Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1151347

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 8914
Name: H & C Oil Operating Inc.
Address 1: PO BOX 86
Address 2:
City: PLAINVILLE State: KS Zip: 67663 + 0086
Contact Person: Charles Ramsay
Phone: (785) 434-7434
CONTRACTOR: License # 33493
Name: American Eagle Drilling LLC
Wellsite Geologist: Mike Bair
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☑ 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
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

06/24/2013	07/03/2013	07/04/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-065-23947-00-00
Spot Description:
_ SE _ NE _ SW Sec. 13 Twp. 9 S. R. 25 ☐ East ☑ West
1650 Feet from ☐ North / ☑ South Line of Section
2310 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Graham
Lease Name: Michele Well #: 13-1
Field Name:
Producing Formation: none
Elevation: Ground: 2546 Kelly Bushing: 2548
Total Vertical Depth: 4170 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 258 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ 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: 42000 ppm Fluid volume: 60 bbls
Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite:

Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

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

☑ **Confidentiality Requested**
Date: 07/11/2013
☑ **Confidential Release Date:** 07/11/2015
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 07/11/2013

1151347

Operator Name: H & C Oil Operating Inc. Lease Name: Michele Well #: 13-1

Sec. 13 Twp. 9 S. R. 25 ☐ East ☑ West County: Graham

INSTRUCTIONS: Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

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

List All E. Logs Run:

Dual induction
Dual compensated porosity log
Microresistivity log

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

Name	Top	Datum
Anhydrite	2248	+306
Topeka	3638	-1090
Heebner	3854	-1306
Toronto	3879	-1331
Lansing	3895	-1347
BKC	4114	-1572

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	12.25	8.625	23	258	common	160	3%cc, 2% gel

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

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

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

July 11, 2013

Charles Ramsay
H & C Oil Operating Inc.
PO BOX 86
PLAINVILLE, KS 67663-0086

Re: ACO1
API 15-065-23947-00-00
Michele 13-1
SW/4 Sec.13-09S-25W
Graham County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Charles Ramsay

DRILL STEM TEST REPORT

Prepared For: **H & C Oil Operating**

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

Mighell #18-1

18-10s-25w Graham, KS

Start Date: 2013.05.20 @ 09:15:20
End Date: 2013.05.20 @ 16:15:14
Job Ticket #: 49206 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.05.29 @ 13:54:08

DRILL STEM TEST REPORT

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 49206 **DST#: 1**

Test Start: 2013.05.20 @ 09:15:20

GENERAL INFORMATION:

Formation: **Toronto - C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:12:15
Time Test Ended: 16:15:14

Test Type: Conventional Bottom Hole (Initial)
Tester: Shane McBride
Unit No: 55

Interval: 3772.00 ft (KB) To 3850.00 ft (KB) (TVD)
Total Depth: 3850.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

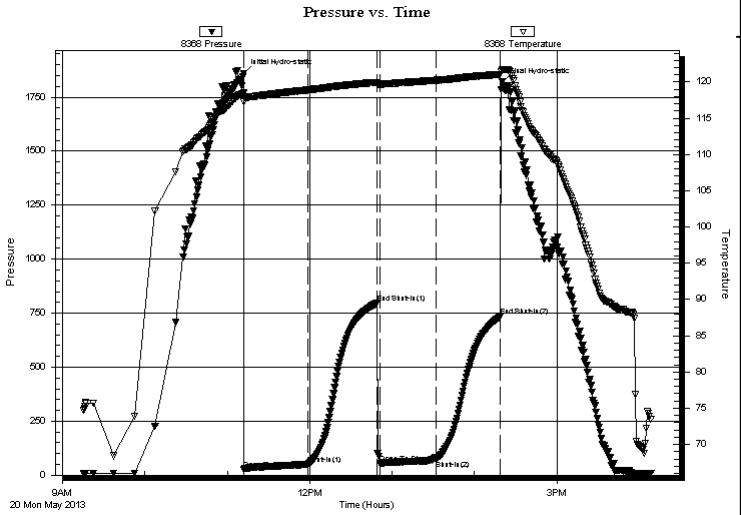
Reference Elevations: 2569.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8368 **Outside**

Press@RunDepth: 70.71 psig @ 3773.00 ft (KB)
Start Date: 2013.05.20 End Date: 2013.05.20
Start Time: 09:15:20 End Time: 16:08:14

Capacity: 8000.00 psig
Last Calib.: 2013.05.20
Time On Btm: 2013.05.20 @ 11:12:00
Time Off Btm: 2013.05.20 @ 14:20:15

TEST COMMENT: 3 1/4" blow
No return
3" blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1858.20	118.47	Initial Hydro-static
1	27.13	117.32	Open To Flow (1)
47	49.04	118.90	Shut-In(1)
97	796.53	119.95	End Shut-In(1)
99	53.39	119.71	Open To Flow (2)
140	70.71	120.24	Shut-In(2)
187	734.73	121.06	End Shut-In(2)
189	1818.97	121.65	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	h o c m 40%o 60%m	0.15
60.00	o c m 15%o 85%m	0.30

Gas Rates

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

DRILL STEM TEST REPORT

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 49206 **DST#: 1**

Test Start: 2013.05.20 @ 09:15:20

GENERAL INFORMATION:

Formation: **Toronto - C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:12:15
Time Test Ended: 16:15:14

Test Type: Conventional Bottom Hole (Initial)
Tester: Shane McBride
Unit No: 55

Interval: 3772.00 ft (KB) To 3850.00 ft (KB) (TVD)
Total Depth: 3850.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

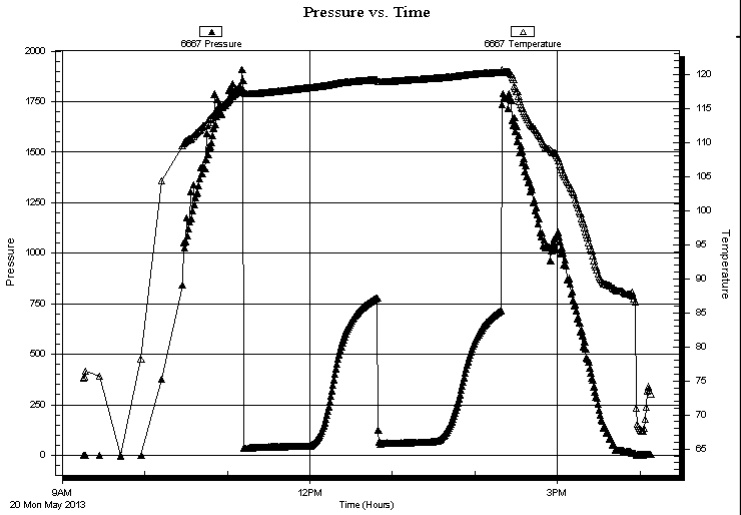
Reference Elevations: 2569.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 6667 **Inside**

Press@RunDepth: psig @ 3773.00 ft (KB)
Start Date: 2013.05.20 End Date: 2013.05.20
Start Time: 09:15:30 End Time: 16:08:15

Capacity: 8000.00 psig
Last Calib.: 2013.05.20
Time On Btm:
Time Off Btm:

TEST COMMENT: 3 1/4" blow
No return
3" blow
No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	h o c m 40%o 60%m	0.15
60.00	o c m 15%o 85%m	0.30

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 49206 **DST#: 1**

Test Start: 2013.05.20 @ 09:15:20

Tool Information

Drill Pipe:	Length:	3518.00 ft	Diameter:	3.80	inches	Volume:	49.35	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	234.00 ft	Diameter:	2.25	inches	Volume:	1.15	bbl	
						Total Volume:	50.50	bbl	

Drill Pipe Above KB:	8.00 ft
Depth to Top Packer:	3772.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	78.00 ft
Tool Length:	106.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		1500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		100000.0 lb
Tool Chased		0.00 ft
String Weight:	Initial	78000.00 lb
	Final	79000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3745.00		
Shut In Tool	5.00			3750.00		
Hydraulic tool	5.00			3755.00		
Jars	5.00			3760.00		
Safety Joint	3.00			3763.00		
Packer	5.00			3768.00	28.00	Bottom Of Top Packer
Packer	4.00			3772.00		
Stubb	1.00			3773.00		
Recorder	0.00	6667	Inside	3773.00		
Recorder	0.00	8368	Outside	3773.00		
Perforations	6.00			3779.00		
Change Over Sub	1.00			3780.00		
Drill Pipe	64.00			3844.00		
Change Over Sub	1.00			3845.00		
Bullnose	5.00			3850.00	78.00	Bottom Packers & Anchor
Total Tool Length:	**106.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 49206 **DST#: 1**

Test Start: 2013.05.20 @ 09:15:20

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:	0 ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.59 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

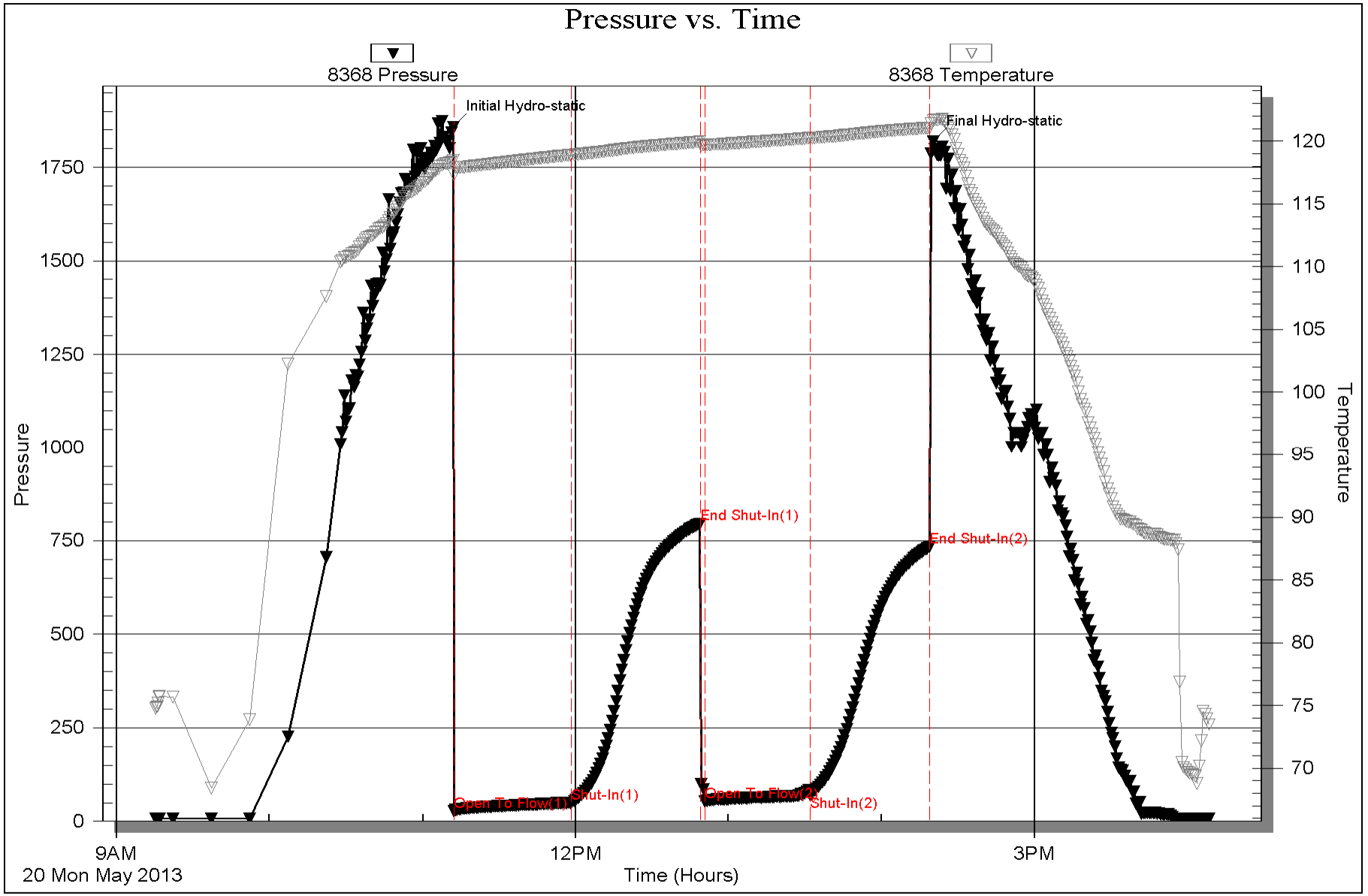
Recovery Table

Length ft	Description	Volume bbl
30.00	h o c m 40%o 60%m	0.148
60.00	o c m 15%o 85%m	0.295

Total Length: 90.00 ft Total Volume: 0.443 bbl

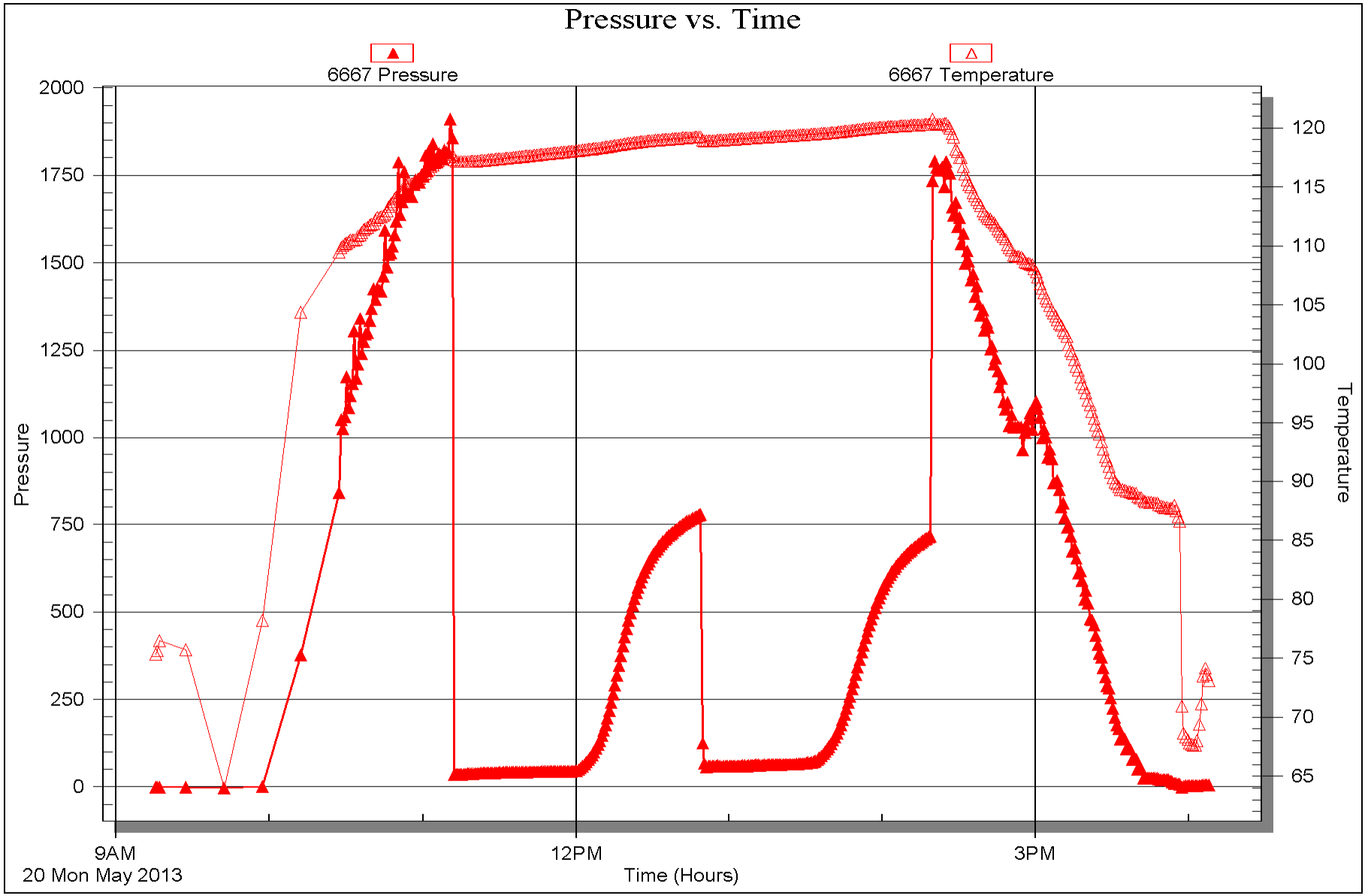
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8368 **Outside** H & C Oil Operating Mighell #18-1 DST Test Number: 1

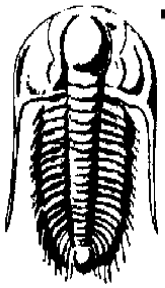


Trilobite Testing, Inc Ref. No: 49206 Printed: 2013.05.29 @ 13:54:11

Serial #: 6667 **Inside** H & C Oil Operating Mighell #18-1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 49206 Printed: 2013.05.29 @ 13:54:11



DRILL STEM TEST REPORT

Prepared For: **H & C Oil Operating**

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

Mighell #18-1

18-10s-25w Graham, KS

Start Date: 2013.05.20 @ 23:30:00
End Date: 2013.05.21 @ 06:24:00
Job Ticket #: 62631 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.05.29 @ 13:53:21

DRILL STEM TEST REPORT

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 62631 **DST#: 2**

Test Start: 2013.05.20 @ 23:30:00

GENERAL INFORMATION:

Formation: **LKC "D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:25:10
Time Test Ended: 06:24:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3837.00 ft (KB) To 3868.00 ft (KB) (TVD)
Total Depth: 3868.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

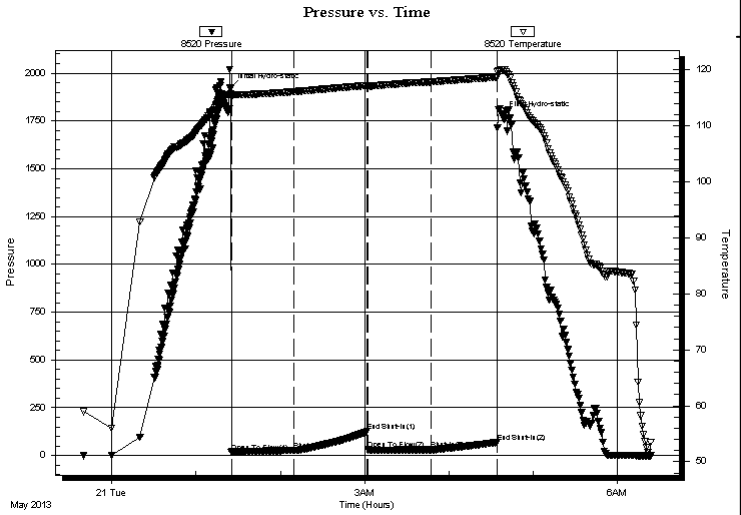
Reference Elevations: 2569.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8520 **Outside**

Press@RunDepth: 30.54 psig @ 3838.00 ft (KB)
Start Date: 2013.05.20 End Date: 2013.05.21
Start Time: 23:40:00 End Time: 06:24:00

Capacity: 8000.00 psig
Last Calib.: 2013.05.21
Time On Btm: 2013.05.21 @ 01:24:50
Time Off Btm: 2013.05.21 @ 04:38:00

TEST COMMENT: 45 - IF- 1/8" Blow built to 1"
45 - ISI- No Return
30 - FF- Surface Blow built to 3/4"
30 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.91	115.73	Initial Hydro-static
1	18.58	115.20	Open To Flow (1)
45	26.60	116.13	Shut-In(1)
97	125.83	117.23	End Shut-In(1)
98	30.74	117.10	Open To Flow (2)
143	30.54	117.87	Shut-In(2)
190	68.96	118.71	End Shut-In(2)
194	1777.94	120.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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

DRILL STEM TEST REPORT

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 62631 **DST#: 2**

Test Start: 2013.05.20 @ 23:30:00

GENERAL INFORMATION:

Formation: **LKC "D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:25:10
Time Test Ended: 06:24:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3837.00 ft (KB) To 3868.00 ft (KB) (TVD)
Total Depth: 3868.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

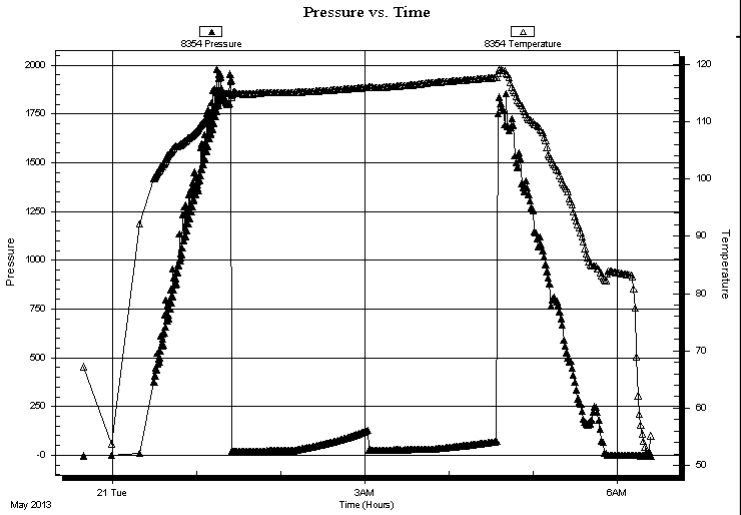
Reference Elevations: 2569.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8354 **Inside**

Press@RunDepth: psig @ 3838.00 ft (KB)
Start Date: 2013.05.20 End Date: 2013.05.21
Start Time: 23:39:30 End Time: 06:24:30

Capacity: 8000.00 psig
Last Calib.: 2013.05.21
Time On Btm:
Time Off Btm:

TEST COMMENT: 45 - IF- 1/8" Blow built to 1"
45 - ISI- No Return
30 - FF- Surface Blow built to 3/4"
30 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 62631 **DST#: 2**

Test Start: 2013.05.20 @ 23:30:00

Tool Information

Drill Pipe:	Length:	3582.00 ft	Diameter:	3.80 inches	Volume:	50.25 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	234.00 ft	Diameter:	2.25 inches	Volume:	1.15 bbl	Weight to Pull Loose:		95000.00 lb
					Total Volume:	51.40 bbl	Tool Chased		ft
Drill Pipe Above KB:		7.00 ft					String Weight:	Initial	75000.00 lb
Depth to Top Packer:		3837.00 ft						Final	75000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		31.00 ft							
Tool Length:		59.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3810.00		
Shut In Tool	5.00			3815.00		
Hydraulic tool	5.00			3820.00		
Jars	5.00			3825.00		
Safety Joint	3.00			3828.00		
Packer	5.00			3833.00	28.00	Bottom Of Top Packer
Packer	4.00			3837.00		
Stubb	1.00			3838.00		
Recorder	0.00	8354	Inside	3838.00		
Recorder	0.00	8520	Outside	3838.00		
Perforations	25.00			3863.00		
Bullnose	5.00			3868.00	31.00	Bottom Packers & Anchor
Total Tool Length:	**59.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 62631 **DST#: 2**

Test Start: 2013.05.20 @ 23:30:00

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:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.59 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

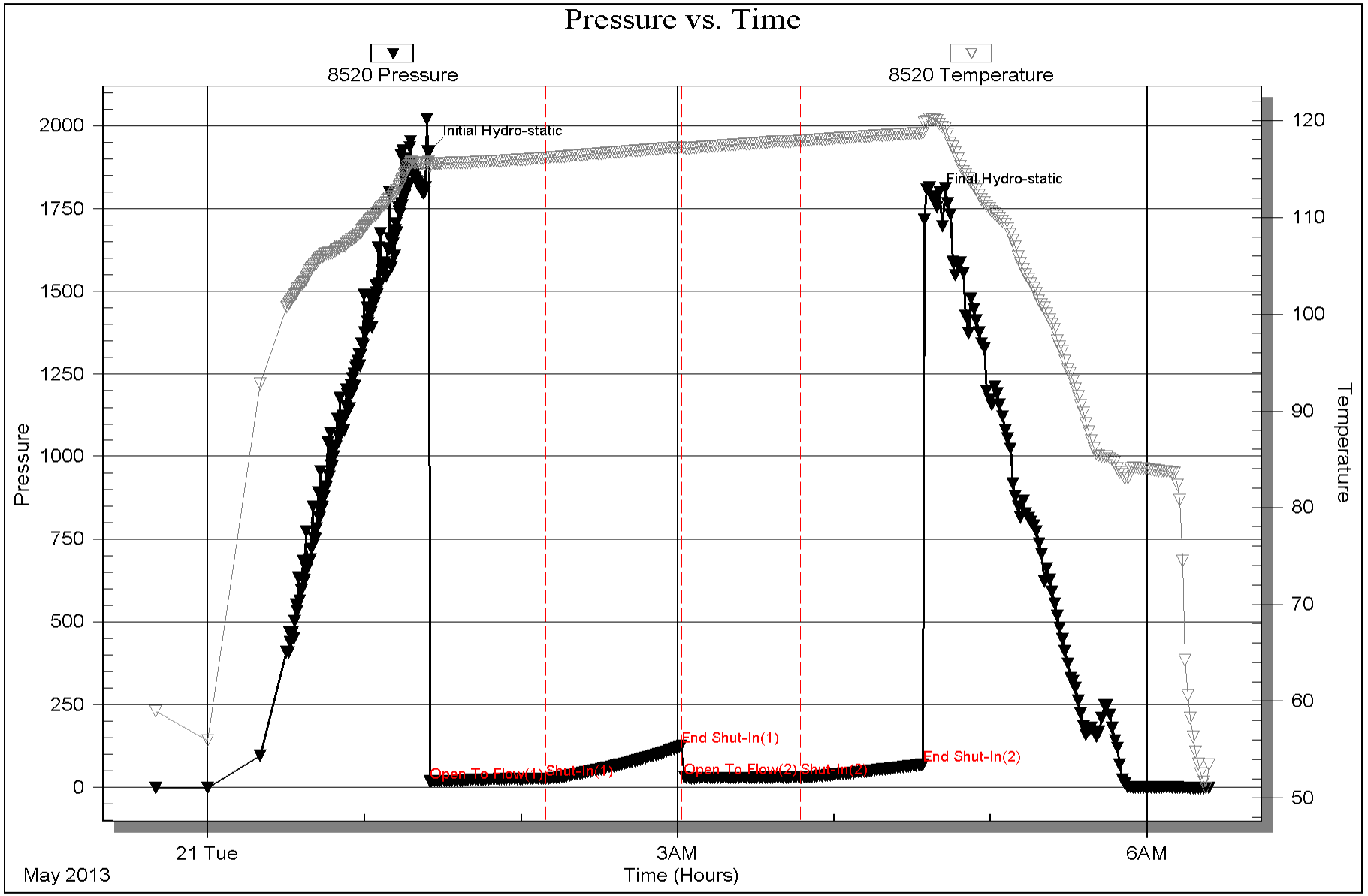
Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

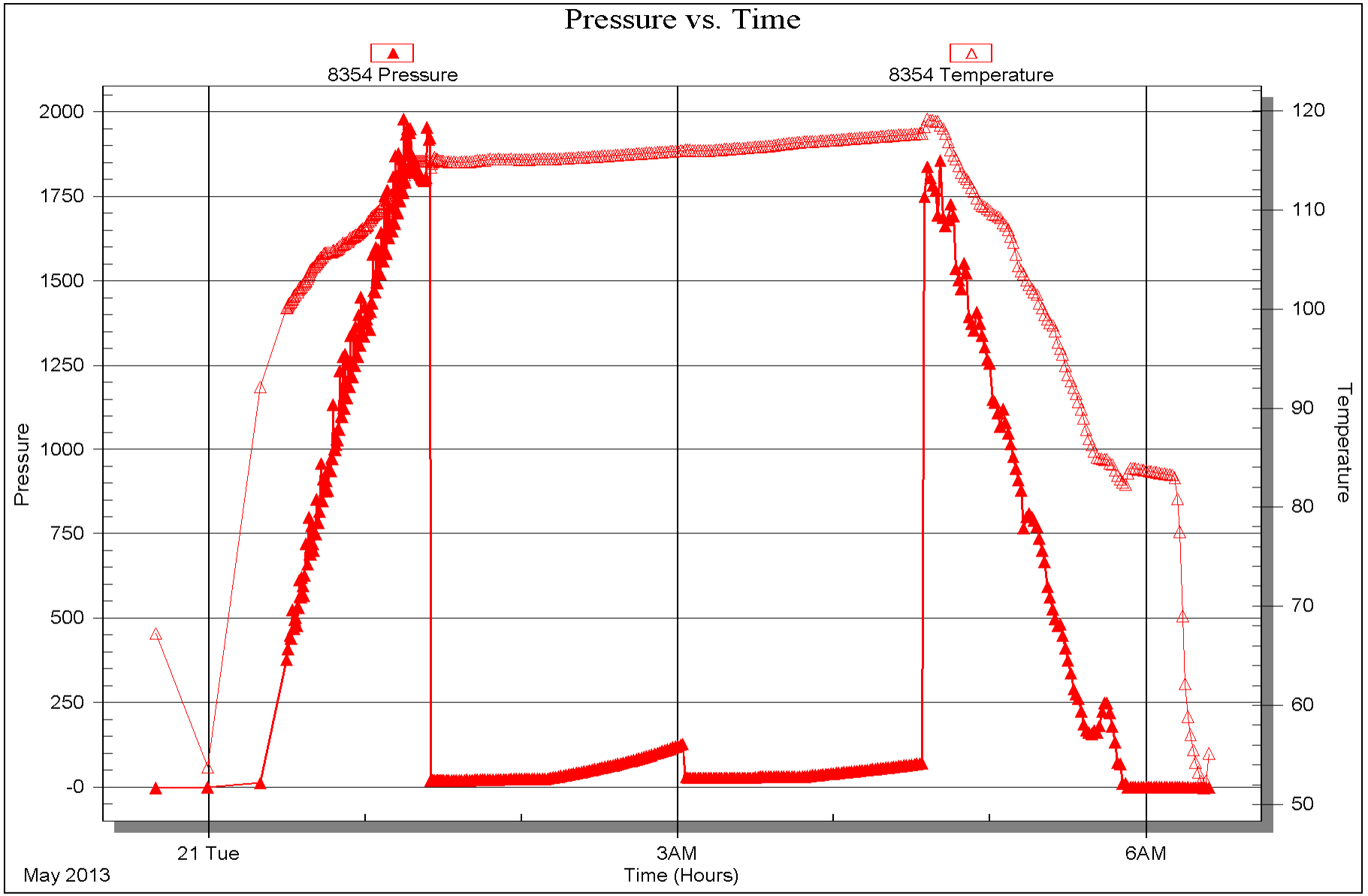
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8520 **Outside** H & C Oil Operating Mighell #18-1 DST Test Number: 2

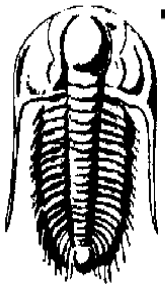


Trilobite Testing, Inc Ref. No: 62631 Printed: 2013.05.29 @ 13:53:24

Serial #: 8354 **Inside** H & C Oil Operating Mighell #18-1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62631 Printed: 2013.05.29 @ 13:53:24



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **H & C Oil Operating**

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

Mighell #18-1

18-10s-25w Graham, KS

Start Date: 2013.05.22 @ 12:00:00
End Date: 2013.05.22 @ 18:37:30
Job Ticket #: 52633 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.05.29 @ 13:52:41

DRILL STEM TEST REPORT

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 52633 **DST#: 3**

Test Start: 2013.05.22 @ 12:00:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:16:30
Time Test Ended: 18:37:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3934.00 ft (KB) To 4008.00 ft (KB) (TVD)
Total Depth: 4008.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

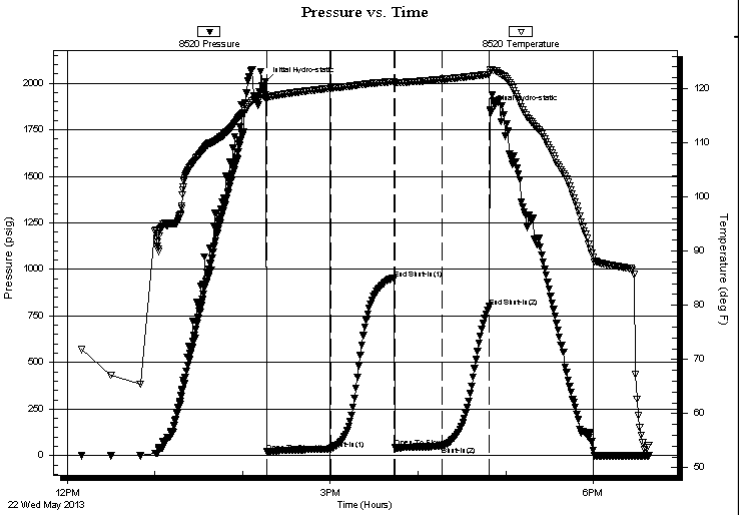
Reference Elevations: 2569.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8520 **Outside**

Press@RunDepth: 50.12 psig @ 3935.00 ft (KB)
Start Date: 2013.05.22 End Date: 2013.05.22
Start Time: 12:10:00 End Time: 18:37:30

Capacity: 8000.00 psig
Last Calib.: 2013.05.22
Time On Btm: 2013.05.22 @ 14:16:00
Time Off Btm: 2013.05.22 @ 16:49:00

TEST COMMENT: 45 - IF- 1/4" Blow built to 1 1/4"
45 - ISI- No Return
30 - FF- No Blow
30 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.73	118.86	Initial Hydro-static
1	20.06	118.33	Open To Flow (1)
44	35.65	120.06	Shut-In(1)
88	950.46	121.31	End Shut-In(1)
88	42.80	121.07	Open To Flow (2)
121	50.12	121.73	Shut-In(2)
153	799.96	122.63	End Shut-In(2)
153	1858.94	123.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
59.00	OSM 100M (Oil Spots)	0.29
1.00	Free Oil 100o	0.00

Gas Rates

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

DRILL STEM TEST REPORT

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 52633 **DST#: 3**

Test Start: 2013.05.22 @ 12:00:00

GENERAL INFORMATION:

Formation: **LKC "H-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:16:30
Time Test Ended: 18:37:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3934.00 ft (KB) To 4008.00 ft (KB) (TVD)
Total Depth: 4008.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

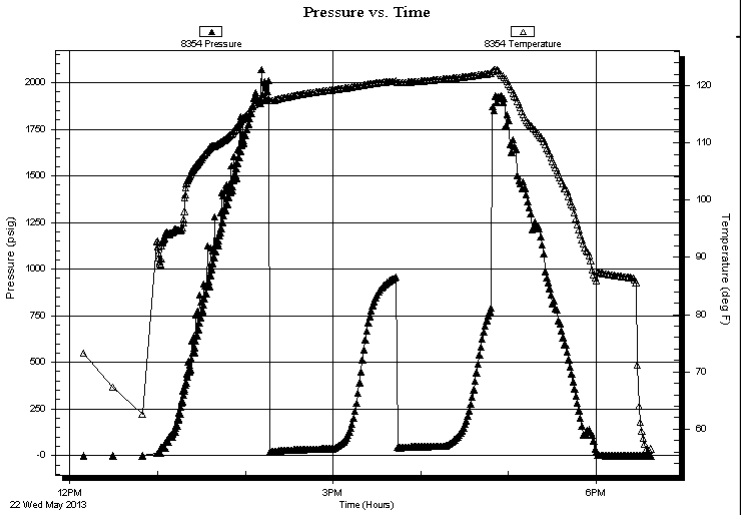
Reference Elevations: 2569.00 ft (KB)
2558.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8354 **Inside**

Press@RunDepth: psig @ 3935.00 ft (KB)
Start Date: 2013.05.22 End Date: 2013.05.22
Start Time: 12:09:30 End Time: 18:37:30

Capacity: 8000.00 psig
Last Calib.: 2013.05.22
Time On Btm:
Time Off Btm:

TEST COMMENT: 45 - IF- 1/4" Blow built to 1 1/4"
45 - ISI- No Return
30 - FF- No Blow
30 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
59.00	OSM 100M (Oil Spots)	0.29
1.00	Free Oil 100o	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 52633 **DST#: 3**

Test Start: 2013.05.22 @ 12:00:00

Tool Information

Drill Pipe:	Length:	3685.00 ft	Diameter:	3.80	inches	Volume:	51.69	bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	234.00 ft	Diameter:	2.25	inches	Volume:	1.15	bbl	Weight to Pull Loose:	80000.00 lb
						Total Volume:	52.84	bbl	Tool Chased	ft
Drill Pipe Above KB:		5.00 ft							String Weight: Initial	76000.00 lb
Depth to Top Packer:		3934.00 ft							Final	76000.00 lb
Depth to Bottom Packer:		ft								
Interval between Packers:		74.00 ft								
Tool Length:		94.00 ft								
Number of Packers:		2	Diameter:	6.75	inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3915.00		
Shut In Tool	5.00			3920.00		
Hydraulic tool	5.00			3925.00		
Packer	5.00			3930.00	20.00	Bottom Of Top Packer
Packer	4.00			3934.00		
Stubb	1.00			3935.00		
Recorder	0.00	8354	Inside	3935.00		
Recorder	0.00	8520	Outside	3935.00		
Perforations	3.00			3938.00		
Change Over Sub	1.00			3939.00		
Drill Pipe	63.00			4002.00		
Change Over Sub	1.00			4003.00		
Bullnose	5.00			4008.00	74.00	Bottom Packers & Anchor
Total Tool Length:	**94.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

H & C Oil Operating

PO Box 86
Plainville, KS 67663

ATTN: Mike Bair

18-10s-25w Graham, KS

Mighell #18-1

Job Ticket: 52633 **DST#: 3**

Test Start: 2013.05.22 @ 12:00:00

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:	63.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.59 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

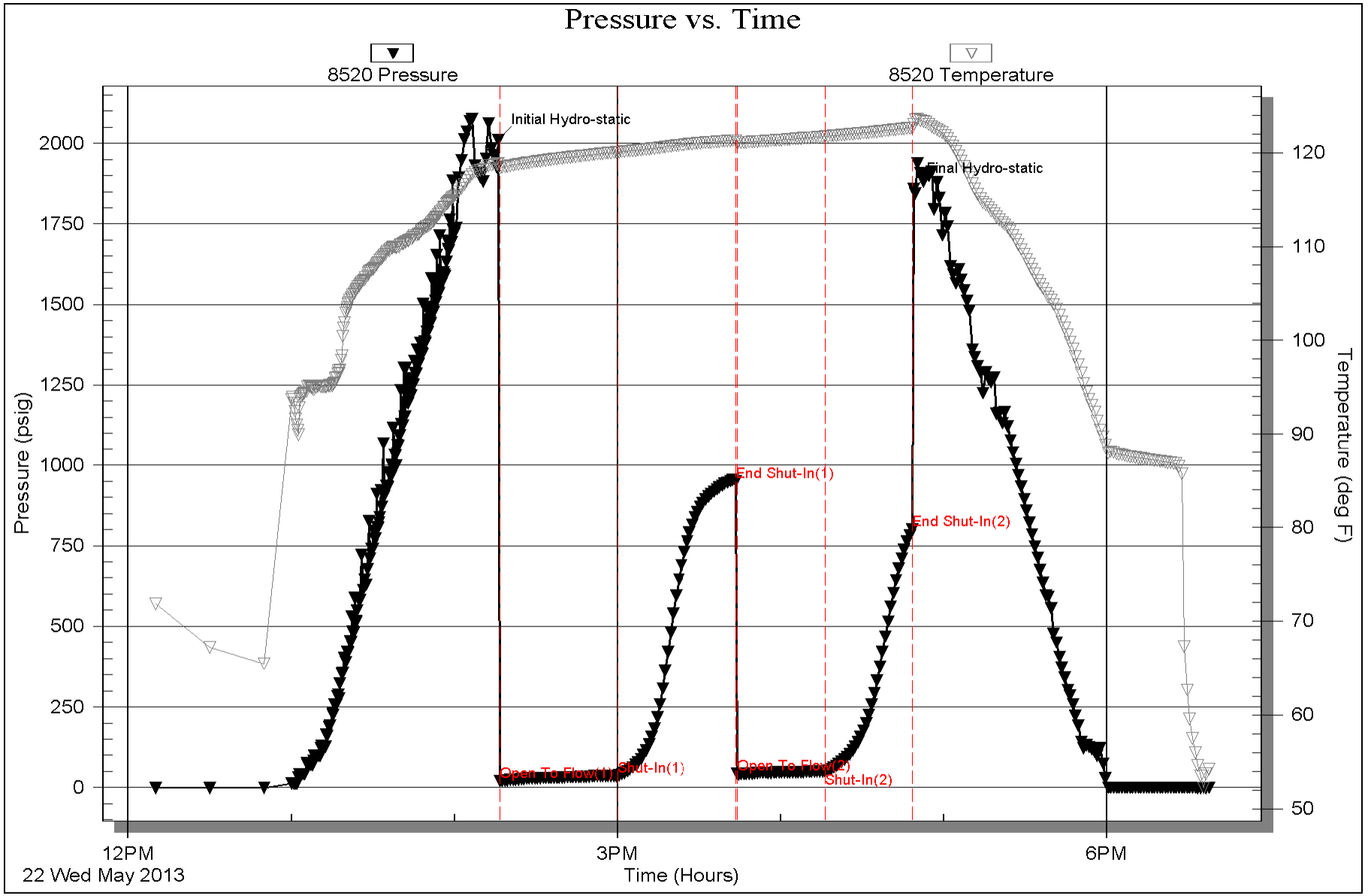
Recovery Table

Length ft	Description	Volume bbl
59.00	OSM 100M (Oil Spots)	0.290
1.00	Free Oil 100o	0.005

Total Length: 60.00 ft Total Volume: 0.295 bbl

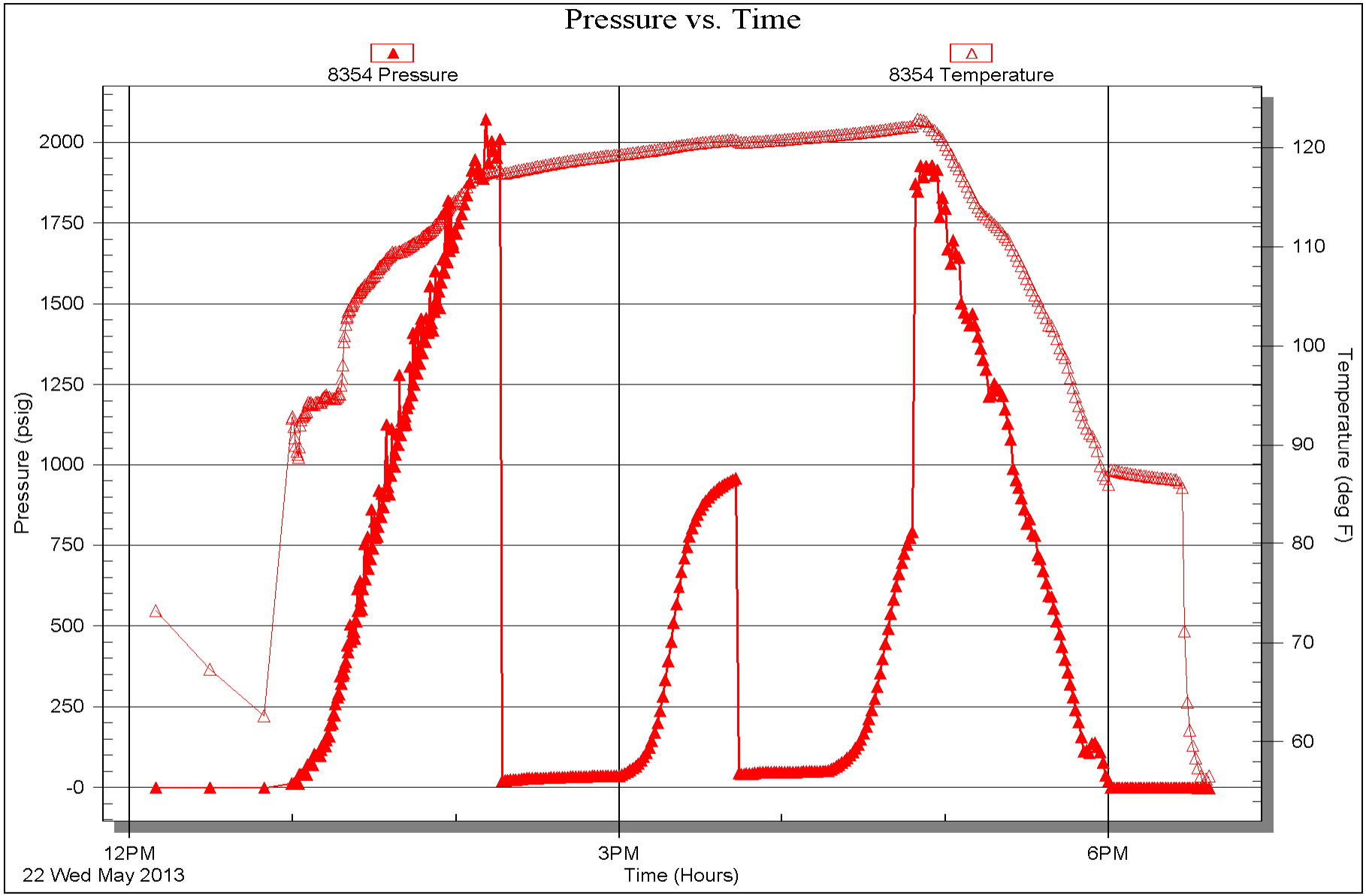
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8520 **Outside** H & C Oil Operating Mighell #18-1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 52633 Printed: 2013.05.29 @ 13:52:44

Serial #: 8354 **Inside** H & C Oil Operating Mighell #18-1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 52633 Printed: 2013.05.29 @ 13:52:44

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 49206

Well Name & No. Mitchell #18-1 Test No. #1 Date 5/20/13

Company H3 Oil Operating Elevation 2569 KB 2558 GL

Address P.O. Box 86 Plainville, KS 67663

Co. Rep / Geo. Mike Bair Rig Murfin #21

Location: Sec. 18 Twp. 10 Rge. 25 Co. Graham State KS

Interval Tested 3772 3850 Zone Tested Toronto - C

Anchor Length 78 Drill Pipe Run 3518 Mud Wt. 9.1

Top Packer Depth 3767 Drill Collars Run 234 Vis 60

Bottom Packer Depth 3772 Wt. Pipe Run — WL 7.4

Total Depth 3850 Chlorides 500 ppm System LCM #2½

Blow Description 3¼" in blow
No return
3" in blow
No return

Rec 30'	Feet of HOCM	%gas	40	%oil	%water	60	%mud
Rec 60'	Feet of OCM	%gas	15	%oil	%water	85	%mud
Rec	Feet of	%gas		%oil	%water		%mud
Rec	Feet of	%gas		%oil	%water		%mud
Rec	Feet of	%gas		%oil	%water		%mud

Rec Total 90' BHT 122° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	1858	☒ Test	1150	T-On Location	07:50
(B) First Initial Flow	27	☒ Jars	250	T-Started	09:15
(C) First Final Flow	49	☒ Safety Joint	75	T-Open	11:12
(D) Initial Shut-In	796	☒ Circ Sub	N/C	T-Pulled	14:12
(E) Second Initial Flow	53	☐ Hourly Standby		T-Out	16:15
(F) Second Final Flow	70	☒ Mileage	180 RT 124rt 192.20	Comments	
(G) Final Shut-In	734	☐ Sampler			
(H) Final Hydrostatic	1818	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	45	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	45	☐ Extra Recorder		Sub Total	0
Final Flow	45	☐ Day Standby		Total	1667.20
Final Shut-In	45	☐ Accessibility		MP/DST Disc't	
		Sub Total	1667.20		

Approved By Our Representative

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 52631

Well Name & No. Mighell # 18-1 Test No. 2 Date 5-20-13

Company H&C Oil Operating Elevation 2569 KB 2558 GL

Address PO Box 86 Plainville, KS 67663

Co. Rep / Geo. Mike Bair Rig Murfin 21

Location: Sec. 18 Twp. 10 Rge. 25 Co. Graham State KS

Interval Tested 3837-3868 Zone Tested LKC "D"

Anchor Length 31' Drill Pipe Run 3582 Mud Wt. 9.1

Top Packer Depth 3833 Drill Collars Run 234' Vis 60

Bottom Packer Depth 3837 Wt. Pipe Run 0 WL 7.6

Total Depth 3868 Chlorides 500 ppm System LCM 2.5#

Blow Description IF - 1/8" Blow built to 1"
ISI - No Return
FF - Surface Blow built to 3/4"
FSI - No Return

Rec 10	Feet of OSM	%gas SPOTS	%oil	%water 100	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 10 BHT 114 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	1922	☒ Test	1150	T-On Location	9:50 PM
(B) First Initial Flow	18	☒ Jars	250	T-Started	11:30 PM
(C) First Final Flow	26	☒ Safety Joint	75	T-Open	1:25 AM
(D) Initial Shut-In	125	☒ Circ Sub	N/C	T-Pulled	4:25 AM
(E) Second Initial Flow	30	☐ Hourly Standby		T-Out	6:30 AM
(F) Second Final Flow	30	☒ Mileage	132 RT 192.20	Comments	
(G) Final Shut-In	68	☐ Sampler			
(H) Final Hydrostatic	1777	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	45	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	45	☐ Extra Recorder		Sub Total	0
Final Flow	45	☐ Day Standby		Total	1667.20
Final Shut-In	45	☐ Accessibility		MP/DST Disc't	
		Sub Total	1667.20		

Approved By _____ Our Representative _____

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 52633

Well Name & No. Mighell # 18-1 Test No. 3 Date 5-21-13

Company H & C Oil Operating Elevation 2569 KB 2558 GL

Address PO Box 86 Plainville, KS 67663

Co. Rep / Geo. Mike Bair Rig Murfin #21

Location: Sec. 18 Twp. 10 Rge. 25 Co. Graham State KS

Interval Tested 3934-4008 Zone Tested LKC "H, I, J"

Anchor Length 74' Drill Pipe Run 3685 Mud Wt. 9.2

Top Packer Depth 3930 Drill Collars Run 234' Vis 63

Bottom Packer Depth 3934 Wt. Pipe Run 0 WL 7.6

Total Depth 4008 Chlorides 800 ppm System LCM 2#

Blow Description IF - ¼" Blow built to 1¼"

ISI - No Return

FF - No Blow

FSI - No Return

Rec 1	Feet of Free oil	%gas 100	%oil	%water	%mud
Rec 59	Feet of OSM	%gas Specs	%oil	%water 100	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 60 BHT 123 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic	2009	☒ Test	1250	T-On Location	9:25 PM
(B) First Initial Flow	20	☒ Jars	250	T-Started	12:00 AM
(C) First Final Flow	35	☒ Safety Joint	75	T-Open	2:15 AM
(D) Initial Shut-In	958	☒ Circ Sub	N/C	T-Pulled	4:45 AM
(E) Second Initial Flow	42	☐ Hourly Standby		T-Out	6:50 AM
(F) Second Final Flow	50	☒ Mileage	132 RT X2 384.40	Comments	Loaded tools 1:30 AM 5-22-13
(G) Final Shut-In	799	☐ Sampler			
(H) Final Hydrostatic	1958	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	45	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	45	☐ Extra Recorder		Sub Total	0
Final Flow	30	☐ Day Standby		Total	1959.40
Final Shut-In	30	☐ Accessibility		MP/DST Disc't	
		Sub Total	1959.40		

Approved By ____ Our Representative ____

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 6873

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-24-13	13	9	25	Graham	KS		3:30 PM

Location Moreland sto L Rd, 1E, 1S, ½E, 5n2

Lease Michele Well No. 13-21

Owner

Contractor American Eagle #3

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface

Hole Size 12¼ T.D. 258

Charge To H&C

Csg. 8⅝ Depth 258

Street

Tbg. Size Depth

City State

Tool Depth

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 20 Shoe Joint 20

Cement Amount Ordered 160 com 3% cc 2% gel

Meas Line ~~20~~ Displace ~~20~~ 15.66 bl

EQUIPMENT

Pumptrk 17 No. Cementer / Helper cody

Bulktrk 14 No. Driver / Driver chad

Bulktrk PU No. Driver / Driver Travis

JOB SERVICES & REMARKS

Remarks: Cement did circulate

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

X Signature Louise Parker

Common	160
Poz. Mix	
Gel.	3
Calcium	5
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	168
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	Surface
Mileage	21
Tax	
Discount	
Total Charge	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 **Home Office P.O. Box 32 Russell, KS 67665** **No.** 7971
Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-4-13	13	9	25	Graham	KS		2:30 A.M.

Location Wakeeney Refine W to 180 - 3N 2W ½ S Into

Lease Michele Well No. 13-1

Contractor American Eagle #3

Type Job Rotary Plug

Hole Size 7 7/8 T.D. 4209

Csg. Depth

Tbg. Size Depth

Tool Depth

Cement Left in Csg. Shoe Joint

Meas Line Displace

EQUIPMENT

Pumptrk 1 No. Cementer Craig
Helper

Bulktrk No. Driver Cody
Driver

Bulktrk 1 No. Driver Heath
Driver

JOB SERVICES & REMARKS

Remarks:

Rat Hole 30SK

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

1st 2257 255K
2nd 1346 100SK
3rd 298 40SK
4th 40' 10SK

Thanks

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To H+C

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 205 60/40 4%Gel ¼#Flo

Common	123
Poz. Mix	82
Gel.	7
Calcium	
Hulls	
Salt	
Flowseal	50#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	212
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	8 5/8 wooden Plug
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge

Mileage 21 plug

Tax

Discount

Total Charge

X Signature Charles Ramsay

MUD LOG

WellSight Systems

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	**Michele 13-1**		
Location:	**Sec. 13;Twnsp. 9S.; Rge. 25W.**		
License Number:	**8914**	**Region:**	**Graham County, KS**
Spud Date:	**June 24, 2013**	**Drilling Completed:**	**July 3, 2013**
Surface Coordinates:	**1650' FSL & 2310' FWL** **Sec. 13-9S-25W**		
Bottom Hole Coordinates:	**Dev. @ RTD 1 degree**		
Ground Elevation (ft):	**2543'**	**K.B. Elevation (ft):**	**2548'**
Logged Interval (ft):	**3500' To: 4151'**	**Total Depth (ft):**	**LTD 4172**
Formation:			
Type of Drilling Fluid:	**Chemical**		

OPERATOR

Company: H & C Oil Operating, Inc.
Address: P.O. Box 86
Plainville, KS 67663

GEOLOGIST

Name: Mike Bair
Company: Basin Resources L.L.C.
Address: Longmont, CO.

FORMATION TOPS

FORMATION	SAMPLE	LOG TOP
Anhydrite	2240 (+308)	2242 (+306)
Topeka	3638 (-1090)	3638 (-1090)
Heebner	3853 (-1305)	3854 (-1306)
Toronto	3880 (-1332)	3879 (-1331)
Lansing	3896 (-1348)	3895 (-1347)
BKC	4116 (-1574)	4114 (-1572)
TD	4170 (-1622)	4172 (-1624)

DSTs

DST #1 3916-3959 30-45-30-45
IFP: BOB in 3 minutes; ISI: no blow back
FFP: BOB in 6 1/2 minutes: FSIP: no blow back
FP: (175-315)(312-473) SIP: 1058-1027
REC: 120' mcw (65% wtr, 35% mud) 730' water Chl 53,000

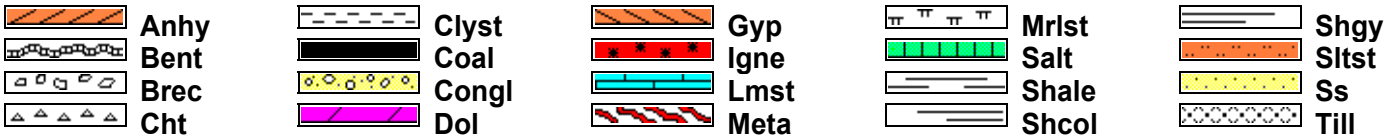
DST#2 4018-4053 30-45-45-60
IFIP: 3/4" died in to 1/4" ISIP: no blow back
FFP: BOB in 42 minutes; FSIP: no blow back
FP: (28-61)(37-152) SIP: 1318-1218
REC: 190 wcm (85% water, 15% mud) plugging on 1st open.

DST#3 4046-4108 30-45-30-60
IFP: BOB in 10 minutes: ISIP: 2" blow back
FFP: 9" blow; FSIP: no blow back
FP: (83-165)(110-109) SIP: 165-170
REC: 65' gsy sl owcm (20%g, 10%o, 30%w, 40%m)
135' gocm (15%g, 15%o, 70%mud)

Comments

Based on DST results and log analysis, the Michele 13-1 was plugged and abandoned at an LTD of 4172'.

ROCK TYPES



ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

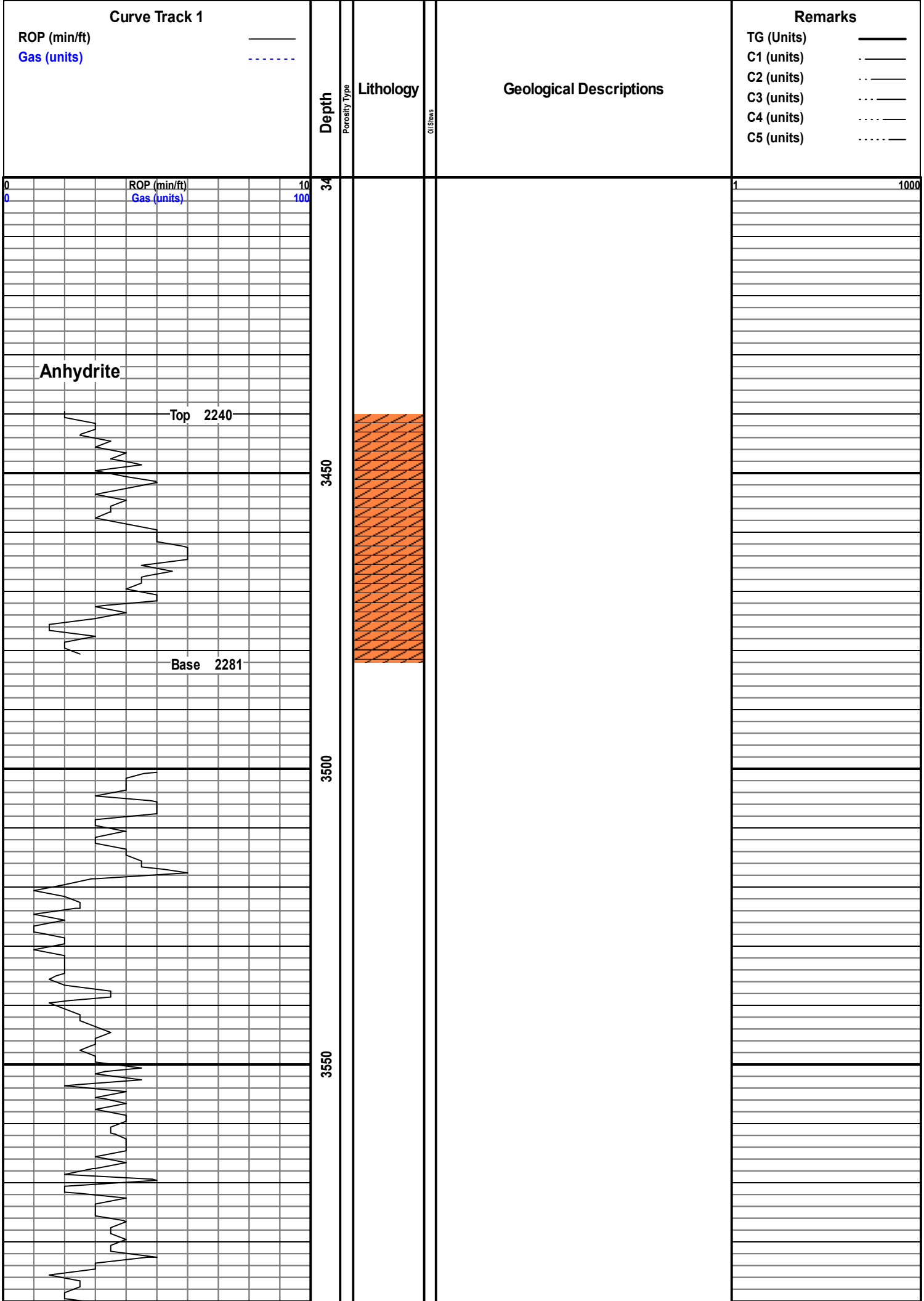
SORTING
- Well
- Moderate
- Poor

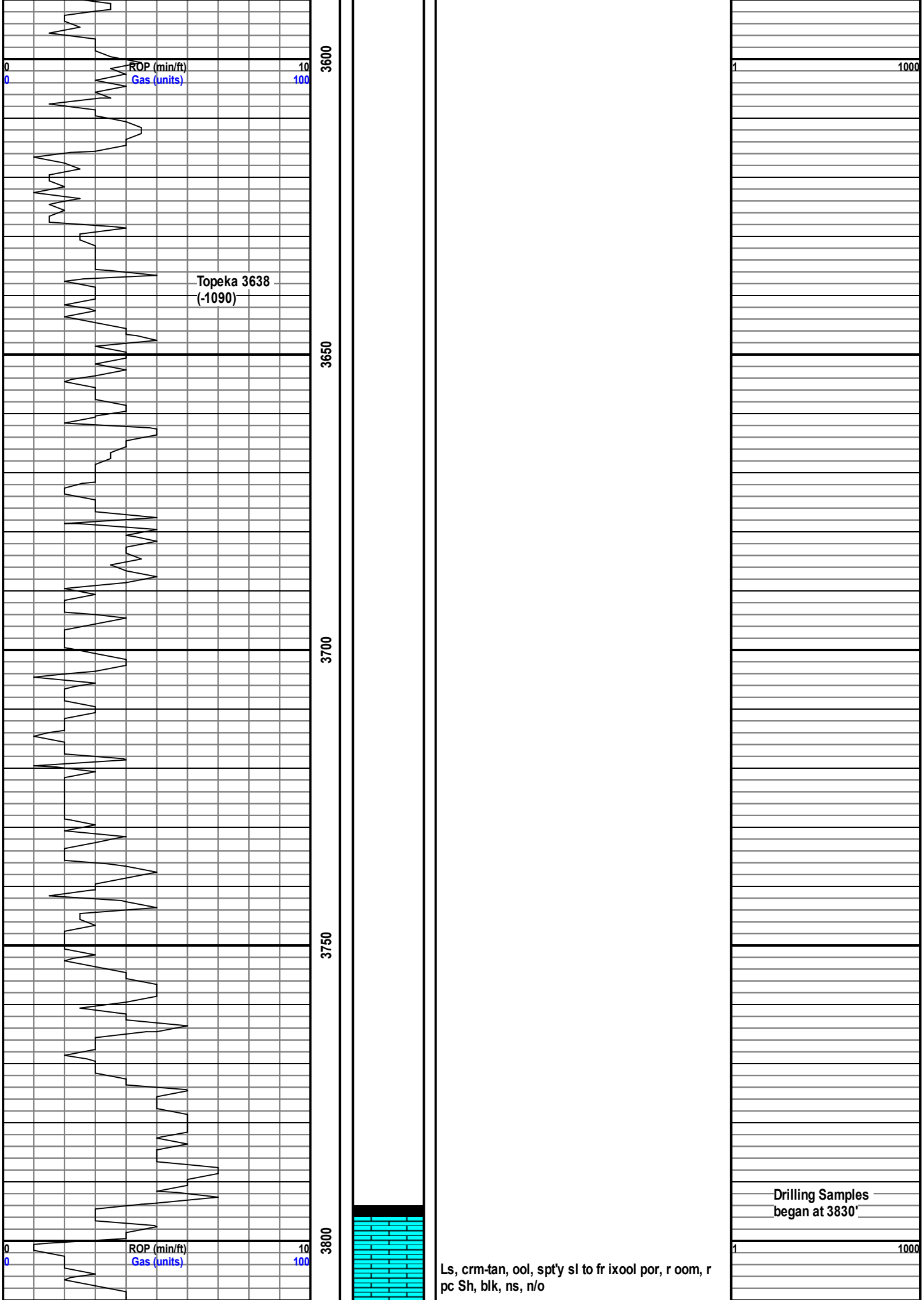
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

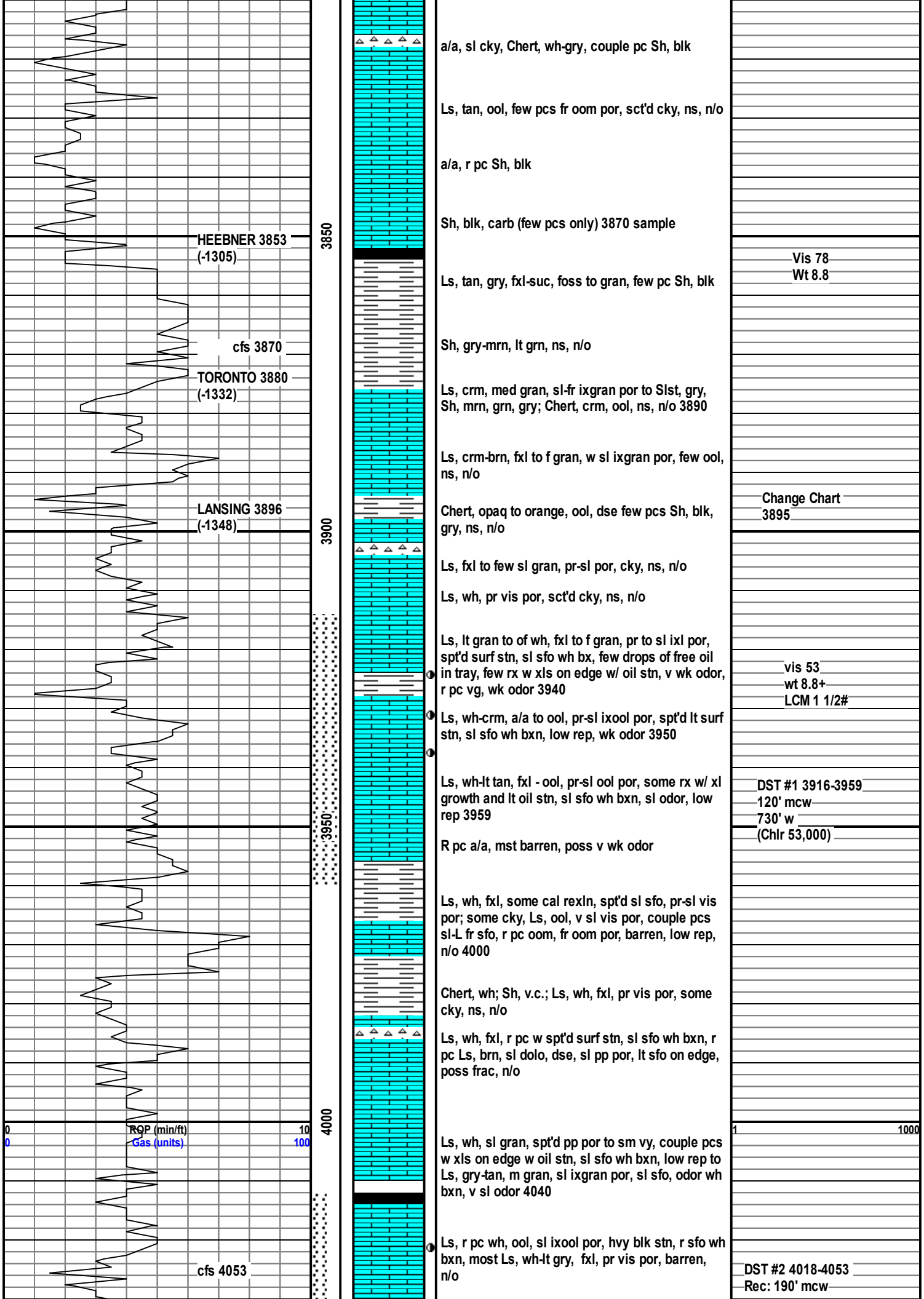
OIL SHOW
- Even
- Spotted
- Ques
- Dead

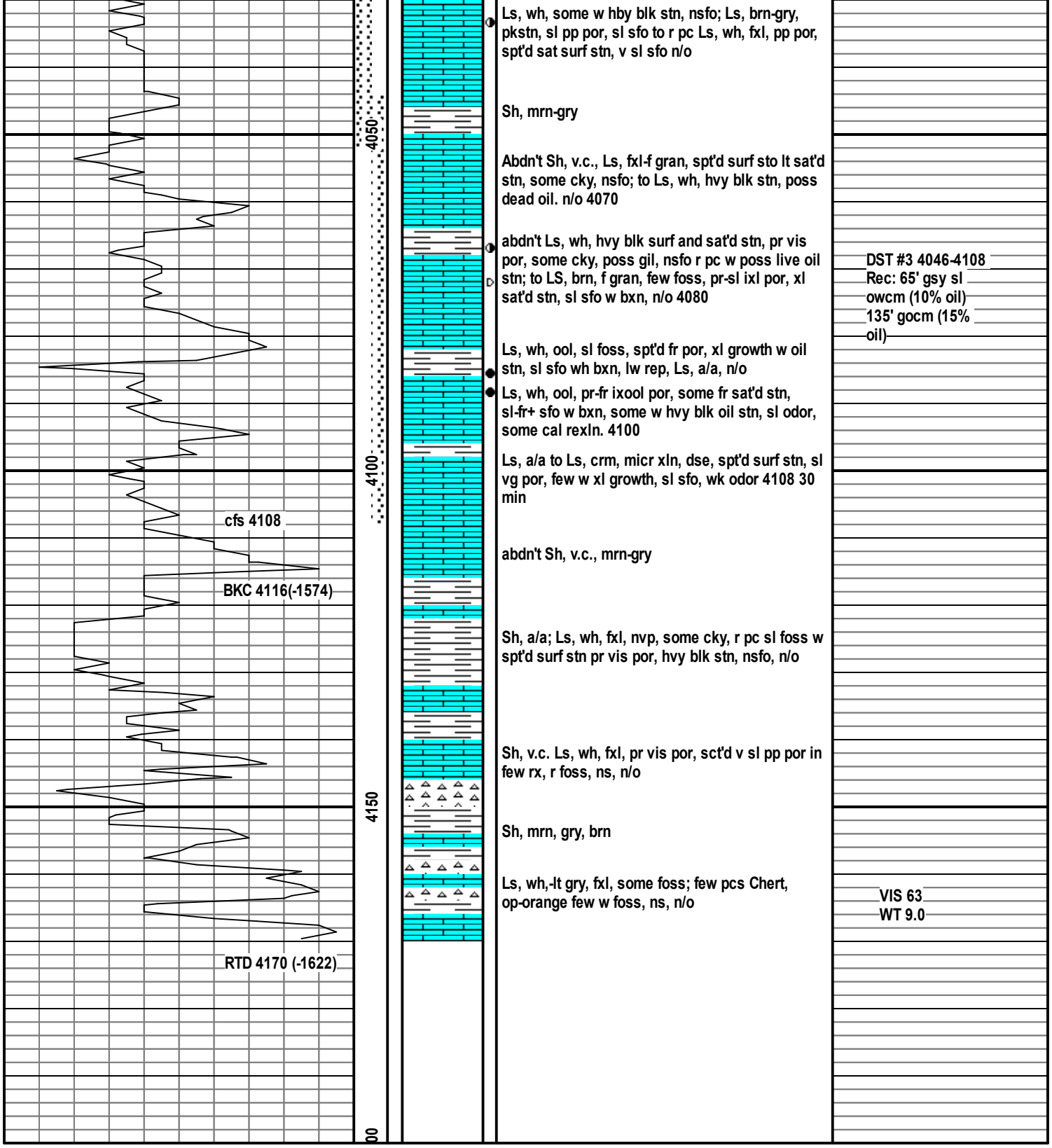
INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall


Curve Track 1
ROP (min/ft)
Gas (units)
Depth
Porosity Type
Lithology
Oil Shows
Geological Descriptions
Remarks
TG (Units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
0
ROP (min/ft)
10
0
Gas (units)
100
1
1000
34
Anhydrite
Top 2240
3450
Base 2281
3500
3550


0
ROP (min/ft)
10
0
Gas (units)
100
Topeka 3638
(-1090)
3600
3650
3700
3750
3800
0
ROP (min/ft)
10
0
Gas (units)
100
1
1000
Drilling Samples
began at 3830'
1
1000
Ls, crm-tan, ool, spt'y sl to fr ixool por, r oom, r
pc Sh, blk, ns, n/o


HEEBNER 3853
(-1305)
cfs 3870
TORONTO 3880
(-1332)
LANSING 3896
(-1348)
cfs 4053
3850
3900
3950
4000
0
ROP (min/ft)
10
0
Gas (units)
100
a/a, sl cky, Chert, wh-gry, couple pc Sh, blk
Ls, tan, ool, few pcs fr oom por, sct'd cky, ns, n/o
a/a, r pc Sh, blk
Sh, blk, carb (few pcs only) 3870 sample
Ls, tan, gry, fxl-suc, foss to gran, few pc Sh, blk
Sh, gry-mrn, lt grn, ns, n/o
Ls, crm, med gran, sl-fr ixgran por to Slst, gry, Sh, mrn, grn, gry; Chert, crm, ool, ns, n/o 3890
Ls, crm-brn, fxl to f gran, w sl ixgran por, few ool, ns, n/o
Chert, opaq to orange, ool, dse few pcs Sh, blk, gry, ns, n/o
Ls, fxl to few sl gran, pr-sl por, cky, ns, n/o
Ls, wh, pr vis por, sct'd cky, ns, n/o
Ls, lt gran to of wh, fxl to f gran, pr to sl ixl por, spt'd surf stn, sl sfo wh bx, few drops of free oil in tray, few rx w xls on edge w/ oil stn, v wk odor, r pc vg, wk odor 3940
Ls, wh-crm, a/a to ool, pr-sl ixool por, spt'd lt surf stn, sl sfo wh bxn, low rep, wk odor 3950
Ls, wh-lt tan, fxl - ool, pr-sl ool por, some rx w/ xl growth and lt oil stn, sl sfo wh bxn, sl odor, low rep 3959
R pc a/a, mst barren, poss v wk odor
Ls, wh, fxl, some cal rexln, spt'd sl sfo, pr-sl vis por; some cky, Ls, ool, v sl vis por, couple pcs sl-L fr sfo, r pc oom, fr oom por, barren, low rep, n/o 4000
Chert, wh; Sh, v.c.; Ls, wh, fxl, pr vis por, some cky, ns, n/o
Ls, wh, fxl, r pc w spt'd surf stn, sl sfo wh bxn, r pc Ls, brn, sl dolo, dse, sl pp por, lt sfo on edge, poss frac, n/o
Ls, wh, sl gran, spt'd pp por to sm vy, couple pcs w xls on edge w oil stn, sl sfo wh bxn, low rep to Ls, gry-tan, m gran, sl ixgran por, sl sfo, odor wh bxn, v sl odor 4040
Ls, r pc wh, ool, sl ixool por, hvy blk stn, r sfo wh bxn, most Ls, wh-lt gry, fxl, pr vis por, barren, n/o
Vis 78
Wt 8.8
Change Chart
3895
vis 53
wt 8.8+
LCM 1 1/2#
DST #1 3916-3959
120' mcw
730' w
(Chlr 53,000)
1
1000
DST #2 4018-4053
Rec: 190' mcw


4050
4100
4150
00
cfs 4108
BKC 4116(-1574)
RTD 4170 (-1622)
Ls, wh, some w hby blk stn, nsfo; Ls, brn-gry, pkstn, sl pp por, sl sfo to r pc Ls, wh, fxl, pp por, spt'd sat surf stn, v sl sfo n/o
Sh, mrn-gry
Abdn't Sh, v.c., Ls, fxl-f gran, spt'd surf sto lt sat'd stn, some cky, nsfo; to Ls, wh, hvy blk stn, poss dead oil. n/o 4070
abdn't Ls, wh, hvy blk surf and sat'd stn, pr vis por, some cky, poss gil, nsfo r pc w poss live oil stn; to LS, brn, f gran, few foss, pr-sl ixl por, xl sat'd stn, sl sfo w bxn, n/o 4080
Ls, wh, ool, sl foss, spt'd fr por, xl growth w oil stn, sl sfo wh bxn, lw rep, Ls, a/a, n/o
Ls, wh, ool, pr-fr ixool por, some fr sat'd stn, sl-fr+ sfo w bxn, some w hvy blk oil stn, sl odor, some cal rexln. 4100
Ls, a/a to Ls, crm, micr xln, dse, spt'd surf stn, sl vg por, few w xl growth, sl sfo, wk odor 4108 30 min
abdn't Sh, v.c., mrn-gry
Sh, a/a; Ls, wh, fxl, nvp, some cky, r pc sl foss w spt'd surf stn pr vis por, hvy blk stn, nsfo, n/o
Sh, v.c. Ls, wh, fxl, pr vis por, sct'd v sl pp por in few rx, r foss, ns, n/o
Sh, mrn, gry, brn
Ls, wh,-lt gry, fxl, some foss; few pcs Chert, op-orange few w foss, ns, n/o
DST #3 4046-4108
Rec: 65' gsy sl owcm (10% oil)
135' gocm (15% oil)
VIS 63
WT 9.0