1.8
2	Faecal Coliform	MPN/100 mL	9221 E	-	-	<1.8	<1.8
3	E. coli	Presence or Absence/ 100 mL	9221 F	-	-	Absent	Absent

17/MWC-13

Test Results

S.No	Test Parameter(s)	Unit	Test Method	Requirement acceptable Limit as per IS:10500: 2012	Permissible Limit in the absence of Alternative source as per IS 10500:2012	GW-3	GW-4
1	Total Coliform	MPN/100 mL	9221A & B	-	-	<1.8	<1.8
2	Faecal Coliform	MPN/100 mL	9221 E	-	-	<1.8	<1.8
3	E. coli	Presence or Absence/ 100 mL	9221 F	-	-	Absent	Absent

Opinion and Interpretation: Not Applicable.

NOTE : 1.The test result relates to the items tested only

Authorized Signatory
K. Vamsi Krishna
Project Faculty

Date : 23/02/2012

Issue : 02

F-1 (AAR)

Revision : 02

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NABL T-0612, T-1451
As per ISO/IEC 17025:2005

ANALYSIS REPORT

Page 1 of 8

Registration Number	: 17/DWC-18	Issue date	: 22.05.2017
Sample received	: 01.05.2017	Customer ref	: APMDC/EPTRI/MBP/
Date of Commencement	: 01.05.2017		2015-16/168
Date of Completion	: 18.05.2017	and date	: 20.08.2015
Name & Address of the customer	: Sri M. Sudharshan Reddy, Manager The A.P. Mineral Development Corporation Ltd., No. 6-2-915, HMWSSB Premises, Rear Block, 3 rd Floor, Khairatabad, Hyderabad - 500 004		
Sample Particulars	: Surface water samples		
Qty-received	: ~ 5 ltr + 1 + 2.5 ltr + 300+300 mL each - in plastic containers and glass bottles		
Type of Sampling	: Grab samples		
Sample condition	: Suitable for analysis.		
Sampling Procedure	: Samples collected and submitted by EPTRI.		
Sample Code	: Sample Location		
SW-1	: Chinnavorampadu		
SW-2	: Y-Kota		
Date of Sampling	: 29.04.2017		
Sampled by	: Sri A. Gopalkrishna, Lab Analyst, EPTRI		
Industry representative	: Sri M. Sudharshan Reddy, Manager		
Sub-Contracting	: Sub-Contracting was not awarded		
Deviation from Standard methods	: No deviation in the test method		
Sample Tested	: As per the Standard Methods and IS Test methods for the Examination of water & wastewater by APHA, WEF, & AWWA, 22 nd Edition		
Remarks	: Nil		

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory



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ANALYSIS REPORT

Encls: 17/DWC-18

Test Results

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S.No	Test Parameter(s)	Unit	Tolerance Limits IS : 2296-1982	CPCB Water quality Criteria			Test Method	Results	
			Class C	Class A	Class B	Class C		SW-1	SW-2
1	pH	—	4500. H ⁺ B	6.5-8.5	6.5-8.5	6.5-8.5	6.5 – 9.0	7.0	8.4
2	Temperature	°C	2550. B	—	—	—	—	25.1	25.2
3	Electrical Conductivity	µmhos/cm	2510-B	—	—	—	—	4640	2240
4	Total Dissolved Solids at 180°C	mg/L	2540. C	—	—	—	—	2690	1400
5	Turbidity	NTU	2130. B	—	—	—	—	0.9	0.1
6	Fluoride as F ⁻	mg/L	4500-F ⁻ .C	—	—	—	—	1.14	0.627
7	Bio chemical Oxygen Demand for 3 days at 27° C	mg/L	IS: 3025	3	2 mg/l or less	3 mg/l or less	3 mg/l or less	4	BDL
8	Chlorides as Cl ⁻	mg/L	4500. Cl ⁻ .B	—	—	—	—	132	195
9	Calcium as Ca	mg/L	3500-Ca.B	—	—	—	—	406	124
10	Magnesium as Mg	mg/L	3500. Mg.B	—	—	—	—	532	217
11	Sulphates as SO ₄	mg/L	4500. SO ₄ ²⁻ .E	—	—	—	—	217	231
12	Nitrates as NO ₃ ⁻	mg/L	4500. NO ₃ ⁻ .B	50	—	—	—	18	16
13	Total Chromium as Cr	mg/L	3120. B	—	—	—	—	BDL	BDL
14	Nickel as Ni	mg/L	3120. B	0.02	—	—	—	BDL	BDL
15	Lead as Pb	mg/L	3120. B	0.01	—	—	—	BDL	BDL
16	Cadmium as Cd	mg/L	3120. B	0.003	—	—	—	BDL	BDL
17	Zinc as Zn	mg/L	3120. B	5	—	—	—	0.06	0.05
18	Arsenic as As	mg/L	3120. B	0.01	—	—	—	BDL	BDL
19	Iron as Fe	mg/L	3120. B	50	—	—	—	1.27	1.49
20	Boron as B	mg/L	3120-B	1.0	—	—	—	BDL	BDL

Opinion and Interpretation: Not Applicable.

BDL - Below detection limit

Detection limit – Biochemical Oxygen Demand as BOD -3 mg/L; Total chromium as Cr - 0.03 mg/L; Lead as Pb - 0.04 mg/L; Cadmium as Cd-0.01mg/L; Arsenic as As -0.04 mg/L; Copper as Cu - 0.02 mg/L; Boron as B -0.02 mg/L; Manganese - 0.01 mg/L; Nickel as Ni -0.03 mg/L; Sulfide as S²⁻ -0.05 mg/L

NOTE : The test result relates to the items tested only

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

Page 3 of 8

Registration Number : 17/DWC-18 Issue date : 22.05.2017
Sample received : 01.05.2017 Customer ref : APMDC/EPTRI/MBP/
Date of Commencement : 01.05.2017 2015-16/168
Date of Completion : 18.05.2017 and date : 20.08.2015

Name & Address of the customer : Sri M. Sudharshan Reddy,
Manager
The A.P. Mineral Development Corporation Ltd.,
No. 6-2-915, HMWSSB Premises, Rear Block,
3rd Floor, Khairatabad,
Hyderabad – 500 004

Sample Particulars : Surfacewater samples
Qty-received : ~ 5 ltr + 2.5 ltr _300+300 mL each – in plastic containers and
glass bottles
Type of Sampling : Grab samples
Sample condition : Suitable for analysis.
Sampling Procedure : Samples collected and submitted by EPTRI.
Sample Code : Sample Location
SW-1 : Chinnavorampadu

SW-2 : Y-Kota

Date of Sampling : 29.04.2017
Sampled by : Sri A. Gopalkrishna, Lab Analyst, EPTRI
Industry representative : Sri M. Sudharshan Reddy, Manager
Sub-Contracting : Sub-Contracting was awarded to M/s. Lucid Laboratories
Pvt.Ltd., Hyderabad – for the estimation of Pesticides
Total Trihalomethanes & PAHs

Deviation from Standard methods : No deviation in the test method

Sample Tested : As per the Standard Methods and IS Test methods for the
Examination of water & wastewater by APHA, WEF, & 8010-F,

Remarks : G & H AWWA
Nil


Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

Encls: 17/DWC-18

Test Results

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S.No	Test Parameter(s)	Unit	Tolerance Limits IS : 2296-1982	CPCB Water quality Criteria				Test Method	Results	
			Class C	Class A	Class B	Class C			SW-1	SW-2
21	Colour	Pl-co	2120. B	300	--	--	--	--	20	<5
22	Odour	TON	2150. B	--	--	--	--	--	No odour observed	No odour observed
23	Dissolved Oxygen	mg/L	4500-O.C	4	6 mg/l or more	5 mg/l or more	4 mg/l or more	--	6.0	6.4
24	Total Phosphates	mg/L	4500-P-D	--	--	--	--	--	BDL	BDL
25	Total Suspended Solids at 105° C	mg/L	2540. D	1500	--	--	--	--	32	14
26	Chemical Oxygen Demand	mg/L	5220. D	--	--	--	--	--	129	30
27	Ammonical Nitrogen as NH ₃ -N	mg/L	4500-NH ₃ -C	--	--	--	--	--	BDL	BDL
28	Oil & Grease	mg/L	5520. B	--	--	--	--	--	<1	<1
29	Sodium Na	mg/L	3500 Na. B	--	--	--	--	--	139	214
30	Potassium as K	mg/L	3500. K.B	--	--	--	--	--	22	16
31	Carbonates as CO ₃	mg/L	2320.B	--	--	--	--	--	NIL	NIL
32	Bicarbonates as HCO ₃	mg/L	2320.B	--	--	--	--	--	183	73
33	Mercury as Hg	µg/L	3500-Hg.B	--	--	--	--	--	BDL	BDL

Opinion and Interpretation: Not Applicable.

BDL – Below detection limit

Detection limit – Total Phosphates -0.02 mg/L; Ammonical Nitrogen as NH₃-N - 5 mg/L; Mercury as Hg- 20 µg/L;

NOTE : The test result relates to the items tested only

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head-Laboratory

ANALYSIS REPORT

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Encls: 17/DWC-18

Test Results

S.No	Test Parameter(s)	Unit	Test Method	Tolerance Limits IS : 2296-1982	CPCB Water quality Criteria				Results	
					Class C	Class A	Class B	Class C	SW-1	SW-2
	Total Trihalomethanes									
i)	Bromoform	mg/L	APHA. 6232	0.1	-	-	-	-	BDL	BDL
ii)	Dibromochloromethane	mg/L	APHA. 6232	0.1	-	-	-	-	BDL	BDL
iii)	Bromodichloromethane	mg/L	APHA. 6232	0.06	-	-	-	-	BDL	BDL
iv)	Chloroform	mg/L	APHA. 6232	0.2	-	-	-	-	BDL	BDL
	Pesticides :									
i)	Arochlor	µg/L	USEPA. 525.2	20	-	-	-	-	BDL	BDL
ii)	Atrazine	µg/L	USEPA. 525.2	2	-	-	-	-	BDL	BDL
iii)	Aldrin	µg/L	USEPA. 508	0.03	-	-	-	-	BDL	BDL
iv)	Dieldrin	µg/L	USEPA. 508	0.03	-	-	-	-	BDL	BDL
v)	Alpha HCH	µg/L	USEPA. 508	0.01	-	-	-	-	BDL	BDL
vi)	Beta HCH	µg/L	USEPA. 508	0.04	-	-	-	-	BDL	BDL
vii)	Butachlor	µg/L	USEPA. 525.2	125	-	-	-	-	BDL	BDL
viii)	Chlorpyrifos	µg/L	USEPA. 525.2	30	-	-	-	-	BDL	BDL
ix)	Delta HCH	µg/L	USEPA. 508	0.04	-	-	-	-	BDL	BDL
x)	2,4-Dichlorophenoxyacetic acid	µg/L	USEPA 515.1	30	-	-	-	-	BDL	BDL
xi)	o,p-DDE, o,p-DDD, p,p-DDE, o,p-DDT, p,p-DDD, p,p-DDT	µg/L	USEPA. 508	1	-	-	-	-	BDL	BDL
xii)	Alpha Endosulfan, Beta Endosulfan, and Endosulfan, Sulfate)	µg/L	USEPA. 508	0.4	-	-	-	-	BDL	BDL
xiii)	Ethion	µg/L	USEPA. 508	3	-	-	-	-	BDL	BDL
xiv)	Gamma HCH	µg/L	USEPA. 508	2	-	-	-	-	BDL	BDL
xv)	Isoproturon	µg/L	USEPA. 532	9	-	-	-	-	BDL	BDL
xvi)	Malathion	µg/L	USEPA. 525.2	190	-	-	-	-	BDL	BDL
xvii)	Methyl Parathion	µg/L	USEPA. 525.2	0.3	-	-	-	-	BDL	BDL
xviii)	Monocrotophos	µg/L	USEPA. 525.2	1	-	-	-	-	BDL	BDL
xix)	Phorate	µg/L	USEPA. 525.2	2	-	-	-	-	BDL	BDL
xx)	PAHs	mg/L	USEPA-508	0.0001	-	-	-	-	ND	ND

Opinion and Interpretation: Not Applicable

BDL: - Below Detection Limit

Detection Limit: Pesticides – 0.00002 mg/L; Total Trihalomethanes – 0.01 mg/L;

NOTE : 1. The test result relates to the items tested only

2. Sub-contracting was awarded to M/s. Lucid Laboratories Pvt. Ltd., Hyderabad for PAH's, Pesticides & Total Trihalomethanes

C.T. Kamala
Authorized Signatory
Dr. C.T. Kamala
Head – Laboratory

Date: 23/02/2015

Issue: 02/2015 F-1(AAR)

Revision: 02

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ANALYSIS REPORT

Encls: 17/DWC-18

Test Results

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S.No	Test Parameter(s)	Unit	Test Method	Results	
				SW -1	SW-2
1.	Fish Bio-assay test (LC_{50})	%	8010-F, G & H	LC_{50} value for 96 hours does not lie upto 100% concentration. The results indicated that the sample is not toxic to the test organism	LC_{50} value for 96 hours does not lie upto 100% concentration. The results indicated that the sample is not toxic to the test organism

Opinion and Interpretation: Not Applicable

NOTE : 1. The test result relates to the items tested only



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As per ISO/IEC 17025:2005

ANALYSIS REPORT

Page 7 of 8

Registration Number : 17/MWC-14 Issue date : 22.05.2017
Sample received : 01.05.2017 Customer ref : APMDC/EPTRI/MBP/
Date of Commencement : 01.05.2017 2015-16/168
Date of Completion : 04.05.2017 and date : 20.08.2015

Name & Address of the customer : Sri M. Sudharshan Reddy,
Manager
The A.P. Mineral Development Corporation Ltd.,
No. 6-2-915, HMWSSB Premises, Rear Block,
3rd Floor, Khairatabad,
Hyderabad – 500 004

Sample Particulars : Surfacewater samples
Qty-received : ~ 5 ltr + 2.5 ltr _300+300 mL each – in plastic containers and
glass bottles
Type of Sampling : Grab samples
Sample condition : Suitable for analysis.
Sampling Procedure : Samples collected and submitted by EPTRI.
Sample Code : Sample Location
SW-1 : Chinnavorampadu

SW-2 : Y-Kota

Date of Sampling : 29.04.2017
Sampled by : Sri A. Gopalkrishna, Lab Analyst, EPTRI
Industry representative : Sri M. Sudharshan Reddy, Manager
Sub-Contracting : Sub-Contracting was not awarded

Deviation from Standard methods : No deviation in the test method

Sample Tested : As per the Standard Methods and IS Test methods for the
Examination of water & wastewater by APHA, WEF, &
AWWA, 22nd Edition

Remarks : Nil

Authorized Signatory
K. Vamsi Krishna
Project Faculty

Date : 23/02/2012

Issue : 02

F-1 (AAR)

Revision : 02

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ANALYSIS REPORT

Encls: 17/MWC-14

Test Results

Page 6 of 8

S.No	Test Parameter(s)	Unit	Test Method	Tolerance Limits IS : 2296-1982	CPCB Water quality Criteria				Results	
				Class C	Class A	Class B	Class C		SW-1	SW-2
1	Total Coliform	MPN/100mL	9221A & B	5000	50 or less	500 or less	5000 or less		920	33
2	Fecal Coliform	MPN/100mL	9221 E	—	—	—	—		130	13
3	E. coli	Presence or Absence/MPN/100 mL	9221 F	—	—	—	—		Present	Absent

Opinion and Interpretation: Not Applicable.

NOTE : The test result relates to the items tested only


Authorized Signatory
K. Vamsi Krishna
Project Faculty

ANALYSIS REPORT

Page 01 of 16

Registration Number : 17/ACS-06 & 17/ACS-07 **Issue date** : 06.05.2017
Sample received : 01.05.2017 **Client ref & date** : APMDC/EPTRI/MBP/2015-16/168 & 20.08.2015
Date of completion : 01.05.2017
Name & Address of the client : The Andhra Pradesh Mineral Development Corporation Ltd.,
 (A state Government Undertaking)
 H.No.6-2-915, 3rd Floor, Rear Block, HMWSSB Premises, Khairatabad,
 Hyderabad - 500 004.
Industry : M/s. The A.P. Mineral Development Corporation Ltd.,
 Mangampeta Barytes Project, Mangampeta area, Kadapa district.
Sample Particulars : Ambient Air Quality Monitoring (AAQM- PM₁₀, PM_{2.5}, SO₂, NO₂, CO) and Stack Monitoring (SM)
Qty-received : AAQM - Filter papers, Gaseous - 30ml solution, & SM - Thimbles, Gaseous - 30 ml solutions.
Sample condition : Gaseous Samples collected in PP bottles, AAQM - PM in Filters,
 SM - PM in Thimble.
Sampling Procedure : As per the Indian Standard Methods and EPTRI Sampling Methodology.

<u>Sample code</u>	<u>Sample description</u>	<u>Location</u>
AAQM-1	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Outside Mill Area
AAQM-2	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Inside Mill Area
AAQM-3	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Type-II Quarters
AAQM-4	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Type-III & IV Quarters
AAQM-5	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Near Mine DG Sets
AAQM-6	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Near Mill DG Sets
AAQM-7	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Near Drilling Area
AAQM-8	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Near Loading Point
AAQM-9	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Near Haulage Road
AAQM-10	: AAQM(24 hours)- PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ and AAQM(1 hour)-CO	Near General Working Area

Date: 23/02/2015

Issue: 02

F-1 (AAR)

Revision: 02

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ANALYSIS REPORT

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SM - I : Stack Monitoring; Stack connected to D.G. 250KVA near mine area (Pulverization) Generator Block-DG set -1

SM - II : Stack Monitoring; Stack connected to D.G. 500KVA near mine area (Pump station No.1) Generator Block-DG set-2

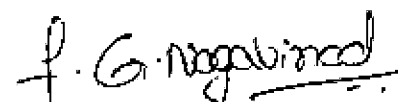
SM - III : Stack Monitoring; Stack connected to D.G. 180KVA near Substation area Generator Block-DG set -6

Date of sampling : 27.04.2017 to 30.04.2017

Monitored by : Mr. A.Gopal Krishna, Field/Lab Analyst, EPTRI

Industry representative : Mr. Sudarshan Reddy, Manager, APMDQ - Mangampeta

Remarks : N.A.


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ANALYSIS REPORT

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Registration Number : 17/ACS-06 & 17/ACS-07 Issue date : 06.05.2017
 Sample received : 01.05.2017 Client ref & date : APMDC/EPTRI/MBP/2015-16/168 & 20.08.2015
 Date of completion : 01.05.2017

Name & Address of the client : The Andhra Pradesh Mineral Development Corporation Ltd.,
 (A state Government Undertaking)
 H.No.6-2-915, 3rd Floor, Rear Block, HMWSSB Premises, Khairatabad,
 Hyderabad – 500 004.
 Industry : The A.P. Mineral Development Corporation Ltd.,
 Mangampet Barytes Project, Mangampeta area, Kadapa district.
 Sample Particulars : Noise Monitoring (NM)
 Qty-received : NM – Leq, Lmax, Lmin, Leq – day & Night for each sampling location
 Sample condition : Hourly Instantaneous reading
 Sampling Procedure : As per the Indian Standard Methods and EPTRI Sampling Methodology.

<u>Sample code</u>	<u>Sample description</u>	<u>Location</u>
NM – 1	Noise Monitoring: 24 hours @ hourly sampling (Instantaneous Reading)	Near Admn Office
NM – 2	Noise Monitoring: 24 hours @ hourly sampling (Instantaneous Reading)	Near Mill Area
NM – 3	Noise Monitoring: 24 hours @ hourly sampling (Instantaneous Reading)	D.G. Sets Room
NM – 4	Noise Monitoring: 24 hours @ hourly sampling (Instantaneous Reading)	Type-III & IV Quarters
NM – 5	Noise Monitoring: 24 hours @ hourly sampling (Instantaneous Reading)	Near General Working Area
Date of sampling	27.04.2017 to 30.04.2017	

Monitored by : Mr. A.Gopal Krishna, Field/Lab Analyst, EPTRI
 Industry representative : Mr. Sudarshan Reddy, Manager, APMDC - Mangampeta
 Remarks : N.A.


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ANALYSIS REPORT

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

TEST RESULT

AMBIENT AIR QUALITY MONITORING

S. No.	Parameter(s)	Test Method or Measurement	Category	Standard*	Result			Average (24 hrly) Except CO - Average (1hour)
					1 st Sample (8 hrly)	2 nd Sample (8 hrly)	3 rd Sample (8 hrly)	
AAQM-1	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Industrial	100	80.3	89.9	85.5	85.2
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	56.2			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	15.4	15.6	17.5	16.2
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	16.8	18.4	19.4	18.2
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	1.9			
AAQM-2	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Industrial	100	76.4	85.4	79.8	80.5
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	54.9			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	14.4	15.8	16.7	15.6
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	15.7	16.8	19.6	17.4
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	1.8			
AAQM-3	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Residential	100	77.8	81.9	79.8	79.8
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	44.9			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	16.1	15.4	18.1	16.5
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	17.1	16.4	18.9	17.5
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy			1.0			
AAQM-4	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Residential	100	80.1	85.4	78.4	81.3
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	46.1			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	15.1	14.8	16.8	15.6
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	18.1	17.4	19.3	18.3
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	0.9			

*NAAQ standards as prescribed for Industrial, Residential, Rural and other areas, MoEF, 2009

 National Ambient Air Quality Standards are given in Annexure-I



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ANALYSIS REPORT

Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 08.05.2017

S. No.	Parameter(s)	Test Method or Measurement	Category	Standard*	Result			Average (24 hrly), Except CO - Average (1hour)
					1 st Sample (8 hrly)	2 nd Sample (8 hrly)	3 rd Sample (8 hrly)	
AAQM-5	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Industrial	100	86.1	89.4	79.8	85.1
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	54.2			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	16.9	16.1	18.5	17.2
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	19.1	18.1	20.4	19.2
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	1.8			
AAQM-6	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Industrial	100	87.3	89.4	86.5	87.7
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	55.3			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	17.9	16.4	18.9	17.7
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	19.7	21.4	22.4	21.2
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	1.7			
AAQM-7	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Industrial	100	91.2	94.5	97.8	94.5
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	56.9			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	14.9	13.9	18.4	15.7
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	18.1	16.7	19.1	18.0
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	3.6			
AAQM-8	Particulate Matter size less than 10 micro meter (PM ₁₀) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 23), 2009	Industrial I	100	89.4	95.6	95.9	93.6
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in $\mu\text{g}/\text{m}^3$	Gravimetric		60	55.7			
	Sulphur dioxide (SO ₂) in $\mu\text{g}/\text{m}^3$	IS:5182(Part 2), 2001		80	14.5	13.7	17.4	15.2
	Nitrogen dioxide (NO ₂) in $\mu\text{g}/\text{m}^3$	IS: 5182 (Part-VI), 1975		80	16.4	15.7	19.8	17.3
	Carbon Monoxide (CO) in mg/m^3	Non Dispersive Infra Red (NDIR) Spectroscopy		04	3.2			

*NAAQ standards as prescribed for Industrial, Residential, Rural and other areas, MoEF, 2009
National Ambient Air Quality Standards are given in Annexure-I

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ANALYSIS REPORT

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

S. No.	Parameter(s)	Test Method or Measurement	Category	Standard*	Result			Average (24 hrly) Except CO - Average (1hour)
					1 st Sample (8 hrly)	2 nd Sample (8 hrly)	3 rd Sample (8 hrly)	
AAQM-9	Particulate Matter size less than 10 micro meter (PM ₁₀) in µg/m ³	IS:5182(Part 23), 2009	Industrial	100	87.5	90.2	84.5	87.4
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in µg/m ³	Gravimetric		60	49.8			
	Sulphur dioxide (SO ₂) in µg/m ³	IS:5182(Part 2), 2001		80	16.9	15.8	18.4	17.0
	Nitrogen dioxide (NO ₂) in µg/m ³	IS: 5182 (Part-VI), 1975		80	18.7	17.5	21.1	19.1
	Carbon Monoxide (CO) in mg/m ³	Non Dispersive Infra Red (NDIR) Spectroscopy		04	2.7			
AAQM-10	Particulate Matter size less than 10 micro meter (PM ₁₀) in µg/m ³	IS:5182(Part 23), 2009	Industrial	100	90.1	93.5	85.4	89.7
	Particulate matter size less than 2.5 micro meter (PM _{2.5}) in µg/m ³	Gravimetric		60	51.8			
	Sulphur dioxide (SO ₂) in µg/m ³	IS:5182(Part 2), 2001		80	14.8	13.5	16.9	15.1
	Nitrogen dioxide (NO ₂) in µg/m ³	IS: 5182 (Part-VI), 1975		80	16.4	15.4	18.7	16.8
	Carbon Monoxide (CO) in mg/m ³	Non Dispersive Infra Red (NDIR) Spectroscopy		04	1.6			

Field Observations:

1. Movement of employees and workers are observed during monitoring
 2. Movement of Heavy vehicles and sprinkling of water were also observed during monitoring
- Temperature: 39°C
Humidity : 29%

f. G. Agarwal
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ANALYSIS REPORT

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Details of Diesel Generator stack: SM-I

Stack connected to D.G. 250KVA	SM-I
Diameter of the stack (m)	0.20
Temperature of the flue gas ($^{\circ}$ C)	181
Velocity of the flue gas (m/sec)	11
No. of Traverse Points	4
Port Hole Status: a) Location of port as per CPCB guidelines b) Approach c) Platform	Yes Permanent Permanent
No. of Port Holes	1 No
Air Pollution Control Equipment Type: Status: working/Not working	Yes & Before Working
Fuel used	NIL

S.No	Parameter(s)	Unit	Test Methods	Concentration
				SM-I
1.	Particulate Matter (PM)	mg/Nm ³	IS:11255, Part - 1, 1985	61.5
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	IS:11255, Part - 2, 1985	276.2
3.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	IS:5182 (Part-VI), 1975	130.2

Field observations:

1. During monitoring the diesel generators are in operation mode.
2. Normal Industrial activities are observed during monitoring.

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Date : 23/02/2012

Issue : 02

F-1 (AAR)

Revision : 02

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ANALYSIS REPORT

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Lr. No: EPTRI/Lab/Analysis-APMDGH17/ACS-06&17/ACS-07/dated 06.05.2017

Details of Diesel Generator stack: SM-II

Stack connected to D.G. 500KVA	SM-II
Diameter of the stack (m)	0.20
Temperature of the flue gas ($^{\circ}\text{C}$)	182
Velocity of the flue gas (m/sec)	10
No. of Traverse Points	4
Port Hole Status: a) Location of port as per CPCB guidelines b) Approach c) Platform	Yes Permanent Permanent
No. of Port Holes	1 No
Air Pollution Control Equipment Type: Status: working/Not working	Yes & Before -- Working
Fuel used	NIL

S.No	Parameter(s)	Unit	Test Methods	Concentration
				SM-II
1.	Particulate Matter (PM)	mg/Nm ³	IS: 11255, Part - 1, 1985	67.9
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	IS: 11255, Part -2, 1985	286.7
3.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	IS: 5182 (Part-VI), 1975	140.5

Field observations:

1. During monitoring the diesel generators are in operation mode.
2. Normal Industrial activities are observed during monitoring.


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ANALYSIS REPORT

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Details of Diesel Generator stack: SM-III

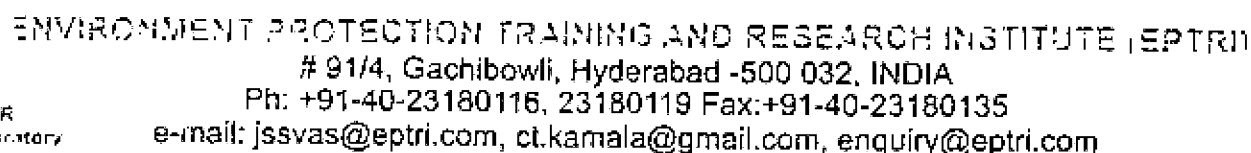
Stack connected to D.G. 180KVA	SM-III
Diameter of the stack (m)	0.20
Temperature of the flue gas ($^{\circ}\text{C}$)	184
Velocity of the flue gas (m/sec)	10.4
No. of Traverse Points	4
Port Hole Status: a) Location of port as per CPCB guidelines b) Approach c) Platform	Yes Permanent Permanent
No. of Port Holes	1 No
Air Pollution Control Equipment Type: Status: working/Not working	Yes & Before -- Working
Fuel used	NIL

S.No	Parameter(s)	Unit	Test Methods	Concentration
				SM-III
1.	Particulate Matter (PM)	mg/Nm ³	IS: 11255, Part - 1, 1985	57.7
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	IS: 11255, Part -2, 1985	267.0
3.	Oxides of Nitrogen (as NO _x)	mg/Nm ³	IS: 5182 (Part-VI), 1975	121.3

Field observations:

1. During monitoring the diesel generators are in operation mode.
2. Normal Industrial activities are observed during monitoring.


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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Noise Monitoring Data at Admin Office: NM-1

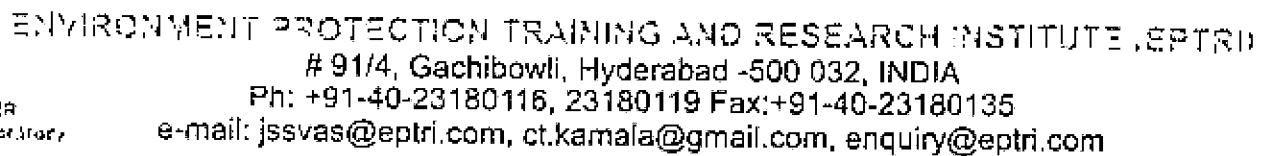
Date of Sampling : 27.04.2017 @ 06:00 A.M to 28.04.2017 @ 06:00 A.M

Duration of monitoring : 24hours

	Time	Lmin dB (A)	Leq dB (A)	Lmax dB (A)	Leq Day dB (A)	Leq Night dB (A)
DAY TIME	06:00a.m-07:00a.m	43.8	45.6	55.4	53.6	32.9
	07:00a.m-08:00a.m	42.7	43.7	51.2		
	08:00a.m-09:00a.m	23.7	54.7	77.1		
	09:00a.m-10:00a.m	23.0	23.5	24.4		
	10:00a.m-11:00a.m	53.8	55.3	60.9		
	11:00a.m-12:00p.m	23.2	54.5	62.4		
	12:00p.m-01:00p.m	42.3	60.4	67.8		
	01:00p.m-02:00p.m	27.4	56.3	69.6		
	02:00p.m-03:00p.m	51.4	52.5	55.7		
	03:00p.m-04:00p.m	51.5	52.5	57.8		
	04:00p.m-05:00p.m	51.2	52.2	53.7		
	05:00p.m-06:00p.m	51.2	52.2	53.2		
	06:00p.m-07:00p.m	51.3	52.4	54.5		
	07:00p.m-08:00p.m	37.1	54.4	76.3		
	08:00p.m-09:00p.m	37.8	45.1	62.9		
NIGHT TIME	09:00p.m-10:00p.m	37.7	39.6	48.5		
	10:00p.m-11:00p.m	35.8	36.1	57.2		
	11:00p.m-12:00a.m	36.8	37.9	52.1		
	12:00a.m-01:00a.m	23.1	23.5	24.1		
	01:00a.m-02:00a.m	23.1	23.6	24.3		
	02:00a.m-03:00a.m	23.2	23.6	24.5		
	03:00a.m-04:00a.m	23.1	23.6	24.1		
	04:00a.m-05:00a.m	22.9	33.5	35.2		
	05:00a.m-06:00a.m	29.4	33.6	45.1		

Note: 1. Daytime is reckoned in between 06.00 a.m and 10.00 p.m
2. Night time is reckoned in between 10.00 p.m and 06.00 a.m

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Doc: 26072010, JSTC/12, FBI/AAE, Revision: 6, Page: 2 of 2

ANALYSIS REPORT

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Noise Monitoring Data at D.G. Sets Room: NM-3

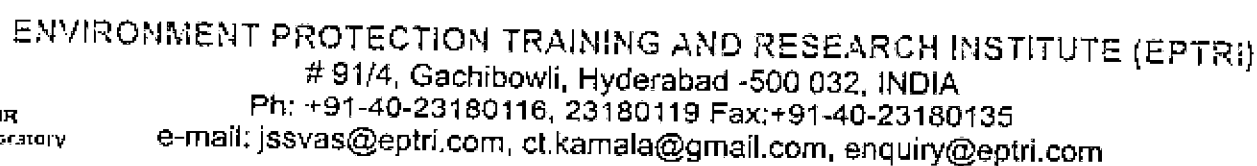
Date of Sampling : 27.04.2017 @ 06:00 A.M to 28.04.2017 @ 06:00 A.M

Duration of monitoring : 24hours

	Time	Lmin dB (A)	Leq dB (A)	Lmax dB (A)	Leq Day dB (A)	Leq Night dB (A)
DAY TIME	06:00a.m-07:00a.m	44.9	53.2	66.5	61.0	55.4
	07:00a.m-08:00a.m	44.2	57.2	65.7		
	08:00a.m-09:00a.m	44.2	51.2	65.5		
	09:00a.m-10:00a.m	44.5	51.1	65.9		
	10:00a.m-11:00a.m	44.2	54.9	65.8		
	11:00a.m-12:00p.m	45.2	51.4	66.3		
	12:00p.m-01:00p.m	45.8	48.4	66.9		
	01:00p.m-02:00p.m	45.8	53.8	68.8		
	02:00p.m-03:00p.m	45.2	63.3	67.2		
	03:00p.m-04:00p.m	45.3	61.7	67.1		
	04:00p.m-05:00p.m	51.7	54.6	70.1		
	05:00p.m-06:00p.m	44.8	68.9	71.2		
	06:00p.m-07:00p.m	44.5	60.9	68.1		
	07:00p.m-08:00p.m	43.2	65.3	70.1		
	08:00p.m-09:00p.m	43.8	62.2	75.1		
	09:00p.m-10:00p.m	43.2	57.7	64.7		
NIGHT TIME	10:00p.m-11:00p.m	50.1	58.2	60.4		
	11:00p.m-12:00a.m	44.0	49.6	55.6		
	12:00a.m-01:00a.m	43.2	47.6	60.6		
	01:00a.m-02:00a.m	42.5	48.2	59.8		
	02:00a.m-03:00a.m	40.1	49.3	58.7		
	03:00a.m-04:00a.m	42.5	57.5	62.1		
	04:00a.m-05:00a.m	47.2	57.8	58.6		
	05:00a.m-06:00a.m	57.1	58.0	58.9		

Note: 1. Daytime is reckoned in between 06.00 a.m and 10.00 p.m
 2. Night time is reckoned in between 10.00 p.m and 06.00 a.m


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Lr. No: EPTR/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Noise Monitoring Data at near Type – III & IV Quarters: NM-4

Date of Sampling : 27.04.2017 @ 06:00 A.M to 28.04.2017 @ 06:00 A.M

Duration of monitoring : 24hours

	Time	Lmin dB (A)	Leq dB (A)	Lmax dB (A)	Leq Day dB (A)	Leq Night dB (A)
DAY TIME	06:00a.m-07:00a.m	38.4	43.8	54.8	53.7	37.2
	07:00a.m-08:00a.m	39.5	46.4	52.8		
	08:00a.m-09:00a.m	49.5	51.6	53.7		
	09:00a.m-10:00a.m	34.5	50.3	67.7		
	10:00a.m-11:00a.m	28.7	42.0	59.2		
	11:00a.m-12:00p.m	28.0	41.8	54.8		
	12:00p.m-01:00p.m	46.2	52.1	58.9		
	01:00p.m-02:00p.m	43.5	58.4	66.6		
	02:00p.m-03:00p.m	25.9	55.6	66.8		
	03:00p.m-04:00p.m	55.6	57.1	62.9		
	04:00p.m-05:00p.m	56.1	57.2	59.5		
	05:00p.m-06:00p.m	57.2	57.7	59.5		
	06:00p.m-07:00p.m	26.5	56.1	61.8		
	07:00p.m-08:00p.m	38.5	38.2	54.2		
	08:00p.m-09:00p.m	42.1	49.2	55.8		
	09:00p.m-10:00p.m	40.5	48.6	53.5		
NIGHT TIME	10:00p.m-11:00p.m	36.4	39.8	44.2		
	11:00p.m-12:00a.m	37.1	40.2	48.1		
	12:00a.m-01:00a.m	32.5	34.6	39.8		
	01:00a.m-02:00a.m	36.5	38.2	42.8		
	02:00a.m-03:00a.m	36.6	38.9	42.1		
	03:00a.m-04:00a.m	24.8	31.2	40.2		
	04:00a.m-05:00a.m	26.8	32.2	41.2		
	05:00a.m-06:00a.m	27.4	32.4	42.7		

Note: 1. Daytime is reckoned in between 06.00 a.m and 10.00 p.m
2. Night time is reckoned in between 10.00 p.m and 06.00 a.m

P. G. McQuinn
Authorized Signatory

Date: 23/07/2015 Ref: 10 F-1000 Revision: 1.0

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Noise Monitoring Data at Near General Working Area: NM-5

Date of Sampling : 28.04.2017 @ 06:00 A.M to 29.04.2017 @ 06:00 A.M

Duration of monitoring : 24hours

	Time	Lmin dB (A)	Leq dB (A)	Lmax dB (A)	Leq Day dB (A)	Leq Night dB (A)
DAY TIME	06:00a.m-07:00a.m	37.2	62.2	79.2	69.0	57.8
	07:00a.m-08:00a.m	34.5	66.2	79.2		
	08:00a.m-09:00a.m	38.2	69.8	78.2		
	09:00a.m-10:00a.m	38.0	64.3	79.8		
	10:00a.m-11:00a.m	33.8	68.9	73.2		
	11:00a.m-12:00p.m	31.8	57.9	76.3		
	12:00p.m-01:00p.m	35.6	67.6	79.7		
	01:00p.m-02:00p.m	47.1	69.4	82.6		
	02:00p.m-03:00p.m	51.5	70.2	75.2		
	03:00p.m-04:00p.m	51.7	70.4	73.3		
	04:00p.m-05:00p.m	44.8	68.2	71.7		
	05:00p.m-06:00p.m	44.7	68.8	78.7		
	06:00p.m-07:00p.m	39.2	70.1	85.1		
	07:00p.m-08:00p.m	41.7	73.9	82.6		
	08:00p.m-09:00p.m	43.0	72.2	78.7		
NIGHT TIME	09:00p.m-10:00p.m	42.9	53.2	74.3		
	10:00p.m-11:00p.m	29.8	54.2	62.2		
	11:00p.m-12:00a.m	42.7	65.3	67.6		
	12:00a.m-01:00a.m	31.3	53.0	66.6		
	01:00a.m-02:00a.m	30.4	51.9	69.7		
	02:00a.m-03:00a.m	27.9	50.5	63.6		
	03:00a.m-04:00a.m	50.9	52.2	59.7		
	04:00a.m-05:00a.m	51.2	53.6	69.8		
	05:00a.m-06:00a.m	52.9	54.7	82.4		

Note: 1. Daytime is reckoned in between 06.00 a.m and 10.00 p.m
2. Night time is reckoned in between 10.00 p.m and 06.00 a.m

P. G. Nagaraj
Authorized Signatory

APMDC/17/ACS-06&17/ACS-07/28.04.2017

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Summary of the Ambient Noise Levels Generated at Study Area

Monitoring stations	Category	Standard limits of Noise dB(A) Leq		Day time noise levels in dB (A)			Night time noise levels in dB (A)		
		Day time	Night time	Min	Max	dB(A) Leq Day	Min	Max	dB(A) Leq Night
Near Admn Office	R	55	45	23.0	77.1	53.6	22.9	57.2	32.9
Near Mill Area	I	75	70	42.2	79.8	67.4	35.6	73.8	60.0
D.G. Sets Room	I	75	70	43.2	75.1	61.0	40.1	62.1	55.4
Near Type-III & IV Area	R	55	45	25.9	67.7	53.7	24.8	48.1	37.2
Near General Working Area	I	75	70	31.8	85.1	69.0	27.9	69.8	57.8

Note: - 1. I-Industrial & R-Residential.

2.Noise standards as prescribed in Noise Pollution (Regulation and Control) Rules, 2000.
Ambient Air Quality Standards in respect of Noise are given in Annexure-II.

From the data it is observed that the noise levels well within the standards. It reaches to close to the standard limits. The noise level which is close to the stipulated standards is due to Open pit mine blasting and or large/heavy number of vehicular movement & honking of vehicles at that particular location and can be minimized with proper precautions and hording to restrict horns at those particular/sensitive areas.

P. G. Nagalingam
Authorized Signatory

Date: 22/02/2018 Test: 02 Rev: 02 (I/AAR) Revision: 02

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Lr. No: EPTRI/Lab/Analysis-APMDC/17/ACS-06&17/ACS-07/dated 06.05.2017

Ground Water Levels at APMDC Barytes Mines, Mangampeta and its surrounding area

S.No	Sampling Locations	Longitude	Latitude	Distance from Mine site in kms. (approx.)	Approx. Ground Water Levels (m bgl)
1	Mangalampalli	N 14°03'50.9"	E 79°19'07.4"	3.5	18.1
2	Bothemeddapalli	N 14°04'50.0"	E 79°19'01.1"	4.0	19.3
3	Seshalahgaripalli	N 14°02'43.6"	E 79°20'12.9"	4.5	86.1
4	Bommavaram (Zilla Parishad High School)	N 14°03'18.4"	E 79°20'15.5"	6.0	16.8
5	B.P.Rajupalli	N 14°04'17.8"	E 79°20'58.2"	10.0	14.2
6	Yeddulavaripalli (Near Mandal Parishad School)	N 13°59'20.3"	E 79°17'13.7"	5.0	88.4
7	Y.Kota (SW) (Opp. Mandal Parishad School)	N 13°58'03.9"	E 79°16'40.7"	9.0	96.9
8	Janrajpadu	N 13°59'38.4"	E 79°15'59.9"	7.0	89.4
9	Obbulavaripalli	N 14°01'18.4"	E 79°16'00.2"	5.0	79.3
10	Ayyalarajupalli	N 14°03'09.2"	E 79°15'36.5"	4.0	94.5
11	Chinnavorampadu (Zilla Parishad High School)	N 14°03'53.3"	E 79°15'33.2"	6.0	122.4
12	Mukavaripalli	N 14°03'42.3"	E 79°17'09.9"	3.5	48.6
13	APMDC Mine Site (premises)	N 14°02'08.9"	E 79°18'44.4"	0.0	139.2

P. G. Nagavind
Authorized Signatory

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Lr. No: EPTRI/Lab/Analysis-APMDCH/17/ACS-06&17/ACS-07/dated 06.05.2017

Noise Monitoring Data at Near General Working Area: NM-5

Date of Sampling : 28.04.2017 @ 06:00 A.M to 29.04.2017 @ 06:00 A.M

Duration of monitoring : 24hours

	Time	Lmin dB (A)	Leq dB (A)	Lmax dB (A)	Leq Day dB (A)	Leq Night dB (A)
DAY TIME	06:00a.m-07:00a.m	37.2	62.2	79.2	69.0	57.8
	07:00a.m-08:00a.m	34.5	66.2	79.2		
	08:00a.m-09:00a.m	38.2	69.8	78.2		
	09:00a.m-10:00a.m	38.0	64.3	79.8		
	10:00a.m-11:00a.m	33.8	68.9	73.2		
	11:00a.m-12:00p.m	31.8	57.9	76.3		
	12:00p.m-01:00p.m	35.6	67.6	79.7		
	01:00p.m-02:00p.m	47.1	69.4	82.6		
	02:00p.m-03:00p.m	51.5	70.2	75.2		
	03:00p.m-04:00p.m	51.7	70.4	73.3		
	04:00p.m-05:00p.m	44.8	68.2	71.7		
	05:00p.m-06:00p.m	44.7	68.8	78.7		
	06:00p.m-07:00p.m	39.2	70.1	85.1		
	07:00p.m-08:00p.m	41.7	73.9	82.6		
	08:00p.m-09:00p.m	43.0	72.2	78.7		
	09:00p.m-10:00p.m	42.9	53.2	74.3		
NIGHT TIME	10:00p.m-11:00p.m	29.8	54.2	62.2		
	11:00p.m-12:00a.m	42.7	65.3	67.6		
	12:00a.m-01:00a.m	31.3	63.0	66.6		
	01:00a.m-02:00a.m	30.4	51.9	59.7		
	02:00a.m-03:00a.m	27.9	50.5	63.6		
	03:00a.m-04:00a.m	50.9	52.2	59.7		
	04:00a.m-05:00a.m	51.2	53.6	69.8		
	05:00a.m-06:00a.m	52.9	54.7	62.4		

Note: 1. Daytime is reckoned in between 06.00 a.m and 10.00 p.m
2. Night time is reckoned in between 10.00 p.m and 06.00 a.m

P. G. Abgalined
Authorized Signatory

Date: 23/07/2017 Issue: 02 File: E:\A.G.M. Revision: 02 Page 14 of 16

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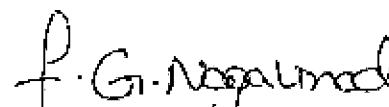
Summary of the Ambient Noise Levels Generated at Study Area

Monitoring stations	Category	Standard limits of Noise dB(A) Leq		Day time noise levels in dB (A)			Night time noise levels in dB (A)		
		Day time	Night time	Min	Max	dB(A) Leq Day	Min	Max	dB(A) Leq Night
Near Admn Office	R	55	45	23.0	77.1	53.6	22.9	57.2	32.9
Near Mill Area	I	75	70	42.2	79.8	67.4	35.6	73.8	60.0
D.G. Sets Room	I	75	70	43.2	75.1	61.0	40.1	62.1	55.4
Near Type-III & IV Area	R	55	45	25.9	67.7	53.7	24.8	48.1	37.2
Near General Working Area	I	75	70	31.8	85.1	69.0	27.9	69.8	57.8

Note: - 1. I-Industrial & R-Residential.

2.Noise standards as prescribed in Noise Pollution (Regulation and Control) Rules, 2000. Ambient Air Quality Standards in respect of Noise are given in Annexure-II.

From the data it is observed that the noise levels well within the standards, It is reaches to close to the standard limits. The noise level which is close to the stipulated standards is due to Open pit mine blasting and or large/heavy number of vehicular movement & honing of vehicles at that particular location and can be minimized with proper precautions and hording to restrict horns at those particular/sensitive areas.



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ANALYSIS REPORT

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Ground Water Levels at APMDC Barytes Mines, Mangampota and its surrounding area

S.No	Sampling Locations	Longitude	Latitude	Distance from Mine site in kms. (approx.)	Approx. Ground Water Levels (m bgl)
1	Mangalampalli	N 14°03'50.9"	E 79°19'07.4"	3.5	18.1
2	Bothemeddapalli	N 14°04'50.0"	E 79°19'01.1"	4.0	19.3
3	Seshalahgaripalli	N 14°02'43.6"	E 79°20'12.9"	4.5	86.1
4	Bommavaram (Zilla Parishad High School)	N 14°03'18.4"	E 79°20'15.5"	6.0	16.8
5	B.P.Rajupalli	N 14°04'17.8"	E 79°20'58.2"	10.0	14.2
6	Yeddulavaripalli (Near Mandal Parishad School)	N 13°59'20.3"	E 79°17'13.7"	5.0	88.4
7	Y.Kota (SW) (Opp. Mandal Parishad School)	N 13°58'03.9"	E 79°16'40.7"	9.0	96.9
8	Janraipadu	N 13°59'38.4"	E 79°15'59.9"	7.0	89.4
9	Obbulavaripalli	N 14°01'18.4"	E 79°16'00.2"	5.0	79.3
10	Ayyalarajupalli	N 14°03'09.2"	E 79°15'36.5"	4.0	94.5
11	Chinnavorampadu (Zilla Parishad High School)	N 14°03'53.3"	E 79°15'33.2"	6.0	122.4
12	Mukavaripalli	N 14°03'42.3"	E 79°17'09.9"	3.5	48.6
13	APMDC Mine Site (premises)	N 14°02'08.9"	E 79°18'44.4"	0.0	139.2

P. G. Nagalingam
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