

**EAST MEREENIE NO. 26**  
**WELL COMPLETION REPORT**  
**PETROLEUM LEASE NO. 5, NORTHERN TERRITORY**  
**BY**  
**MOONIE OIL N.L.**  
**MAY 1986**



1986/21 B  
NORTHERN TERRITORY  
GEOLOGICAL SURVEY

# C O N T E N T S

|                                      | <u>PAGE NO.</u> | <u>Sect.</u> |
|--------------------------------------|-----------------|--------------|
| SUMMARY                              | 1               | 1            |
| 1. GENERAL DATA                      | 3               | 1            |
| 2. ENGINEERING DATA                  | 6               | 2            |
| 2.1 Rig Data                         | 6               | 2            |
| 2.2 Drilling Data                    | 9               | 2            |
| 2.3 Hole Sizes and Depths            | 15              | 2            |
| 2.4 Casing and Cementing Record      | 15              | 2            |
| 2.5 Drilling Fluids                  | 17              | 2            |
| 2.6 Bit Record                       | 18              | 2            |
| 2.7 Deviation Record                 | 19              | 2            |
| 2.8 Formation Testing                | 20              | 3            |
| 2.9 Completion Data                  | 23              | 3            |
| 3. GEOLOGICAL DATA                   | 27              | 3            |
| 3.1 Stratigraphy                     | 27              | 5            |
| 3.2 Formation Sampling               | 27              | 5&7          |
| 3.3 Core Analysis                    | 29              | 7            |
| 3.4 Logging and Surveys              | 30              | 8-9          |
| 3.5 Formation Dips                   | 31              | 10           |
| 3.6 Formation Evaluation             | 31              | 10           |
| 3.7 Relevance to Appraisal Programme | 31              | 11           |

## L I S T O F A T T A C H M E N T S

|                                       | Sect. |
|---------------------------------------|-------|
| <b><u>TABLES</u></b>                  |       |
| 1. Drilling Fluids                    | 2     |
| 2. Bit Record                         | 2     |
| 3. Deviation Record                   | 2     |
| 4. Stratigraphic Table                | 6     |
| 5. Stairway Sandstone Sand Data Table | 10    |
| 6. Pacoota Sandstone Sand Data Table  | 10    |
| <b><u>FIGURES</u></b>                 |       |
| 1. Location Map                       | 1     |
| 2. Mereenie Field Well Location       | 1     |
| 3. Time/Depth Curve                   | 2     |
| 4. Well Head Diagram                  | 4     |
| 5. Well Completion Summary            | 4     |
| <b><u>APPENDICES</u></b>              |       |
| 1. Sample Descriptions                | 12-13 |
| 2. Core Descriptions                  | 14-15 |
| 3. Conventional Core Analysis Results | 16    |
| 4. Drill Stem Test Results            | 17-19 |
| <b><u>ENCLOSURES</u></b>              |       |
| 1. Course of Well Diagram             | 22    |
| 2. Composite Well Log                 | 20    |
| 3. Mud Log                            | 21    |
| 4. Wireline Logs                      | 22-25 |

S U M M A R Y

**SUMMARY**

East Mereenie No. 26 is the twenty seventh well in the current Mereenie Field Appraisal and Development Programme. It was designed to be completed for oil production from the P1-80 reservoir, which flowed oil in East Mereenie Nos. 6, 8 and 24.

Further information on prospective Stairway Sandstone horizons was obtained, by coring the LS-160 sand and conducting two Drill Stem Tests. An evaluation of the oil/water contact in the lower P1 was also conducted.

East Mereenie No. 26 is located 930 metres on a true bearing of 19 degrees from East Mereenie No. 8, and 1375 metres on a true bearing of 123 degrees from East Mereenie No. 9. East Mereenie No. 26 is an eastern nose, northern flank well.

The well spudded into Parke Siltstone on the 16th December 1985 using O.D. & E. Rig No. 19, and reached TD at 5088 ft on the 19th January 1986 in the Pacoota (P2) Sandstone. The main producing reservoir horizon, the P1-80 sand, was intersected at -2462 ft MSL.

The well was drilled to 3000 ft with air foam. Returns of meteoric water began at 151 ft, with 1200 bbls/hr recorded at 1370 ft. An average rate of 2200 bbls/hr was recorded from 2000 ft to 3000 ft. After 8-5/8" casing had been set, drilling continued with air in 7-5/8" hole to 4340 ft, approximately 50 ft above the LS-160 sand interval. At this point the hole was displaced with an invert emulsion oil based mud of 10.1 ppg. The 7-5/8" hole was drilled to TD at 5088 ft with the mud weight being reduced from a maximum of 10.4 ppg at 4783 ft to 9.5 ppg at 4857 ft.

Wireline logs were run at TD 5088 ft, and 5-1/2" casing run and set at 5086 ft.

Four Drill Stem Tests were run in East Mereenie No. 26. Drill Stem Test No. 1 and No. 2 (4398 to 4426 ft, 4426 to 4459 ft, respectively), were conducted to evaluate the Lower Stairway LS-160 sand interval. Both tests produced no fluids to surface and were valid tests in a very poorly permeable formation. Drill Stem Test No. 3 (4758 to 4783 ft), tested the P1-80 sand and flowed 694 BOPD and 440 MCFD of gas through a 0.5" choke, with a G.O.R. of 635 cuft/bbl. Drill Stem Test No. 4 (5029 to 5088 ft), tested the P1-350 sand and produced no fluids to surface, with 8 bbls of oil cut rat hole mud recovered during the reverse circulation. This was a valid test in a poorly permeable formation.

Four cores were cut in East Mereenie No. 26, each cored interval being followed by a Drill Stem Test. Core No. 1 and No. 2 were cut in the Lower Stairway LS-160 sand. Core No. 3 and No. 4 were cut in the P1-80 sand and P1-350 sand, respectively. Recovery was 100% in the Lower Stairway, with 98% and 99% in the P1 intervals.

2-3/8" production tubing was run at TD, with a Guiberson packer and a Gearhart tubing conveyed perforating assembly. The packer was set at 4494 ft and the casing perforated between 4767 to 4777 ft with the well in an under-balanced condition. No immediate flow occurred to surface, and Gearhart swabbed the well in (fluid level was at 300 ft). A clean up to flow test was then conducted with a flow of 672 BOPD, and 427 MCFD through a 0.5" choke, with a G.O.R. of 635 cuft/bbl.

East Mereenie No. 26 was completed as an oil producing well from the P1-80 sand horizon. The rig was released at 1200 hrs on the 24th January 1986, having taken 40 days from spud to completion.

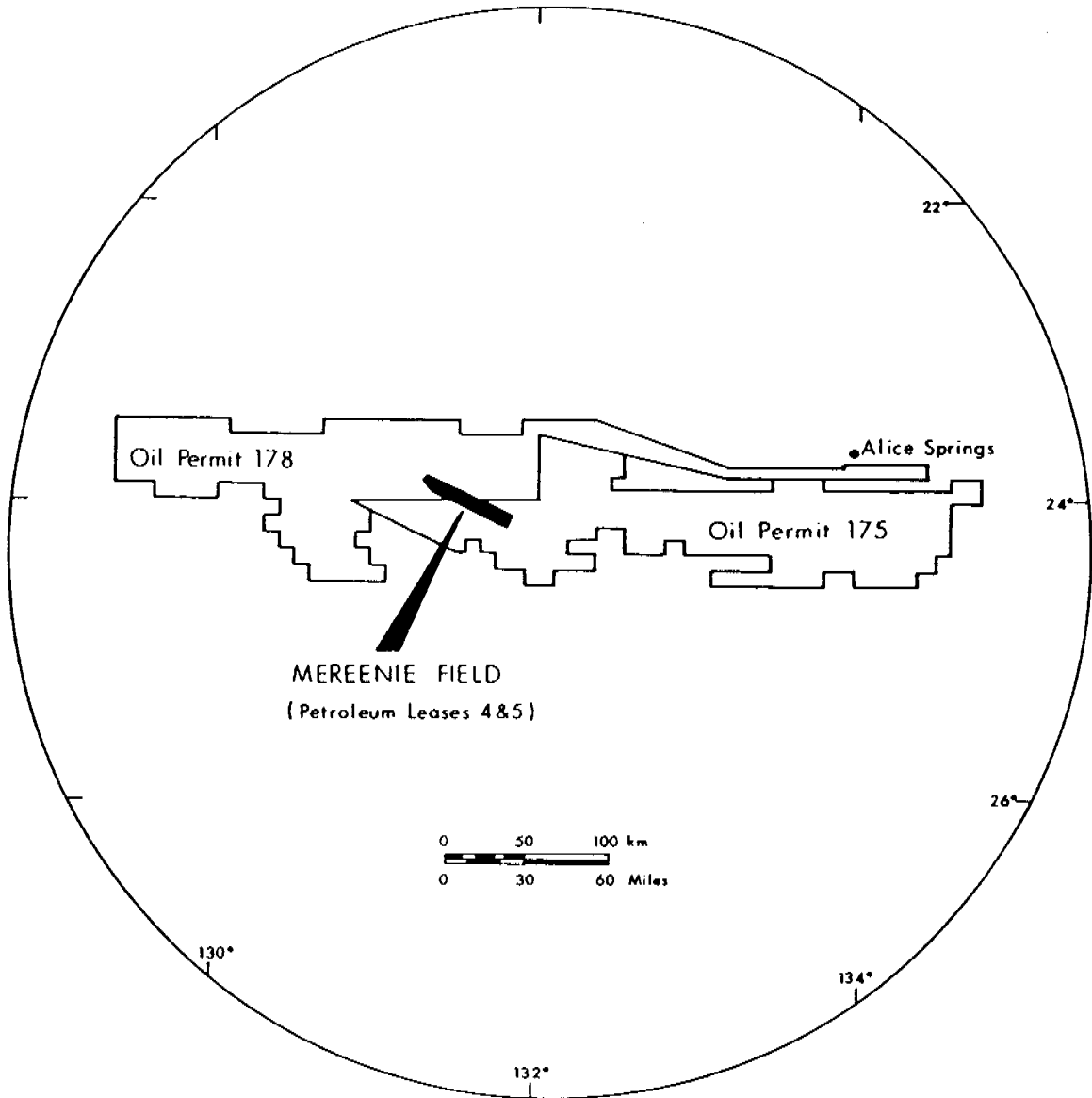
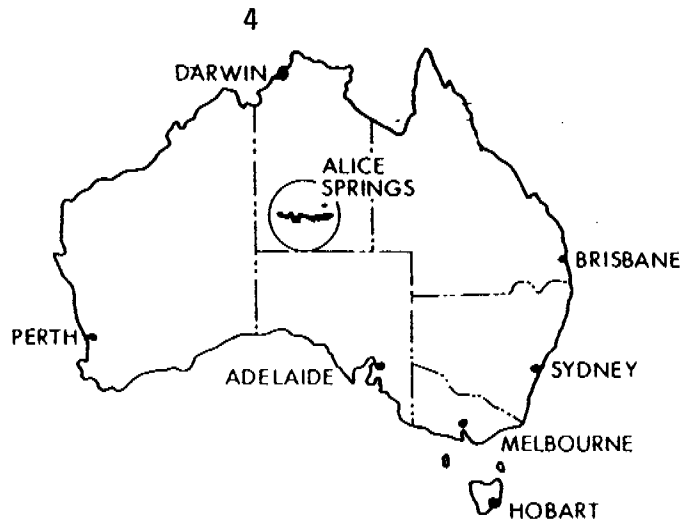
1. GENERAL DATA

1. GENERAL DATA:

Well Name & Number: East Mereenie No. 26  
Operator: Moonie Oil N.L.  
Beneficial Interst Holders: The Moonie Oil Company Limited  
 Flinders Petroleum N.L.  
 Magellan Petroleum Australia Limited  
Petroleum Title: Petroleum Lease No. 5  
District: Alice Springs, Northern Territory  
Location: Latitude: 24<sup>0</sup>03'12"S  
 Longitude: 131<sup>0</sup>40'13"E  
Elevation: Ground Level: 2293 ft MSL Not Surveyed  
 Kelly Bushing: 2306 ft MSL Not Surveyed  
Total Depth: 5088 ft (DRILLER)  
 5088 ft (LOGGER)  
Spudded: 16th December 1985, 0230 hours  
Rig Released: 24th January 1986, 1200 hours  
Total Days Drilling: 40 days  
Well Status: Completed Oil Well  
Geological Formation Tops:

|                       |         |
|-----------------------|---------|
| Parke Siltstone       | Surface |
| Mereenie Sandstone    | 706 ft  |
| Carmichael Sandstone  | 2373 ft |
| Stokes Siltstone      | 2614 ft |
| Stairway Sandstone    | 3692 ft |
| Horn Valley Siltstone | 4462 ft |
| Pacoota Sandstone     | 4690 ft |





## LOCATION MAP










# MEREENIE OIL & GAS FIELD WELL LOCATIONS

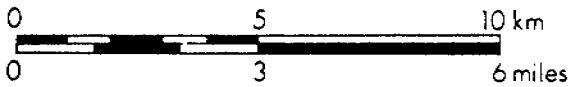
131° 30'



PETROLEUM  
LEASE 4

PETROLEUM  
LEASE 5

-  Well suspended pending recompletion
-  Plugged and abandoned with no show
-  Plugged and abandoned with gas show
-  Plugged and abandoned with oil show  
(Measured oil recovery in pipe)
-  Completed gas well
-  Completed oil well
-  Oil well with gas show
-  Plugged and abandoned with gas and  
oil show
-  Gas well with oil show



131° 30'

24°

24°

5

FIGURE 2

0436

2. ENGINEERING DATA

2. ENGINEERING DATA:2.1 Rig Data:

|                          |  |
|--------------------------|--|
| Drilling Contractor:     | O.D. & E.  |
| Drilling Contractor Rig: | Rig 19   |
| Drilling Plant:          | Make: KREMCO   |
|                          | Type: K600H  |
|                          | Rated Capacity: 7500 ft  |
|                          | Motors: GM 8V92TA  |
| Mast:                    | Make: KREMCO   |
|                          | Type: 109 FT   |
|                          | Rated Capacity: 270000 lbs   |
| Pumps:                   | Make 1: Gardner Denver PZ-7/550HP  |
|                          | Make 2: Gardner Denver PAHBFC/275HP  |
|                          | Type: TRIPLEX  |
|                          | Size 1: 7" x 5-1/2"  |
|                          | Size 2: 8" x 5"  |
| Rotary Table:            | Make: IDECO SR-175   |
|                          | Capacity: 325 Tons   |
| Blowout preventors:      | Make 1: NL Shaffer Spherical<br>11" 5000 psi                                 |
|                          | Make 2: NL Shaffer LWS<br>11" 5000 psi                                       |
|                          | Size: 11"  |
|                          | Rating (psi) 5000  |
| Choke Manifold:          | Make: Own  |
|                          | Size & Type: 5000 psi with 1 x 3"<br>positive and 1 x 3"<br>adjustable choke |

|                            |  |   |
|----------------------------|--|---|
| Mud Tanks:                 | Size &<br>Capacity:                                | Suction Tank - 317 BBL<br>Shaker Tank - 271 BBL<br>Trip Tank - 33 BBL |
| Shale Shaker:              | Make:  | Harrisburg  |
|                            | Type:  | Single Dual Deck  |
| Mud Mixers:                | Make:  | Harrisburg  |
|                            | Type:  | 8" x 6" Centrifugal   |
| Desander:                  | Make:  | DSN-1000  |
|                            | Capacity:  | 800 GPM   |
| Mud Cleaner:               | Make   | Harrisburg  |
|                            | Model:   | MC800   |
|                            | Capacity:  | 800 GPM   |
| Drill pipe:                | 7000' 16.6 lbs/ft 'E' 4-1/2" OD W/- 4"<br>IF Conx. |   |
| Drill collars:             | 6 x 8"<br>24 x 6-1/2"                              |   |
| Air drilling equipment:    |  |   |
| Air compressors:           | Make 1:  | Gardner Denver  |
|                            | Make 2:  | Sullair   |
|                            | Model 1:   | WEN   |
|                            | Model 2:   | 900/350   |
|                            | Capacity 1:  | 860 CFM/350 PSI   |
|                            | Capacity 2:  | 900 CFM/350 PSI   |
| Air compressor<br>booster: | Make:  | Gardner Denver  |
|                            | Model:   | RLD   |
|                            | Capacity:  | To 1000 PSI   |

Diverter:

Make: Grant

Model: 70685

Injection pumps:(1)

Make: Gardner Denver P.A.H.

Model: Triplex HP

Capacity: 300 GPM

(2)

Make: Gardner Denver PZ7

Model: PZ7 Triplex

Capacity: 300 GPM

## 2.2 Drilling Data:

The following is a summary of relevant drilling activities on a day by day basis. Figure 3 is the annotated time/depth curve.

| DATE     | E.T.D.<br>(FT) | DETAILS OF OPERATIONS, DESCRIPTIONS AND RESULTS  |
|----------|----------------|--|
| 16/12/85 | 97             | Move rig to new lease and rig up. Dig rat hole, spud 17.5" hole @ 0230 hours and drill with air to 47 ft. Pick up square drill collar, drill 17-1/2" hole to 97 ft.  |
| 17/12/75 | 151            | Drill 17-1/2" hole to 151 ft with air and foam. POH, run 15" conductor pipe to 144 ft and cement with 46 sacks of class A cement. Install rotating BOP, rig up Blooey line.  |
| 18/12/85 | 623            | Lay out hammer and square drill collar. Make up new bit No. 2, hammer, 3 X 8" drill collars. Tag cement @ 139 ft, drill out cement and ream to 151 ft. Air drill with 11" bit to 169 ft, change to air and foam. Drill 11" hole to 600 ft, loss of returns, work pipe and break up bridge @ 590 ft. Drill 11" hole to 623 ft. Foam injection rate 12 to 15 bbls/hr.                |
| 19/12/85 | 1105           | Mist drill 11" hole to 872 ft, pull rotating head rubber. POH. Lay out hammer and make up New Bit No. 3 and shock sub. RIH and mist drill 11" hole to 1105 ft. Foam injection rate 12 to 15 bbls/hr.   |
| 20/12/85 | 1628           | Drill 11" hole with air and foam to 1628 ft. Foam injection rate 8 to 10 bbls/hr.  |
| 21/12/85 | 1877           | Mist drill 11" hole to 1854 ft. Blow hole clean and POH. Lay out 6 X 6-1/2" drill collars. Change bit and gauge stabilizers. RIH and pick up 3 x 6-1/2" drill collars and 6 x heavy weight drill pipe. RIH to shoe, slip and cut drilling line. RIH with new bit No. 4 and ream from 1817 to 1854 ft. Drill 11" hole with air and foam to 1877 ft. Foam injection rate 10 bbls/hr. |
| 22/12/85 | 2145           | Mist drill 11" hole to 2145 ft. Foam injection rate 8 bbls/hr.   |

|          |      |  |
|----------|------|--|
| 23/12/85 | 2240 | Drill 11" hole with air and foam to 2179 ft. Blow hole clean and POH. Lay out 5 x 6-1/2" drill collars. Change stabilizer rubbers and bit. Pick up 5 x 6-1/2" drill collars, lay out 3 joints drill pipe. RIH with new bit No. 5 to 2088 ft, unload hole and ream from 2088 ft to 2179 ft. Drill 11" hole to 2240 ft. Foam injection rate 8 bbls/hr. |
| 24/12/85 | 2379 | Mist drill 11" hole to 2379 ft. Blow hole clean and POH. Make up new bit No. 6 and RIH to 2307 ft. Slip 15 ft drilling line, unload hole and ream to 2379 ft.  |
| 25/12/85 | 2622 | Drill 11" hole to 2622 ft. Blow hole clean and POH. Make up new bit No. 7, check float and service bit sub. Change bottom stabilizer and RIH.  |
| 26/12/85 | 3000 | Unload hole and mist drill 11" hole from 2622 ft to 3000 ft. Blow hole clean. Pump pill, and chase with water. Strap out of the hole.  |
| 27/12/85 | 3000 | Run 8-5/8" casing to 2988 ft circulate through casing and cement with 161 sacks of Class A cement plus 0.2% HR-4. Displace cement and bump plug to 1000 psi. Weld conductor to casing, slack off and cut casing. Install BOPs, pressure test blind rams and choke manifold. RIH with new bit No. 8.  |
| 28/12/85 | 3300 | Tag plug at 2954 ft, drill out cement plug and float to 2980 ft, pressure test hydril and pipe rams. Drill to 3010 ft drying hole, drill 7-5/8" hole to 3300 ft with air.  |
| 29/12/85 | 3776 | Drill 7-5/8" hole to 3776 ft. POH to change bit. RIH with Bit No. 9, air drill 7-5/8" hole to 3776 ft.   |
| 30/12/85 | 4288 | Air drill 7-5/8" hole to 4340 feet. Displace hole with oil based mud. Drill 7-5/8" hole to 4288 ft.  |
| 31/12/85 | 4401 | Drill 7-5/8" hole to 4401 ft. Circulate, pump pill, POH, remove rotating head and nipple up flow line. Pick up core barrel and RIH.  |
| 1/1/86   | 4412 | Run in hole with core barrel, wash to bottom (27 ft), space out and cut Core No. 1. from 4401 ft to 4412 ft.   |
| 2/1/86   | 4426 | Cut Core No. 1, from 4412 ft to 4426 ft. POH to recover core, 100% recovery. Pick up tools for DST No. 1.  |



3/1/86 4426 Pick up tools for DST No. 1, RIH to shoe, make up head and conduct test between 4397.6 ft to 4426 ft, over LS-160 sand. Open tool initially for 40 mins due to drill pipe slips failure, and close for 80 mins. Open tool for second flow 133 mins and close for 269 mins. No gas or oil to surface. Field chart readings:-

| IHP  | IFP  | ISIP | FFP  | FSIP | FHP  | BHT                |
|------|------|------|------|------|------|--------------------|
| 2339 | 45.5 | 68.2 | 55.2 | 81.2 | 2336 | 139 <sup>o</sup> F |

Drop bar, reverse circulate. POH, break head and surface lines, POH with tools and lay out. Make up junk sub and near bit reamer due to the loss of a tong die down the hole. RIH to shoe.

4/1/86 4429 RIH with re-run bit No. 9, junk sub and near bit reamer, wash and ream from 4377 ft to 4426 ft. Drill and work junk sub to 4429 ft. POH, and make up core barrel. RIH.

5/1/86 4445 Cut Core No. 2 from 4429 ft to 4445 ft.

6/1/86 4459 Cut Core No. 2 from 4445 ft to 4459 ft, pump pill POH and recover core, 100% recovery, make up DST tools.

7/1/86 4459 Make up tools for DST No. 2. RIH. Make up test head and conduct test over interval 4425.6 ft to 4459 ft in the LS-160 sand. Open tool initially for 20 mins and close for 40 mins. Open tool for second flow 90 mins and close for 220 mins. No oil or gas to surface. Field chart readings:-

| IHP    | IFP  | ISIP | FFP  | FSIP | FHP    | BHT                |
|--------|------|------|------|------|--------|--------------------|
| 2447.5 | 35.7 | 55.2 | 45.2 | 77.9 | 2431.5 | 139 <sup>o</sup> F |

Pull free, drop bar, reverse circulate for 1 hour, pump pill, lay out test head and POH.

8/1/86 4550 Lay out test tools. Make up new bit No. 10 and near bit reamer. RIH to shoe, slip 15 ft drilling line. RIH to 4399 ft, ream to 7-5/8" hole from 4399 ft to 4459 ft. Drill 7-5/8" hole to 4550 ft.

9/1/86 4647 Drill 7-5/8" hole to 4647 ft. Drop survey, pump pill, POH.

10/1/86 4763 POH. Retrieve survey, break out bit and make up new bit No. 11 and near bit reamer. RIH. Wash from 4590 ft to 4647 ft. Drill 7-5/8" hole to 4763 ft.

11/1/86 4772 Circulate bottoms up, drop survey, pump pill, POH. Break out bit and retrieve survey. Service and make up core barrel. RIH. Cut Core No. 3 with 7-19/32" core head from 4763 ft to 4772 ft.

12/1/86 4783 Cut Core No. 3 from 4772 ft to 4783 ft. Break off, pump pill and POH. Break out core, 98% recovery. Pick up DST tools.

13/1/86 4783 Make up and RIH with test tools for DST No. 3. Rig up test head. Tool opened with immediate strong blow for 20 minutes. (GTS in 15 min), and shut in for 40 minutes. Final flow 120 minutes and final shut in 280 min. OTS after 28 min, clean up and direct to separator for 75 min. Flow rate 694 BOPD, gas flow rate 440 MCFD through a 1/2" choke, GOR of 635 cu ft/bbl. Field chart readings:

| IHP    | IFP   | ISIP   | FFP   | FSIP   | FHP    | BHT                |
|--------|-------|--------|-------|--------|--------|--------------------|
| 2631.7 | 649.7 | 1805.4 | 872.6 | 1821.2 | 2590.5 | 141 <sup>o</sup> F |

Drop bar, reverse circulate, POH. Lay out test tools, make up new bit No. 13 and RIH.

14/1/86 4834 RIH with 7-5/8" bit, pick up kelly, circulate and ream 30 ft to 4783 ft. Circulate gas bubble out. Drill 7-5/8" from 4783 ft to 4834 ft.

15/1/86 4902 Drill 7-5/8" hole from 4834 ft to 4879 ft with oil base mud. Circulate and drop survey, POH. Retrieve survey, make up new bit No. 13 and near bit reamer. RIH, breaking circulation at shoe. Tag bottom and drill 7-5/8" hole from 4879 ft to 4902 ft.

16/1/86 5003 Drill 7-5/8" hole from 4902 ft to 5003 ft with oil base mud.

17/1/86 5028 Drill 7-5/8" hole from 5003 ft to 5028 ft. Pump pill and drop survey. POH, retrieve survey. Make up new bit No. 14 and junk sub, previous bit had broken teeth and 3/16" undergauge. RIH to shoe and break circulation. RIH and ream 20 ft to bottom, pump pill, POH. Make up core bit and barrel and RIH.

18/1/86 5057 RIH with core barrel. Slip and cut line at shoe, RIH. Pick up kelly and tag bottom. Cut Core No. 4 from 5028 ft to 5057 ft.

19/1/86 5088 Cut Core No. 4 from 5057 ft to 5058 ft. Break off, pump pill and POH. Recover core (99%) and lay out jars and subs. Make up re-run bit No. 14 and near bit reamer. RIH, slip 15 ft drilling line at shoe. Break circulation at shoe and RIH. Ream 30 ft rat hole and tag bottom. Drill 7-5/8" hole from 5058 ft to 5088 ft. Circulate bottoms up, pump pill and drop survey. POH. Rig up and run electric logs with Gearhart.

20/1/86 5088 Run logs with Gearhart, pick up and make up Howco test tools, and run DST No. 4 over interval 5028.6 ft to 5088 ft in P1-350 sand. Tool opened with immediate very weak blow. No gas to surface. Tool closed in after 20 minutes, re-opened after 40 minutes. No gas or oil to surface in final flow of 90 minutes. Final shut in for 220 mins. Field chart readings :

| IHP    | IFP  | ISIP  | FFP  | FSIP  | FHP    | BHT                |
|--------|------|-------|------|-------|--------|--------------------|
| 2606.4 | 55.2 | 165.6 | 58.4 | 185.1 | 2606.4 | 105 <sup>0</sup> F |

Drop bar and reverse circulate. Recovered 7.8 bbls of oil cut rat hole mud POH, make-up bit and bit sub, RIH.

21/1/86 5088 RIH, circ and condition hole, pump pill, POH. Run 5-1/2" casing to 5085 ft and cement with 230 sacks of Class G cement with 0.75% CFR-2 plus 0.5% HALLAD 22A.

22/1/86 5088 Cement 5-1/2" casing with float collar at 5046 ft, nipple down BOPs, energise tubing head seals to 2,000 psi and pressure test tubing head. RIH with 4-1/2" bit, and casing scraper, picking up 2-3/8" tubing. Tag plug at 5017 ft, POH, lay out BHA & bit.

23/1/86 5088 Run CBL log, RIH with perforating gun and Guiberson packer assembly, on 2-3/8" tubing. Run correlation log (CCL/GR). Set packer, land do-nut with 18,000 lbs tension, pressure test annulus to 500 psi, nipple up Xmas tree, pressure test same to 1500 psi, drop detonation bar and perforate 4767 to 4777 ft. Wait on well to flow. Rig up Gearhart and swab from 300 ft

24/1/86 5088

Swab well, rig down Gearhart, flow well to clean for 1 hour 20 minutes. Flow well to test for 1 hour. Oil flow rate at 672 BOPD. Gas flow rate at 427 MCFD, GOR 635 cu ft/bbl, through a 1/2" choke. Rig released at 1200 hours.

# EAST MEREENIE No. 26

## TIME / DEPTH GRAPH

Spudded 16th December, 1985 at 0230hrs

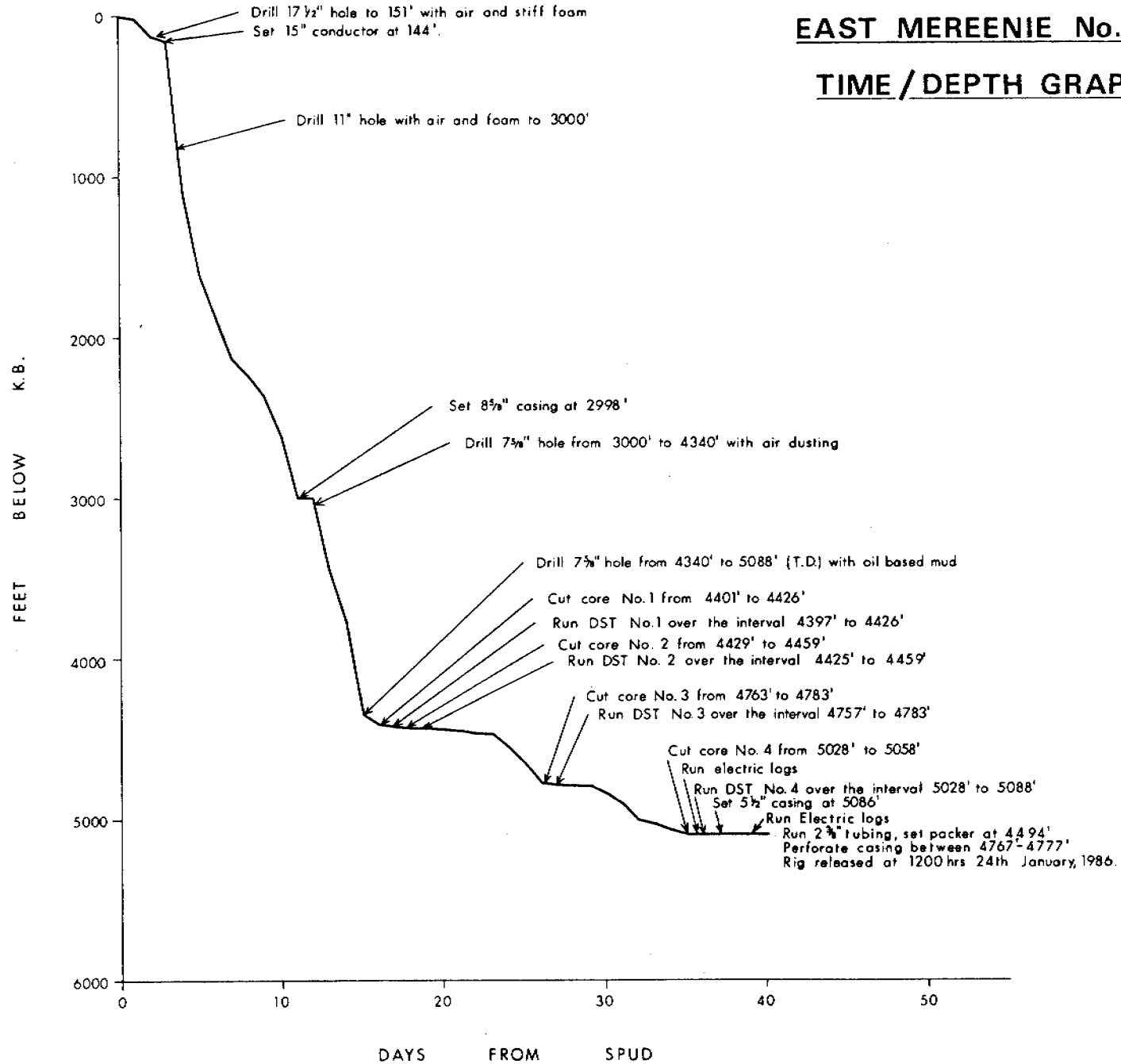
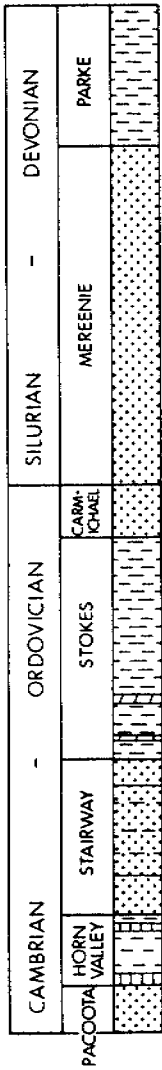


FIGURE 3

2.3 Hole Sizes and Depths:

17-1/2" to 151 ft

11" to 3000 ft

7-5/8" to 5088 ft

2.4 Casing and Cementing Record:

|                |                        |                            |
|----------------|------------------------|----------------------------|
| 15" conductor: | Weight:                | 1/4" Wall ERW              |
|                | Grade/<br>Connections: | 1/4" Wall ERW/welded       |
|                | Shoe Depth:            | 144 ft                     |
|                | Cement Used:           | 46 sacks Class A           |
|                | Additives:             | Nil                        |
|                | Slurry Weight:         | 15.6 ppg                   |
| 8-5/8" casing: | Weight:                | 1. 32 lb/ft<br>2. 36 lb/ft |
|                | Grade/<br>Connections: | 1. J55/N80<br>2. K55/8 RND |
|                | No. of Joints:         | 80                         |
|                | Total Length:          | 2998.6 ft                  |
|                | Shoe Depth:            | 2998 ft                    |
|                | Cement Used:           | 161 sacks Class A          |
|                | Additives:             | 0.2% HR4                   |
|                | Slurry Weight:         | 15.5 ppg                   |

|                |                        |                                  |
|----------------|------------------------|----------------------------------|
| 5-1/2" casing: | Weight:                | 14 lb/ft                         |
|                | Grade/<br>Connections: | J55/8 rnd                        |
|                | Total Length:          | 5088 ft                          |
|                | No. of Joints:         | 130                              |
|                | Shoe Depth:            | 5085 ft                          |
|                | Cement Used:           | 230 sacks Class G                |
|                | Additives:             | 0.75% CFR-2 + 0.5% HALLAD<br>22A |
|                | Slurry Weight:         | 15.5 ppg                         |

2.5 Drilling Fluids:

A summary of the daily drilling fluid properties is listed below in Table 1.

| DEPTH IN KB<br>(FT) | DAYS FROM SPUD | FLUID TYPE | INJECTION<br>ADDITIVE | INJECTION RATE<br>(BBL/HR) | MUD WEIGHT<br>(PPG) | FUNNEL VISCOSITY<br>(SEC/QLT) | PLASTIC VISCOSITY<br>(CP) | YIELD POINT<br>(LBS/100FT <sup>2</sup> ) | CAKE THICKNESS<br>(32nd of in) | GEL STRENGTH |     | WATER LOSS<br>(CC) | OIL/WATER RATIO<br>% - % | SOLIDS CONTENT % | SAND CONTENT % | P H | SALINITY *<br>1000 PPM | ELECT. STABILITY<br>(VOLTS) | FLUID LOSS (-)<br>or GAIN (+) to<br>FORMATION<br>± (b/s - hr) | FORMATION             |
|---------------------|----------------|------------|-----------------------|----------------------------|---------------------|-------------------------------|---------------------------|--|--------------------------------|--------------|-----|--------------------|--------------------------|------------------|----------------|-----|------------------------|-----------------------------|---|-----------------------|
|                     |                |            |                       |                            |                     |                               |                           |  |                                | SEC          | MIN |                    |                          |                  |                |     |                        |                             |   |                       |
| 32                  | 1              | AIR        | FOAM                  | 4                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | PARKE SILTSTONE       |
| 142                 | 2              | AIR        | FOAM                  | 4                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | PARKE SILTSTONE       |
| 165                 | 3              | AIR        | FOAM                  | 14                         |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | PARKE ST/MEREENIE SS  |
| 809                 | 4              | AIR        | FOAM                  | 8                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | MEREENIE SANDSTONE    |
| 1221                | 5              | AIR        | FOAM                  | 7                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | MEREENIE SANDSTONE    |
| 1787                | 6              | AIR        | FOAM                  | 9                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             | +1200   | MEREENIE SS           |
| 1945                | 7              | AIR        | FOAM                  | 10                         |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             | +2200   | MEREENIE QUARTZITE    |
| 2179                | 8              | AIR        | FOAM                  | 8                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             | +2250   | MEREENIE QUARTZITE    |
| 2301                | 9              | AIR        | FOAM                  | 8                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | MEREENIE QUARTZITE    |
| 2454                | 10             | AIR        | FOAM                  | 8                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | L.MEREENIE/CARMICHAEL |
| 2715                | 11             | AIR        | FOAM                  | 8                          |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | CARMICHAEL/U.STOKES   |
| 3000                | 12             | AIR        | FOAM                  |                            |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             | +2300   | UPPER STOKES          |
| 3452                | 14             | AIR        |                       |                            |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | UPPER STOKES          |
| 3786                | 15             | AIR        |                       |                            |                     |                               |                           |  |                                |              |     |                    |                          |                  |                |     |                        |                             |   | U-L STOKES/U.STWY     |
| 4346                | 16             | OMUD       |                       |                            | 10.1                | 54                            | 23                        | 30                                       | 1                              | 5/12         |     |                    | 70/30                    | 14               | .25            |     |                        |                             | 580   | U-L STAIRWAY          |
| 4401                | 17             | OMUD       |                       |                            | 10.1                | 60                            | 25                        | 36                                       | 1                              | 8/15         |     |                    | 70/30                    | 13               | .25            |     |                        |                             | 520   | LOWER STAIRWAY        |
| 4415                | 18             | OMUD       |                       |                            | 10.1                | 64                            | 27                        | 38                                       | 1                              | 10/15        |     |                    | 71-29                    | 14               | .25            |     |                        |                             | 610   | LOWER STAIRWAY        |
| 4426                | 19             | OMUD       |                       |                            | 10.1                | 65                            | 27                        | 39                                       | 1                              | 10/15        |     |                    | 73-17                    | 15               | .25            |     |                        |                             | 630   | LOWER STAIRWAY        |
| 4426                | 20             | OMUD       |                       |                            | 10.1                | 65                            | 28                        | 38                                       | 2                              | 12/17        |     |                    | 73-17                    | 15               | TR             |     |                        |                             | 710   | LOWER STAIRWAY        |
| 4432                | 21             | OMUD       |                       |                            | 10.1                | 56                            | 24                        | 34                                       | 1                              | 10/15        |     |                    | 75-25                    | 15               | TR             |     |                        |                             | 780   | LOWER STAIRWAY        |
| 4449                | 22             | OMUD       |                       |                            | 10.1                | 55                            | 23                        | 32                                       | 1                              | 10/14        |     |                    | 77-23                    | 15               | TR             |     |                        |                             | 800   | LOWER STAIRWAY        |
| 4459                | 23             | OMUD       |                       |                            | 10.2                | 53                            | 26                        | 32                                       | 1                              | 8/12         |     |                    | 79-21                    | 16               | TR             |     |                        |                             | 900   | LOWER STAIRWAY        |
| 4459                | 24             | OMUD       |                       |                            | 10.2                | 56                            | 26                        | 33                                       | 1                              | 10/12        |     |                    | 79-21                    | 16               | TR             |     |                        |                             | 900   | LOWER STAIRWAY        |
| 4511                | 25             | OMUD       |                       |                            | 10.3                | 54                            | 24                        | 32                                       | 1                              | 10/12        |     |                    | 80-20                    | 16               | TR             |     |                        |                             | 930   | HORN VALLEY           |
| 4653                | 26             | OMUD       |                       |                            | 10.4                | 53                            | 27                        | 31                                       | 1                              | 10/12        |     |                    | 80-20                    | 16               | TR             |     |                        |                             | 999   | HORN VALLEY           |
| 4763                | 27             | OMUD       |                       |                            | 10.3                | 53                            | 30                        | 30                                       | 1                              | 9/10         |     |                    | 79-21                    | 16               | TR             |     |                        |                             | 980   | PACOOTTA P1           |
| 4775                | 28             | OMUD       |                       |                            | 10.3                | 55                            | 29                        | 32                                       | 1                              | 10/11        |     |                    | 79-21                    | 16               | TR             |     |                        |                             | 999   | PACOOTTA P1           |
| 4783                | 29             | OMUD       |                       |                            | 10.4                | 57                            | 35                        | 33                                       | 1                              | 10/12        |     |                    | 79-21                    | 15               | TR             |     |                        |                             | 990   | PACOOTTA P1           |
| 4790                | 30             | OMUD       |                       |                            | 10.3                | 55                            | 31                        | 30                                       | 1                              | 10/11        |     |                    | 79-21                    | 16               | TR             |     |                        |                             | 880   | PACOOTTA P1           |
| 4857                | 31             | OMUD       |                       |                            | 9.6                 | 48                            | 23                        | 23                                       | 1                              | 5/7          |     |                    | 80-20                    | 14               | TR             |     |                        |                             | 720   | PACOOTTA P1           |
| 4930                | 32             | OMUD       |                       |                            | 9.3                 | 45                            | 21                        | 19                                       | 2                              | 5/7          |     |                    | 83-17                    | 15               | TR             |     |                        |                             | 940   | PACOOTTA P1           |
| 5024                | 33             | OMUD       |                       |                            | 9.4                 | 47                            | 21                        | 20                                       | 1                              | 5/6          |     |                    | 83-17                    | 15               | TR             |     |                        |                             | 900   | PACOOTTA P1           |
| 5030                | 34             | OMUD       |                       |                            | 9.5                 | 48                            | 21                        | 22                                       | 1                              | 5/8          |     |                    | 85-15                    | 13               | .25            |     |                        |                             | 910   | PACOOTTA P1           |
| 5058                | 35             | OMUD       |                       |                            | 9.3                 | 45                            | 21                        | 21                                       | 1                              | 5/6          |     |                    | 83-17                    | 15               | .25            |     |                        |                             | 860   | PACOOTTA P1           |
| 5088                | 36             | OMUD       |                       |                            | 9.5                 | 47                            | 26                        | 22                                       | 1                              | 5/7          |     |                    | 85-15                    | 14               | .25            |     |                        |                             | 920   | PACOOTTA P2           |

TABLE 1



2.6 Bit Record:

A summary of the drilling bits used is listed below in Table 2.

TABLE 2

| DEPTH IN WB (FT) | DAYS FROM SPUD | BIT NO. | SIZE (INCHES) | MAKE  | TYPE  | JET SIZE 3/8nds Inch |   |   | SERIAL NO. | DEPTH OUT WB (FT) | DRILLED FOOTAGE | HOURS | AVERAGE FEET PER HOUR | ACCUMULATED DRILLING HOURS | MCB x 1000 LBS | RPM | VERTICAL DEVIATION (DEGS) | PUMP PRESSURE (PSI) | DRILLING FLUID TYPE | SPM        |            | MUD DATA             |                 |                 | BIT CONDITION |          |            | FORMATION |  |  |                          |                |
|------------------|----------------|---------|---------------|-------|-------|----------------------|---|---|------------|-------------------|-----------------|-------|-----------------------|----------------------------|----------------|-----|---------------------------|---------------------|---------------------|------------|------------|----------------------|-----------------|-----------------|---------------|----------|------------|-----------|--|--|--------------------------|----------------|
|                  |                |         |               |       |       | 1                    | 2 | 3 |            |                   |                 |       |                       |                            |                |     |                           |                     |                     | PUMP NO. 1 | PUMP NO. 2 | MUD WEIGHT (LBS/GAL) | VISCOSITY (SEC) | WATER LOSS (CC) | TEETH         | BEARINGS | GAUGE (IN) |           |  |  |                          |                |
| 0                | 1              | RR1     | 17.5          | HTC   | OMWJ  | -                    | - | - | 174211     | 151               | 151             | 25.0  | 6.04                  | 25.0                       | 4              | 90  | 0.0                       | AIR                 |                     |            |            |                      |                 |                 |               |          |            |           |  |  | PARKE SILTSTONE          |                |
| 151              | 3              | NB2     | 11.0          | VAREL | Y537  | -                    | - | - | 20768      | 872               | 721             | 23.5  | 30.7                  | 48.5                       | 10             | 90  | 0.75                      | AIR                 |                     |            |            |                      |                 |                 |               |          |            |           |  |  | PARKE/MEREENIE SS        |                |
| 872              | 5              | NB3     | 11.0          | VAREL | Y537  | -                    | - | - | 15702      | 1854              | 982             | 41.5  | 23.7                  | 90.0                       | 25             | 90  | 1.0                       | AIR                 |                     |            |            |                      |                 |                 |               |          |            |           |  |  | MEREENIE SANDSTONE       |                |
| 1854             | 7              | NB4     | 11.0          | VAREL | Y537  | -                    | - | - | 15363      | 2177              | 325             | 30.0  | 10.8                  | 120.0                      | 28             | 93  | 1.25                      | AIR                 |                     |            |            |                      |                 |                 |               |          |            |           |  |  | MEREENIE SANDSTONE       |                |
| 2177             | 8              | NB5     | 11.0          | VAREL | Y537  | -                    | - | - | 15439      | 2379              | 202             | 20.5  | 9.9                   | 140.5                      | 23             | 85  | 1.25                      | AIR                 |                     |            | 50         | 500                  | AIR             |                 |               |          |            |           |  |  | MER SS, MER QUARTZITE    |                |
| 2379             | 9              | NB6     | 11.0          | VAREL | Y537  | -                    | - | - | 15701      | 2622              | 243             | 21.5  | 11.3                  | 162.0                      | 18             | 110 | 1.75                      | AIR                 |                     |            | 50         | 500                  | AIR             |                 |               |          |            |           |  |  | MEREENIE QUARTZITE       |                |
| 2622             | 10             | NB7     | 11.0          | VAREL | Y537  | -                    | - | - | 16945      | 3000              | 378             | 20.5  | 18.5                  | 182.5                      | 21             | 88  | 2.13                      | AIR                 |                     |            | 50         | 500                  | AIR             |                 |               |          |            |           |  |  | MEREENIE QTZ, CARMICHAEL |                |
| 3000             | 14             | NB8     | 7.625         | SMITH | F3    | -                    | - | - | 1X4859     | 3775              | 776             | 21.5  | 24.6                  | 234.0                      | 21             | 75  | 4.0                       | AIR                 |                     |            | 50         | 150                  | AIR             |                 |               |          |            |           |  |  | CARMICHAEL, U. STOKES    |                |
| 3775             | 15             | NB9     | 7.625         | SMITH | F4    | -                    | - | - | EP9647     | 4340              | 564             | 20.5  | 27.5                  | 234.5                      | 27             | 75  | 4.5                       | AIR                 |                     |            | 50         | 600                  | OHUD            |                 |               |          |            |           |  |  | UPP LOW STOKES, U. STWAY |                |
| 4340             | 16             | RR9     | 7.625         | SMITH | F4    | -                    | - | - | EP9647     | 4401              | 61              | 20.0  | 3.05                  | 254.5                      | 32             | 60  | 4.5                       | OHUD                |                     |            | 100        | 600                  | OHUD            |                 |               |          |            |           |  |  | UPP/MID/LOW STAIRWAY     |                |
| 4401             | 18             | CB1     | 7.50          | DB    | CB403 | -                    | - | - | 9509005    | 4426              | 25              | 35.0  | 69.0                  | 289.5                      | 20             | 60  | 4.5                       | OHUD                |                     |            | 100        | 1100                 | OHUD            |                 |               |          |            |           |  |  | LOWER STAIRWAY           |                |
| 4426             | 21             | NB10    | 7.625         | SMITH | F5    | -                    | - | - | EL9041     | 4429              | 3               | 1.0   | 3.0                   | 290.5                      | 30             | 60  | 5.25                      | OHUD                |                     |            | 100        | 1000                 | OHUD            |                 |               |          |            |           |  |  | LOWER STAIRWAY           |                |
| 4429             | 22             | CB1     | 7.59          | DB    | CB403 | -                    | - | - | 9509005    | 4459              | 30              | 45.5  | 66.0                  | 336.0                      | 22             | 80  | 5.25                      | OHUD                |                     |            | 100        | 1000                 | OHUD            |                 |               |          |            |           |  |  | LOWER STAIRWAY           |                |
| 4459             | 24             | RR10    | 7.625         | SMITH | F5    | -                    | - | - | EL9041     | 4647              | 188             | 35.0  | 5.37                  | 371.0                      | 35             | 90  | 6.0                       | OHUD                |                     |            | 100        | 900                  | OHUD            |                 |               |          |            |           |  |  | LOWER STAIRWAY           |                |
| 4647             | 26             | NB11    | 7.625         | SMITH | F3    | -                    | - | - | EM5839     | 4763              | 116             | 19.5  | 5.95                  | 390.5                      | 30             | 60  | 6.5                       | OHUD                |                     |            | 100        | 900                  | OHUD            |                 |               |          |            |           |  |  | LOWER STAIRWAY           |                |
| 4763             | 27             | CB1     | 7.59          | DB    | CB403 | -                    | - | - | 9509005    | 4783              | 20              | 30.0  | 0.67                  | 420.5                      | 23             | 80  | 7.0                       | OHUD                |                     |            | 100        | 1100                 | OHUD            |                 |               |          |            |           |  |  | LOWER STAIRWAY           |                |
| 4783             | 29             | NB12    | 7.625         | SMITH | F4    | -                    | - | - | EP9813     | 4879              | 96              | 35.0  | 2.74                  | 455.5                      | 40             | 55  | 7.25                      | OHUD                |                     |            | 100        | 490                  | OHUD            |                 |               |          |            |           |  |  | HORN VALLEY              |                |
| 4879             | 32             | NB13    | 7.625         | SMITH | F4    | -                    | - | - | EP9815     | 5028              | 149             | 38.0  | 4.14                  | 491.5                      | 40             | 55  | 7.25                      | OHUD                |                     |            | 100        | 410                  | OHUD            |                 |               |          |            |           |  |  | HORN VALLEY, PACOOTA P1  |                |
| 5028             | 33             | CB1     | 7.59          | DB    | CB403 | -                    | - | - | 9509005    | 5058              | 30              | 20.5  | 1.46                  | 512.1                      | 25             | 90  | 7.75                      | OHUD                |                     |            | 100        | 1000                 | OHUD            |                 |               |          |            |           |  |  | PACOOTA P1-80            |                |
| 5058             | 35             | RR14    | 7.625         | SMITH | F4    | -                    | - | - | EP9643     | 5088              | 30              | 6.5   | 4.62                  | 518.5                      | 38             | 55  | 8.0                       | OHUD                |                     |            | 80         | 420                  | OHUD            |                 |               |          |            |           |  |  | PACOOTA P1               |                |
|                  |                |         |               |       |       |                      |   |   |            |                   |                 |       |                       |                            |                |     |                           |                     |                     |            |            |                      |                 |                 |               |          |            |           |  |  |                          | PACOOTA P1-350 |
|                  |                |         |               |       |       |                      |   |   |            |                   |                 |       |                       |                            |                |     |                           |                     |                     |            |            |                      |                 |                 |               |          |            |           |  |  |                          | PACOOTA P2     |

EAST MEREENIE NO. 26 BIT RECORD

2.7 Deviation Record:

A list of deviation surveys and relevant computations is listed below in Table 3.

TABLE 3

| DEPTH<br>KB FT. | SURVEY<br>NO. | DEV.<br>ANGLE | DEPTH<br>INTERVAL | MEAN<br>DEV. | DEPTH<br>CORRECTION | CUM.<br>CORRECTION | TVD FT. | LATERAL<br>DRIFT FT. | CUM.<br>LATERAL | DIRECTION<br>(EXAMPLE)<br>W320.96N |
|-----------------|---------------|---------------|-------------------|--------------|---------------------|--------------------|---------|----------------------|-----------------|------------------------------------|
| 210             | 1             | 0.0           | 210               | 0.0          | 0.0                 | 0.0                | 210     | 0.0                  | 0.0             |                                    |
| 459             | 2             | 0.75          | 249               | 0.375        | 0.005               | 0.005              | 459     | 1.63                 | 1.63            |                                    |
| 709             | 3             | 0.75          | 250               | 0.75         | 0.021               | 0.026              | 709     | 3.27                 | 4.90            |                                    |
| 964             | 4             | 0.75          | 255               | 0.75         | 0.022               | 0.048              | 964     | 3.34                 | 8.24            |                                    |
| 1246            | 5             | 1.0           | 282               | 0.875        | 0.033               | 0.081              | 1246    | 4.31                 | 12.55           |                                    |
| 1497            | 6             | 0.75          | 251               | 0.875        | 0.029               | 0.110              | 1497    | 3.83                 | 16.38           |                                    |
| 1535            | 7             | 0.75          | 48                | 0.75         | 0.004               | 0.114              | 1535    | 0.63                 | 17.01           |                                    |
| 1823            | 8             | 1.0           | 288               | 0.875        | 0.034               | 0.148              | 1823    | 4.40                 | 21.41           |                                    |
| 2058            | 9             | 1.33          | 235               | 1.17         | 0.049               | 0.197              | 2058    | 4.80                 | 26.21           |                                    |
| 2141            | 10            | 1.25          | 83                | 1.29         | 0.021               | 0.218              | 2141    | 1.87                 | 28.08           |                                    |
| 2341            | 11            | 1.75          | 200               | 1.5          | 0.068               | 0.287              | 2341    | 5.24                 | 33.32           |                                    |
| 2593            | 12            | 1.75          | 252               | 1.75         | 0.118               | 0.405              | 2593    | 7.70                 | 41.02           |                                    |
| 2962            | 13            | 2.5           | 369               | 2.125        | 0.254               | 0.659              | 2961    | 13.68                | 54.70           |                                    |
| 3086            | 14            | 3.0           | 124               | 2.75         | 0.143               | 0.802              | 3085    | 5.95                 | 60.65           |                                    |
| 3304            | 15            | 3.0           | 218               | 3.0          | 0.299               | 1.101              | 3303    | 11.41                | 72.06           |                                    |
| 3495            | 16            | 3.0           | 191               | 3.0          | 0.262               | 1.363              | 3494    | 10.0                 | 82.06           |                                    |
| 3683            | 17            | 4.0           | 188               | 3.5          | 0.351               | 1.714              | 3681    | 11.48                | 93.94           |                                    |
| 3872            | 18            | 4.25          | 189               | 4.125        | 0.490               | 2.204              | 3870    | 13.602               | 107.54          |                                    |
| 4061            | 19            | 4.5           | 189               | 4.375        | 0.551               | 2.755              | 4058    | 14.42                | 121.96          |                                    |
| 4250            | 20            | 4.5           | 189               | 4.5          | 0.582               | 3.337              | 4247    | 14.83                | 136.79          |                                    |
| 4410            | 21            | 5.25          | 160               | 4.875        | 0.579               | 3.916              | 4406    | 13.60                | 150.39          |                                    |
| 4533            | 22            | 6.0           | 123               | 5.625        | 0.592               | 4.508              | 4528    | 12.06                | 162.45          |                                    |
| 4615            | 23            | 6.0           | 82                | 6.0          | 0.449               | 4.957              | 4610    | 8.57                 | 171.02          |                                    |
| 4753            | 24            | 7.0           | 138               | 6.5          | 0.887               | 5.844              | 4747    | 15.62                | 186.64          |                                    |
| 4847            | 25            | 7.25          | 94                | 7.125        | 0.726               | 6.57               | 4840    | 11.66                | 198.30          |                                    |
| 5025            | 26            | 7.75          | 178               | 7.5          | 1.523               | 8.093              | 5017    | 23.23                | 221.53          |                                    |
| 5068            | 27            | 8.0           | 43                | 7.875        | 0.4055              | 8.499              | 5059.5  | 5.892                | 227.42          |                                    |

EAST MEREEENIE NO. 26

DEVIATION RECORD

## 2.8 Formation Testing:

Four drill stem tests were run during the drilling of the well. A summary of results is presented below with full details included as Appendix 4.

### Drill Stem Test No. 1

Interval: 4397.6 to 4426.3 ft (28.7 ft)

Date: 3rd January, 1986

Tester: Halliburton

Formation: Lower Stairway LS -160 sand

Test Type: Open hole conventional

Water cushion: Nil.

|        |                 |     |      |
|--------|-----------------|-----|------|
| Times: | First flow:     | 40  | mins |
|        | First shut-in:  | 80  | mins |
|        | Second flow:    | 90  | mins |
|        | Second shut-in: | 269 | mins |

Bottom Bourdon Recorder Pressures (Field Results)

|                      |      |      |
|----------------------|------|------|
| Initial hydrostatic: | 2339 | PSIG |
| First flow:          | 45.5 | PSIG |
| Initial shut-in:     | 68.2 | PSIG |
| Second flow          | 55.2 | PSIG |
| Second shut-in:      | 81.2 | PSIG |
| Final hydrostatic:   | 2336 | PSIG |

Results: Immediate very weak blow remaining constant, initial flow 40 minutes due to drill pipe slips failure. Final flow had very weak blow decreasing intermittently to nil after 85 minutes of total flow. No fluids to surface. Gas cut mud from rat hole during reverse circulation.

Conclusions: Valid test with the LS -160 sand having very poor permeability.

Drill Stem Test No. 2

Interval: 4425.6 to 4459.3 ft (33.7 ft)

Date: 7th January, 1986

Tester: Halliburton

Formation: Lower Stairway LS -160 sand

Test Type: Open hole conventional

Water cushion: Nil.

|        |                 |     |      |
|--------|-----------------|-----|------|
| Times: | First flow:     | 20  | mins |
|        | First shut-in:  | 40  | mins |
|        | Second flow:    | 90  | mins |
|        | Second shut-in: | 220 | mins |

Bottom Bourdon Recorder Pressures (Field Results)

|                      |        |      |
|----------------------|--------|------|
| Initial hydrostatic: | 2447.5 | PSIG |
| First flow:          | 35.7   | PSIG |
| Initial shut-in:     | 55.2   | PSIG |
| Second flow:         | 45.2   | PSIG |
| Second shut-in:      | 77.9   | PSIG |
| Final hydrostatic:   | 2431.5 | PSIG |

Results: Immediate very weak blow remaining constant through initial flow. Final flow died completely after a few bubbles with the manifold closed. No fluids to surface. Nil recovery on reverse circulation.

Conclusions: Valid Test. The LS -160 sand has very poor permeability.

Drill Stem Test No. 3

Interval: 4757.6 to 4783 ft (25.4)  
 Date: 12th January, 1986  
 Tester: Halliburton  
 Formation: Pacoota P1-80 sand  
 Test Type: Open hole conventional  
 Water cushion: Nil.

Times: First flow: 20 mins  
 First shut-in: 40 mins  
 Second flow: 120 mins  
 Second shut-in: 280 mins

Bottom Bourdon Recorder Pressures (Field Results)

Initial hydrostatic: 2631.7 PSIG  
 First flow: 649.7 PSIG  
 Initial shut-in: 1805.4 PSIG  
 Second flow: 872.6 PSIG  
 Second shut-in: 1821.2 PSIG  
 Final hydrostatic: 2590.5 PSIG

Results: Immediate strong blow, open manifold to flowline, gas to surface in 15 minutes with a maximum wellhead pressure of 120 psi. Final flow, oil to surface in 28 minutes of total flow time, maximum wellhead pressure 237 psi. Oil flowed at 694 BOPD, gas at 440 MCFD with a GOR of 635 cu ft/bbl, through a 0.5" choke.

Conclusions: Valid test with the P1-80 sand having good permeability.

Drill Stem Test No. 4

Interval: 5028.6 to 5088 ft (59.4 ft)

Date: 20th January, 1986

Tester: Halliburton

Formation: Pacoota P1-350 sand

Test Type: Open hole conventional

Water cushion: Nil.

|        |                 |     |      |
|--------|-----------------|-----|------|
| Times: | First flow:     | 20  | mins |
|        | First shut-in:  | 40  | mins |
|        | Second flow:    | 90  | mins |
|        | Second shut-in: | 220 | mins |

Bottom Bourdon Recorder Pressures (Field Results)

|                      |        |      |
|----------------------|--------|------|
| Initial hydrostatic: | 2606.4 | PSIG |
| First flow:          | 55.2   | PSIG |
| Initial shut-in:     | 165.6  | PSIG |
| Second flow          | 58.4   | PSIG |
| Second shut-in:      | 185.1  | PSIG |
| Final hydrostatic:   | 2606.4 | PSIG |

Results: Immediate very weak blow remaining constant through initial flow. Instant very weak blow during final flow decreasing gradually and dead after 75 minutes of final flow period. No fluid to surface, recovery of 7.8 bbls oil cut rat hole mud on reverse circulation.

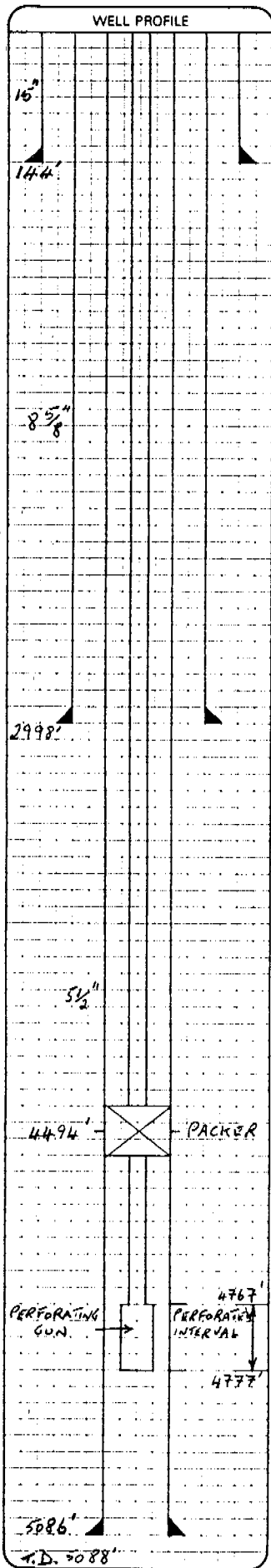
Conclusions: Valid test and the P1-350 sand has very poor permeability.

2.9 Completion Data:

East Mereenie No. 26 was completed as an oil producing well over the P1-80 sand horizon. 5-1/2" casing was perforated over the interval 4767 to 4777 ft using a Gearhart tubing conveyed perforating gun. The 5-1/2" casing shoe was set at 5086 ft and plugged back to approximately 5017 ft. 2-3/8" tubing was run to 4777 ft with the packer being set at 4494 ft. The rig was released at 1200 hrs on the 24th January 1986.

**MOONIE OIL N.L.  
WELL COMPLETION SUMMARY**

DATE: 27 / 1 / 86  
DAY MONTH YEAR



WELL NAME: EAST MEREENIE NO. 26  
 WELL LOCATION: LAT 24° 03' 12" S LONG 131° 40' 13" E  
 K.B. ELEVATION: N.S. K.B. TO CASING FLGE: N.S. K.B. TO TUBING FLGE: N.S.  
 CASING SIZE (O.D.): 15" WEIGHT: 52LB/FT SET AT TOP: 144 INTERVAL DEPTH:  
 CASING: 8-5/8" 32/36LB/FT 2998.56  
 PERFS: 5-1/2" 14.0LB/FT  
 DIAMETER OPEN HOLE: NO OPEN HOLE  
 TUBING: SIZE: 2.375" O.D. WEIGHT: 4.7LB/FT GRADE: J-55  
 TYPE/CLASS: E.U.E. MAKE: N.K.K.  
 No. OF JOINTS ON LOCATION: 182 JOINTS TALLIED LENGTH: 5700.24  
 No. OF JOINTS PERMANENTLY IN WELL: 151 JOINTS TALLIED LENGTH:

**FINAL TUBING STRING FROM BOTTOM UPWARD**

| DESCRIPTION                         | LENGTH ft | SET AT TOP                      | REMARKS        |
|-------------------------------------|-----------|---------------------------------|----------------|
| GEARHART 3.5" GUNS                  | 10 00     |                                 |                |
| GEARHART FIRING HEAD                | 2 46      |                                 |                |
| GEARHART NO-GO                      | 67        |                                 |                |
| 1 JT TUBING                         | 31 58     |                                 |                |
| GEARHART SHATTER DISC               | 84        |                                 |                |
| GEARHART SAFETY SUB                 | 84        |                                 |                |
| 1 JT TUBING                         | 31 32     |                                 |                |
| GUIBERSON PACKER                    | 6 60      |                                 | TYPE - UNI VI  |
| 1 JT TUBING                         | 31 33     |                                 |                |
| 1 x 2-3/8" SLIDING SLEEVE           | 2 87      |                                 | TYPE - OTIS    |
| 1 JT TUBING                         | 31 31     |                                 |                |
| 1 MARKER JT                         | 4 23      |                                 |                |
| 146 JTS TUBING                      | 4567 37   |                                 |                |
| 1 PUP JOINT                         | 1 00      |                                 |                |
| 1 PUP JOINT                         | 8 23      |                                 |                |
| 1 JT TUBING                         | 31 35     |                                 |                |
| DONUT                               | 84        |                                 | B.P.U. PROFILE |
| TOTAL STRING LENGTH                 | 4762.90   |                                 |                |
| K.B. TO TUBING HANGER FLANGE (PLUS) | 14.10     |                                 |                |
| SETTING DEPTH K.B.                  | 4777.00   |                                 |                |
|                                     |           | TIME PIPE STARTED               | 1330 HRS       |
|                                     |           | TIME ON BOTTOM                  | 1800 HRS       |
|                                     |           | CASING INTERNAL DEPTH BY TUBING | 5017 FT        |

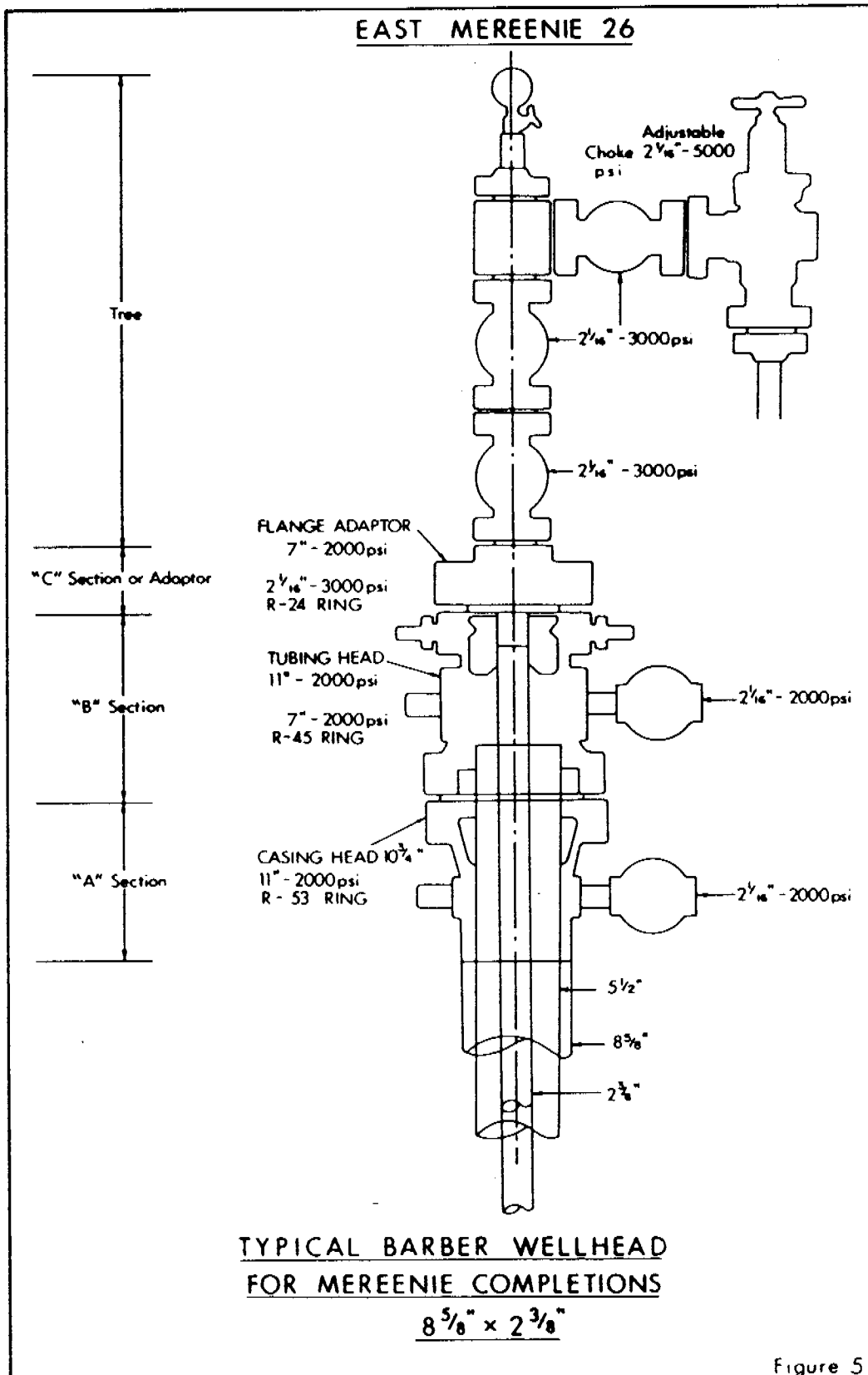
WEIGHT OF TUBING STRING: 23,000LBS WEIGHT ON PACKER: 5,000 LBS WEIGHT ON HANGER: 18,000 LBS  
 WELLHEAD: W.P. 2,000 PSI MAKE: BARBER WELDED FLANGED SCREWED  
 MASTER VALVE: TYPE: FLANGED MAKE: BARTON SIZE: 2" - 3,000 PSI  
 CASING VALVES: TYPE: FLANGED MAKE: BARTON SIZE: 2" - 3,000 PSI  
 CHOKE: FLANGED TYPE: VARIABLE MAKE: GRAY

REMARKS (Note Additional Equipment)

**COMPLETE IN DETAIL**

- TD, PSTD
- Casing & Tubing Depths
- Perforations
- Packers, Nipples, etc.

M. ERWOOD  
AGENT/OPERATOR'S SIGNATURE





3. G E O L O G I C A L   D A T A

### 3. GEOLOGICAL DATA:

#### 3.1 Stratigraphy:

See Stratigraphic Table (Table 4).

#### 3.2 Formation Sampling:

##### (1) Ditch Cuttings :

Samples were taken at 30 ft intervals from 220 to 4660 ft with closer spaced sampling undertaken adjacent to predicted formation tops. From 4660 to 5088 ft (TD) samples were taken at 10 ft intervals.

Throughout the drilling operation two unwashed bagged samples were obtained for each sample interval. For each interval a washed and dried portion was produced from which a three-way sample split was made.

The samples were distributed as follows :

Moonie: 1 set washed & dried; 1 set unwashed

Magellan: 1 set washed & dried

NT Dept of Mines: 1 set washed & dried; 1 set unwashed

Sample descriptions are presented in Appendix 1.

##### (2) Coring :

A total of 105 ft of core was cut over four coring runs with 99.5% recovery.

The depths of all cores have been corrected to correlatable electric log depths. Descriptions are given in Appendix 2.

| CORE NO. | INTERVAL<br>DRILLER<br>FT | INTERVAL<br>CORRECTED<br>FT | CUT<br>FT | REC<br>FT | REC<br>% | BIT TYPE<br>(7-5/8%) |
|----------|---------------------------|-----------------------------|-----------|-----------|----------|----------------------|
| 1        | 4401-4426.3               | 4403-4428.3                 | 25.3      | 25.3      | 100      | DB CB403             |
| 2        | 4429-4459.3               | NO CORRECTION               | 30.3      | 30.3      | 100      | DB CB403             |
| 3        | 4763-4783                 | 4762-4782                   | 20        | 19.7      | 98       | DB CB403             |
| 4        | 5028-5058                 | NO CORRECTION               | 30        | 29.8      | 99       | DB CB403             |
| TOTAL    |                           |                             | 105.6     | 105.1     | 99.5     |                      |

TABLE 4  
EAST MEREENIE NO. 26 STRATIGRAPHIC TABLE

| SYSTEM & SERIES                   | FORMATION             | SUB UNIT | DEPTH (FT) |      |       | TRUE THICKNESS | AVERAGE FORMATION DIP | AVERAGE WELL DEVIATION |
|-----------------------------------|-----------------------|----------|------------|------|-------|----------------|-----------------------|------------------------|
|                                   |                       |          | KB         | TVD  | MSL   |                |                       |                        |
| MIDDLE TO LATE DEVONIAN           | PARKE SILTSTONE       |          | 13         | 13   | +2293 | 693+           | 8                     | 0                      |
| MIDDLE DEVONIAN TO LATE SILURIAN  | MEREENIE SANDSTONE    |          | 706        | 706  | +1600 | 1667           | 8                     | 0.8                    |
| LATE ORDOVICIAN                   | CARMICHAEL SANDSTONE  |          | 2373       | 2373 | -67   | 241            | 8                     | 1.8                    |
| MIDDLE ORDOVICIAN                 | STOKES SILTSTONE      | UPPER    | 2614       | 2614 | -308  | 819            | 8                     | 1.8                    |
|                                   |                       | LOWER    | 3434       | 3433 | -1127 | 257            | 8                     | 3.0                    |
|                                   | STAIRWAY SANDSTONE    | UPPER    | 3692       | 3690 | -1384 | 139            | 8                     | 4.0                    |
|                                   |                       | MIDDLE   | 3831       | 3829 | -1523 | 421            | 8                     | 4.1                    |
|                                   |                       | LOWER    | 4253       | 4250 | -1944 | 208            | -                     | 4.5                    |
|                                   |                       |          |            |      |       |                |                       |                        |
| EARLY ORDOVICIAN                  | HORN VALLEY SILTSTONE |          | 4462       | 4458 | -2152 | 227            | 9                     | 5.5                    |
| EARLY ORDOVICIAN TO LATE CAMBRIAN | PACOOTA SANDSTONE     | P1       | 4690       | 4685 | -2379 | 349            | 9                     | 6.5                    |
|                                   |                       | P2       | 5042       | 5034 | -2728 | 45+            | 9                     | 8.0                    |
|                                   |                       | P3       | -          | -    | -     | -              | -                     | -                      |
|                                   |                       | P4       | -          | -    | -     | -              | -                     | -                      |
| LATE CAMBRIAN                     | GOYDER FORMATION      |          | -          | -    | -     | -              | -                     | -                      |
|                                   | TOTAL DEPTH           |          | 5088       | 5079 | -2773 | -              | -                     | -                      |

## (3) Sidewall Coring :

No sidewall cores were taken.

3.3 Core Analysis:

The core analysis programme for East Mereenie No. 26 was designed to provide data on three intervals, the Lower Stairway LS-160 sand, and the Pacoota P1-80 and P1-350 sands.

Conventional core analysis was carried out on 21 samples within the Lower Stairway Sandstone and on 14 samples in the Pacoota P1 Sandstone.

Two cores were cut in the Lower Stairway LS-160 sand interval and samples sent for analysis showed average porosities of 3%, with a maximum porosity of 6%. Permeabilities averaged 0.5 md. An improvement of porosity and permeability was noted in the top seven foot of the LS-160 sand interval (4404 ft to 4411 ft KB). This 7 ft exhibits porosity in the range of 3 to 6% and permeabilities in the range of 1 to 2.3 md. The LS-160 sand below this has porosities of less than 3% and permeabilities of less than 1 md. Evidence of considerable vuggy porosity was seen throughout the core of the LS-160 sand predominantly between 4404 ft and 4427 ft.

One core (Core No. 3) sampled the P1-80 sand. The sand interval showed an average porosity of 13% and average permeability of 40 md.

Core No. 4 from 5028 ft to 5058 ft sampled the P1-350 sand. Core porosities averaged 5% and permeabilities 0.3 md. As this core was cut below the estimated oil/water contact at -2450 ft MSL the average oil saturation of 11% measured by fluid summation techniques is considered significant. Although the well was drilled at this point with an oil based mud that level of oil saturation would appear consistent with other reservoir horizons of similar porosity and permeability within the oil column. The results of Drill Stem Test No. 4 indicate that the P1-350 sand contains in-place hydrocarbons.

The following table summerizes the core analysis results for the 3 sands cored in this well.

| <u>SAND</u><br><u>INTERVAL</u> | <u>AV HOR</u><br><u>KA-MD</u> | <u>MAX HOR</u><br><u>KA MD</u> | <u>AV HE INJ</u><br><u>Ø%</u> | <u>MAX HE INJ</u><br><u>Ø%</u> | <u>AV SO</u><br><u>%</u> | <u>AV STW</u><br><u>%</u> |
|--------------------------------|-------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------|---------------------------|
| LS -160                        | 0.5                           | 15                             | 3                             | 6                              | 15                       | 20                        |
| P1-80                          | 40                            | 87                             | 13                            | 15                             | 45                       | 28                        |
| P1-350                         | 0.3                           | 3.1                            | 5                             | 9.5                            | 11                       | 35                        |

### 3.4 Logging and Surveys:

#### 1. Electric Logging :

The following logs were run using a Gearhart DDL logging unit.

| <u>LOG</u>     | <u>RUN</u> | <u>INTERVAL</u> | <u>DATE</u> |
|----------------|------------|-----------------|-------------|
| GR             | 1          | 16-5087         | 19/1/86     |
| CDL            | 1          | 3592-5087       | 19/1/86     |
| CNS            | 1          | 3554-5087       | 19/1/86     |
| CAL            | 1          | 2990-5087       | 19/1/86     |
| DIL            | 1          | 3599-5081       | 20/1/86     |
| WEL LOG        | 1          | 4200-5080       | 20/1/86     |
| CBL/VDL/GR/CCL | 1          | 3393-4682       | 23/1/86     |
| CCL/GR         | 1          | 4445-4682       | 23/1/86     |

Prints of all wireline logs are included as Enclosure 4.

#### 2. Velocity Survey :

No velocity survey was run.

#### 3. Penetration Rate and Gas Logs :

The penetration rate was recorded continuously from spud to total depth. Gas was monitored continuously by a conventional hotwire detector during the air dusting and mud drilling phase.

A mud log showing penetration rate, gas, lithological and other pertinent data was prepared at the well site on a daily basis and is included as Enclosure 3.

A composite log is included as Enclosure 2.

#### 4. Deviation Survey :

Deviation surveys were taken at regular intervals during the drilling of the well. The drift and true vertical depth corrections are shown in Table 3.

#### 5. Temperature Surveys :

Temperature surveys were not carried out, however the following temperatures were recorded :

141<sup>0</sup> F at 4783 ft; Halliburton

139<sup>0</sup> F at 5088 ft; Gearhart

### 3.5 Formation Dips:

A structural dip of approximately 8 degrees east northeast was prognosed for this well.

Based on formation tops as compared with surrounding wells, the figure of 8 degrees appears to be the true formation dip.

### 3.6 Formation Evaluation:

See Stairway and Pacoota Sandstone Sand Data Sheets. (Tables 5 and 6).

Two cores were cut in Lower Stairway Sandstone interval in the LS-160 sand. Core analysis showed average porosities of 3% and a maximum porosity of 6% in the cored interval. Permeabilities averaged 0.5 md. The porosity data from the cores correlates well with that shown on the density log. The data shows that the top 7 ft of the LS-160 sand from 4404 ft to 4411 ft shows the best reservoir potential in this well. Core analysis shows porosities ranging from 3 to 6% and permeabilities from 1 to 2.3 md in this interval. Below porosities are generally less than 3% and permeabilities less than 1 md.

From the core descriptions it would appear that at least some of the porosity present in the cored interval is vuggy porosity. This is distributed irregularly throughout the core, being more concentrated in the sandy sections. Some of the vugs evident on the surface of the core may be due to more friable sections of the lithology being washed out during the drilling process. The poor drill stem test results combined with what would appear to be reasonable porosity from the logs would support the presence of vuggy porosity with very little interconnection between the pores.

Minor fracturing is evident throughout the core, however no large or open fractures are evident. Drill stem test results show that effective fracture permeability is not present in this well in the LS-160 sand interval.

Evidence of hydrocarbons occurs throughout the cores in the LS-160 sand, ranging from gas bubbling to good fluorescence and oily sweats. Noticeably most evidence of hydrocarbons occur within the zones showing vuggy porosity and/or fractures.

The Pl-80 net sand interval exhibited good porosity (average 13%) and good permeability (average 40 md) from core analysis. This was reflected in the visible examination of the core chips and the presence of oil sweat in Core No. 3. Drill Stem Test No. 3 confirmed the good permeability of this interval and flowed 694 BOPD through a 0.5" choke.

EAST MERENIE NO. 26 STAIRWAY SANDSTONE SAND DATA SHEET

TABLE 5

| STRATIGRAPHIC CORRELATION       |                  | GROSS SAND GR ≤ 80 API |      | NET SAND φ CDL ≥ 4% |      |        |         | NET SAND φ CDL ≥ 6% |      |        |         |
|---------------------------------|------------------|------------------------|------|---------------------|------|--------|---------|---------------------|------|--------|---------|
| SAND NAME                       | INTERVAL KB - FT | INTERVAL KB - FT       | t FT | INTERVAL KB - FT    | t FT | % AV φ | % MAX φ | INTERVAL KB - FT    | t FT | % AV φ | % MAX φ |
| <b>U. STAIR</b>                 |                  |                        |      |                     |      |        |         |                     |      |        |         |
| US-10                           | 3692-3720        | 3701-3707              | 6    |                     |      |        |         |                     |      |        |         |
| US-10                           | 3692-3720        | 3710-3719              | 9    |                     |      |        |         |                     |      |        |         |
| MISC                            | 3720-3723        |                        |      | 3720-3723           | 3    | 4.5    | 5       |                     |      |        |         |
| US-40                           | 3728-3735        | 3730-3734              | 4    | 3728-3730           | 2    | 4.5    | 5       |                     |      |        |         |
| US-80                           | 3740-3768        |                        |      |                     |      |        |         |                     |      |        |         |
| US-100                          | 3774-3831        | 3774-3788              | 14   | 3786-3790           | 4    | 4      | 4.5     |                     |      |        |         |
| US-100                          | 3774-3831        | 3794-3806              | 12   | 3797-3803           | 6    | 5      | 7       | 3799-3802           | 3    | 6.5    | 7       |
| US-100                          | 3774-3831        | 3808-3822              | 14   | 3808-3811           | 3    | 5      | 6       |                     |      |        |         |
| US-100                          | 3774-3831        | 3826-3832              | 6    | 3814-3816           | 2    | 5      | 6       |                     |      |        |         |
| US-100                          | 3774-3831        |                        |      | 3817-3826           | 9    | 7.5    | 12.5    | 3818-3826           | 8    | 9      | 12.5    |
|                                 |                  |                        | 65   |                     | 29   |        |         |                     | 11   |        |         |
| <b>M. STAIR</b>                 |                  |                        |      |                     |      |        |         |                     |      |        |         |
| MISC                            | 3831-3835        |                        |      | 3831-3835           | 4    | 6.5    | 9       | 3831-3834           | 3    | 7.5    | 9       |
| MISC                            | 3836-3844        |                        |      | 3836-3844           | 8    | 5      | 7       | 3837-3839           | 2    | 6.5    | 7       |
| MISC                            | 3856-3862        | 3856-3858              | 2    | 3856-3862           | 10   | 5.5    | 8.5     | 3857-3862           | 5    | 7      | 8.5     |
| MISC                            | 4238-4244        | 4242-4243              | 1    | 4240-4242           | 2    | 4.5    | 5.5     |                     |      |        |         |
|                                 |                  |                        | 3    |                     | 24   |        |         |                     | 10   |        |         |
| <b>L. STAIR</b>                 |                  |                        |      |                     |      |        |         |                     |      |        |         |
| LS-10                           | 4262-4270        | 4262-4264              | 2    |                     |      |        |         |                     |      |        |         |
| MISC                            | 4280-4282        |                        |      | 4280-4282           | 2    | 5      | 6       |                     |      |        |         |
| LS-50                           | 4290-4322        | 4291-4301              | 10   | 4290-4300           | 10   | 6.5    | 12      | 4291-4297           | 6    | 8.5    | 12      |
| LS-50                           | 4290-4322        |                        |      | 4302-4305           | 3    | 4.5    | 6       |                     |      |        |         |
| LS-50                           | 4290-4322        | 4311-4314              | 3    |                     |      |        |         |                     |      |        |         |
| LS-50                           | 4290-4322        | 4315-4322              | 7    | 4318-4320           | 2    | 4.5    | 4.5     |                     |      |        |         |
| MISC                            | 4326-4330        |                        |      | 4325-4330           | 5    | 6      | 8.5     | 4326-4330           | 4    | 6.5    | 8.5     |
| LS-80                           | 4333-4347        |                        |      | 4334-4337           | 3    | 4.5    | 5.5     |                     |      |        |         |
| LS-150                          | 4388-4396        | 4388-4393              | 5    |                     |      |        |         |                     |      |        |         |
| MISC                            | 4400-4402        |                        |      | 4400-4402           | 2    | 5      | 6.5     | 4401-4402           | 1    | 6      | 6.5     |
| LS-160                          | 4404-4462        | 4404-4438              | 34   | 4405-4407           | 2    | 5      | 6       |                     |      |        |         |
| LS-160                          | 4404-4462        | 4440-4457              | 17   |                     |      |        |         |                     |      |        |         |
| LS-160                          | 4404-4462        | 4460-4462              | 2    |                     |      |        |         |                     |      |        |         |
|                                 |                  |                        | 80   |                     | 29   |        |         |                     | 11   |        |         |
| <b>STAIRWAY SANDSTONE TOTAL</b> |                  |                        | 148  |                     | 82   |        |         |                     | 32   |        |         |

EAST MEREENIE NO. 26 PACOOTA SANDSTONE SAND DATA SHEET

TABLE 6

| STRATIGRAPHIC CORRELATION |                  | GROSS SAND GR $\leq$ 80 API |      | NET SAND $\phi$ CDL $\geq$ 4% |      |             |              | NET SAND $\phi$ CDL $\geq$ 6% |      |             |              |
|---------------------------|------------------|-----------------------------|------|-------------------------------|------|-------------|--------------|-------------------------------|------|-------------|--------------|
| SAND NAME                 | INTERVAL KB - FT | INTERVAL KB - FT            | t FT | INTERVAL KB - FT              | t FT | % AV $\phi$ | % MAX $\phi$ | INTERVAL KB - FT              | t FT | % AV $\phi$ | % MAX $\phi$ |
| P1                        |                  |                             |      |                               |      |             |              |                               |      |             |              |
| MISC                      | 4728-4732        |                             |      | 4728-4732                     | 4    | 4.5         | 6.5          | 4728-4730                     | 2    | 6           | 6.5          |
| P1-40                     | 4734-4749        |                             |      | 4734-4742                     | 8    | 4           | 4            |                               |      |             |              |
| P1-40                     | 4734-4749        |                             |      | 4746-4749                     | 3    | 4.5         | 7.5          | 4746-4748                     | 2    | 6.5         | 7.5          |
| P1-80                     | 4768-4779        | 4768-4774                   | 6    | 4768-4775                     | 7    | 8           | 15           | 4770-4774                     | 4    | 10.5        | 15           |
| P1-110                    | 4786-4804        | 4786-4804                   | 18   | 4793-4800                     | 7    | 4.5         | 7            | 4793-4795                     | 2    | 6.5         | 7            |
| P1-120                    | 4811-4817        |                             |      |                               |      |             |              |                               |      |             |              |
| P1-140                    | 4836-4840        |                             |      |                               |      |             |              |                               |      |             |              |
| MISC                      | 4847-4849        |                             |      | 4847-4849                     | 2    | 4.5         | 5            |                               |      |             |              |
| P1-190                    | 4879-4887        | 4879-4884                   | 5    | 4881-4887                     | 6    | 4.5         | 6            |                               |      |             |              |
| P1-210                    | 4901-4910        |                             |      | 4903-4910                     | 7    | 4           | 4            |                               |      |             |              |
| P1-240                    | 4921-4939        | 4922-4939                   | 17   |                               |      |             |              |                               |      |             |              |
| MISC                      | 4944-4946        |                             |      | 4944-4946                     | 2    | 4           | 4            |                               |      |             |              |
| MISC                      | 4949-4952        | 4950-4952                   | 2    | 4950-4952                     | 2    | 4           | 4.5          |                               |      |             |              |
| P1-280                    | 4975-4979        | 4976-4978                   | 2    |                               |      |             |              |                               |      |             |              |
| P1-130                    | 4992-5021        | 4993-5020                   | 27   | 5004-5010                     | 6    | 4           | 5.5          |                               |      |             |              |
| P1-350                    | 5030-5042        | 5030-5037                   | 7    | 5030-5044                     | 14   | 5           | 10           | 5035-5039                     | 4    | 8           | 10           |
| P1-350                    | 5030-5042        |                             |      |                               |      |             |              | 5040-5042                     | 2    | 6           | 6.5          |
|                           |                  |                             | 84   |                               | 68   |             |              |                               | 16   |             |              |
| P2                        |                  |                             |      |                               |      |             |              |                               |      |             |              |
| MISC                      | 5046-5051        |                             |      | 5047-5052                     | 5    | 5           | 7.5          | 5048-5050                     | 2    | 7           | 7.5          |
| MISC                      | 5068-5072        |                             |      | 5068-5072                     | 4    | 5           | 7            | 5069-5071                     | 2    | 6.5         | 7            |
|                           |                  |                             |      |                               | 9    |             |              |                               | 4    |             |              |
|                           |                  |                             |      |                               |      |             |              |                               |      |             |              |
| PACOOTA SANDSTONE TOTAL   |                  |                             | 84   |                               | 77   |             |              |                               | 20   |             |              |



The P1-350 sand was cored and tested as well as logged. These data show that although porosities of up to 7% are present, permeabilities are poor throughout ranging from 0.06 to a maximum of 3.1 md. The low permeabilities were confirmed by Drill Stem Test No. 4.

It must be noted that the core cut in the P1-350 sand from 5028 ft to 5058 ft KB below the estimated oil/water contact at 4756 ft KB (-2450 ft MSL), exhibited oil fluorescence and cut, together with minor sections of visible oil sweat. Core analyses from this zone show water saturations in the range of 39% above 5054 ft and from 54 to 72% in the interval 5054 ft to 5058 ft. Further examination of the core analysis results show that permeabilities in the lower interval are very low in the range of .04 to .06 md. Thus the higher water saturations are a result of overall lower permeabilities rather than an oil/water transition zone occurring at this level.

The P1-350 sand in East Mereenie No. 26 contains hydrocarbons some 284 ft below the estimated oil/water contact at -2450 ft MSL.

### 3.7 Relevance to Appraisal Programme:

A comprehensive evaluation of the LS-160 sand in this well showed that although porosity was present some at least was vuggy porosity and permeabilities were low throughout the sand despite the presence of minor fractures. This well is some 930 meters from East Mereenie No. 8 which produced 7.29 MMCFD from the LS-160 Sandstone.

Obviously the permeabilities in the LS-160 Sandstone in this area of the field are extremely variable over relatively short distances and the high flow rates from the sand interval in East Mereenie No. 8 are most likely due to fracture permeability.

The productive capacity of the Pacoota P1-80 Sand has been confirmed in this well with a flow of 694 BOPD.

The Pacoota P1-350 sand was extensively evaluated and showed that oil, and possibly moveable oil, exists at a considerable depth below previously anticipated oil/water contact at -2450 ft.

Formation dips were as prognosed, being approximately 8 degrees in a east northeast direction.