

APPENDIX IX: DRILLING RECORD AND SUMMARY

EAST MEREENIE 36

DRILLING SUMMARY

The well East Mereenie 36, was spudded at 1400 hours on 23rd, April 1995. A 9 7/8" pilot hole was drilled to 27.5m and was then opened to 17.5" size hole. The 15" spiral welded conductor pipe was set at approximately 27.75m KB, (the water well drilling contractor was not available to perform this work) and cemented in place. The 13-5/8" rotating head was flanged up to the conductor and the blooie line rigged up, complete with primary jet, deduster jet, sample catcher and gas detector valves and lines.

A 13-9/16" Impax diamond enhanced hammer bit was then made up on a 12" Mission SD-12 industrial type air hammer with an open choke, and the 13-9/16" hole was air hammer drilled, with surveys, to 346m in 27.75 hrs drilling/connection time. Mist was introduced at approximately 187m. Because of the high volume of water produced towards the end of the bit run, the air hammer was laid out, and the 13.5" hole was then conventionally air drilled to casing point at 714m using three tricone bits in 58hrs drilling / connection time. A multi-shot survey was run at casing point to determine hole azimuth and deviation. A 10 3/4" 40.5 lb/ft H40 casing string was then run and cemented in place with 300 sacks of class "A" cement, followed by a 140 sacks class "A" cement top up job to ensure cement between the cement baskets at 60m and surface.

The BOP stack and rotary head were then nipped up and successfully pressure tested, together with the choke manifold, flare line and associated equipment. The cement track, float, shoe and 3m of formation were drilled out with water using a 9-7/8" tricone bit. A formation pressure integrity test was then performed to 16.6 ppg equivalent mud weight without any breakdown.

The 9-7/8" hole was directionally drilled ahead with air/ mist and regular surveys to 1280m where a well flow test was performed. The well was filled with 2% NaCl brine and a FMS-AMS-GR log was run to confirm formation tops and target level. The inclination at 1271m MD was 37.90° at an azimuth of 205°. A 8 1/2" drilling assembly was run and while attempting to blow the hole, the drill string was found to be blocked. A trip was made to clear the blockage and the dc,s were found to be blocked with scale build up. The 8 1/2" hole was air/ mist drilled, with frequent surveys to 1396m where a well flow test operation was carried out to 2.25mmcf/d.

The 8 1/2" hole was air/ mist drilled with frequent surveys to 1421m where the well was shut in for a build up and then flow test was performed to a maximum flow rate of 3.50mmcf/d. The well was then killed with a 8.7ppg mud and after conditioning the mud a trip was made to change the bit. The 8 1/2" hole was then drilled with mud to TD 1653m MD. The hole was conditioned prior to running logs and casing. The target was intersected as required.

After logging, 5 1/2" casing was run and cemented in place with 700 sacks of class "G" cement with 1% Halad 322.

The rig was handed over to Production for completion, at 0600 hrs on 19th May 1995, which was 26 days after spud, two days longer than predicted.

Santos

DRILLING RECORD - EAST MEREENIE 36

RIG EQUIPMENT										MUD COMPANY: BAROID AUSTRALIA PTY LT		LATITUDE: 24° 00' 3.7" S		CONTRACTOR: OD&E				
Drawworks: OIME SL750 Pump No.1: F-800 Pump No.2: F-800										DRILLING FLUID TYPE		LONGITUDE: 131° 35' 22.7" E		RIG NO: M/V #1				
DP Size: 250 joints 4 1/2" 16.8 R/H grade E with 4 1/2" IF connections										INTERVAL		K.B. ELEVATION: 726 m		DATE SPUDD: 08:00 hrs 23/ 4/95				
DC Size: 14 joints 4 1/2" heavy weight drillpipe, 2 1/2 3/4" square x 2 3/4" ID, 6 x 8" dc's, 12 x 7" 26 x 6 1/2" drill collars										AIR / MIST		G.L. ELEVATION: 732 m		DATE RIG RELEASED: 12:00 hrs 23/ 05/ 95				
										SALT / POLYMER		TOTAL DEPTH (m): 1653m (MD) (Drill) 1653 m (MD) (Log)		Days From Spud.				
CASING AND CEMENTING										WELL SECTION								
Depth (m K.B.)	Size (in.)	Weight (lb/ft)	Grade	Coupling	Cement (cu)	Cement Top (m K.B.)												
712.01	10 3/4	40.5	H-40	STC	300	SURFACE												
1852.1	5.5	17	L-80	LTC	700	791												
SURVEY DATA																		
Depth	Deg.	Depth	Deg.	Depth	Deg.	Depth	Deg.	Depth	Deg.									
0	0	607.5	1	1196.9	35.9	1390	38	1565	45.1									
151.4	0.6	694.1	2.2	1242.8	37	1430	37.7	1597.9	46.1									
289.9	1	885.3	19.5	1271	37.9	1453	38.7	1646.1	46.5									
347.6	1.4	952.8	26	1292.2	37.6	1478	39.9	1653	48.5									
405.4	1.05	994.7	31.4	1330.8	38.25	1498	40.8											
520.9	0.3	1071.7	38	1359.6	37.5	1536	42.8											
REMARKS: Completion, Abandonment, Problems, etc.																		
Well completed with drilling rig.																		
MUD PROPERTIES																		
Depth (m K.B.)	Density (kg)	Viscosity (cP)	W.L. (cc/30m)	pH	CI (ppm)	P.V.	Y.P.	Gels (1/10)	% Solids									
1280	0.5	28	5.0	8.0	14000	12	10											
1405	0.7	43	5.4	10.5	24500	12	17	3/5										
1421	0.7	44	5.8	10.0	25000	12	10	3/6										
1443	0.7	44	5.4	10.0	25000	12	10	3/5										
1481	0.8	44	5.6	10.0	25000	12	10	4/8										
1474	0.8	44	5.2	10.5	25000	12	10	3/8										
1504	0.8	42	5.4	10.0	28000	11	10	3/8										
1520	0.8	42	6.0	10.0	28000	11	10	3/8										
1522	0.8	42	5.4	9.0	28500	10	14	4/8										
1553	0.8	43	8.2	9.0	29000	10	14	3/8										
1573	0.8	41	9.0	9.0	29000	12	11	3/8										
1586	0.8	42	5.2	9.0	30000	12	11	3/7										
1615	0.8	41	5.0	9.0	29500	13	12	3/7										
1833	0.8	41	5.0	9.0	29500	13	12	3/7										
BIT RECORD																		
Bit (No.)	Size (in.)	Type	Jets	TFA (in²)	Depth (m)	Mins.	Hrs	ROP (m/hr)	Cumulative Hrs	WOB (x1000 lb)	RPM	Condition	Pressure (Psi)	Gals/Min	Annular Velocity (m/min)	Jet Vel. (m/sec)	Remarks	
1	9.875	IMPAX			27.5	27.5	1	27.5	1	1	20	10% WEAR	200	2400cm			HAMMER BIT FOR PILOT HOLE	
2	17.50	OPENER			27.5	27.5	1	27.5	2	1	20	10% WEAR	200	2400cm			HOLE OPENER	
3	13.56	IMPAX			346	318.5	20	15.9	22	7	20	50% WEAR	215	3200cm				
4	13.50	ATJ44	OPEN		490	144	28	5.1	50	45	55	7 6 FC A	E	1/16 BT HR	250	3200cm	1067	1067
5	13.50	ATJ55	OPEN		622	132	28.5	4.8	78.5	45	55	5 7 FC A	F	1/10 LC HR	450	3200cm	1067	1067
6	13.50	ATJ11H	OPEN		714	82	11.5	8.0	80	35	55	4 4 WT A	E	1 HO TD	250	3200cm	1067	1067
7	9.88	ATM NH	OPEN		965	251	17	14.8	107	25	70	3 3 CR A	E	1 RU HR	210	2400cm	945	945
8	9.88	F30D	OPEN		1092	127	14	8.1	121	40	88	4 7 BT G	E	1 FC HR	240	2400cm	945	945
9	9.88	F40D	OPEN		1224	132	7.5	17.8	128.5	50	40	4 7 BT G	E	1 FC HR	240	2400cm	945	945
10	9.88	F30D	OPEN		1280	50	4.5	12.4	133	50	50	2 7 RT G	E	1 RG LOG	240	2400cm	945	945
11	9.50	M89TFD	OPEN		1371	91	9	10.1	142	42	50	3 5 RG G	E	1/16 WT HR	270	2400cm	945	945
12	8.50	F50D	OPEN		1421	50	0.5	7.7	148.5	42	50	3 7 BT G	E	1 FC RR	1100	303	29	48
13	8.50	F50D	12_12_1	0.331	1461	40	0	5.0	156.5	40	50	4 8 BT G	E	1/16 FC HR	1100	303	29	48
14	8.50	F50D	12_12_1	0.331	1520	59	23.5	2.5	180	40	50	5 8 BT G	E	1/32 FC HR	1150	303	29	48
15	8.50	F70D	12_12_1	0.331	1581	81	28.5	2.1	208.5	40	65	6 8 FC A	E	1/32 BT BHA	1250	303	29	48
16	8.50	F570D	12_12_1	0.331	1633	48	18.5	2.5	228	45	50	8 8 FC A	E	1/16 RG HR	1250	303	29	48
17	8.50	F570D	12-12-12	0.331	1653	20	8.5	3.1	234.5	45	55	7 7 BT A	E	1/16 FC TD	1275	303	29	48