

GEMDAS LOGGING REPORT NO. 33

COMPANY AMBCO PRODUCTION CO. WELL ACS Y-0302 #1
DATE APRIL 13TH 1986 TIME 2400
DEPTH 7982 LAST REPORT DEPTH 7982
RIG OPERATIONS RUN CBL
REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No.: 18 Type: _____ Size: 8 1/2" Jets: _____
On Bit: Footage: _____ Hours: _____ ROP: _____ WOB: _____ RPM: 73
Pump Press: 1100 GPM: 126 Torque: _____ TNR: _____ CP I: S _____ ON D: S _____

HYDRAULICS REPORT

Mud Density In: _____ Mud Density Out: _____ EOD: _____ PV/YP: _____
Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
Hole Volume: 55964 Annular Volume: _____ Tubing Volume: _____ Displaced Volume: _____
Carbide Lag—Calculated Lag: _____ Flowrate: _____
Drillpipe Annular Vel (Max. Dia. Sec.): _____ Drillpipe Annular Vel (Open Hole): _____
Drill Collar Annular Vel (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Nozzle Vel: _____ Jet Impact Force: _____ MHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: _____
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____
Other Gas: _____
Fill: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____
RECEIVED
000 DISTRICT OFFICE
APR 16 1986

ESTIMATED PORE AND FRACTURE PRESSURE

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: _____ Min. Estimated Pore Pressure (Open Hole): _____
Max. Estimated Pore Pressure (Open Hole): _____ @ _____ Estimated Fracture Pressure at TD: _____

Comments:

NIPPLE UP PIPE & TEST SAME
1000 hrs RUN W/ 8 1/2" BIT CASING SCOPER 6 1/2" DCS
WORKED / FINAL 8 STANDS OF TRIP IN
1345 CIRCQ FLOAT COLLAR @ APPROX 7982 ft
1100psi / 126 GPM
1555 PRESSURE TEST CASING 2100psi / 25 min = OK
1630 POOH
2000 RIG-UP DRESSER-ATLAS - RUN CBL

GEMDAS LOGGING REPORT NO. 32

COMPANY AMOCO PRODUCTION CO. WELL 005 V-0302 #1
DATE APRIL 12TH 1986 TIME 2400
DEPTH 7982 ft LAST REPORT DEPTH 7982 ft
RIG OPERATIONS INSTAL WELL HEAD (95%)
REPORT BY RICHARD WILKINSON REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No.: _____ Type: _____ Size: _____ Jets: _____
On Bit: Footage: _____ Hours: _____ ROP: _____ WOB: _____ RPM: _____
Pump Press: _____ SPM: _____ Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: _____ Mud Density Out: _____ ECD: _____ PV/YP: _____
Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
Hole Volume: 564661 Annular Volume: _____ Tubing Volume: _____ Displaced Volume: _____

Carbide Lag—Calculated Lag: _____ Flowrate: _____

Drillpipe Annular Vel (Max. Dia. Sec.): _____ Drillpipe Annular Vel (Open Hole): _____

Drill Collar Annular Vel (Open Hole): _____ Critical Vel: _____

Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss _____
Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: _____

Shale Density: _____ Shale Factor: _____

Background Gas: _____ Max. Formation Gas: _____ Trip Gas: _____

Other Gas: _____

FIH: _____ Tight Hole: _____

Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____

Estimated Pore Pressure: _____ Min. Estimated Pore Pressure (Open Hole): _____

Max. Estimated Pore Pressure (Open Hole): _____ Estimated Fracture Pressure at TD: _____

Comments: _____

RAN 95% CASING, WORKED & PUMPED FINAL 1 1/2 JOINTS
TO BOTTOM - CIRCULATED THROUGH CASING W/ 166 gpm
1220 hrs BEGIN PUMPING CEMENT - GAINED 430/661 IN PITS
1330 hrs BEGIN DISPLACING CEMENT W/ RIG PUMPS + MUD
PUMPED 7338 STROKES (548 661) (300 psi/136 gpm)
LOST APPROX 100 661 MUD, HAD RETURNS THROUGHOUT 2ND

GEMDAS LOGGING REPORT NO. 31

COMPANY AMOCO PRODUCTION CO. WELL OCS Y-0302 #1
DATE APRIL 11th 1986 TIME 2400
DEPTH 7976 # LAST REPORT DEPTH 7976
RIG OPERATIONS RUN 9 5/8" CASING
REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No.: RR #17 Type: SMITH SDS Size: _____ Jets: 15/15/15
On Bit: Footage: 0 Hours: _____ ROP: _____ WOB: _____ RPM: _____
Pump Press: 2460 SPM: 168 Torque: _____ TBR: _____ CP I: 6 CP B: 6

HYDRAULICS REPORT

Mud Density In: _____ Mud Density Out: _____ ECD: _____ PV/YP: _____
Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
Hole Volume: 1282.661 Annular Volume: 1107.661 Tubing Volume: 108.661 Displaced Volume: 68.661
Carbide Lag—Calculated Lag: _____ Flowrate: _____
Drillpipe Annular Vel (Max. Dia. Sec.): 97.2 ft/min Drillpipe Annular Vel (Open Hole): 98.9 ft/min
Drill Collar Annular Vel (Open Hole): 149.2 ft/min Critical Vel: 135.5 ft/min
Pressure Loss System: 2186 psi Pressure Loss Bit: 932 psi % Pressure Loss: 43
Nozzle Vel: 825 ft/sec Jet Impact Force: 873 lb HHP: 286 hp

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: 112°F
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ Trip Gas: _____
Other Gas: _____
FMI: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

APR 16 1986

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): MINERALS MANAGEMENT SERVICE
Estimated Pore Pressure: _____ Min. Estimated Pore Pressure (Open Hole): ANCHORAGE, ALASKA
Max. Estimated Pore Pressure (Open Hole): _____ Estimated Fracture Pressure at TD: _____

Comments:

MADE WIPER TRIP, CIRCULATED 4 hrs ON BOTTOM,
PULLED TO SHOE, CIRC & WAITED ON ORDERS; RAN
BACK TO BOTTOM & CIRCULATE 2.3 hrs;
POOH TO RUN 9 5/8" CASING

@ 2400 hrs 24 JOINTS RUN



COMPANY AMOCO PRODUCTION CO. WELL OCS Y-0302 #1
DATE APRIL 16TH 1986 TIME 2400
DEPTH 7976 ft LAST REPORT DEPTH 7976 ft
RIG OPERATIONS 1600 1000
REPORT BY RICHARD W. HUFFEN REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No.: 17 Type: SMITH SPS Size: 12 1/4" Jets: 15/15/15
On Bit: Footage: 0 Hours: _____ ROP: _____ WOB: _____ RPM: 75
Pump Press: 237 SPM: 163 Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: _____ Mud Density Out: _____ ECD: _____ PV/YP: _____
Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
Hole Volume: 1187.1 Annular Volume: 145.25 Tubing Volume: 118.66 Displaced Volume: 60.66
Carbide Lag—Calculated Lag: 14759 strokes = 82 mins. Flowrate: 511 gal/min
Drillpipe Annular Vel (Max. Dia. Sec.): 94.7 ft/min Drillpipe Annular Vel (Open Hole): _____
Drill Collar Annular Vel (Open Hole): 145.5 ft/min Critical Vel: 171.9 ft/min
Pressure Loss System: 2140 psi Pressure Loss Bit: 900 psi % Pressure Loss: 43
Nozzle Vel: 316.7 ft/sec Jet Impact Force: 841.8 k HHP: 268.3 hp

PRESSURE PARAMETERS

Drilling Exponent: RECEIVED Flowline Temperature: 90°F
Shale Density: OCS DISTRICT OFFICE Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Other Gas: APR 16 1986
Fill: MINERALS MANAGEMENT SERVICE
Cavings: Est %: ANCHORAGE, ALASKA Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: _____ Min. Estimated Pore Pressure (Open Hole): _____ @ _____
Max. Estimated Pore Pressure (Open Hole): _____ @ _____ Estimated Fracture Pressure at TD: _____

Comments:

RAN LOGGING AREA INCLUDING OCS
1600 1000 1000 1000 1000
1600 1000 1000 1000 1000
2400 hrs. 1000 1000 1000 1000 1000
0350 Stop Circulating --- prepare to pull
0415 P.O.H. ---

FORMATION TEST SUMMARY										
File No.	Test Depth	Hydrostatic (PSI)	Drawdown (PSI)	Initial Pressure (PSI)	Initial Shut In Time (Sec)	PT No.	FT No.	Set No.	TEMP. CORR. PRES.	Remarks
1										
2										
3										GR TIE IN
4										" " "
5										" " "
6										" " "
7										" " "
8										" " "
9										" " "
10	7254	3814								" " "
11	7255	3815								" " "
12	7354	3870								" " "
13	7355	3869								" " "
14	7361	3871								" " "
15	7402	3892	3550	3752	9	1		5		" " "
16	7396	3889	3700	3750	9	2		6	3740	
17	7384	3883	3508	3746	9	3		7	3738	
18	7375	3878	3486	3743	9	4		8	3734	
19	7361	3870						9	3731	
20	7368	3876						10		NO SEAL
21								11		" "
22	7412	3925	3425	3757	10	5		12	3745	GR TIE IN
23	7435	3910	2340	3766	11	6		13	3754	
24	7440	3910	3720		9			14		
25	7438	3909	3680	3768	11	7		15	3756	PLUGGED
26	7449	3915	3650	3777	9	8		16	3767	
27	7458	3918	3510	3777	10	9		17	3765	
28	7462	3921	2930	3778	10	10		18	3766	
29	7476	3928	3550	3789	8			19	3777	
30	7474	3925						20		PRESSURE DROPPING
31	7490	3934						21		NO SEAL
32	7499	3938	3720	3796	9	11		22	3784	" "
33	7506	3942	3110	3803	9	12		23	3791	
34	7512	3945	3450	3806	10	13		24	3794	
35	7526	3950						25		
36	7540	3958	3400	3814	10	14		26	3802	NO SEAL
37	7562	3975	25					27		N.C.F.
38	7585	3981						28		NO SEAL
39	7602	3991						29		" "
40	7663	4026	3100	3868	10	15		30	3866	
41	7669	4027	3500	3922	9	2		31	3910	
42	7667	4022	1750	3919	11	16		32	3907	
43	7693	4037						33		REPEAT
44	7692.5	4036	3500	3880	10			34	3868	PLUGGED
45	7663	4022	2850	3867	10			35	3855	LOST SEAL
46	7668	4023	3100	3884				36	3972	REPEAT P.T. 15
47	7435	3902						37		REPEAT
48	7435	3903	1300	3770	10			38	3758	REPEAT P.T. 6
49	7358	3863						39		REPEAT P.T. 6
50	7368	3870	2750	3746	10	17		40	3734	NO SEAL
51	7375	3871						41		
52	7374	3868						42	PLUGGED	REPEAT P.T. 4
53	7373	3868						43		NO SEAL
54	7373	3868						44	3730	REPEAT P.T. 4
55	7359	3859	3106	3742	10			45		NO SEAL
56	7384	3876		3747				46	3715	NO SEAL
57								47	3725	TOOK SEGREGATED SAMPLES
58										CALB.
59										GR TIE-IN
60										GR TIE-IN
61										GR TIE-IN
62										GR TIE-IN



GEMDAS LOGGING REPORT NO. 28

COMPANY Amoco Production CO. WELL OCS 4-0303
DATE 4/9/86 TIME 2400
DEPTH 7976' LAST REPORT DEPTH 7976'
RIG OPERATIONS Rig-up for E-LOGS
REPORT BY GUNDERSON REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No. 17 Type: Smith S05 Size: 12 1/4" Jct: 15.15/15
On Bit Footage: _____ Hours: _____ ROP: _____ WOB: _____
Pump Press: 2310 SPM: 162 Torque: _____ TBR: _____ CP: _____

HYDRAULICS REPORT

Mud Density In: 10.0 Mud Density Out: 10.0 ECD: 10.0 RV: 14/6
Gels: 0/2/6 Salinity: 800 PPM Cl: _____ Solids: 10
Hole Volume: 1170 bbl Annular Volume: 994 bbl Tubing Volume: 108 bbl Displaced Volume: 18 bbl
Carbide Lag - Calculated Lag: 14825 - 13314 Flowrate: 520
Drillpipe Annular Vel (Max Dia. Sec.): 96.5 ft/min Drillpipe Annular Vel (Open Hole): 98.5 ft/min
Drill Collar Annular Vel (Open Hole): 148 ft/min Critical Vel: 134 ft/min
Pressure Loss System: 2177 psi Pressure Loss Bit: 929 psi % Pressure Loss: 43
Nozzle Vel: 322 ft/sec Jet Impact Force: 868 lbs HPR: 285

PRESSURE PARAMETERS N/A

Drilling Exponent: _____ RECEIVED _____ Flowline Temperature: 114°F
Shale Density: _____ OCS DISTRICT OFFICE _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____
Other Gas: _____ APR 15 1986
Tight Hole: _____ MINERALS MANAGEMENT SERVICE
Cavings, Est %: _____ ANCHORAGE, ALASKA
Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 1.45 lb/g Min. Estimated Fracture Pressure (Open Hole): 15.5 c/shoe
Estimated Pore Pressure: 9.7 Min. Estimated Pore Pressure (Open Hole): 8.5 c/shoe
Max. Estimated Pore Pressure (Open Hole): 9.7 @ 7976 Estimated Fracture Pressure (Open Hole): _____

Comments:

* R1 It & Ream 4400-4800'
R1 It to bottom & Ream - circulate & condition
POOH w/ Bit #17 for E-LOGS
very little drag on trip out max 15 k
@ 0900 RUNNING DRESSER-ATLAS ELECTRA



GEMDAS LOGGING REPORT NO. 27

COMPANY AMOCO PRODUCTION CO WELL OCS 4 0302 #1
 DATE 4/7/86 TIME 2400
 DEPTH 7976 LAST REPORT DEPTH 7762
 RIG OPERATIONS Wiper hole
 REPORT BY Gunderson REPORT RECEIVED BY _____ (OPERATOR)
 SIGNED _____

DRILLING REPORT

Bit No.: 16 Type: SMITH F2 Size: 12 1/4 Jets: 13 13 13
 On Bit: Footage: 329 Hours: 26 ROP: 12.6 WOB: 60 RPM: 55
 Pump Press: 2610 SPM: 156 Torque: 100,000 TBR: 76539 CP I: \$ 269 CP B: \$ 378

HYDRAULICS REPORT

Mud Density In: 7.9 Mud Density Out: 7.7 ECD: 11.0 PVIYP: 4.4
 Gels: 1.1/4 Salinity: 750 PPM Cl Solids: 90 %
 Hole Volume: 1170 Annular Volume: 984 Tubing Volume: 106 Displaced Volume: 80
 Carbide Lag—Calculated Lag: 14080-13185 Flowrate: 477 gpm
 Drillpipe Annular Vel (Max. Dia. Sec.): 88 ft/min Drillpipe Annular Vel (Open Hole): 90 ft/min
 Drill Collar Annular Vel (Open Hole): 135 ft/min Critical Vel: 135 ft/min
 Pressure Loss System: 2500 Pressure Loss Bit: 1369 % Pressure Loss: 54
 Nozzle Vel: 573 ft/min Jet Impact Force: 960 lbs HHP: 381

PRESSURE PARAMETERS

Drilling Exponent: 1.70 Flowline Temperature: 174°F
 Shale Density: _____ Shale Factor: _____
 Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____
 Other Gas: _____
 Fill: _____ Tight Hole: _____
 Cavings: Est %: _____ Average Size: _____
 RECEIVED
 OCS DISTRICT OFFICE
 APR 09 1986
 MINERALS MANAGEMENT SERVICE
 ANCHORAGE, ALASKA

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 145 lb/gal Min. Estimated Fracture Pressure (Open Hole): 1830 lb/gal
 Estimated Pore Pressure: 9.7 lb/gal Min. Estimated Pore Pressure (Open Hole): 8.8 @ Max
 Max. Estimated Pore Pressure (Open Hole): 9.7 @ EO Estimated Fracture Pressure at TD: _____

Comments:

Reached TD 7976' @ 2027 hrs 4/7/86
Wiper hole to casing shoe
4/8/86 0000 hrs HOLE TIGHT @ 4841 ft - P/U KELLY & WORK PIPE
0100 hrs ATTEMPT TO COMPLETE WIPER TRIP - HOLE STILL
TIGHT - LAY DOWN SINGLES (6)
0145 hrs P/U KELLY @ 4467 ft & WORK PIPE, REAM TIGHT HOLE
@ 0400 hrs CONTINUE WORK PIPE @ 4467 ft

EXLOG**GEMDAS LOGGING REPORT NO. 26**

COMPANY Amoco Productions CO. WELL OCS Y 0302 #1
 DATE 4/7/86 TIME 2400
 DEPTH 7762 LAST REPORT DEPTH 7562
 LOG OPERATIONS Drilling
 REPORT BY Gray Gunderson REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

DILLING REPORT

No. 16 Type: Smith F.2 Size: 12 1/4" Jets: 13:13:13
 Bit: Footage 115 Hours: 8.4 ROP: 13.5 WOB: 55 RPM: 60
 hp Press: 2670 SPM: 152 Torque: 200-275 TBR: 29259 CP I: \$ 188 CP B: \$ 557

HYDRAULICS REPORT

Mud Density In 10.1 Mud Density Out 10.1 ECD: 10.15 PV/YP: 14/4
 Salinity: 900 PPM Cl Solids: 11
 Annular Volume: 956 bbl Tubing Volume: 103 bbl Displaced Volume: 78 bbl
 Circulation Lag - Calculated Lag: 14259-12807 STKS Flowrate: 480 gpm
 Drillpipe Annular Vel (Max Dia Sec): 89 ft/min Drillpipe Annular Vel (Open Hole): 91 ft/min
 Collar Annular Vel (Open Hole): 137 ft/min Critical Vel: 208 ft/min
 Pressure Loss System: 2535 psi Pressure Loss Bit: 1394 psi % Pressure Loss: 55
 Jet Impact Force: 992 lbs HHP: 385

PRESSURE PARAMETERS

Flowline Temperature: 117°F
 Shale Factor: _____
 Max. Formation Gas: _____ @ _____
 Night Hole: _____
 Average Size: _____
RECEIVED
OCS DISTRICT OFFICE
APR 09 1986

ESTIMATED PORE AND FRACTURE PRESSURE

Min. Estimated Fracture Pressure (Open Hole): 13.3 lb/g c shoe
 Min. Estimated Pore Pressure (Open Hole): 8.8 @ shoe
 Max. Estimated Pore Pressure (Open Hole): 9.7 @ TD Estimated Fracture Pressure at TD: _____

Comments

RIH w/ NB #16 & Rcam 30' to bottom
SEE BOTTOM @ 7780ft - LOSING MUD TO FORMATION, CIRC STAYING
DRILLING TOTAL MUD LOSS = APPROX 85 bbl
DRILLING w/ NB #16 @ 7791 ft @ 10.5 ft/hr & w/ 1200



GEMDAS LOGGING REPORT NO. 25

COMPANY Amoco Production CO WELL OCS 4 0302
 DATE 4/5/86 TIME 2400
 DEPTH 7562 LAST REPORT DEPTH 7300
 RIG OPERATIONS Drilling
 REPORT BY GARY GUNDERSON REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No. 15 Type Smith F1 Size 12 1/4" Jets: 13 13 13
 On Bit: Footage: 165 Hours: 9.7 ROP: 17 ft/hr WOB: 40 RPM: 70-80
 Pump Press: 2700 SPM: 153 Torque: 40-80 TBR: 35805 CP I: \$ 220 CP B: \$ 402

HYDRAULICS REPORT

Mud Density In: 10.1 Mud Density Out: 10.1 ECD: 10.2
 Gels: 1/2/17 Salinity: 1000 PPM Cl⁻ Solids: 11 %
 Hole Volume: 1108 bbl Annular Volume: 931 bbl Tubing Volume: 100 bbl Displaced Volume: 77 bbl
 Carbide Lag - Calculated Lag: 13894 - 12479 STROKES Flowrate: 477 gpm
 Drillpipe Annular Vel (Max. Dia. Sec.): 88.3 ft/min Drillpipe Annular Vel (Open Hole): 90 ft/min
 Drill Collar Annular Vel (Open Hole): 135 ft/min Critical Vel: 171 ft/min
 Pressure Loss System: 2510 psi Pressure Loss Bit: 1390 psi % Pressure Loss: 55
 Nozzle Vel: 393 ft/sec Jet Impact Force: 976 lbs HHP: 386

PRESSURE PARAMETERS

Drilling Exponent: 1.50 Flowline Temperature: 124 °F
 Shale Density: _____ RECEIVED: _____
 Background Gas: _____ Max. Formation Gas: OCS DISTRICT OFFICE Trip Gas: _____
 Other Gas: _____
 Tight Hole: _____ APR 09 1986
 Cavings: Est %: _____ MINERALS MANAGEMENT SERVICE
 ANCHORAGE, ALASKA

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 1.51 16/9 Min. Estimated Fracture Pressure (Open Hole): 13.3 16/9 @ shoe
 Estimated Pore Pressure: 9.6 Min. Estimated Pore Pressure (Open Hole): 8.8 @ shoe
 Max. Estimated Pore Pressure (Open Hole): 9.6 @ TD Estimated Fracture Pressure at TD: _____

Comments:

* RTH w/ NB 15 & Ream 100' to obtain MWD LOG
 SURVEYS 7387 1.77 244 A2
 7513 2.24 246
 0400hrs DRILLING W/NB #15 @ 7615 HPD 14 1/2" DIA

EXLOG**GEMDAS LOGGING REPORT NO. 24**

COMPANY AMOCO PRODUCTION CO. WELL OCS Y 0302 #1
DATE 4/9/86 TIME 2400
DEPTH 7300 LAST REPORT DEPTH 7079
RIG OPERATIONS Drilling
REPORT BY GUNDERSON REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

DRILLING REPORT

Bit No. 14 Type Smith SODH Size 12 1/4 Jets 13:13:13
On Bit: Footage 119 Hours 7.9 ROP 15 ft/hr WOB 60 RPM 120
Pump Press 2890 SPM 153 Torque 100-120 TBR 56,345 CP I: \$ 201 CP B: \$ 533

HYDRAULICS REPORT

Mud Density In 10.0 Mud Density Out 10.0 ECD 10.07 PV/YP 14/6
Gels 115/17 Salinity 1400 PPM Cl Solids 9
Hole Volume 1070 bbl Annular Volume 898 bbl Tubing Volume 96 bbl Displaced Volume 75 bbl
Carbide Lag - Calculated Lag 3756-12034 stks Flowrate 483 gpm
Drillpipe Annular Vel (Max Dia Sec) 89 ft/min Drillpipe Annular Vel (Open Hole) 91 ft/min
Drill Collar Annular Vel (Open Hole) 137 ft/min Critical Vel 213 ft/min
Pressure Loss System 2579 Pressure Loss Bit 1417 % Pressure Loss 55
Nozzle Vel 398 ft/sec Jet Impact Force 995 lb HHP 399

PRESSURE PARAMETERS

Drilling Exponent 0.85 Flowline Temperature 115 °F
Shale Density _____ Shale Factor _____
Background Gas _____ Max. Formation Gas _____ @ _____ Trip Gas RECEIVED@
Other Gas _____ OCS DISTRICT OFFICE
Tight Hole _____ APR 09 1986
Average Size _____ MINERALS MANAGEMENT SERVICE

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance 13.3 shoe Min. Estimated Fracture Pressure (Open Hole) 13.3 shoe
Estimated Pore Pressure 9.5 Min. Estimated Pore Pressure (Open Hole) 8.8 @ shoe
Max. Estimated Pore Pressure (Open Hole) 9.5 @ TD Estimated Fracture Pressure at TD _____

Comments:

R 11 w/ NB #14 & DRILL AHEAD
Room 60 feet to bottom
DRILLING W/ NB #14 @ 7378 ft @ 37.2 ft/hr
20 units GAS ROP INCREASED FROM 15-18 ft/hr
3350 ft To 25-40 ft/hr



GEMDAS LOGGING REPORT NO. 23

COMPANY Amoco Production CO WELL OCS 4 0302 MARSH
DATE 4/3/86 TIME 2400
DEPTH 7079 LAST REPORT DEPTH 6910
RIG OPERATIONS Drilling
REPORT BY GUNDERSON REPORT RECEIVED BY _____ (OPERATOR)
SIGNED _____

DRILLING REPORT

Bit No.: 13 Type Smith SDC HCE Size: 12 1/4 Jets: 11/11/11/9
On Bit: Footage: 22 Hours: 1.7 ROP: 13 WOB: 58-60 RPM: 120
Pump Press: 3020 SPM: 128 Torque: 90-100 TBR: 5860 CP I: 207 CP B: 1847

HYDRAULICS REPORT

note possible plug jet!!
Mud Density In: 9.7+ Mud Density Out: 9.8 ECD: 9.8 PV/YP: 17/8
Gels: 1600 Salinity: 1600 PPM Cl Solids: 9 %
Hole Volume: 1038 bbl Annular Volume: 868 bbl Tubing Volume: 93 bbl Displaced Volume: 77 bbl
Carbide Lag - Calculated Lag: 13295 - 11630 Flowrate: 395 gpm
Drillpipe Annular Vel (Max Dia. Sec.): 73 ft/min Drillpipe Annular Vel (Open Hole): 74 ft/min
Drill Collar Annular Vel (Open Hole): 112 ft/min Critical Vel: 194 ft/min
Pressure Loss System: 1955 psi Pressure Loss Bit: 1199 psi % Pressure Loss: 61
Nozzle Vel: 372 ft/sec Jet Impact Force: 738 lbs HHP: 276

PRESSURE PARAMETERS

Drilling Exponent: 1.80 Flowline Temperature: 99°F
Shale Density: _____ Shale Factor: RECEIVED
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____
Other Gas: _____
Fill: _____ Tight Hole: 6970 ± ft. APR 7 1986
Cavings: Est %: _____ Average MINERALS MANAGEMENT SERVICE

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 1.68 lb/g Min. Estimated Fracture Pressure (Open Hole): 13.3 lb/g casing shoe
Estimated Pore Pressure: 9.4 lb/g Min. Estimated Pore Pressure (Open Hole): 8.8 @ shoe
Max. Estimated Pore Pressure (Open Hole): 9.4 @ TD Estimated Fracture Pressure at TD: _____

Comments:

Q. R. L. H. w/ NB # 13 & stuck pipe 90' off bottom. Free pipe & Ream. 3 singles to bottom and drill ahead.
Q. Due to high pump pressure & low flow rates a plug jet is likely.
@ 0400 DRILLING @ 7135 ft w/ NB # 13 @ 15 ft/hr & 27 units
REAM MUD WT TO 10.0 lb/gal DUE TO TIGHT HOLE @ 0200 92.5
LAST MUD @ 6979 ft: 2.95° 5.58W



COMPANY AMOCO PRODUCTION CO WELL OCS Y-0302 #1 (MARS)
DATE 3RD APRIL 1986 TIME 0400
DEPTH 6977 ft LAST REPORT DEPTH _____
RIG OPERATIONS DRILLING
REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)
SIGNED _____

DRILLING REPORT

Bit No.: 12 Type: SEC M 533S Size: 12 1/4" Jets: 9/14/14/14
On Bit: Footage: 594 Hours: 28.2 ROP: 21.1 ft/hr WOB: 50-60 RPM: 115-120
Pump Press: 2470 SPM: 171 Torque: 120 TBR: _____ CP I: \$ 171 CP B: \$ 213

HYDRAULICS REPORT

Mud Density In: 9.7+ Mud Density Out: 9.8 ECD: 9.9+ PV/YP: 14/7
Gels: 11/4/15 Salinity: 1600 PPM Cl Solids: 8 %
Hole Volume: 1024 Annular Volume: 857 Tubing Volume: 92 Displaced Volume: 77
Carbide Lag—Calculated Lag: 12984-11359 STROKES Flowrate: 539 gal/min
Drillpipe Annular Vel (Max. Dia. Sec.): 100 ft/min Drillpipe Annular Vel (Open Hole): 101 ft/min
Drill Collar Annular Vel (Open Hole): 153 ft/min Critical Vel: 196 ft/min
Pressure Loss System: 2261 psi Pressure Loss Bit: 984 psi % Pressure Loss: 44
Nozzle Vel: 337 Jet Impact Force: 912 HHP: 309

PRESSURE PARAMETERS

Drilling Exponent: 1.70 - 1.90 Flowline Temperature: 122°F
Shale Density: _____ Shale RECEIVED
Background Gas: _____ Max. Formation Gas: DCS DISTRICT OFFICE Trip Gas: _____ @ _____
Other Gas: _____
Fill: _____ Tight Hole: APR 7 1986
Cavings: Est %: _____ Average Size: _____
MINERALS MANAGEMENT SERVICE

ESTIMATED PORE AND FRACTURE PRESSURE ANCHORAGE, ALASKA

Kick Tolerance: 1.72 16/gal Min. Estimated Fracture Pressure (Open Hole): 13.3 16/gal @ SHOE
Estimated Pore Pressure: 9.4 Min. Estimated Pore Pressure (Open Hole): 8.8 @ SHOE
Max. Estimated Pore Pressure (Open Hole): 9.4+ @ TD Estimated Fracture Pressure at TD: _____

Comments:

	°	121
<u>SURVEYS</u>	<u>6634</u>	<u>3.4</u>
	<u>6730</u>	<u>3.0</u>
	<u>6853</u>	<u>2.7</u>

@ 0400 hrs DRILLING @ 6977 ft @ 16.8 ft/hr & 21 units gas



GEMDAS LOGGING REPORTING 41

COMPANY AMOCO PRODUCTION Co. WELL MARSH 1 OCS-10902
DATE 11 APRIL 1986 TIME 24 00
DEPTH 6436' LAST REPORT DEPTH 6040 FT
RIG OPERATIONS DRILLING AHEAD
REPORT BY Michael Sellens REPORT RECEIVED BY _____ (OPERATOR)
SIGNED _____

DRILLING REPORT

Bit: NIR#12 Type: MS335 Size: SECURITY Jets: 3-1/4" x 1/2"
On Bit Footage: 53 Hours: 3-1 ROP: 16 WOB: 45,500 LBS
Pump Press: 2935 SPM: 171 Torque: 135A TBR: 23750 CP: 1794 LBS

HYDRAULICS REPORT

Mud Density In: 9.8+ Mud Density Out: 9.8+ ECD: 9.9
Gels: 1/4/15 Salinity: 2700 PPM Cl Solids: 10
Hole Volume: 946 Annular Volume: 789 Tubing Volume: 84 Displaced Volume: 7.2
Carbide Lag—Calculated Lag: 12085/10570 Flowrate: 520 gpm
Drillpipe Annular Vel (Max Dia. Sec.): 96.3 ft/min Drillpipe Annular Vel (Open Hole): 98.1 ft/min
Drill Collar Annular Vel (Open Hole): 147.9 ft/min Critical Vel: 154.6 ft/min
Pressure Loss System: 2058 Pressure Loss Bit: 45% % Pressure Loss: 125
Nozzle Vel: 325 Jet Impact Force: 858 HHP: 250

PRESSURE PARAMETERS

Received
OCS District Office
Flowline Temperature: 110.8°
Shale Factor: 1
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____
Minerals Management Service
Anchorage, Alaska
Tight Hole: _____
Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 1.85 lb Min. Estimated Fracture Pressure (Open Hole): 13.3 ggc at shoe
Estimated Pore Pressure: 9.4+ Min. Estimated Pore Pressure (Open Hole): 9.4+ @ shoe
Max. Estimated Pore Pressure (Open Hole): 9.4+ @ TD Estimated Fracture Pressure at TD: _____

Comments:

TRIP FILL = +466lb over calculate

NIR#11 Drilled 642ft in 23 hours.

* Drilling ahead w NIR#12
* SECURITYS 6162 4.6 H2: 231
6226 5.1 253
6351 4.5 277



GEMDAS LOGGING REPORT NO. 20

COMPANY AMOCO PRODUCTION CO WELL MARSH#1 OCJ-75010
DATE 31st MARCH 1986 TIME 24.00
DEPTH 6040ft LAST REPORT DEPTH 5635'
RIG OPERATIONS Drilling ahead
REPORT BY Michael Sellen REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No. NB#11 Type: SEC MS335 Size: 12 1/2 Jets: 3x14, 1x9
On Bit: 09:18 Hours: 10.1 hrs ROP: 30 ft/hr WOB: 45-50 RPM: 115
Pump Press: 2920 SPM: 173 Torque: 66-90 TBR: 72269 CP I: 83'05 CP B: 107'4

HYDRAULICS REPORT

Mud Density: 9.8 Mud Density Out: 9.8 ECD: 9.9 PV/YP: 17/7
Gels: 10/10 Solids: 2000 PPM Cl: 9.3
Hole Volume: 739 Tubing Volume: 78 Displaced Volume: 70
Carbide Log: 310/190 Flowrate: 525
Drillpipe Annular Vel (Max Oil Seal): 9.7 Drillpipe Annular Vel (Open Hole): 135.9
Drill Collar Annular Vel (Open Hole): 149.5 Critical Vel: 200.4
Pressure Loss System: 21.25 Pressure Loss Bit: 44% % Pressure Loss: 94.4
Nozzle Vel: 328 ft/sec Jet Impact Force: 875.7 lb HHP: 289.2

PRESSURE PARAMETERS

Drillpipe Temp: 116 Flowline Temp: 111.3 (MAX = 112.6)
Shale Factor: _____ District Office
Max Formation Gas: _____ @ _____ Trip Gas: _____
Choke: _____
Tight Hole: _____ Minerals Management Service
Average Storage: _____
Average _____

ESTIMATED PORE AND FRACTURE PRESSURE

Min. Estimated Fracture Pressure (Open Hole): 13.3 at shoe
Min. Estimated Pore Pressure (Open Hole): 9.4 @ TD
Estimated Fracture Pressure at TD: _____

Comments

25.1 ft/hr 8.2 hours
5913 5.0 172 263
5944 5.1 254
6038 4.8 253
6100 4.9 234



GEMDAS LOGGING REPORT NO. 12

COMPANY Amoco Production WELL MARS
DATE 30 MARCH 1986 TIME 24.00 hrs
DEPTH 5635' LAST REPORT DEPTH 5015'
RIG OPERATIONS DRILLING AHEAD
REPORT BY Michael Selles REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Run No. NR#10 Type: TJ1 (HTC) Size: 12 1/4" Jets: 4 x 13
On Bit Footage: 149' Hours: 3.5 ROP: 40 ft/hr WOB: 50-55 RPM: 116
Pump Press: 2880 SPM: 178 Torque: 90-130 TBR: 19600 CP I: 82.6 CP B: 243

HYDRAULICS REPORT

Mud Density In: 9.8 Mud Density Out: 9.8 ECD: 9.87 13/6
Gels: 118/26 Salinity: 2200 RECD: 10
Hole Volume: 829 Annular Volume: 689 Tubing Volume: 13 Displaced Volume: 67
Calculated Lag: 10555 sec / 9235 Flowrate: 530 gpm
Drillpipe Annular Vel (Max. Dia. Sec.): 98.4 Drillpipe Annular Vel (Open Hole): 119.4
Drill Collar Annular Vel (Open Hole): 151.2 Critical Vel: 1340
Pressure Loss System: 2004 Pressure Loss Bit: 47/1 Pressure Loss: 1942 psi
Nozzle Vel: 328.5 ft/sec Jet Impact Force: 882.4 lbs HHP: 291.7

PRESSURE PARAMETERS

Drilling Exponent: 1.4 → 1.52 Flowline Temperature: 106°F
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____
Other Gas: _____
Fill: _____ Tight Hole: _____
Cavings Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 2.126 Min. Estimated Fracture Pressure (Open Hole): 13.3
Estimated Pore Pressure: 9.4 Min. Estimated Pore Pressure (Open Hole): _____
Max. Estimated Pore Pressure (Open Hole): 9.4 @ TD Estimated Fracture Pressure at TD: _____

Comments:

Hole Fill / During Trip + 5 bbls.
TIGHT Spot when pulling out of hole STD 1-5, 13-17
Sharp decrease in ROP
accompanied by high torque
~ 5715'

GEMDAS LOGGING REPORT NO. 17

COMPANY AMOCO PRODUCTION Co WELL MARSH 1: OCS-Y-0302 #1
DATE 28 MARCH 1986 TIME 24.00
DEPTH 4575' LAST REPORT DEPTH 3535
RIG OPERATIONS DRILLING AHEAD
REPORT BY Michael Sellens REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

DRILLING REPORT

Bit No.: NB#8 Type: SMITH SDCCE Size: 12 1/4 Jets: 3x13
On Bit: Footage: 1145 Hours: 15.3 ROP: 25 → 130 (Ave 70) WOB: 15.55 RPM: 110
Pump Press: 2100 SPM: 165 Torque: 220-410 TBR: _____ CP I: \$ 58.6 CP B: \$ 61.1

HYDRAULICS REPORT

Mud Density In: 9.8 Mud Density Out: _____ ECD: 9.1 PVIYP: 17/5
Gels: 115/30 Salinity: 2900 PPM Cl: _____ Solids: 9.5 %
Hole Volume: 675 BBL Annular Volume: 560 Tubing Volume: 58 Displaced Volume: 58
Carbide Lag—Calculated Lag: 7501/7833 sec Flowrate: 498 gpm
Drillpipe Annular Vel (Max. Dia. Sec.): 92.3 Drillpipe Annular Vel (Open Hole): 94.0
Drill Collar Annular Vel (Open Hole): 141.8 Critical Vel: 167
Pressure Loss System: 1772 Pressure Loss Bit: 47% % Pressure Loss: 831
Nozzle Vel: 308 Jet Impact Force: 738 HHP: 241.4

PRESSURE PARAMETERS

Drilling Exponent: 1.3 Flowline Temperature: 100.3
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Other Gas: _____
Fill: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 2.72 Min. Estimated Fracture Pressure (Open Hole): 13.3
Estimated Pore Pressure: 9.3 Min. Estimated Pore Pressure (Open Hole): 9.3 @ TD
Max. Estimated Pore Pressure (Open Hole): 9.4 @ TD Estimated Fracture Pressure at TD: _____

Comments: _____
* Abundant Connection Gas prior to rising mud weight
* Mud Gain - small gains in pit level (no change in return flow) / flow check = negative - suspect small water leak into pits
* Drill to 4665 with hole angle increasing to 5.9°
* Circulate Bottoms up @ 0230
* POC 4w/ Bit # 8 at 0350 hrs



GEMDAS LOGGING REPORT NO. 15

COMPANY AMCO PRODUCTION CO. WELL OCS-Y-0302 #1
DATE 26 MARCH 1986 TIME 24.00HRS
DEPTH 3315 (2 1/2" shoe) LAST REPORT DEPTH 3322 (1 7/8" Hole)
RIG OPERATIONS TESTING B.O.P.
REPORT BY Michael Sellens REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

DRILLING REPORT

Bit No.: _____ Type: _____ Size: _____ Jets: _____
On Bit Footage: _____ Hours: _____ ROP: _____ WOB: _____ RPM: _____
Pump Pressure: _____ SPM: _____ Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: 9.2 Mud Density Out: _____ ECD: _____ PV/YP: 13/4
Gels: 1/3/11 Salinity: 3100ppm PPM Cl Solids: 6 %
Hole Volume: 4.90 BBL Annular Volume: _____ Tubing Volume: _____ Displaced Volume: _____
Carbide Leg - Calculated Leg: _____ Flowrate: _____
Drillpipe Annular Vol (Max. Dis. Sec.): _____ Drillpipe Annular Vol (Open Hole): _____
Drill Collar Annular Vol (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: _____
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Other Gas: _____
Fill: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: _____ Min. Estimated Pore Pressure (Open Hole): _____ @ _____
Max. Estimated Pore Pressure (Open Hole): _____ @ _____ Estimated Fracture Pressure at TD: _____

Comments:

Nipple up. Testing B.O.P.
Hole Volume Circulation = 6567 strokes



GEMDAS LOGGING REPORT NO. 14

COMPANY AMOCO Production Co. WELL OCS Y-0302 #1
DATE MARCH 25, '86 TIME 2400
DEPTH 3322' LAST REPORT DEPTH 3322'
RIG OPERATIONS Nipple up on 13 3/4" casing
REPORT BY R. MAWSE REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

OCS District Office

SIGNED

Bit No. _____ Type: _____ Size: _____ Jets: _____
On Bit: Footage: _____ Hours: MAR 27 1986 ROP: _____ WOB: _____ RPM: _____
Pump Press: _____ SPM: _____ Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Minerals Management Service

Anchorage, Alaska

Mud Density In: _____ Mud Density Out: _____ ECD: _____
Gels: _____ Salinity: _____ PPM Cl: _____ Solids: _____ %
Hole Volume: 491.651 Annular Volume: _____ Tubing Volume: _____ Displaced Volume: _____
Carbide Lag - Calculated Lag: _____ Flowrate: _____
Drillpipe Annular Vel (Max. Dia. Sec.): _____ Drillpipe Annular Vel (Open Hole): _____
Drill Collar Annular Vel (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Core Log _____ Flowline Temperature: 76.1°F
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Other Gas: _____
Fill: _____ Tight Hole: No problems running log
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: 8.6-8.7 ppg Min. Estimated Pore Pressure (Open Hole): 8.7 ppg @ present
Max. Estimated Pore Pressure (Open Hole): 8.7 ppg @ present Estimated Fracture Pressure at TD: _____

Comments:

Ran 13 3/4" casing - good returns while running
Cement 13 3/4" in hole - Displaced ~ 500 bbl
made by one PVT.
WOC - Nipple up well head & BOP
small

[Signature]



GEMDAS LOGGING REPORT NO. 032

COMPANY AMOCO Production Co. WELL OCS X-0302 #1
DATE MARCH 24, '86 TIME 2400
DEPTH 3322' LAST REPORT DEPTH 3322'
LOG OPERATIONS Running Casing
REPORT BY R. MANSKIE REPORT RECEIVED BY: _____ (OPERATOR)

DRILLING REPORT — WIPE HOLE w/ Bit #6

Bit No. _____ Type: _____ Size: _____ Jets: _____
Bit Footage: _____ Hours: _____ ROP: _____ WOB: _____
Imp Press: _____ SPM: _____ Torque: _____ TDR: _____ CP L: _____ CP R: _____

HYDRAULICS REPORT

Mud Density In: 9.4 ppg Mud Density Out: 9.4 ppg ECD: 9.5 ppg
Salinity: _____ PPM Cl: _____ Solids: _____ %
Measured Volume: 1090 bbl Annular Volume: 506 bbl Tubing Volume: 492 bbl Displaced Volume: 92 bbl
Wipe Lag — Calculated Lag: 6779 shts / 6314 shts Flowrate: 500 gpm
Pipe Annular Vel (Max Dia. Sec): _____ Drillpipe Annular Vel (Open Hole): _____
Collar Annular Vel (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Logging Exponent: _____ Flowline Temperature: 90.1 °F
Mud Density: _____ Shale Factor: _____
Background Gas: 30 u Max. Formation Gas: _____ @ _____ Trip Gas: 480 u @ 3322'
Surf. Gas: None
Tight Hole: Minor drag on Trip out
Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Min. Estimated Fracture Pressure (Open Hole): 11.0 ppg @ shoe
Min. Estimated Pore Pressure (Open Hole): 8.6 - 8.7 ppg @ shoe
Min. Estimated Pore Pressure (Open Hole): 8.7 ppg @ present Estimated Fracture Pressure at TD: _____

Comments: Ran E-log, RTH w/ wipe hole in preparation for running casing. Encounter minor tight hole on RTH. Circulate for ~ 2 hrs 30 min @ 400 u. Minor drag on POC observed. Rig up & Run Casing.
OCS District Office

MAR 27 1986



GEMDAS LOGGING REPORT NO. 12

COMPANY AMOCO Production Co WELL OCSY-0302H
DATE MARCH 23, '86 TIME 2400
DEPTH 3322' LAST REPORT DEPTH 3322'
RIG OPERATIONS POOH to run logs
REPORT BY R. MANISHER REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No. 6 Type: SDS Size: 17 1/2" Jets: 3 x 16, 1 x 13
On Bit Footage: 860' Hours: 7.21 ROP: 119 fph WOB: 10-20 RPM: 130
Pump Press: 3700 SPM: 195 Torque: 50-200 TBR: 66177 CP I: 5 CP B: 44

HYDRAULICS REPORT

Mud Density In: 9.4 ppg Mud Density Out: 9.4 ppg ECD: 9.41 ppg
Gels: 3/35/45 Salinity: 2800 PPM Cl: 100 Solids: 100
Corrected Hole Volume: 1092 bbl Corrected Annular Volume: 1011 bbl Tubing Volume: 43 bbl Displaced Volume: 38 bbl
Carbide Lag—Calculated Lag: 13537 srbh/13048 srbh Flowrate: 670 gpm/215 spm
Drillpipe Annular Vel (Max. Dia. Sec.): 50 fpm Drillpipe Annular Vel (Open Hole): 57 fpm
Drill Collar Annular Vel (Open Hole): 67 fpm Critical Vel: 187 fpm
Pressure Loss System: 1795 psi Pressure Loss Bit: 751 psi % Pressure Loss: 42
Nozzle Vel: 299 fps Jet Impact Force: 975 lbs HHP: 294 hp

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: 105.1 °F
Shale Density: _____ Shale Factor: _____
Background Gas: 180 u Max. Formation Gas: _____ @ _____ Trip Gas: 30 u @ 2462'
Other Gas: No connection gas moved, hard to tell if T.G. on wire run due to running see below
Tight Hole: Trip out prior to logging - pulled right side #5 & 6
Cavings, Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 0.51 ppg w/ 0.5 ppg S.F. Min. Estimated Fracture Pressure (Open Hole): 110 ppg @ shoe
Estimated Pore Pressure: 8.6 - 8.7 ppg Min. Estimated Pore Pressure (Open Hole): 8.4 ppg @ shoe
Max. Estimated Pore Pressure (Open Hole): 8.7 ppg @ present Estimated Fracture Pressure at TD: _____

Comments:

Reached TD of 3322' @ ~1106 C.R.U. & wipe hole to shoe. On RTH, ran several right spots, began reaming/washing to bottom from 2714'.
Reached TD of 3322' again @ ~1845
Circulated to ~220-7, pump slug & POOH to
MAR 24 1986 Have right spots on side #5 & 6.

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

Handwritten signature



GEMDAS LOGGING REPORT NO. 11

COMPANY AMOCO PRODUCTION CO. WELL DCS Y-03-2 #1
DATE MARCH 22, '86 TIME 2400
DEPTH 3322' LAST REPORT DEPTH 3322'
RIG OPERATIONS OPENING 12 1/4" hole @ 2464'
REPORT BY R. MANSHER REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

DRILLING REPORT

Bit No. 5R1 Type: SDS Size: 12 1/4" x 17 1/2" A.D. Jets: 2.99 in² eqv.
On Bit Footage: 235' Hours: 11.8 ROP: 23 WOB: 35 RPM: 145
Pump Press: 1500-2000 gpm Flow: 908 gpm Torque: 100-500 TBR: 94043 CP I.S. 1111 CP B.S. 212

HYDRAULICS REPORT

Mud Density In: 9.3 ppg Mud Density Out: 9.3 + ppg ECD: 9.31 ppg PV/YP: 12/4
Gels: 0/2/4 Salinity: 3300 PPM Cl⁻ Solids: 6 %
Hole Volume: 729.661 Annular Volume: 237.661 Tubing Volume: 30.656 Displaced Volume: 326.616
Carbide Lag—Calculated Lag: 1.9867 in Flowrate: 908 gpm
Drillpipe Annular Vel (Max. Dia. Sec.): 62.2 fpm Drillpipe Annular Vel (Open Hole): 78 fpm
Drill Collar Annular Vel (Open Hole): 90 fpm Critical Vel: 84 fpm
Pressure Loss System: 2956 psi Pressure Loss Bit: 1364 psi % Pressure Loss: 46%
Nozzle Vel: 405 fps Jet Impact Force: 1772 lbs HHP: 723 hp

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: 103.1 °F
Shale Density: _____ Shale Factor: _____
Background Gas: 25 u Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Other Gas: No connection gas noted
Fill: _____ Tight Hole: Reamed right spots from shoe to 2223'
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 0.56 ppg w/ 0.5 ppg SF Min. Estimated Fracture Pressure (Open Hole): 110 ppg @ shoe
Estimated Pore Pressure: 8.6-8.7 ppg Min. Estimated Pore Pressure (Open Hole): 8.4 ppg @ shoe
Max. Estimated Pore Pressure (Open Hole): 8.7 ppg @ present Estimated Fracture Pressure at TD: _____

Comments:

Finish repair on Rig generator, convince RTH & ream right spots. Reamed approximately 3 hours above top of 12 1/4" hole section @ 2223'.
Began opening hole @ 0520. Continued opening hole to 2462' at which depth the ROP drop under 7 fpm.
Popped & Inspected bit — bit extremely balled up —
ONE DISTRICT OFFICE #6, 17 1/2" SDS w/ 3 X 16 & 1 X 13 jets

MAR 25 1986

THIS REPORT IS GOVERNED BY THE TERMS AND CONDITIONS AS SET FORTH ON THE REVERSE SIDE OF THIS REPORT. EL P/N 18429 MAY 1980

ANCHORAGE, ALASKA

GEMDAS LOGGING REPORT NO. 10

COMPANY AMOCO PRODUCTION CO. WELL WCS Y-0302 #1
DATE MARCH 21, 1966 TIME 2400
DEPTH 3322' LAST REPORT DEPTH 2516
RIG OPERATIONS Working on Rig (presently waiting to receive new 603")
REPORT BY R. MANSTER REPORT RECEIVED BY _____ (OPERATOR)

DRILLING REPORT

Bit No.: 5 Type: SDS Size: 12 1/4" Jets: 3 X 14
On Bit: Footage: 1099 Hours: 8.4 ROP: 131 WOB: 30 RPM: 135
Pump Press: 2900 SPM: 186 Torque: 100-300 TBR: 69139 CP I: \$ 28 CP B: \$ 38

HYDRAULICS REPORT For 2.99 in² TFA — @ 2300'

Mud Density In: 9.3 ppg Mud Density Out: 9.3 ppg ECD: 9.49 ppg PV/YP: 17/9
Gels: 0/2/4 Salinity: 3300 PPM Cl Solids: 6.5 %
Hole Volume: 757 bbl Annular Volume: 692 bbl Tubing Volume: 286 bbl Displaced Volume: 326 bbl
Carbide Lag—Calculated Lag: _____ / 12313 sets Flowrate: 828 gpm
Drillpipe Annular Vel (Max. Dia. Sec.): 61 fpm Drillpipe Annular Vel (Open Hole): 71 fpm
Drill Collar Annular Vel (Open Hole): 82 fpm Critical Vel: 150 fpm
Pressure Loss System: 1274 psi Pressure Loss Bit: 63 psi % Pressure Loss: 5%
Nozzle Vel: 87 fpm Jet Impact Force: 348 lbf HHP: 31 hp

PRESSURE PARAMETERS

Drilling Exponent: .75 - 1.67 erratic due to lith Flowline Temperature: 71.7 °F
Shale Density: _____ Shale Factor: _____
Background Gas: 15u Max. Formation Gas: 229 u @ ~3199' Trip Gas: _____ @ _____
Other Gas: No connection gas noted
Fill: _____ Tight Hole: < 15u on trip out
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 0.56 ppg w/ 0.5 ppg S.F. Min. Estimated Fracture Pressure (Open Hole): 11.0 ppg @ shoe
Estimated Pore Pressure: 8.6 - 8.7 ppg Min. Estimated Pore Pressure (Open Hole): 8.4 ppg @ shoe
Max. Estimated Pore Pressure (Open Hole): 8.7 ppg @ present Estimated Fracture Pressure at TD: _____

Comments:

Presently 5 RI in hole w/ 17 1/2" hole opener, 3X20

Jets

Drilled to 3322' w/ Bit #5, C.B.W. 2nd floor
laying down pipe. No problem on trip out
Make up hole opener (17 1/2") on 5 RI & RTH to ~
1600'; Return through right spot. Rig General
repairs done @ 2400 hours.

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

EXLOGGEMDAS LOGGING REPORT NO. 8

COMPANY AMOCO PRODUCTION CO WELL OCS Y-0302 #1
 DATE MAR 19TH 1986 TIME 2400
 DEPTH 2186 LAST REPORT DEPTH 1617'
 RIG OPERATIONS Drilling Ahead
 REPORT BY R. MANSHER REPORT RECEIVED BY _____ (OPERATOR)
 SIGNED _____

DRILLING REPORT

BR No.: 3 R1 Type: SDS Size: 17 1/2" Jets: OPEN
 On Bit: Footage: 537 Hours: 10.4 ROP: _____ WOB: 20-38 RPM: 125
 Pump Press: 1500-1650 SPM: 171 Torque: 50-300 TBR: 54383 CP I: \$ 69 CP B: \$ 93

HYDRAULICS REPORT

Mud Density In: 9.2 ppg Mud Density Out: 9.3⁺ ppg ECD: 9.3 ppg PV/YP: 17/17
 Gels: _____ Salinity: 3400 PPM Cl Solids: 6.5
 Hole Volume: 717 bbl Annular Volume: 661 bbl Tubing Volume: 25 bbl Displaced Volume: 336 bbl
 Carbide Lag—Calculated Lag: 6359 sth / 6382 sth Flowrate: 750 gpm / 172.5 gpm
 Drillpipe Annular Vel (Max. Dia. Sec.): 55.5 fpm Drillpipe Annular Vel (Open Hole): 64.3 fpm
 Drill Collar Annular Vel (Open Hole): 75.2 fpm Critical Vel: 258.5 fpm
 Pressure Loss System: 1032 psi Pressure Loss Bit: 86 psi % Pressure Loss: 8%
 Nozzle Vel: 102 fpm Jet Impact Force: 365 lbs HHP: 38 hp

PRESSURE PARAMETERS

Drilling Exponent: .56 - 1.53, erratic in sand Flowline Temperature: 84.7 °F
 Shale Density: _____ Shale Factor: _____
 Background Gas: 27 u Max. Formation Gas: 142 u @ ~1810' Trip Gas: _____ @ _____
 Other Gas: No connection gas noted
 Fill: 1-2 ft Tight Hole: Slight — probably due to fill
 Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: 1.01 ppg w/ 0.5 ppg S.F. Min. Estimated Fracture Pressure (Open Hole): 11.0 ppg @ shoe
 Estimated Pore Pressure: 8.4 - 8.5 ppg Min. Estimated Pore Pressure (Open Hole): 8.4 ppg @ shoe
 Max. Estimated Pore Pressure (Open Hole): 8.5 ppg @ present Estimated Fracture Pressure at TD: _____

Comments:

Drilled to 1649 ft w/ slick BHA — C.B. U.
POOH to pickup New BHA. It mudd real
Rt w/ no problems — ~~the~~ Ream ~ 38' to 500
start drilling @ 0946, Made two reverse
connections due to fill — No further problems —

* Reverse Connections: 1758', 1989' due to fill in hole Went down
W. H. H.

EXLOG

GEMDAS LOGGING REPORT NO. 7

COMPANY AMOCO PRODUCTION CO. WELL 0CS Y-0302 #1 (MARS)
 DATE MARCH 18TH 1986 TIME 2400 hrs
 DEPTH 1617 ft LAST REPORT DEPTH 1569
 RIG OPERATIONS DRILLING
 REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)
 SIGNED _____

DRILLING REPORT

Bit No.: 3 Type: SDS Size: 17 1/2 Jets: OPEN
 On Bit: Footage: 48 Hours: 2.6 ROP: 18.5 ft/hr WOB: 10 RPM: 100
 Pump Press: 1320 SPM: 208 Torque: _____ TBR: 13,091 CP I: \$ 24.5 CP B: \$ 449.6

HYDRAULICS REPORT

Mud Density In: 9.05 lb/gal Mud Density Out: 9.1 lb/gal ECD: 9.1 lb/gal PV/YP: _____
 Gels: _____ Salinity: _____ PPM Cl: _____ Solids: _____ %
 Hole Volume: 548.661 Annular Volume: _____ Tubing Volume: 18.661 Displaced Volume: 26.64
 Calculated Lag: 486.4 strokes = 23 1/2 min @ Flowrate: 905 gal/min
 Drillpipe Annular Vel (Max. Dia. Sec.): 670 ft/min Drillpipe Annular Vel (Open Hole): _____
 Drill Collar Annular Vel (Open Hole): 91.6 ft/min Critical Vel: 1820 ft/min
 Pressure Loss System: 1315 Pressure Loss Bit: 123 psi % Pressure Loss: 9
 Nozzle Vel: 123.2 ft/sec Jet Impact Force: 523.7 lb HHP: 65 hp

PRESSURE PARAMETERS

Drilling Exponent: 0.62 Flowline Temperature: 67°F
 Shale Density: _____ Shale Factor: _____
 Background Gas: 15u Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
 Other Gas: _____
 Fill: _____ Tight Hole: _____
 Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
 Estimated Pore Pressure: 8.4 lb/gal Min. Estimated Pore Pressure (Open Hole): _____ @ _____
 Max. Estimated Pore Pressure (Open Hole): 8.4 lb/gal @ _____ Estimated Fracture Pressure at TD: _____

Comments:

COMPLETED NIPPLING-UP
RAN IN HOLE, TESTED CASING
DRILLED OUT CEMENT SHOE, TESTED SAME DRILLED
TO 1573 ft & PERFORMED FORMATION LEAK-OFF TEST
- CONTINUED DRILLING

@ 2400 REAMING FILL IN HOLE @ CONNECTION (1617')

GEMDAS LOGGING REPORT NO. 6

COMPANY AMOCO PRODUCTION CO. WELL OCSY-0302-#1 (MARS)
DATE MARCH 17th 1986 TIME 2400 hrs
DEPTH 1569 ft LAST REPORT DEPTH 1569 ft
RIG OPERATIONS NIPPLE-UP ROPE
REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)
SIGNED _____

DRILLING REPORT

Bit No.: _____ Type: _____ Size: _____ Jets: _____
On Bit: Footage: _____ Hours: _____ ROP: _____ WOB: _____ RPM: _____
Pump Press: _____ SPM: _____ Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: _____ Mud Density Out: _____ ECD: _____ PV/YP: _____
Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
Hole Volume: 534 bbl Annular Volume: 500 bbl Tubing Volume: _____ Displaced Volume: _____
Carbide Lag—Calculated Lag: _____ Flowrate: _____
Drillpipe Annular Vel (Max. Dia. Sec.): _____ Drillpipe Annular Vel (Open Hole): _____
Drill Collar Annular Vel (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: _____
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Other Gas: _____
Fill: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: 8.4 lb/gal Min. Estimated Pore Pressure (Open Hole): _____ @ _____
Max. Estimated Pore Pressure (Open Hole): 8.4 lb/gal @ _____ Estimated Fracture Pressure at TD: _____

Comments:

CEMENTED 20" CASING & BEGAN NIPPLING-UP
ROPE

0415 CONT NIPPLE-UP

RECEIVED
OCS DISTRICT OFFICE

MAR 26 1986

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA



GEMDAS LOGGING REPORT NO. —

GEOLOGIST 0415 UPDATE

COMPANY AMOCO Production Co. WELL OCS Y-D302 #1
DATE 3/13/86 TIME 0415
DEPTH 147' LAST REPORT DEPTH 124'
RIG OPERATIONS CERC.
REPORT BY R. MANSHER REPORT RECEIVED BY _____ (OPERATOR)
SIGNED _____

DRILLING REPORT

Bit No.: 1 Type: SMTH SDS Size: 17 1/2" Jets: 3 x 20
On Bit: Footage: 72' hours: 6.6 hrs HOP: 11 ft WOB: 0-5k RPM: 60-70
Pump Press: 250 psi SPM: VAR Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: _____ Mud Density Out: _____ ECD: _____ PV/YP: _____
Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
Hole Volume: _____ Annular Volume: _____ Tubing Volume: _____ Displaced Volume: _____
Carbide Lag—Calculated Lag: _____ Flowrate: _____
Drillpipe Annular Vel (Max. Dia. Sec.): _____ Drillpipe Annular Vel (Open Hole): _____
Drill Collar Annular Vel (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: 1.06 Flowline Temperature: 50 °F
Shale Density: _____ Shale Factor: _____
Background Gas: CL unit Max. Formation Gas: CL unit @ present Trip Gas: Present
Other Gas: _____ OCS District Office
Fill: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____ MAR 17 1986

ESTIMATED PORE AND FRACTURE PRESSURE

Minerals Management Service
Anchorage, Alaska

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: 8.4 ppg Min. Estimated Pore Pressure (Open Hole): _____ @ _____
Max. Estimated Pore Pressure (Open Hole): 8.4 ppg @ present Estimated Fracture Pressure at TD: _____

Comments:

0000 — Can't cleaning out conductor
0205 — Start drilling formations below conductor
0253 — Circulate & Condition Mud
0318 — Resume drilling
0413 — Stop drilling @ 147' CBU --
prepare to PDCU & Pick up BHA.

GEMDAS LOGGING REPORT NO. 5

COMPANY AMOCO PRODUCTION CO. WELL DCS Y-0302 #1 (MARS)
DATE MARCH 16TH 1986 TIME 2400 hrs
DEPTH 1569 ft LAST REPORT DEPTH 1569 ft
RIG OPERATIONS CIRCULATING
REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)
SIGNED _____

DRILLING REPORT

Bit No.: _____ Type: _____ Size: _____ Jets: _____
On Bit: Footage: _____ Hours: _____ ROP: _____ WOB: _____ RPM: _____
Pump Press: 150 psi SPM: 70 Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: 9.64 g/cc Mud Density Out: 9.6-9.7 g/cc ECD: 9.64 g/cc PV/YP: 8/21
Gels: 18/20 Salinity: 13,500 PPM Cl Solids: 8 %
Hole Volume: 534 bbl Annular Volume: 500 bbl Tubing Volume: 22 bbl Displaced Volume: 11.7 bbl
Circulation Lag - Calculated Lag: 4055 STROKES Flowrate: 305 gpm
Drillpipe Annular Vel (Max. Dis. Sec.): _____ Drillpipe Annular Vel (Open Hole): _____
Drill Collar Annular Vel (Open Hole): _____ Critical Vel: _____
Pressure Loss System: _____ Pressure Loss Bit: _____ % Pressure Loss: _____
Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: 47.1 °F
Shale Density: _____ Shale Factor: _____
Background Gas: _____ Max. Formation Gas: _____ @ _____ Trip Gas: * @ _____
Other Gas: _____
Fill: _____ Tight Hole: _____
Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
Estimated Pore Pressure: 8.4 g/cc Min. Estimated Pore Pressure (Open Hole): _____ @ _____
Max. Estimated Pore Pressure (Open Hole): 8.4 g/cc @ _____ Estimated Fracture Pressure at TD: _____

Comments:

RAN 20' CASINGS RAN DEEP IN 20' CASINGS
& CIRCULATE IN CASINGS - PREPARING TO CEMENT
SAME

Received
OGS District Office@ 2400 CIRCULATING IN CASINGS

MAR 18 1986

* MAXIMUM GAS FROM WIPER TRIP @ 1569' - 1570'
Minerals Management Service
Anchorage, Alaska

WELL LOGGING REPORT

COMPANY AMOLD PROD. CO.
WELL OCS-Y-302 NO. 1 MARS

LOCATION WEST HARRISON BAY, AK

Date 3-17-86 Time 00:00 Depth 1569 Present Operation Pump CMT?

Feet made 0 Hrs drlg 0 Avg drlg rate N/A

Depth last sample 1569 Sd +6VL 90% Sh Other CLY-1076

Hotwire: Min. N/A Depth Max. Depth Avg.

H₂S: Min. N/A Depth Max. Depth Avg.

CO₂: Min. N/A Depth Max. Depth Avg.

Conn. gas: Min. N/A Depth Max. Depth Avg.

Trip gas N/A Depth Lag time for trip gas

Chromatograph:	Minimum	Maximum	Average	Depth (max. gas)
C ₁	<u>N/A</u>	<u> </u>	<u> </u>	<u> </u>
C ₂	<u> </u>	<u> </u>	<u> </u>	<u> </u>
C ₃	<u> </u>	<u> </u>	<u> </u>	<u> </u>
C ₄	<u> </u>	<u> </u>	<u> </u>	<u> </u>
C ₅	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Mud properties: Wt ** Vis WI Ph Cl

Sol Oil Wtr Other

Carbide check: Depth 818 Gas 42 units Amount carbide used 4oz

Bottom up: Pump strokes N/A at strokes per minute, Time

Lithology and remarks:

* RUN CSG, Nipple Down, Nipple Up, woc,
RIH, Drill Ahead.

** Change Over Mud

? Dowell having trouble with frozen valves

Reviewed
OCS District Office

Called in by Talked with Phone

GEMDAS LOGGING REPORT NO. 4

COMPANY AMOCO PRODUCTION CO. WELL OCS 4-0302 #1 (MARS)
 DATE MARCH 15TH 1986 TIME 2400 hrs
 DEPTH 1569 ft LAST REPORT DEPTH 350ft (H/O)
 RIG OPERATIONS PREPARE TO POOH
 REPORT BY RICHARD WHIFFER REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

DRILLING REPORT

Bit No.: RR #1 Type: SMITH SDS Size: 17 1/2" w/26" H Jets: 20/20/20 + 20/20/20
 On Bit: Footage: 1426 Hours: 20.3 ROP: 70.2 ft/hr WOB: 5-35 RPM: 125
 Pump Press: 1170 SPM: 164 Torque: _____ TBR: _____ CP I: \$ _____ CP B: \$ _____

HYDRAULICS REPORT

Mud Density In: 9.5+ Mud Density Out: 9.6 - 9.7 ECD: 9.6+ PV/YP: _____
 Gels: _____ Salinity: _____ PPM Cl Solids: _____ %
 Hole Volume: 1041 661 Annular Volume: 1009 661 Tubing Volume: 16 661 Displaced Volume: 32 661
 Circulation Lag - Calculated Lag: 9580 STROKES = 58.4 min Flowrate: 714 gal/min
 Drillpipe Annular Vel (Max. Dia. Sec.): 22.9 ft/min Drillpipe Annular Vel (Open Hole): 26.7 ft/min
 Drill Collar Annular Vel (Open Hole): 28.6 ft/min Critical Vel: 408.2 ft/min
 Pressure Loss System: 389 psi Pressure Loss Bit: 33 psi % Pressure Loss: 9
 Nozzle Vel: _____ Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Drilling Exponent: _____ Flowline Temperature: 69°F
 Shale Density: _____ Shale Factor: _____
 Background Gas: 20-45 min Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
 Other Gas: _____
 Fill: _____ Tight Hole: _____ Received _____
 OCS District Office
 Cavings: Est %: _____ Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: _____ Min. Estimated Fracture Pressure (Open Hole): _____
 Estimated Pore Pressure: 8.4 16/921 Min. Estimated Pore Pressure (Open Hole): _____
 Max. Estimated Pore Pressure (Open Hole): 8.4 16/921 @ _____ Estimated Fracture Pressure: _____
 Minerals Management Service
 Anchorage, Alaska

Comments:

OPENED 12 1/4" HOLE TO 26" - DRILLED 19 ft OF NEW HOLE FROM 1550 ft TO 1569 ft

2400hrs BREAKING-OFF KELLY - PREPARING TO POOH TO RUN 20" CASING



GEMDAS LOGGING REPORT NO. 1

COMPANY AMOCO PRODUCTION CO. WELL OCS V-0302 #1 (MARS)
DATE MARCH 12, 1986 TIME 2400
DEPTH 124 ft LAST REPORT DEPTH —
RIG OPERATIONS DRILLING - OUT 30" CONDUCTOR
REPORT BY RICHARD WHIFFE REPORT RECEIVED BY — (OPERATOR)

DRILLING REPORT

Bit No.: 1 Type: SMITH SDS Size: 17 1/2" Jets: 29/20/20
On Bit: Footage: 49 Hours: 3.5 ROP: 14 ft/hr WOB: 0-5 kls RPM: 60-70
Pump Press: 170 psi SPM: 132 Torque: — TBR: — CP I: \$ — CP B: \$ —

HYDRAULICS REPORT

Mud Density In: 8.9-9.0 Mud Density Out: 8.9-9.4 lbs/gal ECD: 9.0 lbs/gal PV/YP: —
Gels: — Salinity: — PPM Cl: — Solids: — %
Hole Volume: 92 bbl Annular Volume: 85 bbl Tubing Volume: 1 bbl Displaced Volume: 7 bbl
Calculated Lag: 810 strokes = 5.8 min @ Flowrate: 605 gal/min
Drillpipe Annular Vel (Max. Dia. Sec.): — Drillpipe Annular Vel (Open Hole): —
Drill Collar Annular Vel (Open Hole): 20.6 ft/min Critical Vel: 3.50 ft/min
Pressure Loss System: 107 psi Pressure Loss Bit: 22 psi % Pressure Loss: 21
Nozzle Vel: — Jet Impact Force: — HHP: 7.9 hp

PRESSURE PARAMETERS

Drilling Exponent: — Flowline Temperature: 53°F
Shale Density: — Shale Factor: —
Background Gas: 1 unit Max. Formation Gas: 1 unit @ — Trip Gas: — @ —
Other Gas: —
Fill: — Tight Hole: —
Cavings: Est %: — Average Size: — FILED
OCS District Office

ESTIMATED PORE AND FRACTURE PRESSURE

Kick Tolerance: — Min. Estimated Fracture Pressure (Open Hole): — MAR 17 1986
Estimated Pore Pressure: 8.4 lbs/gal Min. Estimated Pore Pressure (Open Hole): — @ —
Max. Estimated Pore Pressure (Open Hole): 8.4 lbs/gal @ — Estimated Fracture Pressure (Open Hole): — @ —

Comments: DRILLED OUT ICE IN 30" CONDUCTOR PIPE TO
SEA BED @ 75 ft & CONTINUED DRILLING IN 30" PIPE
ON 6/11/86 #1 & 26" HOLE-OPENER (JET: 2x20),
AT 2400 hrs DRILLING - OUT 30" CONDUCTOR @ 124 ft -
13 ft ABOVE SPUD DEPTH @ 137 ft.
LITHOLOGY - 100% CLAY

GEMDAS LOGGING REPORT NO. 2

Y AMOCO PRODUCTION CO. WELL OCS Y-0302 #1 (MARS)
MARCH 13TH 1986 TIME 2400 hrs
1001 ft LAST REPORT DEPTH 124 ft

RATIONS DRILLING

BY RICHARD WHIFFEN REPORT RECEIVED BY _____ SIGNED _____ (OPERATOR)

REPORT

Type: SMITH SDS Size: 12 1/4" Jots: 16/16/18
854 Hours: 7.5 ROP: 113.8 ft/hr WOB: 5-20 RPM: 110-130
100-1400 SPM: 148 Torque: — TBR: 51,620 CP I: 31.4 CP B: 36.6

LICS REPORT

In: 9.2 k/gal Mud Density Out: 9.2-9.4 ECD: 9.64 k/gal PV/YP: 7/29
136 Salinity: 4100 PPM Cl Solids: 7 %
231 kV Annular Volume: 202.661 Tubing Volume: 8.661 Displaced Volume: 30.661
 -Calculated Lag: 1874 STRUKES = 12.7 min @ Flowrate: 644 gal/min
 Annular Vel (Max. Dia. Sec.): 20.7 ft/min Drillpipe Annular Vel (Open Hole): 121.6 ft/min
 Annular Vel (Open Hole): 183.4 ft/min Critical Vel: 494.5 ft/min
 System: 1190 psi Pressure Loss Bit: 852 psi % Pressure Loss: 72
322.2 ft/sec Jet Impact Force: 988.2 lb HHP: 320.5 hp

RE PARAMETERS

ment: 0.66 - 0.96 Flowline Temperature: 69° F
 Shale Factor: _____
 Gas: 10-20 Max. Formation Gas: _____ Trip Gas: 0 @ 147 ft

Received
 OCS District Office

%: _____ Average Size: _____

ED PORE AND FRACTURE PRESSURE

MAR 17 1986

Min. Estimated Fracture Pressure (Open Hole): _____
 re Pressure: 8.4 k/gal Min. Estimated Pore Pressure (Open Hole): Minerals Management Service
Anchorage, Alaska
 ed Pore Pressure (Open Hole): 8.4 k/gal @ _____ Estimated Fracture Pressure at TD: _____

ts:

DRILLED - OUT 30" CONDUCTOR PIPE & POOH @ 147 ft
CHANGE BIT + P/U MWD COLLAR & STABS
#1 CUT 73 ft IN 6.6 hrs ; DRILLING AHEAD W/ NB #2
0925 hrs - P/U 8" DC, 6 1/2" DC & HWDP
7 hrs DRILLING 12 1/4" HOLE W/ NB #2 @ 1001 ft @
ft/hr

GEMDAS LOGGING REPORT NO. 3

COMPANY AMOCO PRODUCTION CO. WELL OCSY0302 #1
DATE MARCH 14th 1986 TIME 2400
DEPTH 350 ft (1550 ft) LAST REPORT DEPTH 1001 ft
LOG OPERATIONS OPENING HOLE
REPORT BY RICHARD WHIFFEN REPORT RECEIVED BY _____ (OPERATOR)

BILLING REPORT

No. RR #1 Type: SMITH SDS Size: 17 1/2" Jets: 20/20/20
Bit: Footage: 207 Hours: 7.6 ROP: 27.2 WOB: 5-20 RPM: 130
Pump Pressure: 670 SPM: 196 Torque: — TBR: 51,670 CP I: 163.4 CP B: 150.9

HYDRAULICS REPORT

Mud Density In: 9.4 Mud Density Out: 9.4-9.6 ECD: 9.5 lb/gal PV/YP: 5/29
Solids: 12/12 Salinity: 8200 PPM Cl: _____ Solids: _____ %
Annular Volume: 24061 Annular Volume: 22261 Tubing Volume: 3661 Displaced Volume: 1934
Calculated Lag: 210 strokes = 11 min @ Flowrate: 853 gal/min
Drillpipe Annular Vel (Max Dis Sec): — Drillpipe Annular Vel (Open Hole): —
Collar Annular Vel (Open Hole): 34.2 ft/min Critical Vel: 413 ft/min
Pressure Loss System: 217 psi Pressure Loss Bit: 46 % Pressure Loss: 21
Jet Impact Force: _____ HHP: _____

PRESSURE PARAMETERS

Logging Exponent: 0.30-0.80 (NB#2) Flowline Temperature: 81.1°F
Shale Density: _____ Shale Factor: _____
Background Gas: 15-254 Max. Formation Gas: _____ @ _____ Trip Gas: _____ @ _____
Tight Hole: WORKED/REAMED PIPE @ 203 ft (1.7 hr) / BOULDERS IN HOLE
Average Size: _____

ESTIMATED PORE AND FRACTURE PRESSURE

Min. Estimated Fracture Pressure (Open Hole): _____
Min. Estimated Pore Pressure (Open Hole): _____ @ _____
Estimated Fracture Pressure at TD: _____

Comments:

DRILLED 12 1/4" HOLE w/ NB#2 TO 1550 ft -
NB#2 CUT 1407 ft IN 10 1/8 hrs
RIH w/ 17 1/2" + 26" HO TO OPEN 12 1/4" HOLE FOR
20" CASING
2400 hrs OPENING HOLE @ 850 ft @ 20 ft/hr

THIS REPORT IS GOVERNED BY THE TERMS AND CONDITIONS AS SET FORTH ON THE REVERSE SIDE

EL P/N 18429 MAY 1980

Received
OCS District Office

MAR 18 1986