

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
--	---

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
---	---	------------------------------------

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:	
----------------	-------	---------	------------	--

Form	ACO1 - Well Completion
Operator	Richland Oil Investments, LLC
Well Name	MOORE 22-3
Doc ID	1469712

Tops

Name	Top	Datum
Anhydrite	2590	+518
Anhdrite Base	2612	+496
Heebner	4012	-904
Toronto	4036	-928
Lansing	4056	-948
BKC	4341	-1233
Marmaton	4356	-1248
Cherokee	4562	-1454
Johnson	4606	-1498
Morrow Sh	4644	-1536
Morrow Sst	4658	-1550
Mississippian	4702	-1594

GLOBAL OIL FIELD SERVICES, LLC

13776

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE <u>7-23-14</u>	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>7:43 PM</u>
LEASE <u>Moore</u>	WELL #. <u>22-3</u>	LOCATION <u>9 1/2 miles NW of Russell, KS</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE) <u>NEW</u>							

CONTRACTOR Sunshine Drill & Rigging

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 225'

CASING SIZE 8 3/4 DEPTH 274'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 25'

PERFS

DISPLACEMENT

OWNER Richland Oil

CEMENT AMOUNT ORDERED 150 sacks @ 3000

29601

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

HANDLING @

MILEAGE @

TOTAL

EQUIPMENT

PUMP TRUCK CEMENTER Cody

409 HELPER Mark

BULK TRUCK

312 DRIVER Eddie

BULK TRUCK

DRIVER

REMARKS:

Ran 5' of 8 3/4 casing hooked to Rig
1 bulk cementer + hooked to truck + pumped
150 sacks of cement + displaced 12 1/2 bbls
cut H2O + shut in.

Cement Drill Casing to Surface

CHARGE TO: Richland Oil

STREET

CITY STATE ZIP

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

PLUG & FLOAT EQUIPMENT

@

@

@

@

TOTAL

Global Oil Field Services, LLC

You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Doug Roberts

SIGNATURE Douglas W Roberts

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

GLOBAL OIL FIELD SERVICES, LLC

13781

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE <u>8-1-19</u>	SEC. <u>22</u>	TWP. <u>10N</u>	RANGE <u>33W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>4/02/20</u>
LEASE <u>Morse</u>	WELL # <u>22-3</u>	LOCATION <u>7 West 1/2 Sec 22-3 T10N R33W</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE)							

CONTRACTOR Southwind Drilling Rig #8

TYPE OF JOB Plug

HOLE SIZE _____ T.D. 4750'

CASING SIZE _____ DEPTH _____

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS _____

DISPLACEMENT _____

OWNER Richland Oil

CEMENT AMOUNT ORDERED 255SKS @ 60/40 Per 4 1/2 Gal 17 1/2 Gallon Skid

EQUIPMENT

PUMP TRUCK CEMENTER Cody

417 HELPER Jason

BULK TRUCK DRIVER Eddie

473

BULK TRUCK DRIVER _____

COMMON _____ @ _____

POZMIX _____ @ _____

GEL _____ @ _____

CHLORIDE _____ @ _____

ASC _____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

HANDLING _____ @ _____

MILEAGE _____ @ _____

TOTAL _____

REMARKS:

2600' 50SKS

1075 100SKS

275 50SKS

40' 10SKS Wiper plug

Run 30SKS Morse 15SKS

CHARGE TO: Richland Oil

STREET _____

CITY _____ STATE _____ ZIP _____

Global Oil Field Services, LLC
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Dave Roberts

SIGNATURE Dave Roberts

SERVICE

DEPTH OF JOB _____

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE _____ @ _____

MILEAGE _____ @ _____

MANIFOLD _____ @ _____

_____ @ _____

_____ @ _____

TOTAL _____

PLUG & FLOAT EQUIPMENT

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

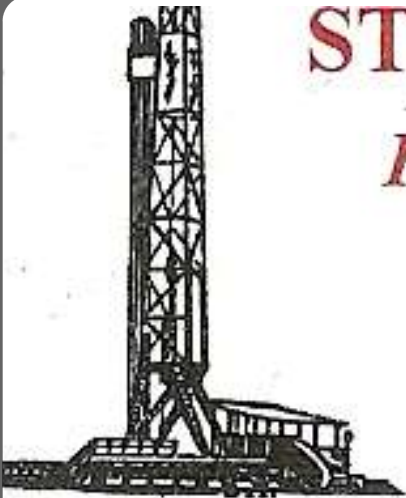
_____ @ _____

TOTAL _____

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS



STEVEN P. MURPHY, P.G.

Petroleum Geologist (KS #228)

RR#1, Box 69

Otis, Kansas 67565

geomurphy@gbta.net

Cell 620.639.3030

Fax 785.387.2400

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

Well Name: Moore #22-3
API: 15-109-21594-00-00

Location: Logan County

License Number: 34099

Spud Date: 7/23/2019

Surface Coordinates: 2270' FSL & 1200' FWL (SE NE NW SW)
Section 22-T12S-R33W

Bottom Hole Same as above, vertical well

Coordinates:

Ground Elevation (ft): 3098'

K.B. Elevation (ft): 3108'

Logged Interval (ft): 3700'

To: 4780'

Total Depth (ft): 4778' KB

Formation: Topeka through Mississippian

Type of Drilling Fluid: Chemical

Region: Kansas

Drilling Completed: 08/01/2019

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

OPERATOR

Company: Richland Oil Investments, LLC
Address: P.O. Box 166
Palco, KS 67657-0166

GEOLOGIST

Name: Steven P. Murphy, PG
Company: Consulting Petroleum Geologist
Address: 2501 Zarah Drive
Great Bend, KS 67530

LogTops (Datum)

Anhydrite Top - 2590 (+518)
Anhydrite Base - 2612 (+496)
Heebner - 4012 (-904)
Toronto - 4036 (-928)
Lansing - 4056 (-948)
Muncie Creek - 4203 (-1095)
Stark - 4283 (-1175)
Hushpuckney - 4319 (-1211)
BKC - 4341 (-1233)
Marmaton - 4356 (-1248)
Pawnee - 4476 (-1368)
Myrick Station - 4518 (-1410)
Ft. Scott - 4535 (-1427)
Cherokee - 4562 (-1454)
Johnson Zone - 4606 (-1498)
Morrow Sh - 4644 (-1536)
Morrow Sst - 4658 (-1550)
Mississippian - 4702 (-1594)

DSTs

Drillstem testing was performed by Mike Roberts with Trilobite Testing (Scott City shop):

DST #1 4604-4650 (Johnson Zone)

30:30:30:30

Rec: 5' SOCM (5%O, 90%M)

IHP: 2385 FHP: 2426

IFP: 33-34 ISIP: 66

FFP: 36-35 FSIP: 47

BHT - 120

DST #2 4644-4680 (Morrow Sst)

30:45:30:60

Rec: 30'SOCM (5%O, 95%M)

IHP: 2273 FHP:2373

IFP: 19-23 ISIP: 586




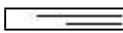
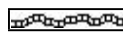
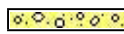

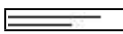
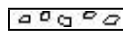

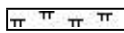

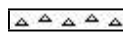


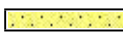


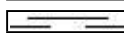

FFP: 26-24 FSIP: 181

BHT - 118

COMMENTS

Based on sample & log analysis and DST results, it was recommended that this well be plugged.

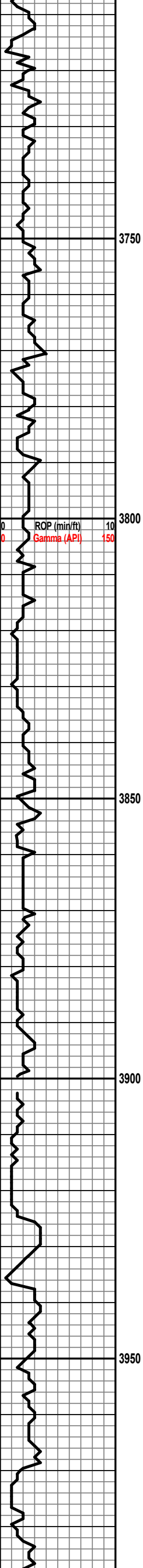
ROCK TYPES

 Anhy	 Coal	 Lmst	 Shcol
 Bent	 Congl	 Meta	 Shgy
 Brec	 Dol	 Mrlst	 Sltst
 Cht	 Gyp	 Salt	 Ss
 Clyst	 Igne	 Shale	 Till

OTHER SYMBOLS

OIL SHOW	 Dead	INTERVAL	EVENT
 Even	 Gas	 Core	 Conn
 Spotted		 Dst	 Rft
 Ques			 Sidewall

	MD	Lithology	Oil Shows	Geological Descriptions	REMARKS
<p>Curve Track 1</p> <p>ROP (min/ft) ———</p> <p>Gamma (API) ———</p>	<p>3650</p> <p>3700</p>				<p>Southwind Rig #8</p> <p>Toolpusher - Doug Roberts</p> <p>MIRU 7/23/2019</p>



LS: cm-tan-gry, fxl, sl foss, dense NS

LS: as above

LS: as above w/blk-gry SH

LS: cm-tan, fxl, dense, chalky, NS

SH: red-gry-gm-blk

SH: as above

LS: cm-gry, mottled, NS (abund SH as above)

Sample not caught

LS: cm-tan, fxl, mostly dense, chalky, NS

LS: tan-gry, vfxl, chalky, dense, NS

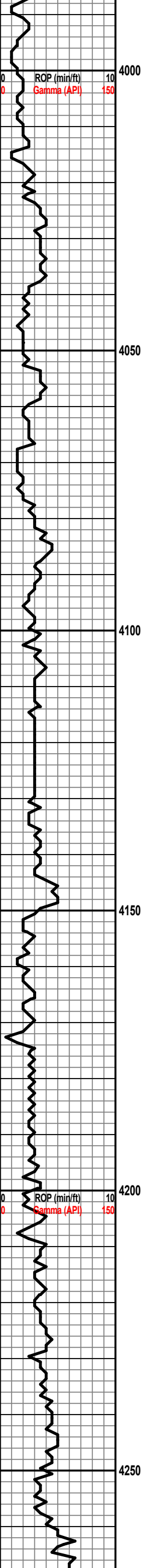
LS: cm-tan-bm, vfxl, dense, sl foss, NS

CFS 30 min @ 3900'

TOH to repair mud pump @ 3900'.

Strap @ 3900' found a 3' mistake long on the board, corrected it was still long 1.48'. Added 4' to this chart.

Deviation Survey @ 3900' - 1/4 degree



SH: blk

LS: cm-tan-gry, fxin, chalky, dense, NS

LS: blk, carb

SH: red-blk, gry, gm

LS: cm-tan, vfxln, foss, dense, NS

SH: gry-red-blk-gm

SH: as above

● LS: cm-tan-gry, fxin, foss, dense, tr blk stn, no odor, NSFO

SH: gry-gm

● LS: wht-tan-gry, fxin, sl foss, dense, tr blk stn, no odor NSFO

SH: blk-bm-gry

● LS: wht-tan-gry, fxin, chalky, sl ool, dense, spotty blk stn, sl odor, NSFO

LS: wht-tan-gry, vfxln, dense, chalky, NS

LS: as above

SH: gm-blk-gry

LS: wht-tan, vfxln, sl foss, oolitic, sl chalky, dense, NS

● LS: as above w/tr lite stn

LS: cm-tan-gry, vfxln, dense, NS (?sl odor)

SH: blk-gry

● LS: wht-tan-gry, fxin, oolitic, dense, tr fo/stn, sl odor

LS: wht-tan-gry, vfxln, dense, NS

LS: as above

SH: blk, carb

SH: blk-gry-gm

LS: wht-gry-bm, vfxln, dense, NS

LS: as above, slight odor

SH: blk-gry-gm

LS: cm-tan-bm, vfxln, cherty, dense, NS (sl odor)

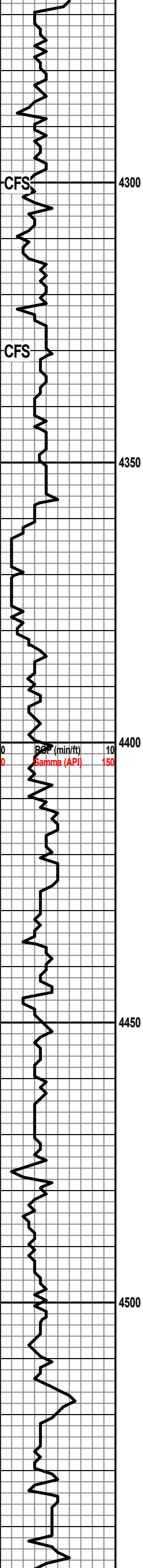
SH: bm-gry-gm-blk

HEEBNER 4014 (-906)

TORONTO 4038 (-930)

LANSING 4059 (-951)

MUNCIE CREEK 4206 (-1098)



① LS: cm-tan-bm, vfxln, dense, tr dk str, sl odor, NSFO

SH: blk, carb

STARK 4286 (-1178)

LS: wht-tan-gry, vfxln, dense, sl odor, NSFO

SH: blk-gry

LS: wht-gry, vfxln, dense, fr odor, NSFO

SH: blk, gry

HUSHPUCKNEY 4322 (-1214)

LS: cm-tan-gry, vfxln, dense, chalky, NS

LS: as above

BKC 4357 (-1249)

SH: blk-gry gm

SH: as above

SH: as above

MARMATON 4387 (-1279)

① LS: cm-tan-bm, fxin, dense, chalky, tr fo, sl odor

LS: tan-gry-bm, vfxln, dense, NS

SH: gry-gm-blk

LS: wht-gry-tan, vfxln, dense, NS (abund multi-colored shales & sand/silt)

LS-SH & Sst/siltstone as above

As above

SH: blk-gry-gm with LS: as above

LS: wht-cm-gry, vfxln, dense, NS

SH: blk, carb

PAWNEE 4479 (-1371)

LS: wht-tan, dense, cherty, NS

LS: as above

LS: cm-tan-gry, vfxln, chalky, cherty, dense, NS

SH: blk

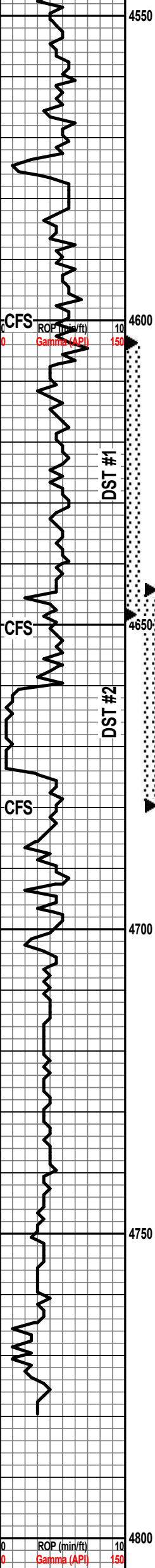
MYRICK STATION 4519 (-1411)

LS: tan-gry-bm, vfxln, dense, cherty, NS (slight odor)

SH: blk

FT SCOTT 4534 (-1426)

① LS: wht-tan-bm, vfxln, dense, ssfo, sl odor



LS: as above w/minor chert

SH: blk, carb

SH: as above

LS: cm-tan-bm, vfxln, dense, NS

LS: as above

SH: blk, carb

SH: blk-gry-gm

LS: cm-tan-gry, fxln, ssfo, fr ppt por, fr odor

LS: as above

LS: as above, gd ppt por, fr-gd sfo, str odor

LS: as above

SH: blk-gry-gm

Sst: clr clusters, fine-med gm, sub-rd, friable to firm, sl-fr sfo, fr odor

LS: cm-tan-bm, vfxln, sandy inclusions, cherty, much multi-col shales, NS

LS: cm-tan-gry, vfxln, dense, abund chert, abund multic. shales

LS & SH: as above

LS: wht-tan-bm, vfxln, dense, chalky, cherty, mixed sandy clusters

LS & SST: as above

as above

as above

as above

LS: wht-tan, fxln, chalky, mixed sandy clusters

CHEROKEE 4565 (-1557)

Short trip 16 stands @ 4600'

JOHNSON ZONE 4611 (-1503)

DST #1 4604-4650 (Johnson Zone)
 30:30:30:30
 Rec: 5' SOCM (5%O, 90%M)
 IHP: 2385 FHP: 2426
 IFP: 33-34 ISIP: 66
 FFP: 36-35 FSIP: 47
 BHT - 120

Deviation Survey @ 4650' - 1 degree

MORROW SH 4655 (-1547)

MORROW SST (4660 (-1552)

DST #2 4644-4680 (Morrow Sst)
 30:45:30:60
 Rec: 30' SOCM (5%O, 95%M)
 IHP: 2273 FHP: 2373
 IFP: 19-23 ISIP: 586
 FFP: 26-24 FSIP: 181
 BHT - 118

MISSISSIPPIAN 4704 (-1596)

RTD - 4780'
 LTD - 4778'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Richland Oil Investments LLC

22-12-33 Logan Co KS

608 E. 1st. P.O.. Box 166
Palco Tx 67657

Moore 22-3

Job Ticket: 64843

DST#: 1

ATTN: Steve Murphy

Test Start: 2019.07.30 @ 08:45:15

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:01:00

Time Test Ended: 14:49:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Mike Roberts

Unit No: 81

Interval: 4604.00 ft (KB) To 4650.00 ft (KB) (TVD)

Reference Elevations: 3108.00 ft (KB)

Total Depth: 4650.00 ft (KB) (TVD)

3098.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8521

Inside

Press@RunDepth: 34.73 psig @ 4640.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.30

End Date:

2019.07.30

Last Calib.:

2019.07.30

Start Time: 08:21:00

End Time:

14:25:15

Time On Btm:

2019.07.30 @ 10:36:30

Time Off Btm:

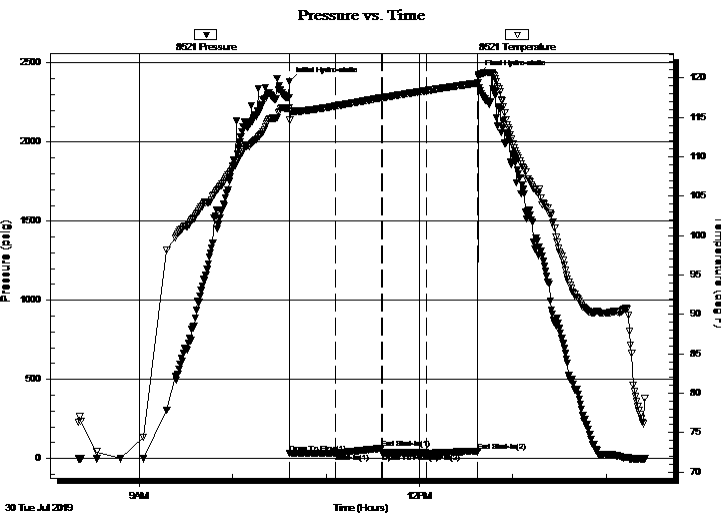
2019.07.30 @ 12:38:00

TEST COMMENT: IF: Built to weak surface blow

IS: No return blow

FF: No blow

FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2384.56	116.23	Initial Hydro-static
1	33.17	114.62	Open To Flow (1)
30	34.32	116.41	Shut-In(1)
60	65.59	117.48	End Shut-In(1)
60	35.53	117.46	Open To Flow (2)
88	34.73	118.38	Shut-In(2)
121	47.42	119.33	End Shut-In(2)
122	2425.62	120.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	socm 10%o 90%m	0.07

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Richland Oil Investments LLC

22-12-33 Logan Co KS

608 E. 1st. P.O.. Box 166
Palco Tx 67657

Moore 22-3

Job Ticket: 64843

DST#: 1

ATTN: Steve Murphy

Test Start: 2019.07.30 @ 08:45:15

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 11:01:00
 Tester: Mike Roberts
 Time Test Ended: 14:49:30
 Unit No: 81
 Interval: **4604.00 ft (KB) To 4650.00 ft (KB) (TVD)**
 Reference Elevations: 3108.00 ft (KB)
 Total Depth: 4650.00 ft (KB) (TVD)
 3098.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 10.00 ft

Serial #: 8968

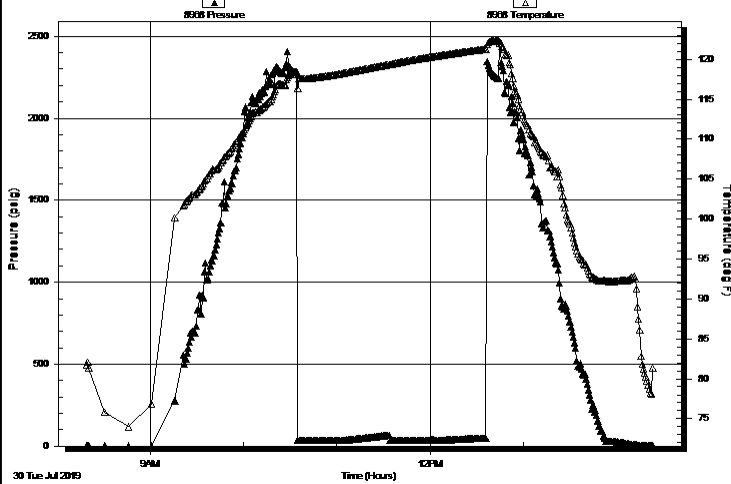
Outside

Press@RunDepth: psig @ 4640.00 ft (KB)
 Capacity: 8000.00 psig
 Start Date: 2019.07.30 End Date: 2019.07.30 Last Calib.: 2019.07.30
 Start Time: 08:19:15 End Time: 14:23:30
 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Built to weak surface blow
 IS: No return blow
 FF: No blow
 FS: No return blow

PRESSURE SUMMARY

Pressure vs. Time



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

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
5.00	socm 10%o 90%m	0.07

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Richland Oil Investments LLC

22-12-33 Logan Co KS

608 E. 1st. P.O.. Box 166
Palco Tx 67657

Moore 22-3

Job Ticket: 64843

DST#: 1

ATTN: Steve Murphy

Test Start: 2019.07.30 @ 08:45:15

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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	socm 10%o 90%m	0.070

Total Length: 5.00 ft Total Volume: 0.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8521

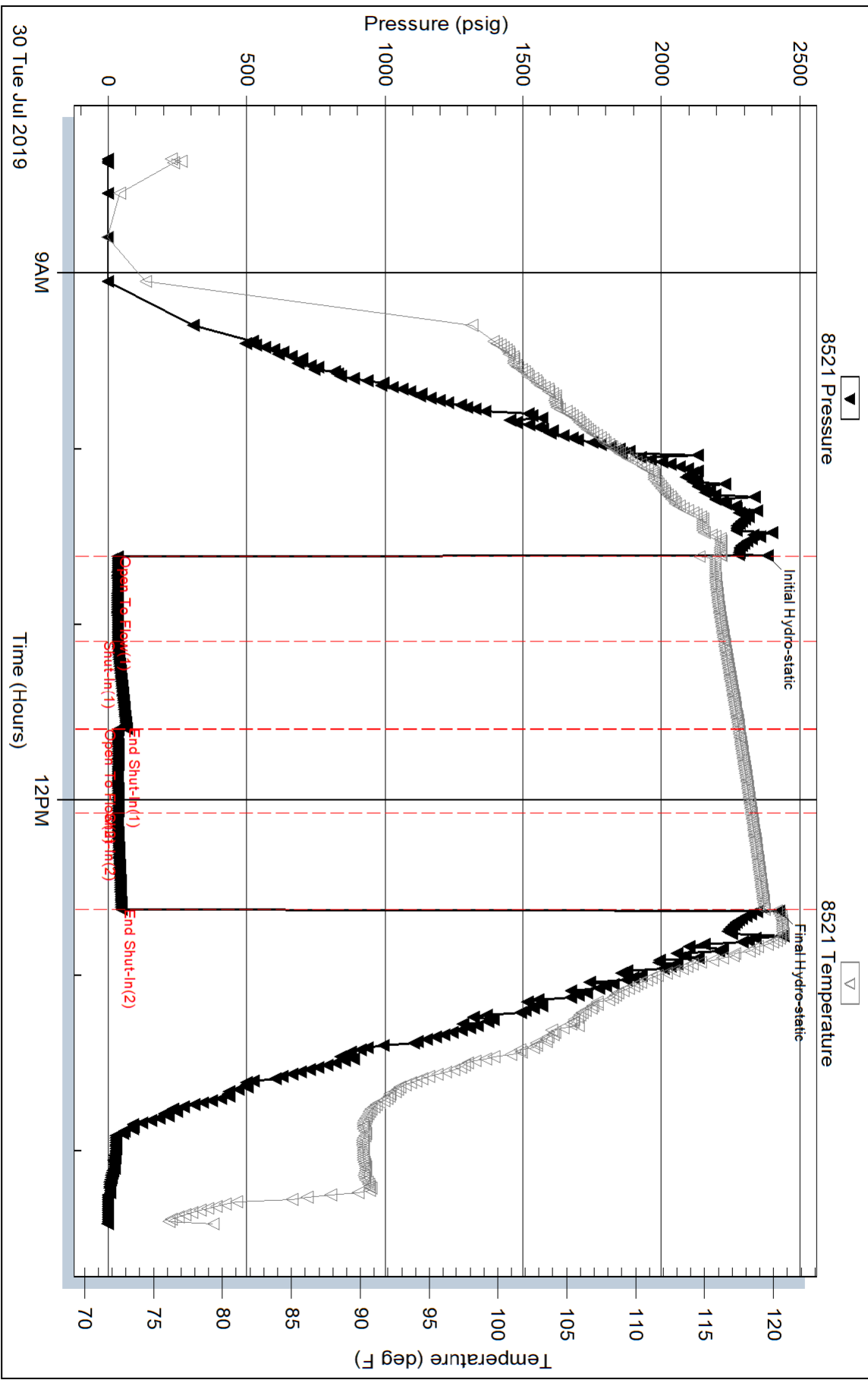
Inside

Richland Oil Investments LLC

Moore 22-3

DST Test Number: 1

Pressure vs. Time

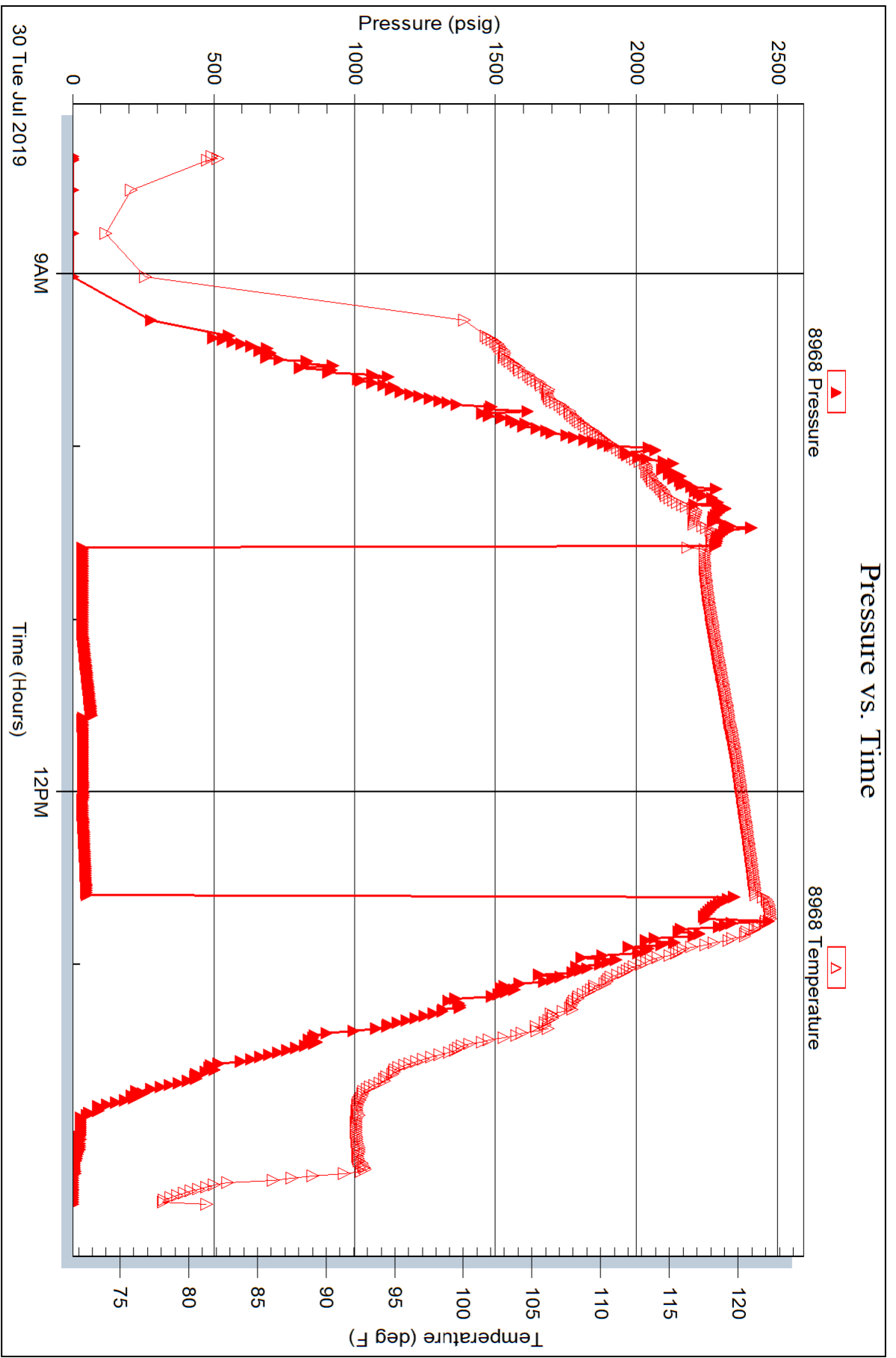


Serial #: 8968

Outside Richland Oil Investments LLC

Moore 22-3

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Richland Oil Investments LLC

22-12-33 Logan Co KS

608 E. 1st. P.O.. Box 166
Palco Tx 67657

Moore 22-3

Job Ticket: 64844

DST#: 2

ATTN: Steve Murphy

Test Start: 2019.07.30 @ 22:03:15

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:57:30

Time Test Ended: 04:26:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: 4644.00 ft (KB) To 4680.00 ft (KB) (TVD)

Reference Elevations: 3108.00 ft (KB)

Total Depth: 4680.00 ft (KB) (TVD)

3098.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8521

Inside

Press@RunDepth: 24.17 psig @ 4645.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.30

End Date:

2019.07.31

Last Calib.:

2019.07.31

Start Time:

22:03:15

End Time:

04:26:15

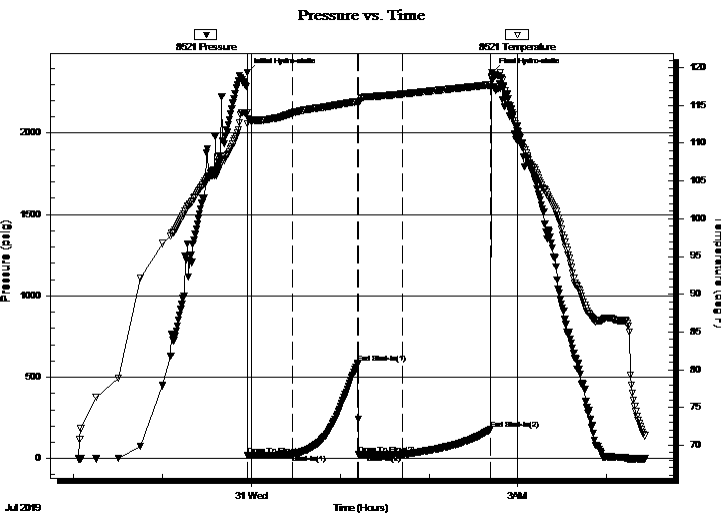
Time On Btm:

2019.07.30 @ 23:57:15

Time Off Btm:

2019.07.31 @ 02:42:30

TEST COMMENT: IF: Built to 1" blow
IS: No return blow
FF: Built to 1 1/4" blow
FS: No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2373.70	114.03	Initial Hydro-static
1	19.06	112.61	Open To Flow (1)
31	23.39	114.01	Shut-In(1)
75	586.57	115.53	End Shut-In(1)
76	26.66	115.24	Open To Flow (2)
105	24.17	116.50	Shut-In(2)
165	181.21	117.75	End Shut-In(2)
166	2373.12	118.81	Final Hydro-static

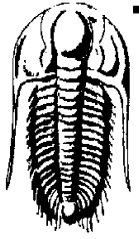
Recovery

Length (ft)	Description	Volume (bbl)
30.00	socm 5 % o 95% m	0.42

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Richland Oil Investments LLC

22-12-33 Logan Co KS

608 E. 1st. P.O.. Box 166
Palco Tx 67657

Moore 22-3

Job Ticket: 64844

DST#: 2

ATTN: Steve Murphy

Test Start: 2019.07.30 @ 22:03:15

GENERAL INFORMATION:

Formation: **Morrow Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:57:30

Time Test Ended: 04:26:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Mike Roberts

Unit No: 81

Interval: 4644.00 ft (KB) To 4680.00 ft (KB) (TVD)

Reference Elevations: 3108.00 ft (KB)

Total Depth: 4680.00 ft (KB) (TVD)

3098.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8968

Outside

Press@RunDepth: psig @ 4645.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.07.30 End Date: 2019.07.31

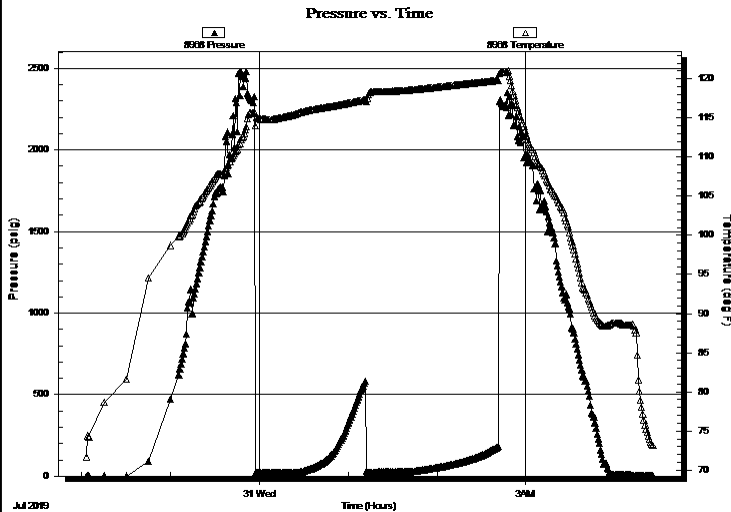
Last Calib.: 2019.07.31

Start Time: 22:03:15 End Time: 04:26:00

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:Built to 1" blow
IS:No return blow
FF:Built to 1 1/4" blow
FS:No return blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	socm 5 % o 95%m	0.42

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Richland Oil Investments LLC

22-12-33 Logan Co KS

608 E. 1st. P.O.. Box 166
Palco Tx 67657

Moore 22-3

Job Ticket: 64844

DST#: 2

ATTN: Steve Murphy

Test Start: 2019.07.30 @ 22:03:15

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: 7.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	socm 5 % o 95%m	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

