APPROVAL TO DRILL A WELL

National Energy Board

Office national de l'énergie

FEB 0 5 2003

Exploratory x☐ Delineation☐

Development ☐ Service ☐

APPROVAL TO DRILL A WELL

This application is submitted under Section 82 of the *Canada Oil and Gas Drilling Regulations*. When approved under Section 83 of the Regulations, it is the requisite approval for the commencement of drilling operations.

Well Name: ANADARKO WEST BOVIE I-76

Operator: ANADARKO CANADA ENERGY — Drilling Program No.:

Contractor: AKITA DRILLING LTD. — Interest Identifier:

Drilling Rig or Unit: 15 — Estimated Well Cost: $ 1,000,000

Location-Unit: I — Section: 76 — Grid: 60 20 123 00

Coordinates: Lat.: 60 15 35.0 N — Long.: 123 13 22.0 W

Area: ARROWHEAD, NWT — Field / Pool:

Elevation-KB/RT: 308.0 (ASL) — GL / Seafloor: 303.3

Approx. Spud Date: FEBRUARY 14, 2003 — Est. Days on Location: 7

Anticipated Total Depth: 555 m — Target: CHINKEH

EVALUATION PROGRAM

Ten-metre sample: 1 set in plastic jar - unwashed and wet for geochem purposes

Five-metre sample: NEB: 2 SETS OF VIALS WASHED & DRIED; 1 BAG WASHED & DRIED

Canned sample intervals: ACE: 1 SET OF VIALS WASHED & DRIED

Conventional cores at:

Logs and Tests: AIT/GR/CNL/LDT/SONIC/DAC

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing
508 mm			+/- 20m	Pressure Cemented
219.1	35.7	J55	+/-150m	
139.7	20.8	K55	+/-555 m	

B.O.P. Equipment: 279.4 mm x 21 mPA BOP STACK (1-DOUBLE-PIPE AND BLIND, 1-ANNULAR)
1 - 21 mPA x 76 mm CHOKE MANIFOLD

Other Information:

Signed: _____ Title: DRILLING MANAGER
Responsible Officer

Name: Dave Brown — Company: ANADARKO CANADA ENERGY

Date: 2/4/03 — Phone: (403) 231-0232

APPROVAL

An approved copy of this notice is to be posted at each wellsite.

Date: Feb. 20/03 — Signed: _____
for / Chief Conservation Officer

File: 9211-A069-6-1

WID: 1986

UWI: 300I766020123000

Canada

END OF WELL REPORT

Anadarko Canada Corporation

N.E.B. COPY

Anadarko West Bovie I-76 – End of Well Report

60° 15' 35.0" N, 123° 13' 22.0" E
May 2003

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- Well Summary

Appendices:

1. Drilling Operations Summary and Daily Drilling Reports
2. Final Wellbore Surveys
3. Completions Operations Summary
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Introduction

Anadarko West Bovie I-76 was a vertical exploration well targeting the Chinkeh formation. It was drilled as part of Anadarko Canada Corporation's 2002-2003 winter drilling program near Fort Liard, NWT.

General Well Data

Well Name: Anadarko West Bovie I-76

Rig: Akita #15
Ground Elevation: 303.30m
KB: 308.00m

Spud: February 23, 2003
Rig Release: March 26, 2003 (Well abandoned after rentery)

Surface Hole: 311mm
Surface Casing: 219mm
Depth: 161mMD

Intermediate Hole: 200mm
Intermediate Casing: 139.7mm
Depth: 584.5mMD

Production Hole: 121mm
Production Casing: n/a
Depth: 804mMD

See Appendix 1 for drilling details.

Summary of Drilling & Completions Operations

See Appendix 1 for drilling summary and daily reports.

This well was not completed

Geological and Palaeontological Information

Sample Frequency	5 meters 161 m - 805 m)
Distribution	4 sets of vials, 1 set of bags
Location	2 sets of vials and 1 set of bags to GSC, 3303 33rd Street N.W., Calgary, AB T2L 2A7 1 set retained by Anadarko Canada
Core	543-561 m (Scatter Formation)
Lithology	Refer to the well Geological Report
Biostratigraphic Data	None

Directional Summary

Surface Location: 60° 15' 35.0" N, 123° 13' 22.0" E
Bottom Hole Location: 7.00mN, 5.02mE of surface location
Maximum Angle: 1.42°
Vertical Section: 8.61m
Azimuth: 35.68°

See Appendix 2 for detailed surveys and diagram.

Reservoir and Well Evaluation

Not applicable.

Wireline Logging

Open hole logs previously submitted.

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West Bovie I-76

- Move in and rig up Akita #15 on I-76 location on February 22, 2003
- Spud surface hole at 22:15 on February 23, 2003
- Drill 311mm surface hole, with Water Based Mud (visc 44, pH 10, density 1035 kg/m3), to 161mMD. Experienced mud rings. No other problems.
- Set 161 m of 219mm 35.7 kg/m K-55 casing with 13.8 tonne 0:1:0 Class "G" cement + 3% CaCl2 at 1895 kg/m3.
- Perform casing pressure test: 1400 kPa low 14000 kPa high 10 minutes each.
- Drill out shoe, drill to 168 m and perform Leak off test. Equivalent mud weight 2246 kg/m3.
- Drill 200 mm main hole, with Water Based Mud (visc 47, pH 10.5, density 1140 kg/m3), to 585 mMD. No problems.
- Run Gyro deviation survey.
- Run wireline to log. Run GR/AIT/CNL/LDT/BHCS/CAL.
- Set 584.5 m of 139.7mm 20.8 kg/m J-55 casing with 17 tonne Thixmix II + 0.25% CFL3 + 2% CaCl2. Displace with 0.3% inhibited water.
- Rig down and move out Akita #15 on March 1, 2003.
- Move in and rig up Akita #15 on March 17, 2003.
- Drill out shoe, drill to 591m and perform Leak off test. Equivalent mud weight 1845 kg/m3.
- Drill 121 mm hole, with Water Based mud (visc 54, pH 11, density 1020 kg/m3), to 804 m.
- Run wireline to log. Run GRT/PIT/CST/CNT.
- Run Gyro deviation survey.
- Run DST.
- Plug to abandon. Plug #1: 804m-560m, 5.5 tonne 0:1:0 Class "G" + 0.5% CD-31 + 0.1% R-3. Plug #2: 560m-319m, 4.7 tonne 0:1:0 Class "G" + 0.5% CD-31. Plug #3: 319 m-0 m, 4.7 tonne 0:1:0 Class "G" + 0.5% CD-31 + 2% A-11.
- Rig down and move out Akita #15 on March 26, 2003.

Casing and Cementing Report

Well Name	ANADARKO WEST BOVIE I-76		**Well License Number**	1966	
Event	ORIG DRILLING	21/02/03	**Well License Date**	20/02/03	
Objectives	EXPLORATORY DRILLING		**Field**	CHINKEH	
Rig Name & No.	AKITA	15	**Event Final TMD / TVD**	804.00 m	/ 804.00 m
KB Elev.	308.00 m		**Sidetrack KO Depth / PB Depth**	0.00 m	/ 0.00 m
KB to GL	4.70 m	**Deviation** V	**Event Final Well Plug Back Depth/PBTVD**	0.00 m	/ 0.00 m

Component Information	Depth	Equipment Diagram	Cement Interval
42 - CASING JOINT(S) - CASING - 570.680 m			0.00 m - 100.50 m
	100.50 m		
1 - CASING FLOAT COLLAR - WEATHERFORD - 0.370 m	146.81 m		0.00 m - 161.00 m
1 - CASING JOINT(S) - IPSCO - 13.370 m	147.18 m		100.50 m - 319.00 m
1 - CASING FLOAT SHOE - WEATHERFORD - 0.450 m	160.55 m		
	161.00 m		
	319.00 m		
			319.00 m - 560.00 m
	560.00 m		
1 - CASING FLOAT COLLAR - WEATHERFORD - 0.340 m	570.68 m		
1 - CASING JOINT(S) - CASING - 13.480 m	571.02 m		
1 - CASING FLOAT SHOE - WEATHERFORD - 0.390 m	584.50 m		
	584.89 m		
	585.00 m		

String Details

ANADARKO WEST BOVIE I-76 | **ORIG DRILLING** | **23/02/03** | **26/03/03**

String Name	Installed Date	String Status	Length	String Landed Depth	Suspension Point	String Depth Correction
SURFACE CASING	24/02/03	INSTALLED	161.0 m	161.0 m		0.0 m
PRODUCTION CAS	28/02/03	INSTALLED	584.9 m	584.9 m		0.0 m

SURFACE CASING — Status: INSTALLED — Install Date: 24/02/03 — String Length: 161.0 m

# of Joints	Name	Length	Min. I.D.	Nom. Size	Grade	Weight	Depth
11	CASING JOINT(S)	146.810 m	202.49 mm	219.08 mm	K55	35.72 kg/m	0.00 m
1	CASING FLOAT COLLAR	0.370 m	202.49 mm	219.08 mm	K55	35.72 kg/m	146.81 m
1	CASING JOINT(S)	13.370 m	202.49 mm	219.08 mm	K55	35.72 kg/m	147.18 m
1	CASING FLOAT SHOE	0.450 m	202.49 mm	219.08 mm	K55	35.72 kg/m	160.55 m

PRODUCTION CASING — Status: INSTALLED — Install Date: 28/02/03 — String Length: 584.9 m

# of Joints	Name	Length	Min. I.D.	Nom. Size	Grade	Weight	Depth
42	CASING JOINT(S)	570.680 m	124.13 mm	139.70 mm	J55	20.83 kg/m	0.00 m
1	CASING FLOAT COLLAR	0.340 m	124.13 mm	139.70 mm	J55	20.83 kg/m	570.68 m
1	CASING JOINT(S)	13.480 m	124.13 mm	139.70 mm	J55	20.83 kg/m	571.02 m
1	CASING FLOAT SHOE	0.390 m	0.00 mm	139.70 mm	J55	20.83 kg/m	584.50 m

Cement Data

ANADARKO WEST BOVIE I-76 | **ORIG DRILLING** | **23/02/03** | **26/03/03**

Job Type: Primary | Date: 18/03/03 | Contractor: HALIBURTON

Stage Desc.	Slurry Type	Slurry Desc.	Slurry Class	Interval From	Interval To	Slurry Total Volume
SINGLE STAGE	TAIL	NEAT + 3% CAC	CLASS G	0.00 m	161.00 m	10.7 m³

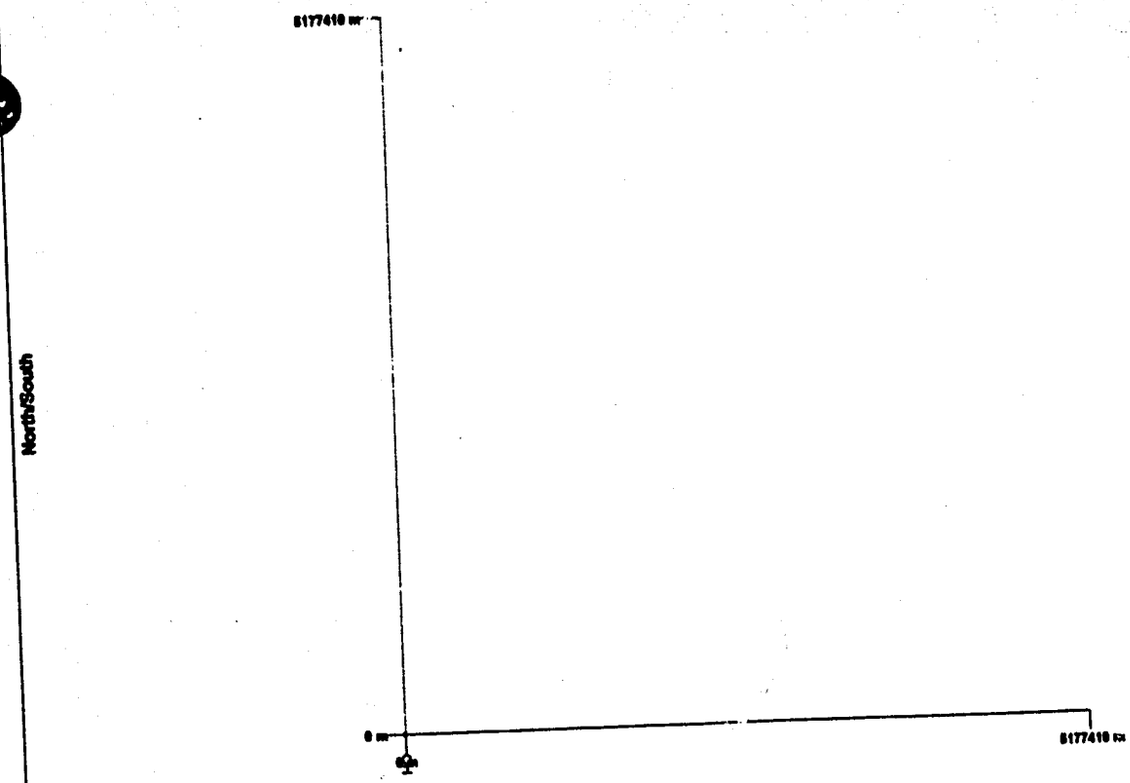
Job Type: Primary | Date: 01/03/03 | Contractor: SAMUEL

Stage Desc.	Slurry Type	Slurry Desc.	Slurry Class	Interval From	Interval To	Slurry Total Volume
SINGLE STAGE	TAIL	THIXMIX 2	CLASS G	0.00 m	585.00 m	15.3 m³

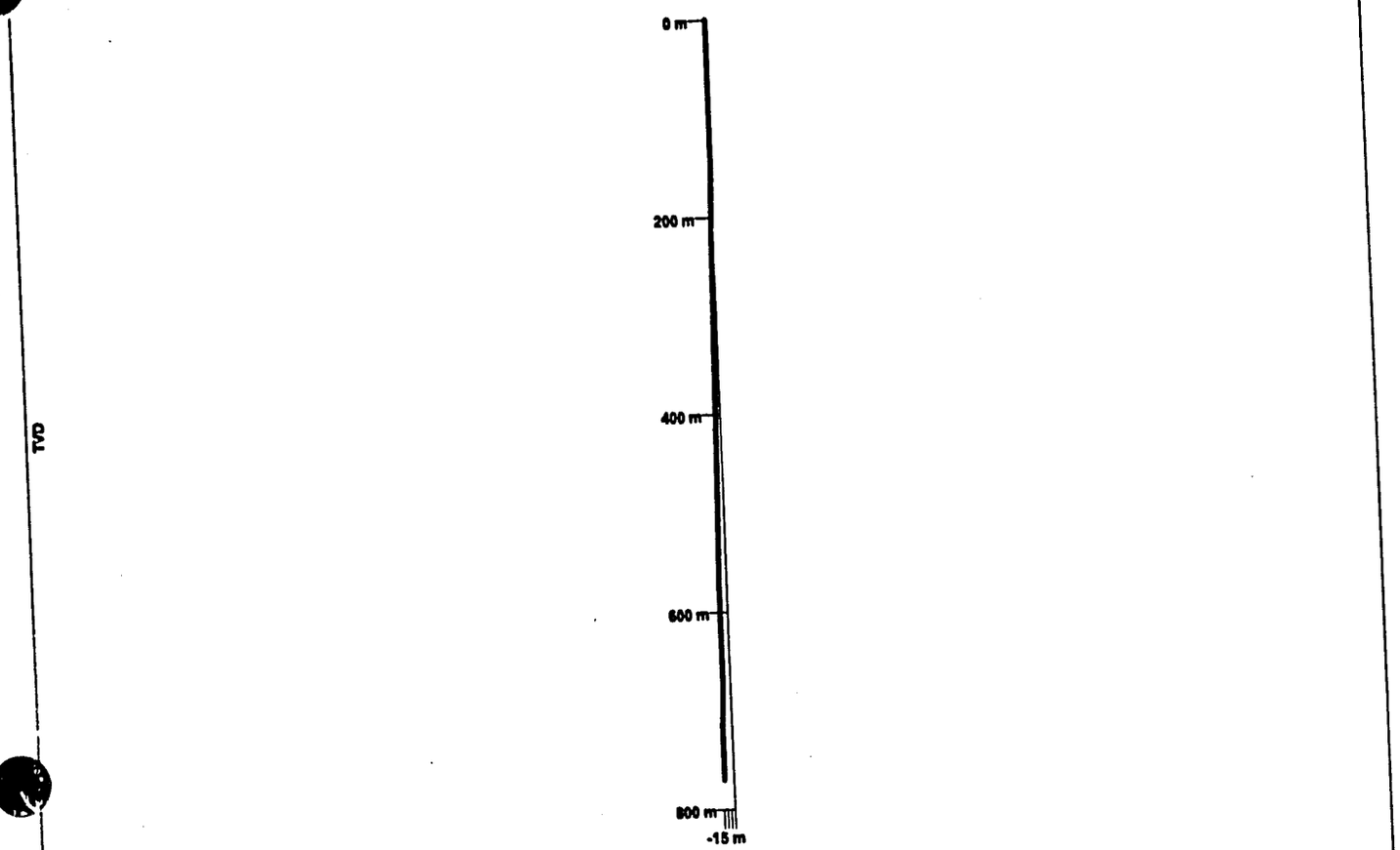
Job Type: Plug | Date: 25/03/03 | Contractor: B.J. SERVICES

Stage Desc.	Slurry Type	Slurry Desc.	Slurry Class	Interval From	Interval To	Slurry Total Volume
ABANDONMENT PLUG	PLUG		CLASS G	319.00 m	560.00 m	0.0 m³
ABANDONMENT PLUG	PLUG		CLASS G	100.50 m	319.00 m	0.0 m³
ABANDONMENT PLUG	PLUG	NEAT	CLASS G	0.00 m	100.50 m	0.0 m³

Survey Plan View



Vertical Section



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Legal Well Name:	ANADARKO WEST BOVIE I-76					
Common Well Name:	WEST BOVIE I-76				Spud Date:	02/23/2003
Event Name:	ORIG DRILLING		Start:	02/21/2003	End:	03/27/2003
Contractor Name:	AKITA		Rig Release:	03/26/2003	Group:	
Rig Name:	AKITA		Rig Number:	15		

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
02/21/2003	00:00 - 23:59	23.98	22	C		WAIT ON DRILLING APPROVEL DRILL AND SET CONDUCTOR AT 13.5M DRILL MOUSE AND RAT HOLE
02/22/2003	00:00 - 06:00	6.00	22	F	MIRU	WAIT ON DAYLIGHT TO MOVE
	06:00 - 12:00	6.00	24	D	MIRU	LOAD AND MOVE RIG F/B-52-K/94-0-9 TO BOVIE I-76
	12:00 - 23:59	11.98	01	A	MIRU	SPOT RIG AND BULDINGS RIG UP
02/23/2003	00:00 - 06:00	6.00	01	A	MIRU	RIG UP PREPARE FOR SPUD
	06:00 - 08:00	2.00	14	D	MIRU	WELD ON 2 IN OUTLETS ON CONDUCTOR AND DIVERTER FLANGE
	08:00 - 10:00	2.00	14	D	MIRU	REMOVE VALVES F/ BOPS TO INSTALL DIVERTER
	10:00 - 10:15	0.25	21	A	MIRU	HOLD SAFETY MEETING ON PICKING UP DIVERTER
	10:15 - 21:00	10.75	14	A	MIRU	NIPPLE UP DIVERTER R/U FLOW LINE WELD JET LINES IN FLOW LINE PRE MIX MUD
	21:00 - 21:45	0.75	06	J	MIRU	M/U BIT TAG CMT @13.8 M
	21:45 - 22:00	0.25	15	A	MIRU	PRESSURE TEST DIVERTER TO 1000 KPA
	22:00 - 22:15	0.25	21	A	MIRU	PRE-SPUD SAFETY MEETING
	22:15 - 23:30	1.25	02	B	DRLSUR	SPUD IN W/ 311MM BIT
	23:30 - 23:45	0.25	10		DRLSUR	DEVIATION SURVEY @20M / 0.75 DEGREES
	23:45 - 23:59	0.23	02	B	DRLSUR	DRILL FROM 33M - 43M
02/24/2003	00:00 - 00:15	0.25	07	A	DRLSUR	RIG SERVICE
	00:15 - 02:30	2.25	03	A	DRLSUR	CLEAN FLOW LINE WORK OUT MUD RING
	02:30 - 03:30	1.00	02	B	DRLSUR	DRILL 311MM HOLE F/ 43 TO 61 M
	03:30 - 03:45	0.25	10		DRLSUR	SURVEY @ 48 M .5 DEG
	03:45 - 06:15	2.50	02	B	DRLSUR	CLEAN FLOW LINE
	06:15 - 09:15	3.00	02	B	DRLSUR	DRILL 311 HOLE F/ 61M TO 98M
	09:15 - 10:30	1.25	03	A	DRLSUR	CLEAN OUT FLOW LINE
	10:30 - 10:45	0.25	02	B	DRLSUR	DRILL 311MM HOLE F/ 98M TO 107M
	10:45 - 11:00	0.25	07	A	DRLSUR	RIG SERVICE
	11:00 - 15:00	4.00	02	B	DRLSUR	DRILL 311MM HOLE F/ 107M TO 154M
	15:00 - 16:00	1.00	10		DRLSUR	ACCUMULATED SURVEYS
	16:00 - 16:15	0.25	07	A	DRLSUR	RIG SERVICE
	16:15 - 16:30	0.25	05	A	DRLSUR	COND MUD AND CIRC
	16:30 - 16:45	0.25	10		DRLSUR	DEVIATION SURVEY
	16:45 - 19:30	2.75	06	H	DRLSUR	WIPER TRIP
	19:30 - 20:15	0.75	02	B	DRLSUR	DRILL 311MM HOLE F/ 154M TO 161M
	20:15 - 20:45	0.50	05	A	DRLSUR	COND MUD AND CIRC
	20:45 - 21:45	1.00	06	G	DRLSUR	POOH
	21:45 - 22:00	0.25	21	A	DRLSUR	PRE CSG RUN SAFETY MEETING
	22:00 - 23:59	1.98	12	A	DRLSUR	R/U TO RUN 219MM 35.7 K55 ST&C CASG.
02/25/2003	00:00 - 00:15	0.25	21	A	DRLSUR	SAFETY MEETING ON RUNNING CSG
	00:15 - 01:30	1.25	12	A	DRLSUR	RUN 219MM K55 35.7 KG/M SURFACE CSG LAND @ 161M NO FILL
	01:30 - 03:15	1.75	05	F	DRLSUR	R/U TO CIR AND CIR CSG @ 750 KPA 1M3/MIN CONDITION MUD
	03:15 - 03:30	0.25	21	A	DRLSUR	HOLD SAFTY MEETING W/ SANJEL
	03:30 - 04:30	1.00	12	C	DRLSUR	MIX AND PUMP 10.5 M3 0:1:0 G CMT. + 3% CACL2 DISPLACE W/ 5M3 H20 BUMP PLUG W/6 MPA FLOATS HELD 2.5 M3 GOOD CMT RETURNS
	04:30 - 08:30	4.00	13		DRLSUR	WOC
	08:30 - 16:00	7.50	14	B	DRLSUR	P/U DIVERTER CUT CSG L/D DIVERTER FINAL CUT CSG WELD ON 279.4MMX21MPA CSG.BOWL SER #11041801-3
	16:00 - 16:30	0.50	15	A	DRLSUR	LET BOWL COOL, TEST CASING BOWL TO 7000 KPA
	16:30 - 21:45	5.25	14	B	DRLSUR	NIPPLE UP BOP'S
	21:45 - 22:00	0.25	21	A	DRLSUR	SAFETY MEETING WITH PRESSURE TESTER
	22:00 - 23:59	1.98	15	A	DRLSUR	PRESSURE TEST BLIND RAMS, CSG, HCR, OUTSIDE KILL LINE

Legal Well Name: ANADARKO WEST BOVIE I-76
Common Well Name: WEST BOVIE I-76 Spud Date: 02/23/2003
Event Name: ORIG DRILLING Start: 02/21/2003 End: 03/27/2003
Contractor Name: AKITA Rig Release: 03/26/2003 Group:
Rig Name: AKITA Rig Number: 15

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
02/25/2003	22:00 - 23:59	1.98	15	A	DRLSUR	VALVE, CHECK VALVE, INSIDE KILL LINE VALVE 1400 KPA - 14000 KPA / 10 MINUTES EACH TEST
02/26/2003	00:00 - 02:00	2.00	06	J	DRLPRO	MAKE UP BIT, RUN IN HOLE, LAYDOWN 6 HWDP, P/U 4 DC AND JARS
	02:00 - 05:45	3.75	15	B	DRLPRO	PRESSURE TEST MANIFOLD 1400 KPA - 14000 KPA 10 MINUTES EACH TEST, TEST ANNULAR PIPE RAMS, STABBING VALVE, INSIDE BOP, UPPER AND LOWER KELLY COCKS 1400 KPA - 14000 KPA EACH TEST, FUNCTION TEST MOTOR KILLS AND POP VALVE ACC, FUNCTION TEST START PRESS 21000 KPA ANNULAR 8 SEC 4800 KPA PIPE RAMS 3 SEC 700 KPA HCR 2 SEC 300 KPA REMAINING PRESS 15200 KPA PRE CHARGE 7000 KPA RECHARGE 115 SEC
	05:45 - 06:00	0.25	21	B	DRLPRO	HOLD BOP DRILL WELL SEC. 90 SEC SAFETY MEETING HELD ON BOP DRILL
	06:00 - 08:00	2.00	02	C	DRLPRO	DRILL CMT F/ 144M TO 147 M DRILL F/C DRI// CMT AND FLOAT COLLAR TO 161M
	08:00 - 08:15	0.25	07	A	DRLPRO	RIG SERVICE FUNCTION PIPE RAMS 3 SEC
	08:15 - 08:45	0.50	08	A	DRLPRO	CHANGE OUT POP VALVE
	08:45 - 09:15	0.50	02	B	DRLPRO	DRILL 200MM HOLE F/ 161M TO 168M
	09:15 - 09:30	0.25	05	A	DRLPRO	CIR HOLE CLEAN PRIOR TO LEAK OFF TEST
	09:30 - 10:00	0.50	15	C	DRLPRO	LEAK OFF TEST W/ 1000 KG/M3 MUD APPLIED 2280 KPA NO LEAK OFF EQMW=2446 KG/M3
	10:00 - 11:30	1.50	02	B	DRLPRO	DRILL 200MM HOLE F/ 168M TO 214M
	11:30 - 11:45	0.25	21	B	DRLPRO	BOP DRILL W/ CREW WELL SEC 60 SEC
	11:45 - 15:45	4.00	02	B	DRLPRO	DRILL 200MM HOLE F/ 214M TO 328M
	15:45 - 16:00	0.25	10		DRLPRO	ACCUMULATED SURVEYS
	16:00 - 17:15	1.25	02	B	DRLPRO	DRILL 200MM HOLE F/ 328M TO 357M
	17:15 - 17:30	0.25	07	A	DRLPRO	RIG SERVICE FUNCTION ANNULAR 8 SEC
	17:30 - 17:45	0.25	10		DRLPRO	SURVEY
	17:45 - 22:15	4.50	02	B	DRLPRO	DRILL 200MM HOLE F/ 357M TO 489M
	22:15 - 22:30	0.25	10		DRLPRO	DEVIATION SURVEY
	22:30 - 23:30	1.00	02	B	DRLPRO	DRILL 200MM HOLE FROM 489M TO 508M
	23:30 - 23:59	0.48	05	I	DRLPRO	CIRCULATE UP SAMPLE
02/27/2003	00:00 - 03:15	3.25	02	B	DRLPRO	DRILL 200MM HOLE F/ 508M TO 543 M
	03:15 - 03:30	0.25	02	B	DRLPRO	RIG SERVICE FUNCTION ANNULAR 8 SEC
	03:30 - 06:45	3.25	05	E	DRLPRO	FROM 500 M ACCUMULATED CIR, UP SAMPLES TO FIND CORE POINT
	06:45 - 09:00	2.25	06	H	DRLPRO	WIPER TRIP TO SHOE FLOW CHECKS @ 543M 448M 161M
	09:00 - 09:15	0.25	07	A	DRLPRO	RIG SERVICE FUNCTION ANNULAR 8 SEC
	09:15 - 09:45	0.50	05	E	DRLPRO	CIRC HOLE CLEAN
	09:45 - 11:45	2.00	06	D	DRLPRO	POOH TO CORE W/ FLOW CHECKS @ 543M 448M 161M OM
	11:45 - 14:15	2.50	06	D	DRLPRO	PICK UP AND MAKE UP CORE BBL.
	14:15 - 16:00	1.75	06	D	DRLPRO	RIH W/ CORE BBL. FLOW CHECK @ 161M 270M
	16:00 - 17:00	1.00	03	B	DRLPRO	CIR AND CLEAN TO BTTM
	17:00 - 18:30	1.50	04	A	DRLPRO	CUT CORE # 1 F/ 543M TO 561M W/3 TO 3 WOB 1M3/MIN 4200 KPA
	18:30 - 19:15	0.75	05	E	DRLPRO	CIR BTTMS UP
	19:15 - 21:00	1.75	06	D	DRLPRO	POOH W/ CORE BBL FLOW CHECKS @ 561M 261M 167M OM
	21:00 - 21:15	0.25	21	A	DRLPRO	SAFETY MEETING REVIEW JSA ON REC CORE
	21:15 - 22:15	1.00	04	A	DRLPRO	RECOVER CORE 17.60M REC. 98%
	22:15 - 23:00	0.75	06	D	DRLPRO	L/D CORE BBL
	23:00 - 23:15	0.25	07	A	DRLPRO	RIG SERVICE FUNCTION BLIND RAMS 2 SEC
	23:15 - 23:59	0.73	06	A	DRLPRO	M/U 200MM BIT RR1 AND BHA RIH
02/28/2003	00:00 - 00:45	0.75	06	A	DRLPRO	RIH, FLOWCHECK AT 161M

Legal Well Name:	ANADARKO WEST BOVIE I-76				
Common Well Name:	WEST BOVIE I-76			Spud Date:	02/23/2003
Event Name:	ORIG DRILLING	Start:	02/21/2003	End:	03/27/2003
Contractor Name:	AKITA	Rig Release:	03/26/2003	Group:	
Rig Name:	AKITA	Rig Number:	15		

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
02/28/2003	00:45 - 01:30	0.75	03	A	DRLPRO	WASH FROM 534M TO 561M, 1M OF FILL
	01:30 - 03:00	1.50	02	B	DRLPRO	DRILL 200MM HOLE FROM 561M TO 585M
	03:00 - 03:15	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION ANNULAR C/O 8 SECONDS
	03:15 - 03:30	0.25	05	I	DRLPRO	CIRCULATE UP SAMPLE
	03:30 - 04:00	0.50	06	H	DRLPRO	WIPER TRIP 5 STANDS, FLOWCHECK AT 585M
	04:00 - 07:30	3.50	05	D	DRLPRO	CIRCULATE AND CONDITION MUD PRIOR DROPPING GYRO AND POOH F/ LOGGING
	07:30 - 08:00	0.50	10		DRLPRO	DROP GYRO SURVEY
	08:00 - 10:15	2.25	06	C	DRLPRO	POOH TO TO LOG FLOW CHECKS @ 585M 493M 207M 136M 0M REC GYRO SLM NO CORRECTION
	10:15 - 13:15	3.00	22	D	DRLPRO	WAIT ON LOGGERS
	13:15 - 13:30	0.25	21	A	DRLPRO	SAFETY MEETING W/ LOGGERS
	13:30 - 17:00	3.50	11	A	EVALPR	RIG TO LOG RUN INDUCTION PIT GRT/SP DENSITY NEUTRON LDT CNT/GRT/CAL SONIC CST/XACT-GRTLOGGERS DEPTH=584.5 RIG OUT LOGGERS
	17:00 - 17:15	0.25	07	A	DRLPRO	RIG SERVICE FUNCTION BLIND RAMS 3 SEC
	17:15 - 18:30	1.25	06	G	DRLPRO	M/U BHA RIH TO 585M
	18:30 - 19:00	0.50	05	F	DRLPRO	CIR HOLE CLEAN
	19:00 - 19:15	0.25	21	A	DRLPRO	SAFETY MEETING ON L/D DRILL STRING
	19:15 - 20:30	1.25	06	G	DRLPRO	POOH L/D D/P FLOW CHECK @ 585M 493M 276M
	20:30 - 21:30	1.00	06	G	DRLPRO	L/D BHA FLOW CHECK ON BANK
	21:30 - 22:30	1.00	12	A	DRLPRO	RIG UP POWER TONGS
	22:30 - 22:45	0.25	21	A	DRLPRO	SAFETY MEETING WITH TONG HAND
	22:45 - 23:59	1.23	12	A	DRLPRO	RUN CASING
03/01/2003	00:00 - 00:45	0.75	12	A	DRLPRO	RUN 139.7MM 20.8 KG/M J-55 CASING TO 584.5M
	00:45 - 02:45	2.00	05	F	DRLPRO	CIRCULATE CASING, REDUCE VIS TO 44, WT 1150 KG/M3
	02:45 - 03:00	0.25	21	A	DRLPRO	PRE CEMENT JOB SAFETY MEETING
	03:00 - 04:15	1.25	12	C	DRLPRO	CEMENT 139.7 MM CASING W/ 17T THIXMIX II + 0.25% CFL3 + 2 % CACL2, DISPLACE CASING W/ 7.3M3 OF 0.3% INHIBITED WATER, BUMP PLUG TO 8000 KPA, BLEED BACK, FLOATS HELD, 1 M3 GOOD CEMENT RETURNS
	04:15 - 06:00	1.75	14	B	DRLPRO	CUT CASING, NIPPLE DOWN BOP'S
	06:00 - 08:00	2.00	01	C	DRLPRO	CLEAN MUD TANKS
	08:00 - 23:59	15.98	01	B	DRLPRO	RIG DOWN (RIG OUT CAMP) MOVE F/ I-76 TO M-35 100% RIGGED OUT 85% MOVED 15% RIGGED UP
03/17/2003	00:00 - 08:00	8.00	22	F	RDMO	WAIT ON DAYLIGHT
	00:00 - 08:00	8.00	22	F	RDMO	WAIT ON DAYLIGHT
	08:00 - 08:15	0.25	21	A	RDMO	HELD SAFETY MEETING W/ RIG CREW AND MPO TRUCKING
	08:00 - 08:15	0.25	21	A	RDMO	HELD SAFETY MEETING W/ RIG CREW AND MPO TRUCKING
	08:15 - 12:00	3.75	24	B	RDMO	LOAD OUT RIG W/ MPO TRUCKING, MOVE ROTARY TOOLS F/ J-74 TO I76 LOCATION SPOT AND RIG UP CAMP
	08:15 - 12:00	3.75	24	B	RDMO	LOAD OUT RIG W/ MPO TRUCKING, MOVE ROTARY TOOLS F/ J-74 TO I76 LOCATION SPOT AND RIG UP CAMP
	12:00 - 19:00	7.00	01	A	RDMO	SPOT MATTING, SPOT SUB AND CENTER/LEVEL, SPOT RIG BUILDINGS, RENTAL EQUIPMENT. TRUCKS RELEASED @ 19:00 HRS.
	12:00 - 19:00	7.00	01	A	RDMO	SPOT MATTING, SPOT SUB AND CENTER/LEVEL, SPOT RIG BUILDINGS, RENTAL EQUIPMENT. TRUCKS RELEASED @ 19:00 HRS.
	19:00 - 23:00	4.00	01	A	RDMO	RIG UP ROTARY TOOLS, RAISE DERRICK, INSTALL PRE-FABS, GENERAL RIG UP.

Legal Well Name: ANADARKO WEST BOVIE I-76
Common Well Name: WEST BOVIE I-76 Spud Date: 02/23/2003
Event Name: ORIG DRILLING Start: 02/21/2003 End: 03/27/2003
Contractor Name: AKITA Rig Release: 03/26/2003 Group:
Rig Name: AKITA Rig Number: 15

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
03/17/2003	19:00 - 23:00	4.00	01	A	RDMO	RIG UP ROTARY TOOLS, RAISE DERRICK, INSTALL PRE-FABS, GENERAL RIG UP.
	23:00 - 00:00	1.00	14	B	RDMO	NIPPLE UP BOP .
	23:00 - 00:00	1.00	14	B	RDMO	NIPPLE UP BOP
03/18/2003	00:00 - 01:30	1.50	14	B	PRPSPD	NIPPLE UP BOP
	00:00 - 01:30	1.50	14	B	PRPSPD	NIPPLE UP BOP
	01:30 - 04:00	2.50	14	C	PRPSPD	NIPPLE UP FLARE LINES, MANIFOLD
	01:30 - 04:00	2.50	14	C	PRPSPD	NIPPLE UP FLARE LINES, MANIFOLD
	04:00 - 08:00	4.00	15	B	PRPSPD	PRESSURE TEST MANIFOLD, 1400 KPA LOW / 14000 KPA HIGH 10 MIN. EACH TEST
	04:00 - 08:00	4.00	15	B	PRPSPD	PRESSURE TEST MANIFOLD, 1400 KPA LOW / 14000 KPA HIGH 10 MIN. EACH TEST
	08:00 - 09:45	1.75	15	A	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, UNABLE TO GET TEST
	08:00 - 09:45	1.75	15	A	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, UNABLE TO GET TEST
	09:45 - 12:00	2.25	14	B	PRPSPD	NIPPLE DOWN BOP, LIFT STACK, SET MANUAL SLIPS , NIPPLE UP BOP
	09:45 - 12:00	2.25	14	B	PRPSPD	NIPPLE DOWN BOP, LIFT STACK, SET MANUAL SLIPS , NIPPLE UP BOP
	12:00 - 13:30	1.50	15	A	PRPSPD	PRESSURE TEST BLIND RAMS TO 14000 KPA , LOST 3000 KPA IN 2 MINUTES, NO TEST, SUSPECT PRESSURE LOST DOWN CASING ANNULUS BETWEEN SURFACE CASING AND PRODUCTION CASING.
	12:00 - 13:30	1.50	15	A	PRPSPD	PRESSURE TEST BLIND RAMS TO 14000 KPA , LOST 3000 KPA IN 2 MINUTES, NO TEST, SUSPECT PRESSURE LOST DOWN CASING ANNULUS BETWEEN SURFACE CASING AND PRODUCTION CASING.
	13:30 - 17:30	4.00	02	A	PRPSPD	DRILL MOUSE HOLE, RAT HOLE
	13:30 - 17:30	4.00	02	A	PRPSPD	DRILL MOUSE HOLE, RAT HOLE
	17:30 - 19:00	1.50	14	B	PRPSPD	LIFT BOP STACK, INSTALL PRIMARY SEAL ASSEMBLY W/ CAMERON
	17:30 - 19:00	1.50	14	B	PRPSPD	LIFT BOP STACK, INSTALL PRIMARY SEAL ASSEMBLY W/ CAMERON
	19:00 - 19:45	0.75	14	B	PRPSPD	NIPPLE UP BOP
	19:00 - 19:45	0.75	14	B	PRPSPD	NIPPLE UP BOP
	19:45 - 00:00	4.25	15	A	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, HCR, MAN VALVE, KILL LINE VALVES , CHECK VALVE, STABBING VALVE, INSIDE BOP 1400 KPA LOW / 14000 KPA HIGH. UNABLE TO PRESSURE TEST ANNULAR, WOULD NOT HOLD PRESSURE.
	19:45 - 00:00	4.25	15	A	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, HCR, MAN VALVE, KILL LINE VALVES , CHECK VALVE, STABBING VALVE, INSIDE BOP 1400 KPA LOW / 14000 KPA HIGH. UNABLE TO PRESSURE TEST ANNULAR, WOULD NOT HOLD PRESSURE.
03/19/2003	00:00 - 04:30	4.50	02	A	PRPSPD	DRILL RAT HOLE
	04:30 - 04:45	0.25	07	A	PRPSPD	RIG SERVICE
	04:45 - 05:00	0.25	21	A	PRPSPD	HELD SAFETY MEETING, ANNULAR ELEMENT REMOVAL
	05:00 - 08:45	3.75	08	D	PRPSPD	REMOVE ANNULAR ELEMENT, WAIT ON NEW ELEMENT, FYING NEW ELEMENT F/ EDMONTON, INSTALL NEW ELEMENT
	08:45 - 09:00	0.25	07	A	PRPSPD	RIG SERVICE
	09:00 - 11:00	2.00	15	A	PRPSPD	PRESSURE TEST ANNULAR, OUTSIDE KIL LINE VALVES, UPPER/ LOWER KELLY COCKS, 1400 KPA LOW / 14000 KPA HIGH. ACCUMULATOR FUNCTION CHECK:

Operations Summary Report

Legal Well Name: ANADARKO WEST BOVIE I-76
Common Well Name: WEST BOVIE I-76 — Spud Date: 02/23/2003
Event Name: ORIG DRILLING — Start: 02/21/2003 — End: 03/27/2003
Contractor Name: AKITA — Rig Release: 03/26/2003 — Group:
Rig Name: AKITA — Rig Number: 15

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
03/19/2003	09:00 - 11:00	2.00	15	A	PRPSPD	ACCUMULATOR PRESSURE BEFORE FUNCTION: 20685 KPA / ACCUMULATOR PRESSURE AFTER FUNCTION: 14140 KPA / RE-CHARGE TIME: 1 MIN. 12 SECONDS
	11:00 - 12:00	1.00	06	F	PRPSPD	MAKE UP FLAT BOTTOM MILL, BHA, RUN IN TO 35 M.
	12:00 - 17:45	5.75	02	C	PRPSPD	DRILL OUT CEMENT F/ 35 TO 47.35 M.
	17:45 - 19:15	1.50	02	G	PRPSPD	MILL BRIDGE PLUG F/ 47.35 - 47.58 M
	19:15 - 19:30	0.25	21	B	PRPSPD	HELD BOP DRILL, WELL SECURE 90 SECONDS
	19:30 - 23:45	4.25	02	G	PRPSPD	MILL BRIDGE PLUG F/ 47.58 - 47.83 M
	23:45 - 00:00	0.25	07	A	PRPSPD	RIG SERVICE, FUNCTION ANNULAR: 7 SECONDS
03/20/2003	00:00 - 03:00	3.00	02	G	PRPSPD	MILL BRIDGE PLUG F/ 47.83 - 47.94 M.
	03:00 - 03:15	0.25	06	A	PRPSPD	PULL OUT, LAY DOWN MILL,
	03:15 - 03:30	0.25	07	A	PRPSPD	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS TO CLOSE
	03:30 - 05:30	2.00	06	A	PRPSPD	MAKE UP BIT, RUN IN, PICK DRILL STRING TO 557 M. TAG CEMENT @ 557 M.
	05:30 - 06:15	0.75	05	A	PRPSPD	DISPLACE 7.1 M3 INHIBITED FLUID IN ANNULAS TO FRESH WATER, FLUID HAULED TO INTEGRETY DISPOSAL IN FT. ST. JOHN VIA EVEREADY VAC TRUCK.
	06:15 - 10:45	4.50	02	C	PRPSPD	DRILL OUT CEMENT F/ 557 M. TO 571 M. (FLOAT COLLAR) DRILL CEMENT TO 585.5 M. (SHOE)
	10:45 - 11:45	1.00	02	B	DRLPRO	DRILL 121 MM HOLE F/ 585 - 591 M.
	11:45 - 12:00	0.25	05	A	DRLPRO	CIRCULATE HOLE CLEAN
	12:00 - 12:15	0.25	15	C	DRLPRO	CONDUCT FORMATION INTERGETY TEST: HP @ CASING SHOE: 5738 KPA / APPLIED SURFACE PRESSURE: 4850 KPA / TOTAL PRESSURE: 10,588 KPA / PRESSURE GRADIENT: 18.1 KPA/M / EMD: 1845 KG/M3
	12:15 - 19:45	7.50	02	B	DRLPRO	DRILL 121 MM HOLE F/ 591 - 614 M.
	19:45 - 20:00	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
	20:00 - 20:15	0.25	02	B	DRLPRO	DRILL 212 MM HOLE F/ 614 - 615 M.
	20:15 - 20:45	0.50	05	K	DRLPRO	CIRCULATE SAMPLE, HOLE CLEAN
	20:45 - 22:15	1.50	06	A	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT FOR BIT. FLOW CHECKS @ 610, 533, 320, 94, OUT OF HOLE. FUNCTION BLIND RAMS: 3 SECONDS TO CLOSE HOLE FILL: CALCULATED: 1.46 M3 / MEASURED: 2.38 M3
	22:15 - 00:00	1.75	06	A	DRLPRO	MAKE UP BIT, RUN IN HOLE. FLOW CHECK @ 357 M. WASH TO BOTTOM F/ 609 - 615 M.
03/21/2003	00:00 - 02:45	2.75	02	B	DRLPRO	DRILL 121 MM HOLE F/ 615 - 623 M.
	02:45 - 03:00	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
	03:00 - 08:00	5.00	02	B	DRLPRO	DRILL 121 MM HOLE F/ 623 - 642 M.
	08:00 - 08:15	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
	08:15 - 08:30	0.25	10		DRLPRO	SURVEY @ 633 M. .75 DEG.
	08:30 - 21:00	12.50	02	B	DRLPRO	DRILL 121 MM HOLE F/ 642 - 690 M.
	21:00 - 21:15	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
	21:15 - 21:30	0.25	10		DRLPRO	SURVEY @ 679 M. .875 DEG.
	21:30 - 00:00	2.50	02	B	DRLPRO	DRILL 121 MM HOLE F/ 690 - 703 M.
03/22/2003	00:00 - 01:00	1.00	02	B	DRLPRO	DRILL 121 MM HOLE F/ 703 - 707 M.
	01:00 - 01:30	0.50	05	K	DRLPRO	CIRCULATE HOLE CLEAN
	01:30 - 03:15	1.75	06	A	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT FOR BIT. FLOW CHECKS @ 707, 601, 349, 92 OUT OF HOLE HOLE FILL: CALCULATED: 1.63 M3 / MEASURED: 2.19 M3
	03:15 - 03:30	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS TO CLOSE
	03:30 - 04:45	1.25	06	A	DRLPRO	MAKE UP BIT, RUN IN HOLE TO 683 M. FLOW CHECK @ 336 M.
	04:45 - 05:00	0.25	03	A	DRLPRO	BREAK CIRCULATION, WASH TO BOTTOM F/ 683 - 707 M. 3M. FILL

Legal Well Name:	ANADARKO WEST BOVIE I-76				
Common Well Name:	WEST BOVIE I-76			Spud Date:	02/23/2003
Event Name:	ORIG DRILLING	Start:	02/21/2003	End:	03/27/2003
Contractor Name:	AKITA	Rig Release:	03/26/2003	Group:	
Rig Name:	AKITA	Rig Number:	15		

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
03/22/2003	05:00 - 09:30	4.50	02	B	DRLPRO	DRILL 121 MM HOLE F/ 707 - 730 M.
	09:30 - 09:45	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
	09:45 - 10:00	0.25	10		DRLPRO	SURVEY @ 720 M. 1.25 DEG.
	10:00 - 16:45	6.75	02	B	DRLPRO	DRILL 121 MM HOLE F/ 730 -778 M.
	16:45 - 17:00	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
	17:00 - 17:15	0.25	10		DRLPRO	SURVEY @ 770 M. 1.5 DEG.
	17:15 - 00:00	6.75	02	B	DRLPRO	DRILL 121 MM HOLE F/ 778 - 802 M.
03/23/2003	00:00 - 01:30	1.50	02	B	DRLPRO	DRILL 121 MM HOLE F/ 802 -804 M. TOTAL DEPTH
	01:30 - 02:30	1.00	05	K	DRLPRO	CIRCULATE SAMPLE, CIRCULATE HOLE CLEAN
	02:30 - 02:45	0.25	10		DRLPRO	SURVEY @ 804 M. 1.5 DEG.
	02:45 - 03:30	0.75	06	H	DRLPRO	FLOW CHECK, WIPER TRIP TO CASING SHOE. FLOW CHECK @ 804, 697 M
	03:30 - 04:30	1.00	05	D	DRLPRO	CIRCULATE HOLE CLEAN
	04:30 - 06:15	1.75	06	C	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT TO LOG. FLOW CHECKS @ 804, 688, 398, 146 M. OUT OF HOLE SLM: TALLEY: 791.28 M. / SLM: 790.61 M. HOLE FILL: CALCULATED: 1.84 M3 / MEASURED: 2.36 M3
	06:15 - 06:30	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS TO CLOSE
	06:30 - 11:00	4.50	11	A	DRLPRO	RIG UP TUCKER WIRELINE. LOG WELL. RUN 1: GRT-PIT LOGGERS DEPTH: 801.3 MD. @ 07:30 HRS. RUN 2: GRT-CST-CNT
	11:00 - 12:15	1.25	03	H	DRLPRO	RUN IN HOLE / BIT
	12:15 - 13:15	1.00	05	K	DRLPRO	WASH 1 SINGLE TO BOTTOM, NO FILL, CIRCULATE, CONDITION HOLE FOR DST.
	13:15 - 16:00	2.75	10		DRLPRO	RUN GYRO SURVEY ON RIG WIRELINE, UNABLE TO GET PAST DRILLING JAR @ 701 M. SURVEY WITH GYRO F/ 701 - 585 M. PULL OUT GYRO TOOL.
	16:00 - 16:15	0.25	07	A	DRLPRO	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
	16:15 - 18:15	2.00	06	J	DRLPRO	FLOW CHECK, TRIP OUT JARS, LAY DOWN JARS, RUN BACK IN HOLE.
	18:15 - 18:30	0.25	05	K	DRLPRO	CIRCULATE BOTTOMS UP.
	18:30 - 19:45	1.25	10		DRLPRO	RUN GYRO SURVEY ON RIG WIRELINE. 788 - 700 M.
	19:45 - 20:45	1.00	05	K	DRLPRO	CIRCULATE, CONDITION HOLE FOR DST
	20:45 - 22:30	1.75	06	H	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT TO PICK UP DST TOOLS. FLOW CHECKS @ 804, 693, 404, 90 M. OUT OF HOLE HOLE FILL: CALCULATED: 1.84 M3 / MEASURED: 2.49 M3
	22:30 - 22:45	0.25	21	A	DRLPRO	SAFETY MEETING W/ BAKER OIL TOOL, RIG CREW: MAKE UP TEST TOOLS
	22:45 - 00:00	1.25	16	D	DRLPRO	PICK UP AND MAKE UP BOTTOM HOLE CONVENTIONAL DST TOOLS.
03/24/2003	00:00 - 02:00	2.00	06	E	EVALPR	RUN IN HOLE W/ BOTTOM HOLE DST TOOLS.
	02:00 - 02:30	0.50	16	D	EVALPR	RIG UP DST HEAD
	02:30 - 02:45	0.25	21	A	EVALPR	HELD SAFEY MEETING W/ RIG CREW, BAKER OIL TOOL & CLOSED CHAMBER
	02:45 - 04:00	1.25	16	B	EVALPR	POSITION TOOL PACKERS @ 770 MD. INFLATE PACKERS. UNABLE TO INFLATE PACKERS AND GET PACKER SEAT, MADE 2 ATTEMPTS.
	04:00 - 06:30	2.50	06	E	EVALPR	TRIP OUT W/ DST TOOLS. FLOW CHECKS @ 788, 411, 206, 30 M. OUT OF HOLE. HOLE FILL: CALCULATED: 3.89 M3 / MEASURED: 4.12 M3
	06:30 - 07:30	1.00	16	D	EVALPR	SERVICE TEST TOOLS, RECOVER RECORDERS, MOVE PACKERS UP 3 METERS TO SET @ 767 MD. MAKE UP TOOLS.
	07:30 - 08:00	0.50	06	E	EVALPR	RUN IN HOLE WITH BOTTOM HOLE DST TOOLS.

Legal Well Name:	ANADARKO WEST BOVIE I-76				
Common Well Name:	WEST BOVIE I-76			Spud Date:	02/23/2003
Event Name:	ORIG DRILLING	Start:	02/21/2003	End:	03/27/2003
Contractor Name:	AKITA	Rig Release:	03/26/2003	Group:	
Rig Name:	AKITA	Rig Number:	15		

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
03/25/2003	18:00 - 18:45	0.75	17		ABAND	LAY DOWN 28 JOINTS DP
	18:45 - 19:00	0.25	17		ABAND	RUN IN W/ WIRELINE, PLUG #3 TOP LOGGED @ 100.5 M.
	19:00 - 00:00	5.00	01	C	ABAND	CLEAN MUD TANKS, CLEAN RIG, RIG OUT. WAIT FOR BJ CEMENT PUMPER TO TOP UP ABANDONMENT PLUGS TO SURFACE.
03/26/2003	00:00 - 10:45	10.75	01	C	RDMO	CLEAN MUD TANKS, TORT. PICK UP 13 SINGLES RUN IN 120 M. WAIT FOR CEMENT UNIT. BREAK DOWN KELLY, KELLY DRIVE AND LAY DOWN.
	10:45 - 11:00	0.25	21	A	RDMO	HELD SAFETY MEETING W/ RIG CREW, BJ
	11:00 - 11:15	0.25	17		RDMO	MIX AND PUMP 3 TONNE "G" NEAT CEMENT TO TOP OFF ABANDONMENT PLUG. CEMENT BACK TO SURFACE.
	11:15 - 18:00	6.75	01	B	RDMO	T.O.R.T. LAY DOWN DERRICK, CLEAN RIG, GET RIG READY FOR RIG MOVE TO RACK SITE. RIG RELEASE @ 18:00 HRS. MAR. 26 /2003
	18:00 - 00:00	6.00	01	B	RDMO	T.O.R.T.

Legal Well Name: ANADARKO WEST BOVIE I-76
Common Well Name: WEST BOVIE I-76 Spud Date: 02/23/2003
Event Name: ORIG DRILLING Start: 02/21/2003 End: 03/27/2003
Contractor Name: AKITA Rig Release: 03/26/2003 Group:
Rig Name: AKITA Rig Number: 15

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
03/24/2003	08:00 - 08:15	0.25	07	A	EVALPR	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
	08:15 - 09:30	1.25	06	E	EVALPR	RUN IN HOLE W/ BOTTOM HOLE CONVENTIONAL DST TOOLS TO BOTTOM, TOOL OPENED, DRILL PIPE FILLED W/ 300 M. OF DRILLING FLUID.
	09:30 - 12:00	2.50	06	E	EVALPR	FLOW CHECK, TRIP OUT W/ TOOLS. HOLE FILL: CALC: 2.68 M3 / MEASURED: 2.88 M3
	12:00 - 14:45	2.75	16	D	EVALPR	RESET PACKERS FOR TEST INTERVAL @ 772 MD. RECOVER RECORDERS. MAKE UP DST TOOLS FOR BOTTOM HOLE CONVENTIONAL DST.
	14:45 - 15:15	0.50	06	E	EVALPR	RUN IN HOLE HWDP
	15:15 - 16:00	0.75	09		EVALPR	SLIP AND CUT DRILLING LINE.
	16:00 - 17:00	1.00	06	E	EVALPR	RUN IN HOLE W/ BOTTOM HOLE CONVENTIONAL DST
	17:00 - 17:15	0.25	21	A	EVALPR	HELD SAFETY MEETING W/ RIG CREW, BAKER OIL TOOL; DST
	17:15 - 21:15	4.00	16	B	EVALPR	RIG UP TEST HEAD, SET PACKERS @ 772 MD. RUN BOTTOM HOLE CONVENTIONAL DST #1: PRE-FLOW: 15 MIN. ISI: 90 MIN. / FF: 42 MIN. FSI:90 MIN. INITIAL BLOW: CLOSED CHAMBER / FINAL FLOW: CLOSED CHAMBER FOR 15 MIN. OPEN CHAMBER TO VENT TO FLARE PIT, GTS IN 2 MIN. DRILLING FLUID TO SURFACE IN 32 MIN. PRESSURES: IHP: 8381 KPA / PRE-FLOW: START:3144 KPA, END: 6103 KPA / ISI: 8261 PA / START 2ND FLOW: 7942 END 2ND FLOW: 8264 KPA / FHP: 8379 KPA. GAS FLOW: 3.17 MM CHOKE: @ 35 KPA , 181 M3/DAY FLUID RECOVERY: 60 M. WATERY DRILLING FLUID, 703.4 M. SALT WATER. SALINITY: 2000
	21:15 - 21:30	0.25	16	B	EVALPR	PULL PACKERS FREE
	21:30 - 22:15	0.75	16	B	EVALPR	REVERSE CIRCULATE 1.7 M3 FLUID. 60 M. WATERY DRILLING FLUID, 703.5 M FM WATER. TO VAC TRUCK.
	22:15 - 00:00	1.75	06	E	EVALPR	FLOW CHECK, PUMP PILL, TRIP OUT DST TOOLS. HOLE FILL: CALC: 2.26 M3 / MEASURED: 2.41 M3
03/25/2003	00:00 - 00:15	0.25	07	A	EVALPR	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS
	00:15 - 00:30	0.25	21	A	EVALPR	SAFETY MEETING; BAKER OIL TOOL - LAY DOWN TOOLS.
	00:30 - 02:00	1.50	16	D	EVALPR	LAY DOWN DST TOOLS.
	02:00 - 03:15	1.25	06	H	EVALPR	RUN IN 30 JOINTS HWDP, LAY DOWN HWDP
	03:15 - 05:15	2.00	06	H	EVALPR	RUN IN HOLE OPEN END DRILL PIPE, PICK UP 30 JOINTS DP. TO 804 M.
	05:15 - 12:00	6.75	05	H	EVALPR	CIRCULATE CONDITION HOLE, WAIT FOR ORDERS
	12:00 - 12:15	0.25	21	A	EVALPR	SAFETY MEETING W/ BJ CEMENT SERVICES, COMPUTALOG WIRE LINE
	12:15 - 13:00	0.75	17		ABAND	MIX AND PLACE PLUG #1: 804 - 560 MD. 5.5 TONNE "G" + .5% CD-31 + .1% R-3
	13:00 - 13:45	0.75	17		ABAND	LAY DOWN 26 JOINTS DP TO 560 M.
	13:45 - 14:30	0.75	17		ABAND	CIRCULATE OUT 1.5 M3 EXCESS CEMENT
	14:30 - 15:00	0.50	17		ABAND	RUN IN W/ WIRELINE PLUG LOGGING TOOL, PLUG #1 TOP LOGGED @ 551.3 MD.
	15:00 - 15:45	0.75	17		ABAND	MIX AND PLACE PLUG #2: 560 - 280 M. 4.7 TONNE "G" + .5% CD-31
	15:45 - 16:45	1.00	17		ABAND	LAY DOWN 29 JOINTS DP TO 280 M.
	16:45 - 17:15	0.50	17		ABAND	RUN IN W/ WIRELINE, PLUG #2 TOP LOGGED @ 321.5 M. , RUN IN DP TO 319 M.
	17:15 - 17:30	0.25	07	A	ABAND	RIG SERVICE,
	17:30 - 18:00	0.50	17		ABAND	MIX AND PLACE PLUG #3: 319 - SURFACE: 4.7 TONNE " G " + .5% CD-31 + 2.0% A-11

Well Name: ANADARKO WEST BOVIE I-76		Date: 02/21/2003	Report: 1	DFS:	DOL:
Event Name: ORIG DRILLING		Spud: 02/23/2003	RR: 03/26/2003		
Rig Name:		TMD:	TVD:	Progress:	
		KB: 308.00 (m)	GL: 303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:	AV ROP:	Hole Size:	
Wellsite Eng:	STAN WEICH 403-231-0190	Last Casing:	Shoe TMD:	Shoe TVD:	
Daily Cost:	152,867	Cum Cost: 152,867	AFE Est: 1,496,000	AFE No.:	400799

Current Status: WAIT ON RIG

24hr Forecast: MOVE RIG AND SPOT LOADS AND RIG UP

Operations Summary

From - To	Hours	Code 1	Sub Code	Phase	Description of Operations
00:00 - 23:59	23.98	22	C S		WAIT ON DRILLING APPROVEL DRILL AND SET CONDUCTOR AT 13.5M DRILL MOUSE AND RAT HOLE **DAILY OPERATIONAL COMMENTS(24hr Summary):** DRILLED AND SET CONDUCTOR @ 13.5 M DRILLED MOUSE HOLE AND RAT HOLE

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)

Formation Data

Formation Name	Top (m)
SURFACE	

Gas Readings

Conn Avg/Max	(mg/L)	
Bkgr Avg/Max	(mg/L)	
Trip Avg/Max	(mg/L)	
H2S	(%)	

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Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 Date: 02/21/2003 Report: 1 DFS: DOL:

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1:			
Time/Loc		Ca+	
Depth		K+	
Temp		Polymer	
Density		CaCl2	
ECD		NaCl	
Viscosity		Sand	
PV		Tot. Solids	
YP		% Oil	
GELS		% H2O	
API WL		Oil/H2O	
HTHP WL		HGSolid	
API FC		LGSolid	
MBT		ES	
Lime		Oil Ret	
pH			
Pm			
Pf/Mf			
Comment1:			

Mud Products

Additive	# Units

Mud Cost

Daily	$0.00
Cumulative	$0.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc.

Item	No.	Length

Safety Drills

Last BOP Test (P)	
Last BOP Test (F)	
Last BOP Drill	

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

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Well Name: ANADARKO WEST BOVIE I-76	Date: 02/21/2003	Report:	1	DFS:		DOL:
Event Name: ORIG DRILLING	Start: 02/23/2003	End:	03/26/2003			

Remark

DRILL AND SET CONDUCTOR AND DRILL MOUSE AND RAT HOLES

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/22/2003 | Report: 2 | DFS: | DOL: 1.00

Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:		TVD:		Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:		AV ROP:		Hole Size:	
Wellsite Eng:	AIDAN CAMPBELL 403-818-5339	Last Casing:		Shoe TMD:		Shoe TVD:	
Daily Cost:	132,168	Cum Cost:	285,035	AFE Est:	1,496,000	AFE No.:	400799

Current Status: PREPARE TO CUT AND WELD ON DIVERTER FLANGE

24hr Forecast: DRILL 311 MM SURFACE HOLE

Operation Summary

From - To	Hours	Code	Sub Code	P/U/E	Phase	Description of Operations
00:00 - 06:00	6.00	22	F	P	MIRU	WAIT ON DAYLIGHT TO MOVE
06:00 - 12:00	6.00	24	D	P	MIRU	LOAD AND MOVE RIG F/B-52-K/94-0-9 TO BOVIE I-76
12:00 - 23:59	11.98	01	A	P	MIRU	SPOT RIG AND BULDINGS RIG UP

DAILY OPERATIONAL COMMENTS(24hr Summary):
MOVE RIG SPOT AND RIG UP ON NEW LOC.

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)

Formation Data

Formation Name	Top (m)
SURFACE	

Gas Readings

Conn Avg/Max	(mg/L)	
Bkgr Avg/Max	(mg/L)	
Trip Avg/Max	(mg/L)	
H2S	(%)	

Well Name: ANADARKO WEST BOVIE I-76 Date: 02/22/2003 Report: 2 DFS: DOL: 1.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1:			
Time/Loc		Ca+	
Depth		K+	
Temp		Polymer	
Density		CaCl2	
ECD		NaCl	
Viscosity		Sand	
PV		Tot. Solids	
YP		% Oil	
GELS		% H2O	
API WL		Oil/H2O	
HTHP WL		HGSolid	
API FC		LGSolid	
MBT		ES	
Lime		Oil Ret	
pH			
Pm			
Pf/Mf			
Comment1:			

Mud Products

Additive	# Units

Mud Cost

Daily	$0.00
Cumulative	$0.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc

Item		

Safety Drills

Last BOP Test (P)	
Last BOP Test (F)	
Last BOP Drill	

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

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Well Name: ANADARKO WEST BOVIE I-76			Date: 02/23/2003	Report: 3	DFS:	DOL: 2.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name:	AKITA 15	TMD:	43.00 (m)	TVD:	43.00 (m)	Progress:	43.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:	1.50	AV ROP:	28.67	Hole Size:	311.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL 403-818-5339	Last Casing:		Shoe TMD:		Shoe TVD:	
Daily Cost:	45,715	Cum Cost:	330,750	AFE Est:	1,496,000	AFE No.:	400799

Current Status: REMOVE AND CLEAN FLOW LINE DEPTH 61 METERS

24hr Forecast: DRILL 311MM SURFACE RUN AND CMT CASG NIPPLE UP

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 06:00	6.00	01	A	P MIRU	RIG UP PREPARE FOR SPUD
06:00 - 08:00	2.00	14	D	P MIRU	WELD ON 2 IN OUTLETS ON CONDUCTOR AND DIVERTER FLANGE
08:00 - 10:00	2.00	14	D	P MIRU	REMOVE VALVES F/ BOPS TO INSTALL DIVERTER
10:00 - 10:15	0.25	21	A	P MIRU	HOLD SAFETY MEETING ON PICKING UP DIVERTER
10:15 - 21:00	10.75	14	A	P MIRU	NIPPLE UP DIVERTER R/U FLOW LINE WELD JET LINES IN FLOW LINE PRE MIX MUD
21:00 - 21:45	0.75	06	J	P MIRU	M/U BIT TAG CMT @13.8 M
21:45 - 22:00	0.25	15	A	P MIRU	PRESSURE TEST DIVERTER TO 1000 KPA
22:00 - 22:15	0.25	21	A	P MIRU	PRE-SPUD SAFETY MEETING
22:15 - 23:30	1.25	02	B	P DRLSUR	SPUD IN W/ 311MM BIT
23:30 - 23:45	0.25	10		P DRLSUR	DEVIATION SURVEY @20M / 0.75 DEGREES
23:45 - 23:59	0.23	02	B	P DRLSUR	DRILL FROM 33M - 43M

DAILY OPERATIONAL COMMENTS(24hr Summary):
RIG UP CUT CONDUCTOR WELD ON FLANGE HOLD SAFETY MEETING
R/U DIVERTER TEST TO 1000
KPA HOLD PRE SPUD DRILL F/ 0 M TO 43M (PRE MIX MUD)

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)

Formation Data

Formation Name	Top (m)
SURFACE	

Gas Readings

Conn Avg/Max	(mg/L)	
Bkgr Avg/Max	(mg/L)	
Trip Avg/Max	(mg/L)	
H2S	(%)	

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/23/2003 | Report: 3 | DFS: | DOL: 2.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	1,360		
SPM	110		
Output (L/mi	1,170.00		

Velocities

Drill Pipe	(m/min)	17.2
Drill Collar	(m/min)	20.9
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1: GEL CHEM

Time/Depth	23:00 / IN		Ca+	(mg/L)	
Depth	(m)	20.00	K+	(mg/L)	
Temp	(°C)		Polymer	(kg/m³)	
Density	(kg/m³)	1,035	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	44	Sand	(%)	
PV	(mPa*s)		Tot. Solids		
YP	(Pa)		% Oil		
GELS	(Pa)		% H2O		
API WL	(mL)		Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)		LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH		10.00			
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				

Comment1: TREAT OUT MUD RI

Mud Product

Additive	# Units
BARAFOS	1
CAUSTIC	1
DETERGENT	2
SODA ASH	1
AQUAGEL	50

Mud Cost

Daily	$629.68
Cumulative	$630.00

Bit Data

Bit No.	A1	
Run	1	
Size (mm)	311.00	
Manu.	Smith	
Type	X1CXP	
Serial No.	J28128	
TFA (mm²	595.7	
Depth In (m)		
Depth Out (m)	161.00	
Cum. Depth (m)	43.00	
Cum. Hours	1.50	
WOB (Min)(daN)		
WOB (Max)(daN)	3	
RPM (Min)		
RPM (Max)	160	
Cond (IODL)	4/4/FC/C	
Cond (BGOR)	4/ 2/WT/TD	
Jets 1/2/3	15.9/15.9/15.9	
Jets 4/5/6		

Pipe Data

Min ID	(mm)	62.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		132.01
DP OD	(mm)	
String Rot Weight	(daN)	11
Pick-Up Weight	(daN)	11
Slack Off Weight	(daN)	11

BHA

Tri-Cone Bit	1	0.31
Cross Over	1	0.77
Drill Collar	2	74.40
Cross Over	1	0.91
Heavy Weight Drill Pipe	6	55.62

Safety Drills

Last BOP Test (P)	02/23/2003
Last BOP Test (F)	02/23/2003
Last BOP Drill	02/23/2003

Survey Data

MD (m)	Incl.	Azimuth	TVD (m)	N/S (-) (m)	E/W (-) (m)	Section	DLS (°/30m)	BUR (°/30m)
0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.750	0.000	20.00	0.13	0.00	0.13	1.13	1.13

Well Name: ANADARKO WEST BOVIE I-76 Date: 02/24/2003 Report: 4 DFS: 1.00 DOL: 3.00
Event Name: ORIG DRILLING Spud: 02/23/2003 RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	161.00 (m)	TVD:	161.00 (m)	Progress:	118.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:	10.50	AV ROP:	11.24	Hole Size:	311.00 (mm)
Wellsite Eng:	STAN WEICH 403-231-0190	Last Casing:		Shoe TMD:		Shoe TVD:	
Daily Cost:	59,920	Cum Cost:	390,669	AFE Est:	1,496,000	AFE No.:	400799

Current Status: WOC 2.5M3GOOD CMT RETURNS

24hr Forecast: RUN CASG CIR & CMT.CASG WOC NIPPLE UP PRESS TEST DRILL AHEAD

Operations Summary

From - To	Hours	Code	Sub Code	Phase		Description of Operations
00:00 - 00:15	0.25	07	A	P	DRLSUR	RIG SERVICE
00:15 - 02:30	2.25	03	A	P	DRLSUR	CLEAN FLOW LINE WORK OUT MUD RING
02:30 - 03:30	1.00	02	B	P	DRLSUR	DRILL 311MM HOLE F/ 43 TO 61 M
03:30 - 03:45	0.25	10		P	DRLSUR	SURVEY @ 48 M .5 DEG
03:45 - 06:15	2.50	02	B	P	DRLSUR	CLEAN FLOW LINE
06:15 - 09:15	3.00	02	B	P	DRLSUR	DRILL 311 HOLE F/ 61M TO 98M
09:15 - 10:30	1.25	03	A	P	DRLSUR	CLEAN OUT FLOW LINE
10:30 - 10:45	0.25	02	B	P	DRLSUR	DRILL 311MM HOLE F/ 98M TO 107M
10:45 - 11:00	0.25	07	A	P	DRLSUR	RIG SERVICE
11:00 - 15:00	4.00	02	B	P	DRLSUR	DRILL 311MM HOLE F/ 107M TO 154M
15:00 - 16:00	1.00	10		P	DRLSUR	ACCUMULATED SURVEYS
16:00 - 16:15	0.25	07	A	P	DRLSUR	RIG SERVICE
16:15 - 16:30	0.25	05	A	P	DRLSUR	COND MUD AND CIRC
16:30 - 16:45	0.25	10		P	DRLSUR	DEVIATION SURVEY
16:45 - 19:30	2.75	06	H	P	DRLSUR	WIPER TRIP
19:30 - 20:15	0.75	02	B	P	DRLSUR	DRILL 311MM HOLE F/ 154M TO 161M
20:15 - 20:45	0.50	05	A	P	DRLSUR	COND MUD AND CIRC
20:45 - 21:45	1.00	06	G	P	DRLSUR	POOH
21:45 - 22:00	0.25	21	A	P	DRLSUR	PRE CSG RUN SAFETY MEETING
22:00 - 23:59	1.98	12	A	P	DRLSUR	R/U TO RUN 219MM 35.7 K55 ST&C CASG.

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL F/ 43 M TO 161 M WIPER TRIP TD SURVEY 3/4 DEGREE R/U TO RUN 219 CASG RUN SAME

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)

Formation Data

Formation Name	Top (m)
SURFACE	

Gas Readings

Conn Avg/Max	(mg/L)	
Bkgr Avg/Max	(mg/L)	
Trip Avg/Max	(mg/L)	
H2S	(%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/24/2003 | Report: 4 | DFS: 1.00 | DOL: 3.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	2,260		
SPM	110		
Output (L/mi	1,094.03		

Velocities

Drill Pipe	(m/min)	17.2
Drill Collar	(m/min)	20.7
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump	
Pump	
Pump	

Mud Check

Type 1:	GEL CHEM				
Time/Ld	9:50 / IN		Ca+	(mg/L)	
Depth	(m)	154.00	K+	(mg/L)	
Temp	(°C)	23	Polymer	(kg/m³)	
Density	(kg/m³)	1,160	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	100	Sand	(%)	
PV	(mPa*s)	25.0	Tot. Solids		
YP	(Pa)	9.6	% Oil		
GELS	(Pa)	4.0/9.0/	% H2O		
API WL	(mL)		Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)	3.0	LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH		9.50			
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				

Comment1: TREAT OUT MUD RI

Mud Product

Additive	# Units
BARAFOS	1
CAUSTIC	2
DETERGENT	5
AQUAGEL	40

Mud Cost

Daily	$690.63
Cumulative	$1,321.00

Bit Data

Bit No.	A1	
Run	1	
Size (mm)	311.00	
Manu.	Smith	
Type	X1CXP	
Serial No.	J28128	
TFA (mm²	595.7	
Depth In (m)		
Depth Out (m)	161.00	
Cum. Depth (m)	161.00	
Cum. Hours	10.50	
WOB (Min)(daN)		
WOB (Max)(daN)	8	
RPM (Min)		
RPM (Max)	170	
Cond (IODL)	4/4/FC/C	
Cond (BGOR)	4/ 2/WT/TD	
Jets 1/2/3	15.9/15.9/15.9	
Jets 4/5/6		

Pipe Data

Min ID	(mm)	62.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		132.01
DP OD	(mm)	
String Rot Weight	(daN)	11
Pick-Up Weight	(daN)	11
Slack Off Weight	(daN)	11

BHA Desc: 1

Item	Qty	Length
Tri-Cone Bit	1	0.31
Cross Over	1	0.77
Drill Collar	2	74.40
Cross Over	1	0.91
Heavy Weight Drill Pipe	6	55.62

Safety Drills

Last BOP Test (P)	02/23/2003
Last BOP Test (F)	02/23/2003
Last BOP Drill	02/23/2003

Survey Data

MD (m)	Incl.	Azimuth	TVD (m)	N/S (-) (m)	E/W (-) (m)	Section	DLS (°/30m)	BUR (°/30m)
40.00	0.500	0.000	40.00	0.35	0.00	0.35	0.38	-0.38
65.00	0.750	0.000	65.00	0.62	0.00	0.62	0.30	0.30
94.00	0.250	0.000	94.00	0.87	0.00	0.87	0.52	-0.52
122.00	0.750	0.000	121.99	1.12	0.00	1.12	0.54	0.54
144.00	1.000	0.000	143.99	1.46	0.00	1.46	0.34	0.34
154.00	0.750	0.000	153.99	1.61	0.00	1.61	0.75	-0.75

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/25/2003 | Report: 5 | DFS: 2.00 | DOL: 4.00

Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	161.00 (m)	TVD:	161.00 (m)	Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:		AV ROP:		Hole Size:	200.00 (mm)
Wellsite Eng:	STAN WEICH 403-231-0190	Last Casing:	219.1 (mm)	Shoe TMD:	161.00 (m)	Shoe TVD:	161.00 (m)
Daily Cost:	32,224	Cum Cost:	422,893	AFE Est:	1,496,000	AFE No.:	400799

Current Status: DRILL OUT SHOE, TO PERFOM LOT TEST

24hr Forecast: DRILL OUT CMT PREFORME LOT DRILL AHEAD 200MM HOLE

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 00:15	0.25	21	A	P DRLSUR	SAFETY MEETING ON RUNNING CSG
00:15 - 01:30	1.25	12	A	P DRLSUR	RUN 219MM K55 35.7 KG/M SURFACE CSG LAND @ 161M NO FILL
01:30 - 03:15	1.75	05	F	P DRLSUR	R/U TO CIR AND CIR CSG @ 750 KPA 1M3/MIN CONDITION MUD
03:15 - 03:30	0.25	21	A	P DRLSUR	HOLD SAFTY MEETING W/ SANJEL
03:30 - 04:30	1.00	12	C	P DRLSUR	MIX AND PUMP 10.5 M3 0:1:0 G CMT. + 3% CACL2 DISPLACE W/ 5M3 H20 BUMP PLUG W/6 MPA FLOATS HELD 2.5 M3 GOOD CMT RETURNS
04:30 - 08:30	4.00	13		P DRLSUR	WOC
08:30 - 16:00	7.50	14	B	P DRLSUR	P/U DIVERTER CUT CSG L/D DIVERTER FINAL CUT CSG WELD ON 279.4MMX21MPA CSG.BOWL SER #11041801-3
16:00 - 16:30	0.50	15	A	P DRLSUR	LET BOWL COOL, TEST CASING BOWL TO 7000 KPA
16:30 - 21:45	5.25	14	B	P DRLSUR	NIPPLE UP BOP'S
21:45 - 22:00	0.25	21	A	P DRLSUR	SAFETY MEETING WITH PRESSURE TESTER
22:00 - 23:59	1.98	15	A	P DRLSUR	PRESSURE TEST BLIND RAMS, CSG, HCR, OUTSIDE KILL LINE VALVE, CHECK VALVE, INSIDE KILL LINE VALVE 1400 KPA - 14000 KPA / 10 MINUTES EACH TEST

DAILY OPERATIONAL COMMENTS(24hr Summary):
RUN AND CMT 219MM CASG 2.5 M3 CMT RET, WELD ON CASG BOWL
NIPPLE UP TEST BOPS AND CASG

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
2,400.1	2,280	1,000.0

Formation Data

Formation Name	Top (m)

Gas Readings

Conn Avg/Max	(mg/L)	
Bkgr Avg/Max	(mg/L)	
Trip Avg/Max	(mg/L)	
H2S	(%)	

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Daily Mud Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/25/2003 | Report: 5 | DFS: 2.00 | DOL: 4.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	2,260		
SPM	110		
Output (L/mi	1,094.03		

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1:	GEL CHEM				
Time/Loc	: /		Ca+	(mg/L)	
Depth	(m)	161.00	K+	(mg/L)	
Temp	(°C)		Polymer	(kg/m³)	
Density	(kg/m³)	1,140	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	40	Sand	(%)	
PV	(mPa*s)		Tot. Solids		
YP	(Pa)		% Oil		
GELS	(Pa)		% H2O		
API WL	(mL)		Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)		LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH					
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				

Comment1: CONDITION MUD FO

Mud Products

Additive	# Units
SODA ASH	2
BARITE	30
SAWDUST	20

Mud Cost

Daily	$434.76
Cumulative	$1,755.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc

Item	Jts	Length

Safety Drills

Last BOP Test (P)	02/26/2003
Last BOP Test (F)	02/26/2003
Last BOP Drill	02/26/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

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Well Name: ANADARKO WEST BOVIE I-76			Date: 02/26/2003	Report: 6	DFS: 3.00	DOL: 5.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name: AKITA 15		TMD: 508.00 (m)	TVD: 508.00 (m)	Progress: 347.00 (m)			
		KB: 308.00 (m)	GL: 303.30 (m)	KB to GL: 4.70 (m)			
Rig Super: BRIAN PREECE 780-499-5890		Rot. Hours: 12.75	AV ROP: 27.22	Hole Size: 200.00 (mm)			
Wellsite Eng: STAN WEICH 403-231-0190		Last Casing: 219.1 (mm)	Shoe TMD: 161.00 (m)	Shoe TVD: 161.00 (m)			
Daily Cost: 48,608		Cum Cost: 471,501	AFE Est: 1,496,000	AFE No.: 400799			

Current Status: CIR UP SAMPLE @ 543 M LOOKING FOR CORE POINT

24hr Forecast: ATTP.TO FIND CORE POINT CORE DRILL TO TD DROP GYRO POOH LOG

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 02:00	2.00	06	J	P DRLPRO	MAKE UP BIT, RUN IN HOLE, LAYDOWN 6 HWDP, P/U 4 DC AND JARS
02:00 - 05:45	3.75	15	B	P DRLPRO	PRESSURE TEST MANIFOLD 1400 KPA - 14000 KPA 10 MINUTES EACH TEST, TEST ANNULAR PIPE RAMS, STABBING VALVE, INSIDE BOP, UPPER AND LOWER KELLY COCKS 1400 KPA - 14000 KPA EACH TEST, FUNCTION TEST MOTOR KILLS AND POP VALVE ACC, FUNCTION TEST START PRESS 21000 KPA ANNULAR 8 SEC 4800 KPA PIPE RAMS 3 SEC 700 KPA HCR 2 SEC 300 KPA REMAINING PRESS 15200 KPA PRE CHARGE 7000 KPA RECHARGE 115 SEC
05:45 - 06:00	0.25	21	B	P DRLPRO	HOLD BOP DRILL WELL SEC. 90 SEC SAFETY MEETING HELD ON BOP DRILL
06:00 - 08:00	2.00	02	C	P DRLPRO	DRILL CMT F/ 144M TO 147 M DRILL F/C DRI// CMT AND FLOAT COLLAR TO 161M
08:00 - 08:15	0.25	07	A	P DRLPRO	RIG SERVICE FUNCTION PIPE RAMS 3 SEC
08:15 - 08:45	0.50	08	A	P DRLPRO	CHANGE OUT POP VALVE
08:45 - 09:15	0.50	02	B	P DRLPRO	DRILL 200MM HOLE F/ 161M TO 168M
09:15 - 09:30	0.25	05	A	P DRLPRO	CIR HOLE CLEAN PRIOR TO LEAK OFF TEST
09:30 - 10:00	0.50	15	C	P DRLPRO	LEAK OFF TEST W/ 1000 KG/M3 MUD APPLIED 2280 KPA NO LEAK OFF EQMW=2446 KG/M3
10:00 - 11:30	1.50	02	B	P DRLPRO	DRILL 200MM HOLE F/ 168M TO 214M
11:30 - 11:45	0.25	21	B	P DRLPRO	BOP DRILL W/ CREW WELL SEC 60 SEC
11:45 - 15:45	4.00	02	B	P DRLPRO	DRILL 200MM HOLE F/ 214M TO 328M
15:45 - 16:00	0.25	10		P DRLPRO	ACCUMULATED SURVEYS
16:00 - 17:15	1.25	02	B	P DRLPRO	DRILL 200MM HOLE F/ 328M TO 357M
17:15 - 17:30	0.25	07	A	P DRLPRO	RIG SERVICE FUNCTION ANNULAR 8 SEC
17:30 - 17:45	0.25	10		P DRLPRO	SURVEY
17:45 - 22:15	4.50	02	B	P DRLPRO	DRILL 200MM HOLE F/ 357M TO 489M
22:15 - 22:30	0.25	10		P DRLPRO	DEVIATION SURVEY
22:30 - 23:30	1.00	02	B	P DRLPRO	DRILL 200MM HOLE FROM 489M TO 508M
23:30 - 23:59	0.48	05	I	P DRLPRO	CIRCULATE UP SAMPLE

DAILY OPERATIONAL COMMENTS(24hr Summary):
TEST BOPS AND CASG DRILL OUT DO LOT NO LEAK OF EMW=2400KG/M3 DRILL 200 MM HOLE F/ 161 M TO 500 M DRILL 2M AT A TIME CIR UP SAMPLE LOOK FOR CORE POINT TO 508M

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
2,400.1	2,231	1,030.0

Formation Data

Formation Name	Top (m)
SPIRIT RIVER	499.00

Gas Readings

Conn Avg/Max	(mg/L)	180/
Bkgr Avg/Max	(mg/L)	57/
Trip Avg/Max	(mg/L)	
H2S	(%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/26/2003 | Report: 6 | DFS: 3.00 | DOL: 5.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	9,000		
SPM	116		
Output (L/mi	1,153.71		

Velocities

Drill Pipe	(m/min)	50.3
Drill Collar	(m/min)	103.5
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1:	GEL CHEM		
Time	22:45 / OTH	Ca+ (mg/L)	
Depth (m)	497.00	K+ (mg/L)	
Temp (°C)		Polymer (kg/m³)	
Density (kg/m³)	1,130	CaCl2 (%)	
ECD (kg/m³)		NaCl (%)	
Viscosity (s/l)	45	Sand (%)	
PV (mPa*s)		Tot. Solids	
YP (Pa)		% Oil	
GELS (Pa)		% H2O	
API WL (mL)	8.0	Oil/H2O	
HTHP WL (mL)		HGSolid (kg/m³)	
API FC (mm)		LGSolid (kg/m³)	
MBT (kg/m³)		ES (mV)	
Lime (kg/m³)		Oil Ret (%)	
pH	11.00		
Pm (cm³)			
Pf/Mf (cm³ / cm³			

Comment1:

Mud Products

Additive	# Units
BARAZAN D PLU	1
BI CARB	8
AQUAGEL	30
PAC-R	2
CARBONOX	5

Mud Cost

Daily	$1,229.04
Cumulative	$2,984.00

Bit Data

Bit No.	1	
Run	2	
Size (mm)	200.00	
Manu.	GeoDiamond	
Type	M474YPX	
Serial No.	JS7381	
TFA (mm²	237.6	
Depth In (m)	161.00	
Depth Out (m)	543.00	
Cum. Depth (m)	347.00	
Cum. Hours	12.75	
WOB (Min)(daN)		
WOB (Max)(daN)	3	
RPM (Min)		
RPM (Max)	100	
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3	7.1/7.1/7.1	
Jets 4/5/6	7.1/7.1/7.1	

Pipe Data

Min ID (mm)		
DC OD (mm)		
DC (m)		
HWDP OD (mm)		
HWDP (m)		
BHA		498.64
DP OD (mm)		
String Rot Weight (daN)		22
Pick-Up Weight (daN)		22
Slack Off Weight (daN)		22

BHA Description

Item	Qty	Length
Polycrystalline Diamond Bit	1	0.28
Bit Sub	1	1.02
Drill Collar	8	77.40
Drilling Jar	1	5.07
Drill Collar	4	36.25
Cross Over	1	0.91
Heavy Weight Drill Pipe	6	55.62
Drill Pipe	17	322.09

Safety Drills

Last BOP Test (P)	02/26/2003
Last BOP Test (F)	02/26/2003
Last BOP Drill	02/26/2003

Survey Data

MD (m)	Incl.	Azimuth	TVD (m)	N/S (-) (m)	E/W (-) (m)	Section	DLS (°/30m)	BUR (°/30m)
210.00	1.250	0.000	209.98	2.59	0.00	2.59	0.27	0.27
350.00	0.250	0.000	349.97	4.42	0.00	4.42	0.21	-0.21
476.00	2.000	0.000	475.94	6.89	0.00	6.89	0.42	0.42

Well Name: ANADARKO WEST BOVIE I-76 Date: 02/27/2003 Report: 7 DFS: 4.00 DOL: 6.00
Event Name: ORIG DRILLING Spud: 02/23/2003 RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	561.00 (m)	TVD:	561.00 (m)	Progress:	53.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:	4.75	AV ROP:	11.16	Hole Size:	200.00 (mm)
Wellsite Eng:	STAN WEICH 403-231-0190	Last Casing:	219.1 (mm)	Shoe TMD:	161.00 (m)	Shoe TVD:	161.00 (m)
Daily Cost:	35,794	Cum Cost:	507,295	AFE Est:	1,496,000	AFE No.:	400799

Current Status: CIR CONDITION MUD

24hr Forecast: CIR DROP GYRO POOH LOG L/D DP RUN PRODUCTION

Operations Summary

From - To	Hours	Code	Sub Code		Phase	Description of Operations
00:00 - 03:15	3.25	02	B	P	DRLPRO	DRILL 200MM HOLE F/ 508M TO 543 M
03:15 - 03:30	0.25	02	B	P	DRLPRO	RIG SERVICE FUNCTION ANNULAR 8 SEC
03:30 - 06:45	3.25	05	E	P	DRLPRO	FROM 500 M ACCUMULATED CIR, UP SAMPLES TO FIND CORE POINT
06:45 - 09:00	2.25	06	H	P	DRLPRO	WIPER TRIP TO SHOE FLOW CHECKS @ 543M 448M 161M
09:00 - 09:15	0.25	07	A	P	DRLPRO	RIG SERVICE FUNCTION ANNULAR 8 SEC
09:15 - 09:45	0.50	05	E	P	DRLPRO	CIRC HOLE CLEAN
09:45 - 11:45	2.00	06	D	P	DRLPRO	POOH TO CORE W/ FLOW CHECKS @ 543M 448M 161M OM
11:45 - 14:15	2.50	06	D	P	DRLPRO	PICK UP AND MAKE UP CORE BBL.
14:15 - 16:00	1.75	06	D	P	DRLPRO	RIH W/ CORE BBL. FLOW CHECK @ 161M 270M
16:00 - 17:00	1.00	03	B	P	DRLPRO	CIR AND CLEAN TO BTTM
17:00 - 18:30	1.50	04	A	P	DRLPRO	CUT CORE # 1 F/ 543M TO 561M W/3 TO 3 WOB 1M3/MIN 4200 KPA
18:30 - 19:15	0.75	05	E	P	DRLPRO	CIR BTTMS UP
19:15 - 21:00	1.75	06	D	P	DRLPRO	POOH W/ CORE BBL FLOW CHECKS @ 561M 261M 167M OM
21:00 - 21:15	0.25	21	A	P	DRLPRO	SAFETY MEETING REVIEW JSA ON REC CORE
21:15 - 22:15	1.00	04	A	P	DRLPRO	RECOVER CORE 17.60M REC. 98%
22:15 - 23:00	0.75	06	D	P	DRLPRO	L/D CORE BBL
23:00 - 23:15	0.25	07	A	P	DRLPRO	RIG SERVICE FUNCTION BLIND RAMS 2 SEC
23:15 - 23:59	0.73	06	A	P	DRLPRO	M/U 200MM BIT RR1 AND BHA RIH

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL TO 543M TRIP P/U CORE BBL CUT CORE F/ 543MTO 561M REC 98% OF CORE 17.6M L/D BBL RIH W/ PDC TO DRILL TO TD

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
2,400.1	2,036	1,150.0

Formation Data

Formation Name	Top (m)
MATTSON SANDS	

Gas Readings

Conn Avg/Max	(mg/L)	150/
Bkgr Avg/Max	(mg/L)	30/
Trip Avg/Max	(mg/L)	150/
H2S	(%)	

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Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/27/2003 | Report: 7 | DFS: 4.00 | DOL: 6.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	5,400		
SPM	102		
Output (L/mi	1,014.48		

Velocities

Drill Pipe	(m/min)	49.5
Drill Collar	(m/min)	101.7
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	3,220 (kP	800.00 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1: GEL CHEM

Time	0600 / OTH		Ca+	(mg/L)	
Depth	(m)	543.00	K+	(mg/L)	
Temp	(°C)	30	Polymer	(kg/m³)	
Density	(kg/m³)	1,140	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	47	Sand	(%)	
PV	(mPa*s)		Tot. Solids		
YP	(Pa)		% Oil		
GELS	(Pa)		% H2O		
API WL	(mL)	9.0	Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)		LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH		10.50			
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				

Comment1:

Mud Products

Additive	# Units
AQUAGEL	10

Mud Cost

Daily	$81.40
Cumulative	$3,066.00

Bit Data

Bit No.	1RR	2
Run	4	3
Size (mm)	200.00	200.00
Manu.	GeoDiamond	CoRON
Type	M474YPX	CD83
Serial No.	JS7381	940473
TFA (mm²)	237.6	
Depth In (m)	561.00	543.00
Depth Out (m)	585.00	561.00
Cum. Depth (m)		
Cum. Hours		
WOB (Min)(daN)		
WOB (Max)(daN)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3	7.1/7.1/7.1	
Jets 4/5/6	7.1/7.1/7.1	

Pipe Data

Min ID	(mm)	52.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		176.55
DP OD	(mm)	
String Rot Weight	(daN)	27
Pick-Up Weight	(daN)	27
Slack Off Weight	(daN)	27

BHA Desc. (1)

	Jts	Length (m)
Polycrystalline Diamond Bit	1	0.28
Bit Sub	1	1.02
Drill Collar	8	77.40
Drilling Jar	1	5.07
Drill Collar	4	36.25
Cross Over	1	0.91
Heavy Weight Drill Pipe	6	55.62

Safety Drills

Last BOP Test (P)	02/26/2003
Last BOP Test (F)	02/26/2003
Last BOP Drill	02/26/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/28/2003 | Report: 8 | DFS: 5.00 | DOL: 7.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	585.00 (m)	TVD:	585.00 (m)	Progress:	24.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:	1.50	AV ROP:	16.00	Hole Size:	200.00 (mm)
Wellsite Eng:	STAN WEICH 403-231-0190	Last Casing:	219.1 (mm)	Shoe TMD:	161.00 (m)	Shoe TVD:	161.00 (m)
Daily Cost:	96,782	Cum Cost:	604,078	AFE Est:	1,496,000	AFE No.:	400799

Current Status: CLEAN MUD TANKS

24hr Forecast: RUN AND CMT CASG RIG OUT MOVE RIG AND CAMP TO M35

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 00:45	0.75	06	A	P DRLPRO	RIH, FLOWCHECK AT 161M
00:45 - 01:30	0.75	03	A	P DRLPRO	WASH FROM 534M TO 561M, 1M OF FILL
01:30 - 03:00	1.50	02	B	P DRLPRO	DRILL 200MM HOLE FROM 561M TO 585M
03:00 - 03:15	0.25	07	A	P DRLPRO	RIG SERVICE, FUNCTION ANNULAR C/O 8 SECONDS
03:15 - 03:30	0.25	05	I	P DRLPRO	CIRCULATE UP SAMPLE
03:30 - 04:00	0.50	06	H	P DRLPRO	WIPER TRIP 5 STANDS, FLOWCHECK AT 585M
04:00 - 07:30	3.50	05	D	P DRLPRO	CIRCULATE AND CONDITION MUD PRIOR DROPPING GYRO AND POOH F/ LOGGING
07:30 - 08:00	0.50	10		P DRLPRO	DROP GYRO SURVEY
08:00 - 10:15	2.25	06	C	P DRLPRO	POOH TO TO LOG FLOW CHECKS @ 585M 493M 287M 136M 0M REC GYRO SLM NO CORRECTION
10:15 - 13:15	3.00	22	D	P DRLPRO	WAIT ON LOGGERS
13:15 - 13:30	0.25	21	A	P DRLPRO	SAFETY MEETING W/ LOGGERS
13:30 - 17:00	3.50	11	A	P EVALPR	RIG TO LOG RUN INDUCTION PIT GRT/SP DENSITY NEUTRON LDT CNT/GRT/CAL SONIC CST/XACT-GRTLOGGERS DEPTH=584.5 RIG OUT LOGGERS
17:00 - 17:15	0.25	07	A	P DRLPRO	RIG SERVICE FUNCTION BLIND RAMS 3 SEC
17:15 - 18:30	1.25	06	G	P DRLPRO	M/U BHA RIH TO 585M
18:30 - 19:00	0.50	05	F	P DRLPRO	CIR HOLE CLEAN
19:00 - 19:15	0.25	21	A	P DRLPRO	SAFETY MEETING ON L/D DRILL STRING
19:15 - 20:30	1.25	06	G	P DRLPRO	POOH L/D D/P FLOW CHECK @ 585M 493M 276M
20:30 - 21:30	1.00	06	G	P DRLPRO	L/D BHA FLOW CHECK ON BANK
21:30 - 22:30	1.00	12	A	P DRLPRO	RIG UP POWER TONGS
22:30 - 22:45	0.25	21	A	P DRLPRO	SAFETY MEETING WITH TONG HAND
22:45 - 23:59	1.23	12	A	P DRLPRO	RUN CASING

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL TO 585 TD CONDITION MUD DROP GYROPOOH LOG RIH CIR HOLE CLEAN L/D DRILL STRING RUN 139.7 MM PROD CASG.

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
2,400.1	2,003	1,170.0

Formation Data

Formation Name	Top (m)
MONTNEY	554.00

Gas Readings

Conn Avg/Max	(mg/L)	
Bkgr Avg/Max	(mg/L)	
Trip Avg/Max	(mg/L)	
H2S	(%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 02/28/2003 | Report: 8 | DFS: 5.00 | DOL: 7.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	7,870		
SPM	116		
Output (L/mi	1,153.71		

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump	
Pump	
Pump	

Mud Check

Type 1:	GEL CHEM				
Time	06:00 / OTH		Ca+	(mg/L)	
Depth	(m)	585.00	K+	(mg/L)	
Temp	(°C)	30	Polymer	(kg/m³)	
Density	(kg/m³)	1,170	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	75	Sand	(%)	
PV	(mPa*s)		Tot. Solids		
YP	(Pa)		% Oil		
GELS	(Pa)		% H2O		
API WL	(mL)	9.0	Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)		LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH		10.50			
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				
Comment1:					

Mud Product

Additive	# Units
DESCO	1
BARITE	12
AQUAGEL	30

Mud Cost

Daily	$450.57
Cumulative	$3,516.00

Bit Data

Bit No.	1RR	
Run	4	
Size (mm)	200.00	
Manu.	GeoDiamond	
Type	M474YPX	
Serial No.	JS7381	
TFA (mm²)	237.6	
Depth In (m)	561.00	
Depth Out (m)	585.00	
Cum. Depth (m)	24.00	
Cum. Hours	1.50	
WOB (Min)(daN)	2	
WOB (Max)(daN)	6	
RPM (Min)	80	
RPM (Max)	110	
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3	7.1/7.1/7.1	
Jets 4/5/6	7.1/7.1/7.1	

Pipe Data

Min ID	(mm)	52.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		176.55
DP OD	(mm)	
String Rot Weight	(daN)	27
Pick-Up Weight	(daN)	27
Slack Off Weight	(daN)	27

BHA Desc. #3

Item	Jts	Length (m)
Polycrystalline Diamond Bit	1	0.28
Bit Sub	1	1.02
Drill Collar	8	77.40
Drilling Jar	1	5.07
Drill Collar	4	36.25
Cross Over	1	0.91
Heavy Weight Drill Pipe	6	55.62

Safety Drill

Last BOP Test (P)	02/26/2003
Last BOP Test (F)	02/26/2003
Last BOP Drill	02/26/2003

Survey Data

MD (m)	Incl.	Azimuth	TVD (m)	N/S (-) (m)	E/W (-) (m)	Section	DLS (°/30m)	BUR (°/30m)
576.00	1.150	35.700	575.90	9.45	0.59	9.45	0.38	-0.26

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/01/2003 Report: 9 DFS: 6.00 DOL: 8.00
Event Name: ORIG DRILLING Spud: 02/23/2003 RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	585.00 (m)	TVD:	585.00 (m)	Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BRIAN PREECE780-499-5890	Rot. Hours:		AV ROP:		Hole Size:	200.00 (mm)
Wellsite Eng:	MARYLYN WESTWOOD 403-231-0073	Last Casing:	219.1 (mm)	Shoe TMD:	161.00 (m)	Shoe TVD:	161.00 (m)
Daily Cost:	30,655	Cum Cost:	634,733	AFE Est:	1,496,000	AFE No.:	400799

Current Status: WAIT ON DAYLIGHT TO SPOT RIG

24hr Forecast: RIG UP R/U DIVERTER DRILL SURFACE

Operations Summary

From	To	Hours	Code	Sub Code		Phase	Description of Operations
00:00	00:45	0.75	12	A	P	DRLPRO	RUN 139.7MM 20.8 KG/M J-55 CASING TO 584.5M
00:45	02:45	2.00	05	F	P	DRLPRO	CIRCULATE CASING, REDUCE VIS TO 44, WT 1150 KG/M3
02:45	03:00	0.25	21	A	P	DRLPRO	PRE CEMENT JOB SAFETY MEETING
03:00	04:15	1.25	12	C	P	DRLPRO	CEMENT 139.7 MM CASING W/ 17T THIXMIX II + 0.25% CFL3 + 2 % CACL2, DISPLACE CASING W/ 7.3M3 OF 0.3% INHIBITED WATER, BUMP PLUG TO 8000 KPA, BLEED BACK, FLOATS HELD, 1 M3 GOOD CEMENT RETURNS
04:15	06:00	1.75	14	B	P	DRLPRO	CUT CASING, NIPPLE DOWN BOP'S
06:00	08:00	2.00	01	C	P	DRLPRO	CLEAN MUD TANKS
08:00	23:59	15.98	01	B	P	DRLPRO	RIG DOWN (RIG OUT CAMP) MOVE F/ I-76 TO M-35 100% RIGGED OUT 85% MOVED 15% RIGGED UP

DAILY OPERATIONAL COMMENTS(24hr Summary):
RUN 139.7 CASG CMT SAME 1M3 GOOD CMT RET. RIG OUT MOVE RIG AND CAMP TO M-35

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
2,400.1	2,003	1,170.0

Formation Data

Formation Name	Top (m)
MONTNEY	554.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/01/2003 | Report: 9 | DFS: 6.00 | DOL: 8.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	152.0		
Stroke (mm)	203.0		
EFF	90.0		
Press (kPa)	7,870		
SPM	116		
Output (L/mi	1,153.71		

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump	
Pump	
Pump	

Mud Check

Type 1: GEL CHEM

Time	12:30 / OTH		Ca+	(mg/L)	
Depth	(m)	585.00	K+	(mg/L)	
Temp	(°C)	30	Polymer	(kg/m³)	
Density	(kg/m³)	1,150	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	44	Sand	(%)	
PV	(mPa*s)		Tot. Solids		
YP	(Pa)		% Oil		
GELS	(Pa)		% H2O		
API WL	(mL)	9.0	Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)		LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH		10.50			
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				

Comment1:

Mud Products

Additive	# Units
DESCO	1
BI CARB	3
AQUAGEL	24
SAWDUST	5

Mud Cost

Daily	$371.34
Cumulative	$3,888.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc.

Item	Jts	Length

Safety Drills

Last BOP Test (P)	02/26/2003
Last BOP Test (F)	02/26/2003
Last BOP Drill	02/26/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Printed: 05/16/2003 11:19:10 AM

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/17/2003 | Report: 10 | DFS: 7.00 | DOL: 9.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	585.00 (m)	TVD:	585.00 (m)	Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-5258	Rot. Hours:		AV ROP:		Hole Size:	
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:		Shoe TMD:		Shoe TVD:	
Daily Cost:	31,943	Cum Cost:	698,619	AFE Est:	1,496,000	AFE No.:	400799

Current Status: PRESSURE TEST BOP

24hr Forecast: DRILL RAT / MOUSE HOLE, WAIT FOR AUTHORIZATION FOR RE-ENTRY

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 08:00	8.00	22	F	P RDMO	WAIT ON DAYLIGHT
08:00 - 08:15	0.25	21	A	P RDMO	HELD SAFETY MEETING W/ RIG CREW AND MPO TRUCKING
08:15 - 12:00	3.75	24	B	P RDMO	LOAD OUT RIG W/ MPO TRUCKING, MOVE ROTARY TOOLS F/ J-74 TO I76 LOCATION SPOT AND RIG UP CAMP
12:00 - 19:00	7.00	01	A	P RDMO	SPOT MATTING, SPOT SUB AND CENTER/LEVEL, SPOT RIG BUILDINGS, RENTAL EQUIPMENT. TRUCKS RELEASED @ 19:00 HRS.
19:00 - 23:00	4.00	01	A	P RDMO	RIG UP ROTARY TOOLS, RAISE DERRICK, INSTALL PRE-FABS, GENERAL RIG UP.
23:00 - 00:00	1.00	14	B	P RDMO	NIPPLE UP BOP

DAILY OPERATIONAL COMMENTS(24hr Summary):
LOAD OUT RIG @ J-74, MOVE ROTARY TOOLS TO I-76, OFF LOAD RIG, SPOT MATTING, SUB, DERRICK, RIG BUILDINGS, RENTAL EQUPIMENT, RIG UP, NIPPLE UP BOP.

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)

Formation Data

Formation Name	Top (m)

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/17/2003 Report: 10 DFS: 7.00 DOL: 9.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump	
Pump	
Pump	

Mud Check

Type 1:			
Time/Loc		Ca+	
Depth		K+	
Temp		Polymer	
Density		CaCl2	
ECD		NaCl	
Viscosity		Sand	
PV		Tot. Solids	
YP		% Oil	
GELS		% H2O	
API WL		Oil/H2O	
HTHP WL		HGSolid	
API FC		LGSolid	
MBT		ES	
Lime		Oil Ret	
pH			
Pm			
Pf/Mf			
Comment1:			

Mud Products

Additive	# Units
VAN RENTAL	2

Mud Cost

Daily	$120.00
Cumulative	$4,128.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc.

Item	No.	Dia	Length

Safety Drills

Last BOP Test (P)	
Last BOP Test (F)	
Last BOP Drill	

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Well Name: ANADARKO WEST BOVIE I-76			Date: 03/17/2003	Report: 10	DFS: 7.00	DOL: 9.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name: AKITA 15		TMD: 585.00 (m)	TVD: 585.00 (m)	Progress:			
		KB: 308.00 (m)	GL: 303.30 (m)	KB to GL: 4.70 (m)			
Rig Super: BARRY GOODRICH 403-815-5258		Rot. Hours:	AV ROP:	Hole Size:			
Wellsite Eng: AIDAN CAMPBELL		Last Casing:	Shoe TMD:	Shoe TVD:			
Daily Cost: 31,943		Cum Cost: 666,676	AFE Est: 1,496,000	AFE No.: 400799			

Current Status: PRESSURE TEST BOP

24hr Forecast: DRILL RAT / MOUSE HOLE, WAIT FOR AUTHORIZATION FOR RE-ENTRY

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 08:00	8.00	22	F	P RDMO	WAIT ON DAYLIGHT
08:00 - 08:15	0.25	21	A	P RDMO	HELD SAFETY MEETING W/ RIG CREW AND MPO TRUCKING
08:15 - 12:00	3.75	24	B	P RDMO	LOAD OUT RIG W/ MPO TRUCKING, MOVE ROTARY TOOLS F/ J-74 TO I76 LOCATION SPOT AND RIG UP CAMP
12:00 - 19:00	7.00	01	A	P RDMO	SPOT MATTING, SPOT SUB AND CENTER/LEVEL, SPOT RIG BUILDINGS, RENTAL EQUIPMENT. TRUCKS RELEASED @ 19:00 HRS.
19:00 - 23:00	4.00	01	A	P RDMO	RIG UP ROTARY TOOLS, RAISE DERRICK, INSTALL PRE-FABS, GENERAL RIG UP.
23:00 - 00:00	1.00	14	B	P RDMO	NIPPLE UP BOP

DAILY OPERATIONAL COMMENTS(24hr Summary):
LOAD OUT RIG @ J-74, MOVE ROTARY TOOLS TO I-76, OFF LOAD RIG, SPOT MATTING, SUB, DERRICK, RIG BUILDINGS, RENTAL EQUPIMENT, RIG UP, NIPPLE UP BOP.

LOT/FIT			Formation Data		Gas Readings	
EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)	Formation Name	Top (m)	Conn Avg/Max (mg/L)	
					Bkgr Avg/Max (mg/L)	
					Trip Avg/Max (mg/L)	
					H2S (%)	

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Well Name: ANADARKO WEST BOVIE I-76 Date: 03/17/2003 Report: 10 DFS: 7.00 DOL: 9.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump			
Pump			
Pump			

Mud Check

Type 1:			
Time/Loc		Ca+	
Depth		K+	
Temp		Polymer	
Density		CaCl2	
ECD		NaCl	
Viscosity		Sand	
PV		Tot. Solids	
YP		% Oil	
GELS		% H2O	
API WL		Oil/H2O	
HTHP WL		HGSolid	
API FC		LGSolid	
MBT		ES	
Lime		Oil Ret	
pH			
Pm			
Pf/Mf			
Comment1:			

Mud Products

Additive	# Units
VAN RENTAL	2

Mud Cost

Daily	$120.00
Cumulative	$4,008.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc.

Item	Jts	Length

Safety Drills

Last BOP Test (P)	
Last BOP Test (F)	
Last BOP Drill	

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

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DAILY DRILLING REPORT

Well Name: ANADARKO WEST BOVIE I-76			Date: 03/18/2003	Report: 11	DFS: 8.00	DOL: 10.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name: AKITA 15		TMD: 585.00 (m)	TVD: 585.00 (m)	Progress:			
		KB: 308.00 (m)	GL: 303.30 (m)	KB to GL: 4.70 (m)			
Rig Super: BARRY GOODRICH 403-815-5258		Rot. Hours:	AV ROP:	Hole Size:			
Wellsite Eng: AIDAN CAMPBELL		Last Casing:	Shoe TMD:	Shoe TVD:			
Daily Cost: 100,245		Cum Cost: 798,864	AFE Est: 1,496,000	AFE No.: 400799			

Current Status: WAIT ON ANNULAR ELEMENT

24hr Forecast: DRILL RAT HOLE, WAIT FOR ELEMENT, PRESS TEST ANN. MILL PACK

Operations Summary

From - To	Hours	Code	Sub Code	Phase		Description of Operations
00:00 - 01:30	1.50	14	B	P	PRPSPD	NIPPLE UP BOP
01:30 - 04:00	2.50	14	C	P	PRPSPD	NIPPLE UP FLARE LINES, MANIFOLD
04:00 - 08:00	4.00	15	B	P	PRPSPD	PRESSURE TEST MANIFOLD, 1400 KPA LOW / 14000 KPA HIGH 10 MIN. EACH TEST
08:00 - 09:45	1.75	15	A	P	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, UNABLE TO GET TEST
09:45 - 12:00	2.25	14	B	P	PRPSPD	NIPPLE DOWN BOP, LIFT STACK, SET MANUAL SLIPS , NIPPLE UP BOP
12:00 - 13:30	1.50	15	A	P	PRPSPD	PRESSURE TEST BLIND RAMS TO 14000 KPA , LOST 3000 KPA IN 2 MINUTES, NO TEST, SUSPECT PRESSURE LOST DOWN CASING ANNULUS BETWEEN SURFACE CASING AND PRODUCTION CASING.
13:30 - 17:30	4.00	02	A	P	PRPSPD	DRILL MOUSE HOLE, RAT HOLE
17:30 - 19:00	1.50	14	B	P	PRPSPD	LIFT BOP STACK, INSTALL PRIMARY SEAL ASSEMBLY W/ CAMERON
19:00 - 19:45	0.75	14	B	P	PRPSPD	NIPPLE UP BOP
19:45 - 00:00	4.25	15	A	P	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, HCR, MAN VALVE, KILL LINE VALVES , CHECK VALVE, STABBING VALVE, INSIDE BOP 1400 KPA LOW / 14000 KPA HIGH. UNABLE TO PRESSURE TEST ANNULAR, WOULD NOT HOLD PRESSURE.

DAILY OPERATIONAL COMMENTS(24hr Summary):
NIPPLE UP BOP. PRESSURE TEST MANIFOLD, PRESSURE TEST PIPE & BLIND RAMS NO TEST, LIFT BOP, INSTALL MAN. SLIPS, PRESSURE RAMS, NO TEST, INSTALL PRIMARY SEAL, TEST BOP.

LOT/FIT			Formation Data		Gas Readings	
EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)	Formation Name	Top (m)	Conn Avg/Max (mg/L)	
					Bkgr Avg/Max (mg/L)	
					Trip Avg/Max (mg/L)	
					H2S (%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/18/2003 Report: 11 DFS: 8.00 DOL: 10.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1:					
Time/Loc			Ca+		
Depth			K+		
Temp			Polymer		
Density			CaCl2		
ECD			NaCl		
Viscosity			Sand		
PV			Tot. Solids		
YP			% Oil		
GELS			% H2O		
API WL			Oil/H2O		
HTHP WL			HGSolid		
API FC			LGSolid		
MBT			ES		
Lime			Oil Ret		
pH					
Pm					
Pf/Mf					
Comment1:					

Mud Products

Additive	# Units

Mud Cost

Daily	$0.00
Cumulative	$4,128.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc.

Item	Dia	Length

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/18/2003
Last BOP Drill	

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Well Name: ANADARKO WEST BOVIE I-76			Date: 03/18/2003	Report: 11	DFS: 8.00	DOL: 10.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name: AKITA 15		TMD: 585.00 (m)	TVD: 585.00 (m)	Progress:			
		KB: 308.00 (m)	GL: 303.30 (m)	KB to GL: 4.70 (m)			
Rig Super: BARRY GOODRICH 403-815-5258		Rot. Hours:	AV ROP:	Hole Size:			
Wellsite Eng: AIDAN CAMPBELL		Last Casing:	Shoe TMD:	Shoe TVD:			
Daily Cost: 100,395		Cum Cost: 899,259	AFE Est: 1,496,000	AFE No.: 400799			

Current Status: WAIT ON ANNULAR ELEMENT

24hr Forecast: DRILL RAT HOLE, WAIT FOR ELEMENT, PRESS TEST ANN. MILL PACK

Operations Summary

From - To	Hours	Code	Sub Code	P/U/A	Phase	Description of Operations
00:00 - 01:30	1.50	14	B	P	PRPSPD	NIPPLE UP BOP
01:30 - 04:00	2.50	14	C	P	PRPSPD	NIPPLE UP FLARE LINES, MANIFOLD
04:00 - 08:00	4.00	15	B	P	PRPSPD	PRESSURE TEST MANIFOLD, 1400 KPA LOW / 14000 KPA HIGH 10 MIN. EACH TEST
08:00 - 09:45	1.75	15	A	P	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, UNABLE TO GET TEST
09:45 - 12:00	2.25	14	B	P	PRPSPD	NIPPLE DOWN BOP, LIFT STACK, SET MANUAL SLIPS , NIPPLE UP BOP
12:00 - 13:30	1.50	15	A	P	PRPSPD	PRESSURE TEST BLIND RAMS TO 14000 KPA , LOST 3000 KPA IN 2 MINUTES, NO TEST, SUSPECT PRESSURE LOST DOWN CASING ANNULUS BETWEEN SURFACE CASING AND PRODUCTION CASING.
13:30 - 17:30	4.00	02	A	P	PRPSPD	DRILL MOUSE HOLE, RAT HOLE
17:30 - 19:00	1.50	14	B	P	PRPSPD	LIFT BOP STACK, INSTALL PRIMARY SEAL ASSEMBLY W/ CAMERON
19:00 - 19:45	0.75	14	B	P	PRPSPD	NIPPLE UP BOP
19:45 - 00:00	4.25	15	A	P	PRPSPD	PRESSURE TEST BLIND RAMS, PIPE RAMS, HCR, MAN VALVE, KILL LINE VALVES , CHECK VALVE, STABBING VALVE, INSIDE BOP 1400 KPA LOW / 14000 KPA HIGH. UNABLE TO PRESSURE TEST ANNULAR, WOULD NOT HOLD PRESSURE.

DAILY OPERATIONAL COMMENTS(24hr Summary):
NIPPLE UP BOP. PRESSURE TEST MANIFOLD, PRESSURE TEST PIPE & BLIND RAMS NO TEST, LIFT BOP, INSTALL MAN. SLIPS, PRESSURE RAMS, NO TEST, INSTALL PRIMARY SEAL, TEST BOP.

LOT/FIT		
EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)

Formation Data	
Formation Name	Top (m)

Gas Readings	
Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/18/2003 Report: 11 DFS: 8.00 DOL: 10.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump		
Pump		
Pump		

Mud Check

Type 1:			
Time/Loc		Ca+	
Depth		K+	
Temp		Polymer	
Density		CaCl2	
ECD		NaCl	
Viscosity		Sand	
PV		Tot. Solids	
YP		% Oil	
GELS		% H2O	
API WL		Oil/H2O	
HTHP WL		HGSolid	
API FC		LGSolid	
MBT		ES	
Lime		Oil Ret	
pH			
Pm			
Pf/Mf			
Comment1:			

Mud Products

Additive	# Units

Mud Cost

Daily	$0.00
Cumulative	$4,128.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (RGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc.

Item	Qty	Length

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/18/2003
Last BOP Drill	

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Printed: 05/16/2003 11:19:36 AM

Well Name: ANADARKO WEST BOVIE I-76			Date: 03/19/2003	Report: 12	DFS: 9.00	DOL: 11.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name: AKITA 15	TMD: 585.00 (m)	TVD: 585.00 (m)	Progress:				
	KB: 308.00 (m)	GL: 303.30 (m)	KB to GL: 4.70 (m)				
Rig Super: BARRY GOODRICH 403-815-5258	Rot. Hours:	AV ROP:	Hole Size:				
Wellsite Eng: AIDAN CAMPBELL	Last Casing: 139.7 (mm)	Shoe TMD: 584.50 (m)	Shoe TVD: 584.50 (m)				
Daily Cost: 32,214	Cum Cost: 931,473	AFE Est: 1,496,000	AFE No.: 400799				

Current Status: DRILL OUT CEMENT @ 560 M.

24hr Forecast: DRILL OUT CEMENT, DRILL TO 590 M. FLOT. DRILL AHEAD

Operations Summary

From - To	Hours	Code	Sub Code	P/U/S	Phase	Description of Operations
00:00 - 04:30	4.50	02	A	P	PRPSPD	DRILL RAT HOLE
04:30 - 04:45	0.25	07	A	P	PRPSPD	RIG SERVICE
04:45 - 05:00	0.25	21	A	P	PRPSPD	HELD SAFETY MEETING, ANNULAR ELEMENT REMOVAL
05:00 - 08:45	3.75	08	D	P	PRPSPD	REMOVE ANNULAR ELEMENT, WAIT ON NEW ELEMENT, FYING NEW ELEMENT F/ EDMONTON, INSTALL NEW ELEMENT
08:45 - 09:00	0.25	07	A	P	PRPSPD	RIG SERVICE
09:00 - 11:00	2.00	15	A	P	PRPSPD	PRESSURE TEST ANNULAR, OUTSIDE KIL LINE VALVES, UPPER/ LOWER KELLY COCKS, 1400 KPA LOW / 14000 KPA HIGH. ACCUMULATOR FUNCTION CHECK: ACCUMULATOR PRESSURE BEFORE FUNCTION: 20685 KPA / ACCUMULATOR PRESSURE AFTER FUNCTION: 14140 KPA / RE-CHARGE TIME: 1 MIN. 12 SECONDS
11:00 - 12:00	1.00	06	F	P	PRPSPD	MAKE UP FLAT BOTTOM MILL, BHA, RUN IN TO 35 M.
12:00 - 17:45	5.75	02	C	P	PRPSPD	DRILL OUT CEMENT F/ 35 TO 47.35 M.
17:45 - 19:15	1.50	02	G	P	PRPSPD	MILL BRIDGE PLUG F/ 47.35 - 47.58 M
19:15 - 19:30	0.25	21	B	P	PRPSPD	HELD BOP DRILL, WELL SECURE 90 SECONDS
19:30 - 23:45	4.25	02	G	P	PRPSPD	MILL BRIDGE PLUG F/ 47.58 - 47.83 M
23:45 - 00:00	0.25	07	A	P	PRPSPD	RIG SERVICE, FUNCTION ANNULAR: 7 SECONDS

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL RAT HOLE, WAIT ON ANNULAR ELEMENT. INSTALL ELEMENT, PRESSURE TEST, DRILL CEMENT F/ 35 - 47.35 M. MILL BRIDGE PLUG F/47.58 - 47.58 M.

LOT/FIT			Formation Data		Gas Readings	
EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)	Formation Name	Top (m)	Conn Avg/Max (mg/L)	
		1,000.0			Bkgr Avg/Max (mg/L)	
					Trip Avg/Max (mg/L)	
					H2S (%)	

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/19/2003 Report: 12 DFS: 9.00 DOL: 11.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	140.0		
Stroke (mm)	203.0		
EFF	100.0		
Press (kPa)	910		
SPM	80		
Output (L/mi	749.99		

Volalities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	570 (kPa)	609.36 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1:					
Time/Loc		Ca+			
Depth		K+			
Temp		Polymer			
Density		CaCl2			
ECD		NaCl			
Viscosity		Sand			
PV		Tot. Solids			
YP		% Oil			
GELS		% H2O			
API WL		Oil/H2O			
HTHP WL		HGSolid			
API FC		LGSolid			
MBT		ES			
Lime		Oil Ret			
pH					
Pm					
Pf/Mf					

Comment1:

Mud Products

Additive	# Units
VAN RENTAL	2

Mud Cost

Daily	$120.00
Cumulative	$4,248.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	
DC OD	
DC	
HWDP OD	
HWDP	
BHA	
DP OD	
String Rot Weight	
Pick-Up Weight	
Slack Off Weight	

BHA Desc

Item	OD	Length

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/19/2003
Last BOP Drill	03/18/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Well Name: ANADARKO WEST BOVIE I-76			Date: 03/20/2003	Report: 13	DFS: 10.00	DOL: 12.00	
Event Name: ORIG DRILLING			Spud: 02/23/2003	RR: 03/26/2003			
Rig Name: AKITA 15	TMD:	615.00 (m)	TVD:	615.00 (m)	Progress:	30.00 (m)	
	KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)	
Rig Super: BARRY GOODRICH 403-815-5258	Rot. Hours:	8.00	AV ROP:	3.75	Hole Size:	121.00 (mm)	
Wellsite Eng: AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)	
Daily Cost: 63,058	Cum Cost:	994,531	AFE Est:	1,496,000	AFE No.:	400799	

Current Statur: DRILLING 121 MM HOLE @ 636 M.

24hr Forecast: DRILL 121 MM HOLE, SURVEY

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 03:00	3.00	02	G P	PRPSPD	MILL BRIDGE PLUG F/ 47.83 - 47.94 M.
03:00 - 03:15	0.25	06	A P	PRPSPD	PULL OUT, LAY DOWN MILL,
03:15 - 03:30	0.25	07	A P	PRPSPD	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS TO CLOSE
03:30 - 05:30	2.00	06	A P	PRPSPD	MAKE UP BIT, RUN IN, PICK DRILL STRING TO 557 M. TAG CEMENT @ 557 M.
05:30 - 06:15	0.75	05	A P	PRPSPD	DISPLACE 7.1 M3 INHIBITED FLUID IN ANNULAS TO FRESH WATER, FLUID HAULED TO INTEGRETY DISPOSAL IN FT. ST. JOHN VIA EVEREADY VAC TRUCK.
06:15 - 10:45	4.50	02	C P	PRPSPD	DRILL OUT CEMENT F/ 557 M. TO 571 M. (FLOAT COLLAR) DRILL CEMENT TO 585.5 M. (SHOE)
10:45 - 11:45	1.00	02	B P	DRLPRO	DRILL 121 MM HOLE F/ 585 - 591 M.
11:45 - 12:00	0.25	05	A P	DRLPRO	CIRCULATE HOLE CLEAN
12:00 - 12:15	0.25	15	C P	DRLPRO	CONDUCT FORMATION INTERGETY TEST: HP @ CASING SHOE: 5738 KPA / APPLIED SURFACE PRESSURE: 4850 KPA / TOTAL PRESSURE: 10,588 KPA / PRESSURE GRADIENT: 18.1 KPA/M / EMD: 1845 KG/M3
12:15 - 19:45	7.50	02	B P	DRLPRO	DRILL 121 MM HOLE F/ 591 - 614 M.
19:45 - 20:00	0.25	07	A P	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
20:00 - 20:15	0.25	02	B P	DRLPRO	DRILL 212 MM HOLE F/ 614 - 615 M.
20:15 - 20:45	0.50	05	K P	DRLPRO	CIRCULATE SAMPLE, HOLE CLEAN
20:45 - 22:15	1.50	06	A P	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT FOR BIT. FLOW CHECKS @ 610, 533, 320, 94, OUT OF HOLE. FUNCTION BLIND RAMS: 3 SECONDS TO CLOSE HOLE FILL: CALCULATED: 1.46 M3 / MEASURED: 2.38 M3
22:15 - 00:00	1.75	06	A P	DRLPRO	MAKE UP BIT, RUN IN HOLE. FLOW CHECK @ 357 M. WASH TO BOTTOM F/ 609 - 615 M.

DAILY OPERATIONAL COMMENTS(24hr Summary):
MILL BRIDGE PLUG, POOH, RIH W/ TOOTH BIT TO 557 M. DRILL OUT CEMENT F/557 - 585 M. DRILL 212 MM HOLE TO 591 M. CONDUCT F.I.T. DRILL 121 MM HOLE F/ 591 - 615 M. CIRC HOLE CLEAN, TRIP FOR BIT, MAKE UP BIT, RIH,

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,678	1,030.0

Formation Data

Formation Name	Top (m)
MONTNEY	554.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/20/2003 | Report: 13 | DFS: 10.00 | DOL: 12.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	140.0		
Stroke (mm)	203.0		
EFF	100.0		
Press (kPa)	4,800		
SPM	85		
Output (L/mi	796.86		

Velocities

Drill Pipe	(m/min)	109.0
Drill Collar	(m/min)	117.9
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	2,360 (kP	656.24 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1: GEL CHEM

Time	19:30 / OUT		Ca+ (mg/L)	80	
Depth	(m)	613.00	K+ (mg/L)		
Temp	(°C)	22	Polymer (kg/m³)		
Density	(kg/m³)	1,020	CaCl2 (%)		
ECD	(kg/m³)	1,192	NaCl (%)		
Viscosity	(s/l)	54	Sand (%)	0.100	
PV	(mPa*s)	18.0	Tot. Solids		
YP	(Pa)	7.2	% Oil		
GELS	(Pa)	2.0/3.0/4.0	% H2O		
API WL	(mL)	6.6	Oil/H2O	/	
HTHP WL	(mL)		HGSolid (kg/m³)	7	
API FC	(mm)	1.0	LGSolid (kg/m³)	28.2	
MBT	(kg/m³)	45.0	ES (mV)		
Lime	(kg/m³)		Oil Ret (%)		
pH		11.00			
Pm	(cm³)	0.9			
Pf/Mf	(cm³ / cm³	0.60 / 0.90			

Comment1:

Mud Products

Additive	# Units
VAN RENTAL	2
SERVICE CALL	1
AQUAGEL	55
BARAZAN D PLU	1
CARBONOX	4
PAC R	2
SODA ASH	3

Mud Cost

Daily	$1,837.17
Cumulative	$6,085.00

Bit Data

Bit No.	3	2
Run	4	3
Size (mm)	120.60	121.00
Manu.	R.B.I.	RBI
Type	C15LRGSP	ETD4XP
Serial No.	CD858	SC1264
TFA (mm²)	999.9	999.9
Depth In (m)	615.00	585.00
Depth Out (m)	707.00	615.00
Cum. Depth (m)		30.00
Cum. Hours		7.50
WOB (Min)(daN)		5,000
WOB (Max)(daN)		6,000
RPM (Min)		90
RPM (Max)		105
Cond (IODL)	2/3/WT/A	5/4/WT/A
Cond (BGOR)	4/ I/FC/TQ	E/ I/FC/PR
Jets 1/2/3	20.6/20.6/20.6	20.6/20.6/20.6
Jets 4/5/6		

Pipe Data

Min ID	(mm)	50.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		794.68
DP OD	(mm)	
String Rot Weight	(daN)	18,000
Pick-Up Weight	(daN)	18,000
Slack Off Weight	(daN)	18,000

BHA Desc.: RE-ENTER

Item	Jts	Length
Tri-Cone Bit	1	0.14
Bit Sub	1	0.90
Heavy Weight Drill Pipe	10	92.51
Drilling Jar	1	2.36
Heavy Weight Drill Pipe	20	186.08
Drill Pipe	53	512.69

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/20/2003
Last BOP Drill	03/18/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Printed: 05/16/2003 11:19:48 AM

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/21/2003 | Report: 14 | DFS: 11.00 | DOL: 13.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	703.00 (m)	TVD:	703.00 (m)	Progress:	88.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-5258	Rot. Hours:	22.75	AV ROP:	3.87	Hole Size:	121.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)
Daily Cost:	42,036	Cum Cost:	1,036,568	AFE Est:	1,496,000	AFE No.:	400799

Current Status: DRILLING AHEAD @ 711 M.

24hr Forecast: DRILL 121 MM HOLE , SURVEY

Operations Summary

From - To	Hours	Code	Sub Code	Phase		Description of Operations
00:00 - 02:45	2.75	02	B	P	DRLPRO	DRILL 121 MM HOLE F/ 615 - 623 M.
02:45 - 03:00	0.25	07	A	P	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
03:00 - 08:00	5.00	02	B	P	DRLPRO	DRILL 121 MM HOLE F/ 623 - 642 M.
08:00 - 08:15	0.25	07	A	P	DRLPRO	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
08:15 - 08:30	0.25	10		P	DRLPRO	SURVEY @ 633 M. .75 DEG.
08:30 - 21:00	12.50	02	B	P	DRLPRO	DRILL 121 MM HOLE F/ 642 - 690 M.
21:00 - 21:15	0.25	07	A	P	DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
21:15 - 21:30	0.25	10		P	DRLPRO	SURVEY @ 679 M. .875 DEG.
21:30 - 00:00	2.50	02	B	P	DRLPRO	DRILL 121 MM HOLE F/ 690 - 703 M.

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL 121 MM HOLE F/ 615 - 703 M. SURVEYS @ 633, 679 M.

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,678	1,030.0

Formation Data

Formation Name	Top (m)
GARBUTT	635.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	20/35
Trip Avg/Max (mg/L)	
H2S (%)	

Printed: 05/16/2003 11:19:54 AM

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/21/2003 | Report: 14 | DFS: 11.00 | DOL: 13.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	140.0		
Stroke (mm)	203.0		
EFF	100.0		
Press (kPa)	5,900		
SPM	85		
Output (L/mi	796.86		

Velocities

Drill Pipe	(m/min)	109.0
Drill Collar	(m/min)	117.9
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	3,870 (kP	609.36 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1:	GEL CHEM				
Time	20:00 / OUT		Ca+ (mg/L)	80	
Depth	(m)	690.00	K+ (mg/L)		
Temp	(°C)	26	Polymer (kg/m³)		
Density	(kg/m³)	1,030	CaCl2 (%)		
ECD	(kg/m³)	1,218	NaCl (%)		
Viscosity	(s/l)	54	Sand (%)	0.300	
PV	(mPa*s)	18.0	Tot. Solids		
YP	(Pa)	8.6	% Oil		
GELS	(Pa)	1.5/4.0/6.0	% H2O		
API WL	(mL)	6.6	Oil/H2O	/	
HTHP WL	(mL)		HGSolid (kg/m³)	12	
API FC	(mm)	1.0	LGSolid (kg/m³)	38.1	
MBT	(kg/m³)	54.0	ES (mV)		
Lime	(kg/m³)		Oil Ret (%)		
pH		11.00			
Pm	(cm³)	0.6			
Pf/Mf	(cm³ / cm³	0.30 / 0.70			
Comment1:					

Mud Products

Additive	# Units
VAN RENTAL	2
SERVICE CALL	1
AQUAGEL	5
BARITE	15
CARBONOX	2
PAC R	1
SAWDUST	10

Mud Cost

Daily	$1,117.47
Cumulative	$7,202.00

Bit Data

Bit No.	3	
Run	4	
Size (mm)	120.60	
Manu.	R.B.I.	
Type	C15LRGSP	
Serial No.	CD858	
TFA (mm²)	999.9	
Depth In (m)	615.00	
Depth Out (m)	707.00	
Cum. Depth (m)	88.00	
Cum. Hours	22.75	
WOB (Min)(daN)	5,500	
WOB (Max)(daN)	6,000	
RPM (Min)	70	
RPM (Max)	80	
Cond (IODL)	2/3/WT/A	
Cond (BGOR)	4/ I/FC/TQ	
Jets 1/2/3	20.6/20.6/20.6	
Jets 4/5/6		

Pipe Data

Min ID	(mm)	50.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		794.68
DP OD	(mm)	
String Rot Weight	(daN)	19,000
Pick-Up Weight	(daN)	19,000
Slack Off Weight	(daN)	19,000

BHA Desc: RE-ENTER

Item	Jts	Length
Tri-Cone Bit	1	0.14
Bit Sub	1	0.90
Heavy Weight Drill Pipe	10	92.51
Drilling Jar	1	2.36
Heavy Weight Drill Pipe	20	186.08
Drill Pipe	53	512.69

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/21/2003
Last BOP Drill	03/18/2003

Survey Data

MD (m)	Incl.	Azimuth	TVD (m)	N/S (-) (m)	E/W (-) (m)	Section	DLS (°/30m)	BUR (°/30m)
633.00	0.750	0.000	632.89	10.29	0.92	10.29	0.37	-0.21
679.00	0.875	0.000	678.89	10.94	0.92	10.94	0.08	0.08

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/22/2003 | Report: 15 | DFS: 12.00 | DOL: 14.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	802.00 (m)	TVD:	802.00 (m)	Progress:	99.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-5258	Rot. Hours:	19.00	AV ROP:	5.21	Hole Size:	121.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)
Daily Cost:	41,654	Cum Cost:	1,078,222	AFE Est:	1,496,000	AFE No.:	400799

Current Status: TRIP OUT TO LOG

24hr Forecast: LOG WELL, POSSIBLE DST.

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 01:00	1.00	02	B	P DRLPRO	DRILL 121 MM HOLE F/ 703 - 707 M.
01:00 - 01:30	0.50	05	K	P DRLPRO	CIRCULATE HOLE CLEAN
01:30 - 03:15	1.75	06	A	P DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT FOR BIT. FLOW CHECKS @ 707, 601, 349, 92 OUT OF HOLE HOLE FILL: CALCULATED: 1.63 M3 / MEASURED: 2.19 M3
03:15 - 03:30	0.25	07	A	P DRLPRO	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS TO CLOSE
03:30 - 04:45	1.25	06	A	P DRLPRO	MAKE UP BIT, RUN IN HOLE TO 683 M. FLOW CHECK @ 336 M.
04:45 - 05:00	0.25	03	A	P DRLPRO	BREAK CIRCULATION, WASH TO BOTTOM F/ 683 - 707 M. 3M. FILL
05:00 - 09:30	4.50	02	B	P DRLPRO	DRILL 121 MM HOLE F/ 707 - 730 M.
09:30 - 09:45	0.25	07	A	P DRLPRO	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
09:45 - 10:00	0.25	10		P DRLPRO	SURVEY @ 720 M. 1.25 DEG.
10:00 - 16:45	6.75	02	B	P DRLPRO	DRILL 121 MM HOLE F/ 730 -778 M.
16:45 - 17:00	0.25	07	A	P DRLPRO	RIG SERVICE, FUNCTION ANNULAR: 8 SECONDS TO CLOSE
17:00 - 17:15	0.25	10		P DRLPRO	SURVEY @ 770 M. 1.5 DEG.
17:15 - 00:00	6.75	02	B	P DRLPRO	DRILL 121 MM HOLE F/ 778 - 802 M.

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL 121 MM HOLE F/ 703 - 707 M. TRIP FOR BIT, DRILL 121 MM HOLE F/ 707 - 802 M. SURVEYS @ 720 , 770 M.

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,620	1,040.0

Formation Data

Formation Name	Top (m)
DEBOLT	773.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	16/60
Trip Avg/Max (mg/L)	
H2S (%)	

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Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/22/2003 Report: 15 DFS: 12.00 DOL: 14.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump	F-650	
Liner (mm)	140.0	
Stroke (mm)	203.0	
EFF	100.0	
Press (kPa)	7,530	
SPM	85	
Output (L/mi	796.86	

Velocities

Drill Pipe	(m/min)	109.0
Drill Collar	(m/min)	117.9
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	4,730 (kP	399.99 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1:	GEL CHEM			
Time/Lo	1080 / OI IT		Ca+ (mg/L)	80
Depth	(m)	763.00	K+ (mg/L)	
Temp	(°C)	26	Polymer (kg/m³)	
Density	(kg/m³)	1,050	CaCl2 (%)	
ECD	(kg/m³)	1,234	NaCl (%)	
Viscosity	(s/l)	51	Sand (%)	0.100
PV	(mPa*s)	18.0	Tot. Solids	
YP	(Pa)	9.1	% Oil	
GELS	(Pa)	3.0/6.0/8.0	% H2O	
API WL	(mL)	6.2	Oil/H2O	/
HTHP WL	(mL)		HGSolid (kg/m³)	22
API FC	(mm)	1.0	LGSolid (kg/m³)	57.7
MBT	(kg/m³)	57.0	ES (mV)	
Lime	(kg/m³)		Oil Ret (%)	
pH		10.50		
Pm	(cm³)	0.6		
Pf/Mf	(cm³ / cm³)	0.30 / 0.70		
Comment1:				

Mud Products

Additive	# Units
VAN RENTAL	2
SERVICE CALL	1
BARAZAN D PLU	3
BARITE	12
CARBONOX	1

Mud Cost

Daily	$1,535.12
Cumulative	$6,737.00

Bit Data

Bit No.	4	3
Run	5	4
Size (mm)	120.60	120.60
Manu.	RBI	R.B.I.
Type	C15LRGSP	C15LRGSP
Serial No.	CA501	CD858
TFA (mm²)	999.9	999.9
Depth In (m)	707.00	615.00
Depth Out (m)	804.00	707.00
Cum. Depth (m)	95.00	92.00
Cum. Hours	19.00	23.75
WOB (Min)(daN)	5,000	5,500
WOB (Max)(daN)	6,000	6,000
RPM (Min)	60	70
RPM (Max)	70	80
Cond (IODL)	3/3/WT/A	2/3/WT/A
Cond (BGOR)	E/ I/NO/TD	4/ I/FC/TQ
Jets 1/2/3	20.6/20.6/20.6	20.6/20.6/20.6
Jets 4/5/6		

Pipe Data

Min ID	(mm)	50.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		794.68
DP OD	(mm)	
String Rot Weight	(daN)	19,000
Pick-Up Weight	(daN)	19,000
Slack Off Weight	(daN)	19,000

BHA Desc.: RE-ENTER

Item	Jts	Length (m)
Tri-Cone Bit	1	0.14
Bit Sub	1	0.90
Heavy Weight Drill Pipe	10	92.51
Drilling Jar	1	2.36
Heavy Weight Drill Pipe	20	186.08
Drill Pipe	53	512.69

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/22/2003
Last BOP Drill	03/18/2003

Survey Data

MD (m)	Incl.	Azimuth	TVD (m)	N/S (-) (m)	E/W (-) (m)	Section	DLS (°/30m)	BUR (°/30m)
720.00	1.250	0.000	719.88	11.70	0.92	11.70	0.27	0.27
770.00	1.500	0.000	769.87	12.90	0.92	12.90	0.15	0.15

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/23/2003 | Report: 16 | DFS: 13.00 | DOL: 15.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	804.00 (m)	TVD:	804.00 (m)	Progress:	2.00 (m)
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-5258	Rot. Hours:	1.50	AV ROP:	1.33	Hole Size:	121.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)
Daily Cost:	64,576	Cum Cost:	1,142,797	AFE Est:	1,496,000	AFE No.:	400799

Current Status: TRIP OUT DST TOOLS, UNABLE TO GET PACKER SEAT

24hr Forecast: RUN DST, RUN ABANDONMENT PLUGS.

Operations Summary

From - To	Hours	Code	Sub Code		Phase	Description of Operations
00:00 - 01:30	1.50	02	B	P	DRLPRO	DRILL 121 MM HOLE F/ 802 -804 M. TOTAL DEPTH
01:30 - 02:30	1.00	05	K	P	DRLPRO	CIRCULATE SAMPLE, CIRCULATE HOLE CLEAN
02:30 - 02:45	0.25	10		P	DRLPRO	SURVEY @ 804 M. 1.5 DEG.
02:45 - 03:30	0.75	06	H	P	DRLPRO	FLOW CHECK, WIPER TRIP TO CASING SHOE. FLOW CHECK @ 804, 697 M
03:30 - 04:30	1.00	05	D	P	DRLPRO	CIRCULATE HOLE CLEAN
04:30 - 06:15	1.75	06	C	P	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT TO LOG. FLOW CHECKS @ 804, 698, 398, 146 M. OUT OF HOLE SLM: TALLEY: 791.28 M. / SLM: 790.61 M. HOLE FILL: CALCULATED: 1.84 M3 / MEASURED: 2.36 M3
06:15 - 06:30	0.25	07	A	P	DRLPRO	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS TO CLOSE
06:30 - 11:00	4.50	11	A	P	DRLPRO	RIG UP TUCKER WIRELINE. LOG WELL. RUN 1: GRT-PIT LOGGERS DEPTH: 801.3 MD. @ 07:30 HRS. RUN 2: GRT-CST-CNT
11:00 - 12:15	1.25	06	H	P	DRLPRO	RUN IN HOLE / BIT
12:15 - 13:15	1.00	05	K	P	DRLPRO	WASH 1 SINGLE TO BOTTOM, NO FILL, CIRCULATE, CONDITION HOLE FOR DST.
13:15 - 16:00	2.75	10		P	DRLPRO	RUN GYRO SURVEY ON RIG WIRELINE, UNABLE TO GET PAST DRILLING JAR @ 701 M. SURVEY WITH GYRO F/ 701 - 585 M. PULL OUT GYRO TOOL.
16:00 - 16:15	0.25	07	A		DRLPRO	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
16:15 - 18:15	2.00	06	J	P	DRLPRO	FLOW CHECK, TRIP OUT JARS, LAY DOWN JARS, RUN BACK IN HOLE.
18:15 - 18:30	0.25	05	K	P	DRLPRO	CIRCULATE BOTTOMS UP.
18:30 - 19:45	1.25	10		P	DRLPRO	RUN GYRO SURVEY ON RIG WIRELINE. 788 - 700 M.
19:45 - 20:45	1.00	05	K	P	DRLPRO	CIRCULATE, CONDITION HOLE FOR DST
20:45 - 22:30	1.75	06	H	P	DRLPRO	FLOW CHECK, PUMP PILL, TRIP OUT TO PICK UP DST TOOLS. FLOW CHECKS @ 804, 693, 404, 90 M. OUT OF HOLE HOLE FILL: CALCULATED: 1.84 M3 / MEASURED: 2.49 M3
22:30 - 22:45	0.25	21	A	P	DRLPRO	SAFETY MEETING W/ BAKER OIL TOOL, RIG CREW: MAKE UP TEST TOOLS
22:45 - 00:00	1.25	16	D	P	DRLPRO	PICK UP AND MAKE UP BOTTOM HOLE CONVENTIONAL DST TOOLS.

DAILY OPERATIONAL COMMENTS(24hr Summary):
DRILL 121 MM HOLE F/ 802 - 804 M. TOTAL DEPTH, CIRC. WIPER TRIP TO CSG SHOE, CIRC, POOH, LOG WELL W/ TUCKER WIRELINE, RIH, CIRC. RUN GYRO SURVEY, CIRC, POOH, PICK UP DST TOOLS.

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,563	1,050.0

Formation Data

Formation Name	Top (m)
DEBOLT	773.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/23/2003 | Report: 16 | DFS: 13.00 | DOL: 15.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650	
Liner (mm)	140.0	
Stroke (mm)	203.0	
EFF	100.0	
Press (kPa)	7,640	
SPM	85	
Output (L/mi	796.86	

Velocities

Drill Pipe	(m/min)	109.0
Drill Collar	(m/min)	117.9
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	4,870 (kP	609.36 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1: GEL CHEM

Time	2080 / OUT		Ca+	(mg/L)	
Depth	(m)	804.00	K+	(mg/L)	
Temp	(°C)		Polymer	(kg/m³)	
Density	(kg/m³)	1,050	CaCl2	(%)	
ECD	(kg/m³)		NaCl	(%)	
Viscosity	(s/l)	65	Sand	(%)	
PV	(mPa*s)		Tot. Solids		
YP	(Pa)		% Oil		
GELS	(Pa)		% H2O		
API WL	(mL)	5.0	Oil/H2O		
HTHP WL	(mL)		HGSolid	(kg/m³)	
API FC	(mm)		LGSolid	(kg/m³)	
MBT	(kg/m³)		ES	(mV)	
Lime	(kg/m³)		Oil Ret	(%)	
pH		10.00			
Pm	(cm³)				
Pf/Mf	(cm³ / cm³				

Comment1:

Mud Products

Additive	# Units
VAN RENTAL	2
BARAZAN D PLU	1
BARITE	24

Mud Cost

Daily	$637.62
Cumulative	$9,375.00

Bit Data

Bit No.	4	
Run	5	
Size (mm)	120.60	
Manu.	RBI	
Type	C15LRGSP	
Serial No.	CA501	
TFA (mm²)	999.9	
Depth In (m)	707.00	
Depth Out (m)	804.00	
Cum. Depth (m)	97.00	
Cum. Hours	20.50	
WOB (Min)(daN)	5,000	
WOB (Max)(daN)	6,000	
RPM (Min)	60	
RPM (Max)	70	
Cond (IODL)	3/3/WT/A	
Cond (BGOR)	E/ I/NO/TD	
Jets 1/2/3	20.6/20.6/20.6	
Jets 4/5/6		

Pipe Data

Min ID	(mm)	50.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		792.32
DP OD	(mm)	
String Rot Weight		
Pick-Up Weight		
Slack Off Weight		

BHA Desc.: WIPER TRIP

Item	Jts	Length (m)
Tri-Cone Bit	1	0.14
Bit Sub	1	0.90
Heavy Weight Drill Pipe	30	278.59
Drill Pipe	53	512.69

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/23/2003
Last BOP Drill	03/18/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/24/2003 | Report: 17 | DFS: 14.00 | DOL: 16.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	804.00 (m)	TVD:	804.00 (m)	Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-5258	Rot. Hours:		AV ROP:		Hole Size:	121.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)
Daily Cost:	35,758	Cum Cost:	1,178,555	AFE Est:	1,496,000	AFE No.:	400799

Current Status: CIRCULATE, CONDITION MUD, HOLE FOR ABANDONMENT PLUGS

24hr Forecast: RUN PLUGS, TORT, RIG RELEASE.

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 02:00	2.00	06	E	P EVALPR	RUN IN HOLE W/ BOTTOM HOLE DST TOOLS.
02:00 - 02:30	0.50	16	D	P EVALPR	RIG UP DST HEAD
02:30 - 02:45	0.25	21	A	P EVALPR	HELD SAFEY MEETING W/ RIG CREW, BAKER OIL TOOL & CLOSED CHAMBER
02:45 - 04:00	1.25	16	B	P EVALPR	POSITION TOOL PACKERS @ 770 MD. INFLATE PACKERS. UNABLE TO INFLATE PACKERS AND GET PACKER SEAT, MADE 2 ATTEMPTS.
04:00 - 06:30	2.50	06	E	P EVALPR	TRIP OUT W/ DST TOOLS. FLOW CHECKS @ 788, 411, 206, 30 M. OUT OF HOLE. HOLE FILL: CALCULATED: 3.89 M3 / MEASURED: 4.12 M3
06:30 - 07:30	1.00	16	D	P EVALPR	SERVICE TEST TOOLS, RECOVER RECORDERS, MOVE PACKERS UP 3 METERS TO SET @ 767 MD. MAKE UP TOOLS.
07:30 - 08:00	0.50	06	E	P EVALPR	RUN IN HOLE WITH BOTTOM HOLE DST TOOLS.
08:00 - 08:15	0.25	07	A	P EVALPR	RIG SERVICE, FUNCTION PIPE RAMS: 2 SECONDS TO CLOSE
08:15 - 09:30	1.25	06	E	P EVALPR	RUN IN HOLE W/ BOTTOM HOLE CONVENTIONAL DST TOOLS TO BOTTOM, TOOL OPENED, DRILL PIPE FILLED W/ 300 M. OF DRILLING FLUID.
09:30 - 12:00	2.50	06	E	P EVALPR	FLOW CHECK, TRIP OUT W/ TOOLS. HOLE FILL: CALC: 2.66 M3 / MEASURED: 2.88 M3
12:00 - 14:45	2.75	16	D	P EVALPR	RESET PACKERS FOR TEST INTERVAL @ 772 MD. RECOVER RECORDERS. MAKE UP DST TOOLS FOR BOTTOM HOLE CONVENTIONAL DST.
14:45 - 15:15	0.50	06	E	P EVALPR	RUN IN HOLE HWDP
15:15 - 16:00	0.75	09		P EVALPR	SLIP AND CUT DRILLING LINE.
16:00 - 17:00	1.00	06	E	P EVALPR	RUN IN HOLE W/ BOTTOM HOLE CONVENTIONAL DST
17:00 - 17:15	0.25	21	A	P EVALPR	HELD SAFETY MEETING W/ RIG CREW, BAKER OIL TOOL; DST
17:15 - 21:15	4.00	16	B	P EVALPR	RIG UP TEST HEAD, SET PACKERS @ 772 MD. RUN BOTTOM HOLE CONVENTIONAL DST #1: PRE-FLOW: 15 MIN. ISI: 90 MIN. / FF: 42 MIN. FSI:90 MIN. INITIAL BLOW: CLOSED CHAMBER / FINAL FLOW: CLOSED CHAMBER FOR 15 MIN. OPEN CHAMBER TO VENT TO FLARE PIT, GTS IN 2 MIN. DRILLING FLUID TO SURFACE IN 32 MIN. PRESSURES: IHP: 8381 KPA / PRE-FLOW: START:3144 KPA, END: 6103 KPA / ISI: 8261 PA / START 2ND FLOW: 7942 END 2ND FLOW: 8264 KPA / FHP: 8379 KPA. GAS FLOW: 3.17 MM CHOKE: @ 35 KPA , 181 M3/DAY FLUID RECOVERY: 60 M. WATERY DRILLING FLUID, 703.4 M. SALT WATER. SALINITY: 2000
21:15 - 21:30	0.25	16	B	P EVALPR	PULL PACKERS FREE
21:30 - 22:15	0.75	16	B	P EVALPR	REVERSE CIRCULATE 1.7 M3 FLUID. 60 M. WATERY DRILLING FLUID, 703.5 M FM WATER. TO VAC TRUCK.
22:15 - 00:00	1.75	06	E	P EVALPR	FLOW CHECK, PUMP PILL, TRIP OUT DST TOOLS. HOLE FILL: CALC: 2.26 M3 / MEASURED: 2.41 M3

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,563	1,050.0

Formation Data

Formation Name	Top (m)
DEBOLT	773.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

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Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/24/2003 Report: 17 DFS: 14.00 DOL: 16.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump	
Pump	
Pump	

Mud Check

Type 1:			
Time/Loc		Ca+ (mg/L)	
Depth (m)		K+ (mg/L)	
Temp (°C)		Polymer (kg/m³)	
Density (kg/m³)		CaCl2 (%)	
ECD (kg/m³)		NaCl (%)	
Viscosity (s/l)		Sand (%)	
PV (mPa*s)		Tot. Solids	
YP (Pa)		% Oil	
GELS (Pa)		% H2O	
API WL (mL)		Oil/H2O	
HTHP WL (mL)		HGSolid (kg/m³)	
API FC (mm)		LGSolid (kg/m³)	
MBT (kg/m³)		ES (mV)	
Lime (kg/m³)		Oil Ret (%)	
pH			
Pm (cm³)			
Pf/Mf (cm³ / cm³)			
Comment1:			

Mud Products

Additive	# Units
VAN RENTAL	2
BARITE	12

Mud Cost

Daily	$254.04
Cumulative	$9,629.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID (mm)		
DC OD (mm)		
DC (m)		
HWDP OD (mm)		
HWDP (m)		
BHA		808.79
DP OD (mm)		
String Rot Weight (daN)		18,000
Pick-Up Weight (daN)		18,000
Slack Off Weight (daN)		18,000

BHA Desc.: CONVENTIONAL DST

Item	Jts	Length (m)
DST TOOL	1	20.27
Heavy Weight Drill Pipe	30	278.59
Drill Pipe	52	509.93

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/24/2003
Last BOP Drill	03/18/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/25/2003 | Report: 18 | DFS: 15.00 | DOL: 17.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	804.00 (m)	TVD:	804.00 (m)	Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-5258	Rot. Hours:		AV ROP:		Hole Size:	121.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)
Daily Cost:	120,301	Cum Cost:	1,298,857	AFE Est:	1,495,000	AFE No.:	400799

Current Status: WAIT FOR BJ CEMENT PUMPER

24hr Forecast: RIG OUT, TOP OFF CEMENT PLUG, TORT, RIG RELEASE

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 00:15	0.25	07	A	P EVALPR	RIG SERVICE, FUNCTION BLIND RAMS: 2 SECONDS
00:15 - 00:30	0.25	21	A	P EVALPR	SAFETY MEETING; BAKER OIL TOOL - LAY DOWN TOOLS.
00:30 - 02:00	1.50	16	D	P EVALPR	LAY DOWN DST TOOLS.
02:00 - 03:15	1.25	06	H	P EVALPR	RUN IN 30 JOINTS HWDP, LAY DOWN HWDP
03:15 - 05:15	2.00	06	H	P EVALPR	RUN IN HOLE OPEN END DRILL PIPE, PICK UP 30 JOINTS DP. TO 804 M.
05:15 - 12:00	6.75	05	H	P EVALPR	CIRCULATE CONDITION HOLE, WAIT FOR ORDERS
12:00 - 12:15	0.25	21	A	P EVALPR	SAFETY MEETING W/ BJ CEMENT SERVICES, COMPUTALOG WIRE LINE
12:15 - 13:00	0.75	17		P ABAND	MIX AND PLACE PLUG #1: 804 - 560 MD. 5.5 TONNE "G" + .5% CD-31 + .1% R-3
13:00 - 13:45	0.75	17		P ABAND	LAY DOWN 26 JOINTS DP TO 560 M.
13:45 - 14:30	0.75	17		P ABAND	CIRCULATE OUT 1.5 M3 EXCESS CEMENT
14:30 - 15:00	0.50	17		P ABAND	RUN IN W/ WIRELINE PLUG LOGGING TOOL, PLUG #1 TOP LOGGED @ 551.3 MD.
15:00 - 15:45	0.75	17		P ABAND	MIX AND PLACE PLUG #2: 560 - 280 M. 4.7 TONNE "G" + .5% CD-31
15:45 - 16:45	1.00	17		P ABAND	LAY DOWN 29 JOINTS DP TO 280 M.
16:45 - 17:15	0.50	17		P ABAND	RUN IN W/ WIRELINE, PLUG #2 TOP LOGGED @ 321.5 M. , RUN IN DP TO 319 M.
17:15 - 17:30	0.25	07	A	P ABAND	RIG SERVICE,
17:30 - 18:00	0.50	17		P ABAND	MIX AND PLACE PLUG #3: 319 - SURFACE: 4.7 TONNE " G " + .5% CD-31 + 2.0% A-11
18:00 - 18:45	0.75	17		P ABAND	LAY DOWN 28 JOINTS DP
18:45 - 19:00	0.25	17		P ABAND	RUN IN W/ WIRELINE, PLUG #3 TOP LOGGED @ 100.5 M.
19:00 - 00:00	5.00	01	C	P ABAND	CLEAN MUD TANKS, CLEAN RIG, RIG OUT. WAIT FOR BJ CEMENT PUMPER TO TOP UP ABANDONMENT PLUGS TO SURFACE.

DAILY OPERATIONAL COMMENTS(24hr Summary):
LAY DOWN TEST TOOLS, RIH HWDP, LAY DOWN SAME, RIH W/ OPEN END DP TO 804 M. CIRC, WAIT FOR ORDERS, RUN ABAND. PLUGS. PLUG#1 804 - 560 M. PLUG#2: 560 - 280 M. PLUG #3: 280 - SURFACE. LOG PLUG TOPS, CLEAN TANKS, RIG OUT WAIT FOR CEMENTERS TO TOP UP PLUG

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,563	1,050.0

Formation Data

Formation Name	Top (m)
DEBOLT	773.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/25/2003 | Report: 18 | DFS: 15.00 | DOL: 17.00

Event Name: ORIG DRILLING | Start: 02/23/2003 | End: 03/26/2003

Pump Data

Pump	F-650		
Liner (mm)	140.0		
Stroke (mm)	203.0		
EFF	100.0		
Press (kPa)	5,920		
SPM	85		
Output (L/mi	796.86		

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump F-650	3,900 (kP	618.74 (L/min)
Pump	(kPa)	(L/min)
Pump	(kPa)	(L/min)

Mud Check

Type 1:

Time/Loc		Ca+ (mg/L)	
Depth (m)		K+ (mg/L)	
Temp (°C)		Polymer (kg/m³)	
Density (kg/m³)		CaCl2 (%)	
ECD (kg/m³)		NaCl (%)	
Viscosity (s/l)		Sand (%)	
PV (mPa*s)		Tot. Solids	
YP (Pa)		% Oil	
GELS (Pa)		% H2O	
API WL (mL)		Oil/H2O	
HTHP WL (mL)		HGSolid (kg/m³)	
API FC (mm)		LGSolid (kg/m³)	
MBT (kg/m³)		ES (mV)	
Lime (kg/m³)		Oil Ret (%)	
pH			
Pm (cm³)			
Pf/Mf (cm³ / cm³			

Comment1:

Mud Products

Additive	# Units
VAN RENTAL	2
DETERGENT	1

Mud Cost

Daily	$157.23
Cumulative	$9,786.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	(mm)	50.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		792.32
DP OD	(mm)	
String Rot Weight		
Pick-Up Weight		
Slack Off Weight		

BHA Desc.: WIPER TRIP

Item	Jts	Length (m)
Tri-Cone Bit	1	0.14
Bit Sub	1	0.90
Heavy Weight Drill Pipe	30	278.59
Drill Pipe	53	512.69

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/25/2003
Last BOP Drill	03/18/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 | Date: 03/26/2003 | Report: 19 | DFS: 16.00 | DOL: 18.00
Event Name: ORIG DRILLING | Spud: 02/23/2003 | RR: 03/26/2003

Rig Name:	AKITA 15	TMD:	804.00 (m)	TVD:	804.00 (m)	Progress:	
		KB:	308.00 (m)	GL:	303.30 (m)	KB to GL:	4.70 (m)
Rig Super:	BARRY GOODRICH 403-815-52584	Rot. Hours:		AV ROP:		Hole Size:	121.00 (mm)
Wellsite Eng:	AIDAN CAMPBELL	Last Casing:	139.7 (mm)	Shoe TMD:	584.50 (m)	Shoe TVD:	584.50 (m)
Daily Cost:	50,709	Cum Cost:	1,349,566	AFE Est:	1,496,000	AFE No.:	400799

Current Status: WAIT FOR DAYLITE AND TRUCKS FOR RIG MOVE

24hr Forecast: MOVE RIG TO RACK SITE.

Operations Summary

From - To	Hours	Code	Sub Code	Phase	Description of Operations
00:00 - 10:45	10.75	01	C	S RDMO	CLEAN MUD TANKS, TORT. PICK UP 13 SINGLES RUN IN 120 M. WAIT FOR CEMENT UNIT. BREAK DOWN KELLY, KELLY DRIVE AND LAY DOWN.
10:45 - 11:00	0.25	21	A	S RDMO	HELD SAFETY MEETING W/ RIG CREW, BJ
11:00 - 11:15	0.25	17		S RDMO	MIX AND PUMP 3 TONNE "G" NEAT CEMENT TO TOP OFF ABANDONMENT PLUG. CEMENT BACK TO SURFACE.
11:15 - 18:00	6.75	01	B	S RDMO	T.O.R.T. LAY DOWN DERRICK, CLEAN RIG, GET RIG READY FOR RIG MOVE TO RACK SITE. RIG RELEASE @ 18:00 HRS. MAR. 26 /2003
18:00 - 00:00	6.00	01	B	S RDMO	T.O.R.T.

DAILY OPERATIONAL COMMENTS(24hr Summary):
CLEAN MUD TANKS, RIG, TOP UP CMEENT PLUG TO SURFACE W/ 2.2 M3 "G" NEAT CEMENT, TORT, RIG RELEASE @ 18:00 HRS. 3/26/2003

LOT/FIT

EMW (kg/m³)	MAASP (kPa)	Max Mud Wt (kg/m³)
1,845.1	4,563	1,050.0

Formation Data

Formation Name	Top (m)
DEBOLT	773.00

Gas Readings

Conn Avg/Max (mg/L)	
Bkgr Avg/Max (mg/L)	
Trip Avg/Max (mg/L)	
H2S (%)	

Anadarko Canada Corporation

Daily Drilling Report

Well Name: ANADARKO WEST BOVIE I-76 Date: 03/26/2003 Report: 19 DFS: 16.00 DOL: 16.00

Event Name: ORIG DRILLING Start: 02/23/2003 End: 03/26/2003

Pump Data

Pump			
Liner			
Stroke			
EFF			
Press			
SPM			
Output			

Velocities

Drill Pipe	(m/min)	
Drill Collar	(m/min)	
Riser	(m/min)	
Lag Time	(min)	

Slow Pump

Pump	
Pump	
Pump	

Mud Check

Type 1:

Time/Loc		Ca+ (mg/L)	
Depth (m)		K+ (mg/L)	
Temp (°C)		Polymer (kg/m³)	
Density (kg/m³)		CaCl2 (%)	
ECD (kg/m³)		NaCl (%)	
Viscosity (s/l)		Sand (%)	
PV (mPa*s)		Tot. Solids	
YP (Pa)		% Oil	
GELS (Pa)		% H2O	
API WL (mL)		Oil/H2O	
HTHP WL (mL)		HGSolid (kg/m³)	
API FC (mm)		LGSolid (kg/m³)	
MBT (kg/m³)		ES (mV)	
Lime (kg/m³)		Oil Ret (%)	
pH			
Pm (cm³)			
Pf/Mf (cm³ / cm³)			

Comment1:

Mud Products

Additive	# Units

Mud Cost

Daily	$0.00
Cumulative	$9,786.00

Bit Data

Bit No.		
Run		
Size		
Manu.		
Type		
Serial No.		
TFA		
Depth In		
Depth Out		
Cum. Depth		
Cum. Hours		
WOB (Min)		
WOB (Max)		
RPM (Min)		
RPM (Max)		
Cond (IODL)		
Cond (BGOR)		
Jets 1/2/3		
Jets 4/5/6		

Pipe Data

Min ID	(mm)	50.000
DC OD	(mm)	
DC	(m)	
HWDP OD	(mm)	
HWDP	(m)	
BHA		792.32
DP OD	(mm)	
String Rot Weight		
Pick-Up Weight		
Slack Off Weight		

BHA Desc.: WIPER TRIP

Item	Jts	Length (m)
Tri-Cone Bit	1	0.14
Bit Sub	1	0.90
Heavy Weight Drill Pipe	30	278.59
Drill Pipe	53	512.69

Safety Drills

Last BOP Test (P)	03/18/2002
Last BOP Test (F)	03/25/2003
Last BOP Drill	03/18/2003

Survey Data

MD	Incl.	Azimuth	TVD	N/S (-)	E/W (-)	Section	DLS	BUR

Anadarko Canada Corporation

Well Summary Report

Legal Name: ANADARKO WEST BOVIE I-76
Common Name: WEST BOVIE I-76

Well Location

Country: CANADA
API #: Well ID: State/Prov: NORTHWEST TERRITORIES County:
Location: 300/I- 76 Lat: 60° 20' Long: 123° 0'
Field Name: CHINKEH
Block: Slot No: Platform:
License No: 1986 License Date: 02/20/2003 Licensee: ACE
Spud Date/Time:02/23/2003 - 22:15 P&A Date:

Surface / Bottom Hole Coordinates

	Surface Location	Bottom Hole Location
Latitude:	60.25972	
Longitude:	-123.22278	
Distance North/(-)South:	(m)	(m)
Distance East/(-)West:	(m)	(m)
Measured From:		

Reference Elevations

Permanent Datum: KELLY BUSHING Datum Elev: 308.00 (m)
Kelly Bushing: 308.00 (m) Water TMD: 100.00 (m)
Ground Level/Mudline:303.30 (m) Measured Depth:
Casing Flange: 304.14 (m) Date Measured: TVD:
Tubing Hanger: Date Measured: Plugback TMD:
KB to Datum: Fill: (m)
KB to GL/Mudline: 4.70 (m) / 3.86 (m) Deviated Well: V

Operator / Well Information

Operator: ANADARKO CANADA ENERGY LTD.
Region: FORT ST. JOHN Division: District: NWT
Well Type: NEW Status: ABANDONED
Geological Play:
Authorized TVD: 555.00 (m) Authorized TMD: 555.00 (m)

Event Summary

Event Type	Objective	Start Date	End Date	Auth. Cost	Last Est.
ORIG DRILLING	EXPLORATORY DRILLING	02/21/2003	03/27/2003		02/21/2003

Baroid

Anadarko Canada Corporation

Baroid Drilling Fluids

Post Well Audit

ANADARKO et al Ft Liard

I-76 Re-entry

May 20, 2003

HALLIBURTON

Post Well Audit

Operator	Anadarko
Well Name	ACC West Bovie I-76 Re-entry
Field / Block	Arrowhead/I-76
Country	Canada
Legal Description	I-76
Geographic Area / County	
District	Fort Liard
Contractor	AKITA Drilling Ltd
Rig Name	Akita 15
Recap Date	5/20/2003
Reference Number	
Prepared By	Allen Toney

Well: ACC West Bovie I-76 Re-entry
Operator: Anadarko

Cover Letter

Anadarko Canada Corporation
400, 425 - 1st Street S.W.
Calgary, Alberta, T2P 4V4

Re: ACC Fort Liard I-76

Mr. Aiden Campbell,

The following post well audit summarizes the activities of Baroid of Canada Drilling Fluids during drilling of this ACC Fort Liard well. The activities surrounding the operations of the drilling fluid are documented along with the associated costs to Anadarko. These costs are field estimates and additional incidental costs are included in the original invoice generated by the Halliburton accounting department. If any discrepancies in the cost of products and services are apparent between this document and the original invoice, please consider the original invoice to be correct.

Thank you,

Allen R. Toney,

Technical Professional
BAROID
1000, 333 - 5 Avenue SW
Calgary, Alberta T2P 3B6

Office: (403) 260-8602
Fax: (403) 263-9355
Cell: (403) 650-7178
e-mail: al.toney@halliburton.com

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Well Summary

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Well Data

Spud Date		Mar/17/03	Products/Fluids Drilling Cost		$1,784.00
TD Date		Mar/27/03	Products/Fluids Completion Cost		$0.00
Project			Solids Control/ Waste Management Cost		$0.00
Days on Well		5	Products/Fluids Cementing Cost		$0.00
From Date		Mar/17/03	Products Lost/Damaged Cost		$0.00
To Date		Mar/22/03	Engineering Services Cost		$2,100.00
Drilling Days		1	Equipment Cost		$0.00
Rotating Hours		19.75	Transport / Packaging		$0.00
Average ROP	m/hr	41.2	Other Cost		$0.00
Maximum Density	kg/m3	1,050	Total Well Cost		$3,884.00
Total Measured Depth	m	804.0	Planned Cost		$0.00
True Vertical Depth	m	804.0	Cost per Fluid Volume	$ / m3	87.36
Distance Drilled	m	804.0	Cost per m Drilled	$ / m	4.83
Maximum Deviation	degrees	1.25	Cost / Volume of Hole Drilled	$ / m3	420.13
Maximum Horiz. Displacement	m	0.0	Fluid Volume / Hole Volume	m3 / m3	4.809
Bottom Hole Temperature	Deg C		Fluid Volume / Length Drilled	m3/m	0.060

Casing Design

Casing Description	Set Date and Time	Top MD m	Top TVD m	End MD m	End TVD m	Csg OD mm	Csg ID mm	Hole Size mm	Hole MD m	Hole TVD m
5.5 J-55 14.0	03/20/2003 01:00	0.0	0.0	584.5	584.5	139	127	200	584.5	584.5

Mud Program

Interval #	Mud Type	Interval Days	BHT Deg C	Max. Dens kg/m3	Planned Fluid Cost	Actual Fluids and Products Cost	Variance
01	AQUAGEL Mud	6		1,050	$ 0.00	$ 1,784.00	$ 1,784.00

Total Cost Breakdown

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Material	Unit Size	Quantity	Total Cost
Engineering/Services			
Drilling Fluids Engineer	Day(s)	4.00	$ 2,100.00
		Subtotal	**$ 2,100.00**
Prod/Fluids : Drilling			
AQUAGEL	45 Kg bag	60.00	$ 488.40
BARAZAN D PLUS	25 lb bag	2.00	$ 499.08
barite	40 Kg bag	27.00	$ 301.59
CARBONOX	50 lb bag	4.00	$ 29.84
PAC-R	50 lb bag	2.00	$ 425.40
soda ash	25 Kg bag	3.00	$ 39.69
		Subtotal	**$ 1,784.00**
		Total Well Cost	**$ 3,884.00**

Net Well Cost Breakdown

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Cost Breakdown I	$	Interval 01	Total
Fluids/Products : Drilling		1,784.00	1,784.00
Fluids Products : Comp/Filtration			
Solids Control/Waste Managment			
Fluids/Products : Cementing			
Engineering Services		2,100.00	2,100.00
Fluids/Products : Lost Damaged			
Other Cost			
Equipment cost			
Transport / Packaging Cost			
Total Cost		3,884.00	3,884.00

Cost Breakdown II	$	Interval 01	Total
Total Products Cost		1,784.00	1,784.00
Total Fluids Cost			
Total Charges Cost		2,100.00	2,100.00
Total Cost		3,884.00	3,884.00
Planned Cost			
Variance		3,884.00	3,884.00

Volumes Breakdown	m3	Interval 01	Total
Total Base Fluids Additions			
Total Chemical Additions		1.21	1.21
Total Barite Additions		0.25	0.25
Total Water Additions		43.00	43.00
Total Fluid Built		44.46	44.46
Total Fluids Received			
Total Mixing Additions			
Total Influx Additions			
Total Other Additions			
Total Fluid Volume		44.46	44.46

Products List

Well : ACC West Bovie I-76 Re-entry

Operator: Anadarko

Product Name	Product Primary Function	Packaging	SG	Unit Price
AQUAGEL	Viscosifier/Suspension Agent	45 Kg bag	2.500	$ 8.14
BARAFOS	Thinner/Deflocculant	23 Kg bag	1.500	$ 90.90
barite	Weighting Material	40 Kg bag	4.200	$ 11.17
BAROID DETERGENT	Detergent/Surfactanct	20 l pail	1.000	$ 37.23
BARAZAN D PLUS	Viscosifier/Suspension Agent	25 lb bag	1.600	$ 249.54
bicarbonate of soda	Alkalinity Control	50 lb bag	2.200	$ 28.45
CARBONOX	Filtration Control	50 lb bag	1.700	$ 7.46
caustic soda	Alkalinity Control	25 Kg bag	2.130	$ 44.09
Desco CF	Thinner/Deflocculant	25 lb bag	0.500	$ 72.33
BARO-SEAL MEDIUM	Lost Circulation/Bridging Agent	16 Kg bag	1.100	$ 25.63
PAC-R	Filtration Control	50 lb bag	1.600	$ 212.70
sawdust	Lost Circulation/Bridging Agent	20 lb bag	0.900	$ 3.66
soda ash	Alkalinity Control	25 Kg bag	2.533	$ 13.23
Cellophane (Cellophane)	Lost Circulation/Bridging Agent	11 Kg bag	0.000	$ 49.75

Conclusions & Recommendations

311 mm - Surface Hole - AQUAGEL Mud - 0 to 161 m

Conclusions:

Use of BARAFOS and BAROID Drilling Detergent, as well as careful drilling practices, were employed to avoid mud rings. Lost circulation was manageable with the materials at hand. The 219.1-mm casing was run and cemented without difficulty.

Recommendations:

Highly reactive clays associated with mud rings and bit balling should be expected and pretreated for in this area. When spudding with water is not a viable option, spud with a low viscosity AQUAGEL slurry, and control ROP through the first 150-m of surface hole. Consider using concentrated BARAFOS / Detergent pills in whole mud or water, but avoid over treatment with BARAFOS (SAPP), which can promote wellbore washout, or Detergent which can cause foaming. Over treatment with either BARAFOS or Detergent may cause failure of environmental tests for disposal. As another alternative, consider using WALL-NUT pills in whole mud to mechanically erode reactive clays from the bit and string.

200 mm - Main Hole - AQUAGEL Mud - 161 m to 543 m

Conclusions:

No problems with drilling fluid properties were reported and the interval was drilled according to program, and or the drilling foreman's direction as no Baroid mud supervision was required. The hole was cored at 543 m without problems. TD was later achieved at 585 m and the 139.7-mm casing was run and cemented without difficulty.

Recommendations:

Continue to employ PAC and CARBONOX to maintain a tight, slick filter cake from spud to TD. Maintain solids content as low as possible with all available solids control equipment, the use of BARAZAN D PLUS to provide better low end hole cleaning ability and better particle suspension for tripping and running casing.

121 mm - Main Hole re-entry - AQUAGEL Mud - 543 m to 804 m

No problems with drilling fluid properties were reported and the interval was drilled according to program, and or the drilling foreman's direction as no Baroid mud supervision was required. TD was achieved at 804 m and three cement plugs were run.

Recommendations:

Conclusions & Recommendations

Continue to employ PAC and CARBONOX to maintain a tight, slick filter cake from spud to TD. Maintain solids content as low as possible with all available solids control equipment, the use of BARAZAN D PLUS to provide better low end hole cleaning ability and better particle suspension for tripping and running casing.

Interval Summary

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Interval # 01	Bit Size 121 mm	Hole Size Maximum 121.00 mm

Interval Start Date		Mar/17/2003	Planned Cost	$	0.00
Interval End Date		Mar/22/2003	Total Interval Cost	$	3,884.00
Interval TD Date		Mar/22/2003	Programmed Variance	$	3,884.00
Drilling Days		1.00	Total Products Cost	$	1,784.00
Rotating / Drilling Hours		19.75 / 19.50	Total Fluids Cost	$	0.00
Top of Int. MD/TVD	m	0.0 /	Total Charges Cost	$	2,100.00
End of Int. MD/TVD	m	804.0 / 804.0	Total Cementing Cost	$	0.00
Footage	m	804.0	Fluid Cost per Vol unit	$/m3	86.80
Average ROP	m/hr	41.2	Fluid Cost / Hole Drilled	$/m	4.83
Max. Hole Angle	degrees	1.25	Fluid Cost / Vol Drilled	$/m3	1,529.05
Casing Size	mm	139	Total Fluid Volume	m3	44.46
Casing Shoe MD	m	584.5	Vol Fluid / Vol Drilled	m3/m3	17.62
Casing Length	m	584.5	Vol Fluid / Hole Drilled	m3/m	0.06
Bottom Hole Temp.	Deg C	-18	Fluid Loss / Vol Drilled	m3/m3	0.91
Max. Fluid Density	kg/m3	1,050	Fluid Loss / Hole Drilled	m3/m	0.00

Interval Products and Base Fluids Usage and Cost

Product Function / Name	Packaging	Drilling Fluid	Total Used	Product Cost
Alkalinity Control				
soda ash	25 Kg bag	AQUAGEL Mud	3.00	$ 39.69
			Total	**$ 39.69**
Filtration Control				
PAC-R	50 lb bag	AQUAGEL Mud	2.00	$ 425.40
CARBONOX	50 lb bag	AQUAGEL Mud	4.00	$ 29.84
			Total	**$ 455.24**
Viscosifier/Suspension Agent				
BARAZAN D PLUS	25 lb bag	AQUAGEL Mud	2.00	$ 499.08
AQUAGEL	45 Kg bag	AQUAGEL Mud	60.00	$ 488.40
			Total	**$ 987.48**
Weighting Material				
barite	40 Kg bag	AQUAGEL Mud	27.00	$ 301.59
			Total	**$ 301.59**

Total Products and Base Fluids Cost	**$**	**1,784.00**

Well: ACC West Bovie I-76 Re-entry
Operator: Anadarko

Interval Discussion

Interval No: 1

Top of Interval: m
Bottom of Interval: 804.0 m

311 mm Surface Hole to 161 m.

Drilling Fluid: AQUAGEL Caustic

Formations: Ground water

Objectives:

Drill to 219.1 mm casing point at approx. 161m
Achieve optimum ROP
Improve hole cleaning practices and capabilities
Maintain wellbore stability
Be prepared for possible water influx, mud rings, or losses
Drill the interval without incident and as planned within cost and time estimates

Summary:

Spudded the 311-mm hole on March 23, 2003. Drilled this interval with bit 1 to 161 m.

Please Note - that no mud checks were called for during this well and no problems with fluid properties were reported.

Issues Discussion:

Encountered mud ring at 41 m where it was dispersed with SAPP.

Fluid Properties Summary:

No problems with fluid properties were reported. Interval was drilled according to program.

Maintenance Treatments:

AQUAGEL was mixed to build and maintain viscosity. Caustic Soda was mixed for alkalinity. PAC R was mixed to help lower filtration rate. BARAFOS (SAPP) and BAROID Drilling Detergent were mixed to treat and avoid mud rings. CARBONOX was mixed to tighten the filtercake and control the filtration rate.

Interval Inventory Report

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Interval #	**01**	**From Report Date**	**3/17/2003**	**Top of Interval**	**0.0 m**
Hole Size	**121 mm**	**To Report Date**	**3/22/2003**	**Bottom of Interval**	**804.0 m**

Product Name	Unit	Starting	Received	Used	Returned	Ending	Weight kg
AQUAGEL	45 Kg bag		220.00	60.00			
BARAFOS	23 Kg bag		1.00				
BARAZAN D PLUS	25 lb bag		10.00	2.00		8.00	90.7
barite	40 Kg bag		471.00	27.00		444.00	17,759.8
BAROID DETERGENT	20 l pail		14.00				
BARO-SEAL MEDIUM	16 Kg bag		116.00				
CARBONOX	50 lb bag		46.00	4.00			
caustic soda	25 Kg bag		21.00				
Cellophane (Cellophane)	11 Kg bag		99.00				
Desco CF	25 lb bag		9.00				
PAC-R	50 lb bag		33.00	2.00			
sawdust	20 lb bag		190.00				
soda ash	25 Kg bag		18.00	3.00			

Total Weight of Products In Stock, kg **17,850.5**
Total Weight of Products In Stock, Metric Tons **17.85**

Interval Chemical Concentrations

Well : ACC West Bovie I
Operator: Anadarko

Interval #	**01**	**From Report Date**	**3/17/2003**	**Top of Interval**	**0.0 m**
Hole Size	**121 mm**	**To Report Date**	**3/22/2003**	**Bottom of Interval**	**804.0 m**

Fluid Name: **AQUAGEL Mud**

Material	Average kg/m3	Minimum kg/m3	Maximum kg/m3
AQUAGEL	59.44	54.90	62.52
BARAZAN D PLUS	0.35	0.26	0.52
bante	19.70	14.29	25.11
CARBONOX	1.77	1.11	2.12
PAC-R	0.88	0.55	1.06
soda ash	1.75	1.68	1.83

Interval Cost Breakdown

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Interval #	**01**	**From Report Date**	**3/17/2003**	**Top of Interval**	**0.0 m**
Hole Size	**121 m**	**To Report Date**	**3/22/2003**	**Bottom of Interval**	**804.0 m**

Material	Unit Size	Quantity	Total Cost
Engineering/Services			
Drilling Fluids Engineer	Day(s)	4.00	$ 2,100.00
		Subtotal	**$ 2,100.00**
Prod/Fluids : Drilling			
AQUAGEL	45 Kg bag	60.00	$ 488.40
BARAZAN D PLUS	25 lb bag	2.00	$ 499.08
barite	40 Kg bag	27.00	$ 301.59
CARBONOX	50 lb bag	4.00	$ 29.84
PAC-R	50 lb bag	2.00	$ 425.40
soda ash	25 Kg bag	3.00	$ 39.69
		Subtotal	**$ 1,784.00**
		Interval Cost	**$ 3,884.00**
		Programmed Cost	**$ 0.00**
		Programmed Variance	**$ 3,884.00**

Fluid Volume Record

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Interval # 01

		m3	ADDITIONS m3							LOSSES m3					VOLUMES m3			
Rpt #	Rpt Date	Initial Volume	Received & Mixed	Base	Water	Barite	Chem	Influx	Daily Total	SCE	Down Hole	Misc	Returned & Mixed	Daily Total	Hole Volume	Active Pits Volume	Reserve Pits Volume	Final Volume
Fluid Name: AQUAGEL Mud																		
002	3/20/2003				40.00		0.99		40.99	1.35				1.35	6.33	33.30		39.63
003	3/21/2003	39.63			2.00	0.14	0.22		2.37	0.23				0.23	7.07	34.70		41.77
004	3/22/2003	41.77			1.00	0.11			1.11	0.71				0.71	7.77	34.40		42.17
	Cummulative Volumes:				43.00	0.30	1.20		44.50	2.30				2.30				

Fluid Property Recap:Water-Based Fluid

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Date	Depth	FL Temp	Density	Fun Visc	Rheology @ 48.89C					Filtration				Filtrate Analysis						Sand	Retort Analysis				MBT	Rheometer Dial Reading					
					PV	YP	Gels Pa			API ml/30 min	HTHP ml/30 min	Cake API/HTHP mm	Temp	pH	Pm ml	Pf ml	Mf ml	Cl mg/l	Total Hard mg/l	% by Vol	Corr Sol % by Vol	LGS % by Vol	Oil % by Vol	Water% by Vol							
	m	Deg C	kg/m3	sec/l	mPa.		10s	10m	30m				Deg C												kg/m3	600	300	200	100	6	3
03/20/03	613.0	22	1020	54	18	7	2	3	4	6.6		1.0		11.00	0.90	0.60	0.90	300	80	0.10	1.20	1.1		98.5	45.00	51	33	26	17	5.0	3.0
03/21/03	690.0	26	1030	54	18	9	2	4	6	6.6		1.0		11.00	0.60	0.30	0.70	300	80	0.30	1.70	1.5		98.0	54.00	54	36	28	18	4.0	3.0
03/22/03	763.0	26	1050	51	18	9	3	6	8	6.2		1.0		10.50	0.60	0.30	0.70	300	80	0.10	2.80	2.2		97.0	57.00	55	37	29	19	6.0	3.0

Fluid Program Exceptions Report

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Report No	Date	Time	Depth m	Property Name	Units	Actual Value	Exception	Program Min	Program Max
002	03/20/03	19:30	613	pH	-	11.00	High	9.50	10.00
002	03/20/03	19:30	613	API Filtrate	ml/30 min	6.6	Low	8.0	10.0
002	03/20/03	19:30	613	Plastic Viscosity	mPa.s	18	High	10	16
002	03/20/03	19:30	613	Density	kg/m3	1,020	Low	1,040	1,100
003	03/21/03	20:00	690	pH	-	11.00	High	9.50	10.00
003	03/21/03	20:00	690	API Filtrate	ml/30 min	6.6	Low	8.0	10.0
003	03/21/03	20:00	690	Yield Point	Pa	8.6	High	5.0	8.0
003	03/21/03	20:00	690	Plastic Viscosity	mPa.s	18	High	10	16
003	03/21/03	20:00	690	Density	kg/m3	1,030	Low	1,040	1,100
004	03/22/03	14:30	763	pH	-	10.50	High	9.50	10.00
004	03/22/03	14:30	763	API Filtrate	ml/30 min	6.2	Low	8.0	10.0
004	03/22/03	14:30	763	Yield Point	Pa	9.1	High	5.0	8.0
004	03/22/03	14:30	763	Plastic Viscosity	mPa.s	18	High	10	16

Well: ACC West Bovie I-76 Re-entry
Operator: Anadarko

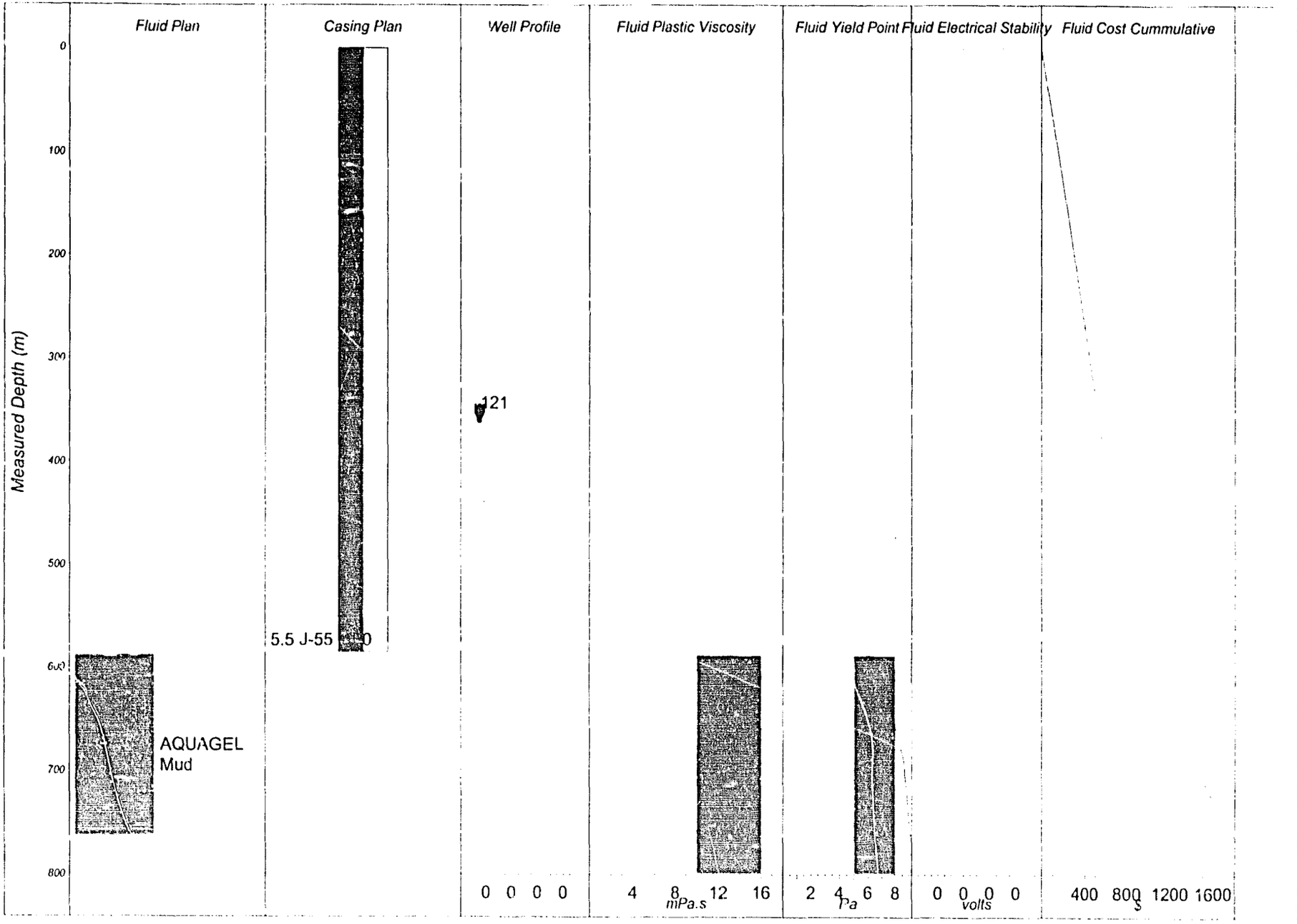
Operations Log Recap

For report #001A on 3/17/2003	**Operation at depth(m) 0**
Activity	Nipple up B.O.P.
Rig Activity	Nipple up rig Akita 15 to re-enter Anadarko West Bovie I-76. Mud up with new Gel Chem system.
Fluid Treatments	1) Maintain viscosity at 40 - 50 sec/l add AQUAGEL:BARAZAN at 10:1 sack ratio. 2) Adjust ph to 9.5 - 10.5. For initial cement contamination mix 2-4 sack soda ash to decrease hardness to <100 ppm. While drilling cement run centrifuge and fine (175 or 200)mesh shaker screens. If you feel the hole is not clean pump a 3 m3 high viscosity (80-100 sec/l) AQUAGEL pill 3) For extra filtrate control add CARBONOX:PAC-R at 2:1 sack ratio. 4) To increase density make sure viscosity is greater than 42 sec/l and add barite. To increase density of 50 m3 by 20 kg/m3 requires 26.8 kg/m3 or 34 sack.
For report #002A on 3/20/2003	**Operation at depth(m) 613**
Activity	Drilling
Rig Activity	Complete nipple up and pressure testing. Trip in hole and mill bridge plug at 47.8 meter using water. Trip out mill and run bit 1 to drill cement and shoe track from 557.5 meters. Mud up to Gel Chemical mud system
Fluid Treatments	1) Treat cement contamination with 2-4 sack soda ash. 2) Run as fine shaker screen as possible. Run centrifuge at all times for minimum mud density. 3) Add 45-50 sack AQUAGEL into active system for 38-42 viscosity. 4) For filtrate control add CARBONOX:PAC R at 2:1 sack ratio to reduce filtrate to <6 ml. 5) Should extra viscosity be required mix 2 sack BARAZAN and thereafter 10:1 sack ratio of AQUAGEL:BARAZAN. Add BARAZAN at 50 minutes per sack. Maintain 45-55 sec/l viscosity.
For report #003A on 3/21/2003	**Operation at depth(m) 690**
Activity	Drilling
Rig Activity	Drill to 615 meters, trip for bit change, trip in hole and drill.
Fluid Treatments	1)Viscosity 45-55 sec/l using 10:1 sack ratio of AQUAGEL:BARAZAN. The next mix should be BARAZAN, use 1/4 sack per circulation. 2) Density as low as possible use centrifuge at all times. Cuttings on marsh funnel is a good indicator of damaged shaker screens. 3) Filtrate <6 ml use 2:1 sack ratio of CARBONOX:PAC-R mixed over 4 circulation. 4) PH at 9.5-10.5 with caustic soda, no treatment required at the moment. 5) MBT (reactive clay) should be between 45 to 55 kg/m3, to increase add AQUAGEL to decrease add water.
For report #004A on 3/22/2003	**Operation at depth(m) 763**
Activity	Drilling
Rig Activity	Drill to 707 meters, circulate hole clean, trip for bit change. Wash 3 m fill on bottom and drill to 804m. Circulate, hoist to log, log, wait on orders. Run DST, rih, circ, hoist to laydown bha. Run in open ended, plug back hole.
Fluid Treatments	1) Viscosity 45-55 sec/l while drilling, for logging and testing increase viscosity to >80 sec/l. To Increase viscosity add 2-3 sack BARAZAN. 2) Density at minimum or as Engineer requests, run centrifuge at all times. 3) Filtrate <6 ml by adding 2:1 sack ratio of CARBONOX:PAC-R. 4) To thin the mud if needed, add CARBONOX and water.

Well Profile vs Properties and Cost

Well : ACC West Bovie I-76 Re-entry

Operator : Anadarko



Baroid Drilling Fluids

Printed On 5/20/2003

Bit Record

Well : ACC West Bovie I-76 Re-entry

Operator: Anadarko

Run No	Bit No	Bit Size mm	Bit Manufacturer	Bit Type	Bit Style	IADC Code	Serial No	Jet or TFA	Depth Out m	Run Length m	ROP m / hr	WOB kg	Bit RPM	Pump Pres kPa	Pump Output m3/min	Fluid Type	Fluid Density kg/m3	Dev Angle	Bit Grading	Reason Pulled
1	1	121	SMITH	ETD4XP	MT		SCI264	3x20.6	615.0	30.0	3.5	6,000.0	100	5,100	0.921	AQUAGEL Mud	1,020	0.00	5/4/WT/A/E//FC/PR	PR - Penetration Rate
2	2	121	RBI	C15LRCSP	IN	437	CD858	2x20.6	707.0	92.0	5.1	6.2	75	5,240	0.880	AQUAGEL Mud	1,030	1.25	3/3/RG/A/5/O/SD/HR	HR - Hours

Well: ACC Arrowhead River I-76
Operator: Anadarko

Personnel Register

Baroid Field Service Representatives: Curtis Scoville and John Heppleston.

Baroid Technical Service Representative: Al Toney.

Deviation Actual

Well : ACC West Bovie I-76 Re-entry
Operator: Anadarko

Survey Data	MD m	TVD m	Angle	Direction	Horiz Displacement m
3/21/2003	679.0	679.0	0.87	0.0	
3/21/2003	720.0	720.0	1.25	0.0	

ANADARKO CANADA CORPORATION

ANADARKO WEST BOVIE
I-76

gyrodata

A Gyrodata Directional Survey

for

ANADARKO CANADA CORPORATION

Well Name: **ANADARKO WEST BOVIE,**
Surface Location: **I-76,**

Job Number: **C0203GDM067**

Run Date: 03/07/2003

Surveyor: **Shawn Orne**

Calculation Method: MINIMUM CURVATURE

Survey Latitude: **60.153500 ° N** Longitude: **123.132200 ° W**

Azimuth Correction: None

Gyro: Bearings are Relative to True North

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

gyrodata

A Gyrodata Directional Survey

ANADARKO CANADA CORPORATION
Well Name: ANADARKO WEST BOVIE
Surface Location: I-76
Job Number: C0203GDM067

MEASURED DEPTH meters	INCL deg.	AZIMUTH deg.	VERTICAL DEPTH meters	CLOSURE DIST. meters	CLOSURE AZIMUTH deg.	HORIZONTAL COORDINATES meters		DOGLEG SEVERITY deg/30m
0.0	0.00	0.00	0.0	0.0	0.0	0.00 N	0.00 E	0.00
ALL SURVEY COORDINATES REFERENCED TO AN R.K.B. OF 4.81 METERS.								
45.7	0.27	66.97	45.7	0.1	67.0	0.04 N	0.10 E	0.18
63.7	0.31	4.54	63.7	0.2	52.9	0.11 N	0.14 E	0.50
77.3	0.19	3.92	77.3	0.2	41.3	0.17 N	0.15 E	0.26
100.6	0.38	136.21	100.6	0.3	53.6	0.15 N	0.20 E	0.68
118.7	0.04	349.74	118.7	0.3	65.2	0.11 N	0.24 E	0.69
137.9	0.06	0.74	137.9	0.3	62.0	0.13 N	0.24 E	0.03
155.4	0.65	51.84	155.4	0.4	58.1	0.20 N	0.32 E	1.05
174.8	0.93	46.51	174.8	0.6	54.2	0.38 N	0.52 E	0.45
194.1	1.13	57.75	194.1	1.0	53.7	0.58 N	0.80 E	0.44
212.9	1.37	61.46	212.9	1.4	55.5	0.79 N	1.15 E	0.40
231.7	1.42	58.26	231.7	1.9	56.5	1.02 N	1.55 E	0.15
250.8	1.33	58.57	250.8	2.3	56.9	1.26 N	1.94 E	0.14
269.8	1.37	57.47	269.8	2.8	57.1	1.50 N	2.32 E	0.08
288.7	1.37	57.76	288.7	3.2	57.2	1.74 N	2.70 E	0.01
307.6	1.30	56.33	307.6	3.6	57.2	1.98 N	3.07 E	0.12
326.8	1.25	51.37	326.8	4.1	56.8	2.23 N	3.41 E	0.19
345.8	1.20	45.19	345.8	4.5	56.0	2.50 N	3.71 E	0.22
364.9	1.19	38.74	364.8	4.9	54.9	2.80 N	3.98 E	0.21
384.1	1.23	35.22	384.0	5.3	53.5	3.12 N	4.22 E	0.13
402.7	1.29	32.02	402.6	5.6	52.1	3.46 N	4.45 E	0.15
440.6	1.24	25.20	440.5	6.4	49.2	4.19 N	4.85 E	0.13
459.1	1.25	18.65	459.0	6.8	47.6	4.57 N	5.00 E	0.23
477.4	1.26	7.06	477.3	7.1	45.8	4.95 N	5.09 E	0.42
496.4	1.23	7.32	496.3	7.4	43.8	5.36 N	5.14 E	0.05
515.8	1.24	356.22	515.7	7.7	41.7	5.78 N	5.15 E	0.37
534.2	1.20	347.98	534.1	8.0	39.6	6.17 N	5.10 E	0.29
553.4	1.11	355.41	553.3	8.3	37.6	6.55 N	5.04 E	0.27
566.3	1.14	358.15	566.2	8.5	36.5	6.80 N	5.03 E	0.14
576.0	1.15	358.21	575.9	8.6	35.7	7.00 N	5.02 E	0.03

Final Station Closure: Distance: **8.61 m** Az: **35.68 °**

GEOLOGICAL REPORT

Revised Copy

Anadarko West Bovie I-76

West Bovie I-76

Well Reached Total Depth on
Feb 28, 2003 @ 03:00

K.C. WAUNCH PETROLEUM CONSULTANTS LTD.

WELLSITE GEOLOGICAL SERVICES

CALGARY, ALBERTA

N.E.B. COPY

Geological Report

on

Anadarko West Bovie I-76

West Bovie I-76

Well Reached Total Depth on
Feb 28, 2003 @ 03:00

for

Anadarko Canada Corporation

Prepared For: Mike Fawcett, Ben Urlwin
Anadarko Canada Corporation

Prepared By: Erika Lange
K.C. Waunch Petroleum Consultants L

Erika Lange

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Well Summary

Storage Units: Metric

Well Information

Operator:	**Anadarko Canada Corporation**
Well Name:	**Anadarko West Bovie I-76**
Location:	**West Bovie I-76**
UWI:	3001766020123000
Pool:	Chinkeh
Field:	Arrowheard
State / Province:	NWT
Country:	Canada
License Number:	1986
Well Status:	**Cased - Re entry on Mar 18, 2003 - Mar 23, 2003 01:30**

Surface Co-ordinates

Hole Type: **Fault Indicator:**

Latitude: **Longitude:**

N / S: N 6680150.6
E / W: E 487671.41

Bottom Hole Co-ordinates

Latitude: **Longitude:**

N / S: N 6680150.6
E / W: E 487671.41

Elevations

		Reference:	Ground
Ground Elevation:	303.30	**Kelly Bushing to Ground:**	4.07
Kelly Bushing Elevation:	307.37	**Cut (-):**	0.10
Casing Flange Elevation:	3.86	**Fill (+):**	

Total Depth

	Measured Depth	**True Vertical Depth**
Total Depth Driller (Tally) :	804.00	804.00
Total Depth Driller (Strap or SLM):		
Total Depth Logger:		

Miscellaneous Depths

Plugback Depth:	**Water Depth Reference:** 100
Sidetrack Depth:	**Water Depth:** 100.00

Well Summary

Drilling Contractor: Akita 15 **Spud Date:** Feb 23, 2003 @ 22:15
Rig Release Date: Mar 1, 2003 @ 00:00 **Total Depth Date:** Feb 28, 2003 @ 03:00

Cores

#	Formation	Interval		Cut	Recovered	%
1	Chinkeh	543.00	561.00	18.00	18.00	100.00

Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
Surface	219.1	161.00	311.0
Production	139.7	584.89	200.0

Well Summary

Storage Units: Metric

Logging Summary

Company	Engineer	Total Depth (MD)	Logging tools
Tucker Wireline	John Demchenko	585.00	PIT/GRT/SP FTD-SC Linear Res: 0-50; Linear Cond: 1000-0 Log Scale: 0.2-2000 LDT-CNT/GRT/CALI FTD-SC Bulk Density 2000-3000; Sst Neut.Por. 1:240 0.45 to -0.15 CST/XACT-GRT FTD-SC 500-100
	Vlad Iglesias	807.00	Slim tool Neutron/GR (CNT/GRT/CST-GRT) Sonic: 1:600 & 1.240 TD - SC 500 - 100 1: 240 Sst: TD - Casing: 0.45 to - 0.15 Ls: TD - 770m: 0.45 to - 0.15
			PIT; GRT/SP; CST-GRT Ind: 1:600 & 1:240 TD - SC 0.2 - 2000 Sonic: 1:600 & 1:240 TD - SC 500 - 100

Daily Drilling Summary

Storage Units: Metric

Date	Depth	Progress	Rotating Hours	Avg. P.R.	Daily Costs	Formation	Operational Status @ Report Time
Feb 25, 03	161.00		10.50			Surface Casing	Wait on Cement (WOC)
Feb 26, 03	161.00	0.00	10.50	0.0		Surface Casing	Drilling out of shoe, tag cement at 145m
Feb 27, 03	543.00	382.00	16.20	23.6		Chinkeh	Wipper Trip for Core Barrel
Feb 28, 03	585.00	42.00	7.20	5.8		Montney	Pumping gyro down the hole
Mar 1, 03	585.00	0.00				Montney	Preparing to Move to next Location
Mar 18, 03	0.00						Pressure Testing; Waiting on approval to re-enter
Mar 19, 03	0.00						Pressure Testing again
Mar 20, 03	565.00					Casing	Drilling out cement
Mar 21, 03	640.00		16.20			Garbutt	Drilling at 3.5m/hr
Mar 22, 03	715.00		27.50			Garbutt	Drilling Main Hole
Mar 23, 03	804.00					Debolt	Rigging up the Logging Tools
Mar 24, 03	804.00					Debolt	Trying for second run at the DST
Mar 25, 03	804.00					Debolt	Wiper Trip

Accumulated Daily Costs:

Casing Data Summary

Storage Units: Metric

Casing Type: Surface

Casing Size:	219.1	**Hole Size:**	311.0
Casing Landed @:	161.00	**Total Joints:**	12
Casing Date:		**Plug Down Date:**	

# of Joints / Length / O.D. / Weight: 12; 161; 311; 39.7

Cementing Details:

Remarks: Casing Date: 02/25/03 02:15
Plug Down: 02/25/03 04:30

Casing Type: Production

Casing Size:	139.7	**Hole Size:**	200.0
Casing Landed @:	584.89	**Total Joints:**	43
Casing Date:	Mar 1, 2003 @ 00:00	**Plug Down Date:**	

# of Joints / Length / O.D. / Weight: 43; 13.38; 139.7; 20.8

Cementing Details: Casing Down: 00:45
Plug Down: 04:15

Remarks:

Casing Joint	570.68m
casing Float Collar	0.34m
Casing Joint(s)	13.48m
Casing Float Shoe	0.39m

Bit Record

Pump Data

Pump #1	**Model:**	F650	**Size:**	650	**Type:**	triplex
	Pump Rod Diameter:		**Liner Size:**	203.0	**Stroke Length:**	152
	Efficiency Rating (%):	90				

Pump #2	**Model:**		**Size:**		**Type:**	
	Pump Rod Diameter:		**Liner Size:**		**Stroke Length:**	
	Efficiency Rating (%):					

Bit Data

Storage Units: Metric

Bit #:	1A	**Make:**	Smith	**Type:**	X1CXP	**IADC Series / Type:**	/
Serial #:	J28128	**Size:**	311.0	**Jets / Nozzles:**	15.90 / 15.90 / 15.90 /	**T.F.A.:**	
Depth In:	0.00	**Depth Out:**	161.00	**Made:**	161.00	**Rotating Hours:**	10.50
				Average Drill Rate:	15.33	**Total Rotating Hours:**	10.50

Bit Grade / Condition **I.A.D.C.:** 4 / 4 / FC / A 3 / / I / CD / TD / TD **T / B / G:** 4 / 4 / 4

Remarks:

Formations Drilled: Surface Casing

Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	3	/	8	**R.P.M.:**	100	/	180
Pump 1 S.P.M. / Volume:	110	/	1,094	**Pump 2 S.P.M. / Volume:**		/	
S.P.P.:	1,630	/	3,300	**Fluid Density:**	1,100	/	1,170
Drift Angle:	0.000	/	1.000	**Funnel Viscosity:**	38	/	70

Annular Velocity	**Drill Collars:**	20.0	**HeavyWeight Drill Pipe:**	**Drill Pipe:**	17.0
Bottoms Up	**Depth:**	160.00	**Theoretical:** 2	**Actual:**	2

Bit #:	1	**Make:**	o Diamond	**Type:**	MA[illegible]PX	**IADC Series / Type:**	/
Serial #:	JS73B1	**Size:**	200.0	**Jets / Nozzles:**	4.00 / 4.00 / 4.00 / 4.00	**T.F.A.:**	0.70
Depth In:	161.00	**Depth Out:**	585.00	**Made:**	424.00	**Rotating Hours:**	17.75
				Average Drill Rate:	23.89	**Total Rotating Hours:**	28.25

Bit Grade / Condition **I.A.D.C.:** / / / / / / / / **T / B / G:** / /

Remarks: 5% wear, no lost cutters, no chipped teeth

Formations Drilled: Scatter

Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	1,000	/	5,000	**R.P.M.:**	80	/	100
Pump 1 S.P.M. / Volume:	102	/	1,014	**Pump 2 S.P.M. / Volume:**		/	
S.P.P.:	3,300	/	7,800	**Fluid Density:**	1,100	/	1,170
Drift Angle:	0.000	/	2.000	**Funnel Viscosity:**	44	/	70

Annular Velocity	**Drill Collars:**	49.0	**HeavyWeight Drill Pipe:**	**Drill Pipe:**	101.0
Bottoms Up	**Depth:**	500.00	**Theoretical:** 15	**Actual:**	15

Bit Data

Storage Units: Metric

Bit #:	2	**Make:**	Smith	**Type:**	ETD4XP	**IADC Series / Type:**	/
Serial #:	SC1264	**Size:**	120.6	**Jets / Nozzles:**	20.60 / 20.60 / 20.60 /	**T.F.A.:**	
Depth In:	585.00	**Depth Out:**	615.00	**Made:**	30.00	**Rotating Hours:**	8.50
				Average Drill Rate:	3.53	**Total Rotating Hours:**	36.75

Bit Grade / Condition **I.A.D.C.:** 5 / 4 / WT / A 3 / / / FC / PR / PR **T / B / G:** 5 / 4 / I

Remarks: chewed through the bottom of the casing 567-585m

Formations Drilled: Scatter

Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	2	/	5	**R.P.M.:**	80	/	90
Pump 1 S.P.M. / Volume:	85	/	1,094	**Pump 2 S.P.M. / Volume:**		/	
S.P.P.:	110	/	110	**Fluid Density:**	1,010	/	1,030
Drift Angle:		/		**Funnel Viscosity:**	34	/	50

Annular Velocity	**Drill Collars:**	**HeavyWeight Drill Pipe:**	**Drill Pipe:**
Bottoms Up	**Depth:** 590.00	**Theoretical:** 9	**Actual:** 9

Bit #:	3	**Make:**	R.B.I.	**Type:**	15LRGSP	**IADC Series / Type:**	/
Serial #:	CD858	**Size:**	121.0	**Jets / Nozzles:**	20.60 / 20.60 / 20.60 /	**T.F.A.:**	
Depth In:	615.00	**Depth Out:**	707.00	**Made:**	92.00	**Rotating Hours:**	23.75
				Average Drill Rate:	3.87	**Total Rotating Hours:**	60.50

Bit Grade / Condition **I.A.D.C.:** 3 / 3 / / / / / / HR / **T / B / G:** 3 / 3 / I

Remarks:

Formations Drilled: Scatter; Garbutt

Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	6	/		**R.P.M.:**	80	/	
Pump 1 S.P.M. / Volume:	85	/	1,094	**Pump 2 S.P.M. / Volume:**		/	
S.P.P.:	5,200	/		**Fluid Density:**	1,030	/	
Drift Angle:	0.750	/		**Funnel Viscosity:**	52	/	

Annular Velocity	**Drill Collars:**	**HeavyWeight Drill Pipe:**	**Drill Pipe:**
Bottoms Up	**Depth:**	**Theoretical:**	**Actual:**

Bit #:	4	**Make:**	R.B.I	**Type:**	15LRGSP	**IADC Series / Type:**	/
Serial #:	CA501	**Size:**	121.0	**Jets / Nozzles:**	20.60 / 20.60 / 20.60 /	**T.F.A.:**	
Depth In:	707.00	**Depth Out:**	804.00	**Made:**	97.00	**Rotating Hours:**	19.50
				Average Drill Rate:	4.97	**Total Rotating Hours:**	80.00

Bit Grade / Condition **I.A.D.C.:** 3 / 3 / RG / A / / / SD / TD / TD **T / B / G:** 3 / 3 / I

Remarks:

Formations Drilled: Garbutt, Spirit River, Chinkeh, Debolt

Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	6	/		**R.P.M.:**	80	/	
Pump 1 S.P.M. / Volume:	85	/	1,094	**Pump 2 S.P.M. / Volume:**		/	
S.P.P.:	6,500	/		**Fluid Density:**	1,040	/	
Drift Angle:	0.750	/		**Funnel Viscosity:**	60	/	

Annular	**Drill Collars:**	**HeavyWeight Drill Pipe:**	**Drill Pipe:**
Bottoms Up	**Depth:**	**Theoretical:**	**Actual:**

Wireline Logging Summary

Storage Units: Metric

Logging Suite Number:	1		
Wireline Logging Company:	Tucker Wireline	**Engineer:**	John Demchenko
District:	Edmonton	**Unit Number:**	125
Witness:	Erika Lange		

Was Pressure Control Equipment Utilized:	No	**Maximum Deviation:**	1.200 °
Was the Logging Job Mechanically Assisted:	No	**Hole Size:**	200.0

Total Lost Time:
Loggers' Total Down Time:
Total Job Time (From Rig up to Rig down): 2.00

	Measured Depth	True Vertical Depth
Casing Depth Driller	161.00	161.00
Casing Depth Logger	584.80	584.80
Total Depth Driller (Tally)	585.00	585.00
Total Depth Driller (Strap or SLM)		

General Remarks: Circulation stopped at 10:15, and out of the hole at 11:00 - wait on loggers
Arrived on Location at 13:00, rigged up and RIH at 13:45.
On bottom at 14:15, and done at 16:15. Rigged out and Release at 17:30.

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 1
Date: Feb 28, 2003

Drilling Fluid Data

Drilling Fluid Type: Gelchem
Fluid Density: 1170.0 **Viscosity:** 76 **pH:** 10.0 **Fluid Loss:** 6.5

Mud Resistivity (Rm):	3.00	@	21.0 °		
Mud Resistivity (Rm) @ BHT:	2.60	@	27.0 °	**Maximum Temperature:**	27.0 °
Mud Filtrate Resistivity (Rmf):	4.00	@	15.0 °	**Source (Rmf):**	Flow
Mud Cake Resistivity (Rmc):	3.50	@	20.0 °	**Source (Rmc):**	Press

Logging Run Information

Date on Bottom: Feb 28, 2003
Total Depth Logger: 584.80 (MD) 584.80 (TVD)

Logging Tools:

PIT/GRT/SP	FTD-SC	Linear Res: 0-50;	Linear Cond: 1000-0	Log Scale: 0.2-2000
LDT-CNT/GRT/CALI	FTD-SC	Bulk Density 2000-3000;	Sst Neut.Por. 1:240	0.45 to -0.15
CST/XACT-GRT	FTD-SC	500-100		

Remarks: Neutron Density tool rotated from 530-500m, on all 3 runs tried, resulting in poor data in that section.

Hole Conditions: Good

Wireline Logging Summary

Storage Units: Metric

Logging Suite Number:	2		
Wireline Logging Company:	Tucker Wireline	**Engineer:**	Vlad Iglesias
District:	Grande Prairie	**Unit Number:**	118
Witness:	Erika Lange		

Was Pressure Control Equipment Utilized:	No	**Maximum Deviation:**	1.700 °
Was the Logging Job Mechanically Assisted:	No	**Hole Size:**	121.0

Total Lost Time:
Loggers' Total Down Time:
Total Job Time (From Rig up to Rig down): 5.00

	Measured Depth	True Vertical Depth
Casing Depth Driller	585.50	585.50
Casing Depth Logger	584.90	584.90
Total Depth Driller (Tally)	807.00	807.00
Total Depth Driller (Strap or SLM)		

General Remarks:
Alerted for 01:00 Mar 23, 2003
Arrived: 01:15
TD : 01:30
Started Rigging up tools: 07:00
1st run on bottom: 07:30
2nd run on bottom: 09:15
Prints: 11:30

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 1
Date: Mar 23, 2003

Drilling Fluid Data

Drilling Fluid Type: Gelchem
Fluid Density: **Viscosity:** **pH:** **Fluid Loss:**

Mud Resistivity (Rm): @ °
Mud Resistivity (Rm) @ BHT: @ ° **Maximum Temperature:** °
Mud Filtrate Resistivity (Rmf): @ ° **Source (Rmf):**
Mud Cake Resistivity (Rmc): @ ° **Source (Rmc):**

Logging Run Information

Date on Bottom: Mar 23, 2003
Total Depth Logger: (MD) (TVD)

Logging Tools: PIT; GRT/SP; CST-GRT
Ind: 1:600 & 1:240 TD - SC 0.2 - 2000
Sonic: 1:600 & 1:240 TD - SC 500 - 100

Remarks:

Hole Conditions:

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 2
Date: Mar 23, 2003

Drilling Fluid Data

Drilling Fluid Type: Gelchem
Fluid Density: 1050.0 **Viscosity:** 85 **pH:** 10.0 **Fluid Loss:** 6.0

Mud Resistivity (Rm):	3.00 @ 25.0 °				
Mud Resistivity (Rm) @ BHT:	2.60 @ 32.0 °	**Maximum Temperature:**	32.0 °		
Mud Filtrate Resistivity (Rmf):	2.60 @ 25.0 °	**Source (Rmf):**	Press		
Mud Cake Resistivity (Rmc):	3.60 @ 25.0 °	**Source (Rmc):**	Press		

Logging Run Information

Date on Bottom: Mar 23, 2003
Total Depth Logger: 803.00 (MD) 803.00 (TVD)

Logging Tools: Slim tool Neutron/GR (CNT/GRT/CST-GRT)
Sonic: 1:600 & 1:240 TD - SC 500 - 100
1: 240
Sst: TD - Casing: 0.45 to - 0.15
Ls: TD - 770m: 0.45 to - 0.15

Remarks:

Hole Conditions:

Directional Survey Points

Storage Units: Metric

Survey Typegyroscopic / multi shot

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
155.00	155.40	0.650	51.84	0.20	0.32	0.40	1.05
174.80	174.80	0.930	46.51	0.37	0.52	0.60	0.45
194.10	194.10	1.130	57.75	0.58	0.80	1.00	0.44
212.90	212.90	1.370	61.46	0.79	1.15	1.40	0.40
231.70	231.70	1.420	58.26	1.02	1.54	1.80	0.15
250.80	250.80	1.330	58.57	1.26	1.93	2.30	0.13
269.80	269.80	1.370	57.47	1.49	2.31	2.80	0.07
288.70	288.60	1.370	57.56	1.74	2.69	3.20	0.01
307.60	307.60	1.300	56.33	1.98	3.06	3.60	0.12
326.80	326.80	1.250	51.37	2.23	3.41	4.10	0.19
345.80	345.70	1.200	45.19	2.50	3.71	4.50	0.22
364.90	364.80	1.190	38.74	2.79	3.98	4.90	0.21
384.10	384.00	1.230	35.22	3.11	4.22	5.20	0.14
402.70	402.70	1.290	32.02	3.46	4.45	5.60	0.14
440.60	440.50	1.240	25.20	4.19	4.85	6.40	0.13
459.10	459.00	1.250	18.65	4.56	5.00	6.80	0.23
477.40	477.40	1.260	7.01	4.95	5.08	7.10	0.41
496.40	496.30	1.230	7.32	5.36	5.14	7.40	0.04
515.80	515.70	1.240	35.22	5.77	5.15	7.70	0.37
534.20	534.10	1.200	347.98	6.16	5.10	8.00	0.29
553.40	553.30	1.110	355.41	6.54	5.04	8.30	0.27
566.30	566.20	1.140	358.15	6.80	5.02	8.50	0.14
576.00	575.90	1.150	358.21	6.99	5.02	8.60	0.01
580.00	579.90	1.200	2.43	7.07	5.02		0.74
600.00	599.90	1.300	2.28	7.51	5.04		0.16
620.00	619.90	1.360	355.80	7.97	5.03		0.24
640.00	639.90	1.300	348.89	8.43	4.97		0.25
660.00	659.90	1.200	355.89	8.86	4.91		0.27
680.00	679.90	1.090	355.11	9.26	4.88		0.16
700.00	699.90	0.970	339.43	9.61	4.80		0.46
720.00	719.90	1.140	267.33	9.76	4.54		1.88
740.00	739.90	2.480	254.72	9.63	3.93		2.09
760.00	759.80	3.570	270.60	9.52	2.89		2.05
780.00	779.80	4.630	275.51	9.61	1.46		1.67
788.00	787.80	4.620	274.42	9.66	0.82		0.33

Deviation Survey Points

Storage Units: Metric

Survey Typegyroscopic / multi shot

Measured Depth	Drift Angle (°)	TVD	Measured Depth	Drift Angle (°)	TVD
155.00	0.650	155.40	788.00	4.620	787.80
174.80	0.930	174.80			
194.10	1.130	194.10			
212.90	1.370	212.90			
231.70	1.420	231.70			
250.80	1.330	250.80			
269.80	1.370	269.80			
288.70	1.370	288.60			
307.60	1.300	307.60			
326.80	1.250	326.80			
345.80	1.200	345.70			
364.90	1.190	364.80			
384.10	1.230	384.00			
402.70	1.290	402.70			
440.60	1.240	440.50			
459.10	1.250	459.00			
477.40	1.260	477.40			
496.40	1.230	496.30			
515.80	1.240	515.70			
534.20	1.200	534.10			
553.40	1.110	553.30			
566.30	1.140	566.20			
576.00	1.150	575.90			
580.00	1.200	579.90			
600.00	1.300	599.90			
620.00	1.360	619.90			
640.00	1.300	639.90			
660.00	1.200	659.90			
680.00	1.090	679.90			
700.00	0.970	699.90			
720.00	1.140	719.90			
740.00	2.480	739.90			
760.00	3.570	759.80			
780.00	4.630	779.80			

Work Schedule

Storage Units: Metric

Company: K.C. Waunch Petroleum Cons.
Geologist: Erika Lange

Work Performed	**From:**	Feb 23, 2003	**To:**	Feb 28, 2003
Depths Logged	**From:**	0.0	**To:**	585.0

Remarks:

Company: K.C. Waunch Petroleum Cons.
Geologist: Erika Lange

Work Performed	**From:**	Mar 17, 2003	**To:**	Mar 25, 2203
Depths Logged	**From:**	585.0	**To:**	804.0

Remarks:

Formation Top Summary

Storage Units: Metric

Kelly Bushing Elevation: 307.37 **Casing Flange Elevation:** 3.86
Ground Elevation: 303.30

***** All Depths measured from Kelly Bushing Elevation *****

Group *Formation* Member	Prognosis (TVD)	Sample Top (MD)	Sample Top (TVD)	Log Top (MD)	Log Top (TVD)	Subsea	Thickness
Surface Casing		161.00	0.00	161.00	161.28	146.09	380.00
Scatter		539.00	539.00	541.00	541.00	-233.63	94.00
Garbutt		635.00	635.00	626.00	626.00	-318.63	99.00
Spirit River		734.00	734.00	730.00	730.00	-422.63	20.00
Chinkeh		758.00	758.00	750.00	750.00	-442.63	15.00
Debolt		773.00	773.00	770.00	769.80	-462.43	31.00

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 307.37 **Casing Flange Elevation:** 3.86
Ground Elevation: 303.30

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Scatter
Member:
Boundary Type: conformable
Fault Type:

Era: Cenozoic
Series: Middle
Period: Jurassic
Stage: Albian
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	539.00	539.00	-231.63	94.00
Log Top	541.00	541.00	-233.63	

Evaluation:

Conclusion:

Group:
Formation: Garbutt
Member:
Boundary Type: conformable
Fault Type:

Era: Cenozoic
Series: Lower
Period: Cretaceous
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	635.00	635.00	-327.63	99.00
Log Top				

Evaluation:

Conclusion:

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 307.37 **Casing Flange Elevation:** 3.86
Ground Elevation: 303.30

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Spirit River
Member:
Boundary Type: conformable
Fault Type:

Era: Cenozoic
Series: Lower
Period: Cretaceous
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	734.00	734.00	-426.63	20.00
Log Top				

Evaluation:

Conclusion:

Group:
Formation: Chinkeh
Member:
Boundary Type: conformable
Fault Type:

Era: Cenozoic
Series:
Period: Cretaceous
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	758.00	758.00	-450.63	15.00
Log Top				

Evaluation:

Conclusion:

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 307.37 **Casing Flange Elevation:** 3.06
Ground Elevation: 303.30

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Debolt
Member:
Boundary Type: conformable
Fault Type:

Era: Cenozoic
Series:
Period: Cretaceous
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	773.00	773.00	-465.63	31.00
Log Top				

Evaluation:

Conclusion:

Total Depth: 805.00 MD, 804.80 TVD, -497.43 SSL

Surface Casing: 161.00 MD, 161.00 TVD, 146.09 SSL

161.00 to 180.00 (19.00)	100%	**Shale** black, micromicaceous, blocky, hard ; trace cal
180.00 to 190.00 (10.00)	100%	**Shale** black gray, hard, micromicaceous, sligihtly friable, mostly hard; trace quartz, siderite, calcite
190.00 to 195.00 (5.00)	100%	**Shale** black gray, hard, slightly micromicaceous, sligihtly friable, mostly hard; trace coarse, clear, round quartz grains, siderite
195.00 to 200.00 (5.00)	100%	**SANDSTONE** light and dark gray, quartz, shale, glauconite, vf-f grain, well sorted, subangular, unconsolidated, calcite cement, poor porosity, poor relief, tight; trace clear, rounded, quartz, siderite
195.00 to 205.00 (10.00)	50%	**Shale** gray, micromicaceous, blocky, hard;
205.00 to 230.00 (25.00)	100%	**SANDSTONE** light and dark gray, quartz, shale, glauconite, vf-f grain, well sorted, subangular, unconsolidated, 10-15% calcite cement, poor porosity, poor relief, tight; trace clear, rounded, quartz, siderite
230.00 to 260.00 (30.00)	90%	**SANDSTONE** gray and light gray, moslty quartz, occasional shale, glauconite, f-VF grain, well sorted, subangular, consolidated, 10-15% calcite cement, poor porosity, poor relief, tight; trace clear, rounded, quartz, siderite
	10%	**Shale** light and dark gray, occasional black, micromicaceous, blocky
260.00 to 280.00 (20.00)	100%	**SANDSTONE** light gray, quartz, glauconite, occasional shale, vf-f grain, well sorted, subangular, consolidated, 15-30% calcite cement, poor porosity, poor relief; trace quartz, siderite
280.00 to 285.00 (5.00)	100%	**SANDSTONE** light gray to white, quartz, glauconite, fine grain, well sorted, subangular, consolidated, 10-15% calcite cement, moderate relief, some moderate porosity, Type IB 4-5%; trace quartz, siderite
285.00 to 300.00 (15.00)	80%	**SANDSTONE** dark and light gray, quartz, glauconite, occasional shale, fine grain, well sorted, subangular, consolidated, 15-25% calcite cement, poor porosity, moslty poor relief

285.00 to 300.00 (15.00)	20%	**Shale** black gray, micromicaceous, arenaceous grains, glauconite associated, fissile
300.00 to 315.00 (15.00)	50%	**SANDSTONE** mostly dark gray, occasional light gray, quartz, glauconite, f-vf grain, moderate sorted, subangular to angular, well consolidated, 20% calcite cement, poor relief, tight
	50%	**SHALE** black gray, micromicaceous, glauconite associated, fissile
315.00 to 325.00 (10.00)	75%	**SHALE** dark gray, micromicaceous, sli friable, sli hard, occasional arenaceous grains, glauconite associated
	25%	**SANDSTONE** light gray, quartz, glauconite, f-vf grain, well-mod sorted, subangular to angular, consolidated, 20-30% calcite cement, poor relief, tight
325.00 to 345.00 (20.00)	90%	**SHALE** black, slightly micromicaceous, glauconite associated, hard, occasional platy
	10%	**SANDSTONE** light gray, quartz, glauconite, very fine grain, well sorted, subangular, consolidated, 20% calcite cement, poor relief, tight
345.00 to 365.00 (20.00)	65%	**SHALE** dark gray, micromicaceous, occasional glauconite associated, not show of oil hard, slightly friable
	45%	**SANDSTONE** gray, quartz, glauconite, very fine grain, well sorted, angular, consolidated, 15% calcite cement, moslty poor relief, occasional Type ID 3% porosity, no permeability
365.00 to 375.00 (10.00)	75%	**SHALE** (mudstone) dark gray, micromicaceous, occasional glauconite associated, sli fissile
	25%	**SANDSTONE** gray, quartz, glauconite,very fine grain, well sorted, angular, consolidated, 15% calcite cement, poor relief, tight
375.00 to 385.00 (10.00)	90%	**SHALE** dark gray (mudstone), arenaceous grain, micromicaceous, occasional glauconite associated, hard
	10%	**Siltstone** gray, quartz and occasional glauconite, very fine grain, angular, well cemented with calcite cement

385.00 to 395.00 (10.00)	80%	**Shale** dark gray, (mudstone), arenaceous grains, trace glauconite, micromicaceous, hard
	20%	**Sandstone** light gray, quartz, glauconite, very fine grain, silty, well- moderately sorted, angular, consolidated, 15% calcite cement, poor relief, tight
395.00 to 405.00 (10.00)	90%	**Shale** black and dark gray, micromicaceous, hard, trace glauconite, blocky
	10%	**Sandstone** light gray, quartz, glauconite, very fine grain, moderately sorted, subangular, consolidated, 15% calcite cement, poor relief, silty, tight
405.00 to 410.00 (5.00)	80%	**Shale** dark gray, arenaceous, glauconite, micromicaceous, blocky, hard
	20%	**Sandstone** gray, quartz, glauconite, very fine grains, well sorted, subangular, consolidated, 10% calcite cement, poor relief, silty, tight
410.00 to 420.00 (10.00)	80%	**Siltstone** dark gray, very fine, quartz, occasional glauconite, hard, well sorted, angular, poor relief, tight
	20%	**Shale** dark gray, micromicaceous, occasional arenaceous, glauconite, hard, blocky
420.00 to 430.00 (10.00)	70%	**Shale** dark gray, occasional black, micromicaceous, arenaceous grains, occasional glauconite, hard, blocky
	30%	**Sandstone** light gray, mosity quartz, glauconite, very fine grain, well sorted, subangular, consolidated, 10% calcite cement, poor relief, poor porosity (occasional 3%, no permeability)
430.00 to 435.00 (5.00)	60%	**Shale** gray, occasional dark gray, micromicaceous, slightly arenaceous, trace glauconite, hard
	40%	**Sandstone** light gray, quartz, glauconite, very fine grain, well sorted, subangular, well consolidated, 30% calcite cement, poor relief, tight
435.00 to 460.00 (25.00)	75%	**Shale** dark gray and black, micromicaceous, occasional glauconite, hard, blocky
	25%	**Sandstone**

		light gray, quartz, glauconite, very fine grain, well-mod sorted, angular, consolidated, 10-15% calcite cement, mosity poor relief, poor porosity
460.00 to 470.00 (10.00)	80%	**Shale** dark gray, micromicaceous, arenaceous, trace glauconite, hard, blocky
	20%	**Siltstone** light gray, quartz, trace glauconite, very fine, sandy, well sorted, angular, 15% calcite cement, poor relief, tight
470.00 to 485.00 (15.00)	90%	**Shale** dark gray, occasional black, micromicaceous, arenaceous, blocky
	10%	**Siltstone** light gray, quartz, trace glauconite, very fine, well sorted, angular, 10% calcite cement, poor relief, tight
485.00 to 490.00 (5.00)	80%	**Siltstone** dark gray, very fine grain , quartz, trace glauconite, angular, moderate sorted, sandy
	20%	**Shale** dark gray, slightly arenaceous, micromicaceous, hard, occasional platy
490.00 to 500.00 (10.00)	70%	**Siltstone** dark gray, very fine grains, quartz, occasional glauconite, moderate sorted, angular, little cement, poor relief, tight
	30%	**Shale** dark gray, micromicaceous, slightly arenaceous, hard, blocky
500.00 to 515.00 (15.00)	70%	**Shale** dark gray, black, slightly micromicaceous, hard, slightly platy
	30%	**Siltstone** dark gray to black, quartz, shale, trace glauconite, very fine, angular, moderately sorted, moderate relief; trace calcite, quartz, and siderite coarse grains
515.00 to 520.00 (5.00)	80%	**Shale** black, dark gray, micromicaceous, arenaceous, fissile, occasional platy, occasional hard, trace pyrite associated; trace siderite, quartz
	20%	**Sandstone** light gray, quartz, occasional glauconite, very fine grain, well-mod sorted, angular, consolidated, 5% calcite cement, poor relief, tight
520.00 to 525.00 (5.00)	90%	**Shale** mostly black, micromicaceous, hard, occasional platy; trace quartz, siderite

520.00 to 525.00 (5.00)	10%	**Sandstone** light gray, mostly quartz, glauconite, very fine grain, moderate sorted, subangular, well consolidated, 10% calcite cement, poor relief, tight, occasionally silty
525.00 to 530.00 (5.00)	90%	**Shale** black, micromicaceous, occasional arenaceous, hard, blocky, occasionally platy, trace pyrite associated
	10%	**Sandstone** light and grn gray, quartz, glauconite, very fine grain, well sorted, subangular, well consolidated, 20% calcite cement, no relief, tight
530.00 to 535.00 (5.00)	85%	**Shale** dark gray and black, micromicaceous, hard
	15%	**Sandstone** light gray, occasional white, mostly quartz, glauconite, vf-f grain, well sorted, subangular, well consolidated, 25% calcite cement, poor relief

Scatter: 539.00 MD, 539.00 TVD, -233.63 SSL

535.00 to 543.00 (8.00)	70%	**Sandstone** light gray and gray, quartz, glauconite, occasional shale, occasional mica, trace pyrite, vf-f grains, moderate to well sorted, angular, 10-20% calcite cement, p-mod relief
	30%	**Shale** black, dark gray, micromicaceous, hard, blocky, trace glauconite, trace pyrite
543.00 to 554.00 (11.00)	80%	**Sandstone** light gray, mostly quartz, glauconite, trace shale, f-vf grain, well sorted, angular, well consol, hard, 10% calcite cement, poor relief, tight;
	20%	**Shale** dark gray, micromicaceous, slightly platy, blocky
554.00 to 561.00 (7.00)	80%	**Sandstone** light gray, mostly quartz, glauconite, trace shale, f-vf grain, well sorted, angular, consol, hard, 15% calcite cement, mostly poor relief
	20%	**Shale** dark gray, micromicaceous, slightly platy, blocky
561.00 to 570.00 (9.00)	75%	**Sandstone** light and dark gray, mostly quartz, glauconite, trace shale, fine grain, well sorted, angular, fairly consol, 10% calcite cement, trace pyrite, mica; trace pyrite
	25%	**Shale** dark gray, micromicaceous, platy, sli fissile; trace pyrite

570.00 to 585.00 (15.00)	70%	**Sandstone**
		light gray, quartz, glauconite, fine grain, well sorted, angular, consol, hard. 10-20% calcite cement, trace pyrite
	30%	**Shale**
		dark gray, occasional dark brown, micromicaceous, platy, fissile
585.00 to 595.00 (10.00)	85%	**Sandstone**
		white gray, qtz- white and clear, trace glauconite, fine grains, well sorted, subangular, fairly unconsol
	15%	**Shale**
		dark by, micromicaceous, hard, blocky
595.00 to 600.00 (5.00)	90%	**Sandstone**
		white gray, quartz, trace glauconite, fine grain, well sorted, subangular, mostly unconsol
	10%	**Shale**
		as above
600.00 to 610.00 (10.00)	90%	**Sandstone**
		clear and white quartz, trace glauconite, fine to medium grains, well sorted, subangular, mostly unconsol,
	10%	**Shale**
		dark by, micromicaceous, hard, blocky; trace coal
610.00 to 620.00 (10.00)	70%	**Sandstone**
		dark gray, quartz, glauconite, trace shale, very fine to fine grains, moderately well sorted, subrounded, well consolidated, hard, 0% calcite cement, poor relief
	30%	**Shale**
		black, dark gray, slightly earthy, micromicaceous, hard, platy
620.00 to 630.00 (10.00)	70%	**Sandstone**
		dark brown gray, quartz, glauconite, very fine grain, moderately well sorted, subrounded, consolidated, hard, 10% silica cement, moderate relief, tight
	30%	**Shale**
		black, dark gray, platy, slightly micromicaceous, hard; trace pyrite

Garbutt: 635.00 MD, 635.00 TVD, -327.63 SSL

635.00 to 640.00 (5.00)	60%	**Shale** black, micromicaceous, moderately hard, slightly platy
	40%	**Sandstone** dark brown (oil stain), quartz, glauconite, very fine grain, moderately well sorted, subrounded, well consolidated, hard, 10% silica cement, poor relief, tight
640.00 to 655.00 (15.00)	60%	**Shale** black, micromicaceous, moderately hard, slightly platy; trace pyrite
	40%	**Siltstone** dark brown, quartz, glauconite, very fine grain, moderately well sorted, subrounded, well consolidated, hard, 10% silica cement, moderate relief, tight
655.00 to 665.00 (10.00)	100%	**Shale** black, micromicaceous, moderately hard, sblky; trace pyrite, siltstone
665.00 to 670.00 (5.00)	85%	**Shale** black, micromicaceous, blocky, moderately hard
	15%	**Siltstone** dark gray, very very fine grains, moderately sorted, subangular, moderately relief, tight
670.00 to 680.00 (10.00)	70%	**Shale** as above
	30%	**Siltstone** dark gray, quartz, glauconite, very very fine grains, moderately sorted, subangular, moderately relief, tight
680.00 to 690.00 (10.00)	60%	**Shale** as above
	40%	**Siltstone** as above
690.00 to 695.00 (5.00)	70%	**Shale** black, micromicaceous, moderately hard, blocky
	30%	**Siltstone** dark gray, quartz, glauconite, very very fine grains, moderately sorted, subangular, moderately relief, tight
695.00 to 700.00 (5.00)	80%	**Shale** black, micromicaceous, slightly earthy, blocky, moderately hard

695.00 to 700.00 (5.00)	20%	**Siltstone** dark gray, quartz, trace glauconite, very very fine grains, moderately sorted, subangular, poor relief, tight
700.00 to 705.00 (5.00)	70%	**Shale** as above
	30%	**Siltstone** dark gray, mostly quartz, trace glauconite, very very fine grains, moderately sorted, subangular, poor relief, tight
705.00 to 710.00 (5.00)	80%	**Shale** black, micromicaceous, moderately hard, blocky
	20%	**Siltstone** as above
710.00 to 715.00 (5.00)	60%	**Shale** as above
	20%	**Sandstone** gray, quartz, trace glauconite, very fine grains, subangular, moderately well sorted, consolidated, cemented, poor relief, tight; trace unconsolidated coarse quartz grains
	20%	**Siltstone** as above
715.00 to 720.00 (5.00)	60%	**Shale** as above; trace sandstone as above, trace quartz grains as above
	40%	**Siltstone** dark brown gray, quartz, very very fine grains, well consolidated, subangular, tight
720.00 to 725.00 (5.00)	80%	**Shale** black, micromicaceous, moderately hard, slightly platy, mostly blocky; trace quartz
	20%	**Siltstone** as above

Spirit River: 734.00 MD, 734.00 TVD, -426.63 SSL

725.00 to 735.00 (10.00)	90%	**Shale** dark gray and black, micromicaceous, moderately hard, platy, blocky
	10%	**Siltstone** as above

735.00 to 745.00 (10.00)	100%	**Shale** black, waxy, platy, softer; dark gray, slightly micromicaceous, blocky, moderately hard
745.00 to 750.00 (5.00)	100%	**Shale** black, waxy, platy, softer; dark gray, slightly micromicaceous, blocky, moderately hard; trace pyrite

Chinkeh: 758.00 MD, 758.00 TVD, -450.63 SSL

750.00 to 760.00 (10.00)	100%	**Shale** black, waxy, platy, softer; dark gray, slightly micromicaceous, moderately soft; trace pyrite, siderite, white chalky calcite
760.00 to 770.00 (10.00)	90%	**Shale** black, slightly micromicaceous, moderately hard, platy; trace pyrite, quartz
	10%	**Sandstone** brown gray, quartz, fine to very fine grains, subangular to sbmdd, moderately sorted, silica cement, moderate relief

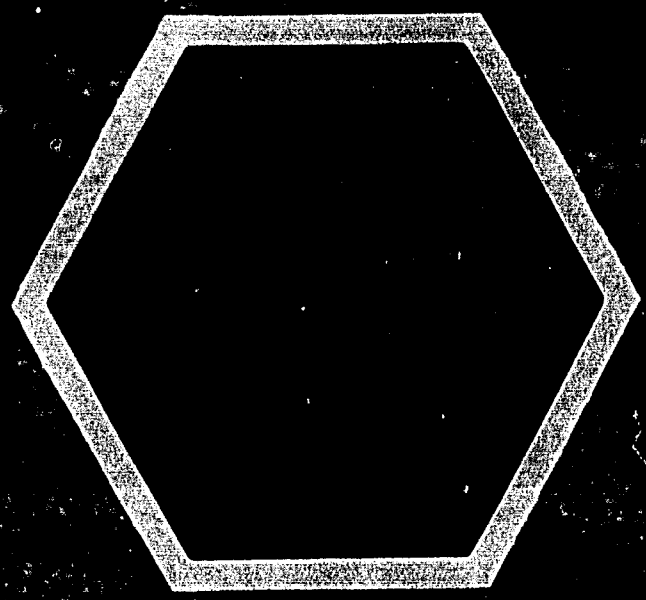
Debolt: 773.00 MD, 773.00 TVD, -465.63 SSL

770.00 to 775.00 (5.00)	100%	**Dolomite** half = buff, rhty, chalky, with intercrystalline porosity; other half = white, gray, opaque, medium to very coarse grains, porosity = pin point, intercrystalline, and vuggy, brown stains occasionally; few flouresce
775.00 to 780.00 (5.00)	100%	**Dolomite** as above, but only white and buff, fewer wi good porosity, no show
780.00 to 790.00 (10.00)	100%	**Dolomite** as above but all white, more massive coarse crystals, only occasional pores
790.00 to 795.00 (5.00)	100%	**Dolomite** white, half = rhty, chalky, with intercrystalline porosity; other half = mostly opaque, medium to very coarse grains, porosity = pin point, intercrystalline, and vuggy
795.00 to 800.00 (5.00)	100%	**Dolomite** mostly white, gray, opaque, coarse grains, sbmd, no cement, porosity = mostly intercrystalline, trace vuggy, trace bitumen spots associated?; few: white, rhty, chalky, with intercrystalline porosity;
800.00 to 804.00 (4.00)	80%	**Dolomite** mostly white, gray, opaque, medium to coarse grains, some cement, trace intercrystalline porosity; brown, tight, well consolidated fine crystals
	20%	**Shale** black, dark gray, slightly micromicaceous, blocky, hard

Logs from this section can be found in the log section of the fiche

PHOTOGRAPHY

AGAT



PHOTOGRAPHY

Laboratories

AGAT

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SALLE DE COURRIER
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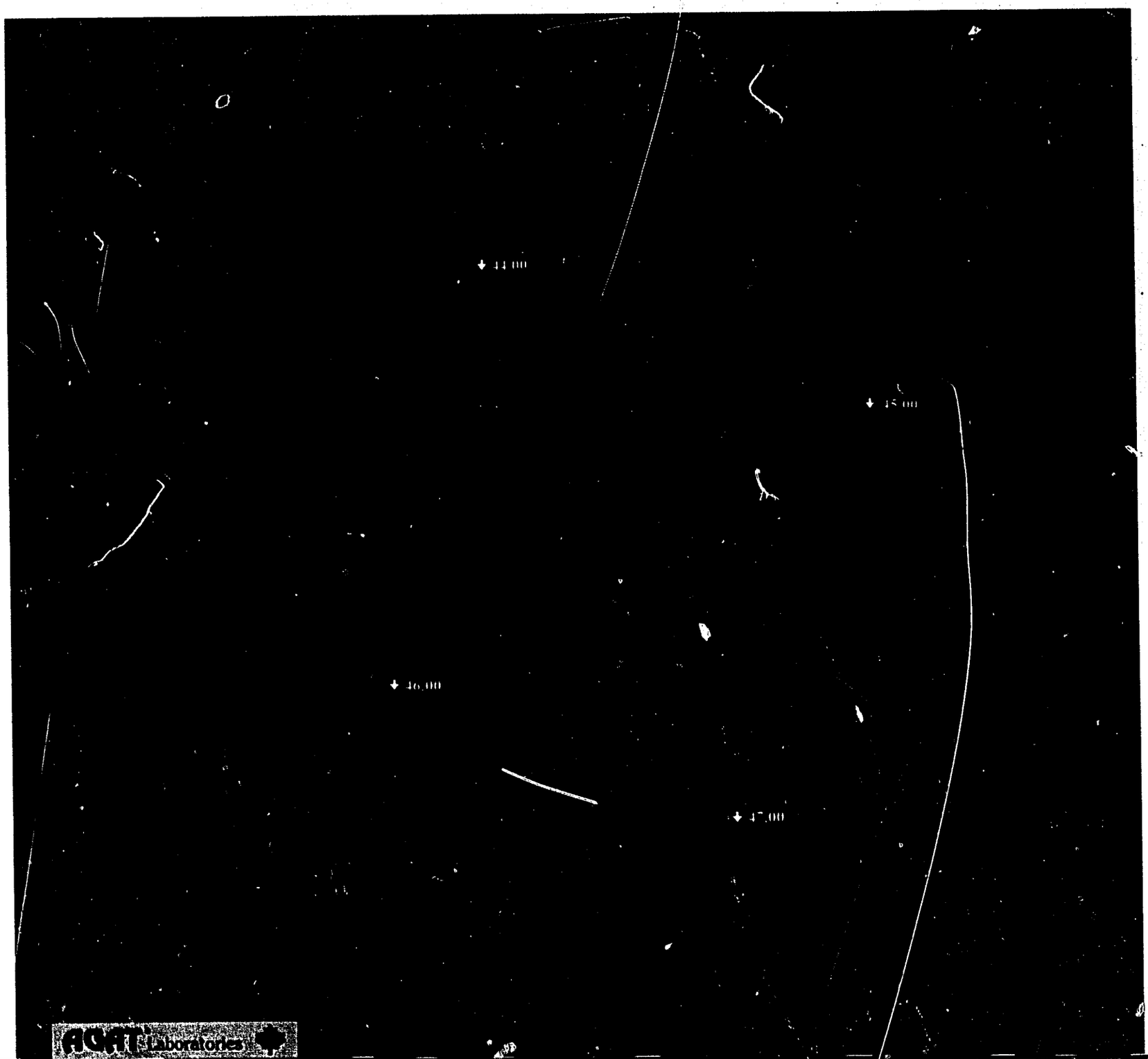
REGIE / CRE

N.E.B. COPY

ANADARKO WEST BOVIE
I-76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ACRT Laboratories

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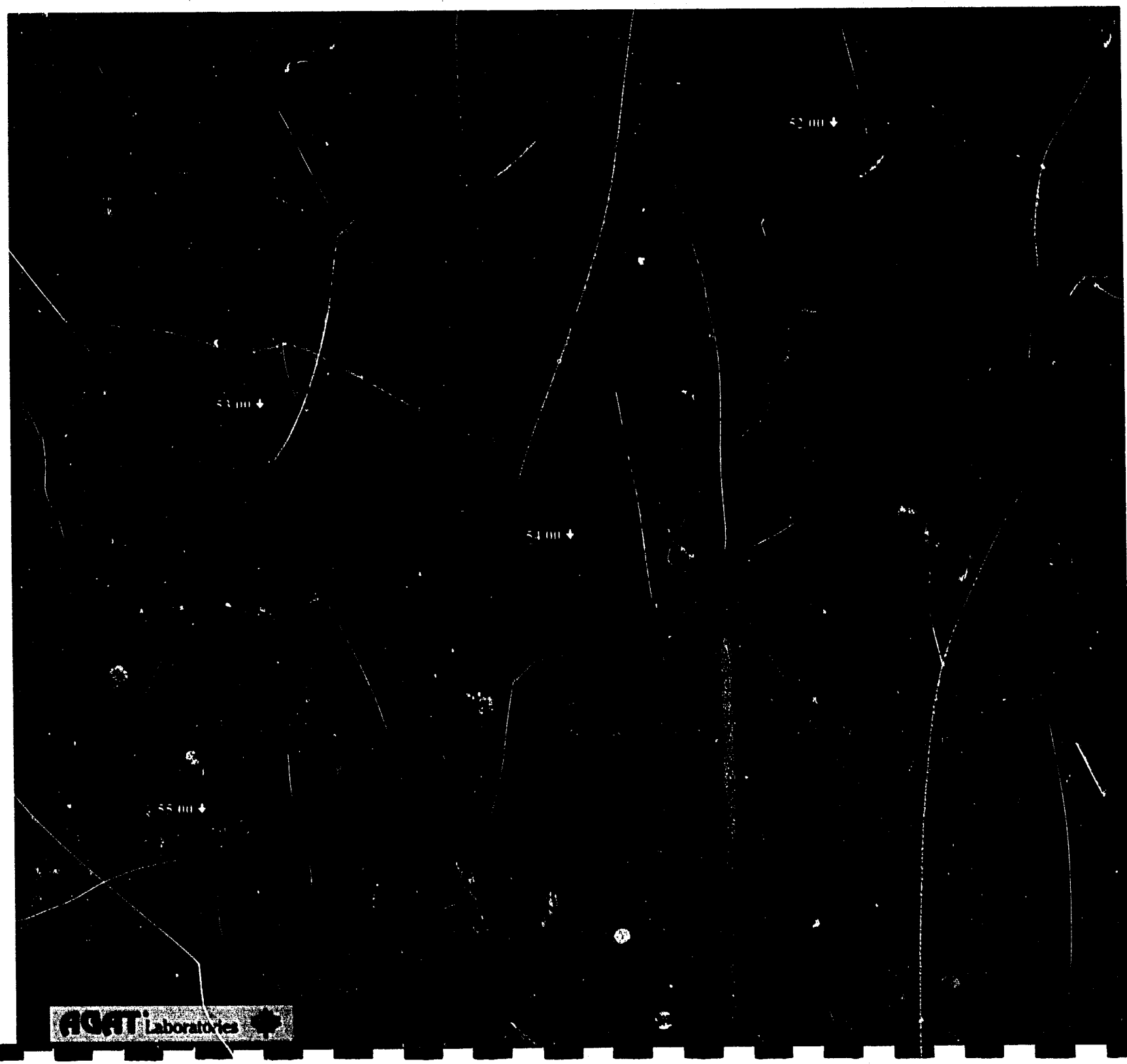
AGAT Laboratories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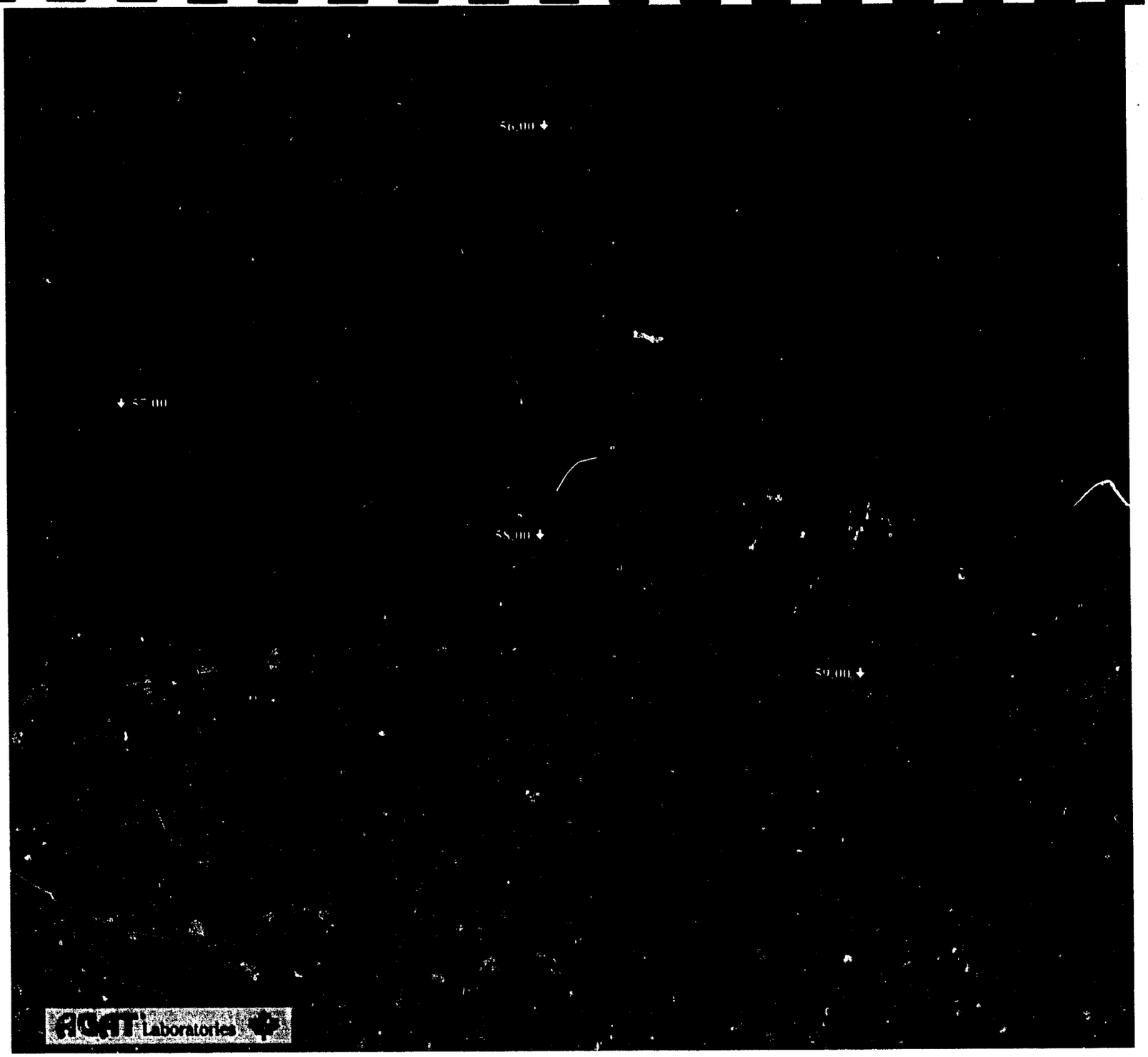
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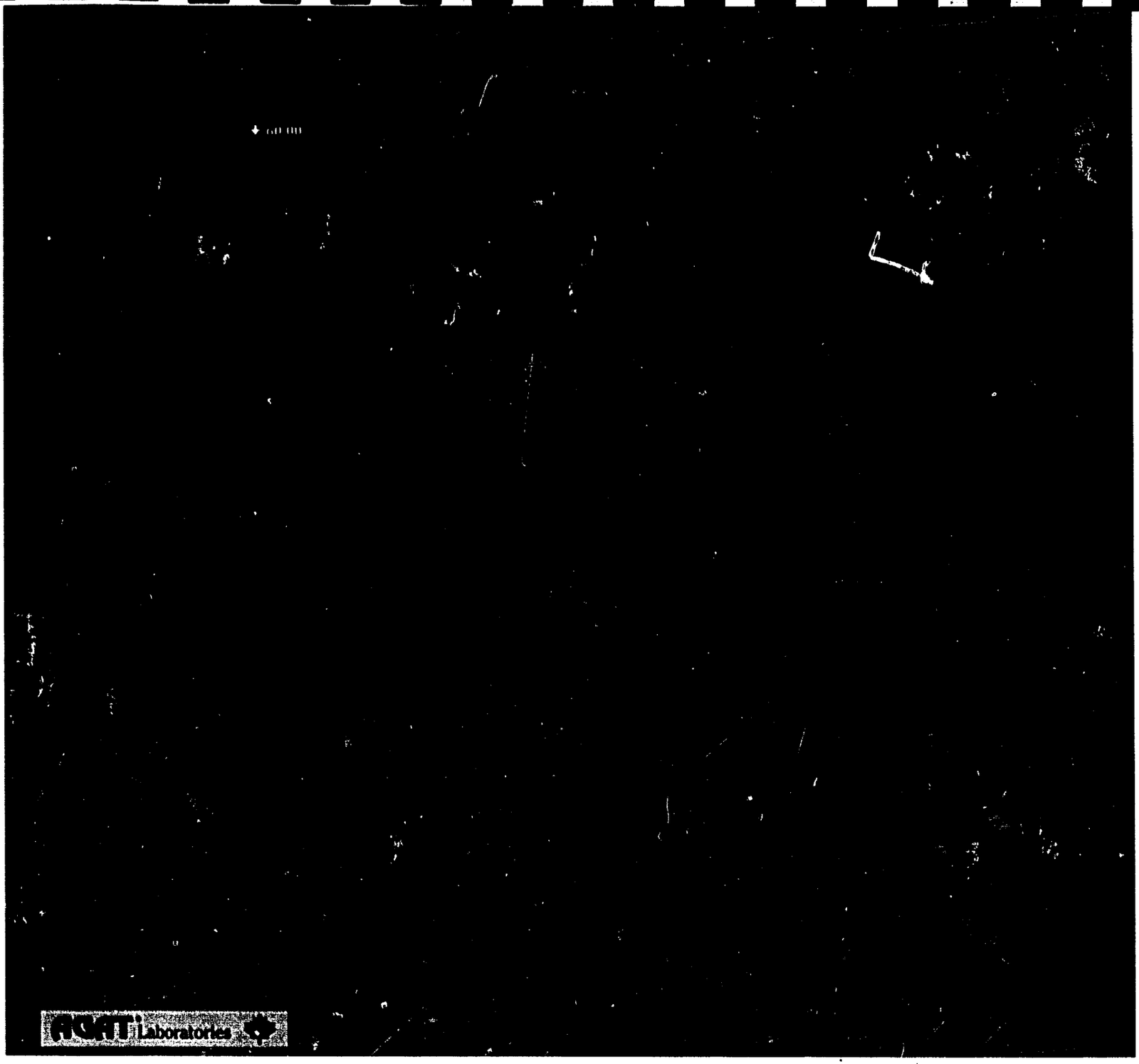

RSATI Laboratories

PROPOSED SURVEY PLAN

OVERSIZED

DOCUMENT

FILMED

ON

35mm

RESISTIVITY/ CONDUCTIVITY

Tucker
WIRELINE SERVICES

DUAL INDUCTION RESISTIVITY LOG

File No. :	LDC-12469
Company :	ANADARKO CANADA CORPORATION
Well :	ANADARKO WEST BOVIE I-76
Field :	WEST BOVIE
County :	
Province :	NWT
Country :	Canada

N.E.B. COPY

Location : UNIQUE WELL IDENTIFIER: 300I766020123000

WELL LICENCE NUMBER: 1986

Sect : Twp : Rge :

Recorded By : J.D.DEMCHENKO
Witnessed By : E.LANGE

Date : FEB 28 2003
Run No. : 1

Permanent Datum :	GL	
Drilling Measured From :	KB	
Log Measured From:	KB	
Above Permanent Datum :	4.1	m
Depth--Driller :	585.0	m
Depth--Logger :	584.8	m
Bottom Log Interval :	584.6	m
Top Log Interval :	161.0	m
Casing Depth--Driller:	161.0	m
Casing Depth--Logger :	161.0	m
Casing Diameter :	219.100	mm
Bit Size :	200.000	mm

Unit No. : UNIT 125
Location : LEDUC, Alberta

Elevations :

KB :	307.4	m
DF :		m
GL :	303.3	m

Additional Services

CNT
LDT
CST

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on intepretations, conversions or recommendations as aforesaid.

Run Number 1

Depth To Fluid	0.0	m		
Fluid Type In Hole :	GEL CHEM			
Density :	1170.000			
Viscosity :	76.000			
pH :	10.500			
Fluid Loss :	6.500			
Salinity :	0.000			
RM Source :	FLOW			
RM :	3.000	OHMM at	21	C
RM at BHT :	2.600	OHMM at	27	C
RMF Source :	PRESS			
RMF :	4.000	OHMM at	15	C
RMF at BHT :	3.000	OHMM at	27	C
RMC Source :	FILTER			
RMC :	3.500	OHMM at	20	C
RMC at BHT :	3.000	OHMM at	27	C
Max Recorded Temp. :			27	C
Time Circulation Stopped :	10:15, FEB 28 2003			
Operating Rig Time, Hrs. :	3.8			

- Source Serial Numbers -

Gamma	2913GW
Neutron	N-618

- Sonde Serial Numbers -

GRTB	GRT-BC-039
CNT	CNT-AB-18
LDT	NDT-BD-102/LDP-BA-15
CST	CST-AB-031
PIT	PIT-AB-04

Casing Strings

Size (mm)	Weight (kg/m3)	Bottom (m)
219.100	35.70	161.00

- Comments -

BOREHOLE COMMENTS:

TOTAL OPEN HOLE VOLUME FROM TD TO SURFACE CASING IS:............ 14.9 CU.M.
TOTAL ANNULAR HOLE VOLUME FROM TD TO SC IS:..................... 8.7 CU.M.
i) ANNULAR VOLUMES CALCULATED WITH 139.7 MM PRODUCTION CASING
ii) ALL VOLUMES CALCULATED USING BITSIZE AS A MINIMUM VALUE
iii) CALIPERS SET TO A X-Y AXIS

LOGGING COMMENTS:

1) GRT, MLT, CNT, LDT, CST, AND PIT RUN IN COMBINATION
2) SFL IS ENVIRONMENTALLY CORRECTED
3) COMPENSATED NEUTRON IS CALIPER CORRECTED
4) 38.1 MM STANDOFF DEPLOYED ON PIT
5) SONIC CENTRALIZERS DEPLOYED ON CST
6) LITHODENSITY RESPONSE POOR FROM 532 THROUGH 501 METERS DUE TO HOLE RUGOSITY AND POOR CALIPER ORIENTATION. EXTRA REPEAT SECTION LOGGED AND PRESENTED

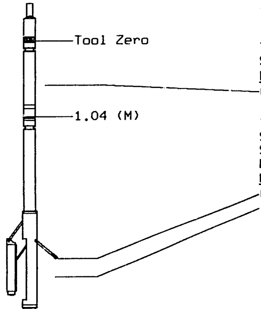
TIME LOG:
RIG UP........... 13:00
TIME ON BOTTOM... 14:15
RIG DOWN......... 16:45

TUCKER OPERATORS:
L.GAUDET, E.TURNOVOY

DRILLING RIG:
AKITA 15

Tool String Schematic

Total Tool Length - 18.73 (M)
Maximum Outside diameter - 133.35 (mm)
Net Weight in Air - 440.44 (Kgs)

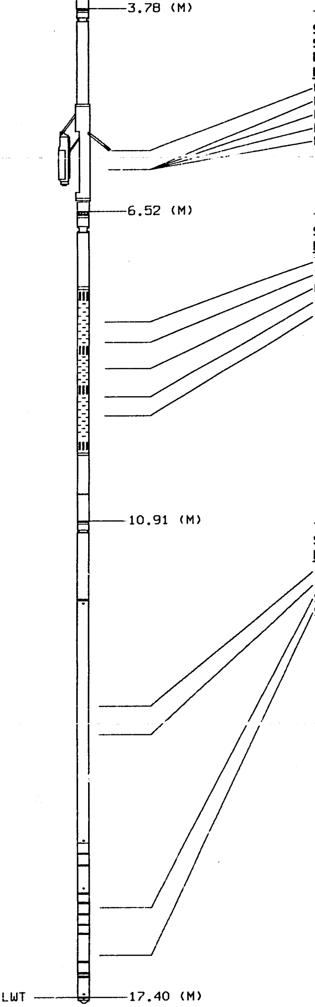


Tool: GRTB **Length:** 1.04 **(M) O.D.:** 91.44**(mm)**
Sonde ID : GRT-BC-039

Measure Point	Stack Offset	Tool Offset
GRP	0.61	0.61

Tool: CNT **Length:** 2.74 **(M) O.D.:**110.74**(mm)**
Sonde ID : CNT-AB-18
Source ID : N-618
Pad ID : CNP-AB-18

Measure Point	Stack Offset	Tool Offset
CLCN	2.87	1.83
PHIN	3.12	2.08



Tool: LDT **Length:** 2.74 **(M) O.D.:**133.35**(mm)**
Sonde ID : NDT-BD-102/LDP-BA-15
Source ID : 2913GW
Pad ID : LDP-BA-15

Measure Point	Stack Offset	Tool Offset
CLLD	5.61	1.83
PEL	5.99	2.21
PES	5.99	2.21
LDEN	5.99	2.21
LCOR	5.99	2.21

Tool: CST **Length:** 4.39 **(M) O.D.:** 91.44**(mm)**
Sonde ID : CST-AB-031

Measure Point	Stack Offset	Tool Offset
TT1	7.99	1.46
TT3	8.29	1.77
CDT	8.75	2.23
TT4	9.20	2.68
TT2	9.51	2.99

Tool: PIT **Length:** 6.49 **(M) O.D.:** 92.07**(mm)**
Sonde ID : PIT-AB-04

Measure Point	Stack Offset	Tool Offset
ILD	13.63	2.72
ILM	13.99	3.08
SFLU	16.24	5.33
SP	17.19	6.28

TENSION
KG
5000 0

SPONTANEOUS POTENTIAL
mV
→| |← 10

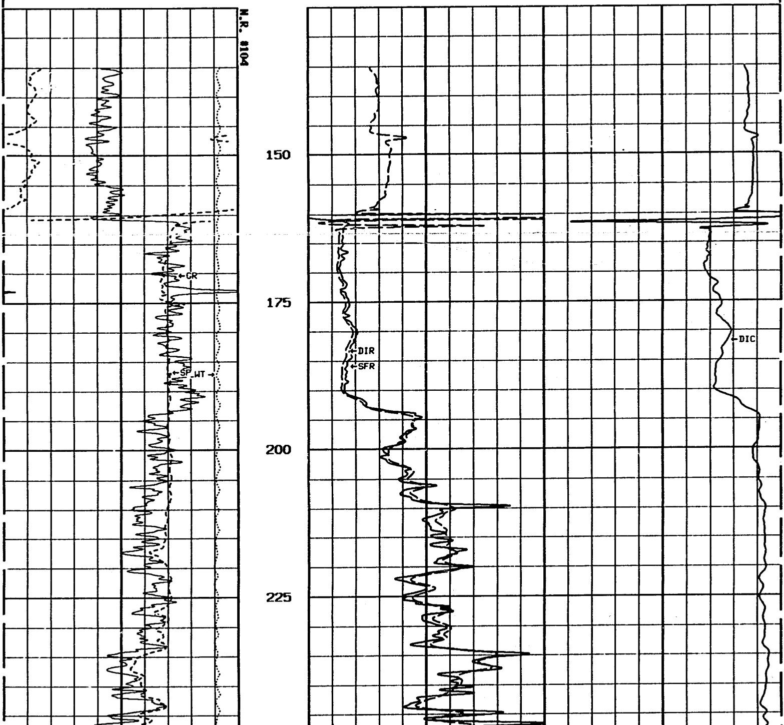
GAMMA RAY
API UNITS
150 ▨ 300
0 150

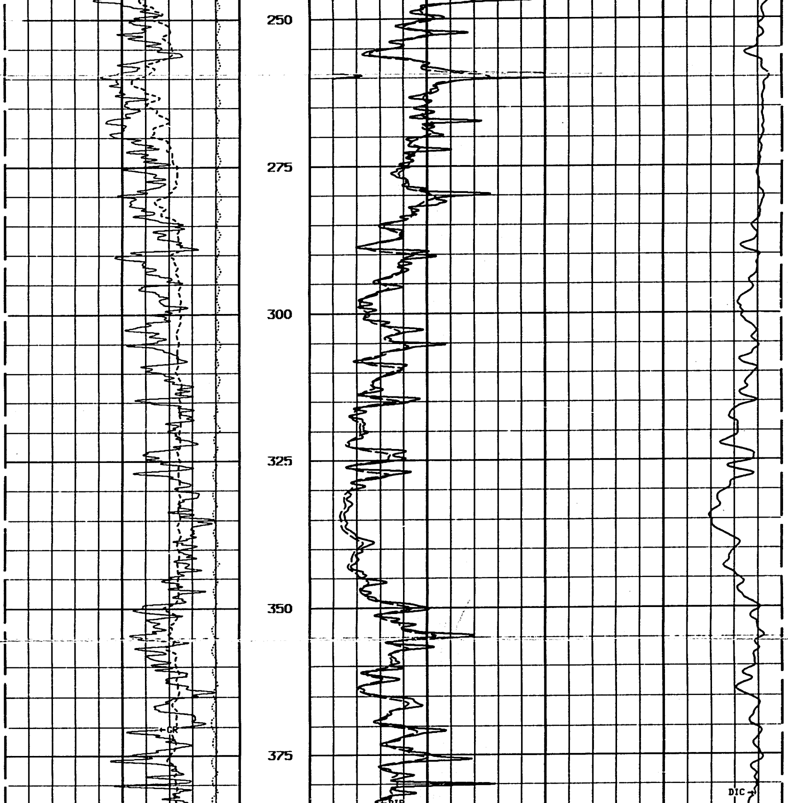
SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

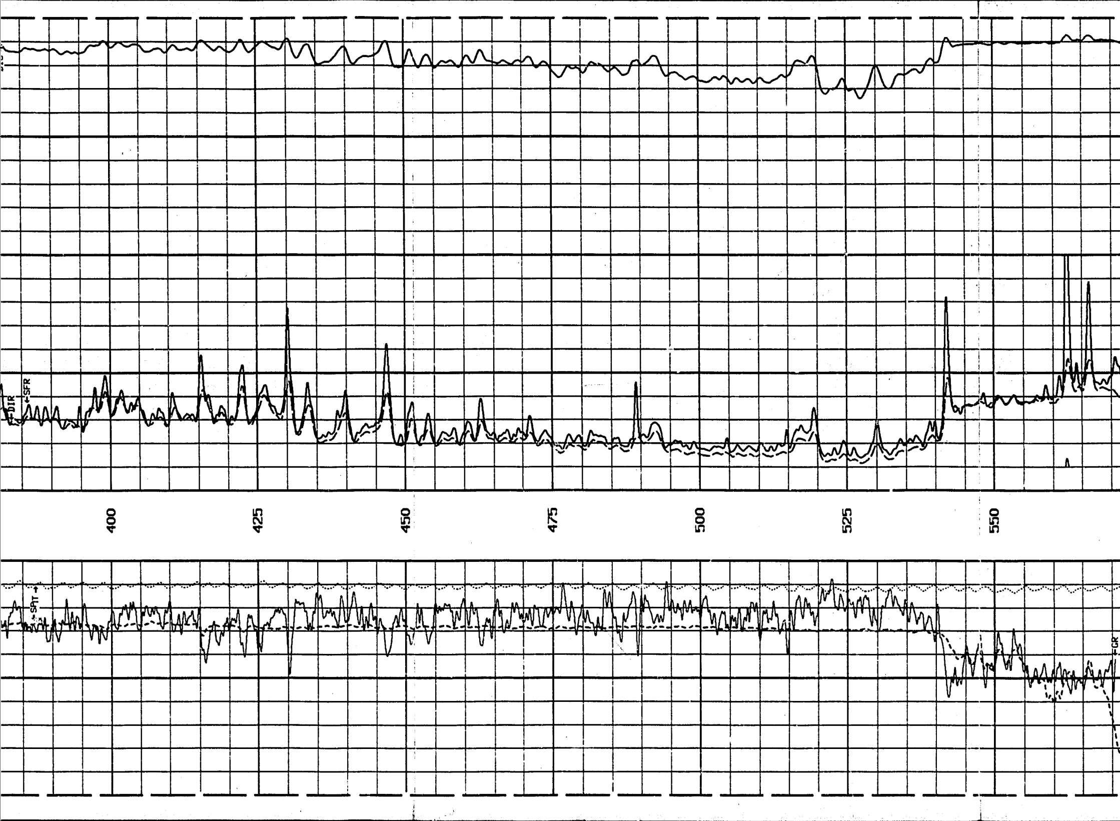
DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

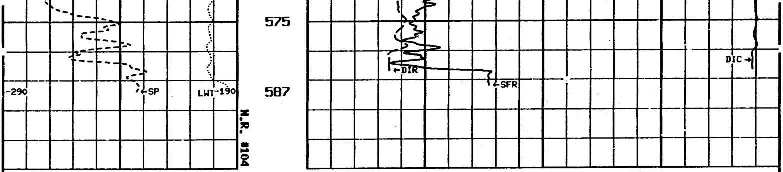
DEEP CONDUCTIVITY
OHMM
2000 1000
1000 0

1:600 SECTION









1:600 SECTION

GAMMA RAY
API UNITS
150 ▨ 300
0 150

SPONTANEOUS POTENTIAL
mV
→| |← 10

TENSION
KG
5000 0

DEEP CONDUCTIVITY
OHMM
2000 1000
1000 0

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

TENSION
KG
5000 0

GAMMA RAY
API UNITS
150 ▨ 300
0 150

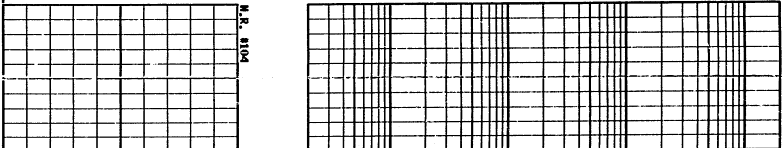
SPONTANEOUS POTENTIAL
mV
→| |← 10

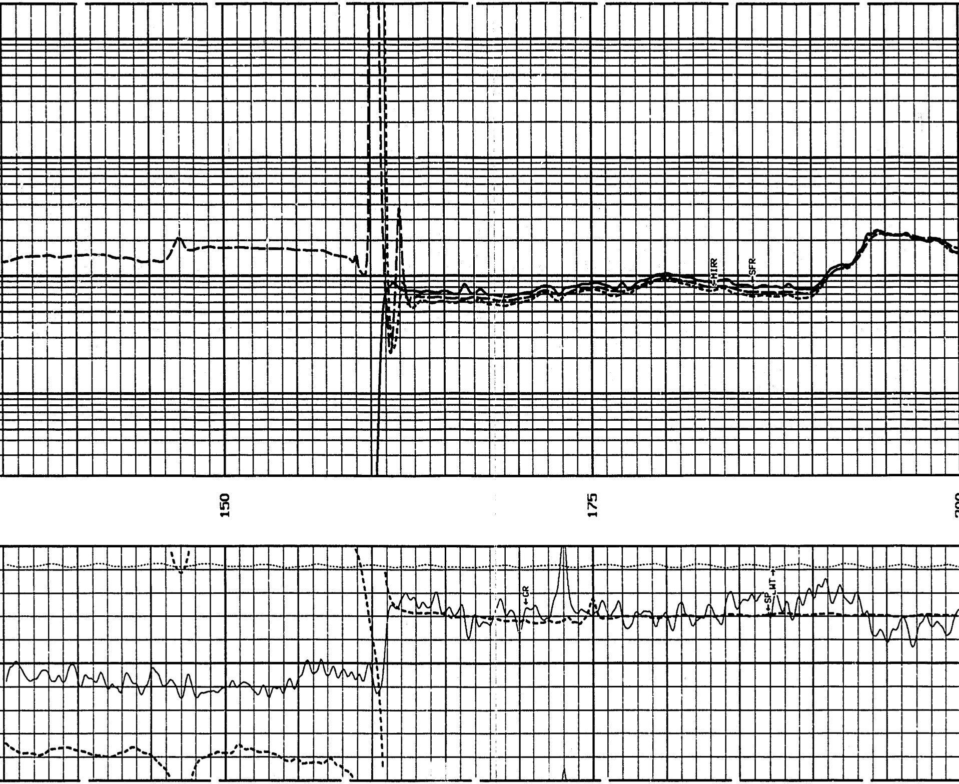
SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

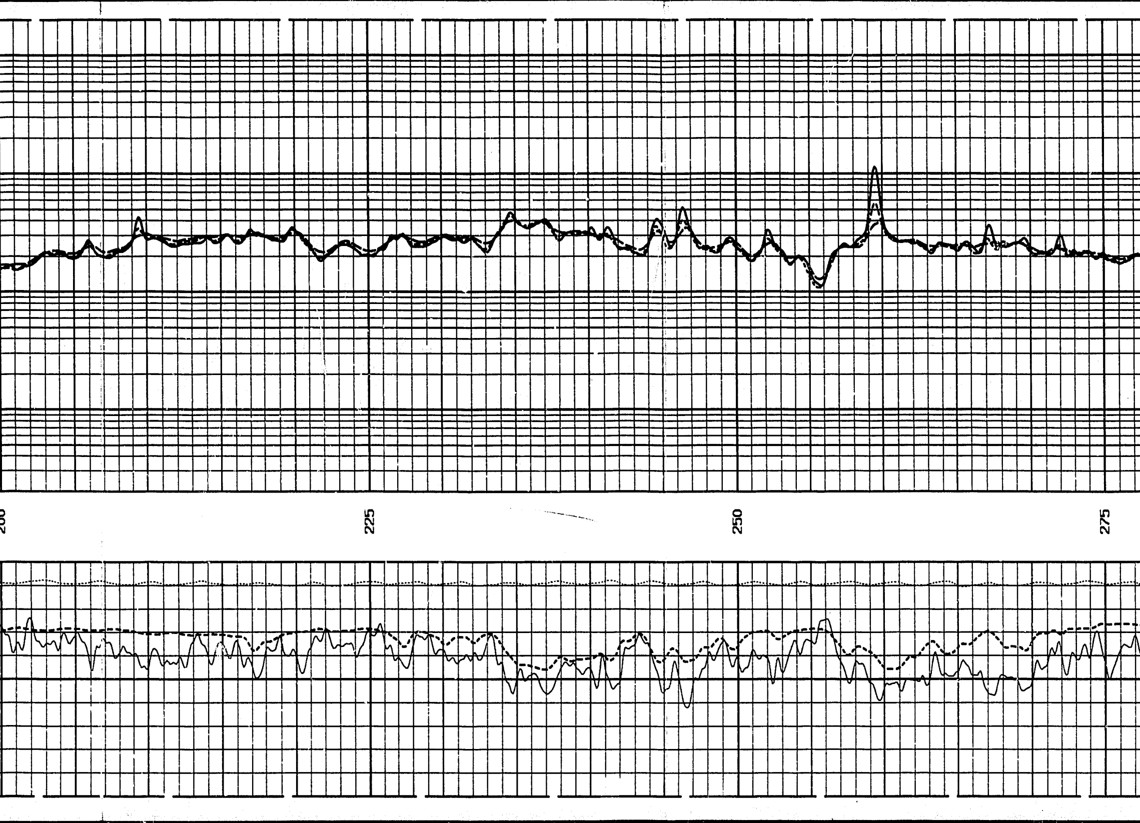
MEDIUM INDUCTION
OHMM
0.2 2000.0

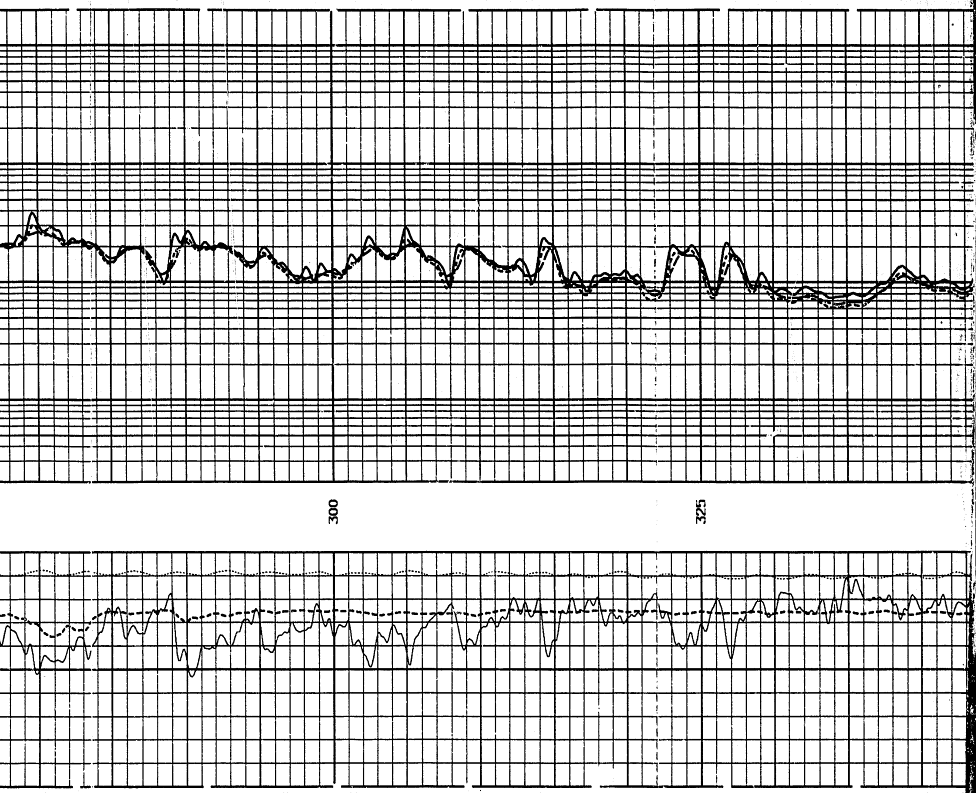
DEEP INDUCTION
OHMM
0.2 2000.0

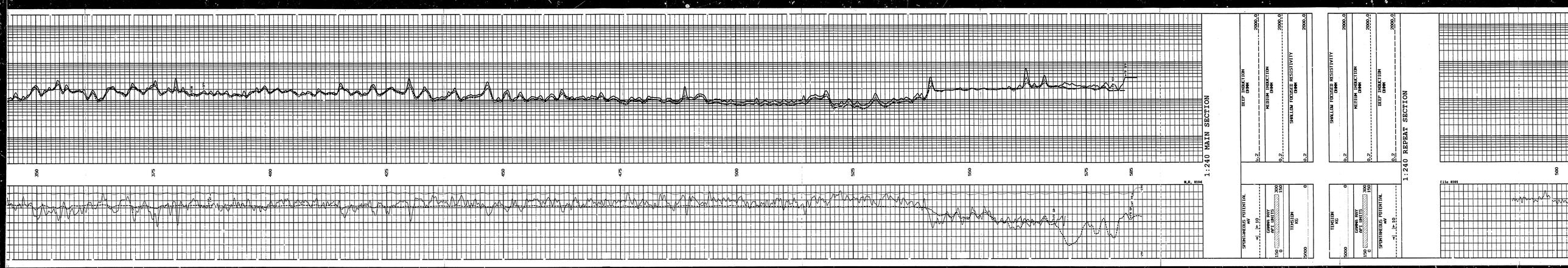
1:240 MAIN SECTION

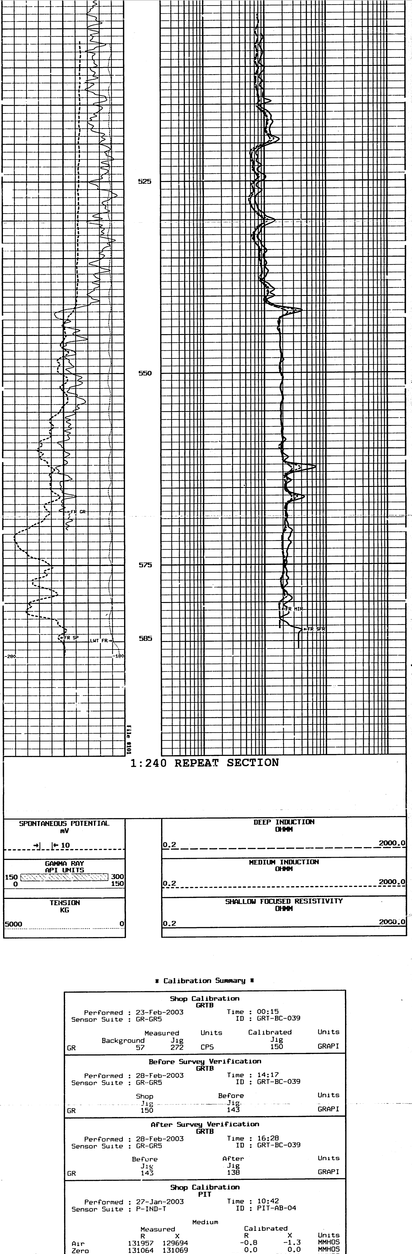









1:240 MAIN SECTION
1:240 REPEAT SECTION
DEEP INDUCTION
MEDIUM INDUCTION
SHALLOW FOCUSED RESISTIVITY
SPONTANEOUS POTENTIAL
TENSION
GAMMA RAY API UNITS
2000.0
0.2
0
5000
150
300
350
375
400
425
450
475
500
525
550
575
595



1:240 REPEAT SECTION

∎ Calibration Summary ∎

Shop Calibration
GRTB

Performed : 23-Feb-2003 Time : 00:15
Sensor Suite : GR-GR5 ID : GRT-BC-039

	Measured	Units	Calibrated	Units
	Background	Jig	Jig	
GR	57	272	150	GRAPI
		CPS		

Before Survey Verification
GRTB

Performed : 28-Feb-2003 Time : 14:17
Sensor Suite : GR-GR5 ID : GRT-BC-039

	Shop	Before	Units
	Jig	Jig	
GR	150	143	GRAPI

After Survey Verification
GRTB

Performed : 28-Feb-2003 Time : 16:28
Sensor Suite : GR-GR5 ID : GRT-BC-039

	Before	After	Units
	Jig	Jig	
GR	143	138	GRAPI

Shop Calibration
PIT

Performed : 27-Jan-2003 Time : 10:42
Sensor Suite : P-IND-T ID : PIT-AB-04

Medium

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	131957	129694	-0.8	-1.3	MMHOS
Zero	131064	131069	0.0	0.0	MMHOS
Reference	242054	246582	5000.0	5000.0	MMHOS
Loop	151184	170943	2613.4	955.4	MMHOS
Sonde Error			2.3	3.5	MMHOS
Cond			5000.0	5000.0	MMHOS

Deep

	Measured R	Measured X	Calibrated R	Calibrated X	Units
Air	130018	130095	-0.1	-0.3	MMHOS
Zero	131081	131069	0.0	0.0	MMHOS
Reference	233217	233375	2000.0	2000.0	MMHOS
Loop	150334	173771	1251.6	455.7	MMHOS
Sonde Error			-2.0	1.0	MMHOS
Cond			2000.0	2000.0	MMHOS

Temperature

Measured Low	Measured High	Calibrated Low	Calibrated High	Units
16980.0	56909.0	70.0	350.0	DEGF

Performed : 27-Jan-2003 Time : 10:35
Sensor Suite : SFL ID : PIT-AB-04

Internal

	Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
Im	32766.0	50007.8	0.0	7028.0	uA
Ib	32768.0	50352.4	0.0	1750.0	mA
MOMI	32800.9	58515.2	0.0	175.0	mV
Equivalent SFL				43.97	OHMM

Performed : 27-Jan-2003 Time : 10:36
Sensor Suite : P-SP ID : PIT-AB-04

Internal

Measured Zero	Measured Reference	Calibrated Zero	Calibrated Reference	Units
32785.0	58934.3	0.0	1000.0	mV

Before Survey Verification
PIT

Performed : 28-Feb-2003 Time : 14:11
Sensor Suite : P-IND-T ID : PIT-AB-04

Medium

	Shop Measured	Shop Calibrated	Pre Verification Measured	Pre Verification Calibrated	Units
R Zero	131064	0.0	131062	0.0	MMHOS
X Zero	131069	0.0	131074	0.0	MMHOS
R Ref	242054	5000.0	247298	5000.0	MMHOS
X Ref	246582	5000.0	246421	5000.0	MMHOS

Deep

	Shop Measured	Shop Calibrated	Pre Verification Measured	Pre Verification Calibrated	Units
R Zero	131081	0.0	131075	0.0	MMHOS
X Zero	131069	0.0	131066	0.0	MMHOS
R Ref	233217	2000.0	233922	2000.0	MMHOS
X Ref	233375	2000.0	233163	2000.0	MMHOS

Performed : 28-Feb-2003 Time : 14:11
Sensor Suite : SFL ID : PIT-AB-04

Internal

	Shop Measured	Shop Calibrated	Pre Verification Measured	Pre Verification Calibrated	Units
Im Zero	32766.0	0.0	32776.3	0.0	uA
Im Ref	50007.8	7028.0	49992.0	7028.0	uA
Ib Zero	32768.0	0.0	32768.0	0.0	mA
Ib Ref	50352.4	1750.0	50333.9	1750.0	mA
MOMI Zero	32800.9	0.0	32779.0	0.0	mV
MOMI Ref	58515.2	175.0	58439.4	175.0	mV
Equivalent SFL		43.97		43.97	OHMM

Performed : 28-Feb-2003 Time : 14:11
Sensor Suite : P-SP ID : PIT-AB-04

Internal

	Shop Measured	Shop Calibrated	Pre Verification Measured	Pre Verification Calibrated	Units
Zero	32785.0	0.0	32789	0.1	mV
Reference	58934.3	1000.0	58956	1000.1	mV

After Survey Verification
PIT

Performed : 28-Feb-2003 Time : 16:10
Sensor Suite : P-IND-T ID : PIT-AB-04

Medium

	Pre Verification Measured	Pre Verification Calibrated	Post Verification Measured	Post Verification Calibrated	Units
R Zero	131062	0.0	131063	0.0	MMHOS
X Zero	131074	0.0	131060	0.0	MMHOS
R Ref	247298	5000.0	246897	5000.0	MMHOS
X Ref	246421	5000.0	246462	5000.0	MMHOS

Deep

	Pre Verification Measured	Pre Verification Calibrated	Post Verification Measured	Post Verification Calibrated	Units
R Zero	131075	0.0	131083	0.0	MMHOS
X Zero	131066	0.0	131069	0.0	MMHOS
R Ref	233922	2000.0	232928	2000.0	MMHOS
X Ref	233163	2000.0	233233	2000.0	MMHOS

Performed : 28 Feb 2003 Time : 16:10
Sensor Suite : SFL ID : PIT-AB-04

Internal

	Pre Verification Measured	Pre Verification Calibrated	Post Verification Measured	Post Verification Calibrated	Units
Im Zero	32776.3	0.0	32771.6	0.0	uA
Im Ref	49992.0	7028.0	49996.0	7028.0	uA
Ib Zero	32768.0	0.0	32768.1	0.0	mA
Ib Ref	50333.9	1750.0	50330.9	1750.0	mA
MOMI Zero	32779.0	0.0	32800.0	0.0	mV
MOMI Ref	58439.4	175.0	58491.0	175.0	mV
Equivalent SFL		43.97		43.97	OHMM

Performed : 28-Feb-2003 Time : 16:10
Sensor Suite : P-SP ID : PIT-AB-04

Internal

	Pre Verification Measured	Pre Verification Calibrated	Post Verification Measured	Post Verification Calibrated	Units
Zero	32789.0	0.0	32785	0.0	mV
Reference	58956.3	1000.1	58930	1000.0	mV

Tucker
WIRELINE SERVICES

N.E.B. COPY
DUAL INDUCTION RESISTIVITY LOG

File No. : GP - 1986
Company : ANADARKO CANADA CORPORATION
Well : ANADARKO WEST BOVIE I-76
Field : WEST BOVIE
County :
State : NORTHWEST TERRITORIES
Country : CANADA

Location : UNIQUE I.D.: 300I766020123000
LOCATION: I-76
LICENCE: 1986
Sect : Twp : Rge :

Recorded By : V. IGLESIAS
Witnessed By : E. LANGE

Date : MAR 23 2003
Run No. : 2

Permanent Datum : GL
Drilling Measured From : KB
Log Measured From: KB
Above Permanent Datum : 4.07 M

Depth--Driller : 804.0 M
Depth--Logger : 803.0 M
Bottom Log Interval : 802.7 M
Top Log Interval : 0.0 M

Casing Depth--Driller: 585.5 M
Casing Depth--Logger : 584.9 M
Casing Diameter : 139.700 MM

Bit Size : 121.000 MM
Unit No. : 118
Location : GRANDE PRAIRIE

Elevations :
KB : 307.37 M
DF : M
GL : 303.30 M

Additional Services
CST
CNT

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on intepretations, conversions or recommendations as aforesaid.

Run Number 1

Depth To Fluid	1.0	M		
Fluid Type In Hole :	GEL CHEM			
Density :	1050.000			
Viscosity :	85.000			
pH :	10.000			
Fluid Loss :	6.000			
Salinity :	0.000			
RM Source :	FLOWLINE			
RM :	3.000	OHMM at	25	C
RM at BHT :	2.600	OHMM at	32	C
RMF Source :	PRESS			
RMF :	2.600	OHMM at	25	C
RMF at BHT :	2.230	OHMM at	32	C
RMC Source :	PRESS			
RMC :	3.600	OHMM at	25	C
RMC at BHT :	3.090	OHMM at	32	C
Max Recorded Temp. :			32	C
Time Circulation Stopped :		MAR 23 2003 @ 04:30		
Operating Rig Time, Hrs. :			1.5	

- Sonde Serial Numbers -

GRTB	GRT-BB-008
PIT	PIT-AB-017

Casing Strings

Size (MM)	Weight (KG/CU)	Bottom (M)
139.700	19.04	584.90

- Comments -

RUN 1: GRT,PIT
RUN 2: GRT,CST,CNT

1) ALL SCALES AND INTERVALS AT CLIENT'S REQUEST.
2) SFL IS ENVIRONMENTALLY CORRECTED.
3) CALIPER READINGS VERIFIED IN CASING.
4) SONIC READINGS VERIFIED IN CASING.
5) PHIN IS CALIPER CORRECTED.
6) ALL HEADER INFORMATION AS PER WELL LICENCE
7) GAMMA RAY RUN TO SURFACE AS PER B.C. REGULATIONS. PRESENTED ON SONIC 1:600.

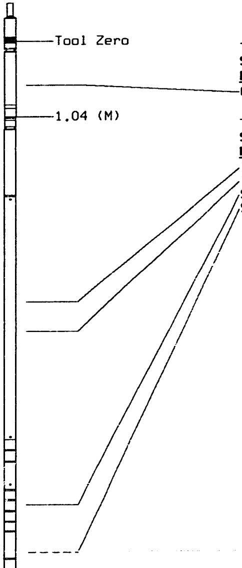
MUD DATA:
RM1: 3.00 OHMM @ 25 DEG.
RM2: 2.90 OHMM @ 25 DEG.
RM3: 3.00 OHMM @ 25 DEG.
RMF1: 2.60 OHMM @ 25 DEG.
RMF2: 2.5 OHMM @ 25 DEG.
RMC1: 3.6 OHMM @ 25 DEG.

TIME LOG:
RIG IN: 07:00
ON BOTTOM: 07:30
ON SURFACE: 08:45
ON BOTTOM: 09:15
RIG OUT: 10:30

OPERATORS:
S. ROSS
D. KULICKI
RIG: AKITA #15

Tool String Schematic

Total Tool Length - 8.10 **(M)**
Maximum Outside diameter - 92.07 **(mm)**
Net Weight in Air - 130.64 **(Kgs)**

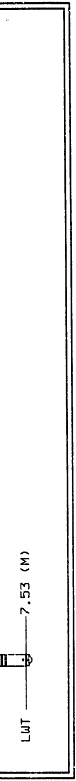


Tool: GRTB **Length:** 1.04 **(M) O.D.:** 91.44**(mm)**
Sonde ID : GRT-BB-008

Measure Point	**Stack Offset**	**Tool Offset**
GRP	0.61	0.61

Tool: PIT **Length:** 6.49 **(M) O.D.:** 92.07**(mm)**
Sonde ID : PIT-AB-017

Measure Point	**Stack Offset**	**Tool Offset**
ILD	3.76	2.72
ILM	4.11	3.08
SFLU	6.37	5.33
SP	7.32	6.28



TENSION
KG
5000 0

SPONTANEOUS POTENTIAL
mV
→| |← 10

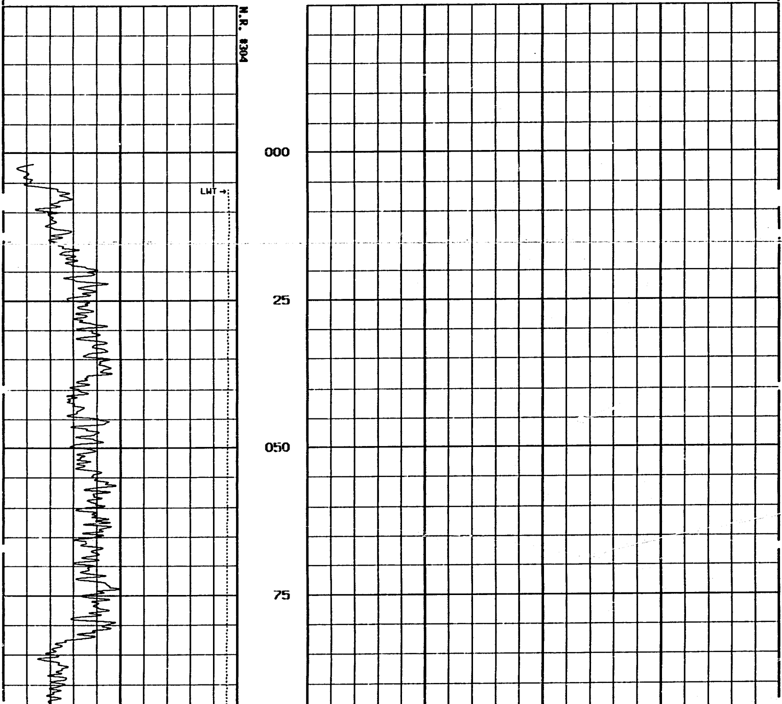
GAMMA RAY
API UNITS
150 ▨ 300
0 150

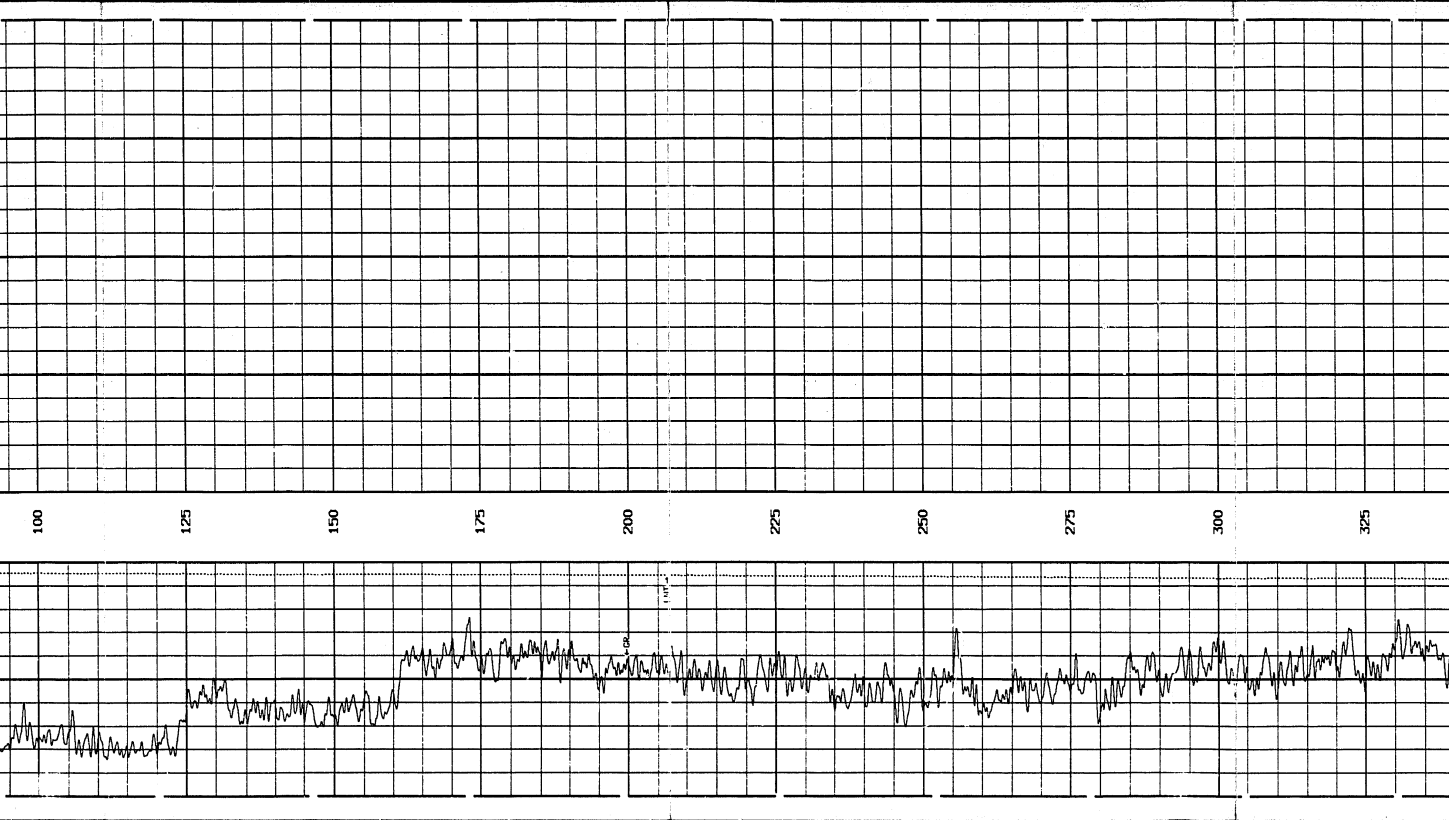
SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

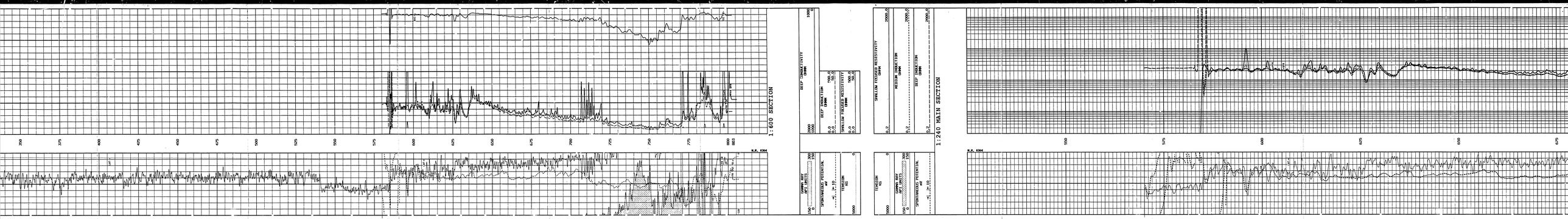
DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

DEEP CONDUCTIVITY
OHMM
2000 1000
1000 0

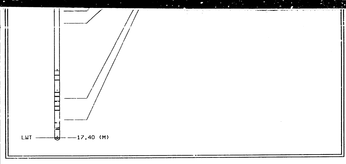
1:600 SECTION






1:600 SECTION
1:240 MAIN SECTION
DEEP CONDUCTIVITY
CDPH
DEEP INDUCTION
IDPH
SHALLOW FOCUSED RESISTIVITY
CSFH
MEDIUM INDUCTION
IMPH
SPONTANEOUS POTENTIAL
TENSION
GAMMA RAY
GAPI UNITS
E.E. 1304

SONIC



BIT SIZE
MILLIMETERS (cm)
125 325

Y CALIPER
MILLIMETERS (cm)
175 625
175 625

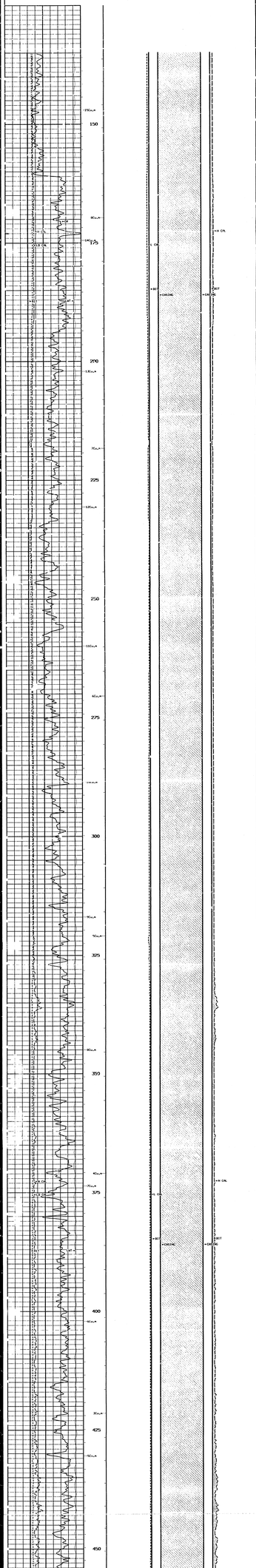
X CALIPER
MILLIMETERS (cm)
375 625
175 375

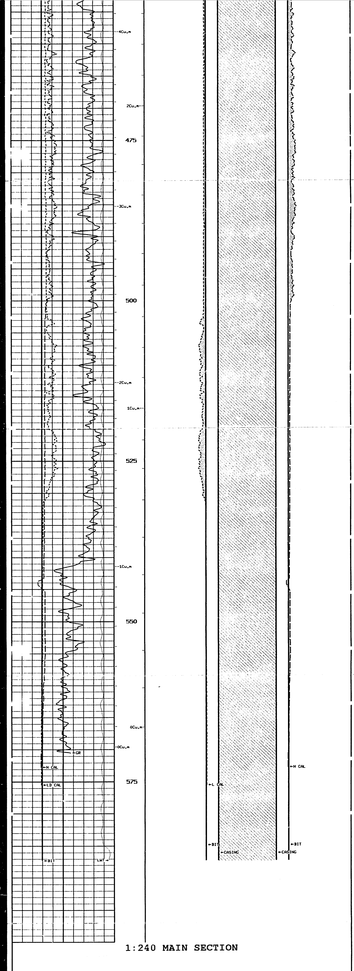
-BHV RMV-
CO,R

TENSION
KG
5000 0

GAMMA RAY
API UNITS
150 300
0 150

1:240 MAIN SECTION





1:240 MAIN SECTION

GAMMA RAY API UNITS
150 300
0 150

TENSION KG
5000 0

X CALIPER MILLIMETERS (mm)
375 625
125 375

-BAY RAY-OUR

Y CALIPER MILLIMETERS (mm)
375 625
125 375

BIT SIZE MILLIMETERS (mm)
125 375

* Calibration Summary *

Shop Calibration
GRTB
Performed : 23-Feb-2003 Time : 00:15
Sensor Suite : GR-CAL ID : GRT-BC-039

	Measured	Units	Calibrated	Units
	Background		Jig	
GR	57	CPS	150	GRAPI

Shop Calibration
CNT
Performed : 19-FEB-2003 Time : 10:13
Sensor Suite : CALI-BCH ID : CHT-AB-1B

	Jig - Measured		Jig - Calibrated	
	Ring#1 Ring#2	Units	Ring#1 Ring#2	Units
CL * 1	8,8 13,8	IN,	6,0 12,0	IN,

Shop Calibration
LDT
Performed : 24-FEB-2003 Time : 21:11
Sensor Suite : CALI-PEB ID : NDT-BB-102/LDP-BA-15

	Jig - Measured		Jig - Calibrated	
	Ring#1 Ring#2	Units	Ring#1 Ring#2	Units
CL * 1	6,0 11,1	IN,	6,0 12,0	IN,

TENSION KG
5000 0

BIT SIZE MILLIMETERS (mm)
125 375

SEDCITY (X) CALIPER MILLIMETERS (mm)
375 625
125 375

NEUTRON (Y) CALIPER MILLIMETERS (mm)
375 625
125 375

GAMMA RAY API UNITS
150 300
0 150

TT4 uSEC
950 50

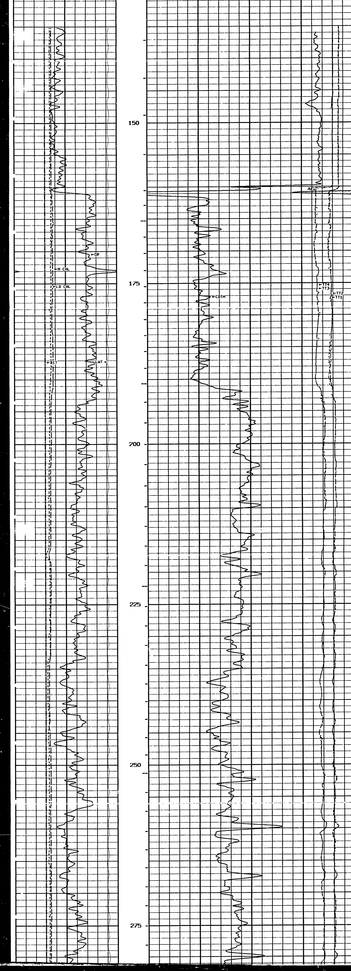
TT3 uSEC
950 50

TT2 uSEC
950 50

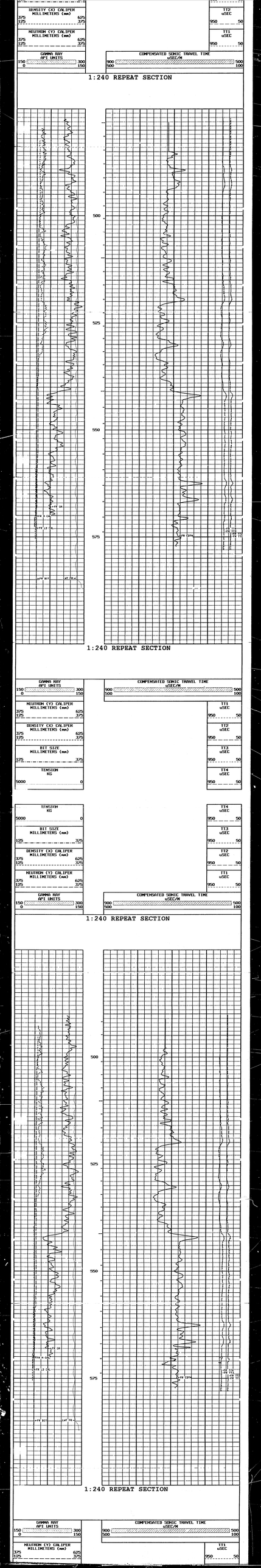
TT1 uSEC
950 50

COMPENSATED SONIC TRAVEL TIME uSEC/M
900 500
500 100

1:240 MAIN SECTION



1:240 MAIN SECTION
COMPENSATED SONIC TRAVEL TIME
usec/m
500
100
900
GAMMA RAY
API UNITS
300
150
0
NEUTRON (T) CALIPER
MILLIMETERS (mm)
425
375
325
BIT(T) (C) CALIPER
MILLIMETERS (mm)
425
375
325
BIT SIZE
MILLIMETERS (mm)
425
375
TENSION
KG
6000
0
T11
uSEC
950
900
T12
uSEC
950
900
T13
uSEC
950
900
T14
uSEC
950
900
T21
uSEC
950
900
T22
uSEC
950
900
T23
uSEC
950
900
T24
uSEC
950
900
TENSION
KG
6000
0
BIT SIZE
MILLIMETERS (mm)
425
375
325
300
305
350
375
400
425
450
475
500
525
550
575


DENSITY (X) CALIPER MILLIMETERS (mm)
375 625
125 375
NEUTRON (Y) CALIPER MILLIMETERS (mm)
375 625
125 375
GAMMA RAY API UNITS
150 300
0 150
COMPENSATED SONIC TRAVEL TIME uSEC/M
900 500
500 100
TT2 uSEC
950 50
TT1 uSEC
950 50
1:240 REPEAT SECTION
500
525
550
575
1:240 REPEAT SECTION
GAMMA RAY API UNITS
150 300
0 150
COMPENSATED SONIC TRAVEL TIME uSEC/M
900 500
500 100
NEUTRON (Y) CALIPER MILLIMETERS (mm)
375 625
125 375
DENSITY (X) CALIPER MILLIMETERS (mm)
375 625
125 375
BIT SIZE MILLIMETERS (mm)
125 375
TENSION KG
5000 0
TT1 uSEC
950 50
TT2 uSEC
950 50
TT3 uSEC
950 50
TT4 uSEC
950 50
1:240 REPEAT SECTION
500
525
550
575
1:240 REPEAT SECTION
GAMMA RAY API UNITS
150 300
0 150
COMPENSATED SONIC TRAVEL TIME uSEC/M
900 500
500 100
NEUTRON (Y) CALIPER MILLIMETERS (mm)
375 625
125 375
TT1 uSEC
950 50

DENSITY (X) CALIPER MILLIMETERS (mm)	
375	625
125	375

BIT SIZE MILLIMETERS (mm)	
125	375

TENSION KG	
5000	0

TT2 uSEC	
950	50

TT3 uSEC	
950	50

TT4 uSEC	
950	50

* Calibration Summary *

Shop Calibration GRTB

Performed : 23-Feb-2003 Time : 00:15
Sensor Suite : GR-GR5 ID : GRT-BC-039

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	57	272	CPS	150	GRAPI

Before Survey Verification GRTB

Performed : 28-Feb-2003 Time : 14:17
Sensor Suite : GR-GR5 ID : GRT-BC-039

	Shop Jig	Before Jig	Units
GR	150	143	GRAPI

After Survey Verification GRTB

Performed : 28-Feb-2003 Time : 16:28
Sensor Suite : GR-GR5 ID : GRT-BC-039

	Before Jig	After Jig	Units
GR	143	138	GRAPI

Shop Calibration CNT

Performed : 19-FEB-2003 Time : 10:13
Sensor Suite : CALI-BCN ID : CNT-AB-18

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.8	13.8	8.0	12.0	IN.

Shop Calibration CST

Performed : 12-FEB-2003 Time : 10:25
Sensor Suite : SON-ANA ID : CST-AB-031

Transit Time

T/R Pair	Measured	Calibrated	Units
T1R1	208.5	208.5	uS
T2R2	208.5	208.5	uS
T1R2	322.5	322.5	uS
T2R1	322.5	322.5	uS

Amplitude

T/R Pair	Measured	Calibrated	Units
T1R1	90.00	90.00	mV
T2R2	90.00	90.00	mV
T1R2	78.00	78.00	mV
T2R1	78.00	78.00	mV

Tucker
WIRELINE SERVICES

BOREHOLE COMPENSATED SONIC LOG

N.E.B. COPY

File No. : GP - 1986
Company : ANADARKO CANADA CORPORATION
Well : ANADARKO WEST BOVIE I-76
Field : WEST BOVIE
County :
State : NORTHWEST TERRITORIES
Country : CANADA

Location : UNIQUE I.D.: 300I766020123000
LOCATION: I-76
LICENCE: 1986
Sect : Twp : Rge :

Recorded By : V. IGLESIAS
Witnessed By : E. LANGE

Date : MAR 23 2003
Run No. : 2

Permanent Datum :	GL	
Drilling Measured From :	KB	
Log Measured From:	KB	
Above Permanent Datum :	4.07	M
Depth--Driller :	804.0	M
Depth--Logger :	803.0	M
Bottom Log Interval :	798.4	M
Top Log Interval :	584.9	M
Casing Depth--Driller:	585.5	M
Casing Depth--Logger :	584.9	M
Casing Diameter :	139.700	MM
Bit Size :	121.000	MM

Unit No. : 118
Location : GRANDE PRAIRIE

Elevations :
KB : 307.37 M
DF : M
GL : 303.30 M

Additional Services

CNT
PIT

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Run Number 1

Depth To Fluid	1.0	M		
Fluid Type In Hole :	GEL CHEM			
Density :	1050.000			
Viscosity :	85.000			
pH :	10.000			
Fluid Loss :	6.000			
Salinity :	0.000			
RM Source :	FLOWLINE			
RM :	3.000	OHMM at	25	C
RM at BHT :	2.600	OHMM at	32	C
RMF Source :	PRESS			
RMF :	2.600	OHMM at	25	C
RMF at BHT :	2.230	OHMM at	32	C
RMC Source :	PRESS			
RMC :	3.600	OHMM at	25	C
RMC at BHT :	3.090	OHMM at	32	C
Max Recorded Temp. :			32	C
Time Circulation Stopped :		MAR 23 2003 @ 04:30		
Operating Rig Time, Hrs. :			3.5	

- Source Serial Numbers -

Neutron 712A931B

- Sonde Serial Numbers -

GRTB	GRT-BB-001
CST	CST-AB-007
CNT	Not Calibrated

Casing Strings

Size (MM)	Weight (KG/CU)	Bottom (M)
139.700	19.04	584.90

- Comments -

RUN 1: GRT,PIT
RUN 2: GRT,CST,CNT

1) ALL SCALES AND INTERVALS AT CLIENT'S REQUEST.
2) SFL IS ENVIRONMENTALLY CORRECTED.
3) CALIPER READINGS VERIFIED IN CASING.
4) SONIC READINGS VERIFIED IN CASING.
5) PHIN IS CALIPER CORRECTED.
6) ALL HEADER INFORMATION AS PER WELL LICENCE
7) GAMMA RAY RUN TO SURFACE AS PER B.C. REGULATIONS. PRESENTED ON SONIC 1:600.

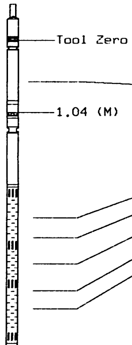
MUD DATA:
RM1: 3.00 OHMM @ 25 DEG.
RM2: 2.90 OHMM @ 25 DEG.
RM3: 3.00 OHMM @ 25 DEG.
RMF1: 2.60 OHMM @ 25 DEG.
RMF2: 2.5 OHMM @ 25 DEG.
RMC1: 3.6 OHMM @ 25 DEG.

TIME LOG:
RIG UP: 07:00
ON BOTTOM: 07:30
ON SUTFACE: 08:45
ON BOTTOM: 09:15
RIG OUT: 10:30

OPERATORS:
S. ROSS
D. KULICKI
RIG: AKITA #15

Tool String Schematic

Total Tool Length - 6.79 (M)
Maximum Outside diameter - 110.74 (**mm**)
Net Weight in Air - 215.91 (**Kgs**)

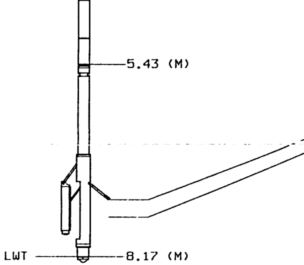


Tool: GRTB **Length:** 1.04 **(M) O.D.:** 91.44(**mm**)
Sonde ID : GRT-BB-001

Measure Point	Stack Offset	Tool Offset
GRP	0.61	0.61

Tool: CST **Length:** 4.39 **(M) O.D.:** 91.44(**mm**)
Sonde ID : CST-AB-007

Measure Point	Stack Offset	Tool Offset
TT1	2.50	1.46
TT3	2.80	1.77
CDT	3.26	2.23
TT4	3.72	2.68
TT2	4.02	2.99



Tool: CNT **Length:** 2.74 **(M) O.D.:**110.74**(mm)**
Sonde ID : Not Calibrated
Source ID : 712A931B
Pad ID : CNP-AA-115

Measure Point	Stack Offset	Tool Offset
CLCN	7.25	1.83
PHIN	7.51	2.08

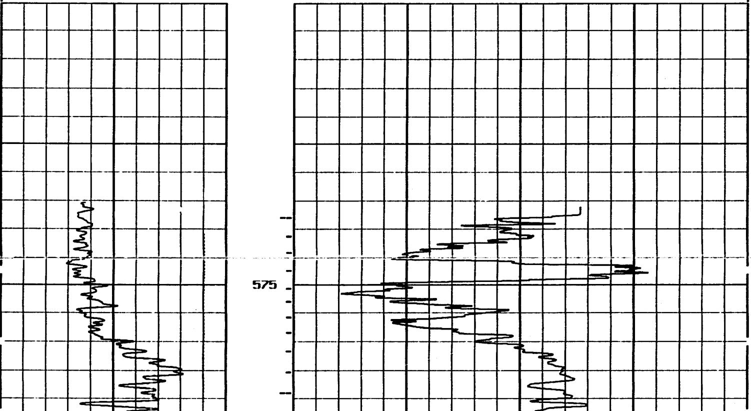
TENSION
KG
5000 0

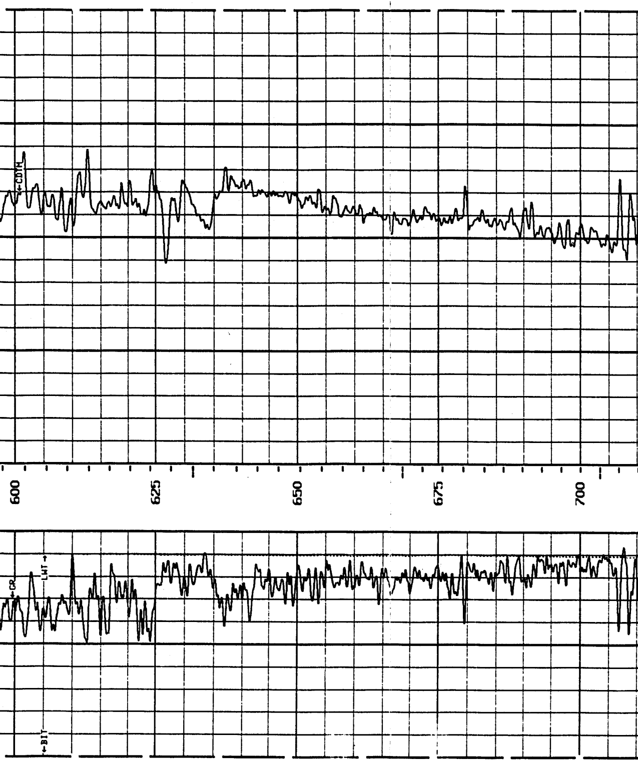
BIT SIZE
MILLIMETERS (mm)
125 375

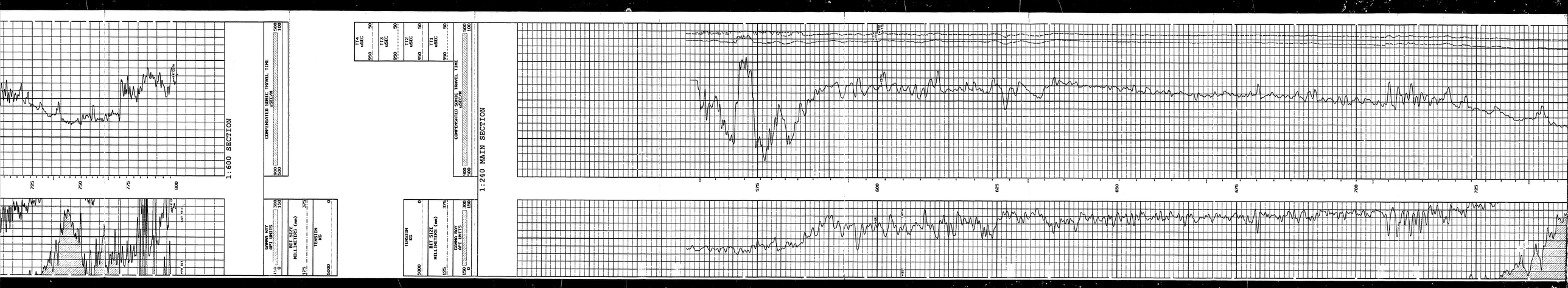
GAMMA RAY
API UNITS
150 ▨ 300
0 150

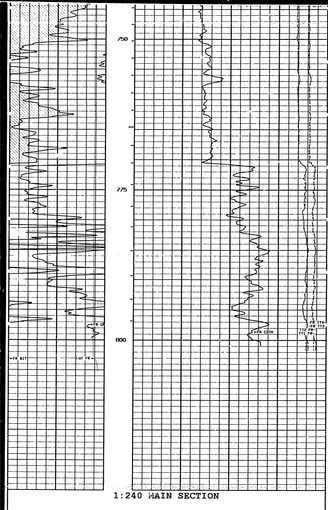
COMPENSATED SONIC TRAVEL TIME
uSEC/M
900 ▨ 500
500 100

1:600 SECTION

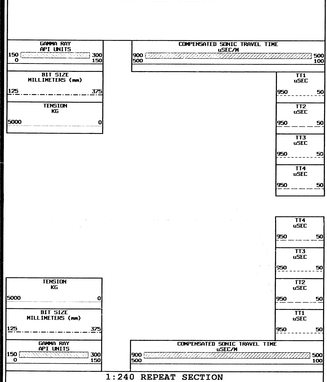




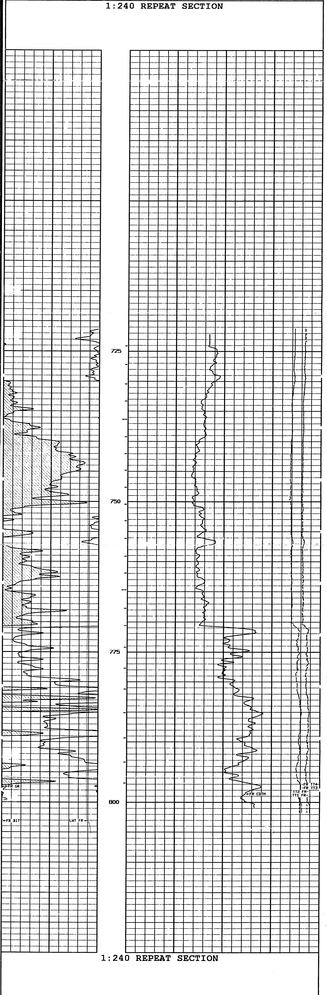

1:600 SECTION
1:240 MAIN SECTION
COMPENSATED SONIC TRAVEL TIME
μSEC/FT
GAMMA RAY
API UNITS
BIT SIZE
MILLIMETERS (mm)
TENSION
KG
T14
T13
T12
T11
725
750
775
800
575
600
625
650
675
700
725



1:240 MAIN SECTION



1:240 REPEAT SECTION



1:240 REPEAT SECTION

* Calibration Summary *

Shop Calibration
GRTB

Performed : 17-Mar-2003 Time : 11:03
Sensor Suite : GR-GMS ID : GRT-BB-008

	Measured	Units	Calibrated	Units
Background	316		316	
GR	377	CPS	170	GRAPI

Shop Calibration
EST

Performed : 12-MAR-2003 Time : 10:43
Sensor Suite : SGN-AMS ID : EST-AB-007

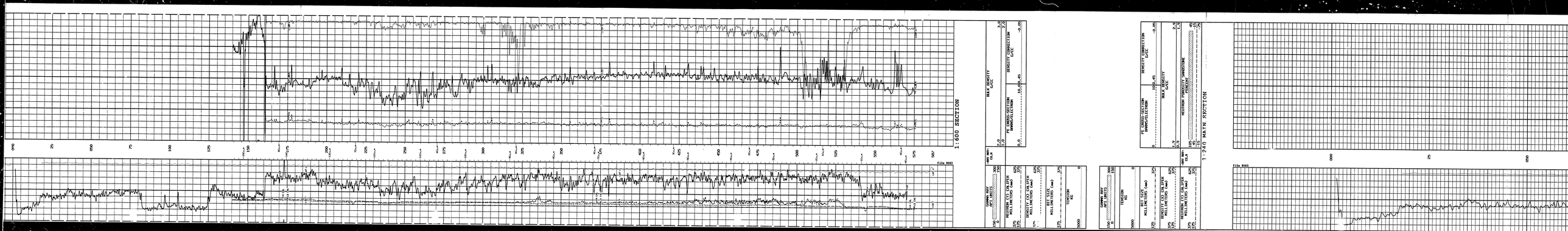
Transmit Time

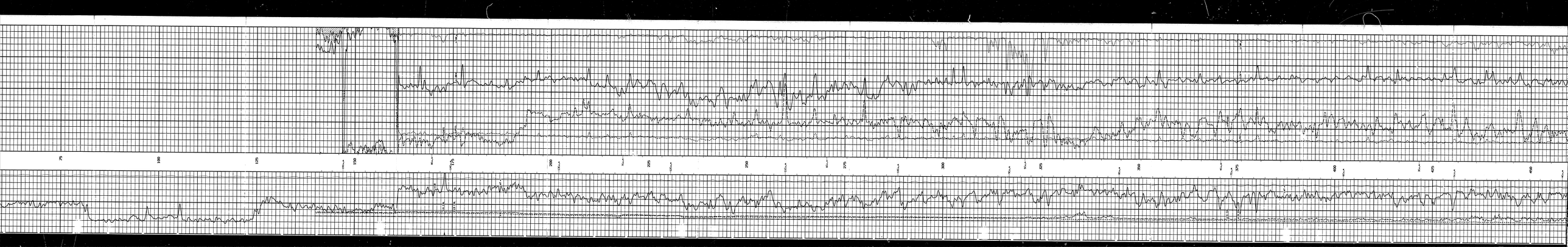
T/R Pair	Measured	Calibrated	Units
T1R1	208,5	208,5	uS
T2R1	322,5	322,5	uS
T1R2	322,5	322,5	uS
T2R1	322,5	322,5	uS

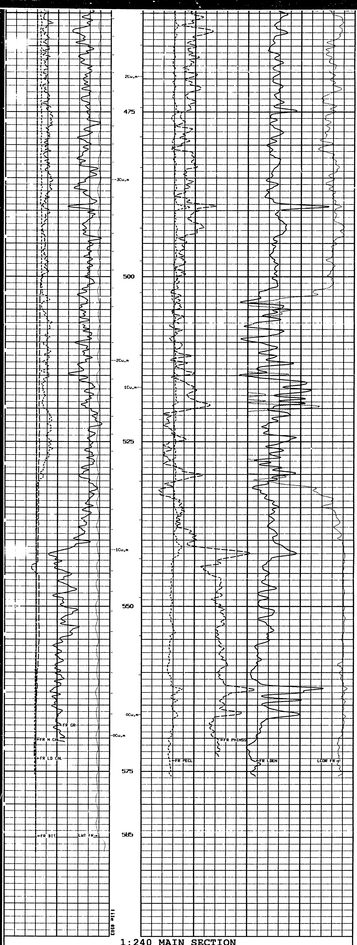
Amplitude

T/R Pair	Measured	Calibrated	Units
T1R1	90,00	90,00	mV
T2R2	90,00	90,00	mV
T1R2	78,00	78,00	mV
T2R1	78,00	78,00	mV

DENSITY

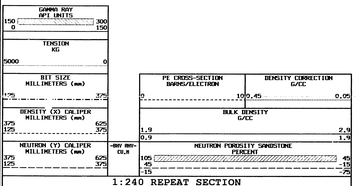

1:600 SECTION
1:240 MAIN SECTION
BULK DENSITY G/CC
PE CROSS-SECTION BARNS/ELECTRON
DENSITY CORRECTION G/CC
NEUTRON POROSITY CORRECTION FRACTION
GAMMA RAY API UNITS
NEUTRON CYLINDRICAL CALIPER MILLIMETRES (mm)
DENSITY CYLINDRICAL CALIPER MILLIMETRES (mm)
BIT SIZE MILLIMETRES (mm)
TENSION KG
Film 8983


75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
450

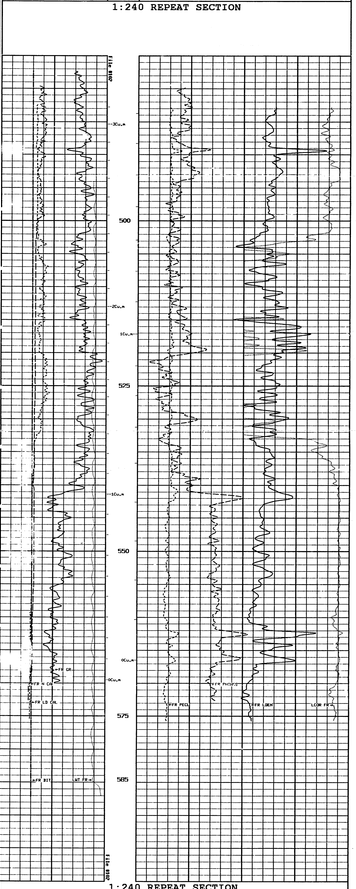


* Borehole Zone Factors *

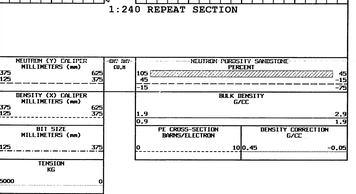
Zone 1	99999.0 to	0.0 M
Fluid Density		1.00 G/C3
Drill Bit Size		200.000 MM
Casing Diameter		139.700 MM
Casing Thickness		6.100 MM
Casing Correction (PHI N)		Disable



1:240 REPEAT SECTION



1:240 REPEAT SECTION



* Borehole Zone Factors *

Zone 1	99999.0 to	0.0 M
Fluid Density		1.00 G/C3
Drill Bit Size		200.000 MM
Casing Diameter		139.700 MM

Casing Diameter	139.700	MM
Casing Thickness	6.100	MM
Casing Correction (PHI N)	Disable	

GAMMA RAY API UNITS
150 — 300
0 — 150

TENSION KG
5000 — 0

BIT SIZE MILLIMETERS (mm)
125 — 375

DENSITY (X) CALIPER MILLIMETERS (mm)
375 — 625
125 — 375

NEUTRON (X) CALIPER MILLIMETERS (mm)
375 — 625
125 — 375

-BBV BBV-
60,0 — 0,0

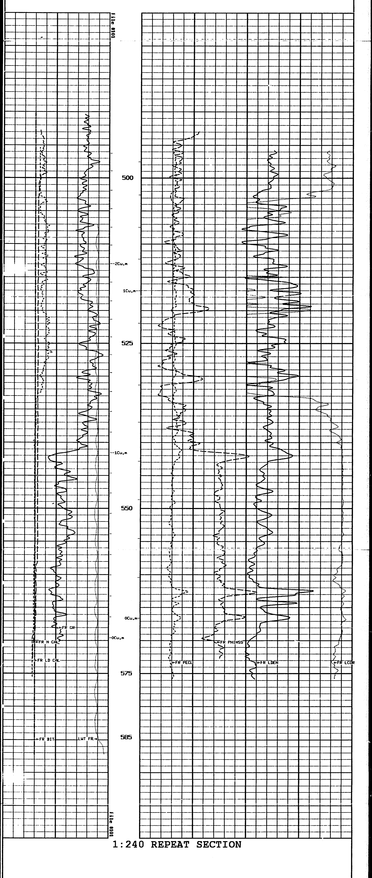
PE CROSS-SECTION BARNS/ELECTRON
0 — 100,45

DENSITY CORRECTION G/CC
100,45 — -0,05

BULK DENSITY G/CC
1,9 — 2,9
0,9 — 1,9

NEUTRON POROSITY SANDSTONE PERCENT
105 — 45
45 — -15
-15 — -75

1:240 REPEAT SECTION



1:240 REPEAT SECTION

NEUTRON (X) CALIPER MILLIMETERS (mm)
375 — 625
125 — 375

DENSITY (X) CALIPER MILLIMETERS (mm)
375 — 625
125 — 375

BIT SIZE MILLIMETERS (mm)
125 — 375

TENSION KG
5000 — 0

GAMMA RAY API UNITS
150 — 300
0 — 150

-BBV BBV-
60,0 — 0,0

NEUTRON POROSITY SANDSTONE PERCENT
105 — 45
45 — -15
-15 — -75

BULK DENSITY G/CC
1,9 — 2,9
0,9 — 1,9

PE CROSS-SECTION BARNS/ELECTRON
0 — 100,45

DENSITY CORRECTION G/CC
100,45 — -0,05

Borehole Zone Factors

Zone 1 99999,0 to 0,0 M

Fluid Density	1,00	G/C3
Drill Bit Size	200,000	MM
Casing Diameter	139,700	MM
Casing Thickness	6,100	MM
Casing Correction (PHI N)	Disable	

Calibration Summary

Shop Calibration
GRTB

Performed : 23-Feb-2003 Time : 00:15
Sensor Suite : GR-GRS ID : GRT-BC-039

	Measured		Units	Calibrated		Units
	Background	Jig			Jig	
GR	57	272	CPS		150	GRAPI

Before Survey Verification
GRTB

Performed : 28-Feb-2003 Time : 14:17
Sensor Suite : GR-GRS ID : GRT-BC-039

	Shop	Before	Units
	Jig	Jig	
GR	150	143	GRAPI

After Survey Verification
GRTB

Performed : 28-Feb-2003 Time : 16:20
Sensor Suite : GR-GRS ID : GRT-BC-039

	Before	After	Units
	Jig	Jig	
GR	143	139	GRAPI

Shop Calibration
CNT

Performed : 19-Feb-2003 Time : 10:05
Sensor Suite : BHC NEUT ID : CNP-AB-18
Source ID : N-618

	Tank		Verification	Units
	Measured	Calibrated	Jig	
N/T	3,7194	4,0049	4,2936	
Porosity	21,0	25,6	30,8	%

Performed : 19-FEB-2003 Time : 10:13
Sensor Suite : CAL-BCN ID : CNT-AB-18

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL * 1	8,8	13,8	6,0	12,0	IN.

Before Survey Verification
CNT

Performed : 28-Feb-2003 Time : 14:19
Sensor Suite : BHC NEUT ID : CNP-AB-18
Source ID : N-618

	Shop	Before	Units
	Jig	Jig	
N/T	4,2936	4,3761	
Porosity	30,8	32,3	%

After Survey Verification
CNT

Performed : 28-Feb-2003 Time : 16:31
Sensor Suite : BHC NEUT ID : CNP-AB-18
Source ID : N-618

	Before	After	Units
	Jig	Jig	
N/T	4,3711	4,4025/	
Porosity	32,3	33,0	%

Shop Calibration
LDT

Performed : 24-Feb-2003 Time : 21:05
Sensor Suite : BHC PEB ID : LDP-BA-15
Source ID : 2913GU

Short Space

	BKGD	Air	Mg	Al+Fe	Units
LSW1	74	1810	3215	1134	CPS
LSW2	93	3209	5604	2185	CPS
LSW3	344	6774	11905	5801	CPS
LSW4	443	4333	6770	3908	CPS
LSW5	34	63	80	59	CPS
LSW6	99	101	100	101	CPS
LSW7	99	100	98	101	CPS
LSW8	2	4	3	3	CPS
QS	0,000	0,005	0,010	0,000	
PE1S			2,961	6,761	
SSDN		2,597	1,679		G/CC

Long Space

	BKGD	Air	Mg	Al+Fe	Units
LLW1	63	293	402	402	CPS
LLW2	73	1430	6701	964	CPS
LLW3	292	2524	10733	2180	CPS
LLW4	363	1119	3660	1046	CPS
LLW5	31	34	45	33	CPS
LLW6	78	76	73	76	CPS
LLW7	75	73	71	77	CPS
LLW8	3	4	3	3	CPS
QL	0,020	0,007	0,016	-0,007	
PE1L			2,950	6,594	
LSDN		2,597	1,679		G/CC

Performed : 24-FEB-2003 Time : 21:11
Sensor Suite : CAL-PEB ID : NDT-BD-102/LDP-BA-15

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
LL * 1	6,4	11,1	8,0	12,0	IN.

Before Survey Verification
LDT

Performed : 28-Feb-2003 Time : 14:13
Sensor Suite : BHC PEB ID : LDP-BA-15
Source ID : 2913GU

	Short Space			Long Space		
	Background	Before		Background	Before	Units
LSW1	74	72	LLW1	63	60	CPS
LSW2	93	94	LLW2	75	74	CPS
LSW3	344	347	LLW3	292	283	CPS
LSW4	443	448	LLW4	363	372	CPS
LSW5	34	35	LLW5	31	30	CPS
LSW6	99	99	LLW6	78	78	CPS
LSW7	99	99	LLW7	75	78	CPS
LSW8	2	4	LLW8	3	2	CPS
QS	0,000	-0,003	QL	0,020	-0,003	

After Survey Verification
LDT

Performed : 28-Feb-2003 Time : 16:23
Sensor Suite : BHC PEB ID : LDP-BA-15
Source ID : 2913GU

	Short Space			Long Space		
	Before	After		Before	After	Units
LSW1	72	76	LLW1	60	63	CPS
LSW2	94	92	LLW2	74	73	CPS
LSW3	347	345	LLW3	283	281	CPS
LSW4	448	442	LLW4	372	372	CPS
LSW5	35	35	LLW5	30	29	CPS
LSW6	99	99	LLW6	78	80	CPS
LSW7	99	98	LLW7	78	78	CPS
LSW8	4	3	LLW8	2	3	CPS
QS	-0,003	0,005	QL	-0,003	0,024	

Tucker
WIRELINE SERVICES

N.E.B. COPY

COMPENSATED NEUTRON-
PEL DENSITY LOG

File No. :	GP - 1986
Company :	ANADARKO CANADA CORPORATION
Well :	ANADARKO WEST BOVIE I-76
Field :	WEST BOVIE
County :	
State :	NORTHWEST TERRITORIES
Country :	CANADA

Location : UNIQUE I.D.: 300I766020123000
LOCATION: I-76
LICENCE: 1986

Sect : Twp : Rge :

Recorded By : V. IGLESIAS
Witnessed By : E. LANGE

Date : MAR 23 2003
Run No. : 2

Permanent Datum :	GL	
Drilling Measured From :	KB	
Log Measured From:	KB	
Above Permanent Datum :	4.07	M
Depth--Driller :	804.0	M
Depth--Logger :	803.0	M
Bottom Log Interval :	802.8	M
Top Log Interval :	584.9	M
Casing Depth--Driller:	585.5	M
Casing Depth--Logger :	584.9	M
Casing Diameter :	139.700	MM
Bit Size :	121.000	MM

Unit No. : 118
Location : GRANDE PRAIRIE

Elevations :

KB :	307.37	M
DF :		M
GL :	303.30	M

Additional Services

CST
PIT

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on intepretations, conversions or recommendations as aforesaid.

Run Number 1

Depth To Fluid	1.0	M		
Fluid Type In Hole :	GEL CHEM			
Density :	1050.000			
Viscosity :	85.000			
pH :	10.000			
Fluid Loss :	6.000			
Salinity :	0.000			
RM Source :	FLOWLINE			
RM :	3.000	OHMM at	25	C
RM at BHT :	2.600	OHMM at	32	C
RMF Source :	PRESS			
RMF :	2.600	OHMM at	25	C
RMF at BHT :	2.230	OHMM at	32	C
RMC Source :	PRESS			
RMC :	3.600	OHMM at	25	C
RMC at BHT :	3.090	OHMM at	32	C
Max Recorded Temp. :			32	C
Time Circulation Stopped :		MAR 23 2003 @ 04:30		
Operating Rig Time, Hrs. :			3.5	

- Source Serial Numbers -

Neutron 712A931B

- Sonde Serial Numbers -

GRTB	GRT-BB-001
CST	CST-AB-007
CNT	Not Calibrated

Casing Strings

Size (MM)	Weight (KG/CU)	Bottom (M)
139.700	19.04	584.90

- Comments -

RUN 1: GRT,PIT
RUN 2: GRT,CST,CNT

1) ALL SCALES AND INTERVALS AT CLIENT'S REQUEST.
2) SFL IS ENVIRONMENTALLY CORRECTED.
3) CALIPER READINGS VERIFIED IN CASING.
4) SONIC READINGS VERIFIED IN CASING.
5) PHIN IS CALIPER CORRECTED.
6) ALL HEADER INFORMATION AS PER WELL LICENCE
7) GAMMA RAY RUN TO SURFACE AS PER B.C. REGULATIONS. PRESENTED ON SONIC 1:600.

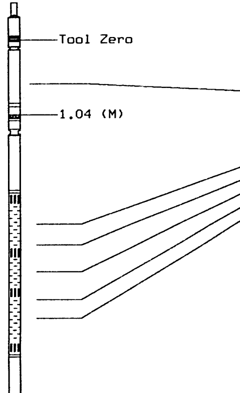
MUD DATA:
RM1: 3.00 OHMM @ 25 DEG.
RM2: 2.90 OHMM @ 25 DEG.
RM3: 3.00 OHMM @ 25 DEG.
RMF1: 2.60 OHMM @ 25 DEG.
RMF2: 2.5 OHMM @ 25 DEG.
RMC1: 3.6 OHMM @ 25 DEG.

TIME LOG:
RIG UP: 07:00
ON BOTTOM: 07:30
ON SUTFACE: 08:45
ON BOTTOM: 09:15
RIG OUT: 10:30

OPERATORS:
S. ROSS
D. KULICKI
RIG: AKITA #15

Tool String Schematic

Total Tool Length - 8.79 **(M)**
Maximum Outside diameter - 110.74 **(mm)**
Net Weight in Air - 215.91 **(Kgs)**

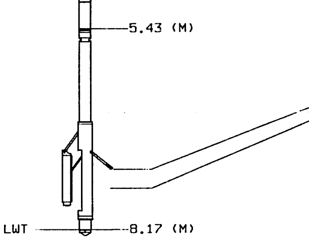


Tool: GRTB **Length:** 1.04 **(M) O.D.:** 91.44**(mm)**
Sonde ID : GRT-BB-001

Measure Point	Stack Offset	Tool Offset
GRP	0.61	0.61

Tool: CST **Length:** 4.39 **(M) O.D.:** 91.44**(mm)**
Sonde ID : CST-AB-007

Measure Point	Stack Offset	Tool Offset
TT1	2.50	1.46
TT3	2.80	1.77
CDT	3.26	2.23
TT4	3.72	2.68
TT2	4.02	2.99



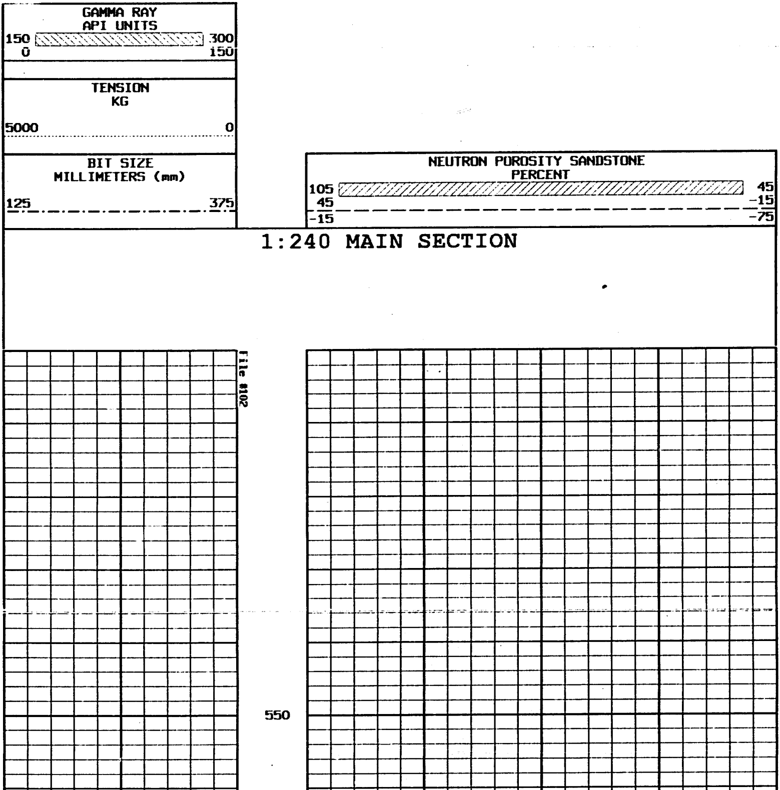
Tool: CNT **Length:** 2.74 **(M) O.D.:**110.74**(mm)**

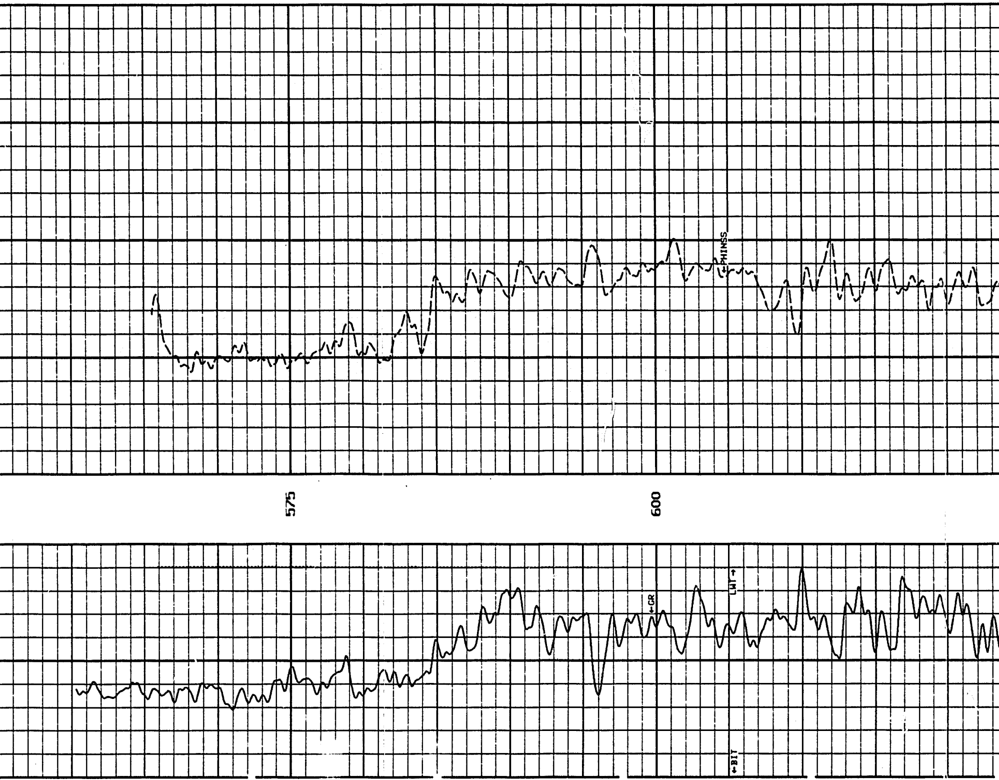
Sonde ID : Not Calibrated

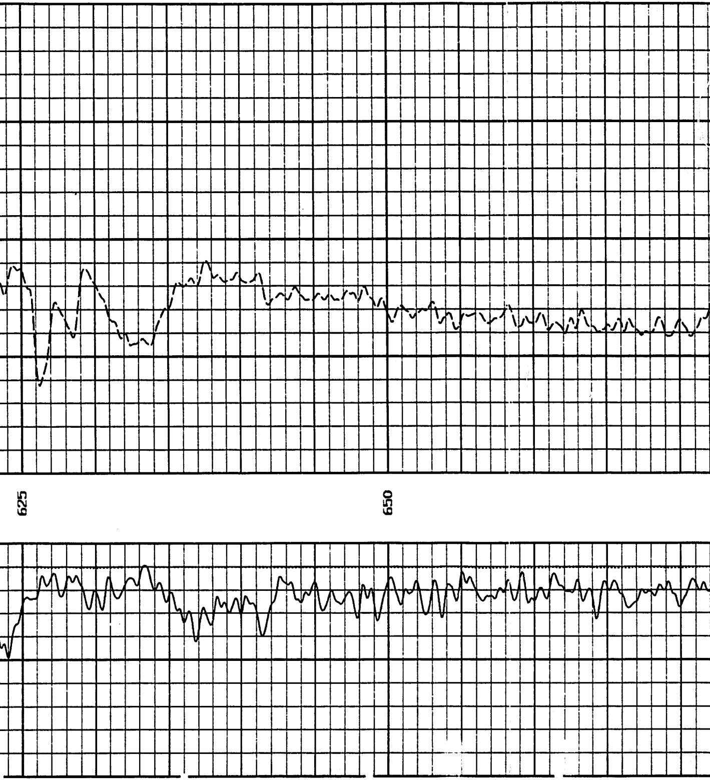
Source ID : 712A931B

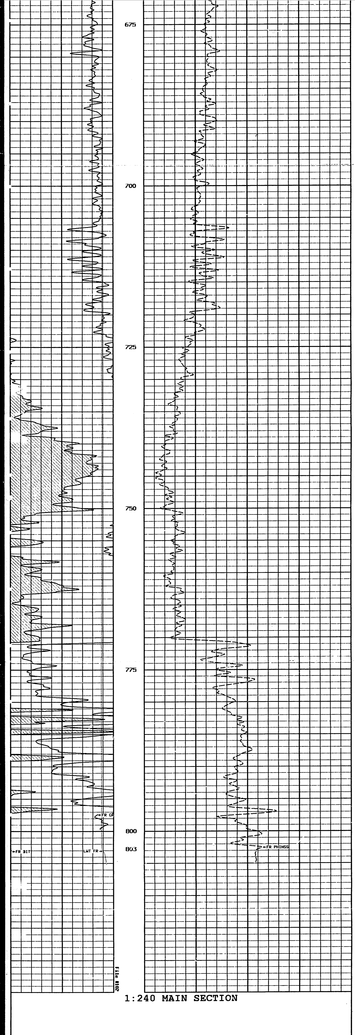
Pad ID : CNP-AA-115

Measure Point	**Stack Offset**	**Tool Offset**
CLCN	7.25	1.83
PHIN	7.51	2.08





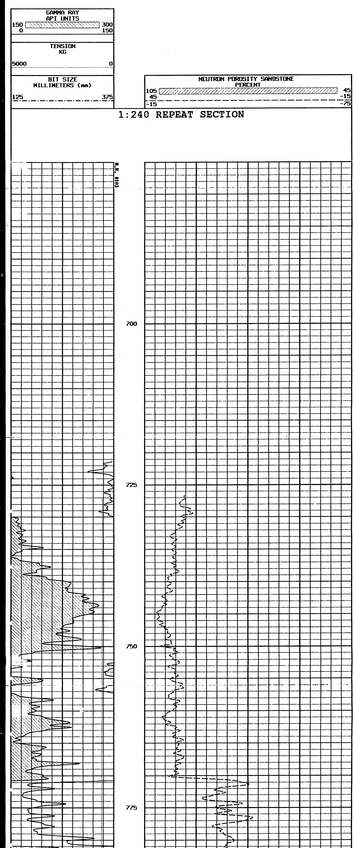




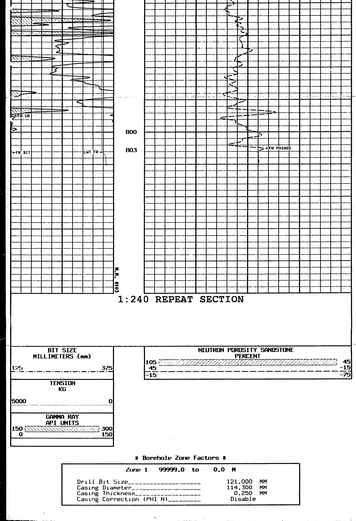
1:240 MAIN SECTION

* Borehole Zone Factors *

Zone 1	99999.0	to	0.0	M
Drill Bit Size			121.000	MM
Casing Diameter			114.300	MM
Casing Thickness			0.250	MM
Casing Correction (PNI N)			Disable	



1:240 REPEAT SECTION



1:240 REPEAT SECTION

* Borehole Zone Factors *

Zone 1	99999.0	to	0.0	M
Drill Bit Size			121.000	MM
Casing Diameter			114.300	MM
Casing Thickness			0.250	MM
Casing Correction (PNI N)			Disable	

MISCELLANEOUS

Power*Suite V4.0 developed by TriVision Geosystems Ltd. (403) 777-9454 (Canada) www.powerlogger.com

Well Information

Operator: Anadarko Canada Corporation
Well Name: Anadarko West Bovie I-76
Location: West Bovie I-76
UWI: 300I766020123000
Pool: Chinkeh
Field: Arrowheard
Province / State: NWT
Country: Canada

Elevations

Reference: Ground
Cut(-) / Fill(+): -0.1 m
K.B. to Ground: 4.07 m
Ground: 303.3 m
Kelly Bushing: 307.37 m
Casing Flange: 3.86 m

Total Depth

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	804 m	804 m
Drillers TD (Strap or SLM)	m	m
Loggers TD	m	m

Surface Co - Ordinates

Well Type: Straight
Longitude:
Latitude:
N / S Co - Ordinates: N 6680150.6
E / W Co - Ordinates: E 487671.41

Bottom Hole Co - Ordinates

Longitude:
Latitude:
N / S Co - Ordinates: N 6680150.6
E / W Co - Ordinates: E 487671.41

Drilling Fluid Summary

Fluid Type	From	To
Gelchem	161 m	585 m
Gelchem	585 m	807 m

Casing Summary

Type	Hole Size	Casing Size	Landed At
Surface	311 mm	219.1 mm	161 m
Production	200 mm	139.7 mm	584.89 m

Well Summary

Spud Date: Feb 23, 2003 @ 22:15hrs
TD Date: Feb 28, 2003 @ 03:00hrs
Contractor: Akita 15
Rig Release Date: Mar 1, 2003

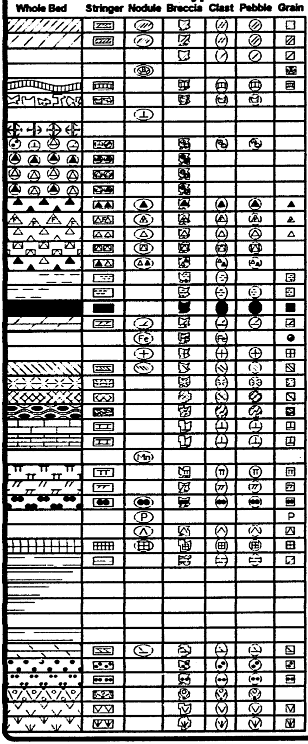
Work Schedule

Contractor	Geologist	Log Interval	Dates Logged
K.C. Waunch Petroleum Cons.	Erika Lange	0 m - 585 m	Feb 23, 2003 - Feb 28, 2003
K.C. Waunch Petroleum Cons.	Erika Lange	585 m - 804 m	Mar 17, 2003 - Mar 25, 2203

Remarks

Legend

Rock Types and Thin Beds



Rock Type
Anhydrite - primary
Anhydrite - secondary
Argillite
Barite
Bentonite
Breccia
Calcareous
Cement
Conglomerate - mixed
Conglomerate - dark chert
Conglomerate - light chert
Conglomerate - varicolored chert
Chert - dark
Chert - fossiliferous
Chert - light
Chert - tripolitic
Chert - varicolored
Claystone - colored
Claystone - gray
Coal
Dolomite
Ferruginous
Feldspar
Gypsum
Igneous - acidic
Igneous - basic
Igneous - metamorphic
Limestone - grain supported
Limestone - mud supported
Manganese
Marlstone - calcareous
Marlstone - dolomitic
Phosphate
Pyrite
Quartz
Salt
Shale - black
Shale - dark gray
Shale - medium gray
Shale - light gray
Shale - green
Shale - red
Siderite
Sandstone
Siltstone
Till - glacial
Volcanic (Tuff)
Welded Volcanic (Tuff)

Accessories

//	Anhydritic	⋮G	Gibbsitic
—	Argillaceous	⋮I	Illitic
⊕	Baritic	⋮K	Kaolinitic
▤	Bentonitic	◻	Lithic Fragment
∽	Bituminous	π	Marly - calcareous
⊥	Calcareous	⁄π	Marly - dolomitic
▚	Carbonaceous	⊖⊖	Micromicaceous
▲▴	Cherty - dark	⋮ML	Mixed layer clayey
△F	Cherty - fossiliferous	⋮M	Montmorillonitic
△▵	Cherty - light	●●	Phosphate pellets
▫▫	Cherty - tripolitic	P	Pyritic
▲▵	Cherty - varicolored	⊞	Salt casts
⋮C	Chloritic	∴	Sandy
☰	Clayey	⦣	Sideritic
∠	Dolomitic	∧	Siliceous
Fe	Ferruginous staining	••	Silty
⟍	Fractures	⌇	Stylolitic
∼	Glauconitic	V	Tuffaceous
⟍⟍	Gypsiferous	⋮Z	Zeolitic

Fossils (Rock Builders)

8	Aggregate grains	=	Euryamphipora
⌓	Algae - laminations	♉	Foraminifera
⌓	Algae - non descript	F	Fossil
⌓	Algae - ootoid	⌓	Fragmental
⌓	Algae - skeletal	△	Gastropod
⌶	Amphipora	⋋	Graptolite
⊸	Belemnite	Ⓗ	Hydrozoa
⌓	Bioclastic	♈	Intraclast
⬠	Brachiopod	⊖	Mollusc
Ƭ	Bryozoa	●	Oncolite
⊛	Calcisphaera	⌽	Oolite
G	Cephalopod	⊙	Ostracod
⊗	Chaetetes	▿	Pelecypod
◉	Coated grain	∅	Pellet
⌐	Conodont	-o-	Pisolite
◿	Coral	∅	Plant Remains
✱	Coral - branching	▾	Scaphopod
●	Coral - head	↑	Spicule
●	Coral - colonial	⊖	Sponge
Ⓢ	Coral - solitary	⌶	Stromatoporoid
⊙	Crinoid	Ⓑ	Stromatoporoid - bulbous
⊛	Diatom	Ⓜ	Stromatoporoid - massive
♡	Echnoid	⊞	Stromatoporoid - tabular
⊢	Echnoid - spine	◂	Tentaculites
∝	Fish Remains	◖	Trilobite

Miscellaneous Grains

⊕	Biotite	⋇	Mineral crystal	⊞	Orthoclase
⊡	Glauconite	¶	Mineral - dark	⊠	Plagioclase
⊕	Mica flakes	⊖	Muscovite	○	Sand grain

Matrix

⁝⁝	Argillaceous	⁝⁝	Marl - dolomitic
⁝⁝	Bentonite	⁝⁝	Micrite
⁝⁝	Bituminous	⁝⁝	Mixed Clay
⁝⁝	Clay	⁝⁝	Montmorillonite
⁝⁝	Chlorite	⁝⁝	Sand
⁝⁝	Gibbsite	⁝⁝	Silt
⁝⁝	Illite	⁝⁝	Sparry Calcite
⁝⁝	Kaolinite	⁝⁝	Zeolite
⁝⁝	Marl - calcareous		

Textures

C	Chalky	e	Earthy	mx	Microcrystalline
CX	Cryptocrystalline	L	Lithographic	//	Slickenside

Porosity Type Track

e	Earthy - low permeability - crystals / grains less than 1 / 16 mm
⊡	Fenestral - voids from gas bubbles - shrinkage cracks - birdseye texture
F	Fracture
X	Intercrystalline - Interfragmental - Intergranular
↻	Interoolitic - Interpelletoidal
⌡	Moldic
O	Organic - Bridged - Intrafossil
P	Pinpoint - voids less than 1/ 16 mm
V	Vuggy - voids greater than 1 / 16 mm

Cement

▨	Anhydritic	▨	Gypsiferous
▨	Baritic	▨	Hematitic
▨	Bituminous	▨	Limonitic
▨	Calcareous	▨	Pyritic
▨	Chert - dark	▨	Salt
▨	Chert - light	▨	Sideritic
▨	Dolomitic	▨	Siliceous
▨	Ferruginous		

Oil Show Track

●	Even staining (75 - 100% of the rock is stained) - fluoresces in solvent
◉	Spotted staining (50 - 75% of the rock is stained) - fluoresces in solvent
◉	Spotted staining (25 - 50% of the rock is stained) - fluoresces in solvent
◎	Spotted staining (1 - 25% of the rock is stained) - fluoresces in solvent
○	Questionable oil staining - No fluorescents in solvent
D	Dead oil staining - asphaltic - bitumen - pyrobitumen etc.
F	Fluoresces - no visible oil staining

Sorting Track

vP	Very poorly sorted - > 10 phi size grade classes
P	Poorly sorted - 6-10 phi size grade classes
M	Moderately sorted - 3-6 phi size grade classes
mW	Moderately well sorted - 2-3 phi size grade classes
W	Well sorted - < 2 phi size grade classes

Rounding Track

vA	Very Angular	r	Subrounded
A	Angular	R	Rounded
a	Subangular	wR	Well Rounded

Diagenesis Track

⊥	Calcification - Calichified
∠	Dolomitization
⊛	Diagenetically mottled
↘	*Fracturing*
Ⓛ	Leaching
⟡	Metasomatism - Replacement - Allotropic recrystallization - Inversion - Transformation
Pd	Pressure Deformation
Rx	Recrystallization - Strain recrystallization - Grain growth
∧	Silicification
⊖	Solution cavity filled - Geopetal structure
⎍	Stylolitic
W	Weathering Degree of Diagenesis is in (%) percent. ? indicates questionable interpretation.

Framework Track

Framework is a ratio between clastic material greater than 1/16 mm and primary void filler less than 1/16 mm.
? indicates questionable interpretation

Core Track

■	Indicates Cored Interval
□	Indicates Lost Core

Test Track

■	Indicates Tested Interval

Wentworth Grain / Crystal Size Scale Chart

Clastic Rocks Common Name	Crystalline Rocks Common Name	Lower Size Limit (mm)	Upper Size Limit (mm)	Size Grades Phi (Ø)
Clay	Cryptocrystalline	0.00098	0.004	+10 to +9
Very Fine Silt	Very Finely Microcrystalline	0.004	0.008	+8
Fine Silt	Finely Microcrystalline	0.008	0.016	+7
Medium Silt	Medium Microcrystalline	0.016	0.031	+6
Coarse Silt	Coarsely Microcrystalline	0.031	0.0625	+5
Very Fine Sand	Very Finely Crystalline	0.0625	0.125	+4
Fine Sand	Finely Crystalline	0.125	0.25	+3
Medium Sand	Medium Crystalline	0.25	0.5	+2
Coarse Sand	Coarsely Crystalline	0.5	1.0	+1
Very Coarse Sand	Finely Megacrystalline	1.0	2.0	0
Granules	Coarsely Megacrystalline	2.0	4.0	-1
Fine Pebbles		4.0	8.0	-2
Medium pebbles		8.0	16.0	-3
Coarse Pebbles		16.0	32.0	-4
Very Coarse pebbles		32.0	64.0	-5
Cobbles		64.0	256.0	-6 to -7
Boulders		256.0	*infinity*	-8 to -9

The size measure Phi is equal to the negative logarithm to the base 2 of the size in millimeters.

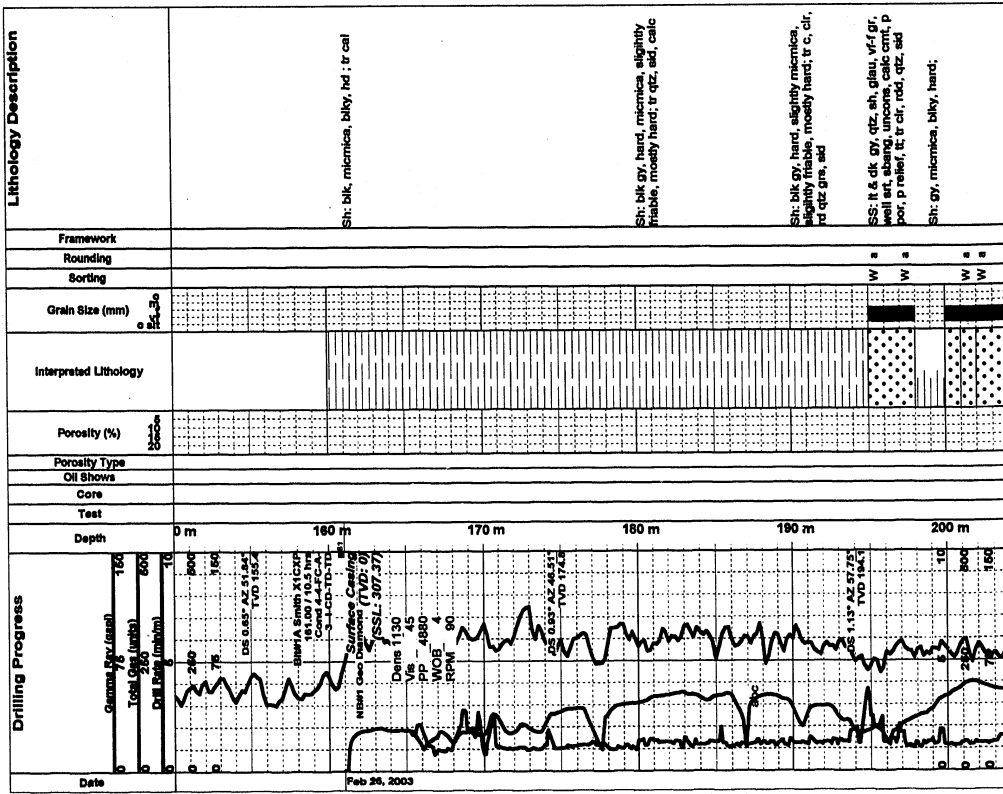
Thus 1 mm = 0 Phi and 1/2 mm = +1 Phi and 1/4 mm = +2 Phi etc.

Canstrat/Amstrat Grain Size Scale Chart

Clastic Rocks Common Name	Lower Size Limit (mm)	Upper Size Limit (mm)	Size Grades Phi (Ø)
Silt (Lower)	0.0039	0.0312	+8 to +7
Silt (Upper)	0.0312	0.0625	+6 to +5
Very Fine Sand (Lower)	0.0625	0.0937	+4.5
Very Fine Sand (Upper)	0.0937	0.125	+4
Fine Sand (Lower)	0.125	0.187	+3.5
Fine Sand (Upper)	0.187	0.25	+3
Medium Sand (Lower)	0.25	0.375	+2.5
Medium Sand (Upper)	0.375	0.5	+2
Coarse Sand (Lower)	0.5	0.75	+1.5
Coarse Sand (Upper)	.75	1.0	+1
Very Coarse Sand (Lower)	1.0	1.5	+0.5
Very Coarse Sand (Upper)	1.5	2.0	0

The size measure Phi is equal to the negative logarithm to the base 2 of the size in millimeters.

Thus 1 mm = 0 Phi and 1/2 mm = +1 Phi and 1/4 mm = +2 Phi etc.



Sh: blk, micmica, blky, hd ; tr cal

Sh: blk gy, hard, micmica, slightly friable, mostly hard; tr qtz, sid, calc

Sh: blk gy, hard, slightly micmica, slightly friable, mostly hard; tr c, clr, rd qtz grs, sid

SS: lt & dk gy, qtz, sh, glau, vf-f gr, well srt, sbang, uncons, calc cmt, p por, p relief, tt; tr clr, rdd, qtz, sid

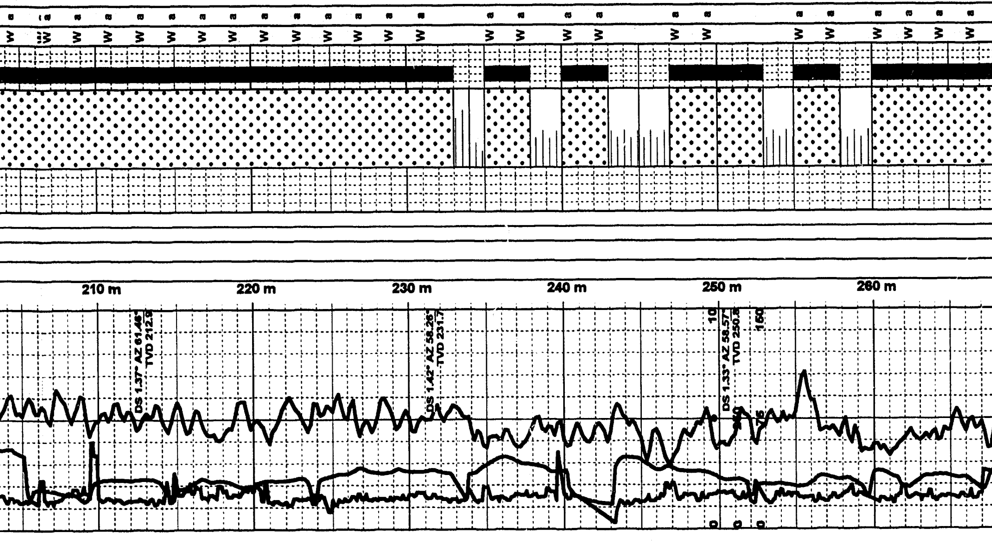
Sh: gy, micmica, blky, hard;

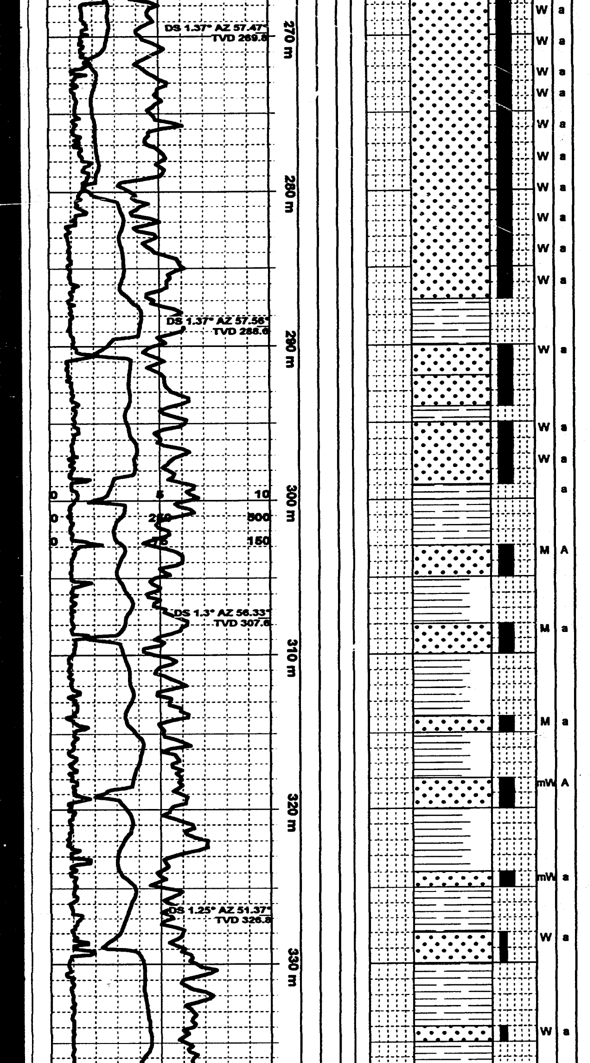
SS: lt & dk gy, qtz, sh, glau, vf-f gr, well srt, sbang, uncons, 10-15% calc cmt, p por, p relief, tt; tr clr, rdd, qtz, sid

SS: gy & lt gy, mostly qtz, occ sh, glau, f-vf gr, well srt, sbang, cons, 10-15% calc cmt, p por, p relief, tt; tr clr, rdd, qtz, sid

Sh: lt & dk gy, occ blk, micmica, blky

SS: lt gy, qtz, glau, occ sh, vf-f gr, well srt, sbang, cons, 15-30% calc cmt, p por, p relief, tr qtz, sid





SS: lt gy - wh, qtz, glau, f gr, well srt, sbang, cons, 10-15% calc cmt, mod relief, some mod por, Type IB 4-5%; tr qtz, sid

SS: dk & lt gy, qtz, glau, occ sh, f gr, well srt, sbang, cons, 15-25% calc cmt, p por, mostly p relief

Sh: blk gy, micmica, aren grs, glau assoc, fis

SH: blk gy, micmica, glau assoc, fis

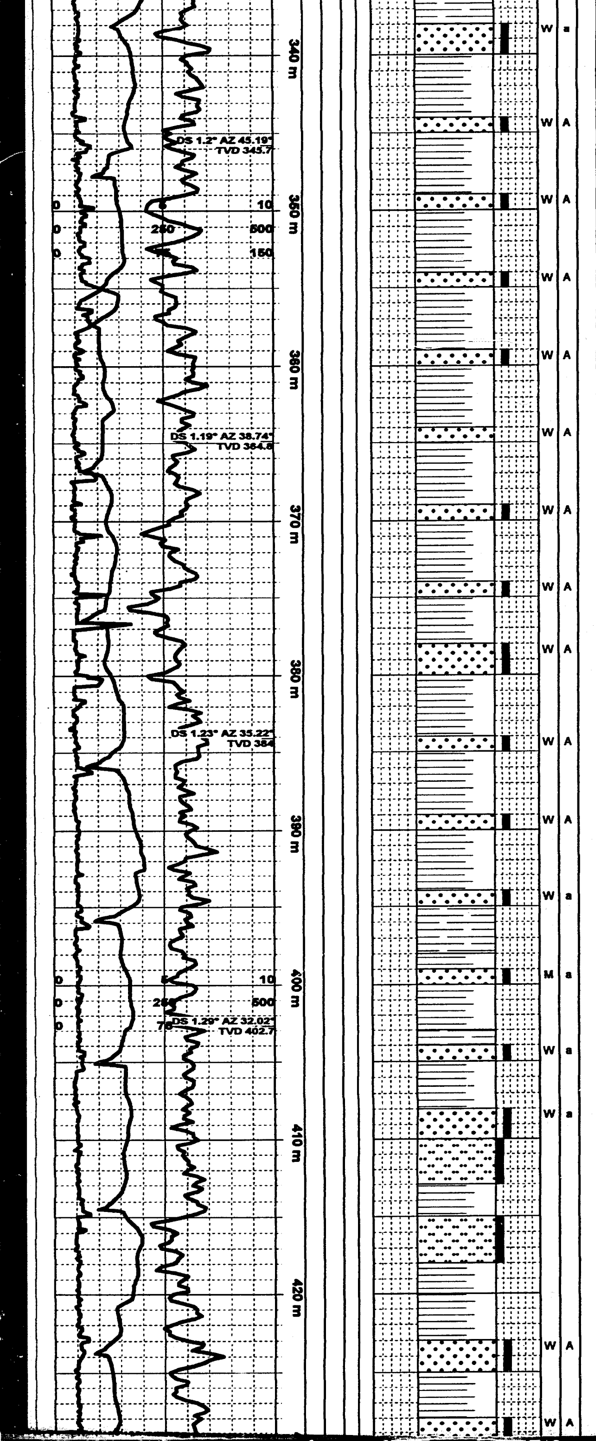
SS: mostly dk gy, occ lt gy, qtz, glau, f-vf gr, mod srt, sbang - ang, well cons, 20% calc cmt, p relief, tt

SH: dk gy, micmica, sli fri, sli hard, occ aren grs, glau assoc

SS: lt gy, qtz, glau, f-vf gr, well-mod srt, sbang - ang, cons, 20-30% calc cmt, p relief, tt

SH: blk, slty micmica, glau assoc, hd, occ plty

SS: lt gy, qtz, glau, vf gr, well srt, sbang, cons, 20% calc cmt, p relief, tt



SH: dk gy, micmica, occ glau assoc, not so hd, slty fri

SS: gy, qtz, glau, vf gr, well srt, ang, cons, 15% calc cmt, moslty p relief, occ Type ID 3% por, no perm

SH: (mdst) dk gy, micmica, occ glau assoc, sli fis

SS: gy, qtz, glau,vf gr, well srt, ang, cons, 15% calc cmt, p relief, tt

SH: dk gy (mdst), aren gr, micmica, occ glau assoc, hd

Sltst: gy, qtz & occ glau, vf gr, ang, well cmtd with calc cmt

Sh: dk gy, (mdst), aren grs, tr glau, micmica, hd

Ss: lt gy, qtz, glau, vf gr, slty, well-modly srt, ang, cons, 15% calc cmt, p relief, tt

Sh: blk & dk gy, micmica, hd, tr glau, blky

Ss: lt gy, qtz, glau, vf gr, modly srt, sbang, cons, 15% calc cmt, p relief, slty, tt

Sh: dk gy, aren, glau, micmica, blky, hd

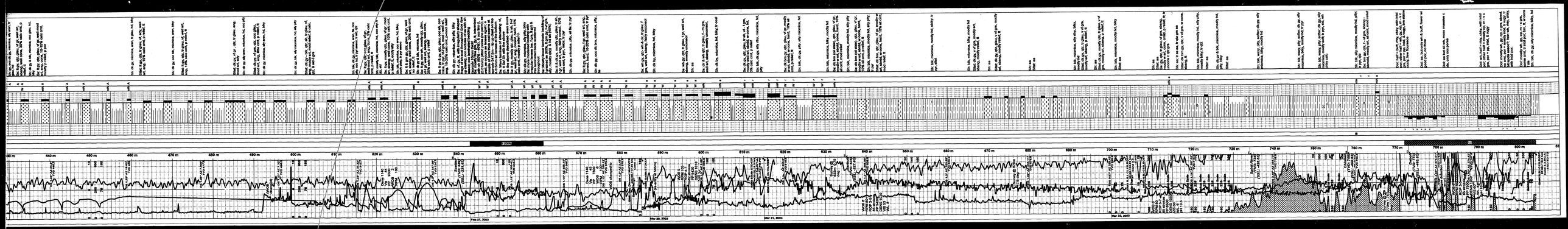
Ss: gy, qtz, glau, vf grs, well srt, sbang, cons, 10% calc cmt, p relief, slty, tt

Sltst: dk gy, vf, qtz, occ glau, hd, well srt, ang, p relief, tt

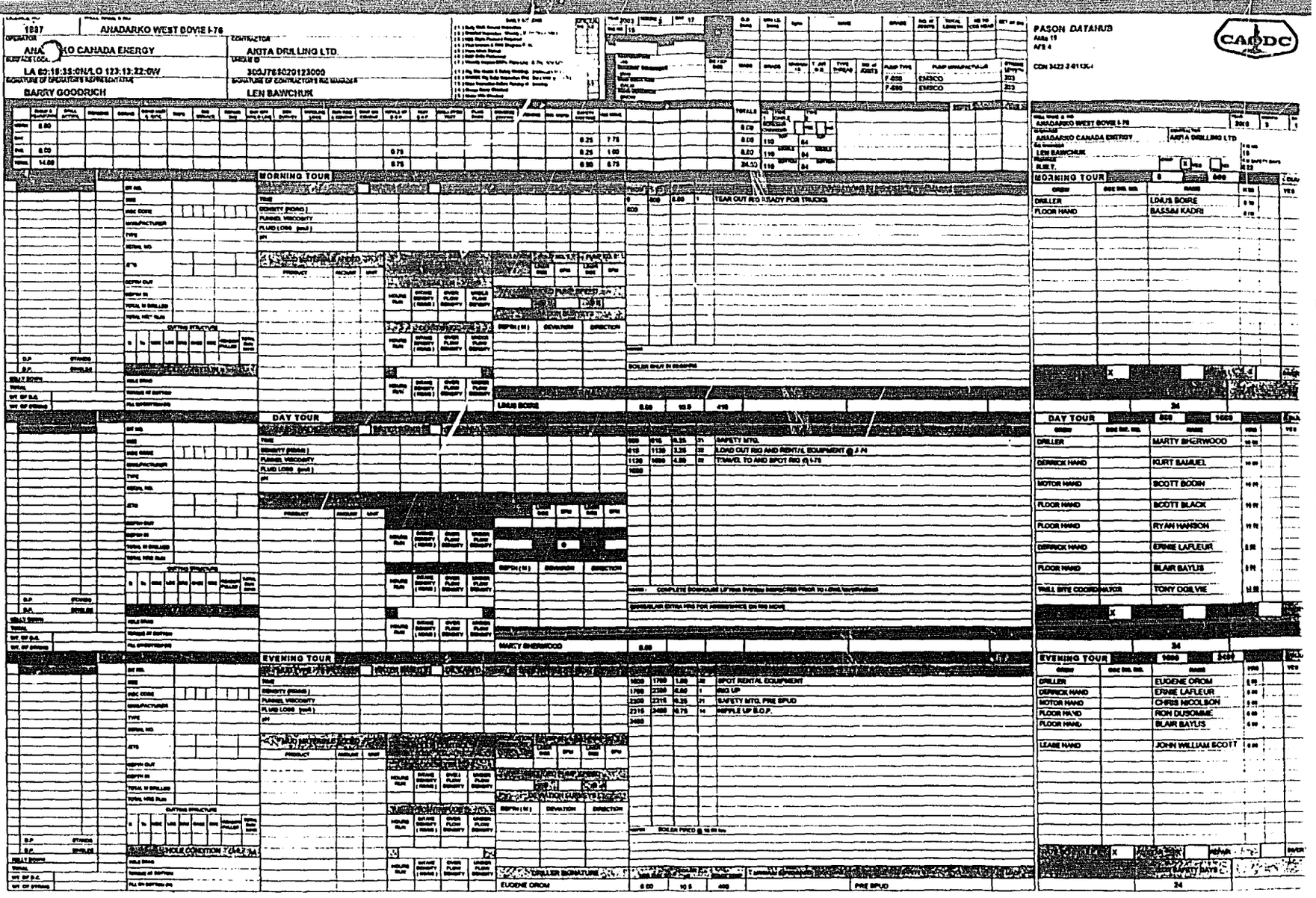
Sh: dk gy, micmica, occ aren, glau, hd, blky

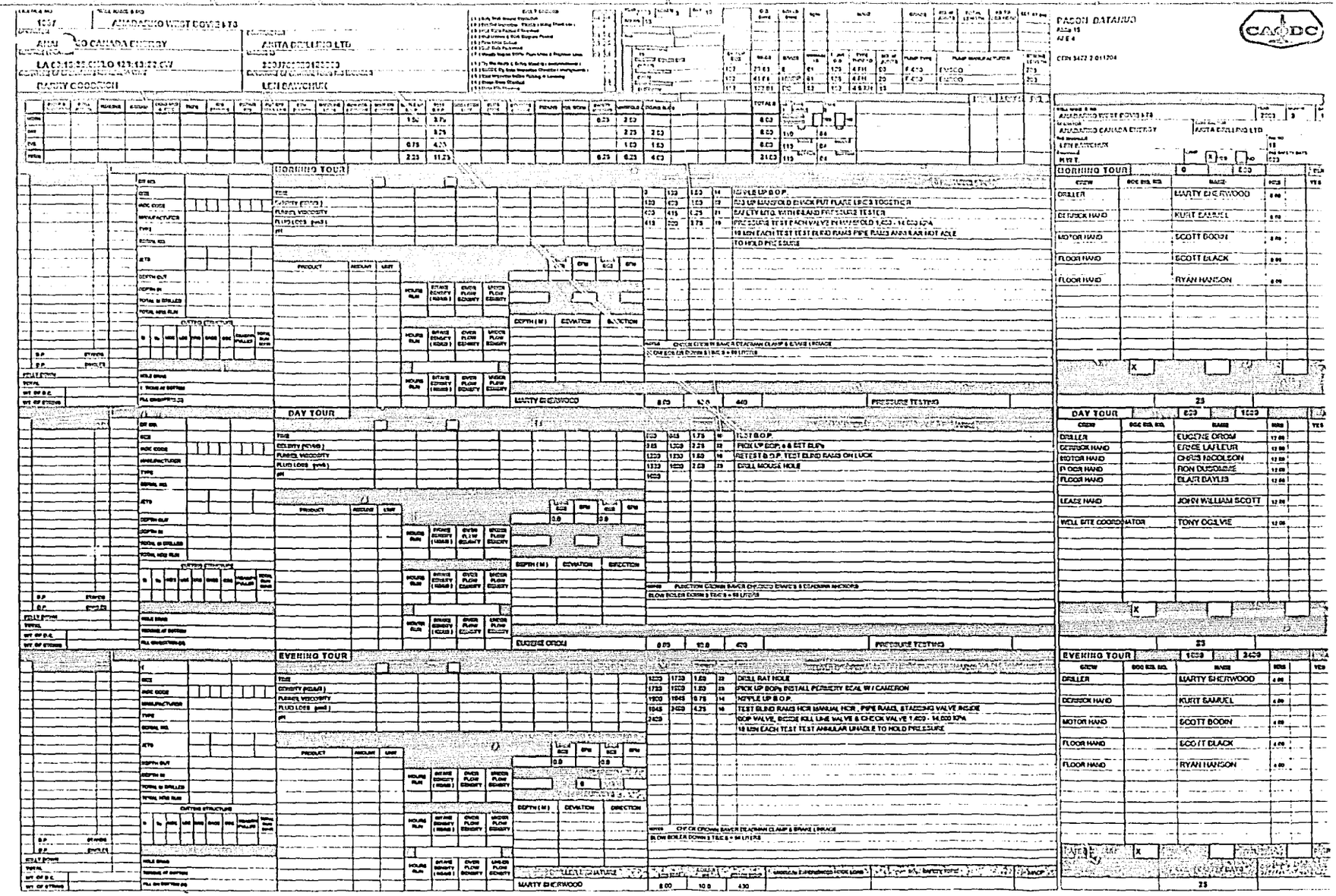
Sh: dk gy, occ blk, micmica, aren grs, occ glau, hd, blky

Ss: lt gy, moslty qtz, glau, vf gr, well srt, sbang, cons, 10% calc cmt, p relief, p por (occ 3%, *no perm*)



TOUR SHEETS


1997
ANADARKO WEST BOVIE I-76
OPERATOR
ANADARKO CANADA ENERGY
SURFACE LOCATION
LA 60:19:35:01N/LO 123:13:22:0W
SIGNATURE OF OPERATOR'S REPRESENTATIVE
BARRY GOODRICH
CONTRACTOR
AKITA DRILLING LTD.
RIG #
300J76S020123000
SIGNATURE OF CONTRACTOR'S RIG MANAGER
LEN BAWCHUK
PASON DATAHUB
Akita 19
AFE #
CDN 3423 2 01 01
CADC
MORNING TOUR
DRILLER
FLOOR HAND
LINUS BOIRE
BASSIM KADRI
TEAR OUT RIG READY FOR TRUCKS
DAY TOUR
DRILLER
DERRICK HAND
MOTOR HAND
FLOOR HAND
FLOOR HAND
DERRICK HAND
FLOOR HAND
TWILL SITE COORDINATOR
MARTY SHERWOOD
KURT SAMUEL
SCOTT BOOIN
SCOTT BLACK
RYAN HANSON
ERNIE LAFLEUR
BLAIR BAYLIS
TONY OGILVIE
SAFETY MTG.
LOAD OUT RIG AND RENT/L EQUIPMENT @ J #1
TRAVEL TO AND SPOT RIG @ I-76
EVENING TOUR
DRILLER
DERRICK HAND
MOTOR HAND
FLOOR HAND
FLOOR HAND
LEASE HAND
EUGENE OROM
ERNIE LAFLEUR
CHRIS NICOLSON
RON DUSOMME
BLAIR BAYLIS
JOHN WILLIAM SCOTT
SPOT RENTAL EQUIPMENT
RIG UP
SAFETY MTG. PRE SPUD
NIPPLE UP B.O.P.
PRE SPUD



DAYLIGHT TOUR

CREW	DOG EAR NO.	NAME	HOURS	YES
DRILLER		MARTY SHERWOOD	8.00	
DERRICK HAND		KURT SAMUEL	8.00	
MOTOR HAND		SCOTT BOOEN	8.00	
FLOOR HAND		SCOTT BLACK	8.00	
FLOOR HAND		RYAN HANSON	8.00	

23

DAY TOUR

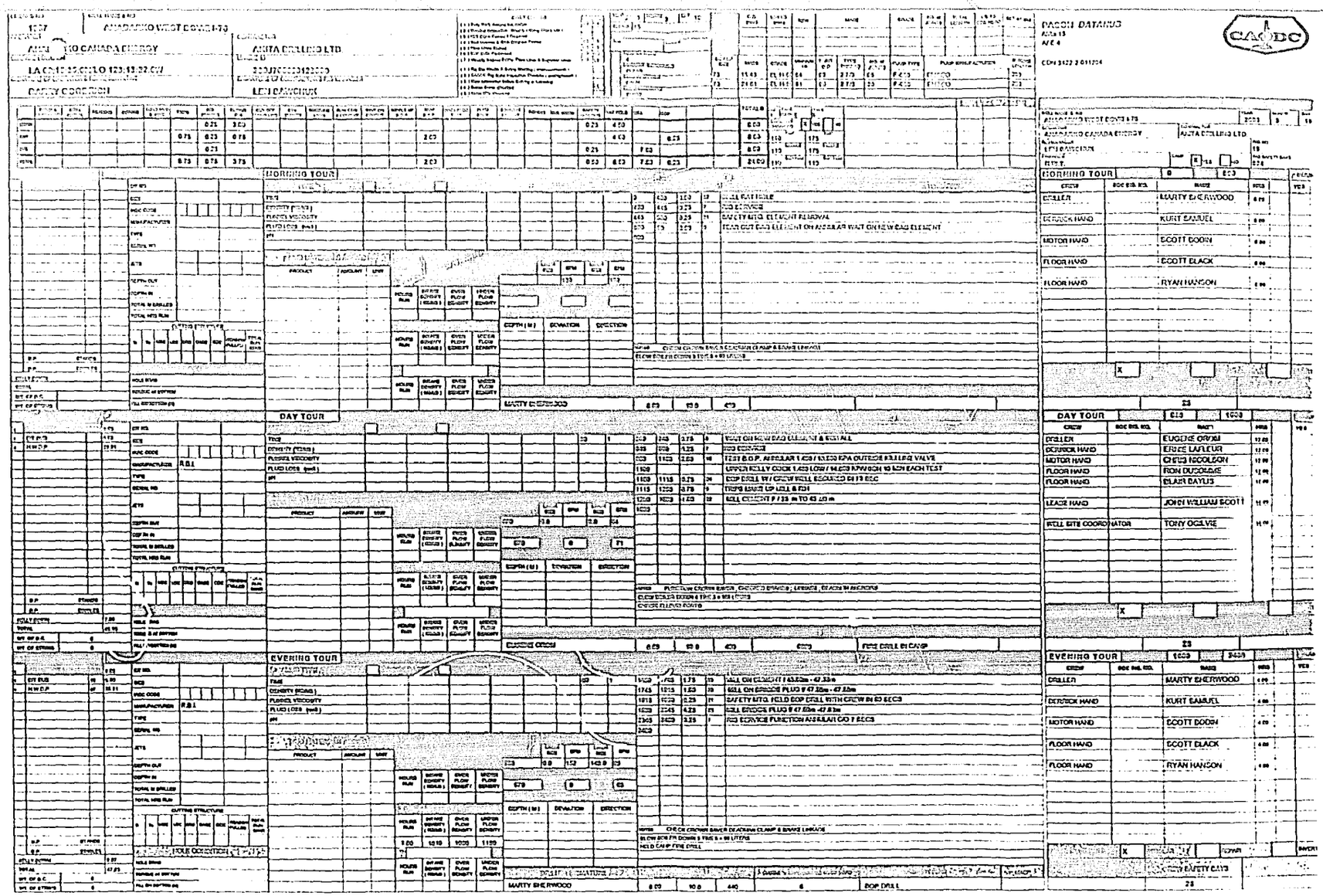
CREW	DOG EAR NO.	NAME	HOURS	YES
DRILLER		EUGENE OROM	12.00	
DERRICK HAND		ERNIE LAFLEUR	12.00	
MOTOR HAND		CHRIS NICOLSON	12.00	
FLOOR HAND		RON DUSSAULT	12.00	
FLOOR HAND		BLAIR BAYLIS	12.00	
LEASE HAND		JOHN WILLIAM SCOTT	12.00	
WELL SITE COORDINATOR		TONY OGILVIE	12.00	

23

EVENING TOUR

CREW	DOG EAR NO.	NAME	HOURS	YES
DRILLER		MARTY SHERWOOD	4.00	
DERRICK HAND		KURT SAMUEL	4.00	
MOTOR HAND		SCOTT BOOEN	4.00	
FLOOR HAND		SCOTT BLACK	4.00	
FLOOR HAND		RYAN HANSON	4.00	

23



DAILY COMPLETION

MORNING TOUR

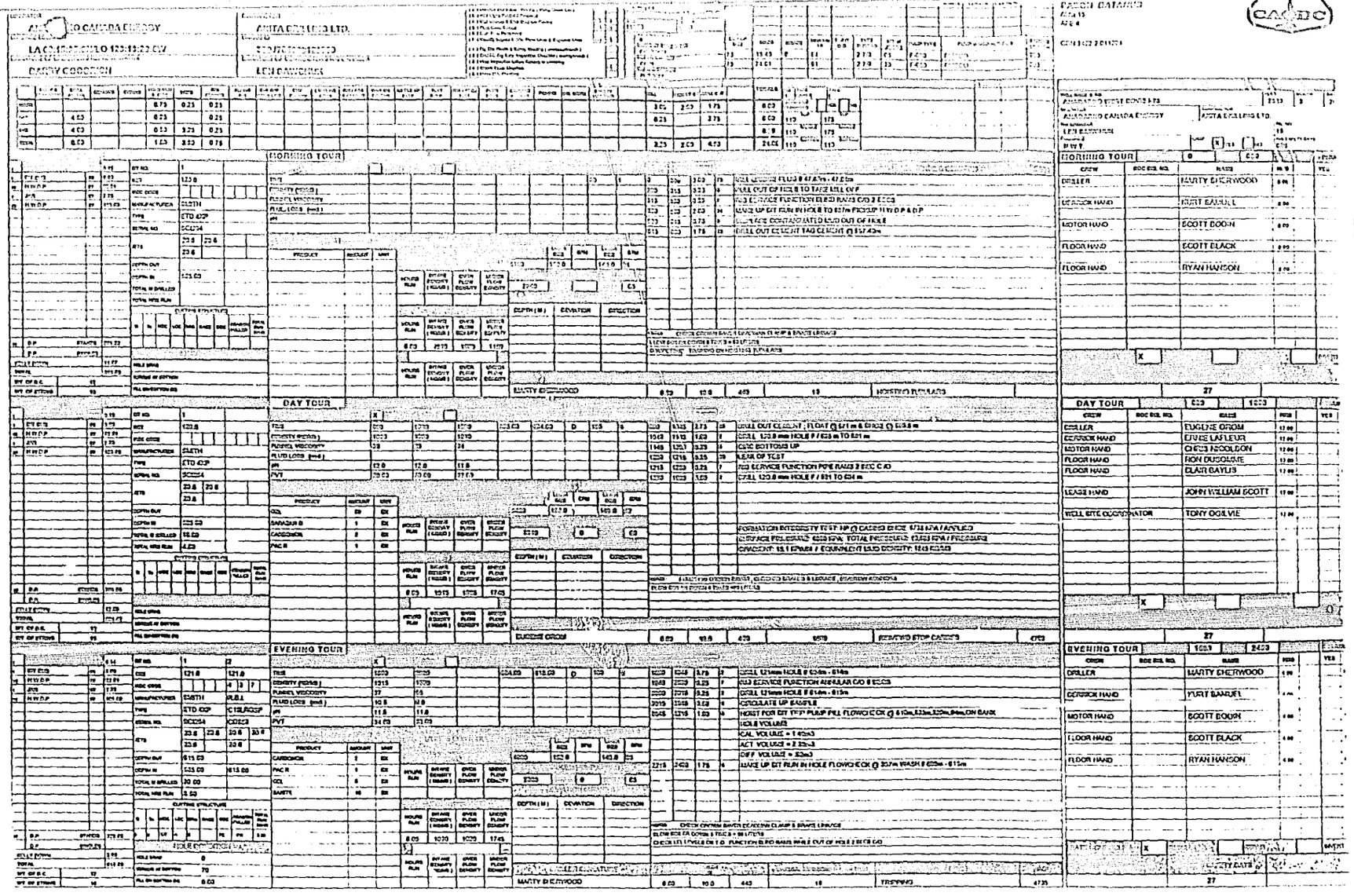
DAY TOUR

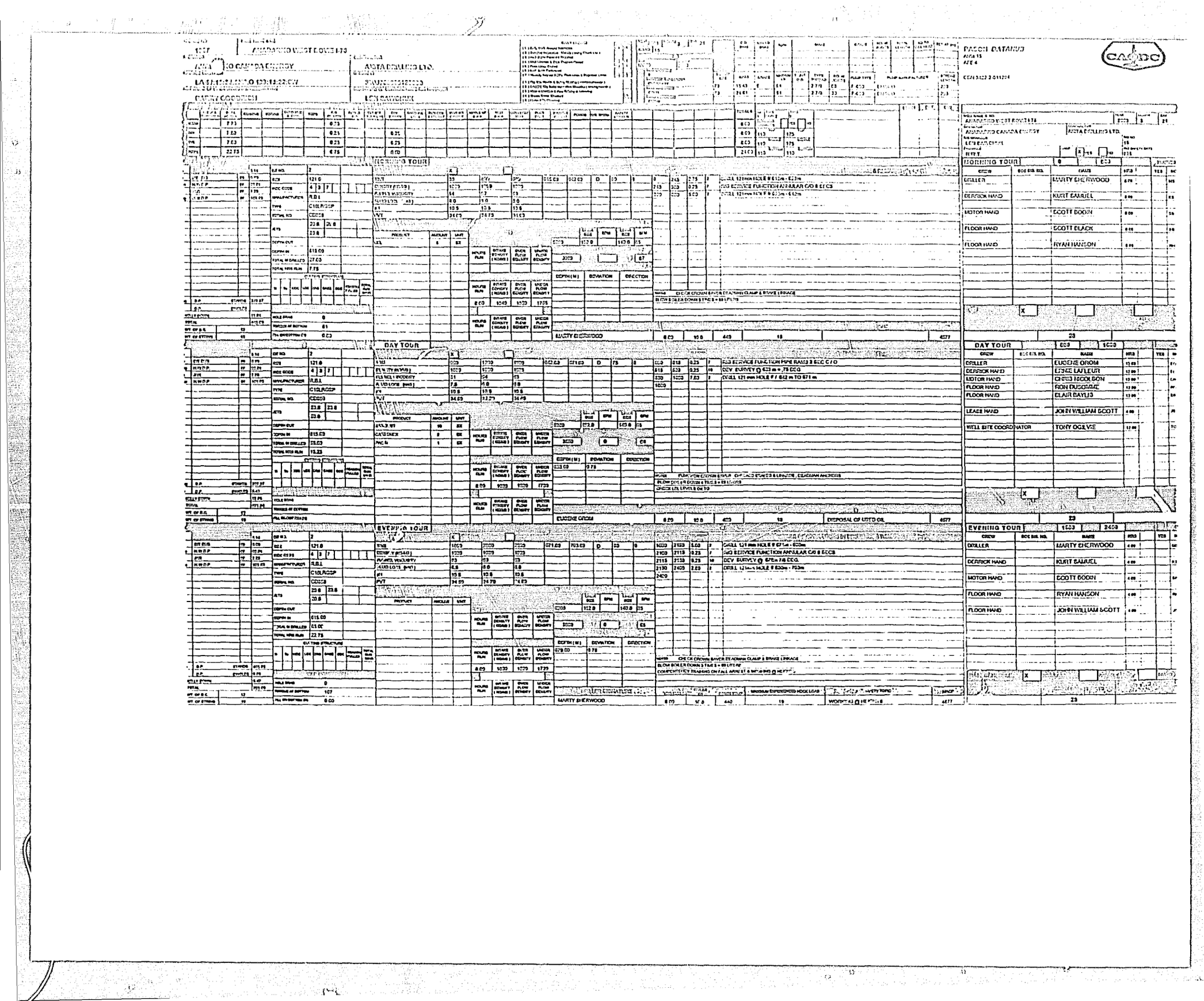
EVENING TOUR

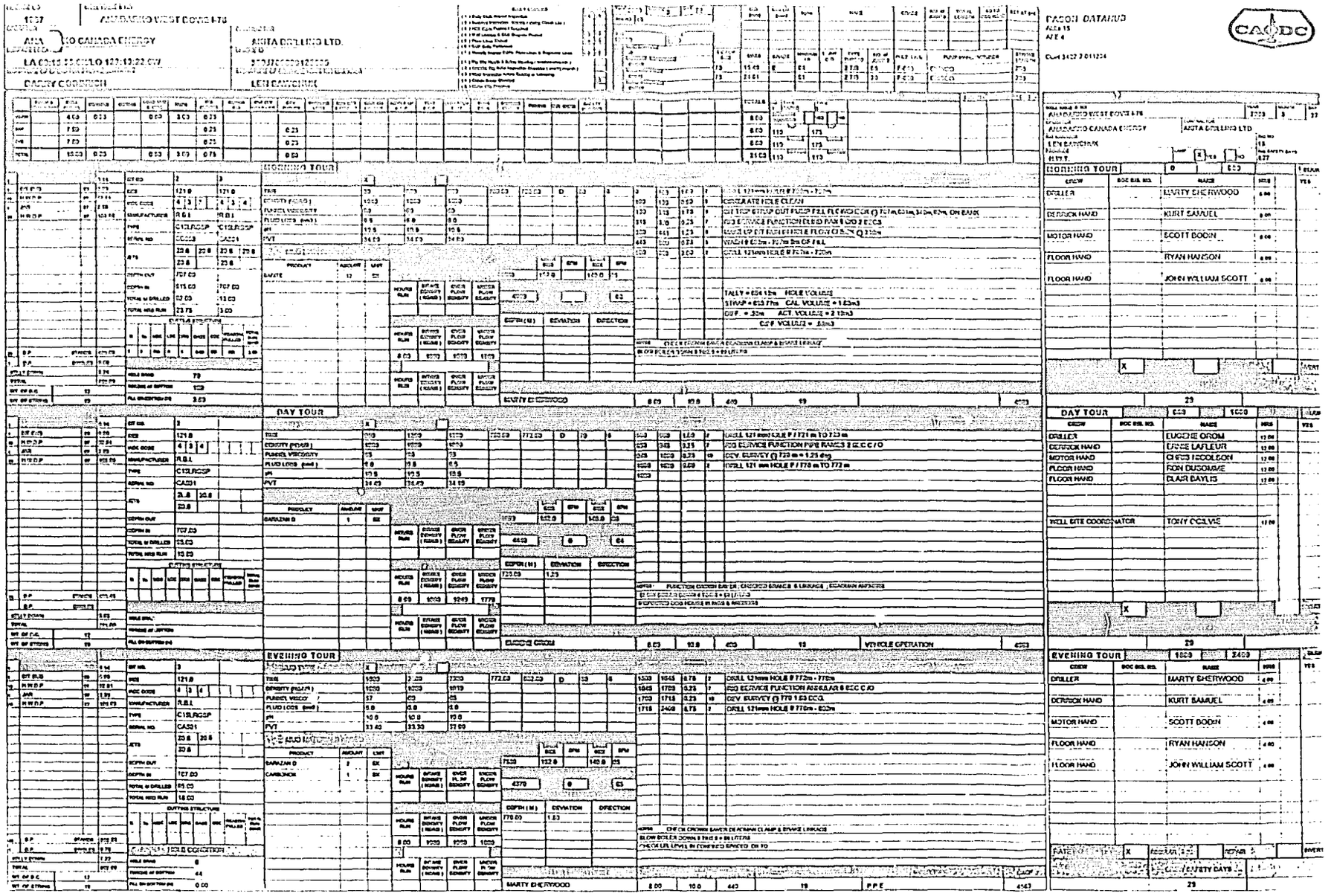
MARTY EICHERWOOD

DAILY SAFETY CHECK

CAODC







DAILY COMMENTS

EVENING TOUR

DAY TOUR

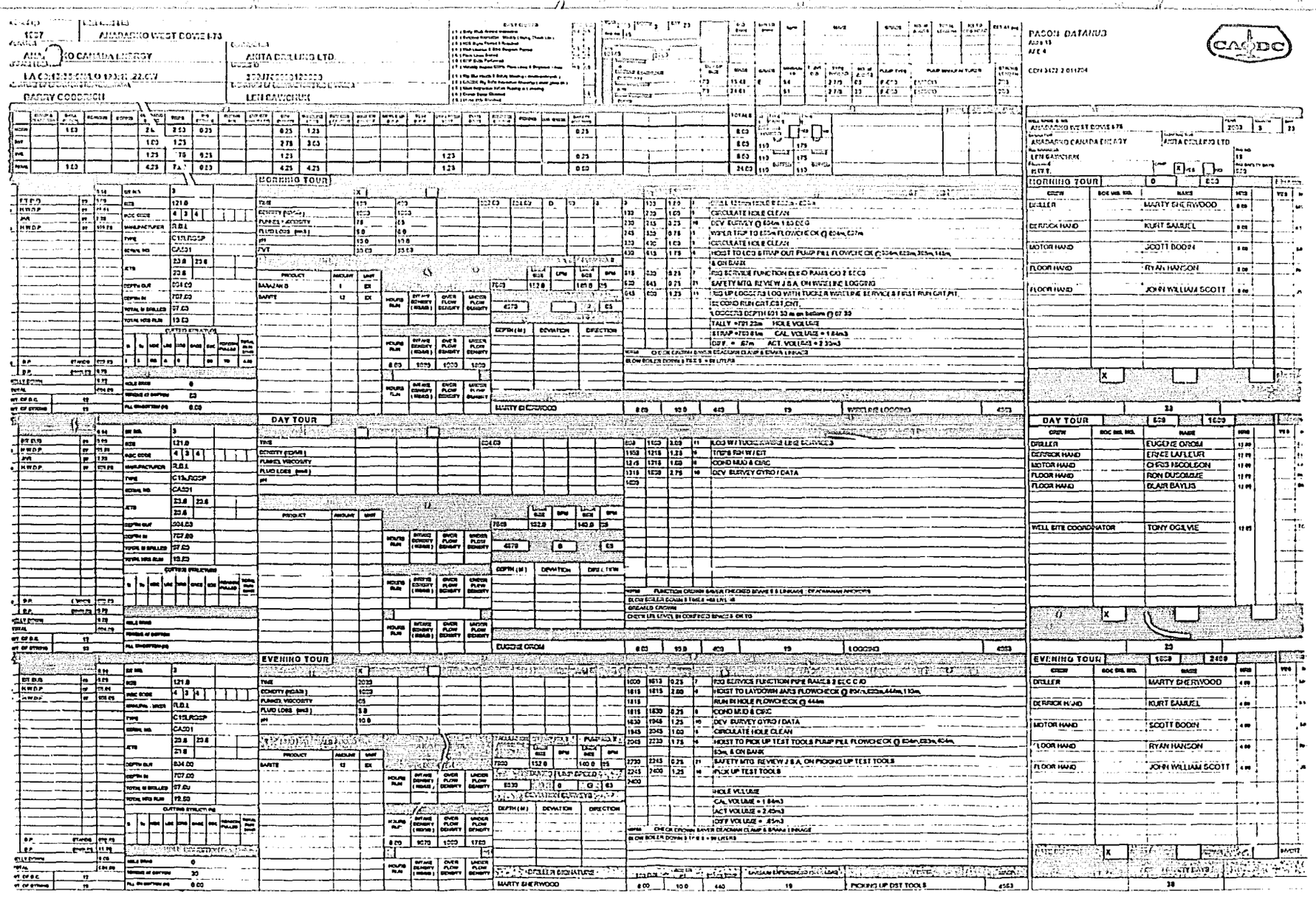
MORNING TOUR

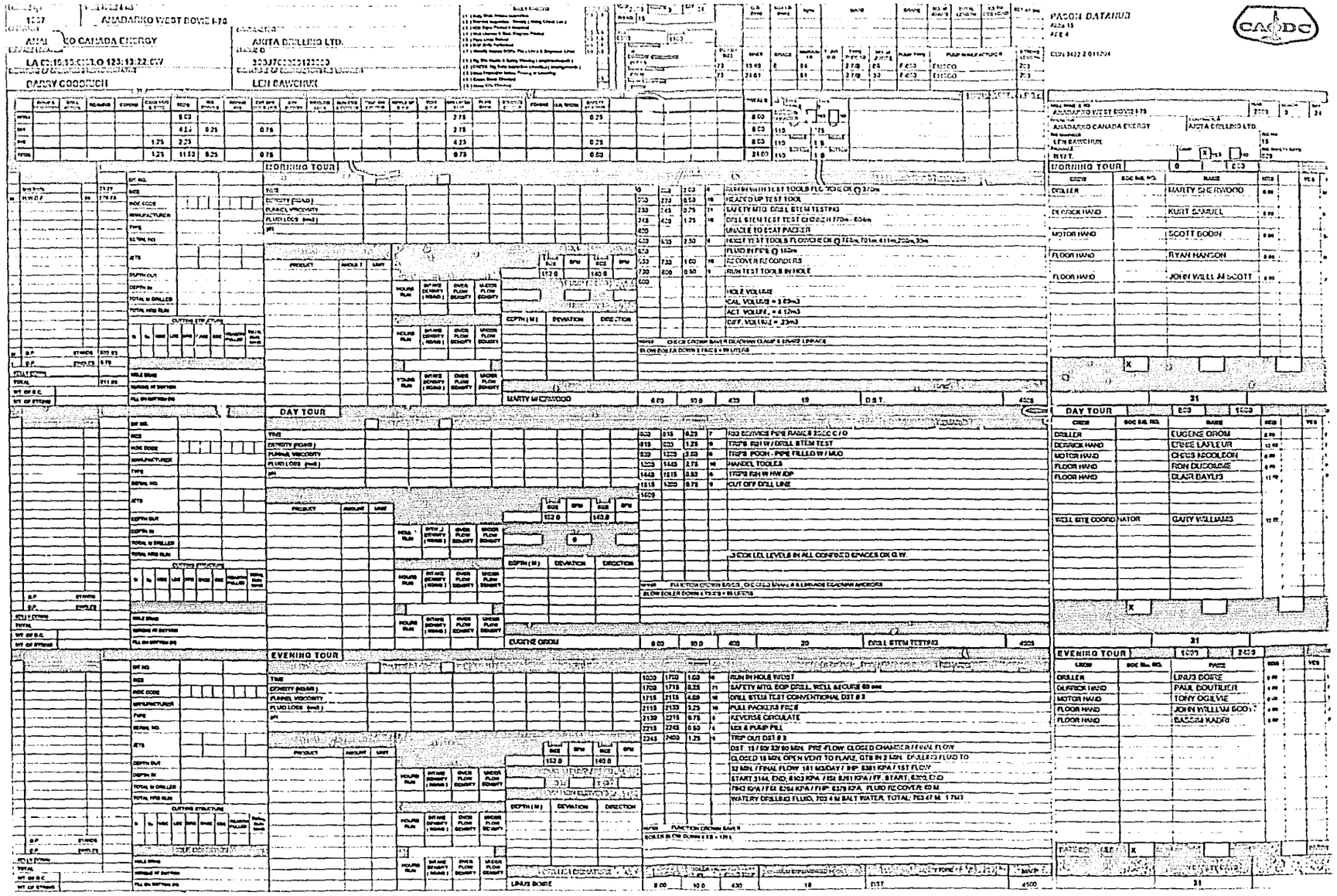
DAILY COMMENTS

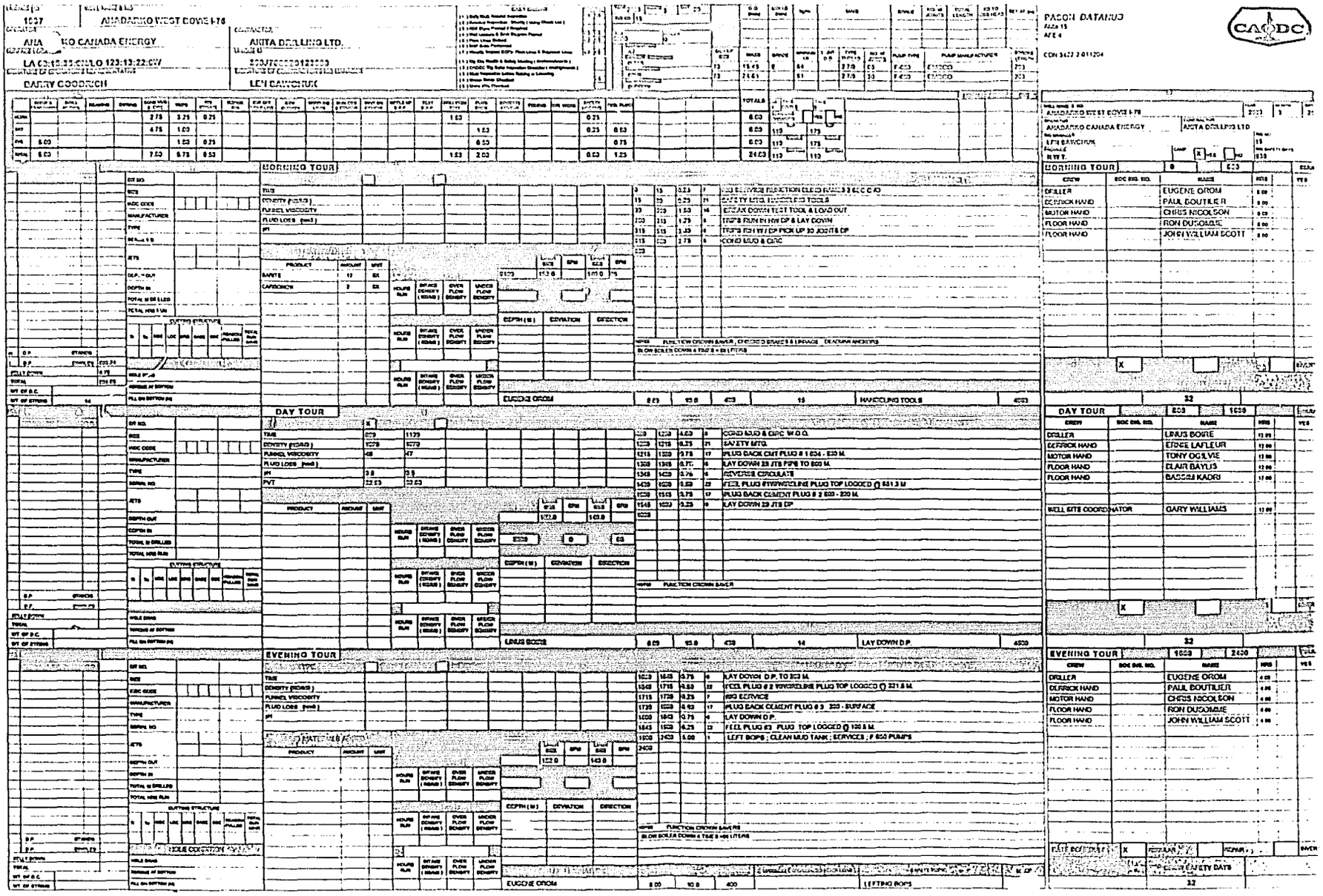
EVENING TOUR

DAY TOUR

MORNING TOUR


ASADDARIO WEST DOVE 6-73
ASADDARIO CANADA ENERGY
ANITA DRILLING LTD.
LEN DAWCHUK
BARRY COODRICH
DAY TOUR
EVENING TOUR
DRILLER
DERRICK HAND
MOTOR HAND
FLOOR HAND
WELL SITE COORDINATOR
MARTY SHERWOOD
KURT SAMUEL
SCOTT BOOEN
RYAN HANSON
JOHN WILLIAM SCOTT
EUGENE GROSS
ERNIE LAFLEUR
CHRIS NICOLSON
RON DUSOMME
BLAIR BAYLIS
TONY OGILVIE
CIRCULATE HOLE CLEAN
DEV SURVEY GYRO / DATA
WIPER TRIP TO
HOLE VOLUME
CAL VOLUME = 1.84m3
ACT VOLUME = 2.45m3
OFF VOLUME = .65m3
SAFETY MTG REVIEW J.S.A. ON PICKING UP TEST TOOLS
PICK UP TEST TOOLS
HOIST TO PICK UP TEST TOOLS PUMP PILL FLOWCHECK @
RUN IN HOLE FLOWCHECK @
COND MUD & CIRC
HOIST TO LAYDOWN JARS FLOWCHECK @
PASON DATANUD


AMADARKO WEST BOYCE 8-76
AMADARKO CANADA ENERGY
ARITA DRILLING LTD.
DARRY GOODRICH
LEN BAWCHUK
MORNING TOUR
DAY TOUR
EVENING TOUR
MARTY MCDWOOD
EUGENE GROM
LINUS BOSKE
DRILL STEM TESTING
DST
PASON DATANUD



PASON DATANUD
Rig 15
AFE 4

CON 3422 2 011204

AMADARKO WEST BOYD I-76 | 1037

AMADARKO CANADA ENERGY

ANITA DRILLING LTD.

LA 03:15:33:SW LO 123:13:22:W7

SD07E0020123W3

BARRY GOODRICH

LEN DAWCHUK

MORNING TOUR

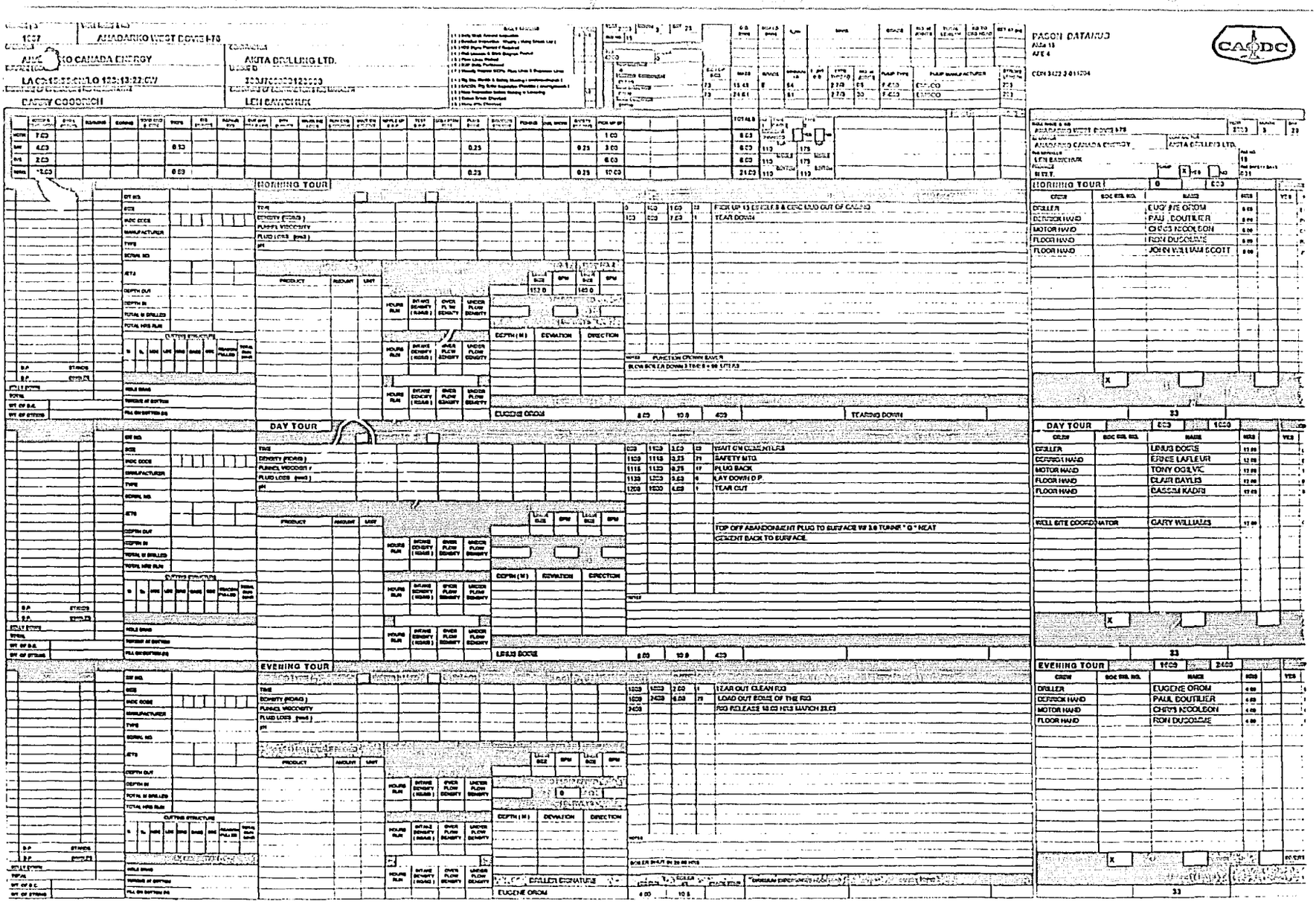
CREW	SOC SEC NO.	NAME	HRS	YES
DRILLER		EUGENE OROM	8.00	
DERRICK HAND		PAUL BOUTILIER	8.00	
MOTOR HAND		CHRIS NICOLSON	8.00	
FLOOR HAND		RON DUSOMME	8.00	
FLOOR HAND		JOHN WILLIAM SCOTT	8.00	

DAY TOUR

CREW	SOC SEC NO.	NAME	HRS	YES
DRILLER		LINUS BOIRE	11.00	
DERRICK HAND		ERNIE LAFLEUR	11.00	
MOTOR HAND		TONY OGILVIE	11.00	
FLOOR HAND		ELAIR BAYLIS	11.00	
FLOOR HAND		BASSIM KADRI	11.00	
WELL SITE COORDINATOR		GARY WILLIAMS	11.00	

EVENING TOUR

CREW	SOC SEC NO.	NAME	HRS	YES
DRILLER		EUGENE OROM	4.00	
DERRICK HAND		PAUL BOUTILIER	4.00	
MOTOR HAND		CHRIS NICOLSON	4.00	
FLOOR HAND		RON DUSOMME	4.00	
FLOOR HAND		JOHN WILLIAM SCOTT	4.00	



MORNING TOUR

CREW	SOC SEC NO.	NAME	HRS	YTD
DRILLER		EUGENE OROM	8.00	
DERRICK HAND		PAUL BOUTILIER	8.00	
MOTOR HAND		CHRIS NICOLSON	8.00	
FLOOR HAND		RON DUSSEAULT	8.00	
FLOOR HAND		JOHN WILLIAM SCOTT	8.00	

DAY TOUR

CREW	SOC SEC NO.	NAME	HRS	YTD
DRILLER		LEWIS DOCUE	12.00	
DERRICK HAND		EDDIE LAFLEUR	12.00	
MOTOR HAND		TONY OGILVIE	12.00	
FLOOR HAND		CLAIR BAYLIS	12.00	
FLOOR HAND		BASSAM KADRI	12.00	
WELL SITE COORDINATOR		GARY WILLIAMS	12.00	

EVENING TOUR

CREW	SOC SEC NO.	NAME	HRS	YTD
DRILLER		EUGENE OROM	4.00	
DERRICK HAND		PAUL BOUTILIER	4.00	
MOTOR HAND		CHRIS NICOLSON	4.00	
FLOOR HAND		RON DUSSEAULT	4.00	