EAST MEREENIE No. 1 WELL

W E L L H I S T O R Y

GENERAL DATA:-

Well Name and Number: East Mereenie No. 1

Location: 24°00'31" South, 131°33'51" East

Name and Address of Tenement Holder:

Magellan Petroleum (N.T.) Pty. Ltd.,
316 Adelaide Street,
BRISBANE. QUEENSLAND.

Details of Petroleum Tenement:

Oil Permit No. 43, Northern Territory

Area: 9,918 square miles

Permission to Drill: Agreement between Exoil (N.T.) Pty. Ltd. and Magellan Petroleum (N.T.) Pty. Ltd.

District: Alice Springs

Total Depth: 4710' Driller

Date Drilling commenced: 14th April, 1964.

Date Drilling completed: 27th July, 1964.

Date Well completed: 4th August, 1964.

Date Rig released: 4th August, 1964.

Drilling Time in Days to Total Depth: 105 feet

Elevation: Ground 2518' a.s.l. Kelly Bushing 2529' a.s.l.

Status: Well completed as a gas producer

Cost:

DRILLING DATA:-

Name and Address of Drilling Contractor:

Oil Drilling and Exploration Limited,
93 York Street,
SYDNEY. NEW SOUTH WALES.

Drilling Plant:

Make: National

Type: T32

Normal Drilling Range = 3,000' to 5,500'

Maker's Original Rated Capacity with 4½" D.P. 5,500'

Motors (2): G.M.C. Twin Model 471, 225 h.p.

Mast: Make: Emsco

Type: Serial 12

Rated Capacity: 416,000 lbs.

Pumps (2):

Make:	National	Emsco
Type:	C-250	D-300
Size:	7¼" x 15"	7¼" x 14"
Motors:	1 Twin G.M.C.671	1 Twin G.M.C.671
	1 Twin G.M.C.471	

Blow Out Preventer Equipment:

Make:	Schaffer	Hydril
Model:	"B"	G.K.
Size:	12" Series 900	12" Series 900
Working Pressure:	3000 p.s.i.	3000 p.s.i.

Hole Sizes and Depths:

1. 17½" hole from Surface to 170'
2. 12¼" hole from 170' to 1920'
3. 8¾" hole from 1920' to 4710'

Casing and Cementing Details:

Size:	13⅜"	9⅝"	7"
Weight:	48	36	26 and 29
Grade:	H40	J55	J55 and N80
Setting Depth:	170'	1920'	3582'
Cement Used:	100	250	400
Cemented To:	Surface	1080'	330'
Method Used:	Rig Pump	Rig Pump	Rig Pump

Drilling Fluid:

The programme was supervised by P. Kapral, Toolpusher. A water-base bentonite mud with Spersene and XP-20 was used throughout. Lost Circulation Material was present in the system from 647' to 1920' and for a short time at 3158'. Barytes was first added to the system at 2662', when gas shows became significant. Hole condition was good throughout the drilling operation and sample condition (except where excessive L.C.M. was in the mud) was satisfactory. The drill pipe became

stuck once only while cementing off Lost Circulation Zones. This was believed due to Differential Sticking adjacent to porous Sandstone.

The average Mud Properties for the well are listed below:-

Weight:	11.9 lbs./U.S. gal.
Viscosity:	61 (Marsh)
Water-Loss:	9.5 cc./30 mins.
pH:	10.5
Sand Content:	1%

Lost Circulation:-

This was a serious drilling problem at East Mereenie No. 1 and 546¼ hours (20% of total time) were spent fighting it. The most serious lost circulation occurred whilst drilling the Mereenie Sandstone to 1500', resulting in complete lost circulation at the following depths - 647', 652', 661', 685', 693', 709', 727', 753', 763', 766', 772', 1019', 1167', 1244', 1296', 1307', 1344', 1719'. In addition, lost circulation was partial at the following depths - 1314', 1355', 1397'. Lost circulation also occurred at 3158'. This was due to parting of casing collars at 1452'. Lost circulation material was maintained in the mud system till 9⅝" casing was set at 1920'. 60 plugs totalling 2297 sacks of cement and 600 sacks of plaster were run combating lost circulation; in addition, 5,820 barrels mud were lost to the formation. These plugs are tabled below. After the hole in the casing was repaired no subsequent lost circulation was encountered.

Cement Plugs for Lost Circulation

Plug No.	Setting Depth	Sacks Cement	Sacks Plaster	Remarks
1	647'	25		Lost to formation.
2	647'	50		Held top cement 599'.
3	652'	100		Lost to formation.
4	652'	50		Squeezed to 250 p.s.i.
5	652'	60		Squeezed Plug No. 4, holding. Top cement 562'.
6	661'	100		Lost to formation.
7	661'	60		Lost to formation.
8	661'	60		Top cement 643' held till drilled out then circulation lost.
9	661'	50		Held.
10	661'	50		Displaced 9 barrels mud, squeezed 10 barrels to 600 p.s.i.. Plug held, top cement 649'.

Plug No.	Setting Depth	Sacks Cement	Sacks Plaster	Remarks
11	661'	60		Plug held.
12	693'	40		Plug held.
13	693'	60		Squeezed 6.5 barrels to 250 p.s.i. Plug held.
14	693'	25		Plug held, top Plugs Nos. 12, 13, 14 500'.
15	722'	60		Lost to formation.
16	709'	60		Plug held. Top cement 700'.
17	700'	50		Squeezed 9 barrels at 200 p.s.i.. Plug held.
18	727'	50		Leaking.
19	700'	30		Squeezed with 6 barrels of mud. Plug held.
20	753'	60		Plug failed.
21	753'	60		Plug failed.
22	753'	60		Plug failed.
23	753'	60		Plug leaking. Top cement 667'.
24	610'	25		Plug held. Top cement 612'.
25	753'	50		Plug held.
26	725'	20		Plug held)
27	600'	50		Plug held) Circulation restored.
28	450'	25		Plug held)
29	763'	50		Plug held.
30	1019'	25		Plug held. Top of cement 994'.
31	650'	50		Lost to formation.
32	560'	50		Lost to formation.
33	610'	60		Lost to formation.
34	590'		50	Lost to formation.
35	670'	50		Plug held. Top of cement 640'.
36	650'	7	50	Lost to formation.
37	709'	9	50	Held till drilled out then lost circulation.
38	620'	4	25	Held till drilled out then lost circulation.
39	753'	9	50	Lost to formation.
40	700'	9	50	Lost to formation.
41	640'	5	25	Lost to formation.
42	1160'	10	50	Plug leaking. Top of plug 1150'.
43	1150'	25		Plug held. Top of plug 1120'.
44	1244'	10	50	Plug held till drilled out then circulation lost.
45	1244'	50		Plug leaking. Top of cement 1213
46	1160'	7	25	Plug held.
47	1244'	7	25	Lost to formation.
48	1160'	7	25	Plug leaking. Top of plug 1284'.
49	1284'	7	25	Plug held.
50	1305'	40		Plug held. Top of cement 1270'.
51	1340'	14	50	Plug held. Top of plug 1330'.
52	1340'	12	50	Plug held.
53	3160'	50		Plug failed. Top of cement 2970' channelled by gas.
54	1912'	25		Lost to formation.
55	2920'	25		Plug failed.
56	2650'	50		Plug failed.
57	2650'	75		Plug leaking. Top of plug 2418'. Channelled by gas.
58	2415'	50		Plug leaking. Top of cement 2200' Channelled by gas.
59	1850'	35		Plug holding. Top of cement 1450'
60	1460'	35		Squeezed to 900 p.s.i.. Plug successful.

Plugs Nos. 1 to 52 deal with Lost Circulation in porous and fractured Mereenie Sandstone. Plugs Nos. 53 to 60 deal with Lost Circulation due to hole in casing at 1452'.

Average Weekly Mud Reports

Week ended	Depth (feet)	Weight (lbs/US gal.)	Viscosity (sec.Marsh)	Water Loss (cc/30 ins.)	pH	Sand %	Chlorides (p.p.m.)
Apr. 18	522	10.3	60	20.1	11	4	
25	722	10.5	56	16	12	4	
May 2	766'	Not measured due to L.C.M. in Mud					
9	1167	9.5	65	7.4	11	0.75	1500
16	1634	9.6	52	14.3	10.5		
23	2371	10.1	75	9.6	9.5		
30	2821	10.4	50	8.9	10	1	1400
June 6	3165	12.4	58	7.6	10	1	1400
13	3248	12.6	55	12.0	13	0.75	1800
20	3681	13.0	65	8.2	12.5	1	1700
27	3871	13.3	58	8.4	11	1	1850
July 4	4129	13.5	68	6.8	10.5	0.75	3000
11	4309	13.1	64	7.2	10	0.75	3200
18	4503	13.2	63	6.6	9	0.75	2600
25	4684	13.2	65	6.5	8.5	0.75	2700
Aug. 1	4710	13.2	66	6.2	8	0.50	2500

Mud Additives Used

The following quantities of mud additives were used in East Mereenie No. 1:-

Magcogel	105,000 lbs.
Barytes	387,120 lbs.
Myrtan (Lo-Vis)	5,800 lbs.
Caustic	4,982 lbs.
Spersene	8,900 lbs.
XP-20	3,450 lbs.
Sodium Bicarbonate	14,635 lbs.
Calcium Chloride	4,280 lbs.
Tannathin	4,600 lbs.
Lime	2,100 lbs.
C.M.C.	2,594 lbs.
Quebracho	100 lbs.
Soda Ash	280 lbs.
L.C.M.	1,382 sacks

The total weight of mud materials used was 543,841 pounds plus 1,382 sacks of Lost Circulation Material.

Water Supply:

Water was pumped to the rig through a 2" line from Mereenie No. 1 water well, a distance of approximately two miles. The supply proved ample except during periods of severe lost circulation when quite a number of hours were lost waiting on water.

Perforation and Shooting Record:

No perforation or shooting was required during the operation.

Plugging back and Squeeze Jobs:

Except for squeezing plugs when combating lost circulation the only squeeze job carried out was to repair the hole in the casing at 1,452 feet. After Plug No. 59 had set, Plug No. 60 was squeezed to 900 p.s.i.. This job was successful. Casing was subsequently tested using a hook wall packer set at 1,600 feet. Pressured 9⅝" casing to 400 p.s.i. (13.0 lbs. mud). Casing holding O.K.. Open hole completion on East Mereenie No. 1 did not require plugging back.

Fishing Operations:

One fishing job was successfully carried out on East Mereenie No. 1.

Stuck pipe at 460' whilst pulling out of hole after running Plug No. 17 at 700 feet. Circulated for 2½ hours with both pumps on hole. Could not free. Spotted one barrel detergent, no movement, backed off two stands drill collars, worked jars for six hours, no movement. Spotted 12 barrels diesel, worked jars. Pipe freed, Time for operation 26¾ hours.

Side-Tracked Hole:

The hole was not side-tracked.

Ditch Cuttings:

Ditch cuttings were collected at 10-foot intervals during drilling from surface to 2,590 feet at 5-foot intervals from 2,590 feet to 2800 feet, at 10-foot intervals from 2,800 feet to 3,050 feet, at 5-foot intervals from 3,050 feet to 3,400 feet, at 10-foot intervals from 3400 feet to 3550 feet and at 5-foot intervals from 3,550 feet to total depth. Four cuts of samples were made. One for the Bureau of Mineral Resources, Canberra, one for the Bureau of Mineral Resources, Alice Springs, one for Magellan Petroleum (N.T.) Pty. Ltd., one for Exoil (N.T.) Pty. Ltd.. Samples were corrected for lag time.

Coring:

The subsidy programme was for two long cores in the sandstone sections of the Stairway Formation and for a further eight cores in the Pacoota at convenient bit changes and when hydrocarbon shows or porosity were encountered. A minimum coring programme of every 300 feet below the top of the Pacoota was required by the Bureau of Mineral Resources.

One core was cut in the Horn Valley using a Hughes 20' type "J" core barrel and Hughes Tool Co. conventional Hard Formation Coreheads, cutting 1 3½" core.

Remainder of the cores were cut using a 53' D & S barrel 6⅞" O.D. with 8 11/16" and 7 13/16" Diamond Coreheads. Six coreheads were used - 1 Conventional and 5 Diamond - on the hole. A total of 258¼ hours including trips, or approximately 9% of the total time, was spent coring. Cores were bagged in plastic containers and boxed and sent to Brisbane for analysis where subsequent distribution to the various parties concerned was made.

Core No.	Interval	Amount Cored	Amount Recovered	% Recovered
1	2601'-2605'	4	3'6"	88
2	2605'-2616'	11	10'10"	98
3	2643'-2668'	25	24'9"	99
4	2668'-2703'	35	35'	100
5	3105'-3155'	50	50'	100
6	3456'-3476'	20	19'8"	98
7	3807'-3825'	18	18'	100
8	3825'-3831'	6	5'11"	100
9	3840'-3852'	12	11'5"	94
10	3852'-3855'	3	2'1"	69
11	4125'-4131'	6	6'	100
12	4131'-4139'	8	7'6"	94
13	4273'-4306'	33	32'11"	100
14	4490'-4501'	11	11'	100
15	4511'-4533'	22	22'	100
16	4668'-4672'	4	3'	75
17	4687'-4697'	10	9'7"	96

Total footage cored - 278 feet

Total footage recovered - 263'2"

Percentage recovered - 95%

This comprises 125 feet of Stairway, 20 feet of Horn Valley and 133 feet of Pacoota.

Side Wall Sampling:

No side wall samples were taken.

Electrical and Other Logs:

Four logging runs were made by Schlumberger. These were:-

Run No.	Type	Depth From	Depth To
1	Electrical	170'	1919'
2	Electrical	1922'	3170'
3	Electrical	3170'	4181'
4	Electrical	4181'	4711'
1	Microlog	170'	1920'
2	Microlog	1920'	3170'
3	Microlog	3170'	4181'
4	Microlog	3600'	4712'
1	Sonic	170'	1920'
2	Sonic	1921'	4170'
3	Sonic	1922'	4700'
1	Gamma Ray	Surface	4705'

Logs were run on scales of 2" = 100' and 5" = 100'. See Appendix .C..... for detailed interpretation.

Drilling Time and Gas Log:

One-foot drilling times were recorded on a geolograph whilst drilling.

Mud logging was done by Exoil using a Core Laboratories' gas detector manned on a twentyfour hour basis. Five-foot drilling times and gas detector readings are shown on the composite log.

Figure 2 shows time versus depth graph.

Formation Testing:

Eighteen open hole drill stem tests were carried out on East Mereenie No. 1. The following table shows interval tested and results.

Drill Stem Tests

Test No. 1:

Interval tested	2578 - 2703 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	60 minutes
Initial Hydrostatic	1530 p.s.i.g.
Initial Shut-in pressure	1475 p.s.i.g.
Initial Flowing pressure	205 p.s.i.g.
Final flowing pressure	250 p.s.i.g.
Final Shut-in pressure	1332 p.s.i.g.
Final Hydrostatic	1490 p.s.i.g.
Stabilized open-flow	310 MSCF/day
Recovery	210' slightly gas cut drilling mud

Test No. 2:

Interval tested	3079 - 3155 feet RTKB
Initial Shut-in period	30 minutes
Flow period	107 minutes
Final Shut-in period	60 minutes
Initial Hydrostatic	2140 p.s.i.g.
Initial Shut-in pressure	2075 p.s.i.g.
Initial Flowing pressure	170 p.s.i.g.
Final Flowing pressure	170 p.s.i.g.
Final Shut-in pressure	2060 p.s.i.g.
Final Hydrostatic	2140 p.s.i.g.
Stabilized open-flow	260 MSCF/day
Recovery	200' very slightly gas cut drilling mud

Test No. 3:

Interval tested	3163 - 3238 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	60 minutes
Initial Hydrostatic	2180 p.s.i.g.
Initial Shut-in	370 p.s.i.g.
Initial Flow Pressure	90 p.s.i.g.
Final Flow Pressure	90 p.s.i.g.
Final Shut-in	not recorded
Final Hydrostatic	2195 p.s.i.g.
Stabilized open-flow	Not obtained. Production rate had increased to 1.7 MMSCF/day at end of flow period.
Recovery	565' slightly gas cut drilling mud

Test No. 4:

Interval tested	3426 - 3476 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	30 minutes
Initial Hydrostatic	2355 p.s.i.g.
Initial Shut-in Pressure	160 p.s.i.g.
Initial Flowing Pressure	95 p.s.i.g.
Final flowing pressure	95 p.s.i.g.
Final Shut-in Pressure	105 p.s.i.g.
Final Hydrostatic	2355 p.s.i.g.
Stabilized open-flow	No gas to surface
Recovery	60' drilling mud

Test No. 5:

Interval tested	3669 - 3776 feet RTKB
Initial Shut-in period	30 minutes
Flow period	100 minutes
Final Shut-in period	45 minutes
Initial Hydrostatic	2540 p.s.i.g.
Initial Shut-in pressure	1755 p.s.i.g.
Initial Flowing pressure	870 p.s.i.g.
Final Flowing Pressure	950 p.s.i.g.
Final Shut-in Pressure	1745 p.s.i.g.
Final Hydrostatic	2505 p.s.i.g.
Stabilized open-flow	4.6 MMSCF/day
Recovery	5 gallons drilling mud and condensate

Test No. 6:

Interval tested	3774- 3825 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	45 minutes
Initial Hydrostatic	2595 p.s.i.g.
Initial Shut-in pressure	1745 p.s.i.g.
Initial Flowing pressure	715 p.s.i.g.
Final Flowing pressure	755 p.s.i.g.
Final Shut-in pressure	1745 p.s.i.g.
Final Hydrostatic	2570 p.s.i.g.
Stabilized open-flow	4 MMSCF/day
Recovery	3 gallons condensate (slightly mud cut)

Test No. 7:

Interval tested	3824 - 3852 feet RTKB
Initial Shut-in period	30 minutes
Flow period	90 minutes
Final Shut-in period	25 minutes
Initial Hydrostatic	2660 p.s.i.g.
Initial Shut-in pressure	1755 p.s.i.g.
Initial Flowing pressure	1005 p.s.i.g.
Final Flowing pressure	1145 p.s.i.g.
Final Shut-in pressure	1755 p.s.i.g.
Final Hydrostatic	2645 p.s.i.g.
Stabilized open-flow	5.9 MMSCF/day
Recovery	5 gallons condensate

Test No. 8:

Interval tested	3851 - 3885 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	60 minutes
Initial Hydrostatic	2715 p.s.i.g.
Initial Shut-in pressure	1715 p.s.i.g.
Initial Flowing pressure	120 p.s.i.g.
Final Flowing pressure	145 p.s.i.g.
Final Shut-in pressure	1755 p.s.i.g.
Final Hydrostatic	2715 p.s.i.g.
Stabilized open-flow	550 MSCF/day
Recovery	270' slightly gas cut drilling mud

Test No. 9:

Interval tested	3885 - 3945 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	60 minutes
Initial Hydrostatic	2755 p.s.i.g.
Initial Shut-in pressure	1770 p.s.i.g.

Test No. 9 (Cont.):

Initial Flowing pressure	160 p.s.i.g.
Final Flowing pressure	160 p.s.i.g.
Final Shut-in pressure	1770 p.s.i.g.
Final Hydrostatic	2755 p.s.i.g.
Stabilized open-flow	550 MSCF/day
Recovery	240' slightly gas cut drilling mud

Test No.10:

Interval tested	3946 - 4009 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	Nil
Initial Hydrostatic	2733 p.s.i.g.
Initial Shut-in pressure	80 p.s.i.g.
Initial Flowing pressure	80 p.s.i.g.
Final Flowing pressure	80 p.s.i.g.
Final Hydrostatic	2733 p.s.i.g.
Stabilized open-flow	No gas to surface
Recovery	6 gallons drilling mud

Test No. 11:

Interval tested	4115 - 4139 feet RTKB
Initial Shut-in period	30 minutes
Flow period	45 minutes
Final Shut-in period	30 minutes
Initial Hydrostatic	2835 p.s.i.g.
Initial Shut-in pressure	1745 p.s.i.g. (and increasing)
Initial Flowing pressure	101 p.s.i.g.
Final Flowing pressure	101 p.s.i.g.
Final Shut-in pressure	1765 p.s.i.g.
Final Hydrostatic	2820 p.s.i.g.
Stabilized open-flow	300 MSCF/day
Recovery	130' very slightly gas cut drilling mud

Test No. 12:

Interval tested	4140 - 4180 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	30 minutes
Initial Hydrostatic	2845 p.s.i.g.
Initial Shut-in pressure	1705 p.s.i.g.
Initial Flowing pressure	105 p.s.i.g.
Final Flowing pressure	130 p.s.i.g.
Final Shut-in pressure	1785 p.s.i.g.
Final Hydrostatic	2845 p.s.i.g.
Stabilized open-flow	350 MSCF/day
Recovery	130' slightly gas cut drilling mud

Test No. 13:

Interval tested	4245 - 4273 feet RTKB
Initial Shut-in period	45 minutes
Flow period	70 minutes
Final Shut-in period	29 minutes
Initial Hydrostatic	2820 p.s.i.g.
Initial Shut-in pressure	1785 p.s.i.g.
Initial Flowing pressure	200 p.s.i.g.
Final flowing pressure	290 p.s.i.g.
Final Shut-in pressure	1785 p.s.i.g.
Final Hydrostatic	2780 p.s.i.g.
Stabilized open-flow	Not obtained. Maximum rate 1.7 MMSCF/day
Recovery	280' gas cut drilling mud

Test No. 14:

Interval tested	4272 - 4306 feet RTKB
Initial Shut-in period	30 minutes
Flow period	65 minutes
Final Shut-in period	35 minutes
Initial Hydrostatic	2915 p.s.i.g.
Initial Shut-in pressure	1795 p.s.i.g.
Initial Flowing pressure	240 p.s.i.g.
Final Flowing pressure	265 p.s.i.g.
Final Shut-in pressure	1795 p.s.i.g.
Final Hydrostatic	2915 p.s.i.g.
Stabilized open-flow	1.4 MMSCF/day
Recovery	110' gas cut drilling mud

Test No. 15:

Interval tested	4434 - 4490 feet RTKB
Initial Shut-in period	30 minutes
Initial Shut-in pressure	1775 p.s.i.g.
Test misrun - back circulating out accidently opened.	

Test No. 16:

Interval tested	4450 - 4501 feet RTKB
Initial Shut-in period	30 minutes
Flow period	67 minutes
Final Shut-in period	45 minutes
Initial Hydrostatic	3004 p.s.i.g.
Initial Shut-in pressure	1775 p.s.i.g.
Initial Flowing pressure	168 p.s.i.g.
Final Flowing pressure	181 p.s.i.g.
Final Shut-in pressure	1775 p.s.i.g.
Final Hydrostatic	3004 p.s.i.g.
Stabilized open-flow	620 MSCF/day
Recovery	250' gas cut mud

Test No. 17:

Interval tested	4501 - 4533 feet RTKB
Initial Shut-in period	30 minutes
Flow period	60 minutes
Final Shut-in period	Nil
Initial Hydrostatic	3043 p.s.i.g.
Initial Shut-in pressure	913 p.s.i.g. and increasing
Initial Flowing pressure	50 p.s.i.g.
Final Flowing pressure	63 p.s.i.g.
Final Hydrostatic	3043 p.s.i.g.
Stabilized open-flow	TSTM
Recovery	90' very slightly gas cut drilling mud

Test No. 18:

Interval tested	4555 - 4606 feet RTKB
Initial Shut-in period	45 minutes
Flow period	45 minutes
Final Shut-in period	Nil
Initial Hydrostatic	3082 p.s.i.g.
Initial Shut-in pressure	246 p.s.i.g. and increasing
Initial Flowing pressure	50 p.s.i.g.
Final flowing pressure	63 p.s.i.g.
Final Hydrostatic	3082 p.s.i.g.
Stabilized open-flow	No gas to surface
Recovery	90' very slightly gas cut drilling mud

General Comments on Testing:

1. Chokes were not used either in testing tools or at surface.

2. Bottom hole temperatures recorded only on following tests:-

(a) Test 17 132°F

(b) Test 18 136°F

3. All pressures recorded with Johnston Type T-1 Recorders.

4. A total of 185 hours (7% of total time) was spent on open hole formation testing.

Deviation Surveys:

Deviation surveys were run before trips using a Lane Wells Instrument dropped down the drill pipe and recovered at the surface. Readings are tabled below:-

65'	½°	1450'	1¼°	2700'	1¾°	3710'	¾°
175'	½°	1515'	1¾°	2775'	1 °	3805'	¾°
255'	½°	1585'	1½°	2800'	1 °	3825'	¾°
450'	½°	1715'	1½°	2870'	1 °	3885'	⅛°
615'	¼°	1810'	3°	2960'	¾°	3940'	½°
722'	¾°	1820'	3°	3028'	½ °	3985'	¼°
755'	¾°	1870'	2¾°	3080'	¼°	4115'	½°
800'	¾°	1890'	3 °	3100'	½°	4180'	¾°
845'	½°	1918'	3 °	3155'	¼°	4250'	½°
914'	1°	1988'	2½°	3175'	½°	4375'	½°
1015'	½°	2110'	1½°	3238'	¾°	4490'	¾°
1066'	⅛°	2240'	1¼°	3262'	2 °	4606'	1 °
1168'	¾°	2355'	1½°	3318'	¾°	4664'	¾°
1220'	½°	2500'	1¼°	3390'	¾°	4708'	1¼°
1295'	¾°	2540'	1½°	3550'	1 °		
1400'	1¼°	2598'	1¼°	3608'	¾°		

Temperature Surveys:

One temperature survey was run after running 9⅝" casing at 1920'.

This survey indicated that the top of the cement behind the casing was at 1080 feet.

Drilling Observations:

A total of 2687½ hours were required to drill East Mereenie No. 1. Total rotating hours on bottom (excluding coring were 1025½ hours (40% of total time)). During this time one Diamond (8 11/16"), 11 Button (8¾"), 52 conventional bits were used. A total of 64 bits drilled 4432' of hole at an average penetration rate of 4.3 ft./hour and 69 ft. per bit.