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W E L L H I S T O R Y

GENERAL DATA:

Well Name and Number: East Mereenie No. 3
Location: 24°00'45" South; 131°33'10" East
Well Spudded: 18th November, 1965.
Rig Released: 17th January, 1966
Drilling Time in Days to Total Depth: 56
Elevation: Ground 2518' a.s.l. Kelly Bushing 2532' a.s.l.
Total Depth: 5215' Driller, 5212' Welex

DRILLING DATA:

Name and Address of Drilling Contractors:

Oil Drilling and Exploration Ltd.,
93 York Street,
SYDNEY. New South Wales

Drilling Plant:

Make: National
Type: T-32
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:	7 $\frac{1}{4}$ " x 15"	7 $\frac{1}{4}$ " x 14"
Motors:	1 Twin G.M.C. 671 1 Twin G.M.C. 471	1 Twin G.M.C. 671

Gas Drilling Equipment:

<u>Unit</u>	<u>Make</u>	<u>Type</u>	<u>Size</u>	<u>Motors</u>
Separator	Rolo	Wellchecker	1000 p.s.i. w.p.	-
Injection Pump	Aldrich	Triplex HS-3B	1" x 2 $\frac{1}{2}$ "	Wisconsin 30 h.p.

Blowout Preventor Equipment:

Make:	Shaffer	Hydril	Shaffer
Model:	"B"	G.K.	Rotating
Size:	12" Series 900	12" Series 900	12" Series 900
Working Pressure:	3,000 p.s.i.	3,000 p.s.i.	3,000 p.s.i.

Casing and Cementing Details:

Size:	15"	10 $\frac{3}{4}$ "
Weight:	Conductor	40.5 lb.
Grade:	Pipe	H-40
Setting Depth:	84'	2582'
Cement Used:	70 sacks	400 sacks
Cemented To:	Surface	1800' (approximately)
Method Used:	Rig pumps	Rig pumps

Drilling Fluid:

The hole was drilled with water to a depth of 85 feet when conductor pipe was run. Natural gas was used as the drilling fluid to 4807 feet. Dry gas drilling was carried out to 630 feet, when water in the hole forced the adoption of gas/mist drilling. This technique was employed to 2855 feet. 10 3/4" casing was set at 2582 feet due to drilling fluid returns coming to surface outside cellar. A change to gas/water drilling was made at 2855 feet and this technique was employed to a depth of 3600 feet when gas/mist drilling was resumed and continued to 4807 feet. The hole was filled with salt water and drilling and coring continued to total depth (5215') using this fluid as the circulating medium.

Note on Salt Water Drilling:

This technique was used for the first time at Mereenie. A slug of light Gel mud was mixed and pumped down the hole prior to the change over. Salt and water were mixed in the tanks by gunning until a weight of 9.5 lbs./U.S. gallon was obtained, L.C.M. was added to the salt water to minimize fluid loss. A mixture of Potassium Bichromate (corrosion inhibitor) and Caustic Soda (p.h. control) was added regularly to protect down hole equipment. The reduction in drilling costs obtained by the use of salt water proved the usefulness of this technique under the prevailing conditions. Circulation rates were low due to low pump capacity which resulted in poor cleaning of the hole and inadequate samples and the rates should be increased on future holes where this technique is used.

Samples were poor above 2600 feet, reasonable to 4800 feet and very poor below this depth.

Drilling Fluid Properties:

Gas Drilling:

Choke size at supply wellhead. (East Mereenie No. 1).

<u>Depth</u>	<u>Size</u>	<u>Depth</u>	<u>Size</u>
85' - 1115'	10/64"	2631' - 2855'	8/64"
1115' - 1794'	12/64"	2855' - 3572'	6/64"
1794' - 2270'	14/64"	3572' - 3605'	10/64"
2270' - 2631'	16/64"	3605' - 4807'	14/64"

Separator on Line

84' - 1035'
2631' - 2690'

Mist Pump on Line

630' - 747'
880' - 2855'
3600' - 4807'

Injection Rate Whilst Mist Drilling:

<u>Depth</u>	<u>Rate</u>
630' - 2100'	8-10 barrels/hour
2100' - 2300'	12 barrels/hour
2300' - 2600'	14 barrels/hour

Injection Rate Whilst Mist Drilling (cont.):

<u>Depth</u>	<u>Rate</u>
2600' - 2855'	10-12 barrels/hour
3600' - 4807'	8-10 barrels/hour

Mist pump breakdown 747' - 880'; used rig pumps to slug hole with mist (5 barrels) at intervals.

Whilst gas/water drilling over the interval 2855' - 3600' water treated with foaming agent, corrosion inhibitor and p.h. control additive was pumped down the hole at a rate of 170 gallons/minute.

During salt water drilling 4807' - 5215' the average fluid properties were: Weight: 9.5 lbs/U.S. gallon, Viscosity: 28 Sec. Marsh, pH: 11.

Lost Circulation:

There was no lost circulation problem at East Mereenie No. 3. However, some fluid was lost to the formation after changing to salt water drilling at 4807 feet. Lost circulation materials were added to the system for a period and then removed after the zones of lost circulation had been plugged off.

Circulating Fluid - Additives Used:

The following materials were used in the circulating fluid.

Whilst Gas Drilling -

Tolfoam	225 gallons
Atlasol	90 gallons
Comprox	540 gallons
Bichromate	8400 lbs.
Caustic	3885 lbs.
Lime	1344 lbs.

Whilst Salt Water Drilling -

Magcogel	1500 lbs.
Bichromate	1960 lbs.
Caustic	1260 lbs.
Cellofas	280 lbs.
L.C.M.	47 sacks
Salt	61½ tons

Total weight of additives used was 18,629 lbs. (13,629 lbs. whilst gas drilling) together with 855 gallons of foaming agent, (used whilst gas drilling), 47 sacks of L.C.M. and 61½ tons of salt, (used whilst salt water drilling).

Water Supply:

Water was pumped to the rig through a 2" line from a water well approximately three miles distant. The water supply was augmented during drilling operations by the recirculation of produced water.

Plugging Back and Squeeze Jobs:

One squeeze job was undertaken at East Mereenie No. 3. Three cement plugs were run in an unsuccessful attempt to seal off water producing sandstones below the 10 $\frac{1}{4}$ " casing shoe.

Plugs for squeeze job at 2690 feet -

<u>Plug No.</u>	<u>Setting Depth</u>	<u>Cement Used</u>	<u>Slurry</u>	<u>Additives</u>	<u>Top Cement</u>	<u>Squeeze</u>
1	2620'	80 sacks	14.0	280 lb. CaCl ₂	2540'	300 p.s. w/gas
2	2630'	90 sacks	14.0	280 lb. CaCl ₂	Squeezed with plug No. 3	900 p.s. w/gas
3	2540'	60 sacks	14.0	210 lb. CaCl ₂	2400'	600 p.s. w/gas

In plugging back, one plug was set across the Pacoota formation before D.S.T. No. 5 was run.

A further four plugs were run at abandonment.

Plugs for abandonment, T.D. 5215 feet -

<u>Plug No.</u>	<u>Setting Depth</u>	<u>Cement Used</u>	<u>Slurry</u>	<u>Additives</u>	<u>Top Cement</u>	<u>Remarks</u>
4	5215'	120 sacks	14.5	140 lb. CaCl ₂	4920'	Cement off Pacoota Formation
5	4250'	120 sacks	14.5	-	-	Cement off Lower Stairway Formation
6	3500'	120 sacks	14.5	-	-	Cement off Upper Stairway Formation
7	2500'	250 sacks	14.5	-	2030'	Run across casing shoe
8	Surface	30 sacks	13.0	-	-	Surface plug

Note: Plugs Nos. 1, 2, 3 and 8 run using rig pumps.

Plugs Nos. 4, 5, 6 and 7 run using B.J. Services Cementing Unit.

Fishing Operations:

Four fishing jobs were carried out at East Mereenie No. 3.

1. 3007 feet: Twisted off non-magnetic drill collar below top tool joint connection. Top of fish 195 feet off bottom. Recovered fish first run with overshot.

2. 4051 feet: Bit No. 31 dropped from rotary table, lodged in B.O.P. spool. Removed B.O.P. stack and recovered fish.

3. 4807 feet: Pipe stuck in hole after connection, bit 30 feet off bottom, unable to rotate or circulate. Worked pipe until able to rotate, pipe came free after ten hours. Bit, float and bottom D.C. plugged with cavings.

Fishing Operations (cont.):

4. 5040 feet: Twisted off Bowen Jars at top of mandrel, top of fish 42 feet off bottom. Recovered fish first run with overshot.

A total of 31 hours was required for fishing operations at East Mereenie No. 3. (Approximately 2% of total time).

Ditch Cuttings:

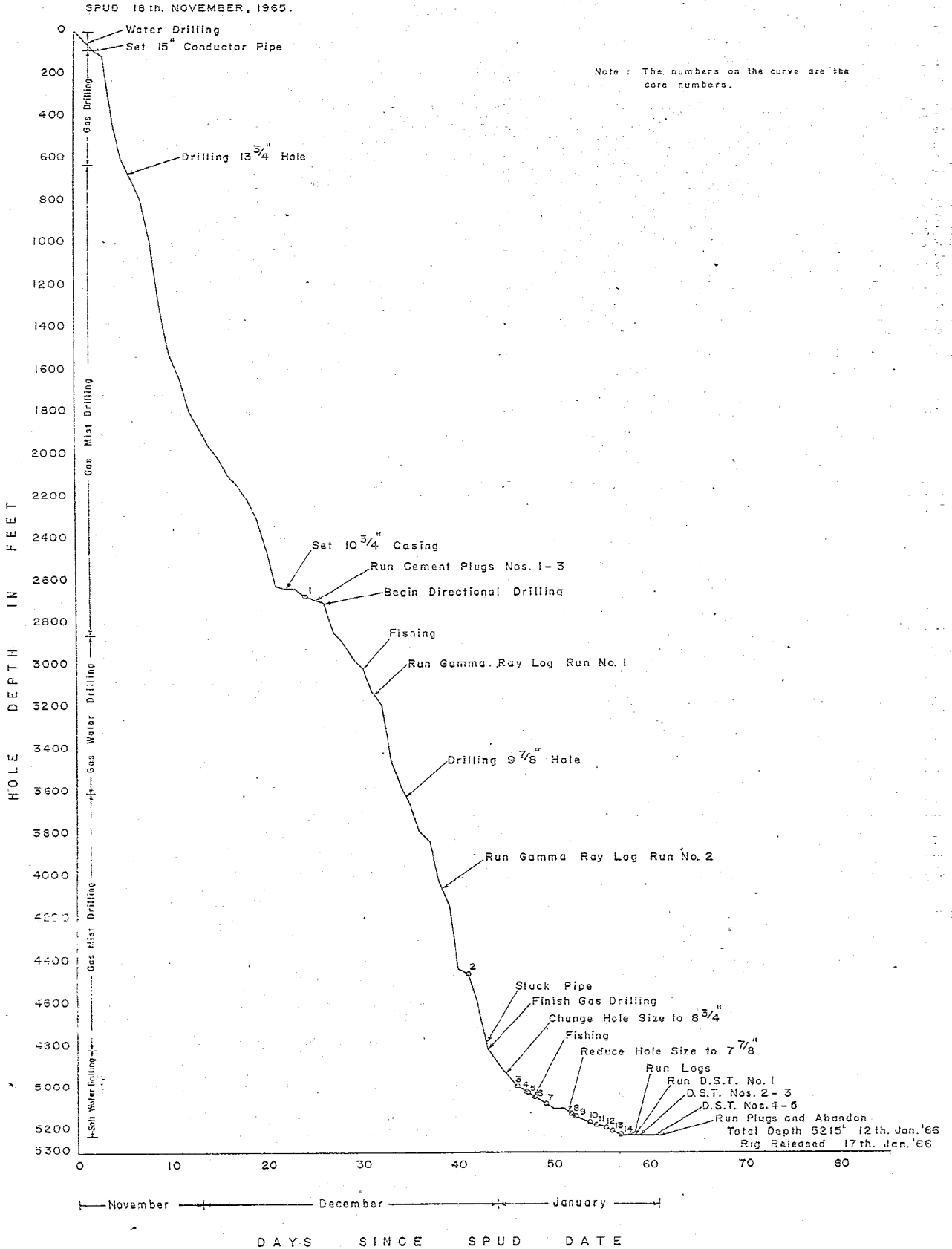
Cutting samples were collected at ten foot intervals from surface to 4930 feet. Sample conditions were extremely poor below this depth, however, an extensive coring programme was carried out below 4987 feet. Samples were collected when possible at random intervals below 4930 feet. Three sample cuts were made, one for the Northern Territory Administration, one for Magellan Petroleum (N.T.) Pty. Ltd., and one for Exoil (N.T.) Pty. Ltd.

Coring:

Cores were cut at the discretion of the wellsite geologist. Cores 1 and 2 were cut using a Hughes "J" type core barrel with Hughes 7 $\frac{7}{8}$ " hard formation core heads. All other cores were cut using a Christensen 60', 6 $\frac{1}{4}$ " O.D. by 3 $\frac{1}{2}$ " I.D. core barrel. Cores 3 - 7 were cut using 8 $\frac{11}{16}$ " diamond core heads and cores 7 - 14 were cut with 7 $\frac{13}{16}$ " diamond core heads, two conventional and six diamond core heads were used in coring operations. Cores were boxed and sent to Alice Springs for storage. One foot sandstone samples from cores 13 and 14 were sealed in cans or put in plastic containers and boxed. Samples were sent to Corelab in Brisbane for analysis. 185 $\frac{1}{2}$ hours, approximately 13% of total time, was spent on coring operations (including trips).

<u>Core No.</u>	<u>Interval</u>	<u>Amount</u>		<u>% Recovered</u>
		<u>Cored</u>	<u>Recovered</u>	
1	2660' - 2670'	10'	9'6"	95
2	4445' - 4452'	7'	5'6"	78
3	4987' - 5012'	25'	23'3"	93
4	5012' - 5013'	1'	Nil	0
5	5013' - 5040'	27'	25'6"	95
6	5040' - 5088'	48'	45'	94
7	5088' - 5097'	9'	7'9 $\frac{1}{2}$ "	86
8	5126' - 5145'	19'	19'	100
9	5145' - 5155'	10'	8'	80
10	5155' - 5166'	11'	8'10"	81
11	5168' - 5176'	8'	4'9"	59
12	5176' - 5178'	2'	5"	24
13	5178' - 5200'	22'	20'2"	92
14	5200' - 5215'	15'	12'10"	86

EXOIL (N.T.) PTY. LTD. EAST MEREENIE No. 3 TIME VERSUS DEPTH



Coring (cont.):

Total footage cored: 214'

Total footage recovered 190'6"

Percentage recovered: 90%

Core No. 1 was cut in Lower Mereenie Formation.

Core No. 2 was cut in Lower Stairway Formation.

Cores Nos. 3 - 14 were cut in Upper Pacoota Formation.

The 197 feet of Pacoota Formation cored represents 63% of Pacoota penetrated.

Electrical and Other Logs:

One complete logging run was made by Welex at total depth; in addition several short correlation runs with the Gamma-Ray were made.

<u>Run</u>	<u>Type</u>	<u>Interval Logged</u>
1	Gamma-Ray	Surface - 3110'
2	Gamma-Ray	2600' - 4024'
3	Gamma-Ray	3800' - 5194'
1	Acoustic-Velocity	2582' - 5206'
1	Guard	2582' - 5208'

A Caliper log was run at total depth. The log, however, did not function correctly due to high deviation of hole below 2700 feet. Logs were run on scales of 2" = 100' and 5" = 100'.

Drilling Time and Gas Log:

One foot drilling times were recorded on a Geolograph. Open hole evaluation and mud logging were carried out by the Exoil wellsite geologist using a Core Laboratories gas detector where applicable. Five foot drilling times and gas detection readings are shown on the composite log. Figure 2 shows the Time Versus Depth Graph.

Formation Testing:

Open hole evaluation was continuous during gas drilling operations. Both the upper and lower Stairway gave weak intermittent puffs of gas which were too small to measure. The well was within the oil column at the top of the Pacoota and consequently no major gas flow was obtained from this formation. Open hole tests at 3910 feet, 4596 feet were T.S.T.M.

The well was filled with salt water at 4807 feet and this used as circulating fluid to total depth.

Drill Stem Tests:

Five drill stem tests were run at East Mereenie No. 3. All measurements of gas flows were made using a pitot tube and manometer.

<u>Test No.</u>	<u>Interval</u>	<u>Recovery</u>	<u>Remarks</u>
1	5178'-5215'	22 barrels free oil	Stabilized flow 88 m.c.f.d. Gas to surface 20 minutes. Low permeability throughout interval. Approximate flow rate 70 barrels/day.
2	5072'-5215'	-	Test misrun.
3	5072'-5215'	1 barrel free oil	Stabilized flow 44 m.c.f.d. Gas to surface 65 minutes. Permeability low throughout interval.
4	4913'-5215'	1½ barrels free oil	Stabilized flow 62 m.c.f.d. Gas to surface 60 minutes. Permeability low throughout interval.
5	4724'-4920'	45' drilling fluid	No gas to surface, interval tight.

D.S.T.'s. Nos. 1 - 4 were run at total depth (5215') over the Upper Pacoota Formation. No shut-ins were taken during these tests due to tool failure on D.S.T. No. 1(I.S.I.).

D.S.T. No. 5 was run off the top of cement plug No. 4 (top at 4920') as a test of Sandstone section in the Horn Valley Formation.

Chokes were not used during drill stem tests, however, wash pipe in the Johnston 4 stage initial shut-in tool has an I.D. of 5/8" (effective choke). All pressures were recorded with Johnston Type T-1 pressure recorders. Details of D.S.T.'s. are in Appendix C.

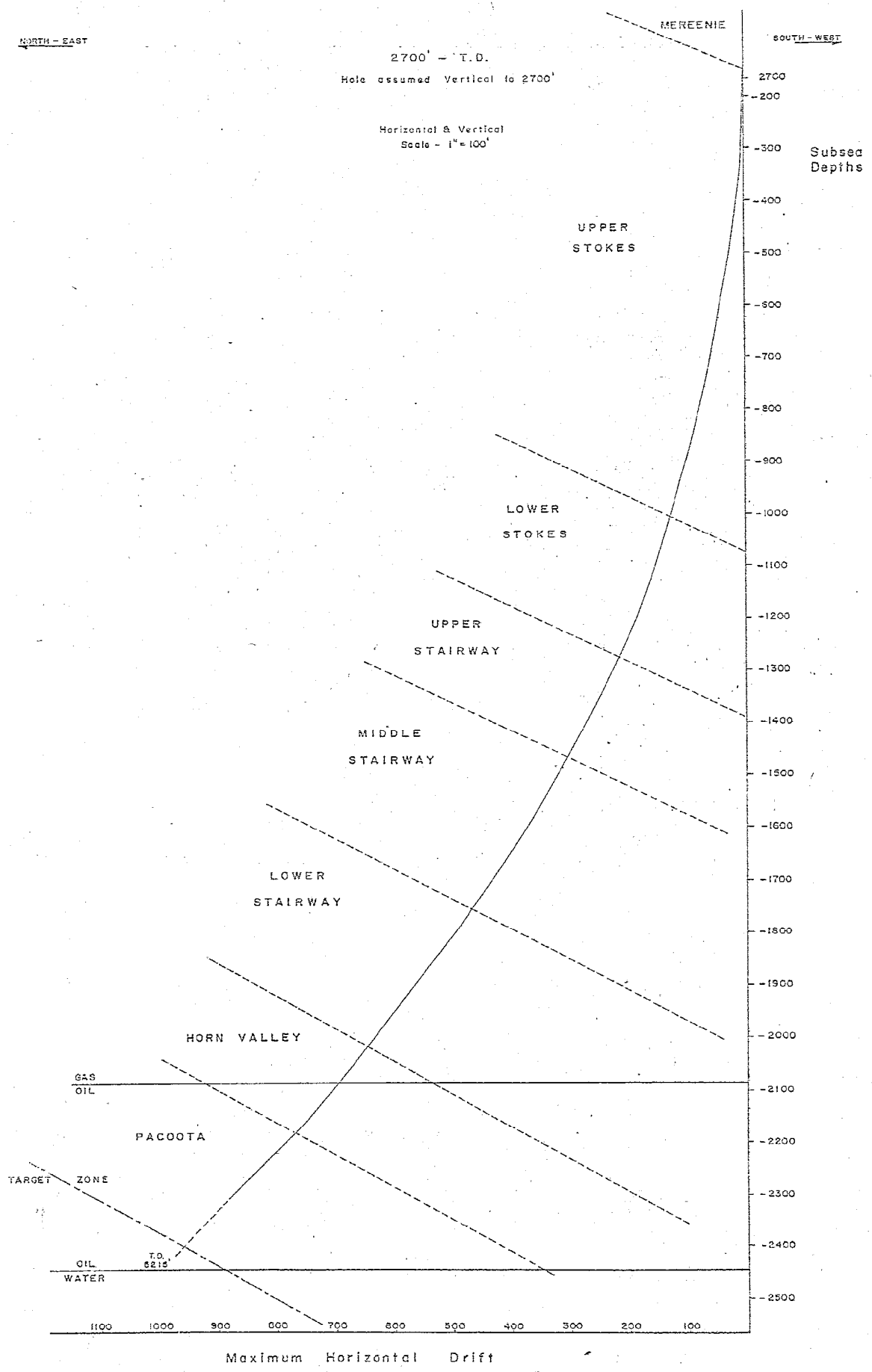
A total of 60½ hours, approximately 4% of total time was spent on testing.

Deviation Surveys:

Deviation surveys were run on a wire line, initially with a Lane Wells "Sure Shot" recorder. When deviation exceeded 7° surveys were run using an Eastman "single shot" instrument. Readings are tabulated below:

<u>Depth</u>	<u>Degree</u>	<u>Depth</u>	<u>Degree</u>	<u>Depth</u>	<u>Degree</u>
175'	3/4	1447'	1 1/4	2465'	3/4
260'	1 1/4	1545'	1 3/4	2550'	1
390'	1 1/4	1635'	1	2675'	1 1/4
475'	1 1/2	1725'	1	2705'	1
568'	1 3/4	1805'	1	2735'	1 3/4
666'	1 3/4	1865'	3/4	2785'	2 1/2
756'	3/4	1912'	1 1/4	2830'	3 1/4
825'	1 1/4	1970'	3/4	2865'	3 3/4
885'	1 1/4	2040'	3/4	2890'	4 1/2
968'	1 1/4	2100'	3/4	2910'	5 3/4
1060'	1 1/4	2160'	3/4	2945'	6 1/2
1120'	1 1/4	2200'	3/4	2970'	7
1180'	1 1/4	2255'	1 1/4	3000'	7 3/4
1266'	1	2310'	1 1/2	3045'	8 1/2
1360'	1 1/2	2370'	1	3070'	9

EAST MEREENIE No. 3 DEVIATION CURVE



Deviation Surveys (cont.):

<u>Depth</u>	<u>Degree</u>	<u>Depth</u>	<u>Degree</u>	<u>Depth</u>	<u>Degree</u>
3105'	9 $\frac{1}{2}$	3545'	14 $\frac{1}{4}$	4370'	33
3130'	9 $\frac{1}{2}$	3585'	14 $\frac{1}{2}$	4430'	33 $\frac{1}{4}$
3160'	9	3640'	16	4455'	34
3185'	9 $\frac{3}{4}$	3670'	17	4520'	35
3215'	10	3760'	20	4580'	34 $\frac{1}{2}$
3245'	10	3825'	23	4610'	34
3275'	10 $\frac{3}{4}$	3850'	24	4640'	34
3305'	11	3910'	25	4670'	34 $\frac{1}{2}$
3335'	12	3975'	26	4700'	35
3365'	12 $\frac{1}{2}$	4025'	26	4760'	36
3395'	13	4065'	26	4835'	38
3425'	13 $\frac{3}{4}$	4125'	27 $\frac{1}{4}$	4910'	42
3455'	14 $\frac{1}{2}$	4185'	28 $\frac{3}{4}$	4985'	42
3485'	14 $\frac{1}{2}$	4240'	30	5070'	39
3515'	14	4310'	32		

Directional Drilling:

East Mereenie No. 3 was a directionally drilled hole with maximum deviation in excess of 40° and horizontal drift almost 1000 feet from the vertical. The hole was virtually straight to 2700 feet at which point directional drilling was commenced.

Directional surveys were run on a wire line using an Eastman type "A" single shot directional survey instrument (1 $\frac{1}{2}$ " O.D.) run inside an Eastman type "A" single shot barrel (2 $\frac{1}{8}$ " O.D.). A non-magnetic drill collar was run in the drill string and directional surveys positioned inside the collar. The following directional surveys were run:-

<u>Depth</u>	<u>Reading</u>	<u>Remarks</u>
280	2 $\frac{0}{80}$ ° N. 15° W.	O.K.
560	5 $\frac{0}{80}$ ° Due N.	O.K.
750	0°	O.K.
920	0°	O.K.
1110	1 $\frac{0}{80}$ ° N. 35° E.	O.K.
1300	11 $\frac{0}{80}$ ° No bearing	Direction illegible
1480	11 $\frac{0}{80}$ ° No bearing	Direction illegible
1660	2 $\frac{0}{80}$ ° N. 25° E.	O.K.
1780	4 $\frac{0}{80}$ ° S. 37° E.	O.K.
1870	4 $\frac{0}{80}$ ° S. 10° E.	O.K.
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2755	21 $\frac{0}{80}$ ° N. 57° E.	O.K.
2895	51 $\frac{0}{80}$ ° N. 35° E.	O.K.
3070	9 $\frac{0}{80}$ ° N. 31° E.	O.K.
3260	10 $\frac{0}{80}$ ° N. 35° E.	O.K.
3440	13 $\frac{3}{4}$ ° N. 38° E.	O.K.
3610	15 $\frac{1}{2}$ ° N. 40° E.	O.K.
3810	22° S. 78° E.	? Instrument outside non magnetic drill collar.
4020	25° N. 45° E.	O.K.
4195	29 $\frac{1}{2}$ ° N. 55° E.	O.K.
4445	33 $\frac{1}{4}$ ° N. 53° E.	O.K.
4645	34° S. 12° E.	? Instrument outside non magnetic drill collar.
4835	38° N. 44° E.	O.K.
4910	42° N. 56° E.	O.K.

Directional Drilling (cont.):

Surveys above 2700 feet show the hole to be essentially vertical; the variation in direction being due to normal "corkscrew" effect. Below 2700 feet the hole was directionally drilled. Surveys indicate intended direction was achieved and maintained to total depth. Gradual clockwise shift with depth is due to rotation of the bit and is expected in this type of drilling. Deviation was achieved in this well initially by allowing normal up dip moveout and then applying techniques which continued this movement and controlled up dip deviation. The following table shows position of stabilizers with variable weights and R.P.M. to achieve this result.

<u>Depth (feet)</u>	<u>Hole Size</u>	<u>Deviation Range</u>	<u>Stabilizers Position</u>	<u>D.C. Size and No. Stands</u>	<u>WT Range</u>	<u>R.P.M. Range</u>
84-1893	13 $\frac{3}{4}$ "	0 $^{\circ}$ -1 $\frac{1}{2}$ $^{\circ}$	2 x 12 $\frac{1}{4}$ " 30' & 90' above bit.	2 x 8" 3 x 6 $\frac{1}{4}$ "	10-40	50-60
1893-1966	13 $\frac{3}{4}$ "	$\frac{3}{4}$ $^{\circ}$ -1 $\frac{1}{4}$ $^{\circ}$	1 x 12 $\frac{1}{4}$ " 90' above bit.	2 x 8" 5 x 6 $\frac{1}{4}$ "	50	60-65
1966-2620	13 $\frac{3}{4}$ "	$\frac{1}{4}$ $^{\circ}$ -1 $\frac{1}{4}$ $^{\circ}$	No stabil- izers	2 x 8" 5 x 6 $\frac{1}{4}$ "	50	60
2620-2841	9 $\frac{7}{8}$ "	1 $\frac{1}{4}$ $^{\circ}$ -3 $\frac{1}{4}$ $^{\circ}$	No stabil- izers	2 x 8" 5 x 6 $\frac{1}{4}$ "	10-15	50
2841-2879	9 $\frac{7}{8}$ "	3 $\frac{1}{4}$ $^{\circ}$ -3 $\frac{3}{4}$ $^{\circ}$	1 x 9 $\frac{7}{8}$ " 186' above bit.	2 x 8" 5 x 6 $\frac{1}{4}$ "	10-15	50-55
2879-3121	9 $\frac{7}{8}$ "	3 $\frac{3}{4}$ $^{\circ}$ -9 $\frac{1}{2}$ $^{\circ}$	2 x 9 $\frac{7}{8}$ " 35' & 150' above bit.	6 x 6 $\frac{1}{4}$ "	6-10	75-85
3121-3177	9 $\frac{7}{8}$ "	9 $\frac{1}{2}$ $^{\circ}$ -9 $\frac{3}{4}$ $^{\circ}$	No stabil- izers	1 x 8" 5 x 6 $\frac{1}{4}$ "	15	65
3177-3572	9 $\frac{7}{8}$ "	9 $\frac{3}{4}$ $^{\circ}$ -14 $\frac{1}{4}$ $^{\circ}$	No stabil- izers	6 x 6 $\frac{1}{4}$ "	30-35	50-60
3572-3665	9 $\frac{7}{8}$ "	14 $\frac{1}{4}$ $^{\circ}$ -17 $^{\circ}$	1 x 9 $\frac{7}{8}$ ", 4' above bit.	6 x 6 $\frac{1}{4}$ "	20-25	50
3665-3832	9 $\frac{7}{8}$ "	17 $^{\circ}$ -23 $^{\circ}$	1 x 9 $\frac{7}{8}$ ", 4' above bit.	6 x 6 $\frac{1}{4}$ "	20-30	50
3832-4596	9 $\frac{7}{8}$ "	23 $^{\circ}$ -34 $\frac{1}{2}$ $^{\circ}$	1 x 9 $\frac{7}{8}$ ", 4' above bit.	7 x 6 $\frac{1}{4}$ "	30-35	50
4596-4930	9 $\frac{7}{8}$ "	34 $\frac{1}{2}$ $^{\circ}$ -42 $^{\circ}$	1 x 9 $\frac{7}{8}$ ", 6' above bit.	7 x 6 $\frac{1}{4}$ "	35	50
4930-4987	8 $\frac{7}{8}$ "	42 $^{\circ}$	1 x 8 $\frac{7}{8}$ ", 6' above bit.	7 x 6 $\frac{1}{4}$ "	35	50

Began coring at 4987 feet. Ran stabilizer above core barrel whilst coring to maintain established deviation.

Deviation and directional drilling surveys required 83 hours at East Mereenie No. 3 (approximately 6% of total time).

Directional Drilling (cont.):

Non magnetic drill collar in string.

1794' - 2016'
 2064' - 2095'
 2879' - 3007' (twist off)
 3832' Trip with drill pipe
 4930' Trip with drill pipe

Drilling Observations:

A total of 1436 hours were required to drill East Mereenie No. 3. Total rotating hours on bottom (excluding coring) were 537½, approximately 38% of total time. A total of 34 bits drilled 5001 feet of hole. These bits were used as follows:-

<u>Fluid</u>	<u>No. of Bits</u>	<u>Footage Drilled</u>	<u>Hours Required</u>	<u>Average Penetration</u>	<u>Ft./Bit</u>
Gas	31	4790	496½	9.7 ft./hr.	155
Salt Water	3	211	41	5.1 ft./hr.	70

Average penetration rate for the hole (excluding coring) was 9.3 ft./hour. 30 conventional and 4 button bits were used in drilling operations. Penetration averaged 147 feet/bit. Average penetration rate for the 214 feet of hole cored was 2.0 feet/hour.

Gas drilling operations required 42 days to drill and core 4807 feet of hole, 14 days were required to core and drill the remaining 408 feet of hole.

Breakdown of Drilling Operations:

	<u>Footage</u>	<u>Hours Required</u>	<u>Ft./Hr.</u>	<u>No. of Bits</u>	<u>Ft./Bit</u>
Surface Hole	85	7.5	11.3	1	85
Gas drill 13¼" hole	545	40.5	13.5	2	272
Gas/mist drill 13¼" hole	1990	253.5	7.9	18	111
Gas/mist drill 9¾" hole	1425	107.75	13.2	5	285
Gas/water drill 9¾" hole	745	87.5	8.5	5	149
Salt water drill 9¾", 8¼" and 7¾" hole	211	41.0	5.1	3	70

G E O L O G Y

Previous Work:

Geological:

The well was programmed as a south flank test of the Mereenie Anticline. A surface location was originally picked from available geological and geophysical information some 800 feet south-west of the Mereenie/Pertnjara contact on the south flank of the Anticline. After consideration by the partners, the well was sited 1100 feet down dip from the Mereenie/Pertnjara