Information on Oil Pipelines & Terminals, Production Activities and PSAs in Yemen

Export Pipelines and Terminals

Yemen has an integrated network of pipelines that transport crude oil and natural gas from 3 central production units to export terminals. These include the 270-mile Marib-Ras Isa pipeline, which transports oil from the Marib basin to the Ras Isa offshore export terminal on the Red Sea and has a capacity of 300,000 bbl/d. The 90-mile Masila-Ash Shahir pipeline runs from Masila to the export terminal at Ash Shahir on the Gulf of Aden and has a capacity of 300,000 bbl/d. The 130-mile Shabwa-Bir Ali pipeline runs from the Ayad-Shabwa block to the Bir Ali terminal on the Gulf of Aden and has a capacity of 135,000 bbl/d. The total length of pipelines in the country is estimated at 662 miles.

A proposed 37-mile oil pipeline from the Haban oil field to export facilities on the Gulf of Aden was up for bids in January 2010. Haban oil production is expected to increase from 11,000 bbl/d to 32,000 bbl/d by the end of 2010.

Downstream

According to the January 2010 Oil and Gas Journal, Yemen has a total crude oil refining capacity of 140,000 bbl/d from two refineries. The 130,000 bbl/d Adenrefinery is operated by Aden Refinery Company (ARC) and the 10,000 bbl/d Marib refinery is operated by Yemen Hunt Oil Company. Yemen is reportedly in talks with China’s Sinopec, among other companies, to upgrade the Aden refinery. In November 2009, it was reported that a contract was signed with South Korean company Shinhan for the modernization of the Marib refinery to increase its capacity from 10,000 to 25,000 bbl/d. (3)
Pipelines and Terminals

Three pipelines in Yemen are:

1- Masila-Ash Shihr 24” Pipeline; 138 Km long with a capacity of 300,000 BPD.

2- Shabwah- Bir Ali 20” Pipeline; 207 km long with a capacity of 135,000 BPD.

3- Marib-Ras Issa 24-26” pipeline; 438 km long with a capacity of 300,000 BPD. (4)

Three Terminals in Yemen are:

<table>
<thead>
<tr>
<th>Terminal</th>
<th>No. of Tanks</th>
<th>Tank Capacity</th>
<th>Total Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ash Shihr</td>
<td>5</td>
<td>500,000</td>
<td>3,500,000</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1,000,000</td>
<td></td>
</tr>
<tr>
<td>Bir Ali</td>
<td>5</td>
<td>126,000</td>
<td>630,000</td>
</tr>
<tr>
<td>Rass Issa</td>
<td>1</td>
<td>3,000,000</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Block Name</th>
<th>Governorate</th>
<th>Operator</th>
<th>Area (Km²)</th>
<th>Start Year</th>
<th>Acum. Oil Production (MM BBL)</th>
<th>Avg. Daily Production (BOPD)</th>
<th>Number OF Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARIB (18)</td>
<td></td>
<td>Safer E&amp;P Operation Co.</td>
<td>8,479</td>
<td>1986</td>
<td>1037.15</td>
<td>50.370</td>
<td>14</td>
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<tr>
<td>MASILA (14)</td>
<td>HADHRAMOUT</td>
<td>Canadian Nexen</td>
<td>1,257</td>
<td>1993</td>
<td>1033.5</td>
<td>86.032</td>
<td>26</td>
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<tr>
<td>East SHABWAH (10)</td>
<td>HADHRAMOUT</td>
<td>TOTAL E&amp;P Yemen</td>
<td>964</td>
<td>1997</td>
<td>123.6</td>
<td>46.187</td>
<td>3</td>
</tr>
<tr>
<td>JANNAH (5)</td>
<td>SHABWAH</td>
<td>Jannah HUNT</td>
<td>280</td>
<td>1996</td>
<td>196.8</td>
<td>40.399</td>
<td>5</td>
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<td>East SAAR (53)</td>
<td>HADHRAMOUT</td>
<td>DOVE Energy</td>
<td>474</td>
<td>2001</td>
<td>40.8</td>
<td>7.991</td>
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<td>HWARIM (32)</td>
<td>HADHRAMOUT</td>
<td>DNO</td>
<td>592</td>
<td>2000</td>
<td>36.6</td>
<td>6.523</td>
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<td>DAMIS (51)</td>
<td>SHABWAH</td>
<td>OCCIDENTAL</td>
<td>1,156</td>
<td>2004</td>
<td>18.4</td>
<td>10.176</td>
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<tr>
<td>East Al-HAJR (51)</td>
<td>HADHRAMOUT</td>
<td>Canadian Nexen Yemen Ltd.</td>
<td>2,004</td>
<td>2004</td>
<td>30</td>
<td>12.050</td>
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<td>South HWARIM(43)</td>
<td>HADHRAMOUT</td>
<td>DNO</td>
<td>1,622</td>
<td>2005</td>
<td>9.6</td>
<td>4.272</td>
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<tr>
<td>MALIK (9)</td>
<td>HADHRAMOUT</td>
<td>Calvally</td>
<td>2227</td>
<td>2006</td>
<td>6</td>
<td>4.347</td>
<td>3</td>
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<tr>
<td>W. AYAD (4)</td>
<td>SHABWAH</td>
<td>KNOC</td>
<td>1,998</td>
<td>1987</td>
<td>9.5</td>
<td>104</td>
<td>2</td>
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<tr>
<td>Al-Uqlah (S2)</td>
<td>SHABWAH</td>
<td>OMV</td>
<td>904</td>
<td>2006</td>
<td>7.1</td>
<td>14.484</td>
<td>1</td>
</tr>
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Production Activities

The last two years testify the many achievements in oil production field in terms of the increase and maintaining the level of production in the different blocks, particularly that the field may undergo a natural decline in production. That was achieved by many methods by new explorations in new blocks or in terms of developing the productive fields by increased drilling wells and the exploration of new reservoirs. In 2007, 114 developing wells were drilled and established two new blocks in the list of producing blocks, which are S1 Damis, operated by the OXY Company and block 51 E. AL-HAJR, operated by Canadian Nexen E. AL-HAJR Limited.

A big oil reservoir was discovered in the fracture basement in block 10 E. Shabwah, which is operated by Total-French Company. That resulted in the rise the production from 15,000 BOPD to 37,000 BOPD. The fracture basement reservoir is regarded as a big transition to support the oil production, because it’s contains a big oil reserve, which is in the beginning of its exploitation.

Now, it is produced only from three blocks (14-Masila, 10-E.Shabwa and 43-S.Hwarim) in Masila Say'un basin. Additionally, the new important oil discovery present in fracture basement reservoir in (Marib-Shabwah) basin as the first time in this basin on Friday 14/7/2005. New oil Well Was Discovered in Habban #1 (exploration well) block (S2), which is operated by (OMV), the Austrian company and which is producing now about 4270 bpd. (1)

Production Sharing Agreement (PSA)

PSA - Latest Incentives

- Interests of parties protected and Investor risk / reward balanced through improved terms;
  - Cost recovery period reduced.
  - Exemption from petroleum related revenue/profit taxes and import/export duties (including sub-contractors).
  - Free disposition of contractor share of production.
  - Free transfer of funding and revenue into/out of the country.
  - Improve development economics by ensuring any spare capacity in existing infrastructure is made available at reasonable cost, recoverable tariffs.
o Simplify application processes, make data for open blocks more available and assist with field trips etc.
o No restrictions on Contractor performing Petroleum Operations (International Petroleum Industry standards) apply.

PSA - Description

- Each PSA becomes a law, with key features:
  - State owns its Petroleum Resources and Contractor has title to its Cost Oil and share in Production Sharing Oil.
  - Contractor is granted exclusive rights to conduct Petroleum Operations in the Agreement Area by the Ministry (MOM).
  - Contractor executes Petroleum Operations at its sole risk and cost.
  - Management vested in a Joint Management Committee during exploitation phase (but mainly the Contractor’s responsibility during the exploration phase).

- Basic Terms:
  - Sliding scale royalty, signature and production bonuses.
  - Contractor recovers qualifying costs and shares profit oil with Ministry on a sliding scale.
  - Contractor share of production is net of taxes.

- Features of Production Sharing Agreements:

  An agreement is the legal frame of reference defining the agreed-upon terms and conditions between both parties– the MOM and contractor. Such agreement is made through direct negotiation between contractual parties. Both parties should be completely convinced of the agreement’s content, since it, the agreement, is an instrument created by both parties on the basis of their consent. No party has the right to impose any thing on the other party. In addition, a contracting oil company is given sufficient time is to decide whether to enter into agreement or not. This is through first signing a memo of understanding valid for a period of two to three months after both parties have already defined the most significant economic terms and conditions governing oil operations in the area chosen by the contractor. During such a period, both parties start negotiating the sharing agreement. After signing the agreement, they start following the endorsement procedures of the agreement.
Endorsement of an agreement between the parties is by the issuance of a special law to that effect in accordance with effective constitutional procedures in the Republic of Yemen. Such a law should be approved by concerned bodies (the Council of Ministers, the Parliament and then the President of the Republic). Legally speaking, such an agreement constitutes an operative legal guarantee whose provisions dominate all other regulations and legislations in force at the time of drafting it or those violating its provisions. This legal value of the agreement is so because the agreement is a special law issued on the basis of both parties’ consent. That is, the will of both parties was the basis for drafting such an oil contract (the agreement, which paves the way for both parties to appropriately put it into force later on.

The production sharing agreement (PSA), described above, is legally the most persuasive and suitable instrument. The flexibility of its provisions has encouraged international oil companies to venture and invest millions of dollars in investment projects in Yemen. The reason is that unlike any other place, in Yemen, investors have great expectations for discovering oil of commercial significance under such flexible legislations instead of working somewhere else under effective legislations whose provisions are usually unclear and unknown to the investors or most of the time new investment decisions are taken as it may have happened in a number of countries which had surpassed us in this field.

What has been jotted down were some of the features governing oil exploration and production agreements in Yemen; other features are those of the international oil industry standards, which are included in Yemen’s agreements. More importantly are the natural characteristics of Yemen, which suit and are a source for safe investment; these are the magnificent climate and the hospitality and generosity of the Yemeni people. Yemenis tend to treat their guests whether a visitor, investor or a resident in a very elegant and civilized manner. (2)

(1) http://www.pepa.com.ye/Production%20Activities/activities.htm
(3) http://www.eia.doe.gov/emeu/cabs/Yemen/Oil.html
(4) http://www.pepa.com.ye/Production%20Activities/pipelines.htm

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