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1. Executive Summary

PFH Oil and Gas Pvt. Ltd. (“PFH”) was awarded the Contract Area CB/ONDSF/ELAO/2016, known as the “ELAO Field” in March 2017 through the 2016 round of bidding under the Discovered Small Field Policy conducted by the Ministry of Petroleum & Natural Gas, Government of India. The block boundary of the ELAO Field shows an area in the order of 9.98 km².

1.1. Revenue Sharing Contract

PFH Oil & Gas Pvt. Ltd. (“PFH”) signed a Revenue Sharing Contract (RSC) with GOI on 27 March 2017. PFH, with 100% Participating Interest was designated as the “Operator” for the ELAO Field Contract Area.

The term of the RSC is for a Primary Term period of twenty (20) years from the “Effective Date” or till the economic life of the Contract Area, whichever is less, unless it is terminated earlier. The Contract shall stand terminated when the entire Contract Area is relinquished.

Ministry of Energy & Petrochemicals Department, Govt. of Gujarat, issued the “Petroleum Mining Lease” (No. PML-14-2017-1345-E) on 4 August 2017 for the Contract Area to PFH Oil & Gas Pvt. Ltd. This date is to be considered as the “Effective Date” of the Contract.

PFH had obtained from the erstwhile Operator, ONGC, a “No-objection” to the transfer of the Environmental Clearance they had for the operating area, to enable us continue with our planned production operations. The E.C. did allow the drilling of an exploration well, however, had a restriction on production from the field. Considering this, a fresh application for Environmental Clearance from MoEF has been submitted. We await issuance of Environmental Clearance from MoEF to commence development operations. A new well can only be drilled in Q-1 2019, after obtaining the Environmental Clearance.

1.2. Field Location

The Elao Field is located in Surat District in Gujarat State. It is primarily cultivated land with the River Kim running though. The closest habitation is Ilav Village on the East boundary and Pardi Koba Village, South of the Contract Area.

Map-1: The Google View of the block boundary of the ELAO Field

1.3. ELAO Discovery & Appraisal

The Contract Area contains 3 exploratory wells drilled by the erstwhile Operator, Oil & Natural Gas Corporation Ltd. (“ONGC”). All 3 wells had been plugged & abandoned. Of these wells, 2 were drilled in the Elao area in late1980’s. ELAO-2 had commercial gas production of
0.5 BCF over the life of the well before it was abandoned due to excess water production. Oil was discovered in Elao-3, but the well was not considered commercially viable. Also included in this Contract Area is the exploratory well # KIM-5 drilled in 1965. KIM-5 was drilled to explore sands containing traces of oil found during the drilling of nearby Well # KIM-1, located 4.8 Kms north, but the sand was found to have shaled out. KIM-5 was drilled to also explore and evaluate the extent and hydrocarbon possibility of the Ankleshwar oil sands in the Kim area. However, no zones warranted testing and KIM-5 was plugged & abandoned without testing.

ONGC had subsequently, in 2005, acquired and processed ~7.3 km² of 3D seismic, however this data has not been fully integrated with well logs to generate new structure map of the field. As part of the Field Development, Operator plans to undertake this through a Service Provider.

2. Location Map of Abandoned Wells
The ELAO Field includes three wells, namely; ELAO-2, ELAO-3, and KIM-5, located within the Contract Area.

All three were plugged & abandoned by the erstwhile Operator. There are no producing wells at present.

The locations of these wells are as shown in Map-3: ELAO Field Boundaries with Abandoned Well Locations
3. ELAO Field: Existing Surface Facilities
Presently there are no Surface Facilities within the ELAO Contract Area. Future hydrocarbon production from this field will require the installation of suitable Surface Facilities to handle the testing & production. Based on the given production history from Well # ELAO-2, the Operator anticipates commercial quantities of gas production from the field, along with associated liquids. The initial Field Development Plan has taken this into consideration.

4. ELAO Field Development Plan
Preliminary material balance work done by PFH on ELAO-2 shows that the expected OGIP of the ELAO Field to be in the order of 2BCF which is close to the volumetric estimate of the field from available maps of ~2.0 to 3BCF.

- In this report, the feasibility of further development has been evaluated for economic exploitation of the remaining reserves from the ELAO Field.
- Volumetric studies from original maps show a OGIP of ~2 to 3 BCF due to a limited bulk rock volume of only ~3.5 km², based on the structural and isopach maps provided by the erstwhile Operator, ONGC.
- PFH awaits issuance of Environmental Clearance from MoEF to commence development operations. Considering this, a new well can only be drilled in Q-1 2019, after obtaining the Environmental Clearance.
- In the meanwhile, the Operator plans to continue the G&G and Reservoir studies to establish the optimal sub-surface target for the next well (# ELO-4).
- Based on the results of the next well the Operator plans further drilling within the Contract Area.

4.1. Development Program
Operator proposes to undertake the re-development of the Contract Area in two stages;
1) Phase-1
   a. Generate new structure and Isopach maps by integrating the 3D Seismic conducted by ONGC in 2005 with well logs to prior to commencement of a drilling campaign.
b. Enhance imaging through post- and pre-stack migration to better define some of the parameters for improved reservoir characterization,
c. Further identify deeper features which may be prominent through enhanced imaging techniques,
d. Drill and test one (1) well north of the existing Well # ELAO-2. Drilling of the next well is planned to commence in Q1 2019 (i.e. Q4 FY2018-19)
e. If the well test from this well proves to be commercially viable, then;
   i. The Operator plans to Install Field Surface Facilities to handle hydrocarbon production from this well
   ii. Tie-in to the nearest gas gathering facility, potentially at Kim. First hydrocarbons from the field expected around Q3 2019 (i.e. Q2 FY2019-20).

f. Analyse formation water salinities and compare with nearby fields & formations to confirm source of water.
g. Incorporate production results from new well into the field economics and accordingly update the Field Development Plan.

2) Phase-2
a. The new shear sonic data to be recorded after drilling of the new well in Phase-1
b. Update the inversion volumes prior to a future drilling campaign
c. Engineer the sizing requirement of the Surface Facilities to optimally support the potential hydrocarbon production from the field.
d. Plan & drill second well, if supported by the studies.

5. ELAO Field Reserves
The hydrocarbon potential of the ELAO Field is based on the historical commercial production of gas from the S3+4 Sands (Hazad) in Well # ELAO-2. As all the 3 wells in the Contract Area are plugged & abandoned, the present Operator has no access to undertake modern well tests and reservoir studies to better understand the potential of the reservoirs. A new well is required to be drilled to enhance the potential of the field. Given the present data available, the Field Reserves are limited to the Hazad S3+4 Sands intersected by Well # ELAO-2.

5.1. Effective Thickness Map of Hazard (S3+4) Sands
The Map showing the Effective Thickness of the Hazard Sands is provided below.
5.2. ELAO Field GIP and Reserves

Well # ELAO-2, Hazard (S3+4) Sands

<table>
<thead>
<tr>
<th>Producing Interval</th>
<th>T_c</th>
<th>P_c</th>
<th>T_R</th>
<th>P_R</th>
<th>Z</th>
<th>Depth (m)</th>
<th>Depth (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1230-1232</td>
<td>375</td>
<td>670</td>
<td>1.78</td>
<td>2.52</td>
<td>0.89</td>
<td>1232</td>
<td>4042</td>
</tr>
<tr>
<td>1227-1229</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SG = 0.73  
T_c = 375 °R  
P_c = 670 psia  
T_R = 1.78  
P_R = 2.52  
Z = 0.89

Table 1: Hazard Sands Reserves (based on ELO-2)

6. Gas Production Forecast

The future development work program considered the drilling of one (1) Firm well, plus one (1) or two (2) additional well, based on the results of the first well, and subsequent reservoir studies. The indicative future gas production forecast during Phase-1 (i.e., with 1 Producing Well) is tabulated in Table 2.

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Contract Year</th>
<th>No. of Producing Wells</th>
<th>Well #1 Mscfd</th>
<th>Total Annual Gas Production Mscf</th>
<th>Cum Gas Prod Mscf</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-18</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2018-19</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2019-20</td>
<td>3</td>
<td>1</td>
<td>1,050</td>
<td>384,300</td>
<td>384,300</td>
</tr>
<tr>
<td>2020-21</td>
<td>4</td>
<td>1</td>
<td>788</td>
<td>287,438</td>
<td>671,738</td>
</tr>
<tr>
<td>2021-22</td>
<td>5</td>
<td>1</td>
<td>591</td>
<td>215,578</td>
<td>887,316</td>
</tr>
<tr>
<td>2022-23</td>
<td>6</td>
<td>1</td>
<td>443</td>
<td>161,684</td>
<td>1,048,999</td>
</tr>
<tr>
<td>2023-24</td>
<td>7</td>
<td>1</td>
<td>332</td>
<td>121,595</td>
<td>1,170,594</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Gas Production Forecast

7. Drilling

On receipt of the Environmental Clearance from MoEF for proposed Developmental activities in the Contract Area, it is planned to drill an appraisal well by early 2019. The test results from this well will be analysed to economically & technically justify the future drilling campaign to effectively delineate the Field. Given the time required to undertake reservoir studies and plan for the next drilling activity, it is estimated that any subsequent drilling campaign can commence earliest by January 2020.

The wells are presently planned to be vertical wells drilled to intersect the Primary Target, i.e., Hazard (S3+4) Sands, at ~1,230m TVD. Well cost estimates are based on using water-based drilling fluids. Highly deviated well geometry may also be considered as a solution to overcome the water ingress observed in ELO-2.
Well Construction Casing Policy

The next well will be an appraisal well targeting the Hazad (S₃+4) Sands. The well is tentatively planned to be drilled as a vertical well with a 2-casing policy;

<table>
<thead>
<tr>
<th>O.H. Size</th>
<th>From</th>
<th>To</th>
<th>Casing Size</th>
<th>From</th>
<th>Casing Shoe</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 ¼&quot;</td>
<td>Surface</td>
<td>~360 mBRT</td>
<td>9 5/8&quot;</td>
<td>Surface</td>
<td>~360 mBRT</td>
</tr>
<tr>
<td>8 ½&quot;</td>
<td>360 mBRT</td>
<td>~1230 mBRT</td>
<td>5 ½&quot;</td>
<td>Surface</td>
<td>~1,230 mBRT</td>
</tr>
</tbody>
</table>

Table-3: Casing Policy

7.1. Tentative Well Depth v/s Well Construction Time Curve

Below is the tentative Well Depth v/s Well Construction Time Curve to drill and complete this planned well design. The drilling is planned to be undertaken by a 1000 HP rig available in the Gujarat area.