

Bharat PetroResource Limited

June 2016

Compliance Report: Environmental Clearance (J-11011/324/2013-IA-II-(I)) for wells PA#01, PA#02 and VA#01 in Block CB-ONN-2010/8



Prepared by:

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BharatPetro Resource Limited**Compliance Report: Environmental Clearance
(J-11011/324/2013-IA-II-(I)) for wells
PA#01, PA#02 and VA#01 in Block CB-ONN-
2010/8**

Quality Control	
Project for Block CB-ONN-2010/8	Release Date: 31/07/16
Report No.: 01	Version: 1.0
For BHARAT PETRORESOURCES LIMITED	
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1 INTRODUCTION AND BACKGROUND

1.1 General Information

Bharat Petroleum Corporation Ltd (BPCL) entered the upstream sector in 2003 with the aim of providing partial supply security of crude and hedging of price risks, to become a vertically integrated oil company and to add to company's bottom line.

Considering the need for a focused approach for E&P activities and implementation of investment plans of Bharat Petroleum at a quicker pace, a wholly owned subsidiary company of Bharat Petroleum, by the name Bharat PetroResources Limited (BPRL) was incorporated in October 2006, with the objective of carrying out Exploration and Production activities.

Block CB-ONN -2010/8 is located in common boundary of three districts Kheda, Ahmedabad and Gandhinagar and is divided in two part Part A and Part B. The area covered under part A is 14 km² and in Part B is 28 km².

Production Sharing Contract (PSC) with GoI was signed on 30.08. 2012. Petroleum Exploratory license was granted on 01.03.2013.

1.2 Location of the Block

Block CB-ONN-2010/8 geographically located in Ahmedabad, Kheda and Gandhinagar districts of Gujarat.

Location details of the block are as follows:

Taluka: Dehgam, Daskroi, Mehmdavad

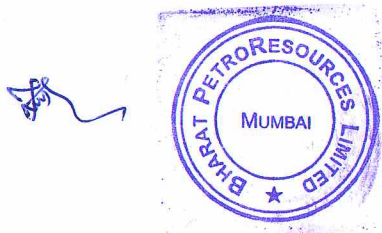
District: Gandhinagar, Ahmedabad and Kheda

State: Gujarat

The geographical detail of the block is presented in **Table 1-1**.

Table 1-1: Longitude and Latitude of CB-ONN-2010/8 Block

Point	Latitude			Longitude		
	Deg.	Min.	Sec.	Deg.	Min.	Sec.
Part A						
A	23	0	54	72	50	10
B	23	0	54	72	48	6
C	23	3	0	72	48	6
D	23	3	0	72	50	11
A	23	0	54	72	50	10
Part B						
A	23	0	0	72	46	38
B	23	0	0	72	50	10
C	22	57	26	72	50	8
D	22	57	26	72	46	38
E	23	0	0	72	46	38



1.3 Purpose of this Report

As per the Schedule attached to the EIA Notification 2006, as amended till date, the proposed project is covered under Project or Activity, 1(b), namely Offshore and Onshore Oil and Gas Exploration, Development and Production. Such activities are also listed as *Category A* under the said Notification, requiring prior Environment Clearance (EC) from the Impact Assessment Authority (IAA), i.e. the Ministry of Environment and Forests (MoEF), New Delhi.

MoEF has granted Environment Clearance for drilling 8 exploratory wells in the Block vide its letter *J-11011-324/2013 IA II (I) dated 22nd June 2015*.

After Obtaining EC from MoEF and NOC from Gujarat Pollution Control Board, BPRL started drilling of wells mentioned in **Table 1-2**. BPRL has to submit a six monthly compliance report of the condition stipulated in Environment clearance and hence, BPRL had appointed M/s Kadam Environmental Consultants for carrying out monitoring and preparation of report of compliances/non compliances of various conditions mentioned in EC.

1.4 Location Details of Wells

The Location Details of wells is given in **Table 1-2**.

Table 1-2: Location Details of Wells

Well Name	Well Name mentioned in EC	Latitude (N)	Longitude (E)	Drilling started	Drilling Completion
Pasunia#01 (PA#01)	Well-1	23° 02' 56.45" N	72° 48' 09.71" E	January 2016	March 2016
Pasunia#02 (PA#02)	Well-2	23° 01' 02.93" N	72° 48' 27.01" E	May 2016	June 2016
VADOD#01 (VA#01)	Well-3	22° 59' 56.92" N	72° 48' 40.47" E	June 2016	In progress



2 COMPLIANCE TO CONDITIONS OF ENVIRONMENTAL CLEARANCE

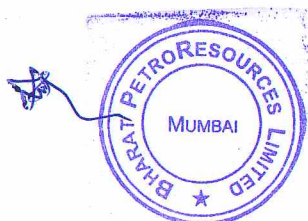
The Ministry of Environment and Forests had issued vide its letter J-11011-324/2013 IA II (I) dated 22nd June 2015. Copy of EC is attached vide **Annexure 1**.

Table 2-1: Compliance to Condition Mention in EC

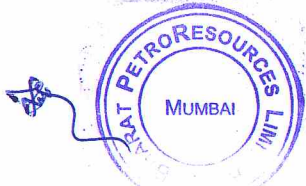
S No	Condition	compliance
Specific Condition		
1	The present EC is for Exploratory Drilling only. In case Development Drilling to be done in future, prior environmental clearance must be obtained from Ministry.	Noted and would be complied with.
2	Ambient air quality shall be monitored near the closest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 for PM10, PM2.5, SO2, NOX, CO, methane & non methane HC etc	Closest human settlement for well PASUNIA#01 is Karoli, for PASUNIA#02 is Kuha and VADOD#01 is Kuha and ambient air was monitored at the human settlement and results are attached as Annexure 2 .
3	Mercury shall also be analyzed in air, water and drill cuttings twice during drilling period	Mercury was analysed in air, water and drill cuttings twice during the drilling period and results are attached as Annexure 3, Annexure 7 and Annexure 8
4	Approach road shall be made pucca to minimize generation of suspended dust.	Approach Road were made pucca at drill site. Photograph are attached as Annexure 4
5	The company shall make the arrangement for control of noise from the drilling activity. Acoustic enclosure shall be provided to DG sets and proper stack height shall be provided as per CPCB guidelines	Acoustic enclosure was provided to the DG set. Stack height of DG set was as per guidelines. Noise Monitoring was carried out at all three drill sites, which indicate noise levels are within limit. Noise Monitoring report of drill sites is attached as Annexure 5
6	Total water requirement shall not exceed 35 m ³ /day and prior permission shall be obtained from the concern agency.	Water Consumption Data for Well sites is given in Annexure 6 .
7	The company shall construct the garland drain all around 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 wastewater shall conform to CPCB standards.	Garland drain was constructed all around drilling site of all three wells drill till date to prevent runoff of any oil containing waste into nearby water bodies. Mobile Effluent Treatment Plant (METP) has been deployed at the drill site to treat the drilling fluids. In addition to that the treated water sample has been send to approved laboratory to study the composition of the chemicals in the water and found that the treated water maintained standards of MoEF. Analysis results treated drilling fluid is attached as Annexure 7
8	Drilling wastewater including drill cuttings wash water shall be collected in disposal pit lined with HDPE lining evaporated or	Drilling waste water was treated in METP at site and collected in HDPE lined evaporation pit for solar evaporation. Drill cutting separated from



S No	Condition	compliance
	treated and shall comply with the notified standards for on-shore disposal. The membership of common TSDF shall be obtained for the disposal of drill cuttings and hazardous waste. Otherwise, secured land fill shall be created at the site as per the design approved by the CPCB and obtain authorization from the SPCB. Copy of authorization or membership of TSDF shall be submitted to Ministry's Regional Office at Bhopal.	mud were analyses for oil and grease content. Analysis report is attached as Annexure 8. Oil and grease was found <10 gm/Kg and hence drill cuttings were disposed off temporarily in situ into disposal pit. However the permanent disposal shall be done at GPCB authorized TSDF only.
9	Good sanitation facility should be provided at the drilling site. Domestic sewage shall be disposed off through septic tank/soak Pit	Porta cabin with all facilities were provided to drilling staff at site. Domestic sewage is disposed off through soak pit.
10	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	Oil Spill Contingency plan was prepared which is attached as Annexure-14, page-22-26.
11	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 (E) dated 30th August, 2005.	Drilling fluid was treated in METP and discharged into HDPE lined pit for evaporation. Drill cuttings separated from mud were analyzed for oil and grease which was found <10 gm/kg and hence as per the notified vide GSR.546 (E) dated 30th August, 2005 cuttings were disposed off temporarily in situ at site. However the permanent disposal shall be done at GPCB authorized TSDF only.
12	The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation	Drill site was declared no smoking zone, fire extinguisher was provided at site to take care of any fire incident. Unauthorized entry were not allowed. In case the well is successful at the time of testing, at the place of ground flaring, knockout drums shall be installed.
13	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	Emergency Response Plan prepared for drill site covers contingency plan for H ₂ S release. ERP is attached as Annexure 14 . Photographs of breathing apparatus & Gas detector provided to worker at site is attached as Annexure 11 .
14	On completion of drilling, the company have to plug the drilled wells safely and obtain certificate from environment safety angle from the concerned authority	After lowering 5-1/2" casing, cementation and final hermetical testing, the rig has been released from these locations. No perforation carried out in these wells. However, 2-7/8" tubing is lowered in the well and a brine fluid of



S No	Condition	compliance
		approx. 11.7 ppg is kept in the wells. X-mas tree is also installed on the wellhead and pressure tested. BPRL has plans to carry out further testing operation in these wells in the near future. Hence, based on the testing results, final well plugging/restoration will be decided
15	Blow Out Preventer (BOP) system shall be installed to prevent well blowouts during drilling operations. BOP measures during drilling shall focus on maintaining well bore hydrostatic pressure by proper pre - well planning and drilling fluid logging etc	Blow out Preventer (BOP) of 5000 PSI, was installed at drill site to prevent well blow outs. Periodic pressure testing of BOP done.
16	Emergency Response Plan (ERP) shall be based on the guidelines prepared by OISD, DGMS and Govt. of India.	Emergency Response Plan was prepared based on Guidelines of OISD, DGMS and Govt of India, attached as Annexure 14 .
17	The company shall take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be restored to the original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan shall be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations	After lowering 5-1/2" casing, cementation and final hermetical testing, the rig has been released from these locations. No perforation carried out in these wells. However, 2-7/8" tubing is lowered in the well and a brine fluid of approx. 11.7 ppg is kept in the wells. X-mas tree is also installed on the wellhead and pressure tested. BPRL has plans to carry out further testing operation in these wells in the near future. Hence, based on the testing results, final well plugging/restoration will be decided.
18	Abandoned well inventory and remediation plan shall be submitted within six months from the date of issue of letter	Noted.
19	Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.	Medical facility with 24hrs doctor service has been provided at rig site to take care of any minor injuries/day to day requirement, if any.
20	In case the commercial viability of the project (for exploratory drilling) is established, the Company shall prepare a detailed plan for development of oil and gas fields and obtain fresh environmental clearance from the Ministry	Will be complied.
21	Restoration of the project site after completion of drilling shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office at Bhopal	After lowering 5-1/2" casing, cementation and final hermetical testing, the rig has been released from these locations. No perforation carried out in these wells. However, 2-7/8" tubing is lowered in the well and a brine fluid of approx. 11.7 ppg is kept in the wells. X-mas tree is also installed on the wellhead and pressure tested. BPRL has plans to carry out further testing operation in these wells in the near future. Hence, based on the testing results, final well plugging/restoration will be decided.
22	Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's	Drill cuttings were analyses and report is attached as Annexure 8 .



S No	Condition	compliance
	Regional Office at Bhopal	
23	At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured accordingly in a time bound manner	BPRL vide letter ref BPRL/CB-ONN-2010/8/EIA dated 03/07/2015 & Letter ref: BPRL/CB-ONN-2010/8/EIA dated 04/09/2015 followed by letter ref: BPRL/CB-ONN-2010/8/EIA Date: 16/06/2016 requested MoEF to amend this clause. At present the project is in exploratory nature and there is no revenue generation. The letters are attached as Annexure 12.
24	All personnel including those of contractors shall be trained and made fully aware of the hazards, risks and controls in place	Safety talk with all the vendor and its workman conducted every day before start of the shift and discussed about safety, hazards & risk of operation etc. The rig crew given MVI training as per DGMS requirement.
25	Company shall have own Environment Management Cell having qualified persons with proper background	At present the parent company BPCL is taken care of this.
26	Company shall prepare operating manual in respect of all activities. It shall cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental 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 project site office	Drilling Operation Manual, Blow Out Prevention Manual and Health, Safety & Environment Management, Emergency Response Plan including well control Manual have been prepared and kept at each drill site. The Results of environment monitoring of all site is available at head office.
General Condition		
1	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any other statutory authority	Noted & Complied
2	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any	Ministry of Environment & Forests will be informed and prior approval regarding any modification in the project will be taken
3	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of	Drilling was started after obtaining all necessary clearance. Prior approvals from Chief Controller of Explosives for storing HSD at drill site <i>was obtained.</i>



S No	Condition	compliance
	Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable	
4	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	DG sets was provided with acoustic enclosures. The noise monitoring results at drill site is attached as Annexure 5 .
5	A separate Environmental Management Cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	BPRL has kept experienced staff to look after environment management. Environmental Monitoring at well site was carried out through NABET accredited Consulting Organizations with full-fledged lab facilities carried out as per site requirement
6	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while Processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent	Complied. Information regarding EC accorded for the project was published in newspapers in English as well as Vernacular languages. Attached as Annexure 10 . The clearance letter has been also uploaded in BPCL (BPRL) website. The link of EC uploaded is given here. http://117.239.178.110/bharatpetroleumv3/Our-Businesses/Bharat-PetroResources-Limited-(BPRL)/Environmental-Clearance.aspx
7	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the GPCB. The criteria pollutant levels namely; PM10, SO2, NOX, HC (Methane & Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain	These compliance report along with monitoring data will be uploaded on company's website and will be sent to Regional office of MoEF, CPCB & GPCB record of regular submission of six monthly compliance report will be kept for future reference.
8	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Office of CPCB and the GPCB. The Regional Office of this Ministry /CPCB / GPCB shall monitor the stipulated conditions.	These compliance report long with monitoring data will be uploaded on company's website and will be sent to Regional office of MoEF, CPCB & GPCB, record of regular submission of six monthly compliance report will be kept for future reference.



S No	Condition	compliance
	Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.	
9	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail	Environment statement was submitted for PA#01 which was completed before 31 st March 2016. The same is attached along with the compliance report in Annexure 13 .
10	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the GPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	Information regarding EC accorded for the project was published in newspapers in English as well as Vernacular languages. Attached as Annexure 10 .
11	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work	<p>Petroleum exploration License (PEL) granted for the project on 01.03.2013 for the period of seven years</p> <p>First well (PASUNIA#01) drilling started in January 2016 and till 30th June 2016, drilling of two exploratory wells (PASUNIA#01 & PASUNIA#02) have been completed and drilling of third well (VADOD#01) is in progress.</p> <p>BPRL has plans to carry out drilling of another five wells and testing operation in these wells in the near future. Hence, based on the testing results, final well plugging/restoration will be decided</p> <p>Once restoration of wells be completed same will be informed to MoEF.</p>

