

GPCB-FORM V-2024-09

16th September 2024

The Member Secretary,
Gujarat Pollution Control Board,
Paryavaran Bhavan,
Sector-10A,
Gandhinagar – 382 010.

Sir,

Sub: Submission of Annual Environment Statement (Form-V) for Development activities in CB/OS-2 Block in Surat district for the period April 2023 to March 2024

Please find enclosed the Annual Environment Statement for the period from 1st April 2023 to 31st March 2024 for activities comprising the Production Operations Suvali onshore terminal and development drilling in CB/OS-2 block.

Thanking you,

Yours faithfully,



Samarth Kaji
Installation Manager - CB/OS-2



Copy to: The Regional Officer,
Gujarat Pollution Control Board,
Plot No.11-12/2,3
GIDC Pandesara
Surat – 394 221

VEDANTA LIMITED

Cairn Oil & Gas : Survey No 232 | Village – Suvali | Surat-Hazira Road | Surat - 394510, Gujarat, India
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Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai-400093,
Maharashtra, India | T +91-22 664 34500 | F +91-22 664 34530 | www.vedantalimited.com

CIN: L13209MH1965PLC291394

Sensitivity: Internal (C3)

FORM V
(See Rule 14)
ENVIRONMENTAL STATEMENT

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR 2023-24
FOR

SUVALI ONSHORE TERMINAL
CB-OS 2 BLOCK HYDROCARBON FIELD
VILLAGE: SUVALI DIST: SURAT GUJARAT

PART - A

I. Name and address of the owner / occupier of the industry operation of process	Installation Manager – Suvali M/s Vedanta Limited, Cairn Oil & Gas Suvali Onshore Terminal Survey No. 232, Village Suvali, Surat Hazira Road, Surat – 394510
II. Industry category	Primary -- (STC Code) Secondary -- (SIC Code)
III. Production capacity – Units	Suvali Onshore Terminal Crude Oil Processing Capacity 25000 BoPD Natural Gas- 150 MMSCFD
IV. Year of establishment	November 2002
V. Date of the last environmental statement submitted	08 th August 2023

PART - B

Water and Raw Material Consumption:

i) Water consumption m³/d

Purpose	Quantity in m ³ /d	Remarks
Domestic	34.21 m3/day	Water is sourced through GIDC Supply and used at Administrative buildings, washrooms , etc.
Process/Industrial	41.05 m3/day	Water is sourced through GIDC Supply and used for industrial cleaning etc.
Total	91.12 m3/day	Refer Annexure-1 for month-wise Consumption details

Name of products	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
Crude (SCM)	0.09 KL/SCM	0.08 KL/SCM
Natural Gas (SCM)	235.91 KL/MMSCM	110.73KL/MMSCM

(ii) Raw material consumption

Name of Raw Materials	Name of Products	Consumption of raw material per unit of output	
		During the previous financial year	During the current financial year
There are no raw materials involved in the production of Crude Oil. The well fluids consisting of oil, water and associated gas is extracted from the hydrocarbon subsurface reservoir and flows directly to the Suvali facility for phase separation and processing.		NA	NA

PART - C

POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (MASS/DAY)	CONCENTRATIONS OF POLLUTANTS IN DISCHARGES (MASS / VOLUME)			PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS	
		Parameter	Annual Avg(mg/l)	Prescribed Std.		
Treated Sewage Water	18.06 KLD	TSS (mg/l)	24	30	Within the specified limits of GPCB	
		BOD (mg/l)	13	20		
		Residual Cl	0.6	>0.5		
Treated Effluent	1471.49 KLD Refer Annexure-2 for Month-wise discharge quantity	TSS (mg/l)	17	100	Within the specified limits of GPCB.	
		BOD (mg/l)	23	30		
		COD (mg/l)	93	100		
B) Air Emissions from Gas Turbines & DG Sets	Fuel Consumption: Avg Natural Gas consumed for running of Gas Turbine Generators & Gas Turbine Compressor, Hot Oil Heater, TEG regenerators= 82502.47 SCM/Day	Name of Source	Quantity of Pollutant (mg/NM³)			The stack emissions are within the prescribed limits of GPCB.
			PM	SO ₂	NO _x	
		GTG	12.98	3.84	11.54	
		EDG	84.27	34.25	28.51	
		GTC	15.01	3.64	9.54	
		Booster Compressor	14.42	3.82	11.41	
		Hot Oil	14.63	4.64	13.22	
		TEG Regenerator	14.16	3.66	10.07	
GPCB Limit	150	100	50			

PART - D
HAZARDOUS WASTE

(As specified under Hazardous & Other Wastes (Management, Handling and Transboundary Movement) Rules 2016)

Hazardous Waste	Total Quantity Generated			
	During the previous financial year		During the current financial year	
a) From Process	Hazardous Waste Description	Generation Quantity (Kgs/ Liters)	Hazardous Waste Description	Generation Quantity (Kgs/ Liters)
	Waste oil (Tank bottom oil/ Sludge, oil emulsions) (3.3. Schedule 1)	Nil	Waste oil (Tank bottom oil/ Sludge, oil emulsions) (3.3. Schedule 1)	130
	Used Oil/ Spent Oil (5.1 Schedule 1)	4850	Used Oil/ Spent Oil (5.1 Schedule 1)	0
	Filters, Liners containing Oil (3.3 Schedule 1)	Nil	Filters, Liners containing Oil (3.3 Schedule 1)	Nil
	Oily Soaked Cotton Rags (5.2 Schedule 1)	Nil	Oily Soaked Cotton Rags (5.2 Schedule 1)	Nil
	Discarded containers (33.3 Schedule 1)	33421	Discarded containers (33.3 Schedule 1)	2400
	Spent Chemicals (32.1 Schedule 1)	Nil	Spent Chemicals (32.1 Schedule 1)	8,620
	Drill Cuttings (2.1 Schedule 1)	949570	Drill Cuttings (2.1 Schedule 1)	Nils
	Drilling Fluid (2.3 Schedule 1)	Nil	Drilling Fluid (2.3 Schedule 1)	Nil
(B) From pollution control facilities	Sludge Generated from ETP Operations	64140 Kgs	Sludge Generated from ETP Operations	19310 Kgs
(C) From Other sources	NIL		NIL	

PART - E

SOLID WASTE

Solid Waste	Total Quantity	
	During the previous financial year	During the current financial year
(a) From process	Mentioned in other waste category	Refer Part D for Hazardous Waste and other solid waste mentioned below
(b) From Pollution control facility (STP Sludge)	The Bio-sludge generated is used as manure for greenbelt maintenance.	The Bio-sludge generated is used as manure for greenbelt maintenance.

Solid Waste	Total Quantity	
	During the previous financial year	During the current financial year
(C) Other wastes from, Ware house, Living quarters and plant housekeeping etc.,	930 Kg Non-Hazardous waste	950 Kg Non-Hazardous waste
(1) Quantity recycled or re-utilized within the unit.	4850 L Used Oil reprocessed within the terminal	130 L Used Oil reprocessed within the terminal
(2) Sold (Waste paper, metal waste, plastic wastes, packaging material, wooden pallets, drinking water bottles etc. are handover to recyclers)	Nil	Nil
(3) Disposed	Segregated solid waste sold to scrap dealers through auction basis time to time.	Segregated solid waste sold to scrap dealers through auction basis time to time.

PART - F

Please specify the characterizations (in terms of composition and quantum) of Hazardous and non-hazardous wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous Waste: As per Hazardous Waste Authorization. **Refer Annexure-3** for details.

Non-hazardous waste: Domestic waste is generated from the operation and development facilities which mostly consist of bio-degradable organic matter and recyclable wastes. The recyclable waste is handed over to scrap vendor for further recycling process. Food waste is used for composting and manure is being used in green belt development.

PART - G

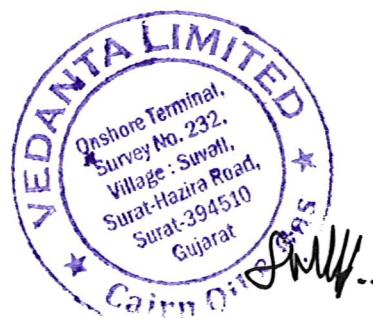
Impact of the pollution abatement measures taken on conservation of natural resource:

- Sewage Treatment Plant of capacity 30 KLD at Suvali Terminal is operational for the treatment of sewage water.
- Organic Waste Convertor for the treatment and conversion of food waste into bio-manure is available.
- Water produced in crude extraction process is treated in Effluent Treatment plant and discharged into the sea as per GPCB Norms.
- Green belt development: 27 Acres of Periphery green belt around the facility to control the noise and air pollution levels generated from Suvali terminal. An MoU has been signed with the forest department for plantation and development of **321.24 Acres** of mangroves.
- Nursery development and mangrove plantation has been carried out by the Surat Forest department in an area of **148.26 Acres** as per the MoU signed in October 2022.
- More than **10,000 KL** of water utilized in the plant has been collected from rainwater harvesting ponds built inside the terminal.

PART - H

Additional measures/investment proposal for environmental protection including abatement/prevention of pollution.

- Fuel control devices are a part of all equipment for fuel conservation.
- Solar panels are installed at the facility to contribute to the overall energy mix.
- Rainwater harvesting facility is built within the terminal to meet 40% of freshwater demand.
- Tree plantation is one of the initiatives taken up by the company regularly.
- All the detergents used at the terminal are bio friendly.
- Oil Spill Response Equipments are available with Organization as per NOSDCP 2015 requirements.
- Awareness sessions on environmental topics are conducted regularly for all employees and business partners.
- As part of CSR initiative, Cairn has developed a rainwater harvesting facility for the community.
- The company has stopped the use of Single-use plastic items at its premises and has been certified as **Single-Use Plastic Free Premises** by the Confederation of Indian Industry
- World Environment Day was celebrated on 5th June 2024 with active engagement from employees, business partners and communities.



Date: 16.09.2024

**Installation Manager – Suvali
(Samarth Kaji)**

ANNEXURE – 1

FRESH WATER CONSUMPTION IN KILOLITERS

FRESH WATER CONSUMPTION (FY 2023-24)							
Month	Potable Water (Domestic), m³	Service Water (Industrial), m³	Fire Water (Industrial) (m3)	Gardening Water (Agriculture), m3	Total Water Consumed in m3	Production in Th. Tons	Sp. Water m3/Th. Tons
Apr-23	1090.000	457.000	676.000	557.000	2780	53.54	51.92
May-23	1084.000	638.000	730.000	582.000	3034	54.48	55.69
Jun-23	987.000	404.000	568.000	394.000	2353	51.59	45.61
Jul-23	934.000	624.000	662.000	202.000	2422	52.81	45.86
Aug-23	1176.000	641.000	571.000	531.000	2919	50.82	57.43
Sep-23	1100.000	715.000	568.000	502.000	2885	46.53	62.01
Oct-23	1289.000	817.000	728.000	553.000	3387	42.57	79.57
Nov-23	1129.000	783.000	758.000	492.000	3162	39.18	80.70
Dec-23	1115.000	888.000	736.000	555.000	3294	38.44	85.70
Jan-24	1101.000	826.000	723.000	519.000	3169	38.77	81.75
Feb-24	938.771	577.705	519.221	516.524	2552.2212	36.60	69.74
Mar-24	542.747	371.718	0.000	387.535	1302	35.92	36.24

ANNEXURE – 2

EFFLUENT WASTEWATER QUANTITY IN KILOLITRES

Months	Wastewater
	Treated Effluent (KL)
Apr-23	43134
May-23	45184
Jun-23	42684
Jul-23	45384
Aug-23	45668
Sep-23	44370
Oct-23	46061
Nov-23	44597
Dec-23	46079
Jan-24	45993
Feb-24	42010
Mar-24	45930
Total	537094

ANNEXURE – 3

HAZARDOUS WASTE (FROM PROCESS)

S. No	Hazardous Waste Description	Authorized Quantity	FY 23-24 Generation Quantity (Kgs/ Liters)	FY 23-24 Disposal Quantity (Kgs/ Liters)
1	ETP Sludge (34.3 Schedule 1)	600 MT/ Year	19310	45700
2	Waste oil (Tank bottom oil/ Sludge, oil emulsions) (5.2 Schedule 1)	800 MT/Year	130	130
3	Used Oil/ Spent Oil (5.1 Schedule 1)	20 MT/Year	0	0
4	Filters, Liners containing Oil (35.1 Schedule 1)	15 MT/ Year	Nil	Nil
5	Oily Soaked Cotton Rags (Z-41 Schedule 1)	6000 Kg/Year	Nil	Nil
6	Discarded containers (33.3 Schedule 1)	8400 Kgs/ year	2400	6280
7	Waste Hot Oil (5.2 Schedule 1)	1000 Lit/year	Nil	Nil
8	Spent Chemicals (32.1 Schedule 1)	10 MT/year	8620	8620
9	Drill Cuttings (2.1 Schedule 1)	800 MT/well	Nil	Nil
10	Drilling Fluid (2.3 Schedule 1)	440 MT/ year	Nil	Nil
11	Expired Paint quantity (21.1 Schedule 1)	600 Kg/year	Nil	Nil

BIO-MEDICAL WASTE

S. No	Waste Description	Characteristics	Authorized Quantity	FY 23-24 Generation Quantity (Kgs)	FY 23-24 Disposal Quantity (Kgs)
1	Yellow Category	Toxic	10 Kg/ Month	7.10	7.10
2	Red Category	Toxic	1 Kg/Month	1.18	1.18
3	White Category	Toxic	10 Kg/Month	Nil	Nil
4	Blue Category	Toxic	1 Kg/Month	1.261	1.261