





TRINIDAD AND TOBAGO

Trinidad Onshore Bid Round 2013

Ministry of Energy and Energy Affairs

and

Petroleum Company of Trinidad and Tobago Limited



Brief Look at T&T











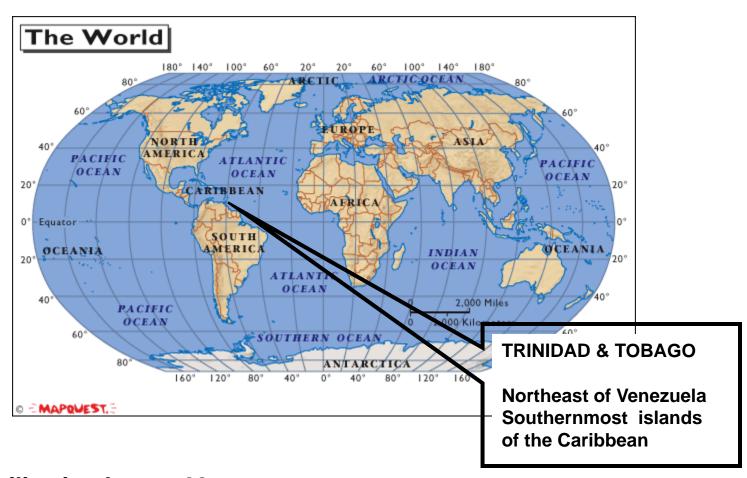






Commercial oil production began 104 yrs ago Oil Production (end of Nov 2012)- 78,846 bopd





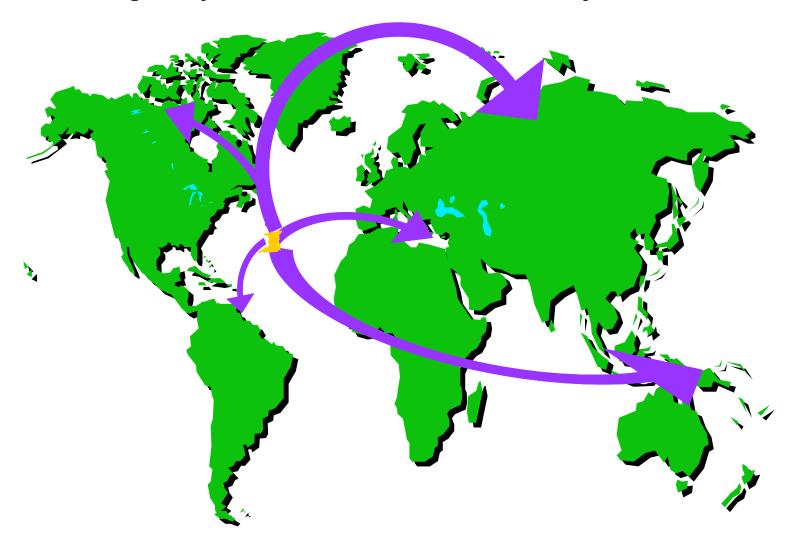
Gas utilization began 60 yrs ago Avg. Gas Production (end of Nov 2012)- 4.1 bcf/d



Trinidad and Tobago Location



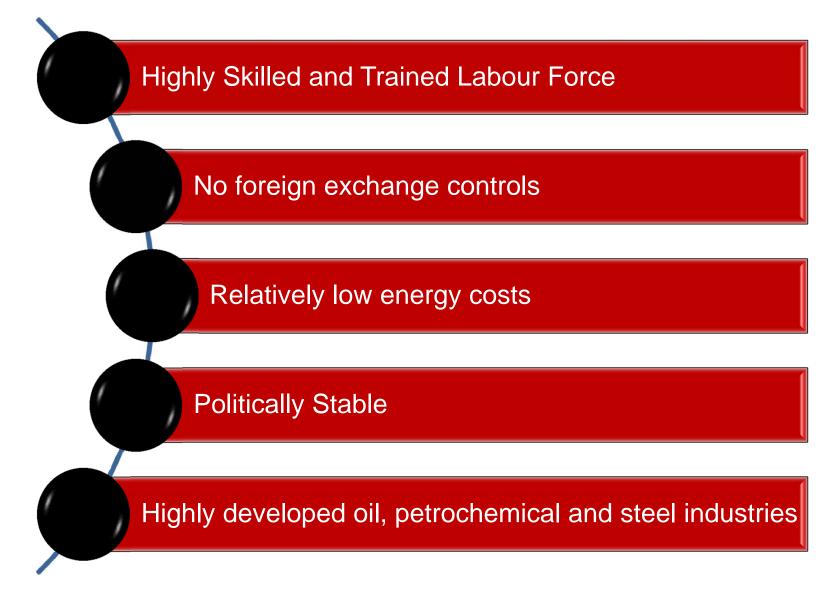
Strategically Located for Access to Major Markets





Trinidad & Tobago Business Advantages







Trinidad & Tobago Business Advantages Cont'd



Bi-lateral investment treaty with US Double taxation treaty with US **International Arbitration** Competitive fiscal incentives Equal treatment of foreign and local investors



Trinidad and Tobago Competitive Bid Rounds 2013



- Trinidad and Tobago will be having 2 bid rounds for 2013
- Offshore areas- Mixture of shallow and deep water blocks- End of April 2013
- Onshore Bid Round 3 blocks February 2013



Bid Evaluation Criteria



Each Element of the bid attracts a certain number of points

Geophysical

Seismic

3D seismic

Other Geophysical

Geological Studies

Bidders are asked to provide details of named studies proposed and illustrate their value in contributing to improving the understanding of the petroleum system.

Drilling

The work programme is totally self assessable



Bid Evaluation



 Companies may also be asked to bid a signature bonus in the event that that there is a tie in the points awarded.

 Evaluation of bids and announcement of results within three months from the date of bid submission.



Transparent Bid Evaluation



- There are two Cabinet appointed committees which perform the evaluations:
 - A Technical Evaluation Committee comprised of staff of the Ministry of Energy, Finance and the Attorney General.
 - An Overview Committee chaired by the Permanent Secretary, Ministry of Energy and comprised of officers from the Ministry of Finance and the Solicitor General's Department and State Companies.



Evaluation cont'd



- The Overview Committee makes recommendations on the awardees to the Cabinet.
- Cabinet forwards the recommendations to the Standing Committee of Energy
- Committee makes recommendations to Cabinet
- Cabinet then acts on the recommendations of the SCE







Trinidad Onshore Bid Round 2013

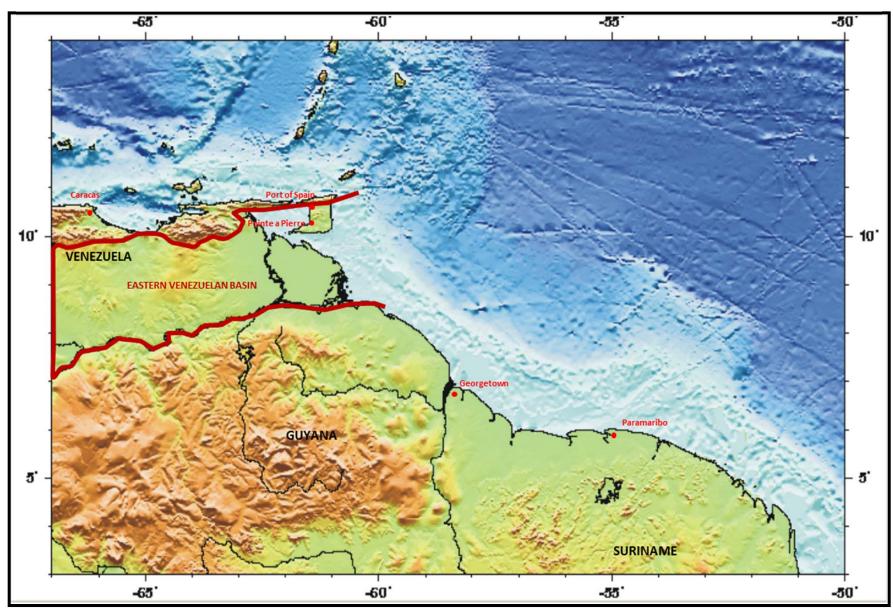
TECHNICAL INFORMATION





Regional Setting

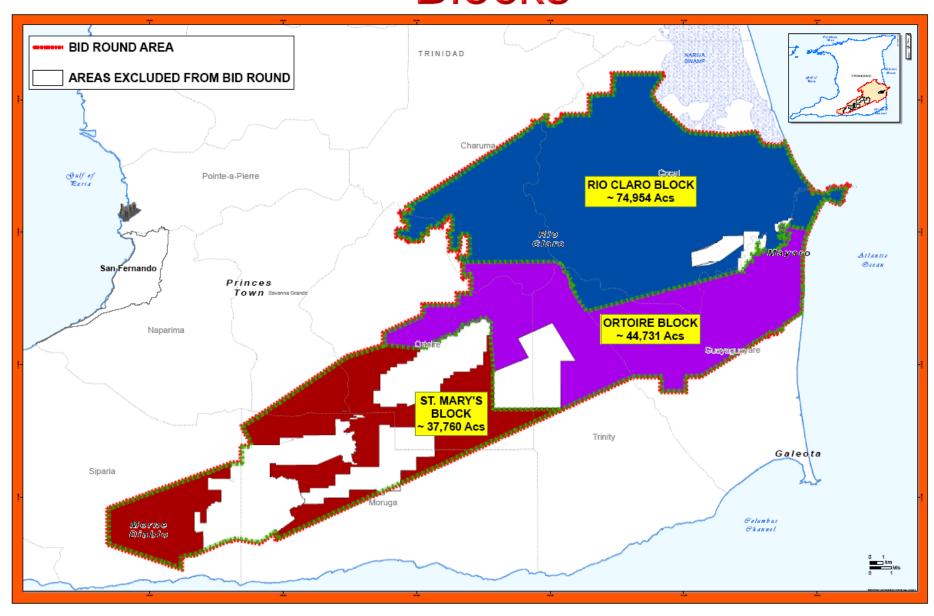






Trinidad Onshore Bid Round 2013 Blocks









At a Glance

- Trinidad has been producing oil commercially for over 100 years and to date has produced approximately 4 billion barrels of oil.
- World Class Source Rock
- Area of Interest surrounded by producing oil fields with field production of 7 - 150 MMBO
- Existing Infrastructure
- Good Data Set (Well and Seismic Data)



Block Statistics



Rio Claro Block

- 74,954 Acres (30,333 Hectares)
- East of Petrotrin's Barrackpore Field and south of the Central Range Block which is under exploration via E&P Exploration Licence

Ortoire Block

- 44,731 Acres (18,102 Hectares)
- Southeasterly block lying east and on trend with the Rock Dome/Catshill Inniss
 Field

St Mary's Block

- 37,760 Acres (15,280 Hectares)
- Southwesterly block lying south of Petrotrin's Barrackpore Field and adjacent to the Rock Dome/Catshill Inniss Field



Potential Target Reservoirs cont'd:



<u>Traps</u>

Thrust faulted compressional anticlines, with multiple imbricates. Folded growth faults, lateral stratigraphic variations.

Source:

Upper Cretaceous Naparima Hill and Gautier Formations (equivalent to the La Luna/Querecual Formation in Eastern Venezuela)—a world class source rock, and the Lower Cretaceous Cuche – a gas prone source rock.

Oil Gravity:

>25 degrees API, plus gas and condensates.

Risk:

Multiple phases of deformation may lead to failure of traps and seals, however there are also multiple opportunities for the source rock to go through the oil window and generate hydrocarbons.





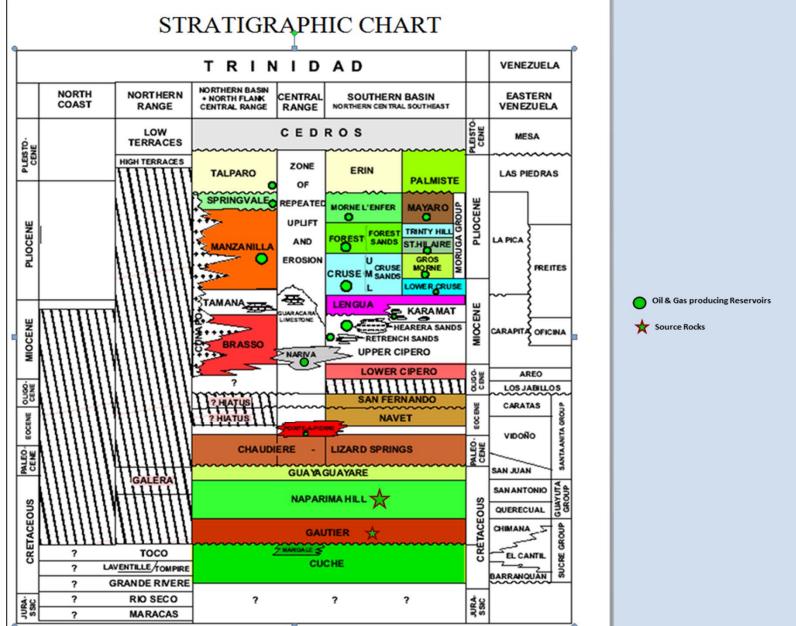
Prospectivity of the Acreage

The subject area of the Bid Round is prospective in Cretaceous to Quaternary reservoirs (Fig 6) Potential target reservoirs include:

- Pleistocene to late Miocene deltaic and estuarine sands of Forest, Cruse,
 Gros Morne and Mayaro Formations
- Miocene Retrench, Herrera and Karamat deep-water sands.
- Early Miocene/Oligocene Nariva deep-water sands.
- Eocene San Fernando sandstones (Mt. Moriah)
- Cretaceous Naparima Hill Argiline, Gautier and Cuche deep-water sands









Production Highlights

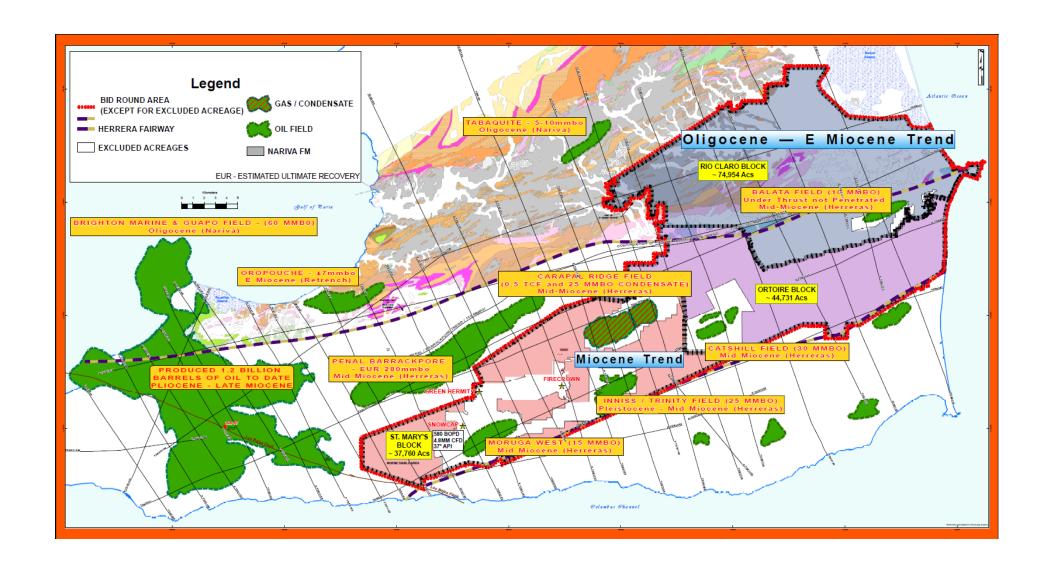


- Mid Miocene Penal-Barrackpore cumulative production 130MMBO Oil and Condensate
- Two other areas currently in production at around 1000 bopd
- Recent discoveries with rates of 500 to 1000 bopd at the Herrera geological structure which extends into the acreage offered.





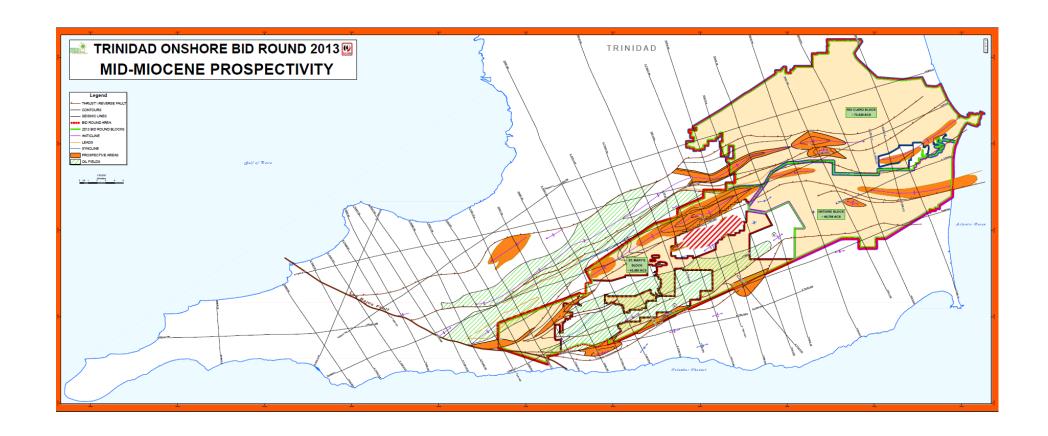
Prospectivity





Mid-Miocene Leads

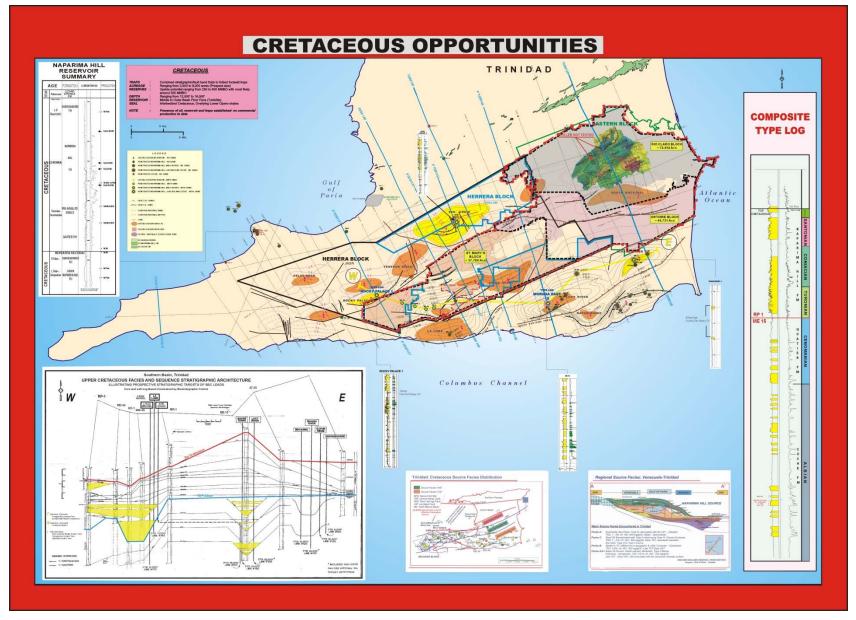


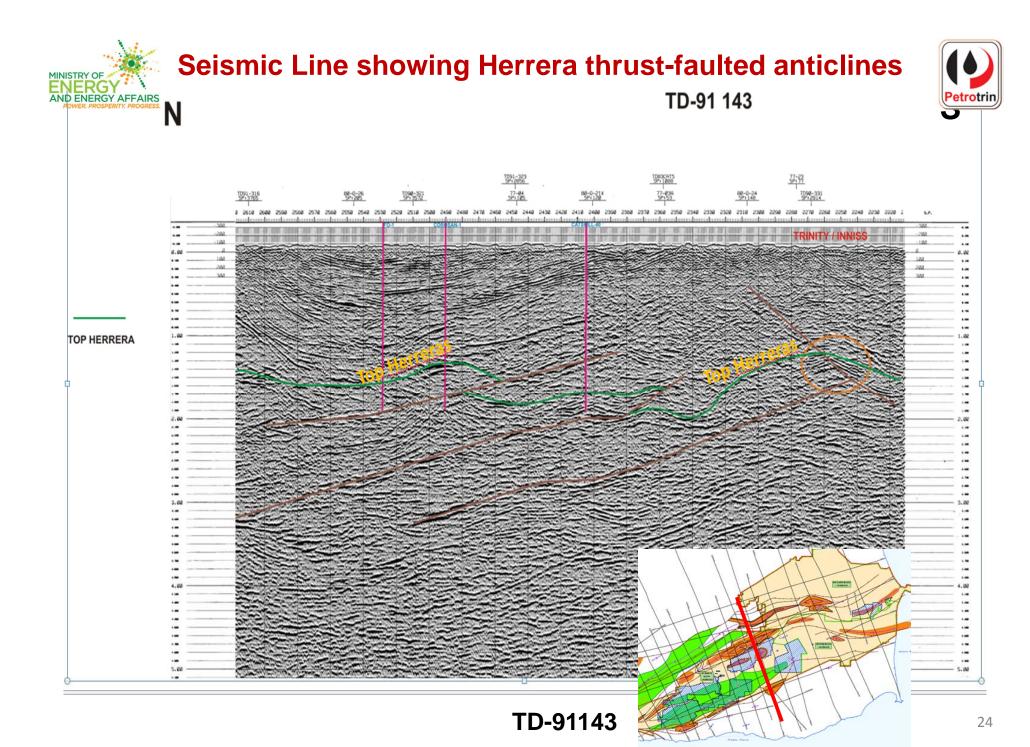




Prospectivity Map







Wells Showing Shallow ,Intermediate, and Deep Herrera Penetrations ENERGY AFFAIRS



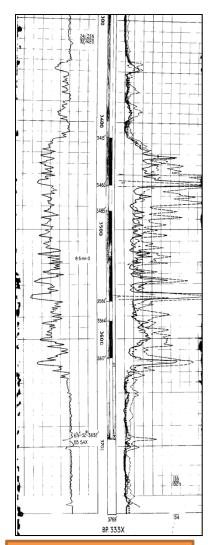
BP 333

MINISTRY OF.

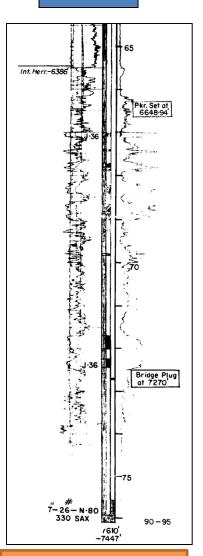
BP 512

BP 550

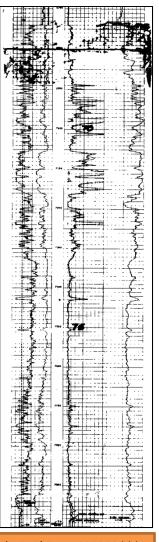
BP 475



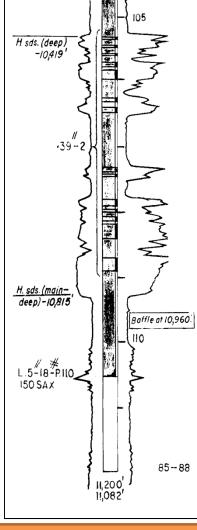
3445'-3617' CUM-620000 bbls **Shallow Herrera**



6701'-7242' CUM-650000 bbls Intermediate Herrera



6886'-7240' CUM-820000 bbls Intermediate Herrera



10419'-10815' CUM-1300000 bbls Deep Herrera



Selected Wells Production from fields within or near to proposed blocks



BP

WELL	UNIT	COMPLETION_DATE	OIL_CUM_VOLUME	GAS_CUM_VOLUME	COM_T_DEPTH	COM_B_DEPTH	TOTAL_DEPTH	PROD_DATE
BP 475	HD	6/9/1972	1314782	4341052	10532	10890	11200	5/31/2012
BP 336		1/1/1949	1232138	9930401	9830	10087	9000	5/31/2012
BP 550	HI	3/1/1988	812175	1314960	6886	7240	8000	5/31/2012
BP 367	HD	10/8/1955	803741	11415961	9370	9767	9930	5/31/2012
BP 358	HD	9/26/1954	703637	13236539	9226	9455	10448	5/31/2012
BP 512	HI	5/21/1985	649821	636647	6701	7242	7610	5/31/2012
BP 587	INT.HERR.	5/14/1996	645022	1061581	6966	7158	7190	5/31/2012
BP 333	HS	8/12/1947	618875	335422	3415	3617	3769	5/31/2012
BP 521	HS	4/23/1986	595671	1216990	6927	7110	9214	5/31/2012
BP 554	HI	7/8/1988	563539	1201056	7046	7369	7859	5/31/2012

CATSHILL

WELL	_UNIT	COMPLETION_DATE	OIL_CUM_VOLUME	GAS_CUM_VOLUME	COM_T_DEPTH	COM_B_DEPTH	TOTAL_DEPTH	PROD_DATE
CO 99	С	12/7/1961	1302944	1249942	2236	2880	3597	5/31/2012
CO 59	CAT30	12/16/1956	1042462	674843	1852	2062	2401	5/31/2012
CO 24	С	6/27/1955	938839	859954	2060	2370	3000	5/31/2012
CO 16	С	10/31/1954	937430	1133979	1976	2666	3200	5/31/2012
CO 51	CAT30	9/6/1956	902124	765471	1794	2287	2503	5/31/2012
CO 25	CATN	6/28/1955	691858	372084	2305	2340	3400	5/31/2012
CO 43	CAT30	5/9/1956	639459	590412	1868	2099	2600	5/31/2012
CO 34	С	2/16/1956	597735	608870	1635	2308	2800	5/31/2012
CO 21	CAT30	5/2/1955	593161	301618	1738	1975	3062	5/31/2012
CO 10	CATN	5/18/1954	582212	501974	2365	2390	3662	5/31/2012

PENAL

WELL	UNIT	COMPLETION_DATE	OIL_CUM_VOLUME	GAS_CUM_VOLUME	COM_T_DEPTH	COM_B_DEPTH	TOTAL_DEPTH	PROD_DATE
P 77	н	9/6/1944	2293302	2	6245	6275	6500	5/31/2012
P 115	н	12/11/1947	2001858		6322	6500	6556	5/31/2012
P 71	н	1/28/1943	1889066	3451775	4655	4790	4863	5/31/2012
P 68	н	7/17/1942	1881518	4402429	4446	4713	7685	5/31/2012
P 160	н	12/15/1950	1325211	9106042	8797	8950	9534	5/31/2012
P 189	н	1/1/1901	1051415	1760669	8752	8850	9310	5/31/2012
P 132	F	11/5/1948	983853	66617	1515	1667	2150	5/31/2012
P 64	HD	7/17/1941	919405	1040581	4692	4762	5039	5/31/2012
P 83	HD	6/12/1945	910380		4445	4525	4624	5/31/2012
P 202	н	1/1/1901	903338	9859650	0	0	9876	5/31/2012

<u>INNISS</u>

WELL	UNIT	COMPLETION_DATE	OIL_CUM_VOLUME	GAS_CUM_VOLUME	COM_T_DEPTH	C_B_DEPTH	TOTAL_DEPTH	PROD_DATE
IN 3	Н	4/20/1957	753499	896949	3228	3321	3477	6/30/2012
IN 6	н	10/15/1957	497267	765768	2318	2389	2921	6/30/2012
IN 2	Н	10/4/1956	368418	370412	3566	3675	3924	6/30/2012
IN 8	HS	7/3/1958	345483	904822	2071	2520	2933	6/30/2012
IN 26	HS	3/30/1961	330678	322794	2874	3356	3800	6/30/2012
IN 4	HS	1/1/1901	319692	741223	3241	3652	3733	6/30/2012



Trinidad Onshore Bid Round 2013 Data Package



INFORMATION PACKAGES



It will be noted that the type, quantity, and quality of the data in the Information Package will vary, however the generic contents is along the following lines:

General Information

- Geological setting and overview (stratigraphic column, schematic crosssection, sample seismic sections, etc.);
- Technical overview (background, logistics, etc.).

Location Maps

- Area map with well locations and seismic coverage;
- Generalized regional structure map

Seismic Data

 Regional seismic across area (in standard SEGY format);

Well Logs

 Well logs for wells in the Area

Well Files

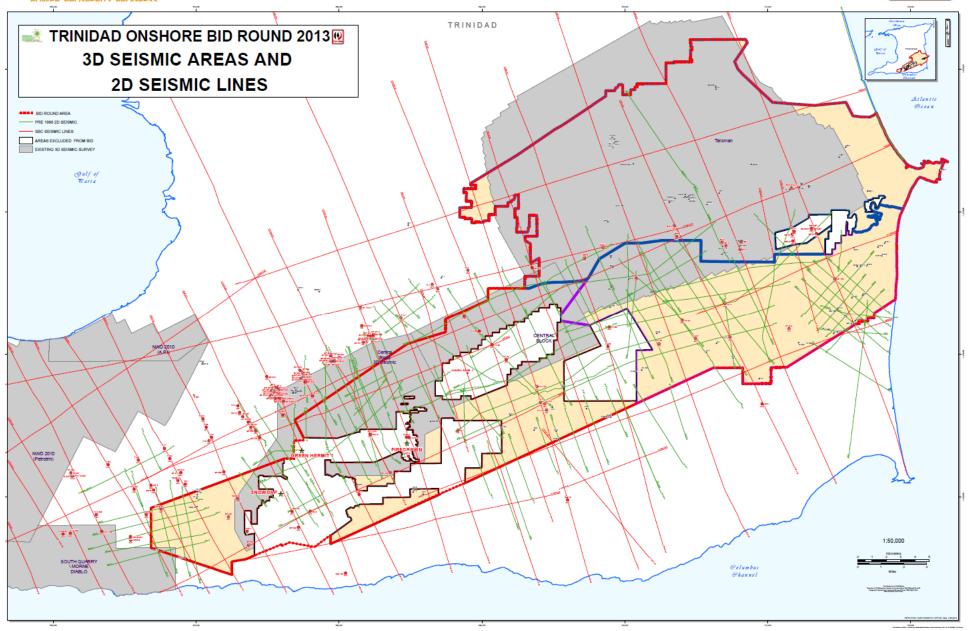
- Including where available, geological (paleontological,
- Sedimentology, geochemistry, etc.) core,drilling (program, fluids, casing, cementing, etc.), and production (program, completions,etc

Selected Reports



Distribution of Seismic and Well Data Set







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