

APPENDIX 1

Poolowanna-1 Well Summary

WELL: Poolowanna-1
BASIN: Onshore Eromanga
STATE: South Australia
OPERATOR: Delhi Petroleum Pty Limited
YEAR COMPLETED: 1977
STATUS: Plugged and abandoned
LATITUDE: 26.4261 LONGITUDE: 137.6753 (decimal degrees)
SEISMIC LOCATION: Shotpoint 340 Line WBL
RT ELEVATION (DRILLING DATUM): 35 metres
GROUND ELEVATION: 30 metres
TOTAL DEPTH: 3074 metres
LOGS RUN: No information

HYDROCARBONS:

1. DST-2 recovered over 2000' of oil from the Poolowanna Formation. A subsequent cased hole test (DST-5) flowed 6 barrels of oil to surface followed by a small recovery during a 4-hour flow period (=96 BOPD).
2. The Poolowanna Fm oil is dark brown and very waxy, possibly water washed with high melting points. A light non-waxy oil was extracted from drilling mud which accompanied a minor gas flow from the Peera Peera Formation (DST-3).
3. Considered to be a new basin oil discovery. Two different oil types (2 sources?). Rich non-marine marginally mature source rocks in Triassic and Jurassic previously unknown in this area.
4. The calculated source maturity (RO=0.87%) for the oil from DST-2 (Poolowanna Formation) is close to the present-day thermal maturity (RO=0.84%) suggesting in situ and indigenous oil generation within the Poolowanna Formation.

DRILL STEM TESTS:

1. DST-1 (7938-8007 ft) in the Poolowanna Formation. NFTS. Misrun
2. DST-2 (8216-8328 ft) in the Poolowanna Formation. NFTS. Recovered 5500 ft fluid including 50% 37 degrees API oil (41 deg C pour point). Reservoir temperature = 120 degrees C.
3. DST-3 (8585-8642 ft) in the Peera Peera Formation. GTS at RTSTM. Recovered 110 ft oil cut mud-42 degrees API (1 deg C pour point - light non-waxy). Reservoir temperature = 125 degrees C.
4. DST-4 (8070-8090 ft) perforated. NFTS. Recovered 160' brine.
5. DST-5 (8223-8239 + 8242-8260 ft) GTS at RTSTM.OTS at 96 BOPD. Recovered 10 BBL oil + 60 BBL water.
6. DST-6 (8392-8398 + 8413-8425 ft). NFTS. Recovered 3.65 BBL oil + 4.25 BBL water.
7. DST-7 (8452-8466 ft). NFTS. Recovered 33.6 BBL brine.
8. DST-8 (8870-8878 + 8880-8890 + 8934-8944 ft). NFTS. Recovered 200' salt water.
9. Geothermal gradients (deg C/km) are 40.8 (Pitt 1980) 38.6 (Delhi 1986) and 36 (Smyth and Saxby 1981 - uncorrected).

STRUCTURE:

North-south oriented anticline with associated down-to-the-west reverse fault.

DATA SOURCE:

Scout Data and published material

VELOCITY SURVEY WAS RUN

COMMENTS:

1. Porosity throughout the Jurassic ranges from 14-18% within the Algebuckina Formation to 10-14% within the Poolowanna Formation and Basal Algebuckina. Permeability in this lower section is poor due to a higher degree of carbonate cementation.
2. The Triassic section has fair porosity (12%) and permeability in the interval 8770-8945 ft but elsewhere both are very low.
3. Pay is interpreted in the following intervals - (7946-7966)+(8053-8098)+(8303-8329)+(8340-8400).
4. A soil gas survey conducted in 1985 mapped an 'anomalous hydrocarbon gas microseepage' over the Poolowanna structure.

Poolowanna #1									
Horizon	Depth (mSS)	Thk (m)	Temp DegC	RO (PD)	Age 0.50	Age 0.65	Age 1.00	Est Poros	Hydrocarbons
Cadna-Owie	1546		81	0.54	35	NR	NR	15.0	
Top Bsl Jur	2352	806	113	0.78	92	24	NR	9.9	oil to surf @ 96 BOPD
Bse Jurassic	2558	206	121	0.89	97	50	NR	8.5	
Bse Triassic	2867	309	133	1.10	107	78	4	6.5	rec oil+gas in DST
Top Pre-Perm	2867	0	133	1.10	107	78	4	6.5	

Comments

1. Only well to flow oil to surface in Simpson Desert Region. Poolowanna #2 was drilled (unintentionally) downdip and recorded only minor shows. The sandstone which flowed oil in Poolowanna #1 was missing by facies change.
2. Two types of oil were recovered in Poolowanna #1 suggesting two source intervals (Poolowanna and Peera Peera Formations). Similar shows were encountered in Walkandi #1 (25km southwest), indicating these source rocks have generated oil throughout this area.
3. Reservoir quality is the main problem in the Central Poolowanna Trough. it has been suggested that the oil which flowed to surface from Poolowanna #1 came from a fractured reservoir and the oil migrated into the structure relatively late (after mid-Tertiary structuring).

POOLOWANNA-1 (Poolowanna Trough)

