

EAST MEREENIE NO. 13

WELL COMPLETION REPORT

PETROLEUM LEASE NO. 5, NORTHERN TERRITORY

Oilmin N.L.,
27 Turbot St.,
Brisbane.

June, 1984.

NORTHERN TERRITORY
GEOLOGICAL SURVEY

DEPT. OF MINES & ENERGY
DO NOT REMOVE



P00020

PR 84/40

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SUMMARY

SUMMARY

East Mereenie No. 13 is the eleventh well of a 20 well appraisal programme to delineate and develop the Mereenie Oilfield. It was drilled to test the reservoir potential of the middle to lower Pacoota P3 sub-unit reservoir. A secondary objective was to provide information on the distribution of potential Pacoota P1 reservoir sands.

The well is located approximately 1.74 miles south west from East Mereenie No. 5. Due to the topography the well could not be located at the optimum surface location. Thus the well was deviated from below the 10-3/4" casing shoe at 2496 feet to intersect the target horizon the P3-120/130 sands at approximately -2250 feet MSL.

The well was spudded on the 1st February, 1984 at 0930 hours using the OIME SL 750 Rig No. 1 and reached a total depth of 5445 feet on the 12th March 1984.

The well was drilled with air and air foam to the 10-3/4" casing shoe at 2496 feet in the Upper Stokes Siltstone. A maximum influx of water was estimated at 1700 bbls/hr. at 1835 feet with the initial influx occurring at 466 feet. After setting the 10-3/4" casing, the deviation programme was initiated in 9-7/8" hole with water. At 4014 feet the hole had been deviated to 33 degrees and the circulation medium was changed from water to air and air/mist. The 9-7/8" hole was drilled ahead to 4024 feet with air where gas influx from the Lower Stairway Sandstone necessitated mudding up. The 9-7/8" deviated hole was continued to 4177 feet with water based mud where the dipmeter log was run. After electric logging, 7-7/8" deviated hole was drilled to 4796 feet in the Pacoota P2 sub-unit with a 10.4 ppg water based mud. At this point the hole was displaced with oil based mud and the well continued in 7-7/8" hole to 5371 feet in the Pacoota P4 sub-unit. At this stage the hole deviation was approximately 40° from the vertical. After logging, it was obvious that a rat hole would need to be drilled to accommodate the tubing conveyed perforation system, if it was to be dropped clear of the perforated intervals. Consequently, after logging, the hole was deepened to 5435 feet TD.

No cores or drill stem tests were attempted in this hole because of the high risk of getting stuck in the hole where angles of deviation of the magnitude of 40° are present.

Neither the gas/oil nor oil/water contact was detected. After running 2-3/8" tubing and perforating using the Geovann tubing conveyed perforation guns, the well was swabbed to induce oil to flow to surface. After swabbing the well for some 12 hours only intermittent flows of oil resulted.

The perforated interval included all the porous middle and lower P3 sub-unit reservoir sandstones. The entire interval is oil bearing and petrological evidence indicates the eventual flow rate of 30 BOPD does not reflect the full potential of the reservoirs in this well.

The rig was released on the 18th March, 1984 at 0930 hours. The status of the well is suspended awaiting recompletion.

1. GENERAL DATA

1. GENERAL DATA:

Well Name and Number: East Mereenie No. 13

Operator: Oilmin N.L.

Beneficial Interest Holders: Oilmin N.L.
Canso Resources Limited
Flinders Petroleum N.L.
The Moonie Oil Company Limited
Magellan Petroleum Australia Limited
Petromin N.L.
Transoil N.L.

Petroleum Title: Petroleum Lease No. 5.

District: Alice Springs, Northern Territory.

Location: Latitude: 24°01'23.5"S
Longitude: 131°35'21"E
Shot point 2079; Line MM83-20S

Elevation: Ground level: 2439 ft. MSL
Kelly bushing: 2459 ft. MSL

Total Depth: 5445 ft. (driller)

Spudded: 1st February, 1984

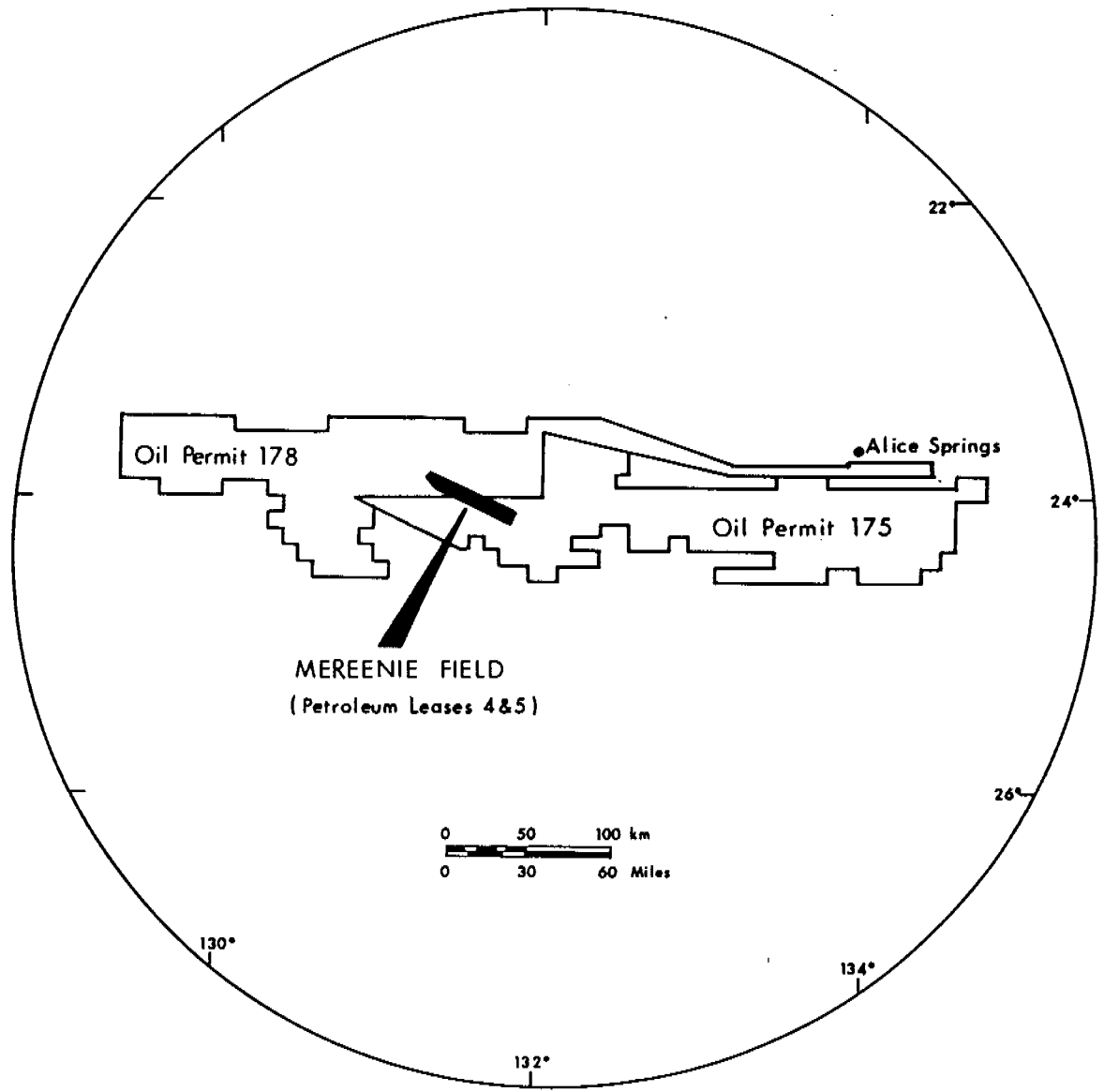
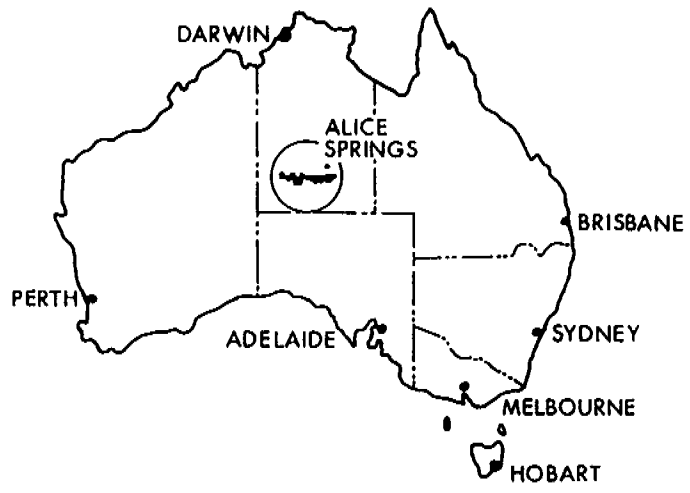
Rig Released: 18th March, 1984 0930 hrs.

Total days drilling: 41

Well status: Completed in the P3 reservoir for oil production. Suspended awaiting recompletion.

Geological Formation Tops:

Parkes Siltstone	Surface
Mereenie Sandstone	93 feet
Carmichael Sandstone	1879 feet
Stokes Siltstone	2154 feet
Stairway Sandstone	3210 feet
Horn Valley Siltstone	4075 feet
Pacoota Sandstone	4313 feet



LOCATION MAP

MEREENIE OIL & GAS FIELD

WELL LOCATIONS

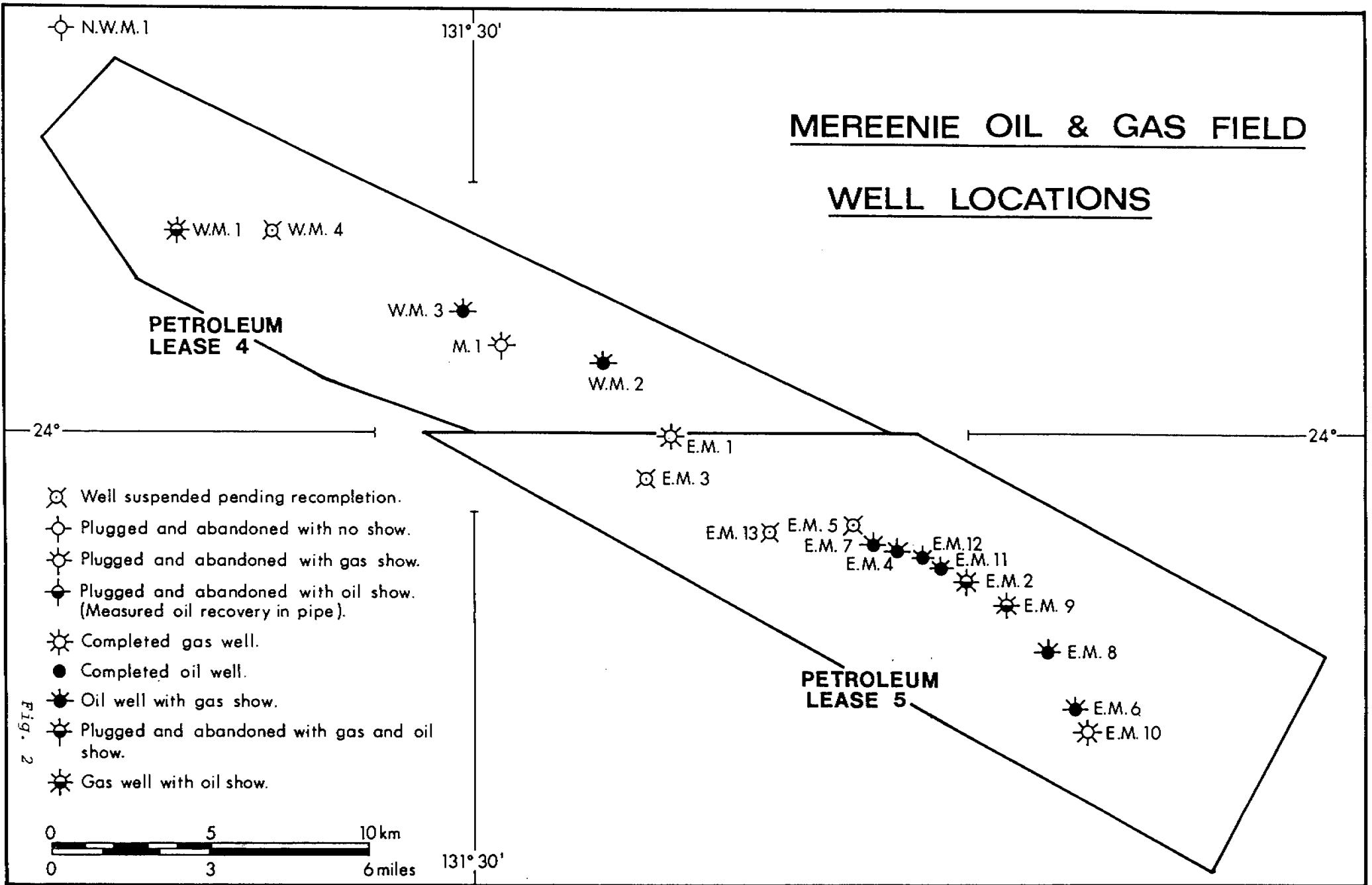


Fig. 2

0455

2. ENGINEERING DATA

2. ENGINEERING DATA:

2.1 Rig Data

Drilling Contractor: Mereenie Joint Venture Partners

Drilling plant: Make: OIME
Type: Model SL-5 (SL-750)
Rated
Capacity: 12,500 ft. with 4-1/2" OD drill pipe.
Motors: 3 - Caterpillar D-3408 (compounded) 385 BHP each.

Mast: Make: Parco Model P-131
Type: Cantilever
Rated
Capacity: 550,000 lbs (10 lines)

Pumps: Make: 2 - Continental Emsco Triplex
Type: F-800 - V-belt driven from compound
Size: 6-3/4" x 9"

Rotary table: Make: IDECO LR-275 (27-1/2")
Capacity: 570 tons dead load

Blowout preventors: Make: Cameron Cameron
Model: "U" Double Gate "D" Annular
Size: 13-5/8" 13-5/8"
Rating (PSI): 5000 5000

Choke manifold: Make: McEvoy
Size & Type: 3" - 5000 PSI W.P. choke and kill with one positive and one adjustable choke and Cameron 3" - 5000 HCR flanged valve.

Mud tanks: Size & Capacity: 3 tank system - returns, settling and suction. Total capacity: 777 barrels.

2.1 Rig Data (contd.)

Shale Shaker:	Make:	Brandt
	Type:	Single dual screen.
Mud mixers:	Make:	4-Brandt heavy duty
	Type:	32" blade - electrically driven
Desander:	Make:	DEMCO
	Model:	84, comprising 4 X 8" cones.
	Capacity:	540 to 700 GPM electrically driven.
Desilter:	Make:	DEMCO
	Model:	412-H, comprising 12 X 4" cones.
	Capacity:	960 to 1080 GPM electrically driven.
Drill pipe:	4-1/2" OD 16.6 lbs/ft. API Grade "E" . Seamless range 2 - 18° taper, internally coated with 6-1/4" OD by 3-1/2" tool joints, hardbanded, 4-1/2" X H connections.	
Drill collars:	6 X 8" OD 2-13/16" ID x 31 ft. 6-5/8" reg. connections. 12 x 7" OD 2-13/16" ID x 31 ft. 4" IF connections. 27 X 6-1/2" OD 2-1/4" ID x 31 ft. 4" IF connections. 3 x 4-1/8" OD 2" ID x 31 ft. 3-1/2" reg. connections.	
Air drilling equipment:		
Air compressors:	Make:	3 only Sullair units.
	Model:	900/250 D.U.
	Capacity:	900 CFM at 250 PSI each.
Air compressor booster:	Make:	Knight Industries. KOA Model 2.
	Capacity:	245 PSI inlet and 1400 PSI discharge at 1500 CFM.

2.1 Rig Data (contd.)

<i>Diverter:</i>	<i>Make:</i>	<i>Shaffer</i>
	<i>Model:</i>	<i>Type 79 rotating BOP.</i>
	<i>Rating:</i>	<i>3000 psi.</i>
<i>Injection pumps:</i>	<i>Make:</i>	<i>2 only Aldrich</i>
	<i>Model:</i>	<i>not specified</i>
	<i>Capacity:</i>	<i>8 GPM at 1600 psi each powered by SCR variable speed electric motors.</i>

2.2 Drilling Data

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

Date	E.T.D. (ft.)	Details of Operations, Descriptions and Results
1/2/84	48	Moved in and rigged up Mereenie OIME SL 750 Rig No. 1. Spudded at 2030 hrs. Air and foam drilled 17-1/2" hole to 48 ft.
2/2/84	158	Drilled 17-1/2" hole to 158 ft. Air and foam injection rate of foam 7 bbls/hr.
3/2/84	168	Ran and cemented 15" conductor pipe. Drilled 13-1/2" hole to 168 ft. Air dusting.
4/2/84	466	Drilled 13-1/2" hole to 466 ft. Water influx at approx. 466 ft.
5/2/84	777	Drilled 13-1/2" hole to 777 ft. Foam injection rate 4-6 bbls/hr after air dusting ceased at 466 ft. Water returns 100 bbls/hr.
6/2/84	1083	Drilled 13-1/2" hole to 1083 ft. Foam injection rate 5-6 bbls/hr. Water returns 400 bbls/hr.
7/2/84	1290	Drilled 13-1/2" hole to 1290 ft. Foam injection rate 8 bbls/hr.
8/2/84	1473	Drilled 13-1/2" hole to 1473 ft. Foam injection rate 9 bbls/hr. Water returns 480 bbls/hr.
9/2/84	1580	Drilled 13-1/2" hole to 1580 ft. Foam injection rate 8 bbls/hr. Water returns 650 bbls/hr. Reamed hole from 1545 to 1580 ft.
10/2/84	1714	Drilled 13-1/2" hole to 1714 ft. Foam injection rate 13 bbls/hr. Water returns 660 bbls/hr.
11/2/84	1835	Drilled 13-1/2" hole to 1835 ft. Foam injection rate 13 bbls/hr. Water returns 1700 bbls/hr.

Well: ... East Mereenie No. 13 Field: Mereenie

Date	E.T.D. (ft.)	Details of Operations, Descriptions and Results.
12/2/84	2060	Drilled 13-1/2" hole to 2060 ft. Reamed hole from 1756 to 1835 ft. Foam injection 12 bbls/hr. Water returns 1000 bbls/hr.
13/2/84	2377	Drilled 13-1/2" hole to 2377 ft. Foam injection and water returns steady.
14/2/84	2469	Drilled 13-1/2" hole to 2469 ft. Reamed hole from 2285 to 2418 ft. Foam injection rate 13 bbls/hr. Water returns 1000 bbls/hr. Survey at 2442' = 3°.
15/2/84	2500	Drill 13-1/2" hole to 2500 ft. Foam injection rate 10 bbls/hr. Water returns 1000 bbls/hr. Survey at 2473 ft. = 3 1/4°. Strap out of hole, rig to run casing. Run 10-3/4" casing, 163 joints, 40.5 bbls/ft. J55, landed at 2496 ft. Cemented with 314 sacks of class A cement and 0.2% HR4 slurry weight 15.4 lbs per gallon, displaced and bumped plug with 1000 psi, ran cement basket at 200 ft. with 140 bags of Class A const/cement and cement to surface.
16/2/84	2515	Nipple up BOPs. Pressure test blind rams to 1000 psi. Pressure test choke manifold and HCR valve to 1000 psi. Rig flare line and lines to separator. Make up bit. Tag cement plug at 2454'. Drill out cement plug. Pressure test pipe rams and annular preventor to 1000 psi. Drill out cement at shoe. Drilled 9-7/8" hole to 2515 ft. with water.
17/2/84	2627	Drilled 9-7/8" hole to 2627 ft. Survey 2610 ft. - 6-1/4°.
18/2/84	2683	Cut core No. 1, 2627 to 2632 ft. recovered nil. Cut Core No. 2, 2632 to 2637 ft. recovered 2 ft. 10". Reamed 2627 to 2637 ft. Water drilled 9-7/8" hole to 2683 ft.
19/2/84	3154	Drilled 9-7/8" hole to 3154 ft. Survey at 2817 ft. - 11-1/2°.
20/2/84	3286	Drilled 9-7/8" hole to 3286 ft. Survey at 3189 ft. - 21-3/4° @ N 10°E.

Well: East Mereenie No. 13 Field: Mereenie

Date	E.T.D. (ft.)	Details of Operations, Descriptions and Results.
21/2/84	3468	Drilled 9-7/8" hole to 3468 ft. Survey at 3328 ft. - 25.7° @ N 08E.
22/2/84	3681	Drilled 9-7/8" hole to 3681 ft. Survey 3646 ft. - 33.6° @ N 5.5 E. POH. Changed BHA to maintain deviation.
23/2/84	4014	Unload hole with air at 3681 ft. Air/mist drill 9-7/8" hole to 4014 ft. Survey at 3902 ft. - 33° @ N 06.5E.
24/2/84	4034	Drill 9-7/8" with air to 4024 ft. Gas flow from Lower Stairway Sandstone measured at 501,000 mcf/d. Displace hole with water based mud. Circulate and condition mud to 10.2 ppg. Drill 9-7/8" hole to 4043 ft.
25/2/84	4120	Drill 9-7/8" with water based mud to 4120 ft. Circulate and clean hole. POH Bit No. 12.
26/2/84	4177	Layout BHA. Run Gearhart dipmeter log. Make up BHA for 7-7/8" hole. RIH Bit No. 13. Drill 7-7/8" hole to 4177 ft.
27/2/84	4326	Drill 7-7/8" hole to 4326 ft. POH to change BHA. RIH with bit No. 14.
28/2/84	4462	Drill 7-7/8" hole to 4401 ft. POH Bit No. 14. Change BHA and RIH with Bit RR 14. Drill 7-7/8" hole to 4462 ft.
29/2/84	4591	Drilled 7-7/8" hole to 4591 ft. POH. Bit No. 14. Change bit and bottom hole assembly. RIH Bit No. 15.
1/3/84	4715	Ream 4500 ft. to 4591 ft. Drill 7-7/8" hole to 4700 ft. POH Bit No. 15. RIH with bit No. 16. Ream 4670 to 4700 ft. Drill 7-7/8" hole to 4715 ft.
2/3/84	4796	Drill 7-7/8" hole to 4796 ft. Change over from fresh water bentonite mud to oil base mud.
3/3/84	4847	Condition mud. POH Bit No. 16. Change BHA. RIH Bit No. 17. Drill 7-7/8" hole to 4847 ft.

Well: *East Mereenie No. 13* Field: *Mereenie*

Date	E.T.D. (ft.)	Details of Operations, Descriptions and Results.
4/3/84	4917	Drill 7-7/8" to 4917 ft. POH to change stabilizers and BHA.
5/3/84	4984	RIH with Bit No. 18RR. Ream 4887 to 4917 ft. Drill 7-7/8" hole to 4984 ft.
6/3/84	5018	Drill 7-7/8" hole to 4987 ft. POH to change stabilizers and bit. RIH with Bit No. 19. Ream from 4843 to 5001 ft. Drill 7-7/8" hole to 5018 ft.
7/3/84	5071	Drill 7-7/8" hole to 5069 ft. POH to change Bit No. 19 and stabilizer rubber. RIH with Bit No. 20. Ream 5050 to 5069 ft. Drill 7-7/8" hole to 5071 ft.
8/3/84	5176	Drill 7-7/8" hole to 5176 ft.
9/3/84	5228	Drill 7-7/8" hole to 5204 ft. POH Bit No. 20. RIH with Bit No. 21. Ream from 5170 to 5204 ft. Drill 7-7/8" hole to 5228 ft.
10/3/84	5330	Drill 7-7/8" hole to 5330 ft.
11/3/84	5371	Drill 7-7/8" hole to 5331 ft. POH Bit No. 21. Strap out. Run Gearhart, GR, CNL, CDL, DIL. RIH with Bit No. 22. Drill 7-7/8" hole to 5371 ft.
12/3/84	5445	Drill 7-7/8" hole to 5445 ft.
13/3/84	5445	POH with Bit No. 22. Run Velocity Survey. RIH to circulate and condition mud. Pump pill. Layout pipe.
14/3/84	5445	Run 5-1/2" casing to 5443 ft. Pre-flush with 70 bbls EZ-SPOT and then 10 bbls SAAP. Cement with 203 sacks Class A then 403 sacks Class G treated with Halad 22A and CFR-2. Set casing slips and nipple down BOPs.
15/3/84	5445	Cut casing, nipple up BOPs. Test B section to 1200 psi. RIH with 2-3/8" tubing and casing scraper. Circulate hole clean. Displace hole with 9.1 ppg KCl packer fluid. POH with tubing.

Well: East Mereenie No. 13 Field: Mereenie

Date	E.T.D. (ft.)	Details of Operations, Descriptions and Results.
16/3/84	5445	Run Gearhart CBL. Run Geovan perforating system and tubing. Run Gearhart. Found obstruction. POH with tubing. RIH with tubing. Run Gearhart.
17/3/84	5445	Run Gearhart. Locate radioactive marker joint. Pick up required pup joints. Set packer. Drop perforating gun actuation bar. Perforate and flow well. No oil to surface. Swab with Gearhart.
18/3/84	5445	Swab well and observe. Rig down Gearhart. Rig released at 0930 hours.

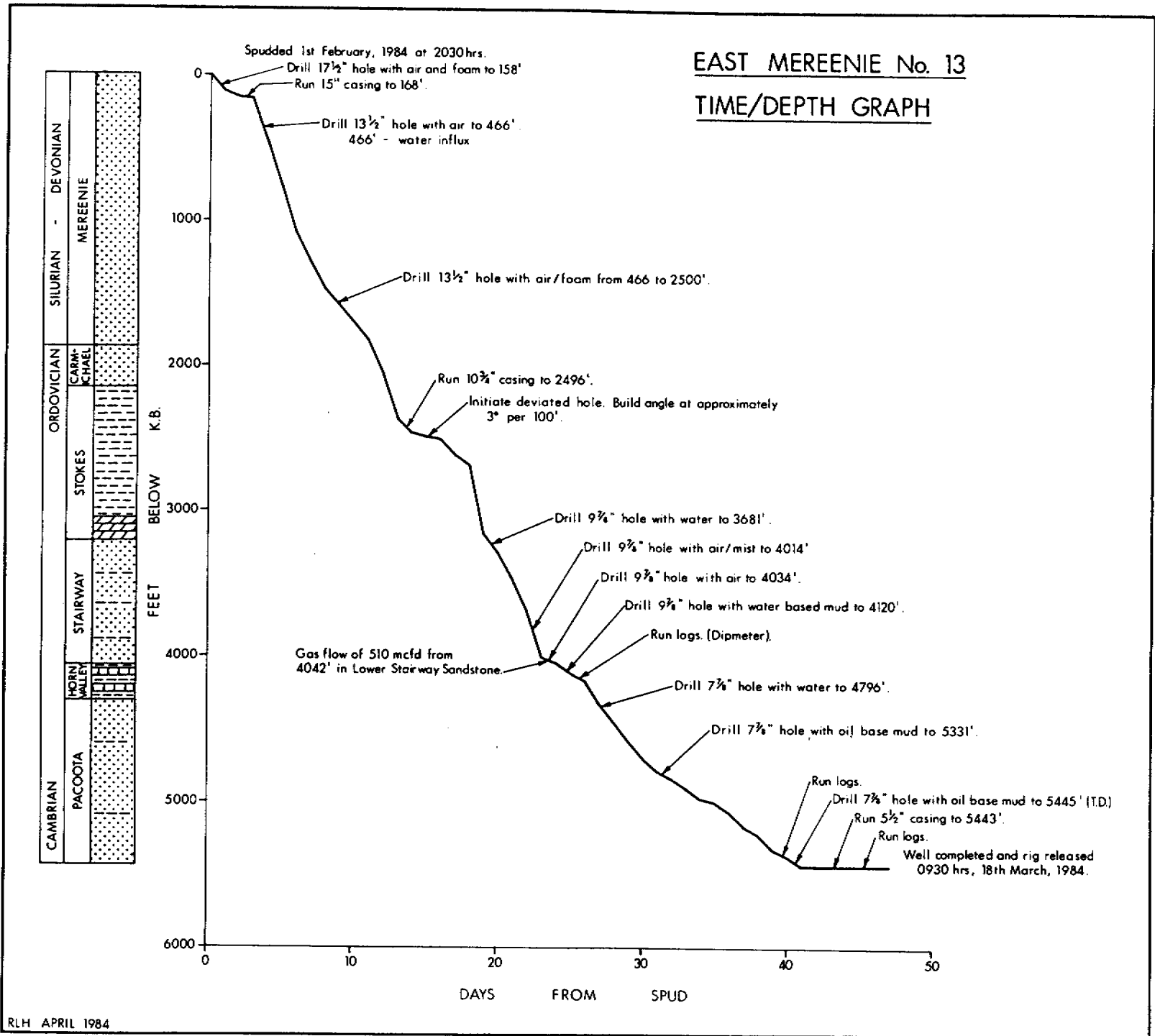


Figure 3

2.3 Hole Sizes and Depths

17-1/2" to 158 feet
13-1/2" to 2500 feet
9-7/8" to 4120 feet
7-7/8" to 5445 feet

2.4 Casing and Cementing Record

15" conductor: Weight: not specified
 Grade: welded rolled 1/2" wall
 Shoe depth: 158 feet
 Cement used: 82 sacks Class 'A'
 Additives: 2% Calcium Chloride
 Slurry weight: 15.5 ppg

10-3/4" casing: Weight: 40.5 lb/ft.
 Grade/Connections: H40, ST & C
 No. of Joints: 163
 Total Length: 2501 feet
 Shoe Depth: 2496 feet
 Cement Used: 314 sacks Class 'A'
 Additives: 0.2% HR4
 Slurry Weight: 15.4 ppg
 Top casing cement by pumping 140 sacks
 Class A cement neat to annulus. Cement
 petal basket at 200 feet. Cement to
 surface.

5-1/2" casing: Weight: 14 lb/ft
 Grade/Connections: K55, Buttress
 No. of Joints: 137 + pup
 Total Length: 5448 feet
 Shoe Depth: 5443 feet
 Cement used: 203 sacks Class A
 403 sacks Class G
 Additives: 0.5% Hallad 22A
 0.75% CFR-2
 Slurry weight: 15.4 ppg

2.5 Drilling Fluids

A summary of the drilling fluid properties is shown below -

WELL : EAST MEREENIE NO. 13 Drilling Fluids TABLE 1

DATE	DEPTH (feet)	WEIGHT (ppg)	VISC (sec)	W.L. (cc)	PH	SALT (ppm)	OIL (%)	SAND (%)	SOLIDS (%)	REMARKS
1/2/84	158								INJECTION RATE	FOAM/AIR
2/2/84	168								BBL/HR	AIR
3/2/84	466					INFLUX BBL/HR				AIR/DUSTING
4/2/84	777					100			4-6	AIR/FOAM
5/2/84	1083					400			6	"
6/2/84	1290								8	"
7/2/84	1473					475			9	"
8/2/84	1580					650			8	"
9/2/84	1714								8	"
10/2/84	1815					1700			12	"
11/2/84	2060					1000			12	"
12/2/84	2377					1000			12	"
13/2/84	2469					1000			13	"
14/2/84	2500					1000			10	"
										RUN 10-3/4" CASING.
15/2/84	2515									DRILL OUT CEMENT
16/2/84	2627					BUILD DEVIATION WITH WATER MUD				WATER MUD
17/2/84	2637									"
18/2/84	3154									"
19/2/84	3276									"
20/2/84	3402									WATER GEL
21/2/84	3681									"
22/2/84	4014								10	AIR
23/2/84	4043	10.2	42							AIR/WATER MUD
24/2/84	4120	10.7	47					1	SOLIDS	WATER BASED MUD
25/2/84	4177	10.7	48	5	8.5	1,000	-	1/4	13	"
26/2/84	4326	10.5	46	5	9.0	1,000	-	1/2	13	"
27/2/84	4462	10.5	50	7	9.5	1,000	-	1-1/2	15	"
28/2/84	4591	10.5	50	7.0	9.0	1,000	-	1/2	15	"
29/2/84	4715	10.4	55	7	9.0	1,000	-	3/4	18	"
1/3/84	4796	10.4	46	7	9.5	1,000	-	1/4	-	"
				OIL WATER RATIO	STABILITY					
2/3/84	4847	10.5	55	75.25	550	-	-	1/2	-	OIL BASED MUD
3/3/84	4917	10.7	53	75.25	550	170,000	59	1	-	"
4/3/84	4984	10.5	59	79.21	550	175,000	67	1/2	-	"
5/3/84	5001	10.6	65	75.25	-	175,000	-	1/2	-	"
6/3/84	5071	10.9	55	77.23	560	194,000	18	1/2	10	"
7/3/84	5176	10.4	56	75.25	670	300,000	18	3/4	10	"
8/3/84	5228	10.5	58	80.20	680	300,000	18	3/4	12	"

BIT RECORD																													
WELL N° EAST MEREENIE NO. 13					FIELD MEREENIE					PETROLEUM LEASE NO. 5					STATE NORTHERN TERRITORY			LOCATION LATITUDE: 24°1'23.5"S LONGITUDE: 131°35'21"E											
OPERATOR OILMIN N.L.				CONTRACTOR MJVP			RIG OIME SL750			RIG SUPERVISOR YOUNG				COMPILED BY WARNER			SPUD 1st February 1984		REACHED T.D. 12th March, 1984										
PUMPS 2 X EMSCO TRIPLEX				TYPE F-800	LINER 6-3/4 X 9			PUMP POWER			AIR COMPRESSORS 3 SULLAIR UNITS			CAPACITY 3 x 900 @ 250 psi		AIR BOOSTER K.O.A. NO. 2		CAPACITY 245 1400 psi @ 1500 CFM			DRILLING FLUID GAS MIST/OIL BASE MUD								
DRILL PIPE 4 1/2" OD		TYPE E 18° TAPER		THREAD 4 1/2 X H		TOOL JOINTS 6 1/2" OD 3 1/2" ID		DRILL COLLARS N°6/12/27/3:			G.D. 8" / 7" / 6 1/2" / 4-1/8":					I.D. 2-13/16" / 2-13/16" / 2 1/2" / 2":		CONNECTIONS 6-5/8" R / 4 1/2" IF / 4" IF / 3 1/2" R			DRAWWORKS POWER 3 CAT D-3408								
NO.	SIZE	MAKE	TYPE	JET 32ND IN	SERIAL	DEPTH OUT	FEET	HOURS	FT/MIN	ACCUM. DRLG. MRS.	WT. 1000 LBS.	R P M	VERT DEP	PUMP PRESS	PUMP OPER- ATION	S P M		MUD			DULL COND.				FORMATION REMARKS				
																1	2	WT.	VIS.	W.L.	T	B	G	OTHER					
1RR	17-1/2	HTC	OSC-IGJ	OPEN	684	158	158	21.75	7.2	21.75	5	50	.75	100	AIR										6	8	1	MEREENIE	
2	13-1/2	HTC	X33	OPEN	Z5756	774	616	38.5	16	60-25	10	60	.25	100	AIR										4	2	1/16		
3	13-1/2	HTC	X33	OPEN	Z5768	1264	490	40.5	12	100-75	15	80	.25	100	AIR										4	3	1/16		
4	13-1/2	HTC	X33	OPEN	Z5755	1580	316	45.25	6.9	146	30	150	.5	150	AIR										7	4	1/4		
5	13-1/2	HTC	X33	OPEN	Z5766	1835	255	43.22	5.9	188-75	25	80	.1	175	AIR										7	8	1/8	CARMICHAEL	
6	13-1/2	HTC	X33	OPEN	Z5761	2418	583	50	10.5	238-75	30	60	2	400											7	8	1/4	STOKES	
7	13-1/2	HTC	X33	OPEN	Z5746	2500	82	14.5	5.6	257-5	10	30	3.5	475											2	2	I		
8	9-7/8	HTC	X3A	OPEN	F2-754	2550	50	4.75	10.2	257-25	20	60	4.5	500											8	4	I		
9	9-7/8	HTC	J33	16	XD488	2627	77	2.25	34.2	259-5	50	52	6.5	600											1	1	I		
C1	7 7/8	ACC	EH *	-	22189	2632	5	2.5	2	262	7	65		400														35% WORK	
RRC1	7 7/8	ACC	EH *	-	22189	2637	5	5.5	1.66	267-5	15	70		425														35% WORK	
RR9	9-7/8	HTC	J33	16	XD488	3074	437	13.5	19.8	281-5	55	52	11	675											2	1	I		
RR9	9-7/8	HTC	J33	16	XD488	3271	197	6.25	31.5	287-25	55	52	22	700											3	1	I		
C2	7 7/8	CHRIS	C23	-	1440175	3286	15	6.0	2.5	293-25	14	70		625														10% WORK	STAIRWAY
10	9-7/8	HTC	J33	16	XC389	3402	116	7.5	17.5		50	70	22	800											7	3	1/4		
11	9-7/8	HTC	J44	16	AT692	3681	279	18.75	13.4	316-25	45	60	34	925											2	3	I		
12	9-7/8	HTC	J44	16	AT753	4120	439	39.5	3.18	358-75	45	60	33	700											8	6	1/8	STAIRWAY HORN VALLEY	
13	7-7/8	HTC	J44	16	VS326	4326	206	24	8.5	282-75	45	60	33	1150											2	1	I		
14	7-7/8	HTC	J44	16	VS398	4591	265	33.75	7.8	316-5	40	70	36	1200											8	6	1/8	PACOOTA P1	
15	7-7/8	HTC	J44	16	VN615	4700	109	14.5	7.5	331	40	65	37	1300											6	3	1/8		
16	7-7/8	HTC	J55R	16	WC086	4796	96	16	6	347	30	65	38	1175											6	4	I	PACOOTA P2	
17	7-7/8	HTC	J44	16	VS902	4917	121	31	3.9	387	45	65	42	1450			110			10.5	62			6	2	1/16			

TABLE 2
Bit Record

2.7 Hole Deviation

It was necessary to site the East Mereenie No. 13 well down dip from the expected target of the P3-120/130 sandstone at 4734 feet TVD. The expected bottom hole angle and horizontal moveout was 17.5° and 750 feet respectively. Formation dip was estimated at 24° from seismic.

Whilst drilling, identification of formation tops showed that the deviation programme needed to be revised and that a greater hole angle of approximately 33° was needed to intersect the target.

After a dipmeter survey at 4120 feet, in the Horn Valley Siltstone, showed formation dips to be less than expected, the angle of deviation was further increased. A maximum angle of 43° was reached at 4971 feet. At 5445 feet (TD) the hole angle was 40.5° and the horizontal drift was 1464 feet at approximately 10.5° true East of North.

The hole intersected the P3-120 target at 4650 feet TVD and 1150 feet horizontal drift. Appendix 3 shows the relevant deviation survey results and includes a trace of the hole orientation in plan and in section.

2.8 Formation Testing

No Drill Stem Tests were run in the hole due to the high angle of deviation and the consequent risk of a stuck test string.

2.9 Completion Data

The well was completed with 2-3/8" tubing and a Geovan perforating system. Details are shown on Table 3 below and the wellhead diagram is shown on Figure 4.

Completion Data

TABLE 3

GEO INTERNATIONAL SERVICES LTD.		STAGE No. <u>ONE</u>
GEO		DATE
Vanna VANNSYSTEM INSTALLATION DOWNHOLE ASSEMBLY		
WELL NAME <u>EAST MEREENIA NO. 13</u>	RIG/PLATFORM <u>RICHTER / OILMAN</u>	
LOC. <u>ALICE SPRINGS</u>	COUNTY <u>NORTHERN TERRITORY</u>	
SPECIALIST: <u>M.B.</u>	Csg. O.D.: <u>5 1/2"</u>	Csg. W.I.: <u>14"</u> Tbg. O.D. <u>2 3/8"</u> Tbg. W.I. <u>4.7"</u>
OPEN HOLE LOG MEASURED FROM	ELEVATION	DIFFERENCE <u>0</u>
CORRELATION LOG MEASURED FROM	ELEVATION	
MEASUREMENTS	<input checked="" type="checkbox"/> ENGLISH	<input type="checkbox"/> METRIC
3160		2 3/8" EUE BRD J-55 SLICK JOINT
8.00		2 3/8" EUE BRD J-55 TUBING SUB
6.08		2 3/8" EUE BRD N-80 TUBING SUB
		2 3/8" EUE BRD J-55 TUBING JOINT
		2 3/8" EUE BRD J-55 PRODUCTION STRING (151 JOINTS)
		5 1/2" 14" CASING STRING
4946.65		
4952.75	6.10	2 3/8" EUE BRD TUBING SUB R/A MACKER
4984.26	31.51	2 3/8" EUE BRD J-55 TUBING JOINT
4990.86	6.60	5 1/2" GILBERTSON UNI. V. RET. PRODUCTION PACKER
4996.96	6.10	2 3/8" EUE BRD J-55 TUBING SUB
5003.00	6.04	2 3/8" EUE BRD J-55 TUBING SUB
5003.53	.53	2 3/8" VANNTAGE PRESSURE DIFFERENTIAL REDUCTION SUB
5035.02	31.49	2 3/8" EUE BRD J-55 TUBING JOINT
5036.75	1.73	2 3/8" VANNTAGE BAR ACTIVATED PRESSURE VENT ASSEMBLY W/4-1" HOLES
5068.23	31.48	2 3/8" EUE BRD J-55 TUBING JOINT
5072.35	4.12	2 3/8" EUE BRD N-80 TUBING SUB W/1.56 NO-60 3 3/8" OP. VANNTAGE MECHANICAL FISHING HEAD (EXT.)
5074.00	1.65	TAP SHOT
5108.00	34'L	BOTTOM SHOT 1ST ZONE
5128.00	20'0L	TAP SHOT BLANK
5134.00	6'L	BOTTOM SHOT 2ND ZONE 13-4" OD x 11" STEEL CARRIER GUNS
5183.00	49'0L	TAP SHOT BLANK
5192.00	9'L	BOTTOM SHOT 3RD ZONE 2-4" OD x 3" STEEL CARRIER GUNS
5210.00	18'0L	TAP SHOT BLANK
5220.00	10'L	BOTTOM SHOT 4TH ZONE 246 SHOTS
5222.00	2'0L	TAP SHOT BLANK
5232.00	10'L	BOTTOM SHOT 5TH ZONE
5232.75	.75	4" OD STEEL GUN BULL PLUG
5383.00		P.B.T.D.

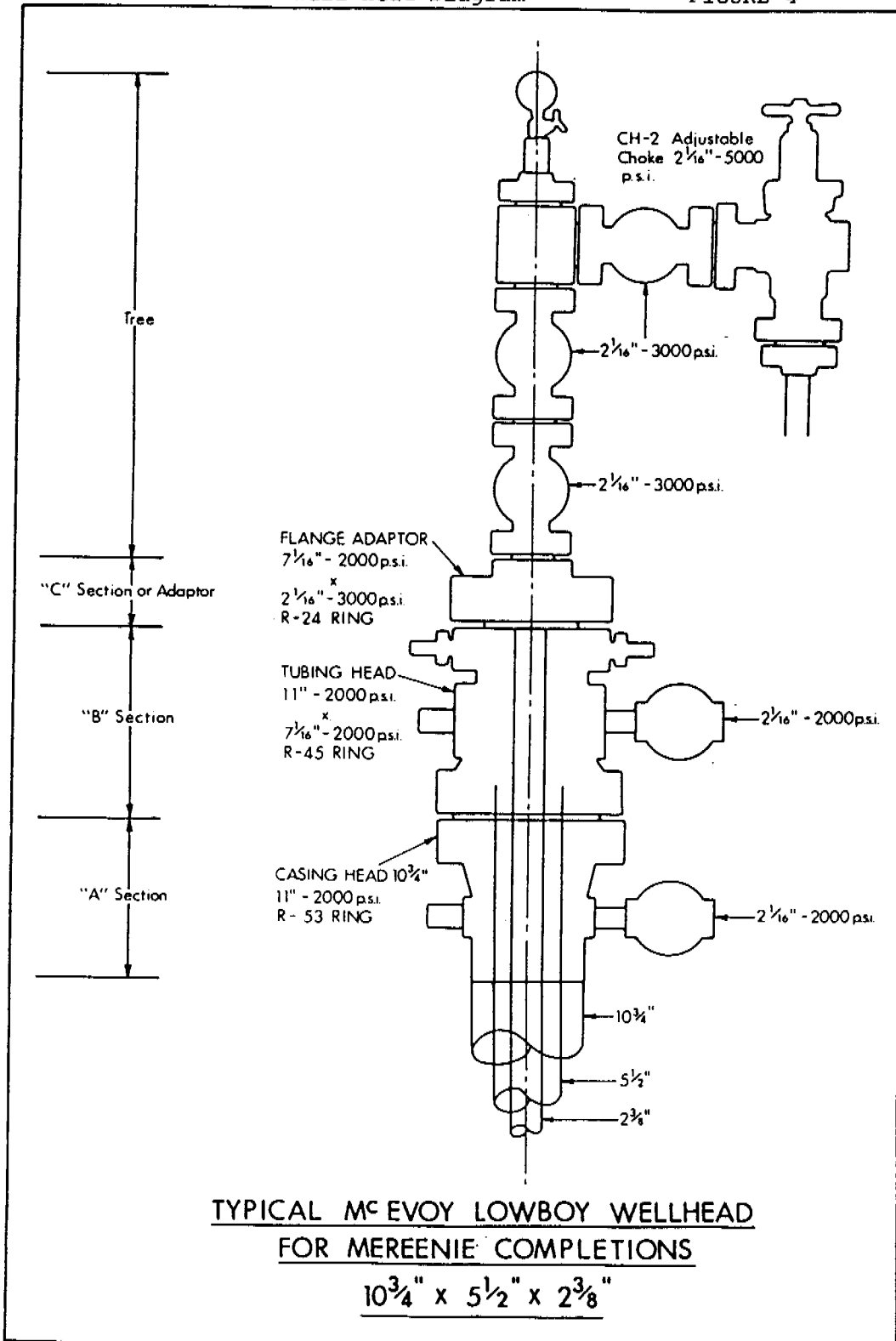
NOTE: 1 1/4" x 12' x 3/8" FISHING NECK DETENTOR BAR
FISH BAR BEING DROPPING GUNS OFF

REF No.

2.9 Completion Data (contd.)

Well Head Diagram

FIGURE 4



2.9 Completion Data (contd.)

The perforated intervals are -

5074 to 5108 feet

5128 to 5134 feet

5183 to 5192 feet

5210 to 5220 feet

5222 to 5232 feet

The perforated intervals have a shot density of 4 shots/foot.

2.10 Time Analysis

Table 4 shows the time/activities breakdown. Percentages are rounded to the nearest one percent.

Time Analysis		TABLE 4	
OPERATION	TIME (HRS)	TIME (HRS) %	TIME (Excluding Completion) %
Drilling	597.25	53	55
Trips	172.25	15	16
Reaming/Conditioning Mud	159.75	14	15
Nipple up/down/test BOP	27.5	2	3
Rig repairs/service	9	1	1
Slip drill line	3	1	1
Casing & Cementing	27.5	2	3
Deviation Surveys	34.75	3	3
Fishing	-	-	-
Stuck pipe	-	-	-
Logging	33	3	3
Testing	2.5	1	1
Coring	12	1	1
Completion & Suspended operations	38	3	-
TOTAL TIME	1116.5		

3. GEOLOGICAL DATA

3. GEOLOGICAL DATA:

3.1 Reasons for Drilling

East Mereenie No. 13 was drilled to test the production potential of the middle to lower P3 sub-unit on the south flank of the Mereenie Anticline. The well is located approximately 1.74 miles south west from East Mereenie No. 5.

3.2 Stratigraphy

The stratigraphy of the sediments in East Mereenie No. 13 shows little change from that present in the neighbouring wells, East Mereenie Nos. 1 and 5. The only significant change occurs within the P3 sub-unit, therefore only this section will be discussed.

The reader is referred to the well completion report from East Mereenie No. 5 for a fuller description of the stratigraphic units. Table 5 is a stratigraphic table for the well and lists the formations intersected.

Pacoota Sandstone P3 sub-unit

In both East Mereenie Nos. 1 and 5 a colour change from overall grey to overall red brown occurs just below the P3-130 sand. In this well the colour change occurs at approximately 5000 feet, just below the P3-10 sand. A petrological description of selected cuttings throughout the P3-120 sand interval and down to the base of the P3 is included in Appendix 5.

Some of the sandstones in the P3 sub-unit below the P3-130 interval in East Mereenie No. 5 have high natural radioactivity. A comparison of the porosity logs with the gamma ray log in East Mereenie No. 13 indicate that in general the sandstones are not radioactive in this well.

EAST MEREENIE NO. 13 STRATIGRAPHIC TABLE

TABLE 5

AGE	FORMATION	DEPTH (ft.)		TRUE THICKNESS (ft.)	
		KB (ft.)	MSL (ft.)		
DEVONIAN-SILURIAN	PARKE SILTSTONE	0	2439	88	
	MEREENIE SANDSTONE	93	+2366	1701	
UPPER ORDOVICIAN	CARMICHAEL SANDSTONE	1879	+ 580	263	
	STOKES SILTSTONE	2154	+ 305	814	
	Upper Stokes Siltstone	2154	+ 305		
	Lower Stokes Siltstone	2972	- 505	239	
	STAIRWAY SANDSTONE	3210	- 730	207	
	Upper Stairway Sandstone	3210	- 730		
	Middle Stairway Sandstone	3425	- 923		406
	Lower Stairway Sandstone	3844	- 1276		223
	LOWER ORDOVICIAN	HORN VALLEY SILTSTONE	4075	-1470	225
UPPER CAMBRIAN ORDOVICIAN	PACOOTA SANDSTONE	4313	-1670	354	
	P1 Sub Unit	4313	-1670		
	P2 Sub Unit	4696	-1982	221	
	LOWER ORDOVICIAN CAMBRIAN	P3 Sub Unit	4938	-2165	270
		P4 Sub Unit	5244	-2390	180+
CAMBRIAN	GOYDER FORMATION	NR	-		
	TOTAL DEPTH:	5435	-2543		

Remarks: Hole deviated from the 10-3/4" casing shoe at 2530 ft. MSL. Depths calculated from surveyed true vertical depths. Formation thickness calculated from survey data and formation dip as quoted on Table 6. Drillers TD = 5435 ft.
KB = +2459 ft. MSL

3.3 Formation Sampling

(i) Ditch Cuttings -

Samples were taken at 30 ft. intervals from 1250 ft. to 3230 ft., with closer spaced sampling taken adjacent to predicted formation tops. From 3230 ft. to 5445 ft. TD the sampling interval was reduced to 10 ft.

During the air drilling phase the cuttings were split five ways and when drilling with mud two sample splits were bagged untreated, and three splits were made from washed and dried samples. The samples were distributed as follows:-

Oilmin: 1 set washed and dried) mud drilling
 1 set untreated)
 2 sets of powder - gas/mist drilling

Magellan: 1 set washed and dried - mud drilling
 1 set powder - gas/mist drilling

NT Dept.
Of Mines: 1 set washed and dried) mud drilling
 1 set untreated)
 2 sets of powder - gas/mist drilling.

Samples descriptions are given in Appendix 1.

(ii) Coring -

No coring was attempted due to the high deviation (maximum 43°) of the hole.

3.4 Logging and Surveys

(i) 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>
DIL/GR/CAL	1	3150 - 5306	11/3/84
CDL/CNS/GR/CAL	1	2493 - 5324	11/3/84
FAD/GR	1	0 - 4113	26/2/84
CBL/VDL/GR	1	2700 - 5392	17/3/84
GR	1	4591	17/3/84
GR	2	4591	17/3/84
GR	3	4599	17/3/84
GR	4	4879 - 5017	17/3/84

3.4 Logging and Surveys (contd.)

(i) Electric Logging (contd.)

Electric logs were run prior to deepening the hole for completion purposes, thus the TD of the well does not coincide with the deepest logging information.

A copy of all electric logs is included in Enclosure 3.

(ii) Velocity Survey -

A velocity survey was run by Velocity Data. As the hole was deviated shots were placed in the sump and in a pit located as close as possible to the point vertically above the bottom hole position. The location of the pit is 1517.64 ft. at 12.25° True from the East Mereenie No. 13 location at Shot Point 2079 on line MM83-20S. All results of the survey have been corrected to true vertical depths using the results of the deviation surveys. (Appendix 3)

The results of the velocity survey are included in Appendix 4.

(iii) Penetration Rate and Gas Logs -

The penetration rate was recorded continuously from spud to total depth. The mud gas was monitored continuously on a conventional hotwire detector during the mud drilling phase.

A mud log showing penetration rate, gas, lithological and other pertinent data was prepared at the wellsite on a daily basis and is included as Enclosure 2.

A composite log is included as Enclosure 1.

3.5 Formation Dips

The well was prognosed to have a structural dip of approximately 23° to the south east.

It was apparent from the wellsite pick of formation tops that the prognosed dip was not as forecast.

3.5 Formation Dips (contd.)

Three cores were cut in order to estimate the structural dip in the well. Two were cut in the Stokes Siltstone however the formation was too homogeneous for any dip computations to be made. The third core cut in the Upper Stairway Sandstone (3271 to 3286 ft.) showed enough bedding for dip to be estimated. As the core was not orientated a range of dip from 16° to 28° was possible. Hole deviation at the time was approximately 22° with the beds inclined at an average of 6° to the axis of the core. As the seismic showed dips of approximately 23° and it was assumed the hole was perpendicular to the strike of the beds, 28° was estimated as the formation dip at this point.

However, a dipmeter was run when the well reached 4120 ft. in the top of the Horn Valley Siltstone and this showed structural dips ranging from 16° in the Stokes Siltstone to 13° in the Lower Stairway Sandstone. The Dipmeter logs are included as Enclosure 3. Estimates of the formation dips are included in Table 6. Figure 5 shows the formation tops in section and the trace of the hole in plan.

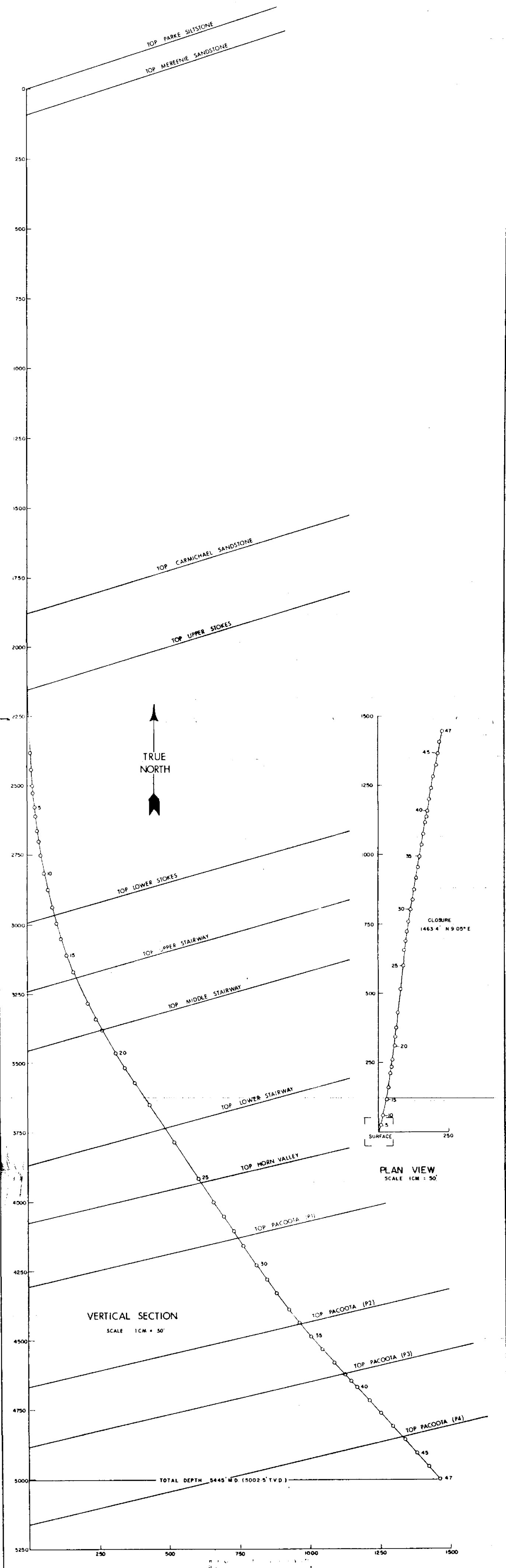
EAST MEREENIE NO. 13 FORMATION DIPS

TABLE 6

FORMATION	TOP TVD (ft.)	HOLE DEVIATION (degrees)	FORMATION DIP (degrees)
Parke Siltstone	Surface	0	18
Mereenie Sandstone	93	0	18
Carmichael Sandstone	1879	0	17
Upper Stokes Siltstone	2154	0	17
Lower Stokes Siltstone	2964	14*	16*
Upper Stairway Sandstone	3189	22*	16*
Middle Stairway Sandstone	3382	28*	16*
Lower Stairway Sandstone	3735	32*	15*
Horn Valley Siltstone	3929	32*	13*
Pacoota Sandstone P1	4129	33*	13*
P2	4441	38	13
P3	4624	43	13
P4	4849	41	13

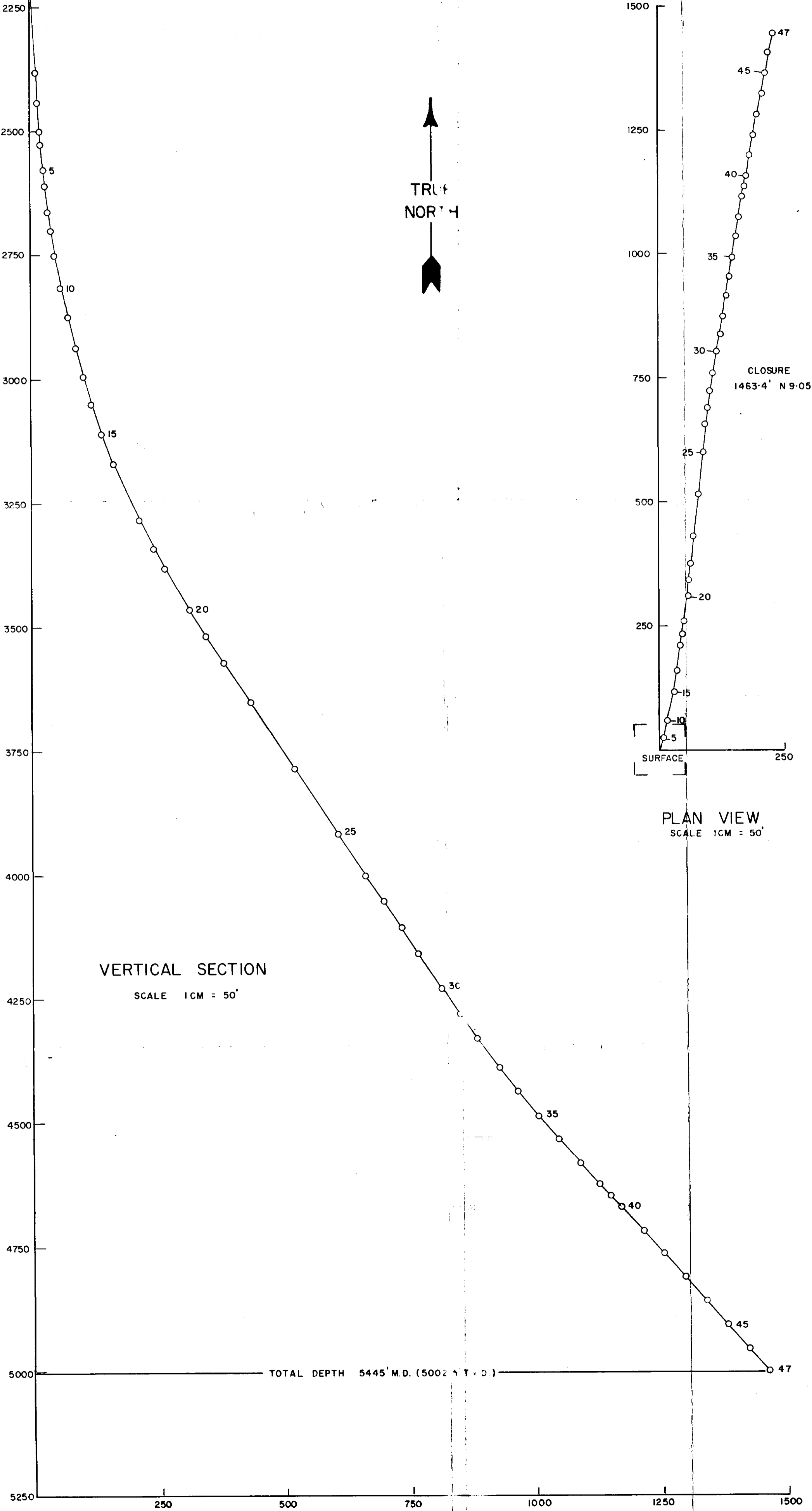
Hole deviation measured by single shot survey instrument except where *
 Formation dip estimated from surface geology and extrapolation except where *
 * measured by dipmeter survey.

OILMIN N.L.
EAST MEREENIE No. 13



OILMIN N.L. EAST MEREENIE No. 13

VERTICAL TO 2000'



VERTICAL SECTION

SCALE 1CM = 50'

3.6 Petroleum Geology

Although good porosity is evident in the Mereenie Sandstone only those formations below the Stokes Siltstone contain hydrocarbons. Of these formations only the Upper and Lower Stairway Sandstone and Pacoota Sandstone P1, P3 and P4 sub units have significant reservoir potential.

Upper Stairway Sandstone

Although this section showed no evidence of hydrocarbons whilst drilling the section with air, density log porosities of between 6% and 9% are present over several intervals -

3240 - 3243 (3) feet
3290 - 3292 (2) feet
3354 - 3356 (2) feet
3370 - 3379 (9) feet
3386 - 3405 (19) feet
3416 - 3411 (5) feet

This 40 foot of better than 6% porosity on the density log of the Upper Stairway is a significant improvement in the reservoir potential from that previously encountered in the Mereenie Field.

Lower Stairway Sandstone

The upper sandstone unit of the Lower Stairway Sandstone has minor thin porosity development between 3863 and 3844 feet, however, these zones have poor permeability. No fluid entry into the well bore was detected whilst drilling with air.

The middle siltstone unit has no reservoir potential nor were any hydrocarbons evident.

The lower sand unit of the Lower Stairway Sandstone flowed gas to surface at a measured rate of 510 mcf/d. Although the gas flow was measured at a well depth of 4024 feet the gas probably flowed from a thin porous zone between 4004 and 4008 feet. Elsewhere this lower sand unit has poor reservoir potential.

Pacoota Sandstone (P1 Sub-unit)

As in the surrounding wells the P1 sub-unit has generally poor porosity. Using a density log porosity of 6% as a cut off the net sand intervals are shown overleaf.

Pacoota Sandstone (P1 Sub-unit contd.)

P1-80	4400-4408 feet (8)	Average log porosity	8%
	4410-4414 feet (4)	Average log porosity	14%
P1-210	4523-4525 feet (2)	Average log porosity	7%
	4531-4532 feet (1)	Average log porosity	7%
P1-280	4616-4617 feet (1)	Average log porosity	6.5%
	4621-4625 feet (4)	Average log porosity	7.5%
P1-350	4689-4702 feet (3)	Average log porosity	8%
	4703-4706 feet (3)	Average log porosity	8%

The total net sand for the P1 is 26 feet.

Although no cores or tests were made in the P1 sub-unit the results from surrounding wells indicate the P1 section contains gas.

Pacoota Sandstone (P3 Sub-unit)

The P3 sub-unit has a total of 102 feet on net sand, as defined above, in some 19 separate intervals many of which are no more than one to two feet thick. Thus only the significant intervals (> 2 feet) are listed. The rest are grouped under miscellaneous.

P3-10	4962-4972 feet (10)	Average log porosity	7.5%
P3-120/130	5074-5108 feet (34)	Average log porosity	10 %
P3-150	5128-5134 feet (6)	Average log porosity	8 %
P3-190	5173-5176 feet (3)	Average log porosity	8 %
P3-230	5183-5192 feet (9)	Average log porosity	11.5%
P3-250	5210-5220 feet (10)	Average log porosity	12 %
	5223-5231 feet (8)	Average log porosity	8 %
Miscellaneous	(22)	Average log porosity	6-8 %

No cores or drill stem tests were made in the P3 sub-unit however, after completion, the well produced oil to surface at an average rate of 20 BOPD. The perforated intervals covered the P3-120/130 to P3-250 intervals inclusive.

A brief petrological study was made on the lower P3 reservoir intervals by K. Martin (see Appendix 5) to evaluate the nature and effects on the reservoir of the widespread iron staining in the interval. He concluded that the colouration of the sand was due to a small amount of hematite coating the quartz grains and therefore in the main would not be sufficiently abundant to cause significant porosity reduction.

Although the logs show several zones of reservoir potential the flow rate from the well would indicate that those porous zones were only poorly permeable or that the completion has not been fully effective. The petrological study indicates that the permeability of the sands could be as in other wells where similar porosity is present.

3.6 Petroleum Geology (contd.)

Pacoota Sandstone (P3 sub-unit contd.)

Neither the gas/oil contact nor the oil/water contact is expected to occur within the P3 sub-unit.

Pacoota Sandstone (P4 sub-unit)

As in the surrounding wells the P4 sub-unit porosity occurs in a zone some 40 foot below the top. Electric logs and cuttings show a zone from 5290 to 5340 feet.

Electric logs were run prior to digging a rat hole for completion purposes. Thus only the section of the P4 down to 5320 feet has been logged. Where density log information is available the P4-40 sand has an average porosity of 8%.

The oil/water contact is expected to occur at -2450 feet MSL or 5384 feet KB. Although cut and fluorescence was reported down to TD (5445 feet) the cuttings samples may have been contaminated by the oil based mud. No evidence of an oil/water contact exists on the electric logs. No cores or drill stem tests were made in the P4.

3.7 Relevance to Appraisal Programme

East Mereenie No. 13 showed that the P3 sands encountered on the eastern nose were present on the southern flank albeit with the possibility of reduced permeability.

The production of oil without any water indicates that the target horizons of the middle and lower P3 sub-unit were intersected in the oil column.

Neither the oil/water nor gas/oil contact was detected. The production of oil with a normal GOR without water indicates an oil column is present from 5074 to 5232 feet KB or -2265 to -2409 feet MSL.

Data from electric logs and drill cuttings indicate that the P1-80, P1-210, P1-280 and P1-350 sands are prospective targets for oil production down dip from this location.