

**Joint Inspection Committee Report of M/s. Electrotherm (India) Limited, Vill: Samkhiyali, Bhachau-Kutch, Gujarat with respect to Hon'ble NGT matter in O.A. 53/2020 (WZ) (I.A. No. 74/2020), Jivabhai Ganeshbhai Bada Vs State of Gujarat & Ors.**

## **1.0 BACKGROUND**

An original application was filed by Mr. Jivabhai Ganeshbhai Bada before the Hon'ble National Green Tribunal (NGT), Western Zone Bench, and Pune wherein Gujarat Pollution Control Board is Respondent No. 2. The issues raised by this application are air, noise and water pollution created by Respondent No. 5 Electrotherm (India) Ltd. After hearing the matter, Hon'ble NGT issued an order dated 16.09.2020. Part of the order reads as,

**“In the meantime, we deem it just and proper to constitute a Committee consisting (i) Collector, Bhuj- Kutch, Gujarat (ii) Gujarat Pollution Control Board and to direct them to submit a factual and action taken report with regard to allegations made in the present application. Report be submitted within six weeks. Gujarat PCB will be the nodal agency for compliance.”**

In compliance of the said order, District Collector, Kutch constituted a committee of 1) Prant Officer as a representative of District Collector, 2) Deputy District Development Officer, District Panchayat, Bhuj-Kutch, 3) Assistant Director Agriculture, Agriculture branch kutch 4) Regional Officer, GPCB. Letter is attached as **Annexure 1.**

Committee has carried out a joint inspection cum monitoring on 17/10/2020; List of members present is attached as **Annexure 2.**

The industry was operational during the day of visit. The findings of the Committee are delineated in subsequent paragraphs.

## **2.0 ABOUT ELECTROTHERM (INDIA) LIMITED**

M/s Electrotherm (India) Ltd. is iron and steel manufacturing industry located at Survey No. 325, Village- Samkhiyali, Dist- Kutch (East). Unit has obtained valid CCA (AW-77789) of the GPCB for manufacturing of Sponge Iron = 24000 MT/Month, D.I.Pipes = 16000 MT/Month, Captive Power (WHRB) = 21 MWH, Captive Power (FBC) = 24 MWH, Pig Iron (Blast Furnance) = 23100 MT/Month, Sinter Plant = 32,400 MT/Month, Steel Rolling Mill (TMT Plant) = 52166 MT/Month, Stainless Steel billets OR MS Billets = 25000 MT/Month, Alloy Nickel = 416 MT/Month, Induction Furnance = 17 Sets/Month, Electric cycle and vehicles All Model (Yo bike) = 83 Sets/Month, 1500 Sets/Month, E-Rickshaw and E-Winner = 650 Sets/Month.

### 3.0 BRIEF MANUFACTURING PROCESS

#### 3.1 Sponge Iron Plant

Sponge iron production is done by reducing iron with solid carbonaceous materials such as coal, coke or lignite. The reduction of iron ore is carried out in a rotary kiln at a predetermined temperature and controlled atmosphere and then cooled to ambient temperature in the rotary cooler with indirect water forced cooling system. The percentage of oxygen associated with iron as oxide is removed from the ore particles in the process of sponge iron manufacturing. It is often referred to as 'percentage reduction'.

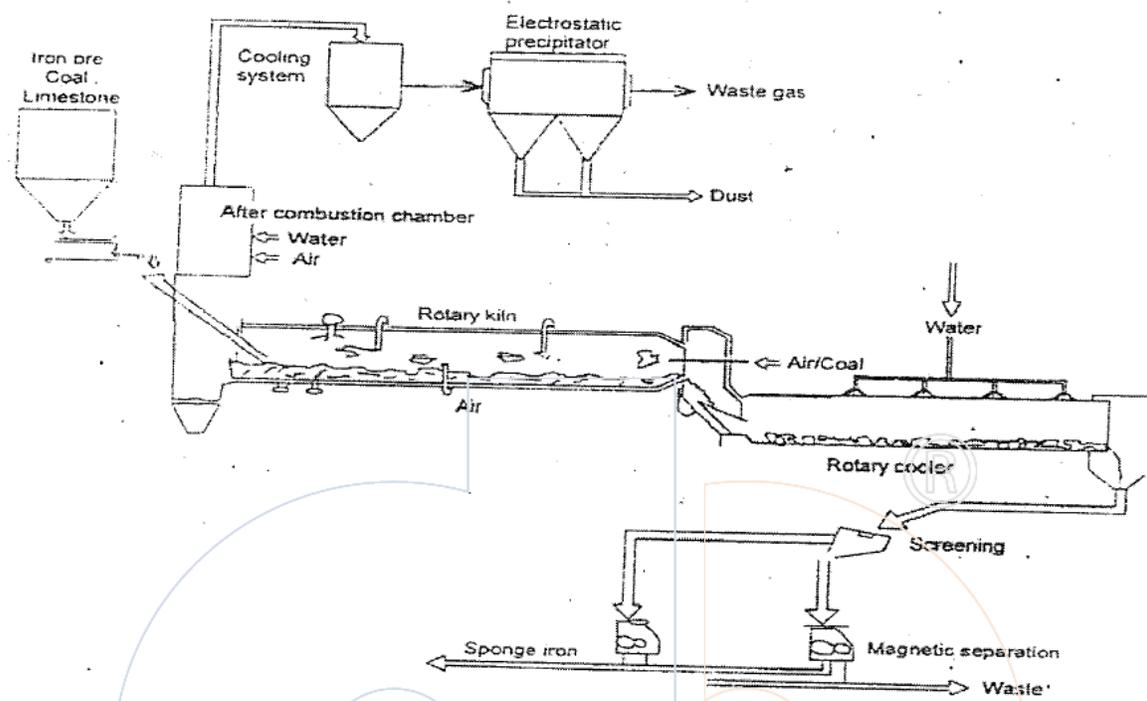
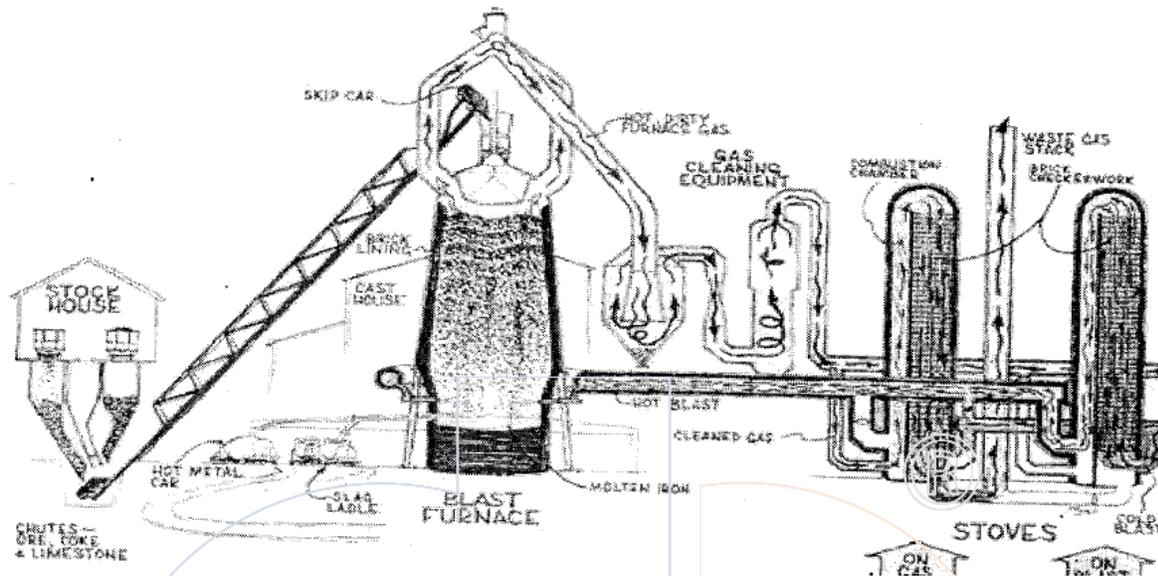


Figure 1 – Process Flow Sheet of Sponge Iron Plant

#### 3.2 Blast Furnace (Pig Iron Plant)

The purpose of a blast furnace is to chemically reduce and physically convert iron oxide into liquid iron called "hot metal". The blast furnace is a huge, steel stack lined with refractory brick, where iron ore, coke and limestone are dumped into the top, and preheated air is blown into the bottom. The raw materials require 6 to 8 hours to descend to the bottom of the furnace where they become the final product of liquid slag and liquid iron. These liquid products are drained from the furnace at regular intervals. The hot air that was blown into the bottom of furnace ascends to the top in 6 to 8 seconds after going through numerous chemical reactions.

Once a blast furnace is started it will continuously run for to ten years with only short stops to perform planned maintenance.



**Figure 2 – Process Flow of Pig Iron Plant**

### 3.3 Sinter manufacturing plant

The iron bearing undersized waste materials such as iron ore fines, mills scale, flue dust etc. which are generated in the ore house mines or at the metallurgical shops are agglomerated along with flux materials like lime stone by using Coke breeze and BF gas as fuel in Sinter Plant. These are then sized and screening and fed to blast furnace.

### 3.4 TMT Plant Process

Billet received from steel /melt Shop are inspected and cut to length as per the size of TMT to be rolled. These billets are then put into Billet Reheating Furnace where it is heated to rolling temperature depending on the grade of steel.

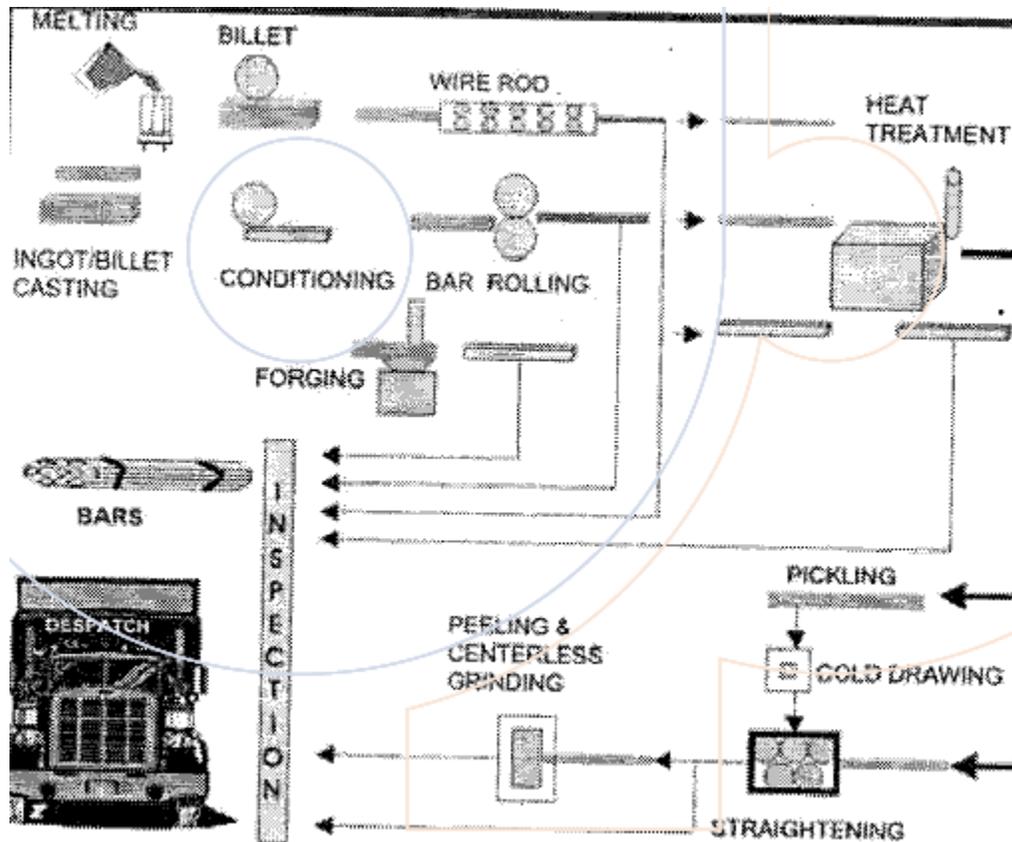


Figure 3 – Process Flow of TMT Process Plant

### 3.5 D.I.Pipe

Ductile Iron Spun Pipe drawing process involves following steps:

- Treatment of hot pig iron in induction furnace for achieving desired composition.
- Superheating of hot metal upto 1500°
- Spheroidizing treatment.
- Centrifugal casting of pipes
- Heat treatment of pipes

### 3.6 Billets/Bars (Arc/Induction furnace)

Basic raw materials (Scrap and sponge iron) are charged in to the Induction furnace to achieve the required temperature. On achieving required temperature, melted mass is being poured in to the ladle reining furnace by tilting mechanism.

This molten mass is charged in to continuous casting machine where it is cooled with the help of High pressure water spray. This is then transferred to the rolled table for cutting operation

for different sizes. Final products are steel billets, which are ready for captive consumption for production of Roads & Bars.

### 3.7 WHRB Power Plant

Waste Heat from Rotary kiln is utilized for steam generation through waste heat recovery boilers, which is further utilized for power generation.

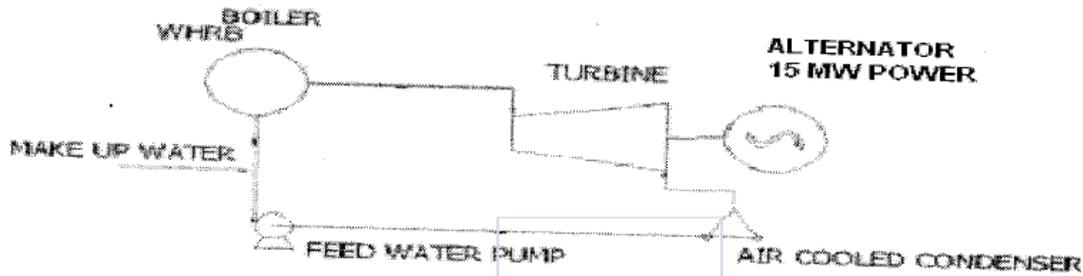


Figure 4 – Flow diagram of Steam Based Turbo Generator Set

## 4.0 Air Pollution & Water Pollution Details

### 4.1 Fuel Consumption

Different types of fuel are used by the industry in various processes. The fuel consumption of the industry as per the CCA (AW-77789) granted vide order no. GPCB/CCA-KUTCH-294 (10)/GPCB ID 17826/ 355742 dated 11.05.2016 is given as below:

Sr. No.	Stack attached to	Fuel consumption
1	Reheating furnace	Furnace Oil = 1000 lit/day
2	AFBC Boiler (1 & 2)	Imported Coal = 25 MT/Day, Lignite = 550 MT/Day, Charcoal = 144 MT/Day, Waste Heat = 85000 m <sup>3</sup> /day
3	D.G.Set	Diesel = 1800 litres/day
4	Rotary Kiln No.1 (WHRB)	---
5	Boiler	Coal = 03 MT/Day
6	Blast Furnace	Coke
7	Annealing Furnace	Furnace Oil = 2700 lit/hour
8	D.G.Set (1000 kVA)	Diesel = 120 litre/day
9	Rotary Kiln attached with WHRB (2 nos. of stack)	Coal = 720 MT/Day, Waste Heat = 64 TPH
10	Annealing Furnace (02 nos.)	Alternative fuel from CO from Blast

		Furnace
11	Blast Furnace (02 nos.)	Coke = 95 MT/Day
12	Sinter Stack (02 Nos.)	Coke Breeze = 108 MT/Day
13	Reheating Furnace	Furnace Oil = 1000 Litre/day

#### 4.1 AIR POLLUTION CONTROL MEASURES

- The industry has provided Electrostatic Precipitator (ESP) as an Air Pollution Control Measure (APCM) at AFBC Boilers (Power Plant), Rotary Kilns attached with waste heat recovery boiler and stacks attached to Sinter plant.



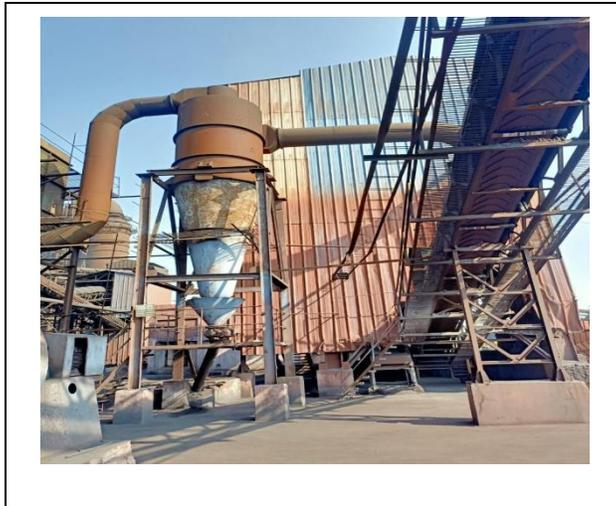
- The industry has provided bag filters as an APCM to Reheating furnace, Blast Furnaces, etc.



- The industry has provided cyclone separator followed by bag filters as an APCM to Induction (Melting Furnace), Induction Furnaces etc.



- The industry has provided cyclone separator and bag filters to process vent like Zink coating, Magnesium Converter, Coal crusher. etc



- Industry has provided online monitoring system to stack attached to Blast Furnaces, AFBC Boiler, Kilns, Annealing Furnace, Sinter Stack, Day Bin, Product separation bin, and

Induction Furnace. Results are attached as **Annexure 3** which are within permissible limits.

- Industry has provided Water Sprinkling system at coal handling area, transfer point, internal road.
- Cover of Conveyor belts at some places are found open.
- Cleaning not be done regularly of APCM like Bag filter for Raw material handling of B.F. Plant.
- Huge amount of slag generated from steel production stored in open area.

### **4.3 WATER CONSUMPTION AND DISPOSAL**

Source of water for industrial and domestic purpose is met by Gujarat Water Infrastructure Limited (GWIL). In sponge iron plant, the water is used as make up water for cooling and dust suppression, in pig iron plant, water is utilized for surface cooling and in power plant water is used for steam generation. There is no wastewater generation from manufacturing process or any auxiliaries of the sponge iron plant, pig iron plant, Sinter plant, WHRB Power Plant, TMT plant, D.I. Pipe and MS Billets /Bars.

The wastewater is mainly generated from power plant. Industry has provided Primary ETP whereas the treated wastewater is utilized in dust suppression, green belt development within premises and cooling in sponge iron plant. The industry has also provided Sewage Treatment Plant for treatment of domestic wastewater wherein the treated wastewater is used for gardening purposes.

## **5.0 MONITORING**

### **5.1 AMBIENT AIR QUALITY AND NOISE MONITORING**

- The ambient air quality monitoring has been carried out at up-stream and down-stream locations mentioned below for 24 hours for the parameters PM10, PM2.5, SO2, and NO2.

1) Near weight bridge no. 2- starting of the Unit (Up-stream) (Location-01)

2) Near Weight Bridge no. 3- end of the Unit (Down-stream) (Location-02)

\* There was rain on previous night on 16/10/2020; Major wind direction was north to South.

The analysis results of AAQM at various monitored locations are shown in Table 1 below, Report attached as **Annexure 4**

Table: 1

## Analysis Results of AAQM

Parameters	AAQ Monitoring Locations		
	Location-01 (micrograms/m <sup>3</sup> )	Location-02 (micrograms/m <sup>3</sup> )	Permissible Limit (24 Hrs) (micrograms/m <sup>3</sup> )
SO <sub>2</sub>	11.8	11.4	80
NO <sub>2</sub>	16.3	15.6	80
PM <sub>10</sub>	185	139	100
PM <sub>2.5</sub>	40	84	60

- Noise level has been monitored at three locations. The results of noise levels at various monitored locations are shown in Table 2 below: -

Location 1: - Near Boundary wall of unit adjacent to applicant farm.

Location 2: Near to B-block of unit within premises.

Location 3: At applicant farm (near to well).

Table 2

Sr. No.	Time	Location 1 (dB(A))	Location 2 (dB(A))	Location 3 (dB(A))	Permissible Limit (dB(A))
1	11.00 a.m. to 12.00 noon.	55	59	50	75
2	16.00 p.m. to 17.00 p.m.	54	57	51	75

## 5.2 GROUND WATER QUALITY MONITORING: -

The Applicant Submits that ground water of nearby area polluted water of well is not used for the irrigation purpose. In the verification of the allegation made by applicant committee has taken ground water sample from well of applicant farm survey No. 286/1.

The analysis results of applicant's well in Table 3 are below (Report attached as **Annexure 5**).

Table: 3

Sr. No.	Parameter	Unit	Results
1	Temperature	<sup>0</sup> C	31
2	pH	--	7.86
3	Colour	Pt. Co.Sc	10
4	Total Dissolved Solid	mg/Lit	2886
5	Suspended Solids	mg/Lit	16
6	Ammonical Nitrogen	mg/Lit	00
7	Chloride	mg/Lit	920
8	Sulphate	mg/Lit	450
9	Chemical Oxygen Demand	mg/Lit	12
10	Oil & Grease	mg/Lit	00
11	Phenolic Compound	mg/Lit	00
12	Sulphide	mg/Lit	00
13	B.O.D. (3 Days 27 C)	mg/Lit	03

As per the opinion received vide letter dated 8/12/2020 from Panchayat irrigation division Bhuj-Kutch with reference to analysis report of complainant's well, the ground water is suitable for irrigation purpose. The copy of the same is attached as **annexure - 6**.

### 5.3 SOIL ANALYSIS REPORT: -

- During inspection, committee has taken some photographs of nearby farm adjacent to applicant Farm that indicates good sign of healthy crop.
- As decided during inspection, Agriculture Department carried out soil sampling on 28/10/2020, Total Four Nos of sample taken for analysis purpose.
- As per District Agriculture officer report (Attached as **Annexure 7**) "no adverse effect observed on applicant land.

**Applicant Farm Photo**



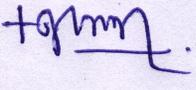
**Other Farm Photo Adjacent to applicant farm and industry.**





### 6.0 Conclusion.

- Ambient air quality results reveal that  $PM_{10}$  &  $PM_{2.5}$  exceed the permissible limit.
- Applicant alleged that due to pollution of industry his land became unfertile and non-use for agriculture purpose, but nearby farm to applicant farm have good crop at the time of inspection.
- As per District Agriculture officer report “no adverse effect observed” on applicant land.
- As per the Panchayat irrigation division Bhuj-Kutch opinion, ground water of complainant’ well is suitable for irrigation purpose.
- No abnormal noise pollution observed during inspection.
- Industry shall establish robust preventive maintenance & regular cleaning system for all provided Air Pollution Control Measures.
- Industry shall increase frequency of all internal roads cleaning with mechanical sweepers.
- Industry shall extend water sprinkling system up to area like raw material storage etc.
- Industry shall submit time bound action plan for slag disposal.
- Industry shall extend their support to nearby farmers to adopt advance technics of farming and irrigation, soil health data monitoring and fertilizer applications accordingly.

Sr. No.	Name & Designation	Signature
1	Gaurav Prajapati, Deputy District Development Officer, District Panchayat, Bhuj-Kutch	
2	K. G. Vachhani, Mamlatdar, Taluka Bhachau, Kutch as a representative of Prant officer Bhachau- Kutch.	
3	N. B. Nayak, Assistant Director Agriculture as a representative of District Agriculture Officer, District Panchayat, Bhuj-Kutch	
4	Kanubhai Chaudhari, Regional Officer-Kutch East, Gujarat Pollution Control Board.	

# Annexure 1

કલેક્ટર અને જિલ્લા મેજિસ્ટ્રેટની કચેરી, કચ્છ-ભુજ

મહેસૂલ શાખા, જિલ્લા સેવા સદન, માંડવી રોડ, મું.ભુજ-કચ્છ, પીન-૩૭૦૦૦૧

Email : collector-kut@gujarat.gov.in, Tel-02832-250020/Fax-02832-250430

નં.જમન-૭/વશી/એન.જી.ટી/ઓ.એપ્લી.૫૩/૨૦૨૦

તા.૧૦/૧૦/૨૦૨૦

નામદાર ગ્રીન ટ્રીબ્યુનલ મેટર/ તાત્કાલિક

- (૧)પ્રાંત અધિકારીશ્રી,ભચાઉ-કચ્છ(અત્રેના પ્રતિનિધિશ્રી).
- (૨)નાયબ જિલ્લા વિકાસ અધિકારીશ્રી(મહેસૂલ), કચ્છ-ભુજ.
- (૩)જિલ્લા ખેતીવાડી અધિકારીશ્રી, કચ્છ-ભુજ
- (૪)પ્રાદેશિક અધિકારીશ્રી, ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ, કચ્છ(પૂર્વ).

વિષય :- (ઓરીજનલ એપ્લીકેશન નં.૫૩/૨૦૨૦)

(I.A. NO.74/2020)

શ્રી જીવાભાઈ ગણેશભાઈ બાળા

વિરૂધ્ધ

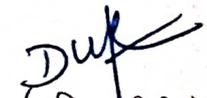
ગુજરાત સરકાર અને અન્ય.

સંદર્ભ :- નામદાર નેશનલ ગ્રીન ટ્રીબ્યુનલ, પ્રિન્સીપલ બેચ, નવી દિલ્હીના હુકમ  
તા.૧૬/૦૮/૨૦૨૦.

ઉપરોક્ત વિષયે નામદાર નેશનલ ગ્રીન ટ્રીબ્યુનલ, પ્રિન્સીપલ બેચ, નવી દિલ્હીના સંદર્ભવાળા હુકમની નકલ તથા પીટીશનની નકલ આ સાથે સામેલ છે. જે મુજબ શ્રી જીવાભાઈ ગણેશભાઈ બાળા દ્વારા ભચાઉ તાલુકાના સામખીયાળી ખાતે આવેલ ઈલેક્ટ્રોથર્મ ઈન્ડીયા લી. કંપની દ્વારા હવા, પાણી અને અવાજના પ્રદૂષણને લીધે ખેતીના પાકને નુકસાન તથા આજુબાજુ રહેતા લોકોના આરોગ્યને અસર કરવા બાબતે નામદાર નેશનલ ગ્રીન ટ્રીબ્યુનલ, પ્રિન્સીપલ બેચ, નવી દિલ્હી સમક્ષ ઓરીજીનલ એપ્લીકેશન નંબર- ૫૩/૨૦૨૦(WZ) દાખલ કરવામાં આવેલ છે.

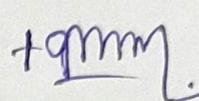
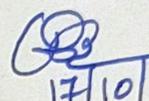
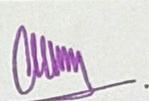
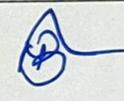
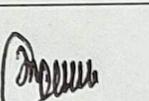
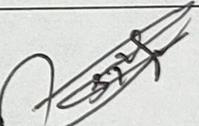
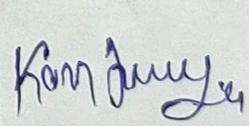
ઉક્ત નામદાર ગ્રીન ટ્રીબ્યુનલના સંદર્ભવાળા હુકમના મુદ્દા નં.૫ મુજબ સમિતિનું ગઠન કરી પીટીશનમાં રજૂ કરેલ રજૂઆત બાબતે છ અઠવાડીયામાં હકીકતલક્ષી અહેવાલ નામદાર ગ્રીન ટ્રીબ્યુનલ સમક્ષ રજૂ કરવાનો થાય છે. આ કામે ઉપરોક્ત વિગતે સમિતિના સભ્યોએ સ્થળ મુલાકાત કરી હકીકતલક્ષી અહેવાલ તૈયાર કરી અને પ્રાદેશિક અધિકારીશ્રી, ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ, કચ્છ(પૂર્વ)એ નામદાર ગ્રીન ટ્રીબ્યુનલ સમક્ષ સમયમર્યાદામાં અહેવાલ રજૂ કરી તેની જાણ અત્રેની કચેરીને કરવાની રહેશે.

બિડાણ:- ઉપર મુજબ.

  
(પ્રવિણા ડી.કે.)  
કલેક્ટર કચ્છ

# Annexure 2

In the compliance of Hon'ble NGT Principal Bench, New Delhi order dated 16/09/2020 in the matter title O.A. 53/2020 (I.A.No.74/2020), Jivabhai Ganeshbhai Bada Vs State of Gujarat & Ors. Members present during site visit held on 17/10/2020 at Electrotherm(India) Ltd, Village: Samkhiyali, Bhachau-Kutch.

Sr. No.	Name & Designation	Department	Signature
1	K. B. Chandham Regional officer	Gujarat Pollution Control Board	
2	Gaurav Prajapati DY. DDO	Dist. Panchayat BHUV. KUTCH	 17/10/20.
3	K. K. Pachmani	mandalder Bhachau	
4	N. B. Nayak Assistant Director Agriculture District Agriculture officer	District Panchayat Agriculture Branch - Kutch	
5	Pravin Kumar Modiya	Taluti cum. (Samkhiyali) Mamtol	
6	S. J. Gausiya	Visitation officer. Taluka Panchayat. Bhachau	
7	H. B. VAGHELA	CIRCLE OFFICE Bhachau	
8	A. A. KONDHANA ABSHAMA T. D. O	TALUKA BHACHAU PANCHAYAT	
9	N. P. Chaudhari D. F. O., GPCB	GPCB	
10			

# Annexure 3

## Online Pollution Monitoring Portal

Site Name: M/s. ELECTROTHERM (INDIA) LTD.(Sponge Iron & Di Pipe Plant)

From Date: 2020/10/17 To Date: 2020/10/17

Report Name: Custom Report

Report Created by ETIL on 2020-11-06 11:27:49

S. No.	Time	STACK_Flue_7_BF_1-SO2_U	STACK_Flue_7_BF_1-NOx_U	STACK_Flue_7_BF_1-PM_U	STACK_Flue_14_BF_2-SO2_U	STACK_Flue_14_BF_2-NOx_U	STACK_Flue_14_BF_2-PM_U	STACK_Flue_3_AFBC_Boiler_CPP-SO2_U
1	2020-10-17 00	2.56	10.23	43.96	20.14	22.02	27.7	15.21
2	2020-10-17 01	3.69	5.66	43.9	20.08	22.03	1.35	15.28
3	2020-10-17 02	14.22	8.69	44.05	20.22	21.91	19.51	21.01
4	2020-10-17 03	10.26	12.45	43.93	20.14	22.03	30.47	19.34
5	2020-10-17 04	23.51	10.69	44.02	20.11	23.29	34.24	8.36
6	2020-10-17 05	10.45	5.63	43.71	20.12	22.72	32.92	20.78
7	2020-10-17 06	13.66	4.01	44.02	20.02	23.02	36.5	22.78
8	2020-10-17 07	10.85	10.26	44.03	20.09	23.76	14.47	20.41
9	2020-10-17 08	19.85	14.32	44	20.16	23.72	29.56	14.55
10	2020-10-17 09	15.91	6.36	43.95	20.06	24.33	36.55	13.96
11	2020-10-17 10	24.71	10.03	43.33	19.91	23.83	30.88	17.45
12	2020-10-17 11	20.45	11.25	42.32	20.1	23.18	30.98	15.63
13	2020-10-17 12	30.85	10.23	41.92	20.2	23.36	30.77	10.45
14	2020-10-17 13	22.47	5.89	42.03	20.03	22.67	25.25	29.61
15	2020-10-17 14	24.71	12.44	41.48	20.05	22.64	17.05	20.31
16	2020-10-17 15	30.19	13.47	41.22	19.99	22.4	32.66	15.33
17	2020-10-17 16	16.55	10.03	41.66	20	21.8	35.09	15.33
18	2020-10-17 17	10.49	8.97	41.79	20.08	21.95	27.25	26.47
19	2020-10-17 18	36.88	9.33	41.68	20.07	23.03	30.22	20.78
20	2020-10-17 19	24.21	10.03	41.76	19.93	23.91	35.4	15.37
21	2020-10-17 20	35.49	14.56	41.62	20.1	22.86	33.67	15.39
22	2020-10-17 21	30.16	20.31	41.39	20.03	22.4	32.18	18.63
23	2020-10-17 22	24.71	10.03	41.37	20.12	22.66	35.04	26.31
24	2020-10-17 23	20.44	14.22	41.66	20.1	23.62	26.87	24.22
25	Maximum Value	36.88	20.31	44.05	20.22	24.33	36.55	29.61
26	Maximum Value At Time	2020-10-17 18	2020-10-17 21	2020-10-17 02	2020-10-17 02	2020-10-17 09	2020-10-17 09	2020-10-17 13
27	Minimum Value	2.56	4.01	41.22	19.91	21.8	1.35	8.36
28	Minimum Value At Time	2020-10-17 00	2020-10-17 06	2020-10-17 15	2020-10-17 10	2020-10-17 16	2020-10-17 01	2020-10-17 04

STACK_Flue_3_AFBC_Boiler _CPP-NOx_U	STACK_Flue_3_AFBC_Boiler _CPP-PM_U	STACK_Flue_5_Kiln_1- SO2_U	STACK_Flue_5_Kiln_1- NOx_U	STACK_Flue_5_Kiln_1-PM_U	STACK_Flue_12_Kiln_2- SO2_U	STACK_Flue_12_Kiln_2- NOx_U	STACK_Flue_12_Kiln_2- PM_U
23.19	81.92	22.68	20.05	4.56	44.59	20.63	4.43
23.21	81.66	22.34	20.11	4.7	44.13	15.66	4.76
21.45	81.82	22.57	20.13	4.71	42.25	26.38	4.78
19.54	81.89	21.93	20.2	4.99	37.75	30.13	4.96
18.15	82.2	22.25	20.03	4.95	40.6	26.34	4.91
17.6	82.4	21.95	20.1	4.94	43.52	28.74	5.03
16.72	82.35	22.5	20.03	4.88	44.05	22.01	4.88
14.87	82.31	22.62	20.18	4.78	44.51	24.76	4.81
13.49	81.75	22.25	19.95	4.67	44.63	15.62	4.96
12.94	80.76	22.45	20.06	4.8	44.22	18.66	4.85
13.19	79.79	22.19	20.17	4.73	43.91	23.08	4.89
13.86	79.24	22.5	19.99	4.72	44.24	29.1	4.73
15.45	79.28	33.2	20.08	5.02	44.04	17.41	4.76
16.51	79.82	30.65	20.04	5.36	43.63	21.25	4.67
16.3	79.86	29.8	20.09	5.4	43.63	23.51	4.5
15.7	79.95	29.22	20.06	5.32	43.63	20.14	4.61
15.66	80.06	29.05	20.05	5.29	43.63	16.36	4.47
15.19	80.47	29.2	20.05	5.4	43.63	15.85	4.42
14.93	80.85	29.25	20.2	5.32	43.63	20.14	4.44
15.52	81.1	29.21	20.07	5.26	43.63	21.25	4.39
15.93	81.28	29.17	20.07	5.33	43.63	19.63	4.39
23.45	76.31	29.15	20.19	5.26	43.63	25.12	4.37
21.09	60.23	29.12	20.02	5.33	43.63	26.31	4.41
24.66	71.22	29.08	20.08	5.27	43.63	22.85	4.35
24.66	82.4	33.2	20.2	5.4	44.63	30.13	5.03
2020-10-17 23	2020-10-17 05	2020-10-17 12	2020-10-17 22	2020-10-17 14	2020-10-17 08	2020-10-17 03	2020-10-17 05
12.94	60.23	21.93	19.95	4.56	37.75	15.62	4.35
2020-10-17 09	2020-10-17 22	2020-10-17 03	2020-10-17 08	2020-10-17 00	2020-10-17 03	2020-10-17 08	2020-10-17 23

STACK_Flue_8_Annealing_Furnace-SO2_U	STACK_Flue_8_Annealing_Furnace-NOx_U	STACK_Flue_8_Annealing_Furnace-PM_U	STACK_Flue_16_SINTER_TAIL-SO2_U	STACK_Flue_16_SINTER_TAIL-NOx_U	STACK_Flue_16_SINTER_TAIL-PM_U	STACK_Flue_15_SINTER_MA-IN-SO2_U	STACK_Flue_15_SINTER_MA-IN-NOx_U
19.96	28.17	9.55	NA	NA	NA	NA	NA
19.89	28.07	9.3	NA	NA	NA	NA	NA
19.93	28.06	9.33	NA	NA	NA	NA	NA
19.99	28.16	9.34	NA	NA	NA	NA	NA
19.94	27.99	9.36	NA	NA	NA	NA	NA
19.88	28.06	9.4	NA	NA	NA	NA	NA
19.88	28.21	9.34	NA	NA	NA	NA	NA
19.95	28.2	9.27	NA	NA	NA	NA	NA
19.89	27.91	9.21	NA	NA	NA	NA	NA
19.93	28.04	9.21	NA	NA	NA	NA	NA
19.84	27.97	9.19	NA	NA	NA	NA	NA
19.91	28.11	9.22	NA	NA	NA	NA	NA
19.89	28.16	9.23	NA	NA	NA	NA	NA
19.83	27.85	9.23	NA	NA	NA	NA	NA
19.97	28.17	9.25	NA	NA	NA	NA	NA
19.88	28.11	9.26	NA	NA	NA	NA	NA
19.94	28.01	9.31	NA	NA	NA	NA	NA
19.9	27.94	9.3	NA	NA	NA	NA	NA
19.88	27.72	9.34	NA	NA	NA	NA	NA
19.94	28.08	9.28	NA	NA	NA	NA	NA
19.93	27.89	9.29	NA	NA	NA	NA	NA
19.87	27.9	9.33	NA	NA	NA	NA	NA
19.9	27.89	9.3	NA	NA	NA	NA	NA
19.92	27.96	9.32	NA	NA	NA	NA	NA
19.99	28.21	9.55	NA	NA	NA	NA	NA
2020-10-17 03	2020-10-17 06	2020-10-17 00	NA	NA	NA	NA	NA
19.83	27.72	9.19	NA	NA	NA	NA	NA
2020-10-17 13	2020-10-17 18	2020-10-17 10	NA	NA	NA	NA	NA

STACK_Flue_15_SINTER_MA IN-PM_U	STACK_Process_12_PRD_SEP _BIN-SO2_U	STACK_Process_12_PRD_SEP _BIN-NOx_U	STACK_Flue_11_Induction_F urnance_2-PM_U	STACK_Process_9_DAY_BIN- PM_U	STACK_Flue_10_Induction_F urnance_1-PM_U	STACK_Flue_18_Induction_F urnance_02_SMS_1-PM_U
NA	8.95	7.3	1.63	51.45	25.55	26.74
NA	8.94	7.23	0.05	51.21	25.69	26.91
NA	8.95	7.15	0.17	50.37	25.73	26.6
NA	9.05	6.97	10.34	50.18	25.58	26.67
NA	9.04	6.86	10.44	50.01	25.6	26.66
NA	8.97	6.77	10.2	49.28	25.58	26.65
NA	8.94	6.64	10.1	49.2	25.66	26.52
NA	9.02	6.53	9.67	48.66	26.55	26.43
NA	9	6.47	9.72	49.04	26.39	26.74
NA	9.04	6.53	9.77	49.34	26.43	26.37
NA	9.06	6.78	10.02	49.68	26.31	26.68
NA	9.01	7.15	9.9	49.42	26.29	26.37
NA	8.93	7.57	10.29	50.19	26.33	4.19
NA	8.96	7.9	10.23	50.05	26.37	4.13
NA	8.96	8	10.51	50.41	26.19	2.79
NA	9	8.1	10.65	50.85	26.11	2.91
NA	8.99	8.08	10.73	50.58	26.27	2.49
NA	8.96	7.99	10.78	49.86	26.21	8.36
NA	8.89	7.92	10.56	49.54	26.08	5.15
NA	8.91	7.9	10.41	50.66	26.07	9.1
NA	8.94	7.72	10.28	50.55	26.18	10.96
NA	8.86	7.63	10.6	50.26	26.07	9.8
NA	8.85	7.59	9.97	50.49	26.25	10.79
NA	8.81	7.63	10.25	49.83	26.28	8.82
NA	9.06	8.1	10.78	51.45	26.55	26.91
NA	2020-10-17 10	2020-10-17 15	2020-10-17 17	2020-10-17 00	2020-10-17 07	2020-10-17 01
NA	8.81	6.47	0.05	48.66	25.55	2.49
NA	2020-10-17 23	2020-10-17 08	2020-10-17 01	2020-10-17 07	2020-10-17 00	2020-10-17 16

# Annexure 4



**560**  
ANALYSIS REPORT FOR AIR  
TYPE : Ambient

Gujarat Pollution Control Board

Kutch West

Katira Commercial Complex-1, First Floor

Tax office, Manglam Char rasta ,Sanskar

nagar,

BHUJ - 370 001

Sample ID:291114 - Analysis Completion:03/11/2020 Near Income

Iron & Steel (involving processing from ore/integrated steel plants) and  
or Sponge Iron units / LAB Inward : 6353

1. Name & : Electrotherm (India) Ltd ( Sponge Iron & Di Pipe Plant ) - 17826  
2. Address of the Unit : 325,VILLAGE: SAMAKHIYALI,Not Applicable  
SAMAKHIYALI - 370140,Taluka : Bhachau, District : Kutch East, GIDC : Not In Gidc  
3. Nature of Sample : REP-Representative/Grab , (Insp Type : OTH-Others/Higher Authority)  
4. Sample Collected By : K. B. Chaudhary, R.O Head  
5. Date & Time of Collection & Receipt : 17/10/2020, (1015 to 1015)  
6. Date of Start & Completion of Analysis : 19/10/2020 & 03/11/2020  
7. Sampling Point : AAQM Carried out Near weight bridge no:2 of the unit (up Stream) ~  
8. Fuel : --  
9. APCM : --  
10. Filter No & Weight : F.P.No.= 56,57,58 (2.6953 gm, 2.7192 gm ,2.7242 gm) & PTO 683499 (0.145196 gm)  
11. Temperature on Collection : 12 & Volume-Absord Media : For PM10(1)528.0 M3 (2)580.8 M3 (3)576.0M3 & for P  
12. Volume-Gas Passed : 30 ML  
13. Parameters : 4 & Oper Time(Min) : 24 HRS

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	SO2-Amb	MICROG/M3	IS:5182(Part-2),2001	5-10µg/M3	11.8
2	NO2-Amb	MICROG/M3	IS:5182(Part-VI),2006	10-740µg/M3	16.3
3	PM10-Amb	MICROG/M3	IS: 5182 (Part - XXIII), 2006	1 – 1000 µg/M3	185
4	PM2.5-Amb	MICROG/M3	-	-	40

**Laboratory Remarks** : Freeze By:251-r.o\_251 Dt.: 04/11/2020

*T. C. Barmeda*

T.C Barmeda, SSO

Field Observation : --



ANALYSIS REPORT FOR AIR  
TYPE : Ambient

Gujarat Pollution Control Board

Kutch West

Katira Commercial Complex-1, First Floor

Tax office, Manglam Char rasta ,Sanskar

nagar,

BHUJ - 370 001

Sample ID:291115 - Analysis Completion:03/11/2020 Near Income

Iron & Steel (involving processing from ore/integrated steel plants) and  
or Sponge Iron units / LAB Inward : 6354

1. Name & : Electrotherm (India) Ltd ( Sponge Iron & Di Pipe Plant ) - 17826  
2. Address of the Unit : 325,VILLAGE: SAMAKHIYALI,Not Applicable  
SAMAKHIYALI - 370140,Taluka : Bhachau, District : Kutch East, GIDC : Not In Gidc  
3. Nature of Sample : REP-Representative/Grab , (Insp Type : OTH-Others/Higher Authority)  
4. Sample Collected By : K. B. Chaudhary, R.O Head  
5. Date & Time of Collection & Receipt : 17/10/2020, (1040 to 1040)  
6. Date of Start & Completion of Analysis : 19/10/2020 & 03/11/2020  
7. Sampling Point : AAQM Carried out Near weight bridge no:3 of the unit (Down Stream) ~  
8. Fuel : --  
9. APCM : --  
10. Filter No & Weight : F.P.No.= 59,60,64 (2.7227 gm, 2.7010 gm ,2.6797 gm) & PTO 683496 (0.148068 gm)  
11. Temperature on Collection : 12 & Volume-Absord Media : For PM10(1)547.2 M3 (2)571.2 M3 (3)585.6M3 & for P  
12. Volume-Gas Passed : 30 ML  
13. Parameters : 4 & Oper Time(Min) : 24 HRS

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	SO2-Amb	MICROG/M3	IS:5182(Part-2),2001	5-10µg/M3	11.4
2	NO2-Amb	MICROG/M3	IS:5182(Part-VI),2006	10-740µg/M3	15.6
3	PM10-Amb	MICROG/M3	IS: 5182 (Part - XXIII), 2006	1 – 1000 µg/M3	139
4	PM2.5-Amb	MICROG/M3	-	-	84

Laboratory Remarks : Freeze By:251-r.o\_251 Dt.: 04/11/2020

T. C. Barmeda

T.C Barmeda, SSO

Field Observation : --

# Annexure 5



Sample ID:291113 - Analysis Completion:03/11/2020

Iron & Steel (involving processing from ore/integrated steel plants)  
and or Sponge Iron units / LAB Inward : 6359

**TEST REPORT**

Test Report No. : 6359

Date: 04/11/2020

1. Name of the Customer : Electrotherm (India) Ltd ( Sponge Iron & Di Pipe Plant ) - 17826  
2. Address : 325,VILLAGE: SAMAKHIYALI,Not Applicable  
SAMAKHIYALI-370140, Taluka : Bhachau, District : Kutch East, GIDC : Not In Gide  
3. Nature of Sample : REP-Representative/Grab, (Insp Type : OTH-Others/Higher Authority)  
4. Sample Collected By : K. B. Chaudhary, R.O Head  
5. Quantity of Sample Received : 5  
6. Code No. of the Sample : 291113  
7. Date & Time of Collection & Inwarding : 17/10/2020 , (1322 to 1325) & 19/10/2020  
8. Date of Start & Completion of Analysis : 19/10/2020 & 03/11/2020  
9. Sampling Point : sample collected from complainer's well ~  
10. Flow Details (Remarks) :  
11. Mode of Disposal :  
12. Ultimate Receiving Body : Not Applicable.  
13. Temperature on Collection : 31 & pH Range on pH Strip :7 - 8 on pH strip  
14. Carboys Nos for : Barcode & Color & Appearance :Colorless  
15. Water Consumption & W.W.G (KLPD) : Ind :2155.000 , Dom :10.000 & Ind :60.000 , Dom :7.000

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	Temperature	Centigrade	IS: 3025 (Part – 9) – 1984(Reaffirmed 2006)	Ambient oC - 60 oC	31
2	pH	pH Units	4500 H+ B APHA Standard Methods 22nd edi.2012	1 – 14 pH value As or	7.86
3	Colour	Pt.Co.Sc.	2120 B APHA Standard Methods 22nd edi. 2012	2 - to 99 Hazen & 1-50	10
4	Total Dissolved Solids	mg/l	Gravimetric method. (2540 C APHA Standard Method	10 – 200000 mg/L	2886
5	Suspended Solids	mg/l	Gravimetric method. (2540 D APHA Standard Method	2 – 10000 mg/L	16
6	Ammonical Nitrogen	mg/l	1).Titrimetric method (4500 NH3 B & C APHA Standai	1 - 2000 mg/l.	0.0
7	Chloride	mg/l	Argentometric method. (4500 Cl? B APHA Standard N	1 - 50000 mg/l	920
8	Sulphate	mg/l	APHA(22nd edi)4500 SO4 E	2-40mg/l	450
9	Chemical Oxygen Demand	mg/l	APHA (22nd Edition)- 5220 B Open Reflux Method-2	5.0- 50000 mg/l	12
10	Oil & Grease	mg/l	Liquid – Liquid Partition Gravimetric method. (5520 B	01 – 1000 mg/l	0.0
11	Phenolic Compounds	mg/l	4 Amino Antipyrrene method without Chloroform Extra	0.1 – 50 mg/l	0.0
12	Sulphide	mg/l	APHA (22nd Edi.)4500-s2-F –iodometric Method	1-500.0 mg/l	0.0
13	B.O.D (3 Days 27oC)	mg/l	3 – Day BOD test. (IS 3025 (Part 44) 1993 Reaffirme	05–50000 mg/l	3.0

**Laboratory Remarks** : Freeze By:251-r.o\_251 Dt.: 04/11/2020

*T. C. Barmeda*

**T.C Barmeda, SSO**

**Field Observation :**

Note :

- \* - These parameters are NOT covered under the scope of NABL.
- The results refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied.
- Samples will be destroyed after 10 days from the date of issue of test report unless otherwise specified.
- This report is not to be reproduced wholly or in part or used in any advertising media without the permission of the Board in writing.
- The Board is not responsible for the authenticity for the samples not collected by the Board's officials.
- Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only.
- Permissible Limits: as per Schedule VI of EPA Rules, 1986 as ammended by Second and Third ammendment 1993 for Effluents
- Physicochemical and microbiological parameters, Std.Methods for Water and Waste Water- 22nd Edition by APHA.
- Bioassay test (for toxicity) -IS:6582:Part-2:2001; Reaffirmed 2007.

# Annexure 6

# **PANCHAYAT IRRIGATION DIVISION-BHUJ**

**NARMADA WATER RESOURCE, WATER SUPPLY AND KANSAR DEPARTMENT**

Office of the Executive Engineer  
Panchayat Irrigation Division  
Room No : 116  
District panchayat Kutch-bhuj  
(O) 02832 251879  
(O)02832 220240



NO:- PID/PB-2/NGT/Opinion/20/2206

Date:- 08/12/2020

TO,  
Regional officer,  
Regional office kutch (East)  
Gujarat Pollution Control Board,  
Katira Complex-1  
Mangalam char Rasta, Sanskar Nagar  
Bhuj-Kutch

Subject:- Regarding Ground Water Sample was Collected From well Of  
Mr.Jivabhai Ganeshbhai Bada

Reference:- Your Office Email : Dated :- 01/12/2020.

With reference of above Email Regarding Ground water Collected From well of Mr.Jivabhai Ganeshbhai Bada, Village Samakhiyali Which was tested and Test report attached here With. You require a Comment on suitability of said water for irrigation purpose For this our Opinion is It is suitable for Irrigation purpose.

*Deep*  
Executive Engineer  
Panchayat Irrigation Division  
Bhuj-kutch

*D 22 Pl.  
10/12/2020*

<b>G.P.C.B. BHUJ (W)</b>
Inward No:-.....1795.....
Date:-.....10/12/20.....
Sign:-.....Deep.....

# Annexure 7

પ્રતિ,

માન.કલેક્ટર શ્રી,

કલેક્ટર અને જિલ્લા મેજિસ્ટ્રેટની કચેરી,

કચ્છ-ભુજ

વિષય : ઓરીજીનલ એપ્લીકેશન નાં.૫૩/૨૦૨૦( I.A NO.૭૪/૨૦૨૦)અન્વયે જમીન પૃથ્થકરણ અહેવાલ બાબત

સંદર્ભ: (૧)માન.કલેક્ટરશ્રી,કચ્છના પત્ર નં.જમીન-૭/વશી/એન.જી.ટી/ઓ/એપ્લી.૫૩/૨૦૨૦ તા.૦૯/૧૦/૨૦૨૦

(૨) જાનં./જિપંકા/ખેતી/ટેક-૨/ઈલેક્ટ્રોથર્મ/રજુઆત/૯૪૪૩-૪૪/૨૦૨૦ તા.૨૦/૧૦/૨૦૨૦

(૩)જમીન ચકાચણી પ્રયોગશાળા,ભુજ-કચ્છનાં પત્ર નં:-જા.નં.મ.પે.ની/જ.ચ.પ્ર./જમીન/નમુના/૨૭૫/૨૦૨૦

તા:૦૫/૧૧/૨૦૨૦.

ઉપર્યુક્ત વિષય અન્વયે જણાવવાનું કે સંદર્ભ પત્ર (૧)થી શ્રી જીવાભાઈ ગણેશભાઈ બાળા દ્વારા લયાઉ તાલુકાના સામખીયાળી ખાતે આવેલ ઈલેક્ટ્રોથર્મ ઇન્ડિયા લી.કંપની દ્વારા થતા પાકને નુકશાન તથા અન્ય નુકશાન બાબતે નામદાર નેશનલ ગ્રીન ટ્રિબ્યુનલ,પ્રિન્સીપાલ બેંચ,નવી દેલ્હી સમક્ષ ઓરીજીનલ એપ્લીકેશન નાં.૫૩/૨૦૨૦ દાખલ કરેલ હોય પીટીશનમાં રજુ કરેલ રજુઆત બાબતે હકીકત લક્ષી અહેવાલ મોકલવા માટે જણાવેલ છે.સંદર્ભ પત્ર ૨ અને ૩ થી સદર ખેતરના જુદા જુદા સર્વે નંબરના જમીનના નમુના પૃથ્થકરણ અર્થે લેવામાં આવેલ સદર પૃથ્થકરણ અહેવાલમાં જણાવ્યા મુજબ તમામ Parameter સામાન્યથી મધ્યમ હોવાનું પૃથ્થકરણ અહેવાલ પરથી ક્લીત થાય છે.સદર જમીનમાં પૃથ્થકરણ અહેવાલ અનુસાર Adverse effect જોવા મળેલ નથી.સામાન્ય પાક ઉત્પાદન સારૂ કોઈ આડ અસર થવાની સંભાવના નથી.



જિલ્લા ખેતીવાડી અધિકારી

જી.પં.,ભુજ-કચ્છ

