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MEMBER SECRETARY
SEIAA (GUJARAT)



STATE LEVEL ENVIRONMENT
IMPACT ASSESSMENT
AUTHORITY
GUJARAT

Government of Gujarat

No. SEIAA/GUJ/EC/1(b)/ 1552 /2020

Date: 16 DEC 2020 By R P A D
Time Limit

Sub: Environment Clearance to M/s. Vedanta Ltd.(Cairn Oil & Gas) for setting up Onshore Oil and Gas Exploration (including early production) & Appraisal at Block No: CB-ONHP-2017/2, Tal: Jambusar, Dist: Bharuch, State: Gujarat. In Category 1(b) of Schedule annexed with EIA Notification dated 14/09/2006.

Ref: Your application dated 04/08/2020.

Dear Sir,

This has reference to your application alongwith form-1, Pre-Feasibility Report, Environment Management Plan and other supporting documents dated 04/08/2020 submitted to SEIAA, seeking Environmental Clearance under Environment Impact Assessment Notification, 2006.

The proposal is for Environmental Clearance to onshore Oil and Gas Exploration in the Block CB-ONHP-2017/2, in Jambusar Bharuch District of Gujarat. It is a proposed project for onshore Oil and Gas Exploration & Appraisal at block CB-ONHP-2017/2 in Jambusar, Bharuch District of Gujarat which falls in the category – 1(b) of the schedule of the EIA Notification-2006. It encloses an area of 317 Sq Km block area and is bounded by the points having following coordinates provided in below Table. The proposed onshore oil and gas exploration & appraisal is expected to carry out Drilling of 69 exploratory (including appraisal) wells and the exploratory and appraisal wells will be drilled to explore the reservoirs up to a depth of 1750-4500 m approx. After successful drilling and discovery of hydrocarbon, 14 Nos of Early Production Units (EPUs)/ Quick Production Units (QPU) for produced well fluid processing and production of up to 28000 BOPD Crude oil & associated gas of 4.2 MMSCFD of associated gas will be set up.

Apex Co-ordinates of Block CB-ONHP-2017/2 boundary (as per RSC)

Apex Points	Longitude (E)	Latitude (N)
1	72° 44'	22° 9'
2	72° 48'	22° 9'
3	72° 48'	22° 7'
4	72° 44'	22° 7'
5	72° 44'	22° 4'
6	72° 43'	22° 4'
7	72° 43'	22° 3'
8	72° 41'	22° 3'
9	72° 41'	22° 2'
10	72° 40'	22° 2'
11	72° 40'	22° 0'
12	72° 39'	22° 0'
13	72° 39'	21° 59'
14	72° 36'	21° 59'
15	72° 36'	22° 7'
16	72° 32'	22° 7'
17	72° 32'	22° 9'
18	72° 33'	22° 9'
19	72° 33'	22° 10'
20	72° 34'	22° 10'
21	72° 34'	22° 11'
22	72° 44'	22° 11'



Proposed Well Locations with coordinates, land use, distance from major water bodies, human habitat, roads, forest, protected areas

Well Id	Latitude (N)	Longitude (E)	Village	Taluka/ Tehsil	District	Road Infrastructure	Forest/ Wildlife Sanctuary/ National Park	Nearest River/ Water bodies	Major human establishments, etc.	Industry, etc.
1	21° 59' 34.838"	72° 37' 5.908"	Kapuria	Jambusar	Bharuch	Road connecting Devla to Tankaria-500m, S	None	Vadodara Branch Canal 1.5 Km, W	Devla - 4 Km, W	None
2	21° 59' 35.845"	72° 38' 15.597"	Thakore Talavdi	Jambusar	Bharuch	Road connecting Devla to Tankaria - 600m, S	None	None	Tankaria - 3 Km, E	None
3	22° 0' 39.830"	72° 37' 4.823"	Kansagar	Jambusar	Bharuch	Road connecting Devla to Thakore Talavdi - 600m, E	None	Vadodara Branch Canal 1 Km, W	Thakore Talavdi 1.5 Km, E	None
4	22° 0' 40.838"	72° 38' 14.521"	Thakore Talavdi	Jambusar	Bharuch	Road connecting Devla to Thakore Talavdi- 2 Km, W	None	None	Thakore Talavdi 1.5 Km, W; Asanvad -1 Km, E	None
5	22° 0' 41.838"	72° 39' 24.220"	Asanvad	Jambusar	Bharuch	Road connecting Tankaria to Bakarpor/Timbi- 1.3 Km, E	None	None	Asanvad -1 Km, NW	None
6	22° 1' 44.823"	72° 37' 3.737"	Kansagar	Jambusar	Bharuch	Road connecting Devla to Madafar-2.6 Km, W	None	Sindhav Lake- 800m, W; Kansagar Lakes- 1 Km, NE; Vadodara Branch Canal -550m, E	Kansagar- 1 Km, NE; Sindhav-2.5 Km, NW	None
7	22° 1' 45.832"	72° 38' 13.443"	Kansagar	Jambusar	Bharuch	Village Rd-700 m, W	None	Kansagar Lake- 1.5 Km, NW; Branch Canal - 2 Km, W	Kansagar 1.2 Km, NW & Bakarpor/Timbi - 1 Km, E	None
8	22° 1' 46.832"	72° 39' 23.151"	Bakarpor Timbi	Jambusar	Bharuch	Village Rd-1.2 Km, E	None	None	Bakarpor/Timbi - 600 m, NW	None
9	22° 2' 49.815"	72° 37' 2.650"	Kansagar	Jambusar	Bharuch	Badkodhara - Madafar Rd- 1 Km, N	None	Vadodara Branch Canal 1.2 Km, E	Kansagar 1.2 Km, SE	None
10	22° 2' 50.825"	72° 38' 12.365"	Kansagar	Jambusar	Bharuch	Badkodhara - Madafar Rd- 1 Km, N	None	Vadodara Branch Canal -800m, W	Madafar- 1.2 Km, N; Kansagar - 2 Km, SW	None
11	22° 2' 51.826"	72° 39' 22.081"	Panchpipla	Jambusar	Bharuch	Badkodhara - Madafar Rd- 600m, N	None	Canal- 600m, W	Panchpipla -1Km, NE	None
12	22° 2' 52.820"	72° 40' 31.799"	Panchpipla	Jambusar	Bharuch	Badkodhara - Madafar Rd- 600m, N	None	None	Panchpipla - 1.5 Km, NW; Vad- 2 Km, NE	None
13	22° 3' 54.807"	72° 37' 1.561"	Dahri	Jambusar	Bharuch	Bhadkodara to Jantran- 500m, NW	None	Vadodara Branch Canal - 1.5 Km, E	Dahri 2 Km, NE	None
14	22° 3' 55.818"	72° 38' 11.285"	Madafar	Jambusar	Bharuch	Badkodhara - Madafar Rd- 1.2 Km, S	None	Vadodara Branch Canal -600 m, W	Madafar- 1 Km, S	None
15	22° 3' 56.820"	72° 39' 21.011"	Madafar	Jambusar	Bharuch	Badkodhara - Madafar Rd- 1.4 Km, S	None	None	Madafar- 2.5 Km, SW	None
16	22° 3' 57.815"	72° 40' 30.737"	Vad	Jambusar	Bharuch	Badkodhara - Madafar Rd- 2 Km, S	None	None	Vad - 1Km, SE	None
17	22° 3' 58.801"	72° 41' 40.465"	Kava	Jambusar	Bharuch	Sambhato Kava Rd- 1.5 Km, NE	None	None	Vad - 1.2 Km, SW	None
18	22° 4' 59.799"	72° 37' 0.472"	Dahri	Jambusar	Bharuch	Bhadkodara to Jantran- 800m, SE	None	Vadodara Branch Canal - 1.5 Km, E	Dahri -600m, SE	None
19	22° 5' 0.810"	72° 38' 10.205"	Jantran	Jambusar	Bharuch	Bhadkodara to Jantran- 500m, NW	None	Vadodara Branch Canal -600m, W	Jantran- 1Km, E	None
20	22° 5' 1.814"	72° 39' 19.939"	Jantran	Jambusar	Bharuch	Bhadkodara to Jantran- 1.2 Km, NW	None	Jantran Lake- 2 Km, NW	Jantran -1.5Km, NW	None
21	22° 5' 2.809"	72° 40' 29.674"	Panchakada	Jambusar	Bharuch	Jantran to Jambusar Rd- 600m, NE	None	None	Panchakada- 1.5 Km, SE; Shambha -1.5 Km, NW	None
22	22° 5' 3.796"	72° 41' 39.411"	Panchakada	Jambusar	Bharuch	Jantran to Jambusar Rd- 500m, SW	None	None	Panchakada- 600m, SW	None
23	22° 5' 4.775"	72° 42' 49.148"	Panchakada	Jambusar	Bharuch	Jantran to Jambusar Rd- 1.3 Km, SW	None	None	Panchakada- 2.5Km, W; Rampore - 2.6 Km, E	None
24	22° 6' 4.790"	72° 36' 59.381"	Kaliari	Jambusar	Bharuch	Chhidra to Kaliari Rd- 500m, W	None	Vadodara Branch Canal -800m, E	Kaliari -1 Km, NW	None

25	22° 6' 5.803"	72° 38' 9.123"	Jantran	Jambusar	Bharuch	Chhidra to Jantran Rd- 1 Km, S	None	Jantran Lake -800m, SE	Jantran-2 Km, SE	None
26	22° 6' 6.808"	72° 39' 18.866"	Shambha	Jambusar	Bharuch	Bhadkodara to Jantran- 600m, SE	None	Jantran Lake -1.5 Km, SW	Jantran -2 Km, SW; Vadadala - 1.5 Km, NE	None
27	22° 6' 7.804"	72° 40' 28.610"	Shambha	Jambusar	Bharuch	Bhadkodara to Jantran- 500m, NW	None	None	Shambha -1 Km, SW	None
28	22° 6' 8.792"	72° 41' 38.355"	Kora	Jambusar	Bharuch	Bhadkodara to Kora - 1.3 Km, NW	None	Kora Lake -1.5 Km, NNW	Kora -1.5 Km, NNW	None
29	22° 6' 9.771"	72° 42' 48.102"	Tundaj	Jambusar	Bharuch	Kora to Tundaj Rd- 500 m, S	None	Tundaj Lake -1 Km, NE	Tundaj -1 Km, NE	None
30	22° 7' 9.782"	72° 36' 58.289"	Kaliari	Jambusar	Bharuch	Kaliari to Salehpor Sangdi-800m, NNW	None	Nil	SalehporSangdi 1 Km, NW; Kaliari - 1.5 Km, SW	None
31	22° 7' 10.796"	72° 38' 8.04"	Thanava	Jambusar	Bharuch	Kaliari to Salehpor Sangdi-600m, NNW	None	Vadodara Branch Canal- 500m, W	Thanava - 1 Km, NE	None
32	22° 7' 11.801"	72° 39' 17.792"	Vadadala	Jambusar	Bharuch	Bhadkodara to Jantran- 2 Km, SE	None	Vadodara Branch Canal- 2 Km, W	Vadadala -1 Km, SE; Thanava - 1.5 Km, NE	None
33	22° 7' 12.798"	72° 40' 27.545"	Vadadala	Jambusar	Bharuch	Bhadkodara to Jantran- 1.5 Km, SE	None	Dolia Canal - 600 m, E	Kora 1.5Km, SE; Vadadala -2 Km, SW	None
34	22° 7' 13.787"	72° 41' 37.299"	Kora	Jambusar	Bharuch	Jantran to Kavali Rd- 500m, SE	None	Kora lake- 800 m, SW	Kora- 800 m, SW	None
35	22° 7' 14.768"	72° 42' 47.054"	Tundaj	Jambusar	Bharuch	Jantran to Kavali Rd- 1 Km, NW	None	Kavali Lake - 1.5 Km, N; Tundaj Lake - 2 Km, SSE	Kavali - 1.5 Km, N; Tundaj- 2 Km, SSE	None
36	22° 7' 15.740"	72° 43' 56.810"	Amanpor Nana	Jambusar	Bharuch	Tundaj to Amanpor Nana- 700m, SE	None	None	Amanpor Nana- 1.5 Km, NE; Tundaj- 2 Km, SW	None
37	22° 7' 16.704"	72° 45' 6.568"	Amanpor Mota	Jambusar	Bharuch	Sarod-Daal Rd- 2 Km, E	None	None	Amanpor Nana- 1 Km, NW	None
38	22° 7' 17.660"	72° 46' 16.326" E	Nobar	Jambusar	Bharuch	Sarod-Daal Rd- 500m, W	None	None	Nobar - 1 Km, SSE	None
39	22° 7' 18.607"	72° 47' 26.085"	Nobar	Jambusar	Bharuch	Uber to Nondhana Rd- 1 Km, N	None	Uber Lake - 1.5 Km, NE	Uber- 1.5 Km, NE; Nondhana 1.5 Km, NW	None
40	22° 8' 11.680"	72° 33' 27.924"	Muradporneja	Jambusar	Bharuch	Isanpur to Sigam RD- 1.5 Km, NE	None	Gulf of Khambhat -1 Km, W	Muradporneja- 1.5 Km, S; Isanpur -2 Km, SW	None
	22° 8' 12.719"	72° 34' 37.681"	Sigam	Jambusar	Bharuch	Isanpur to Sigam RD- 1Km, NE	None	Sigam Lake -1 Km, NE	Sigam 1.05km (NE)	None
	22° 8' 13.750"	72° 35' 47.438"	Chandpor Marva	Jambusar	Bharuch	Sigam to Kimoj Rd- 1 Km, N	None	Sigam Lake- 15 Km, NW	Sigam - 15 Km, NW	None
43	22° 8' 14.773"	72° 36' 57.196"	Kimoj	Jambusar	Bharuch	SalehporSangdi to Kimoj Rd- 500m, E	None	None	Kimoj - 1 Km, N; SalehporSangdi - 1.5 Km, S	None
44	22° 8' 15.788"	72° 38' 6.956"	Kimoj	Jambusar	Bharuch	Kimoj to Runad Rd- 500 m, N	None	Vadodara Branch Canal -600 m, E	Runad - 1.5 Km, NE; Kimoj 2 Km, NW	None
45	22° 8' 16.794"	72° 39' 16.717"	Runad	Jambusar	Bharuch	Kimoj to Runad Rd- 600 m, NW	None	Runad Lake - 1 Km, NW	Runad - 1 Km, NW	None
46	22° 8' 17.792"	72° 40' 26.479"	Kangam	Jambusar	Bharuch	AurangporTimbi to Kangam Rd- 1.3 Km, NE	None	None	Kangam -1.5 Km, NE	None
47	22° 8' 18.782"	72° 41' 36.242"	Kangam	Jambusar	Bharuch	Jantran to Kavali Rd- 2 Km, SE	None	None	Kangam -1.5 Km, NW	None
48	22° 8' 19.763"	72° 42' 46.006"	Kavali	Jambusar	Bharuch	Jantran to Kavali Rd- 500m, S	None	Kavali lake -600m, S	Kavali -600m, S	None
49	22° 8' 20.737"	72° 43' 55.771"	Samoj	Jambusar	Bharuch	Samoj to Amanpor Nana Rd- 600m, NW	None	None	Samoj- 1 Km, NNE	None
50	22° 8' 21.702"	72° 45' 5.537"	Samoj	Jambusar	Bharuch	Sarod-Daal Rd- 1.5 Km, E	None	None	Samoj -1.5 Km, NW	None
51	22° 8' 22.658"	72° 46' 15.304"	Amanpor Mota	Jambusar	Bharuch	Sarod-Daal Rd- 700m, W	None	Vadodara Branch Canal -1 Km, N	Nondhana -1.5 Km, SE	None
52	22° 8' 23.607"	72° 47' 25.072"	Valipore	Jambusar	Bharuch	Nondhana to Uber Rd- 700m, NW	None	Vadodara Branch Canal -600m, N; Uber lake-1.5 Km, SE	Nondhana -1 Km, SSW; Uber -2 Km, SE	None

53	22° 9' 16.668"	72° 33' 26.804"	Degam	Jambusar	Bharuch	Sigam to Dahegam Rd- 2.5Km, E	None	Gulf of Khambhat -1 Km, W	Neja -700m, SE; Degam- 2 Km, NE	None
54	22° 9' 17.709"	72° 34' 36.569"	Degam	Jambusar	Bharuch	Sigam to Dahegam Rd- 1Km, E	None	Sigam lake- 1.2 Km, SSE	Degam-1 Km, NW; Sigam- 1.5 Km, SE	None
55	22° 9' 18.741"	72° 35' 46.335"	Sigam	Jambusar	Bharuch	Sigam to Dahegam Rd- 1Km, W	None	Sigam Lake -1.5 Km, SSW	Sigam -1.5 Km, SSW; Gulal- 1.5 Km, NE	None
56	22° 9' 19.765"	72° 36' 56.102"	Kimoj	Jambusar	Bharuch	Kimoj to Gulal Rd- 500m, N	None	None	Kimoj -1 Km, SSE; Gulal- 1.5 Km, NW	None
57	22° 9' 20.780"	72° 38' 5.871"	Hamadpor Kanthariya	Jambusar	Bharuch	Kimoj to Gulal Rd- 600m, N	None	Vadodara Branch Canal -800 m, E; HamadporKanthariya Lake -600m, N	HamadporKanthariya - 500 m, N	None
58	22° 9' 21.787"	72° 39' 15.641"	Kangam	Jambusar	Bharuch	Runad to Kangam Rd- 500 m, NE	None	Vadodara Branch Canal -800 m, W & Runad Lake-700m, SW	Runad -800m, S	None
59	22° 9' 22.786"	72° 40' 25.411"	Kangam	Jambusar	Bharuch	Runad to Kangam Rd- 2 Km, W	None	Runad Lake-2.5 Km, SW	Kangam-1.5 Km, SE; Runad -2 Km, SW	None
60	22° 9' 23.777"	72° 41' 35.183"	Kangam	Jambusar	Bharuch	Kangam to Nahar Rd- 700m, NW	None	None	Kangam -1.5 Km, SW	None
61	22° 9' 24.759"	72° 42' 44.956"	Sarod	Jambusar	Bharuch	Kangam to Nahar Rd-2Km, NW	None	None	Kangam -3 Km, SW	None
62	22° 10' 22.698"	72° 34' 35.456"	Degam	Jambusar	Bharuch	Sigam to Dahegam Rd- 1Km, E	None	Gulf of Khambhat - 1.5 Km, W	Degam- 1.5 Km, SW; Dahegam -2 Km, NE	None
63	22° 10' 23.731"	72° 35' 45.231"	Dahegam	Jambusar	Bharuch	Sigam to Dahegam Rd- 1Km, W	None	Dahegam Lake-1.5 Km, NNW	Dahegam -1.5 Km, NNW	None
64	22° 10' 24.756"	72° 36' 55.007"	Gulal	Jambusar	Bharuch	Kimoj to Gulal Rd- 500m, S	None	Gulal Lake -1.5 Km, SW	Gulal -1.5 Km, SW	None
65	22° 10' 25.772"	72° 38' 4.785"	Hamadpor Kanthariya	Jambusar	Bharuch	Kimoj to Gulal Rd- 1.5Km, S	None	None	HamadporKanthariya- 2 Km, SSW	None
66	22° 10' 26.780"	72° 39' 14.563"	Hamadpor Kanthariya	Jambusar	Bharuch	Runad to Kangam Rd- 2 Km, SSE	None	Vadodara Branch Canal -1 Km, S	Hamadpor Kanthariya-2.5 Km, SW	None
67	22° 10' 27.780"	72° 40' 24.343"	Nahar	Jambusar	Bharuch	Kavi to Nahar Rd-1 Km, E	None	Vadodara Branch Canal - 600m, S	Nahar-1.5 Km, E	None
68	22° 10' 28.772"	72° 41' 34.124"	Nahar	Jambusar	Bharuch	Effluent Canal Project Rd (Kavi to Sarod) - 500m, SSW	None	Vadodara Branch Canal -1 Km, S	Nahar - 700m, SSW	None
69	22° 10' 29.755"	72° 42' 43.905"	Nahar	Jambusar	Bharuch	Effluent Canal Project Rd (Kavi to Sarod) - 500m, SSW	None	Vadodara Branch Canal - 800m, S	Nahar - 2 Km, SSW	None

Note: Actual geo-graphical surface coordinates of exploratory and appraisal well locations would be within 2000 m radius of the proposed coordinates.

The project activity is covered in 1(b) and is of 'B' Category. Since, the project falls in B2 category as per the MoEF&CC's amendment EIA Notification vide S.O. 236(E) dated 16.01.2020, the public consultation is not required as per paragraph 7(i) (III) (i) (e) of the Environment Impact Assessment Notification-2006.

The SEAC, Gujarat vide their letter dated 12/11/2020 had recommended to the SEIAA, Gujarat, to grant the Environment Clearance for the above-mentioned project based on its meeting held on 08/10/2020. The proposal was considered by SEIAA, Gujarat in its meeting held on 26/11/2020 at Gandhinagar. After careful consideration, the SEIAA hereby accords Environmental Clearance to above project under the provisions of EIA Notification dated 14th September, 2006 subject to the compliance of the following conditions.

A. CONDITIONS:

A.1 SPECIFIC CONDITION:

1. Project proponent (PP) shall obtain separate Environmental Clearance for commercial drilling and exploration as this proposal is for drilling of Exploration activity only as per EIA Notification 2006 and amendment dated 16.01.2020 [Category B2 of activity 1(b)]
2. No drilling shall be carried out in protected areas.
3. The company shall make all arrangements at the drilling site to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated. Effluent shall be properly treated and treated waste water shall conform to CPCB/GPCB standards.
4. Drill cuttings separated from drilling fluid shall be adequately washed and disposed according to HWMH rule, 2016. No effluent /drilling mud /drill cutting shall be discharged /disposed off into nearby surface water bodies. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR. 546 dated 30

the August ,2005

5. Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/ contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.
6. After completion of drilling activities, in case of non-availability of hydrocarbons the site shall be restored back to its normal condition as per the prevailing Rules/Guidelines/Site restoration policy.
7. PP shall adopt best drilling practices and drilling operations shall be designed in such a way that there is no chance of contamination of ground water aquifer.
8. PP shall take all precautionary measures to avoid any contamination of ground water.
9. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
10. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
11. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.
12. The company shall develop a contingency plan for H2S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H2S detectors in locations of high risk of exposure along with self-containing breathing apparatus.
13. Company shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and measures and measures to be taken for protection. One set of environment manual shall be made available at the drilling site /project site. Awareness shall be created at each level of management. All the schedules and results of environmental monitoring shall be available at the project site office. Remote monitoring of site should be done.

14. Safety & Health:

- a) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
 - b) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labor within premises.
 - c) The consequence arising out of incidents such as Well Blow Out, Fire, Explosion, Natural Calamities etc. shall be accurately predicted with the help of latest technique available by various Risk Analysis Studies and unit shall submit Disaster Management Plan (DMP) to the concern authority based on such probable scenarios.
 - d) Personal Protective Equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.
 - e) First Aid Box shall be made readily available in the unit.
 - f) Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken on regular basis as per Factories Act & Rules.
 - g) The company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed.
 - h) Blow out preventer system shall be installed to prevent well blowouts during drilling operations.
- Emergency response plan shall be based on the guidance prepared by OISD, DGMs and Govt. of India.

WATER:
Total water requirement for the project shall not exceed 105 KLD per well (87 KLD for drilling & 18 KLD for early production). Unit shall reuse 41 KLD per well (36 KLD for drilling & 5 KLD for early production) of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 64 KLD per well (51 KLD for drilling & 13 KLD for early production) and it shall be met through tankers.

16. PP shall not dig borewell for fresh water requirements.
17. The industrial effluent generation from the project shall not exceed 40 KLD per well.
18. Total Industrial effluent generated from various activities shall be treated in mobile ETP followed by UF & RO and reused back in process.
19. PP shall obtain prior permission for disposal of treated effluent.
20. Zero Liquid Discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.
21. Domestic wastewater generation shall not exceed 12 KL/day per well for proposed project and it shall be treated in STP. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
22. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
23. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
24. The unit shall provide metering facility at the ETP, UF, RO & STP and maintain records for the same.
25. Proper logbooks of ETP, UF, RO & STP; treated effluent reused in gardening/ plantation; chemical consumption in effluent treatment; quantity & quality of treated effluent; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

A.3AIR:

26. Unit shall not exceed fuel consumption for DG set as mentioned below:

S.No	Source of emission with Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Drilling Site- 3 x 1000 KVA (two working and one standby) or 2x 1850 KVA (one working and one standby)	11	HSD	11-13	PM10, NOx	Exhausts of diesel generators will be positioned at a sufficient height to ensure dispersal of exhaust emissions; Periodic maintenance of DG sets will be undertaken
2	Camp Site- 2 X 350 KVA (one working and one standby)	11	HSD	2-3	PM10, NOx	
3	Liquid Mud Pump (LMP)- 3X250 KVA (two working and one standby)	11	HSD	1.5-2	PM10, NOx	
4	Radio Room- 2X100 KVA (one working and one standby)	11	HSD	0.74-1.5	PM10, NOx	
5	Testing Flare Stack	30			PM10, NOx, SO ₂	Engineering controls to ensure complete combustion of gas; No cold venting. Flaring will be done with combustion efficient elevated flare tip; and Location of flare stacks to be chosen considering the sensitive receptors adjoining the site.
6	EPU Requirement- 1X500 KVA (Emergency Backup), GEG 1 MW	11	HSD NG	3-4 KLD 283.16 m ³ /hr	PM10, NOx, SO ₂	Exhausts of diesel generators will be positioned at a sufficient height to ensure dispersal of exhaust emissions; Periodic maintenance of DG sets will be undertaken

27. Unit shall provide adequate APCM with flue gas generation sources as mentioned above:

28. There shall be no process gas emission from drilling & exploration activities and other ancillary operations.

29. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.

- Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
- Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
- A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.

30. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.

31. Regular monitoring of ground level concentration of PM10, PM2.5, SO₂, NOx, and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

A.4 SOLID / HAZARDOUS WASTE:

32. All the hazardous waste management shall be taken care as mentioned below:

S. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annun)	Management of HW
1	Drill cuttings associated with SBM	SBM	HW Sc I cat 2.1	500 - 1500 tons/well	Collection in HDPE lined pit and disposal as per Hazardous waste Rules, 2016 (Co processing in cement kiln as fuel substitute, common Hazardous waste TSDF, HW processing facility).
2	Spent /Residual drilling mud	Drilling	HW Sc I cat 2.3	250-500 tons/well	Collection in HDPE lined pit and disposal as per

					Hazardous waste Rules, 2016 (Co processing in cement kiln as fuel substitute, common Hazardous waste TSDF, HW processing facility).
3	Used Lubricating oil	Others	HW Sc I cat 5.1	1-2 tons/well	Disposal as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
4	Sludge containing oil and other drilling work	Others	HW Sc I cat 2.2	250-500 tons/well	Disposal as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

33. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.

A. 50THER:

34. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of the environmental protection and management.

35. Necessary permissions as mandated under water (Prevention and control of Pollution) act, 1974 and the Air (prevention and control pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board.

36. The project proponent shall allocate the separate fund of Rs. 12.98 Crore i.e. 0.5% of the capital investment for the activities in accordance to the MoEFCC's Office Memorandum No. F.No.22-65/2017-IA.III dated 01/05/2018. The entire activities proposed under CER shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to district collector. The monitoring report shall be posted on the website of the project proponent.

37. All the environmental protection measures and safeguards proposed in the Form-1 & PFR submitted by the project proponent and commitments made in their application shall be strictly adhered to in letter and spirit.

B. GENERAL CONDITIONS:

B.1 CONSTRUCTION PHASE:

38. Water demand during construction shall be reduced by use of curing agents, super plasticizers and other best construction practices.

39. Project proponent shall ensure that surrounding environment shall not be affected due to construction activity. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission.

40. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.

41. First Aid Box shall be made readily available in adequate quantity at all the times.

42. The project proponent shall strictly comply with the Building and other Construction Workers' (Regulation of Employment & Conditions of Service) Act 1996 and Gujarat rules made there under and their subsequent amendments. Local bye-laws of concern authority shall be complied in letter and spirit.

43. Ambient noise levels shall conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality shall be closely monitored during construction phase.

44. Use of Diesel Generator (DG) sets during construction phase shall be strictly equipped with acoustic enclosure and shall conform to the EPA Rules for air and noise emission standards.

45. Safe disposal of waste water and municipal solid wastes generated during the construction phase shall be ensured.

46. All topsoil excavated during construction activity shall be used in horticultural / landscape development within the project site.

47. Excavated earth to be generated during the construction phase shall be utilized within the premises to the maximum extent possible and balance quantity of excavated earth shall be disposed off with the approval of the competent authority after taking the necessary precautions for general safety and health aspects. Disposal of the excavated earth during construction phase shall not create adverse effect on neighbouring communities.

48. Project proponent shall ensure use of eco-friendly building materials including fly ash bricks, fly ash paver blocks, Ready Mix Concrete [RMC] and lead free paints in the project.

49. Fly ash shall be used in construction wherever applicable as per provisions of Fly Ash Notification under the E.P. Act, 1986 and its subsequent amendments from time to time.

50. "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.
51. "No uncovered vehicles carrying construction material and waste shall be permitted."
52. "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured."
53. Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).
54. No excavation of soil shall be carried out without adequate dust mitigation measures in place.
55. Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.
56. Grinding and cutting of building materials in open area shall be prohibited.
57. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
58. Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).

B.2 OPERATION PHASE:

B.2.1 WATER:

59. The water meter shall be installed and records of daily and monthly water consumption shall be maintained.
60. All efforts shall be made to optimize water consumption by exploring Best Available Technology (BAT). The unit shall continuously strive to reduce, recycle and reuse the treated effluent.

B.2.2 AIR:

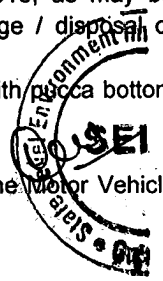
61. In case of use of spray dryer, the unit shall provide the adequate & efficient APCMs with spray dryer so that there should not be any adverse impact on human health & environment. Unit shall carry out third party monitoring of the proposed Spray dryer & it's APCM through the credible institutes and study report for impacts on Environment and Human Health shall be submitted to GPCB every year along with half yearly compliance report.
62. Acoustic enclosure shall be provided to the DG sets (If applicable) to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.
63. Stack/Vents (Whichever is applicable) of adequate height shall be provided as per the prevailing norms for flue gas emission/Process gas emission.
64. Flue gas emission & Process gas emission (If any) shall conform to the standards prescribed by the GPCB/CPCB/MoEF&CC. At no time, emission level should go beyond the stipulated standards.
65. All the reactors / vessels used in the manufacturing process shall be closed to reduce the fugitive emission.

B.2.3 HAZARDOUS/SOLID WASTE:

66. The company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection / treatment / storage / disposal of hazardous wastes.
67. Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.
68. The unit shall obtain necessary permission from the nearby TSDf site and CHWIF. (Whichever is applicable)
69. Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988, and rules made there under.
70. The design of the Trucks/tankers shall be such that there is no spillage during transportation
71. All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDf/CHWIF.
72. Management of fly ash (If any) shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

B.2.4 SAFETY:

73. The occupier/manager shall strictly comply the provisions under the Factories Act 1948 and the Gujarat Factories Rules 1963
74. The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.
75. Main entry and exit shall be separate and clearly marked in the facility.
76. Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/ emergency vehicle around the premises.
77. Storage of flammable chemicals shall be sufficiently away from the production area.
78. Sufficient number of fire extinguishers shall be provided near the plant and storage area.
79. All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.
80. All the toxic/hazardous chemicals shall be stored in optimum quantity and all necessary permissions in this regard shall be obtained before commencing the expansion activities.
81. The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report.
82. Only flame proof electrical fittings shall be provided in the plant premises.



83. Storage of hazardous chemicals shall be minimized and it shall be in multiple small capacity tanks / containers instead of one single large capacity tank / containers.
84. All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/dyke walls shall be provided for storage tanks for Hazardous Chemicals.
85. Handling and charging of the chemicals shall be done in closed manner by pumping or by vacuum transfer so that minimal human exposure occurs.
86. Tie up shall be done with nearby health care unit / doctor for seeking immediate medical attention in the case of emergency.
87. Personal Protective Equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.
88. First Aid Box and required Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.
89. Training shall be imparted to all the workers on safety and health aspects of chemicals handling.
90. Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.
91. Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act & Rules.
92. The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.
93. Necessary permissions from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.

B.2.5 NOISE:

94. The company shall make all arrangement for control of noise from the drilling activities.
95. The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation, hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under Environment (Protection) Act & Rules, 1986 amended from time to time.
96. Noise levels for workers shall be as per the Factories Act & Rules.

B.2.6 CLEANER PRODUCTION AND WASTE MINIMISATION:

97. The unit shall undertake the Cleaner Production Assessment study through a reputed institute / organization and shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to the GPCB.
98. The company shall undertake various waste minimization measures such as :
 - a. Metering and control of quantities of active ingredients to minimize waste.
 - b. Reuse of by-products from the process as raw materials or as raw materials substitutes.
 - c. Use of automated and close filling to minimize spillages.
 - d. Use of close feed system into batch reactors.
 - e. Venting equipment through vapour recovery system.
 - f. Use of high pressure hoses for cleaning to reduce wastewater generation.
 - g. Recycling of washes to subsequent batches.
 - h. Recycling of steam condensate.
 - i. Sweeping / mopping of floor instead of floor washing to avoid effluent generation.
 - j. Regular preventive maintenance for avoiding leakage, spillage etc.

B.2.7 GREEN BELT AND OTHER PLANTATION:

99. The unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC / GPCB and submit an action plan of plantation for next three years to the GPCB.
100. Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development within the premises.

B.3 OTHER CONDITION:

101. The project proponent shall allocate the separate fund for Corporate Environment Responsibility (CER) in accordance to the MoEFCC's Office Memorandum No. F.No.22-65/2017-IA.III dated 01/05/2018 to carry out the activities under CER in affected area around the project. The entire activities proposed under CER shall be monitored and the monitoring report shall be submitted to the regional office of MoEFCC as a part of half-yearly compliance report and to district collector. The monitoring report shall be posted on the website of the project proponent.
102. Rain water harvesting of surface as well as rooftop runoff shall be undertaken and the same water shall be used for the various activities of the project to conserve fresh water as well as to recharge ground water. Before recharging the surface run off, pre-treatment must be done to remove suspended matter.
103. The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the Industrial Association or GIDC or GPCB or any such authority created for this purpose by the Govt. / GIDC.
104. Application of solar energy shall be incorporated for illumination of common areas, lighting for gardens and street lighting in addition the provision for solar water heating system shall also be provided.
105. The area earmarked as green area shall be used only for plantation and shall not be altered for any other purpose.
106. All the commitments / undertakings given to the SEAC during the appraisal process for the purpose of environmental protection and management shall be strictly adhered to.

107. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.
108. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.
109. The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any statutory authority.
110. During material transfer there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.
111. Pucca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.
112. Leakages from pipes, pumps shall be minimal and if occurs, shall be arrested promptly.
113. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.
114. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.
115. The project proponent shall comply all the conditions mentioned in "The Companies (Corporate Social Responsibility Policy) Rules, 2014" and its amendments from time to time in a letter and spirit.
116. The project management shall ensure that unit complies with all the environment protection measures, risk mitigation measures and safeguards recommended in the EMP report and Risk Assessment study report as well as proposed by project proponent.
117. The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.
118. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.
119. It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.
120. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
121. The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.
122. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.
123. The company in a time bound manner shall implement these conditions. The SEIAA reserves the right to stipulate additional conditions, if the same is found necessary.
124. The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
125. This environmental clearance is valid for seven years from the date of issue.
126. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
127. Submission of any false or misleading information or data which is material to screening or scoping or appraisal or decision on the application makes this environment clearance cancelled.

With regards,

Yours sincerely,



(Dr. K. RAMESH)
Member Secretary



Issued to:

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