LICENCE RELINQUISHMENT REPORT
UKCS LICENCE P.1084
SUB-BLOCK 13/27a DEE

DANA PETROLEUM (E&P) LIMITED
UK EXPLORATION

December 2011
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## LICENCE INFORMATION

Table 1: Licence Information & Work Programme Commitments

<table>
<thead>
<tr>
<th>Licence Number:</th>
<th>P.1084</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licence Round:</td>
<td>21st</td>
</tr>
<tr>
<td>Licence Type:</td>
<td>Traditional, Second Term</td>
</tr>
<tr>
<td>Block Number(s):</td>
<td>Block 13/27a</td>
</tr>
<tr>
<td>Operator/Partner %:</td>
<td>Dana Petroleum (E&amp;P) Ltd (op); 90%, First Oil Plc; 10%</td>
</tr>
<tr>
<td>Work Programme:</td>
<td>(1) Progress the Dee discovery to Field Development</td>
</tr>
<tr>
<td>Drill-or-drop decision deadline (if any):</td>
<td>N/A</td>
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1. SYNOPSIS

Part block 13/27a (P.1084) is located in the Outer Moray Firth approximately 20km southwest of the Ross Field. Structurally, the sub-block lies to the south of the western flank of the Halibut Horst and immediately to the northeast flank of the West Bank High.

The 13/27a block contains the eastern part of the Dee oil Discovery, which straddles 13/26a (currently unlicensed).

The P.1084 licence was initially awarded 100% to Reach Exploration Limited as a Seaward Production Licence in the 21st Promote Licensing Round, commencing 1st October 2003. The licence carried a drill-or-drop commitment, such that the licence would expire two years after commencement unless the licensee had undertaken to honour this commitment.

In April 2004, PetroCanada farmed into P.1084, thus acquiring a 90% working interest and operatorship. Following drilling of 13/27a-4 March 2005, the P.1084 licence was converted to a Traditional licence (Dec 2005).

Reach Exploration (North Sea) Limited divested working interest to First Oil Expro Limited, effective 1st March 2007.

The end of the Initial term was 30th September 2007. Following part relinquishment of the P.1084 licence, the partnership continued into the Second Term.

Dana Petroleum purchased a portfolio of PetroCanada UK assets, including P.1084, 31st March 2011. There was insufficient time, post-acquisition, for Dana to make an independent evaluation of the Dee Discovery such that plans for field development could be progressed before the end of the Second Term. Dana was unsuccessful at obtaining a licence extension and relinquished P.1084 with an effective date 1st October 2011.

There are three wells that define the Dee oil Discovery, and several down-dip water-bearing wells.

Table 2: Wells located in sub-block 13/27a (P.1084) and adjacent 13/26a “Dee”

<table>
<thead>
<tr>
<th>Dee:</th>
<th>Well</th>
<th>Year</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>13/27-1 and 1A</td>
<td>1981</td>
<td>P&amp;A, DRY</td>
<td></td>
</tr>
<tr>
<td>13/27-2</td>
<td>1984</td>
<td>P&amp;A, Oil shows in Upper Jurassic</td>
<td></td>
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<tr>
<td>13/27a-3</td>
<td>1991</td>
<td>P&amp;A, Oil shows in Upper Jurassic</td>
<td></td>
</tr>
<tr>
<td>13/27a-4</td>
<td>2005</td>
<td>P&amp;A, Dee Appraisal; Oil in Upper Jurassic</td>
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<tr>
<td>13/26a-2</td>
<td>1998</td>
<td>P&amp;A, Dee Discovery well; Oil in Upper Jurassic and Permian and gas in Lower Cretaceous Punt Sst</td>
<td></td>
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<tr>
<td>13/26a-4</td>
<td>2007</td>
<td>P&amp;A, Dee Appraisal; Oil in Upper Jurassic</td>
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</tbody>
</table>
2. EXPLORATION ACTIVITY

Seismic:

The Q13 WGC Phase II Noise Cancelled 3D seismic survey has been utilised for interpretation.

Wells:

13/26a-2:
The Dee discovery well, 13/26a-2, was drilled by Talisman in 1998 on the southwestern and crestal part of the structure. It encountered gas in the Lower Cretaceous Punt Sandstone as well as oil in the Upper Jurassic Claymore and Ross Sandstones and deeper Permian Rotliegendes Sandstone. Drill stem tests were carried out on the Rotliegendes Sandstone (100-200 bopd), Ross Sandstone (60 bopd) and Punt Sandstone (22.3 MMscfd). The Claymore Sandstone (4300ft TVDSS) was not tested owing to the low net pay (9ft), but an oil sample with 370 API was recovered.

13/27a-4:
The discovery was appraised by Petro-Canada in 2005 with well 13/27a-4. This well is located 4km to the northeast of 13/26a-2 and 300ft structurally deeper at Top Claymore level. The well encountered 40ft of net oil pay within thinly interbedded, low permeability Claymore Sandstones above an oil water contact at 4750ft TVDSS.

During the subsequent drill stem test, the produced fluids were not passed through the test separator and measured accurately. Stabilised flow conditions could not be achieved owing to water influx due to a bad cement job and possible gas breakout within the reservoir. Flow rates of up to 1250 bopd were estimated.

13/26a-4:
Well 13/26a-4 was drilled in 2007, 2.5 km up dip to the west of 13/27a-4 where thicker better quality sands were anticipated. Disappointingly, the well encountered just 9ft of net oil bearing sand within the Claymore Sandstone interval above the oil water contact. The Lower Cretaceous Punt Sandstone was absent and the deeper Ross Sandstone contained only residual oil.
3. PROSPECTIVITY

No additional prospectivity is recognised on block 13/27a outside of the Dee oil discovery.
4. RESOURCES SUMMARY

**Dee:**

As highlighted by the well results, the key uncertainty with Dee is the prediction of Claymore Sandstone reservoir thickness and quality over the structure. Seismic imaging within the reservoir interval is generally poor, owing to the lack of acoustic impedance contrasts between the sands and shales. Seismic inversion studies have also failed to increase confidence levels in sand prediction over the structure. There are nevertheless indications of possible channel and mounding features in the dataset but they do not, on their own, help with predicting sand distribution away from existing well control points. It seems likely that the Claymore Sandstone reservoir is heterogeneous and well correlations indicate a complex depositional geometry.

STOIIP and potential reserve estimates are summarised in Table 3. A likely development scenario would be a waterflood scheme (4 gas-lifted producers, 2 injectors) with subsea tieback (17km) to the FPSO at Ross.

| Table 3: Dee Discovery STOIIP and Reserves Summary |
|-------------------------------------------|------------------|-------|------|     |
| Dee:                                      | Discovery Area   | P90   | P50  | P10  |
| STOIIP                                    | Total Dee (13/27a & 13/26a)* | 22    | 53   | 131  |
| Recoverable                               | Total Dee (13/27a & 13/26a)* | 1.5   | 5    | 18   |

*It is estimated that ca. 60% of the Dee Recoverable Reserves reside in the 13/27a part block (P.1084).*
5. FIGURES

Fig. 1: Location Map of Part Block 13/27a (P.1084)
Poorly defined stratigraphic limit

13/26a-E
ED50 UTM 3°W (Zone 30)
569,606mE
6,438,090mN

13/26a-2

Depth conversion: layer-cake (no Top Chalk). Surface represents Top Claymore Envelope

13/27a-4

Nexen proposed well location

BCU PostDrill

OWC @ 4750 ft TVDSS

Fig. 2: Top Claymore Sandstone Depth Map
Dee inline 6961 between 13/27a-4 and 13/26a-4

Fig. 3: Dee Seismic cross-section
Fig. 4: Dee Schematic Cross-Section
Fig. 5: Dee Well Correlation
6. CLEARANCE

Dana Petroleum (E&P) Limited confirms that the Department of Energy & Climate Change is free to publish the contents of this report.