POST - WELL AUDIT

STATOIL

15/9-14

Norsk Petroleum Services A/S

POST – WELL AUDIT

COMPANY: Statoil

WELL NAME: 15/9-14

NORSK PETROLEUM SERVICES A/S.

OPERATING AREA Statoil 15/9-14

INDEX

OIL COMPANY	:	Statoil
CONTRACTOR	:	ODCC
RIG	:	Deep Sea Saga
WELL NAME/No.	:	15/9-14
LOCATION/BLOCK No.	:	15/9
ENGINEERS	:	Craddock, Tattersfield, Hammond, Urquhart, Griffiths, Diesbergen
T.D.	:	3563 m
TOTAL DEVIATION	:	

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OPERATING AREA STATOIL 15/9-14

COST SUMMARY

OPERATOR	:	STATOIL
BLOCK No./LOCATION	:	15/9
WELL NAME/No.	:	15/9-14
TOTAL DEPTH	:	3563 m
DEVIATION	:	4 3/4^{o}
SPUD DATE	:	1 May 1982
DATE T.D. REACHED	:	17 June 1982
TOTAL DRILLING. DAYS	:	
Cost Of Mud Materials Used On Well	:	$191,196.90
Cost Of Mud Materials Used For Drilling	:	$187,046.62
MUD COST/Ft	:	$55.56
MUD COST/DAY	:	
MUD COST/ROTATING HOUR	:	$543.33
DAYS ENGINEERING SERVICE	:	87
Cost Of Mud Materials & Engineering Service	:	$228,606.90
END OF WELL INVENTORY ADJUSTMENT	:	$1,109.70 included in mud cost
Engineering Days Not Included In Total Cost	:	Nil

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OPERATING AREA NORTH SEA, NORWAY

OPERATOR STATOIL

WELL NAME/No. 15/9-14

CONTRACTOR ODCC

RIG "DEEP SEA SAGA"

BAROID ENGINEERS R. CRADDOCK/R. HAMMOND/J. TATTERSFIELD/J. URQUHART/ P. GRIFFITHS/K. DIESBERGEN

T.D. 3563 m

HOLE SIZE	CASING SIZE	CASING SET AT	MUD TYPE	MUD COST	DRILLING DAYS	Total interval days
36"	30"	186.8m	Seawater Spud mud	6 350.90	1	1
26"	20"	500 m	Seawater Spud mud	20 334.10	1½	5
17½"	13 3/8"	1351m	Gel/Lignosulphonate	44 260.62	4	8
12 1/4"	9 5/8"	3001m	Gyp/Lignosulphonate	73 238.08	17	20
8½"	-	-	Lignite/ Lignosulphonate	41 516.72	12	17

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Deep Sea Saga

CONCLUSIONS AND RECOMMENDATIONS

30" CASING SET AT 186.8 m

The well was spudded on the 1st May 1982. The seabed was tagged at 122 m at 1130 hrs and a 36" hole was drilled from 122 m to 185 m using seawater as the drilling fluid. High viscosity (35 ppb Bentonite, 40-70 bbl) slugs were pumped before each connection. The hole was displaced with high viscosity spud mud prior to running survey, and again, prior to running 30" casing. All returns were to the seabed. The 36" hole was drilled, the 30" casing set at 186.8 m, cemented and drilled out to 190 m, in 1 day. The interval mud cost at $6,350.90 was slightly less than estimated at $6,809.70. Although the volume of mud used, and therefore the amount of bentonite used, was more than estimated, no weight material was used on this interval. The per barrel cost of $3.40, and per meter cost of $97.71 were less than the estimated costs (estimated $4.62 per barrel, $104.76 per meter).

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CONCLUSIONS AND RECOMMENDATIONS

20" CASING SET AT 500 m

The 30" casing shoe and new formation (3 m) were drilled to 190 m with a 26" bit. The riser was run, and a 12 1/4" pilot hole drilled to a depth of 516 m. All solids control equipment were run. Desander, (effective although loses 40 to 50 bbls per hour). The mud cleaners were run as desilters, (with no underflow return to the activo). Output in excess of 1.30 SG. The centrifuge was run on liquid recovery. 20x40/560 screens were used on the shakers even though losses occurred, as heavy delution was needed to maintain the required <1.10 SG mud weight. Saltwater and concentrated prehydrated gel were run into the activo to maintain pit volume and necessry dilution. After Schlumberger logging, the hole was displaced with seawater and observed at ½ and full displacement. Well observed static. It was necessary to dump 180 bbls of mud a/c insufficient pit volume available for the displaced mud, because reserve pit contained 1.25 SG kill mud. The hole was displaced with mud, and the riser with seawater. A 26" hole was drilled using a 12½ but, 17½" H.O. and 26" H.O. to a depth of 515 m (519.5 with 12 1/4" bit) using seawater as the drilling fluid. Slugs of spud mud were pumped before every 3rd, and later, every 2nd connection. All returns were to the seabed. At casing depth, the hole was displaced with 900 bbl of 1.09 SG mud. After a survey was run the hole was again displaced with 1000 bbl mud (700 bbl at

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CONCLUSIONS AND RECOMMENDATIONS

20" CASING SET AT 500 m (contd.)

1.08 SG and 300 bbl at 1.25 SG). There was a delay to mix the second batch of displacement mud as drill water to prehydrate bentonite is available at 34 min/100 bbl. 20" casing was landed and cemented at 500 m. The cement and float collars were drilled on the 7th May, making a total of 5 days for the interval. The interval mud cost of $20,334.10 was less than the $24,954.60 estimated cost. Due to the smaller volume of mud used than estimated, the per barrel was higher than estimated at $4.12 (estimated $3.74). While the cost per meter was much lower than estimated at 64.97 compared to $76.55.

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CONCLUSIONS AND RECOMMENDATIONS

13 3/8" casing set at 1351 m

The 20" casing shoe and 3 m of formation were drilled out with a 17½" bit (on 7th May) to 522 m. A leak off was conducted (1.07 SG mud) to 1.51 SG. A 17½" hole was drilled to a depth of 1371 m over 3 days. Surveys + wiper trips were conducted every 95 m, with regular drilling breaks for flow checks. It was necessary to run all solids control equipment. The desander + centrifuge. The mudcleaners again were run as desilters (output 1.30 - 140 SG). With the high pump rate of 200 spm (25.6 bbl/min) and penetration rate of 30 m/hour large. Losses were experienced at the three double deck shakers (screens varied 20x20 or 20x40/50x50 or 60x60 or 80/80). On one occasion the shaker box (possumbelly) was blocked by clay balls. These losses, however, were only in keeping with the dilution rate necessary to maintain the mud weight at 1.10 SG. The use of lignosulphonate thinner (Q Broxin) was kept to the minimum necessary to keep gels at a satisfactorily low level, thus minimizing drilled clay dispersion, and therefore, the already substantial dilution rate necessary to control the mud weight at 1.10 SG. The yield point was maintained at $20^{\pm}$ by adding dilution volume of Q Mix (concentrated 45-50 ppb Bentonite) plus seawater, at a 15^{+} ppb Bentonite content, and suplementing this by additions of XC Polymer (Barazan). The water loss was maintained at 10-15 ml API by additions of CMC L.V. (Aided by Q Broxin additions). pH was maintained at 9.5-10.5 by additions of caustic soda. Ca controlled with soda ash additions.

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CONCLUSIONS AND RECOMMENDATIONS

13 3/8" casing set at 1351 m (contd.)

At casing depth a wiper trip prior to survey, showed no drug and 10 m of fill. Survey and Schlumberger logs were run in 1 day, and the 13 3/8" casing was run and set at 1351 m. Delays occurred when testing BOP's a/c leaks at BOP seals resulting in a total interval time of 8 days.

The total interval cost of $44,497.12 was slightly less than the estimated $45,761.40. More Barite (36 mT vs 20 mT) was used (to weight the 1.25 SG kill mud and for the high weight slugs for trips) than estimated. More Bentonite (40.6 mT vs 28 mT) was used than estimated, partly due to a larger volume of mud being used than was estimated (4320 vs 4050 bbls) but mainly due to running a higher gel content than in the estimate (as requested). QBroxin, as already mentioned, was not used to the estimated levels (99 sx vs 440 sx) which would also have kept the quantity of bentonite and/or XC Polymer used, to a minimum. The cost per barrel ($10.30 vs $11.30) and per meter ($51.98 vs $54.80) were both lower than the interval estimated costs.

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Deep Sea Saga

CONCLUSIONS AND RECOMMENDATIONS

12 1/4" hole drilled to 3016 m
9 5/8" casing set at 3001 m

A new gypsum/lignosulphonate mud was mixed in the active and reserve pit (pits 1234 & 5) using the 490 bbls of kill mud, and 200 bbls of the old gel - lignosulphonate mud salvaged from the previous section. This was diluted with seawater (400 bbls) and 200 bbls of fresh gel. Gypsum was added to a 6 ppb excess. The cement was tagged at 1304 m and drilled to 1313 m using the old mud. This was circulated through pits 6 and 7, normally the slug + premixpits. The hole was then displaced with the new gyp/lignosulphonate mud, which had been treated with 2 ppb CONDET, to clear the hole and BMA, and to prevent bit balling in the soft clays.

Throughout this section it was necessary to pump out on wiper + survey trips due to hole swabbing. High viscosity pills were used before wiper trips, initially containing CONDET. CONDET treatment was discontinued at 1784 m. The mud weight was raised to 1.20 SG then to 1.23 SG (at 2258 m). It was later raised to 1.25 (at 2433 m). Constant dilution and use of the centrifuge was necessary to maintain a reasonable MBT. QBroxin was added to reduce IP and gels. An excess of 4-6 ppb Gypsum was maintained.

A later part of this section (2684 m - 2946 m) was drilled with a turbine assembly. Less problems were had on trips than in the previous clay formation, however, several times it was necessary to work stuck pipe.

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CONCLUSIONS AND RECOMMENDATIONS

12 1/4" hole drilled to 3016 m

9 5/8" casing set at 3001 m (contd.)

Shlumberger logs were run in 1 day, the 9 5/8" casing run + set at 3001 m.

The interval cost of $73,238.08 was higher than the estimated cost of $65,087.06 (which did not include the use of CONDET in the estimate).

A total mud usage of 4,389 bbl was higher than the estimated 3,500 bbl giving a lower per bbl. cost.

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CONCLUSIONS AND RECOMMENDATIONS

8½" open hole interval

The 9 5/8" casing shoe and cement were drilled out using mud salvaged from the previous interval. Bicarbonate was added to treat out cement contamination and also some Q-Broxin to prevent any excessive viscosity build-up and maintain the water loss. After the leak-off test the mud was weighted up from 1.25 to 1.35 SG. Tight filtration control (around 5 ml/30 min) was maintained throughout this production interval using Q-Broxin/caustic and CMC. CC16 was also employed to help maintain the HPHT fluid loss at around 15 ml/30 min (at 500 psi and 200^{o}F). Rheological properties were adjusted with Q-Mix or seawater additions. Gypsum treatments were discontinued and the excess gypsum and calcium content were allowed to drop.

In order to minimize dilution costs the shale shakers and mud cleaners we employed continously during drilling with minimum "100" and "200" mesh screen sizes respectively. The centrifuge was also run, as required, for solids control or barite recovery.

Drilling proceeded without problems to the target depth and two cores were taken, at 3228-3242 m and 3267-3286 m respectively. At 3466 m there was a positive flow check. However, the rate of flow was very low and no pressure was registered when the well was shut in. This difficulty was overcome by circulating 1.38 SG mud and taking returns through the choke line with the well shut in. At bottoms up

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CONCLUSIONS AND RECOMMENDATIONS

8½" open hole interval (contd.)

the chloride content of the mud was up from 2150 to 24000 ppm, indicating that this was probably a salt water flow. The new mud weight proved adequate to control formation pressures down to T.D.

4 days were spent on Schlumberger logging, during which the well started to flow. The mud weight was raised to 1.42 SG and later to 1.47 SG.

The interval cost of $41,516.72 was much higher than the estimated $24,430.94. This was partially due to the higher concentrations of CC16 and Q-Broxin needed to treat the gyp/lignosulphonate mud salvaged from the previous section to get the requested properties and higher caustic usage to maintain pH. Also the mixing of 500 bbl of spare mud to be kept as reserve mud. The mud usage was 1610 bbls compared to the estimate of 575 bbl.

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CONCLUSIONS AND RECOMMENDATIONS

36" hole

This was drilled with seawater and high viscosity bentonite slugs were pumped before each connection. There were no problems on this section.

26" hole

This was drilled in two passes. First a 12 1/4" pilot hole was drilled with a basic (and thus inexpensive) Bentonitec spud mud. This was drilled very quickly, and subsequently heavy dilution was necessary to maintain the 1.10 SG mud wt. Controlled drilling would reduce this dilution requirement but only at the cost of rig time. After logging the hole was expanded to 26", using seawater as the drilling fluid and pumping high viscosity bentonitic slug every 3rd and later every 2nd connection. Returns were to the seabed. At casing depth the hole was displaced to the 30" shoe with 900 bbl of bentonite spud mud, and after survey with 700 bbl of 1.08 SG spud mud followed by 300 bbl of the 1.25 SG kill mud. This method was effective and without hole problems.

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CONCLUSIONS AND RECOMMENDATIONS

17½" hole

This was drilled successfully with a gel/lignosulphonate mud. A high pumprate (25.6 bbl/hr) and high penetration rate were maintained causing clay balls to block the shaker box on one occasion. It was necessary to pump out on survey and wiper trips due to hole swabbing. Reducing rheology prior to trip did not appear to reduce these problems. Pills of wallnut shells and CONDET prior to wiper trips may be effective in reducing this problem in future wells. Inceasing the inhibition of these "sticky" shales by increased Chloride ion concentration, by use of a gyp mud, or by use of an encapsulating polymer such as Dextrid for API fluid loss control may also help on future wells to reduce this problem in this section.

12 1/4" hole

This section was successfully drilled with a gyp/lignosulphonate mud. Throughout this section it was necessary to pump out on wiper and survey trips due to hole swabbing. This problem was less in the later part of this section when these troublesome clay sections had been wiper cleaned several times and the mud weight increased from the initial 1.12 SG to a final weight of 1.25 SG. The gyp system was run with a higher Calcium content (average

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CONCLUSIONS AND RECOMMENDATIONS

2000 ppm) than previous wells. The system ran well, but still required a large dilution to maintain reasonable MBT values.

Pills of wallnut shells and CONDET prior to wiper trips may help to reduce the swabbing problem. This plus reducing the rheology prior to trips may aid on future wells.

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CONCLUSIONS AND RECOMMENDATIONS

8½" hole

This section was drilled successfully with a lignite/lignosulphonate mud. Gyp treatments were discontinued to the mud from the previous section letting the Calcium and Gypsum levels to drop. No problems were encountered running this mud on this section.

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OPERATING AREA 15/9-14

MATERIALS USED PER CASING INTERVAL

30" casing set at 186.8 m

MATERIALS	UNIT	ESTIMATED		ACTUAL	
		QUANTITY	COST $	QUANTITY	COST $
Barite	M/T	16	1,912.00		
Bentonite	M/T	14	4,558.40	18	5,860.80
Caustic Soda	25 kg	9	154.80	13	223.60
Soda Ash	50 kg	9	184.50	13	226.50
Total Cost			6,809.70		6,350.90
Cost Per Day				1	6,350.90
Cost Per Barrel		1475	4.62	1766	3.40
Cost Per Bbl/Day					3.40
Cost Per Meter		65	104.76	65	97.71

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MATERIALS USED PER CASING INTERVAL

20" casing set at 500 m

MATERIALS	UNIT	ESTIMATED		ACTUAL	
		QUANTITY	COST $	QUANTITY	COST $
Barite	M/T	30	3,585.00	32	3,824.00
Bentonite	M/T	61	19,861.00	48	15,628.88
Caustic Soda	25 kg	40	688.00	19	326.80
Soda Ash	50 kg	50	820.00	26	533.00
Sodium Bicarbonate	50 kg			1	21.50
Total Cost			24,954.60		20,334.10
Cost Per Day		5		5	4,066.82
Cost Per Barrel		6670	3.74	4939	4.12
Cost Per Bbl/Day					0.82
Cost Per Meter		326	76.55	313	64.97

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OPERATING AREA 15/9-14

MATERIALS USED PER CASING INTERVAL

13 3/8" casing set at 1351 m

MATERIALS	UNIT	ESTIMATED		ACTUAL	
		QUANTITY	COST $	QUANTITY	COST $
Barite	M/T	20	2,390.00	36	4,302.00
Bentonite	M/T	28	9,116.80	34	11,070.40
Aquagel	100 lb			146	2,219.20
Caustic	25 kg	128	2,201.60	97	1,668.40
Soda Ash	50 kg	110	2,255.00	31	635.50
Sodium Bicarbonate	50 kg			11	236.50
Qbroxin	25 kg	440	8,659.20	99	1,948.32
CMC LV	25 kg	147	8,232.00	132	7,392.00
HPD	25 kg			8	544.00
Barazan (XC POLY)	50 lb	41	12,906.80	46	14,480.80
Total Cost			45,761.40		44,497.12
Cost Per Day				8	5,562.14
Cost Per Barrel		4050	11.30	4320	10.30
Cost Per Bbl/Day					1.29
Cost Per Meter		835	54.80	856	51.98

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MATERIALS USED PER CASING INTERVAL

9 5/8" casing set at 3001 m

MATERIALS	UNIT	ESTIMATED		ACTUAL	
		QUANTITY	COST $	QUANTITY	COST $
Barite	M/T	85	10,157.50	63	7,528.50
Aquagel	M/T	16	5,209.60	3	976.80
Aquagel	100 lb			423	6,496.70
Caustic Soda	25 kg	172 sx	2,958.40	285	4,902.00
Soda Ash	50 kg	18 sx	369.00	32	656.00
Qbroxin	25 kg	255 sx	5,018.40	451	8,875.68
Dextrid	50 lb	407 sx	21,164.00	207	10,764.00
Barazan	50 lb	35 sx	11,018.00	11	3,462.80
CMC LV	25 kg	92 sx	5,152.00	216	12,096.00
Gypsum	40 kg	443 sx	10,157.50	768	6,988.80
CONDET	55 gal			18	6,966.00
Lime				148	1,346.80
Barpol				2	254.00
Staflo				13	1,924.00
Total Cost			65,087.06		73,238.08
Cost Per Day				20	3,661.90
Cost Per Barrel		3,500	18.60	4389	16.69
Cost Per Bbl/Day					0.83
Cost Per Meter		16,50	39.45	1650	44.39

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OPERATING AREA 15/9-14

MATERIALS USED PER CASING INTERVAL

8½" casing set at 3563 m

MATERIALS	UNIT	ESTIMATED		ACTUAL	
		QUANTITY	COST $	QUANTITY	COST $
Aquagel	100 lb			253	3,845.60
Aquagel	M/T	6	1,953.60		
Caustic Soda	25 kg	38	653.60	100	1,720.00
Soda Ash	50 kg	7	143.50	6	123.00
Qbroxin	25 kg	53	1,043.04	189	3,719.52
Barazan	50 lb	4	1,259.20	7	2,203.60
CMC LV	25 kg	40	2,240.00	81	4,536.00
CC 16	50 lb	63	1,354.50	262	5,633.00
Sodium Bicarbonate	50 kg	6	129.00	7	150.50
Baroid	M/T	131	15,654.50	149	17,805.50
CMC HV	25 kg			24	1,632.00
Staflo				1	148.00
Estimated Cost			24,430.94	Actual cost	41,516.72
Cost Per Barrel		725	33.70	1610	25.79
Cost Per Meter		575	42.49	547	75.90

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MATERIALS USED PER CASING INTERVAL

Completion

MATERIAL	UNITS	AMOUNT	COST $
Barioid	M/T	12	1,434.00
Caustic Soda	25 kg	2	34.40
Sodium Bicarbonate	50 kg	38	817.00
Q-Broxin	25 kg	21	413.28
CC 16	50 lb	20	430.00
CMC LV	25 kg	7	392.00
Barazan	50 lb	2	629.60
Total Cost			4,150.28

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MATERIALS USED PER CASING INTERVAL

END OF WELL INVENTORY ADJUSTMENT

MATERIAL	UNITS	AMOUNT	COST $
Sodium Bicarbonate	50 kg	+12	258.00
CC 16	50 lb	+ 9	193.50
Surflo W300	55 gal	1	658.20
Total Cost Adjustment			1,109.70

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OPERATING AREA Statoil 15/9-14

TOTAL MATERIAL CONSUMPTION

MATERIAL	PACKAGING	QUANTITY
AQUAGEL	M/T	103
AQUAGEL	100 lb	822
BARAZAN	50 lb	66
BARPOL	25 kg	2
CAUSTIC SODA	25 kg	497
CC-16	50 lb	83
CMC LV	25 kg	436
CMC HV	25 kg	24
CON DET	55 gal	18
DEXTRID	50 lb	207
GYPSUM	40 kg	768
HPD	25 kg	8
LIME	40 kg	148
Q-BROXIN	25 kg	760
SODA ASH	50 kg	82
SODIUM BICARBONATE	50 kg	57
STAFLO	25 kg	14
BAROID	M/T	292

COST PER INTERVAL

I.	30" Casing	6,350.90
II.	20" Casing	20,334.10
III.	13 3/8" Casing	44,497.12
IV.	9 5/8" Casing	73,238.08
V.	8 1/2" Open Hole	41,516.72
VI.	Testing	4,150.28
	TOTAL COST	190,087.20

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OPERATING AREA Statoil 15/9-14
Deep Sea Saga

DAILY OPERATIONS LOG

29th April 1982

3 anchors set. WOW to set other 5. Surface test BOP's. Possible to fill only one pit (No. 4) with mud until rig anchored and ballasted.

30th April

Mix 110 bbls gel (hi vis). Unable to mix more a/c no drill water available till anchors are set. Anchor handling 2355 hrs till 1825 hrs. Ballasted from 28' at 1740 hrs to 68' at 2040 hrs. Pretensioned anchor chains finished 2200 hrs WOW. Start to mix hi vis (35 ppb) gel in active pits.

1st May

WOW. Mixed total 1400 bbls hi vis (35 ppb) gel in active + reserve pits. 1030 hrs. RIH and tagged seabed at 122 m 1130 hrs.

Drilled 36" hole 122 m - 185 m. Pumped hi vis gel slugs before each connection (total 264 bbl). Displaced hole with 300 bbl hi vis gel mud. Dropped survey. PO w/1 st and retrieved survey. POOH w/1 std and washed and reamed 125 m to 143 m. Picked up 8 joints HWDP + RIH. Displaced hole w/400 bbl of 195 sec viscosity spud mud. POOH. Rigged up to run 30" casing. Started to run 30" casing.

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DAILY OPERATIONS LOG

2nd May

Ran 30" casing and cemented. Made 720 bbl spud mud in active 500 bbls prehydrated gel in reserve. Made up new BMA and RIH w/26" WOC. Drilled cement from 175 m. Drilled to 190 m. Pumped 40 bbl high vis gel mud. POOH to wellhead. Washed wellhead. Rig up to riser.

3rd May

Ran connector and landed same. Rigged up diverter. Made up new BHH and RIH. Displaced hole with mud. Checked out overboard system. Made 500 bbls 1.25 SG kill mud in No. 5 reservepit. Drilled 12 1/4" pilot hole from 191 m to 516 m. Ran all solids control equipment. Desander, mud cleaner run as a desilter (no returns to active), centrifuge. Shaker screens were changed to a finer mesh 20/40 over 60^2 even though losses occurred as heavy dilution was required to maintain a mud wt <1.10 SG. Salt water was run into the active (685 bbl) and prehydrated gel mixed and added (600 bbl). Circulated bottoms up. Dropped survey. PO to shoe. Retrieved survey. RIH. Circulated bottoms up. POOH.

4th May

POOH. Ran Schlumberger ISF/SONIC log 0210HRS - 0421HRS. RIH with 12 1/4" bit circulated bottoms up. Displaced hole

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DAILY OPERATIONS LOG

from 516 m to 191 m with seawater. Observed 15 min.-static. Displaced with seawater from 191 - surface observed well 30 min - static. Unable to take full return volume of mud. Dumped 181 bbl. Circulated bottoms up w/seawater. Displaced hole with mud and circulate POOH. Displaced riser with seawater. Pull connector. Made up 12 1/4" bit 17½" H.O. and 25" H.O. and RIH. Added 110 bbls gel to active to raise YP.

5th May

Drilled 26" hole (hole opener) 191 m to 515 m (519.5 with 12½" bit). Drilled with seawater. Pumped slugs 30 bbl mud every 3rd, then 2nd, connection, circulated bottoms up. Displaced hole with 900 bbls 1.09 SG mud. Dropped survey. POOH to shoe. Light spot at 324 m. Retrieved survey. Delay to mix mud. Prehydrate bentonite (drill water supply 34 min/100 bbl). RIH 3 m fill. Displaced hole with 1000 bbl mud (700 1.08 SG + 300 bbl 1.25 SG) POOH and washed wellhead. Rigged up and started to run 20" csg.

6th May

Ran 20" csg. landed csg. connected. Displaced cement w/seawater circ at wellhead at PO. RIH to wellhead w/jet sub and washed wellhead. P.O. brake and L/P 26" hole opener + 17½" H.O. Rigged up for running riser + BOP. nippled up BOP. Tested BOP's. Ran BOP. Press tested K/C line.

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7th May

Ran BOP press test K/C line to 7500 psi. Sand BOP. RIH w/testplug. Tested BOP's. POOH w/test plug. RIH + POOH w/wearbushing. Made up BMA 17½" RIH tag cement at 481 m. Drilled cement at float collar. Dumped seawater returns. SPR at 495 m. Drilled cement at float collar. Dumped seawater returns. SOR at 495 m. Drilled cement and 3 m new hole to 522 m. Circ. cond mud. Running all solids control equipment. Running mud cleaners as desilter 150 mesh underflow 1.37/1.30 SG MW at 1.8. Establish leak off test SPR at 485 1.07 SG mud.

8th May

Performed leak off equivalent 1.51 SG. Drilled 17½" hole 522-526 m. Pressure drop 1200 psi. Pressure tested surface l ok. POOH. One bit nozzle missing. RIH. Drilled 526-609 m SPR at 526 m. Circulated bottoms up. Drop survey. POOH retrieve survey. RIH drilled 17½" 609-704 m. Circ and drop survey. PO to shoe. Drilled 704-799 m. Circ PO to shoe. Retrieve survey. RIH to 704 m. Drilled 704-799 m. Circ. Running all solids control equipment. Running mud cleaners blind, desander and centrifuge. Losses at shakers on 20 x 20 top screens, possumbelly overflowing. Diluting to reduce mud wt. Adding conc to retain low wh. Q Broxin to reduce gels XC Polymer to raise YP.

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9th May

PO to shoe retrieve survey. Drilled 17½" hole 799 m to 894 m. Dropped survey POOH. Pumped out 849 m to 795 m. Retrieve survey. RIH. Drilled from 894 m at 923 m flow ck. static. Wash down to 929 m flow ck. well static circ. 15 min. Drilled 929-989 m. Circ btms up and drop survey. P.O. to shoe. Pumped out 850 to 795 m. Retrieve survey RIH. Drilled 989 m to 1083 m. Circ. + dropped survey. PO to shoe. Retrieve survey. RIH. Drilled 1083 - 1097 m. Large losses of mud at shakers a/c high pump rate, and clay balls clocking possumbelly on one occasion. Diluting necessary to keep mud wt down to 1.10 SG. Added Q mix and seawater. Retaining Wh by cabling CMC LV, and Q Broxin added to lower gels helping with W.L. Adding XC Polymer to retain YP at 20.

10th May

Drilled 17½" hole 1097 m to 1178 m. Drilling break at 1168 m. Flow check negative. Circ. btms up. Dropped survey PO to shoe. Pump out 1100 m - 944 m. Max OP 50,000 lb. Retrieve survey RIH reamed 998 m to 1016 m. Washed from 1016 to 1029 m. Cont RIH. no fill. Drilling 17½" hole from 1178 m to 1272 m. Drilling breaks + flowchecks at 1215 m - 1160 m. 30,000 lb overpull. Retrieve survey. RIH 14 m fill. Drilled 17½" hole to 1371 m. Circ btms up. Adding

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conc gel (Q Mix) and running seawater into system for dilution to lower mud wt and retain YP. Adding caustic to retain pH at 10 CMC to retain WL at 10-15 ml. API.

11th May

Circulated btms up. P.O. to shoe. no drag. RIH 10 m fill circ btms up. Dropped survey multishoot. PO to shoe. No drag. Retrieve survey. POOH. Rig up Schlumberger. Log No. 1 ISF, SONIC, GR IN 1425 hrs OOT 1720 hrs No. 2 NDT, CNT, GR in 1310 OOT 2115. Rig down Schlumberger. Made up 13 3/8". Casing hanger + stand in derrick.

12th May

RIH with 17½" bit. Cut 200' slep 100' drlg line cont RIH 10 m fill Running pilot test on conversion of surface system to a gyp mud system. Changed liner + piston No. 1 pump. Reamed + washed 1361 m to 1321 m. Circulated btoms up. POOH to wellhead. No drag. Washed wear bushing. POOH. RIH + retrieved wear bushing. POOH. Rig up and run 13 3/8" casing. Pull back out to retireve dropped dope brush. Made up 13 3/8" csg shoe + float jnt + xxx 13 3/8 csg 2310 hrs. Rig down 500 ton elevator 2330 hrs. RI w/landing.

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13th May

Cemented 133/8 casing. Pulled out with landing string. RIH and washed wellhead. Dumped cement contaminated mud. RIH to 189 m and circulated bottoms up. Pumped a 30661 high visc gel pill at wellhead. Attempted to test seal assembly. No success. Using pits 6 and 7 as active. Running centrifuge on kill mud to lower weight. Diluted back kill mud and 200 bbls of mud with 400 bbls of seawater. Added 200 bbls of fresh gel. Mixed up gyp mud.

14th May

Added gyp to increase excess gyp to 6 ppb. Dextrid to lower W.L. XC - Polymer to raise YP. Attempted to test seal assembly. No success.

15th May

Tested seal assembly to 2500 psi. OK. Tested BOP and 13 3/8 casing to 2500 psi. OK. Set wear bushing RIH with 12 1/4" bit. Tagged cement at 1304 m. Drilled to 1313 m with old mud. Added 2 ppb CONDET and XC polymer to surface vol. Displaced hole with GYP-Lignosulfonate mud. Drilled shoe at 1351 m, rat hole and 3 m of new formation to 1374 m. Circulated bottoms up.

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16th May

Did leak off test to Equiv to 1.71 SG. Made up 110 bbls of Premix gel. Drilled to 1395 m. Circulated bottoms up. POOH. RIH with a new BHA. Reamed down from 1348-1412 m. Drilled from 1412 m - 1501 m. Adding GYP to increase excess. Caustic and lime to maintain PH. Stringing in fresh gel. Added Q-Broxin to control wt and YP. Circulated bottoms up. PO to shoe. Hole swabbing. Pumped out from 1470-1351 m. RIH. Reamed and washed from 1377 m to 1501 m. Drilling 12 1/4" hole.

17th May

Changed bottom shake screens to 80x80. Running centrifuge to lower weight. Added CONDET to maintain concentration. Adding Dextrid for water loss and encapsulation. Running water to control MBT and weight. Drilled to 1595 m. Changed bottom screens on shakers 1&2 to 100's. Adding lime/caustic for pH. Circulated ½ hour and PO to shoe. Hole swabbing, pumped out from 1483 m. Had maximum overpull of 30,000 lb. RIH. 2 m of fill. Drilled 12 1/4" hole from 1595 m - 1690 m. Adding Soda Ash to reduce Ca, Q-Broxin to control YP. Circulated bottoms up. PO to shoe with survey. Hole swabbing. Pumped out from 1658 - 1631 m and 1604 - 1509 m. Tight hole at 1425 m. Pumped out from 1428 m. Max overpull of 30,000 lb.

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18th May

RIH. Reamed from 1455 - 1483 m. RIH. No fill. Drilled from 1690 to 1784 m. Pumped a HI VIS PILL with 5 ppb CON DET. Circulated bottoms up. PO to shoe. Pumped out from 1752-1455 m, had tight spots from 1590 - 1536 m, 1510 - 1483 m. RIH to 1771 m, 13 m of fill. Reamed and washed to bottom. Drilled from 1784 m to 1879 m. Increased the mud wt to 1.20 sg, and lowered the YP to 10-12 with additions of Q-Broxin. Adding GYP to maintain excess, Lime and Caustic for alkalinity. Adding water to control the MBT and solids. At 1879 circulated for ½ hour and PO 4 stands. Pumped out from 1847 to 1784 m.

19th May

RIH. Reamed last single. No fill. Drill 12 1/4" hole to 1973 m. Circulated for ½ hour. P.O.O.H. Had tight spots at 1937 - 1901 m with maximum overpull of 50,000 lb. Pumped out from 1937 - 1901, 1877 - 1712 m. Had tight spot at 1405 m with maximum overpull of 30,000 lb. RIH with a new bit - no fill. Drilled to 2000 m. Adding water to control the MBT and mud wt. Adding Q-Browin to control viscosity, Lime and Caustic for pH control - GYP to maintain excess between 4 - 6 ppb.

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20th May

Drilled to 2078 m. Circulated ½ hour PO to 1958 m. Had tight spots at 2010-2006 m and 1981-1972 m. Maximum overpull of 50 000. RIH. 2 m of fill. Drilled from 2078 - 2163 m. Sand plugging shaker screens. Changed to 60 x 60 on bottoms. Lost mud over screens. Strung in 110 bbls of fresh gel to toughen wall cake. Added CMC (LV) to control WL. Adding water and running centrifuge to control the mud wt.. At 2163 m circulated 15 min. and PO to 2025 m. Pumped out from 2106-2052 min. Had tight spots at 2106 - 2104 m and 2100-2088 m. Maximum overpull of 50,000 lb.

21st May

RIH. No fill. Changed shaker screens to 40x40 on tops and bottoms because of sand plugging. Ran the desander. Transferred mud from the reserve to maintain volume. Drilled to 2258 m. Strung in 110 bbls of fresh gel. Circulated for ½ hour. Dropped survey and PO to 1838 m. Pumped out from 2226-2172 m and 1906-1880 m. RIH to 2249 m, reamed to 2258 m. Drilling 12 1/4" hole. Raised mud wt to 1.23 sg. Adding water to control the MBT and mud wt. Adding CMC(LV) to control W.L.

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22nd May

Drilled to 2343 m. Circulated bottoms up. Dropped survey and POOH. Had tight spot at 2220 m. Maximum over-pull of 50,000 lb. Pumped out from 2220-2200 m - POOH. Tested BOP. RIH with new bit and junk basket. Reamed from 2308 m to 2343 m with maximum WOB of 25,000 lb. Worked junk basket - Drilling 12 1/4" hole.

23rd May

Drilling. Adding water and running centrifuge to control the mud wt and MBT. At 2433 m circulated 30 min, dropped survey and PO to 2145 m. Had tight hole from 2333-2145 m, pumped out from 2335-2308 m. Maximum over-pull of 50,000 lb. RIH reamed from 2410-2433 m, maximum W.O.B. of 20,000. Drilling 12 1/4" hole. Increased the mud wt to 1.25 sg. Added CMC (LV) to lower the WL down to 7 cc.

24th May

Drilled to 2528 m. Circulated 30 min. Dropped survey. PO to 2389 m. Tight at 2482-2470 m. Max OP of 50,000. Pumped out from 2470-2389 m. RIH, 1 m of fill. Drilling 12 1/4" hole. Adding water and running centrifuge to control mud wt and MBT. Adding CMC LV to maintain WL at 7.0 cc. Q-Broxin to lower gels. Changed to coarser shaker screens because of sand plugging. At 2579 m, circulated bottoms up. POOH.

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Had tight hole from 2386-2373, 2330-2131 with maximum OP of 50,000. Hole swabbing from 1564-1550 m and 1537-1530 m - POOH.

25th May

RIH with new Bit. Washed and reamed from 2550 m to 2579 m. Drilling sand and shale sequence. Adding water to control mud wt and lower MBT. Made up 65 bbls of HI VIS mud. At 2625 m circulated bottoms up for sample. Drilled to 2651 m. Circulated bottoms up for sample.

26th May

PO from 2669 m - 2522 m. No drag, no swabbing. RIH 1½ m of fill. Drilled to 2684 m. Pumped 100 bbls of Hi Vis mud and circulated bottoms up. POOH. Had tight spots at 2385-2380 m and 2302-2298 m with maximum overpulls of 30,000 lb. RIH with turbine.

27th May

RIH. Work tight hole at 2569 m and 2597-2601 m. Ream from 2620 m - Made up 110 bbls of prehydrated gel. Running Desander and centrifuge to lower wt and control solids while reaming. Wash + reamed from 2624 to bottom (2684) tight at 2678 m. Turbodrilled 12 1/4" 2684-2695 m. Last torque at

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2695 m. PO to 2651. SPR at 2695 m. Wash+ ream 2651-2695 m. Turbo drilled 2695 m - 2749 m. Flow chs at 2716, 2724, 2747. Well static. Added 100 bbl. Qmix into active, ran in seawater. Added gyp. CMC caustic. Pumped 100 bbl Hi Vis pill. Circ + dropped survey.

28th May

PO to 2448 m tight at 2601 m. MOP 40,000 lb. Retrieved survey. RIH 1.5 m fill. Turbo drilled 12 1/4" 2749 m - 2758 m. Stuck. Work stuck pipe at 2758 m. Max OP 100,000 lb. Cont. drilling 2758 m - 2798 m. Changed btm screen to S100, S80, S80. Drilling rate 5-10 m/hour through calcitic formation. Running MC (200 mesh). Desander 2½ hrs. Centrifuge on Barite recovery (underflow 1.12 SG 24 MBT). Reaming in QMix (100 bbl) and seawater for dilutions and YP. Added Gypsum for excess. CMC LV to retain WL at 6.5 - 7.0 ml. Caustic for pH. Changed piston No. 2 pump. Drilled 2798 m - 2846 m. Flow ok static at 2810 m. Pumped 100 bbl hi vis pill.

29th May

Turbo drilled 12 1/4" 2846 m - 2850 m. Circ. dropped survey PO to 2434 m. No drag. Retrieved survey. RIH 2 m fill. Changed shaker screens to S100 cm btms. Continued turbo drilling 2850 - 2913 m. Running seawater to maintain mud at

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1.25. Ran desander. Added Gyp for XS. Caustic & lime for pH. String in Q Mix for YP. Changed piston on No. 1 pump. Centrifuge out of order - gear problems, mechanics unable to repair. Cleaned out cores on both desilter/mud clearer. Running seawater to keep mud at 1.25 SG.

30th May

Turbo drilled 2936 to 2945 m. Pumped 100 bbl hi vis mud. Circ. Dropped survey. PO to 2447 m. No drag. Retrieve survey. RIH 1 m fill. Stuck on btm. Worked stuck pipe free m.op. 100,000 lb. Washed and worked turbine up to 2892 m. Reamed and washed down to btm. Continued drilling 2945 - 2946 m. Stuck at 2945 m. Worked pipe. Pumped 100 bbl high viscosity mud. Attempted to drill, no success. Low torque. Pumped slug. POOH. Tight 2300-1923 m, 1572-1518 m. Mop 50,000 lb. 1472-1392 m. mop 40,000 lb. Broke + 4D turbine section. Made up new BHA and RIH w/new bit. Washed and reamed 2910-2946 m. Drilled 2946-2948 m. Ran 100 screens on shakers. Ran mud cleaner and centrifuge. Added water to maintain 1.25 SG mud wt. Added Q Mix to raise YP. Gypsum to maintain XS. CMC LV for to retain VOL at 6.5-7.0 ml API. Caustic soda and lime for alkalinity.

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31st May

Drilled 12 1/4" hole 2948 to 2989 m. Added seawater to maintain 1.25 SG mud wt. Added Q Mix and XC Polymer for YP. CMC LV to retain API water loss Gypsum to retain XS. Ran desander, mud cleaners and centrifuge. Drilled 2989 to 3008 m. Added Q Mix for YP Gyp and Caustic. Worked on No. 2 pump. Drilled 3008 m - 3014 m.

1st June

Drilled 12 1/4" hole 3014 m - 3016 m. Pumped 100 bb hi vis mud. Circulated btms up. Dropped MSA Survey. Pump slug. POOH. Rigged up Schlumberger.

Run Log No. 1 Sonic/indvetion/GR in 0839 hrs out 1228 hrs
Log No. 2 LDT ClT-GR in 1300 hrs out 1847 hrs
Log No. 3 CST in 1925 hrs out 2246 hrs
Log No. 4 CB2 in 2350 hrs out 0132 hrs.

2nd June

Schlumberger log No. 4 out 0132 hrs. Rigged down Schlumberger, made up 9 5/8" casing hanger. Made up 12 1/4" bit and new BHA. RIH to shoe. Slip 100' and cut 200' drilling line: Reamed and washed for 3000-3016 m. Worked junk basket. Circ. Added caustic for pH. Slugged pipe and

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POOH. Jet wellhead w/bit. Retrieved wearbushing. Measured MD RKB. Slep joint DP. Jetted wellhead and BOP. Rigged up and ran 9 5/8" casing.

3rd June

Ran 9 5/8" casing. Landed hanger 0815 hrs. Made up cement head. Circ. Made up 1.60 SG slurry for B.J. Pumped preflush and pressure tested surface lines. OK. Cemented. Displaced cont. Dumped excess pit volume (200 bb No. 5 + 116 bbl returns). Tested BOP's. Ran pilot tests on lignite/lignosulphonate system.

4th June

Tested BOP's. Pilot tested lignite lignosulphonate system. Need to add 5 ppb. 3ppb Q-Broxin 0.5 ppb CMC LV and .12 ppb XC Polymer. Made up new BHA and RIH. Pressure tested casing. Repaired cooling water leak on drum and broken link on drawworks chair. Tagged cement at 2953 m. Took SPR. Drilled cement 2958 m to 2996 m. Added seawater and ran all solids control equipment. Added lignite. Added bicarbonate for cement contamination. Added Q-Browin to this and for water loss and reduce alkalinity from cement.

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5th June

Drilled cement and shoe to 3016 m. Drilled new formation 3016 - 3019 m. Circulated cond mud at 1.25 SG. PO to shoe and performed leak off test (1.88 SG). POOH. Made up new BHA and RIH circulated and increased mud wt to 1.35 SG. Reamed and washed down 3001.5 to 3019 m. SPR. Drilled 8½" hole 3019-3024 m. Added Q-Broxin/caustic for HPHT. CMC for W.L. CC16 for HPHT. Ran mud cleaners + centrifuge on barite recovery. Streamed in A Mix and seawater for YP and filtercake. Added XC Polymer to aid YP. Electrical failure. Pumped with BJ pump. Deballasted 70' to 65'.

6th June

Electrical failure. Circulated with shear pump. Drilled 8½" hole 3024 m to 3055 m. Flow check at 3044 m, well static. Ran centrifuge on barite recovery, streamed in Q Mix and seawater. Added CMC + CC16. When pit volume became low added 60 bbl Q Mix (60 ppb) and 120 bbl seawater, weighted to 1.35 SG. Dropped survey and POOH. Made up new bit + RIH. Made 480 bbl of 1.25 SG kill mud in No. 5 reserve. Drill water 10,500 ppm. Chloride. Drillwater tank drained + flushed. Refilled from another storage tank. Tested OK.

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7th June

RIH. Mixed spare mud in No. 5 reserve pit. Worked junk basket and drilled 8½" hole 3055 m to 3104 m. Added seawater when necessary to keep wt at 1.35 SG. Added CMC Hi vis and CC16 for water loss. Caustic for pH. Mixed 100 bbls of Q Mix. Dropped survey.

8th June

POOH. Retrieved survey at surface. Made up new BHA + RIH slowly. Mud losses at 1047 m. Fill hole w/20 bbl mud. Observed well static. Filled pipe and circulated at 1774 m and 3001 m. Worked junk basket. Drilled 8½" hole 3104 m to 3142 m. Added CC16, Q Broxin/caustic, CMC LV + CMC HV, for water loss.

9th June

Drilled 8½" hole 3142 m to 3168 m. Dropped survey pumped slug 100 m. Retrieved survey. POOH. Made up new bit and RIH. Most of the mud materials requested to be sent ashore have gone, 2 containers remain to go (13B21 + 84 Break) RIH no fill. Worked junk basket. Drilled 8½" hole 3168 to 3170 m.

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10th June

Drilled 8½" hole 3170 - 3193 m. Changed 2 bottom shaker screens to 100's. Ran a little water and reserve mud to compensate for weight gain from slug. Maintained weight at 1.35 SG. Added CC16 and CMC-LV for fluid loss, caustic for pH and Q-Broxin/caustic for water loss and viscosity control. Flow checked at 3193 m - negative. Circulated bottoms-up. Drilled 3193 - 3228 m with drilling break from 3223-5 m. Flow checked - static. Circulated. Surveyed. POH.

11th June

POH. Tested BOPs. POH with test plug. RIH with wear bushing and POH. Picked up 8½" core barrel and BHA. RIH. Tagged bottom. Circulated bottoms-up. Dropped ball. Cored 3228 - 3243 m. Used CMC-LV and CC16 for filtrate control.

12th June

POH. Recovered core. Made up BHA. RIH. Washed and reamed 3215 - 3243 m. Drilled 3243 - 3248 m. Flow checked - static. Drilled 3248 - 3257 m. Flow checked - static. Drilled 3257 - 3262 m. Circulated bottoms-up. Dropped survey.

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13th June

POH. Picked up 8½" core barrel. RIH. Transferred 110 SX Imco Spot, 5 dr EX-S, 5 dr Pipe Lax to Dyvi Delta. Tagged bottom. Circulated bottoms up. Dropped ball. Cored 3267 - 3286 m. Used ZC-16 and CMC-LV for fluid loss control and Q-Broxin/caustic for rheology and filtration control. Added water to maintain 1.35 SG weight. POH. Recovered core and laid down core barrel. RIH with 8½" bit. Reamed 3267 - 3286 m.

14th June

Drilled 3286 -3296 m. POH for washout. Washed out bit nozzle. Made up new bit and RIH. Worked junk basket. Drilled 3296 - 3366 m. Flow checked at 3319 and 3363 m - well static. Added CC-16 and CMC-LV for filtration control and gel premix to maintain Y.P. Circulated. Surveyed. POH for wiper trip to shoe.

15th June

Recovered survey. RIH. Drilled 3366 - 3383 m. Drilled 3383 - 3430 m. Circulated bottoms-up. Took survey. POH. RIH with new bit and junk basket. RIH. Drilled 3430 - 3466 m. Controlled rheology with water and Q-Broxin/caustic. Used CC-16, Q-Broxin and CMC-LV for filtration control.

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1400 psi pressure drop due to pump valve failure. Flow check - positive. Closed in and watched for pressure - negative. Opened hydril. Flowed. Hung off on upper pipe rams. Closed hydril. Opened rams. Moved pipe. Raised mud weight to 1.38 SG. Circulated through choke at 40 spm.

16th June

Circulated bottoms-up. Flow checked - negative. Bottoms-up mud had 24000 ppm chlorides (i.e. salt water flow). Circulated bottoms-up again. Surveyed. POH to shoe.

17th June

Drilled 3558 to 3563 m T.D. P.O. to shoe circ. B.U. Drop survey multi shot, POOH. Retrieve multi shot. Rig up Schlumberger, Schlum RIH. Logging.

18th June

Schlumberger logging. Schlumberger OOH. Rig down Schlumberger. RIH for wiper trip. Slip 100' drlg line. Con. RIH ream and wash down from 3120 to 3220 m and 3533 to TD 3563 m. Circ. B.U. POOH. Had over pull 40.000 lbs from 3451 to 3425 m. Con. PO to 3390 m. Ream down from 3390 to 3445 m. RIH to TD. Circ. and cond. mud due high mud weight 1.41 SG. Added 10 m^3 s/w and 30 m^3 fresh mud to cut back

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mud weight to SG 1.38. POOH Rig up Schlumberger. Logging.

19th June

Logging. Rig down Schlumberger. RIH for wiper trip circ. B.U. Hole in good condition. POOH. Rig up Schlumberger. Logging. Rig down Schlumberger. Start up weighing up in active part to SG 1.42.

20th June

RIH to 3220 m. Well start flowing due p.p. of 1.37. Close bag and watch for pressure. Neg. start circ. shrue choke w/40 STR. 1200 psi 1.42 SG m.w. at bit after 1350 str. 1150 psi. Cont. pumping 5500 str until 1.42 sg in flowline. Close well in and start strap in hole w/reduced press on bag. Bleed off pressure from annulus while strapping in. Start circ. w/20 str. Cont. circ. out influx open Hydril, observe well, well static. Ream from 3574 m to 3563 m. Circ. BU. increase m.w. to 1.47 SG P.O. to shoe wait ½ hr. Observe well, well static. RIH to bottom, tight spot at 3240 m. Circ. B.U. ROOH.

21st June

Continued ROOH. Rig up Schlumberger, Logging - Rig down Schlumberger, RIH to 3563 m circ. B.U. ROOH tight spot at

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3254 m 35000 lbs. Slack in transmission gear on draw-works. Repaired. RIH open ended for cement (plug) jot.

22nd June

Cir BU. Lay cem plug No. 1, 3563 to 3415 m PO to 3415 m, reverse out, 3 bbls cem plug No. 2, 3415 to 3265 m PO to 3265 m reverse out cement back. Circ./cond mud from 1.49 to 1.47 SG . Check for back flow in DP. Cont. cond. mud. POOH. RIH w/new bit. Circ. BU tag cement at 3323 m and drl out 3 m. Mud 1.47 in and out. POOH. Transf. 200 bbls mud to active system. Mixed 250 bbls fresh mud. Add sod bic. in active due cement contamination.

23rd June

POOH - RIH open ended. Circ. BU. Lay cement plug No. 3. 3326 to 3220 m reverse out. 4bbls contamination mud set plug No. 4 3220 to 3115 m. Reverse out cir. and cond. mud. Add s.bic set cement plug No. 5 3050 to 2400 m. Reverses out, 2bbls cement. POOH slip and cut 10' drilling line RIH with 8½ scraper bit.

24th June

POOH. RIH w/8½" bit to 2900 m. Circulated check for

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cement. Cont. RIH tagged cement at 2930 m. Circ. btms up. Vis out 90-100 sec. Added Q-Broxin and bicarbonate to lower vis. Pressure tested 9 5/8 csg to 2900 psi. POOH. RI with open end DP to 1400 m. Circ. btms up. Laid cement plug No. 6. PO to 1300 m reverse cir. Dumped 7 bbl cement contaminated mud. Ran seawater into active (1.47 SG) POOH. Rigged up Schlumberger. RIH w/gauge ring and junk basket.

25th June

RI w/gauge ring and junk basket to 1260 m. RI w/baker bridge plug and set at 1243 m. RI w/perforation gun to 200 m. 2 perforation runs. No pressure drop in annulus. Cut + retrieved 9 5/8" casing (at 250 m). Circ. cond. mud. Added seawater and bicarbonate. Pressure tested 9 5/8" x 13 3/8 annulus to 1450 psi. RI w/open end D.P. to 375 m. Laid cmt plug No. 7 375 m - 250 m. Reverse cir. 1 bbl cmt contaminated mud. RI w/perf gun to 140 m. 2 runs. Drillwater checked 4.400 Cl at pit supply. Storage tank 450 ppm.

26th June

Perforated csg at 132.2 m w/500 psi on annul. pressure fluctuation. Cut 13 3/8" csg at 153 m and retrieved. Displaced hole and riser with seawater. Laid a balanced cement plug from 250 - 150 m. Reverse circ. Unlatched and

NORSK PETROLEUM SERVICES A/S.

OPERATING AREA Statoil 15/9-14
Deep Sea Saga

DAILY OPERATIONS LOG

pulled BOP and rigged down same. Rigged up to pull BOP.

27th June

Rig move 15/9 - 14 to 15/9 - 16.
Engineer sent ashore for move.

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WELL NAME: 15/9-14 STATOIL
DEEP SEA SAGA

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	~~feet~~	~~PPG/~~ ~~Spgr/~~			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.	Sand		
1.5	185	1.05	195	19.2	2			10.3	20	75	54	62	8500	20	.65	1.05	-				24			
2.5	185	1.04	78	22.4	2½			10.0	14	57	34	40	9000	25	.40	.68					22			
3.5	189	1.045	73	22.3	2			10.0	14	54	37	41	9000	25	.40	.67		0	96.5	3.5	22	<0.5		
							(122°)		8	64	32	40												
3.5	In 256	1.09	58	26.0	2			10.0	8	48	28	31	10000	45	.65	1.0		0	93	7	18	<0.5		
3.5	Out 292	1.18	68	25.2	2			10.0	11	62	30	34	10000	45	.63	1.05		0	89	11	23.5	1.0		
4.5	Pit 516	1.09	53	34.2	3			9.4	7	50	29	30	11000	65	.30	.62		0	93.5	6.5		22.5	<0.5	
4.5	12 1/4" 516	1.10	47	35.8	3			9.3	7	42	24	27	11000	70	.27	.60		0	93.5	6.5		22	<0.5	
5.5	2640 230	1.10	48	32.2	3			9.4	7	40	24	27	10500	55	.23	.54		0	94	6	23	<0.5		
5.5	1234 519.5	1.08	45	24.2	3			10.0	6	28	15	17	9000	40	.45	.70		0	94	6	17.5	<0.5		
5.5	No.5	1.25	42	29.0	3			9.8	10	30	16	20	10000	45	.32	.67								
5.5	Pits	1.08	63						13	40	19	22												
6.5	Pits	1.08	52	17.8	2½			11.0	7	28	20	21	6000	20	0.8	1.4		0	94	6	21.0	<0.5		
7.5		1.07	62	10.2	1			10.0	15	20	16	31	11500	50	.32	.70		0	94	6	15.5	<0.5		
7.5	Kill mud	1.25	40	17.4	3			9.9	10	19	23	33	11000	50	.38	.70		0	90	10	16	<0.5		
7.5	519.5	1.07	52	11.0	1			9.9	13	19	20	29	11500	50	.30	.68		0	94	6	15.5	<0.5		
8.5	522	1.08	42	16.4	1½			11.2	8	17	10	19	12500	48	.70	1.00		0	94	6	15	<0.5		
8.5	610	1.09	52	11.0	1			9.9	13	19	20	29	11500	50	.30	.68		0	94	6	15.5	<0.5		
8.5	628	1.10	53	10.4	1			10.3	5	38	15	38	11500	50	.18	.56		0	92	7	15.3	<0.5		

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DEEP SEA SAGA

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	~~feet~~	~~PPG/~~ ~~Spef/~~			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	~~Pm~~ Vf	Oil	Water	~~Corr.~~ Solids	PPB	EXGYP		
	metres	SG	secs	ccs	1/32" mm	ccs	1/32" mm		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.	Sand %	ppb	
9.5	805	1.115	47	10.1	1			9.3	8	19	21	43	15500	90	.15	.60		0	92	8	17	<1/4		
9.5	826	1.13	51	10.7	1			9.3	10	18	23	49	15500	90	.23	.60		0	91	9	17.5	1/4		
9.5	911	1.12	43	14.0	1			10	8	10	60	60	18000	70	.14	.58		0	92	8	15.7	<0.5		
9.5	911	1.12	51	11.0	1			10	9	16	14	70	16000	65	.16	.58		0	92	8	17.5	<0.5		
10.5	1111	1.10	52	10.4	1			9.5	10	21	14	32	17000	110	.32	.75		0	93	7	16	1/4		
10.5	1125	1.10	51	10.3	1			9.5	10	20	13	33	17000	100	.28	.69		0	93	7	16.5	1/3		
10.5	1240	1.11	46	10.4	1			10.0	12	14	8	35	16000	40	.34	1.00		0	94	6	16.25	<0.5		
10.5	1272	1.11	45	9.9	1			10.0	12	14	8	28	16500	40	.49	1.31		0	94	6	16.3	<0.5		
10.5	1332	1.11	42	10.0	1			9.6	10	20	9	21												
11.5	1371	1.11	50	10.2	1			10.0	10	21	10	21	16500	40	.58	1.03		0	93	7	18	0.5		
11.5	1371	1.10+	47	9.5	1			9.5	10	21	11	27												
11.5	1371	1.10	43					10	20	10	24													
11.5	1371	1.10	47	9.6	1			9.8	10	20	10	24	16500	25	.58	1.03		0	93	7	19	<0.5		
12.5	1371	1.10+	45	9.6	1			9.4	9	18	8	24	16500	25	.53	1.00		0	93	7	19	<0.5		
	1371	1.11+	47	9.6	1			9.7	9	19	8	23	16500	25	.40	.95		0	93.5	6.5	19	<0.5		
13.5	1371	1.11	52	9.8	1			9.7	10	21	9	25	16500	30	.38	.97		0	93.5	6.5	19.5	<0.5		
14.5	PIT	1.12	40	8.8	2			11.6	6	7	2	11	14000	400	1.4	2.1	1.9	0	96	4	12.5	0	4.1	
	PIT	1.12	42	7.7	2			11.6	9	9	3	10	14000	400	1.7	2.4	2.5	0	96	4	12.5	0	5.6	
15/5	PIT	1.12	43	8.0	2			11.6	8	9	3	10	14000	420	1.6	2.4	2.5	0	96	4	12.5	0	5.6	

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MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	~~PPG~~/ Spgt/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm-VT	Oil	Water	Corr. Solids	PPB	EXGYP		
	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²- gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.	Sand %	ppb	
15.5	PIT	1.13	52	9.4	2			11.2	11	16	8	17	14000	1000	.85	1.3	2.5	0	94	6	12.5	0	4.8	
16.5	1375 In	1.13	45	9.6	2			11.0	10	16	6	17	14000	1320	.75	1.2	2.4	0	92	6	12.5	0	4.2	
	1379 Out	1.13+	50	9.8	2			10.9	11	15	6	16	14000	1480	.7	1.2	2.4	0	94	6	12.5	0	4.0	
	PIT	1.15	49	10.4	2			10.6	13	14	5	21	13000	1800	.45	.95	2.7	0	93	7	15.0	0	4.4	
17.5	In 1508	1.15	55	8.4	2			10.6	13	17	5	21	13000	1880	.45	1.0	2.6	0	93	7	17.5	0	4.1	
	Out 1514	1.15+	58	8.6	2			10.5	14	17	7	20	13000	1920	.4	.95	2.6	0	93	7	17.5	0	4.0	
	In 1575	1.14+	59	9.2	2			10.5	14	15	8	14	14500	2080	.4	1.0	2.8	0	92	8	22.5	1/4	4.3	
18.5	In 1690	1.14	50	8.6	2			9.9	11	14	6	18	16000	1800	.3	.8	2.4	0	92	8	20	TR	3.7	
	Out 1701	1.15	54	8.7	2			9.9	12	15	8	22	16000	1760	.3	.8	2.4	0	92	8	22	1/3	3.7	
	PIT	1.14	60	9.3	2			10.6	13	15	9	22	17000	1720	.32	.8	2.1	0	92	8	24	TR	3.1	
19.5	In 1887	1.20	51	8.1	2			10.4	13	11	7	18	16500	1560	.4	1.0	2.7	0	89	11	26	TR	4.8	
	Out 1893	1.20	55	8.8	2			10.5	14	14	9	18	16500	1520	.4	.95	2.6	0	89	11	26	TR	4.8	
	In 1942	1.20	51	9.1	2			10.2	12	13	8	13	17000	1720	.4	1.1	2.8	0	89	11	27.5	TR	4.8	
20.5	In 2011	1.21	50	9.0	2			10.8	13	11	4	13	17000	1760	.45	1.1	2.7	0	88	12	30.0	1/4	4.6	
	Out 2017	1.21	53	9.3	2			10.8	15	12	6	13	17000	1720	.45	1.1	2.8	0	88	12	30.0	1/4	4.8	
	In 2134	1.20	56	9.0	2			10.2	14	12	8	25	18500	2040	.37	.8	2.4	0	89	11	27.5	1/4	3.6	
21.5	In 2194	1.20	50	8.8	2			11.0	13	15	5	24	18500	2150	.5	1.05	3.1	0	90	10	30	1/4	5.0	
	Out 2202	1.20+	52	9.4	2			11.0	13	16	5	23	18500	2080	.5	1.05	2.9	0	89	11	30	2	4.8	
	In 2282	1.23	50	8.0	2			10.3	15	11	4	22	18000	2040	.23	.73	2.5	0	87	13	32	1/4	3.8	

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MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	~~feet~~	~~PPG/~~ ~~Spcf/~~			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	~~Pf~~ Pf	Mf	~~Pm~~ Vf	Oil	Water	Corr. Solids	PPB	EXGYP		
	metres	SG	secs	ccs	1"/32/~~mm~~	ccs	1"/32/~~mm~~		cp	lbs/100ft²-gms/~~100~~ cm²			mg/litre	ppm				%	%	%	Bent. Eq.	Sand %	PPB	
22.5	In 2314	1.23	52	8.6	2			10.4	15	12	5	28	18500	2080	.3	.8	2.6	0	89	11	32	1/4	4.0	
	Out 2319	1.23	55	9.0	2			10.4	18	14	5	34	18500	2040	.3	.8	2.6	0	88	12	32	1/4	4.0	
	PIT	1.23	46	9.6	2			10.6	13	10	3	20	18500	2000	.43	.9	2.5	0	90	10	30	½	3.8	
23/5	In 2381	1.23+	49	9.4	2			10.7	14	11	4	28	18500	2120	.45	.9	2.9	0	90	10	32.5	TR	4.7	
	Out 2385	1.24	55	9.8	2			10.7	15	13	4	32	18500	2080	.45	.9	2.9	0	89	11	32.5	1/4	4.7	
	Out 2478	1.25	50	8.6	2			10.9	18	13	7	34	20000	1800	.44	.9	2.6	0	86	14	35	1/4	4.3	
24.5	In 2517	1.25+	51	7.4	2			10.7	18	12	4	37	20000	1720	.37	.8	2.7	0	88	12	36	TR	4.6	
	Out 2525	1.25+	59	7.6	2			10.7	19	15	5	42	20000	1720	.37	.8	2.7	0	88	12	36	TR	4.6	
	Out 2540	1.25	54	6.6	2			10.2	17	16	5	34	19500	1880	.3	.9	2.8	0	88	12	36	1/4	4.7	
	In 2579	1.25	50	7.0	2			10.9	18	13	5	21	21000	1880	.48	1.0	2.5	0	88	12	35	TR	4.0	
25.5	PIT	1.25	48	6.7	2			10.6	15	12	3	18	21000	1880	.38	.9	2.8	0	88	12	35	TR	4.7	
	In 2599	1.25+	53	6.5	1			10.6	16	12	3	22	20000	2080	.38	.9	2.9	0	88	12	35	1/4	4.7	
26.5	In 2657	1.25	48	7.1	1			11.1	15	11	3	21	21000	1960	.6	1.2	2.7	0	87	13	32	TR	4.3	
	Out 2663	1.25	50	7.2	1			11.1	16	11	3	22	21000	2000	.6	1.2	2.7	0	87	13	32	1/3	4.3	
	In 2684	1.25	48	7.0	1			10.6	14	12	3	22	21000	2120	.38	.9	2.8	0	88	12	32	TR	4.4	
27.5	In 2569	1.25	50	6.6	1			10.5	14	11	3	18	21000	2040	.38	.8	2.7	0	87	13	32	1/4	4.3	
	Out 2600	1.25	51	7.2	1			10.5	15	12	3	20	21000	1920	.38	.8	2.7	0	87	13	32	1/3	4.4	
	In 2698	1.25	49	7.0	2			10.9	17	13	3	19	21000	2080	.38	1.0		0	88	12	38	1/4	4.2	
	Out 2710	1.24+	53	7.0	2			10.6	18	14	4	26	21000	1960	.20	.35		0	88	12	35	1/4	4.1	

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MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	% OTHER		%
	~~feet~~	~~PPG/~~ ~~Spgf~~			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	~~Corr.~~ Solids	PPB	SND	XS GYP	Corr. slds
	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
28.5	In 2749	1.25	52	6.8	2			10.7	17	13	3	16	21000	1900	.30	.65		0	87	13	35	1/4	3.95	
	Out 2753	1.26	56	7.1	2			10.6	20	14	4	16	21000	1900	.27	.62		0	86	14	35	½	3.95	
	Out 2807	1.26	50	7.2	2			10.7	19	13	4	17		1920	.26	.48		0	86	14	35	1/4	3.9	12.8
	In 2835	1.25	50	6.5	2			11.3	20	15	5	21		1840	.48	1.1		0	86	14	35		3.9	12.8
29.5	In 2848	1.25	51	6.2	1			10.6	17	14	3	13		1920	.31	.70		0	86	14	34		4.05	12.8
	Out 2850	1.25	50	6.3	1			10.6	18	14	3	16		1920	.34	.73		0	85.5	14.5	34		3.9	12.8
	In 2872	1.25	52	6.2	1			10.3	16	13	3	15		1920	.32	.80		0	86	14	33	1/4	4.0	12.8
	In 2898	1.25+	51	6.7	1			10.6	16	14	3	11		1760	.30	.55		0	86	14	32		3.6	12.8
30.5	In 2945	1.25+	50	6.7	1			10.3	15	13	3	13		1840	.28	.72		0	86.5	13.5	32		4.3	12.3
	Out 2947	1.25+	48	6.7	1			10.3	17	13	3	14		1840	.24	.70		0	86	14	32		4.1	12.8
	2948	1.25	50	6.2	1			10.8	16	13	2	13		1840	.29	.72		0	87.5	12.5	32	½	4.2	11.3
	2955	1.25+	51	6.0	1			10.4	21	14	4	14		1600	.40	.60		0	88	12	30		4.05	10.8
31.5	2957	1.25+	50	6.5	1			10.8	16	14	3	13		1680	.32	.70		0	88	12	30		3.7	10.8
	2962	1.25	55	6.4	1			10.7	18	15	3	16	21000	1680	.28	.68		0	88	12	31	½	3.8	10.8
	2976	1.25	59	6.5	1			11.4	20	18	3	28		1840	.48	.95		0	88	12	30	½	4.0	10.8
	2994	1.25	48	6.6	1			11.1	16	15	4	19		1920	.35	.80		0	88	12	30	1/4	4.15	10.8
1.6	In 3015	1.25	50	6.4	1			10.8	16	16	4	19		1880	.32	.68		0	88	12	30.5	1/4	4.05	10.8
	Out 3016	1.25	52	6.5	1			10.8	17	17	4	23		1880	.27	.60		0	88	12	30	1/4	4.0	10.8
2.6	Pit 3016	1.25	54	6.0	1			10.2	14	14	4	18		2000	.23	.58		0	88	12	30	1/4	3.9	10.8

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MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	~~feet~~	~~PPG~~/ ~~Spcf~~/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	~~Corr.~~ Solids	PPB	% SND	% XS GYP	% Corr. solids
	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
2.6	In 3016	1.25	57	6.2	½			10.7	15	15	3	20			.20	.38		0			31		4.1	
	In 3016	1.25	52	6.3	½			10.7	15	14	3	18			.20	.39		0					4.1	
3.6	Pit 3016	1.25	52	6.4	½			10.6	15	13	4	23			.15	.37		0					4.0	
	PIT	1.26	48	6.2	½			10.4	16	13	3	20			.15	.63		0			30.5			
4.6		1.26	50	6.4	½			10.3	15	13	3	23		2040	.17	.58		0			31			
	PIT	1.26	52	6.6	½			10.4	15	11	3	25		2000	.17	.53		0			31	1/4	4.0	
	2905	1.25	52	6.6	½			9.5	13	12	3	16			.12	.30		0						
5.6	In 3015	1.25	50	6.4	½			10.4	14	13	3	13		1040	.28	.68		0			27	½	5.5	
	Out 3016	1.25	51	6.4	½			10.6	14	12	3	13		1080	.26	.67		0			27		5.5	
	3018	1.25	50	5.6	½	22.6	3	10.5	13	12	2	10	21000	1200	.23	.53		0	88	12	27	½	3.8	10.8
	PIT	1.25	55	5.6				10.5	11	13	2	14		1200	.21	.55		0						
6.6	In 3024	1.38	53	5.5		19.4	3	10.3	12	12	2	10		1120	.32	.94		0	85	15	26	1/4	4.0	13.9
	Out	1.35	54	5.6		19.6	3	10.1	12	12	2	9		1120	.30	.87		0	85	15	26	1/4	3.9	13.9
	In 3048	1.35	51	5.4		19.8	3	10.2	13	11	2	9	20500	1080	.28	.54		0	85.5	14.5	24.5	1/4		13.4
7.6	Pit 3056	1.35	55	5.3		19.6	2½	10.0	15	12	4	17		1280	.22	.61		0	85.5	14.5	24.5		3.0	13.4
	In 3084	1.35	55	5.5		19.6	3	10.7	15	13	3	15	21000	1200	.27	.62		0			24			
	In 3104	1.38	55	5.2		19.5	2	10.6	15	13	3	16		1200	.20	.48		0			23.5		2.6	
	Out 3104	1.35	58	5.2		19.4	2	10.6	17	13	3	14		1160	.23	.50		0			24		2.7	
8.6	In 3109	1.35	56	5.1		19.8	2½	9.8	15	12	3	11		1280	.18	.53		0			23		1.7	

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NORSK PETROLEUM SERVICES A/S
c/o Dolphin Services A/S
4056 Tananger, Norway. Telephone 04-696524. Telex 33235

WELL NAME: 15/9-14 STATOIL
DEEP SEA SAGA

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	~~feet~~	~~PPG~~/ ~~Spcf~~/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB	SND	XS GYP	Corr. solids
	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
8.6	Out 3134	1.35	60	5.0		20.0	3	10.7	18	13	3	15		1200	.25	.60		0			23.5		1.7	
9.6	In 3144	1.355	57	5.0		19.8	2½	10.6	16	13	3	14	20500	1140	.27	.57		0			24.5		1.8	
	Out 3150	1.355	59	5.0		20.0	3	10.5	16	13	3	14		1200	.22	.53		0			24.5		1.7	
	Pit 3165	1.35	57	4.7		19.8	2½	10.0	15	15	3	16		1200	.18	.55		0			24.5		1.7	
10.6	In 3173	1.355	59	4.6		19.8	2½	10.5	16	14	3	16		1080	.22	.58		0			23		1.4	
10.6	Out 3178	1.35	62	4.9	½	19.9	2½	10.3	17	14	3	14	20500	1100	.18	.57		0	85.5	14.5	23.5	1/4	1.4	13.4
11.6	Pit 3228	1.35	56	5.4	1	17.4	3	10.5	16	13	3	16	22000	1120	.20	.65		0	85.5	14.5	24	1/4	1.3	13.4
12.6	Pit 3243	1.35	56	4.9	1	16.4	3	10.7	16	12	3	16	21500	1000	.25	.75		0	85	15	22	1/4	1.3	14
13.6	Pit 3267	1.35	55	5.0	1	16.6	3	10.5	15	12	3	15	21500	920	.20	.60		0	85	15	22	1/4	1.3	14
14.6	In 3295	1.35	58	4.7	1	16.2	3	10.5	15	L2	3	13	21500	1000	.20	.70		0	85	15	19	1/4	1.3	14
14.6	Out 3296	1.35	57	4.8	1	16.4	3	10.4	14	12	3	13	21500	1000	.15	.60		0	85	15	19	1/4	1.3	14
15.6	In 3360	1.35	58	5.1	1	16.6	3	10.6	15	12	3	14	21500	980	.20	.80		0	85	15	19	1/4	1.3	14
15.6	Out 3370	1.35	59	5.0	1	16.6	3	10.6	16	13	3	15	21500	960	.20	.75		0	85	15	20	1/4	1.3	14
16.6	In 3466	1.38+	59	5.4	1	17.4	3	9.8	18	12	3	17	21500	960	.15	.60		0	84	16	19	½	1.2	15
16.6	Out 3466	1.39	57	5.3	1	17.2	3	9.6	17	12	3	16	21500	920	.10	.45		0	84	16	19	½	1.2	15
17.6	In 3551	1.38+	59	4.9	1	16.6	3	10.3	16	12	3	15	21500	800	.2	.7		0	84	16	19	1/4	1.2	15
17.6	Out 3552	1.38+	58	4.8	1	16.4	3	10.2	17	12	3	15	21500	760	.2	.7		0	84	16	19	TR	1.2	15
18.6	In 3563	1.38+	69	4.9	1	16.4	3	9.5	18	14	3	16	22000	760	.2	.7		0	84	16	19	TR	1.2	15
18.6	Out 3563	1.39	93	4.4	1	16.3	3	9.6	21	14	3	16	21500	760	.2	.7		0	84	16	19	TR	1.2	15

NORSK PETROLEUM SERVICES A/S
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4056 Tananger, Norway. Telephone 04-696524. Telex 33235

WELL NAME: 15/9-14 STATOIL
DEEP SEA SAGA

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	~~feet~~	~~PPG/~~ ~~Spgt/~~			Cake	200 500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	~~Corr.~~ Solids	PPB	SND	XS GYP	Corr. Solids
	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
19.6	Pit 3563	1.39	60	5	1	16.3	3	10	19	12	3	17	22000	800	.25	.75		0	83	17	17.5	TR	1.2	16
19.6	Out 3563	1.39+	68	5	1	16.2	3	9.9	18	13	3	14	23000	800	.25	.75		0	83	17	17.5	TR	1.2	16
20.6	Pit 3563	1.39	61	5.3	1	16.5	3	9.5	21	14	3	16	22000	760	.25	.8		0	83	17	18		1.2	16
20.6	Out 3563	1.38	62	5.4	1	16.5	3	9.5	24	15	3	17	22000	760	.25	.8		0	83	17	18		1.2	16
21.6	In 3563	1.47	59	4.9	1	16.2	3	10	20	13	3	14	22000	640	.28	.85		0	81	19	17.5		1.2	18
21.6	Out 3563	1.47+	63	4.8	1	16.1	3	10.5	21	13	3	14	23000	680	.26	.87		0	81	19	17.5		1.2	18
22.6	Out 3563	1.47+	61	4.8	1	16.2	3	9.8	18	13	3	16	23000	680	.25	.85		0	81	19	17.5		1.1	18
22.6	Pit 3563	1.47	64	4.9	1	16.2	3	9.7	19	13	3	16	22000	680	.25	.85		0	81	19	17.5		1.1	18
23.6	In 3349	1.47	57	7.2	1	17.8	3	11.5	18	13	3	15	22500	580	.49	1.32		0	81	19	17.5		1.1	18
23.6	Out 3349	1.47	57	7.3	1	17.9	3	11.5	18	16	3	16	23500	580	.51	1.48		0	81	19	17.5		1.1	18
24.6	In 2920	1.47+	70	7.1	1			12.2	19	21	7	37	22000	440	1.75	3.0		0	83	17				
24.6	Pit 2930	1.47	62	7.8	1			11.9	19	17	5	33	21500	360	1.95	3.3		0	83	17		<0.5		
25.6	Pit 1400	1.47	68	7.8	1½	27.0	4	12.2	20	17	6	38	22500	440	1.75	3.3		0	83	17	18	0.5	2.2	17
25.6	Pit 1260	1.47	64	8.4	1½			12.1	20	14	6	40	22000	100	1.8	3.0		0	83	17	18	<0.5		
26.6	Pit 250	1.47	61	8.4	1			11.8	20	12	3	28	22000	100	2.7	4.8		0	83	17	17.5	0.5		
26.6	Pit 150	1.45	51	8.8	1			11.9	15	10	3	15												
27.6	PIT	1.45	51	8.8	1			11.9	15	10	3	13	22000	120	2.0	3.05		0	83	17	17.5			

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NL PETROLEUM SERVICES (UK) LTD.
NL BAROID

WELL NAME: 15/9-14 STATOIL
DEEP SEA SAGA

BIT & HYDRAULIC RECORD

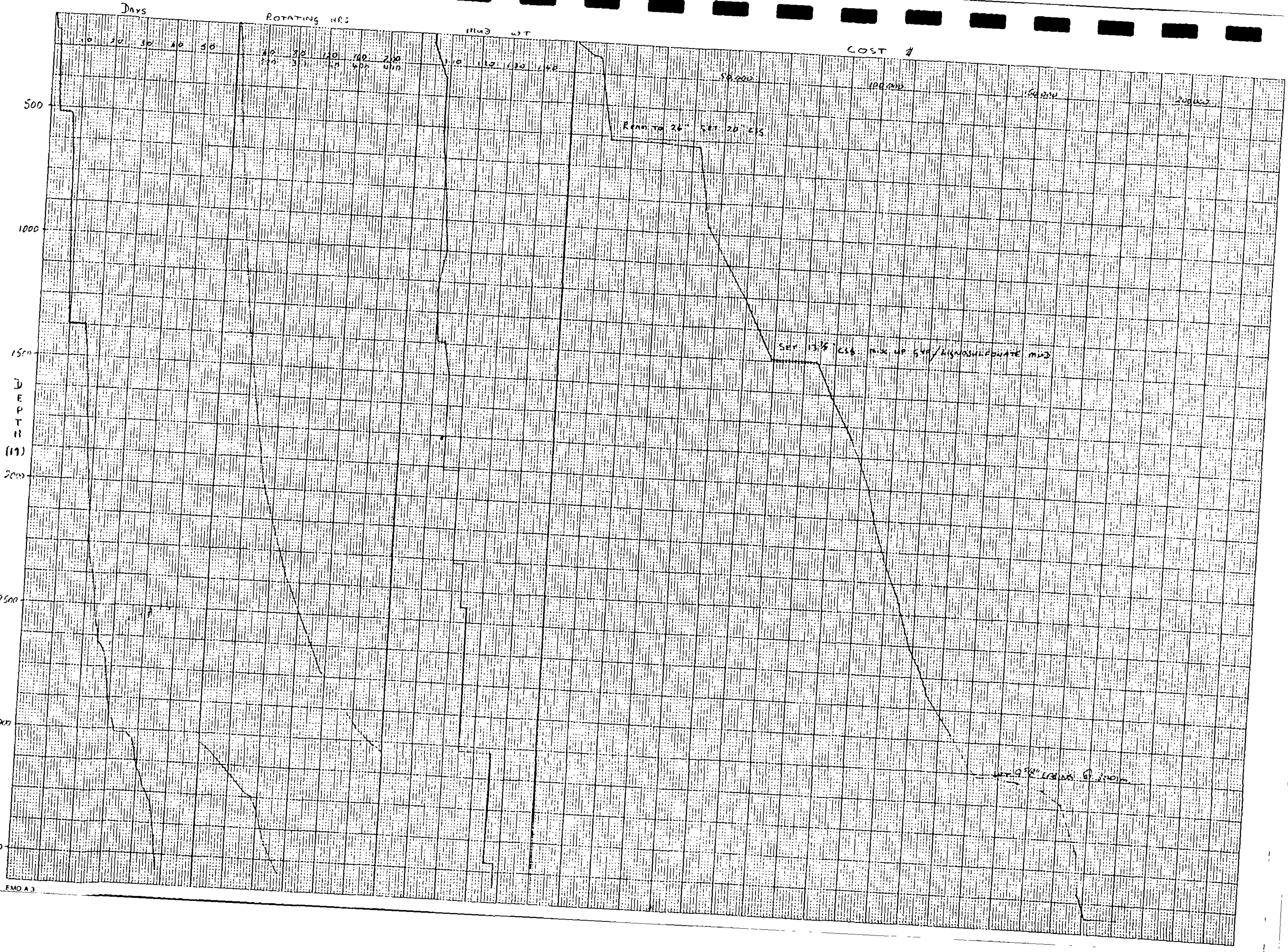
BIT No	TYPE	SIZE	DEPTH OUT	FOOTAGE	HRS RUN	CUM TIME	WT on BIT	RPM	Pump Output	Pump Press	ANN VEL	Liner Size	5 PM	Jet Sizes	Bit Grading
		ins/~~mm~~	~~ft~~/m	~~ft~~/m		hrs	x 100 lbs/kgs		v/+ ~~gpm~~/~~lpm~~	bar ~~psi~~/~~kg cm²~~	DC DP ~~ft/min~~/min	ins/mm		32 nds	T B G
1	OSC-3A	26	187	84.5	5	5	0/7	40/80	3470	31		6 3/4		3x18	
IRR	OSC-3A	26	191	4	2	7	Drld CMT and		4 m of	new hole				3x18	
2	X3	12 1/4	516	325	4.8	11.8	2/7	120	3570	158		6 3/4		3x16	1-1-I
3	X3A	17½		Drld CMT and 7	m of new hole						30/28	6 3/4	200	3x18	
4	X3A	17½	1371	845	25.2	37	2/13	110/130	4090	193	30/28	6 3/4	200	1x16 1x18 1x20	2-2-I
5	X1S	12 1/4	1394	23	2	39	2.5/13	20/120	3070	200	70/48	6 3/4	150	3x15	2-2-I
6	X3	12 1/4	1973	561	27.5	66.50	12/16	120	2660	197	61/42	6 3/4	130	2x15 1x14	4-3-I
7	X3	12 1/4	2343	368	34.6	101.1	11/18	110/80	2620	186	61/42	6 3/4	130	3x15	7-4-1/6
8	XD6	12 1/4	2579	236	31.6	132.7	18/20	85/100	2579	200	57/39	6 3/4	122	3x15	5-5-1/16
9	XD6	12 1/4	2684	105	21.7	154.4	18/22	80/120	2525	200	57/39	6 3/4	122	3x15	7-5-1/16
10	LYNS	12 1/4	2946	262	49.7	204.1	19/24	-	2537	275	57/39	6	155	Turbine	bit 100% dampe
11	XD6	12 1/4	3016	70	23.4	227.5	25	9	2553	205	71/49	6 3/4	155	3x18	1-5-1
12	XIG-J	8½	3019	3	3	230.5	9/13	50/75	1400					3x12	3-3-1
13	XDGJ	8½	3055	36	17.1	247.6	17.0	100	1400	165	86-106 58-71		70 86	3.11	48 1/16
14	XDGJ	8½	3104	49	16.6	264.2	17.0	100	1400	172	84 56		68	2x11 1x10	3-8-I

NL PETROLEUM SERVICES (UK) LTD.
NL BAROID

WELL NAME: 15/9-14 STATOIL
DEEP SEA SAGA

BIT & HYDRAULIC RECORD (2)

BIT No	TYPE	SIZE	DEPTH OUT	FOOTAGE	HRS RUN	CUM TIME	WT on BIT	RPM	Pump Output	Pump Press	ANN VEL	Liner Size	5 PM	Jet Sizes	Bit Grading
		ins/mm	ft/m	ft/m		hrs	x 100 lbs/kgs		gpm/lpm	BAR psi/kg cm²	DC DP f/min m/min	ins/mm		32 nds	T B G
15	J2	8½	3168	64	20.8	285	17.0	100	1400	172	84/56	6 3/4	68	2x11 1x10	7-2-I
16	XDG	8½	3228	60	16.7	301.7		100	1400	172	84/56	6 3/4	68	2x11 1x10	4-2-I
17	CB403	8½	3243	15	9.4	311.1	9/14	100/ 120	820/ 1230	76/126	62/41	6 3/4	40/60	-	-
18	J2	8½	3267	24	3.1	314.2	11/13	100	1431	186/19	3 84/56	6 3/4	68	2x11 1x10	3-2-I
17RR	CB403	8½	3286	19	3.1	317.3	7/14	120	818	48.6		6 3/4			
19	XDG	8½	3296	10	1.2	318.5	15	85	1390	180	84/56	6 3/4	68	2x11 1x10	2-1-I
20	XDG	8½	3430	134	14.2	332.7	15	85	1390	180	84/56	6 3/4	68	2x10 1x10	7-3-I
21	XDG	8½	3563	133	19.2	351.9	15/17	60/85		186		6 3/4	68	2x11 1x10	53 1/16
22	J3	8½			Circ/	reaming								3x13	
23	X19	8½												3x13	
23RR	X19	8½												3x13	



DAYS
10 20 30 40 50
ROTATING HRS
MUD WT
COST $
50,000
100,000
150,000
200,000
REAM TO 26" SET 20" CSG
SET 13 3/8" CSG MIX UP 54#/LIGNOSULFONATE MUD
500
1000
1500
DEPTH (M)
2000
2500
3000
3500
EMO A 3