

Sun Petrochemicals Private Limited

(SunPetro)

Commercial & Supply Chain Management

8th Floor, ATL Corporate Park, Opp. L&T Gate no. 7,

Saki Vihar Road, Chandivali, Powai

Andheri (E), Mumbai – 400072, Maharashtra [INDIA]

www.sunpetro.com

CIN: U24219GJ1995PTC028519

No: SunPetro/Bhaskar/Sucker Rod Pumps/2022-23/SPPL-139

Date 07-02-2023

Tender (RFQ / Tender)

Tender / RFQ No.: SunPetro/Bhaskar/Sucker Rod Pumps/2022-23/SPPL-139

Title: Procurement of Sucker Rod Pumps (SRP) for Bhaskar Field in Gujarat.

Dear Sir / Madam,

1.0 Sun Petrochemicals Private Limited (hereinafter referred to as **SunPetro / Company**) is pleased to invite you to submit the Bid for the subject Tender in accordance with the requirements & details as stated in the Tender Document for Selection, Design, Engineering, Supply, Transportation, Installation, Testing & Commissioning of Sucker Rod Pumps (SRP) & SRP Units for Bhaskar field or any other field in Gujarat under **TWO ENVELOPE SINGLE STAGE BIDDING SYSTEM** in following two Envelopes:

ENVELOPE-I: Technical & Un-Priced Commercial Bid

ENVELOPE-II: Priced Commercial Bid

Bidders are requested to read the instructions and requirements in this RFQ Document carefully and accordingly to submit the Technical & Un-Priced Commercial Bid in one envelop and Priced Commercial Bid in another envelop as stated above, each in a separate wax sealed envelope. Both envelopes are required to be placed in one wax sealed envelope and be send to the tendering office address. Bids should be complete in all respects, as per the requirements of the relevant Sections & Annexures.

1.1 SALIENT FEATURES OF THE TENDER / RFQ

1]	Tender / RFQ No.	SunPetro/Bhaskar/Sucker Rod Pumps/2022-23/SPPL-139
2]	Title of Tender / RFQ	Procurement of Sucker Rod Pumps (SRP) for Bhaskar Field in Gujarat.
3]	Brief Scope of Work	Selection, Design, Engineering, Supply, Transportation, Installation, Testing & Commissioning of Sucker Rod Pumps (SRP) & SRP Units for Bhaskar Field in Gujarat. Detailed as per Annexure-1 of Tender / RFQ Document
4]	Bid Validity	One Hundred and twenty (120) days
5]	Bid Security / Bid Bond	Bidders are required to furnish Bid Bond along with Technical & Un-Priced Commercial Bid in ENVELOPE-I in the format as attached herewith at ATTACHMENT-3 drawn from a Nationalized / Scheduled bank as listed at ATTACHMENT-2 for an amount of Rupees: 1,00,000/- from Indian Bidders or USD 1220/- from Foreign Bidders. Note: 1] Bid Bond shall be acceptable in INR from Foreign bidders also 2] In lieu of bid bond, bidder can also submit DD /Pay order / wire transfer. DD / Payorder / Wire transfer shall be governed by Bid Bond terms and conditions. DD / Payorder to be issued in the name of “Sun Petrochemicals Private Limited” payable at Mumbai.

6]	Bid Bond Validity	One Hundred and Fifty (150) days
7]	Last Date & Time for Seeking Clarification by Bidders	14-02-2023 at 15:00 Hrs. IST
8]	Tender / RFQ Closing / Bid Submission Date & Time	21-02-2023 at 15:00 Hrs. IST
9]	Address For Correspondence / Tendering Office	HEAD –COMMERCIAL & SCM, SUN PETROCHEMICALS PVT. LTD. (SunPetro) 8 th Floor, ATL Corporate Park, Opp. L&T Gate no. 7, Saki Vihar Road, Chandivali, Powai Andheri (E), Mumbai – 400072, Maharashtra [INDIA] Kind Attn: Nihit Jain; e-mail: Nihit.Jain@sunpetro.com
10]	Delivery Period	Within 4 months from LOI/LOA/PO. However, bidder to quote its best reduced delivery period
11]	Terms & Conditions of Purchase / Contract	As per Annexure-3 of this Tender / RFQ Document
12]	Contract Validity	1 Year with provision of extension of contract for further period of 6 months at same rates, terms, and conditions.

NOTE:

Receiving the tender from Company does not qualify the bidder automatically for their bid consideration. The bidder must comply with RFQ / Tender terms & conditions including BEC described in the RFQ / Tender.

1.2. Pricing Strategy

Bidder is to quote strictly as per the 'Price Schedule' (Annexure-2) of this Tender / RFQ document.

1.3 Evaluation Strategy

Evaluation of Bids for awarding will be based on the most advantageous offer to SunPetro reflecting a combination of technical acceptance, qualification, and Cost.

However, Company reserves the right to reject or accept, in whole or in part, any Bid; waive formalities in the bidding processor to negotiate Contract terms with any individual bidder when such is deemed fit by Company to be in their best interest. The company will be under no obligation to provide reasons for accepting or rejecting any Bid.

1.4 Award Strategy

Single Order or Multiple Order will rest with SunPetro's discretion.

1.5 Bidders to note that Non-compliance with the Tender / RFQ instructions, except as permitted in the Bid and/or late arrival of Bid shall result in Bid not being considered.

1.6 Only bids submitted by bidders who have been issued Tender / RFQ by the Company shall be considered whereas unsolicited bid shall not be considered.

1.7 Acknowledgement of Tender / RFQ

Bidder(s) receiving this Tender / RFQ are required to confirm in writing whether they intend to bid or not within two days from electronic issue of this document, stating the reasons if declining to bid in this instance. Bidders not conforming to this requirement risk being barred from future inquiries.

1.8 Preference Linked With Local Contents (LC)

Wherever goods / services for exploitation of oil / gas fields are procured by a Company whereby Government or any Government body, approval is necessary, the 'purchase preference' will be given to eligible techno-commercial bidder based on local contents criteria

and policy announced by MOPNG for 'price preference' under 'Make in India' campaign or any other policy. The applicability and evaluation procedures of the bids, for procurement of goods and services, defined by MOPNG will be strictly followed and applied for giving the 'Purchase Preference' to the eligible bidder for award of work for supply of goods / services.

Bidder needs to ascertain eligibility under this category and submit proof of eligibility as per MOPNG guide line failing which they will not be considered under this category .

Further, false or misleading information in this category will lead to rejection of bid and suitable action as per MOPNG guide lines on the subject .

1.9 Bid Submission:

Bids are to be submitted in duplicate i.e. two (2 copies each) of "Technical & Un-Priced Commercial Bid" and "Priced Commercial Bid" in the separate sealed envelopes as follows to be submitted at "Tendering office " on or before Tender Closing Date & Time

ENVELOPE-I: Technical & Un-Priced Commercial Bid

ENVELOPE-II: Priced Commercial Bid

Further details are available in the Tender / RFQ Document for the compliance. We look forward to receiving your bid complete in all respect on or before due date and time of bid submission.

Regards,

Nihit Jain
Head- Commercial & SCM

ANNEXURE-1

SCOPE OF WORK

Selection, Design, Engineering, Supply, Transportation, Installation, Testing & Commissioning of
Sucker Rod Pumps (SRP) & SRP Units

A. Introduction

Sun Petrochemicals Private Limited (SunPetro) established in 1995, has diversified into the upstream hydrocarbon business.

SunPetro is operating an onshore Oil & Gas field located near Khambhat, namely Bhaskar-1. Presently field has 17 producing wells and a Central Processing Facility (CPF) for processing of Oil & Gas. Wells are both vertical & deviated.

As the reservoir pressure was depleting, some of the wells are put on Electrical Submersible pumps. However, to match the well production rate, it is proposed to install Sucker Rod Pumps in the wells for enhanced oil recovery.

Scope of work includes Design, Engineering, Supply, Transportation, Installation, Testing & Commissioning of Sucker Rod Pumps & SRP Units. Bidder shall carry out the complete design of the offered units & identify the model of surface unit, downhole pump, and sizing of all the components required for successful & installation of SRPs.

B. Reservoir Parameters: Table-1

AVERAGE PARAMETER FOR SRP DESIGN		
No	Parameter	Range
1.	Reservoir Pressure	100 - 110 Kg/cm ²
2.	Reservoir Temperature	90 ⁰ - 96 ⁰ C
3.	Perforation Interval	1322 - 1390 m
4.	GOR (m3/m3)	22 - 25
5.	Specific Gravity	0.82
6.	API at 15 ⁰ C	41.78
7.	Pour Point	30 ⁰ - 34 ⁰ C
8.	Viscosity at 40 ⁰ C	2.7 cSt
9.	Sulphur Content	0.05 %
10.	Acid No (Mg KOH/g)	0.1
11.	Casing Size	5-1/2" / 7"
12.	Well drilled depth	Refer Annexure-I
13.	Tubing size	2-7/8" EUE
14.	Deviation of wells	Refer Annexure-II

1.0 Basic data for well completion and design /installation of Sucker Rod Pump is as follows:

Table-2

Well depth	Refer Annexure
Well Profile	Vertical & Deviated. Refer Annexure
Perforation Interval	Refer Annexure
Tubing specification	2-7/8", EUE, 6.5 ppf, N- 80 Tubing
Expected oil production	Approximately 200 BOPD per well
Depth of Pump	Approximately 1500 mtrs
Crude characteristics	API gravity 41 (approx.), pour point: 30 degree Centigrade
Surface Pressure required	About 20 Barg
Design Flow Rate	40 m3/day with turndown upto 5 m3/day

The general well data for planning purposes are given below:

Temperature Gradient: Consider 3.6° C per 100m and Max surface temperature of 35° C

H2S: Nil

CO2: 2.6 %

SRPs may be installed both in vertical or deviated wells.

2.0 SCOPE OF WORK/SUPPLY AND TECHNICAL SPECIFICATION OF SRP AND ACCESORIES:

The Scope of Supply shall include but not limited to the following:

A. SRP SURFACE UNIT: Design, engineering, selection, supply, transportation, installation, testing & commissioning of Sucker Rod Pumps surface units along with electric motor & its accessories/spares/handling tools as per the specification as follows:

- 1.1 Bidder shall carry out the selection of the suitable model of Surface Unit for sucker rod pumps as per API standard. The selected model shall be an optimised model for the specified application & should be fit for purpose and should have minimum life cycle cost.
- 1.2 SRP surface unit shall be conventional (crank balance) type, manufactured according to API Specification 11E.
- 1.3 SRP surface Unit shall have Gear Reducer Support welded on unit base with slide rail arrangement for alignment along both axes.
- 1.4 SRP surface Unit shall have Double Reduction Herring Bone (Double Helical) gear reducer, Cranks, Crank Pin bearing assembly, Counter weights - 04 pcs, Pitman arms, Equalizer arm, Equalizer bearing assembly, Samson post, Central bearing assembly, Walking beam, Horse head, Swivelling device of the horse head, Wire line and Carrier bar, Polished rod clamp, Brake and brake control, Extension base with slide rails for electric motor, Motor pulleys (with sleeve), V drive section .C. belts, Belt guard, Unit gear reducer pulley for maximum strokes per minute. Samson post access caged ladder (on both sides), Lifting eyes welded on the unit base, on top of walking beam and horse head in such a way that it should not damage any equipment while handling, safety rails/guards enclosing the unit. Beam Pump and speed reducer/gear box should have name plate/markings as per API 11E section-7, Figures 12 & 13.

- 1.5 Bidder to provide the following data for the selected model of surface unit:

Sl. No	Description	Parameters to be provided
1	Offered model of surface unit as per operational requirement (Conventional Crank Balance pumping unit)	
2	Gear reducer torque rating with double reduction	
3	Structural capacity (Rated Polished rod load)	

4	Stroke Lengths	
5	Operating Speed with range of 720 750 RPM,)	
6	Rating of electric motor (KW) with type and make(Exd)	
7	Rating of VFD with make	
8	LCS (FLP) shall be provided with "START" and "STOP" provision including RPM and current display	

1.6 Applicable Standards & Important features:

- 1.6.1 SRP unit and Gear reducer shall be duly embossed with API monogram.
- 1.6.2 Sucker Rod Pumping unit shall be designed, constructed, and tested in accordance with concerned API applicable codes/standards listed but not limited to the following standards:
 - 1.6.2.1 API Specifications 11 E (Nineteenth Edition -November-2013) or the latest- for Sucker rod pumping unit.
1. IS-226 /IS 2062/ ISO 630 (Equivalent international standard): Standard for structural steel (Standard quality).
2. ASTM-A-193/IS 1367: Specs. For Studs.
3. ASTM-A-194/IS 1367: Specs. For nuts.
4. ASTM-A-36/FE410WA/WB, IS 2062: Structural steel testing and materials.
5. API RP 11 L: RP for design calculation for sucker rod pumping systems. (Conventional units)
6. AGMA: Applicable standard for double helical and Herringbone speed reducers for oil field pumping units.
7. AWS D1: Structural steel welding code.
8. API RP 11G for lubrication and installation of unit.
9. API RP 11ER for guarding, ladder, cover etc. of unit.
10. API-11B for polish rod clamps.
- 1.7 Counterweights: Master weights should have counterbalance effect of 18000 lbs. Unit should be complete with rack and pinion/set type master weight shifting arrangement. Tool for shifting the master weight should be provided.
- 1.8 Horse Head: Unit should have horse head, which can swing horizontally to both side of walking beam preferably with the help of gear to facilitate work over operations. The wire line for horse head should be supplied as per API RP 11 E. Horse head should be attached to the walking beam in such a manner as to prevent falling off due to high rod part or other sudden load changes. Horse head should have enough margins on both sides, so that wire ropes do not brush against the sides and should have protector to prevent wire ropes coming out in case of loosening during operational problems.
- 1.9 Motor Base: Unit shall have suitable size motor base with slide rails and frame complete with screw type mechanism system for motor alignment in both directions and belt tightening arrangement at ground level (SRP base).
- 1.10 Center Bearing Assembly: The centre bearing assembly, which fits on the Samson post, should be provided with adjustment bolts for precision alignment.
- 1.11 Caged Ladders: Caged ladders should be provided on both sides of Samson post for easy and safe accessibility for repair/maintenance of horse head, Central Bearing etc. Samson post access caged ladders (on both sides) to be caged from top to bottom in consideration of safety and these caged ladders should be properly positioned to make the alignment of centre bearing

possible, in a safe manner.

1.12 Gear Reducer Assembly:

1.12.1 Double herring bone (Double Helical) reduction gear reducer as per API 11 E including AGMA and specified standards.

1.12.2 Heavy duty herring bone double reduction (double helical) gear reducer having positive feed lubrication to all the bearings shall be built in accordance with API-11 E standard and specified standards and shall be capable of safely operating at a minimum of 2 SPM with selected motor (720-750 rpm). All sizes of taper lock bush/sleeve fit type motor pulleys / auxiliary pulleys for achieving 2 to 8 SPM are to be supplied by the bidders.

Two sets of suitable belts in inch sizes with SRP unit should be supplied. Motors base should be at the ground level. Motor and gear pulleys should have space saver groove of C section and suitable for V-belts. The gear reducer pulley should be properly fitted with sleeve on the pinion gear shaft. The gear reducer housing should be oil cooled provided with Gear oil filling point, Gear inspection cover and gauge stick (with minimum- maximum marking) for checking gear oil level only. Allen key head type drain plug should be provided in place of normal bolt head type plug on the gear reducer body. Gear reducer assembly should not make abnormal noise during operation.

1.13 SRP Unit Base: The unit base should be sufficiently strong with heavy duty lifting eyes for ease of loading and unloading.

1.14 Brake assembly: Pumping unit brakes shall have sufficient braking capacity to withstand a torque exerted by the cranks at any crank position with a maximum amount of counterbalance torque designed by the manufacturer for the particular unit involved. This braking torque to be effective with the pumping unit at rest, under normal operating condition with the well load disconnected. All the Brake linkages from brake unit of gear reducer to the hand locking lever shall be of stainless steel (SS-316).

1.15 Painting and Finishing: Unit should be synthetic enamel painted (one coat primer plus two finish coats) after adequate surface preparation. All machine parts and fasteners etc. shall be coated with rust preventive paint. Bidder to follow colour scheme i.e., Slate Grey no #657383 as per RRGGBB convention.

Tips of moving parts should be bright red. SUN PETRO logo (which will be informed to successful bidder) to be painted on walking beam. Electric Control panels should have standard high voltage danger warning sign brightly painted in front for safety.

1.16 Walking Beam: The following equation shall be used for rating conventional walking beams as shown in figure 1 of API-11E:

$$W = (f_{cb}/A) * S_x$$

Where:

W = Walking beam rating in pounds of polished rod load.

f_{cb} = Compressive stress in bending in pounds per square inch (maximum allowable stress will be as per table 1 of API- 11 E.)

S_x = section modulus in cubic inches. The gross section of the rolled beam may be used except that holes or welds are not permissible on the tension flange in critical zone as indicated on the drawing in API-11E figure-1.

A = distance from centre line of saddle bearing to centreline of well in inches as per figure-1 of API-11 E

C = distance from centre line of saddle bearing to centreline of equalizer bearing in inches as per figure-1 of API-11 E.

Note: The equation given above is based on the conventional beam construction using a single rolled section. With unconventional construction or built-up section, due regard shall be given to change in loading, to checking stresses at all critical sections and to the existence of stress concentrating factors.

1.17 Auxiliary Reduction Gear Assembly: Auxiliary reduction gear assembly should have grease/oil bath type lubrication of bearings and have extension base with slide rails for belt alignment in

both directions. The seals of the Auxiliary Reduction Unit (ARU) should be of such type that the problem of lubrication coming out from ARU does not happen.

1.18 SRP Unit base: 12 Nos. suitable foundation bolts and six (6) nos. of C-channels should be supplied with SRP unit. Motor base should be above C channel for ease of installation and maintenance.

1.19 Bearings: Bearings of the pumping unit gear reducer, Central bearing, Equalizer bearing, Pitman bearing and any other bearings used in the unit should be of best industry standard as per API specification 11E and specified standards. Copy of originality and quality certificate should be obtained from the bearing manufacturer and be made available to SUN PETRO (and TPI) at the time of inspection.

1.20 Fasteners: All the fastener bolts and nuts of sucker rod pumping unit should be provided with plain and spring washers and lock nuts. Fasteners shall be hot dipped galvanised as a minimum. Copy of originality and quality certificate of nut bolts should be obtained from the supplier indicating technical details (code, material, dimensions, strength etc and be made available SUN PETRO (and TPI) at the time of inspection.

1.21 Tools: Surface unit should be provided with one complete set of all the suitable standard and special spanners/wrenches (with a metallic tool box) required to fasten all the nuts bolts of the SRP unit.

1.22 Stroke Counter: A mechanical stroke counting meter should be provided with SRP unit for recording the total number of strokes of the unit run. Bidder may suitably design mechanical counter for counting the no of strokes for recording up to minimum seven digits.

1.23 Packaging and transportation:

1.23.1 Packing of all components like unit base, gear reducer, walking beam, Samson post, third leg, equalizer, crank, counter weights, reducer, pitman arm, horse head etc. are to be done separately in secured way and to arrange all these items of individual unit in a self-supported metallic / wooden box fitted with four eye bolts / lifting eyes on a strong and sturdy metallic / wooden base.

All loose items like fasteners (including foundation bolts, belts etc.) and handling tools (as detailed at Annexure-I) should be properly packed in the plastic/polythene sheets in suitable wooden boxes and kept in the above mentioned single big box to avoid weather exposure during transportation and stocking at GAIL stores.

1.23.2 Electric motors & panels should be properly packed and secured/ protected in a second metallic / wooden box along with four lifting eyes on its base to prevent against damage in transportation/lifting particularly to motor cover, fins, terminal box etc. and panel doors.

1.23.3 Shipping of all components of each individual unit must be done together in consignments with proper lifting arrangements in each box for ease of handling. Inter mixing of parts should be avoided. This requirement is in addition to the standard packing instructions covered in the bid document. Detailed packing list must be provided with unit.

1.24 Carrier Bar: Carrier bar should be designed and manufactured in three pieces to hold the wire lines and polished rod separately to facilitate removal of polished rod independently. Carrier bar should have molded safety grooves so that wire rope does not come out during polished rod stuck-up during operation (indicative drawing enclosed at appendix-5).

Carrier bar is to be of safe design i.e. stopper plate be provided to prevent brushing of wire ropes against the pins, as over a period pins may be cut by wire ropes thereby causing the wire ropes to come out of carrier bar which may cause accident.

Carrier bar bottom part should be 2.5 meter from ground level (SRP base).

Polished rod clamp: Polished rod clamp should be designed and manufactured to hold the entire string of sucker rod and comply with API-11B specifications.

1.25 Assembly of Unit:

1.25.1 Provision should be made for fitting and removal of horse head pin with operational ease with

proper Lubrication system.

1.25.2 Special care should be taken for Sampson post assembly (legs) dimensions and up down markings so that site assembly can be made without any over tightening and straining of the fasteners.

1.25.3 Horse head and walking beam should be provided with at least two lifting lugs for safe and balanced handling at the site. Lifting eyes welded on the unit base, on top of walking beam and horse head in such a way that it should not damage any equipment while handling.

Lifting eye (With a hole of maximum 6-inch diameter and situated min. 6 inch away from ends).

1.25.4 Access steps should be provided to facilitate approach to Gear reducer top inspection cover.

1.25.5 Belt guard support channels should be detachable type to facilitate easy removal during maintenance.

1.26 Safety Guards: Unit should be provided with all safety features as per specified standards. Unit shall have safety belt guards and preventive rails on three sides to avoid accidental injury from moving parts.

1.27 Technical Manuals and Standards:

One set (Digital copy and hard copy) of following technical manuals and catalogues in English language are to be supplied with SRP unit, without any extra cost:

1. Installation and Commissioning manual.
2. Foundation Plan.
3. Operation and maintenance manual including lubrication instructions and spare parts list.
4. Stroke and Torque Factor tables as per Appendix-C approved data section C3 of API-11 E, Figure C2 and specified standards.
5. Crank counter balance tables as per Appendix-C approved data section C2 of API-11 E, Figure C1 and specified standards.
6. Completed manufacturers Gear Reducer data sheets as per Annexure-C approved data section C4 of API-11 E, Figure C3 and specified standards.
7. Pulley combination table.
8. General Arrangement drawing giving part details of Gear reducer, center bearing assembly, (rear) tail-equalizer bearing assembly and crank pin bearing assembly with respective bearing identification numbers.
9. One set (digital copy plus hard copy) of technical manuals (operation manual & service manual) to be supplied with SRP unit. Foundation plan of SRP unit base is to be provided, however the unit should be suitable to be mounted on steel skids as per API standards.
10. All the technical manuals and catalogue must be provided in English language.
11. All accessories including handling tools for installation and dismantling of SRP unit (as detailed at Appendix-2) are to be provided with each SRP unit.

2.0 SRP Motor specifications:

As the electric motor shall be installed in hazardous area (Zone 2 Gas Group IIA/IIB, Temperature Class T3 as per IEC), same shall be of explosion proof (Exd) construction.

Electrical equipment of Indian origin for installation in hazardous areas shall have a test certificate from the Central Mining Research Institute (CMRI) and approval certificate from the Chief Controller of Explosives (CCE) and be in accordance with the OISD guidelines. **Double** Compression type cable gland are required which shall be electroless nickel plated brass with PCP shroud. Threads shall be standardized as ISO-Metric. Vendor shall supply adaptors for cable gland adaptors to match vendor supplied equipment having NPT threads. Glands entering equipment shall be fitted with heat shrink shroud & sealing washer to maintain IP rating. Motor shall meet DGMS requirement.

2.1 Motor base should be of moveable type with slide rail mechanism for belt alignment. Motor slide rail clamp plate has to be proper.

2.2 Considering the depth of the reservoir & surface pressure requirement, minimum power rating of motor should be 25 HP/18.5 KW.

- 2.3 ATS for smooth acceleration, deceleration and speed control.
- 2.4 Application is for varying load for sucker rod pump of oil wells.
- 2.5 Type of enclosure is IP55.
- 2.6 Type of duty is s.1 continuous as per IS:325 (latest) or equivalent IEC standard.
- 2.7 Method of cooling is TEFC, IC411.
- 2.8 Type of construction is TEFC, squirrel cage type.
- 2.9 Ambient temperature 0-55-degree c.
- 2.10 Power supply 3 phase, 415 +/- 5 volts.
- 2.11 Frequency 50 HZ +/- 3%
- 2.12 Frame size-225.
- 2.13 No. of poles/synch Speed is 8 pole / range 720-750 RPM.
- 2.14 Insulation is class 'F' but temp. Rise limited to of class 'B'.
- 2.15 Winding treatment is with GEL coat on winding overhang.
- 2.16 Rotor type is double cage.
- 2.17 Direction of rotation is suitable for both direction of rotation.
- 2.18 Full load current is as per specs.
- 2.19 System of earthing is two separate earthing terminals shall be provided; one earthing terminal should be located inside the terminal box additionally.
- 2.20 Terminal box is on LHS of the motor when seen from NDE, Terminal box shall be complete in all respect including fitting of double compression glands suitable for 3.5 x 35 sq. mm, 1.1 KV aluminium conductor armoured PVC insulated cable. Cable glands of the motor terminal box should be weather proof with IP55 weather protection and metallic.
- 2.21 Method of starting is VFD (Variable Frequency Drive).

3.0 Specification for control panel for SRP motor :

- 3.1 Type of Panel: VFD (Variable Frequency Drive).
- 3.2 Application: The VFD panel shall be designed for starting & control of 3 phase 415V, 50 Hz, 25 HP continuous duty squirrel cage Induction motor.

3.3 Environment Condition/Features

The ATS panel shall be suitably designed for sturdiness and strong enough so as to withstand harsh weather conditions as follows:

- Ambient temperature from: 0 to 55 deg. C.
 - R.H 40 to 100 %
 - Operation in dusty / stormy climate
 - With protection level IP-55.
 - It should able to function in open area without shelter and withstand rain and dust conditions with double earthing terminal.
-
- a. Aluminium earthing busbar of 25 x 5 mm to be provided along the back inside of the panel. Minimum two points contact shall be provided for earthing.
 - b. The panel should be double door type. Front door should have locking arrangement with external lock on the front door, with duplicate keys should be fixed. Danger boards/warning signs (in English) should be brightly painted on the front of panel. There shall be no controls displays on front door. All controls & displays shall be on the inside compartment door, for full weather proofing of components.
 - c. Block diagram should be screen printed (in English) on anodized aluminium sheet of 0.5 mm thickness and screwed securely on the inner side of the front door. Language of all instructions/procedure etc. printed/marked on the panel should be English.

- d. Panel ground clearance should be 24" (twenty-four inches) on a stable steel structure,
- e. Electrical control panel shall be weatherproof with IP -55 protection & shall be installed in safe area. The main switch, on-off switch, voltmeter display, ammeter display, auto switch etc. shall be mounted on the door so that it can be accessed safely.
- f. Control panel enclosure shall provide degree of protection of IP55. All separation requirements by rigid metallic or non-metallic barriers or partitions functional units have integral glanding facilities).

4.0 ATS Control Panel Features:

- 4.1 MCCB: Four Pole MCCB of 70 Amp with shunt release. Thermal & magnetic trip for motor protection duty and breaking capacity 50 KA at 415 V, 50 HZ, MCCB should be suitable for operating with ELR to be provided at incomer 3 phase supply, shunt trip for 230 V AC.
- 4.2 Neutral Link: Separate Neutral; Link 500 V, 100A, connector, copper strip.
- 4.3 ELR: Earth Leakage relay suitable for 230 V, 3 phase unbalanced load with built in test, reset and indicating facility with tripping current range 0.25 to 4.0 Amp and core balance Ct accuracy of appropriate internal diameter suitable for the entry of incoming cable of size 3 ½ x 35 sq. mm with NO & NC contact. CBCT shall be installed on proper fixture, insulated from the panel sheet. ELR test certificate also should be submitted.
- 4.4 Ammeter: Ammeter 0-40/240/5 amps with 0-40A normal scale and 2-10A suppressed scale, size 96 x 96 mm, flush mounted with cast resin type CT (CT Make: Ashmore, Gilbert – Maxwell & Precise) and selector switch.
- 4.5 Voltmeter: Voltmeter 0-500 V size 96 x 96 mm, flush mounted with selector switch.
- 4.6 Push Button: Push Button with actuator and element set of 3 with ON and OFF and Reset buttons with elements of 1 NO + NC contacts. 3 PB should be coloured Green, Red & Yellow.
- 4.7 Indication Lamp: LED indication lamps, wired through control fuses as per drawing with holder, reflector etc.
 - (a) Set of 3 nos. of RYB indication: Red colour with adequate brightness for visibility.
 - (b) Set of 3 nos. OFF and ON and O/L trip, duly labelled: coloured Red, Green & Yellow respectively. 6A HRC fuse links with 16/20 HRC fuse base control circuit are required.
- 4.8 Capacitor: Power factor improvement capacitor APP type, 12.5 KV AR, 415 V, 3 phase, 50 Hz air cooled duly connected with HRC fuses, test certificate to be produced. Connections to be done by 10 sq. mm copper flexible wire. 12.5 KV AR is kept to have improved power factor. All test certificates are to be submitted to user (at the time of inspection) because these are required for compliance of Electricity Act/ DGMS.
- 4.9 Connector Block: TPN Power FRP material / Epoxy cast terminal connectors for 100 Amp. 415 V with stud / nut arrangement for lug terminations. (2 sets-one incomings and other outgoing).
- 4.10 HRC Fuses: Staggered type safe clip HRC Fuses with base of 63A 415 V with 36/40A HRC link of same make, for capacitor circuit.
- 4.11 Thermal Over Load relay: Thermal Overload relay in the Range suitable to 25 HP motor having FLC 38 Amp with in built single phase protection.
- 4.12 Single Phase Preventer: Two nos. of SPP i.e. one voltage sensing type of 415 V and second current sensing type of 40A with Aux. supply 230 V +/- 15 % to be provided in the circuit for protection against phase reversing, phase loss, phase unbalance, low voltage, High voltage and overload respectively.
- 4.13 Auto Manual Switch: Auto Manual 2 pole 2-way switch (toggle type), suitable for use in 415 V phase to phase supply.
- 4.14 Variable Frequency Drive: 18.5Kw 39A 3Phase 380-480 V AC Heavy Duty (150% 60 s) for High performance machine.
- 4.15 Inside 15A Socket: Inside the panel one 15A- pin plug socket with switch ISI or equivalent (International standard is acceptable) marked should be provided.
- 4.16 Control Transformer: 415 – 440 V / 220 – 230 V (+/- 5 % tapping), 500 VA single phase control transformer confirming to IEC standard.

- 4.17 Automatic Switching: Timer (T-2) for automatic switching with time range 6 to 60 minutes. Siemens make, 230 Volt AC +/- 15 % Cat. No. 7PU2240-4BN. The Auto Timer is installed for automatic switching system as the panel can be started only when 3 phase supply is available. The timer will take care of Auto-restart after supply resumes after failure, with a time gap of approx. 10 minutes. Also with Programmable Electro-mechanical /Electronic Time switch (TS) 230 Volt AC +/- 15 %, 50 Hz having daily dual running reserve battery up to 72 hrs. for starting /stopping motor at pre-set time in a day. Power winding shall be made in 25 sq mm copper flexible wire and control wiring by 1.5 sq. mm copper flexible wire. Wiring and termination shall be made by copper lugs & ferrules shall be provided for identification. Power and control wiring shall be done as per circuit diagram. All power and control wiring to be done by electron beam cross link type cable as per circuit diagram.

IMP: All wiring & cable terminations to be done through copper lugs, pins, clips etc and crimped portion should be supported by Heat shrinkable sleeves. MCCB (Micro circuit breaker is also acceptable if is able to incorporate tripping on account of fault conditions) and Main contactor should be connected through incoming/outgoing terminal strip connections done at bottom of the panel board.

All cable holes in the panel should be of appropriate size to prevent entry of insects and reptiles.

Automatic switching feature is required only in case of main power failure and not for fault tripping. Delay is to be incorporated to prevent immediate restart of motor in case of power resumption within a short time gap.

All electrical connections from motor to panel and from panel to DG set / GEB transformer is under vendor scope. Minimum 3.5 sq. mm 4 core should be used, or vendor may decide.

5.0 **Scope of Inspection:** The scope of inspection but not limited to as below:

- a. SunPetro/TPI intends to inspect at its own cost the SRP units at the Bidder's / Supplier's works prior to dispatch of the same. Bidder shall give seven (7) days' notice to SunPetro for witnessing the Factory Acceptance Test (FAT).
- b. The equipment shall be inspected by SunPetro's representative and if required the Supplier shall make necessary modification / rectification if any as suggested by SunPetro's representative at the time of inspection.
- c. During the pre-dispatch inspection visit of SunPetro's representative, the Supplier shall impart training at their works on servicing and maintenance of the system.
- d. All the inspection shall be carried out as per approved ITP/QA/QC plan & approved documents.

6.0 REQUIREMENT OF COMMON HANDLING TOOLS ALONG WITH SRP UNIT

Supplier shall also supply the handling tools as given below;

Sr.no.	Item description	Dimension	Qty./ unit
1.	Double end spanner set	18 mm to 46mm	1 set
2.	Ring spanner set	18 mm to 46mm	1 set
3.	Heavy duty box spanner	36 mm to 46 mm	1 set
4.	Counterweight adjustment spanner	As per unit dimension	1 no.
5.	Adjustable wrench 8"	10" long	1 no.
6.	Crank pin nut spanner	As per unit dimension	1 no.
7.	Polished rod clamp	1 1/2" dia	1 no.
8.	Pipe wrench- Aluminium	10inch heavy duty	1 no.
9.	Hammer- M.S.	5 lbs.	1 no.
10.	Toolbox M.S./plastic bag optional	Sufficient for above tools	
11.	Utilities / Misc. (Grease)	Sufficient for unit	
12.	Megger and clamp meter	500 Volts	1 no. each
13.	Fixed spanner set	18 mm to 46 mm	1 set
14.	Allen Key	mm	1 set
15.	Allen Key	inches	1 set

7.0 Mandatory Spares: The following items required for regular operation & maintenance, overhauling etc., shall be supplied along with the SRP surface units additionally as spares.

- i. Central Bearing : 2 nos. for each unit
- ii. Equalizer Bearing : 2 nos. for each unit
- iii. Brake cable : 1 no. for each unit
- iv. Brake shoes : 1 no. for each unit
- v. Arm bearing : 4 nos. for each unit
- vi. Dog clutch : 1 no. for each unit
- vii. V-belt: 2 sets for each unit (Each set consisting of 8 nos.)
- viii. Stud & Bolt with Nuts: 01 set for Sampson Post
- ix. Utilities / Misc.(Grease) : Sufficient for unit
- x. Lube Oil for Gear Box for each unit: First fill + 1 fill
- xi. Motor Belt For each unit: 1 + 1 set
- xii. Stuffing Box Packing for each unit : 2 sets

B. SRP SUBSURFACE PUMP AND OTHER DOWNHOLE ACCESORIES:
(For Each Well) :

Design of the Sub Surface Pump to be carried out by the vendor as per API 11AX on the basis of parameter given at Table -1 & 2 above . Scope of supply shall include , but not limited to the following.

Material Description	Specification (Typical)
1. Pumping TEE	Upper connection 2 7/8 inch EUE BOX, internal tubing Bottom 2 7/8 inch EUE PIN, thread Conforming to API 5B
2. Flange 2 9/16" with R 27 ring	2-9/16" API-6A Type 6B flange with threaded end. End connection:- 2" LP pin, internal tubing thread conforming to API 5B. Flange thickness:-49.3 mm, Overall diameter 245 mm. Bore:- 65.0 mm, PCD:-190.5 mm Bolt hole diameter:-29.0mm. No. of bolts:-8
3. Flange 2 1/16" with R 24 ring	2-1/16" API-6A Type 6B flange with threaded end. End connection: - 2" LP box, internal tubing thread conforming to API 5B. Flange thickness:-46.1 mm, Overall diameter 215 mm. Bore:- 52.0 mm, PCD:-165.1mm Bolt hole diameter:-26.0mm. No. of bolts:-8
4. Stuffing box BOP	Top connection 2 9/16" x 5000 PSI threaded type, API 6-B, Flange with RX 27 ring, (As per API 6-A) Thread connection EUE box, on the flange, Bottom connection- Same as mentioned, but threaded on 2 7/8" EUE pin on BOP body, Ram size:- 1-1/2", Bore size:- 2 9/16". Pressure rating :- 5000 PSI, Temp rating :- 0 to 120 deg.C, Test pressure:- 1.5 times pressure rating
5. Stuffing box	'1 Size 1/2 inch (38.1 mm), Dimension . 2-Dimension:-7/8" EUE PIN threads confirming to API-5B. Type:-7/8" EUE PIN threads confirming to API-5B. Stuffing box material/ chemical composition as per section G.2.3 & G.2.4 of API-11B.
6. Polish rod clamp	Single bolt Steel Polished Rod Clamp, 1 1/2 inch (38.1mm) [Suitable for Polished rod of 1 1/2 inch (38.1mm) diameter]. Load Capacity: 25000 lbs
7. Polish rod	As Per API 11-B, OD- 1.5' length 22 ft, end connection Nominal dia.pin thread-1.375". Material grade:- Alloy steel, AISI 4120-4140, Tensile min- 1,35,000 LBS/Sq.inc, with slimhole type coupling 1 inch x 7/8 inc. Class- T
8. NRV	2" X #400 NRV (Single Plate-Wafer Type) As per API 6D
II. Sub-Surface component	
1. Sub surface pump :	<u>Tubing Size:</u> 2-7/8" <u>Pump Bore:</u> Bidder to specify. <u>Pump Type:</u> Tubing Pump <u>Type Barrel:</u> Heavy wall for metal plunger pumps

2. 1 1/4" x 25' Sinker Bar
 - 1/4" X 25 ft., 4.172 ppf with 3/4" pin as per API-11B
 - Hardness- Maximum 24 HRC as per API 11B
 - MINIMUM TENSILE STRENGTH 115,000 PSI.
 - DOUBLE PIN TYPE.
 - WITH HARDENED API CLASS "T" FULL SIZE COUPLING AT ONE END.
 - COATED WITH DURABLE CORROSION RESISTANT PAINT

3. Sucker Rod

API 11B Grade:- D Carbon, Minimum Tensile Strength:- 1,15,000 lb/sq.inch and maximum tensile strength:- 1,40,000 lb/sq inch, Coupling:- T class, Minimum Tensile Strength:- 95000 lb/sq.inch, Out side dia:- 1.812", Length:- 4 inch

4. Pony Rod

API 11B Grade:- D Carbon, Minimum Tensile Strength:- 1,15,000 lb/sq.inch and maximum tensile strength:- 1,40,000 lb/sq inch, Coupling:- T class, Minimum Tensile Strength:- 95000 lb/sq.inch, Out side dia:- 1.812", Length:- 4 inch

5. Change over as required for completion

Coupling: - T class, Minimum Tensile Strength:- 95000 lb/sq.inch, Out side dia:- 1.812", Length:- 4 inch, One end 3/4" box sucker rod thread other end 7/8" box sucker rod thread.

6. 10" length Centraliser

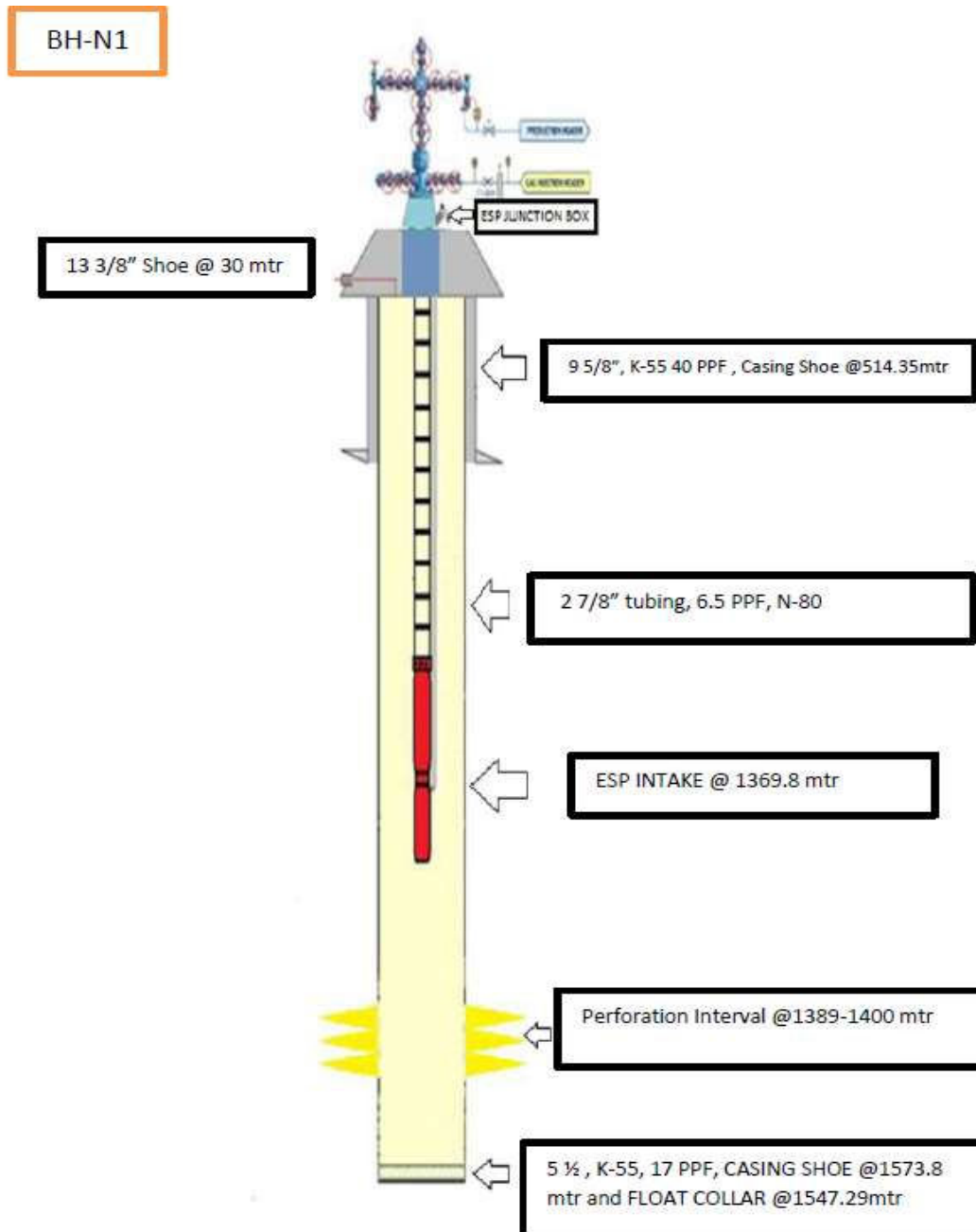
Spindle - 1" dia x 10" length with top and bottom end connection 3/4" pin. Spindle material AISI- 4140, HRC-22-26, Centraliser Material:- PPA/Nylon-6, Size OD & Length:- 51-54mm & 180mm. Temp:- 400 deg C

7. Rollers for deviated wells

Rollers shall be installed in the sucker rods for avoiding wearing of tubing by sucker rods. Optimal number of rollers to be installed on sucker rods shall be recommended by the bidder.

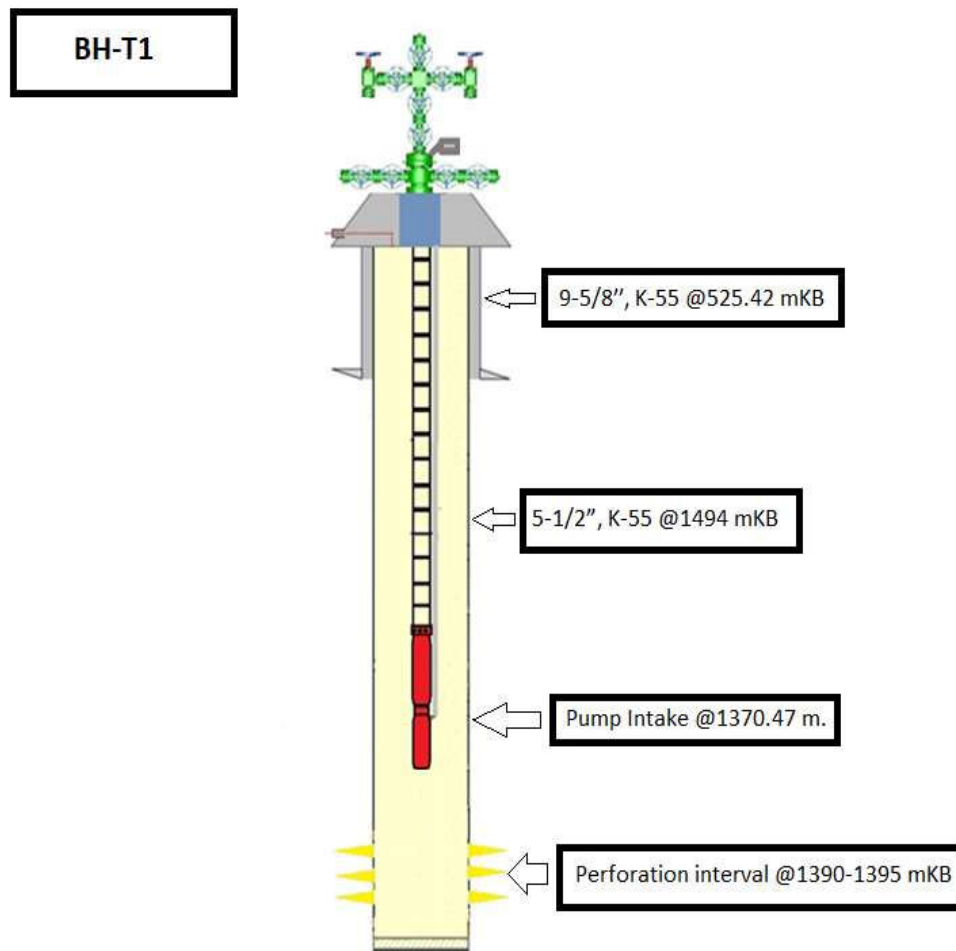
ANNEXURE – I

BH-N1 WELL DETAIL



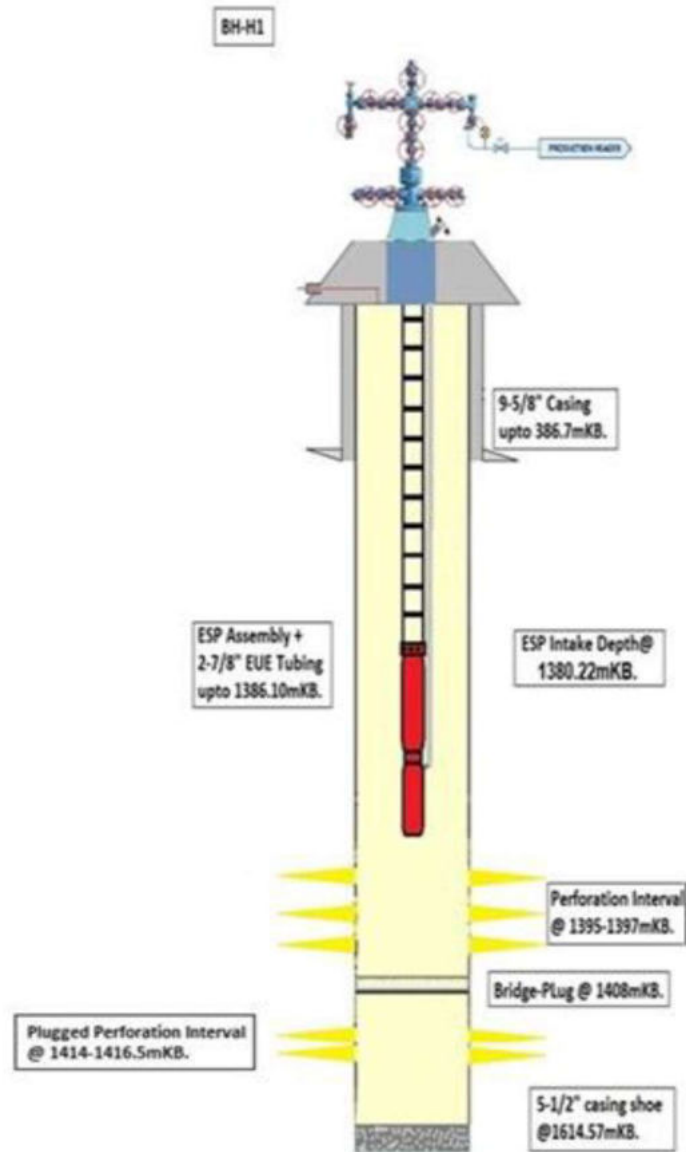
- Well, BH-N1 was drilled by Reliance Industries Ltd. Currently the well is producing on Electrical Submersible Pump (ESP). The flowrate of well is 180-250 bopd (at 35 Hz frequency).
- Earlier in September 2022, well production has declined to 25 bopd at 3mm bean (FTHP = 7 ksc). Also, frequent choking of beans & surface flowlines was observed due to wax. The objective behind installation of ESP was to artificially lift oil at higher FTHP which helped in avoiding the problem of frequent choking of beans and flowlines.
- FBHP @ Datum – **1723 psia at 3mm.**
- SBHP @ Datum – **1738 psia.**

BH-T1 WELL DETAIL



- Well, BH-T1 was drilled by Reliance Industries Ltd. Currently the well is producing on Electrical Submersible Pump (ESP). The flowrate of well is 250-300 bopd (at 37 Hz frequency).
- Gradually well was not able to flow on its own due to low THP hence it was planned to artificially lift the oil on ESP.
- FBHP @ Datum – **Cannot be attempted due to ESP.**
- SBHP @ Datum – **1302 psia**

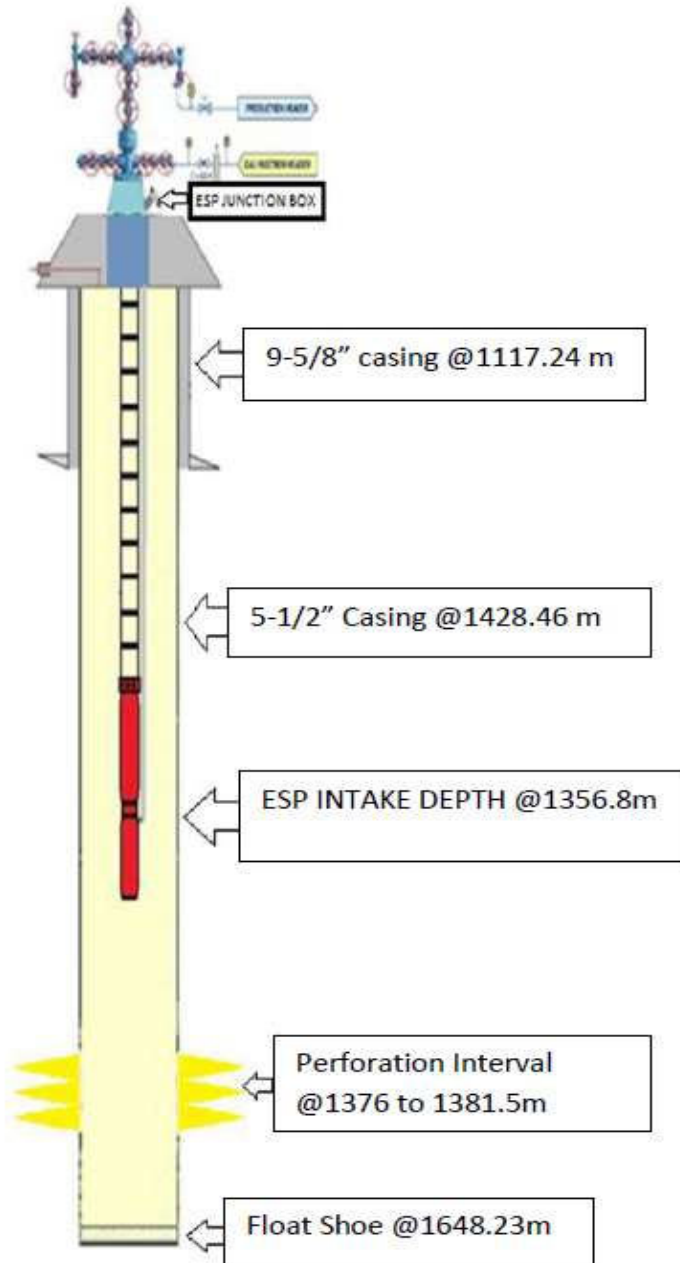
BH-H1 WELL DETAIL



- Well, BH-H1 was drilled by Reliance Industries Ltd. Currently the well is in shut-in condition due to high water cut and low-pressure build-up with ESP.
- Before that well was producing on ESP at frequency ranging between 35-40 Hz. The last flow rate was 150 bopd.
- The nature of H1 crude oil is a little viscous. (Kinematic viscosity – 5.79 cSt)
- FBHP @ Datum – **Cannot be attempted due to ESP.**
- SBHP @ Datum – **1568 psia**

BH-J1 WELL DETAIL

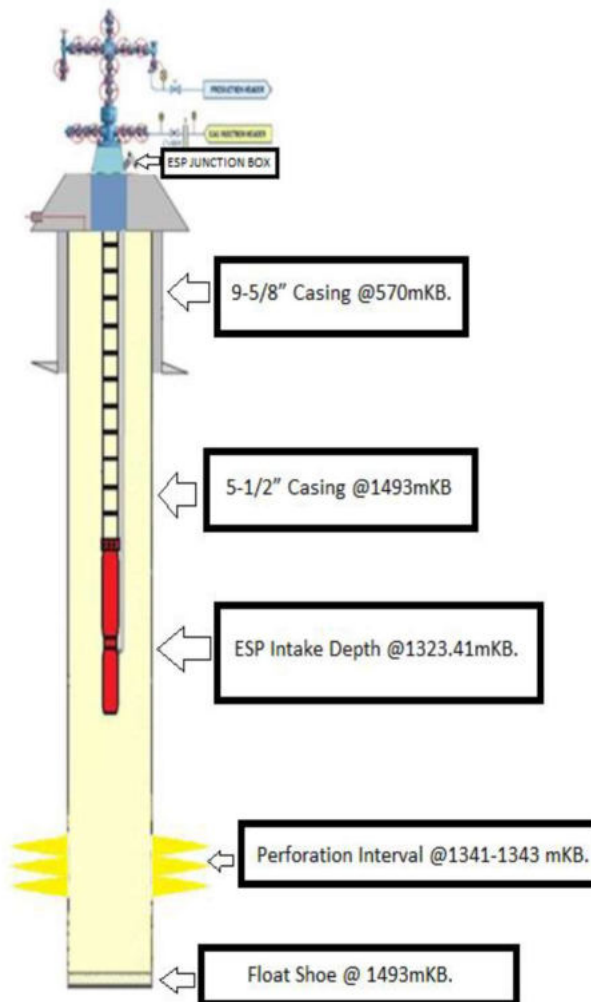
BH-J1



- Well, BH-J1 was drilled by Reliance Industries Ltd. Currently the well is producing with ESP. The flow rate of well is 150-200 bopd at 35 Hz frequency.
- The reason behind installation of ESP was to artificially lift the oil at higher THP because well production had declined along with FTHP. Also, the well was not able to flow on its own due to less lower THP as compared to main header line pressure.
- FBHP @ Datum – **Cannot be attempted due to ESP.**
- SBHP @ Datum – 1710 psia

BH-R1 WELL DETAIL

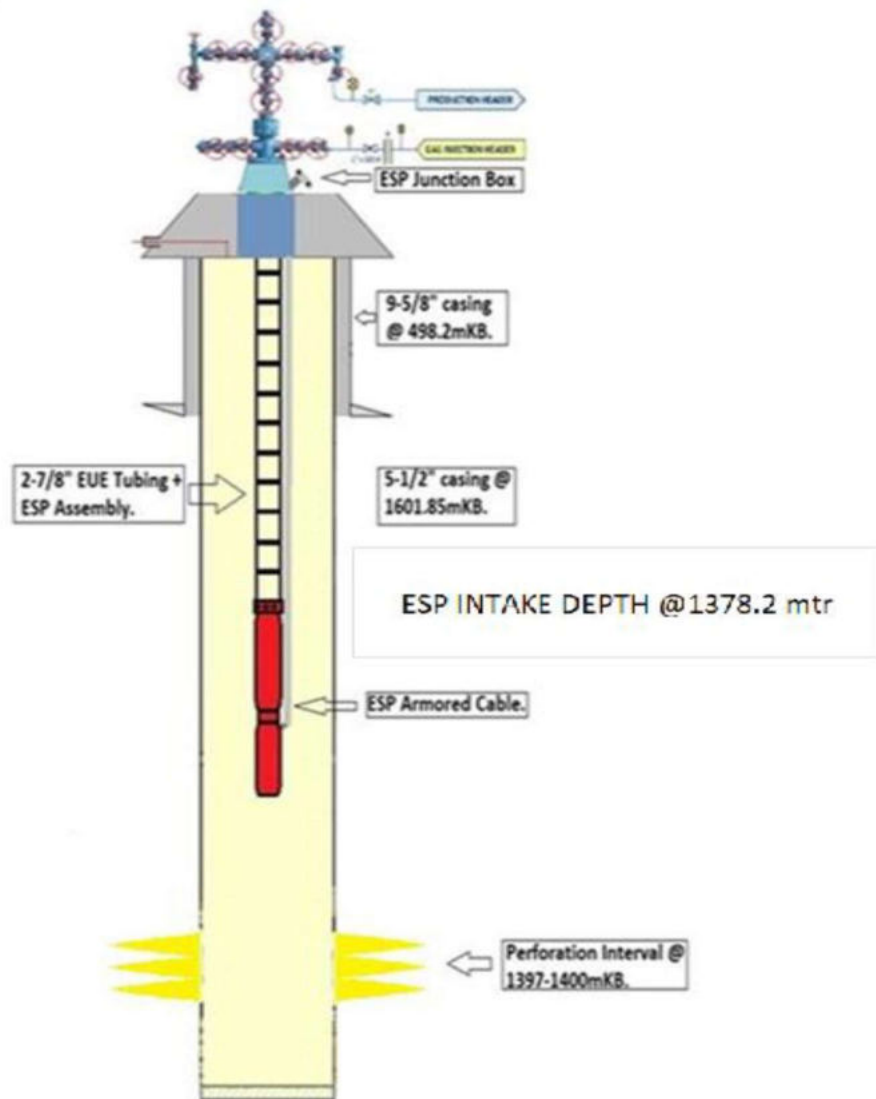
BH-R1



- Well, BH-R1 was drilled by Reliance Industries Ltd. Currently the well is in shut-in condition due to high water cut.
- The reason behind installation of ESP was to artificially lift the oil at higher THP because well production had declined along with FTHP. Also, the well was not able to flow on its own due to less lower THP as compared to main header line pressure.
- FBHP @ Datum – **Cannot be attempted due to ESP.**
- SBHP @ Datum – 1875 psia

BH-F1 WELL DETAIL

BH-F1



- Well, BH-F1 was drilled by Reliance Industries Ltd. Currently the well is producing with ESP. The flow rate of well is 150-200 bopd at 35 Hz frequency.
- The reason behind installation of ESP was to artificially lift the oil at higher THP because well production had declined along with FTHP. Also, the well was not able to flow on its own due to lesser low THP as compared to main header line pressure.
- FBHP @ Datum – **Cannot be attempted due to ESP.**
- SBHP @ Datum – **1568 psia**



Annexure-II

Profile for Deviated wells



Actual Wellpath Geographic Report - including Position Uncertainty - BH-J2

Report by Baker Hughes	30/Mar/2021 at 06:50 using WellArchitect 6.0	Projection System	WGS84 / UTM Zone 43 North
Operator	Sun Petrochemicals Pvt Ltd.	North Reference	Grid
Area	GUJARAT	Scale	1.000429
Field	Cambay, Bhaskar Field (CB-10)	Convergence at Slot	0.96 West
Facility	BH-J2	Horizontal Reference Point	Facility Center
Slot	Slot#1	Vertical Reference Point	Rig on Slot#1 (RKB)
Well	BH-J2	MD Reference Point	Rig on Slot#1 (RKB)
Wellbore	BH-J2_AWB	Field Vertical Reference	Mean Sea Level
Wellpath	BH-J2_Def Surveys	Rig on Slot#1 (RKB) To Facility Vertical Datum	4.87 m
Wellbore last revised	03/26/2021	Rig on Slot#1 (RKB) To Mean Sea Level	13.07 m
Sidetrack from	(none)	Rig on Slot#1 (RKB) to Ground Level at Slot (Slot#1)	4.87 m
User	Advmanager	Section Origin X	E 0.00 m
Calculation method	Minimum curvature	Section Origin Y	N 0.00 m
Declination	Magnetic North is 0.36 degrees East of True North	Section Azimuth	315.23°
Ellipse Confidence Limit	2.00Std Dev	Surface Position Uncertainty	included
Database	WellArchitectDB2	Ellipse Starting MD	4.87 m

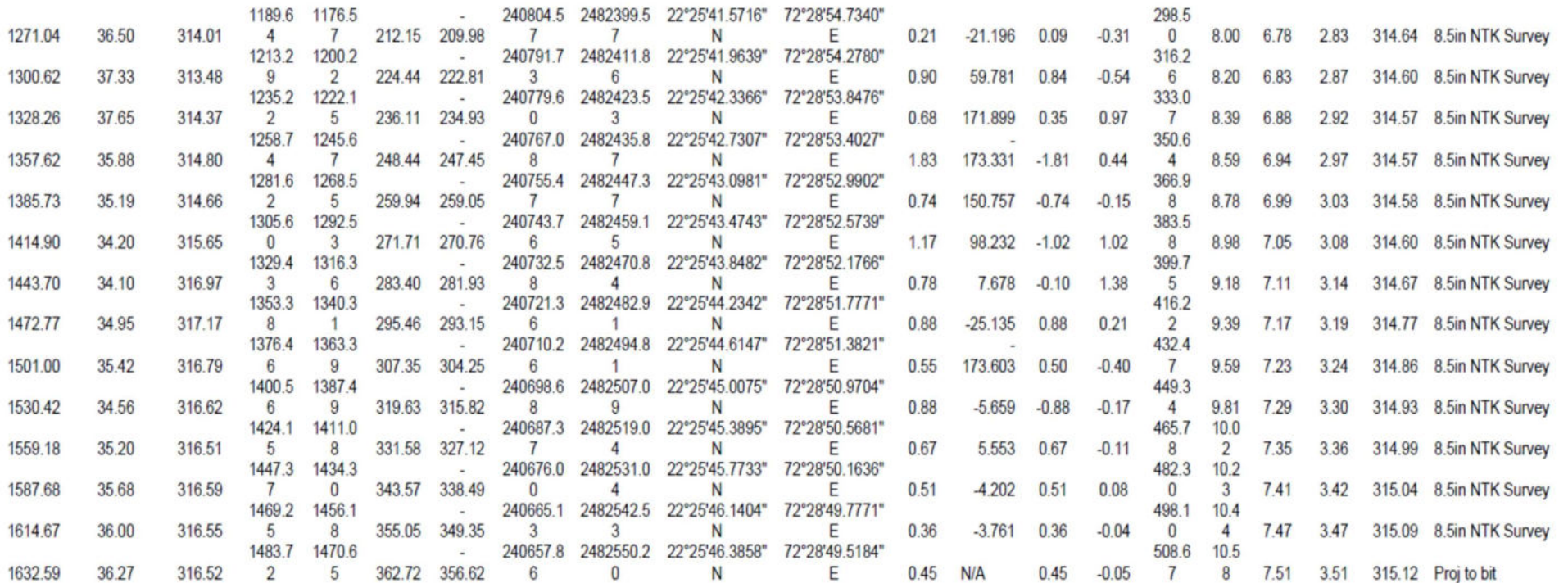
	Local North	Local East	Grid East	Grid North	Latitude	Longitude	Horiz Uncert 1sd	Vert Uncert 1sd
	[m]	[m]	[m]	[m]			[m]	[m]
Slot Location	0.00	0.00	241014.63	2482187.32	22°25'34.7900"N	72°29'2.2000"E	0.61	0.31
Facility Reference Pt			241014.63	2482187.32	22°25'34.7900"N	72°29'2.2000"E	2.50	0.91
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD	End MD	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
[m]	[m]				
4.87	1632.59	BH NaviTrak (2019) (SAG, Axial)	BHI_OTK_MWD_8.5in<0-1501>	BH-J2_AWB	26/Mar/2021

Target Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
	[m]	[m]	[m]	[m]	[m]	[m]				
BH-J2 - Target Pay Zone	N/A	1363.0	299.40	297.01	240717.5	2482486.8	22°25'44.3600"N	72°28'51.6400"E	circle	
		7			0	5	N	E		

String / Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W	Wellbore
	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	

MD	Inclination	Azimuth	TVD	TVDS	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Toolface	Build Rate	Turn Rate	Vert Sect	Major Semi	Minor Semi	Vert Semi	Minor Azim	Comments
[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]			["/30 m]	[°]	["/30 m]	["/30m]	[m]	[m]	[m]	[m]	[°]	
0.00	0.00	155.96	0.00	-13.07	0.00	0.00	241014.6 3	2482187.3 2	22°25'34.7900" N	72°29'2.2000" E	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	155.96	4.87	-8.20	0.00	0.00	241014.6 3	2482187.3 2	22°25'34.7900" N	72°29'2.2000" E	0.00	0	0.00	0.00	0.00	5.15	5.15	1.93	0.00	
521.58	0.37	155.96	521.58	508.51	-1.52	0.68	241015.3 1	2482185.8 0	22°25'34.7408" N	72°29'2.2247" E	0.02	158.869	0.02	0.00	-1.56	5.50	5.47	2.14	245.93	8.5in NTK Survey
547.86	1.35	309.16	547.85	534.78	-1.41	0.47	241015.1 1	2482185.9 2	22°25'34.7446" N	72°29'2.2174" E	1.93	6.941	1.12	174.8 9	-1.33	5.53	5.51	2.15	251.30	8.5in NTK Survey
580.64	4.53	314.04	580.59	567.52	-0.26	-0.76	241013.8 8	2482187.0 6	22°25'34.7811" N	72°29'2.1737" E	2.92	-9.457	2.91	4.47	0.35	5.59	5.56	2.16	270.40	8.5in NTK Survey
608.66	5.65	312.15	608.50	595.43	1.43	-2.57	241012.0 6	2482188.7 6	22°25'34.8352" N	72°29'2.1092" E	1.21	0.035	1.20	-2.02	2.83	5.64	5.61	2.17	251.06	8.5in NTK Survey
638.07	7.91	312.16	637.70	624.63	3.76	-5.15	241009.4 8	2482191.0 9	22°25'34.9095" N	72°29'2.0178" E	2.31	4.232	2.31	0.01	6.30	5.68	5.65	2.18	247.56	8.5in NTK Survey
665.10	10.12	313.09	664.39	651.32	6.63	-8.26	241006.3 7	2482193.9 6	22°25'35.0012" N	72°29'1.9073" E	2.46	8.035	2.45	1.03	10.53	5.73	5.68	2.19	242.25	8.5in NTK Survey
694.44	12.26	314.51	693.17	680.10	10.58	-12.37	241002.2 6	2482197.9 1	22°25'35.1272" N	72°29'1.7615" E	2.21	12.753	2.19	1.45	16.22	5.78	5.73	2.20	239.23	8.5in NTK Survey
723.61	14.57	316.58	721.55	708.48	15.42	-17.10	240997.5 3	2482202.7 5	22°25'35.2818" N	72°29'1.5932" E	2.43	13.751	2.38	2.13	22.99	5.83	5.78	2.22	237.80	8.5in NTK Survey
752.47	16.61	318.32	749.34	736.27	21.13	-22.34	240992.2 9	2482208.4 7	22°25'35.4648" N	72°29'1.4067" E	2.18	-3.052	2.12	1.81	30.73	5.88	5.83	2.23	237.43	8.5in NTK Survey
781.13	18.32	318.03	776.68	763.61	27.54	-28.07	240986.5 5	2482214.8 8	22°25'35.6700" N	72°29'1.2024" E	1.79	-8.136	1.79	-0.30	39.32	5.93	5.88	2.25	238.38	8.5in NTK Survey
809.66	20.18	317.26	803.61	790.54	34.49	-34.41	240980.2 1	2482221.8 3	22°25'35.8924" N	72°29'0.9767" E	1.97	-11.314	1.96	-0.81	48.72	5.98	5.94	2.27	240.86	8.5in NTK Survey
839.67	22.04	316.27	831.61	818.54	42.36	-41.82	240972.8 0	2482229.7 0	22°25'36.1442" N	72°29'0.7131" E	1.89	1.729	1.86	-0.99	59.53	6.04	6.00	2.29	247.11	8.5in NTK Survey
868.00	25.79	316.53	857.50	844.43	50.68	-49.73	240964.8 8	2482238.0 2	22°25'36.4102" N	72°29'0.4314" E	3.97	1.813	3.97	0.28	71.01	6.09	6.07	2.31	260.56	8.5in NTK Survey
896.07	28.34	316.70	882.50	869.43	59.96	-58.51	240956.1 0	2482247.3 1	22°25'36.7072" N	72°29'0.1193" E	2.73	5.032	2.73	0.18	83.77	6.16	6.14	2.34	278.53	8.5in NTK Survey
924.21	30.72	317.11	906.98	893.91	70.09	-67.98	240946.6 3	2482257.4 4	22°25'37.0312" N	72°28'59.7821" E	2.55	-13.762	2.54	0.44	97.63	6.25	6.20	2.37	302.21	8.5in NTK Survey
954.78	34.07	315.65	932.79	919.72	81.94	-79.28	240935.3 2	2482269.3 0	22°25'37.4102" N	72°28'59.3800" E	3.38	-18.132	3.29	-1.43	114.0 1	6.35	6.26	2.40	309.45	8.5in NTK Survey
982.53	35.92	314.62	955.52	942.45	93.21	-90.51	240924.0 8	2482280.5 8	22°25'37.7706" N	72°28'58.9808" E	2.10	-39.034	2.00	-1.11	129.9 2	6.46	6.31	2.44	311.76	8.5in NTK Survey
1011.55	36.08	314.40	979.00	965.93	105.17	102.68	240911.9 2	2482292.5 4	22°25'38.1527" N	72°28'58.5485" E	0.21	36.455	0.17	-0.23	146.9 8	6.58	6.36	2.47	312.94	8.5in NTK Survey
1039.91	36.59	315.03	1001.8 4	988.77 1011.6	116.99	114.62	240899.9 7	2482304.3 7	22°25'38.5305" N	72°28'58.1241" E	0.67	170.995	0.54	0.67	163.7 8	6.71	6.40	2.50	313.52	8.5in NTK Survey
1068.16	35.42	314.71	1024.7 3	1011.6 1036.8	128.71	126.38	240888.2 0	2482316.0 9	22°25'38.9049" N	72°28'57.7057" E	1.26	44.106	-1.24	-0.34	180.3 8	6.85	6.44	2.54	313.88	8.5in NTK Survey
1099.14	35.71	315.19	1049.9 0	1036.8 1060.0	141.44	139.14	240875.4 4	2482328.8 3	22°25'39.3117" N	72°28'57.2524" E	0.39	160.365	0.28	0.46	198.4 0	7.00	6.49	2.58	314.13	8.5in NTK Survey
1127.66	35.45	315.35	1073.0 9	1060.0 1082.8	153.23	150.81	240863.7 6	2482340.6 2	22°25'39.6886" N	72°28'56.8372" E	0.29	126.526	-0.27	0.17	215.0 0	7.16	6.54	2.62	314.32	8.5in NTK Survey
1155.60	35.25	315.82	1095.8 8	1082.8 1106.4	164.78	162.13	240852.4 4	2482352.1 7	22°25'40.0577" N	72°28'56.4348" E	0.36	100.439	-0.21	0.50	231.1 6	7.31	6.58	2.65	314.48	8.5in NTK Survey
1184.57	35.15	314.84	1119.5 6	1106.4 1129.6	176.65	173.87	240840.6 9	2482364.0 5	22°25'40.4373" N	72°28'56.0174" E	0.59	-4.406	-0.10	-1.01	247.8 6	7.47	6.63	2.69	314.59	8.5in NTK Survey
1212.97	35.30	314.82	1142.7 5	1129.6 1153.2	188.20	185.48	240829.0 7	2482375.6 1	22°25'40.8064" N	72°28'55.6045" E	0.16	-15.27	0.16	-0.02	264.2 4	7.64	6.68	2.74	314.64	8.5in NTK Survey
1242.01	36.41	314.31	1166.2 9	1153.2 2	200.14	197.60	240816.9 5	2482387.5 5	22°25'41.1877" N	72°28'55.1737" E	1.19	-63.332	1.15	-0.53	281.2 5	7.82	6.73	2.78	314.66	8.5in NTK Survey



Actual Wellpath Geographic Report - including Position Uncertainty - BH-J3

Report by Baker Hughes	25/Jan/2022 at 00:58 using WellArchitect 6.0	Projection System	WGS84 / UTM Zone 43 North
Operator	Sun Petrochemicals Pvt Ltd.	North Reference	Grid
Area	GUJARAT	Scale	1.000434
Field	Cambay, Bhaskar Field (CB-10)	Convergence at Slot	0.96 West
Facility	BH-J3	Horizontal Reference Point	Facility Center
Slot	Slot#1	Vertical Reference Point	Rig on Slot#1 (RKB)
Well	BH-J3	MD Reference Point	Rig on Slot#1 (RKB)
Wellbore	BH-J3_ST2	Field Vertical Reference	Mean Sea Level
Wellpath	BH-J3_ST2_awp	Rig on Slot#1 (RKB) To Facility Vertical Datum	4.87 m
Wellbore last revised	01/13/2022	Rig on Slot#1 (RKB) To Mean Sea Level	13.37 m
Sidetrack from	BH-J3_Def Surveys at 500.00 MD	Rig on Slot#1 (RKB) to Ground Level at Slot (Slot#1)	4.87 m
User	Advmanager	Section Origin X	E 0.00 m
Calculation method	Minimum curvature	Section Origin Y	N 0.00 m
Declination	Magnetic North is 0.40 degrees East of True North	Section Azimuth	98.95°
Ellipse Confidence Limit	2.00Std Dev	Surface Position Uncertainty	included
Database	WellArchitectDB1	Ellipse Starting MD	4.87 m

	Local North [m]	Local East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	Horiz Uncert 1sd [m]	Vert Uncert 1sd [m]
Slot Location	0.00	0.00	240209.89	2482792.08	22°25'54.0000"N	72°28'33.7200"E	0.61	0.31
Facility Reference Pt			240209.89	2482792.08	22°25'54.0000"N	72°28'33.7200"E	2.50	0.91
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD [m]	End MD [m]	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
500.00	1590.00	BH NaviTrak (2019) (SAG, Axial)	BHI_NTK_8 1/2" <540m-1600m>	BH-J3_ST2	11/Jan/2022

Target Name	MD [m]	TVD [m]	North [m]	East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	Shape	Comment
BH-J3_ST2_Target	N/A	1370.37	-53.09	337.23	240547.26	2482738.96	22°25'52.4586"N	72°28'45.5422"E	circle	

String / Diameter	Start MD [m]	End MD [m]	Interval [m]	Start TVD [m]	End TVD [m]	Start N/S [m]	Start E/W [m]	End N/S [m]	End E/W [m]	Wellbore
9.625in Casing	0.00	507.00	507.00	0.00	507.00	0.00	0.00	0.02	-0.02	BH-J3_ST2
8.5in Open Hole	507.00	1600.00	1093.00	507.00	N/A	0.02	-0.02	N/A	N/A	BH-J3_ST2

MD [m]	Inclination [°]	Azimuth [°]	TVD [m]	TVDS [m]	North [m]	East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	DLS [°/30m]	Toolface [°]	Build Rate [°/30m]	Turn Rate [°/30m]	Vert Sect [m]	Major Semi [m]	Minor Semi [m]	Vert Semi [m]	Minor Azim [°]	Comments
-----------	--------------------	----------------	------------	-------------	--------------	-------------	------------------	-------------------	----------	-----------	----------------	-----------------	-----------------------	----------------------	------------------	-------------------	-------------------	------------------	-------------------	----------

0.00	0.00	0.00	0.00	-13.37	0.00	0.00	240209.8	2482792.0	22°25'54.0000"	72°28'33.7200"	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	0.00	4.87	-8.50	0.00	0.00	240209.8	2482792.0	22°25'54.0000"	72°28'33.7200"	0.00	0	0.00	0.00	0.00	5.15	5.15	1.93	0.00
500.00	0.00	318.38	500.00	486.63	0.00	0.00	240209.8	2482792.0	22°25'54.0000"	72°28'33.7200"	0.00	0	0.00	0.00	0.00	5.23	5.22	2.13	242.40
521.64	1.18	318.38	521.64	508.27	0.17	-0.15	240209.7	2482792.2	22°25'54.0053"	72°28'33.7147"	1.64	128.059	1.64	0.00	-0.17	5.25	5.24	2.14	241.06 8.5 IN NTK SURVEY
551.71	1.25	38.44	551.70	538.33	0.65	-0.15	240209.7	2482792.7	22°25'54.0212"	72°28'33.7144"	1.56	71.107	0.07	79.87	-0.25	5.27	5.26	2.15	56.88 8.5 IN NTK SURVEY
578.12	2.79	84.48	578.10	564.73	0.94	0.67	240210.5	2482793.0	22°25'54.0310"	72°28'33.7428"	2.41	32.602	1.75	52.30	0.51	5.30	5.28	2.16	55.02 8.5 IN NTK SURVEY
607.61	5.51	101.27	607.51	594.14	0.73	2.77	240212.6	2482792.8	22°25'54.0254"	72°28'33.8165"	3.00	8.108	2.77	17.08	2.62	5.33	5.31	2.17	57.21 8.5 IN NTK SURVEY
636.36	6.76	102.78	636.09	622.72	0.09	5.78	240215.6	2482792.1	22°25'54.0061"	72°28'33.9219"	1.32	-8.953	1.30	1.58	5.69	5.37	5.34	2.18	46.50 8.5 IN NTK SURVEY
665.71	8.02	101.36	665.20	651.83	-0.69	9.47	240219.3	2482791.3	22°25'53.9826"	72°28'34.0515"	1.30	-7.972	1.29	-1.45	9.46	5.40	5.37	2.19	44.14 8.5 IN NTK SURVEY
695.82	9.33	100.23	694.96	681.59	-1.54	13.93	240223.8	2482790.5	22°25'53.9575"	72°28'34.2080"	1.32	9.139	1.31	-1.13	14.00	5.43	5.40	2.21	42.45 8.5 IN NTK SURVEY
724.73	11.12	101.72	723.41	710.04	-2.52	18.97	240228.8	2482789.5	22°25'53.9283"	72°28'34.3846"	1.88	17.965	1.86	1.55	19.13	5.47	5.44	2.22	41.09 8.5 IN NTK SURVEY
751.12	12.79	104.15	749.23	735.86	-3.76	24.29	240234.1	2482788.3	22°25'53.8912"	72°28'34.5715"	1.98	-23.198	1.90	2.76	24.58	5.50	5.47	2.23	40.00 8.5 IN NTK SURVEY
781.26	15.73	99.58	778.44	765.07	-5.25	31.56	240241.4	2482786.8	22°25'53.8466"	72°28'34.8264"	3.13	-0.889	2.93	-4.55	31.99	5.54	5.52	2.25	38.78 8.5 IN NTK SURVEY
808.92	17.82	99.47	804.92	791.55	-6.57	39.43	240249.3	2482785.5	22°25'53.8079"	72°28'35.1025"	2.27	9.87	2.27	-0.11	39.97	5.59	5.56	2.27	34.08 8.5 IN NTK SURVEY
838.13	19.00	100.10	832.64	819.27	-8.14	48.52	240258.4	2482783.9	22°25'53.7619"	72°28'35.4212"	1.23	-7.763	1.21	0.65	49.20	5.64	5.61	2.28	42.05 8.5 IN NTK SURVEY
866.52	21.00	99.34	859.31	845.94	-9.78	58.09	240268.0	2482782.2	22°25'53.7140"	72°28'35.7568"	2.13	-18.281	2.11	-0.80	58.90	5.68	5.66	2.30	64.33 8.5 IN NTK SURVEY
897.29	22.12	98.36	887.93	874.56	-11.51	69.26	240279.1	2482780.5	22°25'53.6636"	72°28'36.1485"	1.15	6.444	1.09	-0.96	70.21	5.75	5.71	2.33	82.39 8.5 IN NTK SURVEY
926.12	23.61	98.78	914.49	901.12	-13.18	80.34	240290.2	2482778.8	22°25'53.6153"	72°28'36.5368"	1.56	-3.038	1.55	0.44	81.41	5.82	5.75	2.35	90.41 8.5 IN NTK SURVEY
955.04	25.65	98.53	940.78	927.41	-15.00	92.25	240302.1	2482777.0	22°25'53.5629"	72°28'36.9544"	2.12	0.425	2.12	-0.26	93.46	5.90	5.80	2.37	93.71 8.5 IN NTK SURVEY
982.55	27.52	98.56	965.38	952.01	-16.83	104.43	240314.3	2482775.2	22°25'53.5101"	72°28'37.3812"	2.04	1.91	2.04	0.03	105.7	5.98	5.84	2.40	95.38 8.5 IN NTK SURVEY
1020.63	30.24	98.74	998.72	985.35	-19.59	122.61	240332.5	2482772.4	22°25'53.4301"	72°28'38.0185"	2.14	148.807	2.14	0.14	124.1	6.12	5.91	2.44	96.70 8.5 IN NTK SURVEY
1050.52	29.96	99.08	1024.5	1011.2	-21.92	137.42	240347.3	2482770.1	22°25'53.3628"	72°28'38.5376"	0.33	-61.829	-0.28	0.34	139.1	6.24	5.96	2.48	97.33 8.5 IN NTK SURVEY
1079.31	30.20	98.20	1049.4	1036.1	-24.08	151.68	240361.6	2482767.9	22°25'53.3001"	72°28'39.0377"	0.52	147.073	0.25	-0.92	153.5	6.36	6.00	2.51	97.75 8.5 IN NTK SURVEY
1108.11	29.87	98.63	1074.4	1061.0	-26.19	165.94	240375.9	2482765.8	22°25'53.2393"	72°28'39.5375"	0.41	174.049	-0.34	0.45	168.0	6.49	6.05	2.54	97.99 8.5 IN NTK SURVEY
1136.76	29.68	98.59	1099.2	1085.9	-28.32	180.01	240389.9	2482763.7	22°25'53.1778"	72°28'40.0306"	0.20	12.714	-0.20	-0.04	182.2	6.63	6.09	2.57	98.17 8.5 IN NTK SURVEY
1163.62	30.08	98.77	1122.5	1109.2	-30.34	193.24	240403.2	2482761.7	22°25'53.1194"	72°28'40.4943"	0.46	149.065	0.45	0.20	195.6	6.76	6.13	2.60	98.30 8.5 IN NTK SURVEY
1192.07	29.98	98.65	1147.2	1133.8	-32.50	207.31	240417.2	2482759.5	22°25'53.0570"	72°28'40.9877"	0.12	21.109	-0.11	-0.13	209.8	6.90	6.18	2.64	98.41 8.5 IN NTK SURVEY
1220.90	30.36	98.94	1172.1	1158.7	-34.71	221.63	240431.6	2482757.3	22°25'52.9928"	72°28'41.4896"	0.42	9.606	0.40	0.30	224.3	7.05	6.22	2.68	98.50 8.5 IN NTK SURVEY
1248.97	30.51	98.99	1196.3	1182.9	-36.93	235.68	240445.6	2482755.1	22°25'52.9284"	72°28'41.9820"	0.16	121.068	0.16	0.05	238.5	7.21	6.27	2.72	98.58 8.5 IN NTK SURVEY
1286.98	30.24	99.89	1229.1	1215.7	-40.08	254.64	240464.6	2482751.9	22°25'52.8363"	72°28'42.6468"	0.42	119.167	-0.21	0.71	257.7	7.42	6.34	2.77	98.71 8.5 IN NTK SURVEY

1305.90	30.09	99.35	1245.4 9	1232.1 2	-41.67	264.01	240474.0 1	2482750.3 9	22°25'52.7898" N	72°28'42.9755" E	0.49	-	-	-	267.2 8	7.53	6.37	2.80	98.77	8.5 IN NTK SURVEY
1336.01	29.92	98.11	1271.5 7	1258.2 0	-43.95	278.89	240488.9 0	2482748.1 0	22°25'52.7236" N	72°28'43.4971" E	0.64	27.546	-0.17	-1.24	282.3 3	7.71	6.42	2.84	98.81	8.5 IN NTK SURVEY
1364.15	30.20	98.40	1295.9 2	1282.5 5	-45.98	292.84	240502.8 5	2482746.0 8	22°25'52.6655" N	72°28'43.9861" E	0.34	110.791	0.30	0.31	296.4 3	7.87	6.48	2.88	98.82	8.5 IN NTK SURVEY
1393.83	30.13	98.77	1321.5 8	1308.2 1	-48.21	307.59	240517.6 1	2482743.8 5	22°25'52.6012" N	72°28'44.5030" E	0.20	50.474	-0.07	0.37	311.3 4	8.06	6.53	2.93	98.83	8.5 IN NTK SURVEY
1421.41	30.45	99.53	1345.4 0	1332.0 3	-50.42	321.32	240531.3 4	2482741.6 4	22°25'52.5367" N	72°28'44.9845" E	0.54	14.269	0.35	0.83	325.2 5	8.23	6.59	2.98	98.87	8.5 IN NTK SURVEY
1451.27	30.57	99.59	1371.1 2	1357.7 5	-52.94	336.27	240546.3 0	2482739.1 2	22°25'52.4631" N	72°28'45.5086" E	0.12	168.336	0.12	0.06	340.4 1	8.42	6.64	3.03	98.92	8.5 IN NTK SURVEY
1479.06	29.80	99.27	1395.1 5	1381.7 8	-55.23	350.05	240560.0 9	2482736.8 3	22°25'52.3962" N	72°28'45.9919" E	0.85	83.455	-0.83	-0.35	354.3 8	8.60	6.70	3.07	98.97	8.5 IN NTK SURVEY
1509.20	29.88	100.56	1421.2 9	1407.9 2	-57.81	364.83	240574.8 7	2482734.2 4	22°25'52.3203" N	72°28'46.5099" E	0.64	114.7	0.08	1.28	369.3 8	8.80	6.76	3.13	99.02	8.5 IN NTK SURVEY
1536.74	29.72	101.27	1445.1 9	1431.8 2	-60.40	378.26	240588.3 1	2482731.6 5	22°25'52.2434" N	72°28'46.9813" E	0.42	145.747	-0.17	0.77	383.0 5	8.98	6.82	3.17	99.11	8.5 IN NTK SURVEY
1566.65	29.22	101.97	1471.2 3	1457.8 6	-63.36	392.68	240602.7 3	2482728.6 9	22°25'52.1549" N	72°28'47.4870" E	0.61	143.808	-0.50	0.70	397.7 5	9.18	6.88	3.23	99.22	8.5 IN NTK SURVEY
1590.00	29.20	102.00	1491.6 1	1478.2 4	-65.73	403.82	240613.8 8	2482726.3 2	22°25'52.0841" N	72°28'47.8782" E	0.03	N/A	-0.03	0.04	409.1 3	9.33	6.93	3.27	99.31	PROJECTION AT BIT



Actual Wellpath Geographic Report - including Position Uncertainty - BH-N2

Report by Baker Hughes	05/Dec/2020 at 07:20 using WellArchitect 6.0	Projection System	WGS84 / UTM Zone 43 North
Operator	Sun Petrochemicals Pvt Ltd.	North Reference	Grid
Area	GUJARAT	Scale	1.000429
Field	Cambay, Bhaskar Field (CB-10)	Convergence at Slot	0.96 West
Facility	BH-N2	Horizontal Reference Point	Facility Center
Slot	Slot#1	Vertical Reference Point	Rig#27 (RKB)
Well	BH-N2	MD Reference Point	Rig#27 (RKB)
Wellbore	BH-N2_AWB	Field Vertical Reference	Mean Sea Level
Wellpath	BH-N2_AWP	Rig#27 (RKB) To Facility Vertical Datum	4.87 m
Wellbore last revised	11/22/2020	Rig#27 (RKB) To Mean Sea Level	12.17 m
Sidetrack from	(none)	Rig#27 (RKB) to Ground Level at Slot (Slot#1)	4.87 m
User	ADVMANAGER	Section Origin X	E 0.00 m
Calculation method	Minimum curvature	Section Origin Y	N 0.00 m
Declination	Magnetic North is 0.34 degrees East of True North	Section Azimuth	300.94°
Ellipse Confidence Limit	2.00Std Dev	Surface Position Uncertainty	included
Database	WellArchitectDB	Ellipse Starting MD	4.87 m

	Local North	Local East	Grid East	Grid North	Latitude	Longitude	Horiz Uncert 1sd	Vert Uncert 1sd
	[m]	[m]	[m]	[m]			[m]	[m]
Slot Location	0.00	0.00	240966.62	2476636.50	22°22'34.4100"N	72°29'3.7700"E	0.61	0.31
Facility Reference Pt			240966.62	2476636.5	22°22'34.4100"N	72°29'3.7700"E	2.50	0.91
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD	End MD	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
[m]	[m]				
4.87	1555.00	BH NaviTrak (2019) (Standard)	BH_8.5IN_MWD SURVEY<511.48-1538.63>	BH-N2_AWB	22/Nov/2020

Target Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
	[m]	[m]	[m]	[m]	[m]	[m]				
BH-N2_Target Pay Zone	N/A	1382.17	146.53	244.47	240722.05	2476783.09	22°22'39.0400"N	72°28'55.1400"E	circle	

String / Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W	Wellbore
	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	
13.375in Conductor	4.87	45.00	40.13	4.87	45.00	0.00	0.00	0.00	0	BH-N2_AWB
12.25in Open Hole	4.87	502.00	497.13	4.87	502.00	0.00	0.00	0.45	0.62	BH-N2_AWB
9.625in Casing	4.87	496.50	491.63	4.87	496.50	0.00	0.00	0.44	0.6	BH-N2_AWB

MD	Inclination	Azimuth	TVD	TVDS	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Toolface	Build Rate	Turn Rate	Vert Sect	Major Semi	Minor Semi	Vert Semi	Minor Azim	Comments
[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]			["/30 m]	[°]	["/30 m]	["/30m]	[m]	[m]	[m]	[m]	[°]	

0.00	0.00	53.58	0.00	-12.17	0.00	0.00	240966.6 2	2476636.4 9	22°22'34.4100" N	72°29'3.7700" E	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	53.58	4.87	-7.30	0.00	0.00	240966.6 2	2476636.4 9	22°22'34.4100" N	72°29'3.7700" E	0.00	0	0.00	0.00	0.00	5.15	5.15	1.93	0.00	
511.48	0.18	53.58	511.48	499.31	0.47	0.64	240967.2 6	2476636.9 7	22°22'34.4257" N	72°29'3.7921" E	0.01	-59.218	0.01	0.00	-0.31	5.46	5.46	2.13	143.46	8.5° NTK Surveys
533.09	0.32	23.26	533.09	520.92	0.55	0.69	240967.3 1	2476637.0 4	22°22'34.4282" N	72°29'3.7938" E	0.26	-97.55	0.19	-42.09 136.2	-0.31	5.49	5.48	2.14	323.43	8.5° NTK Surveys
549.43	0.80	309.07	549.43	537.26	0.66	0.62	240967.2 4	2476637.1 6	22°22'34.4319" N	72°29'3.7913" E	1.43	-13.887	0.88	1	-0.19	5.51	5.50	2.15	323.46	8.5° NTK Surveys
580.18	3.44	298.38	580.15	567.98	1.24	-0.36	240966.2 6	2476637.7 3	22°22'34.4500" N	72°29'3.7568" E	2.59	-3.427	2.58	-10.43	0.94	5.55	5.54	2.16	348.44	8.5° NTK Surveys
607.80	5.15	297.24	607.70	595.53	2.20	-2.19	240964.4 3	2476638.6 9	22°22'34.4802" N	72°29'3.6922" E	1.86	12.832	1.86	-1.24	3.01	5.60	5.58	2.17	19.02	8.5° NTK Surveys
637.93	6.35	299.70	637.67	625.50	3.64	-4.84	240961.7 8	2476640.1 4	22°22'34.5257" N	72°29'3.5988" E	1.22	5.536	1.19	2.45	6.02	5.64	5.62	2.18	21.30	8.5° NTK Surveys
666.11	8.04	300.87	665.63	653.46	5.43	-7.88	240958.7 3	2476641.9 2	22°22'34.5821" N	72°29'3.4913" E	1.81	-0.786	1.80	1.25	9.55	5.69	5.66	2.19	22.46	8.5° NTK Surveys
695.65	10.41	300.69	694.79	682.62	7.85	-11.95	240954.6 6	2476644.3 5	22°22'34.6586" N	72°29'3.3477" E	2.41	-5.054	2.41	-0.18	14.29	5.74	5.71	2.21	24.31	8.5° NTK Surveys
723.41	12.26	299.92	722.00	709.83	10.60	-16.66	240949.9 5	2476647.1 0	22°22'34.7454" N	72°29'3.1814" E	2.01	3.667	2.00	-0.83	19.74	5.79	5.75	2.22	25.68	8.5° NTK Surveys
753.36	14.04	300.39	751.17	739.00	14.02	-22.55	240944.0 6	2476650.5 2	22°22'34.8535" N	72°29'2.9735" E	1.79	-8.801	1.78	0.47	26.55	5.84	5.80	2.23	25.99	8.5° NTK Surveys
781.60	15.34	299.63	778.48	766.31	17.60	-28.76	240937.8 5	2476654.1 0	22°22'34.9665" N	72°29'2.7546" E	1.40	19.502	1.38	-0.81	33.71	5.90	5.85	2.25	26.00	8.5° NTK Surveys
810.20	16.90	301.52	805.96	793.79	21.65	-35.59	240931.0 2	2476658.1 5	22°22'35.0943" N	72°29'2.5135" E	1.73	7.515	1.64	1.98	41.65	5.95	5.91	2.27	25.42	8.5° NTK Surveys
838.44	18.62	302.23	832.85	820.68	26.20	-42.90	240923.7 0	2476662.7 0	22°22'35.2382" N	72°29'2.2552" E	1.84	-20.499	1.83	0.75	50.27	6.00	5.97	2.28	24.27	8.5° NTK Surveys
867.12	20.61	300.13	859.87	847.70	31.17	-51.14	240915.4 6	2476667.6 8	22°22'35.3955" N	72°29'1.9643" E	2.21	-12.159	2.08	-2.20	59.89	6.05	6.04	2.30	21.21	8.5° NTK Surveys
896.15	21.62	299.54	886.95	874.78	36.37	-60.21	240906.3 8	2476672.8 8	22°22'35.5596" N	72°29'1.6442" E	1.07	36.336	1.04	-0.61	70.35	6.11	6.11	2.33	0.61	8.5° NTK Surveys
926.38	22.13	300.53	915.00	902.83	42.01	-69.96	240896.6 3	2476678.5 3	22°22'35.7376" N	72°29'1.3001" E	0.62	44.72	0.51	0.98	81.61	6.19	6.17	2.35	307.40	8.5° NTK Surveys
954.05	22.48	301.43	940.60	928.43	47.42	-78.97	240887.6 2	2476683.9 3	22°22'35.9084" N	72°29'0.9823" E	0.53	-20.355	0.38	0.98	92.11	6.27	6.22	2.37	303.40	8.5° NTK Surveys
983.45	23.04	300.90	967.71	955.54	53.30	-88.70	240877.8 8	2476689.8 2	22°22'36.0944" N	72°29'0.6387" E	0.61	-28.069	0.57	-0.54	103.4	6.36	6.28	2.40	302.23	8.5° NTK Surveys
1011.50	23.30	300.55	993.50	981.33	58.94	-98.19	240868.3 9	2476695.4 6	22°22'36.2726" N	72°29'0.3038" E	0.31	72.653	0.28	-0.37	114.5	6.45	6.33	2.43	301.68	8.5° NTK Surveys
1041.51	23.43	301.57	1021.0	1008.8	65.08	108.38	240858.1 9	2476701.6 1	22°22'36.4666" N	72°28'59.9439" E	0.42	-25.927	0.13	1.02	126.4	6.55	6.39	2.46	301.36	8.5° NTK Surveys
1070.93	24.20	300.66	1047.9	1035.7	71.22	118.55	240848.0 2	2476707.7 5	22°22'36.6606" N	72°28'59.5848" E	0.87	26.113	0.79	-0.93	138.3	6.65	6.46	2.49	301.18	8.5° NTK Surveys
1098.38	24.36	300.85	1072.9	1060.8	76.99	128.25	240838.3 1	2476713.5 2	22°22'36.8429" N	72°28'59.2424" E	0.19	-162.58	0.17	0.21	149.5	6.75	6.52	2.52	301.04	8.5° NTK Surveys
1126.76	23.67	300.31	1098.9	1086.7	82.87	138.20	240828.3 6	2476719.4 0	22°22'37.0285" N	72°28'58.8915" E	0.77	173.752	-0.73	-0.57	161.1	6.86	6.58	2.56	300.92	8.5° NTK Surveys
1155.82	22.82	300.07	1125.6	1113.4	88.64	148.11	240818.4 5	2476725.1 7	22°22'37.2106" N	72°28'58.5416" E	0.88	19.286	-0.88	-0.25	172.6	6.97	6.65	2.59	300.79	8.5° NTK Surveys
1183.17	23.01	300.24	1150.8	1138.6	93.99	157.32	240809.2 4	2476730.5 2	22°22'37.3795" N	72°28'58.2167" E	0.22	-32.08	0.21	0.19	183.2	7.08	6.71	2.63	300.69	8.5° NTK Surveys
1214.28	23.64	299.26	1179.3	1167.2	100.10	168.01	240798.5 4	2476736.6 3	22°22'37.5723" N	72°28'57.8393" E	0.71	-9.98	0.61	-0.95	195.5	7.21	6.78	2.67	300.57	8.5° NTK Surveys
1241.93	23.87	299.16	1204.6	1192.5	105.53	177.73	240788.8 1	2476742.0 7	22°22'37.7437" N	72°28'57.4963" E	0.25	-34.756	0.25	-0.11	206.7	7.33	6.85	2.71	300.45	8.5° NTK Surveys
1273.00	24.10	298.77	1233.0	1220.8	111.65	188.78	240777.7 6	2476748.1 9	22°22'37.9365" N	72°28'57.1066" E	0.27	109.873	0.22	-0.38	219.3	7.47	6.93	2.75	300.31	8.5° NTK Surveys

1299.34	23.80	300.93	1257.1 3	1244.9 6	-	116.97	198.06	240768.4 8	2476753.5 1	22°22'38.1044" N	72°28'56.7793" E	1.06	84.44	-0.34	2.46	230.0 1	7.59	7.00	2.79	300.24	8.5" NTK Surveys
1329.39	23.85	302.09	1284.6 2	1272.4 5	-	123.31	208.40	240758.1 3	2476759.8 6	22°22'38.3050" N	72°28'56.4140" E	0.47	56.653	0.05	1.16	242.1 5	7.73	7.07	2.84	300.27	8.5" NTK Surveys
1356.76	23.99	302.61	1309.6 4	1297.4 7	-	129.25	217.78	240748.7 5	2476765.8 0	22°22'38.4929" N	72°28'56.0828" E	0.28	74.803	0.15	0.57	253.2 4	7.86	7.15	2.88	300.34	8.5" NTK Surveys
1385.38	24.01	302.79	1335.7 9	1323.6 2	-	135.54	227.58	240738.9 5	2476772.0 9	22°22'38.6920" N	72°28'55.7368" E	0.08	-98.371	0.02	0.19	264.8 8	7.99	7.22	2.92	300.43	8.5" NTK Surveys
1414.52	23.90	300.71	1362.4 2	1350.2 5	-	141.77	237.63	240728.8 8	2476778.3 2	22°22'38.8889" N	72°28'55.3815" E	0.88	68.579	-0.11	-2.14	276.7 1	8.13	7.30	2.97	300.47	8.5" NTK Surveys
1444.43	23.94	300.96	1389.7 6	1377.5 9	-	147.98	248.05	240718.4 7	2476784.5 4	22°22'39.0853" N	72°28'55.0140" E	0.11	124.037	0.04	0.25	288.8 4	8.28	7.38	3.02	300.47	8.5" NTK Surveys
1471.53	23.88	301.18	1414.5 4	1402.3 7	-	153.65	257.46	240709.0 5	2476790.2 1	22°22'39.2644" N	72°28'54.6818" E	0.12	126.217	-0.07	0.24	299.8 2	8.42	7.46	3.07	300.47	8.5" NTK Surveys
1503.72	23.61	302.11	1444.0 0	1431.8 3	-	160.45	268.49	240698.0 1	2476797.0 1	22°22'39.4794" N	72°28'54.2922" E	0.43	90.38	-0.25	0.87	312.7 8	8.58	7.55	3.13	300.50	8.5" NTK Surveys
1530.94	23.61	302.94	1468.9 4	1456.7 7	-	166.31	277.68	240688.8 2	2476802.8 8	22°22'39.6649" N	72°28'53.9675" E	0.37	114.186	0.00	0.91	323.6 8	8.72	7.63	3.17	300.55	8.5" NTK Surveys
1538.63	23.45	303.85	1475.9 9	1463.8 2	-	168.00	280.25	240686.2 5	2476804.5 7	22°22'39.7185" N	72°28'53.8769" E	1.55	103.133	-0.62	3.55	326.7 4	8.76	7.65	3.19	300.57	8.5" NTK Surveys
1555.00	23.40	304.40	1491.0 1	1478.8 4	-	171.65	285.63	240680.8 7	2476808.2 2	22°22'39.8342" N	72°28'53.6865" E	0.00	N/A	-0.09	1.01	333.2 4	8.85	7.70	3.22	300.63	Projection at Bit



Actual Wellpath Geographic Report - including Position Uncertainty - BH-R2

Report by Baker Hughes	27/May/2021 at 11:15 using WellArchitect 6.0	Projection System	WGS84 / UTM Zone 43 North
Operator	Sun Petrochemicals Pvt Ltd.	North Reference	Grid
Area	GUJARAT	Scale	1.00043
Field	Cambay, Bhaskar Field (CB-10)	Convergence at Slot	0.96 West
Facility	BH-R2	Horizontal Reference Point	Facility Center
Slot	Slot#1	Vertical Reference Point	Rig on Slot#1 (RT)
Well	BH-R2	MD Reference Point	Rig on Slot#1 (RT)
Wellbore	BH-R2-AWB	Field Vertical Reference	Mean Sea Level
Wellpath	BH-R2-AWB_awp	Rig on Slot#1 (RT) To Facility Vertical Datum	4.87 m
Wellbore last revised	05/13/2021	Rig on Slot#1 (RT) To Mean Sea Level	14.17 m
Sidetrack from	(none)	Rig on Slot#1 (RT) to Ground Level at Slot (Slot#1)	4.87 m
User	Advmanager	Section Origin X	E 0.00 m
Calculation method	Minimum curvature	Section Origin Y	N 0.00 m
Declination	Magnetic North is 0.37 degrees East of True North	Section Azimuth	98.24°
Ellipse Confidence Limit	2.00Std Dev	Surface Position Uncertainty	included
Database	WellArchitectDB	Ellipse Starting MD	4.87 m

	Local North [m]	Local East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	Horiz Uncert 1sd [m]	Vert Uncert 1sd [m]
Slot Location	0.00	0.00	240874.01	2489365.50	22°29'27.9400"N	72°28'53.0700"E	0.61	0.31
Facility Reference Pt			240874.01	2489365.5	22°29'27.9400"N	72°28'53.0700"E	3.30	1.67
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD [m]	End MD [m]	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
4.87	1491.00	BH NaviTrak (2019) (Standard)	BH-R2_NaviGamma_8.5in Surveys	BH-R2-AWB	13/May/2021

Target Name	MD [m]	TVD [m]	North [m]	East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	Shape	Comment
BH-R2_MBS_Target Pay Zone_Rev 1	N/A	1323.17	-24.71	170.54	241044.63	2489340.78	22°29'27.2300"N	72°28'59.0500"E	circle	

String / Diameter	Start MD [m]	End MD [m]	Interval [m]	Start TVD [m]	End TVD [m]	Start N/S [m]	Start E/W [m]	End N/S [m]	End E/W [m]	Wellbore
9.625in Casing Surface	4.87	545.20	540.33	4.87	545.20	0.00	0.00	0.80	1.32	BH-R2-AWB
8.5in Open Hole	545.20	1500.00	954.80	545.20	N/A	0.80	1.32	N/A	N/A	BH-R2-AWB

MD [m]	Inclination [°]	Azimuth [°]	TVD [m]	TVDS [m]	North [m]	East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	DLS [°/30 m]	Toolface [°]	Build Rate [°/30 m]	Turn Rate [°/30 m]	Vert Sect [m]	Major Semi [m]	Minor Semi [m]	Vert Semi [m]	Minor Azim [°]	Comments
-----------	--------------------	----------------	------------	-------------	--------------	-------------	------------------	-------------------	----------	-----------	-----------------	-----------------	------------------------	-----------------------	------------------	-------------------	-------------------	------------------	-------------------	----------

0.00	0.00	59.01	0.00	-14.17	0.00	0.00	240874.0	2489365.5	22°29'27.9400"	72°28'53.0700"	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	59.01	4.87	-9.30	0.00	0.00	240874.0	2489365.5	22°29'27.9400"	72°28'53.0700"	0.00	0	0.00	0.00	0.00	6.71	6.71	3.40	0.00		
598.44	0.36	59.01	598.44	584.27	0.96	1.60	240875.6	2489366.4	22°29'27.9721"	72°28'53.1254"	0.02	32.2	0.02	0.00	1.44	7.07	7.04	3.54	148.95	8.5 in NeviGamm Survey	
627.11	1.31	82.79	627.10	612.93	1.05	2.00	240876.0	2489366.5	22°29'27.9751"	72°28'53.1394"	1.04	9.429	0.99	24.88	1.83	7.10	7.07	3.54	149.14	8.5 in NeviGamm Survey	
656.78	2.57	87.43	656.76	642.59	1.12	3.00	240877.0	2489366.6	22°29'27.9780"	72°28'53.1743"	1.28	1.738	1.27	4.69	2.81	7.14	7.11	3.55	150.35	8.5 in NeviGamm Survey	
686.52	5.14	88.30	686.43	672.26	1.19	5.00	240879.0	2489366.6	22°29'27.9814"	72°28'53.2442"	2.59	34.5	2.59	0.88	4.78	7.18	7.14	3.56	154.22	8.5 in NeviGamm Survey	
715.40	7.03	98.36	715.14	700.97	0.97	8.04	240882.0	2489366.4	22°29'27.9760"	72°28'53.3507"	2.25	7.417	1.96	10.45	7.82	7.22	7.18	3.57	159.66	8.5 in NeviGamm Survey	
743.92	9.58	100.35	743.36	729.19	0.29	12.10	240886.1	2489365.7	22°29'27.9561"	72°28'53.4932"	2.70	3.462	2.68	2.09	11.94	7.27	7.22	3.58	162.42	8.5 in NeviGamm Survey	
771.91	12.07	101.07	770.85	756.68	-0.69	17.27	240891.2	2489364.8	22°29'27.9270"	72°28'53.6744"	2.67	-2.132	2.67	0.77	17.19	7.31	7.26	3.58	166.99	8.5 in NeviGamm Survey	
801.82	13.04	100.91	800.05	785.88	-1.93	23.65	240897.6	2489363.5	22°29'27.8902"	72°28'53.8984"	0.97	-15.413	0.97	-0.16	23.68	7.36	7.31	3.59	169.32	8.5 in NeviGamm Survey	
830.55	14.97	98.86	827.92	813.75	-3.11	30.50	240904.5	2489362.3	22°29'27.8555"	72°28'54.1387"	2.08	169.739	2.02	-2.14	30.63	7.41	7.35	3.61	168.56	8.5 in NeviGamm Survey	
858.34	14.50	98.52	854.80	840.63	-4.18	37.49	240911.5	2489361.3	22°29'27.8246"	72°28'54.3837"	0.52	162.239	-0.51	-0.37	37.70	7.45	7.40	3.62	167.90	8.5 in NeviGamm Survey	
887.21	14.43	98.61	882.75	868.58	-5.26	44.62	240918.6	2489360.2	22°29'27.7935"	72°28'54.6338"	0.08	-20.314	-0.07	0.09	44.91	7.49	7.45	3.63	164.58	8.5 in NeviGamm Survey	
916.91	15.59	97.02	911.44	897.27	-6.30	52.24	240926.2	2489359.2	22°29'27.7638"	72°28'54.9010"	1.24	-27.863	1.17	-1.61	52.60	7.54	7.50	3.64	159.68	8.5 in NeviGamm Survey	
945.65	15.87	96.48	939.10	924.93	-7.21	59.98	240934.0	2489358.2	22°29'27.7383"	72°28'55.1722"	0.33	39.45	0.29	-0.56	60.39	7.59	7.56	3.66	153.32	8.5 in NeviGamm Survey	
974.39	16.30	97.73	966.72	952.55	-8.20	67.88	240941.9	2489357.3	22°29'27.7106"	72°28'55.4491"	0.58	99.306	0.45	1.30	68.35	7.64	7.61	3.67	142.78	8.5 in NeviGamm Survey	
1002.20	16.21	99.95	993.41	979.24	-9.40	75.57	240949.6	2489356.1	22°29'27.6759"	72°28'55.7188"	0.68	-31.042	-0.10	2.39	76.13	7.70	7.66	3.68	131.39	8.5 in NeviGamm Survey	
1031.21	16.36	99.63	1021.2	1007.0	-10.78	83.58	240957.6	2489354.7	22°29'27.6354"	72°28'56.0001"	0.18	103.02	0.16	-0.33	84.27	7.76	7.71	3.70	121.96	8.5 in NeviGamm Survey	
1060.88	16.32	100.26	1049.7	1035.5	-12.22	91.81	240965.8	2489353.2	22°29'27.5930"	72°28'56.2885"	0.18	153.954	-0.04	0.64	92.61	7.82	7.77	3.72	115.93	8.5 in NeviGamm Survey	
1089.51	15.89	99.49	1077.2	1063.0	-13.58	99.63	240973.6	2489351.9	22°29'27.5530"	72°28'56.5630"	0.50	149.489	-0.45	-0.81	100.5	7.89	7.82	3.74	112.21	8.5 in NeviGamm Survey	
1118.68	15.59	100.15	1105.3	1091.1	-14.93	107.43	240981.4	2489350.5	22°29'27.5134"	72°28'56.8365"	0.36	0.523	-0.31	0.68	108.4	7.96	7.87	3.75	109.72	8.5 in NeviGamm Survey	
1146.46	15.89	100.16	1132.0	1117.8	-16.26	114.84	240988.9	2489349.2	22°29'27.4743"	72°28'57.0968"	0.32	-18.013	0.32	0.01	115.9	8.03	7.93	3.77	108.05	8.5 in NeviGamm Survey	
1174.04	16.53	99.43	1158.5	1144.3	-17.57	122.43	240996.4	2489347.9	22°29'27.4359"	72°28'57.3629"	0.73	10.639	0.70	-0.79	123.6	8.11	7.98	3.79	106.77	8.5 in NeviGamm Survey	
1204.09	16.87	99.65	1187.3	1173.1	-19.00	130.95	241005.0	2489346.4	22°29'27.3940"	72°28'57.6616"	0.35	154.856	0.34	0.22	132.3	8.19	8.04	3.81	105.67	8.5 in NeviGamm Survey	
1231.63	16.35	98.78	1213.7	1199.5	-20.26	138.72	241012.7	2489345.2	22°29'27.3572"	72°28'57.9342"	0.63	164.528	-0.57	-0.95	140.1	8.26	8.10	3.83	104.86	8.5 in NeviGamm Survey	
1262.48	16.08	98.51	1243.3	1229.1	-21.56	147.23	241021.3	2489343.9	22°29'27.3198"	72°28'58.2329"	0.27	-22.209	-0.26	-0.26	148.8	8.35	8.16	3.86	104.12	8.5 in NeviGamm Survey	
1289.24	16.21	98.32	1269.0	1254.8	-22.65	154.60	241028.6	2489342.8	22°29'27.2884"	72°28'58.4910"	0.16	13.791	0.15	-0.21	156.2	8.43	8.22	3.88	103.58	8.5 in NeviGamm Survey	
1318.25	16.91	98.91	1296.8	1282.6	-23.89	162.77	241036.8	2489341.6	22°29'27.2526"	72°28'58.7777"	0.74	-79.233	0.72	0.61	164.5	8.52	8.28	3.90	103.10	8.5 in NeviGamm Survey	
1346.14	16.95	98.21	1323.5	1309.3	-25.09	170.80	241044.8	2489340.4	22°29'27.2177"	72°28'59.0593"	0.22	48.06	0.04	-0.75	172.6	8.61	8.34	3.93	102.70	8.5 in NeviGamm Survey	
1370.29	17.00	98.40	1346.6	1332.4	-26.11	177.78	241051.8	2489339.3	22°29'27.1884"	72°28'59.3040"	0.09	12.976	0.06	0.24	179.6	8.68	8.39	3.95	102.39	8.5 in NeviGamm Survey	

1398.98	17.70	98.93	1374.0	1359.8		241060.3	2489338.0	22°29'27.1511"	72°28'59.6006"	-				188.2					8.5 in NeviGamm	
			1	4	-27.40	186.24	3	9	N	E	0.75	123.927	0.73	0.55	4	8.78	8.46	3.98	102.08	Survey
1430.82	17.51	97.98	1404.3	1390.1			241069.8	2489336.6	22°29'27.1103"	72°28'59.9346"				197.8					8.5 in NeviGamm	
			6	9	-28.82	195.76	6	7	N	E	0.32	172.891	-0.18	-0.90	7	8.88	8.53	4.01	101.78	Survey
1462.32	16.38	98.48	1434.4	1420.3			241078.9	2489335.3	22°29'27.0726"	72°29'0.2532"				207.0					8.5 in NeviGamm	
			9	2	-30.13	204.85	5	6	N	E	1.09	174.907	-1.08	0.48	5	8.99	8.60	4.04	101.53	Survey
1474.08	16.10	98.57	1445.7	1431.6			241082.2	2489334.8	22°29'27.0585"	72°29'0.3672"				210.3					8.5 in NeviGamm	
			8	1	-30.62	208.10	0	7	N	E	0.72	175.273	-0.71	0.23	4	9.03	8.63	4.05	101.45	Survey
			1462.0	1447.8			241086.8	2489334.1	22°29'27.0383	72°29'0.5294"				215.0						
1491.00	16.00	98.60	4	7	-31.32	212.73	3	7	"N	E	0.18	N/A	-0.18	0.05	2	9.08	8.67	4.07	101.35	Projection at Bit

Actual Wellpath Geographic Report - including Position Uncertainty - BH-R3

Report by Baker Hughes	30/Apr/2022 at 16:32 using WellArchitect 6.0	Projection System	WGS84 / UTM Zone 43 North
Operator	Sun Petrochemicals Pvt Ltd.	North Reference	Grid
Area	GUJARAT	Scale	1.00043
Field	Cambay, Bhaskar Field (CB-10)	Convergence at Slot	0.96 West
Facility	BH-R3	Horizontal Reference Point	Slot
Slot	Slot#1	Vertical Reference Point	Rig#27 (RKB)
Well	BH-R3	MD Reference Point	Rig#27 (RKB)
Wellbore	BH-R3_Correction-3_AWB	Field Vertical Reference	Mean Sea Level
Wellpath	BH-R3_Correction-3_Def Surveys	Rig#27 (RKB) To Facility Vertical Datum	4.87 m
Wellbore last revised	04/13/2022	Rig#27 (RKB) To Mean Sea Level	14.17 m
Sidetrack from	BH-R3_Correction-2_Def Surveys at 521.81 MD	Rig#27 (RKB) to Ground Level at Slot (Slot#1)	4.87 m
User	Advmanager	Section Origin X	E 0.00 m
Calculation method	Minimum curvature	Section Origin Y	N 0.00 m
Declination	Magnetic North is 0.42 degrees East of True North	Section Azimuth	73.98°
Ellipse Confidence Limit	3.00Std Dev	Surface Position Uncertainty	included
Database	WellArchitectDB	Ellipse Starting MD	4.87 m

	Local North	Local East	Grid East	Grid North	Latitude	Longitude	Horiz Uncert 1sd	Vert Uncert 1sd
	[m]	[m]	[m]	[m]			[m]	[m]
Slot Location	0.00	0.00	240872.14	2489373.54	22°29'28.2000"N	72°28'53.0000"E	0.00	0.00
Facility Reference Pt			240872.14	2489373.54	22°29'28.2000"N	72°28'53.0000"E	0.00	0.00
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD [m]	End MD [m]	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
4.87	521.81	BH NaviTrak (2019) (SAG, Axial)	BHI NTK MWD 8.5in<521.81-1520.30>	BH-R3_AWB	16/Jul/2021
521.81	1499.00	BH NaviTrak (2019) (SAG, Axial)	BHI NTK MWD 8.5in<521.81-XXXX>	BH-R3_Correction-3_AWB	16/Apr/2022

Target Name	MD [m]	TVD [m]	North [m]	East [m]	Grid East [m]	Grid North [m]	Latitude	Longitude	Shape	Comment
BH-R3_Correction-3_Target	N/A	1325.17	83.70	291.58	241163.84	2489457.27	22°29'31.0800"N	72°29'3.1500"E	point	

String / Diameter	Start MD [m]	End MD [m]	Interval [m]	Start TVD [m]	End TVD [m]	Start N/S [m]	Start E/W [m]	End N/S [m]	End E/W [m]	Wellbore
9.625in Casing	4.87	508.00	503.13	4.87	508.00	0.00	0.00	-0.33	-1.24	BH-R3_AWB
7in Casing	4.87	521.81	516.94	4.87	521.81	0.00	0.00	-0.34	-1.31	BH-R3_AWB
9.625in Casing	4.87	4.87	0.00	4.87	4.87	0.00	0.00	0.00	0	BH-R3_Correction-2_AWB
9.625in Casing	4.87	508.00	503.13	4.87	508.00	0.00	0.00	-0.33	-1.24	BH-R3_Correction-3_AWB

MD	Inclination	Azimuth	TVD	TVDS	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Toolface	Build Rate	Turn Rate	Vert Sect	Major Semi	Minor Semi	Vert Semi	Minor Azim	Comments
----	-------------	---------	-----	------	-------	------	-----------	------------	----------	-----------	-----	----------	------------	-----------	-----------	------------	------------	-----------	------------	----------

[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[°/30 m]	[°]	[°/30 m]	[°/30m]	[m]	[m]	[m]	[m]	[°]	
0.00	0.00	255.26	0.00	-14.17	0.00	0.00	240872.1 4	2489373.5 4	22°29'28.2000" N	72°28'53.0000" E	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	255.26	4.87	-9.30	0.00	0.00	240872.1 4	2489373.5 4	22°29'28.2000" N	72°28'53.0000" E	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	
521.81	0.30	255.26	521.81	507.64	-0.34	-1.31	240870.8 3	2489373.1 9	22°29'28.1881" N	72°28'52.9544" E	0.02	169.587	0.02	0.00	-1.35	2.86	2.78	1.38	165.35
537.64	2.45	86.94	537.63	523.46	-0.34	-1.01	240871.1 3	2489373.2 0	22°29'28.1885" N	72°28'52.9648" E	5.20	-2.589	4.07	318.9 9	-1.06	2.91	2.82	1.40	165.88 8.5in OTK SURVEY
558.38	3.11	86.39	558.35	544.18	-0.28	-0.01	240872.1 4	2489373.2 6	22°29'28.1910" N	72°28'52.9999" E	0.96	-7.989	0.95	-0.80	-0.08	2.93	2.83	1.43	167.69 8.5in OTK SURVEY
577.73	3.43	85.64	577.67	563.50	-0.20	1.09	240873.2 4	2489373.3 4	22°29'28.1941" N	72°28'53.0384" E	0.50	4.929	0.50	-1.16	1.00	2.94	2.83	1.45	167.82 8.5in OTK SURVEY
596.62	4.30	86.64	596.51	582.34	-0.12	2.36	240874.5 1	2489373.4 2	22°29'28.1975" N	72°28'53.0828" E	1.39	-9.644	1.38	1.59	2.24	2.95	2.85	1.47	167.89 8.5in OTK SURVEY
615.90	5.29	84.82	615.73	601.56	0.01	3.97	240876.1 2	2489373.5 4	22°29'28.2024" N	72°28'53.1389" E	1.56	-35.224	1.54	-2.83	3.82	2.97	2.86	1.50	168.11 8.5in OTK SURVEY
635.43	6.75	76.45	635.15	620.98	0.36	5.98	240878.1 3	2489373.8 9	22°29'28.2149" N	72°28'53.2091" E	2.61	-26.661	2.24	-12.86	5.85	3.00	2.88	1.52	348.11 8.5in OTK SURVEY
654.60	7.77	72.72	654.16	639.99	1.01	8.32	240880.4 6	2489374.5 4	22°29'28.2372" N	72°28'53.2903" E	1.76	7.233	1.60	-5.84	8.27	3.03	2.91	1.55	347.74 8.5in OTK SURVEY
673.88	8.85	73.61	673.24	659.07	1.81	10.98	240883.1 3	2489375.3 5	22°29'28.2649" N	72°28'53.3832" E	1.69	3.928	1.68	1.38	11.06	3.06	2.94	1.57	347.45 8.5in OTK SURVEY
692.94	9.71	73.96	692.05	677.88	2.67	13.94	240886.0 8	2489376.2 1	22°29'28.2944" N	72°28'53.4859" E	1.36	7.413	1.35	0.55	14.13	3.09	2.97	1.60	347.28 8.5in OTK SURVEY
711.90	10.36	74.43	710.72	696.55	3.57	17.11	240889.2 7	2489377.1 1	22°29'28.3254" N	72°28'53.5966" E	1.04	-10.587	1.03	0.74	17.43	3.13	3.01	1.63	347.18 8.5in OTK SURVEY
730.89	11.48	73.38	729.37	715.20	4.57	20.57	240892.7 2	2489378.1 1	22°29'28.3597" N	72°28'53.7168" E	1.80	6.148	1.77	-1.66	21.03	3.16	3.06	1.66	347.09 8.5in OTK SURVEY
750.11	13.03	74.12	748.15	733.98	5.71	24.49	240896.6 4	2489379.2 5	22°29'28.3989" N	72°28'53.8532" E	2.43	4.707	2.42	1.16	25.11	3.21	3.11	1.68	346.92 8.5in OTK SURVEY
769.80	14.66	74.65	767.27	753.10	6.97	29.03	240901.1 8	2489380.5 1	22°29'28.4426" N	72°28'54.0112" E	2.49	-2.895	2.48	0.81	29.82	3.26	3.17	1.71	346.74 8.5in OTK SURVEY
790.23	16.39	74.34	786.95	772.78	8.44	34.29	240906.4 5	2489381.9 8	22°29'28.4930" N	72°28'54.1946" E	2.54	-6.651	2.54	-0.46	35.29	3.32	3.24	1.74	346.55 8.5in OTK SURVEY
807.68	17.61	73.87	803.64	789.47	9.83	39.20	240911.3 6	2489383.3 8	22°29'28.5411" N	72°28'54.3654" E	2.11	6.08	2.10	-0.81	40.39	3.37	3.31	1.77	346.40 8.5in OTK SURVEY
827.68	18.63	74.21	822.65	808.48	11.54	45.18	240917.3 4	2489385.0 9	22°29'28.6000" N	72°28'54.5736" E	1.54	-20.483	1.53	0.51	46.61	3.42	3.40	1.80	346.99 8.5in OTK SURVEY
846.82	20.14	72.58	840.70	826.53	13.36	51.27	240923.4 3	2489386.9 1	22°29'28.6624" N	72°28'54.7854" E	2.51	-26.046	2.37	-2.55	52.96	3.49	3.48	1.84	72.49 8.5in OTK SURVEY
866.04	21.77	70.45	858.65	844.48	15.55	57.78	240929.9 5	2489389.0 9	22°29'28.7369" N	72°28'55.0121" E	2.81	-6.499	2.54	-3.32	59.83	3.59	3.54	1.87	74.57 8.5in OTK SURVEY
885.18	23.41	69.98	876.32	862.15	18.04	64.70	240936.8 7	2489391.5 8	22°29'28.8216" N	72°28'55.2526" E	2.59	47.487	2.57	-0.74	67.17	3.70	3.60	1.90	74.26 8.5in OTK SURVEY
904.38	24.63	73.09	893.86	879.69	20.51	72.11	240944.2 9	2489394.0 5	22°29'28.9060" N	72°28'55.5104" E	2.75	38.807	1.91	4.86	74.97	3.83	3.66	1.94	73.87 8.5in OTK SURVEY
925.11	26.23	75.95	912.58	898.41	22.87	80.69	240952.8 7	2489396.4 2	22°29'28.9877" N	72°28'55.8091" E	2.92	5.28	2.32	4.14	83.87	3.98	3.73	1.98	73.92 8.5in OTK SURVEY
942.41	27.22	76.15	928.03	913.86	24.75	88.24	240960.4 2	2489398.3 0	22°29'29.0527" N	72°28'56.0721" E	1.72	-9.549	1.72	0.35	91.64 100.7	4.11	3.78	2.02	74.24 8.5in OTK SURVEY
962.27	27.55	76.03	945.67	931.50	26.95	97.11	240969.2 9	2489400.4 9	22°29'29.1290" N	72°28'56.3810" E	0.51	160.499	0.50	-0.18	109.7 7	4.27	3.85	2.06	74.62 8.5in OTK SURVEY
981.67	27.42	76.13	962.88	948.71	29.10	105.80	240977.9 9	2489402.6 5	22°29'29.2037" N	72°28'56.6837" E	0.21	-1.652	-0.20	0.15	118.7 2	4.43	3.90	2.10	74.89 8.5in OTK SURVEY
1000.78	28.93	76.04	979.72	965.55	31.27	114.56	240986.7 5	2489404.8 2	22°29'29.2791" N	72°28'56.9888" E	2.37	-6.55	2.37	-0.14	128.1 4	4.60	3.96	2.14	75.07 8.5in OTK SURVEY
1019.81	30.11	75.77	996.28	982.11	33.55	123.65	240995.8 5	2489407.1 0	22°29'29.3583" N	72°28'57.3055" E	1.87	-99.656	1.86	-0.43	1	4.78	4.03	2.19	75.21 8.5in OTK SURVEY

1038.57	29.98	74.12	1012.5	2	998.35	35.99	132.72	241004.9	2489409.5	22°29'29.4425"	72°28'57.6213"	-	-	-	-	137.5							
			1029.2	7	1015.1			241014.1	2489412.2	22°29'29.5342"	72°28'57.9425"	1.34	144.367	-0.21	-2.64	0	4.96	4.09	2.24	75.26	8.5in	OTK SURVEY	
1057.88	29.67	73.67	1046.2	7	0	38.66	141.95	241023.2	2489414.8	22°29'29.6263"	72°28'58.2575"	0.59	171.723	-0.48	-0.70	147.1	5.15	4.16	2.29	75.21	8.5in	OTK SURVEY	
1077.30	28.49	73.31	1063.1	4	7	41.34	151.00	241031.9	2489417.5	22°29'29.7161"	72°28'58.5609"	1.84	177.434	-1.82	-0.56	156.5	5.34	4.22	2.34	75.13	8.5in	OTK SURVEY	
1096.51	28.07	73.27	1080.0	6	9	43.96	159.71	241040.4	2489420.0	22°29'29.8027"	72°28'58.8560"	0.66	168.557	-0.66	-0.06	165.6	5.53	4.29	2.39	75.04	8.5in	OTK SURVEY	
1115.55	27.30	73.61	1097.1	2	5	46.48	168.19	241048.8	2489422.5	22°29'29.8881"	72°28'59.1496"	1.24	174.333	-1.21	0.54	174.4	5.72	4.35	2.45	74.97	8.5in	OTK SURVEY	
1134.83	26.98	73.54	1114.1	8	1	48.96	176.63	241057.0	2489424.9	22°29'29.9720"	72°28'59.4355"	0.50	170.386	-0.50	-0.11	183.2	5.90	4.42	2.50	74.92	8.5in	OTK SURVEY	
1153.88	26.48	73.35	1131.5	9	2	51.41	184.84	241065.4	2489427.4	22°29'30.0572"	72°28'59.7273"	0.80	17.964	-0.79	-0.30	191.8	6.09	4.49	2.55	74.87	8.5in	OTK SURVEY	
1173.32	26.97	73.70	1148.8	6	9	53.88	193.23	241074.0	2489429.9	22°29'30.1423"	72°29'0.0251"	0.79	13.054	0.76	0.54	200.5	6.28	4.57	2.61	74.82	8.5in	OTK SURVEY	
1192.75	27.61	74.02	1165.6	2	5	56.36	201.78	241082.4	2489432.3	22°29'30.2246"	72°29'0.3180"	1.01	154.384	0.99	0.49	209.5	6.48	4.64	2.66	74.79	8.5in	OTK SURVEY	
1211.69	27.38	74.26	1182.7	7	0	61.29	218.81	241091.0	2489434.8	22°29'30.3117"	72°29'0.6179"	0.40	-48.746	-0.36	0.38	218.2	6.67	4.71	2.71	74.78	8.5in	OTK SURVEY	
1231.05	27.92	72.96	1199.1	3	6	63.78	227.05	241099.2	2489437.3	22°29'30.3973"	72°29'0.9045"	1.25	153.292	0.84	-2.01	227.2	6.87	4.79	2.77	74.76	8.5in	OTK SURVEY	
1249.53	27.58	73.33	1216.3	1	4	66.40	235.86	241108.1	2489439.9	22°29'30.4872"	72°29'1.2111"	0.62	5.928	-0.55	0.60	235.8	7.07	4.86	2.82	74.71	8.5in	OTK SURVEY	
1269.02	28.69	73.57	1233.4	1	4	69.02	244.81	241117.0	2489442.5	22°29'30.5775"	72°29'1.5229"	1.72	144.373	1.71	0.37	245.0	7.28	4.94	2.88	74.68	8.5in	OTK SURVEY	
1288.50	28.57	73.75	1249.9	7	0	71.53	253.43	241125.6	2489445.1	22°29'30.6637"	72°29'1.8228"	0.23	176.118	-0.18	0.28	254.3	7.49	5.02	2.93	74.65	8.5in	OTK SURVEY	
1307.33	28.36	73.78	1267.2	4	7	74.13	262.37	241134.6	2489447.7	22°29'30.7531"	72°29'2.1340"	0.34	168.519	-0.33	0.05	263.3	7.69	5.10	2.99	74.63	8.5in	OTK SURVEY	
1326.95	28.29	73.81	1284.0	8	1	76.61	271.01	241143.2	2489450.1	22°29'30.8382"	72°29'2.4348"	0.11	153.912	-0.11	0.05	272.6	7.91	5.18	3.05	74.62	8.5in	OTK SURVEY	
1346.04	27.88	74.24	1301.1	5	8	79.04	279.66	241151.9	2489452.6	22°29'30.9222"	72°29'2.7360"	0.72	173.977	-0.64	0.68	281.6	8.11	5.26	3.11	74.61	8.5in	OTK SURVEY	
1365.33	27.66	74.29	1318.0	3	6	81.42	288.13	241160.4	2489454.9	22°29'31.0040"	72°29'3.0309"	0.34	171.592	-0.34	0.08	290.6	8.32	5.34	3.17	74.61	8.5in	OTK SURVEY	
1384.37	27.38	74.38	1335.2	9	2	83.81	296.66	241168.9	2489457.3	22°29'31.0863"	72°29'3.3277"	0.45	-175.97	-0.44	0.14	299.4	8.53	5.42	3.23	74.62	8.5in	OTK SURVEY	
1403.77	26.93	74.31	1354.4	4	7	86.40	305.91	241178.1	2489459.9	22°29'31.1756"	72°29'3.6500"	0.70	175.682	-0.70	-0.11	308.2	8.74	5.50	3.29	74.62	8.5in	OTK SURVEY	
1425.19	26.40	74.40	1370.6	2	5	88.57	313.68	241185.9	2489462.1	22°29'31.2505"	72°29'3.9204"	0.74	-4.043	-0.74	0.13	317.8	8.96	5.59	3.36	74.62	8.5in	OTK SURVEY	
1443.27	26.59	74.37	1387.7	1	4	90.84	321.92	241194.2	2489464.4	22°29'31.3286"	72°29'4.2071"	0.32	112.561	0.32	-0.05	325.9	9.16	5.67	3.42	74.63	8.5in	OTK SURVEY	
1462.38	26.50	74.86	1403.7	1	4	92.86	329.62	241201.9	2489466.4	22°29'31.3985"	72°29'4.4755"	0.37	97.735	-0.14	0.77	334.4	9.36	5.75	3.48	74.64	8.5in	OTK SURVEY	
1480.25	26.45	75.73	1420.5	0	3	94.92	337.71	241210.0	2489468.5	22°29'31.4699"	72°29'4.7571"	0.66	165.063	-0.08	1.46	342.4	9.55	5.83	3.53	74.66	8.5in	OTK SURVEY	
1499.00	26.40	75.70	1420.5	0	3	94.92	337.71	241210.0	2489468.5	22°29'31.4699"	72°29'4.7571"	0.08	N/A	-0.08	-0.05	350.7	9.75	5.91	3.59	74.70	PROJECTION @ TD		



Actual Wellpath Geographic Report - including Position Uncertainty - BH-T2

Report by Baker Hughes	23/Jan/2021 at 08:28 using WellArchitect 6.0				Projection System	WGS84 / UTM Zone 43 North			
Operator	Sun Petrochemicals Pvt Ltd.				North Reference	Grid			
Area	GUJARAT				Scale	1.000429			
Field	Cambay, Bhaskar Field (CB-10)				Convergence at Slot	0.96 West			
Facility	BH-T2				Horizontal Reference Point	Slot			
Slot	Slot#1				Vertical Reference Point	Rig#27 (RKB)			
Well	BH-T2				MD Reference Point	Rig#27 (RKB)			
Wellbore	BH-T2_AWB				Field Vertical Reference	Mean Sea Level			
Wellpath	BH-T2_AWP_Def Surveys				Rig#27 (RKB) To Facility Vertical Datum	4.87 m			
Wellbore last revised	01/14/2021				Rig#27 (RKB) To Mean Sea Level	13.37 m			
Sidetrack from	(none)				Rig#27 (RKB) to Ground Level at Slot (Slot#1)	4.87 m			
User	ADVMANAGER				Section Origin X	E 0.00 m			
Calculation method	Minimum curvature				Section Origin Y	N 0.00 m			
Declination	Magnetic North is 0.35 degrees East of True North				Section Azimuth	355.94°			
Ellipse Confidence Limit	2.00Std Dev				Surface Position Uncertainty	included			
Database	WellArchitectDB				Ellipse Starting MD	4.87 m			

	Local North	Local East	Grid East	Grid North	Latitude	Longitude	Horiz Uncert 1sd	Vert Uncert 1sd
	[m]	[m]	[m]	[m]			[m]	[m]
Slot Location	0.00	0.00	240967.00	2477480.40	22°23'1.8300"N	72°29'3.2900"E	0.61	0.31
Facility Reference Pt			240967	2477480.4	22°23'1.8300"N	72°29'3.2900"E	2.50	0.91
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD	End MD	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
[m]	[m]				
4.87	1533.00	BH NaviTrak (2019) (Standard)	BH_NTK-MWD_8.5IN_<521.02-1516.38>	BH-T2_AWB	14/Jan/2021

Target Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
	[m]	[m]	[m]	[m]	[m]	[m]				
BH-T2_Target Pay Zone	N/A	1389.3	163.24	-11.57	240955.4	2477643.7	22°23'7.1300"N	72°29'2.7900"E	circle	

String / Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W	Wellbore
	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	
8.5in Open Hole	515.00	1550.0	1035.0	515.00	N/A	-0.73	-0.18	N/A	N/A	BH-T2_AWB
9.625in Casing	4.87	509.51	504.64	4.87	509.51	0.00	0.00	-0.71	-0.18	BH-T2_AWB

MD	Inclination	Azimuth	TVD	TVDS	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Toolface	Build Rate	Turn Rate	Vert Sect	Major Semi	Minor Semi	Vert Semi	Minor Azim	Comments
[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]			[°/30 m]	[°]	[°/30 m]	[°/30m]	[m]	[m]	[m]	[m]	[°]	
0.00	0.00	194.18	0.00	-13.37	0.00	0.00	240967.0	2477480.4	22°23'1.8300"N	72°29'3.2900"E	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	194.18	4.87	-8.50	0.00	0.00	240967.0	2477480.4	22°23'1.8300"N	72°29'3.2900"E	0.00	0	0.00	0.00	0.00	5.15	5.15	1.93	0.00	



521.02	0.17	194.18	521.02	507.65	-0.74	-0.19	240966.8 1	2477479.6 6	22°23'1.8058" N	72°29'3.2839" E	0.01	146.328	0.01	0.00	-0.73	5.47	5.47	2.14	104.22
549.48	0.60	331.47	549.48	536.11	-0.65	-0.27	240966.7 3	2477479.7 5	22°23'1.8086" N	72°29'3.2810" E	0.77	20.628	0.45	144.7 2	-0.63	5.51	5.50	2.15	289.34
578.48	2.63	347.49	578.47	565.10	0.13	-0.49	240966.5 1	2477480.5 3	22°23'1.8340" N	72°29'3.2729" E	2.13	3.6	2.10	16.57	0.16	5.55	5.54	2.16	294.67
607.78	5.11	349.24	607.70	594.33	2.07	-0.88	240966.1 2	2477482.4 7	22°23'1.8968" N	72°29'3.2582" E	2.54	-9.188	2.54	1.79	2.13	5.60	5.58	2.17	273.08
637.37	6.59	347.16	637.13	623.76	5.02	-1.50	240965.5 0	2477485.4 2	22°23'1.9923" N	72°29'3.2347" E	1.52	0.435	1.50	-2.11	5.11	5.65	5.62	2.18	266.53
665.00	8.30	347.25	664.53	651.16	8.51	-2.29	240964.7 1	2477488.9 2	22°23'2.1054" N	72°29'3.2049" E	1.86	27.504	1.86	0.10	8.65	5.69	5.66	2.19	265.10
694.86	9.65	351.37	694.02	680.65	13.09	-3.14	240963.8 5	2477493.5 0	22°23'2.2537" N	72°29'3.1725" E	1.50	42.32	1.36	4.14	13.28	5.74	5.70	2.21	264.14
723.75	10.68	356.25	722.46	709.09	18.15	-3.68	240963.3 2	2477498.5 6	22°23'2.4181" N	72°29'3.1507" E	1.39	24.001	1.07	5.07	18.37	5.78	5.75	2.22	84.24
752.33	11.22	357.48	750.52	737.15	23.57	-3.98	240963.0 2	2477503.9 9	22°23'2.5941" N	72°29'3.1372" E	0.62	-11.985	0.57	1.29	23.80	5.83	5.80	2.23	84.37
780.47	11.87	356.81	778.09	764.72	29.20	-4.26	240962.7 4	2477509.6 1	22°23'2.7768" N	72°29'3.1241" E	0.71	-1.718	0.69	-0.71	29.43	5.87	5.84	2.25	84.33
808.90	12.37	356.74	805.88	792.51	35.16	-4.59	240962.4 0	2477515.5 8	22°23'2.9703" N	72°29'3.1089" E	0.53	141.342	0.53	-0.07	35.39	5.92	5.90	2.26	84.16
837.23	12.33	356.59	833.56	820.19	41.21	-4.95	240962.0 5	2477521.6 3	22°23'3.1667" N	72°29'3.0930" E	0.05	37.928	-0.04	-0.16	41.45	5.97	5.95	2.28	83.68
866.39	12.54	357.34	862.04	848.67	47.48	-5.28	240961.7 2	2477527.9 0	22°23'3.3704" N	72°29'3.0778" E	0.27	163.354	0.22	0.77	47.73	6.02	6.01	2.30	81.52
895.34	12.34	357.62	890.31	876.94	53.71	-5.55	240961.4 4	2477534.1 3	22°23'3.5727" N	72°29'3.0645" E	0.22	-84.702	-0.21	0.29	53.97	6.07	6.07	2.32	12.50
923.64	12.43	354.19	917.95	904.58	59.76	-5.99	240961.0 1	2477540.1 9	22°23'3.7692" N	72°29'3.0458" E	0.79	161.575	0.10	-3.64	60.03	6.13	6.12	2.34	358.57
952.98	12.14	353.73	946.62	933.25	65.97	-6.64	240960.3 5	2477546.4 0	22°23'3.9707" N	72°29'3.0192" E	0.31	44.793	-0.30	-0.47	66.27	6.19	6.17	2.36	356.65
980.80	12.89	356.98	973.77	960.40	71.97	-7.13	240959.8 7	2477552.4 1	22°23'4.1656" N	72°29'2.9988" E	1.11	68.82	0.81	3.50	72.30	6.26	6.23	2.38	356.05
1010.85	13.03	358.53	1003.0	989.69	78.71	-7.39	240959.6 1	2477559.1 4	22°23'4.3844" N	72°29'2.9857" E	0.37	54.758	0.14	1.55	79.03	6.33	6.29	2.41	356.06
1038.85	13.15	359.27	1030.3	1016.9	85.05	-7.51	240959.4 8	2477565.4 9	22°23'4.5904" N	72°29'2.9777" E	0.22	88.348	0.13	0.79	85.37	6.40	6.34	2.43	356.28
1066.23	13.16	0.41	1056.9	1043.6	91.28	-7.53	240959.4 7	2477571.7 2	22°23'4.7929" N	72°29'2.9735" E	0.28	164.953	0.01	1.25	91.58	6.47	6.40	2.45	356.55
1096.63	11.92	358.79	1086.6	1073.3	97.88	-7.57	240959.4 3	2477578.3 2	22°23'5.0074" N	72°29'2.9682" E	1.27	153.844	-1.22	-1.60	98.17	6.55	6.46	2.48	356.77
1125.32	11.82	359.03	1114.7	1101.3	103.78	-7.68	240959.3 1	2477584.2 3	22°23'5.1992" N	72°29'2.9608" E	0.12	-53.386	-0.10	0.25	104.0 6	6.63	6.53	2.51	356.84
1154.60	12.00	357.88	1143.3	1130.0	109.82	-7.85	240959.1 5	2477590.2 7	22°23'5.3954" N	72°29'2.9516" E	0.31	142.653	0.18	-1.18	110.1 0	6.71	6.59	2.54	356.91
1183.92	11.80	357.13	1172.0	1158.7	115.86	-8.11	240958.8 9	2477596.3 1	22°23'5.5916" N	72°29'2.9388" E	0.26	19.676	-0.20	-0.77	116.1 4	6.79	6.66	2.57	356.92
1211.44	12.16	357.74	1199.0	1185.6	121.56	-8.36	240958.6 3	2477602.0 2	22°23'5.7770" N	72°29'2.9266" E	0.42	45.128	0.39	0.66	121.8 5	6.87	6.72	2.59	356.91
1240.17	12.34	358.58	1227.0	1213.7	127.66	-8.56	240958.4 4	2477608.1 2	22°23'5.9749" N	72°29'2.9162" E	0.26	111.387	0.19	0.88	127.9 4	6.95	6.79	2.62	356.94
1269.12	12.25	357.47	1255.3	1242.0	133.82	-8.77	240958.2 2	2477614.2 8	22°23'6.1750" N	72°29'2.9052" E	0.26	48.599	-0.09	-1.15	134.1 0	7.03	6.86	2.66	356.97
1297.99	12.43	358.41	1283.5	1270.2	139.98	-8.99	240958.0 0	2477620.4 5	22°23'6.3753" N	72°29'2.8938" E	0.28	-40.532	0.19	0.98	140.2 7	7.12	6.93	2.69	357.00
1326.78	13.21	355.55	1311.6	1298.2	146.36	-9.33	240957.6 6	2477626.8 3	22°23'6.5824" N	72°29'2.8782" E	1.05	174.835	0.81	-2.98	146.6 5	7.21	7.00	2.72	356.98
1355.52	13.06	355.61	1339.6	1326.2	152.87	-9.84	240957.1 6	2477633.3 4	22°23'6.7938" N	72°29'2.8568" E	0.16	-21.383	-0.16	0.06	153.1 9	7.30	7.07	2.76	356.90



1385.20	13.64	354.65	1368.5 1	1355.1 4	159.70	-10.42	240956.5 7	2477640.1 7	22°23'7.0155" N	72°29'2.8324" E	0.63	167.791	0.59	-0.97	160.0 4	7.40	7.14	2.79	356.80
1413.98	12.84	355.43	1396.5 2	1383.1 5	166.27	-10.99	240956.0 0	2477646.7 4	22°23'7.2286" N	72°29'2.8086" E	0.85	-45.198	-0.83	0.81	166.6 3	7.49	7.22	2.83	356.70
1441.90	12.90	355.16	1423.7 4	1410.3 7	172.46	-11.50	240955.4 9	2477652.9 4	22°23'7.4298" N	72°29'2.7871" E	0.09	-141.47	0.06	-0.29	172.8 5	7.58	7.29	2.86	356.63
1471.76	12.43	353.40	1452.8 7	1439.5 0	178.98	-12.15	240954.8 4	2477659.4 6	22°23'7.6412" N	72°29'2.7606" E	0.61	132.348	-0.47	-1.77	179.3 9	7.68	7.37	2.90	356.53
1500.14	12.36	353.04	1480.5 9	1467.2 2	185.03	-12.87	240954.1 2	2477665.5 1	22°23'7.8374" N	72°29'2.7319" E	0.11	97.951	-0.07	-0.38	185.4 7	7.78	7.44	2.94	356.40
1516.38	12.34	353.74	1496.4 6	1483.0 9	188.48	-13.27	240953.7 2	2477668.9 6	22°23'7.9493" N	72°29'2.7159" E	0.28	100.101	-0.04	1.29	188.9 4	7.83	7.49	2.96	356.33
1533.00	12.32	354.29	1512.6 9	1499.3 2	192.01	-13.64	240953.3 5	2477672.4 9	22°23'8.0639" N	72°29'2.7009" E	0.00	N/A	-0.04	1.00	192.4 9	7.89	7.53	2.99	356.27

Actual Wellpath Geographic Report - including Position Uncertainty - BH-T3

Report by Baker Hughes	20/Feb/2021 at 07:40 using WellArchitect 6.0	Projection System	WGS84 / UTM Zone 43 North
Operator	Sun Petrochemicals Pvt Ltd.	North Reference	Grid
Area	GUJARAT	Scale	1.000429
Field	Cambay, Bhaskar Field (CB-10)	Convergence at Slot	0.96 West
Facility	BH-T3	Horizontal Reference Point	Facility Center
Slot	Slot#1	Vertical Reference Point	Rig#27 (KB)
Well	BH-T3	MD Reference Point	Rig#27 (KB)
Wellbore	BH-T3_AWB	Field Vertical Reference	Mean Sea Level
Wellpath	BH-T3_Def Surveys	Rig#27 (KB) To Facility Vertical Datum	4.87 m
Wellbore last revised	02/12/2021	Rig#27 (KB) To Mean Sea Level	13.37 m
Sidetrack from	(none)	Rig#27 (KB) to Ground Level at Slot (Slot#1)	4.87 m
User	Advmanager	Section Origin X	E 0.00 m
Calculation method	Minimum curvature	Section Origin Y	N 0.00 m
Declination	Magnetic North is 0.35 degrees East of True North	Section Azimuth	235.72°
Ellipse Confidence Limit	2.00Std Dev	Surface Position Uncertainty	included
Database	WellArchitectDB2	Ellipse Starting MD	4.87 m

	Local North	Local East	Grid East	Grid North	Latitude	Longitude	Horiz Uncert 1sd	Vert Uncert 1sd
	[m]	[m]	[m]	[m]			[m]	[m]
Slot Location	0.00	0.00	240966.79	2477468.10	22°23'1.4300"N	72°29'3.2900"E	0.61	0.31
Facility Reference Pt			240966.79	2477468.1	22°23'1.4300"N	72°29'3.2900"E	2.50	1.00
Field Reference Pt			240556.31	2476526.1	22°22'30.6000"N	72°28'49.5000"E		

Start MD	End MD	Positional Uncertainty Model	Log Name / Comment	Wellbore	Survey Date
[m]	[m]				
4.87	1549.00	BH NaviTrak (2019) (Standard)	BHI_NTK_MWD_8.5in<540.87-1549m>	BH-T3_AWB	12/Feb/2021

Target Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
	[m]	[m]	[m]	[m]	[m]	[m]				
BH-T3_Target Pay Zone	N/A	1384.37	-130.02	-190.72	240775.99	2477338.02	22°22'57.1000"N	72°28'56.7000"E	circle	

String / Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start E/W	End N/S	End E/W	Wellbore
	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	
9.625in Casing	0.00	510.00	510.00	0.00	510.00	0.00	0.00	0.12	0.03	BH-T3_AWB
8.5in Open Hole	510.00	1570.00	1060.00	510.00	N/A	0.12	0.03	N/A	N/A	BH-T3_AWB

MD	Inclination	Azimuth	TVD	TVDS	North	East	Grid East	Grid North	Latitude	Longitude	DLS	Toolface	Build Rate	Turn Rate	Vert Sect	Major Semi	Minor Semi	Vert Semi	Minor Azim	Comments
[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]			[°/30 m]	[°]	[°/30 m]	[°/30m]	[m]	[m]	[m]	[m]	[°]	
0.00	0.00	14.26	0.00	-13.37	0.00	0.00	240966.79	2477468.10	22°23'1.4300"N	72°29'3.2900"E	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4.87	0.00	14.26	4.87	-8.50	0.00	0.00	240966.79	2477468.10	22°23'1.4300"N	72°29'3.2900"E	0.00	0	0.00	0.00	0.00	5.15	5.15	2.09	0.00	

540.87	0.03	14.26	540.87	527.50	0.14	0.03	240966.8 3	2477468.2 3	22°23'1.4344" N	72°29'3.2911" E	0.00	133.236	0.00	0.00	-0.11	5.49	5.49	2.29	104.06	8.5in_NTK_Survey
560.30	1.43	241.90	560.30	546.93	0.03	-0.18	240966.6 1	2477468.1 2	22°23'1.4308" N	72°29'3.2838" E	2.24	-11.663	2.16	204.3 6	0.13	5.52	5.52	2.30	320.65	8.5in_NTK_Survey
577.46	2.62	236.57	577.45	564.08	-0.29	-0.69	240966.1 0	2477467.8 1	22°23'1.4202" N	72°29'3.2659" E	2.10	2.985	2.08	-9.32	0.74	5.54	5.54	2.30	147.99	8.5in_NTK_Survey
608.81	4.61	237.86	608.73	595.36	-1.36	-2.36	240964.4 3	2477466.7 4	22°23'1.3847" N	72°29'3.2083" E	1.91	-6.109	1.90	1.23	2.71	5.58	5.58	2.31	327.18	8.5in_NTK_Survey
636.89	6.32	236.20	636.68	623.31	-2.82	-4.60	240962.1 9	2477465.2 8	22°23'1.3360" N	72°29'3.1309" E	1.83	5.411	1.83	-1.77	5.39	5.63	5.61	2.33	147.19	8.5in_NTK_Survey
665.93	7.54	237.08	665.51	652.14	-4.74	-7.53	240959.2 6	2477463.3 5	22°23'1.2718" N	72°29'3.0297" E	1.27	-0.667	1.26	0.91	8.89	5.68	5.65	2.34	326.78	8.5in_NTK_Survey
696.23	10.10	236.91	695.45	682.08	-7.27	-11.42	240955.3 7	2477460.8 2	22°23'1.1874" N	72°29'2.8950" E	2.53	-5.824	2.53	-0.17	13.53	5.73	5.70	2.35	326.66	8.5in_NTK_Survey
723.85	11.83	236.05	722.57	709.20	-10.18	-15.80	240950.9 9	2477457.9 2	22°23'1.0907" N	72°29'2.7437" E	1.89	-12.486	1.88	-0.93	18.79	5.78	5.74	2.36	146.57	8.5in_NTK_Survey
752.36	14.08	234.01	750.35	736.98	-13.85	-21.03	240945.7 5	2477454.2 4	22°23'0.9685" N	72°29'2.5630" E	2.42	-9.103	2.37	-2.15	25.18	5.83	5.79	2.38	146.22	8.5in_NTK_Survey
781.97	15.39	233.22	778.98	765.61	-18.31	-27.09	240939.6 9	2477449.7 7	22°23'0.8199" N	72°29'2.3538" E	1.34	4.604	1.33	-0.80	32.70	5.89	5.84	2.39	145.75	8.5in_NTK_Survey
810.72	16.15	233.44	806.65	793.28	-22.98	-33.36	240933.4 2	2477445.1 1	22°23'0.6649" N	72°29'2.1374" E	0.80	13.654	0.79	0.23	40.51	5.94	5.90	2.41	145.74	8.5in_NTK_Survey
839.39	17.29	234.37	834.11	820.74	-27.84	-40.03	240926.7 5	2477440.2 5	22°23'0.5033" N	72°29'1.9073" E	1.23	10.124	1.19	0.97	48.75	5.98	5.96	2.42	146.08	8.5in_NTK_Survey
868.34	18.00	234.78	861.70	848.33	-32.92	-47.18	240919.6 0	2477435.1 6	22°23'0.3341" N	72°29'1.6603" E	0.75	18.282	0.74	0.42	57.53	6.04	6.02	2.44	147.02	8.5in_NTK_Survey
896.44	18.69	235.49	888.37	875.00	-37.98	-54.43	240912.3 4	2477430.1 0	22°23'0.1659" N	72°29'1.4096" E	0.77	102.705	0.74	0.76	66.37	6.09	6.09	2.46	215.94	8.5in_NTK_Survey
924.36	18.67	235.77	914.82	901.45	-43.03	-61.81	240904.9 5	2477425.0 5	22°22'59.9978" N	72°29'1.1546" E	0.10	107.212	-0.02	0.30	75.31	6.16	6.14	2.48	233.94	8.5in_NTK_Survey
952.85	18.54	237.14	941.82	928.45	-48.05	-69.39	240897.3 7	2477420.0 3	22°22'59.8304" N	72°29'0.8928" E	0.48	0.29	-0.14	1.44	84.40	6.23	6.19	2.50	234.89	8.5in_NTK_Survey
981.61	19.19	237.15	969.03	955.66	-53.09	-77.20	240889.5 6	2477414.9 8	22°22'59.6622" N	72°29'0.6227" E	0.68	154.294	0.68	0.01	93.70	6.31	6.25	2.53	235.37	8.5in_NTK_Survey
1010.78	18.66	236.35	996.63	983.26	-58.28	-85.11	240881.6 4	2477409.7 9	22°22'59.4893" N	72°29'0.3492" E	0.61	178.719	-0.55	-0.82	103.1 5	6.39	6.30	2.55	235.60	8.5in_NTK_Survey
1039.46	17.97	236.30	1023.8	1010.4	-63.28	-92.61	240874.1 4	2477404.7 9	22°22'59.3227" N	72°29'0.0899" E	0.72	137.071	-0.72	-0.05	112.1 7	6.48	6.36	2.58	235.68	8.5in_NTK_Survey
1069.26	17.71	237.10	1052.2	1038.8	-68.29	100.24	240866.5 1	2477399.7 8	22°22'59.1557" N	72°28'59.8262" E	0.36	-66.46	-0.26	0.81	121.2 9	6.57	6.43	2.60	235.75	8.5in_NTK_Survey
1096.21	18.14	234.10	1077.8	1064.4	-72.98	107.08	240859.6 6	2477395.0 9	22°22'58.9996" N	72°28'59.5898" E	1.13	55.725	0.48	-3.34	129.5 9	6.65	6.48	2.63	235.73	8.5in_NTK_Survey
1125.73	18.23	234.52	1105.9	1092.5	-78.35	114.57	240852.1 8	2477389.7 1	22°22'58.8208" N	72°28'59.3314" E	0.16	158.82	0.09	0.43	138.8 0	6.75	6.55	2.66	235.59	8.5in_NTK_Survey
1153.35	18.07	234.72	1132.1	1118.7	-83.33	121.58	240845.1 6	2477384.7 3	22°22'58.6551" N	72°28'59.0892" E	0.19	96.289	-0.17	0.22	147.4 0	6.84	6.61	2.69	235.49	8.5in_NTK_Survey
1182.67	18.03	236.02	1160.0	1146.6	-88.50	129.06	240837.6 8	2477379.5 6	22°22'58.4832" N	72°28'58.8309" E	0.41	26.311	-0.04	1.33	156.4 8	6.94	6.68	2.72	235.45	8.5in_NTK_Survey
1212.17	18.48	236.72	1188.0	1174.6	-93.61	136.75	240829.9 8	2477374.4 4	22°22'58.3127" N	72°28'58.5650" E	0.51	-145.46	0.46	0.71	165.7 2	7.05	6.75	2.75	235.48	8.5in_NTK_Survey
1241.14	18.28	236.28	1215.5	1202.1	-98.65	144.37	240822.3 6	2477369.4 0	22°22'58.1447" N	72°28'58.3017" E	0.25	11.888	-0.21	-0.46	174.8 6	7.15	6.82	2.78	235.52	8.5in_NTK_Survey
1269.77	19.04	236.77	1242.6	1229.2	-	152.01	240814.7 2	2477364.3 4	22°22'57.9763" N	72°28'58.0376" E	0.81	174.087	0.80	0.51	184.0 2	7.26	6.89	2.82	235.55	8.5in_NTK_Survey
1297.97	18.73	236.67	1269.3	1255.9	-	159.64	240807.0 8	2477359.3 3	22°22'57.8093" N	72°28'57.7738" E	0.33	128.007	-0.33	-0.11	193.1 4	7.37	6.96	2.85	235.59	8.5in_NTK_Survey
1326.16	18.69	236.83	1296.0	1282.6	-	167.20	240799.5 2	2477354.3 7	22°22'57.6441" N	72°28'57.5124" E	0.07	176.597	-0.04	0.17	202.1 8	7.47	7.03	2.89	235.63	8.5in_NTK_Survey
1354.95	18.32	236.76	1323.3	1309.9	-	174.85	240791.8 7	2477349.3 7	22°22'57.4772" N	72°28'57.2481" E	0.39	179.227	-0.39	-0.07	211.3 2	7.59	7.10	2.93	235.67	8.5in_NTK_Survey

1383.62	18.09	236.77	1350.5 8	1337.2 1	-	-	240784.3 7	2477344.4 6	22°22'57.3136" N	72°28'56.9891" E	0.24	145.015	-0.24	0.01	220.2 7	7.70	7.18	2.96	235.70	8.5in_NTK_Survey
1412.60	17.88	237.25	1378.1 5	1364.7 8	-	-	240776.8 7	2477339.5 8	22°22'57.1511" N	72°28'56.7296" E	0.27	178.846	-0.22	0.50	229.2 2	7.82	7.25	3.00	235.74	8.5in_NTK_Survey
1441.43	17.58	237.23	1405.6 1	1392.2 4	-	-	240769.4 8	2477334.8 3	22°22'56.9927" N	72°28'56.4743" E	0.31	170.721	-0.31	-0.02	238.0 0	7.93	7.33	3.04	235.78	8.5in_NTK_Survey
1471.25	17.20	237.02	1434.0 6	1420.6 9	-	-	240761.9 9	2477329.9 9	22°22'56.8314" N	72°28'56.2155" E	0.39	23.063	-0.38	-0.21	246.9 1	8.05	7.41	3.08	235.82	8.5in_NTK_Survey
1500.10	17.85	237.92	1461.5 8	1448.2 1	-	-	240754.6 6	2477325.3 2	22°22'56.6756" N	72°28'55.9623" E	0.73	47.257	0.68	0.94	255.5 9	8.17	7.49	3.13	235.86	8.5in_NTK_Survey
1530.71	17.95	238.27	1490.7 0	1477.3 3	-	-	240746.6 7	2477320.3 4	22°22'56.5096" N	72°28'55.6860" E	0.14	-37.529	0.10	0.34	264.9 9	8.30	7.58	3.17	235.92	8.5in_NTK_Survey
1549.00	18.10	237.90	1508.1 0	1494.7 3	-	-	240741.8 7	2477317.3 5	22°22'56.4097" N	72°28'55.5198" E	0.31	N/A	0.25	-0.61	270.6 4	8.38	7.63	3.20	235.96	Projection @ Bit

RESPONSIBILITY MATRIX

SI	Scope	No	Description	Responsibility		Remark
				SPPL	Bidder	
A	Design & Engineering of offered units	LS	Design, engineering & selection of downhole equipment including pump, surface unit , motor & electrical equipment			
B	Supply	1.	SRP Surface Beam pumping Unit along with all accessories & anchor bolts/nuts	--	√	
		2.	Downhole Pump Unit along with all accessories	--	√	
		3.	Motor, Junction Box , VFD, ATS/MCC panel & Instrumentation	--	√	
		4.	BOP for Polish Rod	--	√	
		5.	Commissioning Spares	--	√	
		6.	Polished Rods & Pony Rods	--	√	
		7.	Sucker Rods	--	√	
		8.	Rollers for sucker rods	--	√	
		9.	2 yr. Operating Spares & Mandatory spares	--	√	
		10.	Hand tools	--	√	
		11.	Any other equipment/material required for successful installation & commissioning for SRPs in the field		√	
C	QA/QC	1	QAP & ITP	---	√	Bidder to take approval from the company.
		2	FAT & SAT	√	√	
D	Transportation	1.	Transportation from Supplier site to CPF	--	√	
		2.	Unloading at CPF under Vendor's supervision	√	--	
		3.	Lifting Equipment Support	√	--	
		4.	Transportation between CPF & well site under vendor supervision	√	---	
E	Civil / Mobile Steel Skid	1.	Civil Foundation Design & layout	--	√	
		2.	Civil Foundation Construction	√	--	
		3.	Mobile steel skid	--	√	
		4.	Anchor Bolt/nuts Supply & Grouting	--	√	
F	Electrical	1.	Motor supply as per DGMS guideline	--	√	
		2.	VFD/ATS/MCC panel	--	√	
		3.	Junction Box	--	√	
		4.	Cable Supply	--	√	
		5.	Cable Laying	--	√	
G	Mechanical	1.	Surface Unit installation		√	
		2.	Services of workover Rig for installation of SRP under Vendor's supervision	√	√	
		3.	Supervision for installation of downhole pump	--	√	
		4.	Commissioning	--	√	
H	Instrument	1.	PT, TT commissioning	--	√	
I	SCADA	1.	SRP parameter configuration to RTU	√	√	
		2.	Well parameter configuration to RTU	√	√	
J	Operation	1	SRP functional Test	√	√	
		2	Cause & Effect check	√	√	

		3	Satisfactory Performance test of the equipment at site(72 Hours) under supervision of vendor	---	√	
K	Utility	1	Power Supply	√	--	
		2	Lifting Equipment assistance	√	--	
		3	Special Tools & tackles	--	√	
L	HSE	1	PPE	--	√	
M	Manpower	1	Contractor Manpower Transportation, Boarding & Lodging	--	√	
N	Documentation	1	Equipment Dossier	--	√	2 Hard copies & in 3 USB drives

BID EVALUATION CRITERIA

The bids shall conform to the specifications, terms and conditions given in the tender.
Bids shall be rejected in case the item(s) offered do not conform to technical specifications.

A) BID EVALUATION CRITERIA:

1.0 Bidder's Qualification:

- 1.1 The bidder shall be an Original Equipment Manufacturer (OEM) of the Sucker Rod pumps & surface units and should have experience of Design, manufacturing, supply and installation of SRP Units as specified in scope work of the tender document.

OR

- 1.2 The bidder shall be an authorized dealer/authorized distributor/Supply House of OEM & meeting the qualification criteria.

Valid copy of authorization letter/dealership certificate (valid at the time of bidding and till entire execution of the order) with proper guarantee/warranty back up for the supplied products from the original SRP Unit manufacturer (OEM) in OEM's Letter Head, shall be submitted along with technical bid.

OR

- 1.3 The bidder shall be an Indian Company / Indian Joint Venture Company /Technical Collaboration.

2.0. Bidder's Experience:

- 2.1 The bidder shall have an experience of having successfully supplied & installed at least 20 SRP Units during previous five (05) years in Oil & Gas Industry, which should under satisfactory operation for last 5 years.

- 2.2 Bidder to submit the Documentary evidence for the units supplied in the past:

The following documentary evidence to substantiate experience records of the bidder must be submitted along with the technical bid, failing which the Bid shall be treated as incomplete and rejected:

- a) Copy of Purchase order(s)
- b) Copy of contract(s) awarded by Client(s)
- c) Copy of Tax Invoice/Commercial Invoice
- d) True copies of performance certificate (on Client's/User's official letter head with signature & stamp).
- e) True copies Payment Certificate from the clients (on Client's/User's official letter head with signature & stamp).
- f) MOU should be a legally acceptable documents (wherever applicable) in support of collaboration/JV arrangement.

3. In case the Bidder is not the OEM of the offered item, but submitted their bid as authorized agent/dealer/distributor/supply house of OEM, then:

Bidder(s) other than OEM must submit a valid Authorization letter and back-up warranty from the manufacturer.

The Authorization and back-up warranty letter duly sealed & signed by the Manufacturer on their official letterhead must be submitted along with the technical bid. This certificate should be valid at the time of bidding and should remain valid during the entire execution period of the order.

4. Technical Requirements

- I. API Certificates for SRP Surface unit, pump, rods etc should be provided.
- II. Bidder to submit relevant valid API 11E, API 11X & API 11B, 5CT certificates or licenses whichever is applicable for manufacturing SRP Surface or Sub Surface pumps or Downhole accessories.
- III. Bidder should categorically confirm to provide services of adequately qualified and trained/experienced key-manpower for intended work (Installation and Commissioning of the SRP units).

- IV. Bids which do not include supply of all the materials/jobs mentioned in the tender document will be considered as incomplete and rejected.
- V. Bidder should have service centre for providing operation & maintenance support, overhaul & repair facilities in the state of Gujarat.

5.0 FINANCIAL CRITERIA

- i. The bidder should have average yearly turnover for last three financial years (2019-20, 2020-21, 2021-22) more than U.S. Dollars 0.5 million (USD 500,000) / INR 4 Crore (Rs 4,00,00,000)
- ii. Net worth of the bidder should be positive.

ANNEXURE-2

BILL OF QUANTITY (BOQ) / PRICE SCHEDULE (PS)

Sr. No	Description	UOM	Qty	Cost/Unit (INR)	Total Cost (INR)
1.	SRP Surface Unit along with electrical motor and all accessories (As per API design/standard) with commissioning spares	No	6		
2.	Downhole Pump Unit along with all accessories required to complete the installation (As per API standard)	No	6		
3.	Polished Rods as per API 11B OD 1.5" Length 22 Ft. having 75 microns chrome plating, (6+2 spare) with couplings suitable for pony/sucker rods connection	No	8		
4.	BOP for polished Rod	No.	6		
5.	Sucker Rods combination each of length 25' with 1 set of 200 rods (As per API 11B design)	Set	6		
6.	Pony rods of length 10', 8', 6' & 2' each 01 no.	Set	6		
7.	Sucker Rod Centralisers for each joint	Set	6		
8.	Moulded guide on Sucker Rod for Wax removal (MoC: Teflon) up to 300 m depth from surface.	Set	6		
9.	Rollers for sucker rods to installed in deviated wells (50 nos. x 6 deviated wells)	No.	300		
10.	Mobile Structural steel foundation/skid for surface pumping unit.	No	6		
11.	SRP Unit installation, commissioning and start-up for each unit along with Commissioning Spares & Lube-Oil.	No	6		
12.	Stuffing Box suitable for polished rod	No.	6		
13.	Pumping TEE suitable for Stuffing box assembly	No.	6		
14.	Flange 2 9/16" with R 27 ring	No.	6		
15.	Flange 2 1/16" with R 24 ring	No.	6		
16.	Polish rod clamp suitable for polish rod	No.	6		
17.	NRV (2" X 400)	No.	6		
18.	Flow Valve	No.	6		
19.	Needle/ Cock Valve (02 Nos. for each well	No.	12		
20.	Pressure Gauge (0-1500 PSI)	No.	6		
21.	Sinker Bar 1 1/4" X 25 Ft. (Average 10 Nos. for each well)	No.	60		
22.	VFD/ATS/MCC panel	No.	6		
23.	Electrical Cable & accessorized	Set	6		
24.	Instrumentation	Set	6		
25.	2 Years Spares for Surface Units as approved by SunPetro	LS	LS		
26.	OEM support on call basis	Man-days	24		
	Total Amount (INR)				

Note:

- 1) ****Bidder to attach separate list of O&M Spares along with price break-up for the Sucker Rod Pumps.**
- 2) All the above payment schedule shall be inclusive of all charges, including taxes, duties as applicable. GST as applicable shall be extra.
- 3) The above prices shall be inclusive of all considering delivery, P&F, transit insurance, installation, commissioning & testing at designated site of Sun Petro.

- 4) SunPetro shall provide Essentiality Certificate, if applicable as per terms & condition for concessional custom duty / IGST/GST.
 - 5) The above rates shall be applicable for Bhaskar Field or any other field in Gujarat.
 - 6) **Place of Delivery:** Sun Petrochemicals Pvt Ltd., L-1, Bhaskar Field, Village: Pandad, Tal-Khambhat, Dist.-Anand, Anand – 388625 or any other field in Gujarat, if required
 - 7) **Delivery Period** – Within 4 months from LOI / LOA/PO. However, bidder to quote its best reduced delivery period.
 - 8) **Guarantee & Warrantee:** Eighteen (18) months from date of supply or Twelve (12) months from date of commissioning whichever is earlier.
 - 9) **Inspection** - SunPetro shall reserve the right to inspect the material & quality of works by bidder. Bidder shall incorporate the changes to be proposed by SunPetro.
 - 10) **Payment Schedule:** Invoice for material supplied / Milestone / work completed / service provided to be submitted as per payment schedule mentioned below. Payment shall be made within 30 days after receiving the invoice along with relevant supporting documents with undisputed certified invoices:
For Supply:
 - a. 90% upon delivery of material at site & certification of undisputed invoice
 - b. 10% upon successful installation & commissioning of Pump / equipment.**For Service**
Upon completion of Installation, Commissioning / services and after receipt of undisputed invoice
-
- 10) SunPetro may issue callout notice for Manpower Support during the contract period for any support. The charges shall be paid as per quoted rates which shall be inclusive of all charges including Mob & demob charges. The rates for Manpower support will be valid for 2 years from delivery of equipment and completion of warranty period.

ANNEXURE-3

GENERAL CONDITIONS OF THE CONTRACT (GCC)

3.1 DEFINITIONS AND INTERPRETATION

The following definitions and interpretation shall apply and shall have the meanings assigned to them in this work order/contract except where the context otherwise requires:

- 3.1.1 "Affiliate" of a Party means any Person, whether directly or indirectly, controlling, controlled by, or under common control with, such Party or Person, as applicable. For the purposes of this definition, the term "control" means (i) direct or indirect ownership of more than fifty percent (50%) of the equity (or such lesser percentage which is the maximum allowed to be owned by a foreign corporation in a particular jurisdiction) having the power to vote on or direct the affairs of such Party or Person, as applicable, or (ii) the power to direct decisions of such Party or Person, as applicable, including the power to direct management and policies of such Party or Person, as applicable, whether by reason of ownership, by contract or otherwise. "Agreement" or "Contract" or "Contract Document" shall mean the instructions to the bidders mentioned in the tender document, the preamble, these contract definitions, General Contract Conditions, Special Contract Conditions, Schedule of Rates, Responsibility Matrix etc., Specifications, Scope of work, all the exhibits, annexures appendices, schedules etc. hereto along with any amendments agreed and issued subsequently.
- 3.1.2 "Applicable law" shall mean any Indian law, regulation, bylaws, rule, directive, ordinance, judicial or quasi-judicial decree, order or notification enacted, issued or modified by any Government Agency in India.
- 3.1.3 "Approved and Approval" shall mean approved or approval in writing by the Company.
- 3.1.4 "Contract Administrator" shall mean the contract administrator so appointed by SunPetro.
- 3.1.5 "Contract /order Price" shall mean the lump sum prices and/or rates of payment specified in Price Schedule in Annexure-2 and as may be indicated in the Price schedule, which SunPetro shall compensate, Contractor for the actual work executed and certified by SunPetro's Representative subject to any additions/deletions thereto which may be made through the application of relevant provisions of the Contract.
- 3.1.6 "Contract Area" shall mean various Exploration & Production Blocks and Fields as awarded to the Operator by Government of India and/or any other Block awarded to Company from time to time and as identified as "Contract Area" or where company has participatory interest.
- 3.1.7 "Certificate of Release and Final Payment" is the certificate issued by to SunPetro as per the terms of Clauses mentioned herewith.
- 3.1.8 "Contractor" shall mean M/s. _____ and includes, its consortium partners, sub-contractors and vendors and the officers, directors, commissioners, employees, servants, representatives and agents of any of them as applicable.
- 3.1.9 "Contractor Administrator" shall mean the contract administrator so appointed by the Contractor and informed to SunPetro.
- 3.1.10 "Contractor's Equipment" shall mean all the equipment(s), material, units etc. along with auxiliary, plant, machines, spares, facilities, miscellaneous materials /services and consumables etc., provided by the Contractor or its Sub-contractors in connection with the Scope of Work specified in *Annexure-1*.
- 3.1.11 "Contractor's Personnel" shall mean each individual and / or the collective group of Contractor's employees, Contractor's subcontractors, and their respective employees, subcontractors, licensees, invitees, agents and representatives, who are provided and/or utilized by Contractor for the performance of the Work.
- 3.1.12 "Commissioning Date" shall mean the date when the Contractor's equipment / services are Installed, tested, commissioned and ready to commence operations on the designated site for working as intimated by SunPetro to Contractor.

- 3.1.13 "Completion Date" shall mean the time and date when the work is completed by the Contractor as per the Scope of Work.
- 3.1.14 "Company" means the Company or Operator which is a party to this Contract, and any other party for whom Company is acting in executing this Contract, including but not limited to, other members of the consortium owning an interest in the Block, their or their officers, directors, agents and employees.
- 3.1.15 "Company's Equipment" shall mean all equipment, appliances, tools, parts and supplies provided by Company and / or its associates.
- 3.1.16 "Company Group" shall mean the Company, its affiliates their contractors, subcontractors and equipment vendors of any tier, its Co-ventures, their personnel, officers, directors, employees and agents but excluding Contractor Group;
- 3.1.17 "Contract", "Agreement" or "Contract Document" shall mean the instructions to the bidders mentioned in the tender/RFQ document, the preamble, these contract definitions, General Contract Conditions, Special Contract Conditions, Schedule of Rates, Responsibility Matrix etc., Specifications, Scope of work, all the exhibits, annexures appendices, schedules etc. hereto along with any amendments agreed and issued subsequently.
- 3.1.18 "Daily Operation Report" shall mean the daily report submitted by the Contractor to SunPetro as per the requirements of contract.
- 3.1.19 "Days" shall indicate consecutive calendar days, it being understood that all dates and time periods referred to in the Contract are expressed in terms of the Gregorian calendar. "Day" means a calendar day of twenty hours as referred to local time at the Site.
- 3.1.20 "Demobilization" shall mean the actual demobilization of contractor's equipment and contractor's personnel including disassembly, removal, and site cleanup & restoration of all facilities assembled on site, repair of access roads to the full satisfaction of the Company. SunPetro, will issue the de-mobilization letter for the services as and when requirement ends.
- 3.1.21 **Deleted.**
- 3.1.22 "Effective Date" shall be the date of issue of NOA(Notification of Award) /LOI(letter of Intent) / LOA(Letter of Award) / Work Order or as specified by Company.
- 3.1.23 "Exhibits" are those documents attached hereto and form an integral part of this Contract for all purposes and consisting of all the exhibits and annexures.
- 3.1.24 "GIPIP" shall mean specific guidelines in conformance with the Good international practices/norms and applicable standards / legislations and prevalent regulatory regime as specified by the Government of India.
- 3.1.25 "Good Oilfield Practices" means good international petroleum industry practices with such degree of diligence and prudence reasonably and ordinarily exercised by experienced parties engaged in a similar activity under similar circumstances and conditions.
- 3.1.26 "Government" shall mean Government of India or Government of State, or any political subdivision or administrative agency thereof, as the case may be, and/or their respective representatives having jurisdiction over the Work performed under this Contract.
- 3.1.27 "Gross negligence" shall mean (i) the intentional failure to perform a manifest duty, in reckless disregard of or wanton indifference to the consequences to the life, health, safety or property of others; or (ii) any act or failure to act which, in addition to constituting negligence, was in reckless disregard of or wanton indifference to the consequences to the life, health, safety or property of others.
- 3.1.28 Interpretation
- Reference to "Section", " Para " "Clause" "Article" and "Provision" shall have the same meaning.
 - The headings and sub-titles in these Conditions of Contract are included solely for convenience and shall not be deemed to be part thereof and shall not affect the meaning or operation of the Contract.

- c. Words imparting the singular meaning only also include the plural and vice versa except where the context otherwise requires.
 - d. Any reference to statute, statutory provision or statutory instrument shall include any re-enactment or amendment thereof for the time being in force.
 - e. Reference to Applicable Laws shall also include amendments and extensions thereto.
- 3.1.29 "Letter of Intent / Letter of Award / Notification of Award /Work Order" or "LOI / LOA / NOA/ WO" shall mean the letter of Intent or Letter of Award or Work Order issued to the Contractor by Company.
- 3.1.30 Deleted
- 3.1.31 "Mobilization / Delivery" shall mean the actual mobilization / delivery of the Contractor's equipment which are fit for operational requirements, along with auxiliary equipment and contractor's personnel during contract period and shall include any demurrage incurred during the period up to and including the date the Work begins at the Work Site of this Project except if such delay or demurrage has occurred due to acts or omissions of the Operator. SunPetro, will issue the mobilization letter for the services as and when requirement comes.
- 3.1.32 "Operator" shall mean Sun Petrochemicals Private Limited (SunPetro) / Company
- 3.1.33 "PSC" shall mean the production-sharing contract entered into between the Government of India and SUNPETRO consortium as its consortium.
- 3.1.34 "Project" shall mean the work and other related activities as may be indicated in the LOI/ Contract as per the Scope of Work.
- 3.1.35 "Reservoir Monitoring Services" shall mean the unit and tools capable the reservoir pressure, temperature and fluid level in the well using echometer as defined in the Scope of Work.
- 3.1.36 "Services" shall mean the services to be provided by the Contractor under the Contract as more particularly described in Scope of Work, to this Contract and shall include such other services as may from time to time be agreed in writing between the Contractor and SunPetro.
- 3.1.37 "Sun Petro " / "SPPL" shall mean Sun Petrochemicals Private Limited .
- 3.1.38 "SunPetro's Representative" or "Company Representative" shall mean the person or persons expressly designated in writing by Company, who shall be Company's representative and shall be empowered to act, monitor and direct the performance of the Work required under this Contract on behalf of Company.
- 3.1.39 "SunPetro Supply Item" shall mean a supply item, which is expressly identified in the Contract as being for supply by SUNPETRO or its contractors.
- 3.1.40 "Sub-Contractors" shall mean those persons or companies engaged by the Contractor in connection with the Services / contracts approved by SunPetro.
- 3.1.41 "SunPetro Designated Base" shall mean well site as informed by Company. However, the contractor shall store/warehouse its equipment and materials at its own costs & risks.
- 3.1.42 "Performance Bank Guarantee" shall mean the unconditional, irrevocable bank guarantee required to be submitted by the Contractor to the Company in accordance with the terms of the contract and in the form of which bank guarantee is set forth in *attachment#1* hereof.
- 3.1.43 "Rates" or "Rate" shall mean the applicable rates of compensation to be paid to Contractor for work hereunder as set forth in the Price Schedule.
- 3.1.44 "Termination Date" shall mean the time of day and date when the Term defined in contract hereof expires or when this Contract is terminated by Company, in accordance with its terms, whichever occurs later.
- 3.1.45 Deleted.
- 3.1.46 "Well" shall mean either a Vertical or a Deviated Well or horizontal well.

- 3.1.47 Deleted.
- 3.1.48 Deleted.
- 3.1.49 "Willful Misconduct" means Intentional disregard of Good Oilfield Practice or proper conduct under the Contract with knowledge that it is likely to result in any injury to any person or persons or loss or damage of property.
- 3.1.50 "Work" shall mean the Work provided by Contractor which includes providing but not limited to tools & tackles, auxiliary equipment, spares, consumables, supplying the necessary equipment, materials, personnel and technical support etc. necessary for the performance of Services on the Work Site / Work Location or base in accordance with the scope of the work defined in the Contract.
- 3.1.51 "Work Site / Work Location" shall mean the land, water and other places on, under, in or through which the Works are to be carried out and any other lands, waters or places approved by the Company for the purposes of the Contract together with any other places designated in the Contract as forming part of the Site.
- 3.1.52 "Third Party" shall mean a person / entity which is not included in Company Group or Contractor Group.
- 3.2 Contract Period & Validity:**
- 3.2.1 The Contract shall be valid for a period of 1 year with provision of extension of contract for further period of 6 months at same rates, terms and condition at discretion of Company. The prices are valid for the contract period and the contract shall be valid for all the blocks of SunPetro in Gujarat or any other blocks which company may acquire.
- 3.2.2 **Commencement Date and Completion Date:**
- Commencement date: Effective Date of Contract
 - Completion date of contract: Expiry / Termination Date of Contract
- 3.3 Materials, Supplies, Equipment, Services and Personnel**
- Any item supply / services requested by Company during contract period to complete the work shall be provided by Contractor.
- 3.3.1 Additional Services, Materials, Supplies and Equipment**
- If it is not a part of contract, Company will pay based on agreed cost or actual cost plus 5% handling / service charges. The proof of item prices shall be submitted in original by the contractor to the Company.
- 3.3.2 The Company has full right to delete any item (s) / service(s) from the contract. The pay will only affect for the quantities of item(s) / Service(s) as certified by the company's representative.
- 3.4 INSPECTION OF MATERIALS**
- 3.4.1 **Inspection of Company Equipment**
- Contractor shall have right to inspect and get satisfied on the company equipment, company will provide the full access to the contractor.
- 3.4.2 **Inspection of Contractor Equipment**
- Company shall have the right at any time to inspect and reject for valid cause any items of equipment furnished by the Contractor for performance of the Services and Contractor shall replace, at no additional cost to Company, such items so rejected with items free from defects or if Company agrees, repair such items at Contractor's cost.
- 3.5 COMPANY'S WORK COMPLETION PROGRAMME**
- 3.5.1 **Work Programme**
- The Work / Completion Programme shall be specified by the Company for each work / services/ supplies.
- 3.5.2 Contractor to Comply with Company's Work / Completion / Supply Programme. Contractor shall use all reasonable care and attention to ensure all aspects of the requirements set forth in Company's Work / Completion / supply programme which are to be provided by Contractor are complied with and to ensure that Company's other

contractors are afforded all reasonable facilities to similarly comply as appropriate. Contractor shall carry out checks on any of the requirements of the Work / Completion / supply programme, as directed by Company and record and report the results of such checks to Company.

3.5.3 Work shall be completed as desired by SunPetro as per volume of job.

3.6 PERFORMANCE OF THE WORK/SERVICES/SUPPLIES

3.6.1 Conduct of Services /supplies

The Services shall be performed by Contractor in accordance with Best international petroleum industry practices. The Contractor shall be responsible for all interface issues, related to providing multiple services under the umbrella of Integrated Services as required as per scope of work / services / supplies.

3.6.2 All correspondence from either party to the other party shall be addressed to its Contract Administrator, unless provided otherwise in the Contract.

3.6.3 Discipline

3.6.3.1 Contractor shall maintain at all times strict discipline and good order among its employees and subcontractors and shall abide by and conform to all reasonable rules and regulations promulgated by Company governing the scope of work/supplies.

3.6.3.2 Contractor shall, and shall ensure that its employees and subcontractors are qualified, experienced & trained and shall, comply with the all Conditions set forth in scope of work /supplies. Contractor agrees to all provisions set forth in this tender and further agrees that failure to comply with the requirements of scope of work/supplies shall constitute grounds for termination of this Contract.

3.6.3.3 Company have the right to ask contractor to change / replace its personnel for misbehaving / indiscipline during contract period. Contractor will replace person, within 5 working days without affecting the work progress.

3.6.4 Legal Requirements

Contractor shall apply for and obtain all necessary certifications, permits, licenses and authorizations for personnel, equipment and technology required in India, including any authorizations or licenses from any governmental body for use of Contractor's Personnel or technology in the Services or the export of such technology to India.

Provident Fund Act:

No dues of Payment of PF Contribution from the Employer & Employees in respect of Contractor working for Onshore Block under Contract along with monthly Returns and remittance particulars of Challans and Statement of workmen.

ESI Act:

No dues of Payment of ESI Contribution from the Employer & Employees in respect of Contractor working for Onshore Block under Contract along with their Half-yearly Returns and remittance particulars of Challans and Statement of workmen.

As per the Labour enactments:

Regular compliance to Minimum Wage Act, No Dues to the Employees who have resigned or whose services are terminated, engaged by the contractors regarding payment of Wages, service compensation, Bonus, Gratuity, Un-availed Leave salary, Notice pay & etc.

Labour Welfare Cess:

All prices are inclusive of all taxes including Labor welfare cess. The service tax shall be extra at actual. Each bidder has to provide the proof of deposit of Labor welfare cess to SUNPETRO duly signed by CA of the firm.

The Contractor shall indemnify the Company in case of his failure in meeting the statutory requirements as mentioned above. Submission of the above documents shall not relieve the Contractor of any liability to comply with the Applicable Laws.

3.7 TERMINATION BY COMPANY

3.7.1 Unless otherwise provided, the Contract shall terminate upon expiry of the Term of the Contract. The Contractor shall be paid for the Work successfully completed and certified by Company Representative along with demobilization charges, if any.

A. Termination for Non- Mobilization or Non-commencement of Work

If the Contractor fails to timely mobilize the Materials or Equipment required to perform the work or having mobilized, fails to timely commence the work in accordance with the terms of the Contract, it would amount to material breach under the Contract and in such event, the Company shall have right to terminate the Contract immediately upon expiry of such specified time, unless otherwise provided or agreed by the Company.

Consequences of Termination:

Upon termination of Contract by Company under this sub-clause, the Contractor shall not be entitled to any payment whatsoever. The Contractor shall immediately refund any sum which the Company might have paid to the Contractor under this Contract. Unless, otherwise provided in the Contract, the Contractor shall compensate the Company for all losses, expenses etc. which the Company shall sustain on account of such breach by the Contractor.

B. Termination for events specified below:

Occurrence of any of events as specified below shall be construed as Event of Default. The Company shall inform the Contractor of the same by issuing a notice of default (hereinafter referred to as "Notice of Default"). If the Contractor, upon receipt of such notice, fails to remedy such default with Seven (7) days, then the Company shall have the right to terminate this contract forthwith. Event of default shall occur if the Contractor:

- a) Makes a general assignment for the benefit of its creditors; or
- b) Refuses or fails to supply enough properly skilled workmen or proper equipment, or materials or services to accomplish the Work in accordance with the original work schedule and the contract; or
- c) Fails to make prompt payment to Sub-contractors or materials, equipment or labour; or
- d) Is in breach of Applicable Law; or
- e) Otherwise breaches the provisions of the contract or part thereof; or
- f) Suspends or abandons activities in the Work site; or Is wound up (not being a member's winding up for the purpose of reconstruction or amalgamation only) or if any deed or action substantially equivalent to any of the foregoing deeds or actions either in Indian law or applicable law shall occur; or
- g) Fails to provide uninterrupted services/perform work.

Consequences of Termination:

Upon termination of Contract by Company under this sub-clause B, the Contractor shall be entitled to payment for the work successfully completed and certified by the Company Representative till the date of Termination. Further, the Company shall be entitled to take possession of the Work and finish the Work at the risk and cost of the Contractor by whatever method Company deems just and expedient. Unless otherwise provided in the Contract, the Contractor shall compensate the Company for all losses, expenses etc. and additional expenses which the Company shall sustain, to get the work executed, on account of such breach by the Contractor.

C. Termination in the event of Force Majeure

In the event that a condition of Force Majeure exists at the Site for a period of fifteen (15) consecutive days, Company shall have the right to terminate this Contract by giving two (2) days advance notice to Contractor.

Consequences of Termination:

Upon termination of Contract by Company under this sub-clause, the Contractor shall be entitled to payment for the work successfully completed and certified by the Company Representative till the date of Termination and demob charges, if applicable as per Contract. No Party shall be obligated to pay the other Party for losses (including consequential losses), expenses, damages etc. sustained on account of event of Force Majeure.

D. Termination for Convenience

Company shall have a right to terminate the Contract in whole or in part, at any time with fifteen (15) days prior written notice thereof to the Contractor. Upon any such termination the Contractor irrevocably agrees to waive any and all claims for damages, compensations, including loss of anticipated profits, on account thereof, and as the sole right and remedy of the Contractor, Company shall pay the Contractor in accordance with Price Schedule mentioned in the Contract for the work / services performed by the Contractor till the date of such termination.

E. Termination for non-performance or non-satisfactory performance

The Contractor shall perform the work in accordance with GIPIP and the terms and conditions of the Contract. If the Contractor does not perform the Work or any part thereof or its performance is non-satisfactory, then Company shall issue a notice (“**Remedy Notice**”) to the Contractor to remedy such non-performance or non-satisfactory performance. Upon receipt of such Remedy Notice, the Contractor shall remedy such default within Seven (7) days. The Company may ask the Contractor to re-perform any of such services, at sole risk and cost of Contractor. In the event, the Contractor fails to remedy such default within the specified period or the performance of the Contractor is non-satisfactory repeatedly; the Company shall have a right to terminate the Contract immediately without any further notice.

Consequences of Termination:

Upon termination of Contract by Company under this sub-clause, the Contractor shall be entitled to payment for the work successfully completed and certified by the Company Representative till the date of Termination. Further, the Company shall be entitled to take possession of the Work and finish the Work at the risk and cost of the Contractor by whatever method Company deems just and expedient. Unless otherwise provided in the Contract, the Contractor shall compensate the Company for all losses, expenses etc. the additional expenses which the Company shall sustain on account of such breach by the Contractor.

3.7.2 Upon receipt of Notice of Termination, the Contractor shall, unless a notice directs otherwise:

- a) Immediately discontinue the work from that date and to the extent specified in the notice;
- b) Place no further orders or agreements for materials, equipment, services or facilities except as may be necessary for the completion of such portion of the work which is directed to be continued;
- c) Do only such work as may be necessary to preserve and protect Work already in progress and protect materials, facilities and equipment on the work site or in transit thereto.

3.7.3 Payment upon Termination to be confirmed

If the unpaid balance of the Contract Price exceeds the cost incurred by the Company on finishing the work as provided in the Contract, such excess shall be paid to Contractor upon completion of the Work. If the unpaid balance of the Contract Price is lower than the cost incurred by the Company on finishing the work as provided in the Contract, the Contractor shall promptly pay the difference to the Company upon receipt from the Company of the certificate certifying the amount of such difference. Obligations arising under this article shall survive the termination of the contract.

3.7.4 De-hiring:

3.7.5 Company may, at its option, de-hire the services of the Contractor due to interruption in the work / unit programme, by giving three (3) days written notice to the Contractor and during this period no charges for equipment and personnel etc. shall be payable by Company. However, contractor will take immediate action to demobilize the personnel, machines and other equipment immediately. SunPetro may call the Contractor along with the whole setup by issuing fifteen days’ notice to mobilize again.

3.8 HEALTH, SAFETY & ENVIRONMENT (HSE)

General

Contractor warrants that it shall perform all such services in a Good and Workmanlike Manner and as per the guidelines issued by DGH and OISD from time to time. Contractor warrants to Company that Contractor's Personnel who are skilled, experienced and competent in their respective positions, and who are fit for duty shall perform all Services. Contractor undertakes to ensure that its personnel comply with Company's regulations regarding health, safety and training which are in force at such time and at such place.

Before the commencement of work, Contractor is required to submit the Safety Management Plan including details of Risk Management related to nature of job. To ensure the safe operations at site, Contractor is required to submit the written safe procedures related to work and comply with DGMS / OMR-2017 and OISD requirements including amendments / modifications issued by DGMS from time to time.

Contractor to provide Health, Safety & Welfare Policy Manual which should be aligned with Company's HSE Policy. Contractor to comply with HSE standards as applicable to Oil & Gas Industry in addition to all the relevant HSE standards required for performance of work as per Scope of work.

3.8.1 Safety

- 3.8.1.1 In performing the Services hereunder, Contractor and its officers, directors and employees and any subcontractors and their officers, directors and employees shall comply with the provisions of and/or meet the Health, Safety and Environment Best Industry standards and requirements set forth in:
- a) the safety management system (hereinafter referred to as "the Safety Management System") established by Contractor;
 - b) Onshore safety, health, training and protective clothing requirements; and
 - c) All applicable laws, rules and regulations of India.
 - d) Proper safety kits liveries and uniform for all employees / subcontractors working at site.
- 3.8.1.2 Prior to commencement of operations, Contractor shall ensure that all Contractor's personnel and the personnel of its subcontractors are familiar with the provisions of **Contractor's Safety Management System**.
- 3.8.1.3 Contractor is responsible for the supervision, monitoring and compliance of and with the requirements and shall take prompt and appropriate action to correct any unsafe work practices by its personnel and those of its subcontractors.
- 3.8.1.4 Company shall, at its complete discretion, monitor and audit Contractor and its subcontractors in respect of compliance with the requirements of this Clause. Contractor shall co-operate fully with, and rectify any deficiencies in compliance pointed out by the Company.
- 3.8.1.5 If during performance of the Services, Company's Representative is of the opinion that the Contractor is not conducting the Services in compliance with the Safety Case and/or Safety Management System or is conducting the work in such a way as to endanger the safety of Contractor's Personnel or Company's personnel, Company Equipment or any of Company's other contractors' plant, equipment or materials, then Company's Representative shall notify Contractor of the breach of safety involved and suspend operations, and the related provisions of the contract shall apply as if the operations had been suspended due to breakdown of equipment.
- 3.8.1.6 Incompetent person shall be at RISK to carry out critical operation. Hence all contractor personnel need to be competent & trained to carry out assigned job. Training need for all contractor's Employee shall be identified & accordingly shall be trained by the contractor.

- 3.8.1.7 Required PPE to be identified & sufficient stock shall be maintained at all time. Also the Contractor's Employee shall be trained for uses of PPE.
- 3.8.1.8 Contractor shall provide certificates for but not limited to Lifting Equipment like Crane, Slings, D-Shackles, Chain pulley Blocks. Lifting Equipment shall be color coded & numbered.
- 3.8.1.9 Contractor shall provide Test certificate for Cylinder, High pressure Hoses, & Electrical appliances or as specified in the contract.
- 3.8.1.10 Contractor has to develop ERP jointly with Company & shall ensure awareness Training imparted to all concerned personnel. Mock drill (Table top) for critical scenario need to be conducted before Work over operation. Records to be maintained.
- 3.8.1.11 Contractor shall ensure PTW developed by Company and shall be followed.
- 3.8.1.12 Contractor shall maintain following Records:
 - 1. Employee detail
 - 2. Pre medical check-up record
 - 3. Competency Record
 - 4. Training & awareness Record
 - 5. PPE record
 - 6. Accident / Incident Record
 - 7. Mock drill Record
 - 8. Audit Observation & compliance record.
 - 9. Accident / Near miss Report.
- 3.8.1.13 In case an item or activity is not covered by any HSE standard, or if the standard is considered to be inadequate, Contractor shall immediately notify the Company of such absence or inadequacy of defined standards. Company & Contractor shall then jointly develop & agree on additional standards to cover the item or activity and reduce the associated risk to as low as reasonably practical (ALARP) before the item or the activity is included or continued in the performance of the Work.
- 3.8.2 **Environment**
- 3.8.2.1 **Contractor hereby acknowledges Company's commitment to conduct its operations in a manner that not only complies with all relevant environmental protection and pollution control legislation of India but also that, such operations do not cause environmental damage or pollution. In recognition of the aforementioned commitment, Contractor shall perform the Services in an environmentally acceptable and safe manner consistent with GIIP and shall ensure that its performance of the Services is properly monitored**
- 3.8.2.2 Contractor shall prepare Aspect & Impact document related to their Job scope and shall submit to Company.
- 3.8.2.3 Valid Pollution under control Certificate for Engine above 150 KVA
- 3.8.2.4 Contractor shall have Waste Management Plan for their scope of work.
- 3.8.2.5 Hazardous Waste shall be sorted out & disposed as per the Pollution Control Board norm as applicable.
- 3.8.2.6 Contractor shall display MSDS for Chemicals, Reaction Matrix for Chemicals and High noise area.
- 3.8.2.7 Eye wash station shall be provided at suitable place.
- 3.8.2.8 **Working area is to be illuminated as per Lux standard.**
In particular, the Contractor shall:-
 - a) employ generally accepted industry standards, including, as required, advanced techniques, practices and methods of operation then available for prevention of environmental damage;
 - b) take necessary and adequate steps to prevent environmental damage and, where some adverse impact on the environment is unavoidable, to minimise such damage and the consequential effects thereof on people and property; and

- c) adhere to the guidelines, limitations or restrictions, if any, imposed by the Environmental Clearance referred to in this clause as applicable on the date of this Contract and as such Environmental Clearance may be revised, expanded or replaced.

3.8.2.9 Without limiting the generality of the provisions of this Clause hereof, Contractor shall comply with, and ensure that its employees, agents and subcontractors comply with, all applicable environmental protection and pollution control laws, regulations, rules and ordinances of all relevant state, central and local Government of India.

3.8.2.10 If during Contractor's performance of the Services, Company is of the opinion that Contractor is either not conducting the Services in compliance with any one or more of the provisions of Clause, all applicable environmental protection laws, rules and regulations imposed by state, central or local governments and all environmental guidelines and procedures furnished by Company to Contractor from time to time, or is conducting the Services in such a way as to endanger the environment or as to risk being in breach of any laws, rules or regulations of any such bodies, then Company shall notify Contractor of the breach involved and suspend all operations whereupon the provisions of clauses mentioned herewith in the contract apply as if the Well Operations had been suspended due to equipment breakdown.

3.8.3 Contractor has to submit Monthly Compliance Reports to the company on all aspects as listed above or as decided by the company.

3.9 SETTLEMENT OF DISPUTE/ ARBITRATION

3.9.1 The Company and the contractor undertake that all disputes, differences or questions at any time between the parties as to the construction to this Contract or as to any matter or thing arising out of it or in any way connected therewith ("Disputes") shall be resolved between the parties in good faith by having the discussion between the Project Manager / Contract Manager level and if required may be taken up to the Company -Head level to resolve the issues / disputes in the interest of the work and at least three attempts shall be made by the both the parties in this direction.

3.9.2 In the event the disputes arising out of / connected with this Contract, which cannot be amicably to be resolved by Arbitration. The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996, (including any statutory modifications or re-enactments thereof) and rules there under excluding any laws, opinions, or regulations that would require application of the laws of any other jurisdiction). The Arbitral Tribunal shall consist of three arbitrators. The Party raising the Dispute shall give a Notice to that effect to the other party and shall nominate the first Arbitrator in such Notice. The other Party shall respond to such Notice within 30 days of receipt thereof and nominate the Second Arbitrator. The two arbitrators so nominated shall appoint the third arbitrator within 30 days of appointment of the Second arbitrator. The Third Arbitrator so appointed shall be the Presiding Arbitrator. The arbitrators to be appointed shall be retired Judges of any of the High Courts or Supreme Court of India. Unless otherwise agreed in writing, the arbitration shall be held at Mumbai, India.

3.9.3 It is also a term of the Contract that the Contractor shall not stop the Work under this Contract and the Work shall continue as expected regardless of whether the arbitration proceeding have commenced or not. Notwithstanding any disagreement, dispute, protest, request for or pendency of arbitration or court proceedings relating directly or indirectly to the Work, at all times, Contractor shall proceed with the Work in accordance with the determinations, instructions and clarifications of Company in accordance with the terms and conditions of this Contract. If the Contractor fails to proceed with the Work, he shall be considered to be in default and shall be held liable for direct, indirect and consequential costs and expenses arising from such default. During the period Contractor is proceeding with the Work, he shall be paid the undisputed portion of his claims which are due under the Contract.

3.9.4 The right to arbitrate disputes and claims under this Contract shall survive the termination or invalidity of this Contract or any term hereof.

3.9.5 Any award rendered by the arbitrators shall be final and binding upon the parties. Any judgment upon such award may be entered in any court having jurisdiction or application may be made to such court for a judicial confirmation of such award and judgment or order of enforcement, as the case may be.

3.10 ENTIRE AGREEMENT/ WAIVERS

3.10.1 This Contract sets forth the entire CONTRACT between Company and Contractor which shall supersede all previous communication/ agreements either oral or written. No terms, conditions, understandings or agreements purporting to modify or vary the terms of the Contract (whether written or oral) of the parties made prior to the date of this Contract shall apply except where Company and Contractor have expressly varied the same in writing under the terms of this Contract.

3.10.2 None of the provisions of this Contract shall be considered waived by Company unless Company gives such waiver in writing. No such waiver shall be of any past or future default, breach or modification of any terms, provisions or conditions of this Contract unless expressly set forth in such waiver.

3.10.3 None of the following shall release Contractor from any of the warranties or obligations of this Contract or be deemed a waiver of any right or remedies as to any prior or subsequent default in accordance with the Contract:

- i) Failure by Company to insist upon strict performance of any terms or conditions of this Contract,
- ii) Failure or delay to exercise any rights or remedies provided herein or by law,
- iii) Failure to properly notify Contractor in the event of breach, except for any breach which according to provisions of Contract has to be notified,
- iv) Acceptance of or payment for any Service or review of any design, or
- v) Warranty on the Equipment if sold to Company by the Contractor will continue upto the expiry of the warranty period even if the Contract is expired or terminated.

3.11 LIQUIDATED DAMAGES

3.11.1 Liquidated damage

If Contractor for any reason other than Force Majeure, fails to timely mobilize / deliver all the material, equipment (fit for purpose) and/or personnel with requisite experience at designated location/well site as per the time schedule mentioned in the Contract or the extended date or fails to timely commence, continue or perform the services or continue uninterrupted Work in accordance with the terms of this Contract or the extended date or if Contractor repudiates the Contract before completion of the Works in accordance with the Contract, or any if above reason resulting to delayed delivery of work completion, the Company may without prejudice to any other right or remedy available to the Company, shall have a right to seek payment from the Contractor as ascertained and agreed liquidated damages, and not by way of penalty, One percent (1%) for each week of late completion of work / delayed delivery of work up to a maximum of Ten percent (10%) of total estimated / annualized contract value.

The payment of liquidated damages pursuant to this section shall not affect the rights of Company as per Contract or Applicable laws including the following rights:

- a. Terminate the Contractor or a portion or part of the Work thereof at any time during the term of the Contract and / or,
- b. Recover damages resulting from Contractor's breach of any of the provisions hereof from any kind of dues and / or,
- c. Get the Work done by any other contractor at the risk and cost of the Contractor and/or,
- d. Invoke bank guarantee or any other security provided by the Contractor and/or,

By way of abundant caution, it is clarified that in addition to recovering liquidated damages, Company may exercise any one or more of its rights mentioned above as per the Contract and the Applicable Law.

- 3.11.2 The Parties agree that the liquidated damages indicated hereinabove are genuine pre-estimate of the minimum loss/ damage which COMPANY can suffer on account of delay / breach on the part of the Contractor and the said amount shall be payable without any requirement of proof of the actual loss or damage caused by such delay / breach.
- 3.11.3 Where Company is required to wait for any reason for a Contractor Equipment and/or personnel which is not made available on the site as per the schedule, in addition to liquidated damages payable by the Contractor, the Contractor shall also pay as pre-agreed damages an amount equivalent to daily operating rate for hired equipment, till time such equipment is made available to Company.
- 3.11.4 By way of abundant caution it is clarified that during this period of delay, Contractor will not be eligible for any payment, whatsoever.
- 3.12 NOTICES**
All notices and other communications provided for in this Contract shall be in writing and shall be delivered at the addresses for notices given in the Contract. A party may notify the other from time to time of changes in the address for notices. E -mails and facsimile transmissions shall be held to have been received at the time of transmission report.
- 3.13 APPLICABLE LAW**
All questions, disputes or differences arising under, out of or in connection with this Contract and the relationship of the parties hereunder shall be governed by and interpreted in accordance with the laws of India (both procedural and substantive) and parties hereby agree to submit to the jurisdiction of the Courts in Mumbai / Mumbai, India.
- 3.14 ACTS AND REGULATIONS, GUIDELINES**
THE MINES ACT, 1952 along with the OIL MINES REGULATIONS, 1984 and all their amendments issued including requirements of Good International Petroleum Industry Practice (GIPIP) for all services are to be followed till validity of contract.
- 3.15 CONFIDENTIALITY**
- 3.15.1 "Confidential Information" shall be deemed to include all information including but not limited to any technical, commercial and financial information, improvement, inventions, know how, innovation , technology, trade secrets, professional secrets, copyrights and any other intellectual property, discoveries, ideas, concepts, papers, software in various stages of development, techniques, models, data, source code, object code, documentation, manuals, flow charts, research, process, procedures, functions, customer names and other information related to customers, price lists and pricing policies. However, the Parties hereto acknowledge that Confidential Information shall not include any information that:-
- a) is now or subsequently becomes publicly known or available without breach of this Contract;
 - b) was previously in the possession of the Receiving Party without any obligation of confidentiality and which was not acquired from, provided, given, sold or otherwise disclosed (directly or indirectly) by the Disclosing Party not through this Contract.
 - c) is required to be disclosed under any Applicable Law (subject however to the party who is required to disclose the information as such is providing reasonable notice of the same to the other party, prior to making any such disclosure).
- 3.15.2 The Contractor shall hold the information confidential and shall not divulge or disclose the information, or make the information available to any person or entity, other than its representatives and ensure that only such authorized Representatives who are expressly authorized by it to and whose duties require them to possess the Confidential Information shall have access to the Confidential Information on a need-to-know basis. In case of any breach of these terms or any act or omission by any of its authorized Representatives, then damages alone may not be an adequate remedy and that the

remedies of injunction and specific performance or any other equitable relief may imposed.

3.16 ASSIGNMENT AND SUBCONTRACTING

- 3.16.1 Company shall be entitled to freely assign its rights, obligations and duties under this Contract to its Affiliate or other Participant or JV, for any Blocks by giving written notice. Company shall be entitled to assign by novation its rights and obligations under this Contract to any third party with prior written consent of the Contractor, which shall not be unreasonably withheld.
- 3.16.2 Contractor shall not sublet or subcontract in part or in whole the Services to any third party without prior written consent of Company. If the Contractor sub contracts part of the Contract to a sub-contractor, Contractor shall ensure that sub order's reflect the requirements under this Contract and the Contractor shall furnish to the Company within one month from the dated of signing of the Agreement, a signed copy of the complete Agreement. Further in case of any change in the Contract with the Sub Contractors, the same shall be notified to the Company with in a period of one (1) month.
- 3.16.3 However, no such approval for sub-contracting shall relieve Contractor from any obligation or liability under the Contract and Contractor shall be fully responsible for acts and omissions of any sub-contractor or supplier and its employees and agents as though they were the acts and omissions of Contractor or its employees or agents. Also in no case sub-Contractors shall pass on any claim/ liability to Company.

3.17 INVOICING AND PAYMENT

- 3.17.1 Invoices shall be itemized with a full break down of the Service performed /supplies made and shall be complete with all back-up details, documentation, information, receipts, packing list, ocean bills of lading, certificate of origin, etc. and shall set forth the facts relating to all activities and transactions handled for Company's account and shall be verified and signed by an authorized signatory designated by the Contractor to show the basis for Contractor's application of the Contract payments and the resultant value of the invoice.
- 3.17.2 Contractor shall invoice to Company for payments hereunder on Completion of Services. Unless and otherwise mentioned anywhere else in this Contract, Company shall make payment, of the correct/ undisputed / Certified invoice supported with job sheet / field ticket / any other relevant document, which is jointly signed by Engineer In-charge / Company representative along with the Contractor representative, within Thirty (30) working days period after receipt of invoice unless the Company disputes the invoice or a part thereof. Prices negotiated and finalized shall be firm and binding for the agreed Contract period. No interest shall be payable on delayed payments by the Company. Exchange Rate used for payment will be the average of SBI Selling and Buying rate prevailing one day prior to the date of release of payment.

The invoice should be submitted to Company only after having submitted the following documents at Mumbai, if applicable. The Contractor shall indemnify the Company at all times for the damages caused or losses incurred by the company due to non-compliance with the existing laws and regulations by the Contractor.

- 3.17.3 The settlement of any invoices shall not be deemed acceptance of the Services or any part thereof and shall not prejudice the right of Company to question the propriety of any such charge at any time thereafter. A written response to Company's claim for omission corrections or errors in charges and credits for Company's account shall be made by Contractor as soon as practicable and in no event later than sixty (60) days from the date of such claims.
- 3.17.4 Contractor shall support all invoices with any data and/or information reasonably requested by Company. Contractor agrees to retain all applicable documentation and records for a period of not less than Four (4) years from the end of the calendar year in which this Contract terminates. Company or any party nominated by Company shall be entitled to audit and examine all documents and/or records necessary to verify the

correctness of charges contained in any invoice. The payment of an invoice shall not preclude Company's right to audit any charge during said three-year period. Any discrepancies found in such audit shall be paid or reimbursed forthwith. Company shall have the right to reproduce any such documents which have been inspected.

Invoices shall be endorsed with the Contract number and title and shall be submitted in triplicate with one original and two Copies (clearly marked "Original" or "Copy") after completion of job one copy shall be submit at site and another one copy shall be forward to:

HEAD –COMMERCIAL & SCM,
SUN PETROCHEMICALS PVT. LTD. (SunPetro)
8th Floor, ATL Corporate Park, Opp. L&T Gate no. 7,
Saki Vihar Road, Chandivali, Powai
Andheri (E), Mumbai – 400072, Maharashtra [INDIA]
Kind Attn: Nihit Jain; e-mail:Nihit.Jain@sunpetro.com

3.17.5 All payments to the Contractor under this Contract shall be made in the currency quoted by them or Indian Rupees to the Indian Bidders or United States Dollars to the Foreign Bidders. The currency of price schedule shall not be allowed to be changed during the term of the Contract.

3.17.6 The Contractor shall not claim any charges under any head during the period the equipment or tools are damaged, damaged beyond repair, un-operational, or declared dangerous for operation and cannot be operated / used for the said services. No payment shall be made for either the Standby rate, Stack Rate or under any other head till the tools / equipment are redressed, replaced or declared safe for operation & fit for purpose. No payment for either standby rate or operational rate shall be made for the personnel associated with the operation of the said tools/equipment.

3.17.7 **Audit**
The Company and its authorized representatives shall have access to, and the right to audit and obtain copies of any of Contractor's and its subcontractors' or agents' documents of whatsoever nature (except the confidential information of pricing formulate of the Contractor) relating to or in connection with the performance of the Work, including books, vouchers, receipts, invoices, correspondence, government correspondence, contracts, representations before statutory authorities, tribunals, courts and any other records. The Contractor will preserve and will cause its subcontractors and agents to preserve all such records for a period of four (4) years from the end of the calendar year in which this Contract terminates and will, upon written request, make them available to Company and its representatives. The Contractor shall provide photocopies of any documents within a reasonable period whenever demanded by the Company, Audits referred in this Clause will be made during Contractor's normal working hours. Any payment made by the Company shall not imply acceptance of liability on the part of the Company. Company shall have the right to notify Contractor of any matters arising in an audit which may necessitate making an adjustment; and such adjustment, whether by reimbursement to Company or otherwise, shall then promptly be made. Company shall also have the right to obtain assistance and statements from any of Contractor's Personnel to the extent it deems necessary, and Contractor and its subcontractors shall make such personnel available at their assigned locations if still under employment with Contractor or its subcontractors.

3.18 TAXES AND DUTIES

3.18.1 Taxes:

All rates and the Contract Price shall be inclusive of all taxes & duties and such other payments as may be payable under any Applicable Laws (except goods and service tax). Except as stated, Contractor shall bear all income, corporate, property, taxes, work contract taxes and all other taxes, duties, levies, surcharges, imports and similar taxes and duties duly levied or imposed on Contractor on account of the payments received by Contractor from Company for the Services as may be payable under the Applicable Laws and any amendments thereto. Service tax if applicable shall be charged over and above

the quoted prices and shall be paid by Company along with the invoice on submission of proof.

Company shall withhold from the payments to Contractor such amounts as determined by the prevailing taxation laws in respect of Contractor's Services. Company shall deposit these tax withholdings at source with the Indian revenue authorities and provide Contractor all appropriate tax receipts and forms evidencing the deposit of these tax withholdings. Contractor shall be responsible for filing returns of income to Indian revenue authorities for payments made by the Company pursuant to this Contract in accordance with the prevailing taxation laws.

3.18.2 Personnel Taxes

All employment taxes and contributions imposed by any law, regulations or by trade unions with respect to or measured by the compensation, wages, salaries or other compensation paid to employees of the Contractor, including without limitation, taxes and contribution or unemployment compensation insurance, medical and health insurance, welfare funds, pensions and annuities and disability insurance shall be paid by Contractor. In the event that Contractor fails to do so and Company is liable to any interest or any penalty arising out of such personnel taxes, Company shall have the right to recover all such amounts from Contractor.

3.18.3 Custom Duty, Entry taxes, etc.

Equipment, materials and supplies imported for use solely and exclusively on matters (inter alia) related to petroleum operations. Company and Contractor agree to cooperate and to use all reasonable endeavors to obtain any exemption to which Company and/or Contractor is entitled in accordance with Essentiality Certificate (EC) and such notifications applicable to Oil & Gas / Petroleum Operations. Contractor expressly agrees to furnish necessary documentation, bonds or undertakings to Government authorities and / or to Company, which may be required for availing such concessional exemption. It is expressly understood that Contractor shall be required to re-export any of its Equipment (unless consumed during performance of Services) and left-over chemicals / additives imported under this Contract to enable Company to avail exemption of custom duties. Contractor undertakes to re-export Equipment at the earliest but not later than within fifteen (15) days of completion or termination of Services and shall be solely responsible for all customs formalities for importation and exportation of Contractors Equipment and materials at the port of entry or the port of exportation as the case may be.

3.18.4 Contractor shall protect, indemnify and hold harmless Company, its Co-ventures, their directors, officers, and employees from any and all claims or liability for incorrect or under valuation of tax payable on income excess profits, customs duties, royalty or other taxes assessed or levied by any government agency including any tax assessed or levied on account of property or equipment of contractor, wages salaries or other benefits paid to Contractors employees or employees of sub-contractors, on Company its Co-ventures, their directors, officers and employees' including from any and all claims or on account of any payment made to or earned by contractor.

3.18.5 Change in Law

3.18.5.1 In the event of any change or amendment of any Act or law, Rules or Regulations of Government of India or Public Body, which becomes effective after the effective date of this Contract and which results in increased / decrease cost of the works under the Contract though increased / decreased liability of taxes, (other than personnel and Corporate taxes), duties, the Contractor shall be indemnified for any such increased cost by the Company subject to the production of documentation proof provided the rates and all applicable taxes along with the tax rate, were clearly indicated at the time of Bid submission by contractor.

3.18.5.2 Similarly, if any change or amendment of any Act or Law, Rules or Regulations of any Govt. or public body becomes effective after the date of this Contract and which results in any decrease in the cost of the project through reduced liability of taxes (other than

personnel and corporate taxes) duties, the Contractor shall pass on the benefits of such reduced cost, taxes or duties to the Company.

- 3.18.5.3 Company shall not bear any liability in respect of (i) Personnel taxes on the employees of Contractor and the employees of all its sub-Contractors etc. (ii) Corporate taxes in respect of the Contractor and its sub-Contractors.” (iii) Any taxes for which the Contractor or any or all of his sub-contractors are directly assessable i.e. Corporate taxes and Fringe benefit tax in respect of Contractors and all of their sub-contractors, agents etc.

3.19 INSURANCE

- 3.19.1 For its risks and liabilities assumed hereunder, the Contractor shall, at its own expense procure and maintain as a minimum, the insurances set out in this Clause and ensure that they are in full force and effect throughout the life of the Contract. All such insurances (including insurances provided by Sub-Contractors) other than Employers Liability Insurance / Workmen's Compensation to the extent of the liabilities assumed by the Contractor under the Contract,
- 3.19.2 The provisions of this Clause shall in no way limit the liability of the Contractor under the Contract. All such insurances shall be placed with reputable and substantial insurers acceptable to the Company.
Contractors Insurances shall be primary to, and receive no contribution from Company insurances. If the Contractors neglects, fails, or refuses to obtain or maintain insurances required to be effected, or fails to provide certification etc., the COMPANY has the right to procure and maintain policies at Contractors risks and 5% more expense.
- 3.19.3 The Contractor shall be responsible for and shall save, indemnify, defend and hold harmless SunPetro, Joint Venture partners of SunPetro, the Government of India, their respective officers, directors employees, agents and other persons with whom Company may be associated (the COMPANY) from and against all claims, losses, damages, costs (including legal costs) expenses and liabilities in respect of:
- loss of or damage to property of the Contractor whether owned, hired, leased or otherwise provided by the Contractor arising from or relating to the performance of the Contract,
 - personal injury including death or disease to any person employed by the Contractor arising from or relating to the performance of the Contract.
- 3.19.4 Prior to commencement of services / delivery / work hereunder or within 7 days of signing of Contract, whichever is later, Contractor shall deliver to Company the following certificate(s)
- evidencing the issuance of insurance containing the coverage required herein and
 - providing that insurance shall not be cancelled or materially change without thirty (30) days prior written notice to the Company. Commencement or performance of services/work without delivering the certificates of insurance shall not constitute a waiver of contractor's obligation to provide the required coverage.
- 3.19.5 The insurance shall cover for the following:
- All consequences of occupational accidents or illness Employer's Liability Insurance, in such amounts as may be required by the laws of India or any other country or political subdivision thereof applicable to any employee engaged in performance of the work; as per regulations, extended to cover benefits provided under maritime law, if applicable. Contractor has the obligation to comply with Indian Social Security laws and regulations.
 - Commercial or comprehensive General Liability Insurance, including coverage for contractual Liability to cover liability under this contract and cross liability Sudden and Accidental pollution, in the amount equal to the contract value combined single limit each occurrence with an aggregate limit of contract value for bodily injury and property damage provided that there will not be any excess/deductibles in the policy to be taken by the contractor. The coverage should provide insurance for any incident or series of incidents covering the operations of the Contractor in the performance of the Contract. If Contractor's Liability Insurance is written on a "claims made" form it must provide for (I) a retroactive date

prior to, or coincident with, the commencement of service under this contract and (ii) a minimum extended claims reporting period of one (1) year. This policy shall include Company and its directors, officers, employees and agents as additional insured.

3. Comprehensive Automobile Liability Insurance, covering owned, non-owned and hired motor vehicles, with a limit of liability as per regulations/ laws including passenger liability.
4. Personal Accident and Medical Insurance for each of Contractor's Personnel valid for the area(s) in which Work is to be performed and for any travel for any period(s) during which Work is being performed. This insurance should include cover for all hospital and medical costs, and all costs for repatriation.
5. Contractor shall carry or cause to be carried insurance covering all Contractor's Equipment against loss or damage at all times including during transportation to/from the site and at the site. However, Contractor reserves the right to self insure its own assets.
6. The Contractor will be required to have insurance coverage for "Oil Industries Endorsement" in its insurance policy.

General Conditions for Insurance

- a. Contractor hereby waives its right of subrogation against the additional insured and shall cause its insurers to waive their rights of subrogation against the additional insured.
- b. No form of contractor liability self-insurance, including but not limited to insuring with a parent, subsidiary, or affiliate organisation, is acceptable or allowable under the terms of this contract, unless agreed to by Company prior to commencement of services hereunder.
- c. Contractor assumes full responsibility for the insurance or self-insurance over his personnel, assets, machinery and equipment, including third party to be used in the performance of this contract. Therefore, except as otherwise provided herein, any damage or injury suffered due to a total or partial loss to such assets, machinery and equipment will be at Contractor's expense. Contractor must insure for full replacement value of any and all equipment used in performing the Work.
- d. All exclusions and indemnities given under this Contract shall apply irrespective of cause and notwithstanding the negligence, breach of duty (whether statutory or otherwise) or other failure of any nature of the indemnified party or any other entity or party and shall apply irrespective of any claim in tort, under contract or otherwise at law.

3.20 CONTRACTOR'S OBLIGATIONS AND WARRANTIES

- 3.20.1 The general allocation of responsibilities between Company and Contractor are set out in responsibility matrix and other clauses mentioned in this documents and the Exhibits.
- 3.20.2 Contractor represents that it is engaged in such specialized operations and represents that it has adequate resources and personnel in accordance with Good international Petroleum Industry Practices and shall perform the Work strictly in accordance with this Contract and shall comply with and adhere strictly to Company's instructions and directives on any matter concerning the Work. Contractor warrants that it is aware of all the Well Locations environment, zoning and other regulations legal description prescribed in this Contract.
- 3.20.3 At all times Contractor shall respond promptly and shall accurately furnish to Company information about the Work as requested.
- 3.20.4 Contractor shall take full responsibility for the protection and security of materials and equipment while such materials and equipment are temporarily stored in Contractor's facility awaiting for transportation or otherwise in Contractors custody.
- 3.20.5 Contractor shall advise Company immediately in writing of any labour dispute or anticipated labour dispute, which may be expected to affect the performance of the Work.

- 3.20.6 Contractor shall use all reasonable care to ensure that the equipment is delivered and maintained in a fit condition for the intended Work and shall at its cost and expense man operate replace supply, repair and maintain the equipment.
- 3.20.7 **Contractor Personnel**
Contractor shall use all reasonable care to provide, at Contractors sole risk and cost, competent, skilled personnel to perform Work and shall take responsibility for their actions. Contractor shall ensure that the necessary personnel are available at the Work Site / Location when required by SunPetro for commencement of the Work and shall continuously be available during the duration of the Contract. Contractor shall be solely responsible throughout the period of this Contract for providing all the requirements of its personnel, including but not limited to, accommodation, transportation, meals, medical attention, vacations and time-off allowance, travel and any other benefits due to such employees under any law or otherwise. SunPetro shall have no responsibilities or liability whatsoever in this regard.
- 3.20.8 SUNPETRO shall be entitled, without prejudice to any other rights or remedies available to SunPetro under this Contract or otherwise in law to object to and require Contractor to remove from the Work any person who in the reasonable opinion of SunPetro is incompetent, misconduct's himself, is negligent in the proper performance of his duties or is otherwise considered to be undesirable. In such an event, Contractor shall forthwith remove such person from the Work, and such person shall not be again employed upon the Work without the written permission of Company. Contractor shall forthwith replace within 5 working days, at Contractor's sole expense, any such discharged person with a suitable qualified and experienced person satisfactory to Company without affecting the work.
- 3.20.9 **Permits and Instructions**
Contractor shall obtain all requisite permits and approvals under Applicable Law for the performance of the Scope of Work / supplies. In the event of Contractor receiving instructions from Company to stop Work/supplies operations, Contractor shall comply with the same with immediate effect.
- 3.21 **FORCE MAJEURE**
- 3.21.1 "Force Majeure" shall mean any act which is insurmountable and outside the reasonable control of the parties Events of Force Majeure shall include, but shall not be limited to, acts of God, lightning, earthquake, flood, fire, explosion, major storm (hurricane, typhoon, cyclone, etc.) or tidal wave, act of war (declared or undeclared) or public enemy, riots (otherwise than amongst Contractor's personnel), strike (excluding strikes, lockouts or other industrial disputes or action solely among employees of Contractor or its subcontractors), act or omission of sovereign states or those purporting to represent sovereign states, blockade, embargo, quarantine, public disorder, sabotage or any other events beyond the control of the parties or either of them., Strikes shall only be considered as Force Majeure if they are officially declared/ accepted strikes. However, Force Majeure shall not include occurrences as follows:
- 3.21.1.1 Late delivery of materials caused by congestion at supplier's plant or elsewhere, an oversold condition of the market, inefficiencies, or similar occurrences
- 3.21.1.2 Late performance by Contractor and/or a sub-contractor caused by unavailability of equipment, supervisors or labor, inefficiencies or similar occurrences;
- 3.21.1.3 Mechanical breakdown of any item of Contractor's or its Sub-contractor's equipment, plant or machinery; or
- 3.21.1.4 Delays due to ordinary storm, inclement weather, seasonal rains or monsoon; or
- 3.21.1.5 Non-conformance by Sub-contractors;

- 3.21.1.6 Financial distress of Contractor or any Sub-contractor
- 3.21.1.7 Failure to carry out work as per the work order in accordance with the instructions of the Company. Any accident, non-performance or unsatisfactory performance or on account of any reason within the control of the Contractor shall be contractor's responsibility.
- 1.21.1.8 Neither Party hereto shall be liable to the other, for the payment of money, for failure to perform any obligations hereunder when performance is hindered or prevented by Force Majeure. The affected party shall inform the other party immediately in writing (within 24 hours) of its inability to meet its obligations hereunder, specifying the cause of Force Majeure, and shall do all that is reasonably within its power to remove the Force Majeure conditions. Such party shall advise the other party when such Force Majeure ceases (within 24 hours of ceasing of Force Majeure) and shall resume performance of its obligations hereunder as soon as reasonably possible thereafter. No payment will be due to the Contractor between the commencement of Force Majeure and commencement of Normal operations by the affected party.
- 3.21.2 The affected party shall make every reasonable effort to. Should any act or acts of Force Majeure cause the suspension or artificial suspension of operations there under for all or part of the Work for a continuous period of more than seven (7) days, the parties shall meet and determine the appropriate measures to be taken. In the event that a condition of Force Majeure exists at the Site for a period of at least fifteen (15) consecutive days, Company shall have the right to terminate this Contract by giving two (2) days advance notice to Contractor.
- 3.22 WARRANTIES AND REMEDIES**
- 3.22.1 Contractor represents that it is engaged in such specialized operations and represents that it has adequate resources, service capability and personnel in accordance with GIPIP and shall perform the Work strictly in accordance with this Contract and shall comply with and adhere strictly to Company's instructions and directives on any matter concerning the Work. Contractor agrees to comply with, and shall ensure that its Personnel comply with, all Applicable laws, International /Indian codes, rules, regulations and specifications applicable to the Equipment and Services. Contractor warrants that all items rented to Company under this Contract shall meet specifications as set forth in the contract and shall be in good working condition throughout the Contract period (ordinary wear and tear excepted). All Equipment, materials, machinery and goods procured and supplied by Contractor under this contract, including, without limitation, service related materials (collectively items) shall be of good quality and workmanship, safe and free from defects in workmanship. Time is of the essence of the Contract and Contractor shall perform all Services in conformity with the time schedule, specifications and the obligations contained herein, unless the delay is due to Force Majeure or reasons wholly within Company's control. Any failure by Contractor to timely deliver the goods / materials work at the point of delivery and / or perform the services in timely manner shall attract the provisions of Clause indicated in Liquidated Damages.
- 3.22.2 The Service warranty applies to all services performed by Contractor as part of the Work. Contractor warrants that it shall perform all such services in a Good and Workman like Manner. Contractor may be required at Company's sole option (unless stated otherwise elsewhere in the Contract) to supervise the installation, running in or pulling out of the Equipment to enable it to be fully operational within the time specified in the Contract. Contractor warrants to Company that Contractor's Personnel who are skilled, experienced and competent in their respective positions, and who are fit for duty shall perform all Services. Contractor undertakes to ensure that its personnel comply with Company's regulations regarding health, safety and training which are in force at such time and at such place.
- 3.22.3 In the performance of the Services, if the Contractor fails to comply with the warranties and undertakings set forth, the Contractor shall as directed by the Company prior to demobilization, at Contractor's cost and without prejudice to any other right or remedy of Company under this Contract, re-perform the Services or correct such failure or furnish an alternative acceptable to Company in order to comply fully with the requirements of

the Contract. Defects shall not be deemed waived by Company's failure to notify Contractor upon receipt of Services or by payment of invoice.

- 3.22.4 Contractor shall use all reasonable care to provide, at Contractor's sole risk and cost, competent, experienced, skilled personnel to perform Work and shall take responsibility for their actions. Contractor shall ensure that the necessary personnel are available at the Work Site / Location when required by Company for commencement of the Work and shall continuously be available during the term of the Contract. Contractor shall be solely responsible throughout the period of this Contract for providing all the requirements of its personnel, including but not limited to, accommodation, transportation, meals, medical attention, necessary permits / licenses as per rules / laws, vacations and time-off allowance, travel and any other benefits due to such employees under any law or otherwise. Company shall have no responsibilities or liability whatsoever in this regard. Company shall provide boarding and lodging to the Contractor's personnel while at the work.
- 3.22.5 Day-rates or compensation of whatsoever nature shall not apply to time when the Contractor's Equipment/tool is unable to perform to the satisfaction of the Company in accordance with the Contract for any reason.
- 3.22.6 If Contractor shall fail in its obligations under this Contract and does not remedy such default after having received prior written notice thereof, Company may on its own initiative arrange for alternative means of performance of Services. Any direct and reasonable costs or expenses incurred by Company thereby, shall, together with an additional five per cent (5%) of such costs and expenses, be payable by Contractor and may be deducted and set off against any monies owed to Contractor by Company pursuant to the Contract. Should any time be lost during any such alternative arrangements in the performance of the Services, the Equipment and Personnel shall be at zero Rates for the lost time for that particular tool/ service in default and no Rates of whatsoever nature shall be payable for the duration of such default. The above shall be without prejudice to any other rights available to the Company under the Contract or as per Applicable Laws
- 3.22.7 Contractor shall take all measures necessary and / or proper to protect personnel, Work Site and facilities as well as observe all safety rules and regulations of Company, given to Contractor in writing provided such rules do not conflict with those of any Governmental Agency having jurisdiction over operations conducted hereunder. No smoking or open flames shall be permitted on the drilling unit and nearby except in areas marked by Contractor and approved in writing by Company. Contractor shall use all reasonable means to prevent and control fires and blowouts, as well as protect the hole, the reservoir or any other underground formation from loss or damage.
- 3.22.8 Contractor shall have no authority to make any statements, representations or commitments of any kind or to take any action which shall be binding upon Company, except as provided for herein or otherwise authorized in writing by Company.
- 3.22.9 Contractor shall notify Company promptly, but no later than twenty four (24) hours, upon discovery of any instance where Contractor has not complied with the requirements of this Clause.
- 3.22.10 The Company reserves the right to purchase / replace specific tools / equipment at any time during the Contract and include them in the Contract.
- 3.23 LIENS**

Contractor shall immediately pay and discharge any lien, claim or encumbrance, of any nature, (or shall provide security for payment thereof) attributable to Contractor. Contractor shall indemnify and hold Company harmless from and shall keep Company's equipment and property free and clear of all liens, claims, assessments, fines and levies incurred, created, caused or committed by Contractor. If Contractor fails to pay and discharge any such lien, claim or encumbrance, then Company may do so and charge Contractor for all costs, with an additional five per cent (5%) of such costs and expenses, be payable by

Contractor and may be deducted and set off against any monies owed to Contractor by Company pursuant to the Contract. Company shall have the right to retain out of any payment to be made to, or to be reimbursed to, Contractor, an amount sufficient to indemnify it completely against any such lien, claim, assessment, fine or levy exercised or made and all associated costs.

3.24 INDEMNITY AND LIABILITIES

3.24.1 Indemnity

Indemnity by Supplier/Contractor: Supplier/Contractor shall, save as is otherwise herein specifically provided, indemnify and hold harmless Company along with its Co-Venturers and their owned, controlled, affiliated and subsidiary companies and the stockholders, directors, agents, employees and representatives of each from any and all claims, liabilities, costs, damages and expenses of every kind and nature with respect to sickness, injury or death of any Supplier/Contractor's Personnel arising directly or indirectly during or as a result of the performance of this order from any cause whatsoever, including but not limited to the negligence of Company.

Indemnity by Company: Company shall, save as is otherwise herein specifically provided, indemnify and hold Supplier/Contractor harmless from any and all claims, liabilities, costs, damages and expenses of every kind and nature with respect to sickness, injury or death of any employee, agent or invitee of Company or its other Supplier/Contractors or subcontractors and to damage or destruction of Company's Equipment and any other property of Company or its other Supplier/Contractors and subcontractors and their respective employees agents or invitees arising directly or indirectly during and as a result of the performance of this order from any cause whatsoever, including but not limited to the negligence of Supplier/Contractor.

Patent Indemnity: Supplier/Contractor shall indemnify and hold harmless Company, its successors and assigns and agents from and against any and all claims, losses, damages, liability, suits and demands arising from actual or alleged infringements of any patent or patent right, copy right or similar protection in connection with the Supply/work, except where such claims arise out of Supply/work and material furnished in accordance with drawings and specifications provided by Company.

3.24.2 Deleted

3.24.3 Limitation of Liability

The total liability of the contractor shall be limited to 100% of the contractor value if no fault by contractor. In case intentional damages, it would be 200% of the contract value. The Company shall indemnify and hold harmless the Contractor against all claims and liabilities in excess of the above limits, provided that aforesaid cap for limitation of liability shall not apply and the Contractor shall continue to remain responsible for all liabilities which arise on account of:

- Breach of Applicable Laws by the Contractor Group.
- Liability for payment or non-payment of taxes and other statutory duties/ fees of any nature.
- Liability for breach of Intellectual Property Rights of any person.
- Breach of Confidentiality obligations.

3.24.4 Consequential Damage

Notwithstanding anything else contained herein to the contrary and subject to clause, neither party shall be liable to the other for indirect and consequential damage resulting from, or arising out of this Contract including but not limited to, loss of profit, loss of revenue, anticipated profits, loss of business opportunity or business interruption, suffered by such Party or its Group and each Party shall defend, indemnify and hold the other party harmless in respect thereof.

3.24.5 Certain Restrictions on Indemnities:

Unless otherwise expressly admitted elsewhere herein the Contract, no indemnity or hold harmless provision of this Contract shall apply in favour of a Party who shall have caused loss or damage through Gross Negligence or Wilful Misconduct.

3.25 PERFORMANCE BANK GUARANTEE

Within fifteen (15) days of the issue of Letter of Intent/ award, the Contractor shall present to the Company a Performance Bond / Bank Guarantee (As per format in accordance to **Attachment-1**) in the form of an irrevocable, unconditional, payable on first demand by Company, divisible bank bond issued by an approved bank as per Attachment-2. Failure to comply with this condition will constitute grounds for termination of the award / Contract.

The Performance Bank Guarantee shall be of 10% of the contract value and shall be valid and be retained for Ninety (90) Days after the warranty period of the Equipment / goods supplied under the Contract except where claims are outstanding there under or where previously drawn by the Company but not later than Thirty (30) days after the final settlement of such claims or Ninety (90) Days whichever is later. If the Contractor does not submit the Performance Bank Guarantee as stipulated above, SunPetro reserves the right to cancel the award of LOI / LOA.

Company shall not be liable to pay any Bank Charges, Commissions or Interest on the amount of Performance Bank Guarantee. The performance bond provided by the Contractor is intended to operate as security for amounts (including damages where applicable) which becomes payable by the Contractor by virtue of this Contract and are not intended to be used as a penalty. Without prejudice to its other rights under the Contract or at law, Company shall be entitled to forfeit the performance bond, should the Contractor fail to perform the Services in accordance with the provisions of the Contract or fail to comply with the provisions of this Contract. The Performance Bank Guarantee shall remain at the entire disposal of Company as Security for the satisfactory commencement, performance and completion of the Scope of Work under the conditions of the Contract / Contract including recovery of amounts due to the Company from the Contractor arising out of this Contract under whatever head.

Company reserves the right to invoke the performance bank guarantee for any of the following reasons including but without limitation to:

- Failure of contractor to start/commence the work as per LOA/LOI/Contract
- If Contractor fails to perform as per the terms and conditions of the contract.
- If contractor fails to perform as per prescribed scope of work.
- If contractor fails to work in workman like manner.
- If tools, machines, parts for the providing services are not fit for the performance of work.
- For breach of contract.

SunPetro will accept the bank guarantee from all public sector banks in India or any of the banks listed in the **Attachment-2**.

3.26 SEVERABILITY

If any portion of this Contract is determined to be illegal, invalid or unenforceable, for any reason, then, insofar as is practical and feasible, the remaining portions of this Contract shall be deemed to be in full force and effect as if such invalid, illegal or unenforceable portions were not contained herein.

3.27 NON-EXCLUSIVE CONTRACT

This Contract is non-exclusive and Company reserves the right to engage other contractors to perform similar or identical work. Contractor shall afford such other contractors adequate opportunity to carry out their agreements and shall accomplish the work in cooperation with those contractors and with Company.

3.28 EXPORT CONTROLS

SunPetro confirms that the Equipment or Services to be provided under this Contract (Collectively 'Items') shall only be for use by it in India for the purpose of production of hydrocarbons. However, if for any reason whatsoever the end use or end user of these Items is required to be changed or if these items are to be taken for use in countries outside India

to do any work associated with this Contract, then Sunpetro would request the Contractor to obtain consent from the concerned authority in the Supplier's Country. The Supplier shall obtain such consent at its sole risk and costs.

3.29 **SPECIAL CONDITION OF THE CONTRACT**

The installation & commissioning job is to be performed in oil & gas installation, therefore, contractor to ensure all safety precautions as per Oil Mines Regulation Act but not limited to followings:

- i. Contractor to perform the work under valid work Permit only.
- ii. All material supplied & used at site shall have valid Material Test Certificates from accredited lab/ Test agency / TPI.
- iii. Contractor shall deploy persons who are medically fit & furnish physical Fitness certificate from authorized Medical practitioner.
- iv. Contractor to ensure use of proper PPE, HC detector etc. as per requirement of work
- v. Vessel Entry Permits to be taken before entering into any Vessel
- vi. Contractor to ensure Oxy Acetylene Cylinder Test Certificate, Hose & Gas cutter Test certificates etc. for undertaking fabrication of work.
- vii. Contractor to ensure Welding Generator Electrical Test Certificates, Cables Test Certificate are available before undertaking work.
- viii. All material handling equipment shall have valid load test certificates.
- ix. Contractor to ensure transfer of Hazardous Waste / Waste generated during work to earmarked storage place for further disposal by self.
- x. Contractor to ensure Earth moving / lifting Equipment etc. are deployed have valid certification.
- xi. Bidder shall provide adequate First Aid Kit at site. At least one personnel in Contractor's team shall have proper First Aid Training. Certification for the same shall be provided.
- xii. Contractor shall have tie up with nearby hospitals in case medical evacuation is required.
- xiii. The Contractor is responsible for implementing any regulations concerning the scope of work which are mandatory by Government of Gujarat and other statutory agencies.
- xiv. Contractor to note that the work may be carried out simultaneously along with the testing operations on the well & treatment of the reservoir etc. Hence, contractor shall exercise utmost care while executing the activities which are being done simultaneously along with other operations.

Damage of equipment, if any, during supply, mobilization, installation, commissioning & demobilization shall be on account of Supplier.

ATTACHMENT –1

PROFORMA OF PERFORMANCE BANK GUARANTEE

TO: Sun Petrochemicals Private Limited , a Company incorporated under Company's Law 1956 and having its office at 8th Floor, ATL Corporate Park, Opp. L&T Gate no. 7, Saki Vihar Road, Chandivali, Powai Andheri (E), Mumbai – 400072, Maharashtra [INDIA] (hereinafter referred to as **"Company"**).

WHEREAS:

- (1) By an Contract / LOA/ LOI / Purchase Order (PO) for----- (here in after referred to as the **"PO"**) between _____ hereinafter referred to as the (**"Supplier"**) of the one part and Company of the other part, the Supplier agrees to perform the Work in accordance with the PO.

- (2) In response to the request made by Supplier , we (Name of Banker:) _____ (hereinafter referred to as the **"Guarantor"**) hereby irrevocably and unconditionally guarantee in favour of Company , the payment of amounts (without any withholding, deduction or set off) upto. _____ (Rupees _____) being 10% **of the estimated / Annualized Contract / LOA/ LOI / Purchase Order (PO) value**, as guarantee for the obligations of the Supplier to perform the Work in accordance with the PO. The sum shall become payable by us immediately on first demand by Company without proof or conditions notwithstanding any dispute or protest by the Supplier or any other third party. Multiple demands may be made in respect of our guaranteed obligations.

- (3) We shall not be discharged or released from this Guarantee by any waiver, modification, Contract / LOA/ LOI / Purchase Order (PO) made between the Supplier and Company with or without our consent or by any alteration in the obligations undertaken by the Supplier or by any forbearance whether as to payment, time performance or otherwise, or by any change in name or constitution of Company or the Supplier.

- (4) This Guarantee is a continuing security and, accordingly, shall remain in operation for three months after the completion / termination of the PO.
We agree that the Guarantee is given regardless of whether or not the sum outstanding occasioned by the loss, damages costs, expenses or otherwise incurred by Company is recoverable by legal action or arbitration.

The rights under this Guarantee shall be assignable by Company to third parties, if required. This Guarantee shall be governed by and construed in accordance with the laws of India.

The Guarantee herein contained shall not be determined or affected by the liquidation or winding up, dissolution or changes or constitution or insolvency of the said Supplier but shall in all respects and for all purposes be binding and operative until payment of all money due to you in respect of such liabilities is paid.

IN WITNESS where of this Guarantee has been duly executed by GUARANTOR the _____ day of _____ 202____ or and on behalf of (_____).

Name : _____
 Designation : _____
 Banker's Seal : _____
 Address : _____

ATTACHMENT -2

LIST OF APPROVED BANKS

Guarantee issued from following banks will be accepted as PBG/SD/EMD/BID BOND

1. All Nationalised Banks including Public Sector Banks -IDBI Ltd / Scheduled Banks
2. Private Sector Banks- Axis Bank, ICICI Bank and HDFC Bank
3. Commercial Banks:
 - I. Kotak Mahindra Bank
 - II. Yes Bank
 - III. RBL Bank (The Ratnakar Bank Ltd)
 - IV. IndusInd Bank
 - V. Karur Vysya Bank
 - VI. DCB Bank
 - VII. Federal Bank
 - VIII. South Indian Bank
4. Co-operative and Rural Banks:
 - I. The Kalupur commercial co-operative bank Ltd
 - II. Rajkot Nagrik Sahakari Bank Ltd
 - III. The Ahmedabad Mercantile Co-operative Bank Ltd
 - IV. The Mehsana Urban Co-operative Bank Ltd
 - V. Nutan Nagrik Sahakari Bank Ltd
 - VI. Dena Gujarat Gramin Bank

ATTACHMENT-3

BID BOND FORMAT

TO: Sun Petrochemicals Private Limited, a Company incorporated under the provisions of the Companies Act, 1956 and having its registered office at, 8th Floor, ATL Corporate Park, Opp. L&T Gate no. 7, Saki Vihar Road, Chandivali, Powai Andheri (E), Mumbai – 400072, Maharashtra [INDIA]. (hereinafter referred to as “Company”).

WHEREAS:

.....(hereinafter referred to as “Tenderer”) has submitted a proposal dated (“hereinafter referred to as Proposal”) against TENDER NO.: _____ dated _____ for _____ (hereinafter referred to as the “Tender”).

NOW, THEREFORE,

- (1) In response to the request made by the Tenderer, we (Name of Banker/Insurer :) _____ (hereinafter called the “Guarantor”) hereby irrevocably and unconditionally guarantee the sum of Indian Rupees _____/- (INR _____ for Indian Bidders) and US \$ _____ United States Dollars _____ only – for Foreign Bidders) in favor of Company , if Tenderer fails to perform its obligations as set forth below:
 - (i) The Tenderer agrees to keep the Proposal open for acceptance by Company during the period of validity (150 days from the Closing Date) specified in the Tender.
 - (ii) The Tenderer, having been notified of acceptance of its Proposal by Company during the period of Tender validity:
 - (a) Fails or refuses to execute the agreed CONTRACT, if required; or
 - (b) Fails or refuses to furnish the Performance Bank Guarantee in accordance with the format provided in the Tender document; or
 - (c) Seeks Variation or modification of Proposal; modifications to the agreed terms and conditions
 - (d) Tries to influence Company on bid evaluation, bid comparison or Contract award decision.

The sum shall become payable by us immediately on first demand by Company without proof or conditions notwithstanding any constitution or protest by the Tenderer or any other third party.

- (2) Company shall have the fullest liberty without our consent and without affecting in any manner, our obligation hereunder, to relax any of the terms and conditions of the aforesaid Tender, from time to time, or to postpone any time any of the powers exercisable by Company against the said Tenderer and Guarantor shall not be relieved from its liabilities by reason of any such relaxation being granted to the Tenderer by Company or any indulgence by Company to the said Tenderer or by any such matters or things whatsoever.
- (3) The Guarantor shall not be discharged or released from this Guarantee by any Purchase Order/ CONTRACT made between the Tenderer and Company with or without the consent of the Guarantor or by any alteration in the obligations undertaken by the Tenderer or by any change in name or constitution of Company or the Tenderer.
- (4) The Guarantee herein shall not be affected by any change in the constitution of the Bank or the Tenderer.
- (5) This Guarantee shall not be revoked during its currency, and shall remain in effect for One Hundred and fifty (150) days from the Tender Closing Date.

- (6) This Guarantee shall be governed and construed in accordance with the laws of India and all of the parties to this Guarantee hereby irrevocably submit to the non-exclusive jurisdiction of the High Court of Mumbai.

IN WITNESS whereof this Guarantee has been duly executed by GUARANTOR the _____ day of _____ for and on behalf of (_____)

Name : _____
Designation : _____
Banker's Seal : _____
Address : _____

NOTE:

1. Bid bond required as Tender Security deposit /Earnest money

It is a condition precedent to the acceptance of any Tender by the Company that the Tenderer shall provide a Bid Bond by means of a Bank Guarantee for an amount stated in the Invitation to Tender in the prescribed format and valid for a period of 150 days from the Closing Date. The Tender may be disqualified in the absence of a Bid Bond in the prescribed format. In providing such a Bid Bond the bank shall also undertake to issue the Performance Bank Guarantee as required by Company in the event that the Tender is accepted.

2. Conditions for Invoking of Bid Bond Guarantee

The following conditions would also lead to the invoking of Bid Bond Guarantee:

- a) If the Tender is withdrawn during the validity period or any extension thereof.
- b) If the Tender is varied or modified in a manner not acceptable to Company during the validity or agreed extension validity period duly agreed by the Tenderer or after notification of award by Company and prior to signing of the CONTRACT.
- c) If the successful Tenderer is seeking modifications to the agreed terms and conditions after notification of award or declines to accept the Letter of Intent/Award.
- d) If the successful Tenderer fails to furnish Performance Bank Guarantee within 10 days of the issue of the Letter of Intent/Award.
- e) Any effort by the Tenderer to influence Company on bid evaluation, bid comparison or Contract award decision.

The formats for any of the Bank Guarantees shall not be changed except for any minor variations that the Bank may require. Failure to comply with this requirement may entail disqualification of the Tender.

ATTACHMENT-4

EXCEPTION/DEVIATION/CONDITIONS PROFORMA

Any and all exceptions/deviations/conditions to the terms and conditions of Tender / RFQ No.- _____ should be indicated here and submitted along with the Unpriced Techno Commercial Bid without any price impact. Price impact, if any, of the exceptions/ deviations shall be duly completed, in this proforma, and attached to the Priced Commercial Bid only. If the bidder does not intend to take any exception / deviation, then he shall mark "No Exceptions Taken" in this proforma. If the proforma is left blank or if this sheet is not attached to the bid, then it will be presumed that bidder has not taken any exception/deviation/condition to the terms and conditions of the TENDER DOCUMENT. Company shall not take cognisance of any exception/deviation/condition (if any) indicated elsewhere except in this proforma.

RFQ / Tender No. -

Technical Part (attach to Unpriced Techno Commercial Bid)

Section No, Page No. and Clause No.	Description of exception/ deviation/ condition	Reason(s) for exception/ deviation/ condition	Whether there is a Cost impact? ** (Yes / No)	Effect on Commencement Date

** Please do not indicate the price impact, if any, here.

RFQ / Tender No.-

Commercial Part (attach to Priced Commercial Bid)

Currency : _____