

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ 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: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

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: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Ainsworth Operating Co.
Well Name	NELSON 1
Doc ID	1433979

All Electric Logs Run

micro-resitivity
dual-induction
compesated density neutron
cement bond

Form	ACO1 - Well Completion
Operator	Ainsworth Operating Co.
Well Name	NELSON 1
Doc ID	1433979

Tops

Name	Top	Datum
Anhydrite	1954	338
Topeka	3303	-1011
Heebner	3500	-1208
Toronto	3525	-1233
Lansing	3544	-1252
BKC	3731	-1560
Arbuckle	3852	-1627
LTD	3919	-1627

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1049

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10.31.18	33	6	22	Graham	KS		1.00 p.u.

Location Bogue 4w 310 # 8N 1/2w Sinto

Lease	Well No.	Owner
Nelson	1	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.
Contractor		Charge To
PRS		Ainsworth Operating
Type Job		Street
Port Collar		City
Hole Size	T.D.	State
Csg.	Depth	
5 1/2		
Tbg. Size	Depth	
2 7/8		
Tool	Depth	
	1952	
Cement Left in Csg.	Shoe Joint	
		The above was done to satisfaction and supervision of owner agent or contractor.
Meas Line	Displace	Cement Amount Ordered
	113C	400 80/10 QMDC 1/4 RPO

EQUIPMENT

Pumptrk	No.	Cementary Helper	
5		raig	
Bulktrk	No.	Driver	
		Drett	
Bulktrk	No.	Driver	
21		Tom	

Common	
200 80/10 QMDC	
Poz. Mix	
Gel.	5
Calcium	

JOB SERVICES & REMARKS

Remarks: KCC Pat Bullock

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V Port Collar

Part Collar @ 1952. Test to 800#

Open Tool & Spot 5 sk gel &

Exit Circulation. Mixed 200SK &

Cement Circulate. Close Tools

Pressure to 800# Run 5 joints SK

Wash Clean

Hulls	
Salt	
Flowseal	200#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	400
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

USED 200SK 5 gel

Thanks

Pumptrk Charge	port collar 506
Mileage	46

X Signature Ana Weavering

Tax	
Discount	
Total Charge	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1042

Date <u>10-24-18</u>	Sec. <u>33</u>	Twp. <u>6</u>	Range <u>22</u>	County <u>Concham</u>	State <u>KS</u>	On Location	Finish <u>539</u>
				Location <u>Boyer 424 4W 310RD 811 ZRD 1/2W S100</u>			

Lease <u>Nelson</u>	Well No. <u>1</u>	Owner
Contractor <u>D. Steven #4</u>		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 <u>Production String</u>		
Hole Size <u>7 7/8</u>	T.D. <u>3920</u>	Charge To <u>Ainsworth Operating</u>
Csg. <u>5 1/2</u>	Depth <u>3918</u>	Street
Tbg. Size	Depth	City State
Tool <u>Port Collar #49</u>	Depth <u>1956</u>	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <u>20.85</u>	Shoe Joint <u>20.85</u>	Cement Amount Ordered <u>175 10/salt 5/6 Isomite</u>
Meas Line	Displace <u>90.23L</u>	<u>500 gal mud clear + 200 gal KCL</u>

EQUIPMENT

Pumptrk <u>5</u>	No.	Cement Helper <u>Greg</u>	Common <u>175</u>
Bulktrk	No.	Driver <u>Brett</u>	Poz. Mix
Bulktrk <u>14</u>	No.	Driver <u>Jim</u>	Gel.
			Calcium

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole <u>305K</u>	Salt <u>15</u>
Mouse Hole <u>155K</u>	Flowseal
Centralizers	Kol-Seal <u>800#</u>
Baskets	Mud CLR 48 <u>500 gal</u>
D/V or Port Collar	CFL-117 or CD110 CAF38
<u>5 1/2 size 3918 Baffle 3897</u>	Sand
<u>Best Completion - Pump 500 gal mud clear</u>	Handling <u>196</u>
<u>100g KCL Plug Retrolite meshok.</u>	Mileage
<u>Cement 5 1/2 with 1305K Clear lines</u>	
<u>Displace Plug. 1st 9BL KCL</u>	
<u>Plug land side 1500# LRA Pressure 700#</u>	

FLOAT EQUIPMENT

Guide Shoe
Centralizer <u>7</u>
Baskets <u>1</u>
AFU Inserts <u>Port Collar</u>
Float Shoe <u>1</u>
Latch Down <u>1</u>

Thanks

Pumptrk Charge <u>Prod String</u>
Mileage <u>46</u>

X Signature	Tax
	Discount
	Total Charge



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ainsworth Operating Co
4676 Commercial St.
SE Ste 412
Salem OR 97302-1902
ATTN: Austin Klaus

33 6s 22w Graham KS

Nelson # 1

Job Ticket: 64150

DST#: 1

Test Start: 2018.10.22 @ 11:11:00

GENERAL INFORMATION:

Formation: **LKC " C - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:17:31

Time Test Ended: 18:41:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 76

Interval: 3555.00 ft (KB) To 3600.00 ft (KB) (TVD)

Reference Elevations: 2292.00 ft (KB)

Total Depth: 3600.00 ft (KB) (TVD)

2284.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8645 Outside

Press@RunDepth: 508.45 psig @ 3565.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.22

End Date:

2018.10.22

Last Calib.:

2018.10.22

Start Time: 11:11:01

End Time:

18:41:01

Time On Btm:

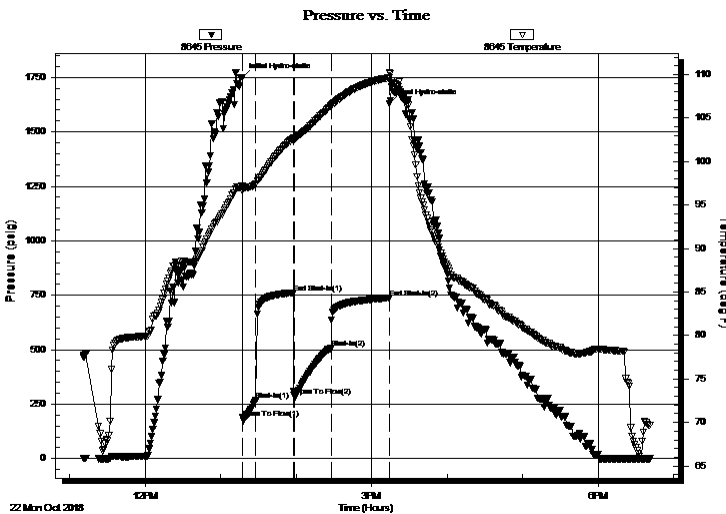
2018.10.22 @ 13:17:01

Time Off Btm:

2018.10.22 @ 15:14:01

TEST COMMENT: 10-IFP- BOB in 1min.
30-ISIP- BOB in 14min.
30-FFP- BOB in 1min.
45-FSIP- BOB in 16min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1748.84	97.16	Initial Hydro-static
1	187.31	96.65	Open To Flow (1)
11	268.20	97.48	Shut-In(1)
41	761.37	102.69	End Shut-In(1)
42	288.70	102.54	Open To Flow (2)
71	508.45	106.39	Shut-In(2)
117	737.88	109.62	End Shut-In(2)
117	1631.22	110.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	GMCO 20%g 30%m 50%o	2.38
1330.00	G. Free Oil 35%g 65%o	18.66
0.00	950 GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Ainsworth Operating Co
 4676 Commercial St.
 SE Ste 412
 Salem OR 97302-1902
 ATTN: Austin Klaus

33 6s 22w Graham KS

Nelson # 1

Job Ticket: 64150

DST#: 1

Test Start: 2018.10.22 @ 11:11:00

GENERAL INFORMATION:

Formation: **LKC " C - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:17:31

Time Test Ended: 18:41:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 76

Interval: **3555.00 ft (KB) To 3600.00 ft (KB) (TVD)**

Reference Elevations: 2292.00 ft (KB)

Total Depth: 3600.00 ft (KB) (TVD)

2284.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6731 Inside

Press@RunDepth: psig @ 3565.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.10.22 End Date: 2018.10.22

Last Calib.: 2018.10.22

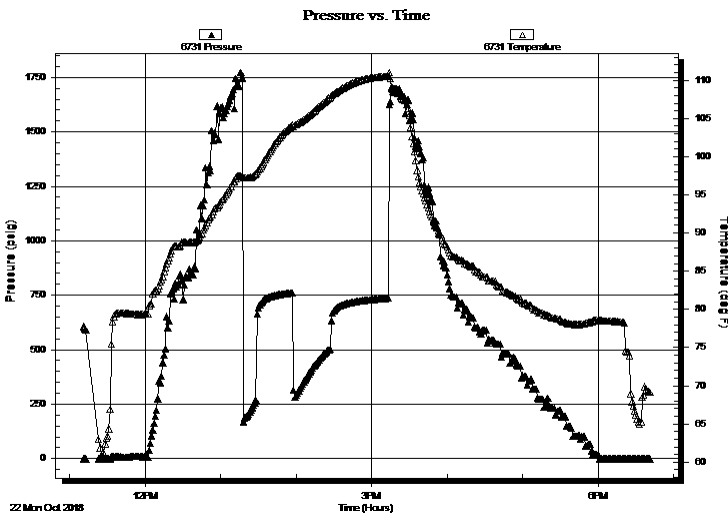
Start Time: 11:11:01 End Time: 18:41:01

Time On Btm:

Time Off Btm:

TEST COMMENT: 10-IFP- BOB in 1min.
 30-ISIP- BOB in 14min.
 30-FFP- BOB in 1min.
 45-FSIP- BOB in 16min.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
190.00	GMCO 20%g 30%m 50%o	2.38
1330.00	G. Free Oil 35%g 65%o	18.66
0.00	950 GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ainsworth Operating Co

33 6s 22w Graham KS

4676 Commercial St.
SE Ste 412
Salem OR 97302-1902
ATTN: Austin Klaus

Nelson # 1

Job Ticket: 64150

DST#: 1

Test Start: 2018.10.22 @ 11:11:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 58.00 sec/qt
Water Loss: 8.79 in³
Resistivity: ohm.m
Salinity: 2000.00 ppm
Filter Cake: 0.50 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 32 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	GMCO 20%g 30%m 50%o	2.383
1330.00	G. Free Oil 35%g 65%o	18.656
0.00	950 GIP	0.000

Total Length: 1520.00 ft Total Volume: 21.039 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

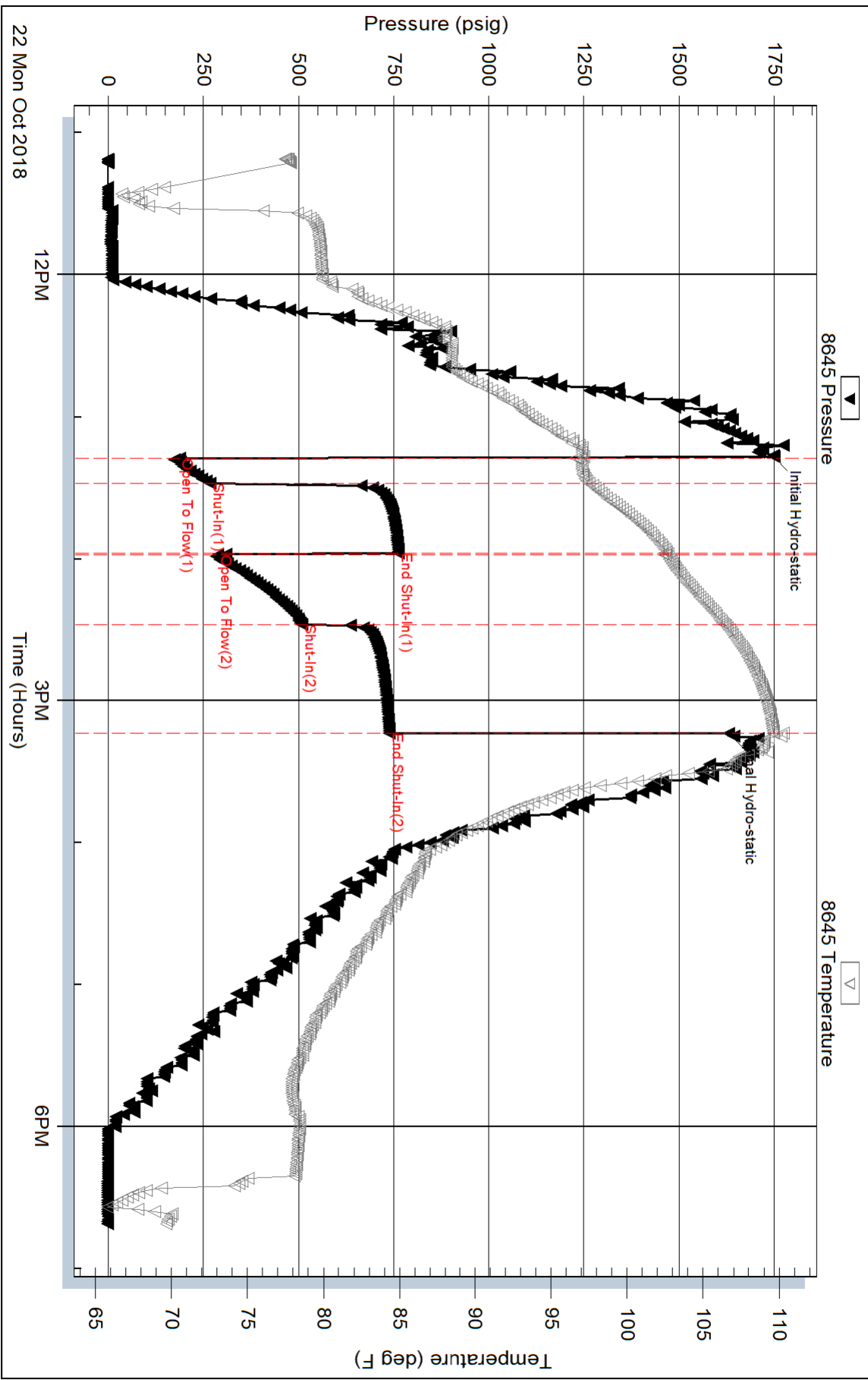
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



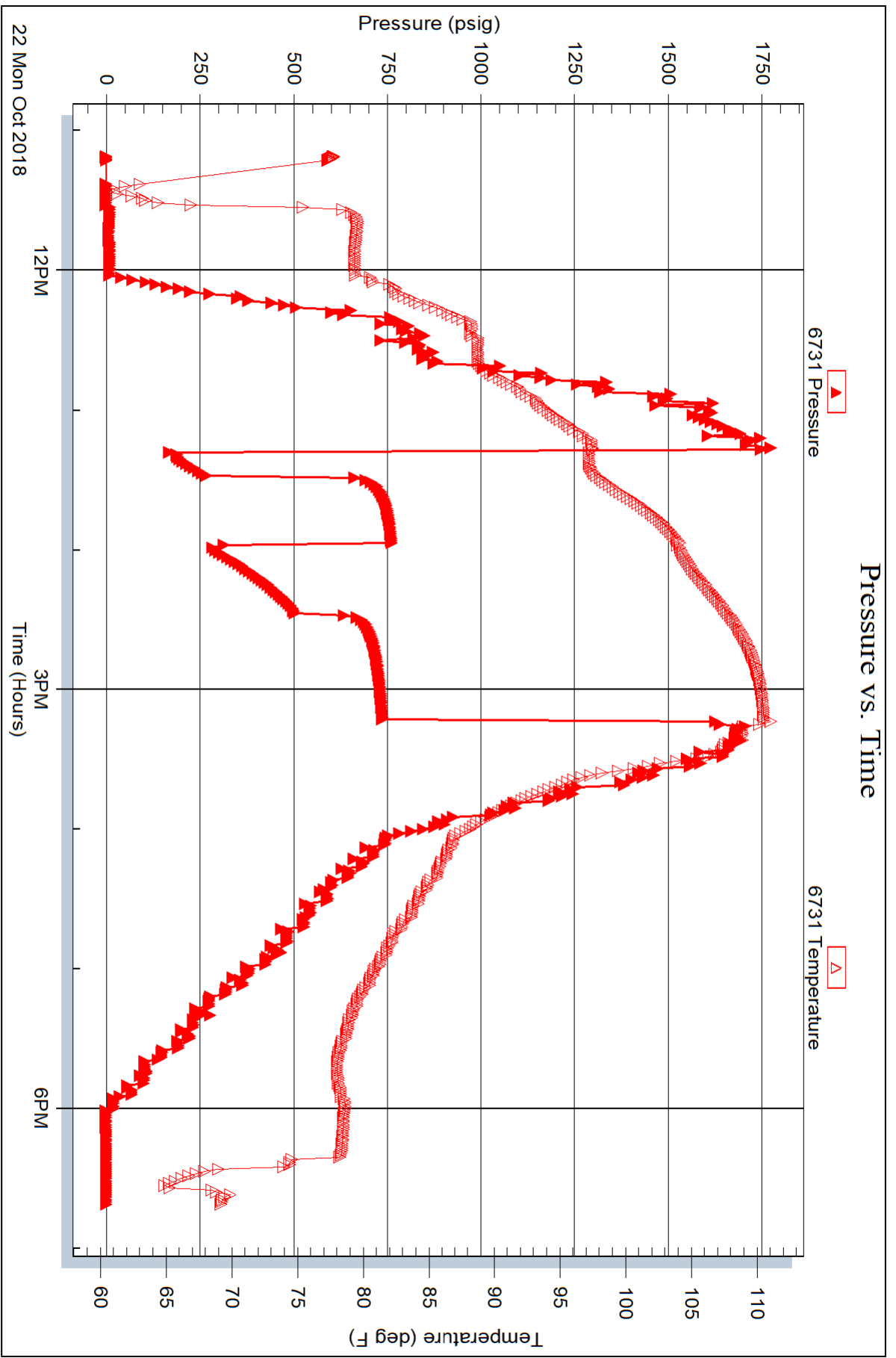
Serial #: 6731

Inside

Airsw orth Operating Co

Nelson # 1

DST Test Number: 1



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 982

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10 6 19	33	6	22	Graham	KS		9:00 PM
				Location H-11 city 5 E 10 310 8 N 10 2 R1 31			

Lease Nelson	Well No. #1	Owner
--------------	-------------	-------

Contractor D. Scoville 94	To Quality Oilwell Cementing, Inc.
Type Job Sulfur	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Hole Size 12 1/4	T.D. 26'	Charge To
Csg. 8 5/8	Depth 26'	Ainsworth

Tbg. Size	Depth	Street
-----------	-------	--------

Tool	Depth	City	State
------	-------	------	-------

Cement Left in Csg. 20	Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.
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Meas Line	Displace 15 1/2 bbl	Cement Amount Ordered 200 8 1/2 3% cc 2 1/2 bbl
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EQUIPMENT

Pumptrk 17	No.	Cementer	Common
		Helper	
Bulktrk	No.	Driver	Poz. Mix
		Driver	
Bulktrk	No.	Driver	Gel.
		Driver	
		Driver	Calcium

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling
	Mileage

FLOAT EQUIPMENT

Run 26' 8 5/8 + E. C. 100'	Guide Shoe
Max 200 s.	Centralizer
Displaced 15 1/2 bbl H ₂ O	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

	Pumptrk Charge	Tax
	Mileage	Discount
		Total Charge
X Signature	Don Eubank	

AUSTIN B. KLAUS

Cell 785.650.3629
Work 785.483.3145
Ext 225

PO BOX 352
Russell, KS 67665

austin.klaus@johnofarmer.com

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

Well Name: Nelson #1
Location: Graham County
License Number: API #15-065-24154-0000
Spud Date: 10/6/2018
Surface Coordinates: Section 33, Township 6 South, Range 22 West
1,960' FNL & 2,400' FWL
Bottom Hole Coordinates: Vertical well w/ minimal deviation, same as above
Ground Elevation (ft): 2,284
Logged Interval (ft): 3,200 To: RTD
Formation: LKC, Arbuckle
Type of Drilling Fluid: Chemical (Andy's Mud)

Region: Kansas
Drilling Completed: 10/24/2018
K.B. Elevation (ft): 2,292
Total Depth (ft): 3,920

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Ainsworth Operating Co.
Address: 4676 Commercial St. SE, Suite 412
Salem, OR 97302

GEOLOGIST


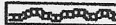
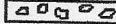

Name: Austin Klaus
Company: John O. Farmer, Inc.
Address: 370 W. Wichita Ave.
Russell, KS 67665

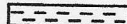

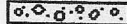

Comments





The Nelson #1 was drilled by Discovery Drilling Rig #4 (Tool Pusher: Galen Gaschler).



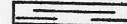
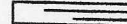
The location for the Nelson #1 was discovered via 3D seismic survey. Rock samples were gathered and evaluated from 3,200' - 3,920'. Structurally, the Lansing top was picked 3' high to the comparison well, Stinemetz #1 (Mid-Continent Energy Corp.). Oil shows were encountered in LKC C,D,F,H,&J zones. Drill stem test #1 covered the LKC C-D zones and resulted in 1330' gassy, free oil and 760# bottom-hole pressure. Structure remained consistent through the Lansing, and the B/KC top was picked 4' high. Thinning occurred below the B/KC, which resulted in an Arbuckle picked 48' high to the comparison well. There were no oil shows in the Arbuckle. After evaluation of all oil shows, drill stem test results, & electric logs, it was decided that 5 1/2" production casing be set to further evaluate the Nelson #1 on 10/24/2018.

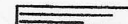



ROCK TYPES

 **Anhy**
 **Bent**
 **Brec**
 **Cht**

 **Clyst**
 **Coal**
 **Congl**
 **Dol**

 **Gyp**
 **Igne**
 **Lmst**
 **Meta**

 **Mrlst**
 **Salt**
 **Shale**
 **Shcol**

 **Shgy**
 **Siltst**
 **Ss**
 **Till**

OTHER SYMBOLS

POROSITY

E Earthy
 B Fenest
 F Fracture
 X Inter
 Z Moldic
 O Organic
 P Pinpoint

V Vuggy

SORTING

W Well
 M Moderate
 P Poor

ROUNDING

R Rounded
 S Subrnd
 A Subang
 A Angular

Q Spotted
 Q Ques
 D Dead

EVENT

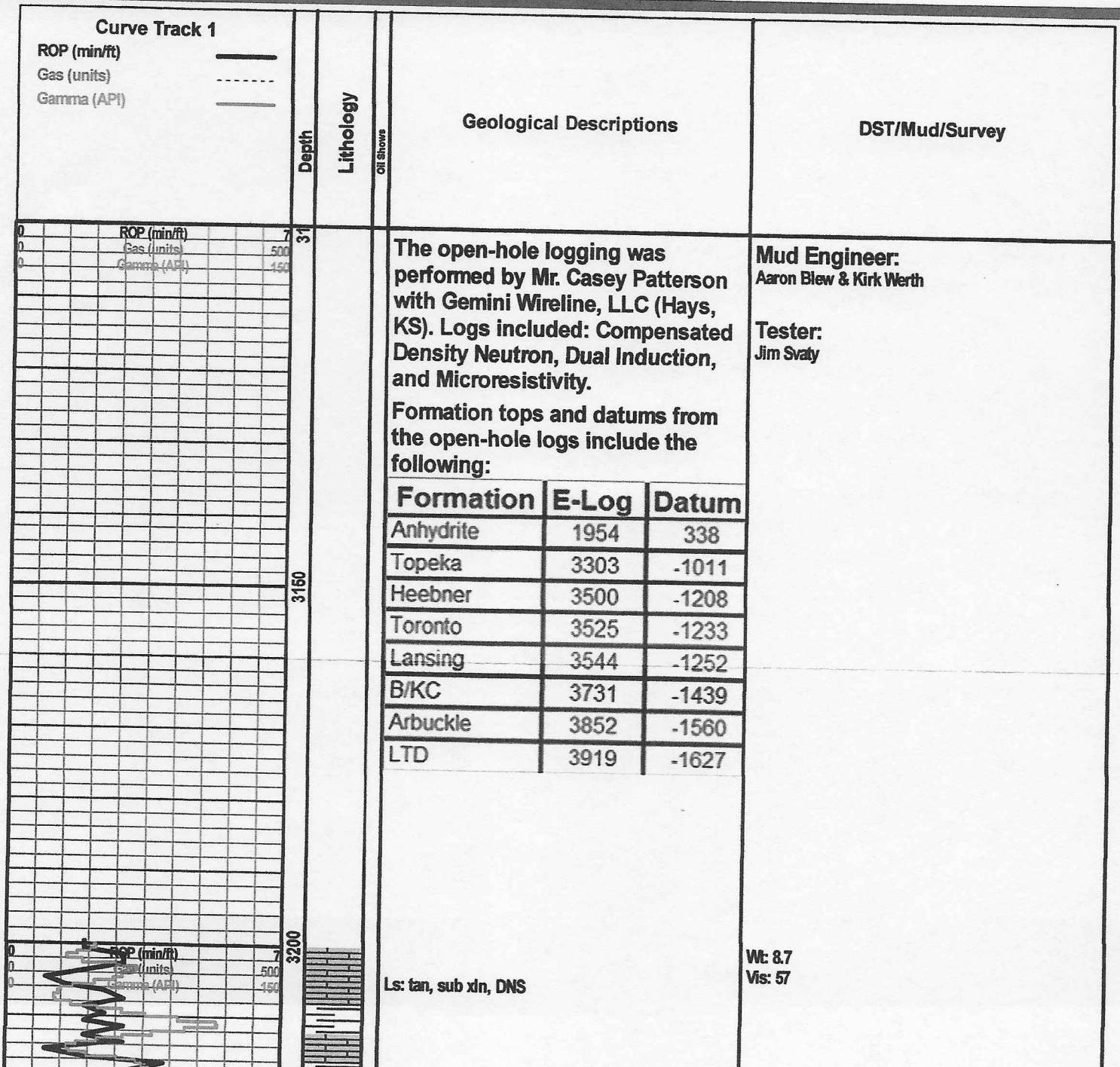
Rft
 Sidewall

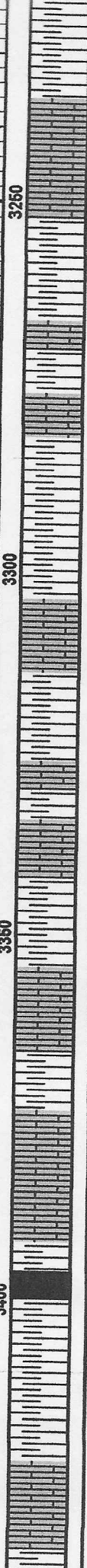
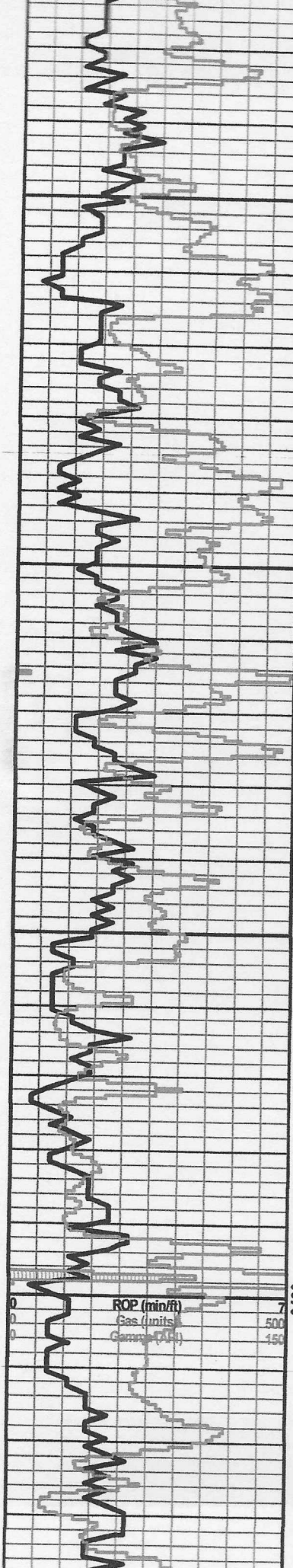
INTERVAL

Core
 Dst

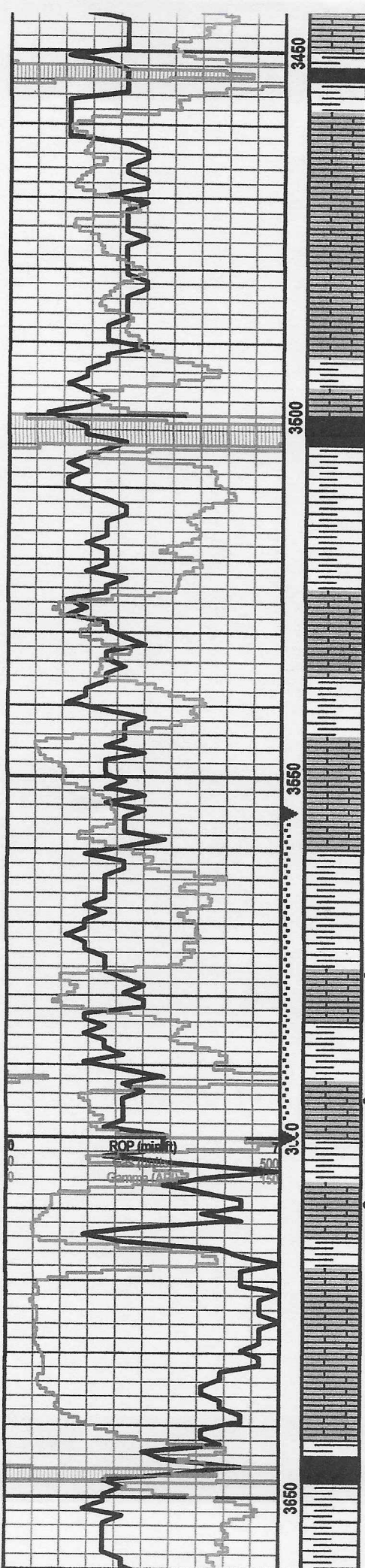
OIL SHOW

Even





Sh: brn-grn
 Ls: tan, fn xln, sl foss, DNS
 Ls: tan, fn xln, foss, good int xln porosity, barren
 Sh: gry-drk gry, sl stly
 Sh: ala
Topeka 3296' (-1004)
 Ls: lt gry, fn xln, sl mottled, scat sh: drk gry, mostly DNS
 Ls: ala
 Sh: gry-drk gry
 Ls: tan, fn xln, foss, poor int foss porosity, barren
 Sh: gry-brn
 Ls: tan, fn xln, foss, fair int xln & int foss porosity, barren, hvy chalk, sl chert-off wh
 Ls: ala
 Ls: ala, DNS
 Sh: blk, carb
 Sh: brn-rd-gry
 Ls: off wh-tan, fn xln, mostly DNS
 Sh: gry-brn



Ls: off wh-tan, fn xln, sl ool, poor mic xln porosity, barren

Sh: blk, carb

Ls: off wh-tan, fn xln, ool in part, fair vuggy, scat micro ool porosity, scat tarry oil stn, NSFO, oil hvy, chert-off wh-tan

Ls: off wh-tan, fn-sub xln, DNS, sl chert-off wh, chalky

Ls: off wh-tan, fn xln, ool in part, poor mic ool porosity, lt tarry oil stn in porosity, NSFO

Heebner 3498' (-1206)

Sh: blk, carb

Sh: gry-brn-grn

Toronto 3524' (-1232)

Ls: off wh, fn xln, ool in part, poor-fair ool porosity, barren, sl chalky

Sh: brn-grn

Lansing 3541' (-1249)

Ls: off wh-tan, fn-sub xln, sl ool, DNS

Ls: ala

Sh: brn-gry

Ls: off wh-tan, fn xln, ool, poor-scat fair ool & micro ool porosity, lt-fair oil stn w/ hvy sat in part, SSFO when broken, vry hvy odor

Sh: lt-drk gry

Ls: off wh, fn-sub xln, few scat vuggy & pp vuggy porosity, lt scat oil stn in porosity, NSFO, mostly DNS, mottled w/ orange chert in part, hvy orange chert

Ls: off wh, fn xln, scat ool, poor-fair int xln & scat ool porosity, scat fair oil stn in porosity, SSFO when broken, lt-fair odor

Ls: off wh, fn-sub xln, mostly DNS, NSFO, chert-off wh

Ls: ala, hvy chert-off wh

Sh: blk, carb

Sh: drk gry, scat chert-drk gry

DST #1 3.555-3.600' LKC C-D

10"-30"-30"-45"

IF: BOB in 1 min., BOB in 14 min. on shut in

FF: BOB in 1 min., BOB in 16 min on shut in

Rec: 950' GIP

190' GMCO (20% G, 30% M, 50% O)

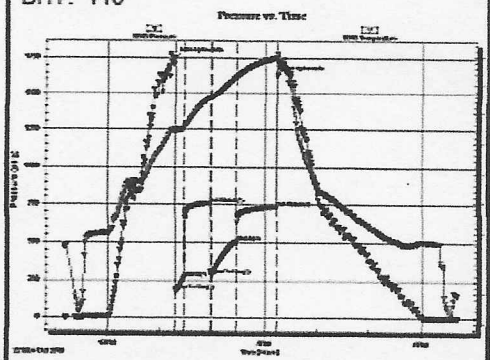
1330' GFO (35%G, 65% O)

FP: 187-268, 288-508#

SIP: 761-738#

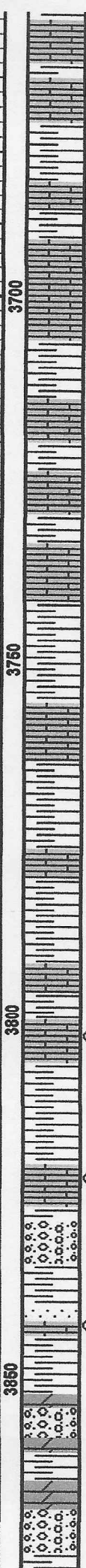
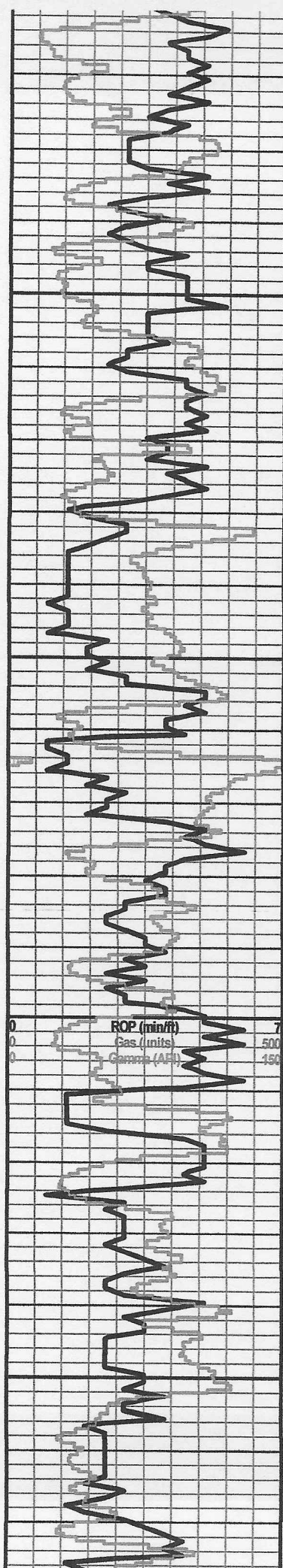
HP: 1,748-1,631#

BHT: 110°



Wt: 9.1
Vis: 58

Survey: 1/2 degree



Ls: off wh, fn xln, poor-scat fair int xln porosity, fair oil stn in porosity, SSFO when broken, lt-fair odor

Sh: lt-drk gry

Ls: lt gry, fn-sub xln, mostly DNS, NSFO, scat chert-off wh-gry

Ls: off wh-tan, fn xln, ool, fair oom porosity, few rns good oom porosity, fair-good oil stn in porosity, SFO when broken, fair-good odor

Sh: lt gry, scat cong: off wh-tan-rd, DNS

Ls: off wh-tan, fn xln, mostly DNS, barren, scat chert

B/KC 3728' (-1436)

Sh: lt-drk gry, scat rd

Ls: tan-gry, fn-sub xln, mostly DNS, hvy chert-off wh, scat sh: drk gry-brn

Ls: tan-gry-brn, fn-sub xln, DNS, barren, scat chert-off wh

Wt: 9.2
Vis: 52

Sh: lt-drk gry-brn

Ls: off wh-tan-gry, fn-rnd xln, mostly DNS, barren, chert-off wh

Sh: drk gry-brn

Ls: off wh-tan, fn xln, poor int xln porosity, hvy tarry oil stn, lt odor

Sh: drk gry-brn

Ls: off wh-tan, fn-sub xln, poor scat int xln porosity, scat hvy tarry oil stn, lt odor

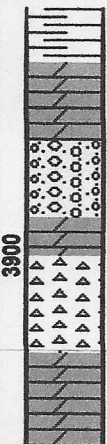
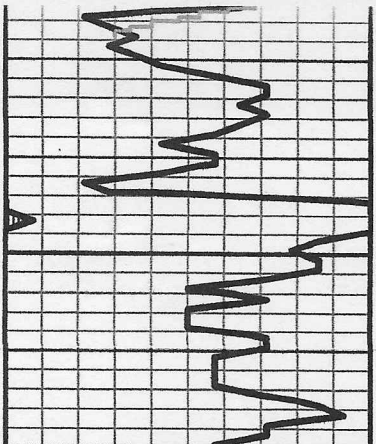
Cong: tan-gry, fn-sub xln, mostly DNS

Ls: off wh-tan, fn-sub xln, mostly DNS, scat qtz: fn grn, ang, well sorted, poor int grn porosity, fair-good oil sat, SSFO, sl odor

Arbuckle 3856' (-1566)

Dolo: tan-gry-brn, poor-fair int xln & scat vuggy porosity, scat cong: tan-rd, DNS, scat sh: drk gry

Dolo: off wh-tan, fn-rnd xln, fair int xln porosity, barren, scat chert-off wh. hvy sh: drk brn. soft



barren, scat chert-off wh, hvy sh: drk brn, soft

Dolo: ala, scat cong: drk brn-rd, vry DNS

Dolo: off wh, fr-md xln, fair int xln porosity, barren,
hvy chert-off wh

Survey: 1/2 degree