

sperry-sun
DRILLING SERVICES LOGGING SYSTEMS
A Baroid Company

DEPTH 2048
OPERATION DRILL
FOOTAGE 1023

NO. 20
DATE Nov 2 1993
TIME 04 00

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

OPERATOR	ARCO ALASKA, INC.	WELL NAME	OC6-Y-1587 #1	FIELD/BLOCK	BLOCK 760
CONTRACTOR	CANMAR	RIG NAME	KULLUK	AREA	BEAUFORT SEA
START DATE	Oct 13 93	LOC.	OFFSHORE	STATE	ALASKA

LOGGING DATA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVY DATA	2.02 DCO @ 9002'
42	570	8735	LITHOLOGY	CLAY 30% SILT 60% SAND 10%
CONNECTION	312	8560	SAMPLE DEPTH	9020
TRIP		9018	TRIP CHLORIDES	
FLOWLINE TEMP	105	degrees F	LAG DOWN DP	1282
			LAG OFF BOTTOM	10038
			DRILL RATE l/hr	12
			CONNECTED 'D' EXP.	1.25
			SHALE DENSITY g/cc	
			GWR Res.	4.7

FORMATION PRESSURE DATA

CASING			BOTTOM HOLE			OPEN HOLE		
PORE PRESSURE	1732	psi	8.7	ppg	4329	psi	9.2	ppg
FRACTURE PRESSURE	3086	psi	15.5	ppg	6676	psi	16.0	ppg
EOD	2090	psi	10.5	ppg	4040	psi	10.5	ppg

MUD DATA

BIT DATA

HYDRAULIC DATA

TIME	11-1-93	BIT NO.	4	5	PUMPS	1.	ID 1600	2.	ID 1600
TYPE	PHPA-SEA WATER	TYPE	DS-40HF	DS-40HF	SIZE inches		8.5X12		6.5X12
WEIGHT IN	10.3	IADC CODE	PDC	PDC	CAPACITY gal/stk		4.91		4.91
FUNNEL VIS.	68	SIZE	12.25	12.25	PUMP RATE stks/min		71		71
PV/VP	30/20	JET6	3-14/3	3-14/6	FLOW RATE gal/min		895		
GELS	4/11	DEPTH OUT		7893	PRESSURE psi		01(M)		
pH	6.1	ROT HRS.	18.0	46.4	PD SURF / DS psi		100/1801		
FILT/CAKE API	2.2 1/32	FOOTAGE	1155	4033	ANN / BIT psi		77/809		
MP-HIT	6.8	AVG ft/hr	94	97	JET VELOCITY ft/sec		295		
P _m		GRADE			JET IMPACT lbs		1093		
P _f /Mf	1/1.8	HOLE DEV.	2.62	2.8	BIT IN'		327		
CHLORIDES ppm	18000	COST/FT		331	HP RATIO / HP/IN2		2.77 hp/in2		
CALCIUM ppm	280	RPM	131	145	REDUCED 1		psi at	stk/min	
OIL/WATER/SOLIDS	0/10.5/89.5	WOB	15	8	RATE 2		psi at	stk/min	
DAILY/CUM. COST									

ANNULAR DATA

		LENGTH-FT.	VOLUME BBLs/FT.	VELOCITY FT/MIN	EXIT-VEL FT/MIN	ANN-VOL BBLs
5X20	DP-HISER	152	.3844	45	270	55
5X12.415	DP-CSG	3877	.1255	132	342	462
5X12.25	DP-HOLE	4744	.1215	136	344	564
8X12.415	DC-CSG					
8X12.25	DO-HOLE	476	.0908	240	433	44

PIPE DATA

	DP	HWDP	DRILL STRING	DC	CASING DEPTH	RISER	CONO.	SURF
OD-inches	5.0	5		6.0		156	285	1000
ID-inches	4.276	3		2.875			30	20
GAP-bbls/ft	.01776	.0087		.0080		20	28	18.73
DISP-bbls/ft	.0072	.0181		.0707		3867	.7616	.3408
LENGTH-ft	7845	727		476			.115	.0478
WEIGHT-lbs/ft	10.6	40		195			109	818
							310	133

REMARKS AND RECOMMENDATIONS

MW 10.2 GPM 700 JETS 5-13'S 3000 PSI ft/mi = sec/std

DRILL AHEAD THRU SILTSTONE/SANDSTONE/CLAY TO 9018'. SHORT TRIP TO SHOE. HOLE PULLED TIGHT. PUMP/BACKREAM FROM BOTTOM TO 7800'. NO DRAG GOING BACK INTO HOLE. SHORT TRIP GAS=312. DRILL AHEAD. POSSIBLE FORMATION CHANGE/FAULT ZONE AT 9005.

ADT D. WALTERS

NOV 01 1993
DATE Nov 1 93
TIME 04 00

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

LOGGING DATA

FORMATION PRESSURE DATA

MUD DATA

BIT DATA

HYDRAULIC DATA

ANNULAR DATA

PIPE DATA

REMARKS AND RECOMMENDATIONS

11/02/93 07:27 ARCO KUULUM 11 - 907 2651393

P. 8
NO. 437 Q11

NOV 01 1950

LOGGING SYSTEMS

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

DATE Oct 31 1963
TIME 0400

OPERATOR	ARCO ALASKA, INC.	WELL NAME	OGS-Y-1597 #1	FIELD/BLOCK	BLOCK 780
CONTRACTOR	CANMAR	RIG NAME	KULLUK	AREA	BEAUFORT SEA
START DATE	OCT 13 93	LOC.	OFFSHORE	STATE	ALASKA

LOGGING DATA

	AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA LITHOLOGY SAMPLE DEPTH TRIP CHLORIDES LAG DOWN DP LAG OFF BOTTOM	2.82 DEG @ 7774' CLAY 20% SILT 20% SAND 60% 7890 1132 9378	DRILL RATE ft/hr CORRECTED "D" EXP. SHALE DENSITY g/cc EWR Res.
BACKGROUND						
CONNECTION						
TRIP						
FLOWLINE TEMP			degrees F			

FORMATION PRESSURE DATA

	Casing			Bottom Hole			Open Hole		
Pore Pressure	1732	psi	0.7	3693	psi	0.0		psi	
Fracture Pressure	3086	psi	15.5	4040	psi	16.0		psi	
FCP		psi			psi			psi	

MUD DATA

TIME	10-20-83
TYPE	PHPA-SEA WATER
WEIGHT IN	10.3
FUNNEL VIS.	87
PU/VP	31/47
GELS	6/10
pH	8.0
FILT/CAKE API	28 1/32
MPHT	7.2
Pm	65
PI/MI	1/2.5
CHLORIDES ppm	17500
CALCIUM ppm	350
OIL/WATER/SOLIDS	0/10.5/89.5
DAILY/CUM. COST	

BIT DATA

BIT NO.	2
TYPE	DS-40MF
IADC CODE	PDC
SIZE	12.25
JET#	5-14'6
DEPTH OUT	7893
ROT HRS.	48.4
FOOTAGE	4033
AVG L/hr	87
GRADE	
HOLE DEV.	2.8
COST/FT	331
RPM	145
WOB	0

HYDRAULIC DATA

	1.	ID 1800	2.	ID 1500
SIZE inches		6.5X12		6.5X12
CAPACITY gal/stk		4.91		4.91
PUMP RATE stks/min				
FLOW RATE gal/min				
PRESSURE psi		STATIC		
PD SURF / DS		LAST 24 HOURS		
ANN / BIT	psi			
JET VELOCITY ft/sec				
JET IMPACT lba				
BIT HP				
HP RATIO / HP/IN2				
REDUCED	1	psi at		stk/min
RATE	2	psi at		stk/min

ANNULAR DATA

		LENGTH - FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CHIT-VEL FT/MIN	ANN-VOL BBL/S
5X20	DP-RIGER	152	.3844			
5X12.415	DP-CSC	3677	.1255			
5X12.25	DP-HOLE	3589	.1215			
8X12.415	DC-CSC					
8X12.25	DC-HOLE	475	.0936			

PIPE DATA

	DP	HWDP	DRILL STRING	DC	CASING: DEPTH	RISER 156	COND. 285	SURF. 1000	3828
OD-Inches	5.0	5		9.0			80	20	19 3/8
ID-Inches	4.270	3		2.875		20	28	18.73	12.415
OAP-bbls/ft	.01778	.0087		.0180		.3887	.7818	.3408	.1498
DISP-bbls/ft	.0072	.0181		.0707			.113	.0478	.0240
LENGTH-ft	8891	727		475			109	818	3843
WEIGHT-lbs/ft	14.5	49		185			310	133	68

REMARKS AND RECOMMENDATIONS

MW	10.2	GPM	700	JETS	5-13'S	3000 PSI	ft/ml	=	sec/std
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WAIT ON WEATHER. JUMP DIVERS. LATCH UP. CIRC CAGING.

ADT D. WALTERS

SECURE-FX TRANSMISSION
OCT 29 '93 07:48PM AT EXPLORATIONS DRILLING
10/30/93 06:37 ARCO KULUM II - 907 2651393

P.10
NO. 430 005

sperry-sun LOGGING SYSTEMS

DEPTH 7893
OPERATION TRIP/WOW
FOOTAGE 633

DRILLING SERVICES
A Barnold Company

APPLIED DRILLING TECHNOLOGY MORNING REPORT

NO. 16
DATE Oct 29 93
TIME 04:00

OPERATOR	ARCO ALASKA, INC.	WELL NAME	OCS-Y-1567 #1	FIELD/BLOCK	BLOCK 780
CONTRACTOR	CANMAR	RIG NAME	KULLUK	AREA	BEAUFORT SEA
START DATE	Oct 13 93	LOC.	OFFSHORE	STATE	ALASKA

LOGGING DATA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA	2.82 DEG @ 7774
BACKGROUND CONNECTION TRIP	45	08	LITHOLOGY	CLAY 20% SILT 20% SAND 60%
TRIP	231	7236	SAMPLE DEPTH	7890'
FLOWLINE TEMP	103	degrees F	TRIP CHLORIDES	
			LAG DOWN DP	11138
			LAG OFF BOTTOM	9376
			DRILL RATE f/hr	45
			CORRECTED 'M' EXP.	91
			SHALE DENSITY g/cc	NA
			FWR Rms	3

FORMATION PRESSURE DATA

CASING			BOTTOM HOLE			OPEN HOLE		
PORE PRESSURE	1732	psi	5.7	ppg	3690	psi	9.0	ppg
FRACTURE PRESSURE	9086	psi	10.6	ppg	6040	psi	16.0	ppg
ECD	2090	psi	10.5	ppg	4310	psi	10.5	ppg

MUD DATA

TIME	10 26:03
TYPE	PHIPA-SEA WATER
WEIGHT IN	10.3
FUNNEL VISC.	88
PV/VP	34/47
GELS	6/10
pH	8.0
FILT/CAC/AP	2.8 1/32
HP-HT	1.2
Pm	05
P/MI	178.6
CHLORIDES ppm	17500
CALCIUM ppm	380
OIL/WATER/SOLIDS	0/10.5/69.5
DAILY/GUM. COST	

BIT DATA

BIT NO.	3	2
TYPE	DS 40HF	S93SGJ4
IADC CODE	PDC	
SIZE	12.25	17.5
JETS	5-14'S	20-20-20-10
DEPTH OUT	7893	3880
ROT HRS.	46.4	36.5
FOOTAGE	4033	2600
AVG f/hr	87	73
GRADE	NA	2-2-1
HOLE DEV.	2.8	
COST/FT	331	342
RPM	145	140
WOB	0	10 20

HYDRAULIC DATA

PUMP6	1.	ID 1600	2.	ID 1600
SIZE inches		6.5X12		6.5X12
CAPACITY gal/stk		4.91		4.91
PUMP RATE stks/min		72		72
FLOW RATE gal/min		702		
PRESSURE psi		2800		
PD SURF / DS psi		101/1840		
ANN / BIT psi		124/810		
JET VELOCITY ft/sec		209		
JET IMPACT lbs		1109		
BIT HP		336		
HP RATIO / HP/IN2		2.87 17-3 hp/IN2		
REDUCED 1		psi at		stk/min
RATE 2		psi at		stk/min

ANNULAR DATA

		LENGTH-FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CRIT-VEL FT/MIN	ANN-VOL BBLs
5X20	DP-RISER	152	.3644	46	431	
5X12.415	DP CSG	3677	.1255	133	490	
5X12.25	DP-HOLE	5089	.1215	198	501	
4X12.415	DC-CSG					
8X12.25	DC-HOLE	475	.0036	249	554	

PIPE DATA

	DP	HWDP	DRILL STRING	DC	CASING DEPTH	RISER	COND.	SURF.
OD inches	5.0	5		9.0		158	295	1000
ID inches	4.276	3		2.875			30	20
CAP-bbls/ft	.01778	.0087		.0680		.3887	.7618	.3439
DISP-bbls/ft	.0072	.0181		.0707			.113	.0478
LENGTH-ft	6691	727		475			109	816
WEIGHT-lbs/ft	18.5	49		195			310	132

REMARKS AND RECOMMENDATIONS

MW 10.2 GPM 700 JETS 5-13'S 3000 PSI f/mi = sec/std

DRILL AHEAD THROUGH SAND/SILTSTONE/CLAY TO 7890. POOH DUE TO SLOW PENETRATION RATES. HOLE PULLING TIGHT. PUMP/BACKREAM FROM 7300' TO 8100'. PULL OUT TO SHOE HANG OFF-WAIT ON WEATHER.

RECEIVED
OCS DISTRICT OFFICE
OCT 29 1993

A01 D. WALLING

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

SECURE-FX TRAIL SSION
OCT 28 '93 10:18AM ABI EXPLORATIONS DRILLING
10/29/93 06:21 ARCO KUULUM II - 907 2551393

RECEIVED
OCS DISTRICT OFFICE
P.9
NO. 417 007

sperry-sun
DRILLING SERVICES LOGGING SYSTEMS
A Baroid Company

OCT 28 1993

DEPTH 7200
OPERATION DRILLING
FOOTAGE 405

APPLIED DRILLING TECHNOLOGY
MINORING REPORT

NO. 15
DATE OCT 28 93
TIME 04 00
ANCHORAGE, ALASKA

OPERATOR ARCO ALASKA, INC. WELL NAME OCE-Y-1507 #1 FIELD/OIL BLOCK BLOCK 780
CONTRACTOR CANMAY RIG NAME KULLUK AREA BEAUFORT SEA
START DATE Oct 13 93 LOC. OFFSHORE STATE ALASKA

LOGGING DATA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA	LITHOLOGY	SAMPLE DEPTH	TRIP CHLORIDES	LAG DOWN DP	LAG OFF BOTTOM	DRILL RATE ft/hr	CORRECTED 10' EXP.	SHALE DENSITY g/cc	EWB Hrs.
200	900	7170	2.70 DEG @ 7200'	CLAY 50% SILT 30% SAND 20%	7200		1015	9193	90	88	NA	4
82		7046										
103		6954										
FLOWLINE TEMP 102 degrees F												

FORMATION PRESSURE DATA

CASING			BOTTOM HOLE			OPEN HOLE		
PORE PRESSURE	1732 psi	8.7 ppd	3398 psi	9.0 ppd				
FRACUTURE PRESSURE	3000 psi	15.5 ppd	3040 psi	10.0 ppd				
ECD	2090 psi	10.5 ppd	3264 psi	10.5 ppd				

MUD DATA

BIT DATA

HYDRAULIC DATA

TIME 10-27-93		BIT NO. 3	2	PUMPS 1. ID 1600	2. ID 1600
TYPE PHPA-SEA WATER		TYPE DS-40MF	S338GJ4	SIZE inches 6.5X12	8.5X12
WEIGHT IN 10.2+		IADC CODE PDC		CAPACITY gal/stk 4.91	4.91
FUNNEL VIS. 06		SIZE 12.25	17.5	PUMP RATE stks/min 72	72
PV/YP 20/48		JETS 5-14'S	20-20-20-10	FLOW RATE gal/min 702	
GELS 5/10		DEPTH OUT 3860		PRESSURE psi 2800	
PHI .1		ROT HRS 35.9	30.5	PD SURF / DS psi 100/1775	
FILT/CAKE API 2.0/1/32		FOOTAGE 3400	2560	ANN / BIT psi 100/825	
HF-HT		AVG ft/min 06	73	JET VELOCITY ft/sec 306	
Pm .05		GRADE NA	2.21	JET IMPACT lbs 1117	
P/MF 9/2.7		HOLE DEV. 2.7		BIT HP 340	
CHLORIDES ppm 18000		COST/FT 314	342	HP RATIO / HP/IN2 29% 2.0 hp/in2	
CALCIUM ppm 240		HFM 145	140	REDUCED 1 psi at stk/min	
OIL/WATER/SOLIDS 0/10/90		WOB 1015	1020	RATE 2 psi at stk/min	
DAILY/CUM. COST					

ANNULAR DATA

	LENGTH FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CRIT. VEL FT/MIN	ANN-VOL BBL/S
5X20 DP-RISER	152	.3644	46	430	
5X12.415 DP-C8G	3677	.1255	134	480	
5X12.25 DP-HOLE	2956	.1215	130	485	
5X12.415 DC-C8G					
5X12.25 DC-HOLE	475	.0938	200	520	

PIPE DATA

	DP	HWDP	DRILL STRING	DC	CASING DEPTH	RISER	COND.	SURF.
OD-inches	5.0	5		9.0	150	150	245	1000
ID-inches	4.276	3		2.875			30	20
CAP bbls/ft	.01776	.0067		.0080	20	20	18.75	12.415
DISP bbls/ft	.0072	.0181		.0707	.0867	.7818	3409	1408
LENGTH-ft	8058	727		475		113	.0478	.0240
WEIGHT-lbs/ft	16.5	49		195		100	816	3643
						310	133	68

REMARKS AND RECOMMENDATIONS

MW 10.2 GPM 700 JETS 5-13'S 3000 PSI ft/mi = sec/std

DRILL AHEAD WITH BIT NO. 3. CBU AT 8954'. POOH TO SHOE FOR SHORT TRIP. PUMP/BACK BEAM FROM STAND NO. 6 - HOLE TRYING TO SWAB. REPAIR DPAW WORKS BRAKE. RH. MAX GAS FROM BOTTOM = 45. LOW TRIP GAS READING WITH BACK REAMING/PUMPING OUT OF THE HOLE. DRILL AHEAD. GAS SANDS DRILLED @ 7115-7125' AND 7180-7175'. MAX GAS FROM EACH ZONE = 808 & 800 UNITS RESPECTIVELY. DRILL AHEAD.

ADT J. PATTON

SECURE-FX TRANSMISSION
OCT 27 1993 07:33AM HAI EXPLORATIONS DRILLING
10/28/93 06:30 ARCO KUULUM II - 907 2651393

NO. 405 005

sperry-sun
DRILLING SERVICES LOGGING SYSTEMS
A Brand Company

DEPTH 8855
OPERATION DRILLING
FOOTAGE 831

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

NO. 14
DATE OCT 27 93
TIME 04 00

OPERATOR	ARCO ALASKA, INC.	WELL NAME	OC5 Y-1597 #1	FIELD/BLOCK	BLOCK 760
CONTRACTOR	CANMAP	HIS NAME	KULLUK	AREA	BEAUFORT SEA
START DATE	OCT 19 93	LOC.	OFFSHORE	STATE	ALASKA

LOGGING DATA

AVG GAS (unrs)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA	1.97 DEG @ 6737'
150	735	6715	LITHOLOGY	CLAY 30% SILT 50% SAND 20%
232		8672	SAMPLE DEPTH	8670
88		5503	TRIP CHLORIDES	
105			LAG DOWN DP	950
			LAG OFF BOTTOM	7750
			DRILL RATE ft/hr	85
			CONNECTED 'D' EXP	86
			SHALE DENSITY g/cc	NA
			EWR Res.	2

FORMATION PRESSURE DATA

CASING				BOTTOM HOLE				OPEN HOLE				
PORE PRESSURE	1732	psi	8.7	ppg	9208	psi	8.0	ppg		psi	ppg	ft
FRACTURE PRESSURE	3086	psi	15.5	ppg	5703	psi	10.0	ppg		psi	ppg	ft
ECD	2070	psi	10.4	ppg	3707	psi	10.4	ppg		psi	ppg	ft

MUD DATA

BIT DATA

HYDRAULIC DATA

TIME	10-28-93	BIT NO.	3	2	PUMPS	1. ID 1800	2. ID 1800
TYPE	PHPA-SEA WATER	TYPE	DS-40HF	833SCJ4	SIZE inches	6.5X12	6.5X12
WEIGHT IN	10.0 (RAISE TO 10.2)	IADC CODE	PDC		CAPACITY gal/stk	4.91	4.91
FUNNEL VIS.	85	SIZE	12.25	17.5	PUMP RATE stks/min	70	70
PV/VP	28/37	JETS	3-14'S	20-20-20-10	FLOW RATE gal/min	690	
OTLG	5/7	DEPTH OUT		3860	PRESSURE psi		2675
pH	8.6	ROT HRS.	29.0	36.5	PD SURF / DS psi		100/1715
FILT/CAKE API	3.4 1/32	FOOTAGE	2695	2060	ANN / BIT psi		79/290
HF-MI		AVG ft/hr	103	70	JET VELOCITY ft/sec		295
Pm	15	GRADE	NA	2-2-1	JET IMPACT lbs		1070
P/MI	15.13	HOLE DEV.	1.82		BIT HP		330
CHLORIDES ppm	17000	COST/FT	304	342	HP RATIO / HPAN2		30% 2.7 hp/in2
CALCIUM ppm	380	RPM	145	140	REDUCED 1		psi at stk/min
OIL/WATER/SOLIDS	0/9/91	WOB	10	10.20	RATE 2		psi at stk/min
DAILY GUM. COSI							

ANNULAR DATA

	LENGTH - FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CRIT-VEL FT/MIN	ANN-VOL. BBLs
5X20	DP-RISER	132	3844	45	350
6X12.415	DP-CGG	3677	1255	131	310
6X12.25	DP-HOLE	2951	1215	135	395
8X12.415	DC-CGG				
8X12.25	DC-HOLE	475	10036	107	450

PIPE DATA

	DRILL STRING			CASING DEPTH	RISER	COND.	SURF.
	DP	HWDP	DC				
OD-Inches	5.0	5	9.0	155	295	1000	3829
ID-Inches	4.276	4	2.875		30	20	13 3/8
CAP-BBLs/ft	0.1776	0.0087	0.0080	20	28	18.73	12.415
DISP-BBLs/ft	0.072	0.0181	0.0707	3087	7610	3400	1408
LENGTH-ft	5653	727	476		113	0478	0240
WEIGHT lbs/ft	18.5	40	185		109	818	3643
					310	133	60

REMARKS AND RECOMMENDATIONS

MW	10.1	GPM	700	JETS	5-13'S	3000 PSI	ft/mi	=	sec/std
DRILL AHEAD WITH BIT NO. 3. DRILL TO 8301. CBU. BIG REPAIRS. PROBLEM WITH BRAKE ELECTRONICS. DRILL AHEAD LITHOLOGY CHANGE NOTED AT 8600' - THE CLAY CHANGED FROM MED GRAY TO LIGHT GRAY IN CO. ON. IN ADDITION, BACKGROUND AND CONNECTION GAS READINGS INCREASED. RAISED PORE PRESSURE ESTIMATE TO 0.0 PPG WITH CHANGE. RAISED MUD WEIGHT TO 10.2 PPG. MAX GAS FROM SANDY SILTSTONE AT 6720' - 735 UNITS. DRILL AHEAD.									
OCT 27 1993									
ADT J. PATTON									

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

sperry-sun
DRILLING SERVICES
A Harold Company

LOGGING SYSTEMS

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

DEPTH 5924
OPERATION DRILLING
FOOTAGE 498

No. 13
DATE OCT 28 1993
TIME 04 00

OPERATOR ARCO ALASKA, INC. WELL NAME OCS-Y-1397 #1 FIELD/BLOCK BLOCK 700
CONTRACTOR CANMAR RIG NAME KULLUK AREA DEAFORT SEA
START DATE Oct 13 93 LOC. OFFSHORE STATE ALASKA

LOGGING DATA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA	LITHOLOGY	CLAY 30% SILT 20% SAND 50%
50	80	5740'	TRIP CHLORIDES	8000	
93		5734'	LAG DOWN DP	810	
88		5503'	LAG OFF BOTTOM	8800	
FLOWLINE TEMP 85		density F			
			DRILL RATE ft/hr	110	
			CORRECTED 'D' EXP.	80	
			SHALE DENSITY g/cc	NA	
			EWB Res.	2	

FORMATION PRESSURE DATA

CASING			BOTTOM HOLE			OPEN HOLE		
PORE PRESSURE	1732 psi	0.7 ppg	2090 psi	8.7 ppg				
FRACTURE PRESSURE	3088 psi	12.5 udd	4893 psi	15.0 udd				
ECD	2011 psi	10.1 ppg	3111 psi	10.1 ppg				

MUD DATA

BIT DATA

HYDRAULIC DATA

MUD DATA		BIT DATA		HYDRAULIC DATA	
TIME	10-25-93	BIT NO.	3	PUMPS	1. ID 1600
TYPE	PHPA-SEA WATER	TYPE	DS-40HF	SIZE inches	8.5X12
WEIGHT IN	2.3	IADC CODE	PDC	CAPACITY gal/stk	4.01
FUNNEL VIS.	70	SIZE	12.25	PUMP RATE stks/min	89
PV/YP	26/37	JETS	5-13'S	FLOW RATE gal/min	660
GELS	5/6	DEPTH OUT	20-20-20-10	PRESSURE psi	2350
PH	9.0	ROT HRs	17.3	PD SURF / D6 psi	100/1445
FIL/CAKE API	3.6 1/32	FOOTAGE	2004	ANN / BIT psi	60/745
HP/HT		AVG ft/hr	119	JET VELOCITY ft/sec	290
I'm	2	GRADE	NA	JET IMPACT lbs	1010
PI/MI	177.4	HOLE DEV.	1.05	RIT HP	295
CHLORIDES ppm	18000	COST/FT	385	HP RATIO / HP/IN2	31% - 2.5 hp/in2
CALCIUM ppm	360	RPM	145	REDUCED 1	psi at stk/min
OIL/WATER/SOLIDS	0/8/92	WOB	5-10	RATE 2	psi at stk/min
DAILY/CUM. COST					

ANNULAR DATA

	LENGTH - FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CHIT-VEL FT/MIN	ANN-VOL BBLs
5X20 DP RISER	152	.3844	43	350	
5X12.415 DP-CSG	3677	.1255	128	390	
5X12.25 DP-HOLE	1020	.1213	133	303	
8X12.415 DC-CSG					
8X12.25 DC-HOLE	475	.0836	184	450	

PIPE DATA

DRILL STRING				CASING: RISER COND. SURF.			
DP	HWDP	DC	DEPTH	156	225	1000	3828
OD-inches	5.0	5	0.0		30	20	13.3/8
ID-inches	4.276	3	2.875	20	28	10.75	12.415
CAP-bblin/ft	.01776	.0087	.0080	.3087	.7610	.3409	.1498
DISP-lbbl/ft	.0672	.0181	.0707		.110	.0478	.0240
LENGTH-ft	4722	727	173		109	816	3843
WEIGHT-lb/ft	19.5	40	195		310	133	68

REMARKS AND RECOMMENDATIONS

MW 9.8 GPM 700 JETS 5-13'S 3000 PSI ft/mi = sec/std

PICK UP SINGLES ON SHORT TRIP AND STAND BACK. RIG. MAX GAS FROM TRIP - 18C UNITS. DRILL TO 5563. PULL BACK INTO CASING.

TO HANG OFF FOR BAD WEATHER. HOLE PULLED GOOD. RIG. MAX GAS ON BOTTOMS UP - 88 UNITS. DRILL AHEAD.

ADT J. PATTON

sperry-sun

DRILLING SERVICES
A Boreid Company

MINERALS MANAGEMENT SERVICE
LOGGING SYSTEMS
PRORAGE, ALASKA

DEPTH 5426
OPERATION 3. TRIP
FOOTAGE 1588

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

DATE OCT 25 93
TIME 04 00

OPERATOR	ARCO ALASKA, INC.	WELL NAME	OCS-Y-1507 #1	FIELD/BLOCK	BLOCK 780
CONTRACTOR	CANMAP	RIG NAME	KULLUK	AREA	BEAUFORT SEA
START DATE	OCT 13 93	LOC.	OFFSHORE	STATE	ALASKA

LOGGING DATA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA	1.03 DEC @ 3302'
BACKGROUND CONNECTION TRIP	10	80	LITHOLOGY	CLAY 50% SILT 40% SAND 10%
TRIP	NA	3620	SAMPLE DEPTH	5400
FLOWLINE TEMP	82	degrees F	TRIP CHLORIDES	
			LAG DOWN DP	735
			LAG OFF BOTTOM	6100
			DRILL RATE ft/hr	125
			CORRECTED 'D' EXP.	79
			SHALE DENSITY g/cc	NA
			SWR Rep.	2

FORMATION PRESSURE DATA

CASING			BOTTOM HOLE			OPEN HOLE		
PORE PRESSURE	1732	psi	8.7	ppg	2454	psi	8.7	ppg
FRACTURE PRESSURE	3000	psi	15.5	ppg	4458	psi	15.8	ppg
ECD	1071	psi	9.0	ppg	2807	psi	9.95	ppg

MUD DATA

BIT DATA

HYDRAULIC DATA

TIME	10-24-93	BIT NO.	3	2	PUMPS	1. ID 1800	2. ID 1800
TYPE	PHPA-SEA WATER	TYPE	DS-40HF	9336GJ4	SIZE inches	6.5X12	6.5X12
WEIGHT IN	9.81	IADC CODE	PDC		CAPACITY gal/stk	4.91	4.91
FUNNEL VIS.	71	SIZE	12.25	17.5	PUMP RATE stks/min	70	70
PV/YP	25/20	JETS	5-14'S	20-20-20-10	FLOW RATE gal/min	688	
GELS	5/8	DEPTH OUT		2225	PRESSURE psi	2350	
pH	9.1	ROT HR6	12.1	38.5	PD SURF / DS psi	100/1450	
FILT/CAKE API	3.8 1/32	FOOTAGE	1566	2660	ANN / BIT psi	45/755	
HPHT		AVG ft/hr	120	73	JET VELOCITY ft/sec	295	
Pm	3	GRADE	NA	2-2-1	JET IMPACT lbz	1025	
P/MI	2/1.2	HOLE DEV.	1.03		BIT HP	303	
CHLORIDES ppm	18000	COST/FT	300	342	HP RATIO / HP/IN2	32% - 2.6 hp/in2	
CALCIUM ppm	600	HPM	145	140	REDUCED 1	psi at	stk/min
OIL/WATER/FOIDS	0/8/92	WOB	5	10-20	HATE 2	psi at	stk/min
DAILY/CUM COST							

ANNULAR DATA

	LENGTH - FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CRIT VEL FT/MIN	ANN-VOL BBL/S
5X20 DP-RISER	152	3644	45	285	
5X12.415 DP-CSG	3677	1255	131	325	
5X12.25 DP-HOLE	1122	1215	135	332	
8X12.415 DC-COG					
8X12.25 DC-HOLE	475	0936	190	305	

PIPE DATA

	DP	HWDP	DC	CASING DEPTH	RISER	COND.	SURF.
OD-inches	5.0	5	9.0	156	295	1000	3829
ID-inches	4.276	5	2.875	20	28	18.73	12.415
CAP-bbls/ft	.01776	.0087	.0086	.3887	.7616	.3409	.1498
DISP-bbls/ft	.0072	.0181	.0707		.113	.0478	.0240
LENGTH-ft	4224	727	475		100	918	3643
WEIGHT-lbs/ft	18.5	40	185		310	139	68

REMARKS AND RECOMMENDATIONS

MW	9.8	GPM	750	JETS	5-13'S	9000 PSI	ft/ml	=	sec/std
H.H. TAGGED PLUG/CMT AT 3748'. DRILL CEMENT TO 3790'. PRESSURE TEST CASING. DRILL OUT CEMENT AND SHOE + 10' OF NEW HOLE. CBV. RUN LEAK OFF TEST WITH 9.8 ppg MUW - 15.5 ppg EMV. DRILL AMFAD. CONSISTANT CONNECTION GASES RECORDED BELOW 4300'. CURRENTLY AVALANCING 80 UNITS. DRILL TO 5426' CBV. SHORT TRIP TO THE SHOE TO CONDITION THE HOLE. HOLE TRYING TO SWAB ON THE WAY OUT. PUMP AND BACK HEAM OUT FROM STAND #3.									
ADT J. PATTON									

DRILLING SERVICES
A Bould Company

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

NO. 11
DATE OCT 24 03
TIME 03 00

LOGGING DATA

FORMATION PRESSURE DATA

MUD DATA

BT DATA

HYDRAULIC DATA

ANNULAR DATA

PIPE DATA

REMARKS AND RECOMMENDATIONS

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

DEPTH	3880
OPERATION	RUN CSG
FOOTAGE	615

NO. 10
DATE Oct 23 1955
TIME 04 00

OPERATOR	ARCO ALASKA, INC	WELL NAME	OCB-Y-1597 #1	FIELD/BLOCK	BLOCK 760
CONTRACTOR	CANMAR	RIG NAME	KULLUK	APCA	HEAUFORT SEA
START DATE	06/13/93	LOC	OFFSHORE	STATE	ALASKA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA	28 DEC 68 3624'	
			LITHOLOGY	CLAY 30%; SILT 50% SAND 20% COAL	
BACKGROUND CONNECTION TRIP	10	15	SAMPLE DEPTH	3840	DRILL RATE ft/hr
	0		TRIP CHLORIDES		70
FLOWLINE TEMP	70	3850	LAG DOWN DR	480	CORRECTED 'D' EXP.
	45	degrees F	LAG OFF BOTTOM	3300	1.22
					SHALE DENSITY g/cc
					NA
					EWI Res.
					1

	CASING			BOTTOM HOLE			OPEN HOLE							
PORE PRESSURE	442	psi	8.6	ppg	1065	psi	11.7	ppg	_____	psi	_____	ppg	_____	ft
FRACUTURE PRESSURE	759	psi	14.8	ppg	2735	psi	14.5	ppg	_____	psi	_____	ppg	_____	ft
ECD	504	psi	9.7	ppg	1858	psi	9.7	ppg	_____	psi	_____	ppg	_____	ft

TIME	10-22-93	BIT NO.	RR-1	?	PUMPS	1.	ID 1600	2.	ID 1600
TYPE	CHPA-8FA WATER	TYPE	ATX	8338QJ4	SIZE inches		6.5X12		6.5X12
WEIGHT IN	9.8	IADC CODE			CAPACITY gal/stk		4.91		4.91
FUNNEL VIS.	72	SIZE	26	17.5	PUMP RATE stks/min	99			100
PV/YP	20/39	JETS	4-20'S	20-20-20-10	FLOW RATE gal/min		977		
GEIS	6/10	DEPTH OUT	1020	3850	PRESSURE psi		2700		
pH	9.2	HOT HRS.	24.1	38.5	PD SURF / Ds psi		150/ 1690		
FILT/CAKE API	3.6 1/32	FOOTAGE	816	2000	ANN / BIT psi		10/650		
NP+HT		AVG ft/hr	34.0	70	JET VELOCITY ft/sec		314		
Pm	.36	GRADE	NA	NA	JET IMPACT lbs		1525		
PI/MI	.3/1.7	HOLE DEV.	3.0 @ 824'		BIT HP		485		
CHLORIDE \$ ppm	17000	COST/FT	.064	.042	HP RATIO / HPAN2		31% - 2.0 hp/in2		
CALCIUM ppm	800	RPM	155	140	REDUCED 1		psi at		stks/min
OIL/WATER/SOLIDS	0/7.5/25	WOR	5-10	10-20	HATE 2		psi at		stks/min
DAILY/CUM. COST									

		LENGTH - FT.	VOLUME BBLs/FT.	VELOCITY FT/MIN	CRIT-VEL FT/MIN	ANN-VOL BBLs
5X70	DP-RISER	152	3644	64	320	
6X14.75	DP-CBG	818	3185	73	330	
5X17.5	DP-HOLE	2380	2733	86	310	
	DC-CBG					
4X17.5	DC-HOLE	480	2354	88	330	

[illegible][illegible]

SECURE-FX TRANSMISSION
OCT 22 1993 08:53 AM
10/23/93 08:23
EXPLORATIONS DRILLING
HRCU KULUK 11-7 907 2651393

RECEIVED P.7
OCS DISTRICT OFFICE 364 004

OCT 22 1993

sperry-sun
DRILLING SERVICES LOGGING SYSTEMS

A Baroid Company

GENERALS MANAGEMENT SERVICE

DATE Oct 22 93

ANCH TIME 04:00:00

DEPTH 3245
OPERATION DRILLING
FOOTAGE 1153

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

OPERATOR	ARCO ALASKA, INC	WELL NAME	OCS-Y-1597 #1	FIELD/BLOCK	BLOCK 760
CONTRACTOR	CANMAR	RIG NAME	KULUK	AREA	BEAUFORT SEA
START DATE	Oct 13 93	LOC.	OFFSHORE	STATE	ALASKA

LOGGING DATA

AVG GAS (units)	MAX GAS (units)	AI DEPTH (feet)	SURVEY DATA	16 DEG @ 3142'
10	32	2560	LITHOLOGY	CLAY 20% SILT 10% SAND 80% COAL 10%
BACKGROUND CONNECTION	TRIP	48	SAMPLE DEPTH	3150
TRIP	48	2006	TRIP CHLORIDES	
FLOWLINE TEMP	41	degrees F	LAG DOWN DP	395
			LAG OFF BOTTOM	8200
			DRILL RATE ft/hr	90
			CORRECTED 'D' EXP.	92
			SHALE DENSITY g/cc	NA
			EWB Res.	1

FORMATION PRESSURE DATA

CASING			BOTTOM HOLE			OPEN HOLE		
PORE PRESSURE	442	psi	8.5	ppg	1408	psi	8.7	ppg
FRACUTURE PRESSURE	759	psi	14.6	ppg	2236	psi	14.0	ppg
ECU	504	psi	9.7	ppg	1837	psi	9.7	ppg

MUD DATA

BIT DATA

HYDRAULIC DATA

TIME	10-21-93	BIT NO.	RR-1	2	PUMPS	1	ID 1800	2	ID 1600
TYPE	PHPA-SEA WATER	TYPE	ATX	\$938GJ4	SIZE inches	6.5X12	6.5X12		
WRIGHT IN	9.6	IADC CODE			CAPACITY gal/sk	4.91	4.81		
FUNNEL VIS.	70	SIZE	26	17.5	PUMP RATE strokes/min	90	99		
PV/VP	28/33	JETS	4-20'S	20-20-20-10	FLOW RATE gal/min	972			
GELS	5/6	DEPTH OUT	1020	NA	PRESSURE psi	2550			
pH	9.7	ROT HRs.	24.1	29.0	PO SURF / DO psi	150/1560			
FILT/CAKE API	3.8 1/32	FOOTAGE	810	2225	ANN / BIT psi	10/840			
MP+IT		AVG ft/hr	34.0	74	JET VELOCITY ft/sec	313			
Pm	5	GRADE	NA	NA	JET IMPACT lbs	1512			
PI/MI	5/2.1	HOLE DEV.	3.0 @ 924'	1.8	BIT HP	475			
CHLORIDES ppm	17000	COST/FT	684	352	HP RATIO / HP/IN2	34% - 2.0 hp/in2			
CALCIUM ppm	100	RPM	155	140	REDUCED 1	psi at	stk/min		
OIL/WATER/SOLIDS	0/7 5/92.5	WOB	5-10	10	RATE 2	psi at	stk/min		
DAILY/CUM. COST									

ANNULAR DATA

SIZE	DP-RISER	LENGTH-FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CRIT-VEL FT/MIN	ANN-VOL BBLs
5X20	DP-RISER	152	3844	84	328	
5X18.75	DP-CSG	848	3188	73	336	
5X17.5	OP-HOLE	1793	2733	85	317	
	DC-CSG					
6X17.5	DC-HOLE	480	2354	96	340	

PIPE DATA

OD-Inches	DRILL STRING			CASING DEPTH	RISER	COND.	SURF.
	DP	HWDP	DC				
5.0	5		9.0			295	1000
4.276	3		2.875			30	20
CAP-bbls/ft	.01775	.0087	.0080			26	16.70
DISP-bbls/ft	.0072	.0101	.0707			7616	3400
LENGTH-ft	2038	727	480			113	0476
WEIGHT-lbs/ft	19.5	49	195			109	816
						310	133

REMARKS AND RECOMMENDATIONS

W 9.8 GPM 900 JETS 4-16'S 3000 PSI ft/m = sec/std

DRILL AHEAD WITH BIT NO. 2 THROUGH CLAY AND SAND. DRILL TO 2008' SHORT TRIP TO SHOE. PUMP OUT OF HOLE FROM STAND NO. 2.
MAX GAS FROM SHORT TRIP - 48 UNITS. DRILL AHEAD. SOME MUD LOSSES NOTED WITH CUTTINGS OVERLOAD AT SHAKERS. HAVING TO
REDUCE FLOW RATE WHEN SHAKERS ARE LOADED.

RECEIVED
TCS DISTRICT OFFICE P. 10
NO. 349 014

~~SECRET~~ OCT 21 1993

LOGGING SYSTEMS

MINERALS MANAGEMENT SERVICE
ANCHORAGE, ALASKA

APPLIED DRILLING TECHNOLOGY
MORNING REPORT

DATE OCT 21 20
TIME 04 00

FIELD/BLOCK	BLOCK 760
AREA	BEAUFORT SEA
STATE	ALASKA

AVG GAS (units)	MAX GAS (units)	AT DEPTH (feet)	SURVEY DATA LITHOLOGY	38 DEG 2' 1873 CLAY 20% SILT 30% SAND 50%
15	85	1700	SAMPLE DEPTH	
0			TRIP CHLORIDES	
72		1981	LAG DOWN DP	220
			LAG OFF BOTTOM	5100
BACKGROUND CONNECTION TRIP			DRILL RATE ft/hr	95
			CORRECTED ID EXP.	78
FLOWLINE TEMP	31	degrees F	SHALE DENSITY g/cc	NA
			EWB Nos.	1

	CASING			BOTTOM HOLE			OPEN HOLE							
PORE PRESSURE	442	psi	8.5	ppg	048	psi	8.7	ppg		psi		ppg		ft
FRACUTRE PRESSURE	759	psi	14.0	ppg	7467	psi	13.0	ppg		psi		ppg		ft
ECD	504	psi	9.7	ppg	1055	psi	8.7	ppg		psi		ppg		ft

HYDRAULIC DATA

TIME	10-20-93	BIT NO.	RR-1	2	PUMPS	1.	ID 1600	ID 1600
TYPE	PHPA-OEA WATER	TYPE	ATX	S3USGJ4	SIZE inches		6.5X12	6.5X12
WEIGHT IN	9.81	LOG CODE			CAPACITY gal/stk		4.91	4.91
FUNNEL VIS.	75	SIZE	28	17.5	PUMP RATE stks/min	102		100
FWYP	35.20	JETS	4-20'S	20-20-10	FLOW RATE gal/min	994		
GELS	4/5	DEPTH OUT	1020	NA	PRESSURE psi		2550	
pH	9.7	HOT HRS.	24.1	14.0	PD SURF / DS psi		150/1525	
FILT/CAKE API	3.0 1/32	FOOTAGE	215	1072	ANN / DII psi		5/870	
HP-HT		AVG f/hr	34.0	77	JET VELOCITY ft/sec		326	
Pm	.5	GRADE	NA	NA	JFT IMPACT lbc		1570	
PI/MI	4/2.0	HOLE DEV.	3.0 @ 924'	.34 @ 2018	BIT HP		50%	
CHLORIDES ppm	17500	COST/FT	885	388	HP RATIO / HP/IN2		34% - 2.1 hp/hr2	
CALCIUM ppm	200	RPM	155	140	REDUCED 1	psi at	stk/min	
OIL/WATER/SOLIDS	0/7/93	WOB	5-10	5-10	RATE 2	psi at	stk/min	
DAILY/CUM. COST								

		LENGTH FT.	VOLUME BBL/FT.	VELOCITY FT/MIN	CRIT-VEL FT/MIN	ANN-VOL BBLs
5X20	DP-RISER	152	.3644	85	295	
5X18.75	DP-CSG	910	.3188	75	300	
5X17.5	DP-HOLE	612	.2733	86	330	
	DC-CSG					
5X17.5	DC-HOLE	480	.2354	100	310	

[illegible]

MW	9.6	GPM	900	JETS	4-16'S	3000 PSI	ft/ml	=	sec/std
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DRILL OUT FLOAT/SHOE AFTER DISPLACING CASING WITH PHPA MUD. DRILL TO 1020' 10 FEET OF NEW HOLE. CBU. HUN LEAK OFF TEST.

- 14.6 EMW. DRILL AHEAD WITH BIT NO. 2.

ADT J PATLON