

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	Mikol Oil LLC
Well Name	BRUMITT 4-33
Doc ID	1425870

All Electric Logs Run

Cement Bond
Micro Resistivity
Compensated Density Neutron
Dual Induction

Form	ACO1 - Well Completion
Operator	Mikol Oil LLC
Well Name	BRUMITT 4-33
Doc ID	1425870

Tops

Name	Top	Datum
Top Anhydrite	1328	+761
Base Anhydrite	1363	+726
Topeka	3043	-954
Heebner	3268	-1179
Toronto	3287	-1198
LKC	3308	-1219
BKC	3544	-1455
Simpson Dolomite	3661	-1572
Arbuckle	3686	-1597

OPERATOR

Company: Mikol Oil LLC
 Address: 2094 260th Ave
 Hays, KS 67601

Contact Geologist:
 Contact Phone Nbr: 785-259-2360
 Well Name: Brumitt #4-33
 Location: Sec. 33-10s-17w
 API: 15-163-24365-0000
 Pool:
 State: Kansas

Field: Wildcat
 Country: USA

Scale 1:240 Imperial

Well Name: Brumitt #4-33
 Surface Location: Sec. 33-10s-17w
 Bottom Location:
 API: 15-163-24365-0000
 License Number:
 Spud Date: 7/9/2018 Time: 10:26 PM
 Region: Rooks
 Drilling Completed: Time:
 Surface Coordinates: 675' FNL & 1981' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2081.00ft
 K.B. Elevation: 2089.00ft
 Logged Interval: 2900.00ft To: 0.00ft
 Total Depth: 0.00ft
 Formation: LKC
 Drilling Fluid Type:

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: 0
 Latitude: 0
 N/S Co-ord: 675' FNL
 E/W Co-ord: 1981' FEL

LOGGED BY

Company:
 Address: 1411 Washington Circle
 Hays, KS 67601
 Phone Nbr: 620-428-1356
 Logged By: Geologist Name: Marc Downing

CONTRACTOR

Contractor: Discovery Drilling
 Rig #: 2
 Rig Type: Rotary
 Spud Date: 7/9/2018 Time: 10:26 PM
 TD Date: Time:
 Rig Release: Time:

ELEVATIONS

K.B. Elevation: 2089.00ft Ground Elevation: 2081.00ft
 K.B. to Ground: 8.00ft

NOTES**Structural Comparison:**

		Mikol Oil
		Brumitt #3-28
		527' FSL & 2154' FEL
		Sec. 28-10s-17w
Top Anhydrite	1330 (+759)	-5
Base Anhydrite	1367 (+722)	-4
Toneka	3042 (-953)	-3

Heebner	3266 (-1177)	-3
Toronto	3287 (-1198)	-4
LKC	3307 (-1218)	-4
BKC	3543 (-1454)	-3
Simpson Dolo	3658 (-1569)	+1
Arbuckle	3684 (-1595)	-4

ROCK TYPES

	Cht vari		Dolsec		shale, grn		Carbon Sh
	Dolprim		Lmst fw7>		shale, gry		shale, red

ACCESSORIES

MINERAL

- ▲ Chert, dark
- Sandy
- △ Chert White

FOSSIL

- φ Oolite

STRINGER

- Dolomite
- Limestone
- Sandstone
- Shale
- green shale
- red shale
- carb shale

OTHER SYMBOLS

OIL SHOWS

- Even Stn
- Spotted Stn 50 - 75 %
- Spotted Stn 25 - 50 %
- Spotted Stn 1 - 25 %
- Questionable Stn
- D Dead Oil Stn
- Fluorescence

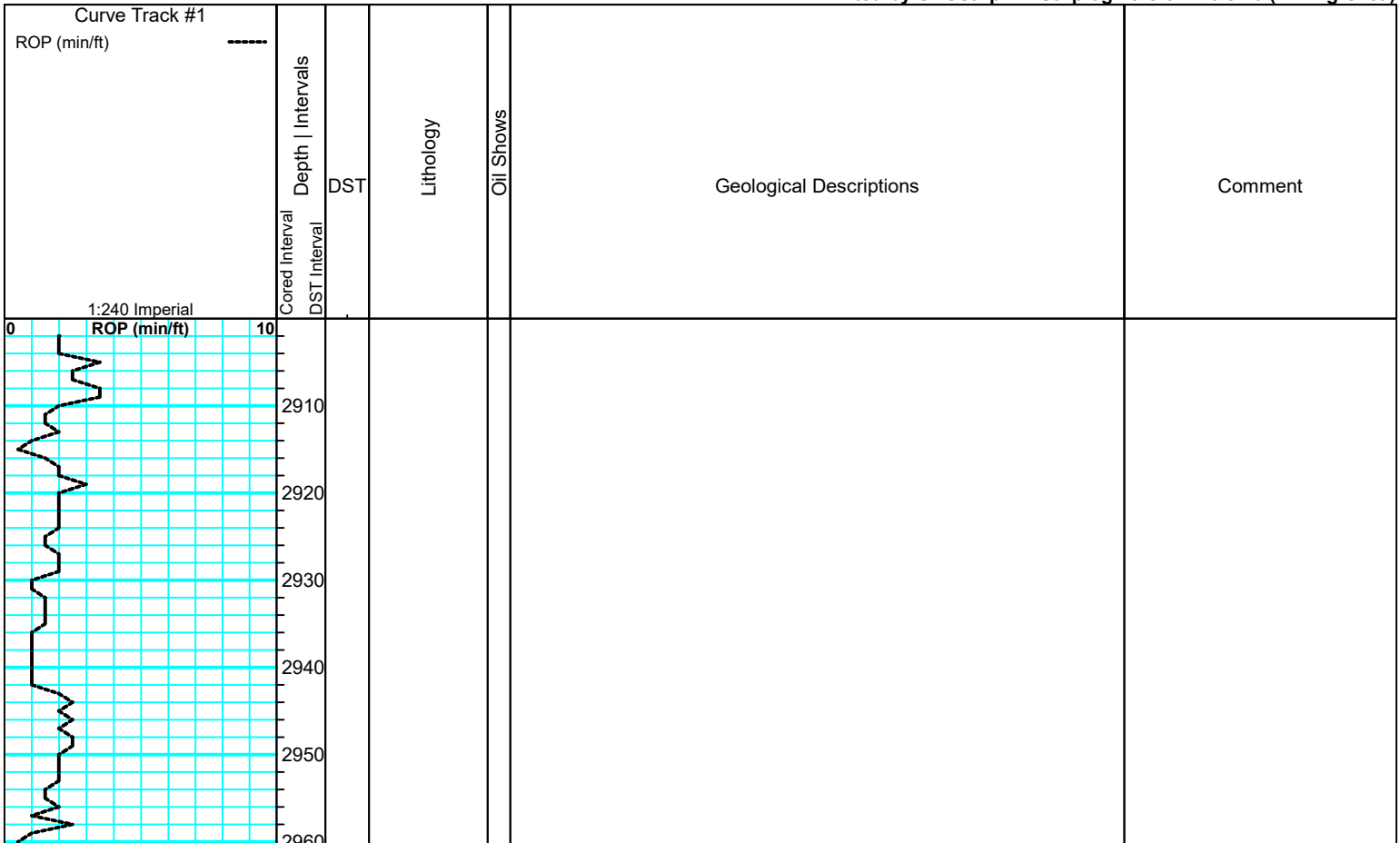
MISC

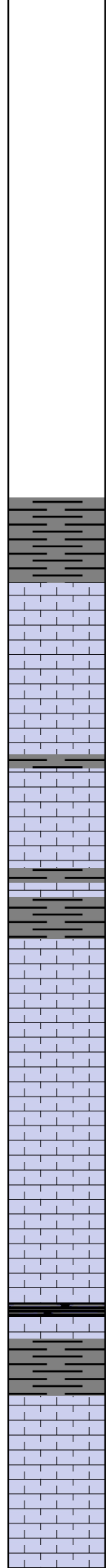
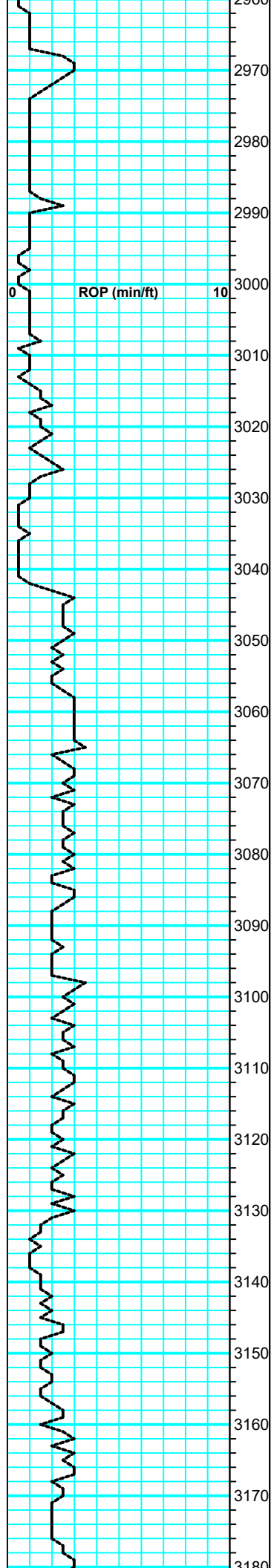
- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

DST

- DST Int
- DST alt
- Core
- tail pipe

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Sh: gry

Topeka 3042 (-953)

LS: tan-gry, some wht. Fn-md xln, foss in prt. Trng wht w/ depth, mostly pr por.

LS: mostly ala, pr por and dns, all NS.

Sh: gry

LS: wht, fn xln. Few pcs w/ pr int xln por, scat subxln rx. All totally barren, NS.

Sh: drk gry

Sh: gry

LS: wht-tan, fn-md xln. Subxln-chlky in prt, trng dns w/ pr por. Rx mtd in prt.

LS: tan-wht, fn-md xln, foss in prt. Mostly all pr por and dns, mtd in prt, all NS. Scat frag foss.

LS: ala

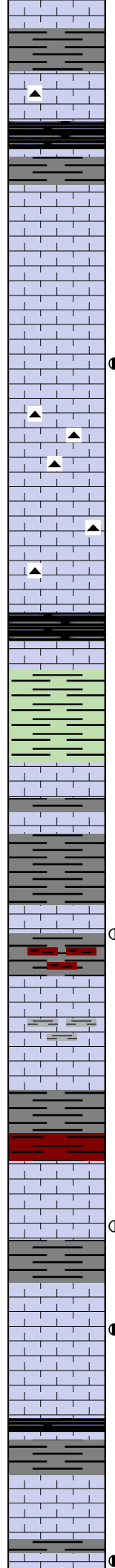
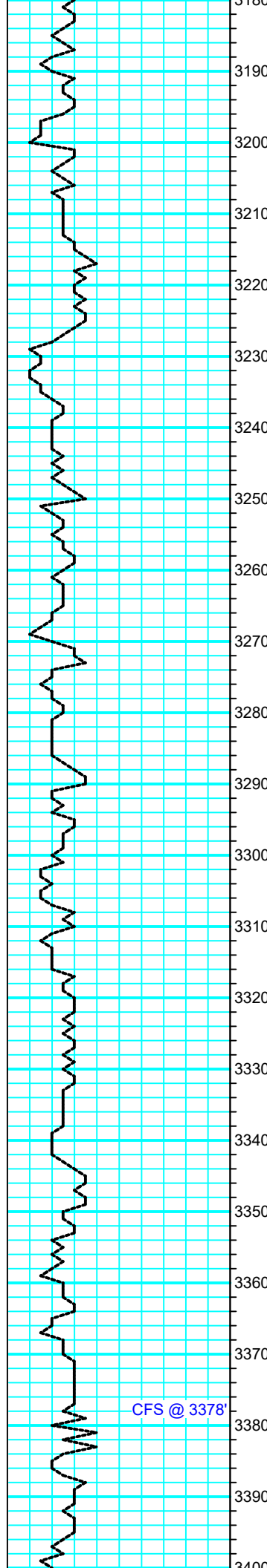
LS: wht-crm, fn-md xln, trng chlky, still mtd. Totally barren, no od.

Sh: Black Carb

Sh: gry w/ brn

LS: wht, v fn xln. Mostly pr por and v dns, totally barren.

LS: wht, fn xln, trng sub xln in prt, scat pr int xln por. All NS, no od.



Sh: gry

LS: wht-tan, fn xln, dns. Scat gry cht.

Sh: Black Carb

Sh: gry

LS: wht, v fn xln. V dns w/ no vis por, scat subxln rx. Scat shp wht and lt gry cht, all NS.

LS: wht, md xln, ool w/ lrg frag foss. Gd int foss and vug por, some chlky in prt. Scat fr lt brn sat stn w/ fr SFO, many barren rx. Fnt-no od.

LS: wht, foss in prt, trng pr por and tight. Fr amt gry-blk foss cht, shp. All NS.

LS: wht, md xln, foss in prt, some mtd. Mostly pr por, scat chlky rx. Scat cht ala, all NS.

Heebner 3266 (-1177)

Sh: Black Carb

Sh: lt grn

Toronto 3287 (-1198)

LS: wht, vfn xln. Mostly pr por and dns, scat subxln rx. Few pcs shp wht cht, all NS.

Sh: drk gry

LKC 3307 (-1218)

LS: wht, fn-md xln. 2-3 pcs ool, pr int ool por, w/ pr-fr stn and spttd SFO, no od. Rest barren.

Sh: brn

LS: wht, fn-vfn xln. Sub xln in prt, trng dns w/ pr por. All NS w/ no od. 1-2 pcs shp wht cht.

Sh: gry

Sh: red-brn, sltly arg

LS: wht-lt tan, fn xln. Mostly pr por w/ NS. 2-3 rx w/ sltly dolomitic, fr intxln por, w/ fr sat stn and spttd SFO, no od.

Sh: gry

LS: wht, mostly fn-vfn xln, subxln-chlky w/ NS. Few rx w/ fr intxln por, lt brn stn, fr SFO, fr od.

CFS @ 3378'

Sh: Black Carb

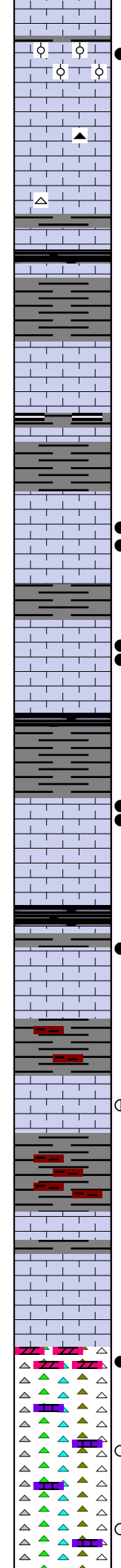
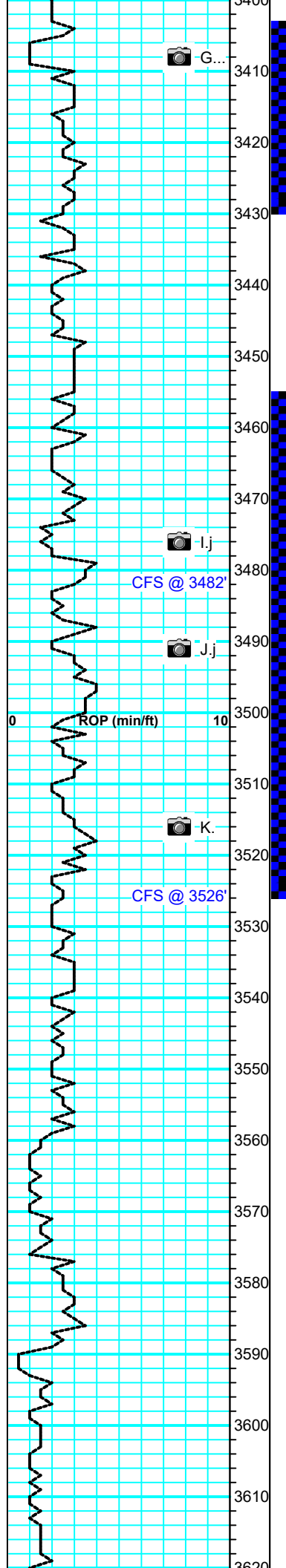
Sh: gry

LS: tan-wht, md xln. Scat foss, pr por and dns, NS.

Sh: gry

LS: wht, md xln, frag foss. 3-4 rx w/ gd vug and int foss

Vis: 43 Wt: 8.9
 DST #1
 3403-3430
 15-15-5-0
 I.F. - Tool slid 30' to bottom, weak blow. 1/2". Flush. no



LS: wht, md xln, frag foss. 3-4 rx w/ gd vug and int foss por, gd lt brn stn w/ spttd SFO, fr-gd od.

LS: wht, md xln, ool. Gd ooc pr, scat gd vugs. Fr-gd sat stn w/ gd SFO, fr-gd od.

LS: wht, fn-md xln. Scat frag foss, all pr por and dns. Few rx w/ stn, poss carry from above, no od. Scat tan and wht cht.

Sh: Black Carb

Sh: lt gry
Sh: gry

LS: wht, some crm. Mostly fn-vfn xln, and no vis por, dns. Scat subxln rx, all NS, no od.

Sh: drk gry-blk
Sh: gry

LS: tan-wht, md xln, foss in prt, some frag. Gd int foss por w/ scat sml vugs, gd-vgd sat stn w/ gd SFO, fr-gd od.

Sh: gry

LS: wht-lt tan, fn-md xln. 2-3 rx w/ fr ooc por, rest fr-gd intxln por, poss frac, friable. Gd lt brn sat stn w/ gd SFO, gd od.

Sh: Black Carb

Sh: gry

LS: tan-wht, md xln, foss in prt, sltly dolomitic, fr amt pyt flakes. Gd int foss/xln por, scat sml vugs, gd sat stn w/ gd SFO, gd od.

Sh: Black Carb

LS: wht-tan, frag foss. Scat fr-gd int foss and vug por w/ gd sat stn and gd SFO, poss carry from "K", fr-gd **BKC 3543 (-1454)**

Sh: gry w/ brn

LS: wht, md xln, foss w/ ool. Scat int ool por w/ chlky mtx. Few rx w/ fr stn and spttd SFO, carrying lt od.

Sh: brn w/ gry

LS: wht, md xln, ool. Pr por w/ NS, scat subxln rx.

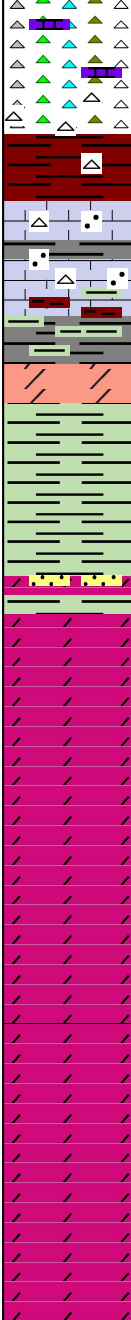
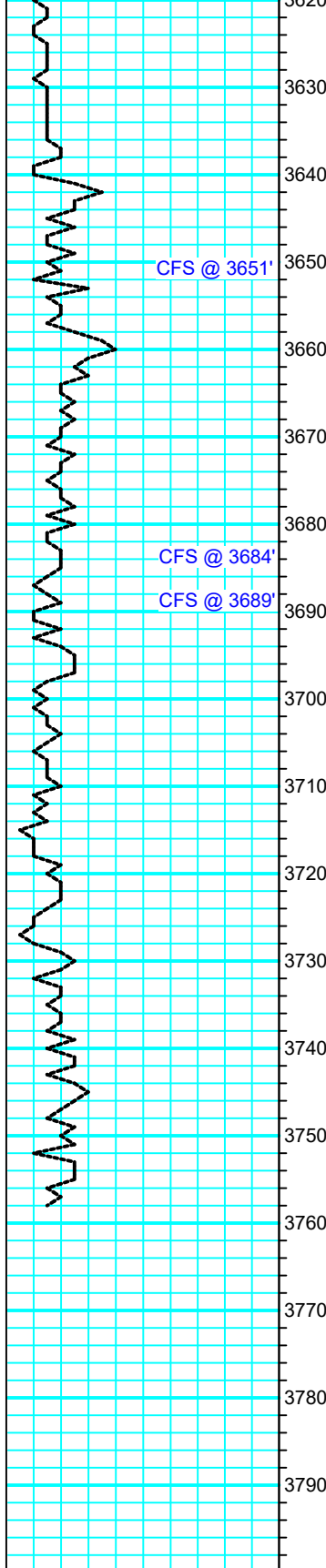
Abnt multi-color shp cht, tan, yel, wht, org, w/ NS. Scat-fr amt chty suc dolom, gd int xln por, v gd-total sat, gd SFO, fr od. Free oil on cup.

Abnt cht ala, scat pr stn and spttd SFO in suc rx. Scat chlky wht LS w/ NS, no od.

Mostly ala.

help
F.F. - dead
IFP: 89-80
FFP: 91-86
SIP: 490
HP: 1664-1626
Rec:
163' mud
BHT: 103
*Tool plugged throughout much of I.F.. Decision made to drill to lower LKC.

Vis: 50 Wt: 8.9
DST #2
3455-3526
30-30-45-45
I.F. - 1"
F.F. - 4 1/2"
IFP: 35-41
FFP: 52-69
SIP: 497-493
HP: 1722-1642
Rec:
63' GIP
63' SGOCM (2%g, 30%o)
63' OCM (30%o)
BHT: 103



Some ala, trng mostly red-brn sh, arg in prt.

Fr amt brn sh, trng lt grn-tourq. Scat SS clust, wht-clr w/ wht mtx. Well round, pr-fr sort, Fr int gran por, frly tight, barren. Much cht ala.

Sh: brn w/ scat lt grn-tourq

Simpson Dolomite 3658 (-1569)

Dolo: tan-wht, fn-md suc xln. Pr por and dns, totally barren, no od.

Sh: tourq, waxy

Arbuckle 3684 (-1595)

Dolo: tan-brn, fn-md suc xln, scat rhombs. Mostly pr por and tight, 2-3 rx w/ pr stn and pr spttd SFO, hvy, lt od. 1-2 SS clust, clr, md-crs grain, frosted. Sub-ang, fr-well sort, well cemented. Fr sat w/ fr-gd SFO. Trng fr-gd int xln and vug por, 1-2 rx w/ pr stn and spttd SFO, 98% barren, lt od.

Dolo: tan, fn-md suc xln, few sml rhombs. Scat gd intxln and vug por, many tight rx, fr amt chlky. 1-2 pcs w/ hvy SFO in por, pr sat, fnt-no od. Fr amt shp wht cht, ool in prt.

Dolo: tan-wht, md suc xln, scat sml-md rhombs. Scat v gd vug por, totally barren. Trng pr por and dns, tight. Scat-fr amt shp wht cht.

Dolo: trng org-salmon, md rhom xln, mostly pr por and tight. Totally barren, no od.

RTD: 3758 (-1669)



DRILL STEM TEST REPORT

Prepared For: **Mikol Oil LLC**

2094 280th Ave
Hays, KS 67601

ATTN: Marc Downing

Brumitt #4-33

33-10s-17w Rooks,KS

Start Date: 2018.07.13 @ 12:50:01

End Date: 2018.07.13 @ 18:14:30

Job Ticket #: 64456 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.07.16 @ 15:45:36



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mkol Oil LLC
2094 280th Ave
Hays, KS 67601
ATTN: Marc Downing

33-10s-17w Rooks,KS
Brumitt #4-33
Job Ticket: 64456 **DST#: 1**
Test Start: 2018.07.13 @ 12:50:01

GENERAL INFORMATION:

Formation: **LKC "G"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:17:40
Time Test Ended: 18:14:30
Interval: **3403.00 ft (KB) To 3430.00 ft (KB) (TVD)**
Total Depth: 3430.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Cade Gerhard
Unit No: 65
Reference Elevations: 2089.00 ft (KB)
2081.00 ft (CF)
KB to GR/CF: 8.00 ft

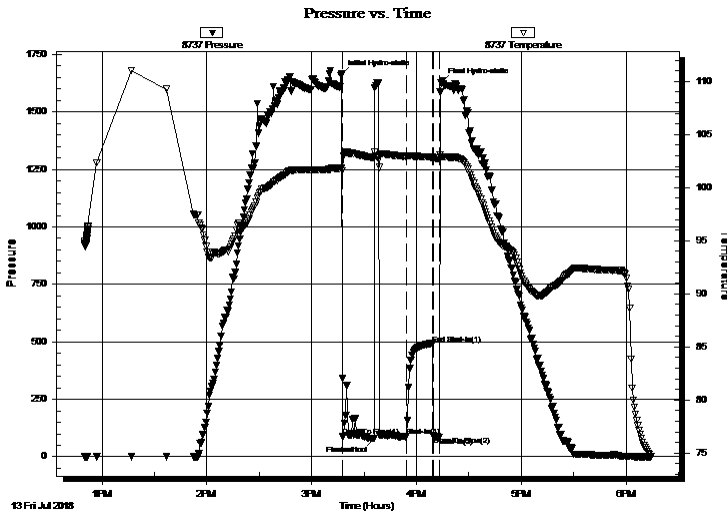
Serial #: 8737

Outside

Press@RunDepth: 89.19 psig @ 3404.00 ft (KB)
Start Date: 2018.07.13 End Date: 2018.07.13
Start Time: 12:50:01 End Time: 18:14:30
Capacity: 8000.00 psig
Last Calib.: 2018.07.13
Time On Btm: 2018.07.13 @ 15:17:00
Time Off Btm: 2018.07.13 @ 16:14:10

TEST COMMENT: IF-Weak blow ; built to 1/2"
ISI-No blow back
FF-Pulled Test
FSI-

PRESSURE SUMMARY



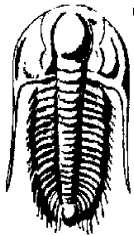
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1664.12	101.84	Initial Hydro-static
1	89.34	101.55	Open To Flow (1)
19	79.56	102.79	Flushed tool
38	89.19	102.94	Shut-In(1)
53	489.97	102.86	End Shut-In(1)
53	90.73	102.62	Open To Flow (2)
57	85.84	102.76	Shut-In(2)
58	1626.20	102.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
163.00	M 100%M	

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mkol Oil LLC
2094 280th Ave
Hays, KS 67601
ATTN: Marc Downing

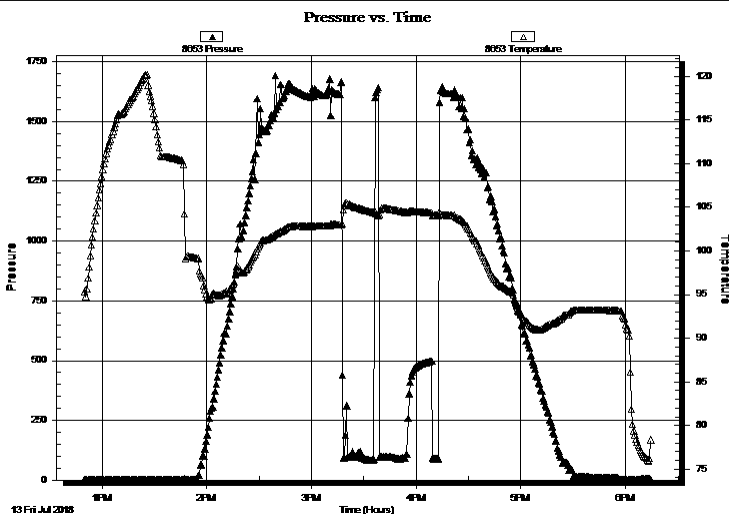
33-10s-17w Rooks,KS
Brumitt #4-33
Job Ticket: 64456 **DST#: 1**
Test Start: 2018.07.13 @ 12:50:01

GENERAL INFORMATION:

Formation:	LKC "G"		
Deviated:	No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened:	15:17:40		Tester: Cade Gerhard
Time Test Ended:	18:14:30		Unit No: 65
Interval:	3403.00 ft (KB) To 3430.00 ft (KB) (TVD)	Reference Elevations:	2089.00 ft (KB)
Total Depth:	3430.00 ft (KB) (TVD)		2081.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	Fair
		KB to GR/CF:	8.00 ft

Serial #: 8653	Inside		
Press@RunDepth:	psig @ 3404.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2018.07.13	End Date:	2018.07.13
Start Time:	12:50:01	End Time:	18:14:31
		Time On Btm:	
		Time Off Btm:	

TEST COMMENT: IF-Weak blow ; built to 1/2"
ISI-No blow back
FF-Pulled Test
FSI-



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
163.00	M 100%M	

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mkol Oil LLC
2094 280th Ave
Hays, KS 67601
ATTN: Marc Downing

33-10s-17w Rooks,KS
Brumitt #4-33
Job Ticket: 64456 **DST#: 1**
Test Start: 2018.07.13 @ 12:50:01

Tool Information

Drill Pipe:	Length: 3409.00 ft	Diameter: 3.82 inches	Volume: 48.32 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 252.00 ft	Diameter: inches	Volume: 2447985 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 2447985 bbl</u>	Tool Chased 16.00 ft
Drill Pipe Above KB:	282.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3403.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3380.00	
Shut In Tool	5.00			3385.00	
Hydraulic tool	5.00			3390.00	
EM Tool	4.00			3394.00	
Packer	5.00			3399.00	24.00 Bottom Of Top Packer
Packer	4.00			3403.00	
Stubb	1.00			3404.00	
Recorder	0.00	8653	Inside	3404.00	
Recorder	0.00	8737	Outside	3404.00	
Perforations	23.00			3427.00	
Bullnose	3.00			3430.00	27.00 Bottom Packers & Anchor

Total Tool Length: 51.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mkol Oil LLC
2094 280th Ave
Hays, KS 67601
ATTN: Marc Downing

33-10s-17w Rooks,KS
Brumitt #4-33
Job Ticket: 64456 **DST#: 1**
Test Start: 2018.07.13 @ 12:50:01

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: 43.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.77 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: inches			

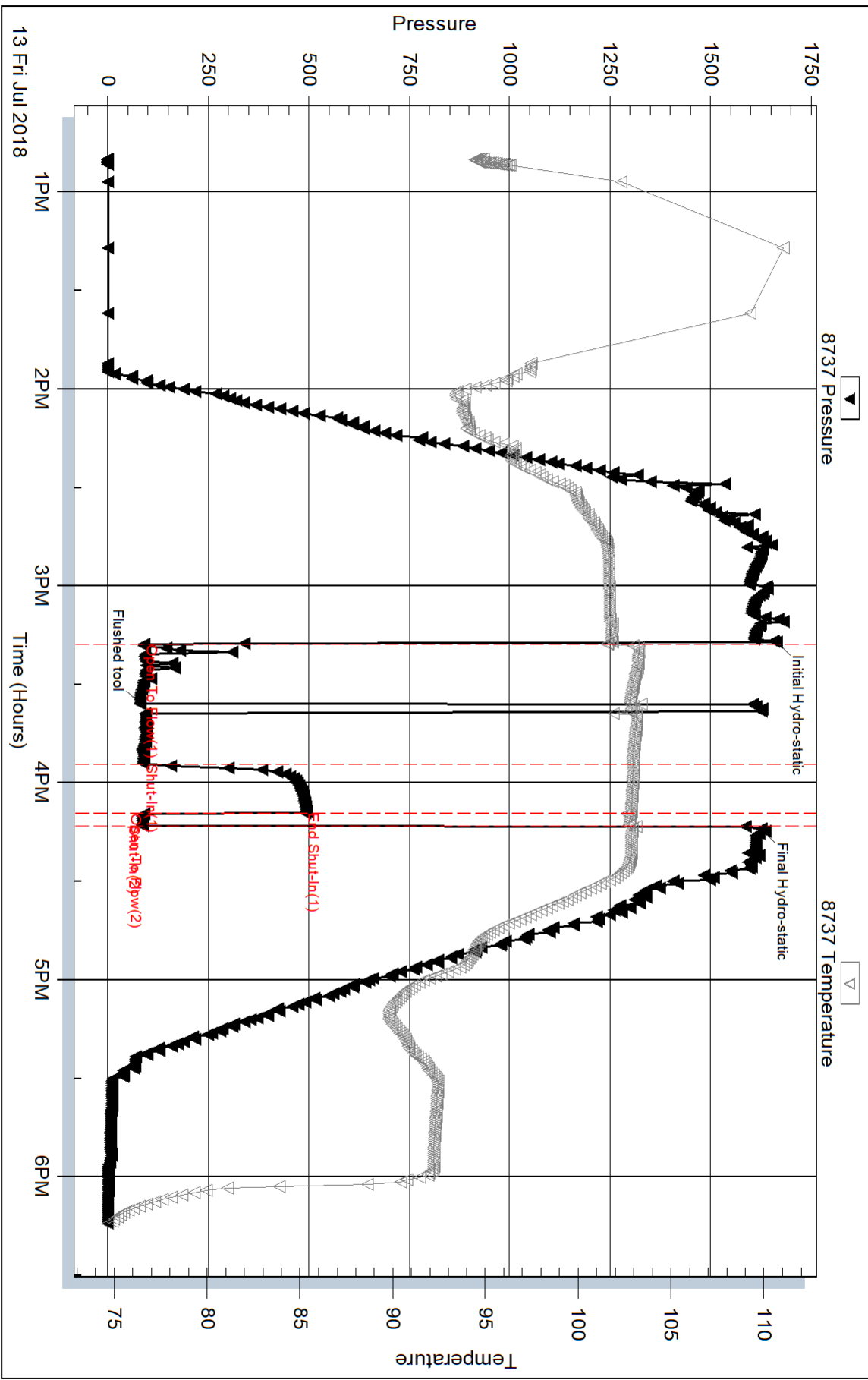
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
163.00	M 100%M	

Total Length: 163.00 ft Total Volume: bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: LCM- 2#

Pressure vs. Time



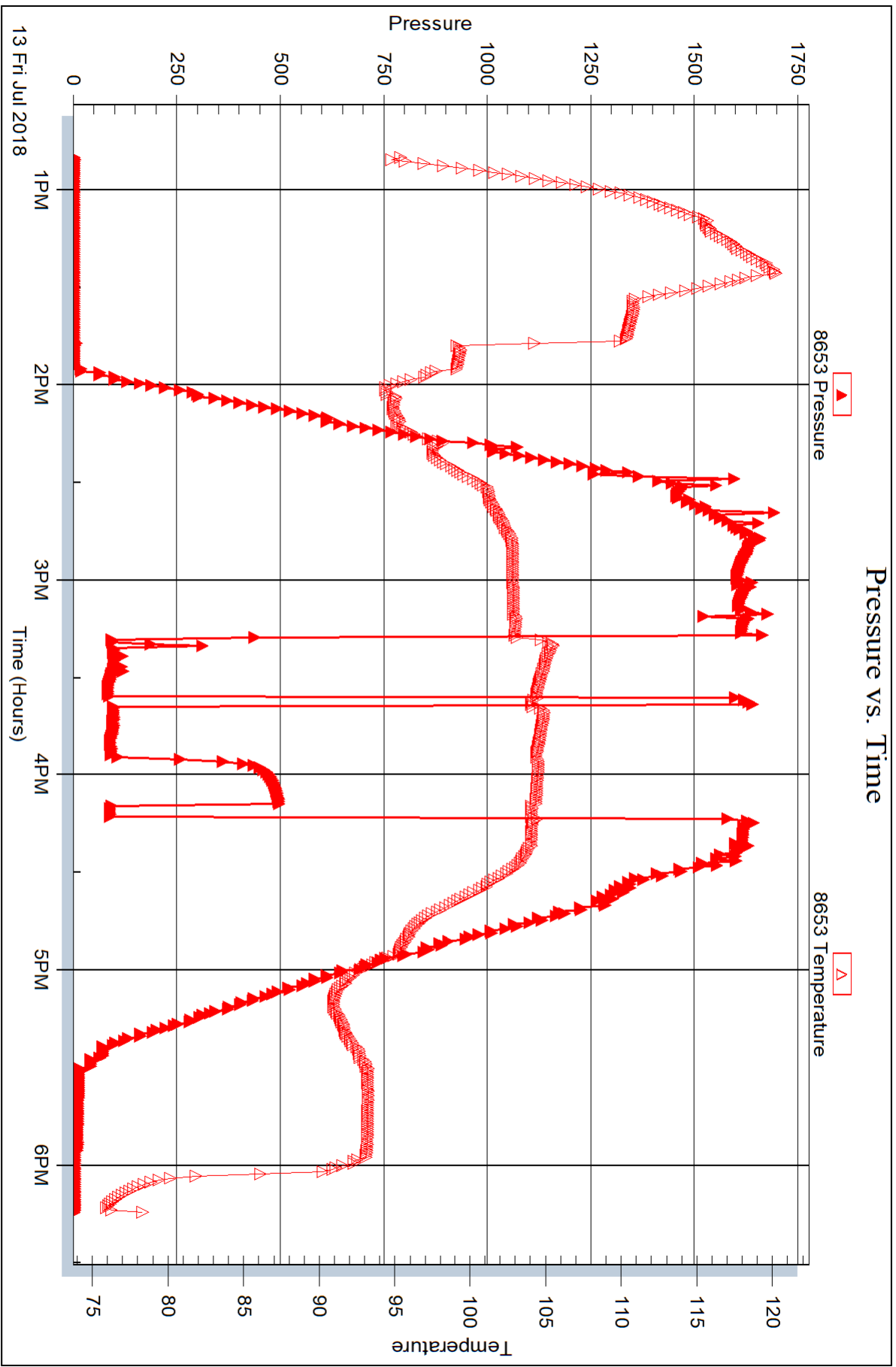
Serial #: 8653

Inside

Mkol Oil LLC

Burnt# 4-33

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Mikol Oil LLC**

2094 280th Ave
Hays, KS 67601

ATTN: Marc Downing

Brumitt #4-33

33-10s-17w Rooks,KS

Start Date: 2018.07.14 @ 04:45:00

End Date: 2018.07.14 @ 10:22:47

Job Ticket #: 64457 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.07.16 @ 15:45:12

Mikol Oil LLC
33-10s-17w Rooks,KS
Brumitt #4-33
DST # 2
LKC "I-K"
2018.07.14



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mkol Oil LLC
 2094 280th Ave
 Hays, KS 67601
 ATTN: Marc Downing

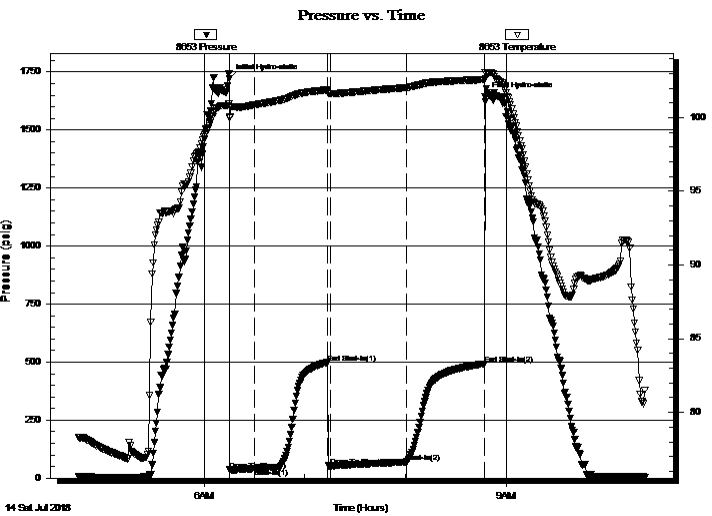
33-10s-17w Rooks,KS
Brumitt #4-33
 Job Ticket: 64457 **DST#: 2**
 Test Start: 2018.07.14 @ 04:45:00

GENERAL INFORMATION:

Formation: **LKC "I-K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 06:15:12 Tester: Cade Gerhard
 Time Test Ended: 10:22:47 Unit No: 65
 Interval: **3455.00 ft (KB) To 3526.00 ft (KB) (TVD)** Reference Elevations: 2089.00 ft (KB)
 Total Depth: 3526.00 ft (KB) (TVD) 2081.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8653 Inside
 Press@RunDepth: 69.91 psig @ 3458.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.07.14 End Date: 2018.07.14 Last Calib.: 2018.07.14
 Start Time: 04:45:01 End Time: 10:22:48 Time On Btm: 2018.07.14 @ 06:15:02
 Time Off Btm: 2018.07.14 @ 08:47:23

TEST COMMENT: IF-30- Weak surface blow ; Built to 9/10"
 IS-30- No blow back
 FF-45- Fair blow ; Built to 4 1/2"
 FS-45- No blow back



PRESSURE SUMMARY

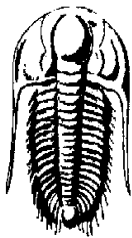
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1721.87	100.95	Initial Hydro-static
1	35.73	99.99	Open To Flow (1)
16	41.66	100.86	Shut-In(1)
59	496.93	101.88	End Shut-In(1)
60	52.58	101.61	Open To Flow (2)
106	69.91	102.03	Shut-In(2)
153	492.79	102.58	End Shut-In(2)
153	1641.83	103.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	SGOCM 2%G 30%O 68%M	0.46
63.00	OCM 30%O 70%M	0.46
0.00	63' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mkol Oil LLC
 2094 280th Ave
 Hays, KS 67601
 ATTN: Marc Downing

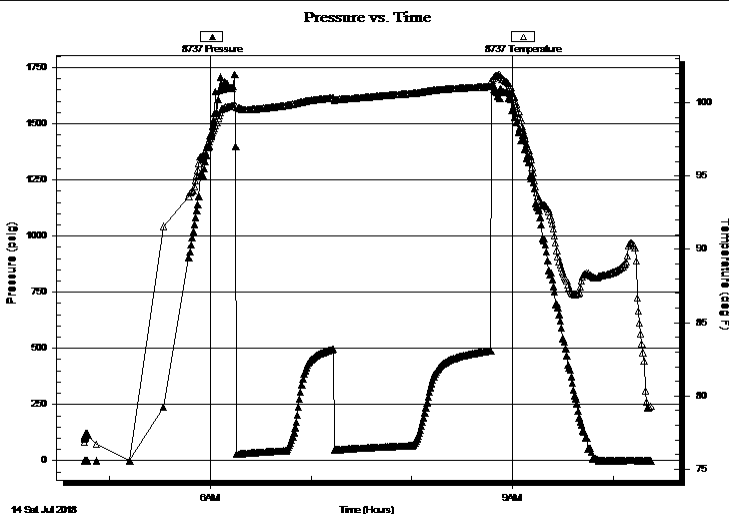
33-10s-17w Rooks,KS
Brumitt #4-33
 Job Ticket: 64457 **DST#: 2**
 Test Start: 2018.07.14 @ 04:45:00

GENERAL INFORMATION:

Formation: **LKC "I-K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 06:15:12 Tester: Cade Gerhard
 Time Test Ended: 10:22:47 Unit No: 65
 Interval: **3455.00 ft (KB) To 3526.00 ft (KB) (TVD)** Reference Elevations: 2089.00 ft (KB)
 Total Depth: 3526.00 ft (KB) (TVD) 2081.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8737 Outside
 Press@RunDepth: psig @ 3458.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.07.14 End Date: 2018.07.14 Last Calib.: 2018.07.14
 Start Time: 04:45:01 End Time: 10:22:40 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-30- Weak surface blow ; Built to 9/10"
 ISI-30- No blow back
 FF-45- Fair blow ; Built to 4 1/2"
 FSI-45- No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
63.00	SGOCM 2%G 30%O 68%M	0.46
63.00	OCM 30%O 70%M	0.46
0.00	63' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Mkol Oil LLC
2094 280th Ave
Hays, KS 67601
ATTN: Marc Downing

33-10s-17w Rooks,KS
Brumitt #4-33
Job Ticket: 64457 **DST#: 2**
Test Start: 2018.07.14 @ 04:45:00

Tool Information

Drill Pipe:	Length: 3191.00 ft	Diameter: 3.82 inches	Volume: 45.23 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 252.00 ft	Diameter: 2.75 inches	Volume: 1.85 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 47.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3455.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	71.00 ft			
Tool Length:	91.00 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			3436.00	
Shut In Tool	5.00			3441.00	
Hydraulic tool	5.00			3446.00	
Packer	5.00			3451.00	20.00 Bottom Of Top Packer
Packer	4.00			3455.00	
Stubb	1.00			3456.00	
Perforations	2.00			3458.00	
Recorder	0.00	8653	Inside	3458.00	
Recorder	0.00	8737	Outside	3458.00	
Change Over Sub	1.00			3459.00	
Drill Pipe	63.00			3522.00	
Change Over Sub	1.00			3523.00	
Bullnose	3.00			3526.00	71.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Mkol Oil LLC
2094 280th Ave
Hays, KS 67601
ATTN: Marc Downing

33-10s-17w Rooks,KS
Brumitt #4-33
Job Ticket: 64457 **DST#: 2**
Test Start: 2018.07.14 @ 04:45:00

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	SGOCM 2%G 30%O 68%M	0.463
63.00	OCM 30%O 70%M	0.463
0.00	63' GIP	0.000

Total Length: 126.00 ft Total Volume: 0.926 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: LCM- 2#

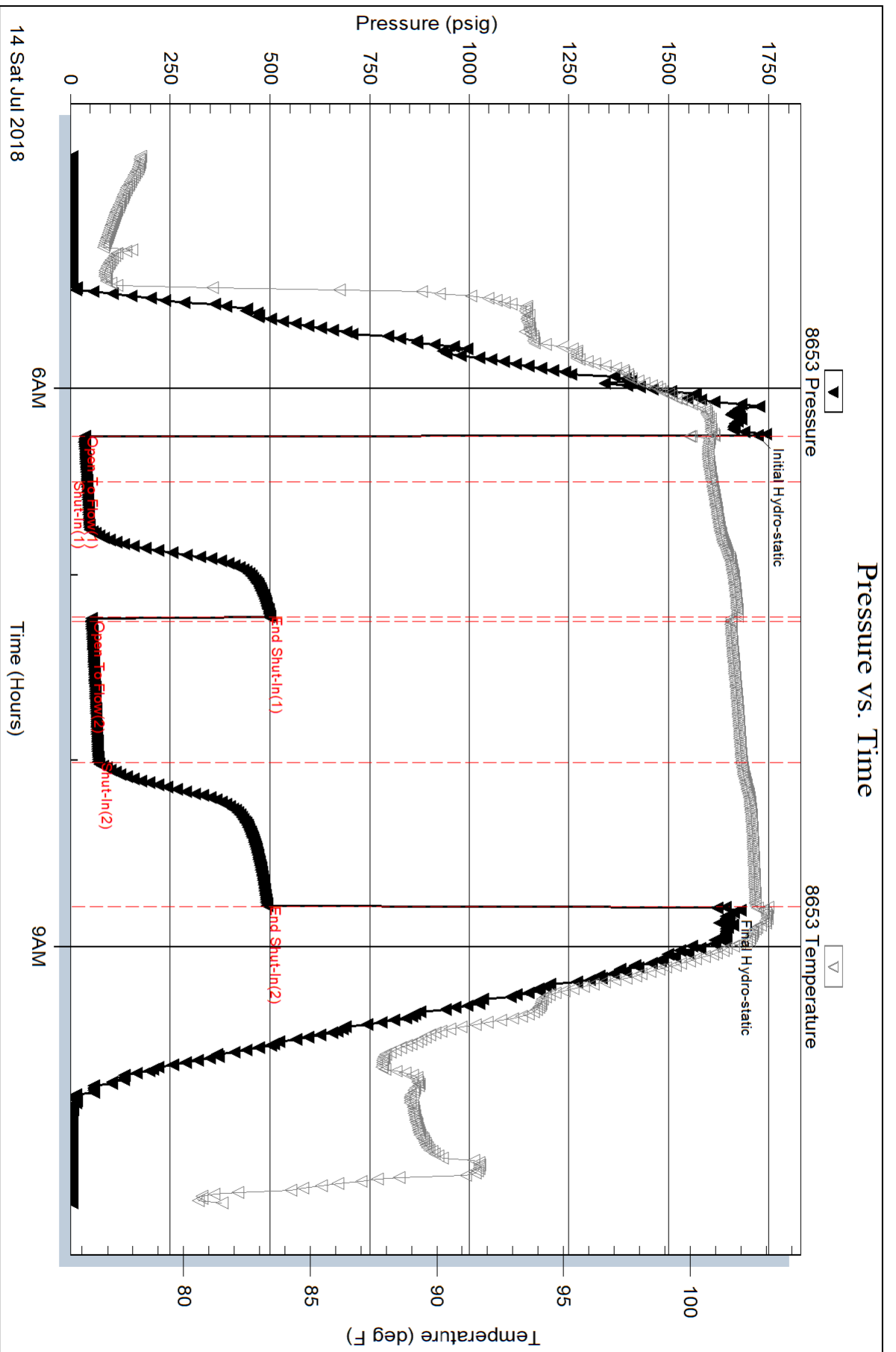
Serial #: 8653

Inside

Mikol Oil LLC

Burnt# 4-33

DST Test Number: 2

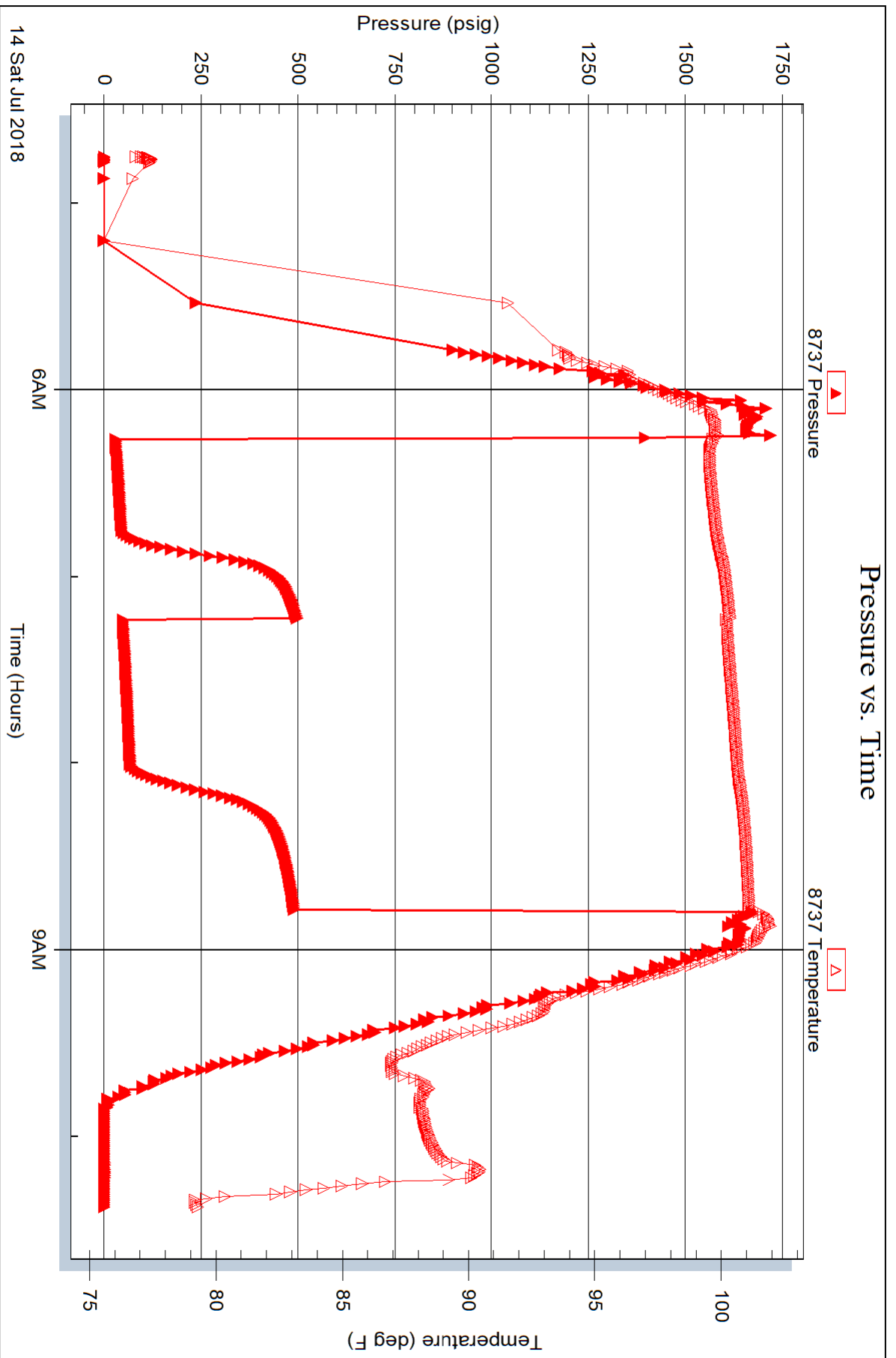


Serial #: 8737

Outside Mikol Oil LLC

Burnt# 4-33

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64456

Well Name & No. Baumitt #4-33 Test No. 1 Date 7-13-18
 Company Mikol Oil LLC Elevation 2089 KB 2081 GL
 Address 2094 290th AVE Hays, KS 67601
 Co. Rep / Geo. Mark Downing Rig Discovery #2
 Location: Sec. 33 Twp 10^s Rge. 17^w Co. Rooks State Ks

Interval Tested 3403-3430 Zone Tested CKC-"G"
 Anchor Length 27' Drill Pipe Run ~~3387~~ 3409 Mud Wt. 8.9
 Top Packer Depth 3398 Drill Collars Run — Vis 43
 Bottom Packer Depth 3403 Wt. Pipe Run 252' WL 9.8
 Total Depth 3430 Chlorides 7000 ppm System LCM ZH
 Blow Description IF - Weak blow; 1/2"; Flush; No help
IST - No blow back
FF - ~~No blow~~ No blow
FST

Rec	Feet of	%gas	%oil	%water	%mud
<u>163</u>	<u>m</u>			<u>100%</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 163' BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1664 Test 1050 T-On Location 11:30
 (B) First Initial Flow 89 Jars _____ T-Started 12:50
 (C) First Final Flow 8.9 Safety Joint _____ T-Open 13:25
 (D) Initial Shut-In ~~89~~ 489 Circ Sub _____ T-Pulled 16:00
 (E) Second Initial Flow 90 Hourly Standby _____ T-Out 18:14
 (F) Second Final Flow 85 Mileage SIRT 51 Comments Foot pulled
 (G) Final Shut-In 489 Sampler _____ Tool slid 168'
 (H) Final Hydrostatic 1626 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 15 Extra Packer _____
 Initial Shut-In 15 Extra Recorder _____
 Final Flow Pulled Test Day Standby _____ Sub Total 0
 Final Shut-In _____ Accessibility _____ Total 1101
 Sub Total 1101 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]
 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64457

Well Name & No. Brumitt #4-33 Test No. 2 Date 7-14-18
 Company Mikal Oil Elevation 2089 KB 2081 GL
 Address 2094 280th AVE Hays, KS 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #2
 Location: Sec. 33 Twp 10^S Rge. 17^W Co. ROOKS State KS

Interval Tested 3455-3526 Zone Tested LKC-I-K
 Anchor Length 71' Drill Pipe Run ~~3113~~ 3191 Mud Wt. 8.9
 Top Packer Depth 3450 Drill Collars Run - Vls 50
 Bottom Packer Depth 3455 Wt. Pipe Run 252' WL 9.8
 Total Depth 3526 Chlorides 7000 ppm System LCM 2#

Blow Description IF - Weak surface blow; Built to 9/10"
ESI - No blowback
FF - Fair blow; built to 4 1/2"
KSI - No blowback

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>560cm</u>	<u>2</u>	<u>30</u>	<u>68</u>	<u>0</u>
<u>63</u>	<u>0cm</u>	<u>30</u>	<u>30</u>	<u>70</u>	<u>0</u>
<u>63</u>	<u>63' GIP</u>				
<u> </u>	<u> </u>				
<u> </u>	<u> </u>				

Rec Total ~~126~~ 126' BHT 102 Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 1721 Test 1050 T-On Location 04:33
 (B) First Initial Flow 35 Jars T-Started 04:45
 (C) First Final Flow 41 Safety Joint T-Open 06:15
 (D) Initial Shut-In 496 Circ Sub T-Pulled 08:45
 (E) Second Initial Flow 52 Hourly Standby T-Out 10:22
 (F) Second Final Flow 69 Mileage SIRT X2 102 Comments Tool slid 8ft
 (G) Final Shut-In 492 Sampler
 (H) Final Hydrostatic 1641 Straddle loaded tools 22:45 7/14
 Ruined Shale Packer
 Ruined Packer
 Extra Copies

Initial Open 30 Extra Packer
 Initial Shut-In 30 Extra Recorder Sub Total 0
 Final Flow 45 Day Standby Total 1152
 Final Shut-In 45 Accessibility MP/DST Disc't
 Sub Total 1152

Approved By Our Representative Cade Carsted

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
Cell 785-324-1041

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

No. 864

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-10-18	33	10	17	Rooks Rooks	KS		2:00 p.m.
Lease Bromitt				Well No. 4-33		Owner	
Contractor Discovery #2				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				Charge To Mikol oil			
Hole Size 12 1/4		T.D. 219		Street			
Csg. 8 5/8		Depth 218		City			
Tbg. Size		Depth		State			
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Cement Left in Csg. 10'		Shoe Joint		Cement Amount Ordered 150 8/20 3 1/2 CC 7-6-12			
Meas Line		Displace 13 BCL		Common 130			
EQUIPMENT				Poz. Mix 30			
Pumptrk 5 No.		Cementer raig		Gel. 3			
		Helper		Calcium 6			
Bulktrk		Driver Brett		Hulls			
Bulktrk 15 No.		Driver Doug		Salt			
JOB SERVICES & REMARKS				Flowseal			
Remarks:				Kol-Seal			
Rat Hole				Mud CLR 48			
Mouse Hole				CFL-117 or CD110 CAF 38			
Centralizers				Sand			
Baskets				Handling 159			
D/V or Port Collar				Mileage			
8 5/8 on bottom Est. Circulation				FLOAT EQUIPMENT			
Mix 150 SIC + Displace				Guide Shoe			
Cement Circulation				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge Surface			
				Mileage 28			
				Tax			
				Discount			
				Total Charge			
Signature Jan w. Bell							

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. 495

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-15-18	33	10	17	Rooks	KS		8:45 PM

Location *Codell w 120 35*

Lease	Well No.	Owner	
<i>Brumitt</i>	<i>4-33</i>	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	Type Job	Charge To	
<i>Discovery #2</i>	<i>Production String</i>	<i>Mikol 0:1</i>	
Hole Size	T.D.	Street	
<i>7 7/8</i>			
Csg.	Depth	City	
<i>5 1/2</i>	<i>3754</i>	State	
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
	<i>1335'</i>		
Tool	Shoe Joint	Cement Amount Ordered	
<i>Port Collar</i>	<i>23'</i>	<i>180 com 10% salt 5% Gilsenite</i>	
Cement Left in Csg.	Displace	<i>1% CFR-110</i>	
<i>23'</i>	<i>88 3/4 bbl</i>		

EQUIPMENT

Pumptrk	No.	Cementor	Common
<i>17</i>		<i>Helper Brett</i>	<i>180</i>
Bulktrk	No.	Driver	Poz. Mix
<i>15</i>		<i>Driver David</i>	
Bulktrk	No.	Driver	Gel.
		<i>Driver Doug</i>	

JOB SERVICES & REMARKS

Remarks:	Calcium
Rat Hole - <i>30gx</i>	<i>CFR-2 130 #</i>
Mouse Hole - <i>15gx</i>	<i>HCL 2 gal</i>
Centralizers <i>1, 3, 5, 6, 7, 8, 9, 11 + 58</i>	<i>Salt 15</i>
Baskets - <i>11 + 58</i>	Flowseal
Port Collar <i>J + 58</i>	Kol-Seal <i>750 #</i>
<i>Ran 3754' 5 1/2 + Est circulation</i>	Mud CLR 48 - <i>500 gal</i>
<i>Plugged Rat + Mouse</i>	CFL-117 or CD110 CAF 38 - <i>20 bbl KCL</i>
<i>Mix 135gx down 5 1/2</i>	Sand
<i>Displaced 88 3/4 bbl H₂O 1st 10 bbl</i>	Handling <i>202</i>
<i>KCL</i>	Mileage <i>5 1/2</i>
<i>Life pressure @ 600 lbs</i>	Guide Shoe <i>1 Port collar</i>
<i>Landed plug @ 1500 lbs</i>	Centralizer - <i>9</i>
<i>Plug held</i>	Baskets - <i>2</i>
	AFU Inserts
	Float Shoe - <i>1</i>
	Latch Down - <i>1</i>
	Limit clamp <i>1</i>
	Pumptrk Charge <i>prod string</i>
	Mileage <i>33</i>

FLOAT EQUIPMENT

Signature	Tax
<i>Jh Ford</i>	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. 527

Date	8-6-18	Sec.	33	Twp.	10	Range	17	County	Rooks	State	Kansas	On Location		Finish	11:30 AM
------	--------	------	----	------	----	-------	----	--------	-------	-------	--------	-------------	--	--------	----------

Location Codell W to 22nd 38 Winto

Lease	<u>BRUMITT</u>	Well No.	<u>4-33</u>	Owner	To Quality Oilwell Cementing, Inc.
Contractor	<u>SCOTT SERVICES</u>	Type Job	<u>PORT COLLAR (CIRCULATE CEMENT)</u>	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		T.D.		Charge To	<u>MIXOL OIL</u>
Csg.	<u>5 1/2</u>	Depth		Street	
Tbg. Size	<u>2 3/8</u>	Depth		City	

Tool	<u>PORT COLLAR @</u>	Depth	<u>1330'</u>	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	<u>0-</u>	Shoe Joint		Cement Amount Ordered	<u>200 SX 80/20 QMDC 1/4 F10</u>
Meas Line		Displace	<u>5.15</u>	<u>(DID NOT USE 5 GEL ON SIDE (USED 150 SX))</u>	

EQUIPMENT

Pumptrk	<u>16</u>	No.		Cement		Helper	<u>BLANK DAVID JACK</u>	Poz. Mix	
Bulktrk	<u>14</u>	No.		Driver		Driver		Gel.	
Bulktrk		No.		Driver		Driver		Calcium	

JOB SERVICES & REMARKS

Remarks:		Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	<u>50#</u>
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
		Sand	

PORT COLLAR @ 1330'
PRESSURE CSG. + PC TO 800# (HELD)
OPEN PC. + RECEIVED VERY GOOD CIRCULATION
MIXED 140 SX QMDC 1/4# FB-SEAL AND
CEMENT CIRC TO SURFACE - DISPLACE
4 BBL CLOSE PC. + CHECK TO 800# (HELD)
RAN 5 JTS TUBING & WASHED
CLEAN SHORT WAY - 18 BBL TOTAL

Handling	<u>200</u>
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

★ CEMENT DID CIRCULATE
STATE REPR KCC. PAT PABORA
ON LOCATION

THANKS

Pumptrk Charge	<u>port collar</u>
Mileage	<u>33</u>

X Signature Jm L Paul

Tax	
Discount	
Total Charge	

*Total Water Volume sources may include fresh water, produced water, and/or recycled water. **Information is based on the maximum potential for concentration and thus the total may be over 100%.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers' Material Safety Data Sheets (MSDS).