BEFORE THE NATIONAL GREEN TRIBUNAL WESTERN

ZONE BENCH, PUNE

O.A. 60/2021

Aryavart Foundation ... Applicant

Versus

M/s Hemani Industries & ors. ... Respondents

REPLY AFFIDAVIT OF RESPONDENT NO. 4 (GUJARAT INDUSTRIAL DEVELOPMENT AUTHORITY)

I, ARUNKUMAR CHHAGANBHAI PATEL, Age: 55years, Occupation: SERVICE, serving as EXECUTIVE ENGINEER (designation) with Gujarat Industrial Development Authorityhaving office address at: 1st Floor, Narmada Commercial Complex, Panchbatti, MG Road, Bharuch- 392001 and Head office Address at: 2nd Floor, Block No. 4, Udyog Bhawan, GH Road, Near Bank of Baroda, Sector-11, Gandhinagar, Gujarat-382011, do hereby beg to state on solemn affirmation as under:

1. I say and submit that, I have gone through the records of the present matter and after going through the relevant office records, I am filing the present Affidavit. However, I should not be deemed to admit anything which is contrary to or inconsistent with what is stated hereinafter in the absence of specific denial.

Executive Engineer
G.I.D.C. Bharuch.

NOTARY MAHENDRASINH BODANA BHARUCH DISTRICT Guj. State Reg.No 6829 Expire Dt. 30/09/2023 GOVT. OF INDIA

2. I say and submit that there are 233 Red Category Industries, 55 Orange Category Industries and 41 Green Category Industries which are in operation within the area of Respondent No. 4.

3. I say and submit that the Respondent No. 4 has developed industrial areas in Dahej-I, Dahej-II, Dahej-III, Vilayat and Saykha. The basic infrastructure has been provided by Respondent No. 4 i.e. Road, Water supply, storm water drain, street light, underground drainage, two common effluent treatment plant, deep sea disposal pipeline. The Respondent No. 1 is situated at the industrial area in plot no.CH-5 & E-362 at Dahej-I Industrial estate.

4. I say and submit that the Respondent No. 4 has provided the infrastructural facility to take into account the pollution for preventing and controlling the same. The Respondent No. 4 further submits that a separate plot has been allotted to M/s Bharuch Enviro Infrastructure Ltd for developing Treatment, Storage and Disposal Facility site at Dahej Industrial estate.

5. I say and submit that the Respondent No. 4 has also developed 22 Drainage pumping stations with underground collection well in above said area. The Respondent No. 2 has prescribed norms for treatment and discharge of Industrial Effluent in the collection network of the Respondent No. 4. The Industries operating at GIDC Dahej-I and Vilayat are treating the effluent generated by them as per the above mentioned norms. I further say and submit that the Individual industries of Dahej-I and Vilayat estate are treating their effluent as per norms prescribed by Respondent No. 2 and discharging their industrial effluent in collection network of Respondent No. 4. It is submitted that the Individual industries of Dahej-II and Dahej-III estates whose effluent discharge quantity is below 1 MLD are treating their

NOTARY MAHENDRASINH BODANA BHARUCH DISTRICT Gujarat State Reg. No 6829 Expire Dt. 30/09/2023 GOVT. OF INDIA

Executive Engineer
G.I.D.C. Bharuch.

effluent as per CETP Inlet norms and discharging their effluent into collection network of CETP. It is further stated that the effluent is further treated in accordance with the outlet norms specified by the Respondent No. 2. The same has been done at the CETP and the treated effluent is being discharged into the sea.

6. I say and submit that for monitoring the effluent discharged by individual industry and preparing the report of the same Respondent No. 4 has appointed an agency. The monthly Reports prepared by this third-party agency are sent to the Respondent No. 2.
7. The Respondent No. 4 submits that for monitoring the air quality the Respondent No. 4 has appointed an independent Air Monitoring Agency. It is submitted that the Agency monitors the air quality at the industrial estates and prepares the report. These reports are sent to Respondent No. 2's office monthly.
8. The Respondent No. 4 endeavours to adopt various measures for curbing the adverse impact on the environment. Apart from Liquid Monitoring Agency and Air Monitoring Agency as mentioned above, the Respondent No. 4 insists every member industry to install TOC/COD meter, pH meter, flow meter and automation system with return arrangement in case the parameters are higher than permissible limit.
9. I say and submit that the Respondent No. 4 has also made appropriate provisions for the proper storage and disposal of hazardous waste. A plot has been allotted to M/s Bharuch Enviro Infrastructure Ltd to develop Treatment, Storage and Disposal Facility site at Dahej Industrial estate. The site is developed by M/s BEIL and is in operation. It is submitted that Individual industry has to take membership of the Treatment, Storage and Disposal Facility site and disposed hazardous waste through M/s Bharuch Enviro Infrastructure Ltd.

NOTARY MAHENDRASINH BHARUCH DISTRICT Govt. State Reg. No 6829 Expire Dt. 30/09/2023 GOVT. OF INDIA

Executive Engineer
G.I.D.C. Bharuch.

10. I say and submit that the Respondent No. 4 is following a practice by which a record has been maintained in the form of Log Book with respect to the effluent. Every member industry has installed flow meters in their effluent disposal pipeline. Log-books of the same are also maintained by every industry. The same are being submitted to Respondent No.4 every month. It is further submitted that the un-treated effluent is discharged in CETP is being measured at CETP as per the norms prescribed by Respondent No. 2.

11. I say and submit that the average discharge in deep sea is 39 MLD from Final drainage pumping station. Out of which average 1 MLD is treated in the CETP. Hence many industries are discharging their treated effluent as per deep sea norms.

12. It is further submitted that the Respondent No. 4 has installed two common effluent treatment plants having capacity of 40 MLD each at Dahej-II and Saykha industrial estate. It is submitted that both the CETPs are in operation. The Respondent No. 4 has started to issue membership of CETP and also Special Purpose Vehicle has been firmed. A firmed i.e. Saykha Clean Initiatives Foundation and Dahej Clean Initiatives Foundation have been appointed.

13. I say and submit that the Respondent No. 4 has considered the future requirement of infrastructural development. Considering this the Respondent no. 4 has laid effluent disposal pipeline with diffusers of 90 MLD in at the distance of 4.5 kms. From Land Fall Point as specified by NIO. I say and submit that this pipeline is unoperational and non- working of because of huge scaling and burial under the sea bed about 3 to 4 meters. Considering this the Respondent No. 4 has laid 600 meter alternate MS pipeline from Land Fall Point. I say and submit that the said pipeline is also corroded. The Photographs depicting the sae are annexed herewith as "**Annexure -1**".

NOTARY MAHENDRASINH BODANA BHARUCH DISTRICT Guj. State Reg.No 6829 Expire Dt 30/09/202 GOVT. OF INDIA

Executive Engineer
G.I.D.C. Bharuch.

Hence, the Respondent No. 4 has laid 1000 mm dia High Density Polyethylene pipeline length of 800 meter from Land Fall Point. The Respondent No. 4 has published the Online Tender "**Annexure -2"** for execution of 4.25 Kms. offshore effluent disposal pipelines with diffusers. I say and submit that the agency will be finalized by end of December, 2021. And the work is expected to be completed within a time limit of 18 months. The copy of Online Tender is annexed herewith and marked as **"Annexure -3"**

14. I say and submit that in addition to this the Respondent No. 4 has upgraded effluent collection system in Dahej-I area i.e. 05 collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and/or ghost pipeline. I further say and submit that the Respondent No. 4 has introduced to install online monitoring system for controlling quality of effluent. i.e. TOC/COD meter, pH meter, flow meter and three-way automation system through online server.

15. I say and submit that the Operation and Maintenance Agency is working 24*7. Immediately after receiving complaint the Agency personal visits the site and resolves the issue. The representative of Respondent No. 4 accompanies the Agency. On 08.10.2021, a letter has been addressed to the Respondent No. 2 GPCB with respect to the incident of overflow of drainage. I say and submit that the failure on the part of the GPCB to monitor and regulate the output is resulting into tremendous burden on the infrastructural facilities; causing failure/under performance or damage to the facility. The Letter dt 08.10.2021 is annexed herewith as **"Annexure-4"**

NOTARY MAHENDRASINH BODANA BHARUCH DISTRICT Gujarat State Reg.No 6829 Expire Dt. 30/09/2023 GOVT. OF INDIA

Executive Engineer
G.I.D.C. Bharuch.

16. The Respondent No. 4 submits that with respect to the infrastructural facilities provided by the Respondent No.4, there had been communications and correspondence between Respondent no. 2 and 4 it is important to note that Direction dtd. 21.07.2020 u/s. 5 of the Environment (protection) act 1986 to the present Respondent. There has also been correspondence communicating compliance of Directions issued by Respondent no. 2. The same needs to be put up for proper appraisal for the Hon'ble tribunal. I say and submit that the Respondent No. 4 has always been ready and willing to adopt the suggestions and recommendations of the Respondent No. 2 provided practically feasible suggestions and timelines are given by it. By merely issuing various notices/directions etc.; the ground reality/facts remain unchanged. Proper guidance and consistent verification by the GPCB will be very effective in solving the issue. Hence the present Respondent prays for the directions in this regard to GPCB.

17. The Respondent no. 2 has also issued direction u/s. 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 to the Respondent no. 4. It is pertinent to note that wide communication dtd. 29/04/2021, address to Deputy Environment Engineer GPCB pointing out some practical difficulties and required time limit of at least 2.5 years to complete the work of pipe line for discharge of treated effluent in deep sea. But it is also important to note that the Respondent no. 4 on 16/09/2021 the present Respondent, after considering the suggestion and recommendation by the Respondent no. 2 GPCB, had reduced the time line from 2.5 years to 1.5 years.

18. The Respondent no. 4 submits that the Respondent No.4 appraising the GPCB with respect to the notice dtd. 23/09/2021. It is pertinent to note that the present Respondent has come up

NOTARY MAHENDRASINH BODANA BHARUCH DISTRICT Gujarat State Reg.No 6829 Expire Dt. 30/09/2023 GOVT. OF INDIA

Executive Engineer
G.I.D.C. Bharuch.

with Short Term Action Plan and Long Term Action Plan. The said later is annexed herewith as**"Annexure-5"**.

19. I say and submits that there had been a meeting between the GPCB and the present Respondent; to review the progress and ensure compliance by the Respondent no. 4. The meeting was held on 17/09/2021. The Minutes of Meeting is annexed herewith as "**Annexure-6"**

20. The Respondent no. 4 has also taking efforts by taking meeting with Industrial Association and GPCB to encourage all Industrial units to be member of the CETP. The Respondent no. 4.; if supported and guided by the GPCB would result into more effective pollution controlling mechanism.

21. I say and submit that the present Respondent had prepared a brief note depicting the infrastructural plans along with the short term and long term action plan and the present status. The same is annexed herewith and "**Annexure-7"**

22. I say and submit that, a meeting was held on 27/10/2021 and 18/11/2021, under the Chairmanship of Hon'ble Chief Secretary, Govt. of Gujarat. In the said meeting, the Hon'ble Chief Secretary was appraised by the present Respondent by the presentation depicting the action plan and status. The present Respondent had also deliberated the Committee on Effluent Disposal Management vide report annexed therewith as **"Annexure-7"**.The Hon'ble Chief Secretary has also inquired about the joint monitoring the status of Industrial unit carried out by the GPCB and CPCB to which it was mentioned that till date out of 117 Red Category Units, 34 Industrial Units have been monitored and report of the same is under process. In the same meeting the Hon'ble Chief Secretary has noted the compliance of directions of the GPCB by the present Respondent and asked the present Respondent to implement the

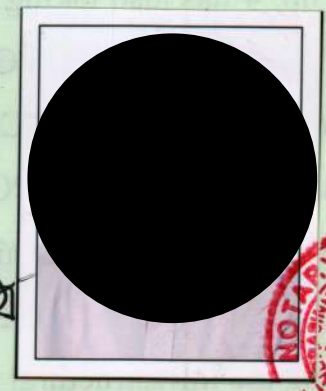
NOTARY MAHENDRASINH P. BODANA BHARUCH DISTRICT Guj. State Reg.NO 5829 Expire Dt. 30/09/2023 GOVT. OF INDIA

Executive Engineer
G.I.D.C. Bharuch.

same in the given time frame. The minutes of the above-mentioned meeting are annexed herewith as "**Annexure-8**".

23. I say and submit that thus the Respondent No. 4 is providing necessary infrastructural facilities preventing degradation of environment and also making every endeavour to adopt measures for pollution control.

Hence, this affidavit on 25 day of November, 2021.



Executive Engineer
G.I.D.C. Bharuch.
Affiant

I know the Affiant

Solemnly affirmed before me Arunkumar C. Patel who is identified by ~~Advocate~~ Shri T.C. valand whom I personally know.

(Mahendrasinh P. Bodana)
NOTARY
BHARUCH DISTRICT
Serial No 6240 of 2021

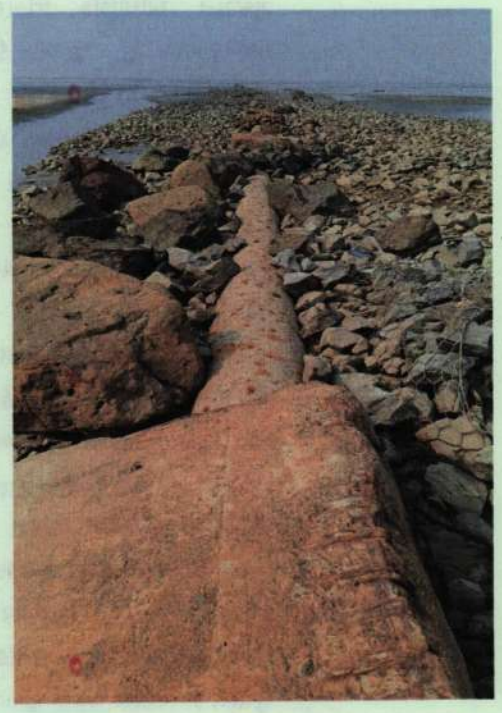
25 NOV 2021

Ph. (R) 227985 Mob.: 99253-73473
MAHENDRASINH P. BODANA
Advocate & Notary
B-1, Friends Colony,
Opp. J. P. College,
BHARUCH - 392001

Reg. Sr. No. 6240/2021
Date:- 25 NOV 2021
My Commission Expires on 30th September 2023

Annexure 1

600 meter MS pipeline from Land Fall Point.



Annexure 2

ગુજરાત ઔધોગિક વિકાસ નિગમ
(ગુજરાત સરકારનું સાહસ)
અધિક્ષક ઇજનેરશ્રી (મ.ગુ) ની કચેરી,
પાંચબત્તી, જી.આઇ.ડી.સી., ભરૂચ.
ફોન નંબર (૦૨૬૪૨)૨૪૨૪૪૨

જાહેર નિવિદા નં.૧૦/૨૦૨૧-૨૨

ગુજરાત ઔધોગિક વિકાસ નિગમની વર્તુળ કચેરી અધિક્ષક ઇજનેરશ્રી(મ.ગુ), જી.આઇ.ડી.સી., ભરૂચનાં તાબા હેઠળ કાર્યરત કા.ઇ.શ્રી(પાપુ/ડ્રે) ની કચેરી માટે અનુ.નં. ૦૧ થી ૦૬ ના કામો માટેના ટેન્ડરો / EoI ઓનલાઇન પદ્ધતિથી મંગાવવામાં આવે છે. આ કામોની દર્શાવેલ અંદાજીત કિંમત પૈકી લઘુતમ અંદાજીત કિંમત રૂા. ૫૭,૪૭,૧૪૦.૦૧ અને મહત્તમ અંદાજીત કિંમત રૂા. ૪૭૪,૬૦,૫૭,૫૯૯.૬૩ ની વચ્ચે છે.

ઓનલાઇન ટેન્ડર વેબ સાઇટ www.nprocure.com ઉપરથી ડાઉનલોડ-અપલોડ નિયત સમય-મર્યાદામાં કરી શકાશે.

આ કામોની વિગતવાર જાહેર નિવિદા ઓફિસનાં નોટીસ બોર્ડ ઉપર અને જી.આઇ.ડી.સી.ની વેબસાઇટ www.gidc.gujarat.gov.in તેમજ માહિતી ખાતાની www.statetenders.gujarat.gov.in માં જોઇ શકાશે.

નિવિદામાં જણાવેલ તમામ ટેન્ડરો અથવા તે પૈકી કોઇ પણ એક, કારણ જણાવ્યા વગર સ્વીકારવા, ન સ્વીકારવા તેમજ રદ કરવા એ નિગમનો અબાધિત અધિકાર છે, જે તમામને બંધનકર્તા રહેશે. બાના મુકતિ પ્રમાણપત્ર ગ્રાહ્ય/સ્વીકાર્ય નથી. વધુમાં, ટેન્ડરને લગતા તમામ સુધારા / વધારા www.nprocure.com વેબ-સાઇટ પર ટેન્ડર ભરવાની છેલ્લી તારીખ સુધી જોવાની રહેશે.

સહી/-
અધિક્ષક ઇજનેર (મ.ગુ)
ગુ.ઔ.વિ.નિ., ભરૂચ.

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION

(A Govt of Gujarat Undertaking)
Office of the Superintending Engineer (CG)
2nd Floor, Narmada Commercial Complex,
M.G.Road, PanchBatti, Bharuch-392001
Phone: (02642)242432/242442 FAX:(02642)241902

E-TENDER NOTICE No. 10 of 2021-22

The tender / EoI for the works having minimum cost Rs. 57,47,140.01 to maximum cost of Rs. 474,60,57,599.63 are invited by office of the Superintending Engineer(CG), G.I.D.C., Bharuch under jurisdiction of Executive Engineer (W/D), GIDC, Bharuch office through online. Tender for online works sr. no. 01 to 06.

The Tender for Online work can upload - download on website www.nproucre.com . The detailed tender notice can be seen in GIDC office notice board / GIDC website www.gidc.gujarat.gov.in / information department website www.statetenders.gujarat.gov.in . Right to reject the tender without assigning any reasons thereof are reserved by G.I.D.C., which will be binding to all bidders. Please stay touring web site - www.nproucre.com for any corrigendum / addendum / modification till last date of receipt.

Sd/-
Superintending Engineer (CG)
G.I.D.C., Bharuch.

(NOT FOR PUBLICATION)

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION

(A Govt. of Gujarat Undertaking)

Office of the Superintending Engineer (CG)
2nd Floor, Narmada Commercial Complex,
M.G. Road, PanchBatti, Bharuch-392001
Phone: (02642)242432/24244 FAX:(02642)241902

E-TENDER NOTICE NO. 10 OF 2021-22

E-tender for the following works of GIDC are publically invited from the intending bidders registered in appropriate class with state Govt. of Gujarat R&BD / W.R.D / GIDC and other State Governments equivalent, by the **Superintending Engineer (CG), GIDC, "Bharuch", 2nd floor, Narmada Commercial Complex, Panch Batti, Bharuch 393001** by E-tendering only under jurisdiction Executive Engineer (W/s & Drg.), GIDC, Bharuch on web site https://www.nprocure.com, www.statetenders.gujarat.gov.in

The tenders under Sr. No. 01 to 06 is invited in Item rate and Two Bid system with Pre-Qualification (Technical Bid & Price Bid), Bid will be opened on schedule date and thereafter on evaluation thereof, price bid of the pre-qualified bidders, will be only opened.

GENERAL DETAILS OF WORKS:

Sr. No	Name of work	(1) Estimated cost (2) Earnest Money Deposit (3) Non-refundable Tender Fee (Inclusive of 18% G.S.T)	Class of registration
	BHARUCH (W/s & Drg.) DIVISION		
1	Engineering, Procurement & Construction (EPC), Design, erection, Testing, Commissioning of 90 MLD offshore and onshore Effluent disposal pipeline from Saykha pumping station to LFP (Z-93, Dahej SEZ-II) including Civil structure, Electro-Mechanical & PLC SCADA components including 5 year Operation & Maintenance at Dahej PCPIR.	1) Rs. 474,60,57,599.63 2) Rs. 4,74,60,576.00 3) Rs. 21,240.00	"AA" class registration.
2	Water supply and Sewerage system as well as other ancillary works of conversion of Engineering zone into Mix zone for plot no. 1 to 267 and partial allotted of Chemical Industries in Juned Engineering zone at Saykha Industrial Estate.	1) Rs. 56,82,01,715.00 2) Rs. 56,82,018.00 3) Rs. 21,240.00	"AA" class registration.
3	Expression of Interest **(EOI)** from EIA Consultants for obtaining Environment Clearance for 800 Hectares Bulk Drug Park (Industrial Estate) at Jambusar, GIDC Gujarat	1) Rs. ------ 2) Rs. 1,00,000.00 3) Rs. 5,900.00	The bidder should have clear Accreditations of NABL, NABET-QCI for Industrial Estate / Park category and MoEFCC Approved Environmental Laboratory.
4	Expression of Interest **(EOI)** from MoEF &CC accredited under category 7d Consultants for setting up of a common Hazardous Waste Treatment, Storage & Disposal Facility (CHWTSDF) for 18.5 hec Saykha Industrial Estate	1) Rs. ------ 2) Rs. 1,00,000.00 3) Rs. 5,900.00	The bidder should have clear Accreditations of NABL, NABET-QCI for Industrial Estate / Park category and MoEFCC Approved Environmental Laboratory.

5	Construction of compound wall in drainage utility plots at Dahej-I & II Industrial estate	1) Rs. 1,98,06,613.56 2) Rs. 1,98,067.00 3) Rs. 4,248.00	"B" class and above
6	Providing, Supplying, Lowering and Laying of HDPE pipeline from plot no. 46 to Pumping station A1 at Dahej Industrial Estate	1) Rs. 57,47,140.01 2) Rs. 5,74,715.00 3) Rs. 2,832.00	"D" class and above

(A) SCHEDULE OF E-TENDERING

(i)	Downloading of Tender Documents from Web site of www.nprocure.com (The tender document for these work are available only in Electronic format which Bidder can download at free of cost)	**From 31st August 2021 to 20th September 2021 upto 17.00 hours**
(ii)	**SUBMISSION OF TENDER** **(A) Online submission** I) Online submission of bid documents. II) Scanned copies of DD for tender fee & EMD in electronic format only through online	**From 31st August 2021 to 20th September 2021 upto 17.00 hours**
	a) Other Documents required to be submitted by scanning in electronic format only through online **1) Required Class of registration** **2) Valid Bank Solvency and also as per para - C - Sub para 4**	**From 31st August 2021 to 20th September 2021 upto 17.00 hours**
	(B) Submission in physical form I) D.D. / FDR in original (for Tender fee & EMD) Other documents mentioned in para C, Sr. No. 5 for the purpose of verification only (in physical form) by personally i.e by Speed Post / Currier / Hand delivery. **(Kindly refer C-1,2 &3)**	**From 21st September 2021 to 24th September 2021 upto 17.00 hours**
(iii)	**Opening of Technical Bid documents.**	**In the Office of Superintending Engineer (CG), GIDC, 1st floor, Narmada Commercial Complex, PanchBatti, Bharuch as under:- Preferably On dtd. 27th September 2021 at 12.00 noon**

(B) On line Submission of Tender

1) Bidders can prepare & edit their offers number of times before tender submission date & time. After tender submission date & time, bidder cannot edit their offer submitted in any case. No written or online request in this regard shall be granted.
2) Bidder shall submit their offer i.e. Pre-qualification document with Technical Bid & Price Bid in Electronic format on above mentioned website & Date shown above after digitally signing the same.
3) **For the purpose of verification**, the original documents for Pre-qualification submitted in electronic format for Sr. No. 01 to 06 should be submitted in physical form as under:-

   - For Sr. No. 01 to 06 - O/o Executive Engineer (W/s & Drg.), GIDC, 1st floor, Narmada Commercial Complex, PanchBatti, Bharuch (Ph. 02642-242432)

By Speed Post/ Currier /Hand delivery during office hours.

4) Offers submitted without digitally signed will not be accepted.
5) Offers i.e. Pre-qualification document with Technical Bid & Price Bid in physical form will not be accepted in any case.
6) It is Bidder's responsibility to verify Online Corrigendum / Amendments until last submission date and time as well as before Final Submission of Bid.
7) Required documents for pre Pre-qualification document received later than the time specified will not be accepted in any case and the bid of that bidder shall be considered non-responsive.

(C) Submission of Tender Fees, EMD

1) Interested Bidders can view these tender documents online, but bidders who are interested in bidding these tenders can download tender documents from web site as mentioned above and bidder who wish to submit their offer shall pay non-refundable **tender fee in the form of Account Payee Demand Draft payable at Bharuch respectively for the works as under drawn on any Nationalized Bank in favour of -**

- **Executive Engineer, GIDC, Bharuch for work at Sr. No. 01 to 06**

2) Demand Draft for E.M.D. & Tender Fee shall be submitted in Electronic Format only through Online (by scanning) while uploading the Bid. This submission shall mean that E.M.D. & Tender Fee are received. Accordingly, offer of those shall be opened whose E.M.D. & Tender Fee is received electronically as well as received in physical form. **For the purpose of realization of D.D. as stated above under para (C- 1 & C - 2). However, bidder shall send the D.D. in original along with other documents (as stated in para C- 4)** by Speed Post/ Currier /Hand delivery during office hours as per **point No. B-3.**

3) **Required Documents mentioned as under (a), (b), (c) & (d) are mandatory for submitting scanned copies through ONLINE. Otherwise tender offer shall be treated as NON RESPONSIVE, without any further intimation.**
   a) Scanned copy of tender fee and EMD
   b) Required Class of registration, Latest Income Tax return filed, R.P.F.C registration certificate with latest challan, Pan Card & GST Registration certificate.
   c) Fresh Valid Bank Solvency- (Calendar Year) - (20% value of the estimated cost put to tender)
   d) Other documents if any mentioned in tender documents.

4) **For the purpose of verification,** the original documents submitted in electronic format should be submitted in physical form **for the works in the manner set out below** by hand delivery /courier / speed post during office hours.
   a) Original tender fee in form of DD and EMD in form of DD/ FDR.

Executive Engineer (W/s & Drg.), GIDC, Bharuch for work at Sr. No. 01 to 06

Tender fee, EMD in original and other required documents for verification received before or later than the time **from 21st September 2021 to 24th September 2021 upto 17.00 hours** will not be accepted in any case and the bid of that bidder shall be considered non-responsive. GIDC will not be responsible for delay in receipt of such documents due to any reasons by the postal department or any other agencies.

Any documents in supporting of tender bid shall be submitted in electronic format only through online (by Scanning etc.) and hard copy will not be accepted separately.

(A) GENERAL :

(1) Intending bidders or their representative who wish to remain present at the time of tender opening can do so.

(2) The tender fees for on line tender document will not be refunded under any circumstances.

(3) EMD in the form specified in tender document only shall be accepted.

(4) **Exemption certificate for Earnest Money Deposit should not be acceptable.**

(5) Tenders without Registration Certificate, Special Category Certificate, Solvency Certificate, Tender fees, Earnest Money Deposit (EMD) and which do not fulfill all or any of the condition or submitted incomplete in any respect will be rejected.

(6) This tender notice shall form a part of tender / contract document.

(7) Conditional tender shall not be accepted.

(8) Rules of GIDC are binding to the Tenderer.

(9) GIDC reserves the rights to reject any or all tenders without assigning any reason thereof.

(10) Please stay touring above web sites for any corrigendum / addendum/ modification till last date of receipt.

(11) If any clarification / query regarding these tenders is required, do not hesitate to contact our concern Executive engineers through mobile.

For Bharuch Division (W/s & Drg.)- Shri A. G. Dhodi -Executive Engineer - Mo. 8140870352

Sd/-
SE, GIDC, Bharuch

Annexure 3

Dashboard Edit Profile Archived Data Logout

Good Afternoon... Janak G. Gamit ! [GIDC Bharuch] Easy Links : Select Link

Tender Consolidated Details

Note: All Dates are in dd/mm/yyyy hr:min as per **Indian Standard Time (IST)**

NIT/Tender Details - 482178

View BOQ Details

Organization / Department Name :	**GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION**
Circle/Division	**GIDC Bharuch**
IFB No / Tender Notice No	E-TENDER NOTICE NO. 10 OF 2021-22 SR. NO. 01
Name of Project	Engineering, Procurement & Construction (EPC), Design, erection, Testing, Commissioning of 90 MLD offshore and onshore Effluent disposal pipeline from Saykha pumping station to LFP (Z-93, Dahej SEZ-II) including Civil structure, Electro- Mechanical & PLC SCADA components including 5 year Operation & Maintenance at Dahej PCPIR
Name of Work	Engineering, Procurement & Construction (EPC), Design, erection, Testing, Commissioning of 90 MLD offshore and onshore Effluent disposal pipeline from Saykha pumping station to LFP (Z-93, Dahej SEZ-II) including Civil structure, Electro- Mechanical & PLC SCADA components including 5 year Operation & Maintenance at Dahej PCPIR
Estimated Contract Value(INR)	4,746,057,599.63 (four hundred seventy four crores sixty lacs fifty seven thousand five hundred ninety nine and sixty three paise only)
Period Of Completion	24 Months
Mode of Tender	Open
Tender Currency Type	Single
Tender Currency Settings	Indian Rupee(INR)
Consortium / Joint Venture	Applicable
Rebate	Not Applicable
Sector Category	State Governments & UT
Form of Contract	Lump-Sum
Product Category	Civil Works - Others
Amount Details	
Bid Document Fee / Bid Processing Fees :	21240 (twenty one thousand two hundred forty only)
Bid Processing Fee Payable To :	EXECUTIVE ENGINEER GIDC BHARUCH
Bid Security/EMD/Proposal Security (INR) :	Rs. 47,460,576.00 (four crore seventy four lacs sixty thousand five hundred seventy six only)
Bid Security/EMD In Favour Of/Remarks :	EXECUTIVE ENGINEER GIDC BHARUCH
Tender Dates	
Bid Document Downloading Start Date	16/09/2021 18:09:00 onwards
Bid Document Downloading End Date	11/10/2021 17:00:00
Pre Bid Meeting	Yes (Online)
Pre Bid Meeting Opening Date	23/09/2021 12:00:00 onwards
Pre Bid Meeting Closing Date	23/09/2021 12:00:00
Last Date & Time for Receipt of Bids	11/10/2021 17:00:00
Bid Validity Period	120 Days
Remarks:	Date on (or before) which DD/FDR in original for Tender fee & EMD and other required documents must reach in the office of the Executive Engineer (M&E) ,GIDC, 2nd FLOOR, Narmada Commercial complex, Above Central Bank, M.G.Road, Panch Batti, Bharuch. Phone no: 02642-242432, 244183 Fax From:- 12/10/2021 to 14/10/2021 up to 17.00 hours.
Other Details	

Officer Inviting Bids :	Superintending Engineer (CG) GIDC, Bharuch.
Bid Opening Authority :	Superintending Engineer (CG) GIDC, Bharuch.
Address :	GIDC, Bharuch,1st Floor, Narmada Commercial,Complex, M.G.Road, PanchBatti, Bharuch.
Contact Details :	Telephone No. 02642 242432, 8140870352

General Terms & Conditions

Top

General Terms and Conditions

(1) Bidders can download the tender document free of cost from the website.
(2) Bidders have to submit Technical bid as well as Price bid in Electronic format only on nprocure website till the Last Date & time for submission.
(3) Offers in physical form will not be accepted in any case.
(4) Free vendor training camp will be organized every Saturday between 4.00 to 5.00 P.M. at (n)code solutions- A Division of GNFC Ltd., Bidders are requested to take benefit of the same.

Bidders who wish to participate in online tenders will have to procure / should have legally valid Digital Certificate as per Information Technology Act-2000 (Class-III) using which they can sign their electronic bids. Bidders can procure the same from any of the license certifying Authority of India or can contract (n)code solutions- A division of GNFC Ltd, who are licensed Certifying Authority by Govt. of India.

In case bidders need any clarifications or if training required to participate in online tenders, they can contact (n)Procure Support team:-

(n)code Solutions-A division of GNFC Ltd.,
(n)Procure Cell
403, GNFC Infotower, S.G. Road,
Bodakdev, Ahmedabad – 380054 (Gujarat)

Contact Details
Phone
Airtel: +91-79-40007501, 40007512, 40007516, 40007517,40007525
Reliance : +91-79-30181689

Fax : +91-79-26857321, 40007533
E-mail : nprocure@ncode.in

TOLL FREE NUMBER: 1800 419 4632 (EXT: 512,513,514,515,516,517)

Other Terms & Conditions as per detailed tender documents

Tender Documents

Sl.No	File Name	Description	File Size
1.	Modified Schedule.pdf	Modified Schedule	311.77 KB
2.	Volume-I Prequalification Bid.pdf	Volume-I Prequalification Bid	815.40 KB
3.	Volume-II- FORM C AGREEMENT Part -1.pdf	Volume-II- FORM C AGREEMENT Part -1	2.98 MB
4.	Volume-II- FORM C AGREEMENT Part -2.pdf	Volume-II- FORM C AGREEMENT Part -2	2.99 MB
5.	Volume-II- FORM C AGREEMENT Part -3.pdf	Volume-II- FORM C AGREEMENT Part -3	2.98 MB
6.	Volume-II- FORM C AGREEMENT Part -4.pdf	Volume-II- FORM C AGREEMENT Part -4	2.72 MB
7.	Volume-II- FORM C AGREEMENT Part -5.pdf	Volume-II- FORM C AGREEMENT Part -5	1.38 MB
8.	Volume-III Information of Project Part-I.pdf	Volume-III Information of Project Part-I	799.11 KB
9.	Volume-III Information of Project Part-II.pdf	Volume-III Information of Project Part-II	2.41 MB
10.	Volume-III Information of Project Part-III.pdf	Volume-III Information of Project Part-III	1.22 MB
11.	Volume-IV Schedules.pdf	Volume-IV Schedules	840.43 KB
12.	Volume-V Technical Specification Part-I.pdf	Volume-V Technical Specification Part-I	1.82 MB

13.	Volume-V Technical Specification Part-II.pdf	Volume-V Technical Specification Part-II	1.58 MB
14.	Cover and DRAWINGS_Part_A 1.pdf	Cover and DRAWINGS_Part_A 1.pdf	851.12 KB
15.	DRAWINGS_Part_A 2.pdf	DRAWINGS_Part_A 2	204.20 KB
16.	DRAWINGS_Part_A 3.pdf	DRAWINGS_Part_A 3	576.21 KB
17.	DRAWINGS_Part_A 4.pdf	DRAWINGS_Part_A 4	457.03 KB
18.	DRAWINGS_Part_A 5.pdf	DRAWINGS_Part_A 5	425.97 KB
19.	DRAWINGS_Part_A 6.pdf	DRAWINGS_Part_A 6	2.20 MB
20.	DRAWINGS_Part_A 7.pdf	DRAWINGS_Part_A 7	1.58 MB
21.	DRAWINGS_Part_A 8.pdf	DRAWINGS_Part_A 8	415.99 KB
22.	DRAWINGS_Part_A 9.pdf	DRAWINGS_Part_A 9	130.66 KB
23.	DRAWINGS_Part_A 10.pdf	DRAWINGS_Part_A 10	101.57 KB
24.	DRAWINGS_Part_A 11.pdf	DRAWINGS_Part_A 11	245.78 KB
25.	DRAWINGS_Part_A 12.pdf	DRAWINGS_Part_A 12	149.74 KB
26.	DRAWINGS_Part_B 1.pdf	DRAWINGS_Part_B 1	741.35 KB
27.	DRAWINGS_Part_B 2.pdf	DRAWINGS_Part_B 2	365.30 KB
28.	DRAWINGS_Part_B 3.pdf	DRAWINGS_Part_B 3	476.15 KB
29.	DRAWINGS_Part_B 4.pdf	DRAWINGS_Part_B 4	699.06 KB
30.	DRAWINGS_Part_B 5.pdf	DRAWINGS_Part_B 5	626.54 KB
31.	DRAWINGS_Part_B 6.pdf	DRAWINGS_Part_B 6	990.39 KB
32.	DRAWINGS_Part_B 7.pdf	DRAWINGS_Part_B 7	231.49 KB
33.	Volume-VII - Price Bid.pdf	Volume-VII - Price Bid	1.04 MB

Tender Stages

StageName	Evaluation Opening Date	Priority
Preliminary Bid	16/10/2021 12:00:00	1
Pre Qualification Bid	16/10/2021 12:05:00	2
Technical Bid	16/10/2021 12:10:00	3
Price Bid	16/10/2021 12:20:00	4

Tender Stage Screens

ScreenName	Form Type	Screen Mode	Mandatory	Multiple Submission	Documents Required
Stage Name: Preliminary Bid					
Tender Fee And EMD Detail	User Defined Template	Standard	Mandatory	No	
Stage Name: Pre Qualification Bid					
PQ Bid	User Defined Template	Standard	Mandatory	No	
Stage Name: Technical Bid					
Technical Bid	User Defined Template	Standard	Mandatory	No	
Stage Name: Price Bid					
BOQ Item Rate	Library	Secured	Mandatory	No	

Previous

Icons Representation
Documents Attached

Tenders Under Creation | Create New Tender | Approve Tender | My Procurements | Edit Tender | Approve Corrigendum | Pre Bid Meeting | Create Offline Tender | Create New Form | Tender BackUp | Bid Evaluation | Bid Evaluation Reports | Assign Tender Activities | Upload Documents | Tender Summary | Registered Suppliers | Add Limited Suppliers |

Powered By: C1India Private Limited Server Time : 17/09/2021 13:53:33

Annexure 4

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION
(Government of Gujarat Undertaking)
Office of the Executive Engineer (W/D),
First floor, Narmada Commercial Complex, Panchbatti, GIDC,
Bharuch-392001
Phone No.:(02642)242432, Fax No.: (02642)241902

No.: GIDC/BRC/EE/WD/772 **Dtd: 07-10-2021** 08

To,
The Regional Officer,
GPCB, Bharuch.

14/10/21
AAE

Subject: Effluent discharge monitoring of member industries.

Ref:

1. This office letter no GIDC/BRH/XEN/933 dated 11-08-2017
2. Photographs of drainage pumping station

Dear Sir,

With reference to the above, it is to state that GIDC is receiving approx. 39 MLD of effluent from member industries as on date. GIDC is receiving huge quantity of sludge at drainage pumping stations, which caused damage to the drainage related infrastructure of GIDC. Not only that, the sludge becomes solid in the collection well, pumping machineries which results huge scaling in to pipeline. GPCB knows very well that offshore pipeline became un-operational and buried in to sea-bed due to that reason. GIDC has made crores of un-necessary expenditure in changing the pipeline, pumping machineries due to huge scaling.

Current photographs of collection wells are enclosed for your reference.

In addition, you are well aware that GIDC is providing infrastructure. i.e. collection and disposal of industrial effluent. There are no any other activities being done by GIDC. Looking to the results of effluent parameters at drainage pumping stations, results found very higher than norms fixed by GPCB.

DRAINAGE SUB DIVISION
Inward No. 942
Date 14/10/2021

Vide letter under reference, this office requested your office to monitor member industries round the clock so as to control and keep parameters of industries within the limit. Kindly take necessary actions against industries to avoid these type of situations. You are requested to find out route cause and take necessary actions so that drainage scheme at Dahej PCPIR can be run efficiently.

Tanking you,
Yours truly,

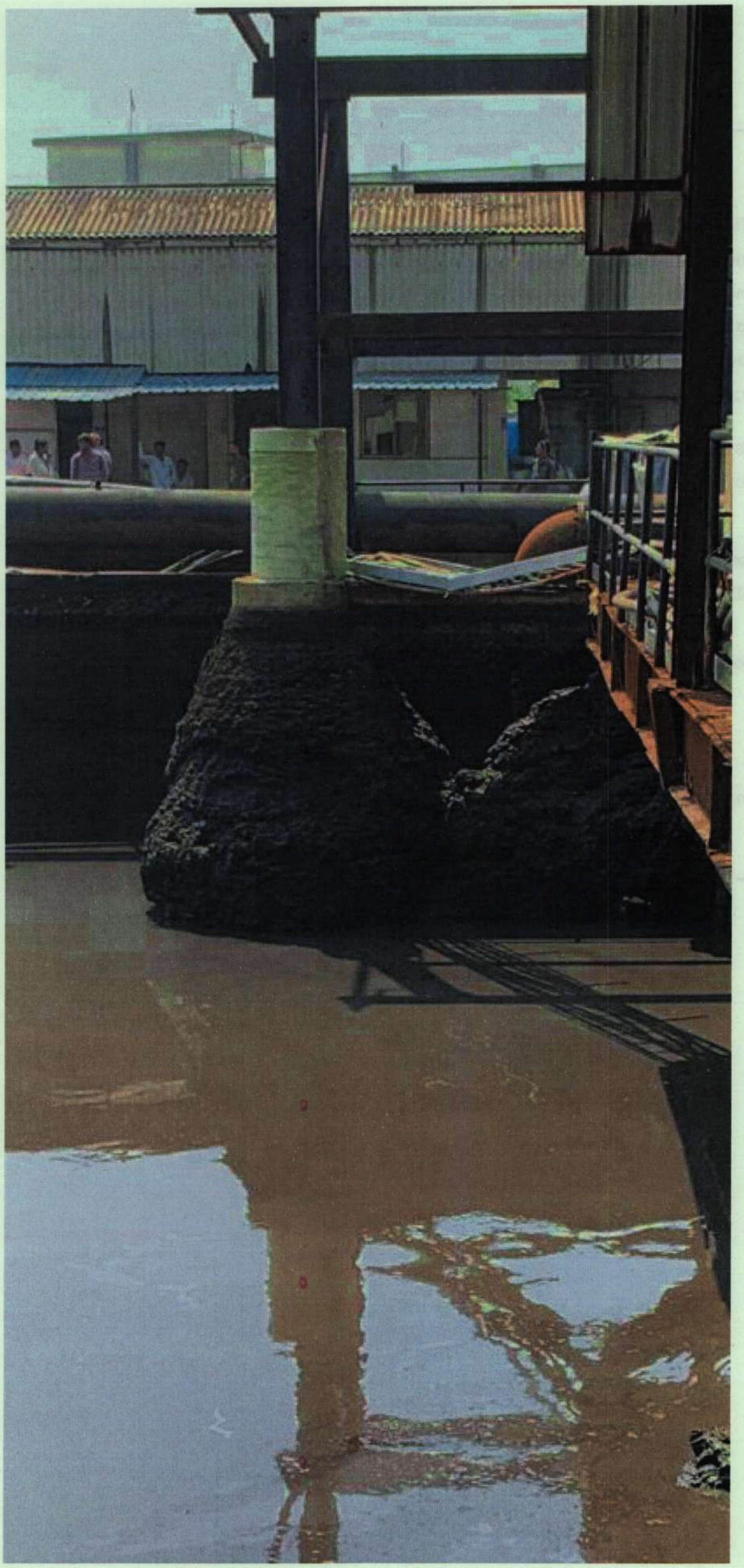
Executive Engineer (W/D),
GIDC, Bharuch.

Copy SWR to,

1. The Chief Engineer, GIDC, Gandhinagar.
2. The Superintending Engineer (PH), GIDC, Gandhinagar.

Copy to,

1. The Executive Engineer (PH), GIDC, Gandhinagar.
2. The Dy. Executive Engineer (Drg), GIDC, Bharuch.
3. The Manager (Infra), DSL, Dahej.



744

Annexure 5

Minutes of the Meeting held on 17thSeptember, 2021 at 11:30am under the Chairmanship of Shri A. V. Shah, Member Secretary, GPCB

Agenda: **To review progress and ensure compliance of several Directions issued to GIDC under the Water Act, 1974**

Date & Time: **17thSeptember, 2021 at 11:30 am**

Venue: **Committee Room (Room No: 106), Head Office, GPCB, Gandhinagar**

At the outset, Shri A.V. Shah, Member Secretary, GPCB has briefed that non-compliances observed since long regarding leakage/ choking problem in pipeline infrastructure of GIDC and treated effluent disposal quality (not meeting with the norms). He briefed about issuing several Directions by Gujarat Pollution Control Board (GPCB) under the Water Act,1974 to GIDC recently on 23/03/2020, 27/05/2020, 14/08/2020 and 24/03/2021 and about various Notice of Directions (NOD) by GPCB under the Water Act,1974 to CETP-Dahej recently on 01/03/2021, 26/05/2021 and 31/07/2021. He pointed out about the frequent non-compliances are observed by GPCB as under:

Deep Sea Discharge Pipeline Project operated by Dahej Vilayat Development Cell (GIDC)

1) The 4.5 km offshore deep sea pipeline is choked since long and waste water is being discharged through 600 m offshore disposal pipeline in CRZ 1B area.
2) GIDC has not submitted time bound action plan for making existing 4.5 km offshore pipeline operational or laying of a new deep sea disposal offshore pipeline.
3) Leakages are observed at various points in the provided 600 meter offshore disposal pipeline.

4) Construction work of Sludge drying beds in the premises of the final pumping station is yet not completed.
5) Sludge deposition is observed in the tanks of the final pumping station.
6) Online monitoring system provided at final pumping station is not found in operation.
7) Leakages/ overflow from GIDC drainage line at various location in GIDC & SEZ area of Dahej which results in wastewater ponding and accumulation in low-laying area and in storm water drain.
8) Effluent is not meeting discharge norms prescribed in CCA since long.
9) In Pumping station A which is receiving treated effluent of Chemical Zone at Dahej, Sample results shows very high concentration of COD: 3493 mg/l (Limit: 250 mg/l), BOD: 757 mg/l (Limit: 100 mg/l), Phenolic compound: 27.53 mg/l (Limit: 5 mg/l), NH-N: 138.88 mg/l (Limit: 50 mg/l) (considering max value in last three months samples).
10) In Pumping station C which is receiving treated effluent of SEZ-I, Sample results shows very high concentration of COD: 5526 mg/l (Limit: 250 mg/l), BOD: 883 mg/l (Limit: 100 mg/l) (considering max value in last three months samples).
11) In Final pumping station Ambheta, Dahej which is receiving treated effluent of Pumping station A & C, Sample results shows very high concentration of COD: 1415 mg/l (Limit: 250 mg/l), BOD: 305 mg/l (Limit: 100 mg/l), NH-N: 91.28 mg/l (Limit: 50 mg/l), Phenolic compound: 25.83 mg/l (Limit: 5 mg/l) (considering max value in last three months samples).

CETP Dahej (GIDC):

1) CETP is not effectively working and wastewater is simply passing through the CETP units. No flow from one unit to another unit of the CETP.

2) CETP is yet under stabilization stage and the full-fledged operation of the CETP is yet to be started.

3) No chemical dosing is observed for primary treatment. No aeration and no biomass is observed in Aeration tanks.

4) CETP has not provided online monitoring system at final outlet of CETP as per the CPCB directives.

5) Treated effluent is not meeting discharge norms since long (AR dated 19/05/2021 shows COD:664 mg/l, BOD:163mg/l, NH3-N:196 mg/l, AR dated 15/06/2021 shows COD:489 mg/l,NH3-N:201.6 mg/l, AR dated 05/07/2021shows COD:632 mg/l ,BOD:113mg/l ,NH3-N:196.56 mg/l and AR dated 07/08/2021shows COD: 625 mg/l , BOD: 133 mg/l ,NH3-N: 173.6mg/l (Limit: COD: 250 mg/l , BOD: 100 mg/l ,NH3-N: 50 mg/l)

Member Secretary, GPCB pointed out that the 4.5 km off shore deep sea pipeline is choked since long and wastewater is being discharged through 600 m offshore disposal pipeline in CRZ 1B area. He also added that effluent disposal is not meeting prescribed norms since long. Upon reviewing progress of action plan submitted by GIDC from time to time, it is noted that no significant actions have been taken by GIDC even after considerable time period lapsed and no considerable progress made by GIDC. He further asked GIDC to prepare short-term action plan for immediate compliance to tackle the situation and to submit short-term as well as long-term action plan along with Action Taken Report for the same.

Executive Engineer, GIDC, Bharuch informed that earlier installed 600 mm diameter M.S. pipeline corroded. Now, a new 1000 mm dia HDPE pipeline has been installed and the old 600 mm dia MS pipeline will be replaced by 1000 mm diameter HDPE pipeline at the earliest to stop leakages from the pipeline. He further added that

they have third party monitoring for individual industries and sample collected from individual industry is meeting discharge norms, however sample collected from pumping stations not meeting discharge norms.

Member Secretary, GPCB suggested GIDC to carry out frequent monitoring in odd hours and identify if any ghost connection or dilution system provided by Industrial unit. He added that GIDC should provide Online Continuous Effluent Monitoring System (OCEMS) which will be connected with server of GPCB & CPCB for continuous surveillance. Executive Engineer, GIDC, Bharuch informed that OCEMS is already provided but it is not working due to scaling problem in instrument and however GIDC has assured that they will repair it very soon and make it functional.

Executive Engineer, GIDC, Bharuch informed that the proposed above ground pipeline work will be completed within upcoming two (02) months which will help for effective monitoring of individual Industry and also informed that all manholes are now closed to prevent direct illegal discharge in manholes.

Member Secretary, GPCB has asked GIDC to take stringent actions including sealing of disposal line, restrict water supply etc. against non-complying industries which are not meeting with discharge norms and responsible for chocking/damage of underground drainage pipeline. He added that GIDC should identify constituents/parameters in effluent that causes chocking/damage of underground drainage pipeline and GIDC should prescribe specific standards to member industry to avoid this problem and restrict effluent receiving beyond this standards.

It is noted that sludge deposition takes place in GIDC drainage pipeline which causes chocking/damage in pipeline and GIDC has provided Sludge Drying Beds to dry sludge collected from pipeline. Member Secretary, GPCB pointed out that Sludge Drying Bed is not advisable looking to the type and quantity of sludge handled, huge area requirement and humid atmosphere. He suggested to provide mechanical equipment

like Filter Press, Decanter etc. for more efficient sludge drying process considering the problem arises in monsoon seasons like problem in drying of sludge and overflowing sludge drying beds.

Member Secretary, GPCB asked GIDC about operation status of CETP, Dahej and the Executive Engineer, GIDC informed that CETP, Dahej is receiving effluent from only 16 units and sufficient quantity of effluent is not being received. He also informed that CETP is not achieving discharge norms and several Notice of Directions (NOD) under the Water Act, 1974 has been issued in this regards and other non-compliances. Chemical addition is not carried out in primary treatment facility and there is no biomass developed in aeration tank (secondary treatment facility) as per field visit report received at head office and it is accepted by GIDC. It is noted that presently wastewater is simply passing from one unit to another unit of the CETP Dahej and then discharged to final pumping station without any treatment at the CETP. Member Secretary, GPCB instructed GIDC to develop biomass in aeration tank and operate CETP regularly and effectively to achieve discharge norms.

Member Secretary, GPCB suggested GIDC to explore possibilities to divert high TDS effluent of industries to CETP, Dahej (which causes choking/damage issue in underground drainage pipeline) and also to explore possibilities for providing advanced wastewater treatment (i.e. RO, MEE, MVR etc.) for treatment of high TDS wastewater into CETP, Dahej. Also it is suggested that GIDC may carry out R&D / engage any third party agency to find out root cause of pipeline chocking problem.

Further Member Secretary, GPCB drawn attention of GIDC regarding other infrastructure related issues in other estates i.e. Saykha, Vilayat and suggested GIDC to be vigilant on all activities/ situations which may damage environment. GIDC informed that Vilayat pipeline was leaked but now it has been repaired by them.

After deliberations on various issues, following decisions were taken:

- ✓ GIDC shall submit time bound action plan (Short Term and Long Term) against various Directions/NODs issued to GIDC for Deep Sea Discharge Pipeline Project and CETP – Dahej and adhere to it in true letter and spirit.
- ✓ GIDC shall increase frequency of inspections/samplings in odd hours and also make inspections/sampling more effective in order to ensure compliance of discharge norms by industries and effective implementation of conditions prescribed in CC&A of GIDC.
- ✓ GIDC shall convene meeting with Industrial Association of Dahej & Saykha and member industries who are discharging effluent into common pipeline to resolve pipeline chocking, violation of discharge norms etc. and to resolve other issues. GIDC may inform Regional Officer, RO-Bharuch, GPCB to remain present in meeting for their inputs and field observations.
- ✓ GIDC shall provide SCADA and Atomization system for Monitoring, Surveillance and discharge control and submit time bound action plan for it.

The meeting concluded with vote of thanks to the Chair.

****

Annexure 6

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION

(A Govt. of Gujarat Undertaking)
Office of the Executive Engineer (W/D)
1st& 2nd Floor, Narmada Commercial Complex,
Station Road, Panchbatti, Bharuch - 392 001
PH : 242432/244184 FAX:(02642)241902
Email: xen-brc@gidcgujarat.org

No. GIDC/BRH/EE/WD/ 754 Date :04-10-2021

To,
Dy Environment Engineer,
Gujarat Pollution Control Board,
Paryavaran Bhavan,
Sector 10-A,
Gandhinagar.

L090514500720
Sender Name: XEN (W/D)
Received Date : 04/10/2021

Sub: Compliance of GPCB notice dated 23-09-2021.

Ref: your notice no. 601763 dated 23/09/2021

Dear Sir,

With reference to the above, this office has received notice related to various points. The compliance of the notice is as below.

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
1	To stop discharge of effluent from pipeline laid at 600-meter on offshore as alternative arrangement.	GIDC has laid 1000 mm dia HDPE pipeline length of 800 meter from LFP.	GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffusers. The agency will be finalized by end of Nov-2021 and the work will be completed within a time limit of 18 months.
2	To discharge effluent 4.5 km mtr away from sea, so proper dilution as per condition no. 5.4 of CCA may be available at discharge point.	GIDC has laid 1000 mm dia HDPE pipeline length of 800 meter from LFP.	GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffusers to achieve dilution of 100 to 200 times prepared by NIO, GOA.

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
3	To carry out maintenance of 4.5 km offshore pipeline and solve problem of choking of pipeline.	As per compliance of point no 1; and it is not possible to repair diffusers and removal of scaling in offshore pipeline. Hence, it is required to lay new offshore pipeline and it will take at least 18 months to complete the said work.	GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffusers. The agency will be finalized by end of Nov-2021 and the work will be completed within a time limit of 18 months.
4	To rectify and repair leakages in GIDC drainage lines.	GIDC has awarded the M&R of underground drainage work to the agency. At present there in no leakages found from drainage lines.	The M&R work shall be carried out throughout the year. The work is awarded to specific agency.
5	To stop overflow from GIDC drainage manholes in various sections of GIDC drainage system in Dahej & Vilayat.	This is continuous process for maintenance of underground drainage line and manhole. GIDC has awarded the M&R of underground drainage work to the agency. At present there in no overflow found from drainage manholes.	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
6	To take necessary steps to control overflowed wastewater reaches to estuary/ sea through the natural drain / storm water drain.	Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.	The M&R work shall be carried out throughout the year. The work is awarded to specific agency.
7	To remove sludge deposition observed at the GIDC final pumping station (FPS).	GIDC has constructed sludge drying bed at FPS. The sludge will be removed within one month.	The work for installation of filter press at Pumping station will be completed within six months.

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
8	To provide adequate storage facility to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area.	To avoid overflow of wastewater GIDC has made arrangement of standby pumps and DG sets. And as and when required discharge of individual industries will be stopped.	GIDC has published the Online Tender for execution of 90 MLD pump house, 180 MLD storage capacity of guard pond at Plot no-Z/93, SEZ-II. The agency will be finalized by end of Nov-2021 and the work will be completed within a time limit of 18 months.
9	To relocate manholes to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area.	Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
10	To re-collect accumulated wastewater from surrounding area.	Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.	-
11	To strengthen pipeline infrastructure to convey effluent upto deep sea.	GIDC had laid 1000 mm dia HDPE pipeline from FPS to LFP in the month of June-2019. Hence, there is no any leakage found in conveyance line.	GIDC has replaced existing 600 mm dia MS pipeline by laying 1000 mm dia HDPE pipeline length of 800 mt from LFP.
12	To provide permanent solution of storm water management.	-	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
			through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
13	To take necessary steps to keep storm water drain dry during lean period.	GIDC will take care to dry SWD during lean period.	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
14	To comply condition no. 5.25 of existing CC&A.	At present there is no such type of management cell.	Environment management cell will be firmed within six months.

Tanking you,

Yours truly,

Executive Engineer (W/D),
GIDC, Bharuch.

Copy swr to :

1. The Chief Engineer, GIDC, Gandhinagar for information please.
2. The SE (CG), GIDC, Bharuch for information please.
3. The EE (PH), GIDC, Gandhinagar for information please.
4. The EE (M&E), GIDC, Bharuch for information and necessary action please.
5. The RO, GPCB, Bharuch for information please.

Copy to : DEE (Drg), GIDC, Bharuch for information.

Annexure 7

BEFORE THE NATIONAL GREEN TRIBUNAL SPECIAL BENCH

Original Application No. 60/2021(WZ)

Detail Note

Table of Contents

Detail Note 3
Main Issue: - 3
Expert Committee Observation: - 4
PREAMBLE: - 5
Problem on surface 2015-16 6
Immediately action taken 6
Action Taken to restore Drainage Scheme 7
Point no: - 1 8
Point no: - 2 8
Point no: -3 9
Point no: -4 9
Point no: -5 9
Point no: -6 9
Point no: -7 10
Point no: -8 10
Point no: -9 10
Point no: -10 11
Point no: -11 11
Point no: -12 11
Point no: -13 11
Point no: -14 11
A. Major works were completed for up-gradation of Drainage Infrastructure at Dahej PCPIR area: 12
WORK - 1 12
WORK - 2 12
WORK -3 12
WORK -4 13
WORK -5 13
B. For controlling quality of effluent received at various drainage pumping station, following works for Upgradation of effluent collection and conveyance system are undertaken. 14
WORK -1 14
WORK -2 14

WORK -3..... 15

WORK -4..... 15

WORK -5..... 15

WORK -6..... 16

C. GIDC has commissioned two no's of Common Effluent Treatment Plant having capacity of 40 MLD each at Dahej-II and Saykha Industrial estate. Project cost of Dahej CETP is 28973.86 lakhs and Saykha CETP is 29662.52 lakhs. 17

D. The works of 90 MLD Deep sea effluent disposal pipeline (offshore) & 90 MLD Effluent disposal pipeline from Saykha CETP to FPS (plot no Z-93) at Dahej PCPIR area. 18

E. Following measures also being taken by GIDC to control quality of Air and industrial effluent. 19

Detail Note

BEFORE THE NATIONAL GREEN TRIBUNAL SPECIAL BENCH

Original Application No. 60/2021(WZ)

- Aryavart Foundation (Applicant)

Versus

- Hemani Industries Limited (Respondent No. 1)
- Gujarat Pollution Control Board (Respondent No. 2)
- Central Pollution Control Board (Respondent No. 3)
- Gujarat Industrial Development Corporation (Respondent No. 4)
- Collectorate, Bharuch (Respondent No. 5)
- Gujarat Coastal Zone Management Authority (Respondent No. 7)

The application was filed and has been subject matter of various orders passed by the Tribunal in continuation to the earlier orders dated 16.08.2021 and 16.09.2021. The applicant, i.e., M/s Aryavart Foundation was filed against Respondent no 2 to 7. (Annexure-1 and 2)

Main Issue: -

The issues raised in this application related to respondent no 1 is that in utter disregard and violation of various conditions imposed upon them, for allotment of plot and running the industry by official respondents no 2 to 4, put up a dummy pipeline and discharging effluent directly into the sea within 600 metres, i.e., between high tide level and low tide level instead 4.5 KM deep sea offshore due to damage and chocking of damage offshore pipeline and diffuser system.

Expert Committee Observation: -

The GIDC drain directly release the trade effluents into the Sea. It is also worth mentioning that the GIDC drainage main pipeline which was to release trade effluents in deep sea at a point identified by NIO (around 4.5 km from the shore) has been blocked and now the trade effluents are being discharged only at a distance of 650 Meters from the shore. In addition to this there are various leakages in the pipeline through which the trade effluent oozes out even before it enters the sea. The reports of Expert Committee Submitted before this Hon'ble Tribunal in Original Application No. 22 of 2020 (ZB) titled as Aryavart Foundation Versus Yashyashvi Rasayan Pvt. Ltd, & Anr. Has clearly mentioned the blockage of the said pipeline and discharge of trade effluents on land and near the sea shore. The expert committee report submitted in O.A. No. 22 of 2020 (Aryavart Foundation Versus Yashyashvi Rasayan Pvt. Ltd, & Anr.) at para 6.5 page 12 reads as under other Allie Issues Found Relevant: Effluent Management in Dahej Industrial Area - Most of the Industries in Dahej -Vilayat area are discharging treated wastewater into internal drainage network (39 km) provided by GIDC having pumping stations (4 no's) and earlier finally used to pump to deep Sea through underground pipeline (90 MLD capacity, present flow @ 39 MLD) from final Pumping station (FPS). The length of this disposal pipeline is 13.5 km out of which 9 km on shore and 4.5 km off - shore. The final disposal point was identified by the National Institute of Oceanography (NIO).

However, presently, the wastewater is being reportedly discharged only at 600 m inside (with 600 m off - shore separate Pipeline) the Sea, instead of 4.5 km due to damage /choking of 4.5 km off-shore pipeline /diffuser system. The 600 m off - shore pipe in use is reportedly having leakages at a number of locations discharging effluent in between High Tide Level (HTL) & Low Tide Level (LTL) .

The effluent discharged from Final Pumping Station is not meeting prescribed norms as per CPCB & GPCB monitoring results. It is inferred that the individual industries are not treating the effluent as per standards prescribed by GPCB and letting wastewater without proper treatment into the GIDC drainage system." The report further mentions, "Noncompliance of discharge standards at Final Pumping Station (FPS), heavy sludge deposition at FPS, overflowing of manholes due to choking / leakage problems of GIDC drainage lines, Frequent overflowing of effluent from manholes leading to storm water drain / natural drains which ultimately carry effluent to estuary of River Narmada & to the Sea, accumulation of effluent in some area etc."

> As per the hearing on 04.10.2021, Hon'ble Justices ordered that the Chief Secretary of Government of Gujarat is directed to convene a Meeting with the participation of Gujarat Pollution Control Board (GPCB), Respondent No. 4 represented by Chairman and Managing Director, Respondent No.
5 and the Respondent No. 7 and the result of the said Meeting and decision to be taken in the said Meeting, be submitted in the form of the report with supporting documents on the next date of hearing. (Annexure-3)

> The short-term and long-term action plan submitted to the GPCB vide this office letter no GIDC/BRH/EE/WD/754 dated 04.10.2021 as per directive of GPCB, Gandhinagar meeting was held on dated 17.09.2021 is enclosed herewith. (Annexure-4)

PREAMBLE: -

GIDC Drainage scheme Infrastructure at Dahej PCPIR.

- GIDC had commissioned 90 MLD (65 MLD for Dahej + 25 MLD for Vilayat Industrial estate) Effluent collection and disposal scheme at Dahej PCPIR in year 2006-07.

Figure 1 Effluent Disposal Pipeline

- Main components of existing drainage scheme are as below:
  1. 90 MLD (65 MLD from Dahej + 25 MLD from Vilayat) final drainage pumping station at Dahej.
  2. 25 MLD drainage pumping station at Vilayat.
  3. 710 mm Dia. HDPE pipeline from Vilayat Drainage pumping station to Dahej final drainage pumping station. (39.5 Kms)
  4. 1000 mm Dia. HDPE pipeline from Final Drainage pumping station to Landfall point. (9.5 Kms)
  5. 1000 mm Dia. CS offshore pipeline from Landfall point to Diffuser point. (4.25 Kms)
  6. The pumping machineries at Final drainage pumping station were designed for 90 MLD of effluent discharge with 100 percent standby (2 working + 2 standby).

> Initially, in year 2008-09, only three effluent connections were released and only 0.76 MLD effluent was received at Final drainage pumping station.

> There after as the industries came up, 42 no's of industries drainage connections were released and discharge of effluent quantity receive was 35 MLD up to 2015-16.

Problem on surface 2015-16

In year 2015-16, the maintenance of drainage scheme got increased and frequent incidence of overflow of wet well took place. Once, dry well was also submerged.

Figure 2 Drywell in submerged condition

Immediately action taken

1. **INSPECTION OF PIPELINE**: Inspection of pipeline at various locations was carried out and it was found that the pipeline was gradually scaled from inside due to chemical reactions. The scaling was found inside the suction & delivery, header, valves, discharge pipeline and pumping machineries.

Figure 3 Scaling condition found in pipeline, Valves & pumps at Existing FPS

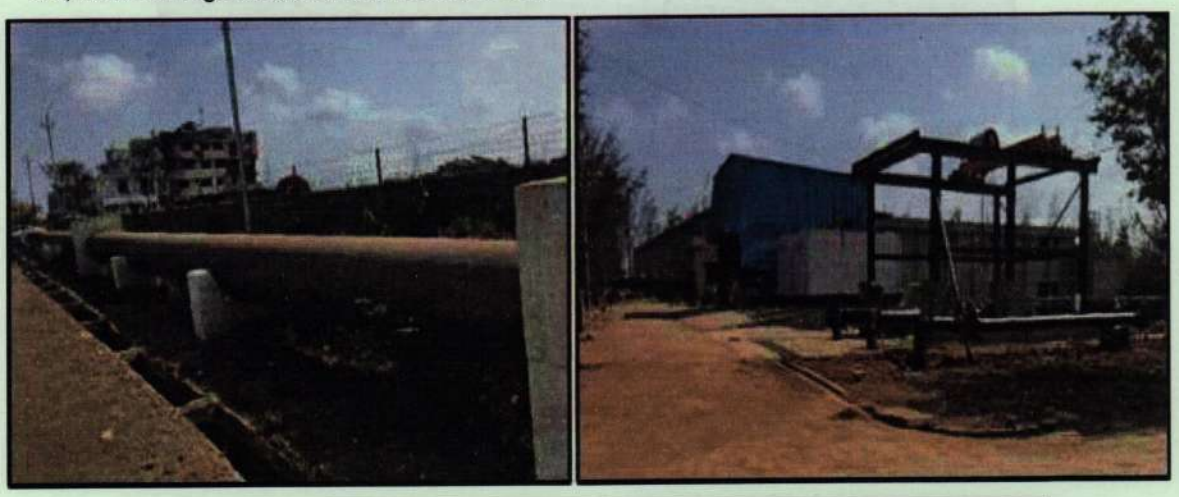
Due scaling, the pipe diameter got reduced and which damaged pumping machinery and hence the pumping machinery could not be operate with efficiency as per original design, resulting in overflowing of effluent

2. INSPECTION OF DIFFUSER: Inspection of offshore pipeline was also carried out by the M/s Hydroair Tectonics, Mumbai on April 2016 in deep sea and as per report of the agency, it was concluded that: -

No diffuser port nozzles or valves were found protruding out of the sea bed as the same were buried below sea bed to the tune of 2.8 to 3.5 mt. The large-scale sand movements in this gulf results in heavy sand deposition over the pipeline/diffuser and similarly at times the large-scale erosion removes the sand deposition and expose the diffuser ports depending on the seasonal variations. (Annexure-5)

Action Taken to restore Drainage Scheme

Temporary works were undertaken on war foot basis in 2016-17 to 2017-18. i.e., Replacement of various valves, pumping machineries and header line at final drainage pumping station, Replacement of Rising main of 1.7 Kms including pumping machinery in first phase but after two to three months balance pipeline also got fully scaled. Hence, Reroute of Rising main of 6.6 Kms in second phase from final drainage pumping station to Pumping station - D at SEZ-II was taken up. Also, the arrangement of by passing the diffuser was made and the pipe line was laid in to the sea within up to 600 metres, i.e., between high tide level and low tide level.



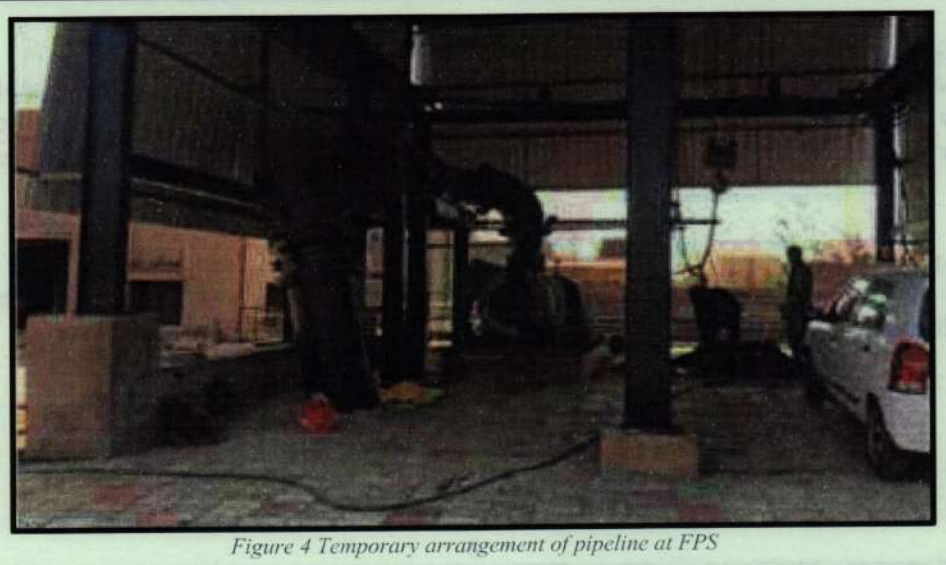


Figure 4 Temporary arrangement of pipeline at FPS

As per GPCB's Direction, Detailed time bound action Plan is as under:

Point no: - I

To stop discharge of effluent from pipeline laid at 600-meter on offshore as alternative arrangement and discharge effluent 4.5 km mtr. away from sea, so proper dilution as per condition no. 5.4 of CCA may be available at discharge point No. 8

Point no: - 2

To discharge of effluent 4.5 km mtr away from sea, so proper dilution as per condition no. 5.4 of CCA may be available at discharge point.

Action taken: -

GIDC has completed the phase-I work of 1000 mm Dia HDPE pipe line for discharging 90MLD Treated Effluent from Land fall point to 800 mtr offshore.

Short Term Action Plan

GIDC has undertaken the work of Providing and Laying 1000 mm Dia HDPE pipe line for discharging 90MLD Treated Effluent from SEZ-II to Land fall point and up to 800 mtr offshore. The work order for the above work was issued on 12-01-2021. The work completed 11/ 10/2021

Figure 5 Providing and Laying of 1000Dia. HDPE Pipeline

Long Term Action Plan

GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffuser. The agency will be finalized by end of Dec-2021 and the work of offshore pipeline work with diffuser will be completed within a time limit of 18 months from the date of fixation of agency.

Present Status: -

> Tender of the above work (i.e., long term action plan) is invited. Last date of bid submission is 30/11/2021.

Point no: -3

To carry out maintenance of 4.5 km offshore pipeline and solve problem of choking of pipeline.

Short Term Action Plan

As per compliance of point no 1; and it is not possible to repair diffuser and removal of scaling in offshore pipeline. Hence, it is required to lay new offshore pipeline and it will take at least 18 months to complete the said work.

Long Term Action Plan

GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffuser. The agency will be finalized by end of Dec-2021 and the work of offshore pipeline work with diffuser will be completed within a time limit of 18 months from the date of fixation of agency.

Present Status: -

Tender of the above work (i.e., long term action plan) is invited. Last date of bid submission is 30/11/2021.

Point no: -4

To rectify and repair leakages in GIDC drainage lines.

Short Term Action Plan: -

> GIDC has awarded the M&R of underground drainage work to the agency. At present there is in no leakages found from drainage lines.

Long Term Action Plan: -

The M&R work shall be carried out throughout the year. The work is awarded to the agency.

Present Status: -

> It is attended on regular basis whenever leakage is observed in drainage line and overflow manholes of drainage system at Dahej & Vilayat Estate.

Point no: -5

To stop overflow from GIDC drainage manholes in various sections of GIDC drainage system in Dahej & Vilayat.

Action taken

> GIDC has started up-gradation of Drainage Effluent Collection & Conveyance System for SEZ Part-I at Dahej Industrial Estate.

Short Term Action Plan

> This is continuous process for maintenance of underground drainage line and manhole. GIDC has awarded the M&R of underground drainage work to the agency. At present there in no overflow found from drainage manholes.

Long Term Action Plan

> GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection wells with pumping station are constructed. Effluent connection will be released through above ground to avoid any unauthorized connection. Moreover, the existing manholes are to be closed.

Present Status

> GIDC has already informed to industries to lay express line above ground and will be completed shortly.

Point no: -6

To take necessary steps to control overflowed waste water reaches to estuary/ sea through the natural drain / storm water drain.

Action taken

> Whenever any leakage / breakdown took place, the discharge of member industries were stopped and

immediate actions are taken for repairing.

> The M&R work shall be carried out throughout the year. The work is awarded to the agency.

Present Status

> The accumulated effluent pumped into nearby manhole chamber to avoid draining into estuary / sea.

Point no: -7

To remove sludge deposition observed at the GIDC final pumping station (FPS)

Action taken

> The M&R work shall be carried out throughout the year. The work is awarded to the agency.

Short Term Action Plan

> GIDC has constructed sludge drying bed at FPS. The sludge will be removed within one month.

Long Term Action Plan

> The work for installation of filter press at Pumping station will be completed within next six months.

Present Status

> Remove settled sludge regular basis from collection well of final drainage pumping station.

Point no: -8

To provide adequate storage facility to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area.

Short Term Action Plan: -

> To avoid overflow of wastewater, GIDC has made arrangement of standby pumps in case of the pumps gets failed. The DG sets have been installed to take care during the power failure. And as and when required discharge of individual industries will be stopped.

Long Term Action Plan -

> GIDC has published the Online Tender for execution of 90 MLD pump house, 180 MLD storage capacity of guard pond at Plot no-Z/93, SEZ-II part of 90 MLD scheme. The agency will be finalized by end of Dec-2021 and the work will be completed within a time limit of 18 months.

Present Status

> Tender of the above work is invited. Last date of bid submission is 30/11/2021.

Point no: -9

To relocate manholes to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area.

Short Term Action Plan: -

> Whenever any leakage / breakdown took place, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid draining in estuary / sea.

Long Terms Action Plan:

> GIDC has upgraded effluent collection system in Dahej-I area i.e., 05 no's of collection well with pumping station are constructed and connection will be released above ground express pipeline to avoid any unauthorized connection. Also, the existing manholes **are to be closed**.

> GIDC has started up- gradation of Drainage Effluent Collection & Conveyance System for SEZ Part-I at Dahej Industrial Estate.

> The work is undertaken having following major components.

Major Components:

1. Three no's of effluent collection sump and pump house.
2. Three no's of Effluent storage reservoir.
3. Drainage network (MOC - HDPE)
4. Pumping Machineries

Present Status

> Civil work completed and Pumping machinery work will be installed by the end of December 2021.

Point no: -10

To re-collect accumulated wastewater from surrounding area.

Short Term Action Plan

> Whenever any leakage / breakdown took place, the discharge of member industries were stopped and immediate actions have been taken for repairing. The accumulated effluent is pumped in to nearby manhole chamber to avoid drain in estuary / sea.

Long Term Action Plan

> Re-collected accumulated wastewater from surrounding area regular basis

Present Status

> Presently area is cleaned up.

Point no: -11

To strengthen pipeline infrastructure to convey effluent up to deep sea.

Short Terms Action taken Plan

> GIDC had laid 1000 mm Dia. HDPE pipeline from FPS to LFP in the month of June-2019. Hence, there is no any leakage found in conveyance line.

> GIDC has replaced existing 600 mm Dia. MS pipeline by laying 1000 mm Dia. HDPE pipeline length of 800 mt from LFP.

Long Terms Action taken Plan

> The agency will be finalized by end of Dec-2021 and the work of offshore pipeline work with diffusers will be completed within a time limit of 18 months from the date of fixation of agency.

Present Status

Tender of the above work is invited. Last date of bid submission is 30/11/2021.

Point no: -12

To provide permanent solution of storm water management

Present Status

GIDC has invited the tender for construction of storm water drain to provide permanent solutions of the storm water management. Price bid has been opened and agency will be finalized soon, so as to complete the work before on set of monsoons.

Point no: -13

To take necessary steps to keep storm water drain dry during lean period

Present Status

Cleaning of SWD has been carried regularly through agency.

Point no: -14

To comply condition no. 5.25 of existing CC&A.

Action taken Plan

Environmental compliance will be submitted to GPCB regularly.

A. Major works were completed for up-gradation of Drainage Infrastructure at Dahej PCPIR area:

WORK - 1

The pipeline from land fall point to diffuser was chocked. (Approx. 4.5 Kms)

Action taken

GIDC has undertaken the work of Providing & Laying 610mm Dia MS pipe from Landfall point towards Diffuser Point at Dahej. Consent from Association was received on dated 06-12-2018. The length of the pipeline laid was 700 mt (100 mt Onshore + 600 mt offshore between Low tide line and High tide line). The expenditure occurred for the work was Rs. 81.08 lakhs. The work order for the above work was issued on 04-04-2018.

Figure 6 Providing and Laying of 610 mm Dia MS Pipe

WORK - 2

Effluent disposal line from pumping station D to Land fall point was chocked. (Approx. 1.72 Kms)

Action taken

GIDC has undertaken the work of Removing, carting 1016mm Dia MS pipe from Drainage final PS to near sterling Auxiliary and Laying from Drainage PS-D to Landfall at Dahej.

Consent from Association was received on dated 06-12-2018. The length of the pipeline laid was 1.72 Kms from Pumping station - D to Landfall point. The expenditure occurred for the work was Rs. 118.98 lakhs. The work order for the above work was issued on 04-04-2018.

WORK -3

The pipeline from Final drainage pumping station at Dahej to Pumping station-D at SEZ-II was highly scaled. (Approx. 8.5 Kms)

Action taken

GIDC has undertaken the work of Providing and laying 1000 mm Dia HDPE pipe for 90 MLD Treated Effluent Conveyance pipe line from Final Drainage Pumping Station to landfall point at Dahej including Five years free maintenance. Consent from the Association was received on dated 25-05-2018. The expenditure occurred for the work was Rs. 3435.05 lakhs. The work order for the above work was issued on 1108-2018.

WORK -4

The pipeline from Final drainage pumping station at Dahej to Reliance SWD was highly scaled. (Approx. 3 Kms)

Action taken

GIDC has undertaken the work of Providing & laying of 610 mm dia. MS drainage main pipeline from Ambheta Pumping to Reliance Khadi joint in Dahej-GIDC Area. Consent from the Association was received on dated 06-12-2018. The expenditure occurred for the work was Rs. 355.88 lakhs. The work order for the above work was issued on 19-022019.

WORK -5

The pipeline from PS-D at SEZ-II to Land fall point. (Approx. 2 Kms)

Action taken

GIDC has undertaken the work of Providing and Laying 1000 mm Dia HDPE pipe line for discharging 90MLD Treated Effluent from SEZ-II to Land fall point at Dahej Industrial Estate. Consent from the Association was received on dated 15-04-2019. The expenditure occurred for the work was Rs. 1003.76 lakhs. The work order for the above work was issued on 12-01-2021.

B. For controlling quality of effluent received at various drainage pumping station, following works for Upgradation of effluent collection and conveyance system are undertaken.

WORK -1

Name of Work:
Upgradation of Drainage Effluent Collection & Conveyance System for SEZ Part-I at Dahej Industrial Estate.

Purpose of Work:
The existing effluent collection network is at doorstep with underground pipeline and manhole chamber system.

As per direction of GPCB, for controlling quality of effluent discharged by industry, the effluent should be collected through above the ground express pipeline of individual industry. Hence, the work is undertaken with following major components.

Major Components:
1. Three no's of effluent collection sump and pump house.
2. Three no's of Effluent storage reservoir.
3. Drainage network (MOC - HDPE)
4. Pumping Machineries

Tendered Cost: Rs. 785.04 lakhs

WORK -2

Name of Work:
Providing, Supplying & Laying of 710mm Dia. HDPE & 610mm Dia MS Drainage Rising Main line from pond to LFP at Dahej -PCPIR Area.

Purpose of Work:
At present, the effluent of SEZ-I area is being discharged at final drainage pumping station at Ambheta.

As planned by GIDC, New 90MLD final pumping station to be constructed near LFP i.e., plot no Z-93. Hence, the work is undertaken with following major components.

Major Components:
1. 710 mm Dia HDPE pipeline.
2. 610 mm Dia MS pipeline.

Tendered Cost: Rs. 1485.76 lakhs

WORK -3

Name of Work:
Construction of Sludge Drying Bed at Final Pumping Station at Dahej Industrial Estate.

Purpose of Work:

As per direction of GPCB, to remove settled sludge at collection well of final drainage pumping station, the above work was undertaken.

Tendered Cost: Rs. 72.48 lakhs

WORK -4

Name of Work:
Construction of 02 nos. RCC Sump and Pump House at Chemical Zone, Dahej-I.

Purpose of Work:

The existing effluent collection network is at doorstep with underground pipeline and manhole chamber system.

As per direction of GPCB, for controlling quality of effluent discharged by industry, the effluent should be collected through above the ground express pipeline of individual industry. Hence, the work is undertaken with following major components.

Major Components:

1. 02 no's of RCC sump and pumphouse.
2. Providing, Supplying, Lowering and laying of HDPE pipeline.
3. Pumping machineries with panels.

Tendered Cost: Rs. 356.44 lakhs

WORK -5

Name of Work:
Refurbishment and Replacement and Design, Engineering, Supply, Installation, Testing and Commissioning of Horizontal Non-Clog Pumps with accessories and allied Electro-mechanical and Instrumentation and SCADA work at Dahej and Vilayat 90 MLD Pumping Station @ Dahej and Vilayat.

Purpose of Work:
Augmentation of Pumping machinery, Refurbishment and replacement work. Hence, the work is undertaken with following major components.

Major Components:

1. Pumps.
2. Motors.
3. Electrical Panels.

Tendered Cost: Rs. 552.62 lakhs

WORK -6

Name of Work:
Untreated effluent collection and conveyance system to nearest pumping station at GIDC, Dahej-II.

Purpose of Work:
For controlling quality of effluent discharged by industry, the effluent should be collected through above the ground express pipeline of individual industry. Hence, the work is undertaken with following major components.

Major Components:

1. Elevated storage reservoir - 22 no's
2. Providing, Supplying and Laying HDPE pipeline.

Tendered Cost: Rs. 398.31 lakhs

C. GIDC has commissioned two no's of Common Effluent Treatment Plant having capacity of 40 MLD each at Dahej-II and Saykha Industrial estate. Project cost of Dahej CETP is 28973.86 lakhs and Saykha CETP is 29662.52 lakhs.

Figure 7 Sayakha-CETP-40 MLD Capacity

Figure 8 Dahej-CETP-40 MLD Capacity

D. The works of 90 MLD Deep sea effluent disposal pipeline (offshore) & 90 MLD Effluent disposal pipeline from Saykha CETP to FPS (plot no Z-93) at Dahej PCPIR area.

GIDC Board has approved to lay new 90 MLD pumping station, Electromechanical, Instrumentation, Onshore and Offshore pipeline with diffusers for which the tender amounting Rs. 474.61 crores has published.

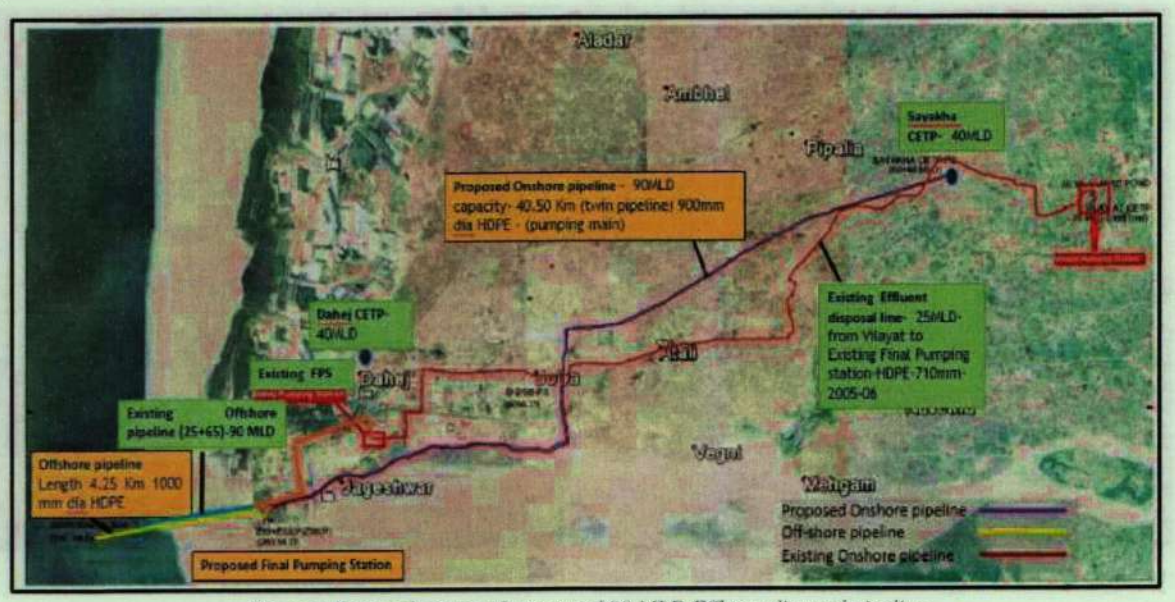


Figure 9 Route of existing & proposed 90 MLD Effluent disposal pipeline

Major Components:

1. 90 MLD Drainage Pumping station near Landfall point.
2. Electro-mechanical, Instrumentation work.
3. 180 ML capacity of Guard Pond at Dahej.
4. 4.25 Kms 1000 mm Dia. HDPE Offshore pipeline with diffusers. (This component will take approx. 18 months)
5. 8.5 Kms Onshore 710 mm Dia. HDPE pipeline from existing final pumping station to proposed 90 MLD pumping station.
6. 40.5 Kms Onshore 900 mm Dia. HDPE pipeline from Saykha industrial estate to proposed 90 MLD pumping station.
7. 50 MLD Drainage Pumping station at Saykha.
8. 100 ML capacity of Guard Pond at Saykha.

- The agency will be finalized by end of Dec-2021 and the work of offshore pipeline work with diffusers will be completed within a time limit of 18 months from the date of fixation of agency.
- Tender of the above work is invited. Last date of bid submission is 30/11/2021.

- **(For Point No.11):** To strengthen pipeline infrastructure to convey effluent up to deep sea.

  - As matter regarding NGT and part of short-term action plan;
    GIDC shall provide the additional pipeline of 1200 mt with diffuser work from existing effluent discharge point (i.e., 800 mt) in to the deep sea within 6-8 months.

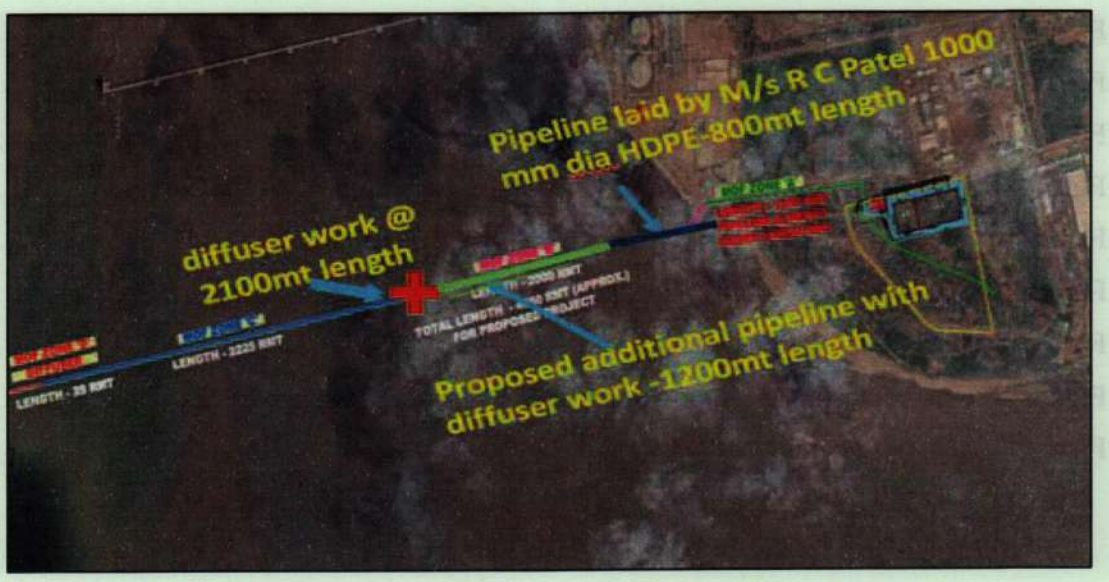


Figure 10 Route of proposed 1200rmt pipeline with diffuser

E. Following measures also being taken by GIDC to control quality of Air and industrial effluent.

- GIDC has allotted plot to M/s Bharuch Enviro Infrastructure Ltd to develop TSDF site at Dahej Industrial estate.
- GIDC has developed 22 nos of Drainage pumping stations with u/g collection well in above said area. Individual industries of Dahej-I and Vilayat estate are treating their effluent as per GPCB norms and discharging their effluent in GIDC collection network. Individual industries of Dahej-II and Dahej-III estate are treating their effluent as per CETP Inlet norms and discharging their effluent into collection network of CETP. Further treatment as per outlet norms as per consent issued by GPCB is being done at CETP and the treated effluent is being discharged in to the sea.
- GIDC has appointed third party liquid monitoring agency to monitor the effluent discharged by individual industry and the reports of the same are being sent to GPCB RO office every month.
- GIDC has appointed third party Air monitoring agency to monitor the air quality at industrial estates and the reports of the same are being sent to GPCB RO office every month.
- GIDC insist every member industry to install TOC/ COD meter, pH meter, flow meter, automation system with return arrangement in case of parameter are higher than permissible limit.

TABLE OF FIGURES

Figure 1 Effluent Disposal Pipeline.....5
Figure 2 Drywell in submerged condition.....6
Figure 3 Scaling condition found in pipeline, Valves & pumps at Existing FPS.....6
Figure 4 Temporary arrangement of pipeline at FPS.....7
Figure 5 Providing and Laying of 1000Dia, HDPE Pipeline.....8
Figure 6 Providing and Laying of 610 mm Dia MS Pipe.....12
Figure 7 Sayakha-CETP-40 MLD Capacity.....17
Figure 8 Dahej-CETP-40 MLD Capacity.....17
Figure 9 Route of existing & proposed 90 MLD Effluent disposal pipeline.....18
Figure 10 Route of proposed 1200rmt pipeline with diffuser.....189

BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE BENCH, PUNE

Original Application No. 60/2021 (WZ)

Aryavart Foundation
Vs.
Hemani Industries & Ors.

INWARD No. 681
DATE. 31/08/2021
Office of the Chairman
GIDC, Gandhinagar.

To

Gujarat Industrial Development Authority Respondent No. 4
2nd Floor, Block No. 4, Udyog Bhawan, GH Road,
Near Bank Of Baroda, Sector-11, Gandhinagar, Gujarat-382011
Email: gidc.gujarat.gov.in Tel. 07923250649

NOTICE

1. The above titled Original Application is posted for **admission on 16.09.2021 at 10.30 AM through Video Conferencing** before The National Green Tribunal, Western Zone Bench, Pune.

2. Please note that you shall make yourself available, or represent through authorized legal representative, on the date and place indicated herein above, in default, the said Application will be heard and determined in your absence.

3. Given under my hand and the seal of this Tribunal, this the 19.08.2021.

National Green Tribunal Pune

19/08/2021

Assistant Registrar, NGT

Encl: Compilation I & II along with the order
(For Orders, Cause Lists & other information, please visit our website www.greentribunal.gov.in)

Item No. 01 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

Original Application No. 60/2021(WZ)

Aryavart Foundation Applicant

Versus

Hemani Industries Ltd. & Ors. Respondent(s)

Date of hearing: 16.08.2021

CORAM: HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

Applicant: Mr. Raj Panjwani, Sr. Advocate along with Dr .S. S. Hooda and Mr Jitendra, Advocates
Respondent: Mr. Maulik Nanavati, Advocate for R-2 & 7

ORDER

1. Heard the submissions of Mr. Raj Panjwani, Learned Senior Advocate assisted by Dr. S. S. Hooda, Learned Counsel appearing for the Applicant namely-Aryavart Foundation which is said to be a non-governmental organization engaged in the field of human rights, corruption, foeticide, environmental issues and other related activities.

2. The primordial submission made by the Learned Senior Counsel appearing for the Applicant that the Respondent No.1 is that in utter disregard and violations of various conditions imposed upon them, for allotment of plot and running the industry by the Official Respondents Nos. 2 to 4, put up a dummy pipeline and discharging untreated effluents directly into the sea within 600 mts. i.e between high tide level and low tide level.

3. It is also pointed out by the Learned Senior Counsel by drawing the attention of this Tribunal to the voluminous documents filed in support of the original application that despite series of directions have been issued by Respondent No.2 under Section 33A of Water (Preservation and Control of Pollution) Act, 1974 further proceedings, have not taken place and despite the closure order came to be passed during January, 2021, no further follow up is made.

4. It is also contended by the Learned Senior Counsel that despite such a serious lapses and violations of various conditions for operating the unit on the part of the Respondent No.1, they continue to function thereby discharging untreated effluents, in open drain and the same is leading to environmental and ecological disaster. Hence, prays for appropriate orders.

5. It is also brought to the knowledge of this Tribunal that the very same Original Applicant, had filed Original Application No. 22/2020(WZ) against Yashyashvi Rasayan Pvt. Ltd. & Anr. which also said to have indulged in discharging untreated effluents and a Joint Committee came to be constituted and the said Committee has also submitted it's report and matter is pending before the Principal Bench.

6. The Tribunal paid it's anxious consideration and best attention to the arguments advanced by the Learned Senior Counsel appearing for the Applicant and also scanned and analyzed the voluminous materials placed before it.

7. In the light of the serious nature of the issues involved, this Tribunal is inclined to order notices to the Respondents. Notices to all

Respondents by all permissible modes, are permitted, returnable on 16.09.2021.

8. Mr. Maulik Nanavati, Learned Standing Counsel accepts notice on behalf of Respondent Nos. 2 and 7 and prays for short accommodation to file response with the supporting documents.

Call on 16.09.2021.

M. Sathyanarayanan, JM

Dr. Arun Kumar Verma, EM

August 16, 2021
Original Application No. 60/2021(WZ)

JG

SYNOPSIS

The Present Original Application U/s 18(1) read with Section 14, 15 and 17 of the National Green Tribunal Act 2010 has been filed against the Respondents for not complying with the Environmental obligations cast upon them by way of Consent to Establish & Consolidated Consent and Authorization and for not ensuring compliance of the environmental norms. The Respondent No.1 has been issued various Consents to Establish and Consolidated Consent and Authorizations since 2010. The last Consolidated Consent and Authorization which is in operation as of today was issued by the Respondent No. 2 to Respondent No. 1 is CCA No.: AWH-109766 dated 01/11/2020 valid upto 14/07/2025. The Respondent No. 2 has issued the last Consent to Establish after obtaining Environment Clearance (CTE 45730) under Section 25 of Water Act 1974 and Under Section 21 of Air Act, 1981 on 20.03.2021 which is valid upto Seven years vide File No.: GPCB/(PCB ID. – 12155). That the Respondent No. 1 is located in GIDC Dahej, District-Bharuch, Gujarat. The Respondent No. 1 is in non-compliance of the environmental obligations since its establishment in the year 2010. The Respondent No. 1 was also found having a ghost pipeline through which

they were directly discharging untreated trade effluents having very high COD etc. into the GIDC drainage system. The report of Respondent No. 2 Dated 17.05.2019 inter-alia reads, "It is observed that Connection of one Ghost underground pipeline is also made from the outlet of above mentioned High TDS/High COD wastewater Storage tanks leading GIDC drainage manhole for discharge of High TDS / High COD wastewater in to GIDC drainage line. This ghost underground pipeline is laid down parallel to the official discharge pipeline. During visit, unit is instructed to carry out excavation work to find out route of this pipeline within premises as well as outside premises and to find out its connection to GIDC manhole and this ghost pipeline is traced out after excavation. Very strong VOC (Volatile Organic Compound) odour is sensed from the GIDC manhole in which this ghost pipeline is connected indicating that obnoxious wastewater has been discharge by the unit from this ghost pipeline." The Respondent No. 2 in its report dated 11.06.2019 has inter-alia observed "It is further clarified that looking to the site condition during our inspection on 17.05.2019, this unit would have discharged obnoxious wastewater just before out entry in the premises of the unit and it

would be stopped after we enter in the premises." The GIDC drain directly releases the trade effluents into the Sea. It is also worth mentioning that the GIDC drainage main pipeline which was to release trade effluents in deep sea at a point identified by NIO (around 4.5 km from the shore) has been blocked and now the trade effluents are being discharged only at a distance of 650 Meters from the shore. In addition to this there are various leakages in the pipeline through which the trade effluent oozes out even before it enters the sea. The report of Expert Committee Submitted before this Hon'ble Tribunal in Original Application No. 22 of 2020 (WZB) titled as Aryavart Foundation Versus Yashyashvi Rasayan Pvt. Ltd. & Anr. has clearly mentioned the blockage of the said pipeline and discharge of trade effluents on land and near the sea shore. The expert committee report submitted in O.A. No. 22 of 2020 (Aryavart Foundation V/s Yashyashvi Rasayan Pvt. Ltd. and Anr.) at para 6.5 page 12 reads as under: Other Allied Issues Found Relevant:

Effluent Management in Dahej Industrial Area- Most of the Industries in Dahej-Vilayat area are discharging treated wastewater into internal drainage network (39 km) provided by GIDC having pumping

stations (4 nos.) and earlier finally used to pump to deep Sea through underground pipeline (90 MLD capacity, present flow @ 39 MLD) from Final Pumping Station (FPS). The length of this disposal pipe line is 13.5 km out of which 9 km on-shore and 4.5 km off-shore. The final disposal point was identified by the National Institute of Oceanography (NIO). However, presently, the wastewater is being reportedly discharged only at 600 m inside (with 600 m off-shore separate Pipeline) the Sea, instead of 4.5 km due to damage/choking of 4.5 km off-shore pipeline/diffuser system. The 600 m off-shore pipe in use is reportedly having leakages at a number of locations discharging effluent in between High Tide Level (HTL) & Low Tide Level (LTL).

The effluent discharged from Final Pumping Station is not meeting prescribed norms as per CPCB & GPCB monitoring results. It is inferred that the individual industries are not treating the effluent as per standards prescribed by GPCB and letting wastewater without proper treatment into the GIDC drainage system." The report further mentions, ..."Non-compliance of discharge standards at Final Pumping Station (FPS), heavy sludge deposition at FPS, overflowing of manholes due to choking/leakage problems of GIDC drainage lines,

frequent overflowing of effluent from manholes leading to storm water drains / natural drains which ultimately carry effluent to estuary of River Narmada & to the Sea, accumulation of effluent in some areas etc."

The applicant seeks to rely on as many as 32 numbers of inspection report starting from the year 2017 and the last inspection report being dated 11.06.2021. All the inspection reports would show non-compliance by the Respondent No. 1. The applicant also seeks to rely upon 08 show cause notices ranging from 05.05.2017 to 03.05.2021. The Applicant further relies upon as many as 04 notice of Direction issued under section 31(A) of Air (Prevention and control of Pollution) Act'1981 and Under Section 33(A) of the Water (Prevention and Control of Pollution) Act'1974. The last notice of direction has been issued on 04.05.2021. The applicant further seeks to rely upon closure direction under Section 31(A) of Air (Prevention and control of Pollution) Act'1981 issued on 26.11.2020. That one fire incident also occurred in the premises of Respondent No. 1 on 06.11.2020 leading to death of one Mr. Ramkumar Jaikishor Chaudhary, Designation MEE Operator. On 03.03.2019 one incident of Bromine Leakage also occurred in the unit of Respondent No. 1. The Respondent No. 2 conducted the

inspection with regard to the Bromine Leakage incident and found various non-compliances on the part of Respondent No. 1. In the Bromine Leakage incident although no casualties happened but one person who was handling the Transfer operation of Bromine was shifted to Hospital for safety precaution purpose.

As per the observations of the expert committee in case of Original Application No. 22 of 2020 (WZB) titled as Aryavart Foundation Versus Yashyashvi Rasayan Pvt. Ltd. & Anr., the blocking of main GIDC pipeline and leakage of pipeline enroute has been established. The respondent No. 1 was caught having ghost pipeline through which untreated Trade effluents were being discharged. The applicant has learnt that there are some more industries situated in GIDC Dahej which are having ghost pipelines and are discharging untreated trade effluents through the same. The cumulative effect of untreated trade effluents has resulted into choking of the main GIDC pipeline thereby compelling discharge of trade effluents near the sea shore instead of discharge in Deep Sea.

The applicant respectfully submits that Respondent No. 2 has not conducted any Bio-Essay tests from the area near the Sea shore where Trade Effluents are being

discharged or even at any other place. The Respondent No. 2 has not conducted Bio-essay tests, BOD tests, Sulphides tests on many occasions, for the respondent no. 1 which indicates negligence and carelessness on the part of Respondent No. 2. This may also be a case of complicity between the Respondent No. 1 and 2. That actually as per CCA dated 01.11.2020 parameters for as many as 28 different effluents have been provided under the Water Act at para 3.4, however the test reports are confined to effluents being checked for limited number of parameters ranging from 5 to 12 parameters only. There appear to be no guideline as to which parameters are to be checked during the inspections and which can be left out.

In spite of issuance of a number of show cause notices, direction notices and even Closure notice, no effective steps have been taken to prevent the violation of environmental obligations by the Respondent no. 1 and may be many other similarly situated industries in the area. The main pipeline which is leaking and discharging trade effluents on ground and near the sea shore has neither being cleaned up nor replaced. If the main pipeline could not be cleaned up or replaced, the environmental parameters ought to have been suitably

amended keeping in the view the discharge near the Sea shore which also has not been done. This amounts to a continuous abdication of responsibility by the Respondent No. 2 to safeguard the environment and fulfil their constitutional duties as mandated in Article 48A of the Constitution of India. The Respondent no. 2 has also not fulfilled it's legal duties to prevent deterioration of the environment cast upon it by various environmental acts / rules / regulations. The applicant has approached the Chairman, GPCB, on 04.01.2021 with copy to MoEF, CPCB and Collector Bharuch, bringing to their notice the violation of environmental obligations. The Applicant also approached the Director (Environment and Additional Secretary Forest and Environment Deptt.) vide its letter dated 18.02.2021 highlighting the violation of environmental norms. The applicant also approached the Member Secretary, Gujarat Coastal Zone Management Authority vide his letter dated 18.02.2021 highlighting the violation of environmental obligations but nothing substantial has been done by the Respondent Authority. And Hence, the present Original Application

Detail Note- Annexure 2

Item No.2 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

Original Application No.60/2021(WZ)

Aryavart Foundation Applicant(s)

Versus

Hemani Industries Ltd. & Ors. Respondent(s)

Date of hearing: 16.09.2021

CORAM: HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

Applicant(s) : Mr. Raj Panjwani, Sr. Advocate

Respondent(s) : Mr. Saurabh Kulkarni, Advocate for R-1.
Mr. Maulik Nanavati, Advocate for R-2 & 7
Mr. Rahul Garg, Advocate for R-3
Ms. Supriya Dangare, Advocate for R-4

ORDER

1. The Tribunal in continuation of the earlier order dated 16.08.2021, is passing the following order:-

i. Mr. Raj Panjwani, Learned Senior Counsel appearing for the Applicant has invited the attention of this Tribunal to the materials placed on record as well as the earlier order and would submit that the Project Proponent namely the Respondent No.1 in the absence of any effective and proper monitoring mechanism, continue to pollute the sea in the form of various environmental violations and therefore, the Tribunal may appoint an independent committee to go into the all aspects and file a report and based upon the same, the Tribunal may pass appropriate orders.

ii. The Learned Counsel appearing for the Respondent No.1/Project Proponent apart from refuting, the allegations leveled against him,

prays for some time to file his response with the supporting documents.

iii. The Learned Standing Counsel appearing for the Respondent Nos.2 & 7 would submit that in the light of the repeated kind of allegations leveled against the industries, especially which come under Red Category, a meeting will be shortly convened, for contemplating appropriate preventive and remedial action and also prays for short time, so also the Learned Standing Counsel appearing for the Respondent No.4.

iv. The Tribunal paid it's best attention to the rival submissions and also perused the materials placed before it.

v. The Respondent No.4 has developed various industrial estates wherein, the industries belonging to the Red, Orange, Green and While categories, are established and therefore, it an obligatory on their part to see that the industries coming under first three category adhered to the environmental norms and for the betterment of the environment and ecology and they shall also coordinate with the Respondent No.2.

vi. The Learned Standing Counsel appearing for the Respondent No.4 undertakes to do the needful and she would further add that the reply to be filed by the Respondent No.4 would deal with the said aspect also.

vii. Heard the submissions of the Learned Standing Counsel appearing for the Respondent No.3 also.

viii. Though, Respondent Nos. 5 and 6 have been served and their names appear in the cause list, there is no representation on their behalf.

ix. The reply affidavits of Respondent Nos. 1, 2 and 4 with the supporting documents, if any, by 04.10.2021.

x. The Learned Senior Counsel has also invited the attention of this Tribunal to paragraph no.5 of the earlier order and would submit that Original Application No. 22/2020 (WZ) which was pending before the Hon'ble Principal Bench, has been disposed of vide final order dated 03.02.2021 and the said submission/statement is placed on record.

Call on 04.10.2021.

M. Sathyanarayanan, JM

Dr. Arun Kumar Verma, EM

September 16, 2021
Original Application No.60/2021(WZ)
JG

Detail Note- Annexure 3

Item No. 06 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

(By Video Conferencing)

Original Application No. 60/2021(WZ)

Aryavart Foundation Applicant

Versus

Hemani Industries Ltd.&Ors. Respondent(s)

Date of hearing: 04.10.2021

CORAM: HON'BLE MR. JUSTICE M. SATHYANARAYANAN, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

Applicant : Mr. Raj Panjwani, Sr. Advocate a/w Dr. S.S. Hooda, Advocate

Respondent: Mr. Saurabh Kulkarni, Advocate for R-1
Mr. Maulik Nanavati, Advocate for R-2 & 7
Mr. Rahul Garg, Advocate for R-3 (CPCB)
Ms. Supriya Dangare, Advocate for R-4 (GIDC)
Law Officer h/f District Collector, Bharuch, for R-5

ORDER

1. The Tribunal in continuation to the earlier orders dated 16.08.2021 and 16.09.2021, is passing the following order-

2. Heard the detailed and elaborated submissions made by the Mr. Raj Panjwani, learned senior counsel assisted by Dr. S.S. Hooda, learned counsel appearing for the original applicant. Mr. Saurabh Kulkarni, learned standing counsel appearing for the Respondent No. 1, Mr. Maulik Nanavati, learned standing counsel appearing for the Respondent Nos. R-2 & 7, Mr. Rahul Garg, learned standing counsel appearing for the Respondent No. 3 and Ms. Supriya Dangare, learned standing counsel appearing for the Respondent No. 4.

3. The Law Officer attached to Collectorate of Bharuch District-Respondent No. 5, has also appeared through video conference. Though the Respondent No. 6 has been served and their name appear in the cause list, there is no representation on their behalf.

4. The jurisdictional official of the Respondent No. 2, had issued a notice of direction under Section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 dated 15.09.2021 to the Respondent No. 1, pointing out certain infractions on their part and called upon them as to why a closure direction should not be issued, followed by disconnection of electricity supply and water supply to the industrial plant with a further direction to report compliance of the infractions pointed out.

5. The learned standing counsel appearing for the Respondent No. 1 would submit that at their end, everything is on order but the problem lie with the Respondent No. 4 who is not maintaining the pipeline, properly.

6. The learned standing counsel appearing for the Respondent Nos. 2 & 7 has invited the attention of the Tribunal to the email communication dated 04.02.2021 addressed to the Registry of this Tribunal and would submit that the Executive Engineer (W/D), the Respondent No. 3 who is having their office at Bharuch and would submit that as per the tabular column given in the said communication addressed to the Deputy Environmental Engineer of Gujarat Pollution Control Board (GPCB), Gandhinagar. There are deficiencies, especially with regard to the improper maintenance of offshore pipeline, having taken note of the same, the Forest and Environment Department of Government of Gujarat, had issued directions dated 21.07.2020 under Section 5 of the Environment (Protection), Act, 1986 to the Vice-Chairman and Managing Director of Gujarat Industrial Development Corporation (GIDC), Gandhinagar, Gujarat to comply the directions issued in the said

communication, failing which, there will be disconnection of electricity supply and water supply to industrial units who are discharging the industrial effluents to the said pipeline, with a further direction to report compliance.

7. It is further submitted by the learned counsel appearing for the Respondent Nos. 2 & 7 that the said communication was also followed by the yet another communication dated 23.09.2021, in the form of the direction under Section 33(A) of the Water (Prevention and Control of Pollution) Act, 1974 to the Respondent No. 4, stating among other things that they are also liable for prosecution under Section 41 (2) of the said Act and however, their response is still awaited.

8. The learned standing counsel appearing for the Respondent No. 4 would submit that the communication of G.I.D.C., Bharuch dated 29.04.2021, addressed to the Deputy Environmental Engineer of GPCB, Gandhinagar, would point out certain practical difficulties on their part and they require outer timeline of at least 2.5 years to complete the work of laying two row 600 m.m. dia MS pipeline up to 600 meter/ treating for discharging the treated effluent in deep sea.

9. The learned senior counsel appearing for the applicant would submit that the Respondent No. 4 who developed the industrial estate, consisting of nearly 50 and or units come under "Red Zone" did not evince any interest in addressing the said serious problems and the result being that the untreated effluents are being discharged into the Arabian sea for nearly 3 years and despite the Respondent No. 2 is very well aware of the said illegal Act, did not take any proper or effective steps to assess, levy and recover the environmental compensation, and further points out for launching criminal prosecution against the Respondent No. 4 and other defaulters, no Show Cause Notices necessary and would pray that

the inspection of the industrial units shall be caused by the Respondent No. 2 in coordination with Respondent No. 3 and report be submitted before this Tribunal for consideration and passing further orders.

10. The Tribunal paid it's anxious consideration and best attention to the rival submissions and also perused the materials placed on record, especially the annexes to the e-mail communication dated 04.10.2021, sent by the Respondent No. 2 to the Registry of this Tribunal.

11. The Respondent No. 4 having office at Bharuch, sent a communication dated 29.04.2021 bearing no. GIDC/EE/WD/BRH/PB/124 to the Deputy Environmental Engineer of the Respondent No. 2 who is having the office at Gandhinagar and it's relevant extract-

Sr. No.	***Points/Remarks***	***Compliance***
1.	*To stop discharge of effluents from pipeline laid at 600 meter on offshore as alternative arrangement.*	*GIDC had commissioned 4.5 km of 1000 dia CS offshore pipeline in the year 2006. Due to huge scaling in the pipeline and diffusers were buried more than 3 meter in sea bed. Thus, the effluent could not discharge in deep sea. In this situation, GIDC had laid two row of 600 mm dia MS pipeline up to 600 meter. GIDC has planned to lay new offshore pipeline with diffusers for which consultant has been appointed and estimates are prepared but it will take at least 2.5 years to complete the said work.*
2.	*To discharge effluent 4.5 km mtr. away from sea, so proper dilution as per condition no. 5.4 of CCA may be at discharge point.*	
3.	*To carry out maintenance of 4.5 km offshore pipeline and solve problem of chocking of pipeline.*	*As per compliance of point no 1; and it is not possible to repair diffusers and removal of scaling in offshore pipeline. Hence, it is required to lay new offshore pipeline and it will take at least 2.5 years to complete the said work.*
4.	*To rectify and repair leakages in GIDC drainage lines*	*Leakages were attended and at present there is no leakage found in effluent collection and conveyance pipeline.*
5.	*To stop overflow from GIDC drainage manholes in various sections of GIDC drainage*	*This is continuous process for maintenance of underground drainage line and manhole. GIDC has awarded the M&R of*

	system in Dahej & Vilayat.	*underground drainage work to the agency. At present, there is no overflow found from drainage manholes.*
6.	*To take necessary steps to control overflowed wastewater reaches to estuary/ sea through the natural drain / storm water drain.*	*Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.*
7.	*To remove sludge deposition observed at the GIDC final pumping station (FPS)*	*GIDC has invited the tender for the work of Construction of Sludge Drying bed at FPS which is under construction and will be completed in the month of May-2021.*
8.	*To provide adequate storage facility to prevent overflow of wastewater entering into surface water drains/ storm water drains surrounding area.*	*GIDC has planned to shift FPS at Plot no-Z/93, SEZ-II. The master consultant is appointed for designing of guard pond, pump house and effluent conveyance system.*
9.	*To relocate manholes to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area*	*GIDC has invited the tender for the work of Construction of ESR, sump and pump house with with conveyance main in SEZ area which is under construction and will be completed before October-2021.* *The work of construction of two numbers of sump with pump house at chemical zone at Dahej-I is under progress which will be completed before October-2021.* *After completion of the above works, all drainage connection will be released above the ground level so that overflowing of manholes can be avoided*
10.	*To re-collect accumulated wastewater from surrounding area.*	*Whenever any leakage/ breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.*
11.	*To strengthen pipeline infrastructure to convey effluent up to deep sea.*	*GIDC had laid 1000 mm dia HDPE pipeline from FPS to LFP in the month of June-2019. Hence, there is no any leakage found in conveyance line.*
12.	*To provide permanent solution of storm water management.*	*GIDC has invited the tender for the work of Construction of ESR, sump and pump house with conveyance main in SEZ. area which is under construction and will be completed before October-2021*
13.	*To take necessary steps to keep storm water drain dry during lean period.*	

		The work of construction of two numbers of sump with pump house at chemical zone at Dahej-I under progress which will be completed before October-2021. After completion of the above works, all drainage connection will be released above the ground level so that overflowing of manholes can be avoided.
14.	*To submit action plan within 15 days for above non-compliances.*	*Please consider compliance of point no. 1 to 13*

12. The Forest and Environment Department of Government of Gujarat also issued a direction dated 21.07.2020 under Section 5 of Environment (Protection) Act, 1986 to the Chairman and Managing Director of the Respondent No. 4-Corporation and it is followed by direction under Section 33 (A) of the Water (Prevention and Control of Pollution) Act, 1974 by the Deputy Environment Engineer- Respondent No. 2.

13. It *prima facie* appears from the materials that the Respondent No. 4 had failed to maintain the pipeline which is meant for discharging treated effluents at their STPs plant, deep into Arabian Sea and in fact, compliance column, would disclose the said fact.

14. The Tribunal has also taken cognizance of the submissions of the learned counsel appearing for the Respondent No. 2 that the Respondent No. 4, is also a Government company, is not properly responding to the directions issued by the Forest and Environment Department of Government of Gujarat as well as to the statutory directions issued by the Respondent No. 2, dated 23.09.2021.

15. The learned standing counsel appearing for the Respondent No. 4 would submit that, on account of the technical problem coupled with the sudden onset and thick spread of Covid-19 pandemic virus, they are experiencing certain difficulties and if an outer time limit of 2.5 years would be given, whatever infractions pointed out, would be set in order

and there will not be any discharge of any untreated effluent into Arabian sea. However, the fact remains on account of improper maintenance of the pipeline on the part of Respondent No. 4, there appears to be discharge of untreated/partly treated effluent into Arabian sea for quite number of years and the learned senior counsel appearing for the Applicant, is rightly in making the submission that the said things should not happen in the interest of environment and ecology and there had been incalculable damage, already happened on account of the same.

16. In the light of the above facts and circumstances and other materials placed on record, the Tribunal is issuing the following directions-

17. The Chief Secretary of Government of Gujarat is directed to convene a Meeting with the participation of Gujarat Pollution Control Board (GPCB), Respondent No. 4 represented by Chairman and Managing Director, Respondent No. 5 and the Respondent No. 7 and the result of the said Meeting and decision to be taken in the said Meeting, be submitted in the form of the report with supporting documents on the next date of hearing.

18. The Respondent No. 2 in coordination with the Respondent No. 3, shall cause inspection of industrial units which fall under "Red Category" to find out whether they discharge untreated/partly treated effluents into the STPs maintained by the Respondent No. 4 and if any infractions/violations are noted, shall come out with the solutions as well as the assessment of the environmental compensation, to be paid by them. It is also made clear that depending upon the contents of the said report to be filed by the Respondent Nos. 2 & 3, further action would follow against the Respondent No. 1 as well as the other industrial units, in accordance with law.

19. The Respondent No. 5 as well as the jurisdictional Superintendent of Police, shall provide all necessary assistance to Respondent Nos. 2 & 3 to carry out the inspection of the units which come under "Red Category", in the Industrial Estate maintained by the Respondent No. 4.

20. It is also open to the official Respondents who had entered appearance to file their reply affidavits with supporting documents. The reply affidavit of Respondent No. 1 has already been placed on record before the Tribunal.

21. The Tribunal may also take a call as to the levy of interim environmental compensation upon the Respondent No. 4 on the next date of hearing in the light of their admission dated 29.04.2021 addressed to the Deputy Environmental Engineer of Gujarat Pollution Control Board (GPCB), Gandhinagar.

22. **Call on 29.11.2021**. The report of the committee headed by the Chief Secretary to the Government of Gujarat as well as the reply affidavits of the official respondents with supporting documents, if any, by then.

23. A copy of order be communicated to all the official Respondents as well as to the Chief Secretary of Government of Gujarat, for compliance.

M. Sathyanarayanan, JM

Dr. Arun Kumar Verma, EM

October 04, 2021
Original Application No. 60/2021(WZ)
P.kr

Detail Note- Annexure 4

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION

(A Govt. of Gujarat Undertaking)
Office of the Executive Engineer (W/D)
1st& 2nd Floor, Narmada Commercial Complex,
Station Road, Panchbatti, Bharuch - 392 001
PH : 242432/244184 FAX:(02642)241902
Email: xen-brc@gidcgujarat.org

No. GIDC/BRH/EE/WD/ 754 Date :04-10-2021

To,
Dy Environment Engineer,
Gujarat Pollution Control Board,
Paryavaran Bhavan,
Sector 10-A,
Gandhinagar.

SE (PH)

L090514500720
Sender Name: XEN (W/D)
Received Date : 04/10/2021

Sub: Compliance of GPCB notice dated 23-09-2021.

Ref: your notice no. 601763 dated 23/09/2021

Dear Sir,

With reference to the above, this office has received notice related to various points. The compliance of the notice is as below.

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
1	To stop discharge of effluent from pipeline laid at 600-meter on offshore as alternative arrangement.	GIDC has laid 1000 mm dia HDPE pipeline length of 800 meter from LFP.	GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffusers. The agency will be finalized by end of Nov-2021 and the work will be completed within a time limit of 18 months.
2	To discharge effluent 4.5 km mtr away from sea, so proper dilution as per condition no. 5.4 of CCA may be available at discharge point.	GIDC has laid 1000 mm dia HDPE pipeline length of 800 meter from LFP.	GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffusers to achieve dilution of 100 to 200 times prepared by NIO, GOA.

SEPH
1076
11/10/2021

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
3	To carry out maintenance of 4.5 km offshore pipeline and solve problem of choking of pipeline.	As per compliance of point no 1; and it is not possible to repair diffusers and removal of scaling in offshore pipeline. Hence, it is required to lay new offshore pipeline and it will take at least 18 months to complete the said work.	GIDC has published the Online Tender for execution of 4.5 Kms Offshore effluent disposal pipeline with diffusers. The agency will be finalized by end of Nov-2021 and the work will be completed within a time limit of 18 months.
4	To rectify and repair leakages in GIDC drainage lines.	GIDC has awarded the M&R of underground drainage work to the agency. At present there in no leakages found from drainage lines.	The M&R work shall be carried out throughout the year. The work is awarded to specific agency.
5	To stop overflow from GIDC drainage manholes in various sections of GIDC drainage system in Dahej & Vilayat.	This is continuous process for maintenance of underground drainage line and manhole. GIDC has awarded the M&R of underground drainage work to the agency. At present there in no overflow found from drainage manholes.	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
6	To take necessary steps to control overflowed wastewater reaches to estuary/ sea through the natural drain / storm water drain.	Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.	The M&R work shall be carried out throughout the year. The work is awarded to specific agency.
7	To remove sludge deposition observed at the GIDC final pumping station (FPS).	GIDC has constructed sludge drying bed at FPS. The sludge will be removed within one month.	The work for installation of filter press at Pumping station will be completed within six months.

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
8	To provide adequate storage facility to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area.	To avoid overflow of wastewater GIDC has made arrangement of standby pumps and DG sets. And as and when required discharge of individual industries will be stopped.	GIDC has published the Online Tender for execution of 90 MLD pump house, 180 MLD storage capacity of guard pond at Plot no-Z/93, SEZ-II. The agency will be finalized by end of Nov-2021 and the work will be completed within a time limit of 18 months.
9	To relocate manholes to prevent overflow of wastewater entering into surface water drains/ storm water drains/ surrounding area.	Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
10	To re-collect accumulated wastewater from surrounding area.	Whenever any leakage / breakdown took placed, the discharge of member industries were stopped and immediate actions are taken for repairing. The accumulated effluent pumped in to nearby manhole chamber to avoid drain in estuary / sea.	-
11	To strengthen pipeline infrastructure to convey effluent upto deep sea.	GIDC had laid 1000 mm dia HDPE pipeline from FPS to LFP in the month of June-2019. Hence, there is no any leakage found in conveyance line.	GIDC has replaced existing 600 mm dia MS pipeline by laying 1000 mm dia HDPE pipeline length of 800 mt from LFP.
12	To provide permanent solution of storm water management.	-	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released

Sr No	Points / Remarks	Short Term Action Plan	Long Term Action Plan
			through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
13	To take necessary steps to keep storm water drain dry during lean period.	GIDC will take care to dry SWD during lean period.	GIDC has upgraded effluent collection system in Dahej-I area i.e. 05 nos of collection well with pumping station are constructed and connection will be released through above ground express pipeline within three months to avoid any unauthorized connection and existing manholes are to be closed.
14	To comply condition no. 5.25 of existing CC&A.	At present there is no such type of management cell.	Environment management cell will be firmed within six months.

Tanking you,

Yours truly,

Executive Engineer (W/D),
GIDC, Bharuch.

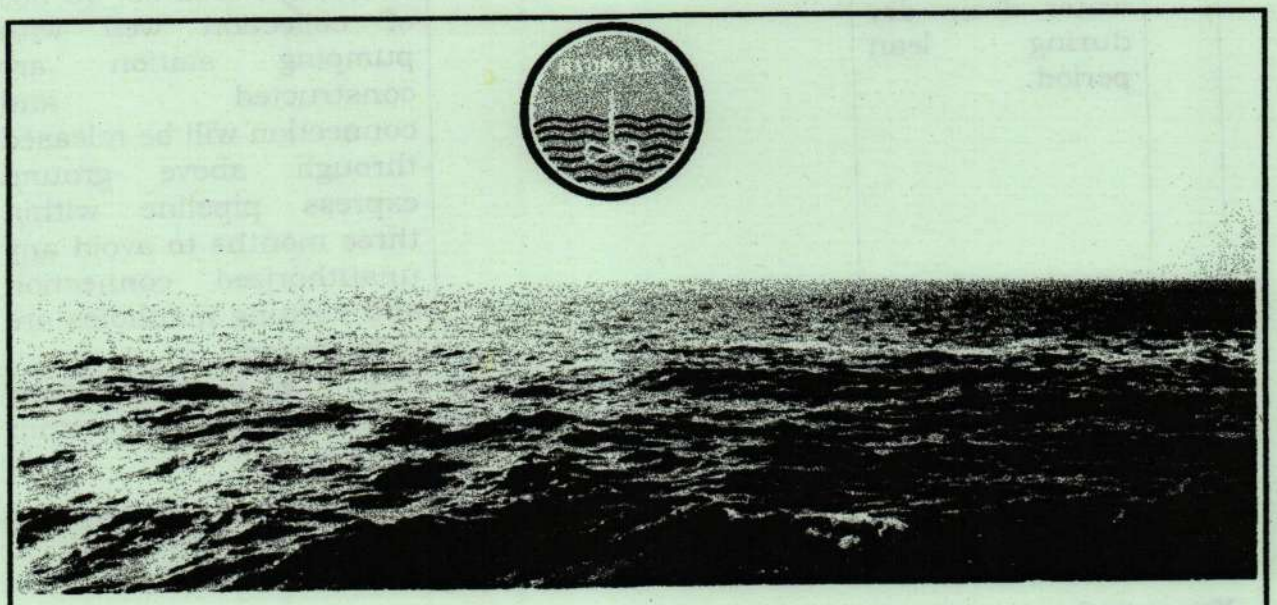
Copy swr to :

1. The Chief Engineer, GIDC, Gandhinagar for information please.
2. The SE (CG), GIDC, Bharuch for information please.
3. The EE (PH), GIDC, Gandhinagar for information please.
4. The EE (M&E), GIDC, Bharuch for information and necessary action please.
5. The RO, GPCB, Bharuch for information please.

Copy to : DEE (Drg), GIDC, Bharuch for information.

Detail Note- Annexure 5

	FINAL REPORT DIFFUSER INSPECTION SURVEYS FOR GIDC 90 MLD OFFSHORE PIPELINE OFF LUVARA COAST, GULF OF KHAMBAT, GUJARAT, WEST COAST OF INDIA	



DIFFUSER INSPECTION SURVEYS
FOR GIDC 90 MLD OFFSHORE PIPELINE
OFF LUVARA COAST, GULF OF KHAMBAT, GUJARAT
WEST COAST OF INDIA

FOR

GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION
BARUCH

FINAL REPORT
ON
DIFFUSER INSPECTION SURVEYS

GSIPL DOCUMENT No. GSIPL_J011_2016_Finrep (Rev.0)

	FINAL REPORT DIFFUSER INSPECTION SURVEYS FOR GIDC 90 MLD OFFSHORE PIPELINE OFF LUVARA COAST, GULF OF KHAMBAT, GUJARAT, WEST COAST OF INDIA	

Project Information	
Project :	**DIFFUSER INSPECTION SURVEYS**
Client :	**HYDROAIR TECTONICS (SPD) PVT LTD**
Client Reference No. :	**----**
GSIPL Project No. :	**GSIPL_JO11_2016**
GSIPL Document No. :	**GSIPL_JO11_16_FINREP (Rev. 0)**

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LIST OF CONTENTS

		Page No
1	**SUMMARY OF RESULTS**	**6**
1.1	BATHYMETRY	6
1.2	SEABED FEATURES	6
1.3	SUB BOTTOM PROFILER SURVEY	6
1.4	MAGNETOMETER	6
2	**INTRODUCTION**	**7**
2.1	GENERAL	7
2.2	SCOPE OF WORK	7
2.3	POST LAY SURVEY ROUTE CO-ORDINATES	8
2.4	DELIVERABLES	8
2.5	REFERENCES	9
3	**RESOURCES OF WORK**	**10**
3.1	PERSONNEL	10
3.2	EQUIPMENT	10
3.3	VESSEL	11
4	**METHODOLOGY**	**12**
4.1	GENERAL	12
4.2	GEODESY	12
4.3	HORIZONTAL CONTROL	12
4.4	HYPACK NAVIGATION SOFTWARE	12
4.5	VERTICAL CONTROL	13
4.6	SINGLE BEAM ECHO SOUNDER	13
4.7	SIDE SCAN SONAR SYSTEM	15
4.8	SUB-BOTTOM PROFILER	16
4.9	MAGNETOMETER	16
4.10	PRE-PLOTS / RUN-IN PLOTS	17
4.11	PROCESSING OF DATA	17
4.12	PROGRESS REPORT	17
4.13	EVENT MARKS	17
5	**IN FIELD CALIBRATIONS**	**18**
5.1	DGPS VERIFICATION	18
5.2	SINGLEBEAM ECHOSOUNDER CALIBRATION	18
5.3	SIDE SCAN SONAR CALIBRATION	19
6	**SURVEY EXECUTION**	**20**
6.1	MOBILISATION	20
6.2	INSPECTION ACTIVITIES	20
6.3	PROCEDURE OF SURVEY	20
6.4	SAFETY	20
6.5	DATA QUALITY CONTROL	20
7	**REPORTING**	**21**
7.1	PROGRESS REPORT	21
7.2	FINAL REPORT	21
8	**DETAILED RESULTS**	**22**

8.1 GENERAL 22
8.2 HORIZONTAL CONTROL 22
8.3 VERTICAL CONTROL 22
8.4 BATHYMETRY 22
8.5 SEABED FEATURES 23
8.6 SUB BOTTOM PROFILER SURVEY 23
8.7 MAGNETOMETER 24

LIST OF FIGURES

FIGURE 1 LOCATION MAP 5
FIGURE 2 SURVEY BOAT MFB AMBE MATA 11
FIGURE 3 MKII ODOM ECHTRACK SINGLE BEAM ECHOSOUNDER 14
FIGURE 4 EDGETECH SIDE SCAN SONAR TOW FISH 15
FIGURE 5 SUB-BOTTOM PROFILER ACQUISITION SETUP ONBOARD 16
FIGURE 6 SEASPY PROTON PRECESSION MAGNETOMETER 17
FIGURE 7 SINGLE BEAM ECHOSOUNDER CALIBRATION BY BAR CHECK METHOD 18
FIGURE 8 SIDE SCAN SONAR CALIBRATION BY RUB TEST METHOD 19
FIGURE 9 MAGNETIC ANOMALY PLOT 24

LIST OF TABLES

TABLE 1 POST LAY SURVEY (2005) ROUTE CO-ORDINATES PROVIDED BY GIDC 8
TABLE 2 LIST OF PERSONNEL 10
TABLE 3 GEODETIC PARAMETERS AND CONVERSIONS 12

LIST OF APPENDICES

APPENDIX-A : VESSEL OFFSET DIAGRAM
APPENDIX-B : DGPS SYSTEM CALIBRATION
APPENDIX-C : EXTRACTS FROM FIELD RECORDS
APPENDIX-D : OBSERVED TIDE READINGS AND GRAPHS

LIST OF DRAWINGS

DRAWING NUMBER	DESCRIPTION	SCALE	No. Charts	Rev.
J011_16/HYDROAIR/DAHEJ/BSFSPP/2016/01/1640	BATHYMETRY, SEABED FEATURES, SEABED & PIPELINE PROFILE	H 1:2000 V 1:100	1	0
Total Number of Drawings		**01**		

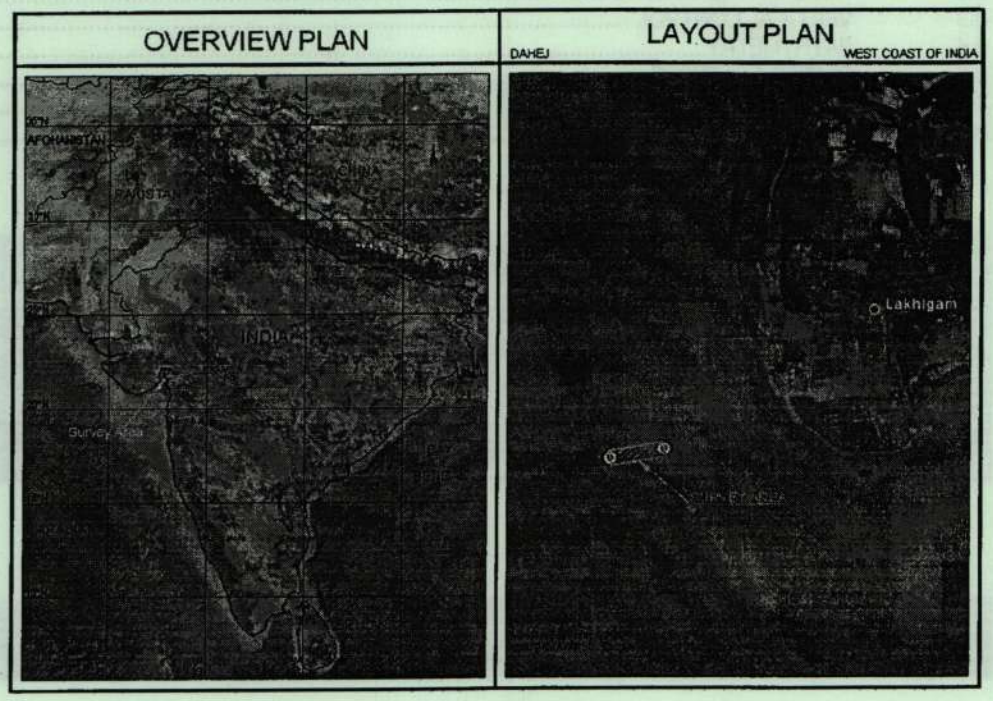


Figure 1 Location Map

1 SUMMARY OF RESULTS

All KP's mentioned below are assumed to start from KP 0.0 (near shore) to KP 1.055 (Diffuser location/pipeline end point).

1.1 BATHYMETRY

All water depths mentioned in the following paragraphs are in meters & decimeters and are reduced to chart datum (CD). Observed tide at Dahej was used for reducing the raw water depth to chart datum.

General bathymetry within the survey corridor presents undulated seabed between KP 0.0 to KP 0.350 and water depth decreases towards increasing KP's between KP 0.350 to KP 1.055 towards Diffuser location/pipeline end point. Minimum water depth of 18.9 meters was recorded near diffuser location and maximum water depth of 27.1 meters was recorded North of existing pipeline route.

Contours are drawn at 1metre interval within survey corridor shows a general trend in N-S.

Water depth of 19.1 meters was recorded at diffuser location.

Apart from the above no other bathymetric anomalies were recorded at any point within the survey corridor which could be hazardous to the existing pipeline.

1.2 SEABED FEATURES

In general, Side scan sonar reveals a seabed of varying reflectivity by 100 KHz frequencies, which can be broadly categorized as follows:

Type 1: Low reflective sediments interpreted as Silty Sand.
Type 2: Medium Reflective Sediments (Interperted as Silty Sand associated with sand ripples).

From side scan sonar records and in conjunction with the sub-bottom profiler and magnetometer records, it is interepreted that the existing pipeline was recorded as buried within the survey corridor.

Apart from the above, no other significant features/debris were recorded within the survey corridor which could be hazardous to the existing pipeline.

1.3 SUB BOTTOM PROFILER SURVEY

From sub bottom profiler survey and in conjunction with the side scan sonar and Magnetometer records the pipeline recorded as buried at a depth of 2.8meters to 3.5meters subseabed between KP 0.0 and KP 1.055 (Diffuser/Pipeline end point) within the survey corridor.

Apart from the above, no other anomalies were recorded at any point within the survey corridor which could be hazardous to the existing pipeline.

1.4 MAGNETOMETER

Magnetic anomalies were recorded due to an existing pipeline within the survey corridor.

Apart from the above, no other anomalies were recorded ant any point within the survey corridor which could be hazardous to the existing pipeline.

2 INTRODUCTION

2.1 GENERAL

M/s Gujarat Industrial Development Corporation (GIDC) inteneds to carryout Diffuser inspection surveys for GIDC 90 MLD offshore pipeline, off Luvara coast, Gulf of Khambat, Gujarat, West Coast of India.

In this regards GIDC awarded the above survey works to Hydroair Tectonics (SPD) Pvt Ltd. **M/s Hydroair Tectonics (SPD) Pvt Ltd** inturn awarded the above survey works to Geostar surveys India Pvt Ltd.

M/s Geostar Surveys India Pvt Ltd (GSIPL) has been awarded these works as a co-operation of services to Hydroair Tectonics (SPD) Pvt.Ltd. GSIPL provided the vessel, equipment and personnel for the provision of Diffuser Inspection Surveys to Hydroair Tectonics (SPD) Pvt.Ltd.

The survey area lies off Luvara coast, Gulf of Khambat, Gujarat, West Coast of India.

These survey services comprise of the provision of suitable personnel and equipment in order to obtain, interpret and report on bathymetric data, pipeline status within the surveyed corridor along the existing GIDC's 90 MLD offshore pipeline. DGPS positioning system, Single Beam Echo Sounder, Side Scan Sonar, Sub-bottom Profiler and magnetometer were deployed for carrying out Diffuser inspection surveys. Observed tide at Dahej was used for reducing the raw water depth to chart datum.

The surveys were carried out between 15/04/2016 to 22/04/2016 from the boat MFB-Ambe Mata.

This final report **J011_16_Finrep (Rev.0)** deals with Diffuser inspection surveys for GIDC 90 MLD offshore pipeline, off Luvara coast, Gulf of Khambat, Gujarat, West Coast of India for Hydroair Tectonics (SPD) Pvt.Ltd.

2.2 SCOPE OF WORK

- To carryout Diffuser inspection surveys for GIDC 90 MLD offshore pipeline for a length of 1 Km from Diffuser loation to towards shore within a corridor of 200 meters width to locate the pipeline.
- 4 longitudinal survey lines were run at 50 metres interval (-100m, -50m, 50m, 100m) from the existing GIDC 90 MLD pipeline route and cross lines were run at 50 metres interval. Observed tide at Dahej was used for converting raw water depths to chart datum.
- Surveys to be carried out by deploying DGPS, Single Beam Echo Sounder & Side scan sonar on all longitudinal survey lines. Echo sounder, sub bottom profiler and Magnetometer were deployed on all transverse lines.

2.3 POST LAY SURVEY ROUTE CO-ORDINATES

Existing 90 MLD pipeline co-ordinates provided by client as tabulated below;

Post lay survey Route Co-ordinates by NIOT in 2005					
WGS 84, Zone 43, CM 75					
Sl.No	Approx. Chainage	UTM Co-ordinates (m)		Geographical Co-ordinates	
		Easting (m)	Northing (m)	Latitude	Longitude
1	2900	242330.880	2397362.457	21°39.6545'N	072°30.6097'E
2	2950	242276.235	2397356.133	21°39.6506'N	072°30.5781'E
4	3050	242177.172	2397346.091	21°39.6443'N	072°30.5208'E
5	3100	242128.266	2397331.735	21°39.6361'N	072°30.4926'E
6	3150	242090.586	2397328.463	21°39.6340'N	072°30.4708'E
7	3200	242024.055	2397323.623	21°39.6308'N	072°30.4323'E
8	3250	241982.367	2397318.015	21°39.6274'N	072°30.4082'E
9	3300	241942.461	2397305.178	21°39.6201'N	072°30.3852'E
10	3350	241882.568	2397294.508	21°39.6138'N	072°30.3506'E
11	3600	241636.080	2397261.913	21°39.5940'N	072°30.2081'E
12	3650	241598.135	2397252.922	21°39.5888'N	072°30.1862'E
17	3700	241537.307	2397248.547	21°39.5859'N	072°30.1510'E
18	3750	241486.984	2397242.71	21°39.5823'N	072°30.1219'E
19	3800	241437.953	2397231.313	21°39.5757'N	072°30.0936'E
20	3850	241391.983	2397227.806	21°39.5734'N	072°30.0670'E
21	3900	241345.328	2397213.971	21°39.5655'N	072°30.0401'E
22	3950	241294.360	2397210.914	21°39.5634'N	072°30.0106'E
23	4000	241246.575	2397201.898	21°39.5581'N	072°29.9830'E
24	4050	241205.094	2397198.505	21°39.5559'N	072°29.9590'E
25	4100	241150.630	2397182.026	21°39.5465'N	072°29.9276'E
26	4150	241100.798	2397174.520	21°39.5420'N	072°29.8988'E
27	4200	241041.230	2397173.450	21°39.5409'N	072°29.8643'E
28	4250	240995.486	2397162.555	21°39.5346'N	072°29.8379'E
29	4300	240960.396	2397159.428	21°39.5326'N	072°29.8176'E
30	4350	240896.443	2397143.288	21°39.5233'N	072°29.7807'E
31	4400	240860.082	2397136.305	21°39.5192'N	072°29.7597'E
32	End point Diffuser	240802.000	2397134.000	21°39.517'N	072°29.726'E

Table 1 Post lay survey (2005) Route Co-ordinates provided by GIDC

2.4 DELIVERABLES

Preparation of survey reports, drawings, documents and submission of the same to Hydroair Tectonics (SPD) Pvt Ltd for review and approval.

Two [02] sets of the final analyzed survey report to be submitted within Two [02] weeks from the completion of survey work.

Geostar carried out all works in strict compliance with applicable documents enclosed with the tender document and as per the instructions of Hydroair Tectonics (SPD) Pvt Ltd representative. The scope of work

also included any other item/work required to complete the work in all respects as per specifications, drawings and instructions of Hydroair Tectonics (SPD) Pvt Ltd representative.

Final report and drawings covered the following:

- Description of survey methods, procedure, equipment and instrument calibration data.
- Bathymetric chart, scale of 1:2,000
- Identification of any subsea obstructions and/or seafloor instability.
- Pipeline status w.r.t seabed
- Sebed & pipeline profile
- Presence of any metallic objects and/or debris on the sea floor.
- Photographic copies of raw survey recordings identifying features of interest and bathymetric and sub bottom discontinuities from the echo sounder, sub bottom profiler and side scan sonar.

2.5 REFERENCES

References are made in accordance with the Scope of work and the project information as outlined in the Geostar Surveys India Pvt. Ltd survey procedure and Hydroair Tectonics (SPD) Pvt Ltd contract.

3 RESOURCES OF WORK

3.1 PERSONNEL

PERSONNEL	FUNCTION	FUNCTION
Off-shore	Mr. Prem Singh	Project Manager
Off-shore	Mr. S.V.Subbarao	Party Chief/ Sr.Geophysicist
----do----	Mr. P.K.Singh	Sr.Survey Engineer
----do----	Mr. Sandeep Kumar	Sr.Survey Engineer
----do----	Mr. Raman Thakur	Sr.Survey Engineer
----do----	Mr.Pavan Kumar	Surveyor

Table 2 List of Personnel

3.2 EQUIPMENT

a) Positioning & Navigation

1 x Hemisphere DGPS combined high performance beacon receiver
1 x Computer with HyPack 2015 Navigation and Data logging Software
2 x Computer systems + monitors (one spare)

b) Single Beam Echo sounder System

1 x Echo Track DF3200 MKII Dual Frequency Echosounder
1 x Dual frequency transducer 24 Khz + 200 kHz + mounting bracket & base plate
1 x Bar Check
1 x Computer Interface, 12V Power Supply & Generator
1 x Spare kits for the above

c) Side Scan Sonar System (Edgetech 4100P)

1 x 272TD dual channel(100/500 KHz) Towfish c/w spares kits
1 x Edgetech 4100P Digital side scans sonar system
2 x Tow cable (200 m length)
1 x Edgetech integrated acousition and Processing System

d) Sub Bottom Profiler

1 x Geoacoustics ORE 310B Sub Bottom Profiler Transceiver
1 x Geoacoustics Transducer, Mounting Bracket etc.
1 x CODA DA2000 Digital Recording system

e) Magnetometer

1 x Seaspy proton Precission Magnetometer
1 x System c/w with 200 meters cable, winch, recorder etc.
1 x Sealink software

All associated consumable and spares for effective operation of above.

3.3 VESSEL

MFB Ambe Mata with high manoeuverability and sufficient deck space was used for carrying out the Diffuser inspection surveys. Refer **'Appendix-A'** for Vessel offset diagram.

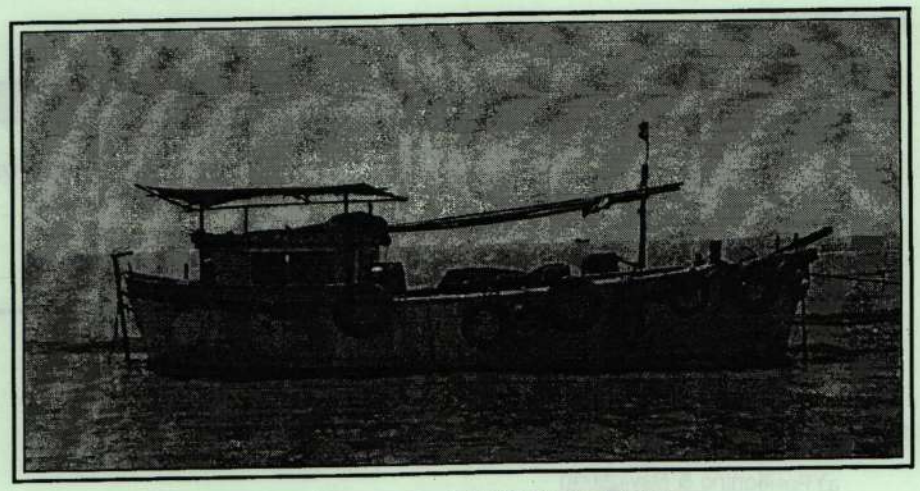


Figure 2 Survey Boat MFB Ambe Mata

4 METHODOLOGY

4.1 GENERAL

The survey works were conducted in accordance with the specifications and scope of work supplied by the Client, and the standard survey procedures of M/s. Geostar Surveys India Pvt. Ltd.

4.2 GEODESY

The Surveys were conducted in WGS 84 spheroid, Indian Datum, Grid co-ordinates are in terms of Universal Transverse Mercator (UTM) Projection. Details of Spheroid and Grid systems are as follows:

GEODETIC PARAMETERS	
Datum	WGS 84
Spheroid	WGS 84
Semi-Major Axis (a)	6378 137.000 metres
Semi-Minor Axis (b)	6356752.314 metres
First Eccentricity Squared (e^2)	0.006694380
Inverse Flattening (1/f)	298.257223563
PROJECTION PARAMETERS	
Grid Projection	Universal Transverse Mercator
Central Meridian (CM)	75.0° East (Zone 43)
Origin Latitude (False Lat.)	00.0°
Hemisphere	North
False Easting (FE)	500000.0 m
False Northing (FN)	0.0 m
Scale Factor on CM	0.999600
Units	Metres

Table 3 Geodetic Parameters and Conversions

4.3 HORIZONTAL CONTROL

Position for the vessel during the survey was provided by Hemisphere combined beacon receiver system. Differential correction signals were received on-board during survey operations continuously from the nearest DGPS beacon reference station (DGLL Station) set up at close to the survey area. These are maintained by Director General of Light Houses and Light Ship, Govt of India. An integrated GPS/Beacon receiver with built-in antenna provided GPS differential corrections in NMEA-0183 format for navigation with high degree of accuracy.

Hemisphere DGPS is a combined high performance GPS receiver and a differential beacon receiver in an extremely compact and fully waterproof enclosure providing high accuracy by utilizing the broadcasted 283.5 – 325 KHZ frequency differential GPS corrections from IALA (International Autthority of Lighthouses Association) beacons.

The positioning data received have high reliability and integrity. The system was calibrated at a known location in Geostar's office prior to mobilisation.

4.4 HYPACK NAVIGATION SOFTWARE

HyPack is a world's leading software solution provider for navigation, hydrographic survey, data acquisition and processing needs.

This was interfaced to all the data acquisition systems on board and the data logged was processed by using HyPack data processing software.

Extreme Versatility- Survey Applications

Its modular design and inherent flexibility makes Hypack perfect for a wide variety of applications. For example, it can be configured to perform:

- Hydrographic and Oceanographic Surveys
- Offshore Bathymetry & Sub bottom Profiler and Pipe-laying
- Dredging, Marine construction including Offshore Oil and Gas
- ROV and AUV Tracking and Data Collection
- Chart and ENC Production

Survey Configuration

Created at the planning stage with the setup program, a *Template Database* contains all survey configuration parameters pertinent to the project.

Real Time Final Result- Data Collection and Output

- Raw Sensor Data
- Data Storage
- Accurate Timing and Ring Buffers
- Real time DTM Production
- Advanced Gridding methods
- XYZ Data
- Side Scan Sonar Snippets
- Eventing
- Advanced Dredging Functionality

4.5 VERTICAL CONTROL

Observed tide at Dahej was used for converting raw water depths to chart datum.

4.6 SINGLE BEAM ECHO SOUNDER

ODOM MKII DF3200 single beam Echo sounder integrated with a DGPS positioning system was used during the entire survey to record geographically referenced bathymetric data for measuring water depths. Sea swell was eliminated by using Heave compensator. Digitized data was confirmed by the inspection of analogue records.

Pre-mobilisation Checks :

The echo sounder systems was bench checked prior to mobilisation. The outboard transducer pole was marked, from the base of the transducer shoe, at 0.1metre intervals (these marks were used to confirm transducer draft once the arrangement are deployed). The Bar Check was checked to confirm the marks at regular one meter intervals and that the marks are readily identifiable.

The Echosounder was interfaced to the Navigation and Data Logging computer to confirm that the digitization of depths are operational.

Installation and Calibration :

The Echosounder system was installed and operated in accordance with the manufacturers instructions. Portable transducers was installed rigidly to a bracket at suitable location on the survey vessel. The transducer

shoe was sufficiently deep not to experience turbulence and aeration when the vessel steams at survey speed. The depth of the transducer below water line was ascertained by reference to present marks on the pole.

Figure 3 MKII ODOM Echtrack Single Beam Echosounder

Prior to commencing survey works, the Echosounder was calibrated against a bar check. The procedure is to confirm the following constants:

Tx = To establish index error (combined effect of transducer depth and delays in the recorder)
Vp = To confirm velocity of propagation of sound in saline water.

With the vessel stationary in the water, the Bar was lowered to at least 2m below the transducer and the nearest mark on the chain set at the water line. Once the transmission mark was set the apparent depth of the transducer was noted on the analogue record and recorded in the deck log for future reference. Care was be taken not to subsequently, inadvertently moves the transmission line.

Echosounder Settings

Frequency	:	24 KHz & 200 KHz.
Range on record	:	Auto
Vertical Paper scale	:	1:100 / 1:300
Range scale	:	0 - 30 metres.

Data reduction and presentation

The system wias operated following recommended manufacturer procedures. The vertical paper scale was set at 1:100 and the appropriate phase wias selected to display the seabed (and the heave compensator trace) at all times. Transducer offset was logged and applied during subsequent processing. Event marks corresponding to position fixes were generated automatically from the on-line navigation computer interface, and passed to the analogue recorder at a regular interval. Prior to the processing, the data files were backed up. The essential hydrographic data thus obtained is corrected. The bathymetry is charted in decimal notation to the nearest one decimal place.

The offsets of the echo sounder transducer from a central reference point (GPS Antenna) on the survey vessel was recorded for the following:

- Layback : 0.00 m
- Transverse offset : -3.60 m (Port)
- Transducer depth : 0.65 m

4.7 SIDE SCAN SONAR SYSTEM

Edgetech 4100P Digital Side scan sonar with dual channel `Tow fish' was provided to investigate the sea floor for morphological and other features which may interfere with installation of operations. The Tow fish carries two 100 KHz and 500 KHz transducers mounted on either side. The acoustic beam emitted from each transducer has a horizontal beam angle of 1 degree and a vertical beam of 40 degrees tilted at 10 degrees below the horizontal. This configuration enables reflected signals to be recorded from contacts as far as 500 meters abeam, subject to the range selected.

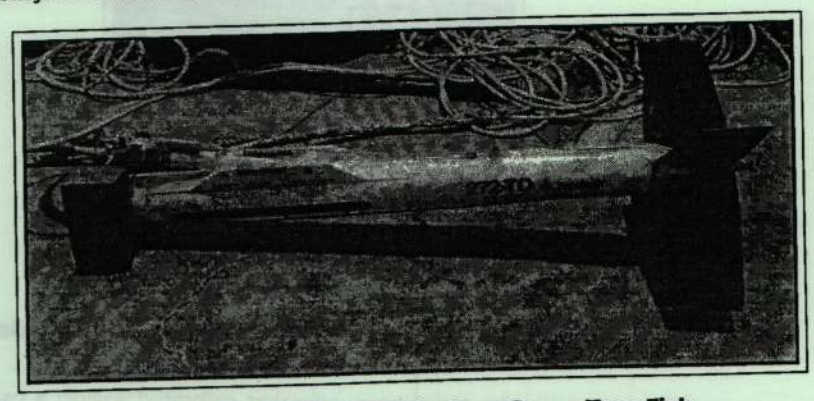


Figure 4 Edgetech Side Scan Sonar Tow Fish

The system is capable of depicting the sonar images corrected for distortions due to tow fish height and vessel speed and at a scale, which clearly displays the resolution of the system. The width of the sea floor sonar image for each recording channel not to be less than 10 centimeters. Image correcting systems incorporate a continuous profile display of tow fish height as part of the display format.

The sonar data processing unit was interfaced to the survey computer to accept the following: -

- Fix mark and identifiers generated synchronously with the logging of position data.
- Smoothed vessel speed data

Sufficient tow cable length was provided to permit towing of the sonar fish at a maximum height above seabed of 10% of the range selected, in all parts of the survey area. The available cable length normally be expected to exceed three times the maximum expected water depth in the survey area. All tow cables were measured and marked at regular intervals for lay back determination. The side scan sonar sensor design towing characteristics, cable and vessel tow point selected to ensure the towed fish is adequately decoupled from any vessel pitching and rolling motion. All sonar data and associated fix mark and fix number information were stored, permanently, on an electronic medium.

The survey lines were run with a range setting of 75 meters either side at a scanning frequency of 100 Khz along the survey lines. The tow system to be operated following recommended manufacturers procedures. The records obtained by means of this equipment suitable to form a complete morphological map of areas investigated. The Tow fish was towed astern of the survey vessel at a depth providing optimum seabed return. Layback and cable-out was logged from each survey line. Total layback was applied during subsequent interpretation; accuracy was verified by reciprocal passes of existing seabed installation. Event marks, corresponding to position fixes, were regularly generated automatically by the navigation computer and were passed on to the Side scan sonar system. Digital data was clearly annotated and cross checked. The Side scan sonar digital data was reviewed to register any contacts during the survey. The layback of the towed fish was verified from reciprocal SSS lines over a well defined contact with a constant layback.

The offsets of the Side scan sonar tow fish from Central Reference Point (GPS Antenna) on the survey vessel was recorded for the following:

- Layback : -4.20 m+ Cable out astern of the vessel
- Transverse offset : -3.60 m (port)
- Transducer depth : Variable

4.8 SUB-BOTTOM PROFILER

Geoacoustics Transceiver ORE 310B Transducer Sub-bottom Profiler c/w cables, was used to delineate the exact position of the existing pipeline. The power output `Time Variable Gain' Amplifier and Filter settings were field selected to give optimum resolution and necessary seabed penetration for the prevailing geological conditions.

The system was operated following recommended manufacturer procedures. Event marks, corresponding to position fixes at regular intervals, were generated automatically by the navigation computer and were passed to digital data recording system CODA DA 2000. The output data was stored in the root directory of CODA and the same was copied on multiple disks. Paper Records were clearly annotated and cross-checked.

Processing Sub-Bottom Profiles

The velocity of propagation of acoustic waves, sub seabed, was assumed to be 1600 m/sec., consistent with Silty sands, for time-depth conversion. Compilation paper plots were produced and depths to different reflectors below seabed against track plot fixes were plotted.

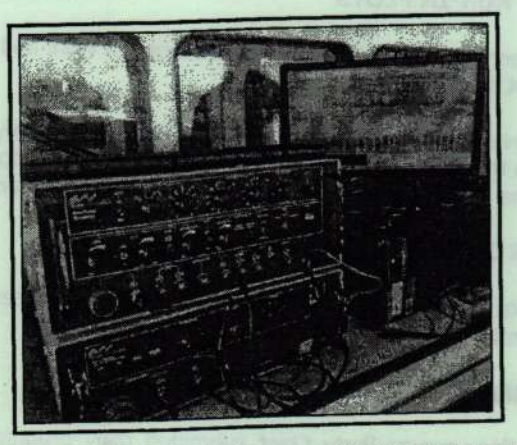


Figure 5 Sub-bottom profiler acquisition setup onboard

The offsets of the sub-bottom Profiler from a central reference point (GPS Antenna) on the survey vessel was recorded for the following:

- Layback : 0.00 m
- Transverse offset : 0.00 (Starboard)
- Transducer depth : 0.70 m

4.9 MAGNETOMETER

SeaSpy Marine Proton Precession Magnetometer system, complete with plotter and towed sensor system was used for the detection and confirmation of buried metallic objects not seen on the side scan sonar data. For hazard survey applications, its utilization is particularly meaningful in the detection of any magnetic anomaly that may pose a constraint to sub-sea installations or construction activities.

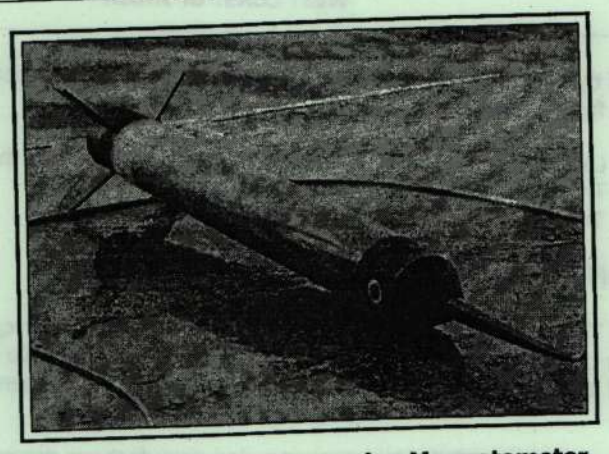


Figure 6 Seaspy proton precession Magnetometer

The offsets of the sensor from Central Reference Point (GPS Antenna) on the survey vessel was recorded for the following:

- layback = -4.20m + cable out stern of the vessel
- transverse offset = 0.00m (starboard)
- transducer depth = varies

4.10 PRE-PLOTS / RUN-IN PLOTS

Survey lines were planned as discussed in the scope of work and pre plots for the area were prepared prior to commencement of survey.

The pre-plots were run on the computer while doing the survey lines. Any deviation from the prefixed lines was flashed on the display along with necessary course corrections to be made to adhere to the prefixed line. This enabled the Navigator to guide the vessel to the prefixed survey line all the times.

4.11 PROCESSING OF DATA

The survey data logged in HyPack survey file format was processed in HyPack Ver.2015 software and finally presented in drawing form using AutoCAD Rel.14 for windows.

4.12 PROGRESS REPORT

While on location, survey Party Chief submitted daily progress report to Client's representative and also conveyed the same to Geostar office in Mumbai.

4.13 EVENT MARKS

The on-line computer system was interfaced for closure to the analogue traces on the survey vessel. Event marks corresponding to position fixes were generated automatically from the on-line navigation computer interface and passed to the analogue recorders at regular intervals across the ground.

5 IN FIELD CALIBRATIONS

The following calibrations / activities were conducted in field and prior to and during survey operations.

- DGPS Calibration
- Single beam echosounder calibration by Bar check method
- Rub Test for the Side Scan Sonar

5.1 DGPS VERIFICATION

DGPS Verification were carried out at Geostar office building at Vashi, Navi Mumbai prior to mobilisation of systems in the field. Refer **'Appendix B'** for DGPS calibration report.

5.2 SINGLEBEAM ECHOSOUNDER CALIBRATION

Pre-mobilisation Checks:

The echo sounder systems was bench checked prior to mobilisation. The outboard transducer pole was marked, from the base of the transducer shoe, at 0.1 meter intervals (these marks will then be used to confirm transducer draft once the arrangement are deployed). The Bar Check carried out to confirm the marks at regular one meter intervals and that the marks are readily identifiable.

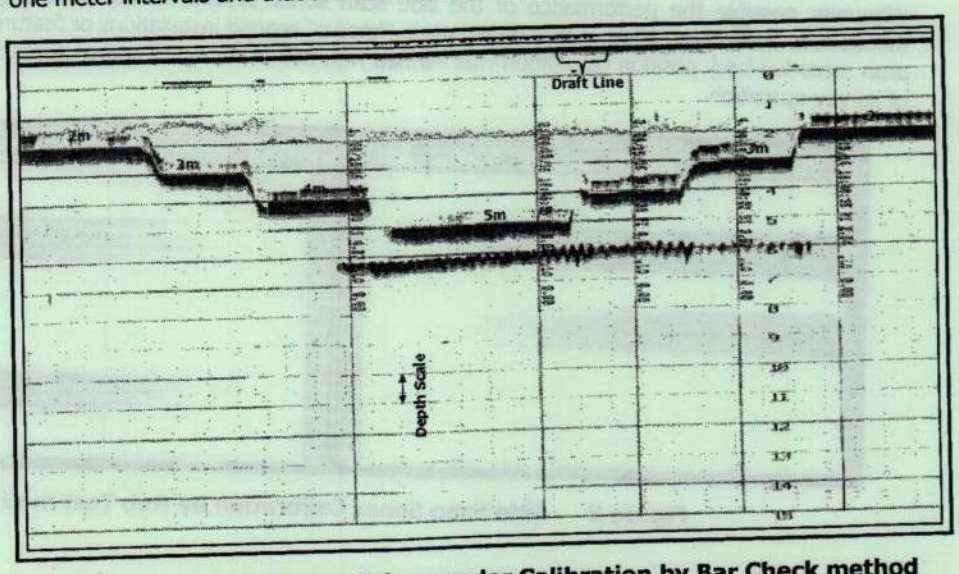


Figure 7 Single Beam Echosounder Calibration by Bar Check method

The Echo sounder was interfaced to the Navigation and Data Logging computer to confirm that the digitization of depths are operational.

Installation and Calibration:

The Echo sounder system was installed and operated in accordance with the manufacturers instructions. Portable transducer was installed rigidly to a bracket at suitable location on the survey vessel. The transducer shoe was sufficiently deep not to experience turbulence and aeration when the vessel steams at survey speed. The depth of the transducer below water line was ascertained by reference to present marks on the pole.

Prior to commencing survey works, the Echo sounder was calibrated against a bar check. The procedure is to confirm the following constants:

Tx = To establish index error (combined effect of transducer depth and delays in the recorder)
Vp = To confirm velocity of propagation of sound in saline water.

With the vessel stationary in the water, the Bar was lowered to at least 2 m below the transducer and the nearest mark on the chain set at the water line. Once the transmission mark was set the apparent depth of the transducer was noted on the analogue record and recorded in the deck log for future reference. Care was taken not to subsequently, inadvertently moves the transmission line.

The Bar was then lowered at regular intervals to the maximum practical depth. The bar was allowed to settle at each depth. On recording the maximum obtainable depth the Bar was similarly stepped back to the surface. The digitized depth was also be checked during the Bar calibration

5.3 SIDE SCAN SONAR CALIBRATION

Prior to acceptance of SSS equipment, and at any other time requested by the Company Representative, the system was thoroughly tested. Verification tests include, but not be limited to: -

a) In water testing of the sonar tow fish and cable connectors.
b) Cross-talk evaluation by rub test.
c) Transducer output functionality tests.
d) Transducer sensitivity by reflection testing in air.
e) Interfacing verifications.

Wherever possible the performance of the side scan sonar system, in the area of operations, as part of mobilisation acceptance trials, were verified using "known" seabed installations or features as test targets. Side scan sonar lay-back position calculation was verified with box-in survey of known seabed features prior to start of survey operation.

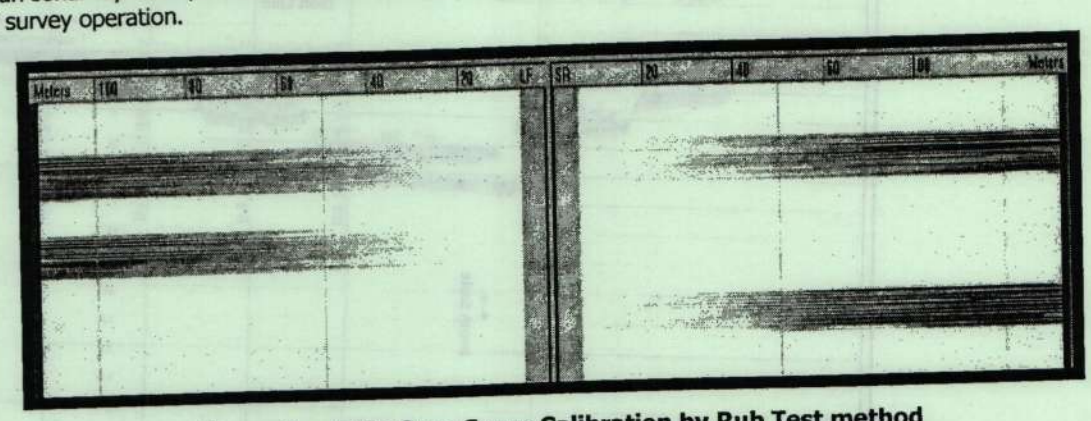


Figure 8 Side Scan Sonar Calibration by Rub Test method

6 SURVEY EXECUTION

The following sections describe Geostar Surveys India Pvt Ltd approach to this project from award to the issue of Final Report

6.1 MOBILISATION

The Project Manager liaise with operations staff, the vessel master and Party Chief to make the appropriate arrangements to mobilise the vessel. The port of mobilisation and demobilisation for all the phases of this project was Dahej, Gujarat and comprise only the boarding of client representatives with survey personnel.

All instrumentation was subject to in port tests which was carried out as follows:

- Satisfactory installation of the DGPS system and computation routines.
- Checking of Echo Sounder Draft Settings (Index Error), via draft check method.
- SSS sonar check [Rub Test]

Upon satisfactory completion of in harbour testing, the selected vessel proceeded to the initial work area. Upon arrival on site, survey sensors were deployed and acceptance tests were performed as required, in order to complete mobilisation.

6.2 INSPECTION ACTIVITIES

Following completion of all offshore equipment calibration inspection activities were commenced and preceded in accordance with the project schedule.

6.3 PROCEDURE OF SURVEY

Diffuser Inspection survey was conducted by running by 4 longitudinal lines at 50 metres interval (-100m, -50m, 50m, 100m) from the existing GIDC 90 MLD pipeline route. DGPS, Single beam Echo sounder and Side scan sonar were deployed on all longitudinal lines. Transverse (cross) lines were run at 50 meters intervals across the existing Pipeline Route. DGPS, Single beam Echo sounder, sub-bottom profiler (Pinger) and Magnetometer were deployed on all cross-survey lines. Surveys were carried out as close as possible towards shore taking advantage of the tide. Observed tide at Dahej was used for reducing the raw water depth to chart datum.

6.4 SAFETY

Safety was observed on the vessel while carrying out the Surveys according to Geostar's HSE plan submitted along with the survey procedures.

6.5 DATA QUALITY CONTROL

Geostar Surveys India Pvt. Ltd. has fully documented Quality Assurance and Health, Safety and Environmental System procedures. The experienced operators from Geostar Surveys constantly monitored the data quality as the survey progresses. A log of profiles was maintained and quality of data was noted.

7 REPORTING

7.1 PROGRESS REPORT

While on offshore surveys, GSIPL conveyed the daily progress report about project to Hydroair Tectonics (SPD) Pvt Ltd representatives.

7.2 FINAL REPORT

Two [02] sets of Final Report to be submitted within two [02] weeks from the completion of field survey.

The final report text and final drawings containing the following information:

- Description of survey methods, procedure, equipment and instrument calibration data.
- Bathymetric chart, scale of 1:2,000
- Identification of any subsea obstructions and/or seafloor instability.
- Pipeline status w.r.t seabed
- Seabed & Pipeline profile
- Presence of any metallic objects and/or debris on the sea floor.
- Photographic copies of raw survey recordings identifying features of interest and bathymetric and sub bottom discontinuities from the echo sounder, sub bottom profiler and side scan sonar.

8 DETAILED RESULTS

8.1 GENERAL

M/s Gujarat Industrial Development Corporation (GIDC) inteneds to carryout Diffuser inspection surveys for GIDC 90 MLD offshore pipeline, off Luvara coast, Gulf of Khambat, Gujarat, West Coast of India.

In this regards GIDC awarded the above survey works to Hydroair Tectonics (SPD) Pvt Ltd. **M/s Hydroair Tectonics (SPD) Pvt Ltd** inturn awarded the above survey works to Geostar surveys India Pvt Ltd.

M/s Geostar Surveys India Pvt Ltd (GSIPL) has been awarded these works as a co-operation of services to Hydroair Tectonics (SPD) Pvt.Ltd. GSIPL provided the vessel, equipment and personnel for the provision of Diffuser Inspection Surveys to Hydroair Tectonics (SPD) Pvt.Ltd.

The survey area lies off Luvara coast, Gulf of Khambat, Gujarat, West Coast of India.

These survey services comprise of the provision of suitable personnel and equipment in order to obtain, interpret and report on bathymetric data, pipeline status within the surveyed corridor along the existing GIDC's 90 MLD offshore pipeline. DGPS positioning system, Single Beam Echo Sounder, Side Scan Sonar, Sub-bottom Profiler and magnetometer were deployed for carrying out Diffuser inspection surveys. Observed tide at Dahej was used for reducing the raw water depth to chart datum.

8.2 HORIZONTAL CONTROL

Position for the vessel during the survey was provided by Hemisphere combined beacon receiver system. Differential correction signals were received on-board during survey operations continuously from the nearest DGPS beacon reference station (DGLL Station) set up close to survey area. These are maintained by Director General of Light Houses and Light Ship, Govt of India. An integrated GPS/Beacon receiver with built-in antenna provided GPS differential corrections in NMEA-0183 format for navigation with high degree of accuracy.

Hemisphere DGPS is a combined high performance GPS receiver and a differential beacon receiver in an extremely compact and fully waterproof enclosure providing high accuracy by utilizing the broadcasted 283.5 – 325 KHZ frequency differential GPS corrections from IALA (International Autthority of Lighthouses Association) beacons.

The positioning data received have high reliability and integrity. The system was calibrated at a known location in Geostar's office prior to mobilisation. Refer **'Appendix B'** for DGPS calibration report.

8.3 VERTICAL CONTROL

Observed tide at Dahej was used for reducing the raw water depth to chart datum. Refer **Appendix 'D'** for tidal readings & graphs.

8.4 BATHYMETRY

All KP's mentioned below are assumed to start from KP 0.0 (near shore) to KP 1.055 (Diffuser location/pipeline end point).

The following text should be read in conjunction with Drawing no's;

a) **J011_16/HYDROAIR/DAHEJ/BSFSPP/2016/01/1640**
b) **Annotated data examples placed at Appendix-C.**

All water depths mentioned in the following paragraphs are in meters & decimeters and are reduced to chart datum (CD). Observed tide at Dahej was used for reducing the raw water depth to chart datum.

General bathymetry within the survey corridor presents undulated seabed between KP 0.0 to KP 0.350 and water depth decreases towards increasing KP's between KP 0.350 to KP 1.055 towards Diffuser location/pipeline end point. Minimum water depth of 18.9 meters was recorded near diffuser location/pipeline end point and maximum water depth of 27.1 meters was recorded North of existing pipeline route.

Contours are drawn at 1metre interval within survey corridor shows a general trend in N-S.

Water depth of 19.1 meters was recorded at diffuser location/pipeline end point.

Apart from the above no other bathymetric anomalies were recorded at any point within the survey corridor which could be hazardous to the existing pipeline.

8.5 SEABED FEATURES

All KP's mentioned below are assumed to start from KP 0.0 (near shore) to KP 1.055 (Diffuser location/pipeline end point).

The following text should be read in conjunction with Drawing no's;

a) **J011_16/HYDROAIR/DAHEJ/BSFSPP/2016/01/1640**
b) **Annotated data examples placed at Appendix-C.**

The definition of seabed features within the surveyed areas was primarily achieved through the examination of side scan sonar data acquired. Hence, qualitative analysis of the sediments is based on the reflectivity of the surficial sediments by 100 kHz sonar frequency. Additionally, appropriate reference to the echo sounder, sub bottom profiler and magnetometer data sets were carried out as required.

From side scan sonar records and in conjunction with the sub-bottom profiler and magnetometer records, it is interepreted that the existing pipeline was recorded as buried within the survey corridor.

In general, Side scan sonar reveals a seabed of varying reflectivity by 100 KHz frequencies, which can be broadly categorized as follows:

Type 1: Low reflective sediments interpreted as Silty Sand.
Type 2: Medium Reflective Sediments (Interperted as Silty Sand associated with sand ripples).

Apart from the above, no other significant features/debris were recorded within the survey corridor which could be hazardous to the existing pipeline.

8.6 SUB BOTTOM PROFILER SURVEY

All KP's mentioned below are assumed to start from KP 0.0 (near shore) to KP 1.055 (Diffuser location/pipeline end point).

The following text should be read in conjunction with Drawing no's;

a) **J011_16/HYDROAIR/DAHEJ/BSFSPP/2016/01/1640**
b) **Annotated data examples placed at Appendix-C.**

Sub-bottom profiler (Pinger) was run across the existing pipeline route. Pipeline was identified on the sub bottom profiler records with its characteristic hyperbola. Velocity of propagation of acoustic wave sub seabed was assumed 1600 m/sec for converting two-way-travel time to depth.

From sub bottom profiler survey and in conjunction with the side scan sonar and Magnetometer records the pipeline recorded as buried at a depth of 2.8meters to 3.5meters subseabed between KP 0.0 and KP 1.055 (Diffuser/Pipeline end point) within the survey corridor.

Apart from the above, no other anomolies were recorded at any point within the survey corridor which could be hazardous to the existing pipeline.

8.7 MAGNETOMETER

The following text should be read in conjunction with Drawing no's;

a) **J011_16/HYDROAIR/DAHEJ/BSFSPP/2016/01/1640**
b) **Annotated data examples placed at Appendix-C.**

Magnetometer data was processed by using SeaLink magnetometer data logging software and Surfur 9.0 to find out magnetic anomalies within the surveyed corridor. Total layback was applied during subsequent interpretation; accuracy was verified by reciprocal passes of existing seabed installation. Event marks, corresponding to position fixes, were regularly generated automatically by the navigation computer and were passed on to the Magnetometer system. Records were clearly annotated and cross checked.

Magnetic anomalies were recorded due to an existing pipeline within the survey corridor. An example of the case is given below.

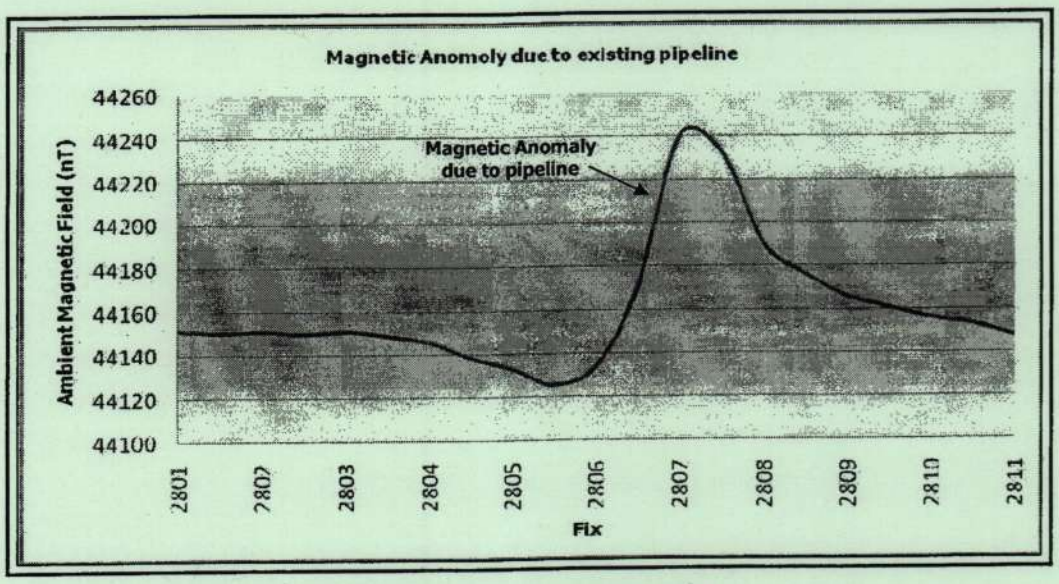
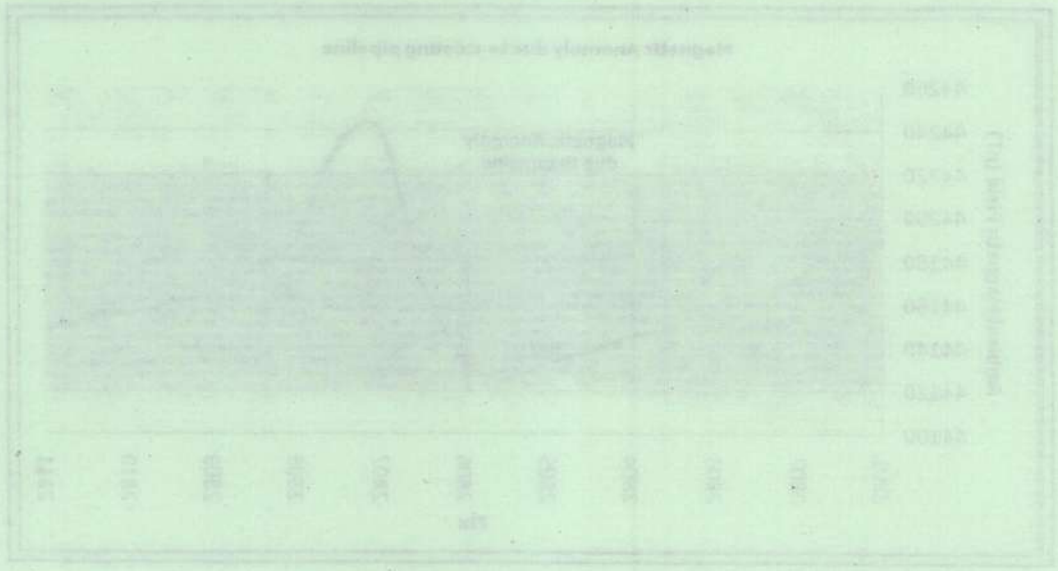


Figure 9 Magnetic Anomaly plot

Apart from the above, no other anomalies were recorded at any point within the survey corridor which could be hazardous to the existing pipeline.

APPENDIX A

VESSEL OFFSET DIAGRAM



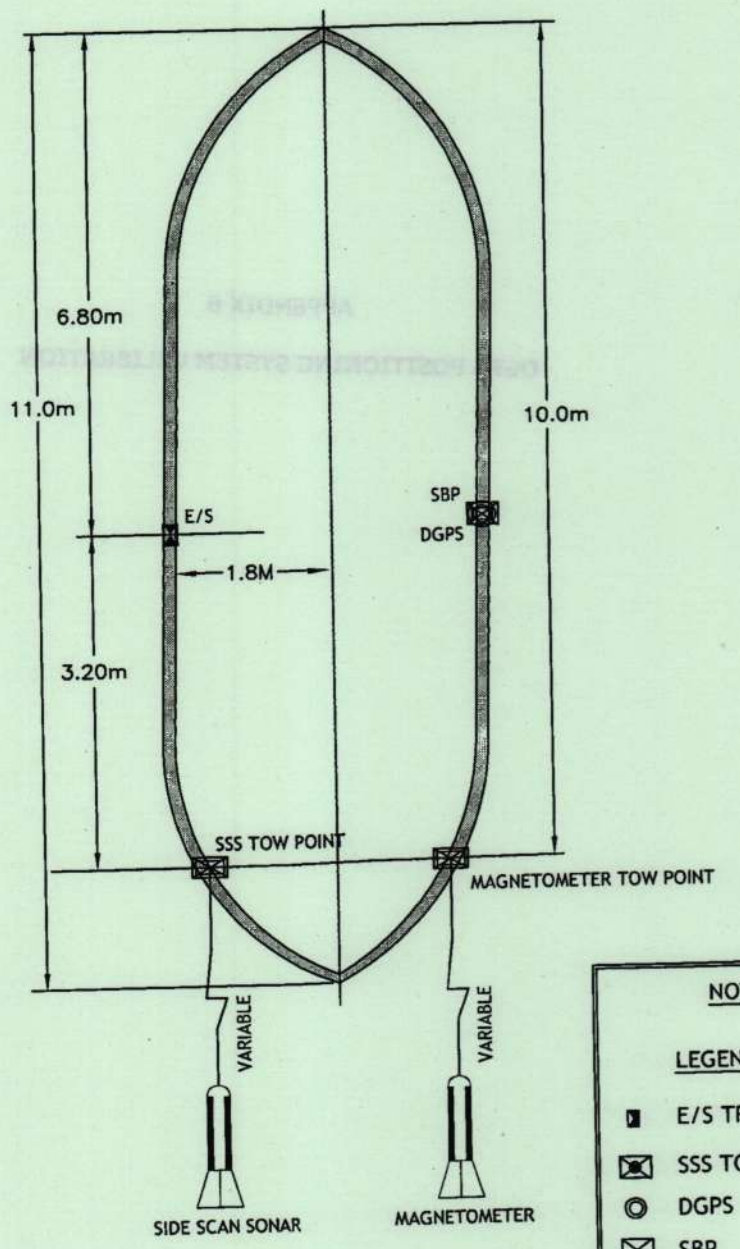
GEOSTAR SURVEYS INDIA PVT LTD.

VESSEL OFFSET DIAGRAM

JOB NO : JO11_2016
CLIENT : HYDROAIR TECTONICS (SPD) PVT LTD
JOB TITLE : DIFFUSER INSPECTION SURVEYS
OFF LUVARA COAST, GUJARAT, WEST COAST OF INDIA

DESCRIBED BY : GEOSTAR SURVEYS
DATE : 15/04/2016
REMARKS : DIFFUSER INSPECTION SURVEYS

VESSEL: MFB AMBE MATA



NOT TO SCALE

LEGEND

- E/S TRANSDUCER
- SSS TOW POINT
- DGPS
- SBP
- SSS TOW FISH & MAGNETOMETER

APPENDIX B

DGPS POSITIONING SYSTEM CALIBRATION

CALIBRATION OF DGPS POSITIONING SYSTEM AT GEOSTAR OFFICE ROOF, NAVI MUMBAI

The Hemisphere system was calibrated at Geostar office building established station at Navi Mumbai. The station is situated on the roof of the Geostar office building, Navi Mumbai. The DGPS system was placed on the specified station and the position was logged for duration of 5 hours & 30 minutes between 11:00 Hrs and 16:30Hrs on 12th April 2016. The observed co-ordinates were compared with the previous established station in the following table;

OBSERVED CO-ORDINATES AT GEOSTAR OFFICE STATION		
WGS 84, CM 75, ZONE 43, UTM CO-ORDINATES		
TIME	EASTING(m)	NORTHING (m)
11:00	290102.145	2110916.888
11:15	290102.581	2110916.758
11:30	290102.300	2110916.485
11:45	290102.495	2110916.784
12:00	290102.281	2110916.615
12:15	290102.520	2110916.835
12:30	290102.405	2110916.797
12:45	290102.595	2110916.557
13:00	290102.455	2110916.487
13:15	290102.362	2110916.857
13:30	290102.432	2110916.744
13:45	290102.585	2110916.925
14:00	290102.270	2110916.685
14:15	290102.330	2110916.925
14:30	290102.340	2110916.305
14:45	290102.570	2110916.645
15:00	290102.578	2110916.727
15:15	290102.460	2110916.818
15:30	290102.192	2110916.661
15:45	290102.377	2110916.825
16:00	290102.244	2110916.478
16:15	290102.311	2110916.355
16:30	290102.241	2110916.855
MEAN	**290102.394**	**2110916.696**

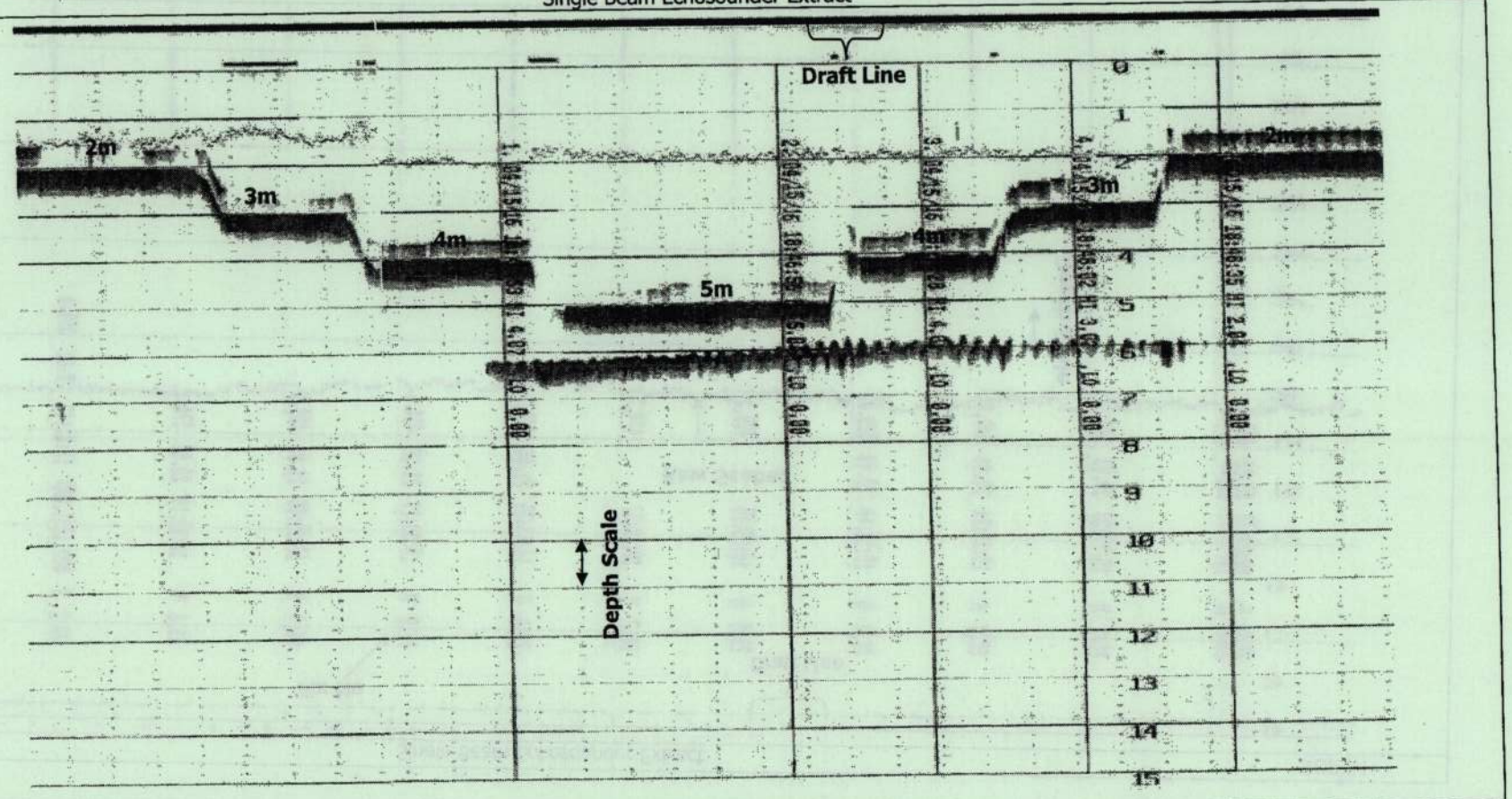
Comparison between observed co-ordinates and previous establish station of office building station is as below.

STATION: GEOSTAR OFFICE	WGS 84, CM 75, Zone 43	
	EASTING(m)	NORTHING (m)
OBSERVED CO-ORDINATES IN UTM	**290102.394**	**2110916.696**
OFFICE BUILDING STATION	**290102.425**	**2110916.662**
DIFFERENCE in UTM	**-0.031**	**0.034**

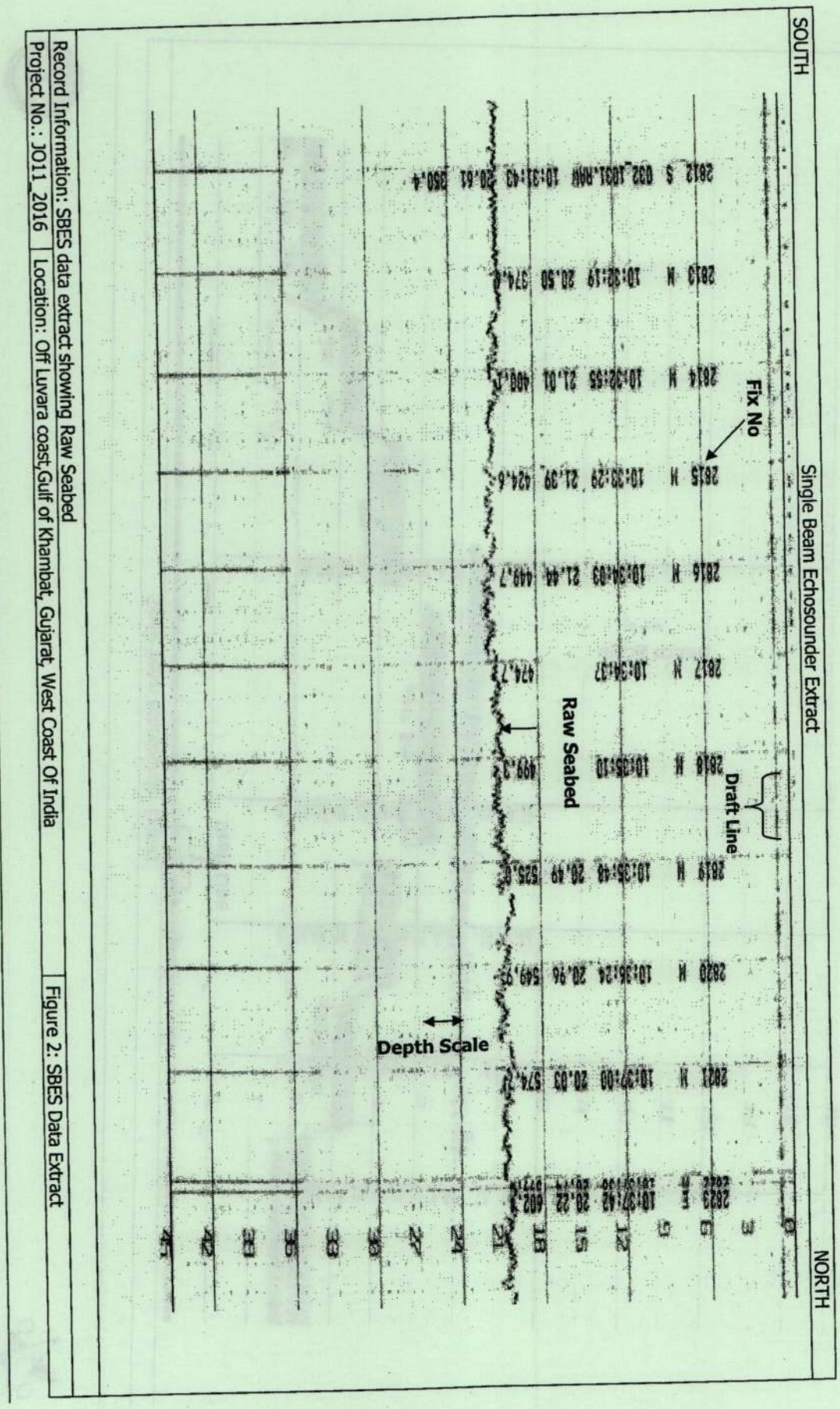
APPENDIX-C

EXTRACTS FROM FIELD RECORDS

Single Beam Echosounder Extract



Record Information: SBES data extract showing Single Beam Echo Sounder calibration by bar check method		
Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 1: SBES Data Extract

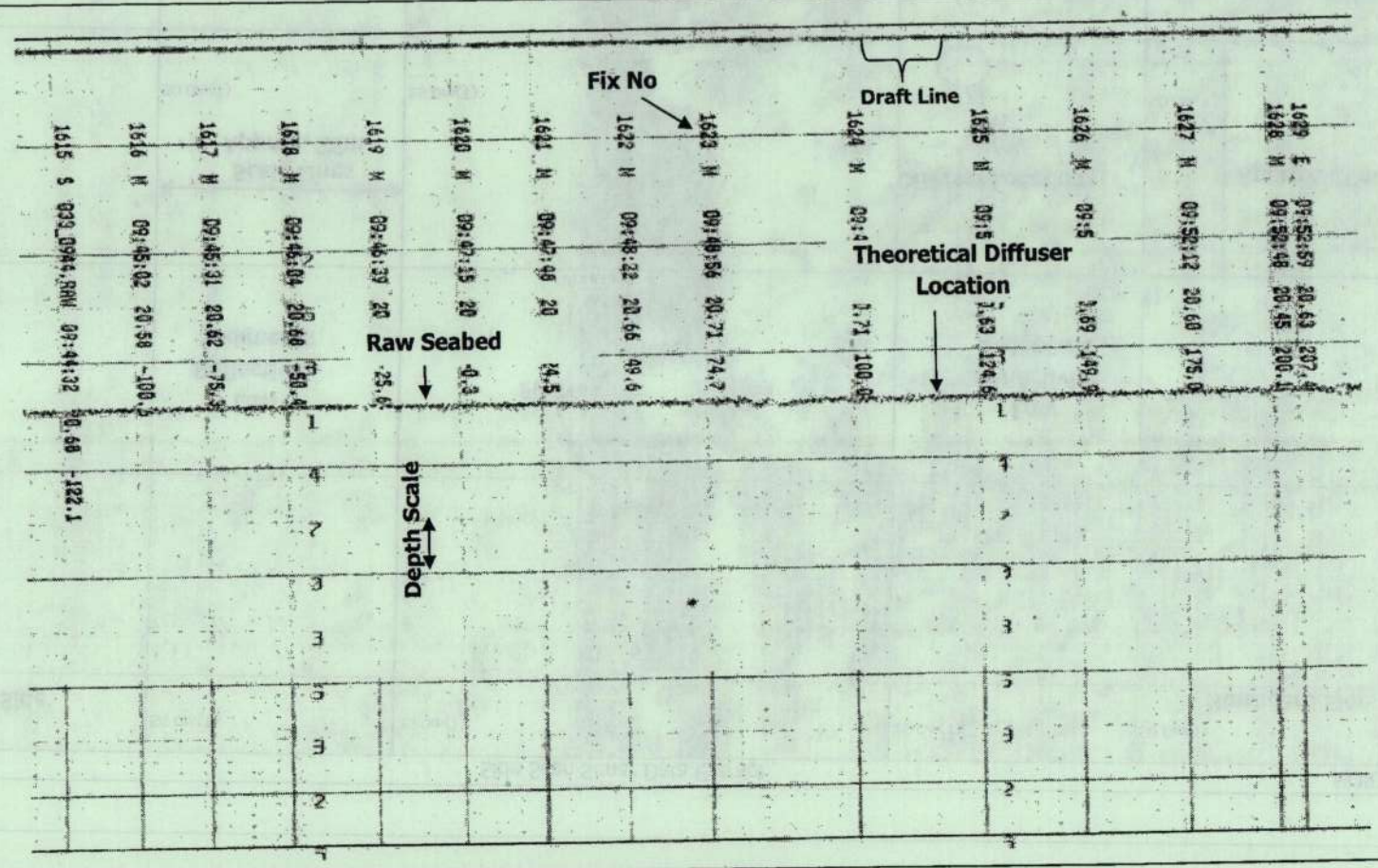


Record Information: SBES data extract showing Raw Seabed

Project No.: JO11_2016 | Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India

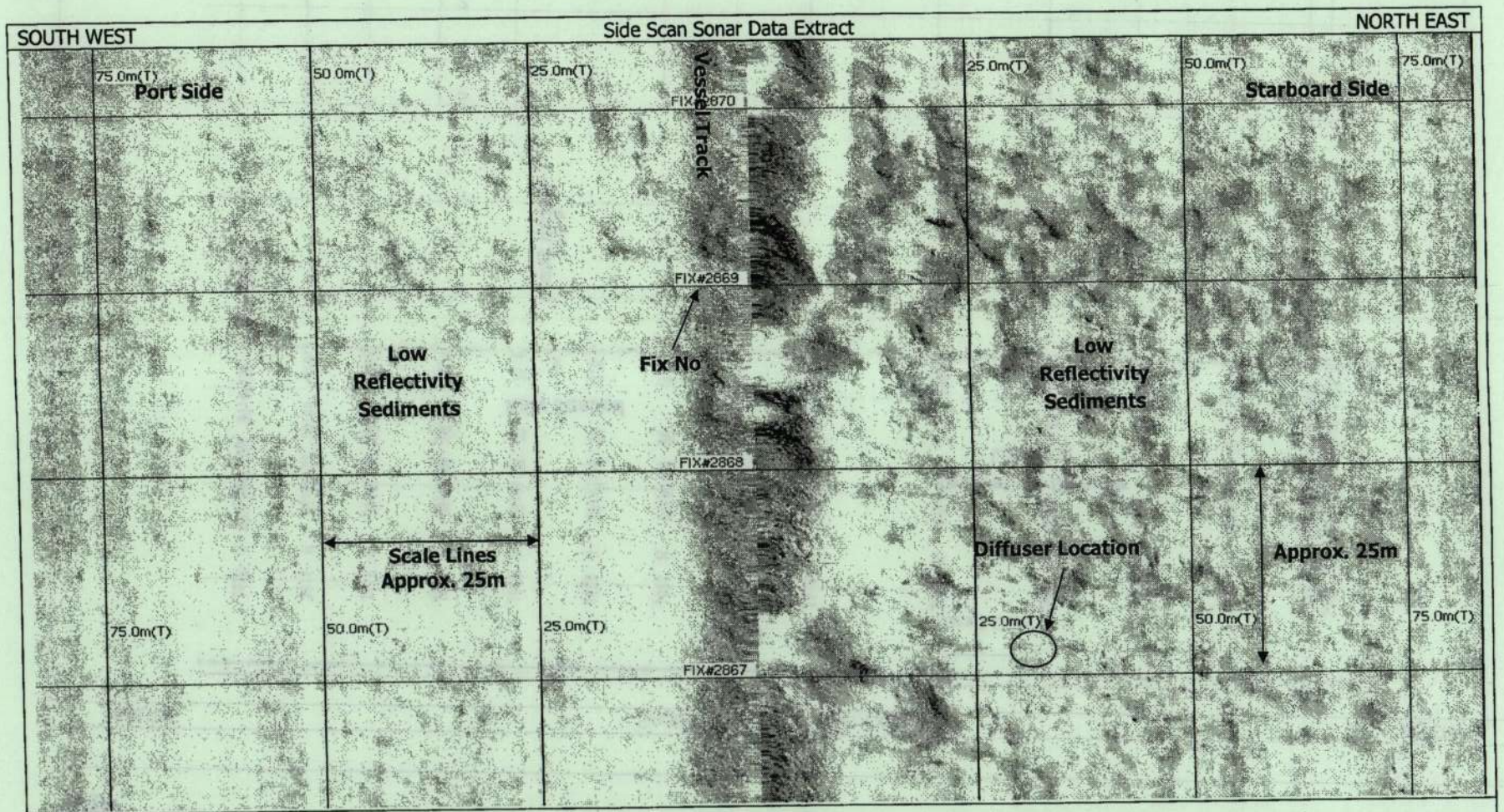
Figure 2: SBES Data Extract

SOUTH — Single Beam Echosounder Extract — NORTH

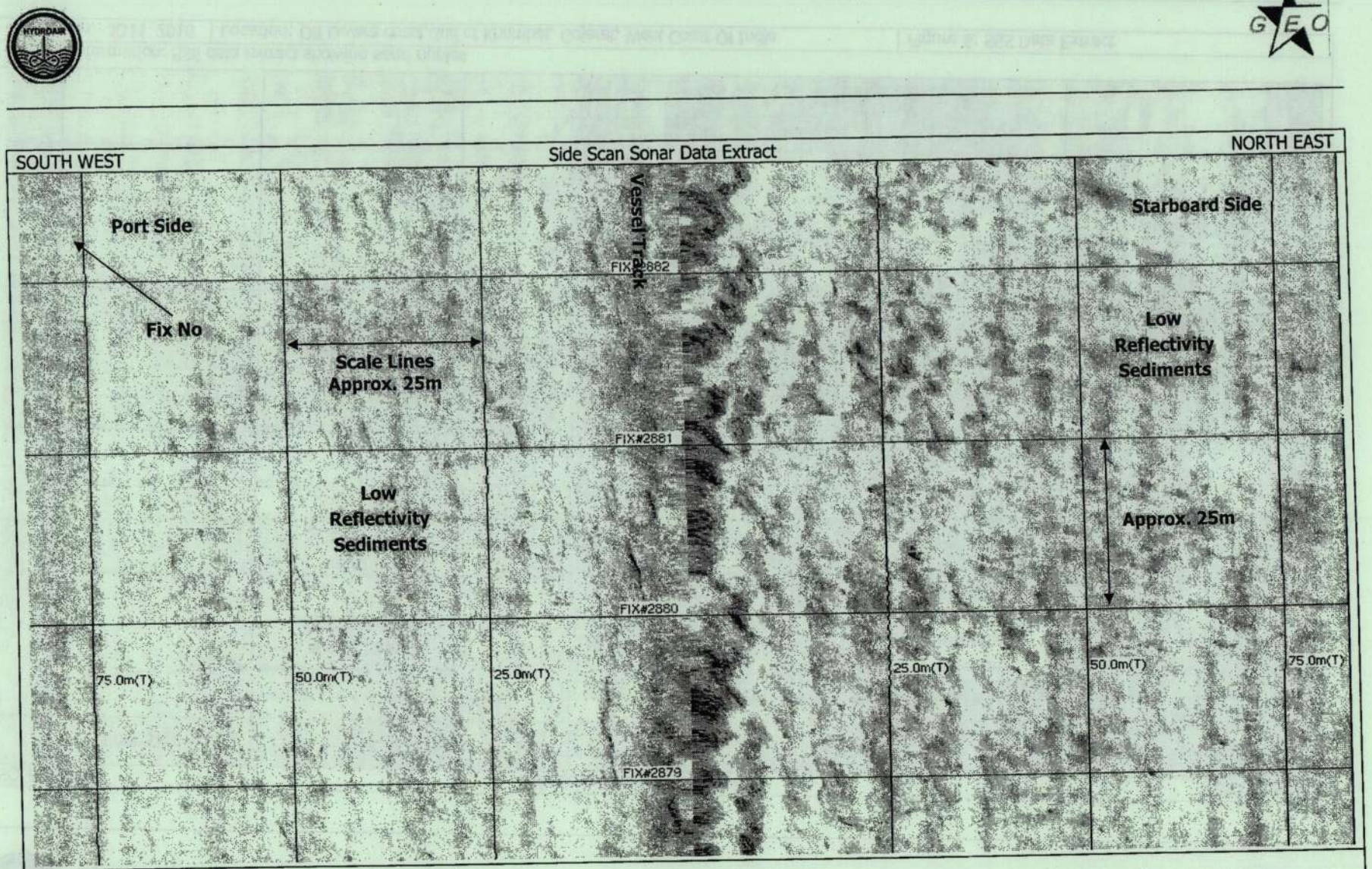


Record Information: SBES data extract showing Raw Seabed and theoretical Diffuser location

Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 3: SBES Data Extract

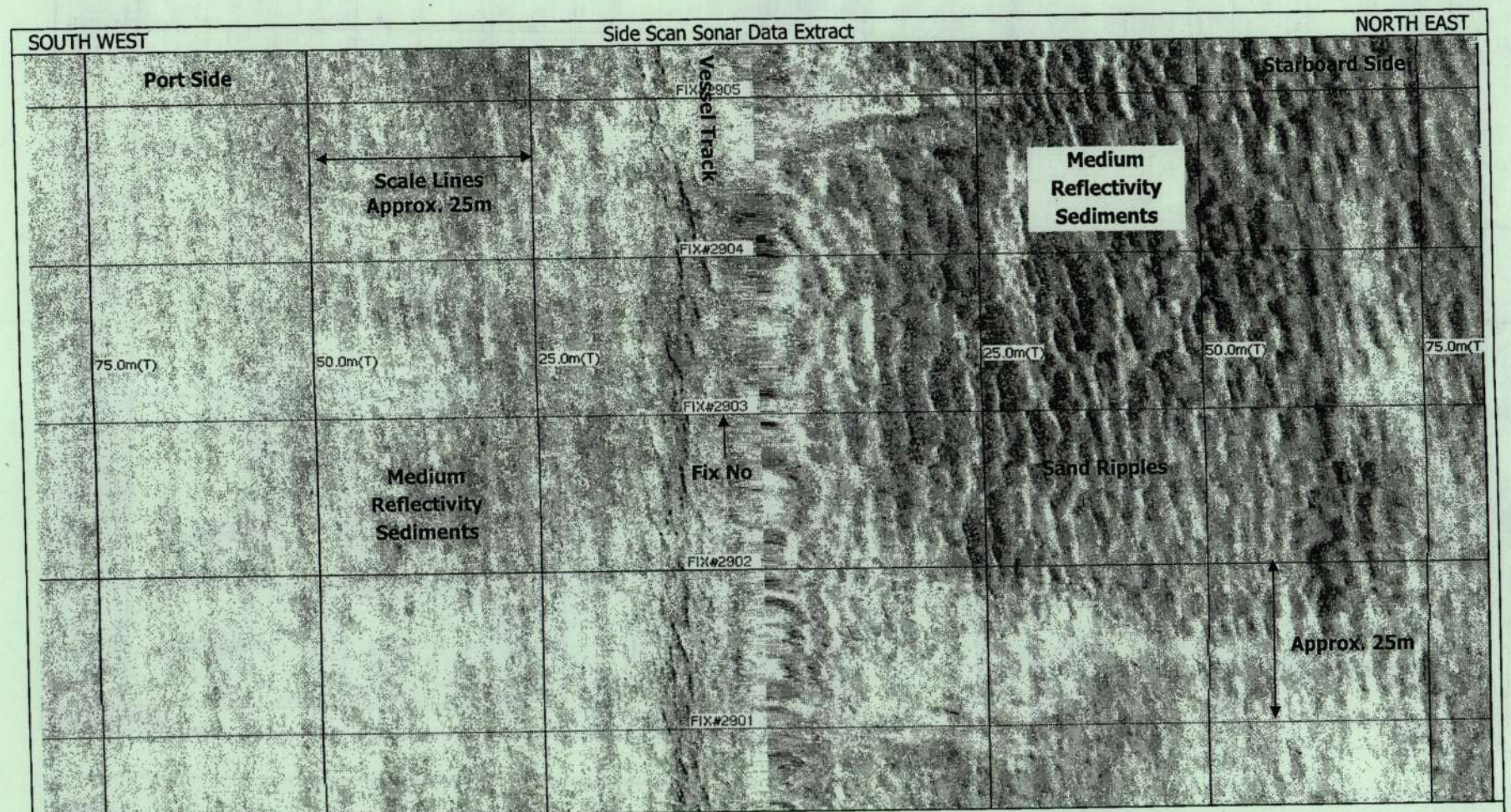


Record Information: SSS data extract showing seabed and diffuser location		
Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 4: SSS Data Extract



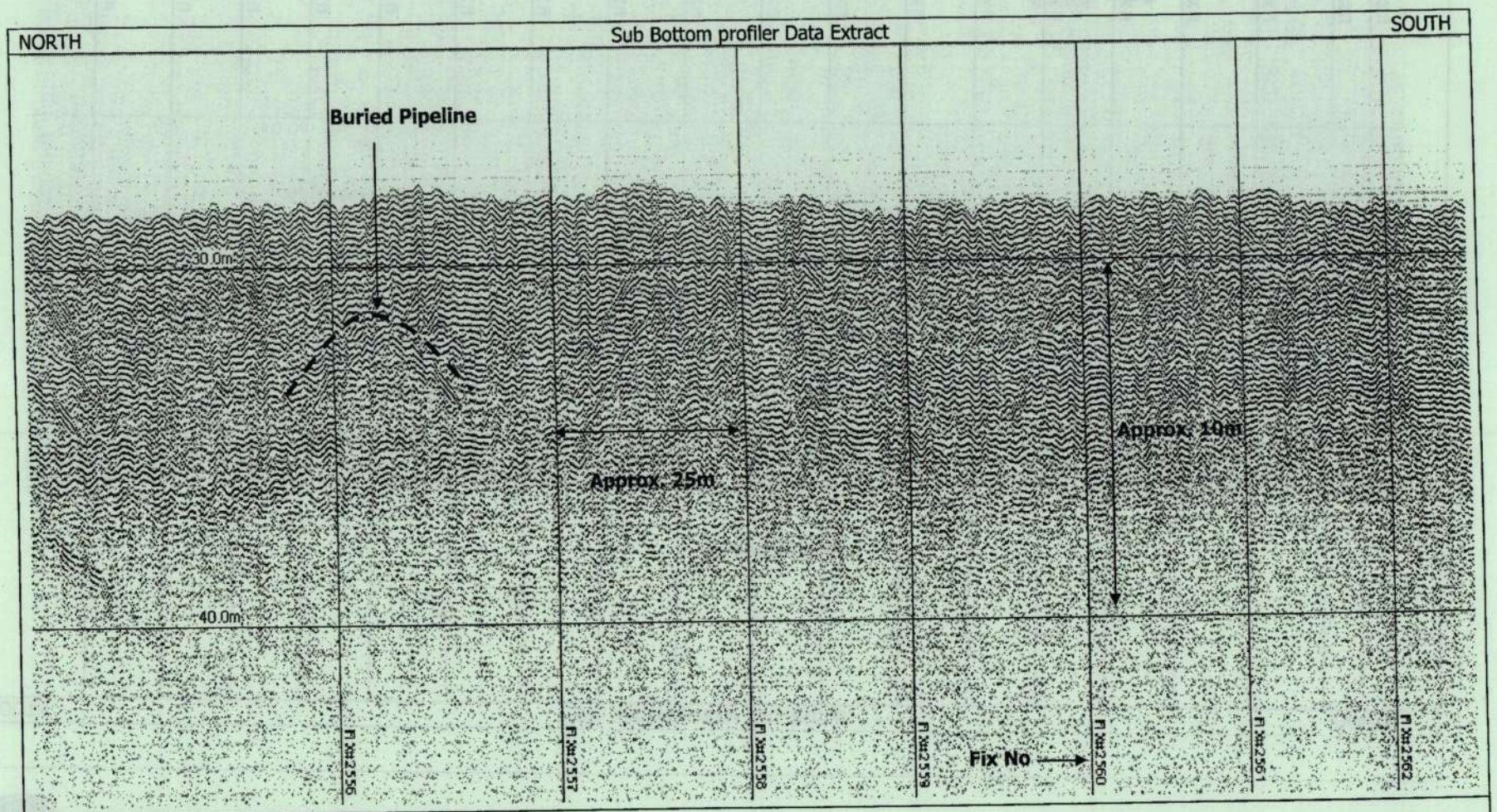
Record Information: SSS data extract showing seabed

Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 5: SSS Data Extract

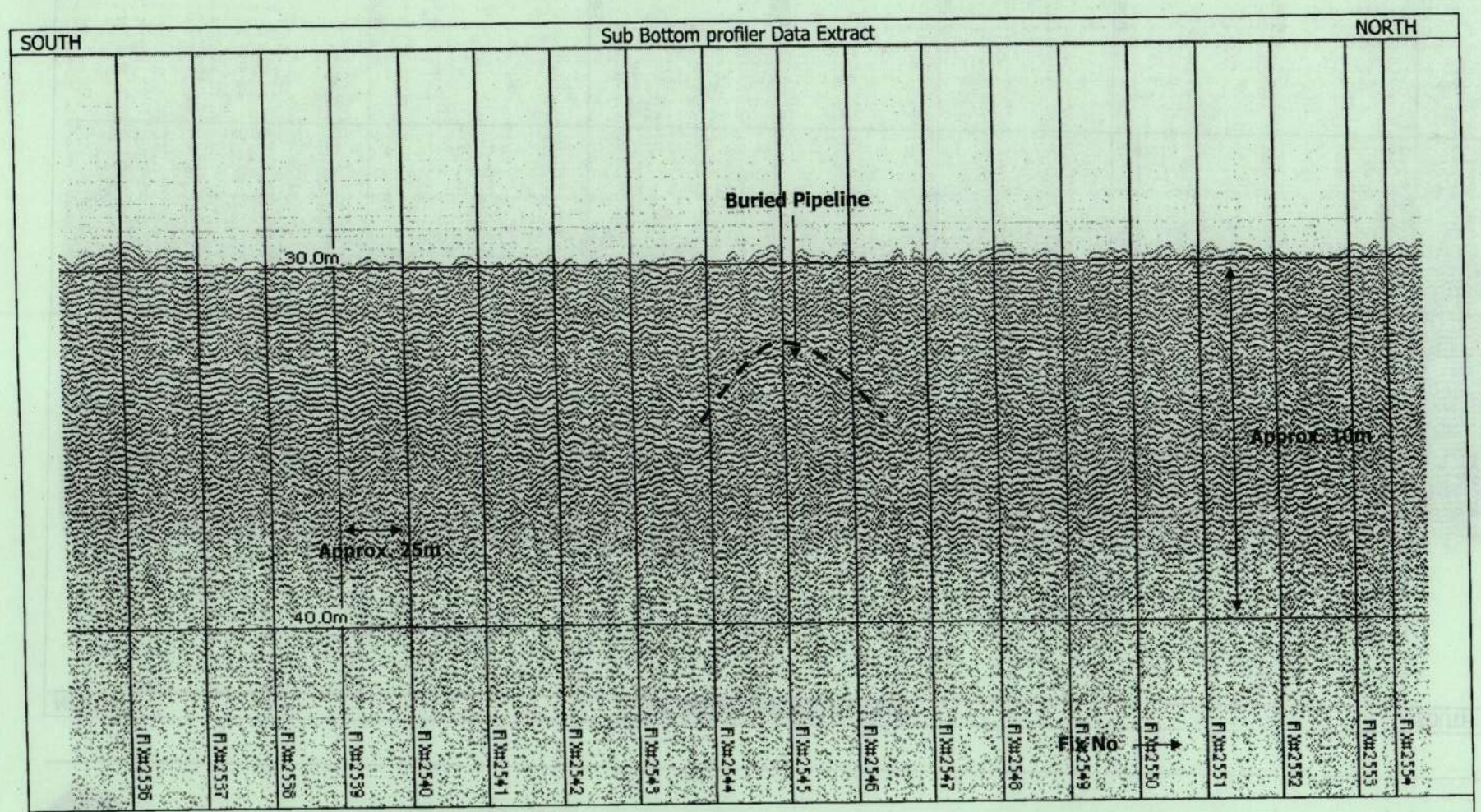


Record Information: SSS data extract showing sand ripples

Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 6: SSS Data Extract

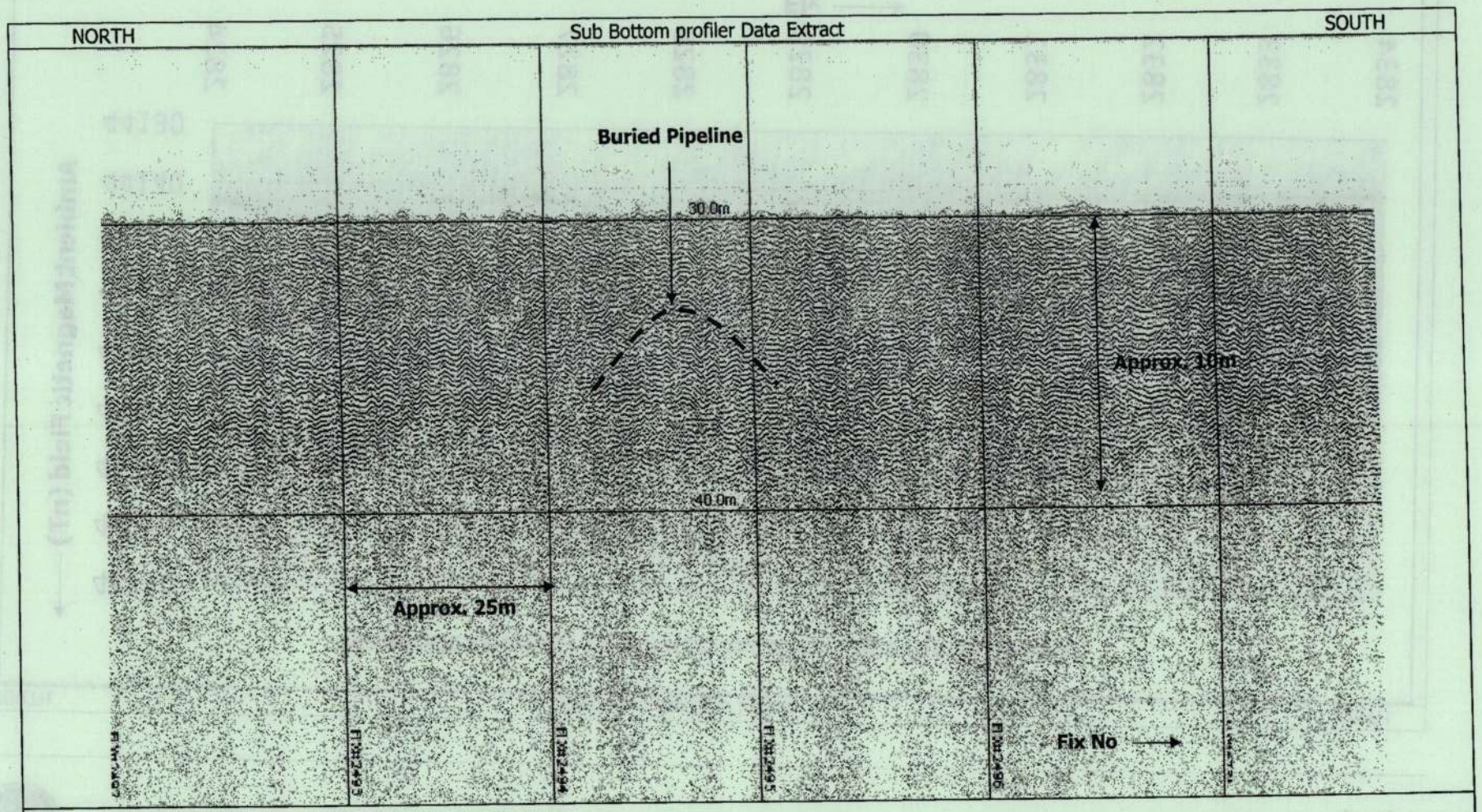


Record Information: SBP data extract showing buried pipeline		
Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 7: SBP Data Extract



Record Information: SBP data extract showing buried pipeline

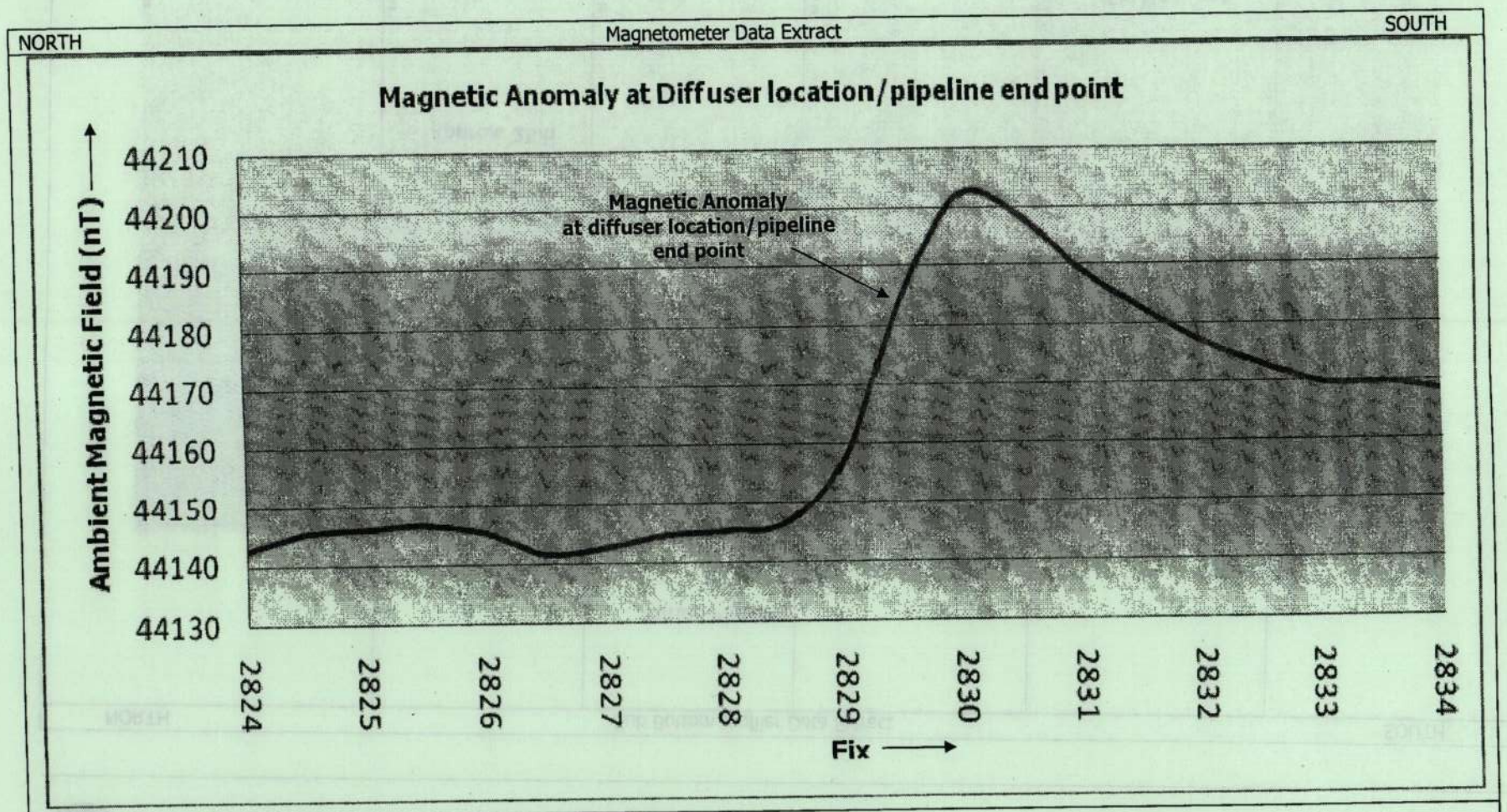
Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 8: SBP Data Extract



Record Information: SBP data extract showing buried pipeline

Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 9: SBP Data Extract

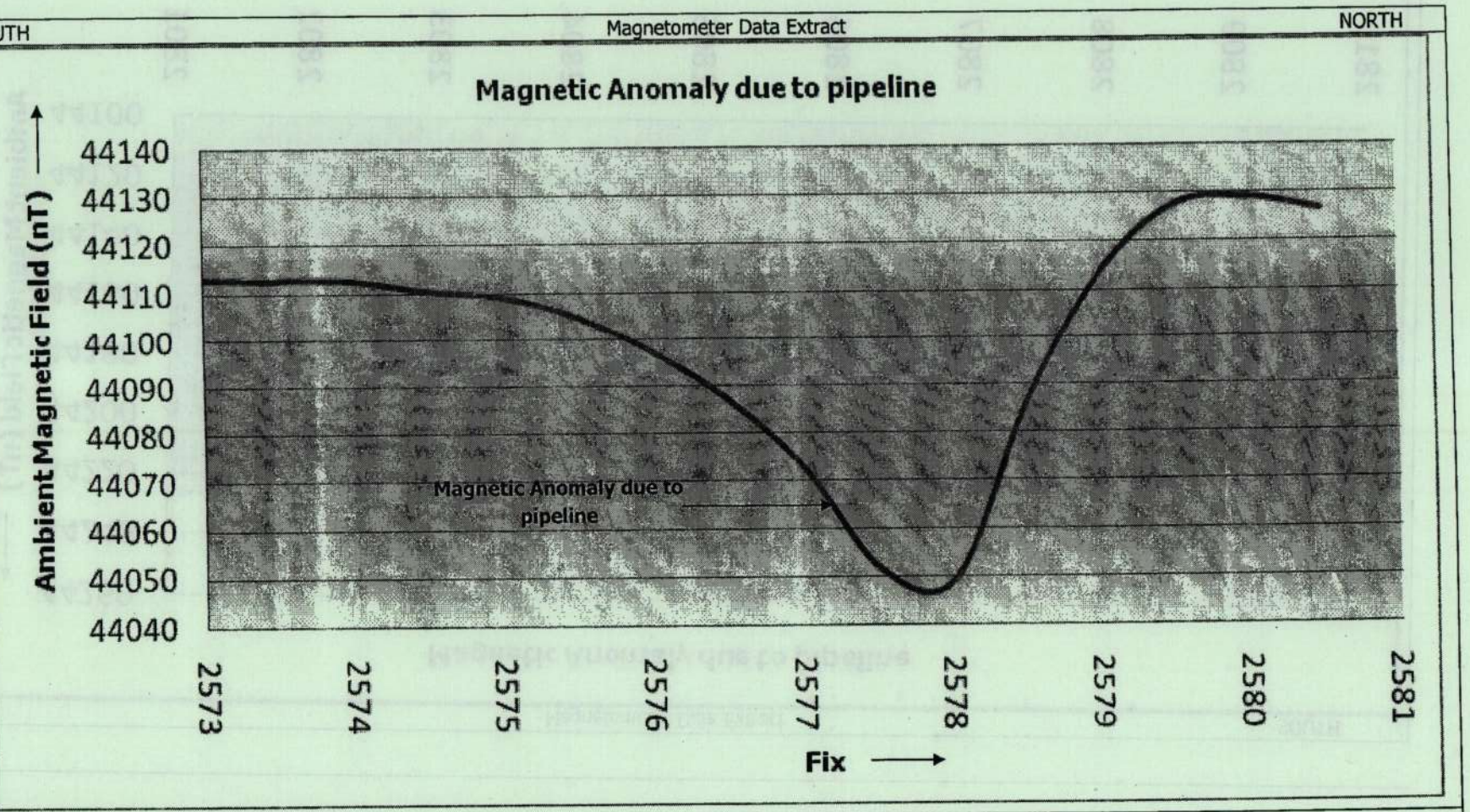
NORTH — Magnetometer Data Extract — SOUTH



Record Information: Magnetometer data extract showing anomaly at diffuser location/pipeline end point

Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 10: SBP Data Extract

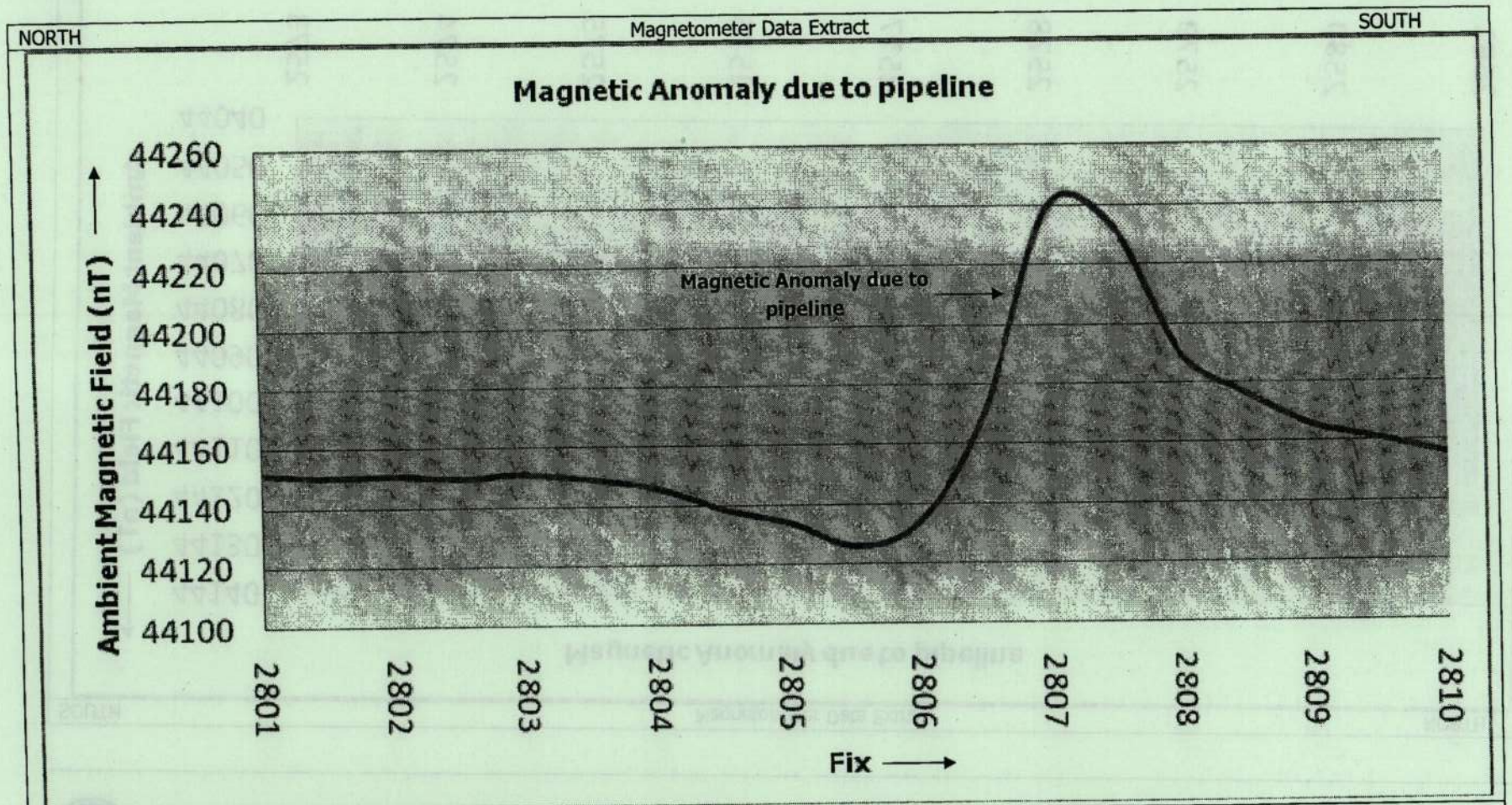
SOUTH — Magnetometer Data Extract — NORTH



Record Information: Magnetometer data extract showing anomaly due to pipeline

Project No.: JO11_2016 | Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India | Figure 11: SBP Data Extract

NORTH — Magnetometer Data Extract — SOUTH



Record Information: Magnetometer data extract showing anomaly due to pipeline

Project No.: JO11_2016	Location: Off Luvara coast,Gulf of Khambat, Gujarat, West Coast Of India	Figure 12: SBP Data Extract

APPENDIX-D

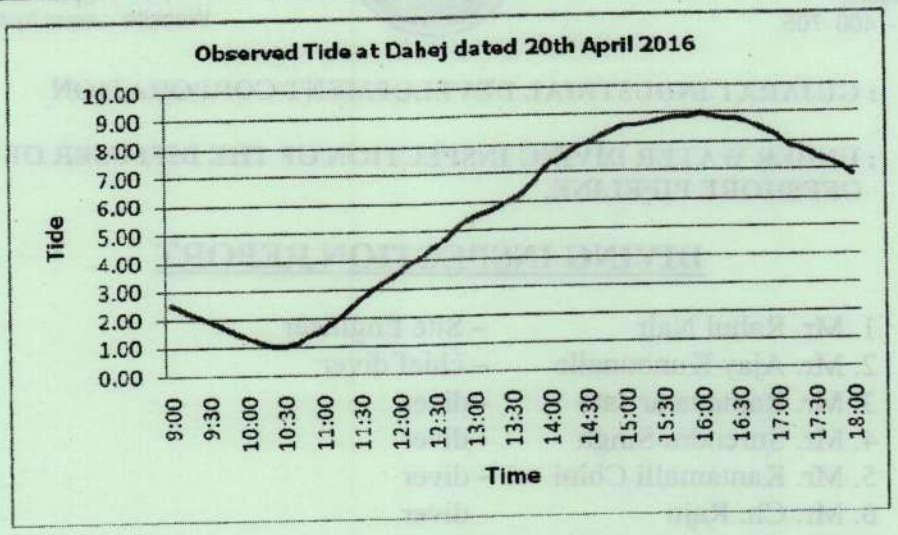
OBSERVED TIDE READINGS AND GRAPHS

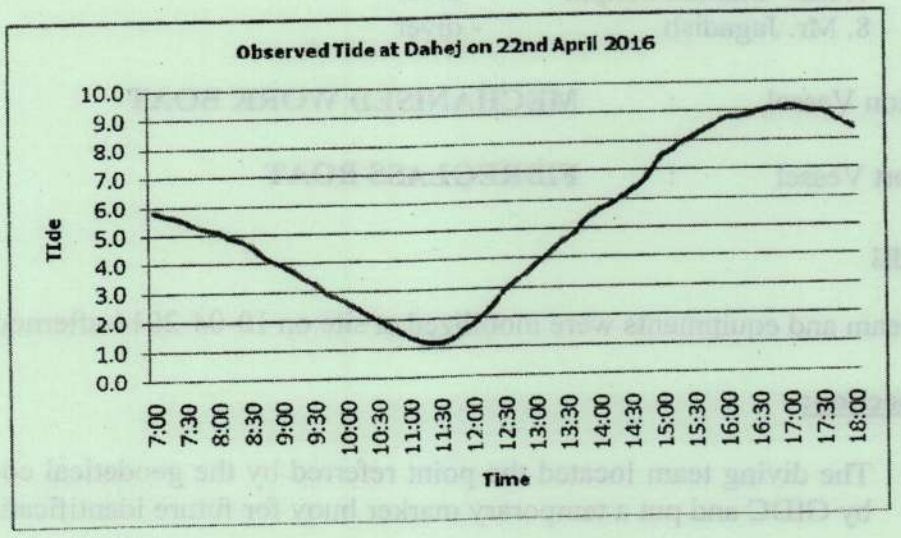
20th April 2016	
Time	Tide
9:00	2.50
9:10	2.30
9:20	2.10
9:30	1.90
9:40	1.70
9:50	1.50
10:00	1.30
10:10	1.10
10:20	1.00
10:30	1.00
10:40	1.10
10:50	1.40
11:00	1.60
11:10	1.90
11:20	2.30
11:30	2.70
11:40	3.00
11:50	3.30
12:00	3.60
12:10	3.90
12:20	4.20
12:30	4.50
12:40	4.80
12:50	5.20
13:00	5.50
13:10	5.60
13:20	5.80
13:30	6.10
13:40	6.30
13:50	6.80
14:00	7.30
14:10	7.50
14:20	7.80
14:30	8.00
14:40	8.20
14:50	8.40
15:00	8.60
15:10	8.60
15:20	8.70
15:30	8.80
15:40	8.90
15:50	8.90
16:00	9.00

20th April 2016	
Time	Tide
16:10	8.90
16:20	8.80
16:30	8.80
16:40	8.60
16:50	8.40
17:00	8.20
17:10	7.80
17:20	7.70
17:30	7.50
17:40	7.30
17:50	7.10
18:00	6.80

22nd April 2016	
Time	Tide
7:00	5.8
7:10	5.7
7:20	5.6
7:30	5.5
7:40	5.3
7:50	5.2
8:00	5.1
8:10	4.9
8:20	4.8
8:30	4.6
8:40	4.3
8:50	4.1
9:00	3.9
9:10	3.7
9:20	3.5
9:30	3.3
9:40	3.0
9:50	2.8
10:00	2.6
10:10	2.4
10:20	2.2
10:30	2.0
10:40	1.8
10:50	1.6
11:00	1.4
11:10	1.3
11:20	1.2
11:30	1.2
11:40	1.3
11:50	1.6
12:00	1.8
12:10	2.1
12:20	2.5
12:30	2.9
12:40	3.2
12:50	3.5
13:00	3.8
13:10	4.1
13:20	4.4
13:30	4.7
13:40	5.0
13:50	5.4
14:00	5.7

22nd April 2016	
Time	Tide
14:10	5.8
14:20	6.0
14:30	6.3
14:40	6.5
14:50	7.0
15:00	7.5
15:10	7.7
15:20	8.0
15:30	8.2
15:40	8.4
15:50	8.6
16:00	8.8
16:10	8.8
16:20	8.9
16:30	9.0
16:40	9.1
16:50	9.1
17:00	9.2
17:10	9.1
17:20	9.0
17:30	9.0
17:40	8.8
17:50	8.6
18:00	8.4


Observed Tide at Dahej dated 20th April 2016
Tide
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
15:30
16:00
16:30
17:00
17:30
18:00
Time


Observed Tide at Dahej on 22nd April 2016
Tide
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
7:00
7:30
8:00
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
15:30
16:00
16:30
17:00
17:30
18:00
Time

HYDROAIR TECTONICS (SPD) PVT. LTD.

ENGINEERING NATION'S PROGRESS

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E-mail : hydromarine@gmail.com
hydroairSPD@outlook.com
Website : www.hydromarine.com

CLIENT : **GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION**

SUBJECT : **UNDER WATER DIVING INSPECTION OF THE DIFFUSER OF 90 MLD OFFSHORE PIPELINE.**

DIVING INSPECTION REPORT

The Team :
1. Mr. Rahul Nair – Site Engineer
2. Mr. Ajay Kunbunalle – chief diver
3. Mr. Ramavatar Jate - diver
4. Mr. Surendra Singh - diver
5. Mr. Kantamalli Chini - diver
6. Mr. Ch. Raju - diver
7. Mr. Chaitan Sakpal - diver
8. Mr. Jagadish - diver

The Inspection Vessel : **MECHANISED WORK BOAT**

The Transport Vessel : **FIBREGLASS BOAT**

Mobilization:

The diving team and equipments were mobilized at site on 10-04-2016 afternoon.

Diving Inspection:

11-04-2016 The diving team located the point referred by the geodetical co-ordinates given by GIDC and put a temporary marker buoy for future identification.

12-04-2016 The diving inspection carried out by divers around 50 mt radius of the given co-ordinates – No trace of diffuser port nozzles or valves above the seabed in this area.

13-04-2016 To 19-04-2016 Diving inspection carried out along the alignment towards shore side, each day covering around 30-50 mt radius repeatedly – but there was no trace of diffuser port nozzles or valves above the sea bed. The corridor covered is around 400 mt x 100 mt area around the co-ordinates given by GIDC.

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HYDROAIR (SPD)

20-04-2016 To 22-04-2016 Diving inspection carried out in the new location given by GIDC along with geophysical surveys – still no trace of diffuser port nozzles or valve above sea bed in the designated location.

Demobilization:
The team & equipments were demobilized on the night of 22nd April 2016 after receiving consent from GIDC to that effect.

It was however found out by sub bottom profiler and magnetometer survey that the entire diffuser and around 855 mt behind it towards shore is buried deep below sea bed – to the tune of **2.8 to 3.5 mt** in the surveyed area.

This is the reason why, despite repeated efforts in the face of highly inclement weather conditions in the sea, the team could not trace out single port nozzles anywhere in the survey location corridor of 1055 m x 200 mt in and around the designated point of diffuser traced out and conveyed by NIOT during post-lay survey of the offshore pipeline.

CONCLUSION : No diffuser port nozzles or valves were found protruding out of the sea bed as the same are buried below sea bed to the tune of **2.8 to 3.5 mt**. The large scale sand movements in this gulf results in heavy sand deposition over the pipeline / diffuser and similarly at times the large scale erosion removes the sand deposition and expose the diffuser ports depending on the seasonal variations. It will be worth checking up the situation once again in post-monsoon period, say during November – January 2017, when the gulf is also expected to be calm and amenable for diving inspection.

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Annexure 8

Minutes of the Meeting held on 27thOctober 2021 at 17:30 hrs under the Chairmanship of Honourable Chief Secretary, Government of Gujarat.

Agenda: To take stock of the situation with respect to compliance of the direction of Honourable National Green Tribunal in O.A. 60/2021 ,Aryavart Foundation versus Hemani Industries Limited dtd. 04.10.2021 and to issue directions to the concerned authorities as may be found necessary.

Reference: Hon'ble NGT order dated 04.10.2021 in the matter of O.A. No. 60/2021.

Date & Time: 27thOctober 2021 at 17.30 Hrs

Venue: Committee Room, Office of the Chief Secretary, 5th Floor, Block No. 1, Sachivalaya, Gandhingar.

Key Attendees:1)Shri Pankaj Kumar, IAS, Chief Secretary, Government of Gujarat
2) Shri Sanjeev Kumar,IAS,Chairman,GPCB
3) Shri S.J.Pandit,IFS,Member Secretary,GCZMA
4) Shri Yogesh Chaudhry,IAS,Dist.Collector,Bharuch
5) Shri A.V. Shah, Member Secretary, GPCB Gandhinagar.
6) Shri B.C. Warli,Chief Engineer,GIDC

At the outset, Shri Sanjeev Kumar, Chairman, GPCB briefed the gathering that a case is pending before Honourable National Green Tribunal (NGT) in O.A.60/2021 (WZ) of Aryavart Foundation versus Hemani Industries Limited and Hon'ble NGT has issued direction on 04.10.2021.

MS,GPCB made a presentation giving insight of Petroleum,Chemical,Petrochemical Investment Region(PCPIR) mentioning area of PCPIR is 453 sq.Kilo meter and covers Dahej,Saykha,Vilayat GIDC with Jubilant SEZ.Major sector of industries are Petrochemical,Chemical,Dyes and Dye Intermediates, Bulk Drugs and Pesticides.

- Effluent Conveyance and Disposal

Member Secretary apprised the existing infrastructure of effluent conveyance and disposal facilities mentioning that there are 5 pumping stations i.e. Vilayat Pumping station, Pumping station A, Pumping station C, Pumping station D and final pumping station. He explained that Pumping station at Vilayat(Cap:25 MLD) receives waste water from 5 units and is conveyed to final pumping station through 39.50 km long HDPE pipeline having 710 mm diameter along with other Industrial wastewater of other four units (GNFC,China Steel,DFL and Saykha CETP) meets in downstream of Vilayat pumping station.

CETP,Dahej (Cap: 40 MLD) receives Industrial wastewater from 32 units and convey the effluent to final pumping station through 6.50 km long HDPE pipeline (710 mm diameter).

Pumping station A (Cap 13 MLD)receives Industrial wastewater from 15 units and conveys waste water to final pumping station through 4 km long HDPE pipeline(Diameter:

710mm).Similarly Pumping station C (Cap 5 MLD)receives Industrial wastewater from 15 units and conveys wastewater to final pumping station through 2.2km long GRP pipeline (Diameter: 500mm).

Pumping station D (cap: 5 MLD) receives Industrial wastewater from 18 units and conveys into discharge line of final pumping station through 200 meter long HDPE pipeline (Diameter: 300 mm).

Final Pumping station (Cap 90 MLD) receives Industrial wastewater from CETP Dahej, pumping station A, C, D and Vilayat Pumping station along with 9 other industrial units having direct discharge to Final pumping station. Industrial wastewater from final pumping station is further conveyed through 13.5 KM long pipeline into deep sea. Out of 13.5 Km, 9.5 Km pipeline is existing off shore and 4.5 KM is existing on shore.

- Issues and Action

It is mentioned that offshore pipeline of 4.5 Km is blocked since long. Alternatively,600-meter offshore MS pipeline disposing effluent is leaking in CRZ 1B area and this line replaced by 800-meter HDPE pipeline to prevent leakages.

Further, it was mentioned that leakages/overflow from GIDC internal drainage & SEZ area of Dahej results Industrial wastewater ponding and overflow of storm water drain reaches to Estuary/Sea. Further, it was informed that effluent is not meeting with discharge norms prescribed in consent of the Board as GIDC accepts untreated/partly treated effluent from member units. CETP, Dahej operated by GIDC is not meeting the norms.

GPCB issued directions under the Water Act, 1974 to GIDC on 30/01/2019, 23/03/2020, 27/05/2020, 14/08/2020, 24/03/2021 and 23/09/2021 and Notice of Direction (NOD) under the Water Act,1974 to CETP-Dahej on 01/03/2021, 26/05/2021 and 31/07/2021.Direction u/s 5 of the EPACT 1986 by Forest and Environment Department dtd. 21/07/2020 to VC&MD,GIDC, Letter of ACS, F & ED, Chairman GPCB to VC & MD,GIDC dtd. 15 March 2018

At the outset, directions issued by GPCB, its compliance submitted by GIDC with action plan to GPCB on 29.04.2021 and 04.10.2021 were deliberated.

To overcome the issue, Member Secretary suggested to divert the Industrial waste water from Pumping station A,C and D to Dahej CETP to utilize the capacity within 40 MLD limit, however to reach out this, industrial units disposing effluent to pumping station are required to meet the TDS norms as same is not given in their present consent and which may be resisted by the concerned industrial units due to installation of additional infrastructure of RO,MEE,ATFD etc.

- Direction of Hon'ble NGT

MS,GPCB apprised the direction of Hon'ble NGT(WZ) dtd. 04.10.2021in O.A. 60/2021 of Aryavart Foundation versus Hemani Industries Limited mentioning that Hon'ble Chief Secretary is to convene a meeting of GIDC,GPCB and GCZMA and result of meeting and decision be submitted in the form of report with documents on next date of hearing i.e. 29.11.2021.

He further informed that as per the direction CPCB and GPCB are to monitor "Red Category" industries to find out whether discharge of untreated/ partly treated effluents into the Treatment plant maintained by GIDC and if any infractions/violations are noted, then to come out with the environmental compensation and to take action in accordance with law based on report.

He further informed that as per the direction, the district collector-Bharuch and Superintendent of Police are to provide assistance to carry out inspection of the unit in GIDC.MS,GPCB informed that CPCB and GPCB have started joint monitoring on 25.10.2021.

- Compliance& Action plan by GIDC on 29.04.2021 and 04.10.2021

Shri B.C.Warli, Chief Engineer, GIDC informed that GIDC has published online tender for execution of 4.5 Km offshore effluent disposal pipeline with diffuser and last date of tenderbid submission being 15th, November 2021 and work will be completed within a time limit of 18 months. He further informed that maintenance, repair work is carried out throughout the year, and work is awarded to the agency.Further, he informed that GIDC has upgraded effluent collection system in Dahej-1 area by providing five nos. of collection well with pumping station, connection will be released through above ground pipeline as and when Industries comes for drainage connection to prevent any unauthorised connection and existing manholes are to be closed. To remove the sludge deposition at final pumping station, Chief Engineer, GIDC informed that installation work of filter press at pumping station will be taken up. It was further mentioned that GIDC has published online tender for execution of 90 MLD effluent disposal twin pipeline from Sayakha to final pumping station (Plot NO Z/93,SEZ-II) and from there to deep sea and agency will be finalized by end of November 2021.He further added that Environmental compliance will be submitted to GPCB.

Conclusion

Honourable Chief Secretary noted compliance of direction of GPCB submitted by GIDC and directed Chief Engineer,GIDC to address revised details with adequate measures implemented for the concern raised by Hon'ble NGT so as to reviewthe same in next meeting.

The meeting was concluded with vote of thanks to the Chair.

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