

ACTION TAKEN REPORT

***IN THE MATTER OF O. A. 669 OF 2018, MARVADA AMRUTLAL BECHARLAL VS.
STATE OF GUJARAT - ASHAPURA GROUP OF COMPANIES, KUTCH.***

Vide the last order dated 20.11.2019 in the present matter, this Hon'ble Tribunal directed GPCB and CPCB to examine and oversee the remediation process of groundwater and gypsum removal by the industrial unit i.e. Ashapura Perfoclay Ltd., in addition to conducting periodical checks. This Hon'ble Tribunal also directed the issuance of a public notice regarding the unfitness of the ground water for drinking or other use in the interest of public health.

GPCB has duly complied with all of the said directions of this Hon'ble Tribunal and continues to follow the same. GPCB has closely monitored and carried out regular inspections of the unit, particularly on 23.11.2019, 14.12.2019, 23.12.2019, & 24.01.2020 in addition to the joint inspections carried out by GPCB and CPCB together. GPCB has also ensured that the progress of the unit in the remediation process is duly documented and verified in a proper manner.

JOINT COMMITTEE INSPECTIONS BY CPCB AND GPCB

Joint Committee Inspections by CPCB and GPCB were carried out in compliance with the Hon'ble NGT order to assess the progress and verify the averments made by the unit regarding the remediation process in their monthly progress reports. These inspections were carried out on 31.12.2019, 06.02.2020 and 16.03.2020. The Joint Committee Report of the said inspections bring out the following observations:

Overall Observations Regarding Gypsum Disposal

- The observations show that the unit is engaged in the removal of Gypsum from the dumped sites and has shown progressive intent in this regard. A total of 108185.48 MT of gypsum has disposed by the unit from Jan 2019 till Feb 2020, out of which 85739 MT has been disposed to cement industries for co-processing and 22445.93 MT for backfilling of abandoned mines. Out of 39 sites, the unit has lifted and removed gypsum

from 26 sites while 13 sites still remain. Therefore, the unit needs to expedite the gypsum removal process.

- The unit has obtained permission vide CCA Amendment dated 29.07.2019 from GPCB for back filling of waste Gypsum in the abandoned mines at Mata Na Madh, Taluka Lakhpur, Dist Kutch and has already started disposing waste Gypsum in the said mine.
- The unit has also obtained permission from GPCB for back filling of another abandoned mine of M/s. Manico Minerals international Pvt. Ltd. (QL no. 17654) located at survey no. 420/23, Vill: Pundi, Ta. Mandvi, Dist. Kutch, vide CCA no. H-107040 dated 13.03.2020, which is valid up to 24.06.2023. The said CCA Amendment is annexed herewith as an ANNEXURE-1.

Overall Observations Regarding Groundwater Contamination & Restoration

- The available records show that unit is using fresh lime for neutralization process and stopped using ammonia contaminated lime from GNFC and thus eliminated the source of contamination. The analysis trend of ground water samples shows that concentration of Ammonical Nitrogen decreases on both the contaminated Bore-wells where restoration process is in place, however the concentration levels are still significantly high. The concentration of TDS has increased on one location and decreased on another location. It is therefore difficult to infer conclusion about the impact of restoration process on the ground water quality at this juncture. Although keeping in view the complexity of ground water profile, three months restoration period is not sufficient and consistent long term efforts will be required to restore the water quality to satisfactory level. However, the daily withdrawal quantity of 70 M³ from the contaminated bore-wells appears inadequate and unit should explore possibility to expedite the restoration process.
- Further, the unit is in the process of establishing one ground water recharge well which may help in reduction of contamination level. It is worth to mention that Kutch region of Gujarat is a rain deficient area and unit is extracting ground water for restoration process, therefore the unit may be directed to provide such additional rainwater harvesting wells on suitable locations for speedy restoration as well as recharging of ground water strata.

GPCB issued a conditional revocation order to the closure order dated 20.02.2020 till 23.03.2020, to the said unit, in light of the following factors:

- *“Gypsum is cleared from total 21 locations and 18 locations are remaining. The disposal of gypsum from the site was observed in progress.*
- *Unit has started remediation activity as per M/s Kadam Environmental Consultant, Baroda report for 2 nos. of bore well is started and it is under progress.*
- *Gypsum waste disposed into abandoned mines as obtained CCA-Amendment, as per the record unit has disposed 8382 MT of gypsum to the mines.*
- *Unit is using hydrated lime.”*

A Copy of the conditional revocation order dated 20.02.2020 is annexed herewith as an ANNEXURE-2.

- The latest inspection of the unit was carried out on 18.04.2020, wherein it was observed that the unit has stopped production and groundwater remediation since 21.03.2020 as a result of the nation-wide lockdown resulting from the spread of COVID-19 pandemic and the gypsum removal/lifting activity has also been stopped since 16.03.2020 due to the same. However, the unit was in operation at the time of inspection. The unit, which produces bleaching clay used for producing edible oil (essential commodity), is operating under the order and legal permission dated 11.04.2020 granted to it by Assistant Collector & Sub-Divisional Magistrate, Bhuj-Kutch. Though the Revocation to the Closure Order was valid only until 23.03.2020 for the said unit, in light of the COVID-19 pandemic, all revocation orders for all industrial units have been extended by GPCB to 30.06.2020 vide Office Order dated 30.03.2020.
- The permission from the Assistant Collector & Sub-Divisional Magistrate, Bhuj-Kutch dated 11.04.2020 with its translated copy is annexed herewith collectively as an ANNEXURE-3 COLLY. The Office Order dated 30.03.2020 issued by GPCB with its translated copy is annexed herewith collectively as an ANNEXURE-4 COLLY. The inspection report dated 18.04.2020 is annexed herewith as an ANNEXURE-5.

COMPLIANCE OF PUBLISHING PUBLIC NOTICES

- Public notice about the un-fitness of the water for drinking or other specified use in the interest of public health is published in the vernacular language-Gujarati in “*Kutch Mitra*”, dated 27.02.2020 & English in “*Indian Express*”, dated 28.02.2020.

The copy of the Public Notices published by GPCB are annexed herewith collectively as an ANNEXURE-6 COLLY.

MONTHLY PROGRESS REPORTS SUBMITTED BY THE UNIT

In accordance with the above-said directions of this Hon’ble Tribunal and in accordance with the Notice of Directions dated 18.11.2019 issued by GPCB to the unit, the unit has been engaged in restoration processes in place for dumped Gypsum and ground water contamination and has informed GPCB of the monthly progress achieved till 20.02.2020 vide 3 Progress Reports.

- The ***First Progress Report*** was submitted by the unit on 18.12.2019 which is annexed herewith as an ANNEXURE-7. As per this report, the total numbers of sites are 34, and the unit had already lifted gypsum from 7 sites by July 2019. 5 more sites were cleared during the period of 25.11.2019 – 10.12.2019 and work was in progress for 4 more sites. As far as the remaining 18 sites are concerned, the unit stated that 4 sites will be cleared in the months to come and the rest 14 sites will require the support of the local authorities for removal.

Pertaining to groundwater remediation, the first progress report showed that the remediation process was carried out in Borewell GW-1 and showed positive results and work was in progress in Borewell GW-5.

- The ***Second Progress Report*** dated 24.01.2020 showed that in addition to the 12 sites already cleared, 4 more sites were cleared in the duration of 11.12.2019 – 31.12.2019. Work was in progress for 3 more sites. Out of the remaining 15 sites, the unit again stated that 4 will be cleared in the months to come and the rest 11 sites will require the support of the local authorities for removal. The Second Progress Report dated 24.01.2020 is annexed herewith as an ANNEXURE-8.

The groundwater remediation was still under progress for GW-1 and GW-5 and showed significant reduction in the Ammonical nitrogen levels.

- The ***Third Progress Report*** dated 20.02.2020 showed that 21 sites had been cleared completely and out of the remaining 13 sites, 9 require the assistance of local authorities for removal, while 4 are sites which are abandoned mines.

The groundwater remediation is still under progress in GW-1, GW-5 and GW-6 by adopting pump & treat method. The results showed that reduction of 70-75% of ammonical nitrogen in GW-1, 35-40% in GW-5, and 30-40% in GW-6. The Third Progress Report dated 20.02.2020 is annexed herewith as an ANNEXURE-9.



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar 382 010

Phone : (079) 23222425

(079) 23232152

Fax : (079) 23232156

Website : ~~www.gpcb.gov.in~~ **www.gpcb.gov.in**

AMENDMENT TO CONSENTS AND AUTHORISATION

To
M/s. Ashapura Perfoclay Ltd.,
Survey No. 167, 163 & 164
Vill: Ler, Nr. Bhujodi,
Anjar Bhuj Highway,
Tal: Bhuj,
Dist: Kutch

Subject : Amendment to Consolidated Consent and Authorisation (CC&A).
Reference : 1) CCA order no. AWH-93521, vide letter no. PC/CCA-KUTCH - 27(7)/GPCB ID 17774/469190, date 20/09/2018.
2) CCA Amendment order no. H-103222, vide letter no. PC/CCA-KUTCH - 27(15)/GPCB ID 17774/515531, date 31/07/2019.
3) Your CCA Amendment Application Inward ID No. 171755 dated 21/01/2020.

Sir,

In exercise of the power conferred under section-27 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule 6(2) of the Hazardous & Other Waste (Management & Transboundary Movement) Rules-2016 & as amended framed under the Environmental (Protection) Act-1986 and without reducing your responsibility under the said Acts/Rules in anyway; this Board is empowered to amend consent order conditions. Accordingly, the Consolidated Consent and Authorisation (CC&A) issued vide letter no. PC/CCA-KUTCH - 27(7)/GPCB ID 17774/469190, dated 20/09/2018 which is valid up to 24/06/2023 under reference (1) stands amended in respect of the following conditions;

1. Consent Order No.: H-107040, Date of Issue: 05/03/2020.
2. The consent order shall be valid up to 24/06/2023.
3. There shall be no change in production capacity, water consumption, waste water generation, fuel consumption and hazardous waste generation due to proposed amendment.
4. This CCA Amendment is granted only for the alternate mode of disposal of gypsum waste generated from neutralization of spent acid, to mines back filling in the abandoned mines only when cement industries are not in operation and / or not accepting the gypsum for co-processing with following specific conditions;

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SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. Unit shall comply with the conditions of the Environment Clearance granted by the competent authority.
2. Unit shall approach other cement industries for sending gypsum waste for co-processing.
3. Unit shall submit the data when the cement industry is not accepting the gypsum for co-processing along with the document from the same industry.
4. The gypsum waste generated from neutralization of dilute spent acid by using fresh hydrated lime only be disposed at mines back filling to the abandoned mines of M/s. Manico Minerals International Pvt. Ltd. (QL no. 17654) located at survey no. 420/23, Vill: Pundi, Ta. Mandvi, Dist. Kutch having Latitude Longitude as 22° 59' 40.0" N 69° 30' 09.2" E.
5. The filtered cake of gypsum shall be stored at the dedicated storage area having proper lining and leachate collection system such that there is no seepage.
6. Unit shall analyse the generated gypsum at regular interval of the process and shall submit the analysis report of the same to this office and to the regional office, Kutch (West).
7. Unit shall provide impervious liner with adequate thickness after leakage test in the mines before disposing the gypsum waste.
8. Unit shall provide impervious liner system possessing adequate physical, chemical and mechanical properties to prevent failure due physical contact with gypsum or leachate or climatic condition or hydrostatic uplift pressure and stresses which may arise due to stacking of the gypsum.
9. All the joints of the liner prior to commencement shall be tested for leakages.
10. Unit shall provide dedicated transportation facility.
11. The vehicles use for the transportation of the gypsum waste shall be registered under Motor Vehicle Act – 1988 and dedicated only for collection and transportation of gypsum waste.
12. The vehicles used for transportation shall be covered properly with tarpaulin sheets.
13. In no case there shall be spillage of the gypsum while handling and transportation of the gypsum. In case of any spillage of gypsum waste while transporting, it shall be sole responsibility of unit for clearing such spillages.
14. Unit shall take adequate steps to control fugitive emission while handling and transportation of gypsum.
15. Unit shall monitor the ground water quality at regular interval at the mines where gypsum waste is to be back filled i.e. M/s. Ashapura Minechem, Lakhapat, Kutch and submit the analysis report to this office.





GPCB

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16. In no case the ground water shall be affected due to backfilling of the gypsum in the mines.
 17. Unit shall maintain the record of the generation and disposal of gypsum. Unit shall submit monthly data of the same to this office and regional office, Kutch (West).
 18. Unit shall prepare contingency plan and suitable remedial measures shall be taken to have no impact on environment.
 19. In no case gypsum shall be dumped outside the designated area.
 20. Unit shall be held responsible if illegal dumping of the gypsum waste is observed at any other places.
 21. Unit shall comply with the closure mining plan.
 22. Unit shall carry out Ambient Air Quality Monitoring near the industry and also at the mines.
 23. Unit shall increase the green belt area i.e. tree area within and at periphery of the premises.
 24. Unit shall also develop green belt area at abandoned mines where gypsum waste to be backfilled.
 25. Unit shall be responsible for the final closure of the mines and shall cover with the top soil and plantation.
5. The other terms and condition of CCA order no. AWH-93521, vide letter no. PC/CCA-KUTCH - 27(7)/GPCB ID 17774/469190, date 20/09/2018 shall remain unchanged.

**For and on behalf of
GUJARAT POLLUTION CONTROL BOARD**

(Signature)
(Smt. U. K. Upadhyay)
Environment Engineer

NO: PC/CCA- KUTCH- 27(19)/GPCB ID - 17774/

Date:

ISSUED TO:

**Ashapura Perfoclay Ltd.,
Survey No. 167, 163 & 164
Vill: Ler, Nr. Bhujodi,
Anjar Bhuj Highway,
Tal: Bhuj,
Dist: Kutch**

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GUJARAT POLLUTION CONTROL BOARD

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REVOCATION ORDER OF CLOSURE ORDER ISSUED UNDER SECTION 33(A) OF THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT-1974.

BY RPAQ

WHEREAS you are having an industrial plant located at Sr. No. 167, Vill: Ler, Near Bhujodi, Tal: Bhuj, Dist:- Kutch.

AND WHEREAS the Gujarat Pollution Control Board has granted Consent to manufacture products mentioned in Consent order no. AWH-93521, which is valid upto 24.6.2023 with subject mentioned therein.

AND WHEREAS, the closure order was issued by vide letter no. GPCB/CCA-KUTCH-27(8)/GPCB ID 17774/463339, dated 26/07/2018. Thereafter on basis of inspection report and your submission revocation order for three months was issued on 27/08/2018. It was extended for further three months on 10/12/2018 and on 02/05/2019 with conditions stated in it.

AND WHEREAS, considering the observations of inspection report and Hon'ble NGT order in matter of O.A. 669/2018 the closure was re-implemented u/s 33(A) of Water Act on 11/06/2019 with immediate effect.

AND WHEREAS, with reference to observations of inspection report and compliance report of unit, the trial revocation order was issued for one month with 50% production manufacturing capacity on 25/07/2019 and on 28/08/2019 with conditions stated therein.

AND WHEREAS, with reference to observations of inspection report and compliance report of unit, the trial revocation order dated 27/09/2019 was extended for three months with conditions stated therein.

AND WHEREAS, with reference to reports of M/s. Pollucon Laboratories Notice of Direction u/s 33(A) dated 18/11/2019. Further with reference to joint inspection report of SEIAA and RO, GPCB Notice of Direction u/s 5 of E(P) Act - 1986 dated 24/01/2020 was issued.

AND WHEREAS you have applied for Revocation along with progress report and your industry was visited by the officials of Regional Office on 14/12/2019, 23/12/2019, joint inspection was carried out on 31/12/2019 by CPCB and RO, GPCB and RO officials visited unit on 24/01/2020 following observations were made;

- (1) During inspection line 3, 4 & 6 were in operation and old production line 1 & 2 were not in operation.
- (2) ETP and STP were in operation.
- (3) Generated gypsum is stored at survey no. 163-164 and stock of gypsum is around 23000 MT.
- (4) Gypsum is cleared from total 21 locations and 18 locations are remaining. The disposal of gypsum from the sites was observed in progress.

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- (5) Unit has started remediation activity as per M/s. Kadam Environmental Consultant, Baroda report for 2 nos. of bore well is started and it is under progress.
- (6) Gypsum waste disposed into abandoned mines as obtained CCA Amendment, as per record unit has disposed 8382 MT of gypsum to the mines.
- (7) Unit is using hydrated lime.

AND WHEREAS, the matter O.A. 669/2018 is pending before Hon'ble National Green Tribunal.

Under the circumstances, I, Smt. U. K. Upadhyay, Environmental Engineer, Gujarat Pollution Control Board is hereby directed to revoke the closure order for TILL 23/03/2020 from the date of issue of order with following conditions:

1. Unit shall manufacture product as per the existing CCA and unit shall comply with all the conditions of the CCA and Amendment thereof.
2. Unit shall maintain the record of the production, spent acid generation, gypsum generation and its disposal on day to day basis.
3. Unit shall dispose the gypsum waste as per the CCA conditions.
4. Unit shall submit the progress report for the disposal of gypsum on every 15 days and also maintain the record of the same.
5. Unit shall comply with the conditions for the storage and disposal of gypsum as per CCA conditions.
6. In no case the gypsum waste shall be disposed at any other places. If such observations are made unit shall be held responsible.
7. Not to operate new plant without prior permission of the Board.
8. To submit the detailed progress report of ground water quality restoration and remediation.
9. Unit shall approach third party like NEERI, NPC etc. organizations for the certification for the remediation done. Also RO, Kutch (West) shall ensure this.
10. Unit shall continue to use fresh hydrated lime for neutralization process.
11. Unit shall submit the data of the production, spent acid generation, gypsum generation and disposal of gypsum & spent acid on monthly basis to regional office, Kutch and Head Office, Gandhinagar.
12. Unit shall comply with the conditions of CTE and CCA.

For and on behalf of
Gujarat Pollution Control Board,

(Smt. U. K. Upadhyay)
Environmental Engineer
Date:

NO: GPCB/ CCA-KUTCH-27(16)/ GPCB ID-17774/



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

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ISSUED TO: .

Ashapura Perfoclay limited

Sr. No: 167, Vill: Ler,

Near Bhujodi, Tal: Bhuj,

Tal: Bhuj, Dist: Kutch

COPY TO: -

To,

- 1) The Superintendent Engineer (SE)
Paschim Gujarat Vij Company Limited (PGVCL),
Division office, Power House compound,
Hospital Road, Bhuj, Dist - Kutch - 370110.....

I am directed to request you to extend the supply of electricity **TILL 23/03/2020** from date of issue of this order to the industrial plant of M/s Ashapura Perfoclay Ltd, located at Survey No. 167, Vill: Ler, Nr. Bhujodi, Anjar- Bhuj Highway, Ta. Bhuj, Dist. Kutch.

- 2) Senior Manager,
Gujarat water Infrastructure Ltd, (GWIL),
Near Municipal Bore Well,
No.4, Anjar, Bhuj Highway, DIST: KUTCH - 370106.....

I am directed to request you to extend the water supply for **TILL 23/03/2020** from date of issue of this order to the industrial plant of M/s Ashapura Perfoclay Ltd, located at Survey No. 167, Vill: Ler, Nr. Bhujodi, Anjar- Bhuj Highway, Ta. Bhuj, Dist. Kutch.

For and on behalf of
Gujarat Pollution Control Board,


(Smt. U. K. Upadhyay)
Environmental Engineer

Outward No:555413, 20/02/2020

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No. Diza / MAG / Corona / Industry / Plant / Permission / 76/2020, dated 11/04/2020

Subject: Matter of continuing production process under Novel Corona virus.

- Reference: (1) Declaration No. of Home Department of Government of Gujarat: GG / 20/2020 / V-1 / Kav / 102020/482, Dated 23/03/2020
(2) Government of India Order No. 40-3 / 2020 / DM / I (A), dated 24/03/2020
(3) Guidance of the Home Secretary to the Government of India dated 24/03/2020
(4) Declaration No. of Home Department of Government of Gujarat: GNI / 21/2020 / V-1 / KVA / 102020/482, Dated 25/03/2020
(5) Collector Shri, Kutch Order No. Disaster / Essentials / Services / 03 / (2) / 2020, Dt.25 / 03/2020
(6) Collector Shri, Kutch Order No. Diza / Lock Down / Committee / 20, Ta. 25/03/2020
(7) Chairperson Shri Deputy Director Industrial Safety End, District level constituted as Chairperson of Kutch Notice of the Committee on Industrial Safety and Health received dated 11/04/20 Opinion
(8) Application with Ashapura Perfoclay, Lear, Ta. Bhuj on 11/04/2020.

Order: -

Under Section 144 of the Criminal Procedure Act, 1973 to the Criminal Procedure Act, 1973, a declaration is in force in the district not to allow four or more persons to assemble or hold a meeting. It has been decided to suspend all the services except the essential services as per the notification of the Home Department of the Government of Gujarat with Reading (4) and the guidelines of Reading (3) of the Home Department of the Government of India. Essential services include power generation, distribution and maintenance services as well as plant and related transportation and distribution services. In addition, as per issue no. 15 of the Home Department Declaration (1), Continuous Processed Manufacturing Units which have "LOCK IN" facilities in which special arrangements are available for workers may continue with the permission of the concerned District Magistrate.

In the application with reading (8), the applicant Ashapura Perfoclay, Ler, Ta. Bhuj has sought permission to start the operation of the plant for the production of Bleaching Clay for Edible Oil.

Provision has been made for exemption for essential services in accordance with paragraph-A of issue no. 15 of the declaration from the Home Department of the Government of Gujarat and (No. 1) and issue no. 4 accordingly; a District Level Committee on Industrial Safety and Health has been constituted with a reading of (6). Accordingly, in the meeting held on 11/04/20 regarding industrial safety and health at the district level from Vanchan- (7), the above unit has given an opinion to allow Ashapura Perfoclay, Ler, Bhuj to increase the number of workers. A copy is attached herewith. Accordingly, Ashapura Perfoclay, Ler, Bhuj is allowed to increase the number of workers subject to the following conditions as per the order vested in it by the order of District Magistrate, Kutch, read (5).

Terms:

- (1) The entire perimeter shall be kept in “LOCK IN” during the restricted period.
- (2) All employees working in the said unit shall not have to work outside. Also, no employee will be allowed to go out without prior permission. Passenger traffic in and out of the plant premises will have to be closed.
- (3) Every 24 hours the employees working during the period of prohibition shall be examined by the medical team And keep a distance of at least 1 meter during the work. And records have to be maintained in this regard.
- (4) All working employees must wash their hands every three hours for 20 seconds and soap for that and water will have to be managed.
- (5) Heavy duty / disposable gloves / eye goggles or face shield and medical mask should be provided for the working employees. After its use, it will have to be disposed of in a separately prepared bio hazard bag. In doing so, all the rules of disposal of bio-medical waste have to be followed. In doing so, all the rules for disposal of biomedical waste have to be followed and PHC or MOU with a government hospital. Unit will have to dispose of waste and maintain a record in this regard. As well as photography as well as videography done in this regard. Which must be submitted at the time of inspection.
- (6) All areas where employees are exposed, such as door handles, telephone railings, switches, wall area and computer touch pads and keypads, need to be disinfected

with 1% sodium hypochlorite daily. These areas should be disinfected with damp cloth. Do not spray there.

- (7) If any symptoms of infection are found, the control room or the nearest government hospital should be contacted immediately.
- (8) This permission is granted to the applicant industry unit only for the required operation. No new unnecessary operations will have to be done from the unit.
- (9) To prevent the spread of Novel Corona Virus (COVID-19), strict instructions from the Government from time to time and in future will be strictly followed.

To,
Ashapura Perfoclay,
Ler, Ta. Bhuj
Ta. Bhuj-Kutch

Copy complimentary dispatch:

- (1) Joint Secretary, Department of Health and Family Welfare, Gandhinagar
- (2) Deputy Secretary, Department of Home Affairs, Gandhinagar
- (3) District Magistrate, Kutch-Bhuj
- (4) District Development Officer, Kutch-Bhuj
- (5) Superintendent of Police, Western Division, Bhuj
- (6) Chief District Health Officer, Bhuj

Copy sent:

- (1) Deputy Superintendent of Police, Bhuj
- (2) Mamlatdarshri, Bhuj (City)/Bhuj (Rural) - To issue passes of 03-vehicles and 80 employees to the concerned industrial unit.
- (3) Taluka Development Officer, Bhuj
- (4) Chief Officer, Bhuj Municipality, Bhuj
- (5) Manager, District Industries Center, Bhuj
- (6) Deputy Director, Industrial Safety and Health, Bhuj

NOTE: It's a translated copy for understanding purpose; go through original copy for any doubt/query.

Gujarat Pollution Control Board
Paryavaran Bhavan, Sector-10 A
Gandhinagar

Office order

Reference: (1) Circular No. of General Administration Department of Government of Gujarat; Parch-102020-501-T, Dt. 24/03/2020
(2) Order No. 40-3 / 2020-D of the Ministry of Home Affairs, Government of India, and dated. 24/03/2020
(3) Circular No: 102020-501-2, General Administration Department, Government of Gujarat Dt. 25/03/2020

In order to control the spread of Novel Corona Virus (COVID-19) recently, by the circular dated 25/03/2020 by the State Government of the Ministry of Home Affairs of the Government of India dated 25/03/2020, necessary It has been decided to close all the offices except the services for 21 days with effect from 25/03/2020. Apart from the duty assigned to be present in the office during this time, other officers/employees will have to work from home as well as be available on mobile phone and e-mail.

The Board has an XGN system under e-governance. Due to which the operation of the board is completely online. Therefore, in the above circumstances, the operation of the board can be done easily from the workflow home. The following orders are made for this.

- (1) Approval granted to industrial units (CCA and CTE) which is expire on 1st March 2020 that is extended up to 30th June 2020.
- (2) Closure orders were issued to industrial units and subsequently to the unit. In view of the submission, a short term revocation/trial is given to unit which is expiring on 1st March 2020 that is extended up to 30th June 2020.
- (3) Closure order issued to industrial units for 15 days effect, from 1st March 2020 that is extended up to 31st May 2020.

- (4) Only CCA renewals have been applied by industrial units which are currently in the process of approval. All these applications will have to be approved for 6 month i.e. till 30/09/2020. After that the final decision will have to be made after verification. No new fees will be charged in this regard.
- (5) Applications for CCA Fresh and CCA-Amendment by industrial units, which had been inspected, will have to be submitted after thorough verification online.
- (6) In view of the present situation, all kinds of applications from industries relating to essential services, priority will have to be given and decision will be taken on urgency.
- (7) Verify all existing pending applications related to Change in Product Mix, sent E-mail to Committee members and getting an opinion on E-mail and decision will have to be taken.
- (8) In addition, all the cases pertaining to Honble (NGT/SC/HC); which are listed in Honble courts, all the information should be updated and prepared.

All the above operations have to be done from home by using the board's XGN system.

This order comes into force with immediate effect.

--sd--
(A. V. Shah)
Member Secretary

No. GPCB/T-121(3)/MS-2

Dt. 30/03/2020.

Copy to:

- 1) Additional Chief Secretary, Forest and Environment Department, Secretariat, Gandhinagar.
- (2) Respect. Office of the Chairman / Honorary Member Secretary.
- (3) All Unit Heads, Head Office, Gandhinagar.
- (4) All Regional Officers.

NOTE: It's a translated copy for understanding purpose; go through original copy for any doubt/query.



Gujarat Pollution Control Board

PCB Id: 17774

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

1	Industry Details M/s Ashapura Perfoclay Ltd		Outward No: 26383-20/04/2020																																				
Email : dstripathi@ashapura.com		PLOT NO: 167, S.NO-167,VILLAGE-LER,, NR-BHUJODI, Ler - 370020 DIST : Kutch West, TAL : Bhuj , SIDC : Not In Gidc																																					
Telephone : 02832240301		Inspection Id : 563923 (H.O.Reference) Ro Name : Kutch West																																					
2	Type / Scale / Sector / Status : RED / LARGE / Mining and ore beneficiation / In Operation																																						
3	Inspection Dt & Time : 18/04/2020 11:15 / Air , Water , Hazd Person Contacted : Mr. D. S. Tripathi -AGM HR																																						
4	Env Audit Detail : Sch : 2 , Metro Envirochem Associates , Year : 2017 , On Dt :																																						
Commissioned Dt : 01/06/2011		Production Start Dt : 15/09/2001		Applicability of CRZ Rules : No																																			
5	Water Consumption in Kilo Lts Per Day		Ind : 838.000	Dom : 8.000 Borewells: 0																																			
6	Waste Water generation / Discharge (klpd) :		Ind : 688.000	Dom : 6.000 Tubewells: 0																																			
7	Consumer No.(Electric Meter):		Source of Water Supply: GWIL+Borewell+Tanker																																				
8	Disposal Mode of Industrial / Domestic :		Zero Discharge / Irrigation																																				
9	Discharge Pt / Final Receiving Body (Ultimate):		Recycle & Reuse / No generation of industrial wastewater																																				
10	Status of water consent Under the Water Act,1974: H-107040-24/06/2023 Last Inward:171755-21/01/2020[GRT]																																						
11	Effluent Treatement plant (ETP) : Units, if provided and status : ETP Details : P-Chemical Dousing Tank,P-Collection Tank,P-Filter Press,P-Nuetralization,P-Pri Settling Tank,Primary,S-Sludge Dry Beds,T-Evaporation,T-Reverse Osmosis																																						
12	Whether Industry is a member of CETP ? No																																						
13	Boilers=5 , DG Sets=3 , Flue Gas =8, Process =33 , ETP Cap = 48126 , Capacity of All = Not Applicable APCM Details : Bag Filter,Cyclone ,Dust Collector,Multi Cyclone ,Not provided,Scrubber,Water Scrubber Fuel Used : Coal,Furnace Oil,H.S.D Stack Attached to : *** Not Applicable,.... Any Other,Boiler,D.G. Sets																																						
14	TSDF Name : Bhachau-Saurashtra Enviro Projects Pvt. Ltd[28203]																																						
15	Lab Charges Pending : Rs. 46340.00		Water Cess Charges Pending : NIL																																				
16	Last Env. Form V : 2018-2019		Water Cess Return : 2017-2018 HW Monthly Return : 2020-02																																				
17	Last 3 Legal Action :																																						
<table border="1"> <thead> <tr> <th>Insp Dt</th> <th>Act</th> <th>Leg Dt</th> <th>For</th> <th>Insp ID</th> <th>IR-Leg</th> <th>Type</th> <th>Out No</th> </tr> </thead> <tbody> <tr> <td>24/01/2020</td> <td>REV</td> <td>20/02/2020</td> <td>TRI,</td> <td>555342</td> <td>REV</td> <td>OTH</td> <td>555413</td> </tr> <tr> <td>09/10/2019</td> <td>NOT</td> <td>24/01/2020</td> <td>EPA,,</td> <td>543828</td> <td>NOT</td> <td>OTH</td> <td>552214</td> </tr> <tr> <td>16/10/2019</td> <td>NOT</td> <td>18/11/2019</td> <td>33A,,</td> <td>544822</td> <td>NOT</td> <td>OTH</td> <td>527158</td> </tr> </tbody> </table>								Insp Dt	Act	Leg Dt	For	Insp ID	IR-Leg	Type	Out No	24/01/2020	REV	20/02/2020	TRI,	555342	REV	OTH	555413	09/10/2019	NOT	24/01/2020	EPA,,	543828	NOT	OTH	552214	16/10/2019	NOT	18/11/2019	33A,,	544822	NOT	OTH	527158
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Monthly Patrak Data : Last Return : 202002				HAZD Waste Disposal : 869.320 (0 Trucks)																																			
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Gujarat Pollution Control Board

PCB Id: 17774

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

One Time Updations

e	-	Electric Company Name (Power Supply)	PGVCL	
o	-	Production since (Date) or Proposed	15/09/2001	
p	-	On East Direction of the location of the Company	Bhujodi	
p	-	On West Direction of the location of the Company	Village	
p	-	On North Direction of the location of the Company	Security Gate	
p	-	On South Direction of the location of the Company	Gate No. 2	
o	-	Air - Water - Hazd ACTs Applicability ?	Air, Water, Haz	
g	-	Nos of Stacks (Flue Gas & Process)	7, 23	
h	-	Regd with T.S.D.F	SEP-Bhachau-Saurashtra Enviro Projects Pvt. Ltd [28203]	
i	-	Recyclable Hazd Waste Disposal to	Within State	
k	-	Recycler Registration Valid ??	N.A	
f	-	Display Board Provided at the Entrance ?	Yes	
l	-	CETP Name	----NOT a CETP Member	
j	-	Name & Address of MAIN Re-Cycler	-----	
n	-	W.W.G Treatment thru Pri / Sec / Tertiary / N.A :	Primary	
n	-	Nos of Flow-Meters - W.C / W.W.G / ETP =	1, 0, 1	
d	-	Is Industry ZERO DISCHARGE Catg (If Yes, HOW ?)	No.	

General Observation

a	-	R.O File No	17774	
a	-	Is the Industry in Operation ??	Yes	
b	-	Industry Operating without CCA	No.	
c	-	Has Production exceeded (last 3 MTHs) than CCA-Qty	No.	
d	-	Any products-NOT in CCA, manufactured-Last 3 MTHs	No.	
e	-	Foul Odour/Fugitive Emission/Bye Pass in Premises ??	No.	
f	-	Industry Name CHANGED in recent times ??	No.	
g	-	Has Regn with CETP or TSDF expired ??	No.	
h	-	Seperate Energy Meter for A.P.C.M ?	No.	
h	-	Provision of any STAND-BY Pump ??	No.	

Air Related

a	-	Fuel Type confirmitive with CCA ?	Yes	
b	-	Av. Fuel Consumption EXCEEDING CCA limits	No.	
c	-	APC Measures confirmitive with CCA conditions ??	Yes	
d	-	ALL APCMs are in operation	Yes	
e	-	SMF availability	Provided	
f	-	Thick Smoke observed in Flue Gas/Processes ??	No.	
g	-	ph of Scrubbing Media as per requirement ??	Yes	Water Scrubber
h	-	Ultimate Disposal of Scrubbing Media	ETP	
i	-	Nos of Samples : Stack & Ambient	01, 0	

GEM

18	-	Where Authorization Under BMW Rules 2016 obtained ? Provide Authorization No. / Date	Yes	
----	---	---	-----	--

Haz Waste Related

a	-	Haz waste Catg confirmitive with CCA	Yes	
b	-	H.W generation exceeding CCA limits	No.	
c	-	Collection, Storage, Treatmnt, Disposal Facility Adequate ??	Yes	
d	-	Reusing or Recycling of Haz Waste by Industry ?	No	
e	-	LogBook / XGN Manifests / Disposal Records TALLYING ??	Not At All	



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(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

f	-	Stock of Haz-Waste @ premises/Whether EXCESS ?	-----	
g	-	Recycler/ Actual user has valid Authorization under rules 6 or 9 of HOWR-2016?	Yes	
h	-	Installed capacity of the plant based on machinery installed (Capacity of Machine,No. of Batch/Day,Annual Capacity)	-----	
i	-	Technical capability and equipment complying with the SOP/Guideline?	Yes	
j	-	Is unit complying the conditions gives in SOP/Guidelines?	Yes	
k	-	Facility is adequate for the applied process	Yes	
l	-	Passbook is maintained?	Yes	
m	-	Details of PLI, if applicable	-----	
n	-	Details of safety specs provided by the facility	-----	
o	-	Separate storage area for Haz. Waste for the utilization or generation from the process is provided?	Yes	
p	-	Quantity of Hazardous waste procured as per CCA?	Yes	

Water Parameter

b	-	Source of Water Supply	GWIL+Borewell+Tanker	
c	-	W.W.G is EXCEEDING the CCA Limits	No.	
d	-	W.W Disposal as per the Consent Conditions ?	Yes	
e	-	Was the ETP in operation ?	Yes	
f	-	Treatment System ADEQUATE to handle existing effluent	Adequate	
g	-	Did u observe ANY ILLEGAL Discharge ??	No.	
h	-	Nos of Samples collected	12	

Remarks :

Note: EIA 2006 / SEIAA / E.C / MOEF Applicable : Yes

Site Observations during Inspection, PCB-ID: (17774)



Gujarat Pollution Control Board

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(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

This unit is inspected with reference to HO instruction. Production activity has stopped since 21st march 2020 due to COVID-19 pandemic as informed. During inspection; plant is observed in operation. At line 3-4; material drain/discharge is going on from 8-nos. of acid activation reactor and 5-nos. of acid activation reactor is observed in operation. At line 5-6; material drain/discharge is going on from 3-nos of acid activation reactor and 5-nos. of acid activation reactor is observed in operation. Granulation & crushing section is observed under maintenance and all dryers are not in operation. 6-TPH boiler is observed in operation at load of 3.5 TPH; that heat is requires for acid activation process. Unit has provided online monitoring system at stack attached to dryer no. 7; which is under commissioning & installation work is going on at stack attached to dryer no. 4. Unit has provided thermal scanner, mask, hand sanitizer, sanitizer & informative brochure for work within plant premises. There is no progress in gypsum lifting activity after 16th march 2020 and ground water remediation/restoration process has stopped since 21st march 2020; last meter reading was 5575 m3, as informed. During inspection; line 1 & 2 and new plant is observed not in operation. During inspection; STP is observed in operation and ETP is observed not in operation due to insufficient quantity of wastewater as plant is not in operation since 21st march 2020 as informed. Ground water sampling is carried out of all the described/identified 10 bore-wells. @ 21000 MT of gypsum is observed within premises. During inspection; total 13 nos. of samples are collected as detail mentioned in sample section of this IR. Unit has provided one ground water recharge well at 100 m south-west side from unit (outside premises) & one ground water recharge well at 300 m north side from unit (outside premises) is under construction. Unit has obtained CCA for production of bleaching clay = 12000 MT/Month; CCA (AWH-93521) is valid up to 24/06/2023. [650]-20/04/2020
~ RO Comments/Reply :Action on merit basis-20/04/2020

W.C Notings: -----[650-AEE]~

Specific Instructions given to Industry at the time of visit , for Pt to Pt Compliance

3. COVID-19 અંતર્ગત થયેલ Lockdown સમયગાળામાં દરમિયાન SDM-Bhuj દ્વારા આપના એકમને ઉત્પાદન પ્રક્રિયા ચાલુ રાખવા બાબતે આપવામાં આવેલ તા.૧૧/૦૪/૨૦૨૦ ની મંજૂરીની શરતોનું પાલન કરવું.
2. આપના એકમને આપવામાં આવેલ EC/CTE/CCA ની શરતોનું પાલન કરવું.
1. Hon'ble NGT દ્વારા O.A. 669/2018 માં કરવામાં આવેલ હુકમો, તા.૨૦/૦૨/૨૦૨૦ ના Revocation order અને તા.૧૮/૧૧/૨૦૧૯ ની NOD ઓમાં દર્શાવ્યા મુજબની કામગીરી સત્વરે પૂર્ણ કરવી.

Compliance Observed in this Inspections.

Instructions in Previous Visits and Reply	Insp Det	Instruction Status
1. Hon'ble NGT દ્વારા O. A. 669/2018 માં કરવામાં આવેલ હુકમો, તા. 20/02/2020 ના Revocation Order અને તા. 18/11/2019 ની NOD ઓમાં દર્શાવ્યા મુજબની કામગીરી સત્વરે પૂર્ણ કરવી.	562767(20/03/20)	Pending !! Reminded AGAIN
2. આપના એકમને આપવામાં આવેલ EC/CTE/CCA ની શરતોનું પાલન કરવું.	562767(20/03/20)	Pending !! Reminded AGAIN
1. Hon'ble NGT દ્વારા O. A. 669/2018 માં કરવામાં આવેલ હુકમો, તા. 20/02/2020 ના Revocation Order અને તા. 18/11/2019 ની NOD ઓમાં દર્શાવ્યા મુજબની કામગીરી સત્વરે પૂર્ણ કરવી.	562158(16/03/20)	Pending !! Reminded AGAIN
3. You have submitted third Progress Report dated 20/02/2020 with respect to the NOD dated 18/11/2019, in which (A) Sr. No. 18 to 21 of page No. 7 to 8: left over/residual gypsum still observed, lift/remove it as per the conditions and report with supporting documents & (B) Sr. No. 22 to 34 of page No. 8 to 10: expedite to lift/remove gypsum at your end as per the conditions and report with supporting documents.	559769(27/02/20)	Pending !! Reminded AGAIN
2. You have to comply with the directions issued by the Hon'ble NGT in the matter of O.A. 669/2018.	559769(27/02/20)	Pending !! Reminded AGAIN
1. You will comply revocation order dated 20/02/2020, Notice of Direction dated 18/11/2019 and conditions stipulated in CCA.	559769(27/02/20)	Pending !! Reminded AGAIN



Gujarat Pollution Control Board

PCB Id: 17774

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

Annexure Details - Air,Stack,Hazardous Waste & Samples PCB-ID: (17774)

A Sample Details

Sr	Act	Ph/Temp/Air Sampled	Time	Type	Sampling Point	Col-Cond
1	A-3	for pm 540 l & for so2, nox = 60 l each / 133	1150-1220	REP	stack attach to boiler ~ stack attached to 6-tph steam boiler	Thimble no. W- 14 (Wt: 1.53847 gm)
2	W-16	@ 6-7 on ph strip / 31	1305-1310	REP	## final outlet of the etp ~	linght orange
3	W-7	@ 7-8 on ph strip / 30	1320-1325	REP	## final outlet of the etp ~ final outlet of stp	greyish tinge
4	W-13	@ 7-8 on ph strip / 29	1335-1340	REP	bore well water of the unit near second gate ~ borewell water collected from near gate no. 2 within	Colourless
5	W-13	@ 7-8 on ph strip / 28	1350-1355	REP	bore well water of sama vandh samiti ,vill: ler ~ borewell water of sama vandh samiti, village: ler	Colourless
6	W-13	@ 7-8 on ph strip / 29	1415-1420	REP	bore well water of the unit near admin office ~ borewell water collected from b/h admin officewithi	Colourless
7	W-13	@ 7-8 on ph strip / 29	1120-1125	REP	bore well water of shri shyamji velji gorasiya ,vill: ler ~ borewell water of shri shyamji velji	Colourless
8	W-13	@ 7-8 on ph strip / 30	1220-1225	REP	borewell water of dinesh maharaj wadi sr. no. 7 ~ borewell water of shri dinesh maharaj wadi sr. no	Colourless
9	W-13	@ 7-8 on ph strip / 29	1305-1310	REP	from bore well of shri hetubha jadeja ,vill: ler ~ borewell water of shri hetubha jadeja, vill: ler	Colourless
10	W-13	@ 7-8 on ph strip / 29	1330-1335	REP	from bore well of shri ranubha jadeja vill: ler ~ borewell water of shri ranubha jadeja, vill. ler	Colourless
11	W-13	@ 7-8 on ph strip / 29	1350-1355	REP	borewell water of shri ramesh kanji pindoriya at village ler ~ borewell water of shri ramesh kanji	Colourless
12	W-13	@ 7-8 on ph strip / 30	1400-1405	REP	borewell water of shri vasudev kanji pindoriya at village ler ~ borewell water of shri vasudev kanj	Colourless
13	W-13	@ 7-8 on ph strip / 29	1425-1430	REP	borewell water of shri govind hariji gorasiya, vill: ler ~	Colourless

B Process Stacks

Sr	Stack attached to	Mts	Remark	Details of APCM	Probable Pollutants.
1	Driers	18	dryer-1, fuel:coal@8 mt/d	FIL,CYC,SCR	PM-150,
2	Pulverizer	18	pulverizer - 1 & 2	FIL,CYC	PM-150,
3	Driers	18	dryer-2,fuel:coal@8mt/d	FIL,CYC,SCR	PM
4	... Any Other	12	gassifier-1, not operated	N.A	PM
5	... Any Other	12	gassifier-2, not operated	N.A	PM
6	... Any Other	12	gasifier no.4,not operate	NOT	PM
7	Driers	18	dryer-3,fuel:coal@8 mt/d	FIL,CYC	PM
8	... Any Other	12	gasifier no.3 standby	N.A	PM
9	Pulverizer	15	pulverizer - 3	FIL,CYC,DUS	PM-150,
10	... Any Other	15	classifier	FIL	PM
11	... Any Other	15	floor cleaner	FIL	PM
12	... Any Other	15	de-dusting system	FIL	PM
13	Pulverizer	15	pulverizer - 4	FIL,CYC	PM-150,
14	Driers	18	dryer - 5 ,cap:1175 kg/hr	FIL	PM-150,
15	*** Not Applicable	0	remove from our list	N.A	N.A
16	... Any Other	20	hag - cap:18 lac kc/h	CYC	PM
17	Driers	18	dryer - 4	FIL,CYC	
18	*** Not Applicable	0	remove from our list	N.A	N.A
19	*** Not Applicable	0	remove from our list	N.A	N.A
20	*** Not Applicable	0	remove from our list	N.A	N.A
21	Driers	18	dryer - 7 coal@12 mt/d	FIL,CYC,SCR	PM-150,
22	Driers	18	dryer - 6 coal@12 mt/d	FIL,CYC,SCR	PM-150,
23	Pulverizer	15	pulverizer - 5	FIL,CYC	PM-150,
24	Pulverizer	15	pulverizer - 6	FIL,CYC	PM-150,
25	Driers	18	dryer 10- 6tph	FIL,MUL,WSC	PM-150,SO2-100,NOX-50,
26	Pulverizer	15	pulverizer 7	FIL,MUL	PM-150,
27	Pulverizer	15	pulverizer 8 6tph	FIL,MUL	PM-150,
28	Pulverizer	15	pulverizer 8 6 tph	MUL,WSC	PM-150,
29	Pulverizer	15	pulverizer 9 of 6 tph	FIL,MUL	PM-150,
30	Pulverizer	15	pulverizer 10 of 6 tph	FIL,MUL	PM-150,
31	Driers	18	dryer 8 - 6tph	FIL,CYC,WSC	PM-150,SO2-100,NOX-50,
32	Driers	18	dryer 9 - 6tph	FIL,MUL,WSC	
33	Driers	18	dryer 11- 6tph	FIL,MUL,WSC	PM-150,SO2-100,NOX-50,

C Flue gases Stacks

20/04/2020

5/7 (Through XGN)

N I C



Gujarat Pollution Control Board

PCB Id: 17774

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

Sr	Stack attached to	Mts	Remark	SMF	APCM	Fuel	Consp-Unit	Insp Remk
1	Boiler	30	Boiler-1&2 Cap-3TPH each	YES	N.A	Furnace Oil	Furnace Oil - 0.171 KL/Hr.	operation
2	D.G. Sets	11	Capacity: 500 KVA	NO	N.A	H.S.D	HSD - 0.1 KL/Day	not in operation
3	Boiler	33	Boiler -3 Capacity- 6 TPH	YES	N.A	Furnace Oil	Furnace Oil - 0.15 KL/hr	operation
4	D.G. Sets	11	Cap.: 1500 KVA Stand-By	NO	N.A	H.S.D	HSD@180 Liters/Hr	
5	Boiler	0	Remove from our list	N.A	N.A	Not Used/N.A	N.A	
6	D.G. Sets	11	Cap.: 250 KVA Stand By	NO	N.A	H.S.D	HSD@110 Liters/Hr	
7	Boiler	33	Steam Boiler	YES	MUL	Coal	6 MT/Hr	
8	Boiler	33		YES	FIL,MUL	Coal	16 MT/day	

D Details about Hazardous Waste Management :

Sr	Source of Hazardous Waste	Catg	Qty/Year	HW Disposal Management
1	Chemical sludge from waste water treatment	I -35.3	0.220-M.T	COL,RRE,STO,TRA
2	Sludge From Wet Scrubbers	I -37.1	8.500-M.T	CIW,COL,DSI,STO,TRA,DST
3	Inorganic Acids (Spent Acids)	II -B15	55000.000-M.T	COL,RRE,STO,TRA
4	Used or Spent Oil	I -5.1	0.100-M.T	COL,RRE,STO,TRA
5	Concentration or evaporation residues	I -37.3	1.000-M.T	COL,STO,TRA,DST
6	*** e Waste ***	-18.5	0.000-M.T	DST
7	*** e Waste ***	-18.5	0.000-M.T	DST

E Products :

Sr	Product Name	NOC Qty	CCA Qty	Applied Qty	Inspection Remark
1	Bleaching Clay	16000.000	44000.000 - M.T	16000.000	
2	bleaching clay	12000.000	36000.000 - M.T	12000.000	We have applied for total production @ 12000 MT/Month (i. e. 0.144 million TPA)
3	gypsum(by product)	6000.000	18000.000 - M.T	6000.000	if spent acid sell to IFFCO then Gypsum production@4500 MT if Not the Gypsum@6000 MT

F Raw material :

Sr	Raw Material Name	Capacity - Unit / Month
1	Attapulgate	0.000 - M.T
2	attapulgate/fuller earth	0.000 - M.T
3	bentonite	0.000 - M.T
4	h2so4	0.000 - M.T
5	lime	0.000 - M.T

G Water Consumption & Generation Break up

Sr	Water Code (Qty in klpd - Kilo Ltr per Day)	WC : 846.000	WWG : 694.000	Water Source	Remark
1	Boiler Feed	35.000	5.000	Local Body	M/s. Gujarat Water Infrastructure Ltd. (GWIL)
2	Domestic Purpose	8.000	6.000	Local Body	Source - M/s. Gujarat Water Infrastructure Ltd. (GWIL)
3	Mnfg Process	795.000	683.000	Local Body	Source - M/s. Gujarat Water Infrastructure Ltd. (GWIL), Fresh water & Recycle water is used
4	Spray in Mines	0.000	220.000	Recycled	Reverse Osmosis - reject water spray on bentonite
5	Wash Water	330.000	0.000	Recycled	Source - M/s. Gujarat Water Infrastructure Ltd. (GWIL), 330 KL/Day of recycle water is used

H Solid Waste

Sr	Solid Waste Name	Qty-Unit	Coll Mode	Disp Mode
1	Fly Ash	2.300 - M.T	HDP,OTH	OTH

Inspection Team : Dr. S. N. Agravat - Chauhan Sumitkumar S

20/04/2020

6/7 (Through XGN)

N I C



Gujarat Pollution Control Board

PCB Id: 17774

(Inspection Report) - Air,Water,Hazardous

(Under Section 23 of The Water Act 1974, Under Section 24 of The Air Act 1981 and Under Section 10 of EP Act 1986)

I hereby affirm, that all the PDF, Data mentioned above, fees paid has been checked & certified.

Agrawat S. N.

Signature By(Dr. S. N. Agravat)

Published in the vernacular language-Gujarati
in “Kutch Mitra”, dated 27/02/2020

Published in English in “Indian Express”, dated
28/02/2020



ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ

પર્યાવરણ ભવન, સેક્ટર ૧૦-એ, ગાંધીનગર ૩૮૨૦૧૦
ટેલિ : ૦૭૯ ૨૩૨ ૩૨૧૫૨, ફેક્સ : ૦૭૯-૨૩૨૨૨૭૮૪,
www.gpcb.gujarat.gov.in

જાહેર સૂચના

આથી જાહેર જનતાના ધ્યાન પર લાવવામાં આવે છે કે, કચ્છ જિલ્લાના ભુજ તાલુકાના લેર અને કુકમા ગામના વિસ્તારમાં આવેલા, લોકોને નીચે જણાવ્યા મુજબના બોરવેલની ભૂગર્ભજળની રેમિડિએશન (પાણીની ગુણવત્તા સુધારવાની) કામગીરી હાલ પ્રગતિમાં છે. આ બોરવેલની માહિતી નીચે પ્રમાણે છે.

૧. મે. આશાપુરા પરફોક્લે લિ., સર્વે નં. ૧૬૭, ગામ-લેરનો ગેટ નં. ૨ નજીકનો બોરવેલ.
૨. સમાવાંદ સમિતિનો બોરવેલ, ગામ-લેર.
૩. શ્રી રમેશ પિંડોરિયાનો બોરવેલ, ગામ-લેર.
૪. શ્રી વાસુદેવ પિંડોરિયાનો બોરવેલ, ગામ-લેર.
૫. શ્રી હેતુભા જાડેજાનો બોરવેલ, ગામ-લેર.
૬. શ્રી દિનેશ મહારાજની વાડીનો બોરવેલ, ગામ-કુકમા.

આમ, પાણી ગુણવત્તાની સુધારણા (રેમિડિએશન)ની કામગીરી પૂર્ણ ન થાય ત્યાં સુધી ઉપરોક્ત બોરવેલના પાણીનો ઉપયોગ પીવા માટે અથવા કોઈ પણ અન્ય રીતે પણ ઉપયોગ ન કરવા માટે આથી જાહેર જનતાને જણાવવામાં આવે છે.

આ નોટિસ જાહેર આરોગ્ય હિતમાં જાહેર કરવામાં આવે છે.

સ્થળ : ગાંધીનગર

(એન. એમ. તાભાણી)

તા. ૨૪/૦૨/૨૦૨૦

સભ્ય સચિવ

(નામાનિ-કચ્છ-૧૧૯૮-૨૦૨૦)



Gujarat Pollution Control Board

Paryavaran Bhavan, Sector 10 A, Gandhinagar 382010
Tel 079-23232152 Fax 079-23222784

www.gpcb.gujarat.gov.in

PUBLIC NOTICE

It is being brought to the notice of the General public that ground water remediation work is in progress in the following borewells, which fall in the areas of Village- Ler and Kukma of Bhuj Taluka of Kutch region.

1. Borewell of M/s. Ashapura Perfoclay Ltd., near gate No.2 of survey No. 167, Village- Ler
2. Borewell of Samavandh Samiti Village-Ler
3. Borewell of Shri Ramesh Pindoriya, Village- Ler
4. Borewell of Shri Vasudev Pindoriya, Village- Ler
5. Borewell of Shri Hetubha Jadeja, Village- Ler
6. Borewell of Shri Dinesh Maharaj Wadi, Village-Kukma

The water from the said borewells should not be used for drinking or any other purpose for consumption till the remediation (Improving water quality) process is complete.

This notice is issued in the interest of public health.

Place : Gandhinagar

(N. M. Tabhani)

Date : 24/02/2020

Member Secretary

(DDI-KUTCH-1198-2020)

11774
Date: 20/12/2019

To,
Member Secretary
Gujarat Pollution Control Board
Paryavaran Bhavan,
Sector 10-A
Gandhinagar-382010



Kind Attention: Smt U.K. Upadhyay(SEE)-Unit Head-Kutch.

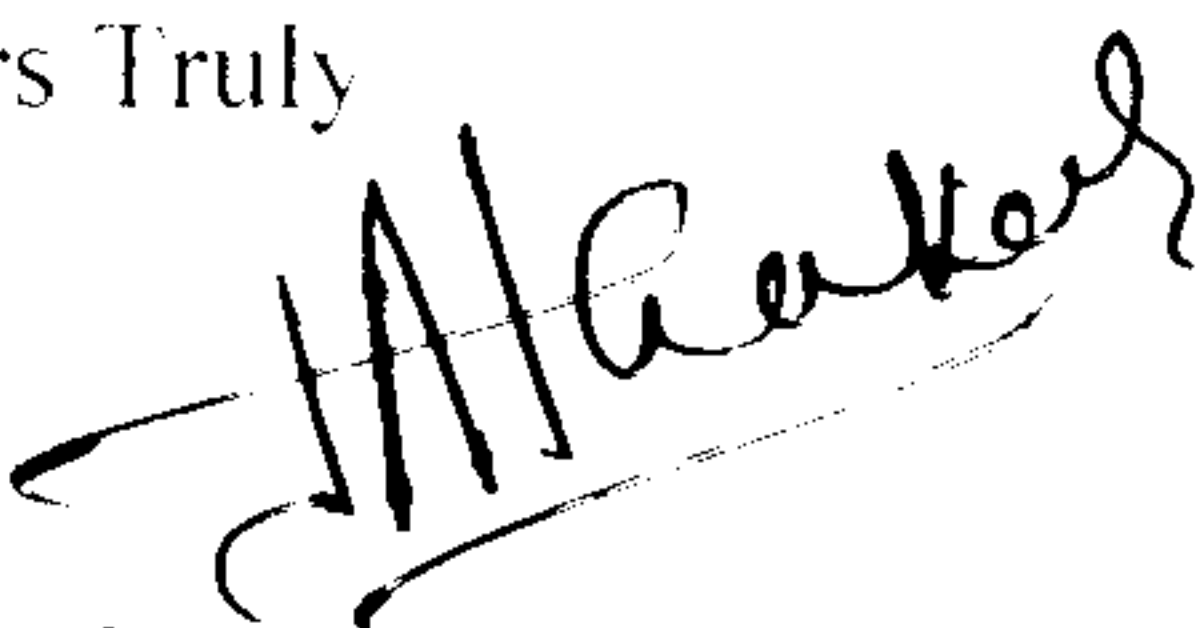
Subject: Submission of progress report as per NOD dated 18/11/2019

Respected Sir/Madam,

As mentioned to above subject, we would like to submit the remediation progress report as per the NOD issued by GPCB dated 18th November, 2019.

We would like to assure you that we are committed to comply with GPCB requirement under relevant law in priority manner and request you to issue us revocation order permanent and oblige.

Thanking You,
Yours Truly


For Ashapura Perfoclay Limited
Village Ler/Bhuj (Kutch) -370001

CC: 1) Regional Office, GPCB Bhuj

A. K. Upadhyay
21/12/19
DTG

G.P.C.B. BHUJ (W)
Inward No: 2383
Date: 21/12/19
Sign: 

Village Ler, Near Bhujodi, Off Anjar-Bhuj Highway, Bhuj-Kutch - 370 020. (Gujarat)
Tel.: +91-02832 240301 / 240302 / 242032-33 Fax : +91-02832 240303 Email : avlbhujad@sancharnet.in

Regd. Office :

Jeevan Udyog Building, 3rd Floor, 278, D. N. Road, Fort, Mumbai - 400 001. (India)
Tel. : +91-22 6665 1700 Fax : +91-22 2207 9395 / 2207 4452 Email : be@ashapura.com
CIN No. U14108MH1997PLC107300

**PROGRESS REPORT ON RESTORATION OF GYPSUM SITE
AND
REMEDICATION OF GROUND WATER
IN PURSUANCE TO
NOTICE OF DIRECTIONS DATED 18.11.2019
AND IN REPLY TO
LETTER DATED 12.12.2019
ISSUED BY GPCB**

By
ASHAPURA PERFOCLAY LIMITED
SURVEY NO. 167, 163 & 164
VILLAGE LER, BHUJ – KUTCH

DATED 18TH DECEMBER 2019

SYNOPSIS

The Progress report is being filed in compliance of Notice of Directions dated 18.11.2019 issued by the Gujarat Pollution Control Board (GPCB) and notice dated 12.12.2019. The Notice of directions relates mainly to the disposal of Gypsum, in order to prevent the alleged groundwater contamination and clearance/removal of Gypsum from the sites referred to in the report filed before Hon'ble National Green Tribunal (NGT) by GPCB dated 18.11.2019. In compliance to the aforesaid directions, please find below our first progress report as follows.

The instant first progress report, as suggested in the notice of direction dated 18.11.2019 is being submitted without prejudice to our legal rights, which elaborates on an action plan for restoration/ remediation of the alleged contaminated groundwater as well as the removal of gypsum from the sites enlisted in the report filed by GPCB dated 18.11.2019.

It is pertinent to mention that the industry under scrutiny is the second largest manufacturer of bleaching earth/clay worldwide, and covers 2/3rd of the Indian market. The bleaching clay/earth is a refining agent used in edible oil. In the manufacturing process of bleaching clay/earth mainly two raw materials, i.e. bentonite & sulfuric acid are used. The disposal of acidic wastewater involves its neutralization with lime, which results in generation of Gypsum as a by-product. Furthermore, it is well within the knowledge of the authority that Gypsum, is a non-hazardous substance, as also acknowledged by the Ministry of Environment and Forests. Gypsum is used as a soil conditioner. Various farmers around APL as a matter of sound farming practice, use Gypsum for crop cultivation on a regular basis.

Until 31.07.2019, the Consolidated Consent authorisation (CCA) conditions provided to APL stated that the gypsum generated could only be disposed of by selling to the authorised cement manufacturing industries, however, as there was a shortage in demand from the cement industries the brunt was faced by APL and Gypsum generated could not be disposed in compliance of the terms of the CCA despite the best efforts put in by APL.

Therefore, an amendment of the CCA was mandated to provide for the efficient disposal of Gypsum. It was only on 31.07.2019 that the CCA was amended and backfilling of abandoned mines was provided for, as an alternative to dispose the Gypsum generated by the unit.

However, APL has always diligently followed all directions and orders of GPCB and the Hon'ble Tribunal. Thus, in compliance with the notice of directions dated 18.11.2019 APL started removing Gypsum, and out of the remaining 28 sites, gypsum has been removed from 5 sites successfully and work is under progress for the others.

Although, it is important to highlight that APL is facing certain constraints in removing Gypsum from some of the remaining sites (details of which are enlisted below in the report) due to barriers from the current occupants/owners of the land. Therefore, APL requests assistance from GPCB and the local authorities to efficiently remove Gypsum from such sites also.

Simultaneously, groundwater remediation process using Aeration technique, as recommended by Kadam Environment consultants as stated in the report dated 18.11.2019 filed by GPCB has also commenced which has concluded in favorable results. The details pertaining to the same are enshrined further in the report.

Further, reference is also drawn to the letter dated 13.12.2019, filed by APL to GPCB requesting clarification of the order dated 20.11.2019 passed by the NGT with reference to the alleged groundwater contamination. The letter highlights the report of the Research and Development (R&D) lab of APL wherein the identical samples of soil were tested to those of the Pollucon report. Shockingly, the results of the report of APL's R&D lab compared to the Pollucon report showcased stark differences.

The levels of ammonical nitrogen in the reference samples were same as that from the areas where there existed alleged ground water contamination due to the high contents of ammonical nitrogen owing to the gypsum disposal. Therefore, making it crystal clear that the root cause of high rates of ammonical nitrogen is not gypsum. Thus, a reassessment of the samples was requested from GPCB.

The present report covers a brief account of the action taken as well as the proposed plan of action for ground water remediation and removal of gypsum, as the industry wants to follow the directions issued by GPCB and Honble NGT in its true letter and spirit, for which APL requires the assistance of local law enforcement agencies.



REMOVAL OF GYPSUM

There are main two raw material bentonite & sulfuric acid for bleaching clay manufacturing which is an inorganic process. Gypsum is our byproduct and the source of its generation is the neutralization of acidic wastewater with lime. Our endeavors have been to dispose of the gypsum in compliance with the orders of the NGT as well the directions issued by GPCB, in pursuance of which gypsum has been already cleared from 12 sites out of a total of 35 sites.

The below mentioned table highlights the sites wherein gypsum had been disposed with the corresponding description of the sites and the status of compliance with the orders of the NGT:

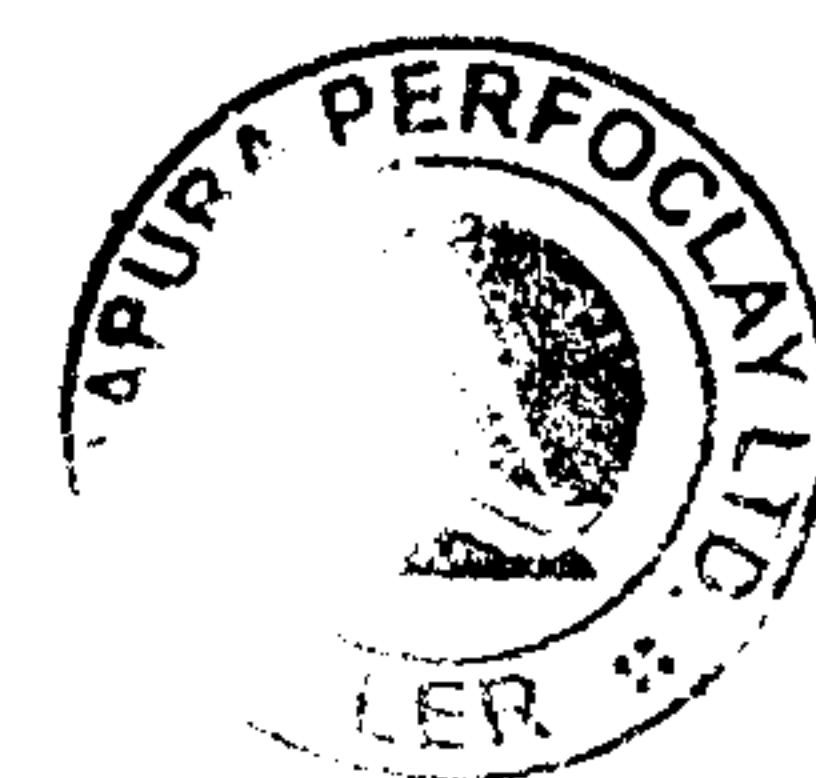
GYPSUM CLASSIFICATION

WORK DONE OF SITE CLEARANCE BY JULY 2019				
Sr. No.	Owner name	Location	Status	Quantity MT
1	Government Land	Besides of water tank of GWIL Sump. Kukma Village 23°13'18" N 69°45'46" E	Site cleared	1149
2	Government Land	Land opposite and besides of Padhdhar Village police station	Site Cleared	561
3	Balaji Petroleum	Behind Balaji Petrol Pump, ShaikhpirChokdi, Bhuj Anjar Highway	Site Cleared	907
4	KagharbhaiBachukujari ya	Near Matiyadev Mandir, Kukma Village, NeraKukma Water Distribution Tank 23°14'3" N 69°46'15" E	Site Cleared	303
5	Dineshbhailaljibhai tank	Land between Swaminarayanvadi and Water sump of GWIL, KukmaVillage	Site Cleared	3068

		23°14'5" N 69°45'45" E		
6	Government Land	Natural Drain near Sanjotnagar, Behind Swaminarayan Vadi 23°14'5" N 69°45'45" E	Site Cleared	1535
7	Government Land	North side of Swaminarayan Vadi 23°12'50" N 69°46'9" E	Site Cleared	2757
				10280
WORK DONE OF SITE CLEARANCE FROM (25th Nov 2019 to 10th Dec 2019)				
8	Pravin Ramji Ahir	Opposite to Lehriya Hanuman Temple, Kukma Bhuj Road, Kjukma Village 23°13'12" N 69°46'17" E	Site cleared	551
9	Chetan Bharmal Kovadia	Vavdi Village 23°11'35" N 69°49'42" E	Site cleared	1266
10	Hetubha Jalubha Jadeja	Land Of Hetubha Jadeja, Ler Village	Site cleared	85
	Koli Juma Sava	Farm along with Hetubha Jadeje		
11	Ramesh raja Khatana	Land at village 23° 12'43.57" N, 69° 44'28.14"E	Site cleared	380
12	Mayur Varghilal Mehta toll naka	Near toll gate lakhond 23° 15'36.71" N, 69° 46'48.23" E	Site cleared	1391
			TOTAL	3673
WORK IN PROGRESS				
13	Maganbhai patel	Vavdi Village, Opp. Of Survey No. 85/1	Work in progress	

		23°11'31" N 69°49'45" E		
14	Jitendra Ravaji Vankar	Beside Lehriya Hanuman Temple, Kukma village 23°13'24" N 69°46'19" E	Work in progress	
15	Ibrahim Ali Jat (pirwalidargah committee)	At Dargah Village 23° 15'31.09" N, 69° 46'55.80" E	Work in progress	
16	Ranmal vaja baradiya	At Village Lakhond (no. 2) 23° 15'39.39" N, 69° 46'44.64" E 23° 15'36.71" N, 69° 46'48.23" E	Work in progress	

REMAINING SITES			
Sr. NO.	OWNER NAME	LOCATION	REASON
17.	Dinesh Bhailal Joshi	Natural drain between farm of Dinesh Maharaj and Govind Vankar, Kukma Village 23°11'56" N 69°46'47" E	Crops growing and Gypsum is being used as a soil conditioner.
18.	Daya Rata Athvadiya	Behind Ashapura Foundation school, Ashapura Colony, Bhachau Road, Kukma 23°14'7" N 69°46'26" E	Crops growing and Gypsum is being used as a soil conditioner.
19.	Mayur Vardhilal Mehta	Farm on Lakhond Road, 23°14'6"N 69°46'52"E &	Crops growing and Gypsum is being used as a soil



		23°14'49" N 69°46'52" E	conditioner.
20.	Shivubha Jalubha Jadeja	Besides BalubhaRathod's Lake Ler Village 23°11'47" N 69°46'17" E	Crops growing and Gypsum is being used as a soil conditioner.
21.	Rama palabhai Rabaari	Shri Vankalmata Mandir 23° 13'35.44" N, 69° 44'41.32" E	Crops growing and Gypsum is being used as a soil conditioner.
22.	Main Road connecting Kukma and Lakhond village	Beside of Kukma- Lakhond village Road	PUBLIC INFRASTRUCTURE (Gutter line- Gypsum used for providing structural support.)
23.	Ram Prakash Swami	VrundavanGirGaudham, Shree Swaminarayan Mandir, Besides Ashapura Colony, Bhachau Road, 23°13'49" N 69°46'48" E	PUBLIC INFRASTRUCTURE (Gowshala/ cowshed)
24.	Dineshbhai Marwada (Trustee of Pithorada mandir)	Pithoradada Mandir Ler Village 23°10'23" N 69°46'5" E	PUBLIC INFRASTRUCTURE (Temple)
25.	Samaji Ramji Baradiya	Land of Lakhond Village 23°15'12" N 69°46'41" E	Land Reclamation
26.	Sambhu Ramji Baradiya	Adjacent above site as mentioned in sr no. (15), Land of Lakhond Village	Land Reclamation
27.	Pancha Vela	Lakhond- kali Talavadi Road, Village	Land Reclamation



	Kothivar	Lakhond	
28.	Hirji Kanji Matang	On Government Land, Padhdhar Village 23°14'29" N 69°48'44" E	Land Reclamation
29.	DhilaDevrajRanch od	At shekhpirparle 23° 13'40.57" N, 69° 45'33.97" E 23° 13'33.74" N, 69° 45'28.75" E	Land Reclamation
30.	MamubhaiJivabhai Rabaari	Mangal Mandir SchoolVillage 23° 13'45.11" N, 69° 44'8.96" E	Land Reclamation
31.	Mavaji Gopal Chaad	Behind Lehriya Hanuman Temple, Kukma village 23°13'21" N 69°46'21" E	Pending
32.	Prakash Hirji Vagadiya	Beside old Hot Mix plant, Kukma village 23°13'20" N 69°46'3" E	Pending
33.	Prakash Hirji Vagadiya	Behind khatri mills, Beside of above site, Traverse, Government land, Kukma village 23°13'20" N 69°45'58" E	Pending
34.	Rambhai Vasata Bhai auadedara	Village Lakhond 23°15'39" N 69°47'17" E	Pending

- Site number 1-7 were cleared by July 2019.
- Site number 8-12 were cleared subsequent to the order dated 20.11.2019 passed by the NGT between the period of 25th November 2019 to 10th December 2019.
- Site numbers 13-16, work is in progress and the gypsum shall be cleared by the within the next few months.
- Sites number 17-21. are lands wherein agriculture farming exists. As Gypsum acts as a great soil conditioner, farmers have cultivated cropsover the same and insist that gypsum



is useful for the land as it is a non-hazardous substance. Thus, APL requires support of the local authorities in order to remove gypsum from these locations.

- Site number 22 is a gutter line between Kukma to Lakhond village wherein gypsum is being used to provide structural support to the gutter line. Therefore, assistance of the local authorities is needed to clear gypsum from there.
- Site number 23 is a Cowshed/ Gowshala from where the unit, despite best endeavors and efforts is unable to clear gypsum due to the pressure of the local community and villagers. The unit requests for support from the local authorities for removal of gypsum from this site.
- Site number 24 is a temple from where the unit, despite best endeavors and efforts is unable to clear gypsum due to the pressure of the local community and villagers. The unit requests for support from the local authorities for removal of gypsum from this site.
- Site number 25-30 from part of land reclamation sites in the villages of Lakhond, Paddhar and Bhujodi, wherein the local community has used gypsum for levelling of land and thus the farmers are protesting against removal of gypsum. The unit requests for support from the local authorities for removal of gypsum from these sites.
- Site number 31-34, work shall take place in coming months.

Photographs of the above mentioned sites have been annexed herewith as **Annexure 1**.



ACTION PLAN FOR REMOVAL OF GYPSUM

MONTH WISE GYPSUM DISPATCH

The below mentioned table highlights the disposal of Gypsum to the cement manufacturing industries:

Month	Sanghi Ind (MT)	Ultra tech (MT)	Total, (MT)
Jan-19	305	1166	1471
Feb-19	4299	--	4299
Mar-19	7917	480	8397
Apr-19	8240	1535	9775
May-19	7733	1124	8857
Jun-19	17315	1860	19175
Jul-19	24021	1788	25809
Aug-19	2964	--	2964
Sep-19		--	
Oct-19		2371	2371
Nov-19		2261	2261
Dec-19			
	72794	12585	
Total			85379

As can be seen from the above table the unit had dispatched the 85379 MT of gypsum to cement industry as per the CCA condition of gypsum co processing at cement industry.

In light of the amendment to the CCA, dated 31.07.2019, the gypsum produced by the unit can be disposed by backfilling of the abandoned mines, please refer the tentative action plan for next 3 months as following:



ACTION PLAN FOR GYPSUM DISPOSAL & ITS COMPLIANCE

Revised Action Plan for Gypsum Disposal Plan			
Month	Tentative Gypsum generation, MT	Tentative Dispatch, MT/month to cement Industry & Abandoned mine @ Mata naMadh as per permission given in recent Consent order no. H - 103222 Date of issue 29/07/2019	Closing Quantity MT/month
			35000
Dec-19	4500	12000	27500
Jan-20	4500	18000	14000
Feb-20	4500	10000	8500
		40000	

As can be inferred from the above table, monthly generation of Gypsum amounts to 4500 Metric Tonnes, however, the quantity dispatched includes 12000 Metric Tonnes.

It is pertinent to mention that the gypsum disposal plan has been devised in such a manner that the quantity of the gypsum disposed per month includes not only the fresh gypsum generated but also the stock lying with APL. Therefore, efficient disposal is being ensured.



REPORT ON RESTORATION/ REMEDIATION OF GROUND WATER

As per the final report dated 18.11.2019 filed by GPCB, there were 31 sites enlisted for ground water remediation on account of high levels ammonical nitrogen and therefore the alleged ground water contamination. The report recommended '**Hydraulic Containment of Groundwater**' as a technique for the remediation of ground water.

Further, the order dated 20.11.2019, also highlights the aforementioned technique. Therefore, in compliance with the order dated 20.11.2019 and the report filed on 18.11.2019, APL has started ground water remediation process. Pump and treatment method for hydraulic containment of groundwater for removal of ammonical nitrogen from groundwater is being carried out.

The below mentioned table highlights the ground water remediation at the alleged contaminated sites and the corresponding results:

S.No.	Identification of sample	Date	Parameters	Units	Before Aeration	After Aeration
1.	GW1 (Near Gate.2)	05/12/2019	pH		6.85	7.03
			TDS	mg/l	4329	4329
			Total Hardness	mg/l	1388	1388
			Ammonical Nitrogen	mg/l	12.4	5.9
2.	GW5 (Ramesh Pindoriya)	15/12/2019	Work in Progress	Work in Progress	Work in Progress	Work in Progress

APL has already started remediation work with full force and the same has already resulted in positive results for **GW1** as elucidated above. Further, in **GW5**, work is in progress.



It is also pertinent to mention that APL had filed a letter to GPCB on 13.12.2019 requesting clarification of the order dated 20.11.2019 passed by the NGT with reference to the alleged groundwater contamination.

The letter highlights the report of the Research and Development (R&D) lab of APL wherein the identical samples of soil were tested to those of the Pollucon report.

To our dismay and shock the results of the report of our R&D lab compared to the Pollucon report showcased stark differences. A tabular representation of the same is being reproduced below;

Ground water Analysis

Sample Name	Pollucon lab result		R & D lab result	
	Total Solid (mg/lit)	Dissolved Ammonical Nitrogen (mg/lit)	Total Solid (mg/lit)	Dissolved Ammonical Nitrogen (mg/lit)
GW-11	1016.0	2.80	1085	0.37
GW-12	1456.0	0.38	1328	0.28
GW-13	1802.0	2.30	2208	0.32
GW-14	1947.0	3.20	2518	0.39
GW-15	2207.0	1.04	2188	0.21
GW-16	3291.0	1.98	3682	0.20
GW-17	895.0	1.35	1197	0.29
GW-18	2875.0	5.40	3446	0.59
GW-19	894.0	0.82	851	0.43
GW-20	895.0	1.20	1122	0.28
GW-21	845.0	1.02	1017	0.21
GW-22	1566.0	6.20	2057	0.57
GW-23	1553.0	1.38	2016	0.35
GW-24	1578.0	4.80	1342	0.28
GW-25	1416.0	6.10	1798	0.20
GW-26	2423.0	4.20	3211	0.55



GW-27	1415.0	0.42	1793	0.16
GW-28	4211.0	1.80	4432	0.29
GW-29	1319.0	1.70	2416	0.18
GW-30	509.0	3.80	675	0.13
GW-31	618.0	0.64	772	0.09

Ammonical nitrogen & electrical conductivity of Soil

Distance	Sample	R & D result		Pollucon result	
		Ammonical Nitrogen (mg/Lit)	Electrical conductivity (ms)	Ammonical Nitrogen (mg/Lit)	Electrical conductivity (ms)
within 2 Km	S1-a	0.366	0.865	1.36	0.22
within 2 Km	S1b	0.284	0.315	0.916	0.28
within 2 Km	S1-c	0.243	0.396	0.526	0.438
within 2 Km	S4-a	0.196	1.178	1.17	3.44
within 2 Km	S4-b	0.185	0.37	0.91	1.14
within 2 Km	S4-c	0.199	0.501	0.731	1.54
within 2 Km	S-2a	0.27	0.109	1.26	0.644
within 2 Km	S-2b	0.24	0.212	0.845	0.146
within 2 Km	S-2c	0.211	0.168	0.711	0.146
within 2 Km	S-3a	0.262	0.801	0.822	0.492
within 2 Km	S-3b	0.257	0.223	0.96	0.905
within 2 Km	S-3c	0.238	0.215	1.054	0.746
within 2 Km	S-7a	0.21	0.15	1.84	0.211
within 2 Km	S-7b	0.201	0.131	1.28	0.092
within 2-10 km	S-8a	0.206	0.435	0.986	0.096
within 2-10 km	S-8b	0.275	0.102	1.06	0.094
within 2-10 km	S-8c	0.253	0.099	1.4	0.065
within 2-10 km	S-10a	0.351	0.12	1.29	0.103
within 2-10 km	S-10b	0.245	0.146	1.13	0.056



within 2-10 km	S-10c	0.199	0.153	0.922	0.108
within 2-10 km	S-17a	0.21	0.097	1.41	0.103
within 2-10 km	S-17b	0.218	0.088	1.22	0.22
within 2-10 km	S-17c	0.292	0.1	1.5	0.486
within 2-10 km	S-22b	0.251	0.13	0.814	0.071
within 2-10 km	S-22c	0.213	0.12	0.66	0.065
within 2-10 km	S-28a	0.226	0.065	1.04	0.209
within 2-10 km	S-28b	0.203	0.076	1.03	0.272
within 2-10 km	S-28c	0.227	0.086	0.736	0.209
within 2-10 km	S-29a	0.22	0.152	1.2	0.162
within 2-10 km	S-29b	0.192	0.104	1.08	0.212

Ammonical Nitrogen of Gypsum sample.

Component	R & D result	Pollucon result
Sample Detail	mg/lit	mg/lit
Gypsum sample -A-6	0.126	1.13
Gypsum sample -A-4	0.18	1.44

While going through the spatial distribution of ammonical nitrogen there is no difference in level of ammonical nitrogen whether gypsum is present or not present. From all reports and study as undertaken previously, it is crystal clear that gypsum is not the root cause of spike of ammonical nitrogen level. In fact as per agriculture expert ammonical nitrogen is the essential ingredient for crop cultivation.

In light of the above, it was prayed that a re-assessment of the samples be carried out for determination of areas for remediation process.

Photographs of the work undertaken are being annexed herewith as **Annexure 2**.



Annexure – 1

Site Status – CLEARED

Site Classification: CLEARED

Site clearance No. 1

This site located at besides of water tank of GWIL Sump, Kukma Village with latitude & longitude 23°13'18" N 69°45'46" E. This land is government land and lifted the quantity of gypsum 1149 MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20/11/2019.

Please refer photos for your reference.

Before



After

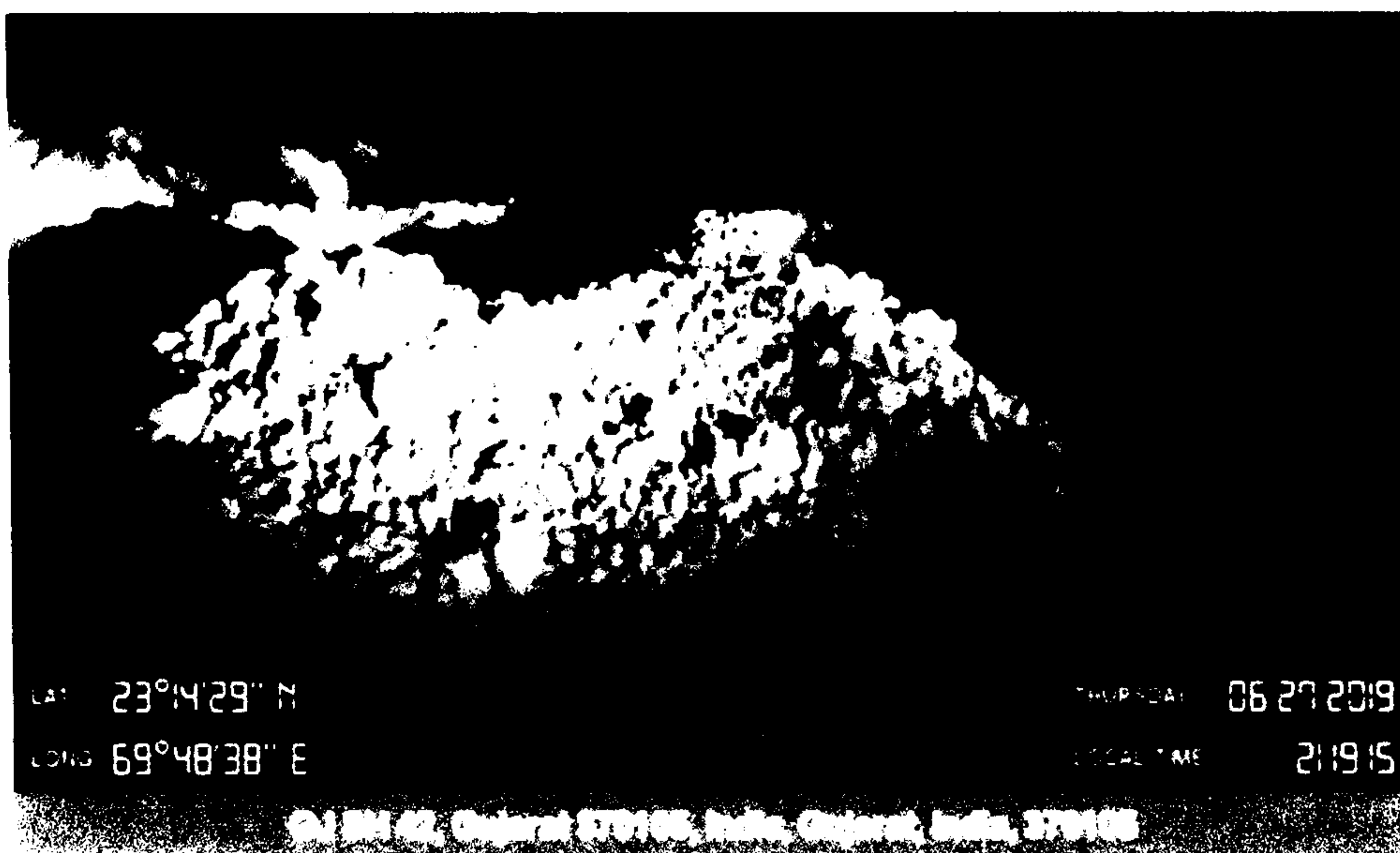


Site Classification: CLEARED

Site clearance No. 2

This site located at opposite and besides of Padhdhar Village police station with latitude & longitude 23°14'29" N 69°48'38" E. This land is government land and lifted the quantity of gypsum 561 MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20.11.2019.

Please refer photos for your reference.



Before



After

06/07/2019 12:00:00

Site Classification: CLEARED

Location Identification: Balaji Petroleum

Site clearance No. 3

This site located at Behind Balaji Petrol Pump, Shaikhpur Chokdi, Bhuj Anjar Highway with latitude & longitude 23°13'43" N 69°45'44" E We have lifted the quantity of gypsum 907 MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20.11.2019.

Please refer photos for your reference.



Before



After



Site Classification: CLEARED

Location Identification: Kagharchhai Bachkujariya

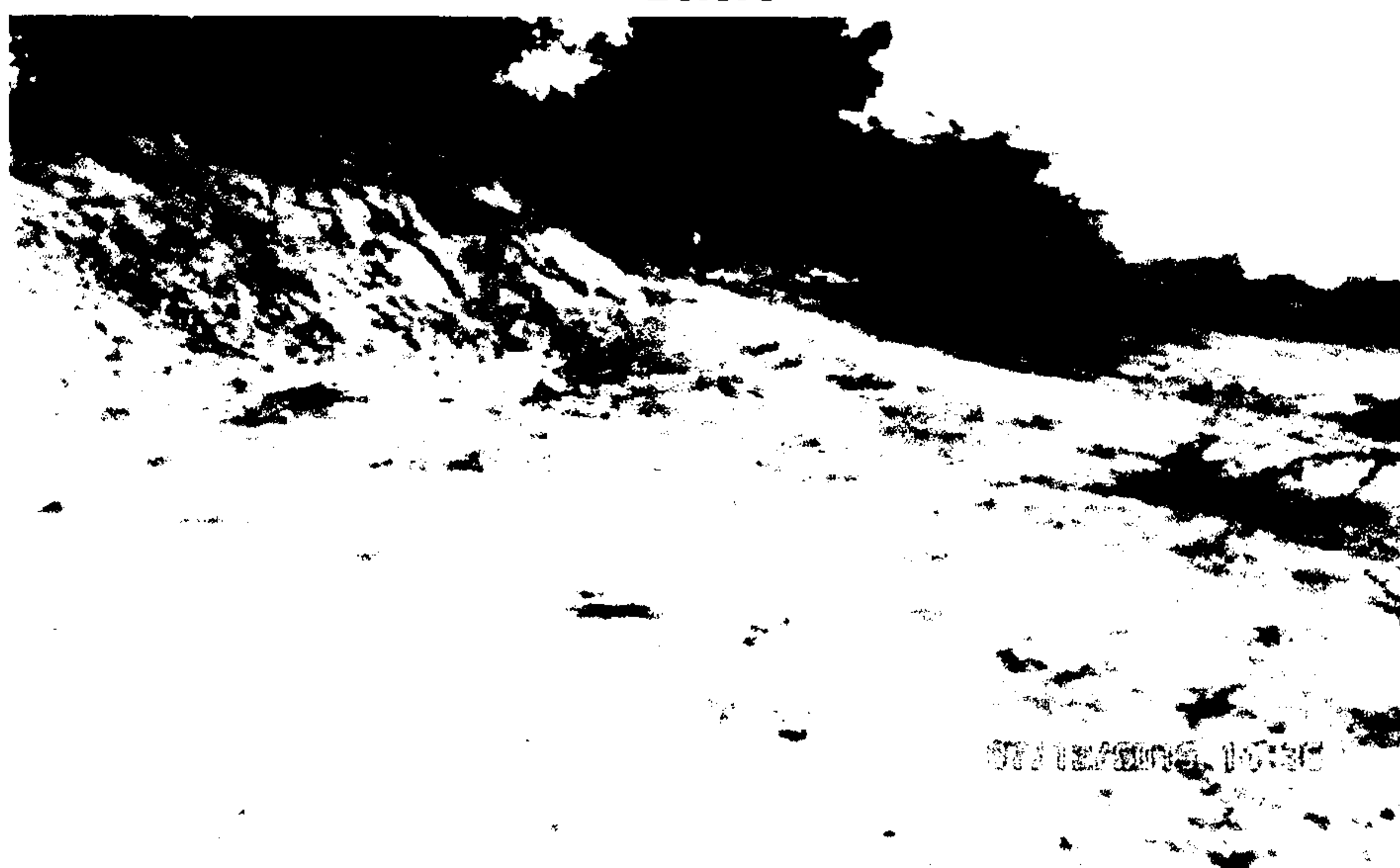
Site clearance No. 4

This site located at Near Matiyadev Mandir, Kukma Village. Near Kukma Water Distribution Tank with latitude & longitude 23°14'3" N 69°46'15" E. We have lifted the quantity of gypsum 303MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20/11/2019.

Please refer photos for your reference.



Before



After



Site Classification: CLEARED

Location Identification: Dineshbhailaljbhai tank

Site clearance No. 5

This site located at Land between Swaminarayan vadi and Water sump of GWIL, Kukma Village with latitude & longitude 23°14'5" N 69°45'45" E We have lifted the quantity of gypsum 3068 MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20/11/2019.

Please refer photos for your reference.



Before



After



Site Classification: CLEARED

Site clearance No. 6

This site located at Natural Drain near Sanjotnagar, Behind SwaminarayanVadi with latitude & longitude 23°14'5" N 69°45'45" E We have lifted the quantity of gypsum 1535MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20-11-2019.

Please refer photos for your reference.



Before



Site: CLEARED

Site clearance No. 7

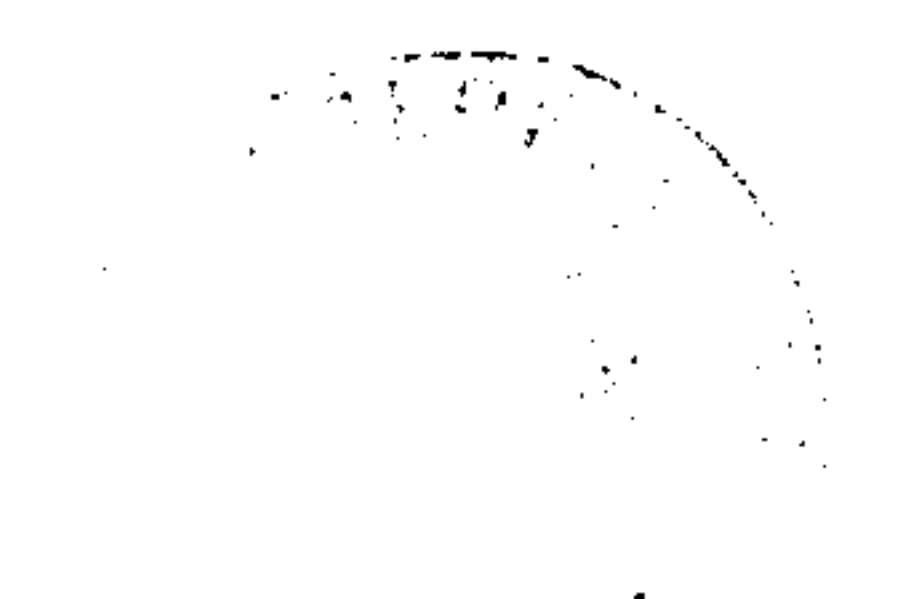
This site located at North side of SwaminarayanVadi with latitude & longitude 23°12'50" N 69°46'9" E We have lifted the quantity of gypsum 2757 MT. Detailed report was submitted to GPCB during July 2019 for the same. The site status is declared as cleared and same has been acknowledged in Honorable NGT order OA 669/2018 dated 20/11/2019. Please refer photos for your reference.



Before



After



Site Classification: CLEARED

Location identification: PravinRamjiAhir

Site clearance No. 8

The site located at Opposite Lehriya Hanuman Temple, Kukma Bhuj Road, Kjukma Village with latitude & longitude 23°13'12" N 69°46'17" E. The land occupier/owner is PravinRamjiAhir. The site is cleared now. We have lifted the quantity of gypsum 551 MT.

Please refer photos for your reference.



Site Classification: CLEARED

Location identification: Chetan BharmalKovadia

Site clearance No. 9

The site located at Vavdi Villagewith latitude & longitude 23°11'35" N 69°49'42" E. The land occupier/owner is Chetan BharmalKovadia.The site is cleared now. We have lifted the quantity of gypsum 1266 MT.

Please refer photos for your reference.



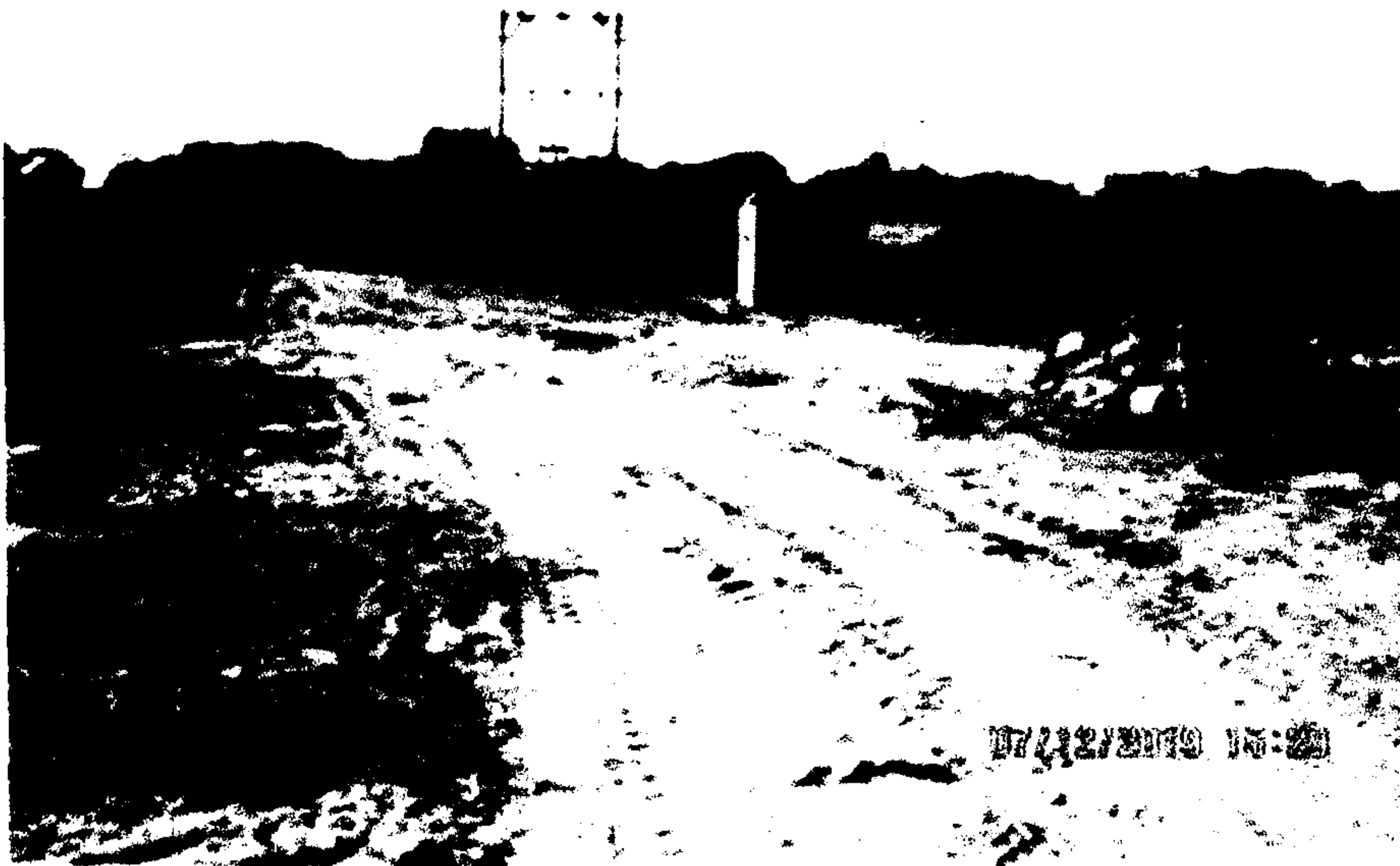
Site Classification: CLEARED

Location identification: Hetubha Jalubha Jadeja & Koli Suma Sava

Site clearance No. 10

The site located at Land of Hetubha Jadeja survey no. 205, Ler Village with latitude & longitude 23°11'35" N 69°49'42" E. The land occupier/owner is Hetubha Jalubha Jadeja & Koli Suma Sava. The site is cleared now. We have lifted the quantity of gypsum 85 MT.

Please refer photos for your reference.



RECEIVED

Site Classification: CLEARED

Location identification: Ramesh raja Khatana

Site clearance No. 11

The site located at cattle shed of Ramesh raja Khatana with latitude & longitude 23° 12' 43.57" N, 69° 44' 28.14" E. The land occupier/owner is Ramesh raja Khatana. The site is cleared now. We have lifted the quantity of gypsum 380 MT.

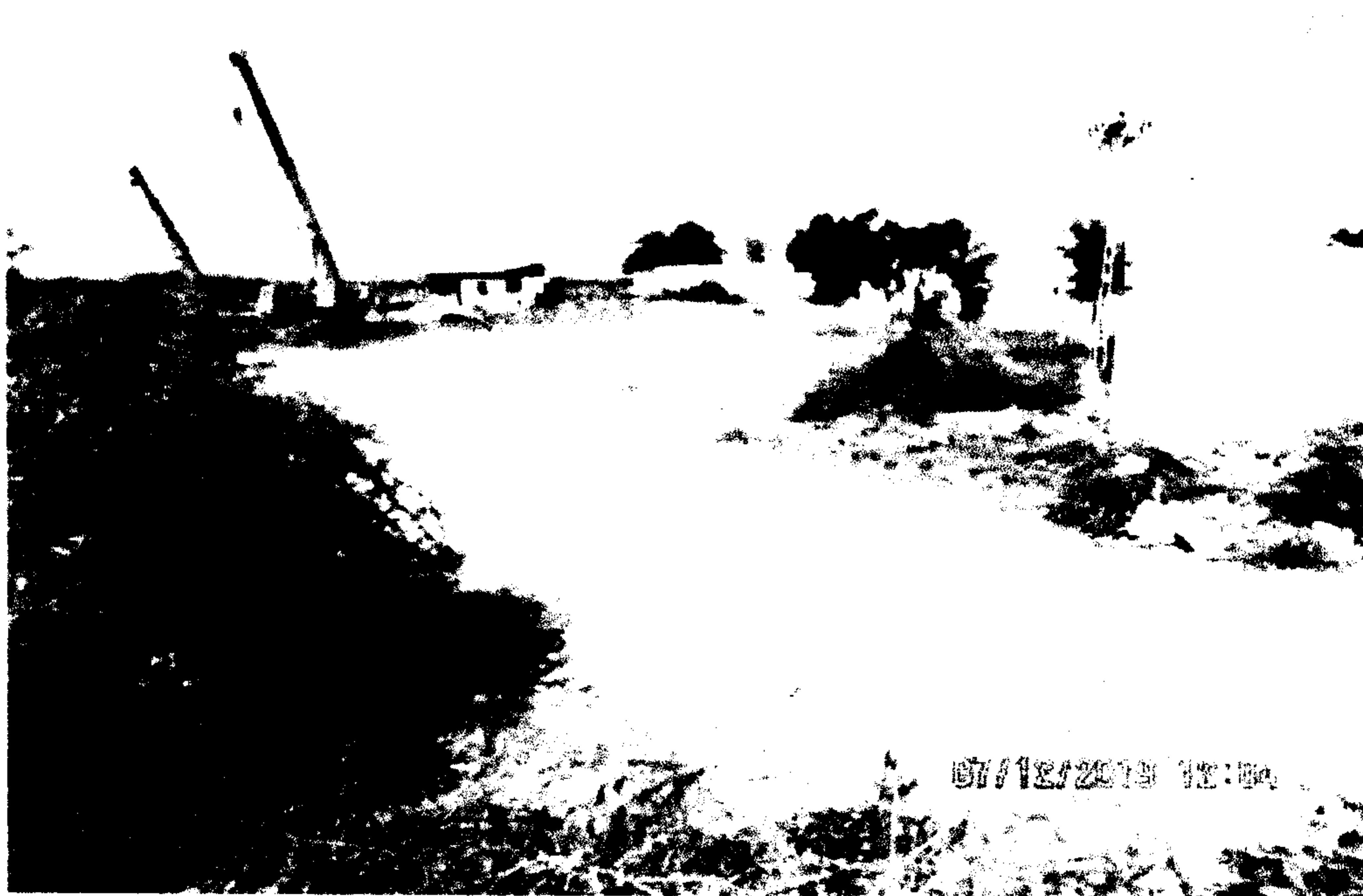
Please refer photos for your reference.



Site Classification: CLEARED

Location identification: Mayur Varghilal Mehta tollnaka
Site clearance No. 12

The site located at Near toll gate lakhond with latitude & longitude 23° 15'36.71" N, 69° 46'48.23" E The land occupier/owner is Mayur Varghilal Mehta. The site is cleared now. We have lifted the quantity of gypsum 1391MT

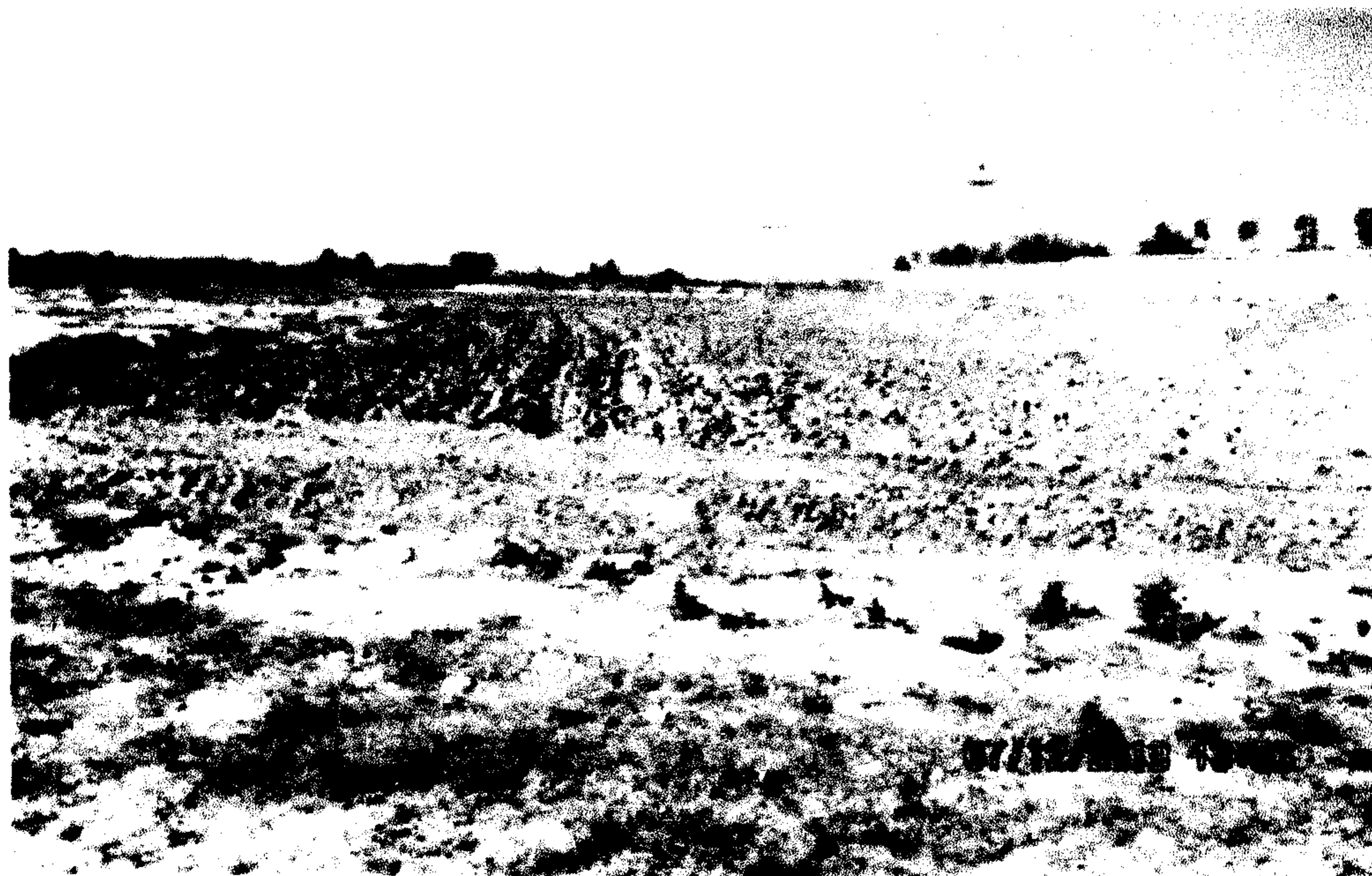


Site Classification: WORK IN PROGRESS

Location identification: Maganbhai patel

Site clearance No. 13

The site located at Vavdi Village, Opp. Of Survey No. 85/1 with latitude & longitude 23°11'31" N 69°49'45"E. The land occupier/owner is Maganbhai patel. The site clearance work in progress.



Classification: WORK IN PROGRESS

Location identification: Jitendra Ravaji Vankar

Site clearance No. 15

The site located at Beside Lehriya Hanuman Temple, Kukma village with latitude & longitude 23°13'24"N 69°46'19"E. The land occupier/owner is Jitendra Ravaji Vankar. The site clearance work in progress.



Site Classification: WORK IN PROGRESS

Location identification: Ibrahim Ali Jat (pirwalidargah committee)

Site clearance No. 15

The site located at Dargah Kukma village with latitude & longitude 23° 15'31.09" N, 69°46'55.80" E. The land occupier/owner is Ibrahim Ali Jat (pirwalidargah committee). The site clearance work in progress.



Site Classification: WORK IN PROGRESS
Location identification: Ranmal vaja baradiya
Site clearance No. 16

The site located at 23° 15'39.39" N, 69° 46'44.64" E & 23° 15'36.71" N, 69° 46'48.23" Village Lakhond (no. 2). The land occupier/owner is Ranmal vaja baradiya. The site clearance work in progress



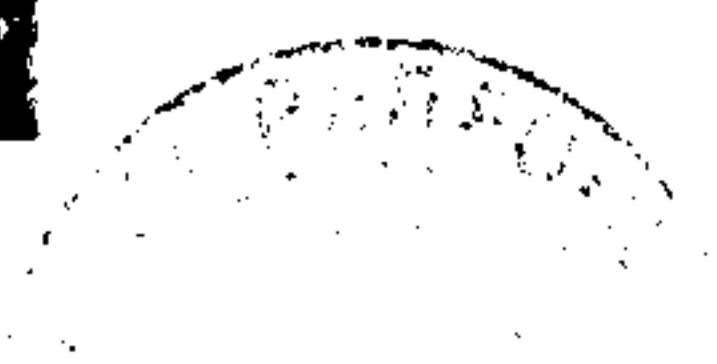
Site Classification: SOIL CONDITIONER

Location identification: Dinesh Bhailal Joshi

Site No. 17

This site located at survey number 218 Kukma village with latitude & longitude 23°11'56" N 69°46'47" E. The owner Dinesh Bhailal Joshi utilizing gypsum as soil conditioner in his farm and getting good crop cultivation. Right now the type of crops i.e. castor & cotton are growing. The unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



Site Classification: SOIL CONDITIONER

Location identification: Daya Rata Athvadiya

Site No. 18

This site located at Behind Ashapura Foundation school, Ashapura Colony, Bhachau Road, Kukma with latitude & longitude $23^{\circ}14'7''$ N $69^{\circ}46'26''$ E This land owner/occupier is **Daya Rata Athvadiya** utilizing gypsum as soil conditioner in his farm and getting good crop cultivation. Right now the type of crops i.e. tomato & chilly are growing. The unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.





CHILLY PLANT

Plant

Tomato



Site Classification: SOIL CONDITIONER

Location identification: Mayur Vardhilal Mehta

Site No. 19

This site located at Farm on Lakhond Road with latitude & longitude 23°14'6" N 69°46'52" E & 23°14'49" N 69°46'52" E. This land owner/occupier is **Mayur Vardhilal Mehta** utilizing gypsum as soil conditioner in his farm and getting good crop cultivation. Right now the type of crops i.e. fodder are growing. The unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



Site Classification: SOIL CONDITIONER

Location identification: Shivubha Jalubha Jadeja

Site No. 20

This site located at Besides Balubha Rathod's Lake Ler Villagewith latitude & longitude 23°11'47" N 69°46'17" E. This land owner/occupier is **Shivubha Jalubha Jadeja** utilizing gypsum as soil conditioner in his farm and getting good crop cultivation. Right now the type of crops i.e. cotton & castor are growing. The unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



Site Classification: SOIL CONDITIONER

Location identification: Rama palabhai Rabaari

Site No. 21

This site located at Shri Vankalmata Mandir with latitude & longitude $23^{\circ} 13'35.44''$ N, $69^{\circ} 44'41.32''$ E. This land owner/occupier is **Rama palabhai Rabaari** utilizing gypsum as soil conditioner in his farm and getting good crop cultivation. Right now the type of plants i.e. neem are growing. They have constructed the temple of Vankalmata also. The unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



Site Classification: PUBLIC INFRASTRUCTURE

Location identification: Main Road connecting Kukma and Lakhond village

Site No. 22

This site located at Beside of Kukma- Lakhond village Road. This is government land and Kukma Sarpanch has utilized the gypsum as supporting material while lying the gutter line. if we remove it then whole infrastructure may damage so the unit requests for support from the local authorities for removal of gypsum from this site.

The legal case is going on against the Kukma Sarpanch.

Please refer photos for your reference.



Site Classification: PUBLIC INFRASTRUCTURE

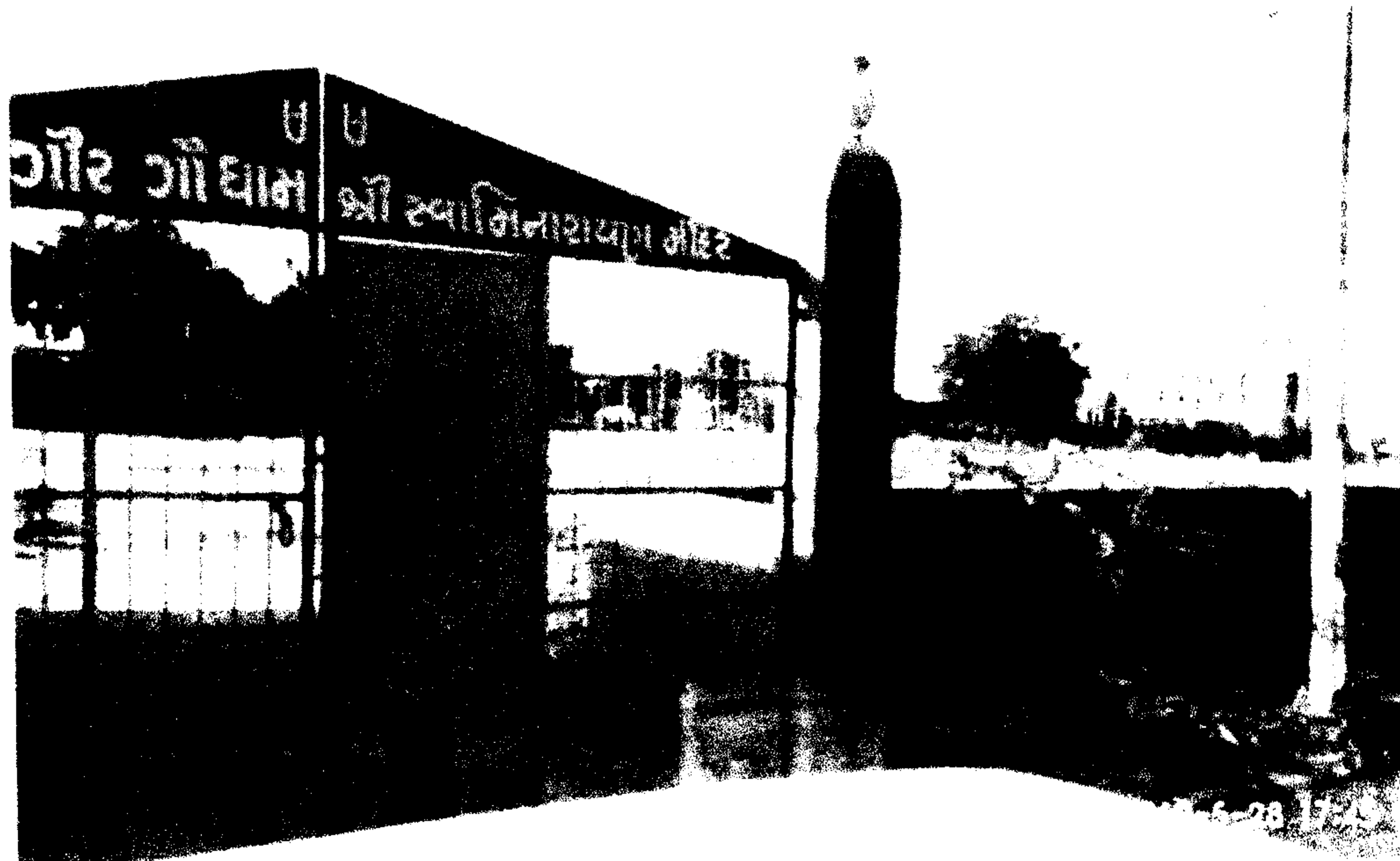
Location identification: Ram Prakash Swami

Site No. 23

This site located at VrundavanGirGaudham, Shree Swaminarayan Mandir, Besides Ashapura Colony, Bhachau Road with latitude & longitude 23°13'49" N 69°46'48" E. This land owner/occupier is Ram Prakash Swami has utilized the gypsum for land reclamation

and developed good infrastructure facility as Gaushala for cares of cows. The unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



Site Classification: PUBLIC INFRASTRUCTURE

Location identification: Dineshbhai Marwada (Trustee of Pithoradamandir) Site No. 24

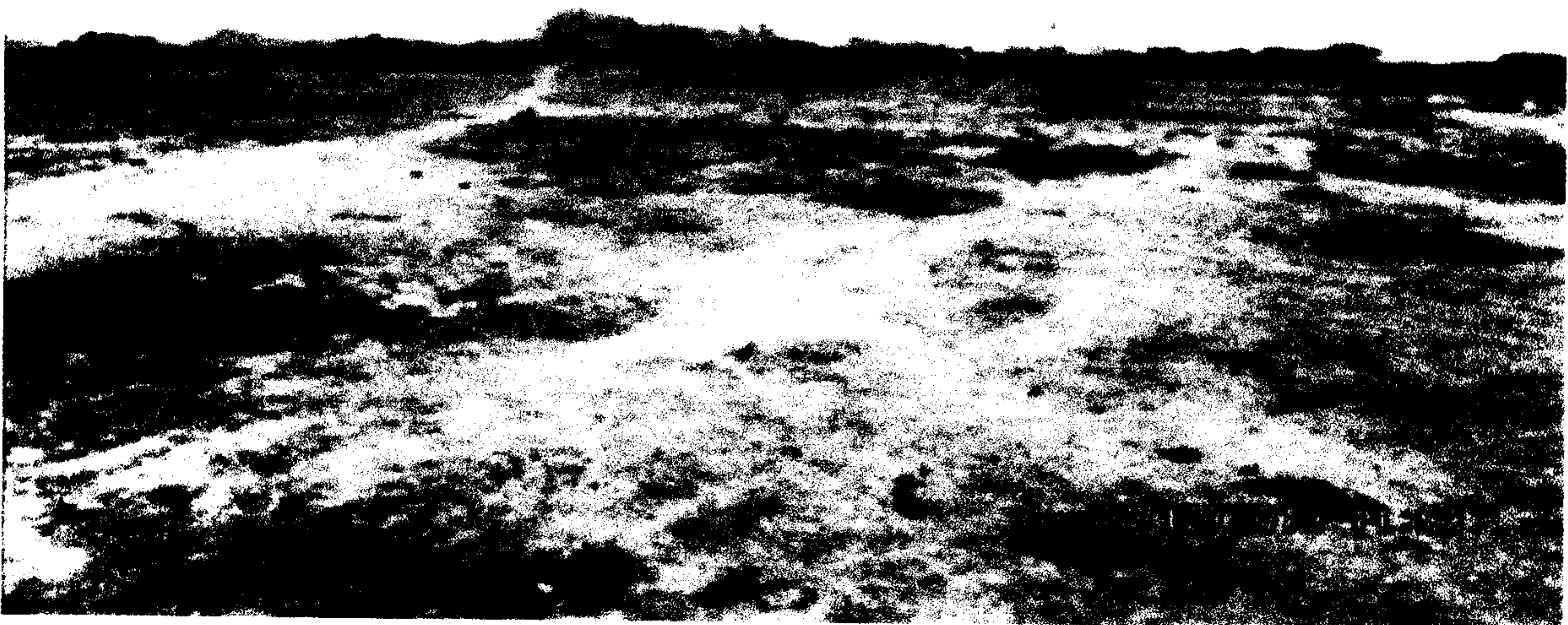
This site located at Pithoradada Mandir Ler Village with latitude & longitude 23°10'23"N 69°46'5" E This land owner/occupier is **Dineshbhai Marwada (Trustee of Pithoradamandir)** has utilized the gypsum for land reclamation and constructed the temple of Pithoradada The unit requests for support from the local authorities for removal of gypsum from this site.



Site Classification: LAND RECLAMATION

Location identification: Samaji Ramji Baradiya Site
No. 25

This site located at Beside of Lakhond Nala, Land of Lakhond Village, with latitude & longitude 23°15'12"N 69°46'41"E. The owner/occupier Samaji Ramji Baradiya. The gypsum utilized for land reclamation at low lying area. The occupier is oppose to lifting back as it's becomes integral part of land area so here the unit requests for support from the local authorities for removal of gypsum from this site.



Site Classification: LAND RECLAMATION

Location identification: Shambhu Ramji Baradiya Site

No. 26

This site located at Adjacent above site as mentioned in site no. 1 of land reclamation with latitude & longitude 23°15'12" N 69°46'41" E. The owner/occupier Shambhu Ramji Baradiya. The gypsum utilized for land reclamation at low lying area. The occupier is oppose to lifting back as it's becomes integral part of land area so here the unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference



Site Classification: LAND RECLAMATION

Location identification: Pancha Vela Kothivar

Site No. 27

This site located at Lakhond- kali Talavadi Road, Village Lakhond with latitude & longitude The owner/occupier Pancha Vela Kothivar. The gypsum utilized for land reclamation at low lying area. The occupier is oppose to lifting back as it's becomes integral part of land area so here the unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



Site Classification: LAND RECLAMATION

Location identification: Hirji Kanji Matang Site

No. 28

This site located at On Government Land, Padhdhar Village with latitude & longitude 23°14'29" N 69°48'44" E The owner/occupier Hirji Kanji Matang. The gypsum utilized for land reclamation at low lying area. The occupier is oppose to lifting back as it's becomes integral part of land area so here the unit requests for support from the local authorities for removal of gypsum from this site.



Please refer photos for your reference



Site Classification: LAND RECLAMATION

Location identification: Dhila Devraj Ranchod & Vishnu Devraj Ahir Site
No. 29

This site located at At shekhpur parlewith latitude & longitude 23° 13'40.57" N, 69° 45'33.97" E 23° 13'33.74" N, 69° 45'28.75" E. The owner/occupier Dhila Devraj Ranchod & Vishnu Devraj Ahir. The gypsum utilized for land reclamation at low lying area. The occupier is oppose to lifting back as it's becomes integral part of land area so here the unit requests for support from the local authorities for removal of gypsum from this site.



Site Classification: LAND RECLAMATION

Location identification: Mamubhai Jivabhai Rabaari

Site No. 30

This site located at Mangal Mandir School Village Bhujodi, with latitude & longitude $23^{\circ} 23' 13.45.11''$ N, $69^{\circ} 44' 8.96''$ E. The owner/occupier Mamubhai Jivabhai Rabaari. The gypsum utilized for land reclamation at low lying area. The occupier is oppose to lifting back as it's becomes integral part of land area so here the unit requests for support from the local authorities for removal of gypsum from this site.

Please refer photos for your reference.



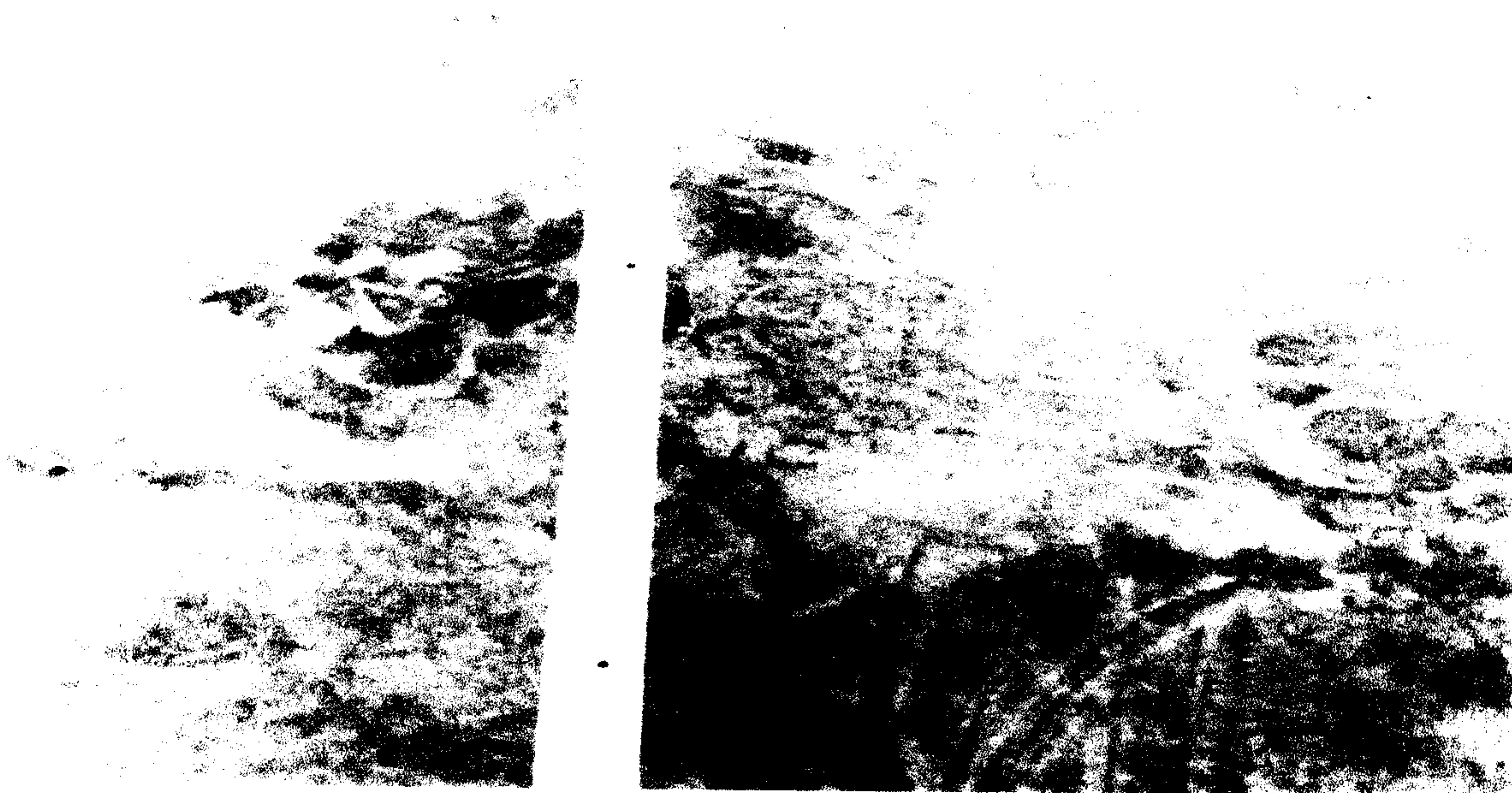
Annexure 2

Trial on GW remediation of GW 1 @ Gate 2 of APL premises

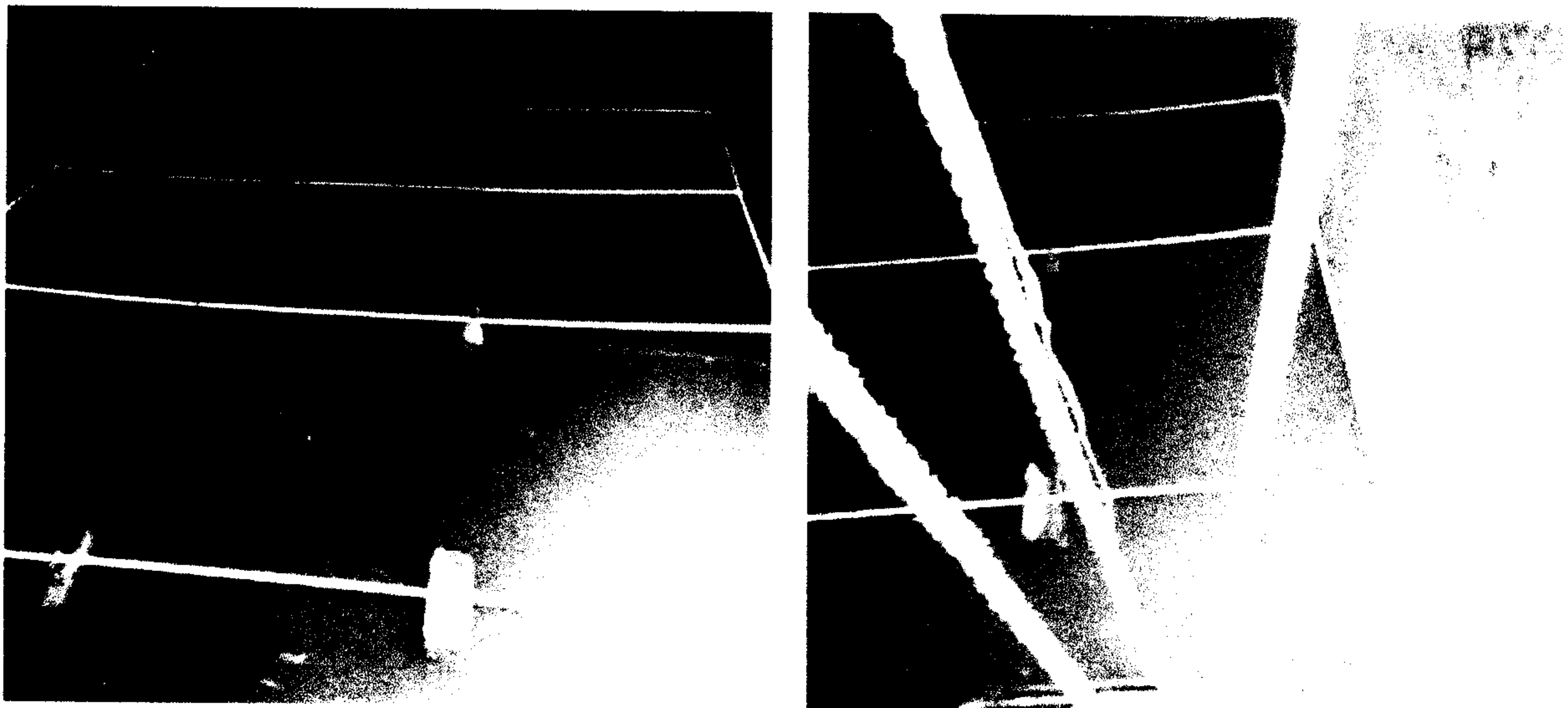
Detail of Tank and diffused aeration system

RCC Tank of Capacity: 6.5M*4.3M*3M

PVC/UPVC pipe with perforated hole



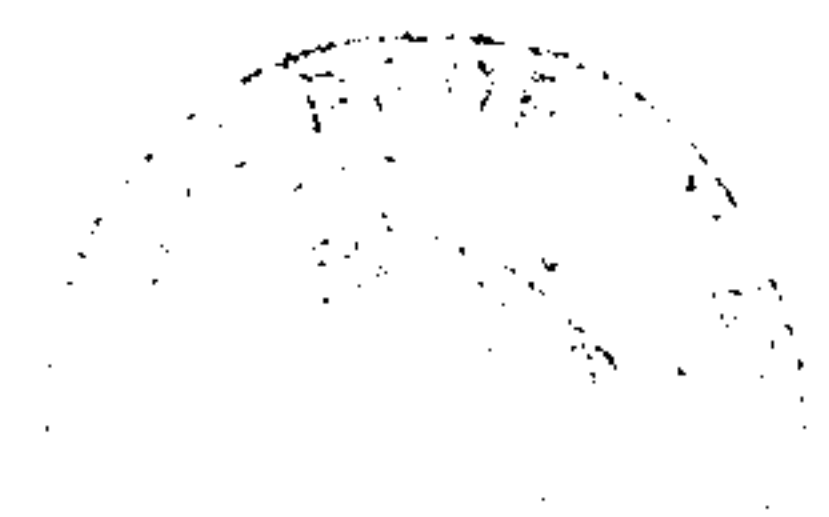
1.25 cm PVC/UPVC pipe installed all over the tank surface





Trial Result of Analysis for Bore well Nr. Gate No.2

Sr. No	Date	Parameters	Units	Before Aeration	After Aeration
1	30.11.2019	pH		7.23	7.19
		TDS	mg/l	3899	3899
		Total Hardness	mg/l	1389	1389
		Ammonical Nitrogen	mg/l	40.9	5.65
2	01.12.2019	pH		6.96	7.02
		TDS	mg/l	4123	4123
		Total Hardness	mg/l	1403	1403
		Ammonical Nitrogen	mg/l	25.3	4.65
3	02.12.2019	pH		7.06	6.97
		TDS	mg/l	4040	4040
		Total Hardness	mg/l	1401	1401
		Ammonical Nitrogen	mg/l	26.3	4.56
4	05.12.2019	pH		6.85	7.03
		TDS	mg/l	4329	4329
		Total Hardness	mg/l	1388	1388
		Ammonical Nitrogen	mg/l	12.4	5.9



17774

Date: 24/01/2020

To,
Shri N. M. Tabhani,
Member Secretary
Gujarat Pollution Control Board
Paryavaran Bhavan, Sector -10,
Gandhinagar.



Subject: Submission of progress report with regard to Notice of direction issued order no. PC/CCA-KUTCH-27(17)/ID17774/527158, dated 27/09/2019.

Kind Attn: Smt U K Upadhyay – Unit Head Kutch Region

Respected Sir/Madam,

The instant report is being filed in pursuance to the Notice of directions (NOD) issued by GPCB dated 18.11.2019. The NOD stated that monthly progress reports shall be filed for the next three months from the date of issue in order to help monitor the progress for removal of Gypsum from the listed sites and for remediation of the Ground Water.

The first report was filed by the undersigned Industry on 18.12.2019 which stated the progress with reference to removal of Gypsum from the listed sites and the status of Ammonical Nitrogen in the Ground Water after carrying out the remediation process.

The instant second report is being filed for your record and information in pursuance to the First Report. The second report is divided into two parts;

- Removal of Gypsum
- Ground Water Remediation

We would like to assure you that we are committed to comply with GPCB requirement under relevant laws in priority manner and request you to issue us extended revocation order on time and oblige.

Thanking You,

Yours truly,

For, Ashapura Perfoclay Limited


Authorized Signatory 

CC:

- Chairman, GPCB Gandhinagar
- Regional Office, GPCB Bhuj

Village Ler, Near Bhujodi, Off Anjar-Bhuj Highway, Bhuj-Kutch - 370 020. (Gujarat)
Tel: +91-02832 240301 / 240302 / 242032-33 Fax: +91-02832 240303 Email: avlbhujad@sancharnet.in

Regd. Office

Jeevan Udyog Building, 3rd Floor, 278, D. N. Road, Fort, Mumbai - 400 001. (India)
Tel: +91-22 6665 1700 Fax: +91-22 2207 9395 / 2207 4452 Email: be@ashapura.com

CIN No. U14108MH1997PLC107300

146
28/01/2020
[Signature]
- 4915.7
28/1/20
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SECOND PROGRESS REPORT
IN COMPLIANCE TO
NOTICE OF DIRECTIONS DATED 18.11.2019
ISSUED BY GPCB
FOR RESTORATION OF GYPSUM SITE
AND
REMEDICATION OF GROUND WATER

By
ASHAPURA PERFOCLAY LIMITED
SURVEY NO. 167, 163 & 164
VILLAGE LER, BHUJ – KUTCH

DATED 24th JANUARY 2020



INTRODUCTION

The instant report is being filed in pursuance to the Notice of directions (NOD) issued by GPCB dated 18.11.2019. The NOD stated that monthly progress reports shall be filed for the next three months from the date of issue in order to help monitor the progress for removal of Gypsum from the listed sites and for remediation of the Ground Water.

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The instant second report is being filed for your record and information in pursuance to the First Report. The second report is divided into two parts; Removal of Gypsum & Ground Water Remediation

REMOVAL OF GYPSUM

In pursuance to the notice of directions, the undersigned industry is submitting a detailed tabular representation of the removal of gypsum from the listed sites;

WORK OF SITE CLEARANCE DONE BY JULY 2019				
Sr. No.	Owner name	Location	Status	Quantity MT
1.	Government Land	Besides of water tank of GWIL Sump, Kukma Village 23°13'18"N 69°45'46" E	Site cleared	1149
2.	Government Land	Land opposite and besides of Paddhar Village police station	Site Cleared	561
3.	Balaji Petroleum	Behind Balaji Petrol Pump, ShaikhpirChokdi, Bhuj Anjar Highway	Site Cleared	907
4.	Kagharbhai Bachu kujariya	Near Matiyadev Mandir, Kukma Village, Near Kukma Water Distribution Tank 23°14'3" N 69°46'15" E	Site Cleared	303
5.	Dineshbhailal jibhai tank	Land between Swaminarayanvadi and Water sump of GWIL, Kukma Village	Site Cleared	3068

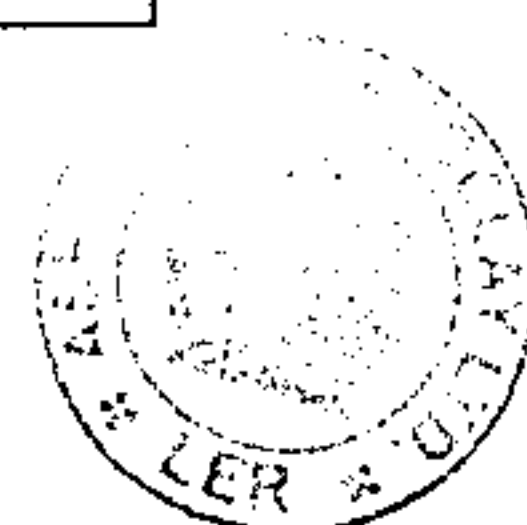


		23°14'5" N 69°45'45" E		
6.	Government Land	Natural Drain near Sanjotnagar, Behind Swaminarayanwadi 23°14'5"N 69°45'45" E	Site Cleared	1535
7.	Government Land	North side of Swaminarayanwadi 23°12'50" N 69°46'9" E	Site Cleared	2757
Total Gypsum removal in July,2019				10280
WORK OF SITE CLEARANCE DONE BETWEEN 25th Nov 2019 to 10th Dec 2019				
8.	Pravin Ramji Ahir	Opposite to Lehriya Hanuman Temple, Kukma Bhuj Road, Kukma Village 23°13'12" N 69°46'17" E	Site cleared	551
9.	Chetan Bharmalkovadia	Vavdi Village 23°11'35" N 69°49'42" E	Site cleared	1266
10.	HetubhaJalubha Jadeja	Land Of Hetubha Jadeja, Ler Village	Site cleared	85
	KoliJuma Sava	Farm along with HetubhaJadeje		
11.	Ramesh raja Khatana	Land at village 23°12'43.57"N, 69° 44'28.14"E	Site cleared	380
12.	Mayur Varghilal Mehta toll naka	Near toll gate lakhond 23°15'36.71"N, 69°46'48.23" E	Site cleared	1391
Total Gypsum removal between 25 th Nov 2019 to 10 th Dec 2019				3673
WORK OF SITE CLEARANCE DONE BETWEEN 11th Dec 2019 to 31st Dec 2019				
13.	Maganbhai patel	Vavdi Village, Opp. Of Survey No. 85/1 23°11'31" N 69°49'45" E	Site cleared	296
14.	Jitendra Ravaji Vankar	Beside Lehriya Hanuman Temple, Kukma village 23°13'24" N 69°46'19" E	Site cleared	112
15.	Ibrahim Ali Jat (pirwalidargah committee)	At Dargah Village 23° 15'31.09" N, 69° 46'55.80" E	Site cleared	3580
16.	Ranmalvajabaradiya	At Village Lakhond (no. 2) 23° 15'39.39" N, 69°46'44.64"E 23° 15'36.71" N, 69° 46'48.23" E	Site cleared	721
Total Gypsum removal between 10 th Dec 2019 to 31 st Dec 2019				4709
TOTAL				8382



SITES WHEREIN THE WORK IS IN PROGRESS			
Sr. No.	OWNER NAME	LOCATION	STATUS
17.	Daya Rata Athvadiya	Behind Ashapura Foundation school, Ashapura Colony, Bhachau Road, Kukma 23°14'7" N 69°46'26" E	Site clearance In progress. Will be completed by the end of January' 2020.
18.	Mayur Vardhilal Mehta	Farm on Lakhond Road, 23°14'6"N 69°46'52"E & 23°14'49" N 69°46'52" E	Site clearance In progress. Will be completed by the end of January' 2020.
19.	ShivubhaJalubha Jadeja	Besides BalubhaRathod's Lake Ler Village 23°11'47" N 69°46'17" E	Site clearance In progress. Will be completed by the end of January' 2020.

REMAINING SITES			
20.	Dinesh Bhailal Joshi	Natural drain between farm of Dinesh Maharaj and Govind Vankar. Kukma Village 23°11'56" N 69°46'47" E	Crops growing and Gypsum is being used as a soil conditioner.
21.	Rama palabhaiRabaari	Shri Vankalmata Mandir 23° 13'35.44" N, 69° 44'41.32" E	Crops growing and Gypsum is being used as a soil conditioner.
22.	Main Road connecting Kukma and Lakhond village	Beside of Kukma- Lakhond village Road	PUBLIC INFRASTRUCTURE (Gutter line- Gypsum used for providing structural support.)
23.	Ram Prakash Swami	VrundavanGirGaudham, Shree Swaminarayan Mandir, Besides Ashapura Colony, Bhachau Road, 23°13'49" N 69°46'48" E	PUBLIC INFRASTRUCTURE (Gowshala/ cowshed)
24.	DineshbhaiMarwada (Trustee of Pithoradamandir)	Pithoradada Mandir Ler Village 23°10'23" N 69°46'5" E	PUBLIC INFRASTRUCTURE (Temple)
25.	Samaji Ramji Baradiya	Land of Lakhond Village 23°15'12" N 69°46'41" E	Land Reclamation
26.	Sambhu Ramji Baradiya	Adjacent above site as mentioned in sr no. (15), Land of Lakhond Village	Land Reclamation
27.	Pancha Vela Kothivar	Lakhond- kali Talavadi Road, Village Lakhond	Land Reclamation



28.	Hirji Kanji Matang	On Government Land, Padhdhar Village 23°14'29" N 69°48'44" E	Land Reclamation
29.	DhilaDevrajRanchod	At shekhpirparle 23°13'40.57" N, 69°45'33.97" E 23°13'33.74" N, 69°45'28.75" E	Land Reclamation
30.	MamubhaiJivabhaiRabaari	Mangal Mandir SchoolVillage 23°13'45.11" N, 69°44'8.96" E	Land Reclamation
31.	MavajiGopalChaud	Behind Lehriya Hanuman Temple, Kukma village 23°13'21" N 69°46'21" E	Pending
32.	Prakash HirjiVagadiya	Beside old Hot Mix plant, Kukma village 23°13'20" N 69°46'3" E	Pending
33.	Prakash HirjiVagadiya	Behind khatri mills, Beside of above site. Traverse. Government land, Kukma village 23°13'20" N 69°45'58" E	Pending
34.	RambhaiVasata Bhai auadedara	Village Lakhond 23°15'39" N 69°47'17" E	Pending

- Site Numbers 1-7 were cleared by July 2019.
- Site Numbers 8-12 were cleared between the period of 25th November'2019- 10th December'2019.
- Site Numbers 13-16 were cleared between the period of 11th December'2019- 31st December' 2019.
- Site Numbers 17-19, work is in Progress and the Gypsum shall be cleared by the end of the month of January'2020.
- Site Numbers 20-21 are lands wherein agriculture farming exists. As Gypsum acts as a great soil conditioner, farmers have cultivated crops over the same and insist that gypsum is useful for the land as it is a non-hazardous substance. Thus, the undersigned industry requires support of the local authorities in order to remove gypsum from these locations, as also mentioned in letter dated 21.12.2019 written by the undersigned Industry to GPCB.
- Site number 22 is a gutter line between Kukma to Lakhond village wherein gypsum is being used to provide structural support to the gutter line. Therefore, assistance of the



local authorities is needed to clear gypsum from there, as also mentioned in letter dated 21.12.2019 written by the undersigned Industry to GPCB.

- Site number 23 is a Cowshed/ Gaushala from where the unit, despite best endeavors and efforts is unable to clear gypsum due to the pressure of the local community and villagers. The unit requests for support from the local authorities for removal of gypsum from this site, as also mentioned in letter dated 21.12.2019 written by the undersigned Industry to GPCB.
- Site number 24 is a temple from where the unit, despite best endeavors and efforts is unable to clear gypsum due to the pressure of the local community and villagers. The unit requests for support from the local authorities for removal of gypsum from this site, as also mentioned in letter dated 21.12.2019 written by the undersigned Industry to GPCB.
- Site number 25-30 from part of land reclamation sites in the villages of Lakhond, Paddhar and Bhujodi, wherein the local community has used gypsum for leveling of land and thus the farmers are protesting against removal of gypsum. The unit requests for support from the local authorities for removal of gypsum from these sites, as also mentioned in letter dated 21.12.2019 written by the undersigned Industry to GPCB.
- Site Numbers 31-34, work is pending.

MONTH WISE GYPSUM DISPATCHED

Month	Sanghi Ind (MT)	Ultra tech (MT)	Mine Backfilling	Total (MT)
Jan-19	305	1166	----	1471
Feb-19	4299	--	----	4299
Mar-19	7917	480	----	8397
Apr-19	8240	1535	----	9775
May-19	7733	1124	----	8857
Jun-19	17315	1860	----	19175
Jul-19	24021	1788	----	25809
Aug19	2964	--	----	2964
Sep19	----	--	----	
Oct19	----	2731	----	2731
Nov 19	----	2261	2578	4839
Dec 19	----	-----	5804	5804
	72794	12945		
Total				94121

Photographs of the above mentioned clear sites & work in progress have been attached here with as **Annexure 1**.



Annexure-1

Site Cleared

1. GWIL Sump, Kukma village

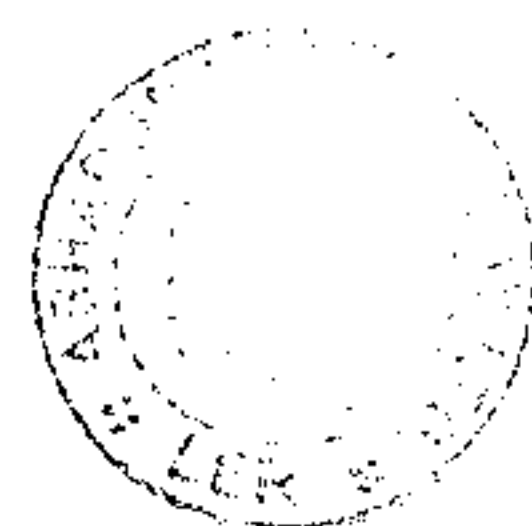
- Location: Besides of water tank of GWIL Sump, Kukma Village
23 13'18"N69 45'46" E
- Quantity lift: 1149.00 MT





2. Paddhar Village

- **Location** :- Land opposite and besides of Paddhar Village police station
- **Quantity lift** :- 561.00 MT



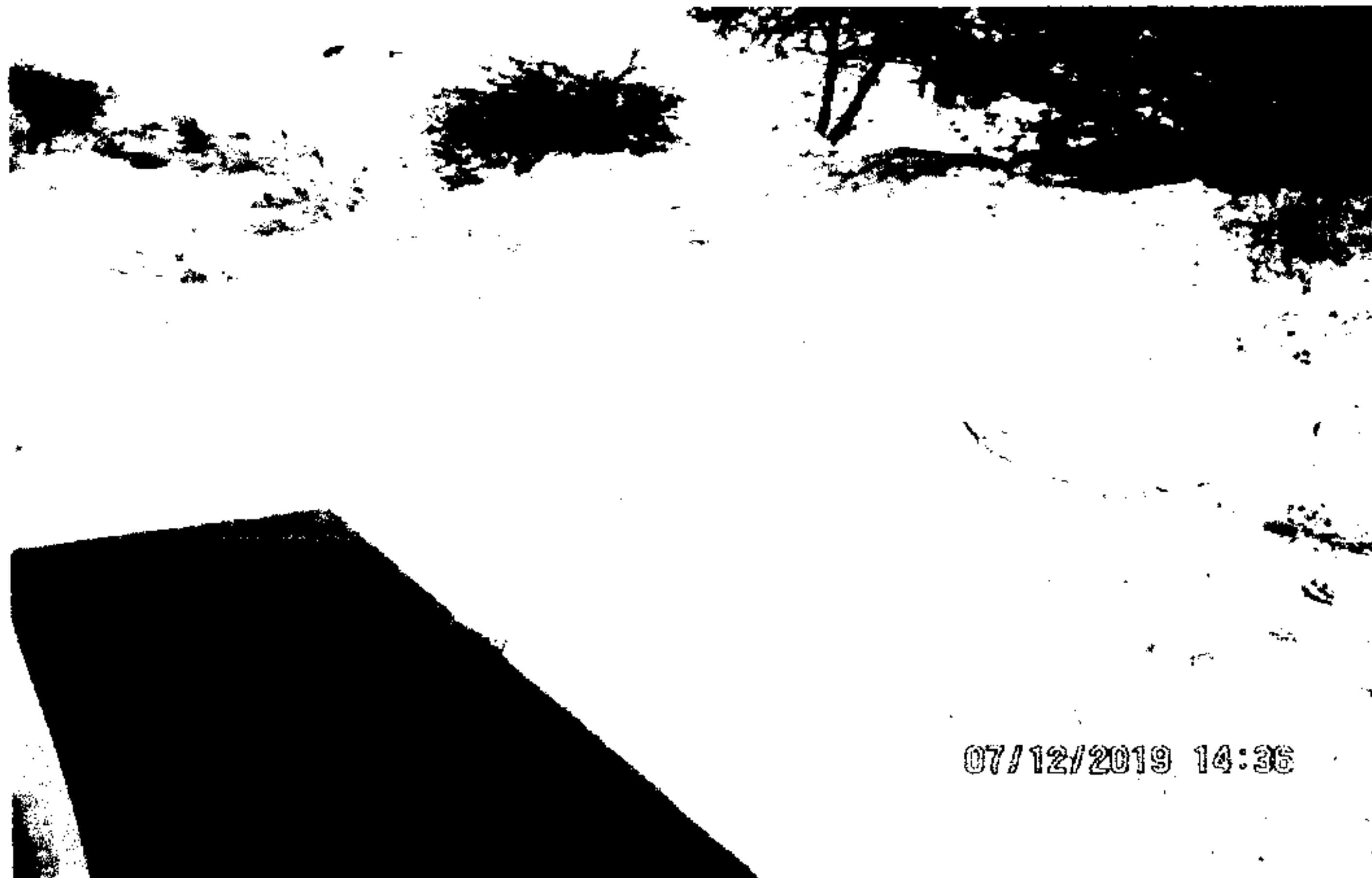
3. Balaji Petroleum

- **Location:** Behind Balaji Petrol Pump, Shaikhpur Chokdi, Bhuj Anjar Highway
- **Quantity lift:** 907MT



4. Kagharbhai Bachu

- **Location:** Near Matiyadev Mandir, Kukma Village, Near Kukma Water Distribution Tank 23°14'3" N 69°46'15" E
- **Quantity lift:** 303 MT



5. Dineshbhai Tank

- **Location:** Land between Swaminarayan vadi and Water sump of GWIL, Kukma Village
23 14'5" N 69°45'45" E
- **Quantity Lift:** 3068 MT



6. Government Land –Sanjotnagar

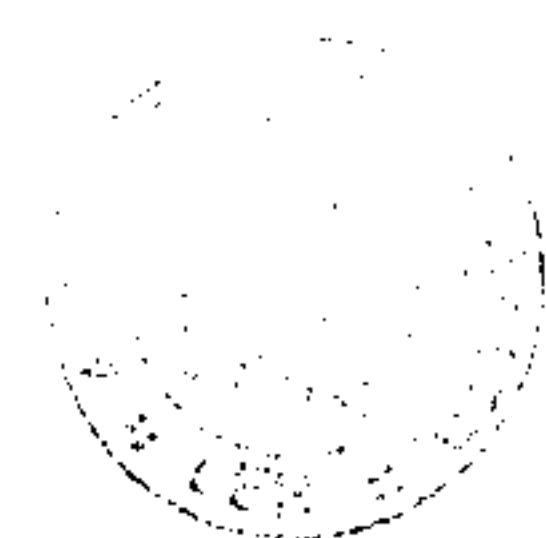
➤ **Location:** Natural Drain near Sanjotnagar, Behind Swaminarayanwadi $23^{\circ}14'5''\text{N}$
 $69^{\circ}45'45''\text{E}$

➤ **Quantity Lift:** 1535 MT



7. North side of Government Land

- Location: North side of Swaminarayan wadi
23 12'50" N 69°46'9" E
- Quantity Lift: 2757 MT



8. Jitendra Vankar

- **Location:** Beside Lehriya Hanuman Temple, Kukma village
23°13'24" N 69°46'19" E
- **Quantity Lift:** 112 MT



9. Chetan Kovadia

➤ **Location:** Vavdi Village
23°11'35" N 69°49'42" E

➤ **Quantity Lift:** 1266 MT



10. Hetubha

- Location: Land Of Hetubha Jadeja, Ler Village
- Quantity lift: 85 MT



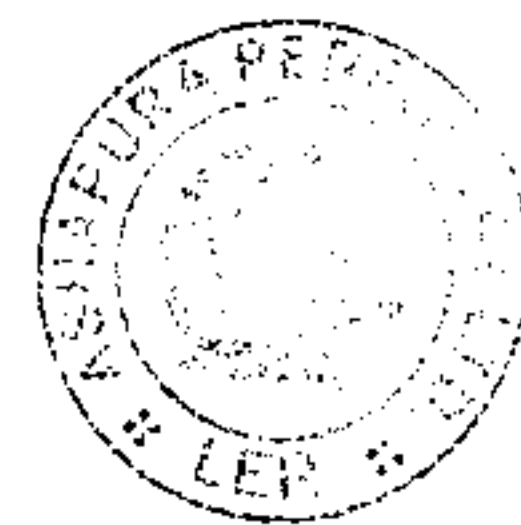
11/01/2020 11:27



11/01/2020 11:28



11/01/2020 11:29



10a.Koli Juma Sava

➤ Location: Farm along with Hetubha Jadeja



11. Ramesh Raja Khatana

- Location: Land at village
- $23^{\circ}12'43.57''\text{N}$, $69^{\circ}44'28.14''\text{E}$
- Quantity Lift: 380 MT



12. Mayur Mehta

- Location: Land at village
23°12'43.57"N, 69° 44'28.14"E
- Quantity Lift: 1391 MT

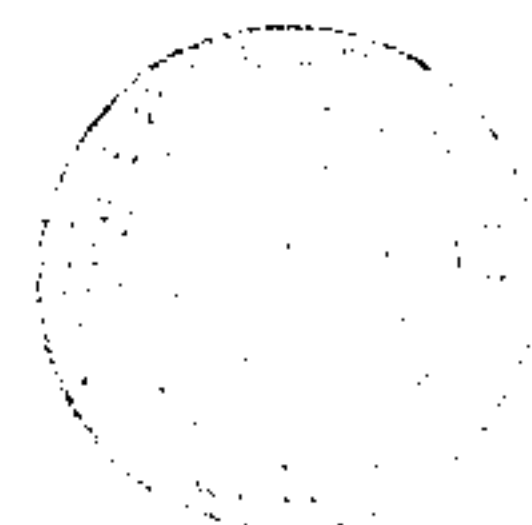


13. Maganbhai Patel

➤ **Location:** Vavdi Village, Opp. Of Survey No. 85/1

➤ **23°11'31" N 69°49'45" E**

➤ **Quantity Lift: 296 MT**



14. Pravin Ramji

- **Location:** Opposite to Lehriya Hanuman Temple, Kukma Bhuj Road, Kukma Village
- **23°13'12" N 69°46'17" E**
- **Quantity Lift: 551 MT**



11/01/2020 12:43



11/01/2020 12 42

15. Ibrahim Ali Jat

- Location: At Dargah Village
- 23° 15'31.09" N, 69° 46'55.80" E
- Quantity Lift: 3580 MT



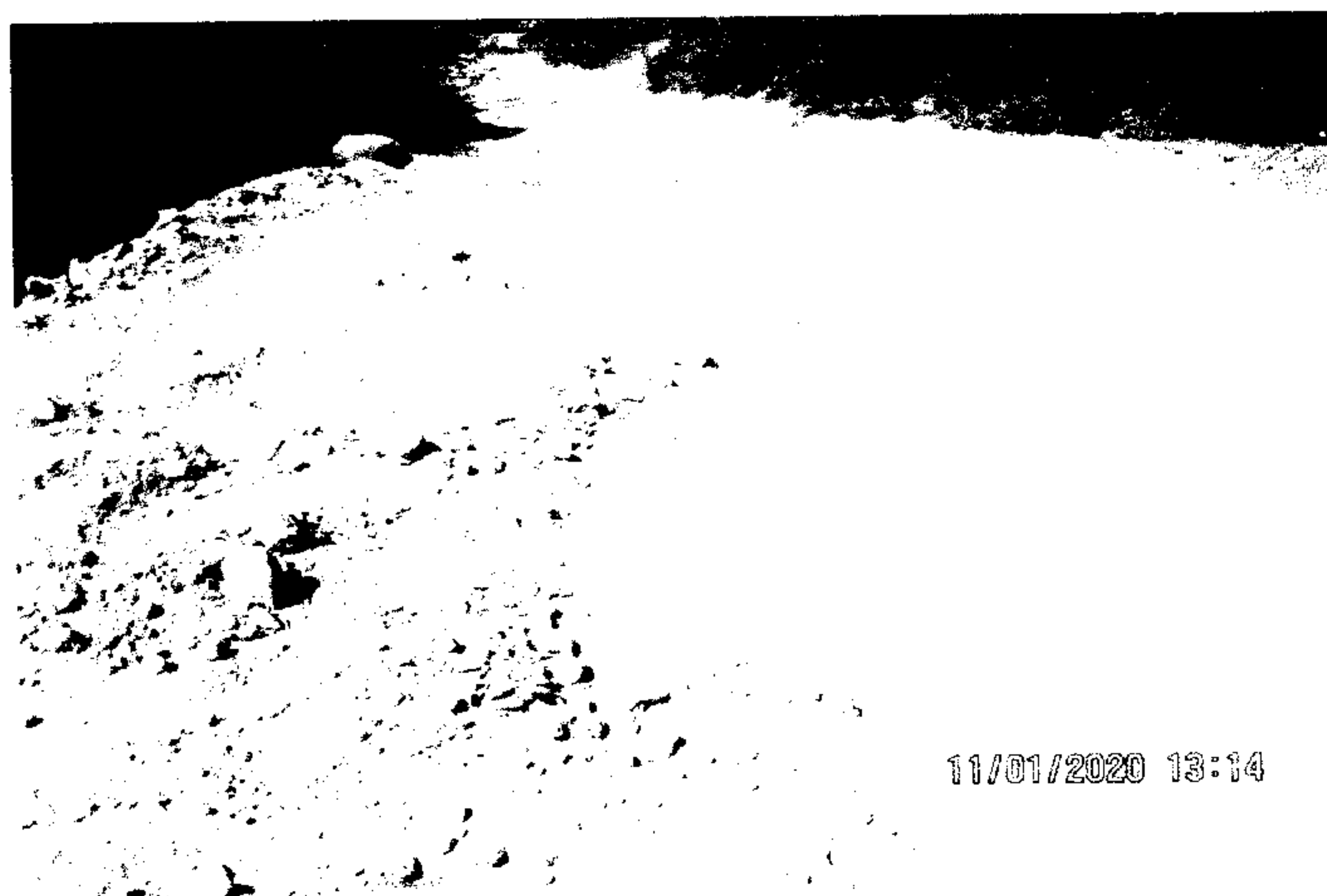
16. Ranmal Vaja

➤ Location: At Village Lakhond (no. 2)

23° 15' 39.39" N, 69° 46' 44.64" E

23° 15' 36.71" N, 69° 46' 48.23" E

➤ Quantity Lift: 721 MT



WORK IN PROGRESS

17. Daya Rata Athvadiya

- **Location:** Behind Ashapura Foundation school,
Ashapura Colony, Bhachau Road, Kukma
23 14'7" N 69 46'26" E
- Site clearance in progress and will be completed by the last week of **January 2020**.



18. MAYUR VARDHILAL MEHTA SITE – GAUCHAR JAMIN

- Site clearance in progress and will be completed by the last week of **January 2020**.





LAT 23°13'39" N

SUNDAY 01.12.2020

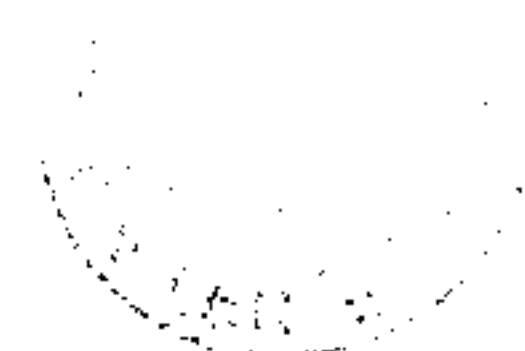
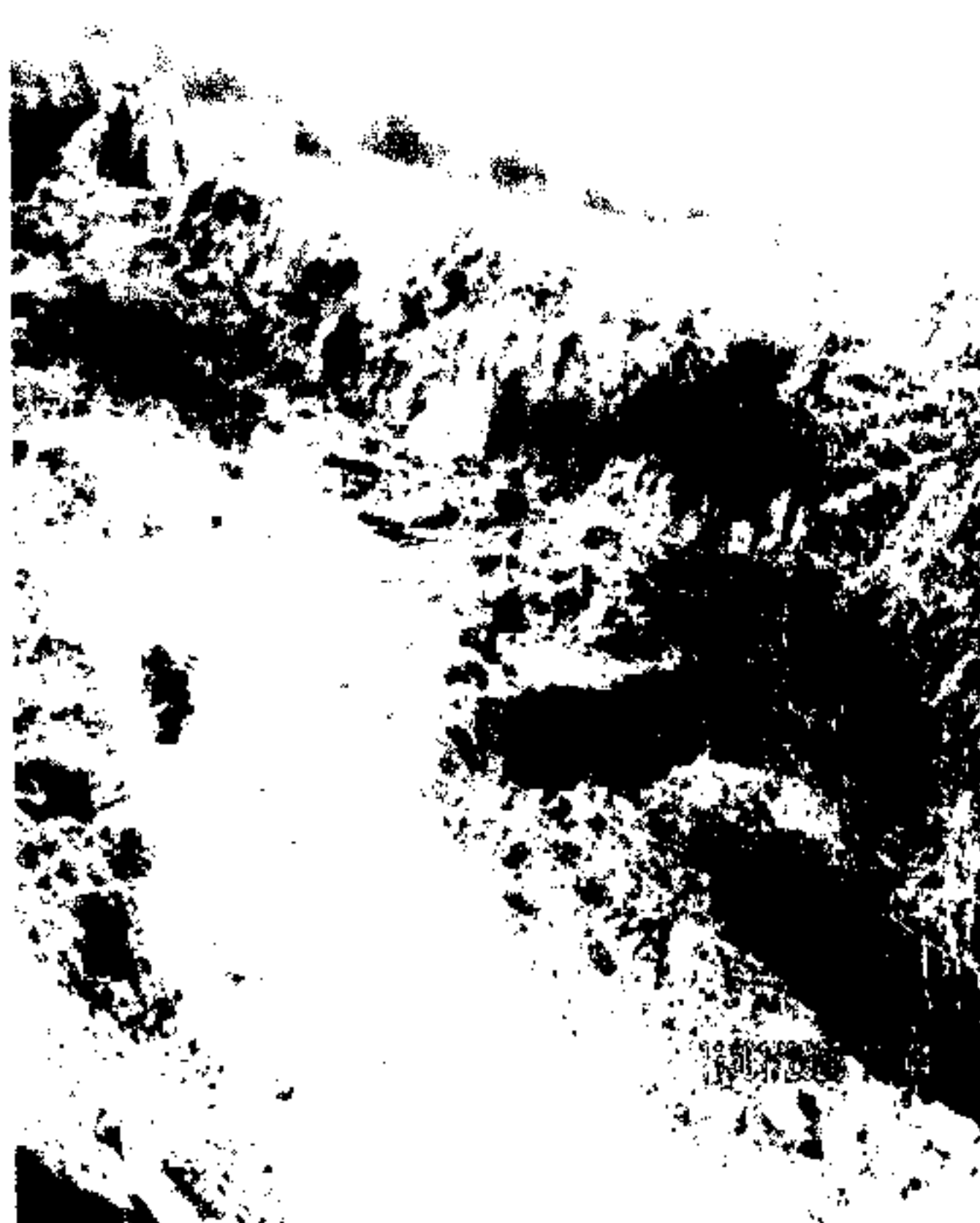
LONG 69°46'31" E

LOCAL TIME 16:56:11

Unimproved Road, Coastal Waters, near Capetown, South Africa

19. Shivubha Jadeja

- **Location:** Besides BalubhaRathod's Lake Ler Village
23°11'47" N 69°46'17" E
- Site clearance in progress and will be completed by the last week of **January 2020**.



Groundwater Remediation

In pursuance to the NOD dated 18.11.2019 issued by GPCB and the directions issued by NGT vide order dated 20.11.2019 Groundwater remediation is in progress at GW1 located at gate 2 of the undersigned Industry and GW2 at Ramesh Pindoriyaborewell. The aeration technique as suggested by Kadam Enviro Consultants and subsequently acknowledged by Hon'ble NGT vide order dated 20.11.2019 in OA 669/2018 is being implemented by the undersigned Industry and the same has provided positive results. In fact, the undersigned Industry is open to trying other techniques as well to ensure full compliance to the directions issued by GPCB and NGT for the Groundwater Remediation.

Groundwater remediation results

Below mentioned is the tabular representation of the results obtained at GW1 by following the aeration technique to remediate the Groundwater:

Result of Ammonical Nitrogen on Day to Day Basis (GW 1 at Gate2)									
Sr. No	Date	Bore water (M3/day)	Ammonical Nitrogen (PPM)	Air purging (Kg/cm2)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	RO Permit Ammonical Nitrogen (PPM)	RO Reject Ammonical Nitrogen (PPM)	Remarks
1	30-11-19	50	40.3	4	3-4 hrs	5.65	0.72	9.32	
2	01-12-19	70	45.5	4	3-4 hrs	4.65	0.645	7.67	

3	02-12-19	70	42.3	4	3-4 hrs	4.56	0.87	7.52	
4	03-12-19								
5	04-12-19	Pump under maintenance							
6	05-12-19	70	32	3.5	3-4 hrs	5.9	1.07	9.735	
7	06-12-19	70	28	3.5	3-4 hrs	5.35	0.48	8.82	
8	07-12-19	70	6.4	3	24 hrs	4.87	0.56	8.03	24 hrs sampling done
9	08-12-19	70	4.98	3	3-4 hrs	4.8	0.45	7.92	
10	09-12-19	70	6.7	3	3-4 hrs	4.2	0.48	6.93	
11	10-12-19	70	4.63	3.5	3-4 hrs	4.2	0.48	6.93	
12	11-12-19	70	4.9	3.5	3-4 hrs	4.35	0.42	7.1	
13	12-12-19	70	5.2	3.5	3-4 hrs	4.92	0.39	8.1	
14	13-12-19	70	4.8	3.5	3-4 hrs	4.68	0.6	7.722	
15	14-12-19	70	4.93	3.5	3-4 hrs	4.78	0.45	7.88	
16	15-12-19	70	4.96	3.5	3-4 hrs	4.72	0.42	7.78	
17	16-12-19	70	5.2	3.5	3-4 hrs	4.53	0.41	7.47	
18	17-12-19	70	5.5	3.5	3-4 hrs	4.96	0.39	8.184	
19	18-12-19	70	5.72	3.5	3-4 hrs	5.14	0.42	8.481	



20	19-12-19	70	5.2	3.5	3-4 hrs	4.87	0.45	8.035	
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Result of Ammonical Nitrogen on Hourly Basis of Gate No.2 Bore well (GW1)

Date: 07/12/2019

Sr. No	Hours	Bore water (M3/day)	Ammonical Nitrogen (PPM)	Sand filter Feed	After Filter Sand	Air purging (Kg/cm2)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	RO Permit Ammonical Nitrogen (PPM)	RO Reject Ammonical Nitrogen (PPM)	Remarks
1	7:00 AM	70	4.66	4.71	4.57	4	24hrs	4.39	0.588	8.02	
2	8:00 AM		5.02	5.61	5.22	4	24hrs	4.72	0.52	8.81	
3	9:00 AM		4.47	4.7	4.45	4	24hrs	3.87	0.596	7.89	
4	10:00 AM		5.36	5.06	4.94	4	24hrs	5.05	0.456	10.78	
5	11:00 AM		15.4	5.13	5.5	4	24hrs	4.66	0.702	9.47	
6	12:00 PM		15.07	4.55	4.81	4	24hrs	4.96	0.508	9.63	
7	1:00 PM		9.71	4.89	5.07	4	24hrs	4.22	0.553	9.47	
8	2:00 PM		11.61	4.59	4.87	4	24hrs	5.02	0.428	8.97	
9	3:00 PM		4.89	4.85	4.83	4	24hrs	4.69	0.688	8.23	
10	4:00 PM		4.82	4.77	4.85	4	24hrs	4.64	0.531	8.02	
11	5:00 PM		5.03	5.07	4.89	4	24hrs	4.39	0.722	7.7	

12	6:00 PM	4.37	4.29	4.45	4	24hrs	4.33	0.305	7.8	
13	7:00 PM	5.15	5.47	5.06	4	24hrs	5.5	0.82	7.45	
14	8:00 PM	4.47	4.37	4.59	4	24hrs	4.31	0.327	7.62	
15	9:00 PM	4.59	4.29	4.21	4	24hrs	3.99	0.674	7.86	
16	10:00 PM	4.29	1.25	7.52	4	24hrs	4.29	1.25	7.52	
17	11:00 PM	5.94	5.64	5.77	4	24hrs	5.4	0.631	9.55	
18	12:00 AM	4.6	4.66	4.75	4	24hrs	4.61	0.328	8.09	
19	1:00 AM	5.92	5.69	5.79	4	24hrs	5.69	0.551	9.38	
20	2:00 AM	5.39	5.77	5.73	4	24hrs	5.47	0.529	9.55	
21	3:00 AM	5.84	6.11	6.13	4	24hrs	5.78	0.41	9.22	
22	4:00 AM	5.8	5.75	5.16	4	24hrs	5.63	0.43	9.47	
23	5:00 AM	5.83	5.59	5.46	4	24hrs	5.57	0.678	9.63	
24	6:00 AM	5.49	5.56	5.57	4	24hrs	5.31	0.411	9.14	

Result of Ammonical Nitrogen on Day to Day Basis

(GW5 of Ramesh Pindoriya – Work in progress)

Sr. No	Date	Bore water (M3/day)	Ammonical Nitrogen (PPM)	Air purging (Kg/cm2)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	RO Permit Ammonical Nitrogen (PPM)	RO Reject Ammonical Nitrogen (PPM)
1	11-12-19	70	34.03	4 - 4.5	4-5 hrs	15.28	0.66	18.44
2	12-12-19	70	33.15	4 - 4.5	4-5 hrs	14.58	0.6	19.02
3	13-12-19	70	33.97	4 - 4.5	4-5 hrs	15.23	0.41	17.88
4	14-12-19	70	34.96	4 - 4.5	4-5 hrs	16.03	0.23	19.4
5	16-12-19	70	33.32	4 - 4.5	4-5 hrs	13.64	0.31	16.6
6	17-12-19	70	31.5	4 - 4.5	4-5 hrs	14.99	0.25	16.4
7	18-12-19	70	34.46	4 - 4.5	4-5 hrs	17.64	0.4	18.9
8	19-12-19	70	39.19	4 - 4.5	4-5 hrs	10.3	0.24	15.6
9	20-12-19	70	32.9	4 - 4.5	4-5 hrs	14.86	0.48	19.7
10	21-12-19	70	32.57	4 - 4.5	7-8 hrs	12.4	0.35	19.84
11	22-12-19	70	31.25	4 - 4.5	7-8 hrs	18.11	0.29	18.9
12	23-12-19	70	38.04	4 - 4.5	4-5 hrs	13.25	0.34	18.58



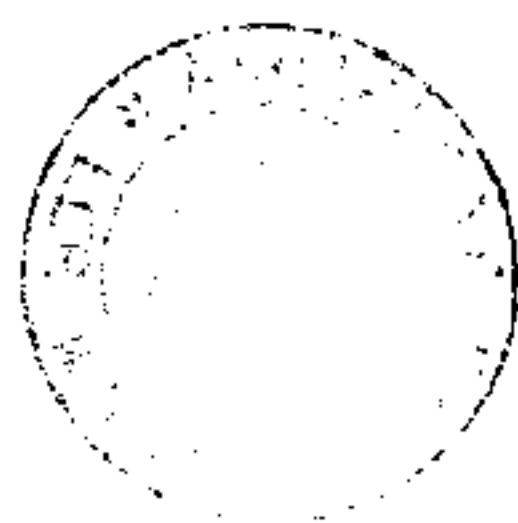
As can be inferred from the aforementioned table, the undersigned Industry used aeration technique for groundwater remediation as recommended by Kadam Enviro consultancy. After completion of retention time of 5 hours of aerated groundwater, the same goes to RO operation where two streams separated into-

1. RO permeate water which is utilized in process &:
2. RO reject water, which goes to solar evaporation pond.

The average level of ammoniacal nitrogen in permeate water is 0.2 to 0.6 ppm.

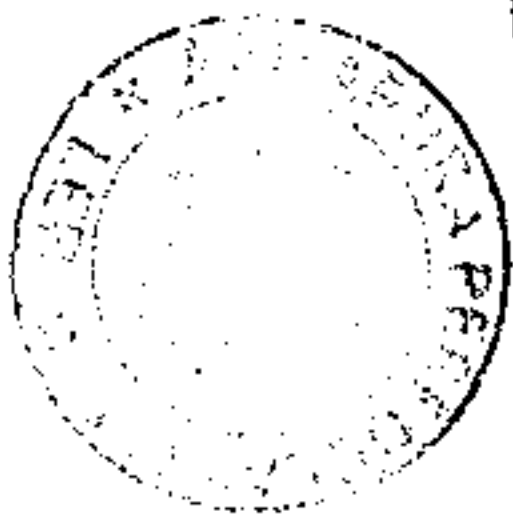
PROGRESS AFTER 24TH DEC 2019

Result of Ammoniacal Nitrogen on Day to Day Basis								
(GW5 of Ramesh Pindoriya – Work in progress)								
Sr. No	Date	Bore water (M3/day)	Ammoniacal Nitrogen (PPM)	Air purging (Kg/cm ²)	Aeration Time (Hrs)	After Aeration Ammoniacal Nitrogen (PPM)	RO Permit Ammoniacal Nitrogen (PPM)	RO Reject Ammoniacal Nitrogen (PPM)
13	24-12-19	70	36.63	4 - 4.5	7-8 hrs	11.13	0.24	17.8
14	25-12-19	70	33.89	4 - 4.5	7-8 hrs	17.22	0.47	19.6
15	26-12-19	40	39.86	4 - 4.5	7-8 hrs	12.35	0.24	19.76
16	27-12-19	40	31.79	4 - 4.5	7-8 hrs	11.08	0.24	17.728
17	28-12-19	40	38.22	4 - 4.5	7-8 hrs	17.01	0.38	18.96
18	29-12-19	40	34.38	4 - 4.5	7-8 hrs	8.39	0.34	13.424
20	31-12-19	40	34.22	4 - 4.5	7-8 hrs	12.64	0.36	19.6

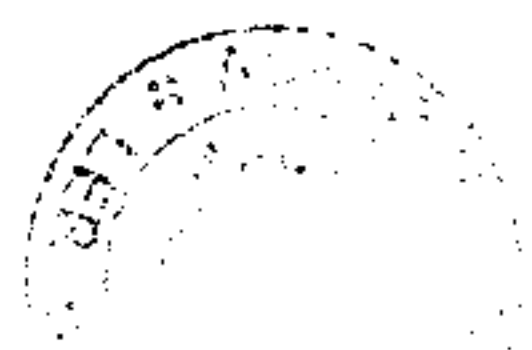


Progress after 1st January 2020.

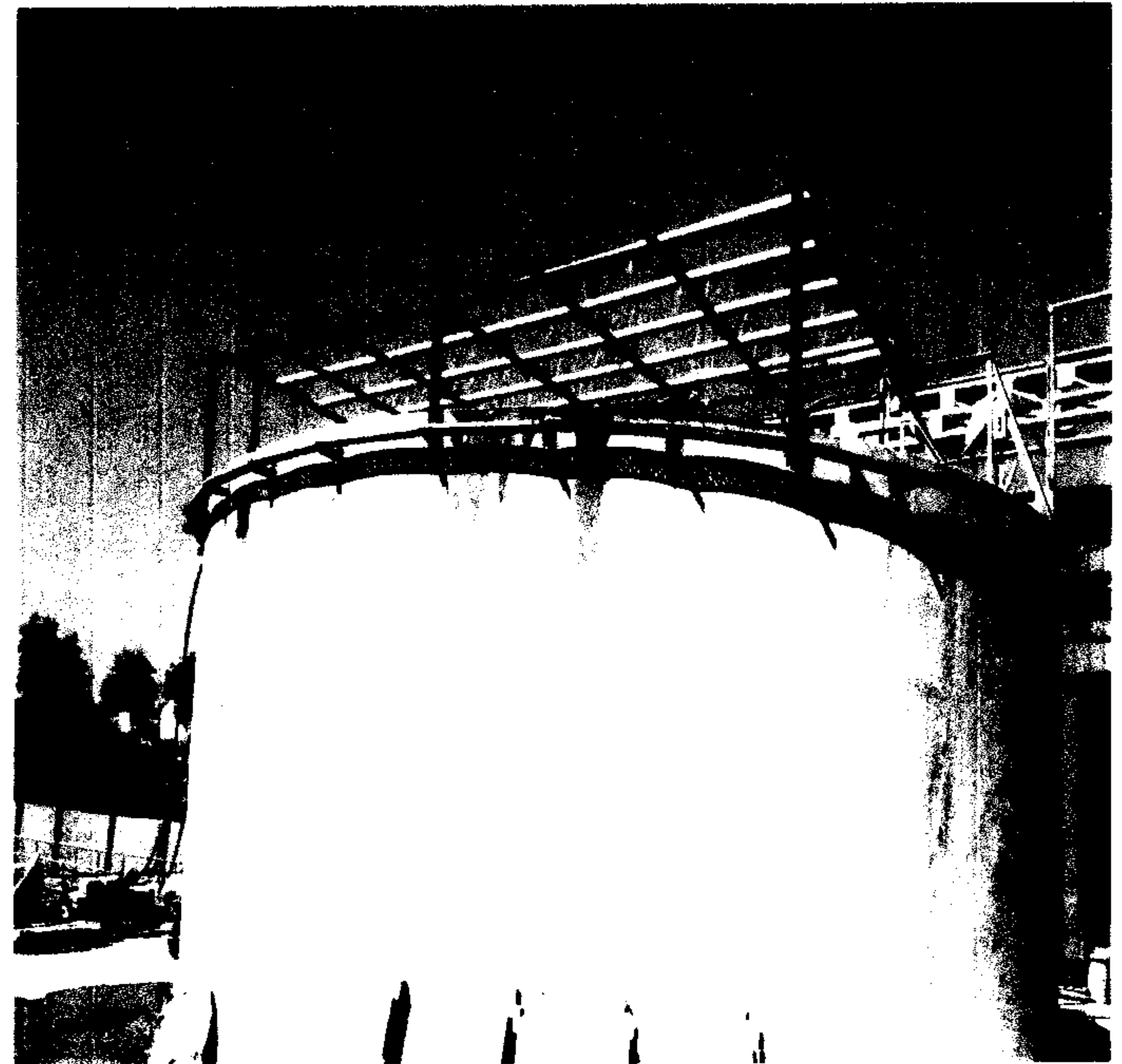
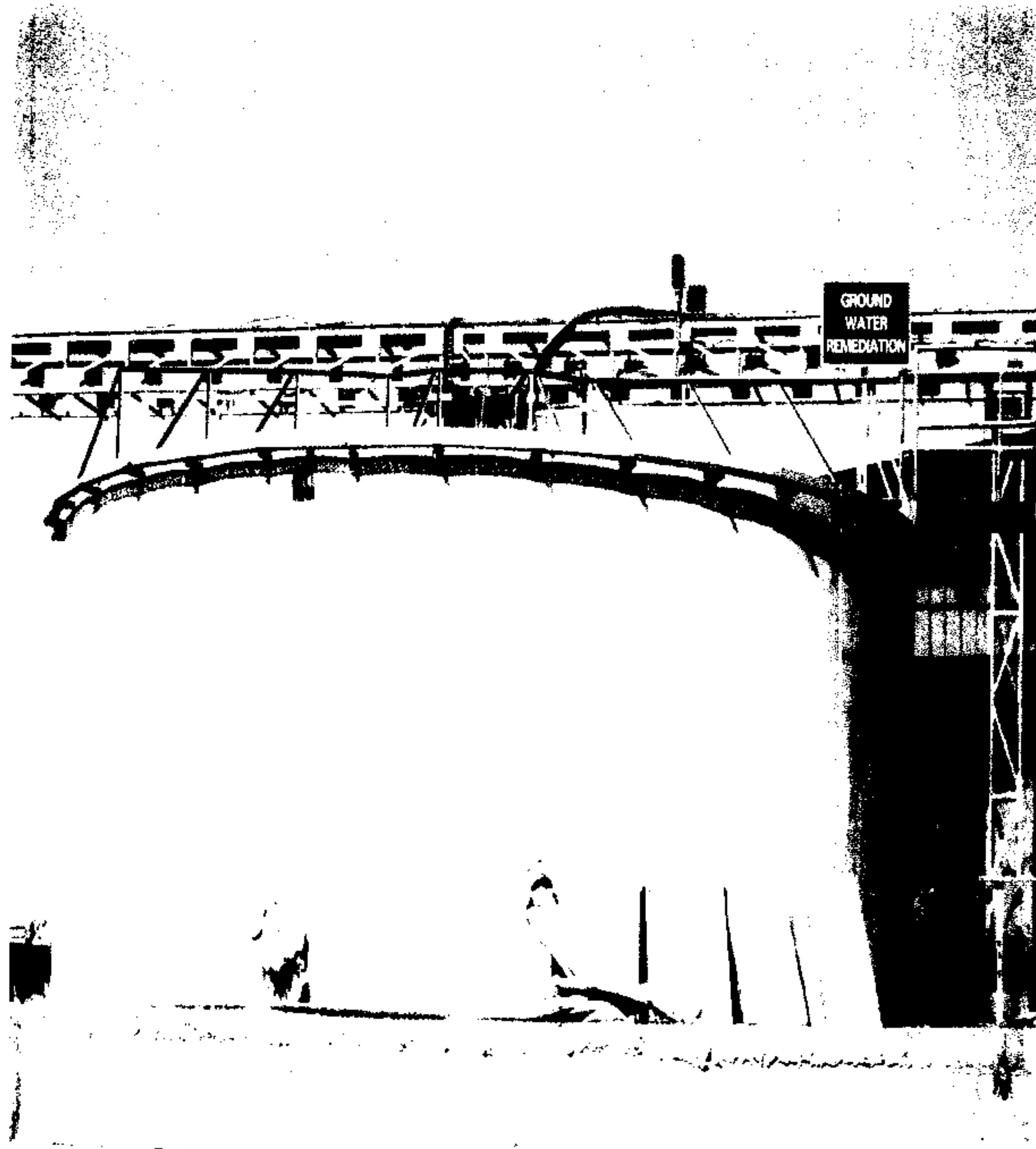
Sr. No	Date	Bore water (M3/day)	Ammonical Nitrogen (PPM)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	RO Permit Ammonical Nitrogen (PPM)	RO Reject Ammonical Nitrogen (PPM)	Various Trials done for reducing Ammonical Nitrogen
1	01/01/2020	70m3	36.11	7-8 hrs	10.45	0.81	19.83	aeration provided through pipe diffusers with water sprinkling and Scraper start in clarifier
2	02/01/2020	70m3	37.84	7-8 hrs	12.23	0.58	21.99	aeration provided through pipe diffusers with water sprinkling and water circulation in clarifier
3	03/01/2020	70m3	36.77	7-8 hrs	8.96	0.38	16.36	aeration provided through pipe diffusers with water sprinkling and water circulation in clarifier
4	04/01/2020	70m3	38.5	7-8 hrs	9.79	1.2	19.05	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
5	05/01/2020	70m3	38.5	7-8 hrs	10.26	0.9	21.44	Aeration at underground tank & installed exhaust fan for the free Ammonical Nitrogen
6	07/01/2020	70m3	44.76	7-8 hrs	12.03	1.2	22.18	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
7	09/01/2020	70m3	32.45	7-8 hrs	9.6	0.25	17.5	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
8	10/01/2020	70m3	42.82	7-8 hrs	15.82	0.58	24.75	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier

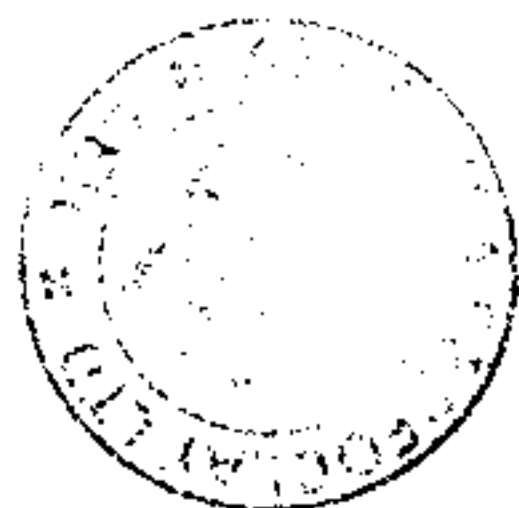
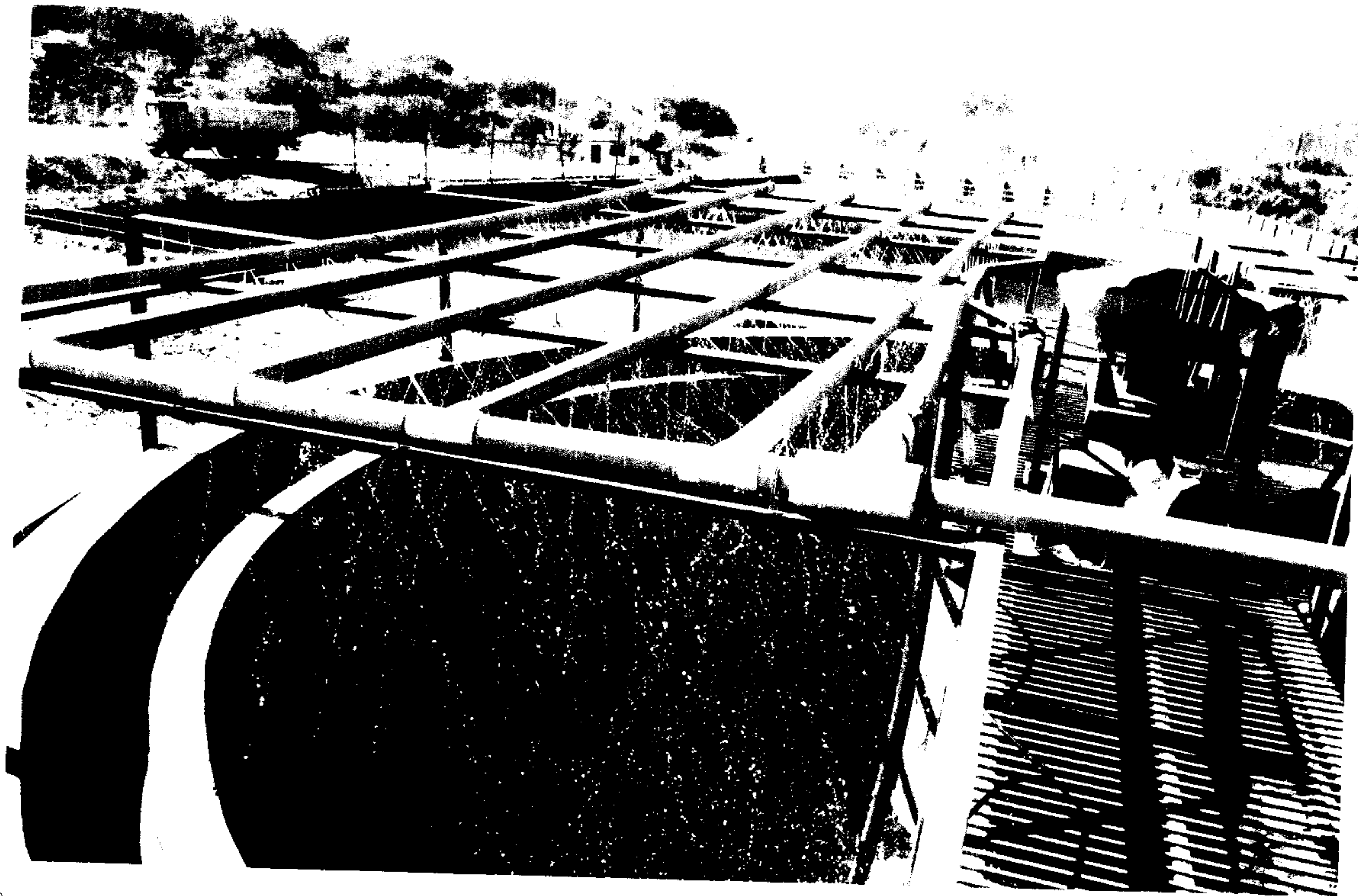


9	11/01/2020	70m3	39.57	7-8 hrs	13.42	0.32	21.19	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
10	13/01/2020	70m3	34.79	7-8 hrs	12.42	0.55	24.16	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
11	15/01/2020	70m3	35.12	7-8 hrs	12.23	0.74	21.96	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
12	16/01/2020	70m3	39.77	7-8 hrs	8.81	0.95	15.46	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
13	17/01/2020	70m3	39.93	7-8 hrs	13.62	1.06	21.62	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
14	18/01/2020	70m3	31.67	7-8 hrs	12.01	1.2	19.49	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier
15	20/01/2020	70m3	30.27	7-8 hrs	10.86	1.37	12.61	aeration provided through pipe diffusers with water sprinkling and circulation in clarifier



Photographs of groundwater remediation details





SAMPLING CONDUCTED BY GPCB ON 23.12.19

The GPCB officials by way of inspection conducted sampling of ammonical nitrogen levels in some of the listed borewells. It is pertinent to note that due to natural remediation, the levels of ammonical nitrogen reduced majorly, besides the borewell at Ramesh Pindoriya (GW5) where work is in progress already and Vasudev Pindoriya GW6 wherein the Groundwater remediation shall be carried out in the next few days from the date of submission of this progress report.

The below mentioned tabular representation illustrates the decline in the ammonical nitrogen levels as a consequence of natural remediation;

Sr. No.	Parameter	GPCB sampling & GW Analysis during 23/12/2019										
		Govind Hirji (GW7)	Near Admin (GW3)	Dinesh Maharaj (GW22)	Hetubha (GW9)	Nr. Gate 2 (GW1)	Ramesh pindoriya (GW5)	VasudevP indoriya (GW6)	Shyamji (GW28)	Samav andhsa miti (GW2)	Ranubha Jadeja (GW8)	STP
1	Temperature	28	29	28	28	29	28	28	29	29	28	25
2	pH	6.93	6.92	6.98	6.86	6.81	6.96	6.79	6.79	7.04	6.83	7.17
3	color	C.L	C.L	C.L	C.L	C.L	C.L	C.L	C.L	C.L	C.L	5
4	Total dissolved solids	5694	3846	1772	2814	3808	6238	7824	3940	3670	3474	
5	Suspended solids	---	---	---	---	---	---	---	---	---	---	14
6	Ammonical Nitrogen	1.12	0.28	0.28	0.28	11.76	33.04	55.44	0.28	0.28	7.28	2.8
7	Percent sodium	7.17	6.01	3.4	4.24	4.85	6.89	6.49	6.1	5.32	4.12	
8	Chloride	1630	1140	630	800	1050	1480	1360	1390	1120	820	
9	Sulphate	1590	1056	370	750	1178	2150	3267	885	872	1228	



10	Chemical Oxygen Demand	12	10	8	8	12	12	14	8	9	10	
11	Oil & Grease	---	---	---	---	---	---	---	---	---	---	
12	Phenolic compounds	---	---	---	---	---	---	---	---	---	---	
13	BOD (3 days 27°C)	1.7	2.1	1.8	1.6	1.2	1.6	2.1	1.36	1.14	1.7	14

The sampling done by GPCB stands proof to the fact that Gypsum is not a hazardous substance and therefore cannot be the cause of ground water contamination.

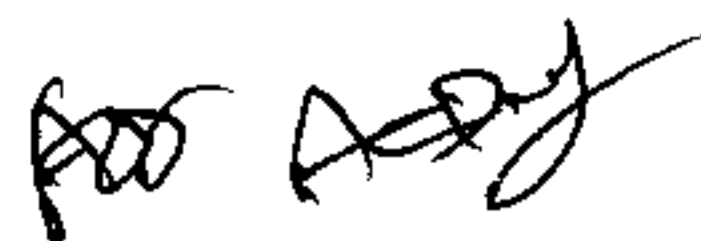
Further, on a perusal of the aforementioned date, it can be inferred that the undersigned industry, in compliance with the orders and directions of NGT and GPCB is removing gypsum from the listed sites and conducting ground water remediation at the listed borewells.

As the undersigned Industry is following the directions in letter and spirit, it is prayed that GPCB shall extend the revocation order. It is further requested that GPCB shall present to the Hon'ble NGT the true and correct status of removal of Gypsum from the aforementioned sites and the drop in the levels of ammonical nitrogen after performing the Ground water remediation.

Thanking You,

Yours truly,

For, Ashapura Perfoclay Limited



Authorized Signatory



CC:

1. Chairman, GPCB Gandhinagar
2. Regional Office, GPCB Bhuj

Date 20th February 2020

To,
Member Secretary
Gujarat Pollution Control Board
Paryavaran Bhavan,
Sector 10-A, Gandhinagar-382010

Kind Attn: Smt U.K. Upadhyay Unit Head-Kutch.

Subject: Third progress report in compliance of notice of directions dated 18.11.2019 by Ashapura Perfoclay Ltd.

Reference:

G.P.C.B. BHUJ (W)
Inward No:- 363
Date:- 25/2/20
Sign:- Dcep

A GPCB notice of direction outward no. 527158 dated 18/11/2019 regarding remediation of gypsum site and groundwater

B Hon'ble NGT order on original application no. 669 of 2018 dated 20/11/2019

1. CPCB and GPCB joint visit dated 06/02/2020 to verify the progress report with regards to remediation of gypsum site and groundwater.
2. GPCB inspection visit dated 24/01/2020 to verify the progress report with regards to remediation of gypsum site and groundwater.
3. GPCB letter outward 552064 dated 23/01/2020 for progress report on groundwater remediation.
4. CPCB and GPCB joint visit dated 31/12/2019 to verify the progress report with regards to remediation of gypsum site and groundwater.



Progress report submission by Ashapura Perfoclay Ltd. - February 2020
Village Ler, Near Bhujodi, Off Anjar-Bhuj Highway, Bhuj-Kutch - 370 020. (Gujarat)
Tel.: +91-02832 240301 / 240302 / 240303 Fax : +91-02832 240303 Email : avlbhujad@sanchamet.in

Regd. Office :

Jeevan Udyog Building, 3rd Floor, 278, D. N. Road, Fort, Mumbai - 400 001. (India)
Tel. : +91-22 6665 1700 Fax : +91-22 2207 9395 / 2207 4452 Email : be@ashapura.com

CIN No. U14108MH1997PLC107300

5. GPCB visit dated 14/12/2019 by Member Secretary of GPCB to verify the progress report with regards to remediation of gypsum site and groundwater.
6. GPCB letter outward no. 530573, dated 12/12/2019 GPCB asked for time bound action plan wrt Gypsum & water.
7. GPCB Visit dated 23/11/2019 by Member Secretary and Unit Head of GPCB to verify the progress report with regards to remediation of gypsum site and groundwater.

Respected Sir and Madam,

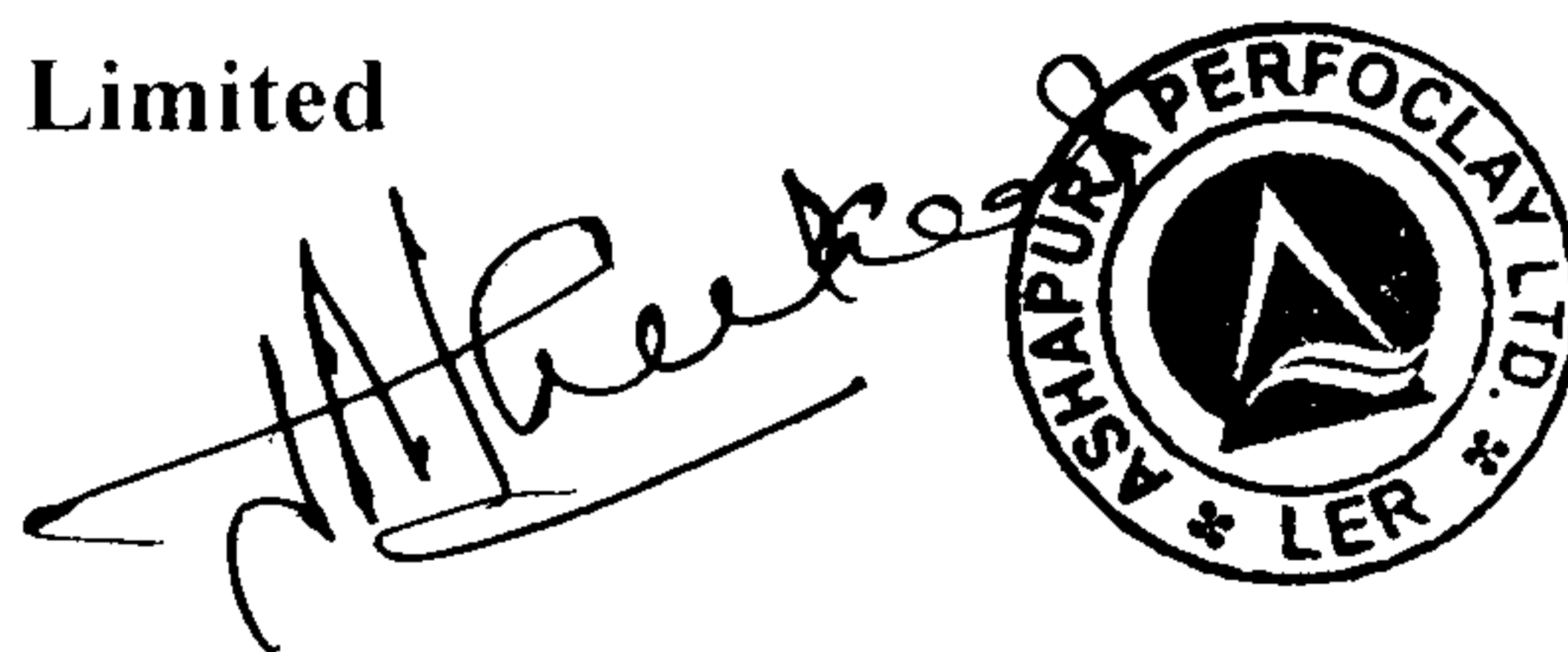
With reference to above subject and reference please find attached herein the third progress report for your record and information filed by the undersigned industry without prejudice to our rights. The present report clearly spells out the efforts made by the undersigned industry to follow the orders of Hon'ble NGT as well as GPCB in true letter and spirit. The company is also sensitive to environmental issues also simultaneously sustainable development.

Thanking You,

For, Ashapura Perfoclay Limited

Reddy

Authorized Signatory



CC:

1. Regional Office, GPCB Bhuj

THIRD PROGRESS REPORT
IN COMPLIANCE TO
NOTICE OF DIRECTIONS DATED 18.11.2019
ISSUED BY GPCB
FOR RESTORATION OF GYPSUM SITE
AND
REMEDIATION OF GROUND WATER

By
ASHAPURA PERFOCLAY LIMITED
SURVEY NO. 167, 163 & 164
VILLAGE LER, BHUJ – KUTCH

DATED 20th February 2020



INTRODUCTION

The instant third progress report is being filed in pursuance to the Notice of directions (NOD) issued by GPCB dated 18.11.2019. The report herein highlights the steps taken by the undersigned Industry for remediation of ground water and removal of Gypsum in strict adherence to the NOD dated 18.11.2019 and in compliance of the order dated 20.11.2019 passed by the Hon'ble NGT in O.A 669/2018. The third progress report flows from the previous first and second progress reports which were filed before this board on 18.12.2019 and 24.12.2020 respectively.

The Third report is being filed for your information and record and summarizes the action taken by the undersigned Industry with respect to;

- A. Removal of Gypsum from the listed sites and;
- B. Remediation of Ground water from the listed borewells.

Broadly speaking, the undersigned Industry has strictly followed the directions issued by the Hon'ble Tribunal as well as the directions issued by GPCB in letter and spirit. Also, despite the fact that the impleadment application filed by the undersigned industry was dismissed by the Hon'ble NGT, the industry has ensured full compliance with all the orders and directions arising from O.A. 669/2018.

A mere perusal of all the three reports filed by the undersigned industry show the gradual and positive progress in the remediation work and the dedicated actions taken by the undersigned industry to comply with the directions.

It is also pertinent to highlight that despite the fact that Gypsum is not a hazardous substance as also acknowledged by the Ministry of Environment and Forest (MoEF) the undersigned Industry was asked to undertake the remediation actions. In fact, GPCB also recognizes the fact that the elevated levels of total dissolved solids,



chloride, Sulphate, and nitrate might be due to the local geology of the area where the factory is situated.

A. REMOVAL OF GYPSUM

- In pursuance to the notice of directions, the undersigned industry is submitting a detailed tabular representation of the removal of gypsum from the listed sites;
- It is pertinent to note that in total, a quantity of 21271 MT of gypsum has been cleared from below sites.

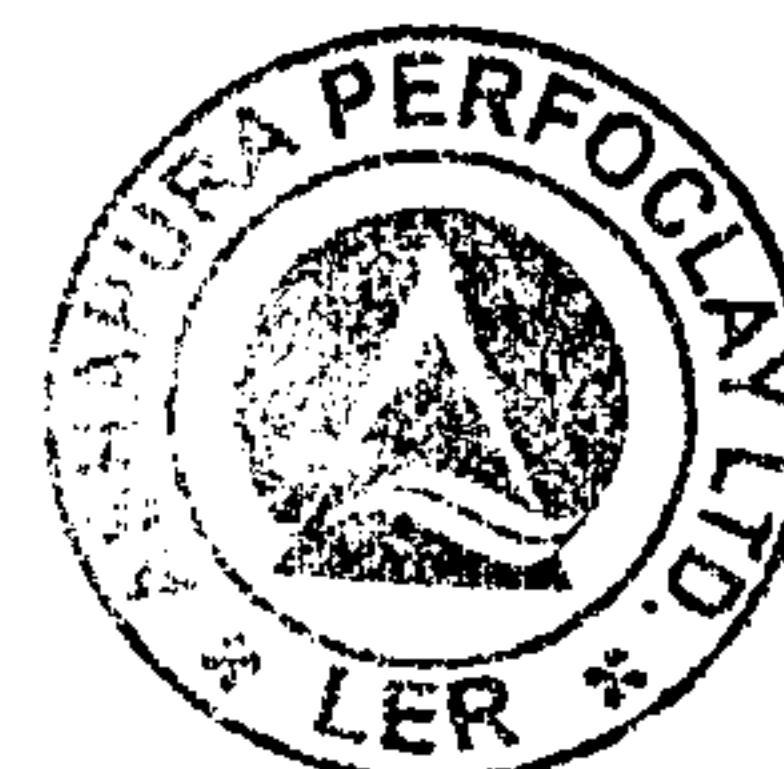
Sr. No	Location	Status	Quantity MT
1.	Besides of water tank of GWIL Sump, Kukma Village 23°13'18"N 69°45'46" E	Site cleared	1149
2.	Land opposite and besides of Paddhar Village police station	Site Cleared	561
3.	Behind Balaji Petrol Pump, Shaikhpur Chokdi, Bhuj Anjar Highway	Site Cleared	907
4.	Near Matiyadev Mandir, Kukma Village, Near Kukma Water Distribution Tank 23°14'3" N 69°46'15" E	Site Cleared	303



5.	Land between Swaminarayan vadi and Water sump of GWIL, Kukma Village 23°14'5" N 69°45'45" E		Site Cleared	3068
6.	Natural Drain near Sanjotnagar, Behind Swaminarayan wadi 23°14'5"N 69°45'45" E		Site Cleared	1535
7.	North side of Swaminarayan wadi 23°12'50" N 69°46'9" E		Site Cleared	2757
Total Gypsum removal in July,2019				10280
8.	Opposite to Lehriya Hanuman Temple, Kukma Bhuj Road, Kukma Village 23°13'12" N 69°46'17" E		Site cleared	551
9.	Vavdi Village 23°11'35" N 69°49'42" E		Site cleared	1266
10.	Land Of Hetubha Jadeja, Ler Village		Site cleared	85
	A	At Block Factory, Village Ler		
	B	Near Block Factory, Village Ler		
	C	Near Block Factory, Village Ler		
⑪	Land at village 23°12'43.57"N, 69° 44'28.14"E		Site cleared	380
12.	Near toll gate lakhond 23°15'36.71"N, 69°46'48.23" E		Site cleared	1391
Total Gypsum removal between				3673



25 th Nov 2019 to 10 th Dec 2019			
13.	Vavdi Village, Opp. Of Survey No. 85/1 23°11'31" N 69°49'45" E	Site cleared	296
14.	Beside Lehriya Hanuman Temple, Kukma village 23°13'24" N 69°46'19" E	Site cleared	112
15.	At Dargah Village, Lakhond 23° 15'31.09" N, 69° 46'55.80" E	Site cleared	3580
16.	A At Village Lakhond 23° 15'39.39" N, 69°46'44.64"E	Site Cleared	22
	B At Village Lakhond 23° 15'36.71" N, 69° 46'48.23" E	Site Cleared	699
Total Gypsum removal between 10 th Dec 2019 to 31 st Dec 2019			4709
17.	Behind Ashapura Foundation school, Ashapura Colony, Bhachau Road, Kukma 23°14'7" N 69°46'26" E	Site Cleared	187
18.	Farm on Lakhond Road, 23°14'49" N 69°46'52" E	Site Cleared	1061
19.	Besides Balubha Rathod's Lake Ler Village 23°11'47" N 69°46'17" E	Site Cleared	238

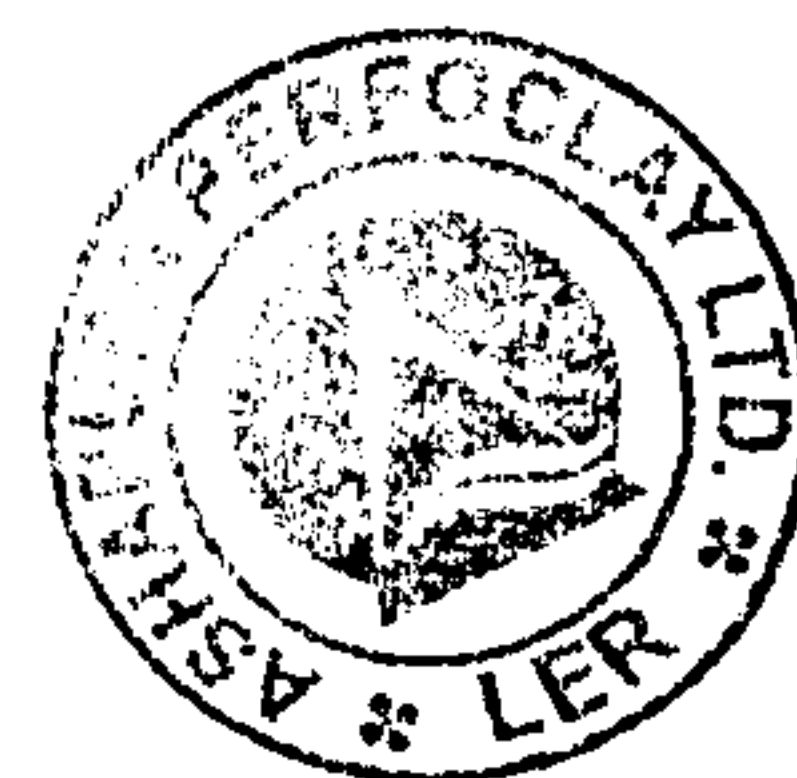


20	A	At shekhpur parle 23° 13'40.57" N, 69° 45'33.97" E	Site Cleared 99.	902 Next
	B	At shekhpur parle 23° 13'33.74" N, 69° 45'28.75" E	Site Cleared 99.	43 Next
21.	Lakhond- kali Talavadi Road, Village Lakhond		Site Cleared 99.	178
Total Gypsum removal between 1 st January 2020 to 13 th Feb 2020				2609
TOTAL				21271

Status of remaining gypsum sites			
Sr. No.	LOCATION	Site STATUS	Activity
22.	Beside of Kukma- Lakhond village Road	PUBLIC INFRASTRUCTURE (Gutter line- Gypsum used for providing structural support.)	The same is a disputed site. Copy of legal notice filed in reference to the same has been annexed herewith as <u>ANNEXURE 1.</u>



23.	Natural drain between farm of Dinesh Maharaj and Govind Vankar, Kukma Village 23°11'56" N 69°46'47" E	Crops growing and Gypsum is being used as a soil conditioner.	The undersigned industry has vide letter dated 21.12.2019 requested <u>GPCB</u> as well as the local authorities to assist in removal of Gypsum from these sites as there exist barriers to removal of gypsum at these sites which cannot be catered to individually by the undersigned industry. However, no reply has been received till date to the aforementioned letter. Copy of letter dated 21.12.2019 has been annexed herewith as <u>ANNEXURE 2.</u>
24.	Shri Vankalmata Mandir 23° 13'35.44" N, 69° 44'41.32" E	Crops growing and Gypsum is being used as a soil conditioner.	
25.	Vrundavan Gir Gaudham, Shree Swaminarayan Mandir, Besides Ashapura Colony, Bhachau Road, 23°13'49" N 69°46'48" E	PUBLIC INFRASTRUCTURE (Gowshala/ cowshed)	
26.	Pithoradada Mandir Ler Village 23°10'23"N 69°46'5" E	PUBLIC INFRASTRUCTURE (Temple)	
27.	Land of Lakhond Village 23°15'12"N 69°46'41" E	Land Reclamation	
28.	Adjacent above site as mentioned in sr no. (15), Land of Lakhond Village	Land Reclamation	
29.	On Government Land, Padhdhar Village 23°14'29" N 69°48'44" E	Land Reclamation	
30.	Mangal Mandir SchoolVillage 23°13'45.11" N, 69° 44'8.96" E	Land Reclamation	



31.	Behind Lehriya Hanuman Temple, Kukma village 23°13'21" N 69°46'21" E	These sites are the abandoned mines wherein the undersigned industry had dumped the Gypsum as per the EC conditions. It is pertinent to note that as per EC condition SEIAA/ GUJ/ EC/ 2(b)/ 497/2016 Gypsum could be utilized in backfilling of abandoned mines. The CCA no. H-103222 dated 29/07/2019 granted permission for backfilling of specifically Mata na madh mines. Mata na Madh mines are located about 110 kms away from the undersigned Industry and dumping of Gypsum in the same is not economically viable, therefore, CCA amendment had been sought by the undersigned Industry (online inward no. 171755) for addition of abandoned mines located at Pundi which is only 48 kms away from the undersigned Industry. The amendment is still under process with the relevant authority. It is well understood that the gypsum lying in these abandoned mines will not harm the environment and a study shall be conducted by a relevant organization to this regard. Copy of letter sent for CCA amendment has been annexed herewith as ANNEXURE 3
32.	Beside old Hot Mix plant, Kukma village 23°13'20" N 69°46'3" E	
33.	Behind khatri mills, Beside of above site, Traverse, Government land, Kukma village 23°13'20" N 69°45'58" E	
34.	Village Lakhond 23°15'39" N 69°47'17" E	



SUMMARY FOR STATUS GYPSUM SITE RESTORATION

- Site nos. 1-21 have been cleared completely.
- Site nos. 22 is a Gutter line wherein Gypsum has been used for levelling. At present, there is a dispute going on at the site and the undersigned Industry despite best endeavors, is unable to remove gypsum from there.
- Site nos.23 and 24 are agricultural sites wherein crops are growing and Gypsum is being used as a soil conditioner. Therefore, for removal of gypsum from these sites, the undersigned industry requires assistance of the requisite authorities as has been communicated by the letter referred above.
- Site nos. 25 and 26 are public infrastructures and the undersigned industry cannot remove Gypsum from there without assistance from the authorities.
- In site nos. 27-30, Gypsum has been used to level land and therefore the undersigned industry is facing barriers from the local persons in removal of Gypsum. Thus, the industry requires assistance for the same from local authorities.
- Site nos. 31-34 are abandoned mines wherein gypsum had been utilized for backfilling as per EC conditions. It is pertinent to note that as per EC condition **SEIAA/ GUJ/ EC/ 2(b)/ 497/2016** Gypsum could be utilized in backfilling of abandoned mines. Further, the undersigned industry vide CCA amendment (online inward no. 171755) has requested for addition abandoned mines located at Pundi which is only 48 kms away from the undersigned Industry. The amendment is still under process with the relevant authority.

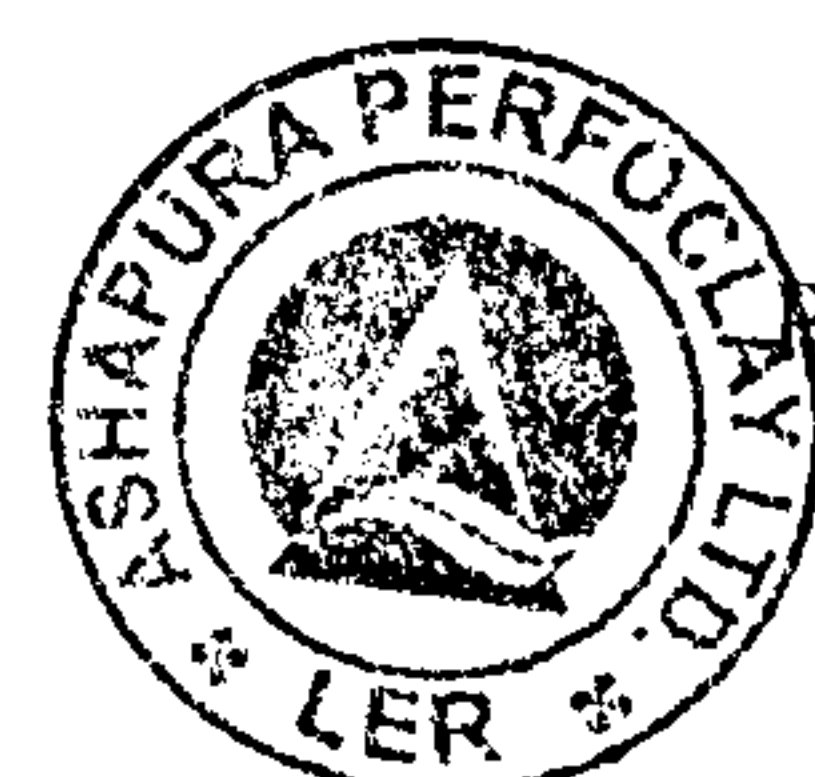


MONTH WISE GYPSUM DISPATCHED

Month	Sanghi Ind (MT)	Ultra tech (MT)	Mine Backfilling	Total (MT)
Jan-19	305	1166	-	1471
Feb-19	4299	--	-	4299
Mar-19	7917	480	-	8397
Apr-19	8240	1535	-	9775
May-19	7733	1124	-	8857
Jun-19	17315	1860	-	19175
Jul-19	24021	1788	-	25809
Aug-19	2964	-	-	2964
Oct-19	-	2731	-	2731
Nov-19	-	2261	2578	4839
Dec-19	-	-	5508	5508
Jan-20	-	-	6778	6778
Feb – 20 (1 st to 13 th)			2005	2005
TOTAL	72794	12945	16869	
TOTAL				102608

It can be inferred from the above mentioned table that the undersigned industry has dispatched a total of 1, 02,608 metric ton of Gypsum during the period of January 2019- February 2020.

Photographs of the above mentioned clear sites & work in progress have been attached here with as **ANNEXURE 4**.



ACTION TAKEN AND CONCLUSION

It can therefore be concluded that;

1. Industry has dispatched a total of 1, 02,608 metric ton of Gypsum during the period of January 2019- February 2020.
2. The undersigned industry has in compliance of the Notice of Directions dated 18.11.2019 successfully removed gypsum from 21 sites.
3. The Industry has made all reasonable efforts to remove gypsum from the remaining sites but requires assistance from the local authorities and GPCB for the same.
4. Gypsum removed has being sent to Mata na madh mines for backfilling.
5. Third party verification/impact assessment study of gypsum site is going on and it will be submitted to GPCB in due course.
6. The undersigned industry has taken all actions possible to follow the directions and orders of GPCB and the Hon'ble NGT in compliance of the NOD and the order dated 20.11.2019 passed by NGT.



Annexure No.	Annexure Title of Gypsum site
1	Legal notice sent to Kukma sarpanch
2	Inward copy of letter submitted to GPCB on dated 21/12/2019.
3	CCA amendment application for mine backfilling
4	Photos of Gypsum sites



DHOLAKIA & DHOLAKIA

Advocates & Notary

Bharat M.Dholakia
Devendrasinh M.Jadeja

નોટીશ બાય રજી.એડી.પોસ્ટ

તા.૧૦/૬/૧૯

પ્રતિ,

- (૧) કુકમા જુથ ગ્રામ પંચાયત
મારફતે, તલાટી સહ મંત્રી,
ગામ : કુકમા, તા.ભુજ-૬૨૬૭
- (૨) કંકુબેન અમૃતલાલ વણકર
રહે. કુકમા, તા.ભુજ-૬૨૬૭

આથી અમારા અસીલ તે આશાપુરા પર્ફેક્ટ લી. ની સુચના અને વતીથી તમોને નીચે મુજબ નોટીશ આપવામાં આવે છે.

૧. તમો પૈકી નં.૧ વાળા ગુજરાત પંચાયત એક્ટની કલમ ૫ હેઠળ રચાયેલ કાયદેસરની સંસ્થા છો. તમો પૈકી નં.૨ વાળા હાલમા કુકમા જુથ ગ્રામ પંચાયતમા સરપંચ તરીકેનું પદ ભોગવો છો, પરંતુ હાલની નોટીશ તમોને અંગત કેપેસિટીમા આપવામાં આવે છે.

હાલમા તમો પૈકી નં.૧ વાળા દ્વારા ગટરલાઈન નું કામ હાથ ધરવામાં આવેલ છે અને કુકમાથી લાખોંદ રોડ બાજુ આશરે ૧ કિ.મિ. સુધી ગટર લાઈન સરકારી ખર્ચે નાખેલ છે. આ ગટર લાઈન પહેલા ખુલ્લી ગટર લાઈન એટલે કે ગંદાપાણીનો છેલ્લો આવેલ હતો અને તેમા તમોએ પાઈપ બેસાડેલ અને ત્યારબાદ તે છેલ્લાનું પુરાણ કરવાનું હતું તે પુરાણ માટે તમે ક્યાંયથી રોયલ્ટી ભરીને, કે કોન્ટ્રેક્ટરે લીફ્ટ કરીને કે, અન્ય રીતે માટી મેળવેલ નથી.

૨. તમો પૈકી નં.૨ વાળા કેટલાક સમયથી અગમ્ય કારણોસર અમારા અસીલથી વિરુદ્ધ ચાલી રહેલ છો અને અનેક જગ્યાએ અમારા અસીલ વિરુદ્ધમા ખોટી ફરીયાદો કરો છો અને ધમકીઓ આપો છો અને અમારા અસીલ જો આપના તાબે ન થાય તો કંપની બંધ કરાવવા પણ ધમકી આપો છો. તે પ્રવૃત્તિના ભાગરૂપે તમોએ અમારા અસીલની માલિકીનું જીપ્સમમાટી સદર છેલ્લામા ગટરલાઈનના

DHOLAKIA & DHOLAKIA
Advocates & Notary

Bharat M.Dholakia
Devendrasinh M.Jadeja

પુરાણમા નખાવેલ છે. આવી માહિતી ગુજરાત પોલ્યુશન કંટ્રોલ બોર્ડ દ્વારા અમારા અસીલને તા.૨૩/૫/૧૯ ના કરેલ રીપોર્ટમા મોકલાવેલ અને તા.૧૭/૫/૧૯ ના વિજિલન્સના ઈન્સ્પેક્શન રીપોર્ટમા જણાવેલ આઈટેમ નં.૧૦ થી અમારા અસીલને માલુમ પડેલ છે. તમોને અમારા અસીલની માલિકીની જીપ્સમમાટી પર કોઈ હકક કે અધિકાર ન હતો કે તે ઉપડાવવા માટે અમારા અસીલની કોઈ પૂર્વ મંજૂરી કે સંમતી મેળવેલ ન હતી. તેમ છતા બિનઅધિકૃત અને ગેરકાયદેસર રીતે અમારા અસીલની જીપ્સમ માટી કોઈપણ રીતે મેળવી સદર ગટર લાઈનના પુરાણમા ઉપયોગ કરેલ છે. આ જીપ્સમ માટી મેળવવાના કૃત્ય બદલ તમોને ગ્રામ પંચાયતની મંજૂરી પણ મેળવેલ નથી અને તેમ કરી તમોએ અમારા અસીલના કબ્જા માંથી તેમની સંમતી વીના સદર જીપ્સમ માટી મેળવી કાયદાની જોગવાઈઓ મુજબ ગુન્હો કરેલ છે. જેથી તમારૂં આ કૃત્ય સરપંચના હોદાની રૂએ કરેલ ન હોઈ અમારા અસીલ આપને અંગત રીતે જવાબદાર ઠેરવે છે.

૩. આથી આ નોટીશથી જણાવવામાં આવે છે કે, આ નોટીશ મળ્યેથી દિન ૪ મા તમોએ ગટરલાઈન ના પુરાણમા નખાવેલ અમારી કંપનીનું જીપ્સમ માટી ગટર લાઈનના પુરાણ માંથી કઢાવી તે સાફ કરાવી જીપ્સમ માટીના સ્વરૂપમા અમારા અસીલની કંપનીમા મુકાવી આપશોજી અન્યથા મુદત વિત્યે અમારા અસીલે આપના વિરુધ્ધ કાયદાકીય પગલા ભરવા ફરજ પડશે જે અંગેના તમામ ખર્ચ અને જોખમની જવાબદારી આપના શીરે રહેશે જેની સ્પષ્ટ નોંધ લેશોજી.

(મુજ-૬૨૬૭)

તા.૧૦/૬/૧૯

Bharat M. Dholakia
(બી.એમ.ધોળકીયા/ડી.એમ.જાડેજા)

આશાપુરા પર્ફેક્ટ લી. ની સુચના અને વતીથી

RG437609440IN UPR:8271437609440

RL BRJ ID 370001

Counter No:2, 10/08/2019, 13:15

To: KAKUBEN MENTILAL KUMAR

PIN: 370105, Kuma SO

From: DHOLAKIA & NAGAR CHAKALA

Wt: 20gms

amt: 25.00 (Cash)

Track on www.indiapost.gov.in

Dial 1800 266 6868



90

RO437609436IN IVR:8271437609436

RL BHUJ HD <370001>

Counter No:2,10/06/2015,13:15

To:TALATI SHAH MANTRI SHREE,KUKMA

PIN:370105, Kukma SO

From:DHOLAKIA 2, NAGAR CHAKALA

Wt:20gms

Amt:25.00(Cash)

<Track on www.indiapost.gov.in>

<Dial 1800 266 6868>

भारतीय डाक

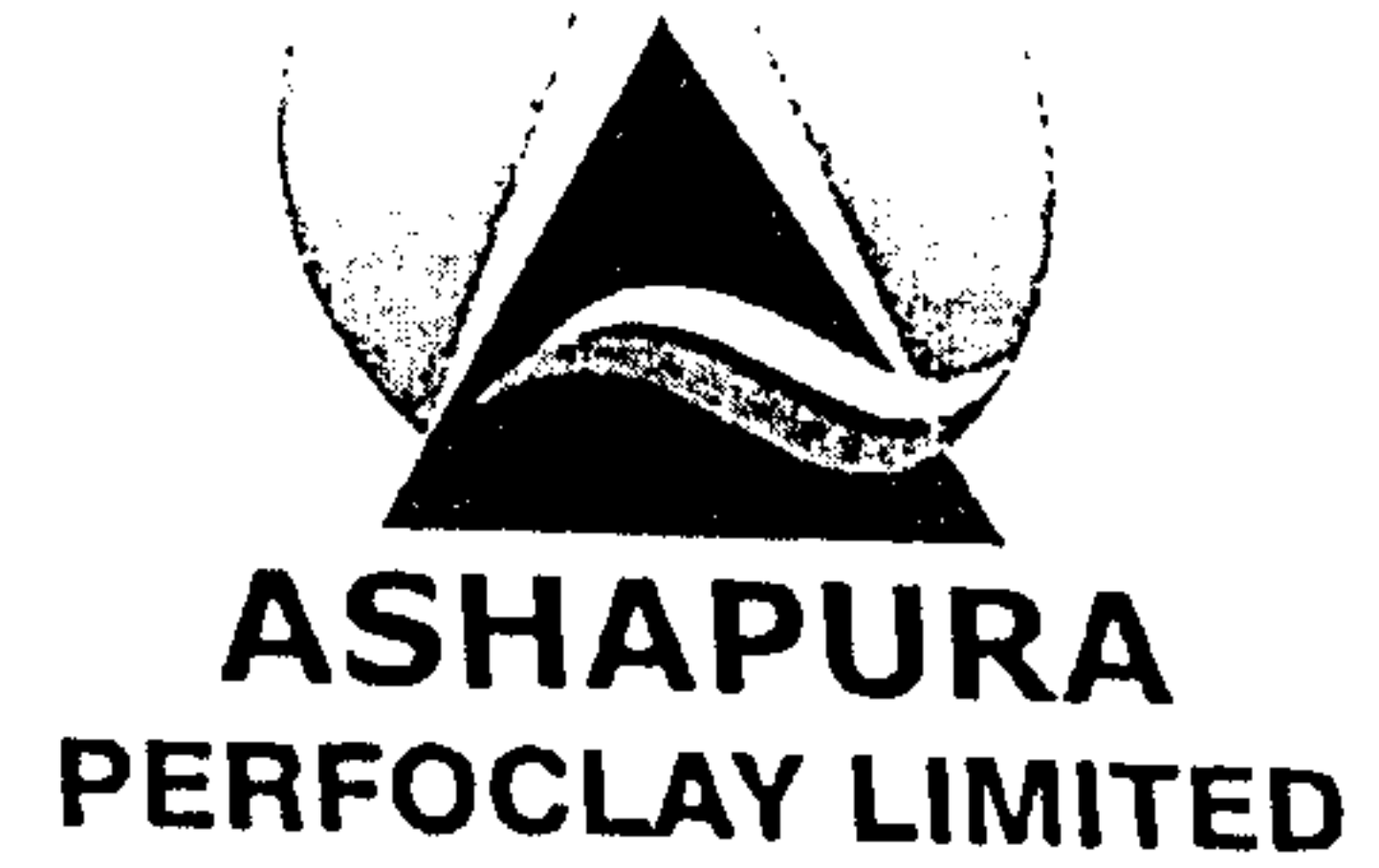


India Post

O/C

Date: 21/12/2019

To,
Shri N M Tabhani,
Member Secretary
Gujarat Pollution Control Board
Paryavaran Bhavan, Sector -10,
Gandhinagar.



Subject: Compliance on observation given during GPCB visit dated 14/12/2019.

Reference:

1. APL progress report submission dated 18/12/2019.
2. Compliance report on GPCB letter outward no. 530573, dated 12/12/2019.
3. Revocation order issued by vide letter no. GPCB/CCA-KUTCH-27(16)/ID17774/522922, dated 27/09/2019.
4. Notice of direction issued order no. PC/CCA-KUTCH-27(17)/ID17774/527158, dated 27/09/2019.
5. GPCB letter outward no. 530573, dated 12/12/2019.

Kind Attn: Smt U K Upadhyay – Unit Head Kutch Region

Respected Sir/Madam,

Observation given during the visit as following

1. Your gypsum dumped sites visited on 14/12/2019. No remarkable progress for lifting of gypsum observed. You are there for directed to submit plan for gypsum lifting within 7 days. Otherwise board will take suitable action.
2. Comply with the directions issued vide GPCB letter dated 18/11/2019 and Hon'ble NGT orders in the matter OA 669/2018.

This is in response to your letter dated 14.12.2019 wherein it was stated that no remarkable progress has been undertaken on our behalf for removal of Gypsum in compliance of the Notice of directions dated 18.11.2019 and order of the Hon'ble NGT in 669/2018.

Village Ler, Near Bhujodi, Off Anjar-Bhuj Highway, Bhuj-kutch - 370 020. (Gujarat)
Tel. : +91-02832 240301/240302/242032-33 Fax : +91-02832 240303 E-mail : Avlbhujad@sancha.net.in

Regd. Office :

Jeevan Udyog Building, 3rd Floor, 278, D. N. Road, Fort, Mumbai - 400 001. (India)
Tel. : +91-22 6665 1700 Fax : +91-22 2207 9395 / 2207 4452 Email : be@ashapura.com

CIN No. U14108MH1997PLC107300

It is pertinent to note that Ashapura Perfoclay Limited (APL) has diligently followed all directions issued by GPCB and has ensured compliance with the orders of the National Green Tribunal (NGT), Principal bench, New Delhi in O.A. 669/2018.

In compliance of the Notice of directions dated 18.11.2019 issued by GPCB and subsequent order passed by NGT, APL started the work of removal of Gypsum from the listed sites.

In fact, in compliance with the Notice of directions dated 18.11.2019 and order of NGT in O.A. 669/2019, APL filed with GPCB as on 18.12.2019, the first progress report regarding the remediation work for the alleged groundwater contamination, as well as a detailed account of the removal of Gypsum. The first Progress Report enshrines that Gypsum has been successfully removed from another 5 more sites after the order passed by the Ld. NGT as on 20.11.2019. Thus, APL has successfully cleared the gypsum for 12 sites in total, till date. The first progress report filed on 18.12.2019 is submitted as **Annexure 1 along with 1st progress report submission.**

However, as also pointed out in the Progress Report dated 18.12.2019, APL is facing constraints in removal of Gypsum from some of the remaining sites as enumerated below, due to the barriers put forth by the current owners/ occupants. The list of sites from which APL is unable to remove Gypsum, despite its best endeavors is listed below;

In light of the above, it is prayed on behalf of APL, as APL is not a party before the Ld. NGT in O.A 669/2018 that GPCB shall issue appropriate directions to the local authorities and the Police Agencies for assisting APL in the task of clearance of Gypsum as APL wants to follow all notice of directions of GPCB and NGT order in full letter and spirit.



Date 18/01/2020

To,

Member Secretary

Gujarat Pollution Control Board,

Paryavaran Bhavan,

Sector 10 – A

Gandhinagar – 382010

Kind Attention: Smt U K Upadhyay (SEE) - Unit Head –Kutch.

Respected Sir/Madam,

Subject: Permission for utilization of gypsum for back filling of abandoned mines.

Reference:

1. MoEF vide letter no. **F no. 23-161/2014-HSMD** dated 17/10/2014
2. EC vide letter no. SEIAA/GUJ/EC/2(b)/497/2016 dated 30/07/2016
3. CCA vide letter no. **AWH-93521** Dated: 11/06/2018
4. CCA Amendment vide letter no. **H-103222** Dated: 29/07/2019
5. NGT Order (Application No: 669/2018) Date: 20/11/2019
6. Pollucon Report for **(STUDY ON GROUNDWATER AS WELL AS SOIL FROM PERIPHERIAL OF M/S. ASHAPURA PERFOCLAY LIMITED)** Date: Oct,2019
7. Mine closure Plan for QL 17654 MMIPL at village Pundi Survey No. 420/23 Ta. Mandvi, Dist. Kutch

Respected Sir,

M/s. Ashapura Perfoclay Ltd. is located at Survey No.167, Village Ler, Nr. Bhujodi, Anjar – Bhuj Highway, Tal: Bhuj, Dist. Kutch. The unit is engaged in manufacturing of Bleaching Earth from Bentonite mineral. During the Bentonite activation, spent sulphuric acid is generated. The first wash of spent sulphuric acid is sent to M/s. IFFCO Ltd, Kandla for further utilization. M/s. IFFCO, Kandla is having permission under Rule-9 of HOW (M&TM) Rules, 2016 from GPCB to utilize the spent acid generated. Further, the subsequent second & third wash which generate dilute spent sulphuric acid is neutralizing it with lime, resulting in generation of chemical Gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) as the **By-Product** of the which is separated in the filter press and the wastewater is treated in Reverse Osmosis (RO). RO permeate is reused in process and gardening/plantation within premises and RO reject wastewater is send to evaporation pond.

- A)** According to MoEF with vide letter no. F no. 23-161/2014-HSMD dated 17/10/2014; Unit has obtained permission for backfilling of mines- “The Committee was informed that the gypsum is produce by the neutralization of sulphuric acid containing leach liquor obtained from the leaching of Bentonite clay, by lime. The analysis report by SGS and pollucon laboratories, Surat submitted by the applicant does not indicate the presence of any hazardous constituent above the limits. Accordingly, as per recommendation of the committee, the ministry is of the view that the gypsum from this source can be categorized as non-hazardous.”

Village Ler, Near Bhujodi, Off Anjar-Bhuj Highway, Bhuj-kutch - 370 020. (Gujarat)
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Tel. : +91-22 6665 1700 Fax : +91-22 2207 9395 / 2207 4452 Email : be@ashapura.com

A. Any Specific Information Called for [in SCRUTINY] (CIN No. 141006MH1987PLC0107000)
B. 17774-M/s Ashapura Perfoclay Ltd accepts the LEGAL responsibility

and undertakes that the furnished information is CORRECT & ACCURATE.



B) According to Environment Clearance no. from SEIAA- Gujarat (vide letter no. SEIAA/GUJ/EC/2(b)/497/2016 dated 30/07/2016.

Specific Condition No: 2 The GYPSUM Generated shall be sent to cement mill for co-processing and/or it shall be sent to **Backfilling of exhausted mines.**

C) As per the CCA (AWH-93521);

Specific condition no. 4; The gypsum generated from neutralizing spent acid shall be disposed in **Environmentally Sound manner.**

Condition no. 5.3; The disposal mode for spent acid as per EC condition, the spent acid shall be neutralizing within factory premises and generated gypsum shall be send to cement industry for co-processing.

D) As per the CCA Amendment (H-103222);

Specific Condition no: 4; The gypsum generated from neutralizing of spent acid to is sent mine back filling in the abandoned mines of M/s. ASHAPURA MINECHEM Ltd. (Matano Madh exhausted bentonite mines QL No: 3643) located at survey No:189 Traverse Paiki, Ta. Lakhpat Dist. Kutch.

E) As per Pollucon report:

No any such contamination was found within the GYPSUM in the pollucon analysis as submitted by your good office to the Hon'ble NGT.

Looking from the above fact we request the GPCB to grant permission for backfilling with gypsum at abandoned mines of bentonite. As per the gypsum analysis reports it does not possess any hazardous characteristic and it does not create any harmful impact surround area of mine premises.

The unit proposed the Pundi bentonite mine for the backfilling of gypsum which is nearly 50km from the plant location & the earlier mines permission granted was located at Matano Madh which is 110 km away from our plant location which is too far from the plant location, not suitable for Economically, Environmentally & Sustainability. So we request board to grant the permission for Pundi bentonite mine, so we comply the NGT order on stipulated time.

As per the Joint Visit done by GPCB, SEAC & Mining dept. They recommended the gypsum can be categorized as non-hazardous and send for back -filling of mines in accordance with Schedule I of The Solid Waste Management Rules, 2016.

Therefore, we request Board to exempt from the Condition of linear as it not Mandatory for us. Please refer abandoned Bentonite mine details as following:

SL. No.	Q. L. No. & Address	AREA (Hect.)	Tentative quantity of gypsum utilization in backfilling (million ton)	Distance from the APL (km)
1	17654 of MMIPL at village Pundi Survey No. 420/23 Ta. Mandvi, Dist Kutch	2.2375	0.2 to 0.25	50

Now it has been abandoned and we are in process of backfilling. It can accumulate approximately gypsum of 0.2 – 0.25million tons of gypsum. So here we request you give us permission for backfilling.



Here we assure Board that we will send gypsum to back filling of abandoned mines and also for the cement industry for the co-processing.

With above submission we would like to assure you that we are committed to comply with GPCB requirement under relevant laws in priority manner and **request you to give us permission for back filling of abandoned mines.**

Thanking you,
Yours Truly

for *A.P. Singh*



Ashapura Perfoclay Limited
Village Ler | Bhuj (KUTCH) – 370001

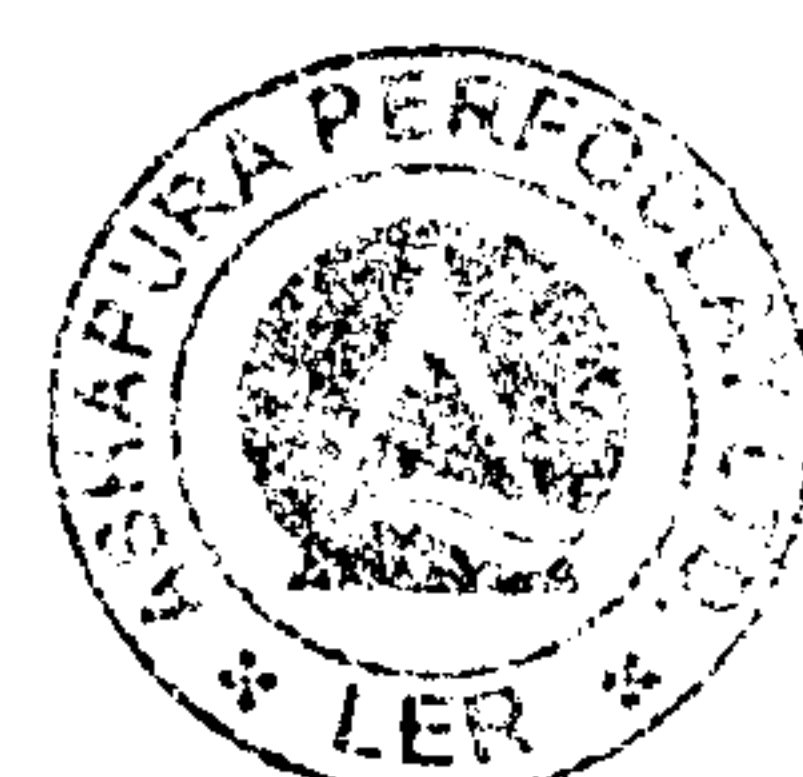
CC:

- 1) Regional Office- Kutch West

Annexure 4 **Photographs of Gypsum Sites**

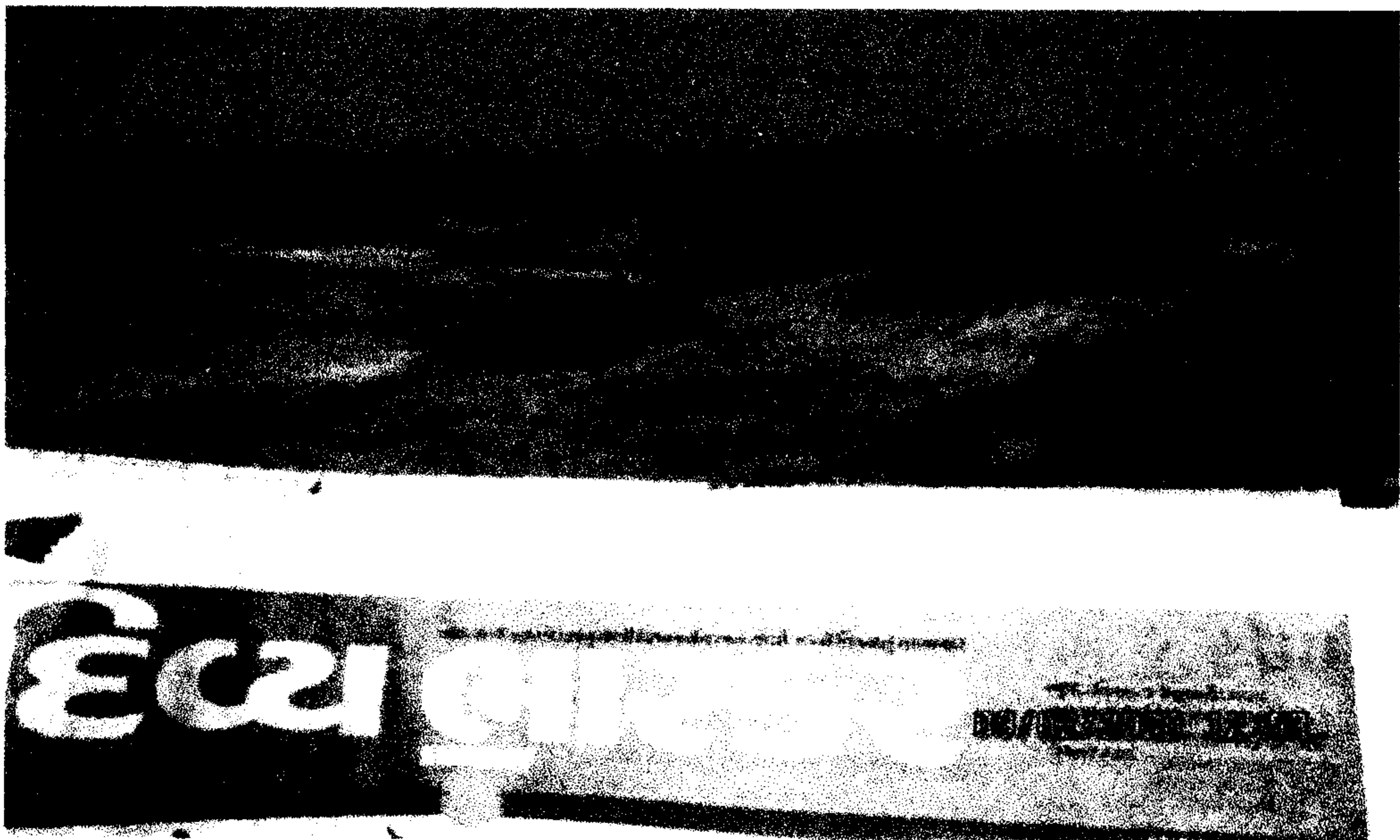
Site No. 1

Site Identification	Besides of water tank of GWIL Sump, Kukma Village
Latitude & Longitude	23°13'18" N 69°45'46" E
Status	Site Cleared
Lifted Gypsum Quantity	1149 MT



Site No. 2

Site Identification	Land opposite and besides of Padhdhar Village police station
Latitude & Longitude	23°14'29"N 69°48'38"E
Status	Site Cleared
Lifted Gypsum Quantity	561 MT



Site No. 3

Site Identification	Behind Balaji Petrol Pump, Shaikhpur Chokdi, Bhuj Anjar Highway
Latitude & Longitude	23°13'41"N 69°45'44"E
Status	Site Cleared
Lifted Gypsum Quantity	907 MT



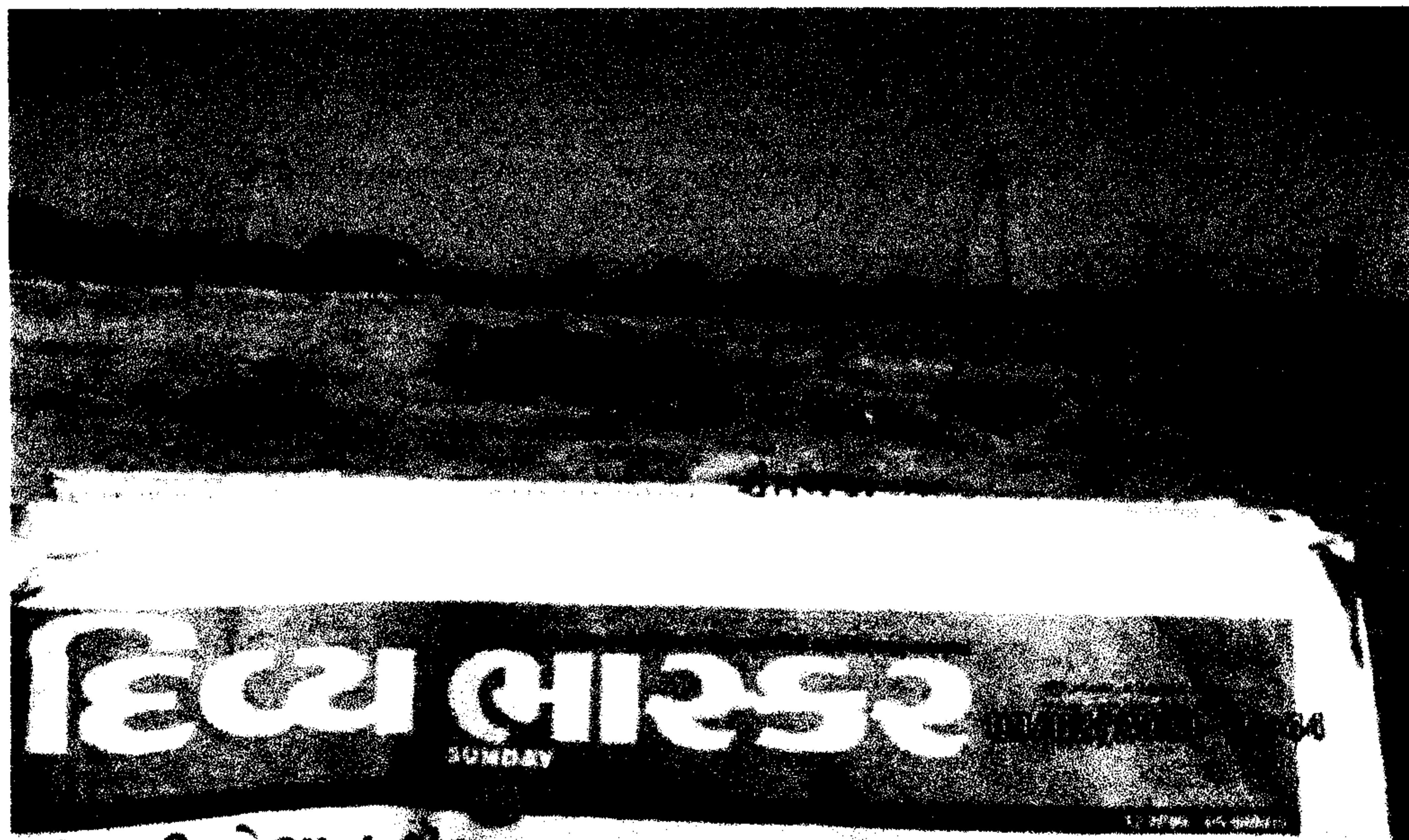
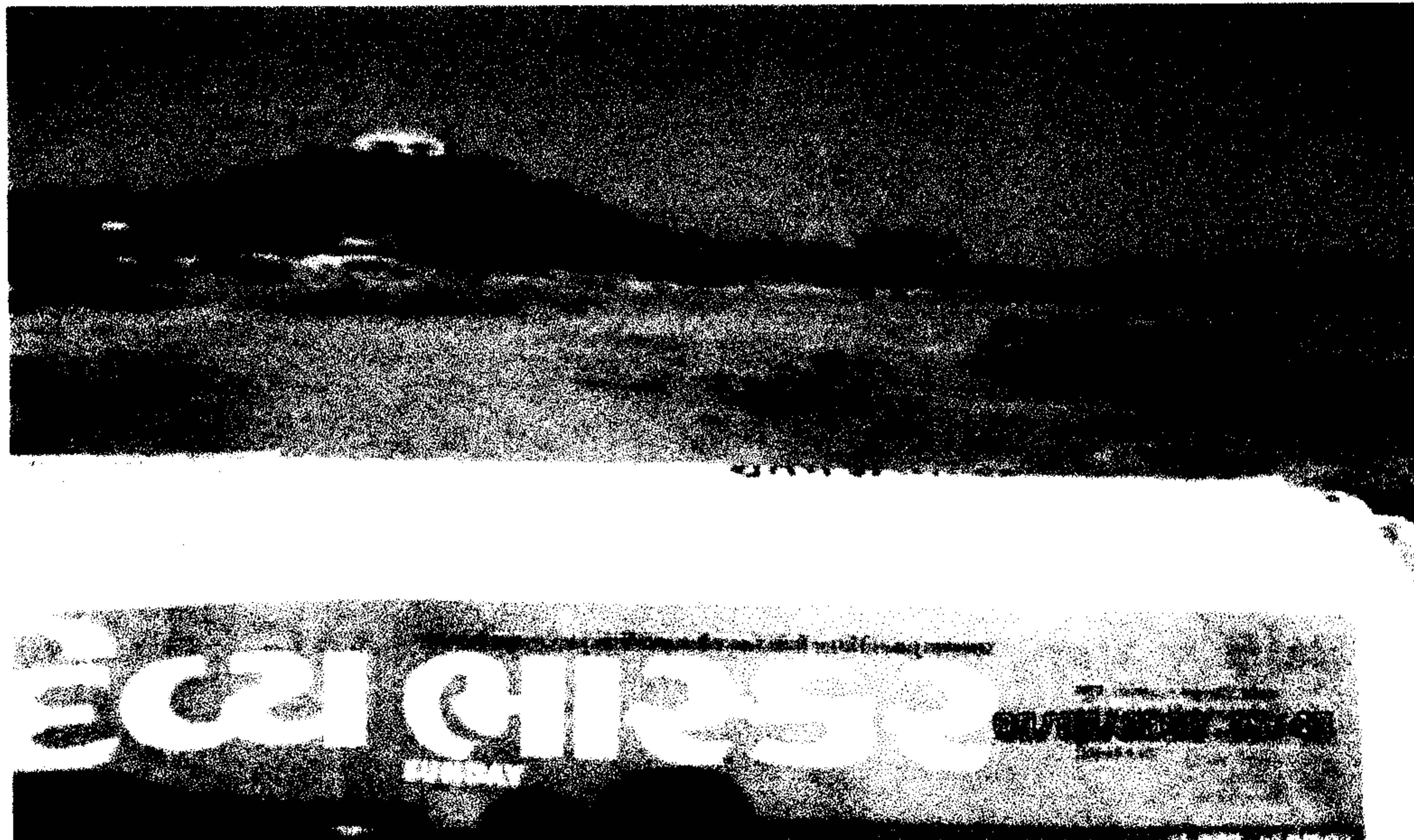
Site No. 4

Site Identification	Near Matiyadev Mandir, Kukma Village, Near Kukma Water Distribution Tank
Latitude & Longitude	23°14'3" N, 69°46'15" E
Status	Site Cleared
Lifted Gypsum Quantity	303 MT



Site No. 5

Site Identification	Land between Swaminarayan vadi and Water sump of GWIL, Kukma Village
Latitude & Longitude	23°14'5" N 69°45'45" E
Status	Site Cleared
Lifted Gypsum Quantity	3068 MT



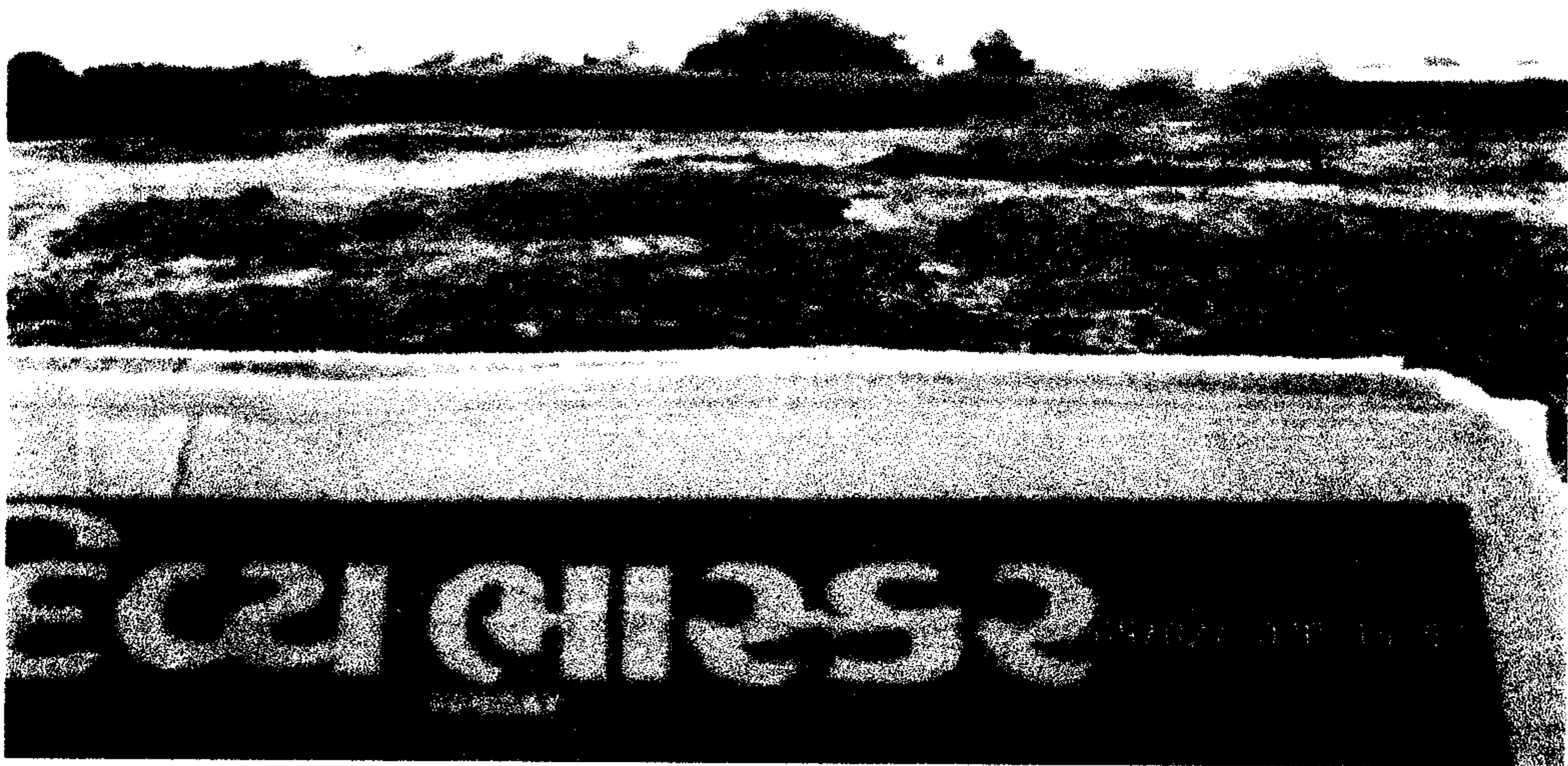
Site No. 6

Site Identification	Natural Drain near Sanjotnagar, Behind Swaminarayan Vadi
Latitude & Longitude	23°14'5" N 69°45'45" E
Status	Site Cleared
Lifted Gypsum Quantity	1535 MT



Site No. 7

Site Identification	North side of Swaminarayan Vadi
Latitude & Longitude	23°12'50" N 69°46'9" E
Status	Site cleared
Lifted Gypsum Quantity	2757 MT



Site No. 8

Site Identification	Opposite to Lehriya Hanuman Temple, Kukma Bhuj Road, Kjukma Village
Latitude & Longitude	23°13'12" N 69°46'17" E
Status	Site Cleared
Lifted Gypsum Quantity	551 MT



Site No. 9

Site Identification	Vavdi Village
Latitude & Longitude	23°11'35" N 69°49'42" E
Status	Site Cleared
Lifted Gypsum Quantity	1266 MT



Site No. 10

Site Identification	Hetubha Jalubha Jadeja, Ler Village
Latitude & Longitude	23° 12' 07" N, 69° 45' 34" E
Status	Site Cleared
Lifted Gypsum Quantity	85 MT
	
	



Site No. 10A

Site Identification	At Block Factory ,Ler Village
Latitude & Longitude	23° 12'6.99" N, 69° 45'34.62" E
Status	Site Cleared
Lifted Gypsum Quantity	85 MT
	
	



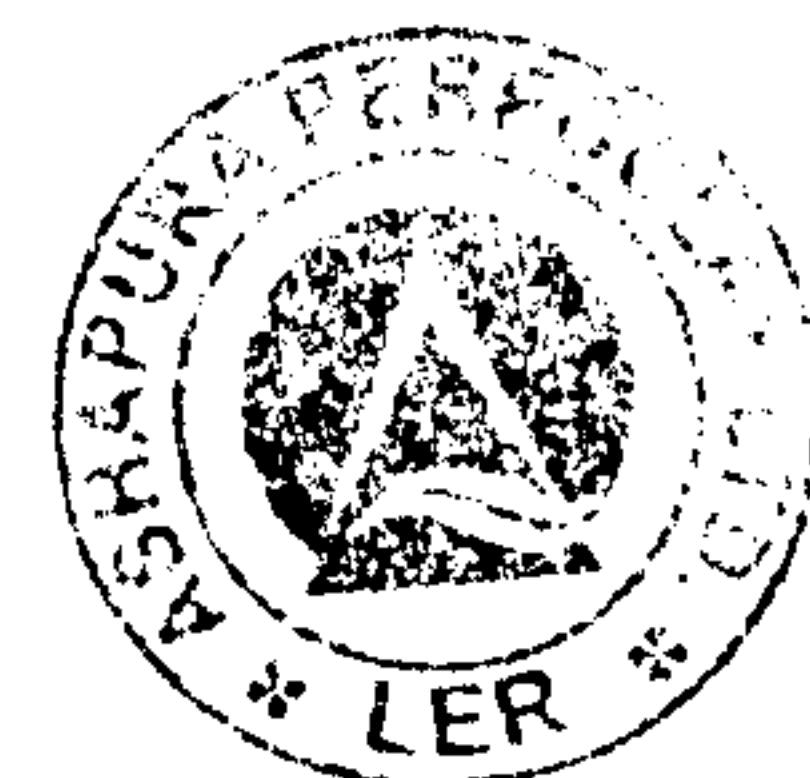
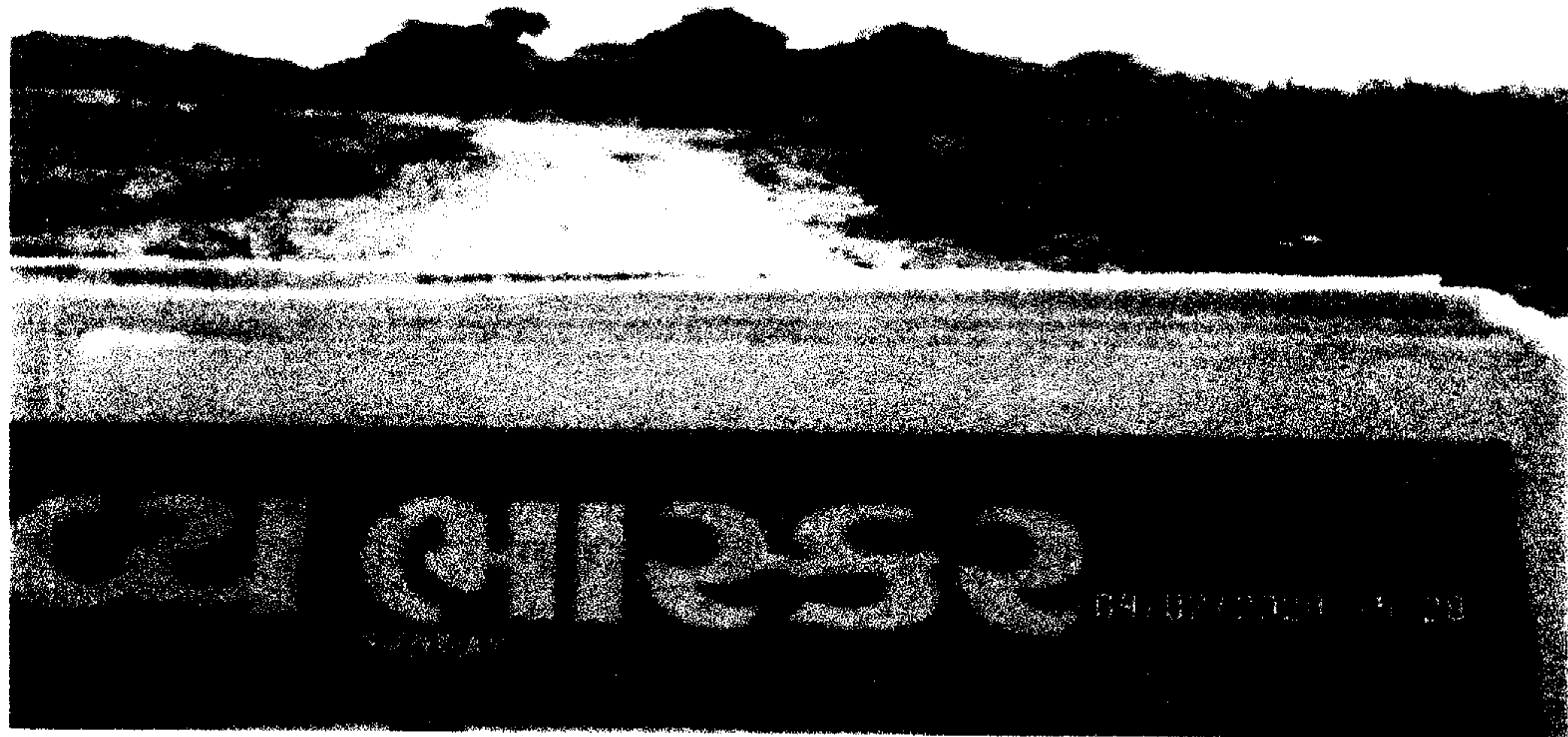
Site No. 10B

Site Identification	Near Block Factory, Village Ler
Latitude & Longitude	23° 12' 3.19" N, 69° 45' 34.55" E
Status	Site Cleared



Site No. 10C

Site Identification	Near Block Factory, Village Ler
Latitude & Longitude	23° 12' 5.56" N, 69° 45' 35.78" E
Status	Site Cleared



Site No. 11

Site Identification	land at village
Latitude & Longitude	23° 12'43.57" N, 69° 44'28.14" E
Status	Site Cleared
Lifted Gypsum Quantity	380 MT



Site No. 12

Site Identification	At Near toll gate, Lakhond
Latitude & Longitude	23° 15'36.71" N, 69° 46'48.23" E
Status	Site Cleared
Lifted Gypsum Quantity	1391 MT



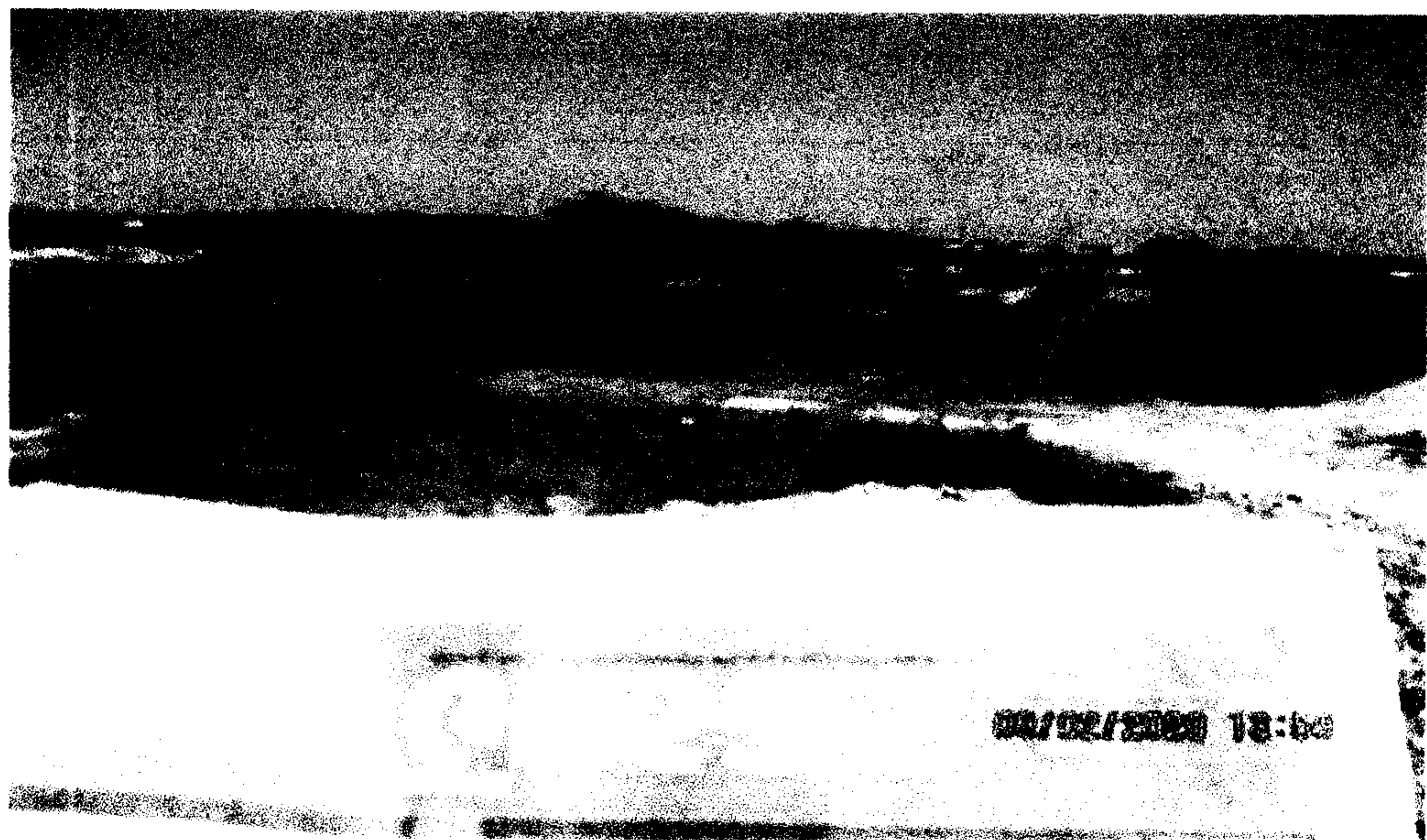
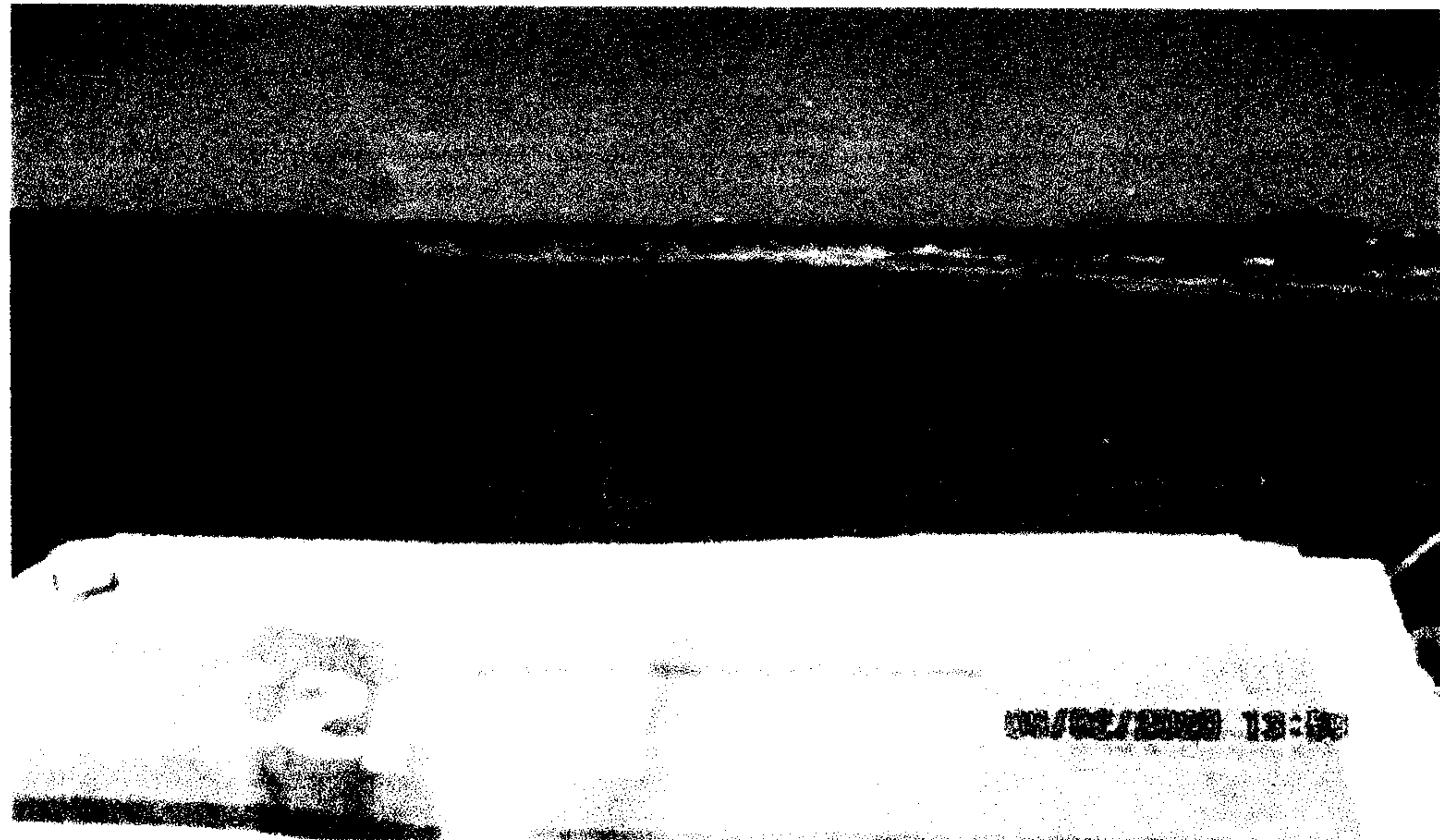
Site No. 13

Site Identification	Vavdi Village, Opp. Of Survey No. 85/1
Latitude & Longitude	23°11'31" N 69°49'45" E
Status	Site Cleared
Lifted Gypsum Quantity	296 MT



Site No. 14

Site Identification	Beside Lehriya Hanuman Temple, Kukma village
Latitude & Longitude	23°13'24" N 69°46'19" E
Status	Site Cleared
Lifted Gypsum Quantity	112 MT



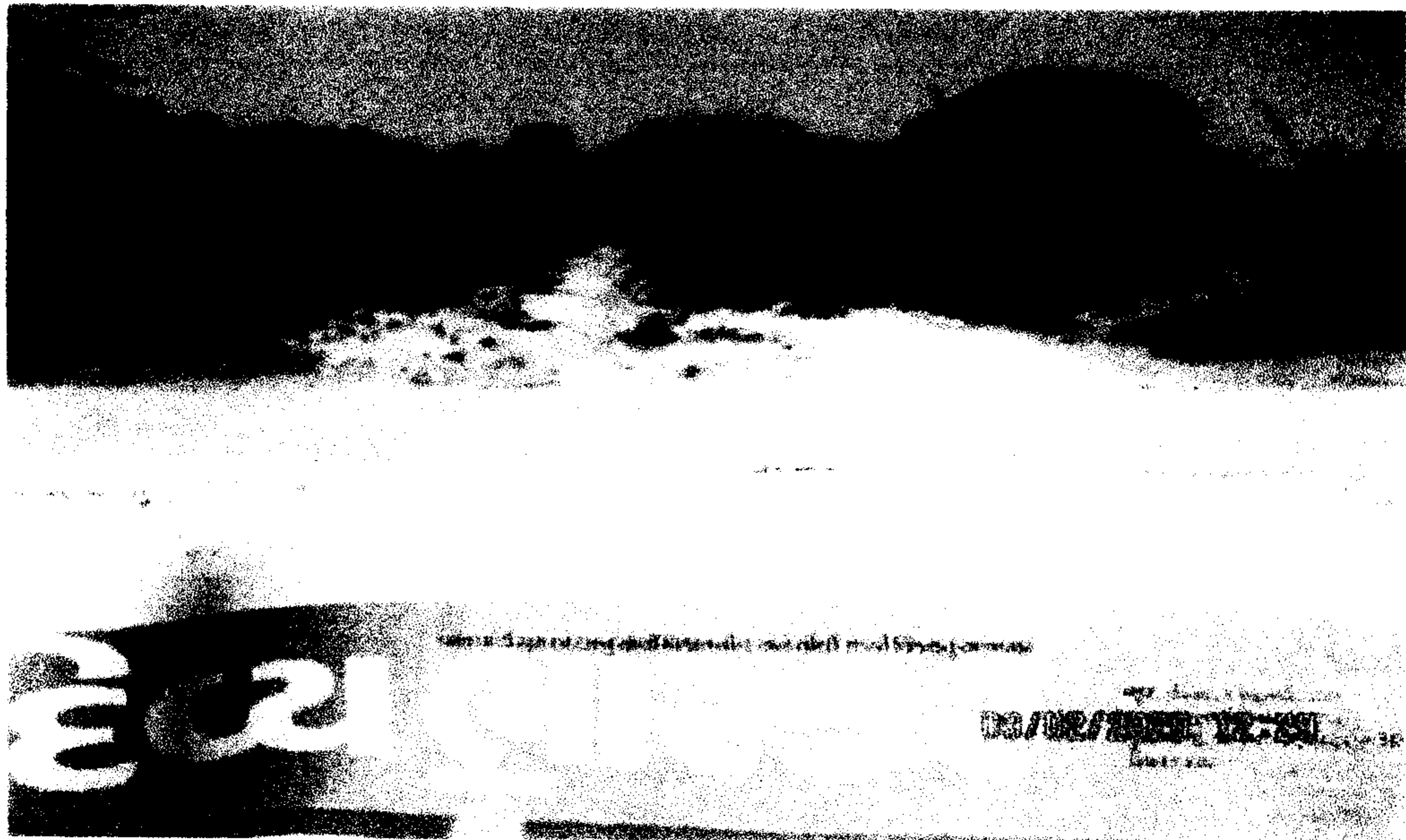
Site No. 15

Site Identification	At Dargah Village; Lakhond
Latitude & Longitude	23° 15'31.09" N, 69° 46'55.80" E
Status	Site Cleared
Lifted Gypsum Quantity	3580 MT



Site No. 16A

Site Identification	At village Lakhond
Latitude & Longitude	23° 15'39.39" N, 69° 46'44.64" E
Status	Site cleared
Lifted Gypsum Quantity	22 MT



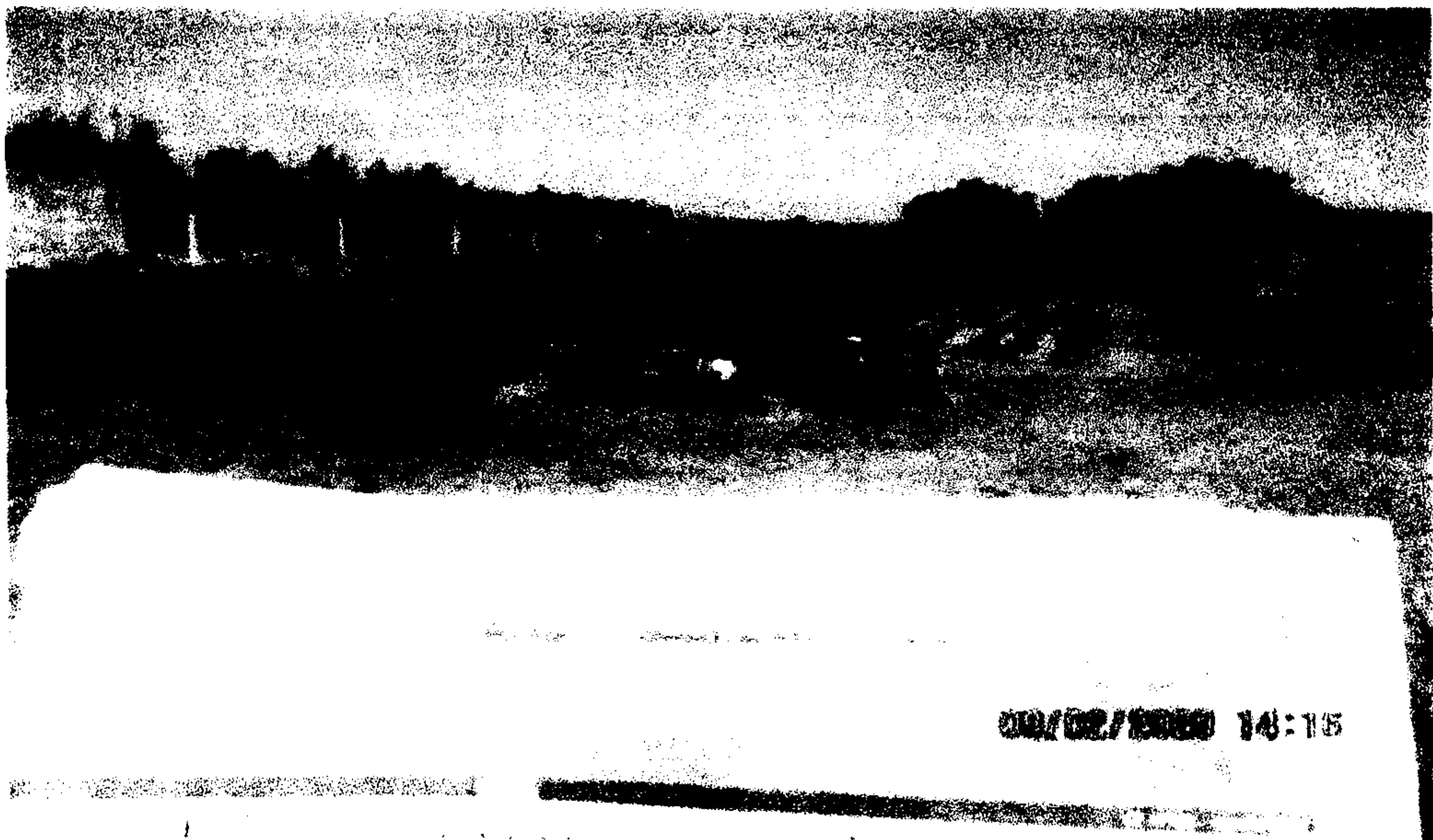
Site No. 16B

Site Identification	At Village Lakhond
Latitude & Longitude	23° 15'36.71" N, 69° 46'48.23" E
Status	Site Cleared
Lifted Gypsum Quantity	699 MT



Site No. 17

Site Identification	Behind Ashapura Foundation school, Ashapura Colony, Bhachau Road, Kukma
Latitude & Longitude	23°14'7" N 69°46'26" E
Status	Site Cleared
Lifted Gypsum Quantity	187 MT

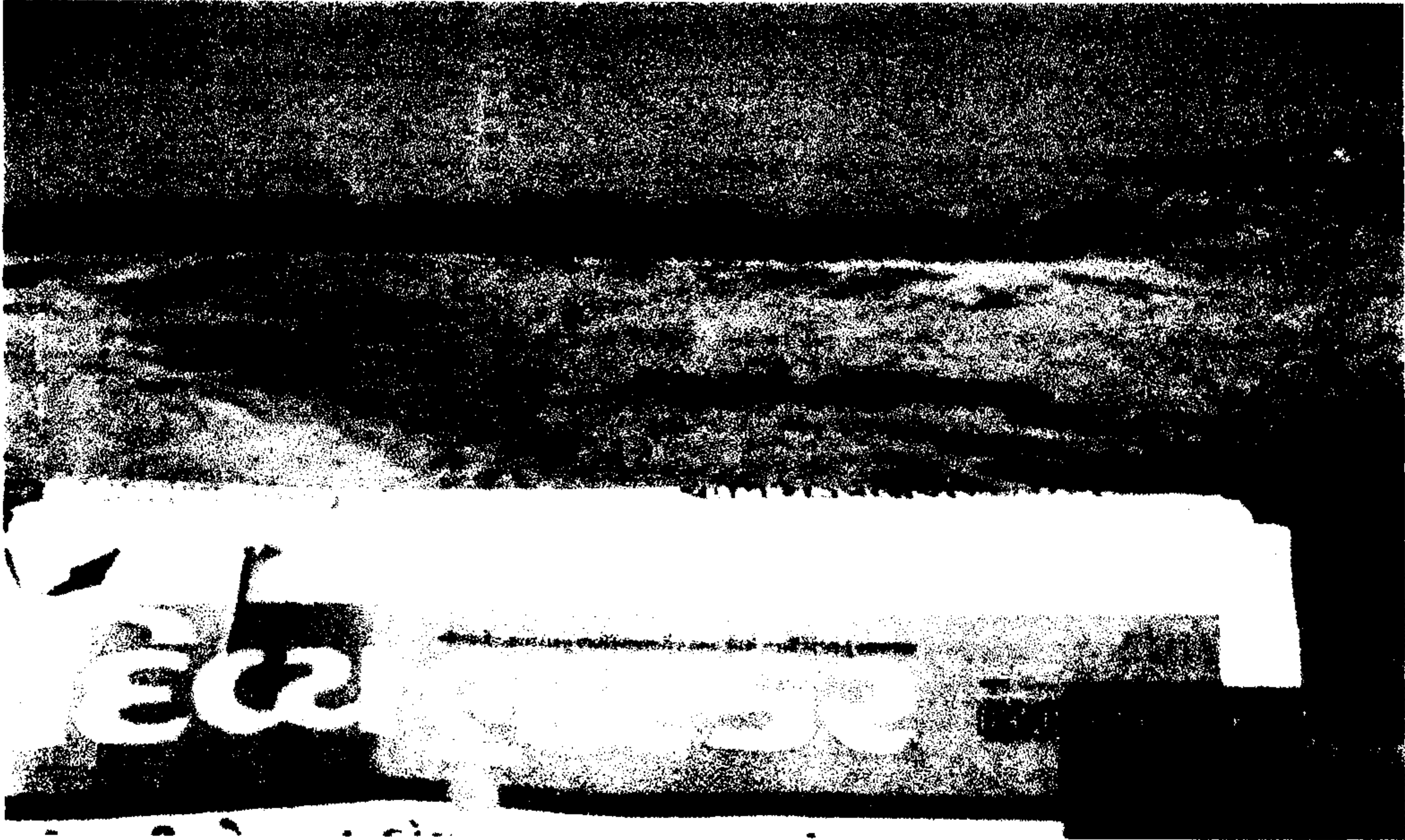


Site No. 18

Site Identification	Farm on Lakhond Road,
Latitude & Longitude	23°14'49" N 69°46'52" E
Status	Site Cleared
Lifted Gypsum Quantity	1061



Site No. 19

Site Identification	Besides Balubha Rathod's Lake Ler Village
Latitude & Longitude	23°11'47" N 69°46'17" E
Status	Site Cleared
Lifted Gypsum Quantity	238
	
	



Site No. 20A

Site Identification	At Shekhpur parle Road
Latitude & Longitude	23° 13' 40.57" N, 69° 45' 33.97" E
Status	Site Cleared
Lifted Gypsum Quantity	902



Site No. 20B

Site Identification	At Shekhpur parle Road
Latitude & Longitude	23° 13'33.74" N, 69° 45'28.75" E
Status	Site Cleared
Lifted Gypsum Quantity	43
	
	



Site No. 21

Site Identification	Lakhond- kali Talavadi Road, Village Lakhond
Latitude & Longitude	23°15'03"N 69°46'48"E
Status	Site cleared
Lifted Gypsum Quantity	178



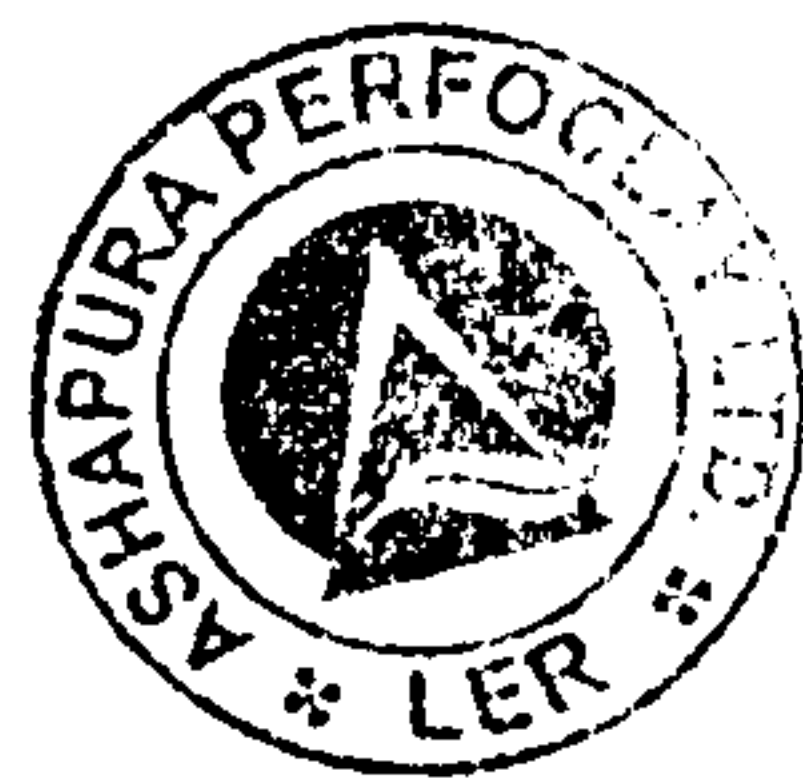
Site No. 22

Site Identification	Beside of Kukma- Lakhond village Road
Latitude & Longitude	23°13' 50"N 69°46'48"E
Site Condition	PUBLIC INFRASTRUCTURE (Gutter line- Gypsum used for providing structural support)
Status	Legal notice sent to sarpanch



Site No. 23

Site Identification	Natural drain between farm of Dinesh Maharaj and Govind Vankar, Kukma Village
Latitude & Longitude	23°11'56" N 69°46'47" E
Site Condition	Crops growing and Gypsum is being used as a Soil Conditioner.
Status	Seek Attention from GPCB & Local Authority



Site No. 24

Site Identification	Shri Vankalmata Mandir Village, Bhujodi
Latitude & Longitude	23° 13' 35.44" N, 69° 44' 41.32" E
Site Condition	Green Belt Developed & gypsum is used as an Soil Conditioner
Status	Seek Attention from GPCB & Local Authority



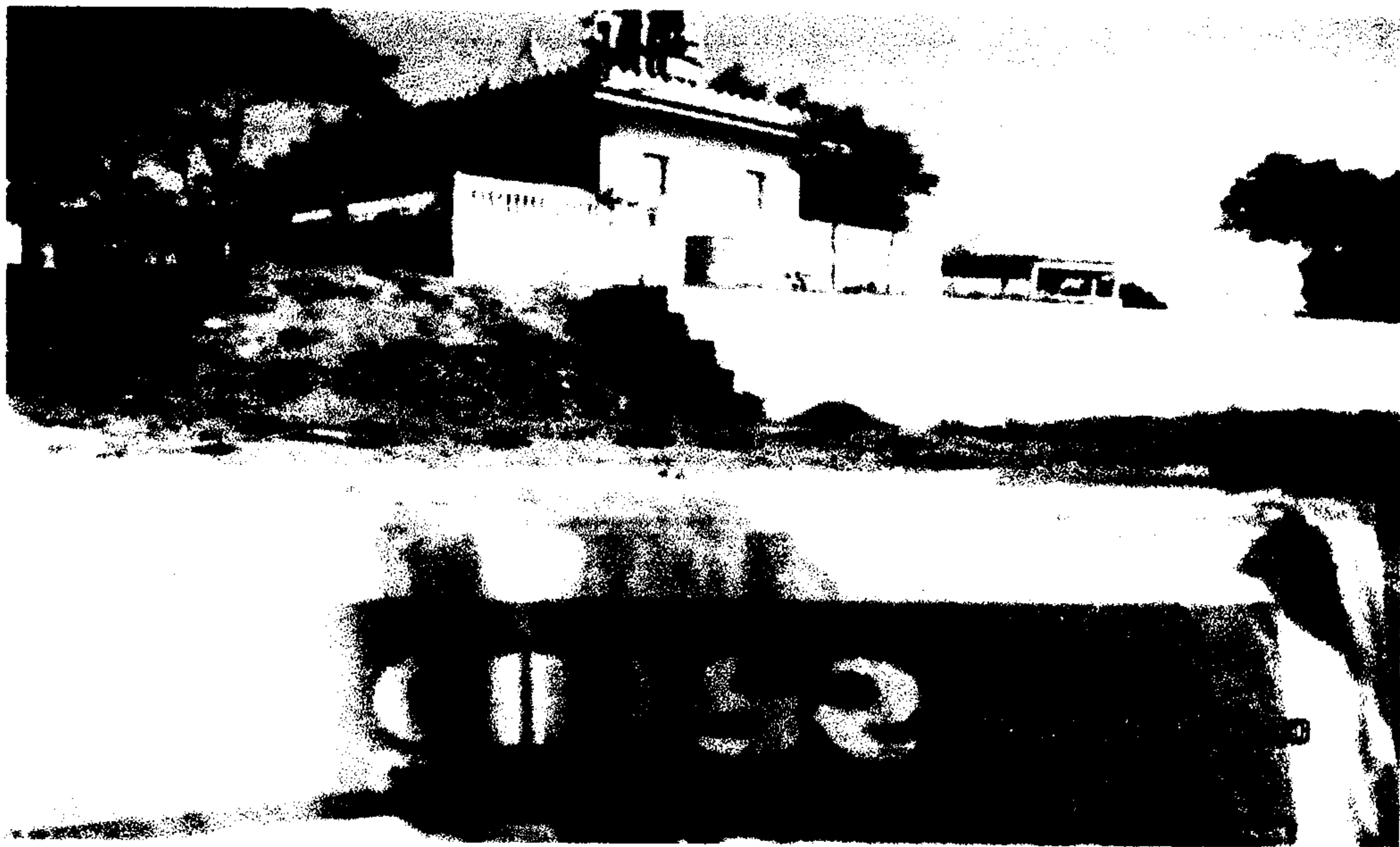
Site No. 25

Site Identification	Vrundavan Gir Gaudham, Shree Swaminarayan Mandir, Besides Ashapura Colony, Bhachau Road
Latitude & Longitude	23°13'49" N 69°46'48" E
Site Condition	PUBLIC INFRASTRUCTURE (Gowshala/ cowshed)
Status	Seek Attention from GPCB & Local Authority



Site No. 26

Site Identification	Pithorada Mandir Ler Village
Latitude & Longitude	23° 10' 23" N 69° 46' 5" E
Site Condition	PUBLIC INFRASTRUCTURE (Temple)
Status	Seek Attention from GPCB & Local Authority



Site No. 27

Site Identification	Land of Lakhond Village
Latitude & Longitude	23°15'12" N 69°46'41" E
Site Condition	Land Reclamation
Status	Seek Attention from GPCB & Local Authority



Site No. 28

Site Identification	Adjacent above site as mentioned in sr no. (15), Land of Lakhond Village
Latitude & Longitude	23°15'11"N 69°46'40"E
Site Condition	Land reclamation
Status	Seek Attention from GPCB & Local Authority



Site No. 29

Site Identification	On Government Land, Padhdhar Village
Latitude & Longitude	23°14'29" N 69°48'44" E
Site Condition	Land Reclamation
Status	Seek Attention from GPCB & Local Authority



Site No. 30

Site Identification	Maldhari Mangal Mandir Chhatralay, Bhujodi
Latitude & Longitude	23° 13'45.11" N, 69° 44'8.96" E
Site Condition	Land Reclamation
Status	Seek Attention from GPCB & Local Authority



Site No. 31

Site Identification	Behind Lehriya Hanuman Temple, old stone mine, Kukma Village
Latitude & Longitude	23° 13' 21" N, 69° 46' 21" E
Status	Mines Dumped as per EC condition: SEIAA/GUJ/EC/2(b)/497/2016

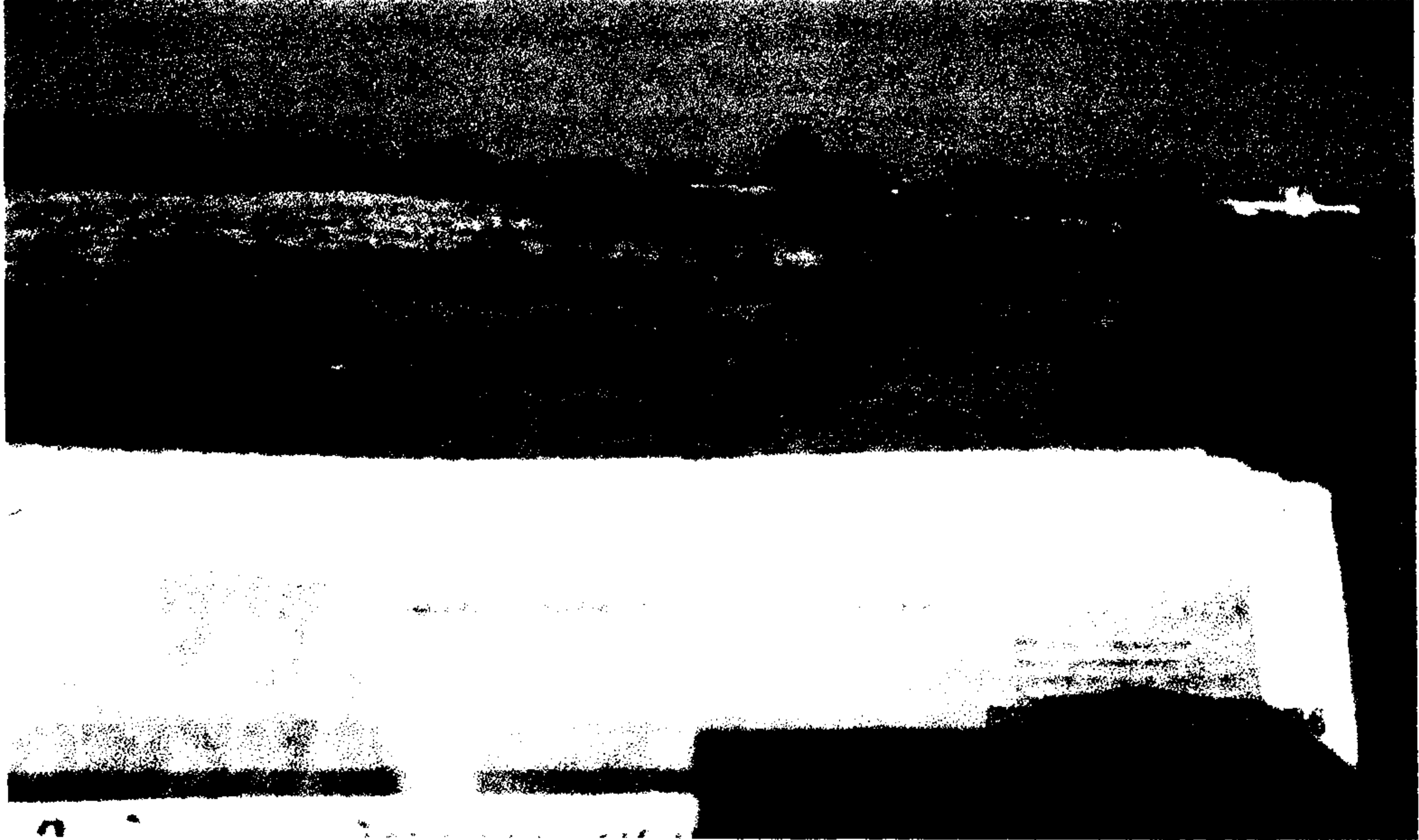
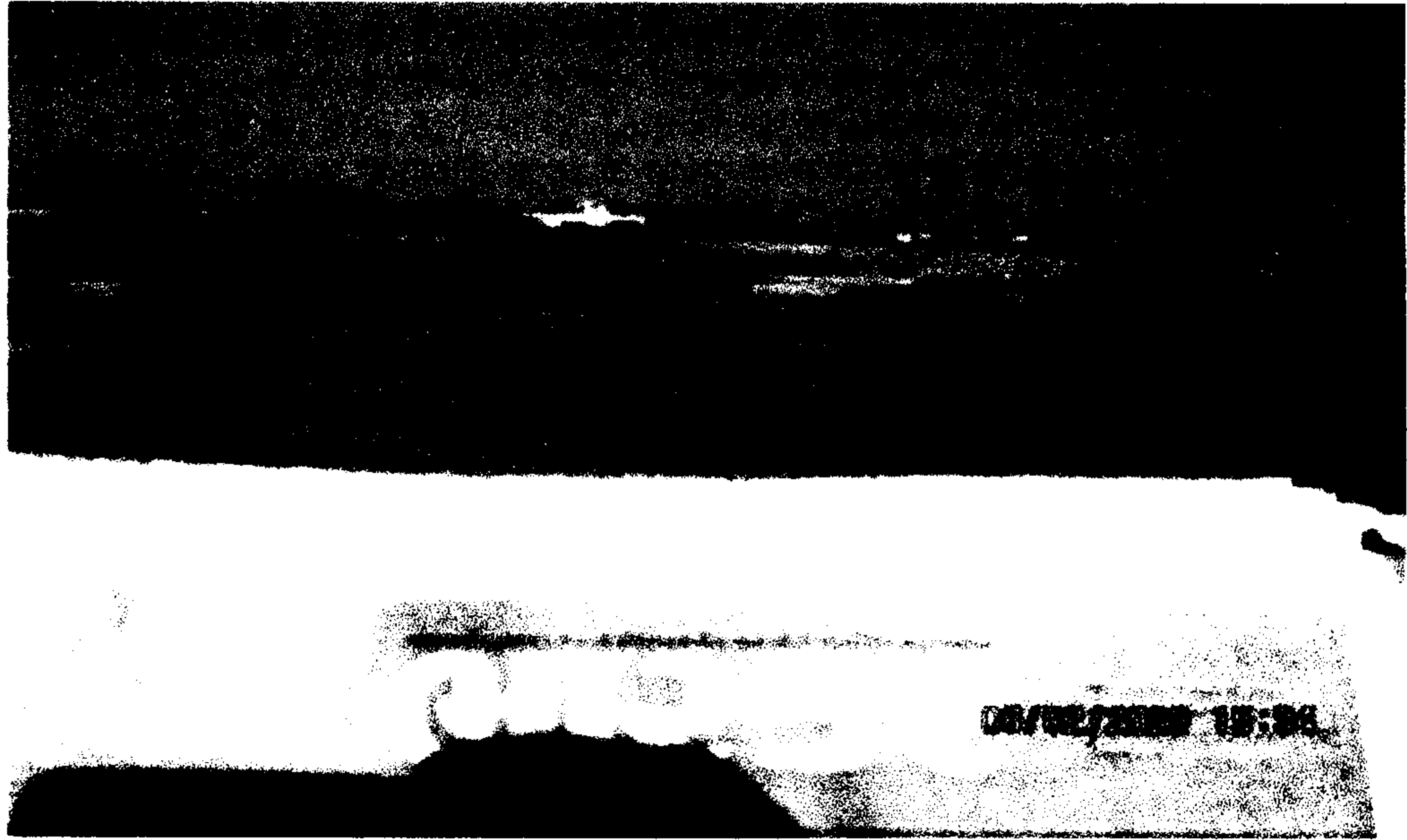


Site No. 32

Site Identification	Old stone mine of Prakash Patel, Beside old Hot Mix plant, Kukma Village
Latitude & Longitude	23°13'20" N 69°46'3" E
Status	Mines Dumped as per EC condition: SEIAA/GUJ/EC/2(b)/497/2016



Site No. 33

Site Identification	Behind khatri mills, Beside of above site, Traverse, Government land, Kukma village
Latitude & Longitude	23°13'20" N 69°45'58" E
Status	Mines Dumped as per EC condition: SEIAA/GUJ/EC/2(b)/497/2016
	
	

Site No. 34

Site Identification	China Clay mine of Vastabhai, Village Lakhond, Abandoned mine.
Latitude & Longitude	23°15'39" N 69°47'17" E
Status	Mines Dumped as per EC condition: SEIAA/GUJ/EC/2(b)/497/2016



B. GROUNDWATER REMEDIATION

The undersigned Industry is proactively doing groundwater remediation in compliance of the Notice of Directions dated 18.11.2019. The purpose for carrying out groundwater remediation is to reduce the ammonical nitrogen levels in the water. The technique which is being followed for the groundwater remediation activity is **"Pump and treat method"** which had been recommended by Kadam Enviro Consultants and further also acknowledged by the Hon'ble NGT through the order dated 20.11.2019 in OA 669/2018. The said report is also well within knowledge of GPCB.

METHODOLOGY OF REMEDIATION ACTIVITY

It is clear from the study of Kadam Consultants on page 33 that **"Pump and treat"** method shall be undertaken as the remediation action plan. Therefore, the undersigned Industry used aeration technique for groundwater remediation as recommended by Kadam Enviro consultancy. Groundwater quantifying to 70 m³ is first extracted from the borewell and is then sent for aeration. It is pertinent to note, that on a daily basis, only a specified quantity of 70 m³ is extracted, keeping in mind the sustainability to maintain ground water levels. After completion of retention time of aerated groundwater, the same goes to RO operation where two streams are separated into:

1. RO permeate- The water from which is utilized in process. &
2. RO reject- The water from which goes to solar evaporation pond.

BRIEF PERFORMANCE EVALUATION

Prior to the commencement of the remediation process, the highest levels of ammonical nitrogen surfaced from GW1, GW5, GW6. Therefore, as priority, APL started the remediation process on these borewells and a brief analysis of the results obtained by undertaking groundwater remediation is stated below:

1. Status at GW1 (Located near gate no.2 of the unit)

Before the remediation technique was commenced on this borewell, the range of ammonical nitrogen was around 40-45 mg/l in November 2019 before the commencement of the remediation process. **However, subsequent to following the "Pump and treat" method the level has dropped down drastically to 9-10 mg/l. Therefore, it is clear that there is reduction in**



ammonical nitrogen level by 75 to 80% after starting the groundwater remediation by adopting the pump & treat method as can be evidenced by the latest sampling undertaken by GPCB on 24.01.2020.

2. Status at GW5 (Ramesh Pindoriya) and GW6 (Vasudev Pindoriya) [Situated at 150-200 meters away from the unit]

Before the remediation technique was commenced on this borewell, the range of ammonical nitrogen was around 50-55 mg/l in November 2019 before the commencement of the remediation process. **However, subsequent to following the “Pump and treat” method the level has dropped down to 25-30 mg/l. Therefore, it is clear that there is reduction in ammonical nitrogen level by 45-50 % after starting the groundwater remediation by adopting the pump & treat method as can be evidenced by the latest sampling undertaken by GPCB on 24.01.2020.**

It is however pertinent to mention at this point that the process of groundwater remediation is highly technical and requires time for successful completion. It is not feasible to finish the same in a specific time bound manner. The process requires various pilot runs and is one based on trial and error. Further, it is also not possible to extract more than a specific quantity of the water in order to ensure the sustainability simultaneously. The same has also been recognized by Kadam, through their study wherein it was stated that there shall initially be an on-site performance evaluation of the remediation action plan of the “Pump and treat” method for 3 months starting from 25.11.2019. On the basis of performance evaluation of on-site pilot trial run with the pump and treat method. Here we request GPCB to rectify the groundwater remediation activity and validate the same as earliest possible. There will be an assessment of analysis with regard to the air and groundwater quality and efficiency of the system. Thereafter, the full-fledged installation and commissioning will be done of this technique for groundwater remediation.

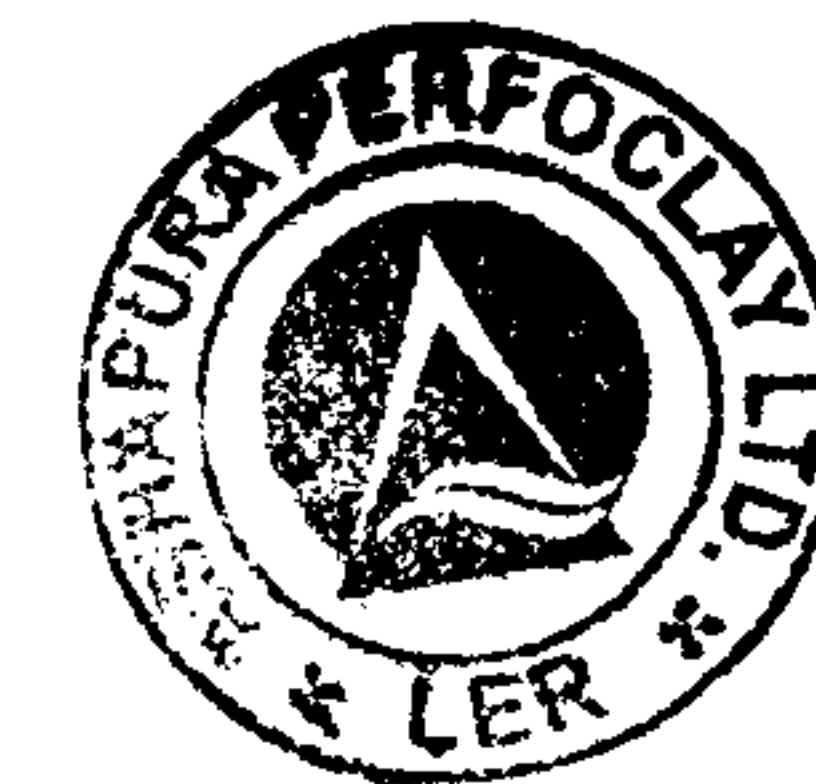
As the “pump and treat” technique has resulted in favorable results, we would further like to request GPCB to approve and validate this technique. A copy of the relevant portions of the study made by Kadam are being annexed herewith as **ANNEXURE- 1.**



Groundwater Remediation Results

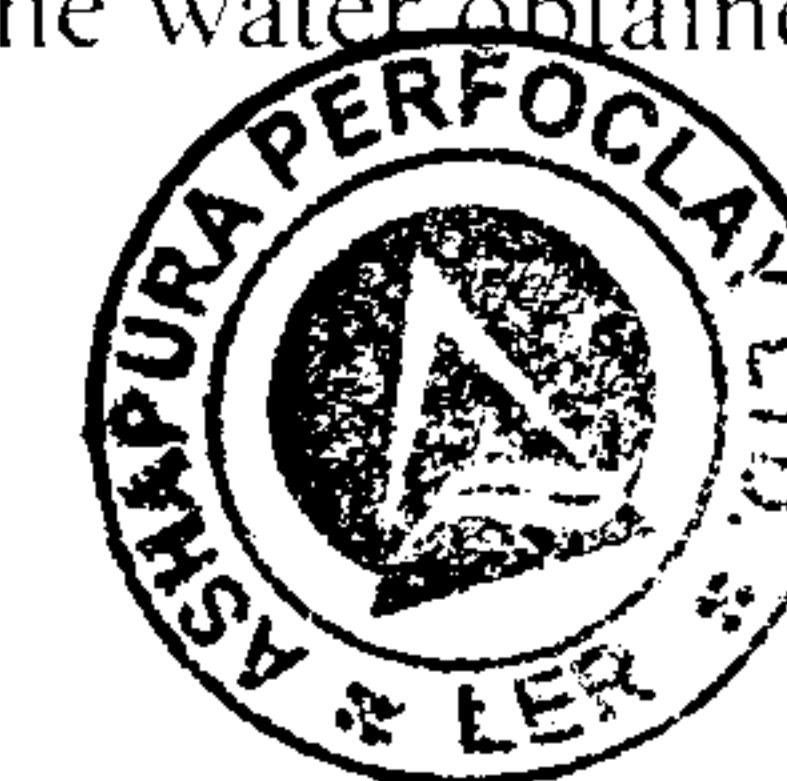
- i. Below mentioned is the tabular representation of the results obtained at GW1 by following the "Pump and treat" technique to remediate the Groundwater:

Result of Ammonical Nitrogen on Day to Day Basis at GW 1 (Near Gate2)										
Sr. No.	Date	Bore water (m ³ /day)	Ammonical Nitrogen (PPM)	Air purging (Kg/cm ²)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	RO Permeate Ammonical Nitrogen (PPM)	Removal of NH ₃ -N (%)	RO Reject Ammonical Nitrogen (PPM)	Remarks
1	30-11-19	50	40.3	4	3-4 hrs	5.65	0.72	85.98	9.32	
2	01-12-19	70	45.5	4	3-4 hrs	4.65	0.645	89.78	7.67	
3	02-12-19	70	42.3	4	3-4 hrs	4.56	0.87	89.22	7.52	
6	05-12-19	70	32	3.5	3-4 hrs	5.9	1.07	81.56	9.735	
7	06-12-19	70	28	3.5	3-4 hrs	5.35	0.48	80.89	8.82	
8	07-12-19	70	6.4	3	24 hrs	4.87	0.56	23.91	8.03	24 hrs sampling done
9	08-12-19	70	4.98	3	3-4 hrs	4.8	0.45	3.61	7.92	
10	09-12-19	70	6.7	3	3-4 hrs	4.2	0.48	37.31	6.93	
11	10-12-19	70	4.63	3.5	3-4 hrs	4.2	0.48	9.29	6.93	
12	11-12-19	70	4.9	3.5	3-4 hrs	4.35	0.42	11.22	7.1	



13	12-12-19	70	5.2	3.5	3-4 hrs	4.92	0.39	5.38	8.1	
14	13-12-19	70	4.8	3.5	3-4 hrs	4.68	0.6	2.50	7.72	
15	14-12-19	70	4.93	3.5	3-4 hrs	4.78	0.45	3.04	7.88	
16	15-12-19	70	4.96	3.5	3-4 hrs	4.72	0.42	4.84	7.78	
17	16-12-19	70	5.2	3.5	3-4 hrs	4.53	0.41	12.88	7.47	
18	17-12-19	70	5.5	3.5	3-4 hrs	4.96	0.39	9.82	8.18	
19	18-12-19	70	5.72	3.5	3-4 hrs	5.14	0.42	10.14	8.48	
20	19-12-19	70	5.2	3.5	3-4 hrs	4.87	0.45	6.35	8.03	
21	20-12-19	70	5.12	3.5	3-4 hrs	4.67	0.36	8.79	7.39	
22	21-12-19	70	4.99	3.5	3-4 hrs	4.34	0.35	13.03	6.82	
23	22-12-19	70	4.79	3.5	3-4 hrs	4.24	0.35	11.48	6.34	
24	23-12-19	70	5.26	3.5	3-4 hrs	4.15	0.36	21.10	6.56	
25	24-12-19	70	5.73	3.5	3-4 hrs	4.56	0.45	20.42	7.35	
26	25-12-19	70	6.43	3.5	3-4 hrs	4.24	0.42	34.06	8.87	
27	26-12-19	70	5.1	3.5	3-4 hrs	4.12	0.41	19.22	7.76	
28	27-12-19	70	4.78	3.5	3-4 hrs	4.34	0.39	9.21	6.43	
29	28-12-19	70	5.78	3.5	3-4 hrs	4.32	0.42	25.26	7.45	
30	29-12-19	70	5.4	3.5	3-4 hrs	4.25	0.39	21.30	7.15	
31	30-12-19	70	5.2	3.5	3-4 hrs	4.87	0.42	6.35	6.95	

As per the abovementioned table, it is evidently clear that the pump and treat method for groundwater remediation has resulted in a positive outcome, with regard to decrease in the levels of ammonical nitrogen. A mere perusal of the abovementioned table reflects that after performing the aeration technique on the water, **the levels have reduced by 70-75 percent**. The water obtained after the aeration



technique is sent for RO treatment. Subsequent to the RO treatment, the water which is permeated, is used by the undersigned industry for conducting the operations and the rejected water, is sent to solar evaporation pond. **The average quantity of groundwater extraction is 2010 m³ and the average of the water permeated is 1500 m³ and the average of the water rejected which is being send to the solar evaporation pond is 510 m³.**

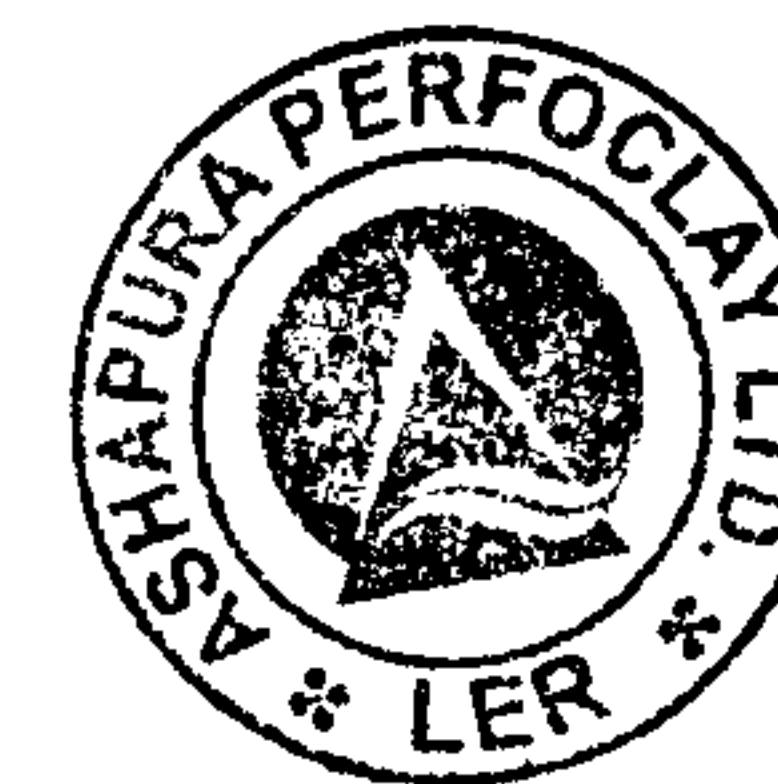
Ammonical Nitrogen Level in Borewell Near Gate-2



GRAPHICAL PRESENTATION OF AMMONICAL NITROGEN LEVEL IN BOREWELL NO. GW1

OBSERVATION OF BOREWELL GW1 (Near gate 2)

Before starting the remediation technique the range of ammonical nitrogen was around 40-45 mg/l and which is at present 9-10 mg/l. it is observed that there is **reduction in ammonical nitrogen level by 75 to 80%** after starting the groundwater remediation by adopting the pump & treat method.



ii. Below mentioned are the results of carrying on ground water remediation on GW-5:

Results of Ramesh Pindoriya bore well (GW-5) on day to day basis (from 11/12/2019 to 02/02/2020)								
Sr. No.	Date	Bore water (m ³ /day)	Ammonical Nitrogen (PPM)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	Removal of NH3-N (%)	RO Permit Ammonical Nitrogen (PPM)	RO Reject Ammonical Nitrogen (PPM)
				4-5 hrs	15.28			18.44
2	12-12-19	70	33.15	4-5 hrs	14.58	56.02	0.6	19.02
3	13-12-19	70	33.97	4-5 hrs	15.23	55.17	0.41	17.88
4	14-12-19	70	34.96	4-5 hrs	16.03	54.15	0.23	19.4
5	16-12-19	70	33.32	4-5 hrs	13.64	59.06	0.31	16.6
6	17-12-19	70	31.5	4-5 hrs	14.99	52.41	0.25	16.4
7	18-12-19	70	34.46	4-5 hrs	17.64	48.81	0.4	18.9
8	19-12-19	70	39.19	4-5 hrs	10.3	73.72	0.24	15.6
9	20-12-19	70	32.9	4-5 hrs	14.86	54.83	0.48	19.7
10	21-12-19	70	32.57	7-8 hrs	12.4	61.93	0.35	19.84
11	22-12-19	70	31.25	7-8 hrs	18.11	42.05	0.29	18.9
12	23-12-19	70	38.04	4-5 hrs	13.25	65.17	0.34	18.58
13	24-12-19	70	36.63	7-8 hrs	11.13	69.62	0.24	17.8
14	25-12-19	70	33.89	7-8 hrs	17.22	49.19	0.47	19.6
15	26-12-19	40	39.86	7-8 hrs	12.35	69.02	0.24	19.76
16	27-12-19	40	31.79	7-8 hrs	11.08	65.15	0.24	17.728



17	28-12-19	40	38.22	7-8 hrs	17.01	55.49	0.38	18.96
18	29-12-19	40	34.38	7-8 hrs	8.39	75.60	0.34	13.424
19	31-12-19	40	34.22	7-8 hrs	12.64	63.06	0.36	19.6
20	01-01-20	70	36.11	7-8 hrs	10.45	71.06	0.81	19.83
21	02-01-20	70	37.84	7-8 hrs	12.23	67.68	0.58	21.99
22	03-01-20	70	36.77	7-8 hrs	8.96	75.63	0.38	16.36
23	04-01-20	70	38.5	7-8 hrs	9.79	74.57	1.2	19.05
24	05-01-20	70	38.5	7-8 hrs	10.26	73.35	0.9	21.44
25	07-01-20	70	44.76	7-8 hrs	12.03	73.12	1.2	22.18
26	09-01-20	70	32.45	7-8 hrs	9.6	70.42	0.25	17.5
27	10-01-20	70	42.82	7-8 hrs	15.82	63.05	0.58	24.75
28	11-01-20	70	39.57	7-8 hrs	13.42	66.09	0.32	21.19
29	13-01-20	70	34.79	7-8 hrs	12.42	64.30	0.55	24.16
30	15-01-20	70	35.12	7-8 hrs	12.23	65.18	0.74	21.96
31	16-01-20	70	39.77	7-8 hrs	8.81	77.85	0.95	15.46
32	17-01-20	70	39.93	7-8 hrs	13.62	65.89	1.06	21.62
33	18-01-20	70	31.67	7-8 hrs	12.01	62.08	1.2	19.49
34	20-01-20	70	30.27	7-8 hrs	10.86	64.12	1.37	12.61
35	21-01-20	70	31.28	7-8 hrs	12.67	59.49	1.55	15.86
36	22-01-20	70	32.96	7-8 hrs	14.67	55.49	1.33	20.43
37	23-01-20	70	32.86	7-8 hrs	13.67	58.40	1.22	16.87
38	24-01-20	70	33.57	7-8 hrs	12.89	61.60	1.15	14.87
39	25-01-20	70	34.79	7-8 hrs	13.78	60.39	0.95	15.98
40	26-01-20	70	34.5	7-8 hrs	13.97	59.51	0.76	16.86



41	27-01-20	70	33.89	7-8 hrs	12.86	62.05	0.54	16.56
42	28-01-20	70	31.5	7-8 hrs	11.97	62.00	0.6	13.86
43	29-01-20	70	30.38	7-8 hrs	12.45	59.02	0.43	14.97
44	30-01-20	70	28.3	7-8 hrs	12.34	56.40	0.48	15.84
45	31-01-20	70	31.88	7-8 hrs	11.87	62.77	0.28	14.76
46	01-02-20	70	30.31	7-8 hrs	10.97	63.81	0.36	13.86
47	02-02-20	70	28.54	7-8 hrs	11.13	61.00	0.4	14.89

Note: various trials taken like, ammonical nitrogen removal with elevated pH level and aeration provided through pipe diffusers with water sprinkling and circulation in clarifier etc.

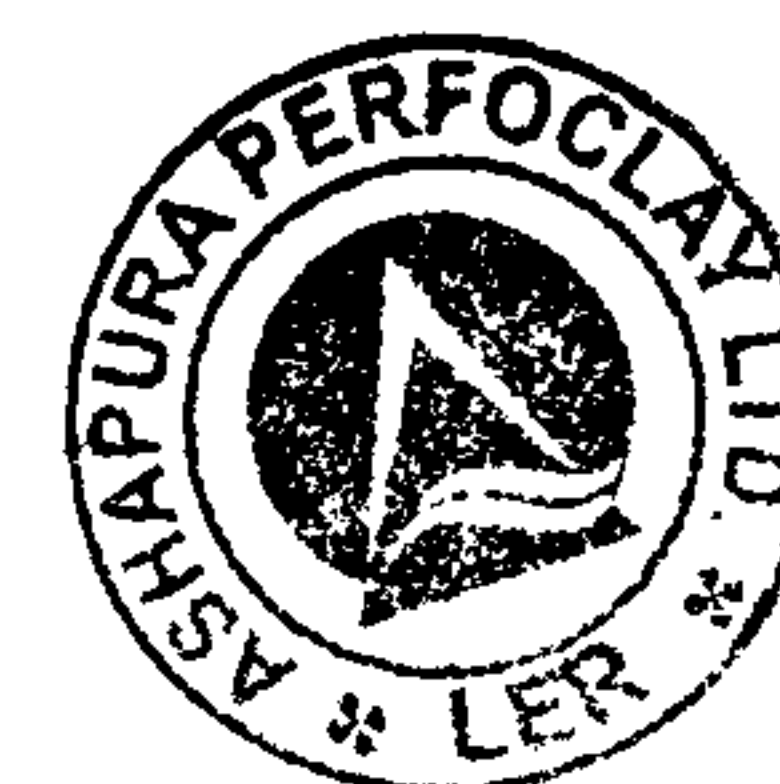
As per the abovementioned tables, it is evidently clear that the pump and treat method for groundwater remediation has resulted in a positive outcome, with regard to decrease in the levels of ammonical nitrogen. A mere perusal of the abovementioned table reflects that after performing the aeration technique on the water, the levels have reduced by 35-40 percent. The water obtained after the aeration technique is sent for RO treatment. Subsequent to the RO treatment, the water which is permeated, is used by the undersigned industry for conducting the operations and the rejected water, is sent to solar evaporation pond. **The average quantity of groundwater extraction is 1180 m³ and the average of the water permeated is 885 m³ and the average of the water rejected which is being send to the solar evaporation pond is 295 m³ during the month of December 2019. The average quantity of groundwater extraction is 1960 m³ and the average of the water permeated is 1452 m³ and the average of the water rejected which is being send to the solar evaporation pond is 508 m³ during the month of January 2020.**

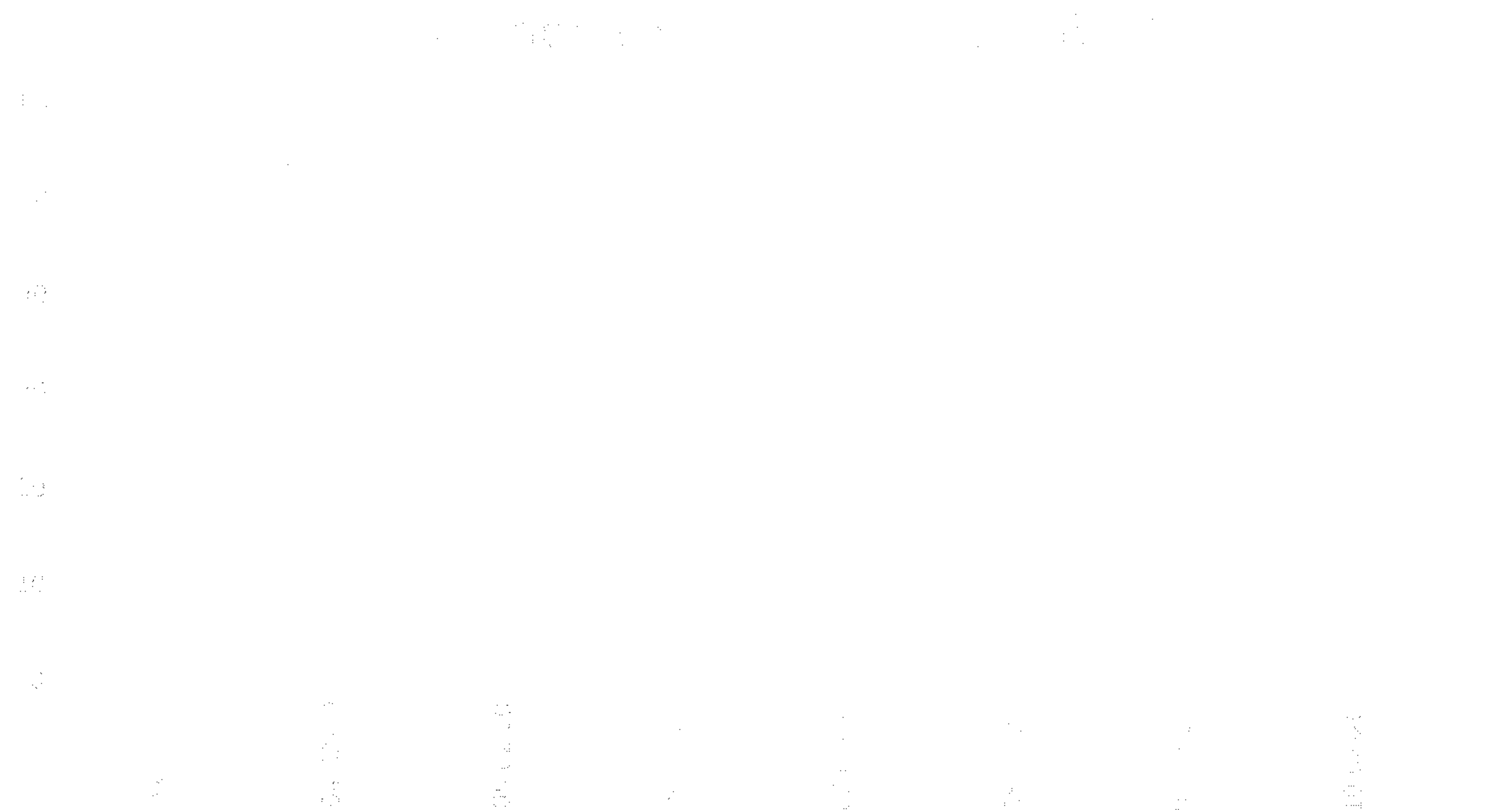


iii. Brief analysis of the groundwater remediation in GW6 (Vasudev Pindoriya) is as follows:

Results of Vasudev Pindoriya bore well (GW-5) on day to day basis (from 03/02/2020 to 11/02/2020)								
Sr. No.	Date	Bore water (m ³ /day)	Ammonical Nitrogen (PPM)	Aeration Time (Hrs)	After Aeration Ammonical Nitrogen (PPM)	Removal of NH3-N (%)	RO Permit Ammonical Nitrogen (PPM)	RO Reject Ammonical Nitrogen (PPM)
1	03-02-20	70	52.94	7-8 hrs	33.56	36.61	0.31	35.3
2	04-02-20	70	53.62	7-8 hrs	31.82	40.66	0.58	34.75
3	05-02-20	70	51.92	7-8 hrs	30.7	40.87	0.98	34.89
4	06-02-20	70	49.39	7-8 hrs	29.89	39.48	0.76	33.84
5	07-02-20	70	48.5	7-8 hrs	28.76	40.70	0.54	32.67
6	08-02-20	70	46.7	7-8 hrs	29.43	36.98	0.65	33.62
7	09-02-20	70	44.56	7-8 hrs	30.67	31.17	0.74	32.63
8	10-02-20	70	45.82	7-8 hrs	31.54	31.17	0.62	31.72
9	11-02-20	70	42.92	7-8 hrs	29.36	31.59	0.51	31.46

As per the abovementioned tables, it is evidently clear that the pump and treat method for groundwater remediation has resulted in a positive outcome, with regard to decrease in the levels of ammonical nitrogen. A mere perusal of the abovementioned table reflects that after performing the aeration technique on the water, the levels have reduced by 35-40 percent. The water obtained after the aeration technique is sent for RO treatment. Subsequent to the RO treatment, the water which is permeated, is used by the undersigned industry for conducting the operations and the rejected water, is sent to solar evaporation pond. **The average quantity of groundwater extraction is 630 m³ and the average of the water permeated is 460 m³ and the average of the water rejected which is being send to the solar evaporation pond is 170 m³ during the month of February 2020. Currently, work is still in progress to further decrease the ammonical nitrogen levels.**





GRAPHICAL PRESENTATION OF AMMONICAL NITROGEN LEVEL IN BOREWELL OF GW 6

OBSERVATION OF BOREWELL VASUDEV PINDORIYA

Before starting the remediation technique the range of ammonical nitrogen was around 50 - 55 mg/l and which is at present 40-45 mg/l. it is observed that there is reduction in ammonical nitrogen level by **30 to 40%** after starting the groundwater remediation by adopting the pump & treat method.



RESULTS OF THE LATES SAMPLING UNDERATAKEN BY GPCB

It is pertinent to note that on 24.02.2020, officers of GPCB conducted sampling at some of the listed borewells. The below mentioned results were obtained:

Bore well Analysis Report By GPCB											
Dated:24/01/2020											
Sr. No	Parameter	Unit	Dinesh Maharaj	Nr. Gate 2	Govind Hirji	Hetubha	Ramesh Pindoriya	Vasudev Pindoriya	Ranubha Jadeja	Sama Vandh samiti	Shyam Velji
1	Temperature	Centigrade	31	31	29	29	29	30	26	30	31
2	pH	pH unit	7.01	6.89	6.98	6.92	7.06	6.88	6.89	7.01	6.82
3	color	Pt.Co.Sc.	C.L	C.L	C.L	C.L	C.L	C.L	C.L	C.L	C.L
4	Total dissolved solids	mg/L	1694	4089	6522	2794	7108	6428	3284	4116	4584
5	Ammonical Nitrogen	mg/L	0.28	9.52	0.84	0.28	35.84	53.2	6.72	0.28	0.28
6	Percent sodium	mg/L	8.16	9.19	10.88	8.54	9.49	10.02	10.42	9.73	10.57
7	Chloride	mg/L	590	980	1810	650	1640	950	760	1180	1460
8	Sulphate	mg/L	372	1343	1709	780	2225	2060	860	1093	1107
9	Chemical Oxygen Demand	mg/L	10	10	11	9	13	13	11	9	10
10	BOD	mg/L	1.92	1.48	1.96	1.76	1.88	2.32	1.88	1.36	1.58



It is evident from a mere perusal of the aforementioned table that the levels of ammonical nitrogen in GW1 and GW5 show a decline in the ammonical nitrogen levels. With regard to GW6, the levels mentioned in the above table are prior to the commencement of groundwater remediation work. It is pertinent to note that the work for groundwater remediation commenced only on 03.02.2020 as can be seen from the tabular representations quoted above in the report and the same is still in progress, despite there being a reasonable decline in the levels after the remediation process had been undertaken.

Pictures of the remediation tanks are annexed herewith as ANNEXURE 2.



ACTION TAKEN AND CONCLUSION

1. It is therefore concluded that by implementation of the technique recommended by Kadam Environmental consultant of “pump and treat method” groundwater remediation activities are going on actively. Deriving from the tabular representations as aforementioned and the various samplings done at the listed borewell sites, the “Pump and treat” method has emerged as an effective method for remediation.
2. The unit had extracted the total average quantity of groundwater of 5780 m³ from 3 affected bore well and permeate of 4294 m³ used in process and reject water of 1486 m³ sent to solar evaporation pond during 30.11.2019 to 11.02.2020.
3. Further, APL has also constructed one groundwater recharge structure & piezometer to maintain prevailing groundwater table in vicinity of APL premises. Pictures of the same are annexed herewith as **ANNEXURE 3.**

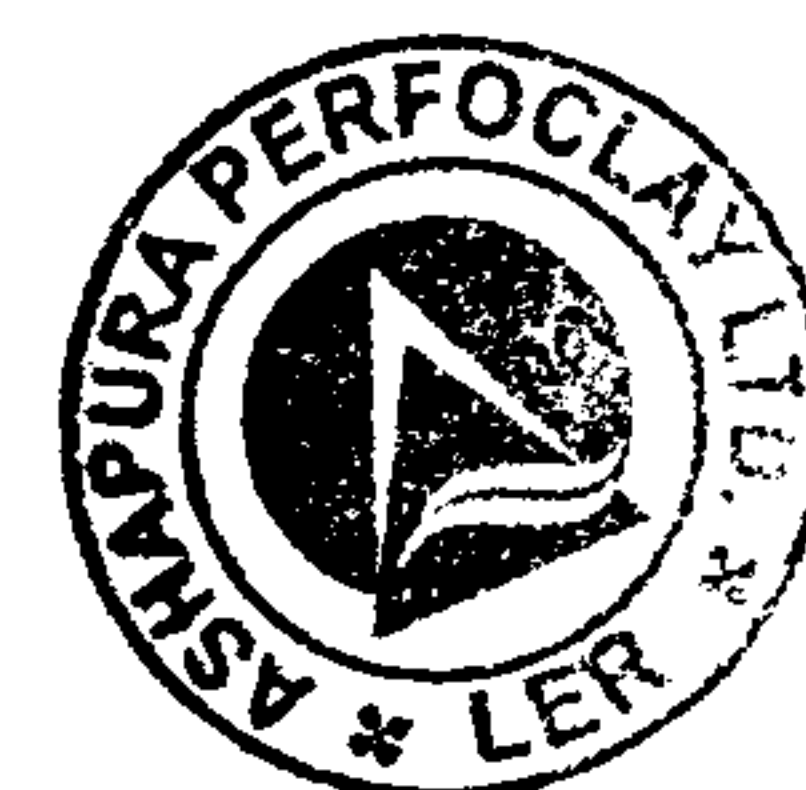


It is pertinent to highlight at this point that the observation made by Kadam in their study, as has been quoted above, has been supplied to the Hon'ble NGT by GPCB in their report which annexed the studies of Pollucon laboratory and Kadam consultants. The study by Kadam was further then been acknowledged and received an implied ratification from the order dated 20.11.2019 in OA 669/2018 wherein, the Tribunal has in paragraph 6 quoted the technique that Kadam has provided for. A copy of the order dated 20.11.2019 is being annexed herewith as **ANNEXURE 4.**

Therefore, it is abundantly clear that the groundwater remediation process is continuous in nature, it is thus requested that an extension be granted until the desired levels of ammonical nitrogen can be achieved, following the remediation technique.

ANNEXURE LIST

Annexure No.	Annexure Title of Groundwater Remediation
1	Conclusion & Recommendation by Kadam Environment Consultant
2	Photos of groundwater recharge structure
3	Photos of groundwater tank of remediation
4	NGT order of OA 669/2018 dated 20/11/2019



6 PROPOSED REMEDIATION APPROACH & RECOMMENDATIONS

6.1 Corrective measures taken at the Site

The unit has already initiated corrective measures as follows;

- The unit is using the fresh lime supplied by the authorized vendors since July 2018. The unit have stopped using the lime supplied by Fertilizer Company and the unused lime was disposed to TSDF site since July 2018.
- The unit have installed sewage treatment plant of 10 KLD capacity.
- Unit has provided GCL Liner in Solar evaporation pond; details enclosed vide **Annexure 8**.

6.2 Conclusion & Recommendations

Based on the above studies, corrective actions and interpretations we conclude and recommend following actions for Remediation;

6.2.1 Hydraulic Containment of Groundwater

- Pump and treat method for hydraulic containment of groundwater for removal of ammonical nitrogen from groundwater. Drilling and installation of 2 Nos. of abstraction wells (up to a depth where groundwater is tapped) are proposed in order to extract groundwater of total 70m³/day; on the North-East boundary of the site adjacent to the contaminated off-site borewells. As per treatability study carried out by KEC, pump the groundwater from these wells and collect it into a tank where aeration treatment (with diffusers) should be given for removal of ammonical nitrogen and further this water should be treated at existing RO system, permeate to be reused in process and reject water sent to existing solar evaporation pond. The schematic process flow diagram showing groundwater treatment scheme and layout showing location of abstraction wells is shown in **Figure 10** and **Figure 11** respectively.
- If possible and farmers permit, groundwater can be abstracted from GW-6 and GW-7 and provide treatment for the same. If groundwater abstraction from GW-6 and GW-7 is allowed then drilling and installation of two abstraction wells as mentioned above is not required.

6.2.2 On-site monitoring of RAP of Pump and Treat method for 3 Months

- Provide ambient air quality monitoring network on the boundary of factory premises to monitor the ammonical nitrogen released as against the prescribed norms.
- Quarterly Monitoring of groundwater quality from on-site and off-site bore wells to know the effect of remediation on contamination (Ammonical Nitrogen).
- To submit quarterly monitoring reports of air quality and groundwater quality to concerned authority.

6.2.3 On-site performance evaluation of RAP of Pump and Treat method for 3 Months

- On basis of performance evaluation of on-site pilot trial run with pump and treat method, there will be assessment of analysis w.r.t. air and groundwater quality and efficiency of the system.



Thereafter, full-fledged installation and commissioning will be done of this RAP technique for groundwater restoration.

6.2.4 Time bound action plan

Proposed time bound action plan for groundwater remediation is enclosed vide **Annexure 9**.

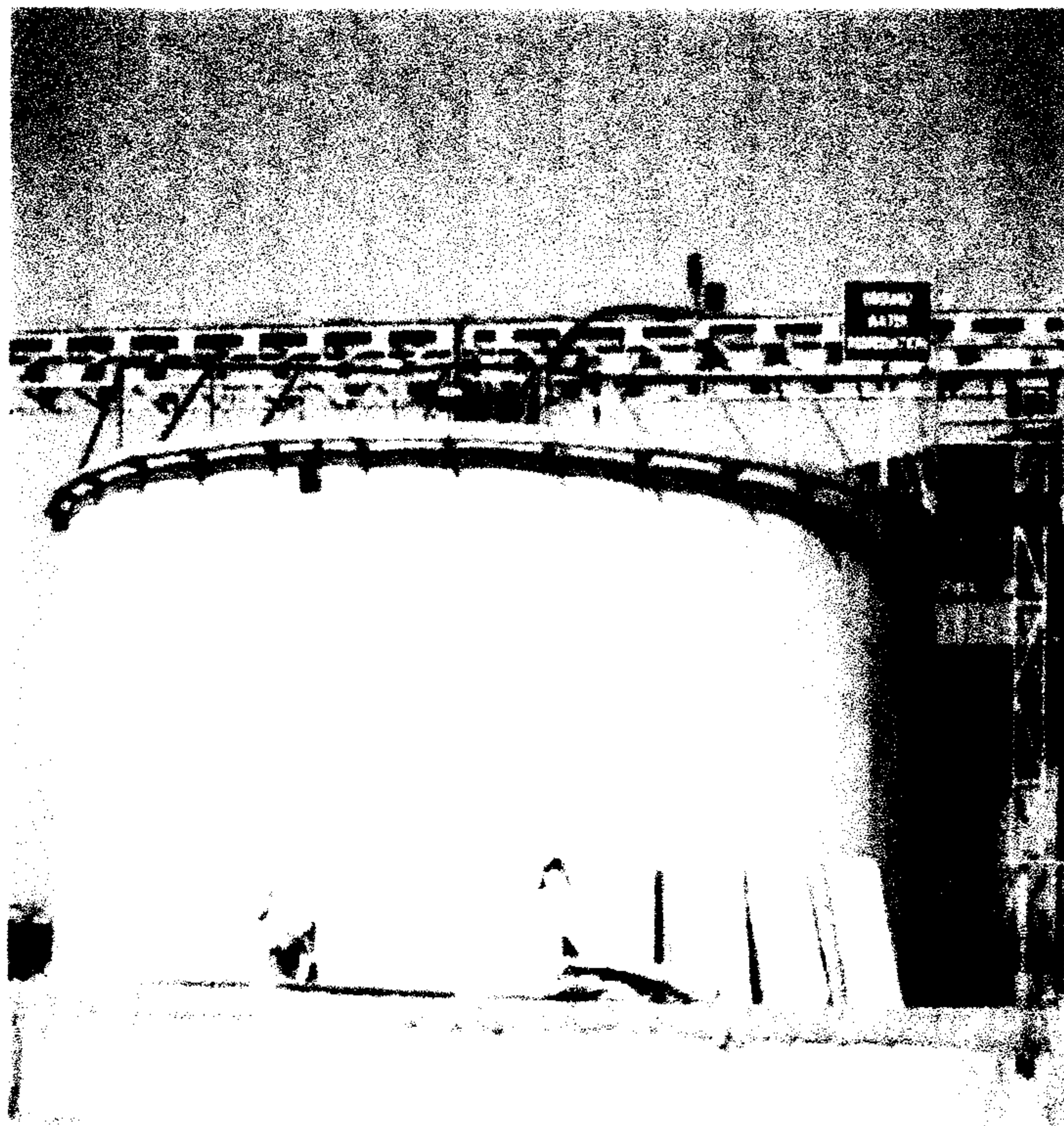


Annexure 9: Time bound action plan for groundwater remediation

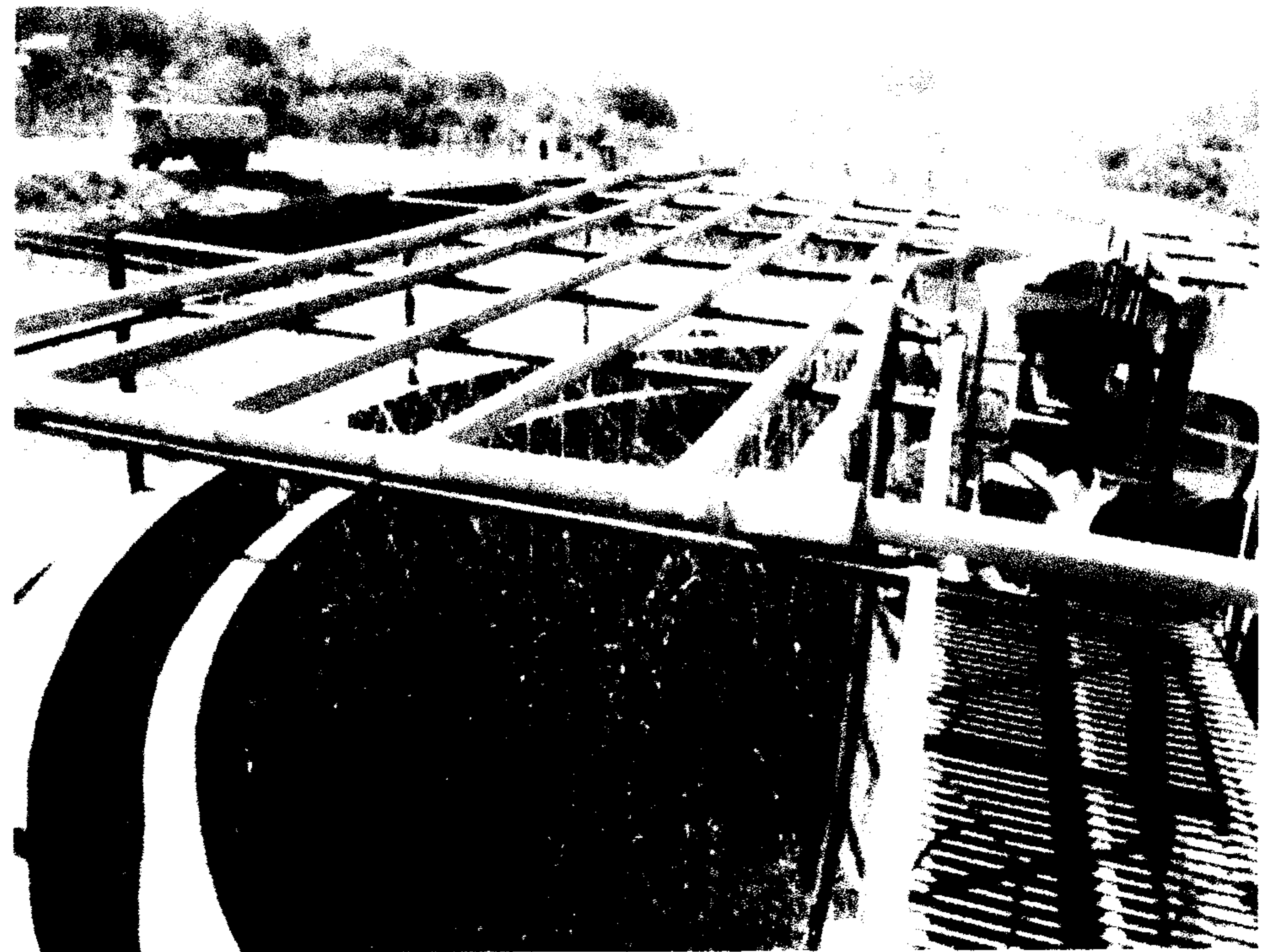
PROPOSED TIME BOUND ACTION PLAN FOR GROUNDWATER REMEDIATION																			
Task	Weeks																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Pilot Run Phase																			
Performance evaluation on site for pilot trial run at 20% capacity of final abstraction rate (for 3 Months)																			
Design & Engineering Phase																			
Evaluation of existing system/treatment of wastewater in order to propose new of existing structures for remediation and Finalizing numbers and locations of Abstraction Wells																			
Detailed Engineering of remediation system including abstraction well design, additional storage tanks, additional units if required, interconnecting piping route, adequate capacity of pump																			
Preparation of Detailed GA Drawings of abstraction wells, collection and conveyance system (Tanks, Piping works and Pumps)																			
Preparation of structural design and drawings for additional units if required based on soil investigation data																			
Preparation of technical specifications of equipment and materials required in remediation																			
Preparation of Detailed Project Report (DPR)																			
Approval of DPR from Client																			
Procurement and Implementation Phase																			
Procurement of tanks (if required), pumps & panels, diffusers and piping items at site																			
Drilling and installation of Abstraction Wells																			
Execution of civil works, installation of pumps & panels and piping works, diffuser system in the Tank at site																			
Installation of air monitoring stations																			
Commissioning Phase																			
Testing & Commissioning of groundwater remediation system as per abstraction rate																			
Note: Drilling & installation of abstraction wells is dependent on the site condition																			
Tentative start of week one is 25/11/2019																			

ANNEXURE 2

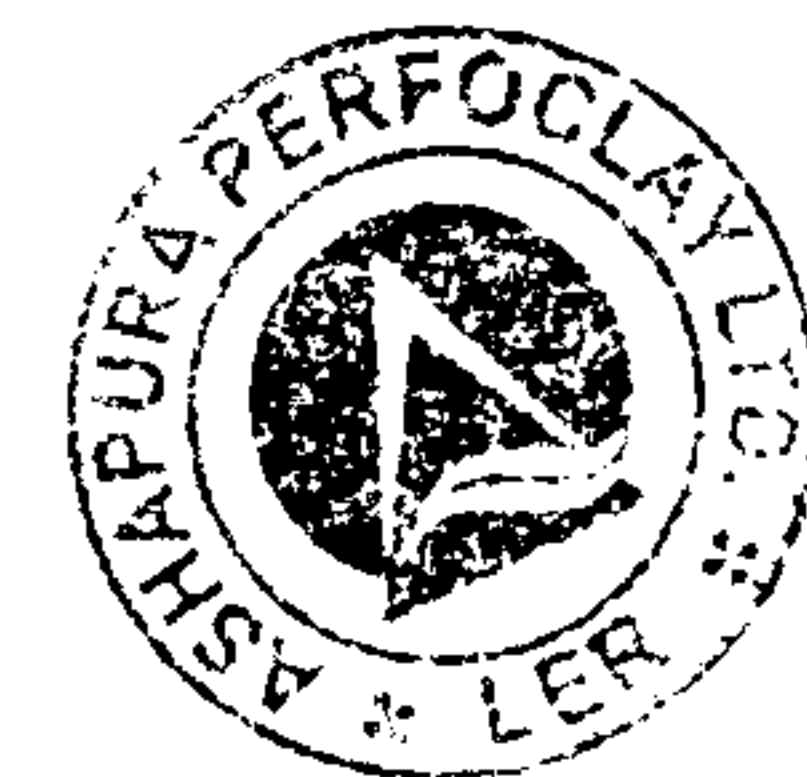
GROUNDWATER REMEDIATION



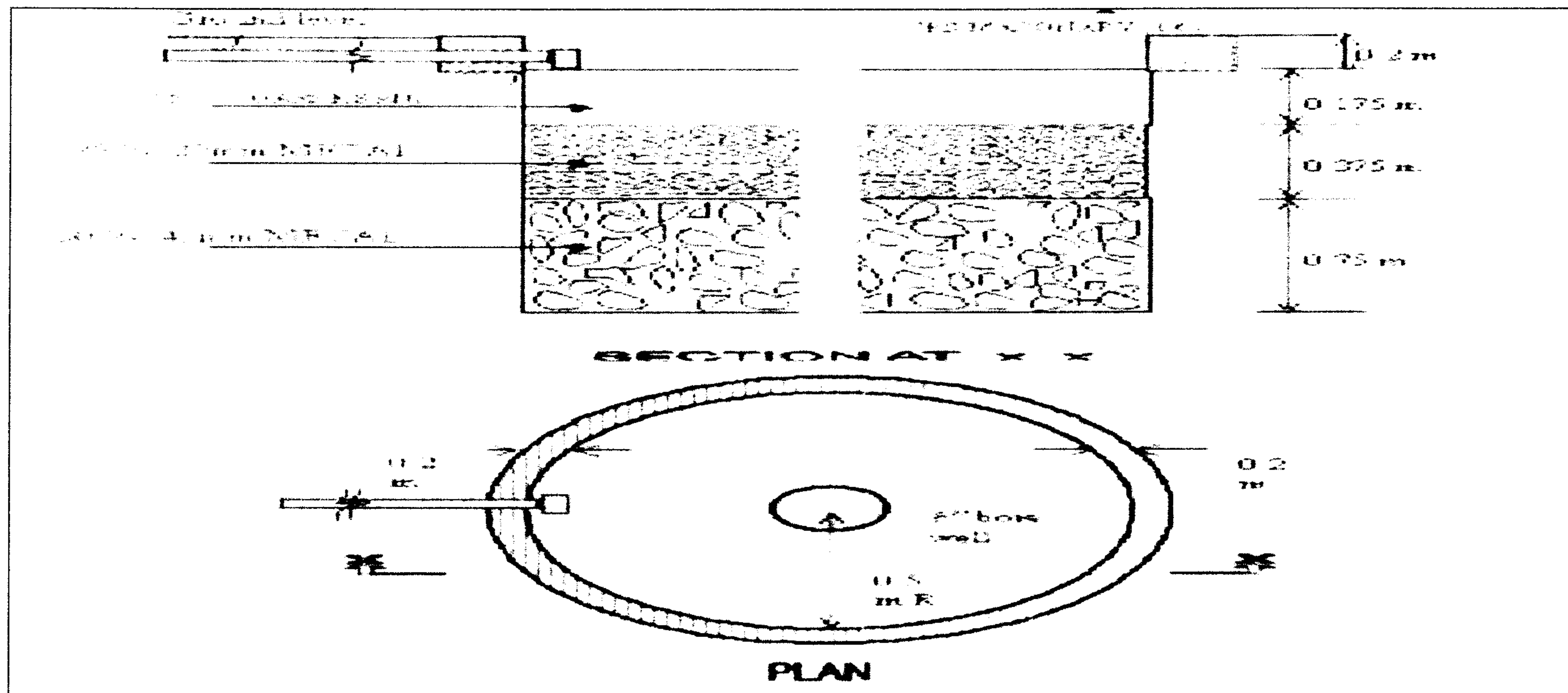
GROUNDWATER REMEDIATION TANK



AERATION IN REMEDIATION TANK

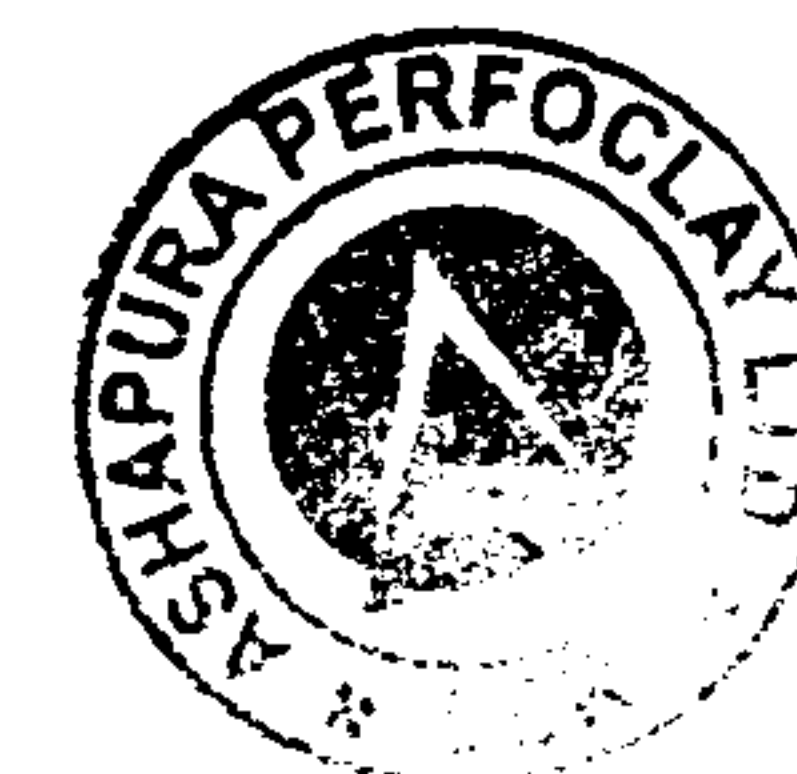


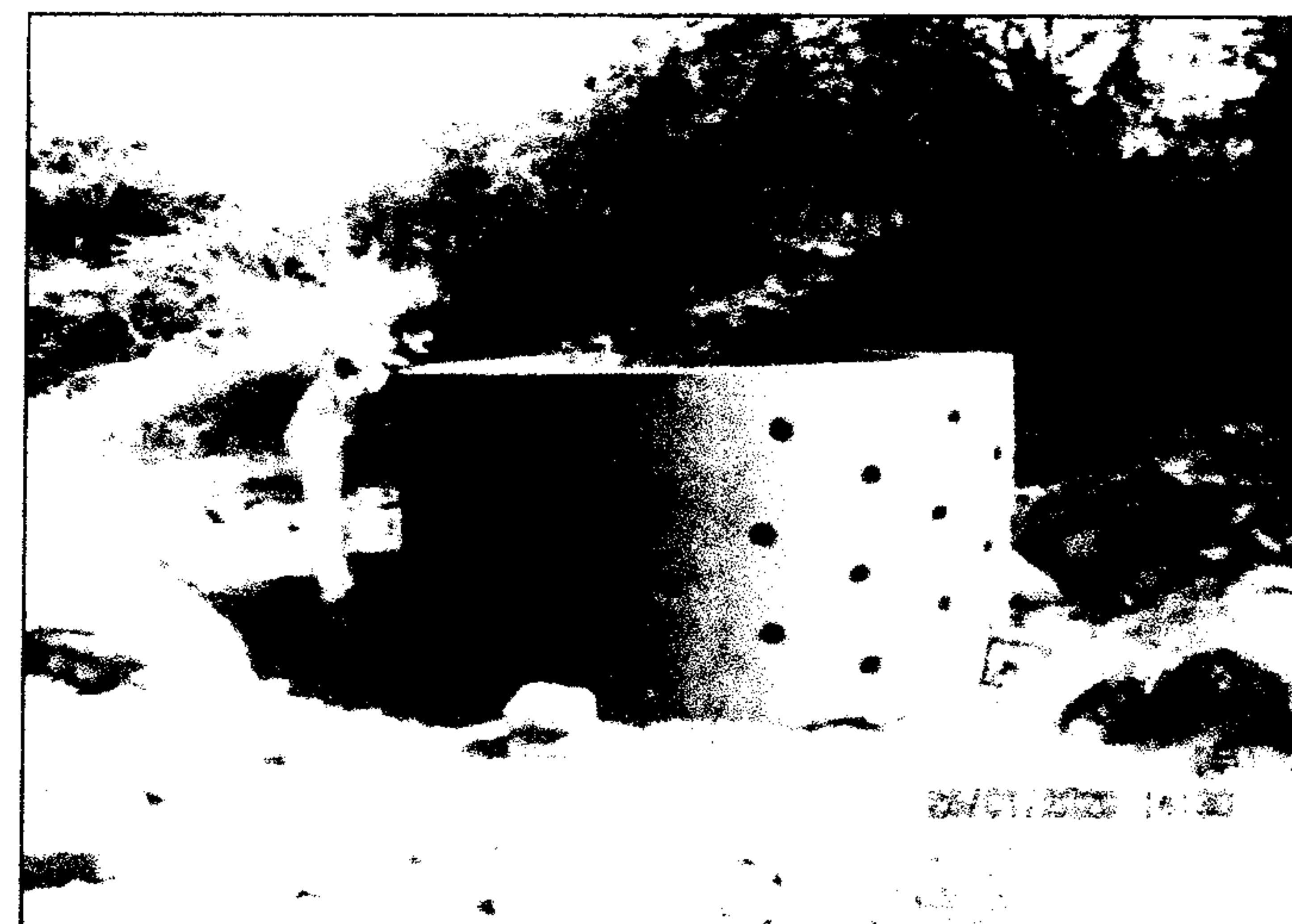
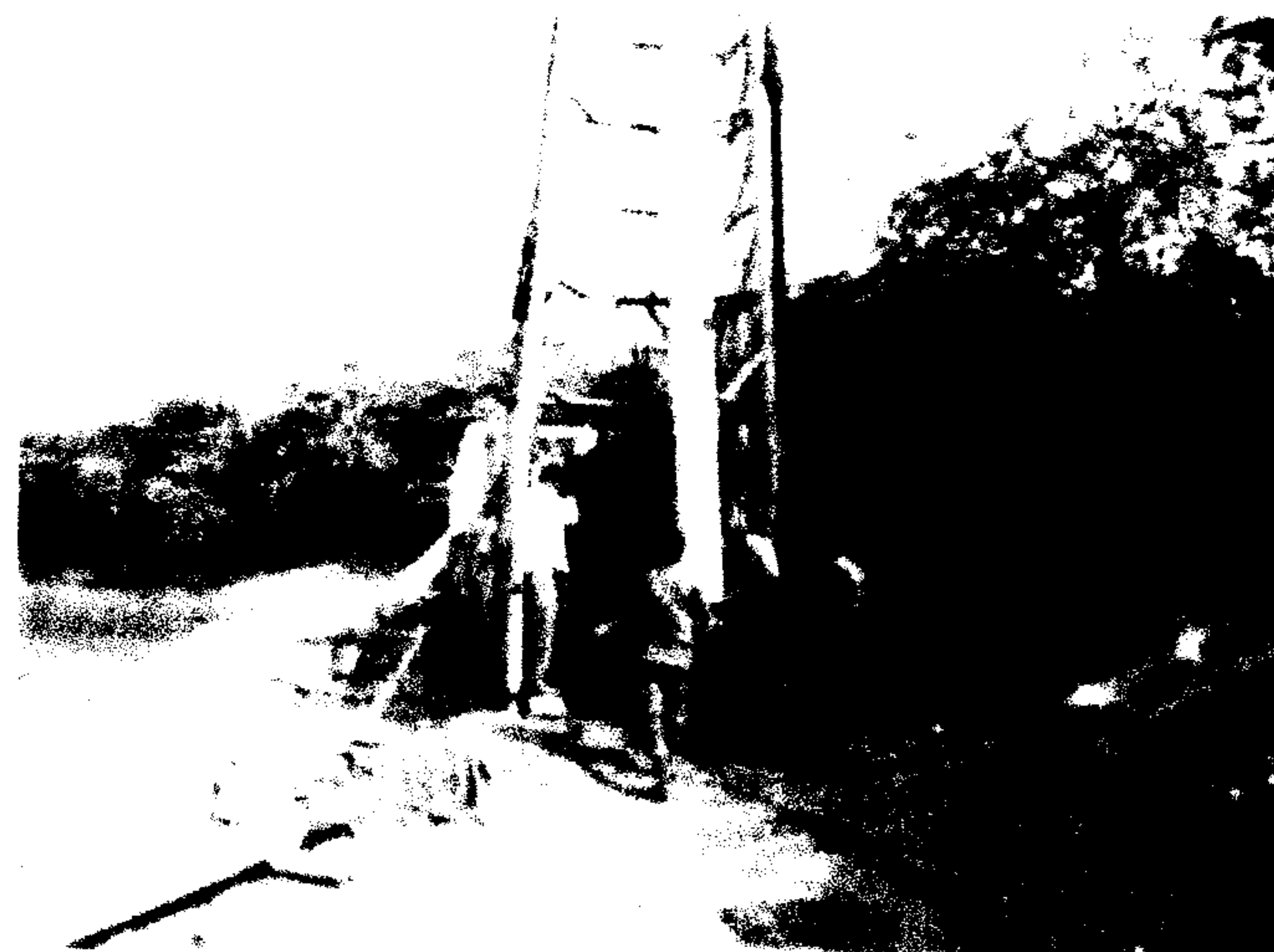
ANNEXURE – 3 Also we had constructed the GROUND WATER RECHARGE STRUCTURE & PEIZOMETER to maintain prevailing groundwater table in vicinity of APL premises, one recharge structure of 350 feet depth had been developed and installed piezometer at 250 feet depth. Remaining 3 recharge structure are work in progress. In this monsoon water level of the groundwater increased by 1.2 meter post monsoon and same being monitored by the piezometer regularly.



SECTIONAL

VIEW OF RECHARGE STURUCTURE





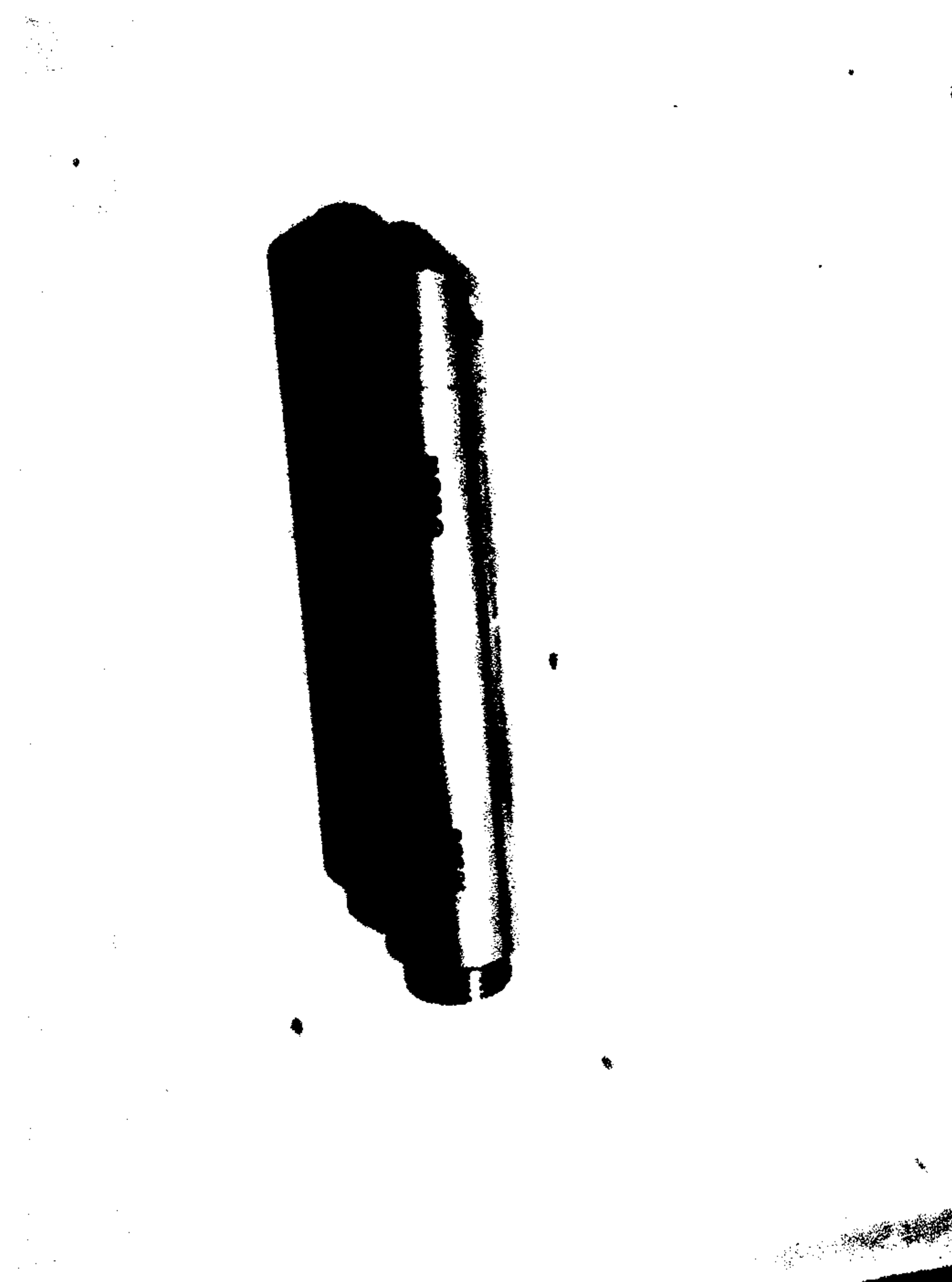
DIG RECHARGE BOREWELL CONSTRUCTION OF BRICKWORK WELL AROUND THE RECHARGE WELL



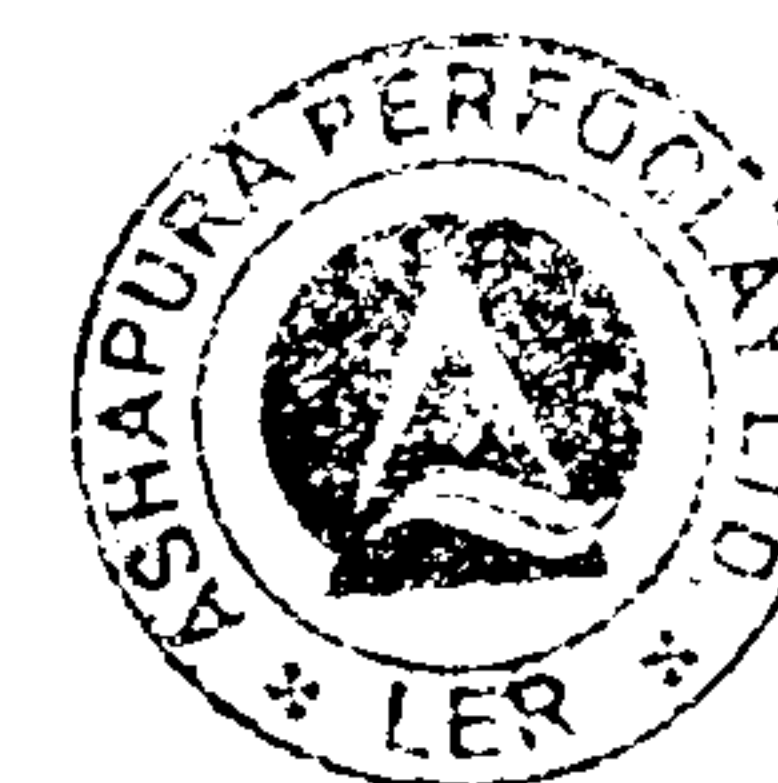
FILTER MEDIA IN THE WELL AROUND THE RECHARGE WELL



PIEZOMETER INSTALLATION



WATER LEVEL DATA LOGGER



Item No. 02

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 669/2018

(With Report dated 18.11.2019)

Marvada Amrutlal Becharlal

Applicant(s)

Versus

State of Gujarat

Respondent(s)

Date of hearing: 20.11.2019

CORAM: **HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON**
 HON'BLE MR. JUSTICE S.P WANGDI, JUDICIAL MEMBER
 HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
 HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
 HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER

For Applicant(s): Ms. Shilpa Chohan, Advocate

For Respondent(s): Mr. Maninder Singh, Senior Advocate with Ms.
 Ruchi Kohli, Ms. Nidhi Jaswal, Ms. Manyaa
 Chandok, Advocates

ORDER

1. The matter has been taken up in continuation of order dated 03.09.2019 on the subject of violation of environmental norms by M/s Ashapura Group of Companies, Village Ler, Taluka Bhuj, District Kutch, Gujarat.
2. The matter has been dealt with by this Tribunal on several dates in the light of the factual and action taken reports filed by the Gujarat Pollution Control Board (GPCB) as well as submissions made on behalf of the applicant.

3. On 27.05.2019, the matter was reviewed as follows:-

“4. Accordingly, a joint report was furnished on 23.03.2019 by the CPCB and the GPCB which was considered on 06.05.2019. The joint Committee found that the unit had not compliant with the environmental norms. It had stored gypsum which was required to be scientifically disposed. There was damage to the ground water quality which was required to be restored. Plantation had not been done as per the CCA Condition No. 3.9. Sprinklers were required for control of dust emissions. Line No. 1 & 2 could not be allowed to operate till proper fugitive emission control system is set up. Dust control system is required at raw material crushers and acid activation reactors are required to be covered. The stand of the GPCB was that bank guarantee furnished by the unit for Rs. 15 lakhs was forfeited on account of non – compliance and an additional bank guarantee of Rs. 30 Lakhs had been taken to secure compliance. Notice was issued for prosecution. Compensation assessment was left to the District level Committee. Revocation of the closure has been extended for three months subject to certain conditions.

10. The applicant has placed on record written submissions in response to the action taken report by the GPCB stating that bleaching clay plant in question is causing severe air pollution as shown by the photographs taken on 21.05.2019 and is also dumping effluents in the nearby drains as shown by photographs taken on 22.05.2019. Gypsum is dumped in villages upto a distance of 5 Kms of the government land in Village Kukma and is being covered with China Clay/sand as shown by the photographs. Gypsum is being dumped along the highways, in agricultural fields and government lands causing land pollution. Effluent water from the evaporation pond is being dumped in government land in Village Ler as shown by the photographs. Evaporation pond has been constructed on the government land adjoining the plant in question by encroachment. The Revenue Department of the Government has issued show cause notice dated 16.11.2018, a copy of which has been filed. We have asked the GPCB to look into these submissions and photographs and documents and take further appropriate action in accordance with law.

11. In continuation of order dated 06.05.2019, we direct the GPCB to take further appropriate action in accordance with law in respect of the violation of the environment in the past as well as which are still continuing by way of closure of polluting activities,

prosecution of the polluter and recovering compensation for the loss and furnish a further report within one month by email at judicial-ngt@gov.in."

4. On 03.09.2019, the matter was further reviewed as follows:

- "4. In pursuance to above, the GPCB has filed further action taken report dated 28.06.2019 to the effect that compensation of Rs. 97,50,000/- has been recovered. Prosecution was being pursued and the Committee has been constituted to study the disposal of gypsum in back filling of the mines.*
- 5. On behalf of the applicant, written submission dated 09.07.2019 has been filed relying upon the observations in the inspection reports of the GPCB and also submitting that gypsum was being stored on the Government land. Further written submissions have been filed during the course of hearing inter-alia stating that pet coke was still being stored and that the stand that the same was returned to Kotak Petro Chem P. Limited, Jamnagar, was not correct in view of response to a RTI query by GPCB itself. Further, photographs have been filed showing storage of gypsum.*
- 6. Learned counsel for the GPCB seeks time to verify the facts and file a further report. Such report may be filed on or before 15.10.2019.*
- 7. Needless to say that GPCB must ensure remedial action against the storage of gypsum in accordance with law."*

5. Accordingly, report has been filed on 18.11.2019 by the State PCB as follows:

" REGARDING GROUNDWATER CONTAMINATION & RESTORATION:

- As per the earlier analysis report of GPCB dated 17/09/2019, which has also been confirmed by the final report of M/s Kadam Environmental Consultants, Ammonia contamination is observed in different bore-wells in the vicinity of industrial unit. The source of ammonia contamination in ground water may be due to use of lime from "Gujarat Narmada Valley Fertilizers & Chemicals Ltd (hereinafter "GNFC") and improper (Kachha pond) storage of wastewater. The said analysis reports under which a total of 10 bore-wells samples were collected in the vicinity of unit, the contamination of ground water is present.*

Remedial Measures:

a) Elimination of Source of Contamination:

- The unit is now using fresh lime and has stopped using lime from GNFC.
- Unit has provided RCC pond for storage of wastewater and converted the kaccha pond into a pucca pond.

b) Restoration of contaminated of groundwater:

- As mentioned in the Interim Action Taken Report submitted before this Hon'ble Tribunal on 15/10/2019, GPCB had approached to the Head of Department, Environmental Engineering Section, Faculty of Technology & Engineering, The MS University, Baroda-Gujarat for the report on **"Detailed study with remedial action/complete solution for contamination of Groundwater as well as Soil by M/s. Ashapura Perfoclay Ltd, Survey No. 167, Village: Ler, Ta: Bhuj-Kutch."** However, MS University was not able to conduct the said study and GPCB had to appoint another institution for conducting the same.
- Promptly, on 18/10/2019, GPCB engaged the services of 'Pollucon Laboratories Pvt. Ltd.' to carry out soil and ground water sampling and ascertain the level of contamination thereof.
- The Report of Pollucon on **"Study on groundwater as well as soil from peripheral of M/s Ashapura Perfoclay Ltd."** was received by GPCB with the following observations:
 - > "M/s. GPCB assigned work for detailed study with remedial action/complete solution for contamination of Groundwater as well as Soil by M/s. Ashapura Perfoclay Ltd, Survey No. 167, Village: Ler, Ta: Bhuj-Kutch to M/s. Pollucon Laboratories Pvt. Ltd. -Surat
 - > M/s. Pollucon Laboratories Pvt. Ltd.-Surat carried out the sampling during 21/10/2019 to 23/10/2019 and analysed gypsum, ground water as well as soil samples to see the impact of the contamination on ground water and soil with respect to specific parameters.
 - > Ground water samples are collected from the surrounding bore wells from various locations including reference samples & unit's bore-wells- total 31 Nos. and total 7 Nos. of Gypsum samples are collected from the surrounding area of the unit and various locations where gypsum was dumped.

> Results of Ground water Analysis

Sr. No.	Parameters	Location 1 to 10 (approximate Within 1.5 km at distance from M/s. Ashapura Perfoclay Ltd.)	Location 11 to 30 - except 20, 21, 27 & 31 (approximate 2 to 8 km at distance From M/s. Ashapura Perfoclay Ltd.)	Location 20, 21, 27 & 31 approximate 8 to 10 km at distance from M/s. Ashapura Perfoclay Ltd.)
		Results		
1	Ammonical Nitrogen	Ranging from 0.34 to 16.10 mg/l	Ranging from 0.38 to 6.20 mg/l	Ranging from 0.42 to 1.20 mg/l
2	Total Dissolved Solids	Ranging from 1620 to 5285 mg/l	Ranging from 509 to 4211 mg/l	Ranging from 618 to 1415 mg/l

- > While comparing above results with IS 10500:2012 Drinking Water, some of the bore well water is not suitable for drinking purpose."

The Report of Pollucon Laboratories on "**Study on groundwater as well as soil from peripheral of M/s Ashapura Perfoclay Ltd.**" is annexed herewith as **ANNEXURE A**.

- As per the Interim Action Taken Report, the unit had appointed M/s. Kadam Environmental Consultants for conducting the ground water quality restoration and geo-hydrological study as per the Revocation conditions vide Notice dated 27/09/2019 and an interim report was submitted. M/s Kadam Environmental Consultants have now submitted the final report titled "**Groundwater Remediation Action Plan at Ashapura Perfoclay Limited, Bhujodi, Bhuj, Kutch District**" with the following observations:

- > Presence of Ammonical nitrogen and nitrate in groundwater may be due to use of impure lime in neutralization process in the past and use of fertilizer (Urea) in agricultural lands.
- > Elevated levels of total dissolved solids, chloride, Sulphate, Nitrate etc. may be due to local geology.

In light of the high levels of Ammonical nitrogen found in the ground water, the Report provides for a time bound action plan for remediation thereof which is annexed as Annexure 9 in the said Report.

The Report of M/s Kadam Environmental Consultants titled "**Groundwater Remediation Action Plan at Ashapura**"

Perfoclay Limited, Bhujodi, Bhuj, Kutch District is annexed herewith as **ANNEXURE B**.

REGARDING SOIL CONTAMINATION AND RESTORATION

- Alongwith the ground water study, GPCB also directed Pollucon to undertake soil sampling and analysis to determine the level of contamination therein due to dumping of gypsum. As per the Final Report submitted by Pollucon, the following observations/findings are made with respect to soil contamination:
 - > The soil samples are collected from 38 locations (total nos. of sample collected are 110 nos. and sampling done from top soil, 1 Meter, and 2 Meter depth as per the map describing the site of gypsum dumping given by GPCB. (Ref. Annexure-3 &4).
 - > To study the impact around approximate 10 km of area is considered. Gypsum dumping is done by M/s. Ashapura perfoclay Ltd, Bhuj-kutch around approx. 8 km. (Ref. Annexure-3 & 4 as per documents provided by GPCB).
 - > For more clarity and evaluation reference sample may be useful at some extent. Preliminary reference samples collected for 4 nos. of water samples and 3 nos. of soil from distance of approximate more than 8 kms from M/s. Ashapura Perfoclay Ltd., Survey No. 167, Village - Ler, Tal. Bhuj, Kutch.
 - > Total 6 Nos. of gypsum sample were collected at different dumping site and 1 sample collected from gypsum storage area within factory premises. Gypsum is analyzed and analyzed parameters are with the norms. (Test Report No. PLPL/ 130703009 and dated 03.07.2013)
 - > “ Gypsum from this source can be categorized as non-hazardous.” As per the MoEF vide letter no. F no. 23-161/2014-HSMD, dated 17/10/2014.
 - > Following observation given by Department of Agriculture Chemistry & Soil Science Junagadh Agriculture University for gypsum: “Different methods and levels of gypsum application to cotton crop improves the seed cotton, stalk yield and seed yield but unable to reach the level of significance, but the S status of soil after harvest of the crop increased significantly.”
 - > Soil samples testing results of parameters such as pH, Heavy metals, Na and K are found to be more or less in the range of the samples collected from distance between 8 to 10 kms from M/s. Ashapura Perfoclay Ltd.
 - > To identify the pollutants, manufacturing details is referred as per the mail of GPCB dated 18th Oct, 2019. Looking to such details of manufacturing process, the probable inorganic pollutants studied.
 - > Gypsum analyzed for its chemical and other parameters. Most probable pollutant ammonia is within the norms of Waste

constituents with concentration limits as per Class A: Based on leachable concentration limits of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as per Note I of Schedule II.

> Results of Soil Analysis:

Sr. No.	Parameters	Approximate 8 km distance from M/s. Ashapura Perfoclay Ltd.	Approximate 8 to 10 km distance from M/s. Ashapura Perfoclay Ltd.
		Results	
1.	pH	Ranging from 7.53 to 9.89	Ranging from 8.50 to 9.33
2	Electrical Conductivity	Ranging from 0.02 to 3.44 ms	Ranging from 0.07 to 6.63 ms
3	Ammonia (TCLP)	Ranging from 0.39 to 2.58 mg/l	Ranging from 0.66 to 1.13 mg/l

REGARDING GYPSUM DISPOSAL

- Gypsum has been dumped on a total of 35 locations by the industrial unit out of which gypsum has been lifted from 7 locations by the unit.
- As per the directions of the Order dated 03/09/2019 of the Hon'ble NGT, GPCB was directed to ascertain if the land where the gypsum has been dumped are government owned or private owned. In respect of this, the revenue records of the remaining 28 locations were inspected out of which 17 are government owned lands and the rest are private owned lands. It is however pertinent to note herein the unit has submitted affidavits of persons in possession of 27 locations out of the total 35 to GPCB, which state that these persons have no objection to the gypsum lying on the land which is in their possession and that such gypsum is useful for them due to its soil conditioning properties.
- As a result, GPCB has issued a Notice of Directions dated 18/11/2019 requiring the industry to:
 - > To execute the action plan submitted, for restoration/remediation of contaminated ground water within a period of three (3) months from the date of issuance of this notice;
 - > To immediately remove gypsum dumped at various sites outside the premises & clear all the sites as per consented conditions within a period of (3) three months from the date of issuance of this notice;

- > You are hereby directed to submit progress report to above mentioned points by the 18th of December 2019, 18th January 2020 and final report by 18th February 2020 failing which direction of closure will be issued without further notice to you.”

6. The report has also annexes a study report with a view to undertake remediation as follows:

“6.2 Conclusion & Recommendations

Based on the above studies, corrective actions and interpretations we conclude and recommend following actions for Remediation;

6.2.1 Hydraulic Containment of Groundwater

- Pump and treat method for hydraulic containment of groundwater for removal of ammonical nitrogen from groundwater. Drilling and installation of 2 Nos. of abstraction wells (up to a depth where groundwater is tapped) are proposed in order to extract groundwater of total 70m³/day; on the North-East boundary of the site adjacent to the contaminated off-site borewells. As per treatability study carried out by KEC, pump the groundwater from these wells and collect it into a tank where aeration treatment (with diffusers) should be given for removal of ammonical nitrogen and further this water should be treated at existing RO system, permeate to be reused in process and reject water sent to existing solar evaporation pond. The schematic process flow diagram showing groundwater treatment scheme and layout showing location of abstraction wells is shown in **Figure 10** and **Figure 11** respectively.
- If possible and farmers permit, groundwater can be abstracted from GW-6 and GW-7 and provide treatment for the same. If groundwater abstraction from GW-6 and GW-7 is allowed then drilling and installation of two abstraction wells as mentioned above is not required.

6.2.2 On-site monitoring of RAP of Pump and Treat method for 3 Months

- Provide ambient air quality monitoring network on the boundary of factory premises to monitor the ammonical nitrogen released as against the prescribed norms.
- Quarterly Monitoring of groundwater quality from on-site and off-site bore wells to know the effect

of remediation on contamination (Ammonical Nitrogen).

- *To submit quarterly monitoring reports of air quality and groundwater quality to concerned authority.*

6.2.3 On-site performance evaluation of RAP of Pump and Treat method for 3 Months

- *On basis of performance evaluation of on-site pilot trial run with pump and treat method, there will be assessment of analysis w.r.t. air and groundwater quality and efficiency of the system.*

Thereafter, full-fledged installation and commissioning will be done of this RAP technique for groundwater restoration.

6.2.4 Time bound action plan

*Proposed time bound action plan for groundwater remediation is enclosed vide **Annexure 9.**"*

7. To sum up, it is clear that Gypsum dumps have caused contamination of ground water with respect to ammonia, electrical conductivity and total dissolved solids. To remedy the situation, restoration processes are placed and these need to be examined by the GPCB and the CPCB.
8. Let further steps be taken which may be overseen by the State PCB. Damage caused to the soil and ground water sources needs to be remediated by the unit. It is also necessary to issue public notice about the un-fitness of the water for drinking or other specified use in the interest of public health. Further action taken report may be furnished by the State PCB after three months by email at publicnotice@maharashtra.gov.in. However, in the meanwhile, periodical checks may be conducted.

A copy of this order be sent to the CPCB by email.

List for further consideration on 23.03.2020.

Adarsh Kumar Goel, CP

S.P Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

Saibal Dasgupta, EM

November 20, 2019
Original Application No. 669/2018
AK