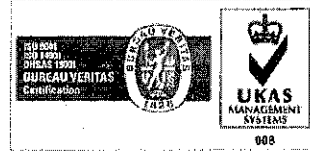




राष्ट्रीय इस्पात निगम लिमिटेड
(भारत सरकार का उपक्रम)
Rashtriya Ispat Nigam Limited
(A Government of India Undertaking)
CIN No. U27109AP1982GOI003404



No: VSP/Mines/KQM/3-15/2020/

Dt. 30.06.2020

1. **The Joint Director**

Ministry of Environment, Forest and Climate
Change (MOEF&CC)
Regional Office (SEZ),
1st and 11nd Floor, Handloom Export
Promotion Council,
34, Cathedral Garden Road, Nungambakkam,
CHENNAI - 34

2. **The State Level Environment Impact
Assessment Authority (SEIAA)**

O/o Andhra Pradesh Pollution Control Board
(APPCB)
D.No. 33-26-14 D/2, Near Sunrise Hospital,
Pushpa Hotel Centre, Chalamalavari
Street, Kasturibaipet,
VIJAYAWADA - 520 010

Respected Sir,

Sub: Submission of report on compliance of EC conditions in respect of
Kintada Quartz Mine of Rashtriya Ispat Nigam Ltd., Visakhapatnam
Steel Plant - Reg.

Ref: 1. E.C. Order No. : SEIAA/AP/VSP-147/2015-1035, Dt. 13.09.2019.

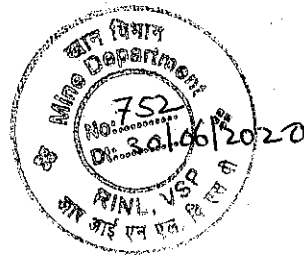
** ** *

Please find enclosed here with the compliance report of conditions specified in EC
for the half year Completed on 1st June' 2020 in respect of Kintada Quartz Mine of
Rashtriya Ispat Nigam Limited, Visakhapatnam Steel Plant.

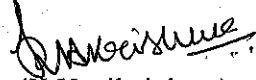
It is to inform that the mining operations were discontinued from 23rd September
2018 onwards.

Thanking you,

Encl: a/a



Yours faithfully
For Rashtriya Ispat Nigam Limited
Visakhapatnam Steel Plant


(K Harikrishna)
Mines manager
Kintada Quartz Mine



Please send your reply to :
O/o GM(Mines) & HOD
Room No.384, Main Admn Building.

Phones :
TelFax
E-mail : mineshq@vizagsteel.com
Grams : 'UBEAM'
Mobile : 9701347918

विशाखपट्टणम इस्पात संयंत्र, विशाखपट्टणम-530031
Visakhapatnam Steel Plant, Visakhapatnam - 530 031
Regd. Office : Visakhapatnam Steel Project, Administrative Building, Visakhapatnam - 530 031, INDIA.
पंजीकृत कार्यालय : विशाखपट्टणम इस्पात परियोजना, प्रशासनिक भवन, विशाखपट्टणम-530031, भारत

Rashtriya Ispat Nigam limited
Visakhapatnam Steel Plant
KINTADA QUARTZ MINE

Report on Compliance of conditions of Environmental Clearance (EC) issued vide Order No:
SEIAA/AP/VSP-147/2015-1035, Dt. 13.09.2019 to **KINTADA QUARTZ MINE**
for the Half Year ending on **1st June ' 2020**

PART-A : SPECIAL CONDITIONS		
Sl.No	CONDITION	COMPLIANCE
1	The proponent shall not carry blasting operations.	Being Complied. No blasting operations is being carried out.
2	The proponent shall provide dust screens towards School Side.	Mining operations were discontinued since 23 rd September 2018. Wind screens will be provided before starting of regular operations of the mine.
B. SPECIFIC CONDITIONS:		
a) Air Pollution:-		
i.	Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	No Blasting is being Done.
ii.	Drill shall either be operated with dust extractors or equipped with water injection system.	No drilling is being done.
iii.	Greenbelt shall be developed along the boundary of mining lease area and also in back filled and reclaimed areas with tall growing native species in consultation with the local DFO/Agriculture Department. The proponent of mine shall carry mining operations in such a manner so as to cause least damage to the flora of the mining area and nearby areas. He shall take immediate measures for planting in the same area or any other area selected by authorities not less than twice the number of trees going to be felled by mining operations. He shall also take measures for restoration of other flora/fauna if damaged by mining operations.	Being Complied.
iv.	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.	Being complied.

S. Srinivasu

v.	The proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoE&F, GoI on 16.11.2009.	Being Complied.
vi.	The following measures are to be implemented to reduce air pollution during transportation of mineral:- <ul style="list-style-type: none"> • Roads shall be graded to mitigate the dust emissions. • Water shall be sprinkled at regular interval on the main haul road and other service roads by water sprinklers to suppress dust. 	Being Complied
vii.	The following measures are to be implemented to reduce Noise pollution: <ul style="list-style-type: none"> • Proper and regular maintenance of vehicles and other equipment. • Limiting time exposure of workers to excessive noise. • The workers employed shall be provided with protection equipment and earmuffs etc. • Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks. 	Being complied
viii.	Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation & Control) (Amendment) Rules, 2010, Dt. 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels. Workers engaged in operations of HEMM, etc should be provided with ear plugs/muffs.	Being Complied.

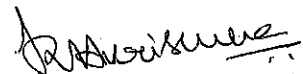
[Handwritten signature]

b. Water Pollution:-

S.No	Conditions	Compliance
i.	The source of water is bore well. Total water requirement is 20.0 KLD for dust suppression, development of green belt and domestic purpose.	Being complied.
ii.	Garland drain and siltation ponds of appropriate size should be constructed for the working pit to arrest flow of silt and sediment. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted, particularly after monsoon and maintained properly.	Being complied.
iii.	Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells by the project proponent in and around project area in consultation with Regional Director, CGWB, Southern Region, Hyderabad. Data thus collected should be sent at regular interval to MoEF, CGWA and CGWB, Southern region, Hyderabad.	Will be complied
iv.	Suitable conservation measures to augment ground water resources in the area shall be planned and implemented in consultation with Regional Director, CGWB, Southern Region, Hyderabad. Suitable measures should be taken for rain water harvesting.	Will be complied
v.	Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.	Will be obtained

c. Solid waste:-

S.No	CONDITIONS	COMPLIANCE
i.	Top soil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.	Being Complied
ii.	The following measures are to be adopted to control erosion of dumps:- <ul style="list-style-type: none">Retention/toe walls shall be provided at the foot of the dumps.Worked out slopes are to be stabilized by planting appropriate shrub/grass species on the slopes.	Will be complied.
iii.	Waste oils, used oils generated from the Earth Moving machines, mining operations, if any shall be disposed as per the Hazardous Wastes (Management, handling and transboundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by APPCB.	Will be complied



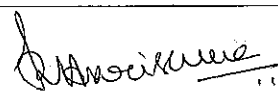
B- General Conditions

S.No	Conditions	Compliance
i.	This order is valid 31 st March 2021.	Will be applied for extension if Mineral is not exhausted.
ii	CFE &CFO shall be obtained from APPCB under Air and Water act to carry on mining.	Obtained
iii	No change in mining technology and scope of working should be made without prior approval of the SEIAA, A.P. No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, AP /MoE&F, GOI, New Delhi, as applicable.	No change in mining technology. Prior approval will be obtained for any modification & expansion if any.
iv	The half-yearly compliance report in respect of the terms and conditions stipulated in this order & monitoring reports shall be uploaded in the website of the project periodically. It shall simultaneously be submitted in hard and soft copies to the SEIAA and Ministry's Regional office, Chennai on 1 st June and 1 st December of each calendar year.	Will be complied
v.	Officials from the Regional Office of MoE&F, Chennai who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional office to MoE&F, Chennai.	Being complied.

vi.	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Will be complied.
vii	Data on ambient air quality should be regularly submitted to the Ministry including its Regional Office located at Bangalore and the State Pollution Control Board/Central Pollution Control Board once in six months.	Will be complied.
viii	Personal working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training the information on safety and health aspects.	Being complied.
ix	The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.	Being Complied.
x	Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Being Complied.

[Handwritten Signature]

xi	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.	Will be set up.
xii	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 Regional Office located at Chennai.	Will be submitted.
xiii	The project proponent shall submit the copies of the environmental clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Submitted.
xiv	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 SEIAA, A.P.	Being complied
xv	The SEIAA or any competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	Being accepted.
xvi	The proponent shall obtain all other mandatory clearances from respective departments.	Obtained
xvii	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Accepted
xviii	Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Accepted.
xix	The SEIAA may revoke or suspend the order, if implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.	Accepted.
xx	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Accepted.



क. हरिकृष्णा-K. HARIKRISHNA
खान प्रबंधक-Mines Manager
किताडा क्वार्टज खान
Kintada Quartz Mine
आर आई एन एल वि एस पी-RINL, VSP

ANNEXURE – I
(Ambient Air Monitoring Reports)



SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012
& Laboratory www.svenvirolabs.com, Ph:0891-2755528, Cell: +91 9440338628
info@svenvirolabs.com, svenviro_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi ,Accredited by: QCI-NABET for EIA



Ref: SVELC/RIL-KQM/20-02/01 .

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

SAMPLE PARTICULARS : AMBIENT AIR QUALITY

SOURCE OF COLLECTION : MINING AREA

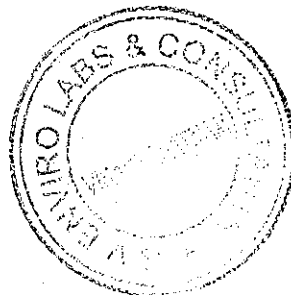
DURATRION OF SAMPLING : 24 Hrs

ATMOSPHERE CONDITION : Clear Sky

TEST REPORT

Date of Monitoring	Week	SPM ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)	PM2.5 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)
14.02.2020	I	166	71.9	33.2	10.3	13.8	0.29
15.02.2020	I	175	73.2	35.9	10.5	14.3	0.31
24.02.2020	II	184	75.0	36.5	11.0	14.6	0.34
25.02.2020	II	171	72.6	35.0	10.4	14.1	0.30
Maximum		184	75.0	36.5	11.0	14.6	0.34
Minimum		166	71.9	33.2	10.3	13.8	0.29
Average		174	73.2	35.2	10.6	14.2	0.31
IBM Standards		700	-	-	-	-	-
CPCB Standards		-	100	60	80	80	4


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Branch Office : 2-53, Mahipala Street, Yanam - 533464.

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Ref: SVELC/RIL-KQM/20-02/02

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

SAMPLE PARTICULARS : AMBIENT AIR QUALITY

SOURCE OF COLLECTION : KINTADA VILLAGE

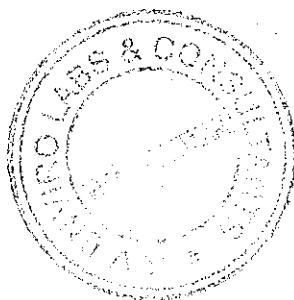
DURATRION OF SAMPLING : 24 Hrs

ATMOSPHERE CONDITION : Clear Sky

TEST REPORT

Date of Monitoring	Week	SPM ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)	PM2.5 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)
14.02.2020	I	159	64.8	27.0	9.9	13.6	0.26
15.02.2020	I	165	67.2	27.9	10.2	14.0	0.28
24.02.2020	II	163	65.4	27.2	10.0	13.9	0.26
25.02.2020	II	157	64.0	26.6	9.5	13.3	0.24
Maximum		165	67.2	27.9	10.2	14.0	0.28
Minimum		157	64.0	26.6	9.5	13.3	0.24
Average		161	65.4	27.2	9.9	13.7	0.26
IBM Standards		700	-	-	-	-	-
CPCB Standards		-	100	60	80	80	4


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Branch Office : 2-53, Mahipala Street, Yanam - 533464.

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Ref: SVELC/RIL-KQM/20-02/03

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

SAMPLE PARTICULARS : AMBIENT AIR QUALITY

SOURCE OF COLLECTION : DALIVALASA VILLAGE

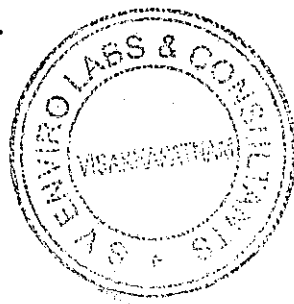
DURATRION OF SAMPLING : 24 Hrs

ATMOSPHERE CONDITION : Clear Sky

TEST REPORT

Date of Monitoring	Week	SPM ($\mu\text{g}/\text{m}^3$)	PM10 ($\mu\text{g}/\text{m}^3$)	PM2.5 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)
14.02.2020	I	152	60.3	26.1	9.9	13.3	0.27
15.02.2020	I	166	62.8	27.5	10.3	13.5	0.30
24.02.2020	II	169	63.7	28.1	10.5	13.9	0.32
25.02.2020	II	148	58.5	25.2	9.6	13.0	0.25
Maximum		169	63.7	28.1	10.5	13.9	0.32
Minimum		148	58.5	25.2	9.6	13.0	0.25
Average		158	61.3	26.7	10.1	13.4	0.29
IBM Standards		700	-	-	-	-	-
CPCB Standards		-	100	60	80	80	4


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ANNEXURE – II
(Dustfall Monitoring Reports)



SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

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& Laboratory www.svenviolabs.com, Ph:0891-2755528, Cell: +91 9440338628
info@svenviolabs.com, svenviro_labs@yahoo.co.in

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Ref: SVELC/RIL-KQM/20-02/04

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

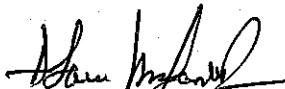
SAMPLE PARTICULARS : DUSTFALL

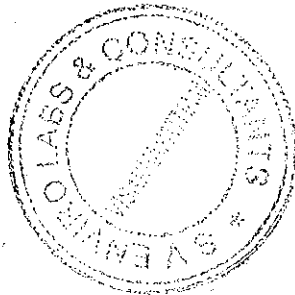
SOURCE OF COLLECTION : MINES AREA

ATMOSPHERE CONDITION : Clear Sky

TEST REPORT

S.No	Parameters	Unit	Result
1	Insoluble Particles	Tons/Km ² /Month	3.97
2	Soluble Particles	Tons/Km ² /Month	2.04
3	Total Particles	Tons/Km ² /Month	6.01


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(Environmental Engineers & Consultants in Pollution Control)

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info@svenviolabs.com, svenviro_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi ,Accredited by: QCI-NABET for EIA



Ref: SVELC/RIL-KQM/20-02/05

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

SAMPLE PARTICULARS : DUSTFALL

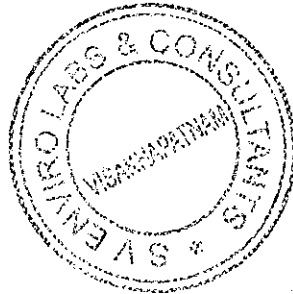
SOURCE OF COLLECTION : KINTADA VILLAGE

ATMOSPHERE CONDITION : Clear Sky

TEST REPORT

S.No	Parameters	Unit	Result
1	Insoluble Particles	Tons/Km ² /Month	3.12
2	Soluble Particles	Tons/Km ² /Month	1.71
3	Total Particles	Tons/Km ² /Month	4.83


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& Laboratory www.svenviolabs.com, Ph:0891-2755528, Cell: +91 9440338628
info@svenviolabs.com, svenviro_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi ,Accredited by: QCI-NABET for EIA



Ref: SVELC/RIL-KQM/20-02/06

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

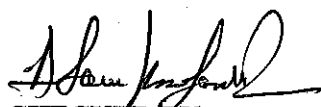
SAMPLE PARTICULARS : DUSTFALL

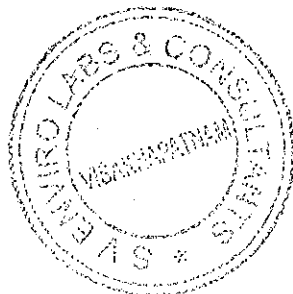
SOURCE OF COLLECTION : DALIVALASA VILLAGE

ATMOSPHERE CONDITION : Clear Sky

TEST REPORT

S.No	Parameters	Unit	Result
1	Insoluble Particles	Tons/Km ² /Month	3.88
2	Soluble Particles	Tons/Km ² /Month	1.89
3	Total Particles	Tons/Km ² /Month	5.77


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ANNEXURE – III
(Noise Monitoring Reports)



SV ENVIRO LABS & CONSULTANTS

(Environmental Engineers & Consultants in Pollution Control)

Corporate Office : Enviro House, B-1, Block-B, IDA, Autonagar, Visakhapatnam-530012
& Laboratory www.svenviolabs.com, Ph:0891-2755528, Cell: +91 9440338628
info@svenviolabs.com, svenviro_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

Recognized by Govt.of India-MoEF & CC, New Delhi ,Accredited by: QCI-NABET for EIA



Ref: SVELC/RIL-KQM/20-02/07

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

SAMPLE PARTICULARS : NOISE LEVEL MONITORING

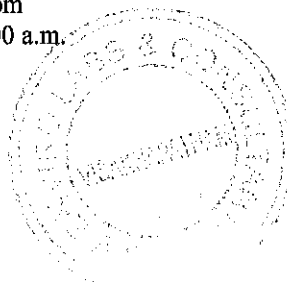
DATE OF COLLECTION : 19-02-2020 to 21-02-2020

TEST REPORT

Period	Time	Source of collection			
		Mining Area	Kintada village	Loading Point	Dalivalasa village
Day	6.00	53.3	44.8	48.4	44.8
	7.00	56.2	49.6	50.2	48.6
	8.00	54.8	52.4	52.5	45.3
	9.00	60.2	56.8	53.6	52.2
	10.00	62.4	58.3	54.8	54.8
	11.00	66.5	54.6	62.6	50.9
	12.00	64.3	55.1	64.4	56.0
	13.00	67.2	53.6	66.8	55.2
	14.00	68.8	50.8	60.3	56.4
	15.00	69.6	50.6	64.5	59.3
	16.00	61.3	51.2	62.2	58.2
	17.00	64.4	56.6	60.1	58.8
	18.00	66.5	55.4	60.3	59.3
	19.00	68.6	54.3	58.8	60.5
20.00	69.3	53.8	56.6	56.4	
21.00	64.4	52.1	52.4	51.2	
Night	22.00	60.2	50.6	50.6	50.2
	23.00	58.3	50.8	49.3	46.6
	24.00	56.2	48.5	44.5	42.2
	1.00	52.4	44.6	46.8	41.3
	2.00	50.5	40.2	42.5	40.6
	3.00	50.2	41.3	40.1	42.5
	4.00	48.8	42.8	42.4	40.8
	5.00	50.6	44.5	43.8	41.4
Leq Day		66.0	54.4	61.1	56.6
Leq Night		55.9	47.6	46.9	45.3

CPCB Standards for Noise levels	Day Time	Night Time
		75

Note :Day time shall mean from 6.00 am to 10.00 pm
Night time shall mean from 10.00 p.m. to 6.00 a.m.



AUTHORIZED SIGNATORY
B. RAVI PRASAD

ANNEXURE – IV
(Water Analysis Reports)



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Ref: SVELC/RIL-KQM/20-02/08

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P

SAMPLE PARTICULARS : WATER

SOURCE OF COLLECTION : MINING AREA

DATE OF COLLECTION : 19-02-2020

TEST REPORT

S.No	Parameter	Unit	Result	Standards as per GSR 422 (E)
1	Colour	Hazen	< 1.0	5
2	Odour	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	7.52	5 - 25
4	pH	-	8.93	5.5 to 9.0
5	Total Dissolved Solids	mg/l	82	500 - 2000
6	Total suspended solids	mg/l	<1.0	100
7	Fluorides as F	mg/l	0.08	2.0
8	Nitrates as NO ₃ ⁻	mg/l	< 0.01	10
9	Iron as Fe	mg/l	0.06	3.0
10	Total Residual Chlorine	mg/l	<0.1	1.0
11	Phenolic Compounds as C ₆ H ₅ OH	mg/l	<0.0005	1.0
12	Copper as Cu	mg/l	< 0.01	3.0
13	Manganese as Mn	mg/l	4.8	2.0
14	Zinc as Zn	mg/l	0.04	5.0
15	Sulphide as S	mg/l	0.03	2.0
16	Cadmium as Cd	mg/l	<0.01	2.0
17	Lead as Pb	mg/l	<0.01	0.1
18	Mercury as Hg	mg/l	<0.001	0.01
19	Nickel as Ni	mg/l	<0.01	3.0
20	Total Arsenic as As	mg/l	<0.01	0.2
21	Total Chromium as Cr	mg/l	<0.01	2.0
22	Hexavalent chromium as Cr ⁺⁶	mg/l	< 0.05	0.1
23	Vanadium as V	mg/l	<0.01	0.2
24	Ammonical nitrogen as N	mg/l	< 0.01	50
25	Free ammonia as NH ₃	mg/l	< 0.1	5
26	Chemical oxygen demand -COD	mg/l	<10.0	250
27	Biochemical oxygen demand -BOD	mg/l	<3.0	30
28	Oil & Grease	mg/l	<1.0	10
29	Selenium as Se	mg/l	<0.01	0.05

Note: All the above parameters are tested as per APHA methods, 23rd Edition, 2017

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info@svenvirolabs.com, svenviro_labs@yahoo.co.in

Branch Office : 2-53, Mahipala Street, Yanam - 533464.

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Ref: SVELC/RIL-QQM/20-02/09

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

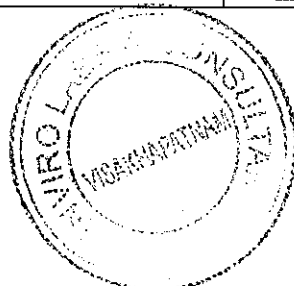
SAMPLE PARTICULARS : GROUND WATER

SOURCE OF COLLECTION : BORE WELL WATER- KINTADA VILLAGE

DATE OF COLLECTION : 19-02-2020

TEST REPORT

S.No	Parameter	Unit	Result	IS 10500:2012 Specifications
1.	Colour	Hazen	< 1.0	5.0
2.	Odour	-	Agreeable	Agreeable
3.	Temperature	°C	28.0	-
4.	Taste	-	Agreeable	Agreeable
5.	Turbidity	NTU	1.8	1.0
6.	pH	-	7.44	6.5 – 8.5
7.	Total Dissolved Solids	mg/l	1204	500
8.	Total Alkalinity as CaCO ₃	mg/l	201	200
9.	Total Hardness as CaCO ₃	mg/l	618	200
10.	Calcium as Ca	mg/l	184	75
11.	Magnesium as Mg	mg/l	38.3	30
12.	Chlorides as Cl ⁻	mg/l	364	250
13.	Fluorides as F ⁻	mg/l	0.58	1.0
14.	Nitrates as NO ₃ ⁻	mg/l	55.2	45
15.	Sulphates as SO ₄ ²⁻	mg/l	129	200
16.	Iron as Fe	mg/l	0.19	0.3
17.	Free Residual Chlorine	mg/l	< 0.1	0.2
18.	Phenolic Compounds as C ₆ H ₅ OH	mg/l	<0.0005	0.001
19.	Copper as Cu	mg/l	< 0.01	0.05
20.	Manganese as Mn	mg/l	< 0.01	0.1
21.	Zinc as Zn	mg/l	0.08	5.0
22.	Aluminum as Al	mg/l	< 0.01	0.03
23.	Boron as B	mg/l	< 0.1	0.5
24.	Sulphide as H ₂ S	mg/l	0.024	0.05
25.	Anionic Detergents (as MBAS)	mg/l	< 0.01	0.2
26.	Barium as Ba	mg/l	< 0.1	0.7
27.	Chloramines (as Cl ₂)	mg/l	<1.0	4.0
28.	Ammonia as total ammonia-N	mg/l	< 0.01	0.5
29.	Mineral Oil	mg/l	< 0.01	0.5
30.	Selenium as Se	mg/l	< 0.005	0.01
31.	Silver as Ag	mg/l	< 0.01	0.1
32.	Cadmium as Cd	mg/l	<0.001	0.003
33.	Cyanide as CN	mg/l	<0.01	0.05





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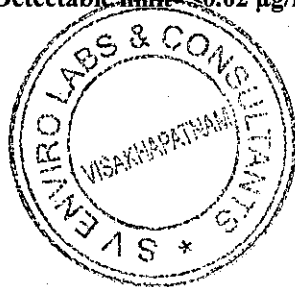


34.	Lead as Pb	mg/l	<0.01	0.01
35.	Mercury as Hg	mg/l	<0.001	0.001
36.	Molybdenum as Mo	mg/l	<0.01	0.07
37.	Nickel as Ni	mg/l	<0.01	0.02
38.	Total Arsenic as As	mg/l	<0.01	0.01
39.	Total Chromium as Cr	mg/l	<0.01	0.05
40.	Polychlorinated biphenyls	mg/l	<0.0001	0.0005
41.	Polynuclear aromatic Hydrocarbons as PAH	mg/l	<0.0001	0.0001
MICROBIOLOGY:				
42.	<i>E. coliforms</i>	CFU/ 100mL	Not detected	Shall not be detected in 100 ml
43.	<i>Total coliforms</i>	CFU/ 100mL	14	Shall not be detected in 100 ml
44.	<i>Faecal coliforms</i>	CFU/ 100mL	Not detected	-
PESTICIDES:				
45.	Alpha HCH	µg/l	BDL	0.01
46.	Beta HCH	µg/l	BDL	0.04
47.	Butachlor	µg/l	BDL	125
48.	Chlorpyrifos	µg/l	BDL	30
49.	Delta HCH	µg/l	BDL	0.04
50.	2,4- Dichlorophenoxyacetic Acid	µg/l	BDL	30
51.	DDT (o,p and p,p-Isomers of DDT, DDE and DDD)	µg/l	BDL	1.0
52.	Endosulfan (alpha, beta and Sulphate)	µg/l	BDL	0.4
53.	Ethion	µg/l	BDL	3.0
54.	Gamma-HCH (Lindane)	µg/l	BDL	2.0
55.	Isoproturon	µg/l	BDL	9.0
56.	Malathion	µg/l	BDL	190
57.	Methyl Parathion	µg/l	BDL	0.3
58.	Alachlor	µg/l	BDL	20
59.	Atrazine	µg/l	BDL	2.0
60.	Aldrin/ Dieldrin	µg/l	BDL	0.03
61.	Monocrotophos	µg/l	BDL	1.0
62.	Phorate	µg/l	BDL	2.0
TRIHALOMETHANE				
63.	Bromoform	mg/l	<0.05	0.1
64.	Dibromochloromethane	mg/l	<0.05	0.1
65.	Bromodichloromethane	mg/l	<0.05	0.06
66.	chloroform	mg/l	<0.05	0.2

Note: All the above parameters are tested as per APHA methods, 23rd Edition, 2017

BDL- Below detectable limit, Detectable limit <0.02 µg/l.

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Ref: SVELC/RIL-KQM/20-02/10

Date: 14-03-2020

NAME AND ADDRESS : M/s. KINTADA QUARTZ MINE,
Visakhapatnam Steel Plant,
Kintada Village,K.Kotapadu Mandal,
Vizianagaram District ,A.P.

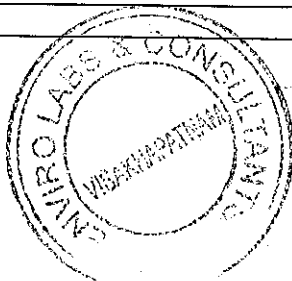
SAMPLE PARTICULARS : GROUND WATER

SOURCE OF COLLECTION : BORE WELL-DALIVALASA VILLAGE

DATE OF COLLECTION : 19-02-2020

TEST REPORT

S.No	Parameter	Unit	Result	IS 10500:2012 Specifications
1.	Colour	Hazen	< 1.0	5.0
2.	Odour	-	Agreeable	Agreeable
3.	Temperature	°C	27.5	-
4.	Taste	-	Agreeable	Agreeable
5.	Turbidity	NTU	0.26	1.0
6.	pH	-	7.28	6.5 - 8.5
7.	Total Dissolved Solids	mg/l	1189	500
8.	Total Alkalinity as CaCO ₃	mg/l	192	200
9.	Total Hardness as CaCO ₃	mg/l	635	200
10.	Calcium as Ca	mg/l	188	75
11.	Magnesium as Mg	mg/l	40	30
12.	Chlorides as Cl ⁻	mg/l	372	250
13.	Fluorides as F	mg/l	0.55	1.0
14.	Nitrates as NO ₃ ⁻	mg/l	51.9	45
15.	Sulphates as SO ₄ ²⁻	mg/l	120	200
16.	Iron as Fe	mg/l	2.32	0.3
17.	Free Residual Chlorine	mg/l	< 0.1	0.2
18.	Phenolic Compounds as C ₆ H ₅ OH	mg/l	<0.0005	0.001
19.	Copper as Cu	mg/l	< 0.01	0.05
20.	Manganese as Mn	mg/l	< 0.01	0.1
21.	Zinc as Zn	mg/l	0.99	5.0
22.	Aluminum as Al	mg/l	< 0.01	0.03
23.	Boron as B	mg/l	< 0.1	0.5
24.	Sulphide as H ₂ S	mg/l	0.059	0.05
25.	Anionic Detergents (as MBAS)	mg/l	< 0.01	0.2
26.	Barium as Ba	mg/l	1.26	0.7
27.	Chloramines (as Cl ₂)	mg/l	<1.0	4.0
28.	Ammonia as total ammonia-N	mg/l	< 0.01	0.5
29.	Mineral Oil	mg/l	< 0.01	0.5
30.	Selenium as Se	mg/l	< 0.005	0.01
31.	Silver as Ag	mg/l	< 0.01	0.1
32.	Cadmium as Cd	mg/l	<0.001	0.003
33.	Cyanide as CN	mg/l	<0.01	0.05





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34.	Lead as Pb	mg/l	<0.01	0.01
35.	Mercury as Hg	mg/l	<0.001	0.001
36.	Molybdenum as Mo	mg/l	<0.01	0.07
37.	Nickel as Ni	mg/l	<0.01	0.02
38.	Total Arsenic as As	mg/l	<0.01	0.01
39.	Total Chromium as Cr	mg/l	<0.01	0.05
40.	Polychlorinated biphenyls	mg/l	<0.0001	0.0005
41.	Polynuclear aromatic Hydrocarbons as PAH	mg/l	<0.0001	0.0001
MICROBIOLOGY:				
42.	<i>E. coliforms</i>	CFU/100mL	Not detected	Shall not be detected in 100 ml
43.	<i>Total coliforms</i>	CFU/100mL	14	Shall not be detected in 100 ml
44.	<i>Faecal coliforms</i>	CFU/100mL	Not detected	-
PESTICIDES:				
45.	Alpha HCH	µg/l	BDL	0.01
46.	Beta HCH	µg/l	BDL	0.04
47.	Butachlor	µg/l	BDL	125
48.	Chlorpyrifos	µg/l	BDL	30
49.	Delta HCH	µg/l	BDL	0.04
50.	2,4- Dichlorophenoxyacetic Acid	µg/l	BDL	30
51.	DDT (o,p and p,p-Isomers of DDT, DDE and DDD)	µg/l	BDL	1.0
52.	Endosulfan (alpha, beta and Sulphate)	µg/l	BDL	0.4
53.	Ethion	µg/l	BDL	3.0
54.	Gamma-HCH (Lindane)	µg/l	BDL	2.0
55.	Isoproturon	µg/l	BDL	9.0
56.	Malathion	µg/l	BDL	190
57.	Methyl Parathion	µg/l	BDL	0.3
58.	Alachlor	µg/l	BDL	20
59.	Atrazine	µg/l	BDL	2.0
60.	Aldrin/ Dieldrin	µg/l	BDL	0.03
61.	Monocrotophos	µg/l	BDL	1.0
62.	Phorate	µg/l	BDL	2.0
TRIHALOMETHANE				
63.	Bromoform	mg/l	<0.05	0.1
64.	Dibromochloromethane	mg/l	<0.05	0.1
65.	Bromodichloromethane	mg/l	<0.05	0.06
66.	chloroform	mg/l	<0.05	0.2

Note: All the above parameters are tested as per APHA methods, 23rd Edition, 2017

BDL- Below detectable limit, Detectable limit- <0.02 µg/l.

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