KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1056483

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30717
Name: Downing-Nelson Oil Co Inc
Address 1: PO BOX 1019
Address 2:
City: HAYS State: KS Zip: 67601 + __ __ __ __
Contact Person: Ron Nelson
Phone: (785) 621-2610
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: Marc Downing
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [ ] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [x] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] CM *(Coal Bed Methane)*
- [ ] Cathodic
- [ ] Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

- [ ] Deepening
- [ ] Re-perf.
- [ ] Conv. to ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

04/21/2011	04/27/2011	04/28/2011
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-051-26133-00-00
Spot Description:
NE - NE - SW - SE Sec. 13 Twp. 13 S. R. 19 [ ] East [x] West
1180 Feet from [ ] North / [x] South Line of Section
1520 Feet from [x] East / [ ] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [ ] NW [x] SE [ ] SW
County: Ellis
Lease Name: Alma Herl Well #: 1-13
Field Name:
Producing Formation: None
Elevation: Ground: 2053 Kelly Bushing: 2061
Total Depth: 3753 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 224 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 16000 ppm Fluid volume: 320 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Downing Nelson Oil Company Inc.
Lease Name: Connie 1-29 License #: 30717
Quarter NE Sec. 29 Twp. 13 S. R. 21 [ ] East [x] West
County: Trego Permit #: D30417

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- [ ] **Letter of Confidentiality Received**
  Date:
- [ ] **Confidential Release Date:**
- [x] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [ ] I [x] II [ ] III **Approved by:** Deanna Garrisor **Date:** 06/09/2011

Side Two

1056483

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Alma Herl Well #: 1-13

Sec. 13 Twp. 13 S. R. 19 ☐ East ☑ West County: Ellis

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☑ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:
Attached

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface Pipe	12.25	8.6250	23	223.85	Common	150	2% Gel & 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:
☐ Perforate
☐ Protect Casing
☐ Plug Back TD
☐ Plug Off Zone

Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
-			
-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Alma Herl 1-13
Doc ID	1056483

All Electric Logs Run

Mirco
Sonic
Dual Indcution
Compansated Density/Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Alma Herl 1-13
Doc ID	1056483

Tops

Name	Top	Datum
Top Anhydrite	1348	+714
Base Anhydrite	1389	+673
Topeka	3085	-1023
Heebner	3325	-1263
Toronto	3344	-1282
LKC	3370	-1308
BKC	3596	-1534
Arbuckel	3665	-1603

ALLIED CEMENTING CO., LLC. 039683

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Russell Ks.

DATE 4-21-2011	SEC. 13	TWP. 13 S	RANGE 19 W	CALLED OUT	ON LOCATION	JOB START 6:30 PM	JOB FINISH 7:00PM.
LEASE ALMA HERL	WELL # 1-13		LOCATION Hays Ks. I-70 Exit #157 Y8 S 1½ W ½ N INTO			COUNTY ELLIS	STATE KANSAS
OLD OR NEW (Circle one)							

CONTRACTOR Discovery DRLG. Rig #4 (Mike)
TYPE OF JOB Cement Surface
HOLE SIZE 12 ¼ T.D. 223'
CASING SIZE 8 5/8 New DEPTH 222'
TUBING SIZE 23# CSG DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 13¼ BBL

OWNER

EQUIPMENT

PUMP TRUCK CEMENTER Glenn
398 HELPER Woody
BULK TRUCK
378 DRIVER Ron
BULK TRUCK
DRIVER

CEMENT

AMOUNT ORDERED 150 sx Com.
2% Gel
3% CC

COMMON	150	@ 16.25	2437.50
POZMIX		@	
GEL	3	@ 21.25	63.75
CHLORIDE	5	@ 58.20	291.00
ASC		@	
HANDLING	158	@ 2.25	355.50
MILEAGE	.11/sk/mile		486.64
		TOTAL	3634.39

REMARKS:

Ran 5 New JT's 23# 8 5/8 CSG. Set @ 222 Recieved Circulation. Cement w/ 150 sx Com 2%Gel, 3%cc. Displace 13¼ BBL H2O & Shut in @ 250#. Cement D.D - Circulate TO SURFACE.

THANK'S

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			1125.00
EXTRA FOOTAGE		@	
MILEAGE	56	@ 7.00	392.00
MANIFOLD		@	
Lume	56	@ 4.00	224.00
		@	
		TOTAL	1741.00

CHARGE TO: Downing & Nelson Oil
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or

ALLIED CEMENTING CO., LLC. 039690

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Russell KS

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
4-28-2011	13	13S	19W			3:00 AM	3:30 AM
LEASE Herl	WELL # 1-13		LOCATION Hays I-70 Exit #157			COUNTY Ellis	STATE KANSAS
OLD OR (NEW) (Circle one)			4S 1W ½ N. INTO				

CONTRACTOR Discovery Drlg. Rig #4
TYPE OF JOB Rotary Plug
HOLE SIZE 7 7/8 T.D. @ 3753
CASING SIZE 8 5/8 Surface DEPTH @ 232
TUBING SIZE DEPTH
DRILL PIPE 4½ X-H DEPTH @ 3644
TOOL DEPTH
PRES. MAX MINIMUM ✓
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT

OWNER

EQUIPMENT

PUMP TRUCK CEMENTER Glenn
398 HELPER Woody
BULK TRUCK
341 DRIVER Bob G.B.
BULK TRUCK
DRIVER

CEMENT

AMOUNT ORDERED 245 sx 60/40 4% Gel ¼ # F10-Seal Per Sx.

COMMON	147	@ 16.25	2388.75
POZMIX	98	@ 8.50	833.00
GEL	8	@ 21.25	170.00
CHLORIDE		@	
ASC		@	
		@	
Flo Seal	61#	@ 2.70	164.70
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	255	@ 2.25	573.75
MILEAGE	.11/sk/mile		785.40
		TOTAL	4915.60

REMARKS:

25 sx @ 3644
25 sx @ 1375
100 sx @ 800
40 sx @ 275
10 sx @ 40'
15 sx @ Mousehole
30 sx @ Rathole

Thank's

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			1250.00
EXTRA FOOTAGE		@	
MILEAGE	56	@ 7.00	392.00
MANIFOLD		@	
L Vm	56	@ 4.00	224.00
		@	
		TOTAL	1866.00

CHARGE TO: Downing & Nelson Oil Co.
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8⅝ Plug			64.00
		@	
		@	
		@	
		@	
		@	

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

S13-13s-19w Ellis,KS

Job Ticket: 43116 **DST#: 1**

Test Start: 2011.04.24 @ 23:21:00

GENERAL INFORMATION:

Formation: **LKC 'C,D'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:00:20
Time Test Ended: 05:55:20

Test Type: Conventional Bottom Hole
Tester: Chuck Smith
Unit No: 37

Interval: 3384.00 ft (KB) To 3428.00 ft (KB) (TVD)
Total Depth: 3428.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

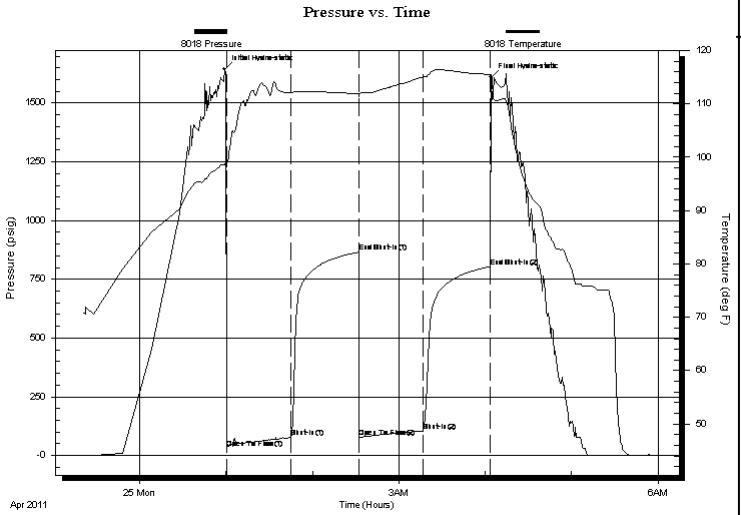
Reference Elevations: 2062.00 ft (KB)
2054.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8018 **Inside**

Press@RunDepth: 104.97 psig @ 3387.00 ft (KB)
Start Date: 2011.04.24 End Date: 2011.04.25
Start Time: 23:21:05 End Time: 05:55:20

Capacity: 8000.00 psig
Last Calib.: 2011.04.25
Time On Btm: 2011.04.25 @ 00:58:50
Time Off Btm: 2011.04.25 @ 04:04:00

TEST COMMENT: IF: 9" Blow . Tool slid 5 feet.
ISI: Weak return died @ 6 min.
FF: 6" Blow .
FSI: 1/2" Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1643.41	98.67	Initial Hydro-static
2	31.99	98.65	Open To Flow (1)
47	76.19	112.13	Shut-In(1)
94	865.31	111.92	End Shut-In(1)
94	78.27	111.83	Open To Flow (2)
139	104.97	115.02	Shut-In(2)
185	804.41	115.54	End Shut-In(2)
186	1609.29	115.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .230 @ 48 Degrees F = 45000 PPM	0.00
120.00	WCM 10w 90m	1.40
70.00	OSMW 20m 80w	0.98

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

S13-13s-19w Ellis,KS

Job Ticket: 43116 **DST#: 1**

Test Start: 2011.04.24 @ 23:21:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	45000 ppm
Viscosity:	57.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1500.00 ppm				
Filter Cake:	1.00 inches				

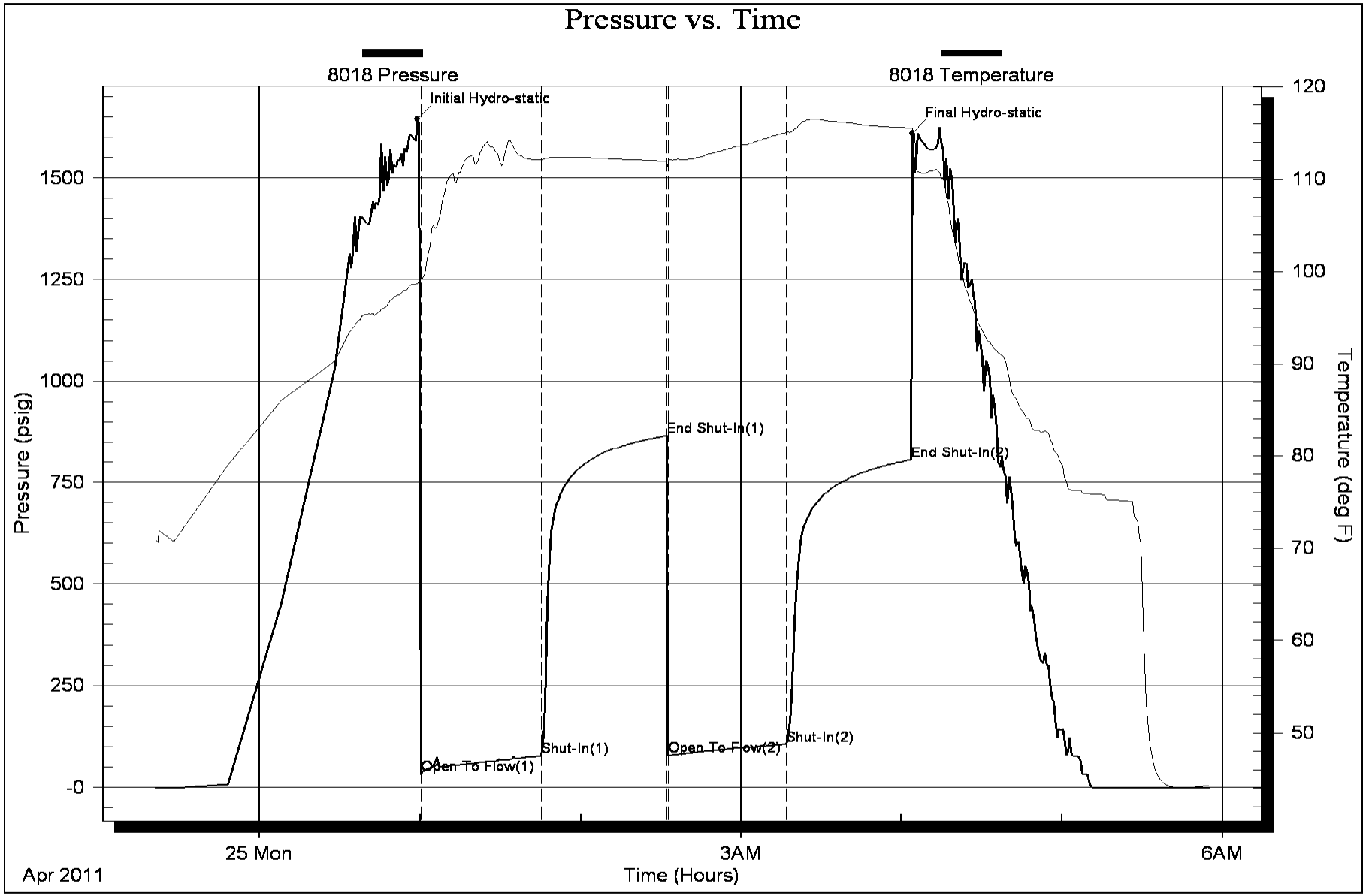
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW: .230 @ 48 Degrees F = 45000 PPM	0.000
120.00	WCM 10w 90m	1.401
70.00	OSMW 20m 80w	0.982

Total Length: 190.00 ft Total Volume: 2.383 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8018 Pressure
8018 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
1500
1250
1000
750
500
250
-0
120
110
100
90
80
70
60
50
25 Mon
3AM
6AM
Apr 2011
Time (Hours)

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

S13-13s-19w Ellis,KS

Job Ticket: 43117 **DST#: 2**

Test Start: 2011.04.25 @ 12:07:00

GENERAL INFORMATION:

Formation: **LKC 'E-F'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:23:40
Time Test Ended: 18:14:20

Test Type: Conventional Bottom Hole
Tester: Chuck Smith
Unit No: 37

Interval: 3428.00 ft (KB) To 3455.00 ft (KB) (TVD)
Total Depth: 3455.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

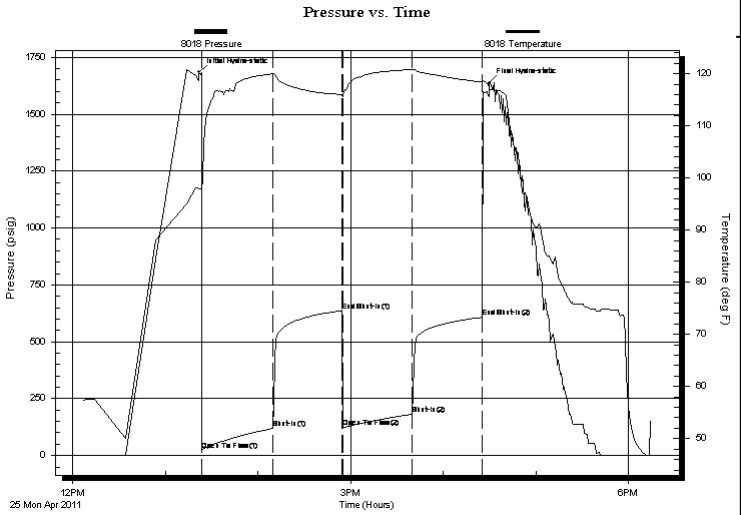
Reference Elevations: 2062.00 ft (KB)
2054.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8018 **Inside**

Press@RunDepth: 181.46 psig @ 3447.00 ft (KB)
Start Date: 2011.04.25 End Date: 2011.04.25
Start Time: 12:07:05 End Time: 18:14:20

Capacity: 8000.00 psig
Last Calib.: 2011.04.25
Time On Btm: 2011.04.25 @ 13:21:50
Time Off Btm: 2011.04.25 @ 16:29:39

TEST COMMENT: IF: B.O.B. @ 16 min.
ISI: Weak surface return died at 5 min.
FF: B.O.B. @ 31 min.
FSI: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1683.29	98.00	Initial Hydro-static
2	20.81	97.32	Open To Flow (1)
48	119.89	119.97	Shut-In(1)
93	637.35	115.99	End Shut-In(1)
94	122.85	115.92	Open To Flow (2)
138	181.46	120.76	Shut-In(2)
184	607.53	118.40	End Shut-In(2)
188	1637.19	117.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .225 @ 50 Degrees F = 45000 PPM	0.00
300.00	MW 10m 90w	3.93
45.00	OSMW 20m 80w	0.63

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

S13-13s-19w Ellis,KS

Job Ticket: 43117 **DST#: 2**

Test Start: 2011.04.25 @ 12:07:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	45000 ppm
Viscosity:	70.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4500.00 ppm				
Filter Cake:	1.00 inches				

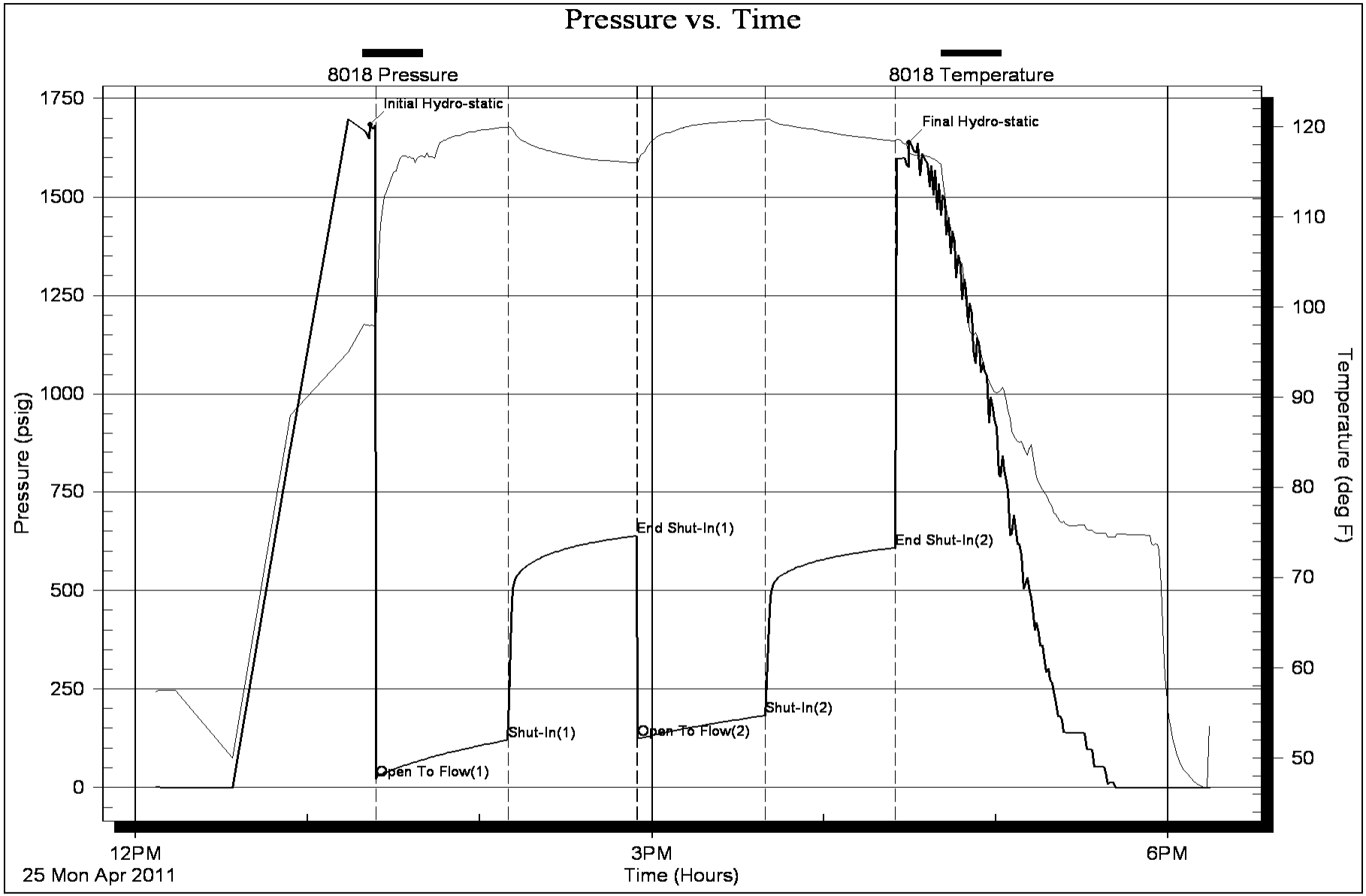
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW: .225 @ 50 Degrees F = 45000 PPM	0.000
300.00	MW 10m 90w	3.926
45.00	OSMW 20m 80w	0.631

Total Length: 345.00 ft Total Volume: 4.557 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8018 Pressure
8018 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Shut-In(2)
Open To Flow(1)
Open To Flow(2)
Pressure (psig)
Temperature (deg F)
1750
1500
1250
1000
750
500
250
0
120
110
100
90
80
70
60
50
12PM
25 Mon Apr 2011
3PM
Time (Hours)
6PM

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

S13-13s-19w Ellis,KS

Job Ticket: 041815 **DST#: 3**

Test Start: 2011.04.26 @ 04:26:05

GENERAL INFORMATION:

Formation: **LKC"H,I,J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:13:00
Time Test Ended: 09:33:39

Test Type: Conventional Bottom Hole
Tester: Andy Carreira
Unit No: 39

Interval: 3481.00 ft (KB) To 3548.00 ft (KB) (TVD)
Total Depth: 3548.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

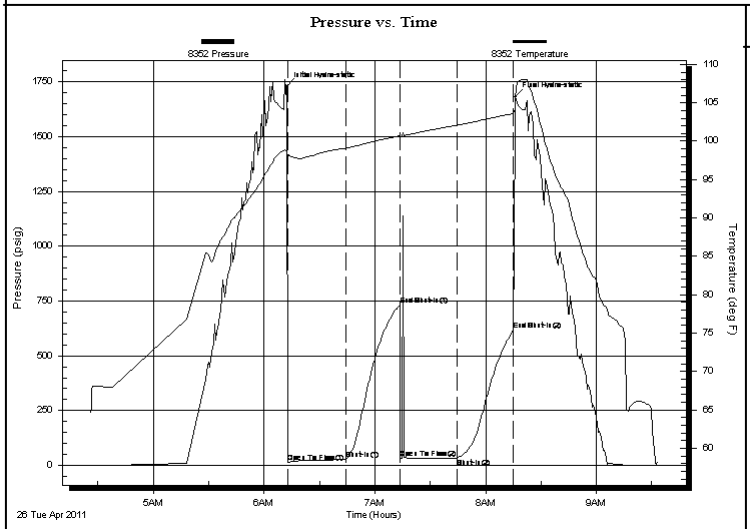
Reference Elevations: 2062.00 ft (KB)
2054.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8352 **Outside**

Press@RunDepth: 32.54 psig @ 3485.00 ft (KB)
Start Date: 2011.04.26 End Date: 2011.04.26
Start Time: 04:26:05 End Time: 09:33:40

Capacity: 8000.00 psig
Last Calib.: 2011.04.26
Time On Btm: 2011.04.26 @ 06:12:10
Time Off Btm: 2011.04.26 @ 08:16:00

TEST COMMENT: IF:(30min) Blow died in 15 min.
IS:(30min) No Return
FF:(30min) No Blow , Flushed, Surge, No Blow
FS:(30min) No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1730.25	98.75	Initial Hydro-static
1	14.83	97.91	Open To Flow (1)
32	27.13	99.10	Shut-In(1)
62	729.69	100.69	End Shut-In(1)
62	32.03	100.37	Open To Flow (2)
93	32.54	102.09	Shut-In(2)
123	615.82	103.59	End Shut-In(2)
124	1682.51	105.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w /slight oil specks in tool	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

S13-13s-19w Ellis,KS

Job Ticket: 041815 **DST#: 3**

Test Start: 2011.04.26 @ 04:26:05

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4500.00 ppm				
Filter Cake:	inches				

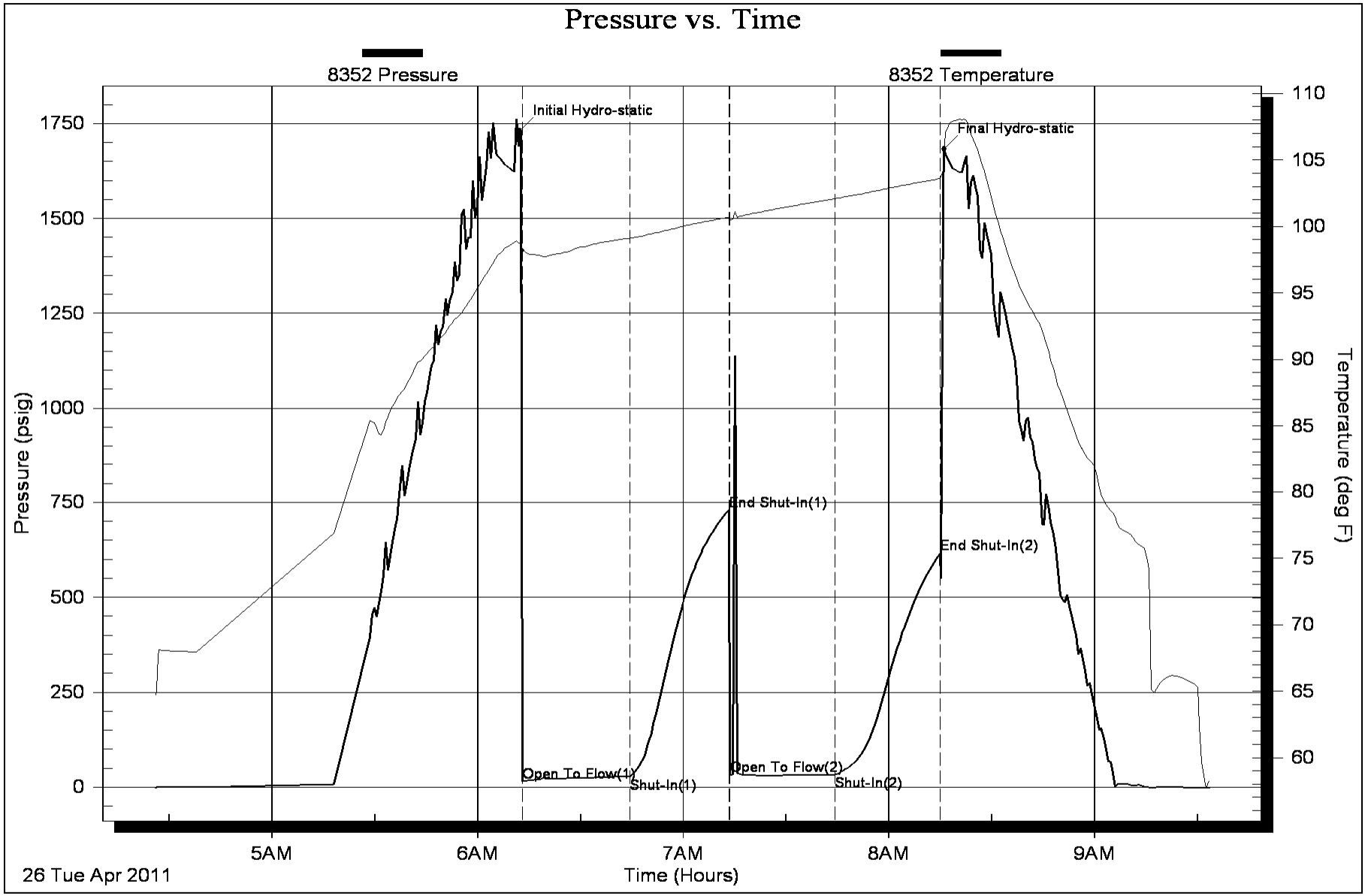
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w /slight oil specks in tool	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8352 Pressure
8352 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
1750
1500
1250
1000
750
500
250
0
110
105
100
95
90
85
80
75
70
65
60
5AM
6AM
7AM
8AM
9AM
Time (Hours)
26 Tue Apr 2011

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

13-13s-19w Ellis,KS

Job Ticket: 041816 **DST#: 4**

Test Start: 2011.04.26 @ 21:10:05

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:56:50
Time Test Ended: 02:27:39

Test Type: Conventional Bottom Hole
Tester: Andy Carreira
Unit No: 39

Interval: 3666.00 ft (KB) To 3684.00 ft (KB) (TVD)
Total Depth: 3684.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

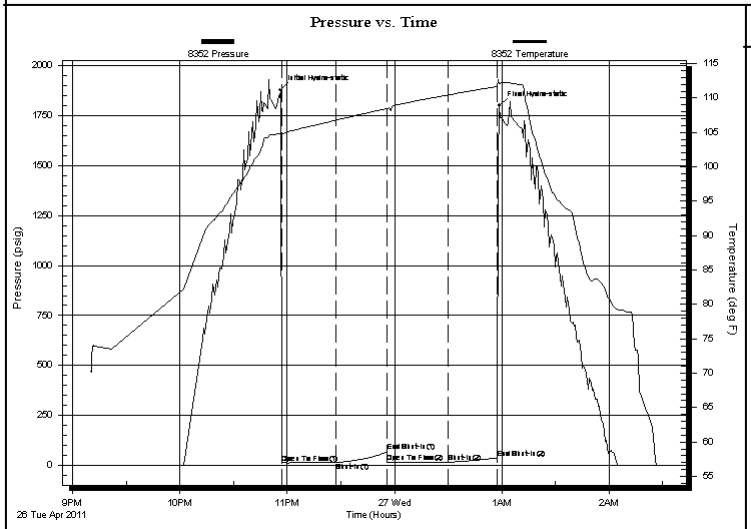
Reference Elevations: 2062.00 ft (KB)
2054.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8352 **Outside**

Press@RunDepth: 15.90 psig @ 3667.00 ft (KB)
Start Date: 2011.04.26 End Date: 2011.04.27
Start Time: 21:10:05 End Time: 02:27:40

Capacity: 8000.00 psig
Last Calib.: 2011.04.27
Time On Btm: 2011.04.26 @ 22:56:20
Time Off Btm: 2011.04.27 @ 00:58:50

TEST COMMENT: IF:(30min) Blow diecd in 5 min.
IS:(30min) No Return
FF:(30min) No blow ,Flushed, Surge, No blow
FS: No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1879.32	104.85	Initial Hydro-static
1	12.82	103.79	Open To Flow (1)
31	13.93	106.77	Shut-In(1)
60	68.86	108.49	End Shut-In(1)
60	14.46	108.47	Open To Flow (2)
94	15.90	110.45	Shut-In(2)
121	37.90	111.68	End Shut-In(2)
123	1800.48	112.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud w / oil specks in tool	0.01

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

13-13s-19w Ellis,KS

Job Ticket: 041816 **DST#: 4**

Test Start: 2011.04.26 @ 21:10:05

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4500.00 ppm				
Filter Cake:	inches				

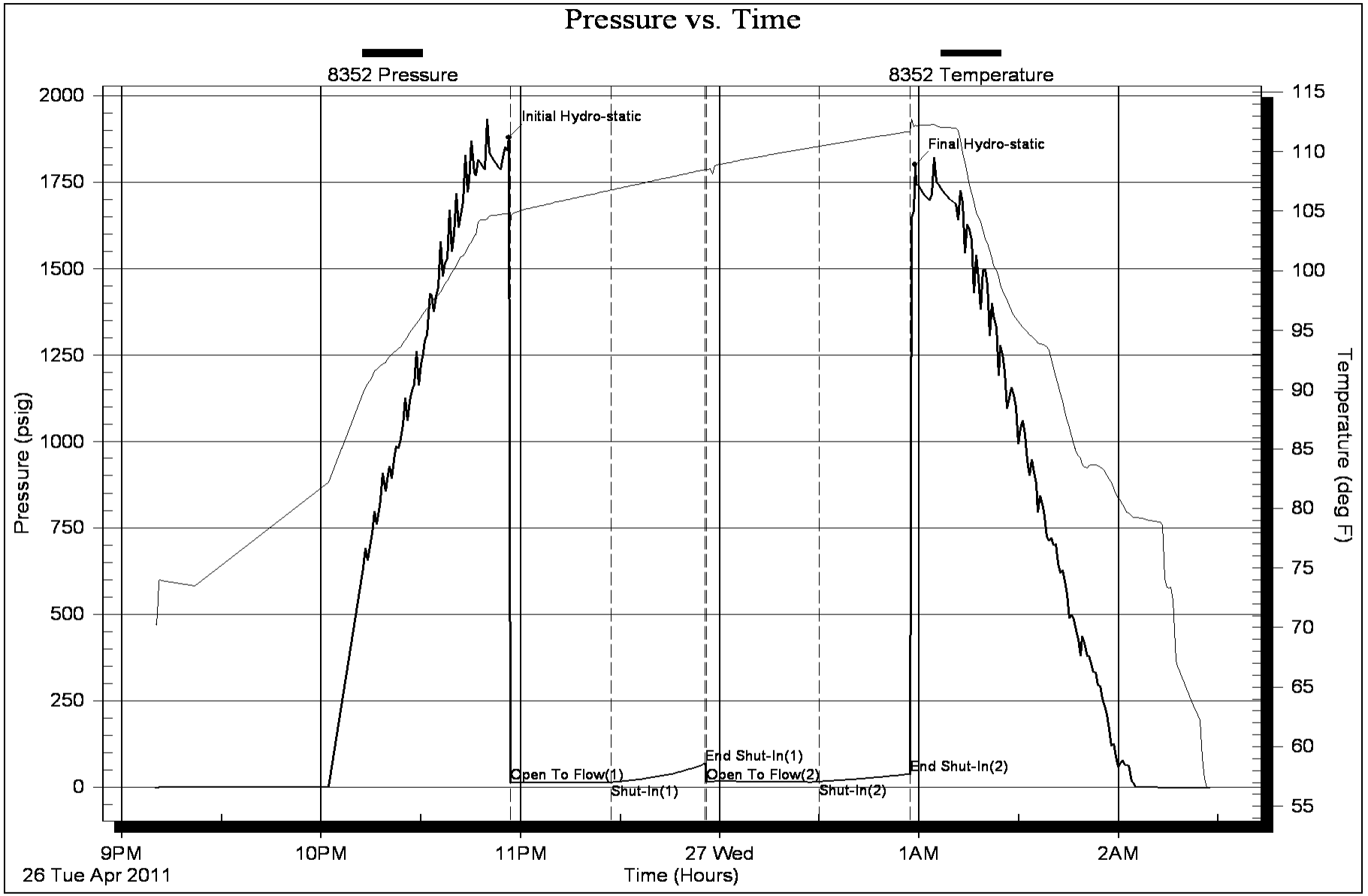
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud w / oil specks in tool	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8352 Pressure
8352 Temperature
Initial Hydro-static
Final Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
Shut-In(2)
End Shut-In(2)
Pressure (psig)
Temperature (deg F)
2000
1750
1500
1250
1000
750
500
250
0
115
110
105
100
95
90
85
80
75
70
65
60
55
9PM
26 Tue Apr 2011
10PM
11PM
27 Wed
1AM
2AM
Time (Hours)

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

13-13s-19w Ellis,KS

Job Ticket: 041817 **DST#: 5**

Test Start: 2011.04.27 @ 15:38:05

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:40:00
Time Test Ended: 20:18:29

Test Type: Conventional Straddle
Tester: Andy Carreira
Unit No: 39

Interval: 3674.00 ft (KB) To 3720.00 ft (KB) (TVD)
Total Depth: 3754.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

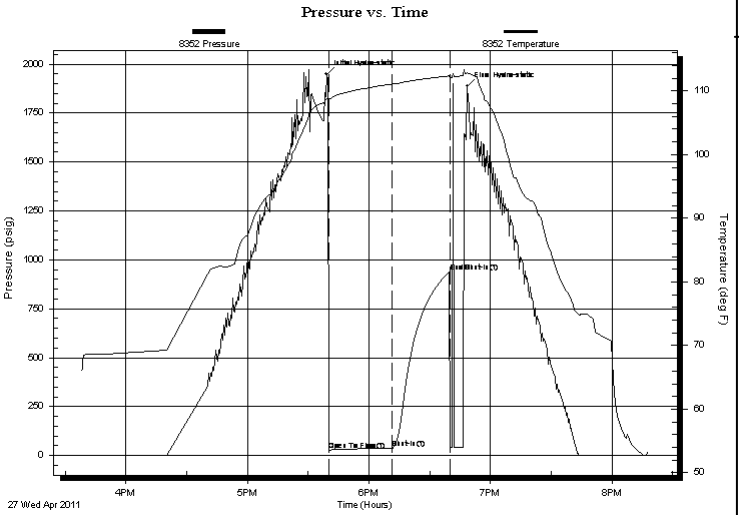
Reference Elevations: 2062.00 ft (KB)
2054.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8352 **Outside**

Press@RunDepth: 36.56 psig @ 3681.00 ft (KB)
Start Date: 2011.04.27 End Date: 2011.04.27
Start Time: 15:38:05 End Time: 20:18:29

Capacity: 8000.00 psig
Last Calib.: 2011.04.27
Time On Btm: 2011.04.27 @ 17:39:00
Time Off Btm: 2011.04.27 @ 18:48:40

TEST COMMENT: IF:(30min) Blow died in 6 min.
IS:(30min) No Return
FF: No Blow ,Flushed,Surge,No Blow . Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1948.37	108.72	Initial Hydro-static
1	25.79	107.99	Open To Flow (1)
33	36.56	111.08	Shut-In(1)
61	938.98	112.39	End Shut-In(1)
70	1886.99	112.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SGMw /oil specks in tool	0.10

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)

DRILL STEM TEST REPORT

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

13-13s-19w Ellis,KS

Job Ticket: 041817 **DST#: 5**

Test Start: 2011.04.27 @ 15:38:05

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:40:00
Time Test Ended: 20:18:29

Test Type: Conventional Straddle
Tester: Andy Carreira
Unit No: 39

Interval: 3674.00 ft (KB) To 3720.00 ft (KB) (TVD)
Total Depth: 3754.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

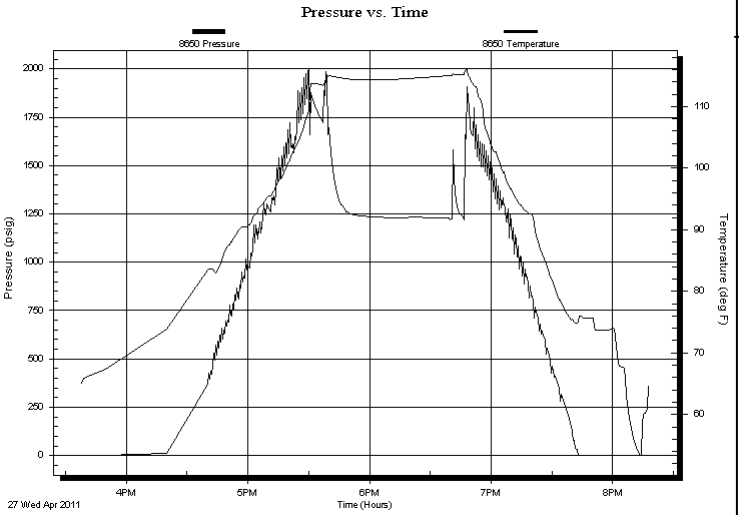
Reference Elevations: 2062.00 ft (KB)
2054.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8650 **Below (Straddle)**

Press@RunDepth: psig @ 3725.00 ft (KB)
Start Date: 2011.04.27 End Date: 2011.04.27
Start Time: 15:38:05 End Time: 20:17:50

Capacity: 8000.00 psig
Last Calib.: 2011.04.27
Time On Btm:
Time Off Btm:

TEST COMMENT: IF:(30min) Blow died in 6 min.
IS:(30min) No Return
FF: No Blow ,Flushed,Surge,No Blow . Pulled Tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SGMw /oil specks in tool	0.10

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (MMcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

DNOC

POB 1019
Hays, KS 67601

ATTN: Marc Dow ning

Alma Herl 1-13

13-13s-19w Ellis,KS

Job Ticket: 041817 **DST#: 5**

Test Start: 2011.04.27 @ 15:38:05

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4500.00 ppm				
Filter Cake:	inches				

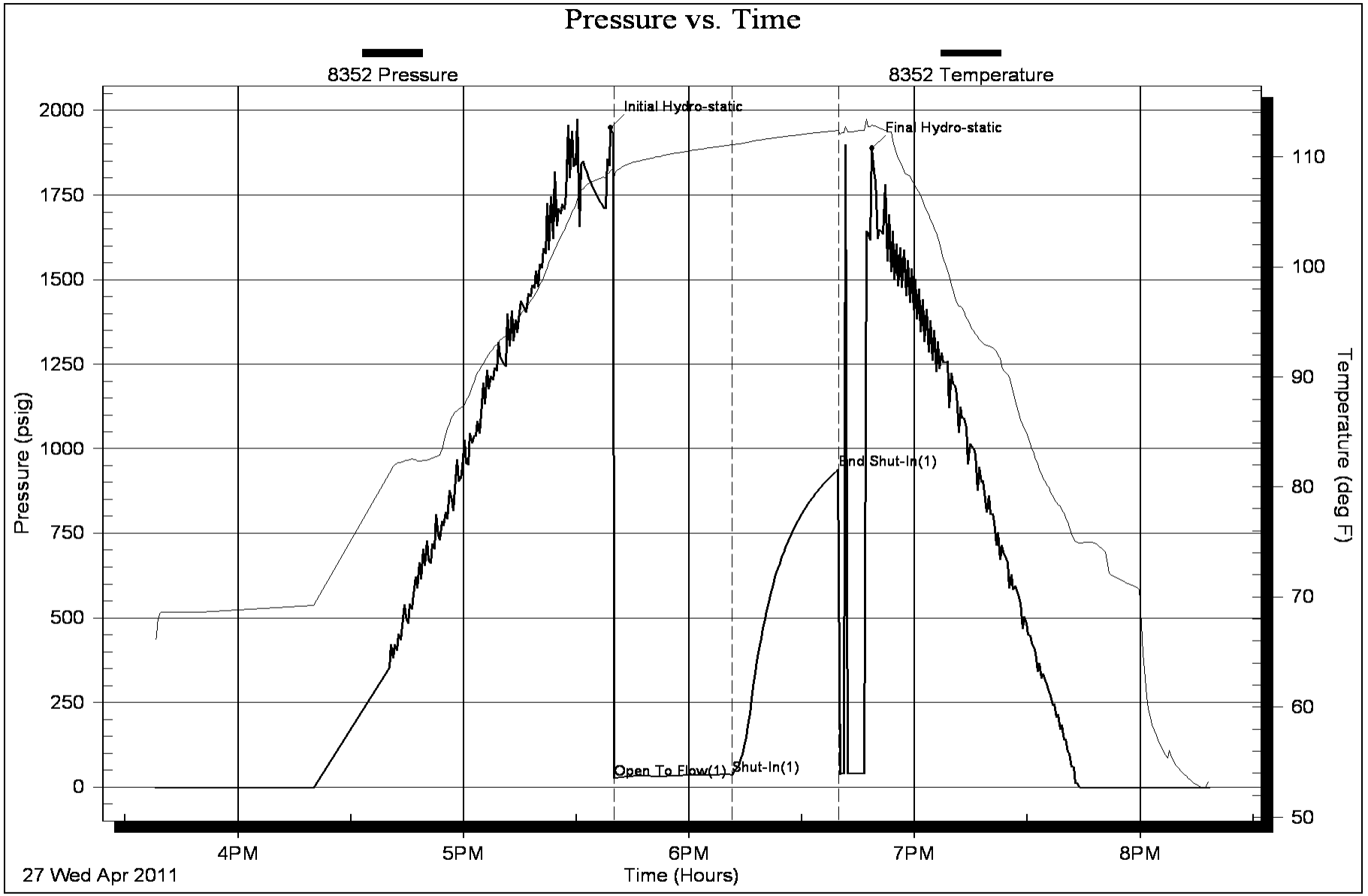
Recovery Information

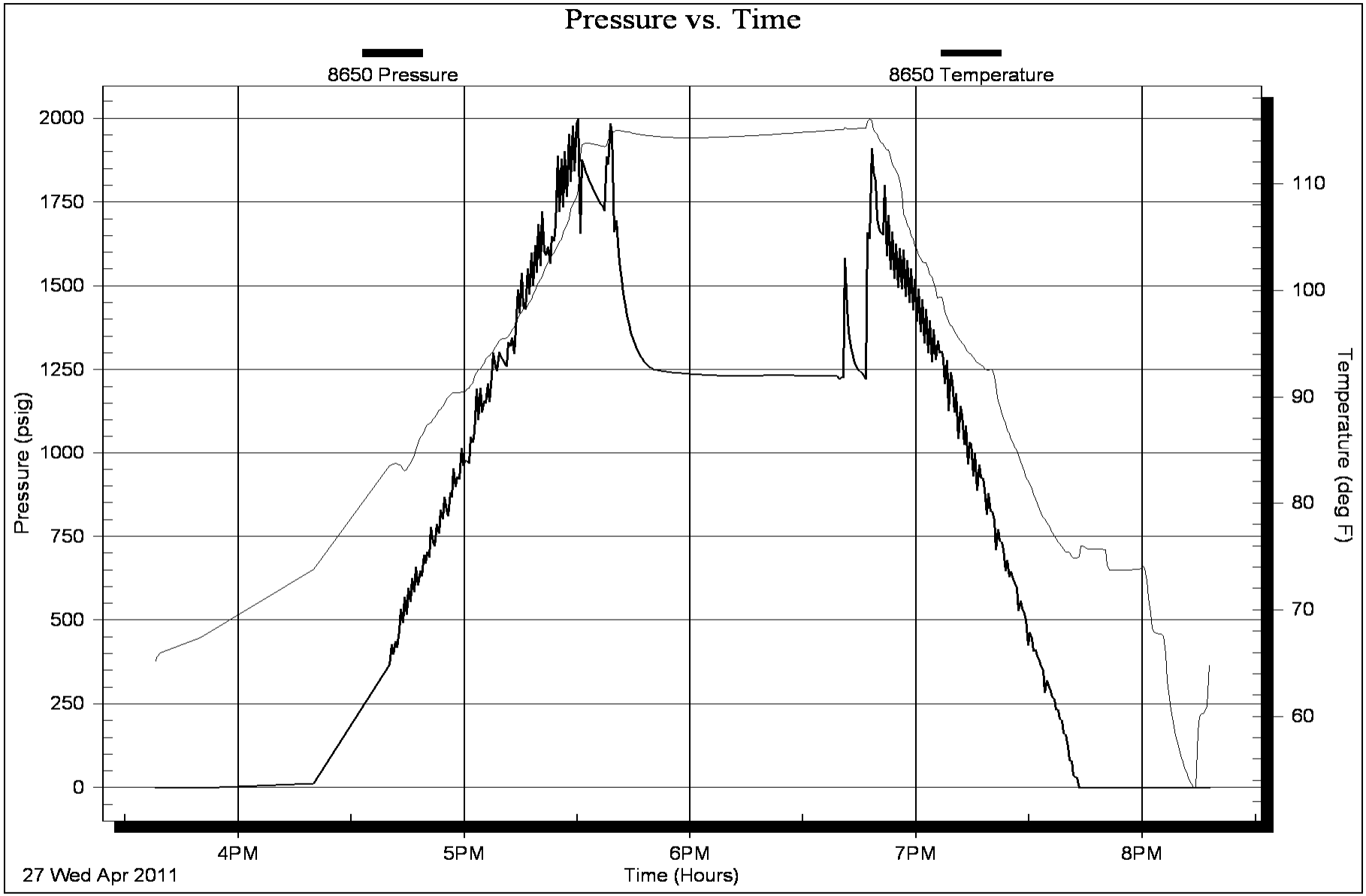
Recovery Table

Length ft	Description	Volume bbl
20.00	SGMw /oil specks in tool	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8352 Pressure
8352 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
Open To Flow(1)
Shut-In(1)
Pressure (psig)
Temperature (deg F)
2000
1750
1500
1250
1000
750
500
250
0
110
100
90
80
70
60
50
4PM
5PM
6PM
7PM
8PM
27 Wed Apr 2011
Time (Hours)


Pressure vs. Time
8650 Pressure
8650 Temperature
Pressure (psig)
Temperature (deg F)
2000
1750
1500
1250
1000
750
500
250
0
110
100
90
80
70
60
4PM
5PM
6PM
7PM
8PM
27 Wed Apr 2011
Time (Hours)

Marc Downing

Consulting Petroleum Geologist
1411 Washington Circle
Hays, Ks 67601
Phone: 620-428-1356 (cell) 785-621-2286

GEOLOGIC REPORT LOG

COMPANY Downing-Nelson Oil Co, Inc.

WELL Alma Heel #1-13

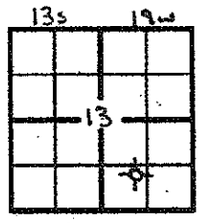
FIELD Gatschet SE

LOCATION 1180' FSL & 1520' FEL

SEC. 13 TWP. 13s RGE. 19w

COUNTY Ellis

STATE Kansas



PRODUCTION D+A

ELEVATION KB 2062
DF
GL 2054

Drilling Measured From: KB

Samples Saved From 3050 To: TD

Drilling Time From 2950 To: TD

Samples Examined From: 3050 To: TD

Geological Supervision From 3050 To Total Depth

Wellsite Geologist Marc Downing

Electrical Surveys Superior
CDL/CNL
DIL
MEL
Sonic

OPERATOR DNOC I

CONTRACTOR Discovery Drilling, Rig #4

COMM: NA COMP: 4-27-11

CASING RECORD

SURF: 4 5/8" @ 224' PROD: None

TOTAL DEPTH DRILLERS: 3753

TOTAL DEPTH LOG 3754

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Top Anhydrite	NA	1348	+714	+1
Base	NA	1389	+673	-5
Topeka	3086	3085	-1023	+3
Heebner	3325	3325	-1263	+2
Toronto	3344	3344	-1282	+3
LKC	3369	3370	-1308	FL
BKC	3596	3596	-1534	+4
Arbuckle	3665	3665	-1603	+6

REFERENCE WELL FOR STRUCTURE TJO Oil Co.
J. Dreiling #1 SE-SE-SW Sec. 13-13s-19w

DAILY PENETRATION

DATE	DEPTH

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS

FORMATION	INTERVAL	DESCRIPTION OF SHOW	LOG ANALYSIS G / S W

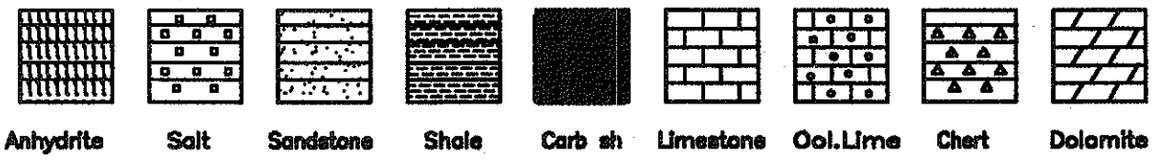
DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHH-FHH	RECOVERY

REMARKS AND RECOMMENDATIONS _____

7515

LEGEND



LOG 7710

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases
5" 10" 15" 20" 25"

DEPTH

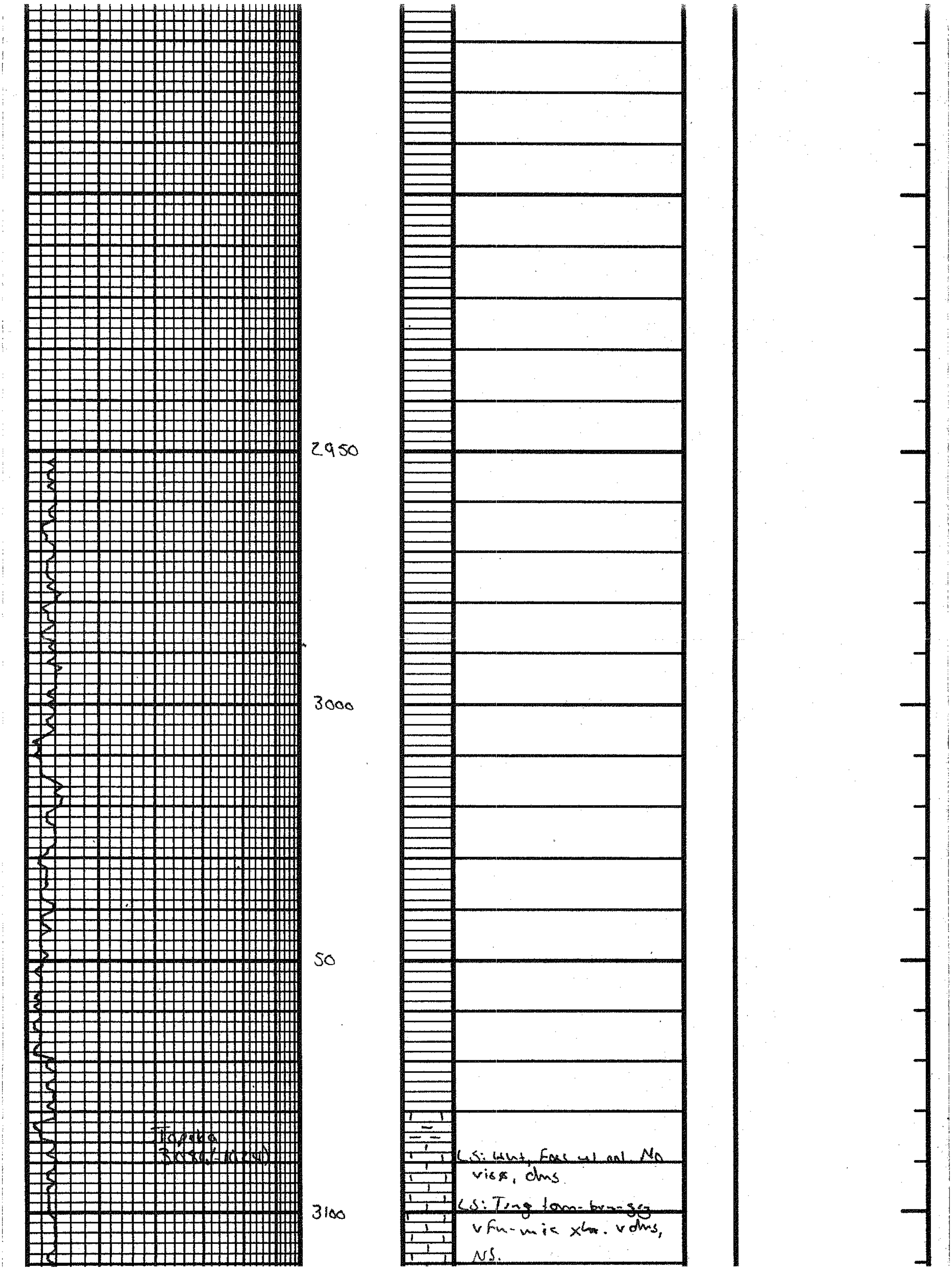
1350

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS


2950
3000
50
3100
Topeka
LS: Wht, Foss w/ ool. No vis ø, dns
LS: Tng tan-brn-gy vfn-mic xln. v dns, NS.

50

3200

50

3300

50

Sh: gry

LS: tan, fn sub xln, gd int xln + DPS, Tst barren, No od.

Sh: gry-blk

Sh: gry

LS: tan-cam, md xln, Foss. Arg, dms

LS: A/A wl same gry LS. Trng mtld wl depth.

LS: wht-cam-tan, md xln, sub xln-chlky, mtld. All NS.

Sh: Black Carb

Sh: gry

LS: wht, vFn-mic xln, vdms, sx trng sub xln, All NS

LS: wht, sub xln-chlky, NS

LS: A/A trng tan, resid oln, trng SFO, Fnt od. gy chts.

Sh: gry

LS: wht-tan, Fn xln, dms.

Sh: Black Carb

Sh: gry

LS: wht, md xln, Foss. Arg, sub xln in prt.

LS: tan-gry-brn, md xln, Foss, dms. Foss chts.

Sh: gry

LS: tan, Fn-md xln, sus wl Foss, mtld in prt. Fr int xln ϕ, tite. Fr brn oln, rare SFO, Fr Od.

LS: tan, md xln, Foss, mtld. All gry wl NS.

Sh: Black Carb

Sh: gry

LS: wht Fn-md xln, slty dolom, Fr int xln ϕ, lt brn oln, spttd SFO. Many barren vgs, Fr-gd Od.

Vis: 57 wt: 9.8

DST #1
3384-3428
45-45-45-45

3400

3500

3600

50

50

50

OST #1

OST #2

OST #3

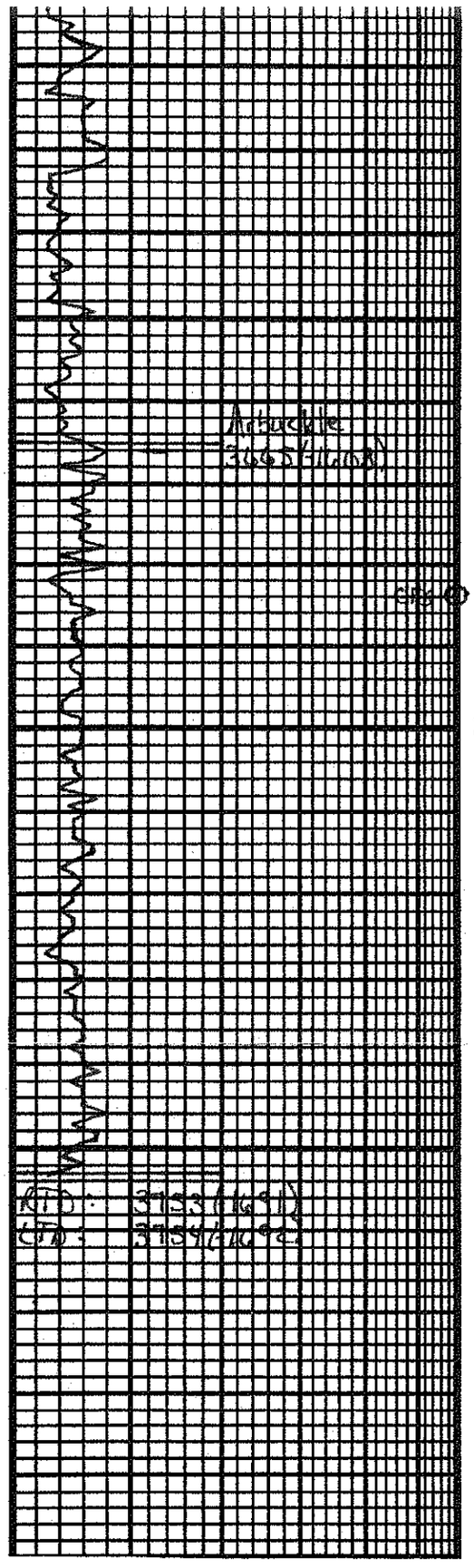
LS: tan-brn, md xln, dolom, Fr int xln & vugs, slitly tite, Fr-gd brn stn, spttd SFO, lt Od.
Sh: gry
LS: tan, md xln, Foss, mlt kd. dns, p-r ø
Sh: gry
LS: wht-tan, Foss wl ool. Fr-gd int xln ø, oo ø in prt, scat vugs Fr-gd sat stn, Fr SFO, gassy in prt. lt Od.
Sh: gry
LS: wht, ool wl scat Foss, Fr int ool ø, Fr-gd brn sat stn, spttd SFO. lt-Fr Od.
Sh: Black Carb
LS: tan, dolom wl Foss, Fr vug ø, slitly tite, gd brn stn & sat, scat SFO, Fr-gd Od.
LS: wht-tan, ool, Fr-gd int ool ø, gd lt brn stn in ø, spttd SFO, Fr-gd Od, scat chlky ex
Sh: gry
LS: wht-lt tan, Foss-sml, Fr-gd int Foss ø, gd lt brn sat stn, spttd SFO, Fr-gd Od, Sub xln in prt.
LS: wht, Fn xln, mostly dns, 1-2 pcs dolo, Fr vug ø, gd brn stn, lt Od.
Sh: Black Carb
Sh: gry
LS: tan, Fn xln, pr-Fr int xln ø, Frly tite, Fr brn stn, pr sat, spttd SFO, lt-Fr Od.
Sh: Black Carb
LS: tan, md xln, slitly dolom wl few Foss, pr int xln ø, sml vugs, Fr sat stn, pr-Fr SFO, gd Od, Free oil on cup.
Sh: gry
LS: tan-wht, dolom, md xln, scat foss, gd sat wl Fr-gd SFO. Trng Fr-gd oo ø wl Fr-gd sat & gd gassy SFO, gd Od, Free oil on cup.
Sh: dark gry
LS: wht, ool, Fr-gd oo ø, chlky, 3-4 pcs wl SFO in ø, mostly barren, Fr-gd Od.
LS: Trng mostly p-ø & dns, scat ex wl Fr SFO in p-ø ø, lt Od.
Sh: dark gry-blk
LS: wht-lt tan, sml Foss & ool, p-Fr int xln ø, lt brn stn, spttd SFO, Fr Od.
Sh: gry
LS: tan-wht, Fn xln, scat ool, dns, p-ø ø

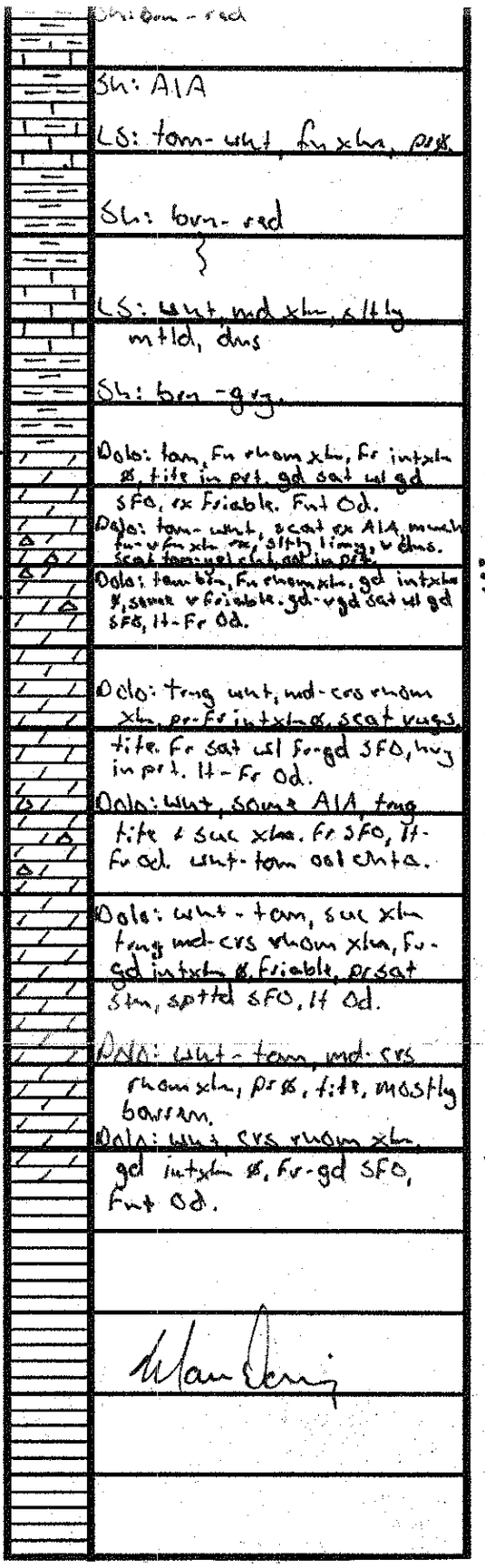
Lf: 9 blow
F.F.- 6" blow / ½" SIP
IFP: 32-74
FFP: 78-105
SIP: 865-804
HP: 1643-1609
Rec:
70' OSMW 90% w
120' MCW 10% w
BHT: 118° Chlor: 45K

DST #2
3429-3455
45-45-45-45
I.F.- BOB 16min
F.F.- BOB 81min
IFP: 21-120
FFP: 123-182
SIP: 637-608
HP: 1682-1637
Rec:
45' OSMW 80% w
300 MW 90% w
BHT: 119° Chlor: 45K

Vis: 50 Wt: 9.1

DST #3
3481-3548
30-30-30-30
IFP: 14-27
FFP: 32-32
SIP: 729-615
HP: 1738-1682
Rec:
18' mud wl oil spts.
BHT: 103°





DST #4
3666-3684
30-30-30-30
IFP: 12-13
FFP: 14-15
SIP: 68-37
HP: 1879-1900
Rec:
2' mud wl oil spts.
BHT: 111°

DST #5
3674-3720
30-30-10-0
IFP: 25-36
FFP: - -
SIP: 938
HP: 1948-1886
Rec:
20' SGM wl oil spts.
BHT: 112°