

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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OPERATOR

Company: TDI, INC.
 Address: 1310 BISON ROAD
 HAYS, KANSAS 67601-9696

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: DERRICK # 3
 Location: E2 SE SW SE, SEC.4-T15S-R18W
 API: 15-051-26,883-00-00
 Pool: IN FIELD
 State: KANSAS

Field: DINGES
 Country: USA



Scale 1:240 Imperial

Well Name: DERRICK # 3
 Surface Location: E2 SE SW SE, SEC.4-T15S-R18W
 Bottom Location:
 API: 15-051-26,883-00-00
 License Number: 4787
 Spud Date: 8/4/2017 Time: 4:15 PM
 Region: ELLIS COUNTY
 Drilling Completed: 8/9/2017 Time: 4:23 AM
 Surface Coordinates: 330' FSL & 1595' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2022.00ft
 K.B. Elevation: 2032.00ft
 Logged Interval: 0.00ft To: 0.00ft
 Total Depth: 3646.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.3243787
 Latitude: 38.7703904
 N/S Co-ord: 330' FSL
 E/W Co-ord: 1595' FEL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: GEOLOGIST

Name: HERB DEINES

CONTRACTOR

Contractor: SOUTHWIND DRILLING INC.
 Rig #: 1
 Rig Type: MED ROTARY
 Spud Date: 8/4/2017
 TD Date: 8/9/2017

Time: 4:15 PM
 Time: 4:23 AM

ELEVATIONS

K.B. Elevation: 2032.00ft Ground Elevation: 2022.00ft
 K.B. to Ground: 10.00ft

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON NEGATIVE RESULTS OF TWO DSTS, LOW STRUCTURE OF WELL AND LACK OF SHOWS AND RESERVOIR DEVELOPMENT IN LKC AND ARBUCKLE.

NO OPEN HOLE LOGS WERE RAN ON THIS WELL.

DRILL STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS

DERRICK # 3	DERRICK UNIT #1	DERRICK # 2
E2 SE SW SE	SE SE SE SE	S2 NW SW SE
SEC.4-15S-18W	SEC.4-15-18NW	SEC.4-15-18W
2032'KB	KB 2037'	KB 2029'

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1209 +823	+ 830	+ 824
B-Anhydrite	1245 +787	+ 790	+788
Topeka	3005 - 973	- 964	- 969
Heebner Sh.	3279-1247	-1248	-1241
Toronto	3299-1267	-1264	-1261
LKC	3332-1300	-1298	-1293
BKC	3564-1532	-1528	-1527
Arbuckle	3638-1606	-1586	-1595
RTD	3646-1614	-1713	-1721

SUMMARY OF DAILY ACTIVITY

- 8-04-17** **RU, Spud 4:15 PM, set 8 5/8" surface casing to 206' w/ 150 sxs
Common 2%gel 3%cc, WOC 8 hrs, slope 3/4 degree @207'.**
- 8-05-17** **207', WOC, drill plug at 7:45AM**
- 8-06-17** **1815' drilling**
- 8-07-17** **2751', drilling, displaced 2732' to 2759'**
- 8-08-17** **3481', drilling, CFS 3630', CFS 3636', short trip 28 stands, TOWB,
DST # 1 3554' to 3636'**
- 8-09-17** **3646' TIWB, drilling, CFS 3646', RTD 4:23 AM @ 3646', TOWB, DST
2 3554' to 3646', decision to plug and abandon, LDDP/plug, RD**



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc
1310 Bison Rd
Hays Ks 67601-9696

4-15s18w Ellis

Derrick #3

Job Ticket: 63011

DST#: 1

ATTN: Tom Denning, Herb Dei

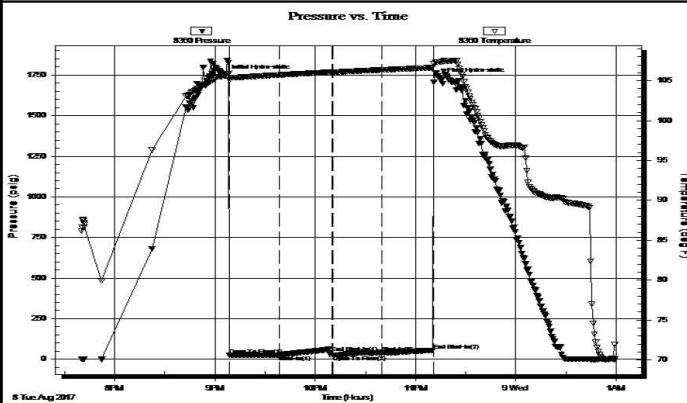
Test Start: 2017.08.08 @ 19:40:24

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:08:49
 Time Test Ended: 00:59:33
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Interval: **3554.00 ft (KB) To 3636.00 ft (KB) (TVD)**
 Total Depth: 3636.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 Reference Elevations: 2032.00 ft (KB)
 2023.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 38.36 psig @ 3568.00 ft (KB)
 Start Date: 2017.08.08 End Date: 2017.08.09
 Start Time: 19:40:24 End Time: 00:59:33
 Capacity: 8000.00 psig
 Last Calib.: 2017.08.09
 Time On Btm: 2017.08.08 @ 21:06:34
 Time Off Btm: 2017.08.08 @ 23:15:04

TEST COMMENT: 30-IFP-w k bl, died in 22 min
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl



PRESSURE SUMMARY

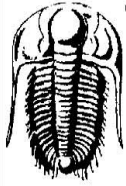
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1744.92	105.59	Initial Hydro-static
3	24.52	105.05	Open To Flow (1)
33	25.79	105.73	Shut-In(1)
64	39.18	106.06	End Shut-In(1)
64	25.93	106.07	Open To Flow (2)
94	38.36	106.36	Shut-In(2)
124	55.25	106.64	End Shut-In(2)
129	1723.40	107.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud w/ show of oil in tool	0.14

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc
 1310 Bison Rd
 Hays Ks 67601-9696
 ATTN: Tom Denning, Herb Dei

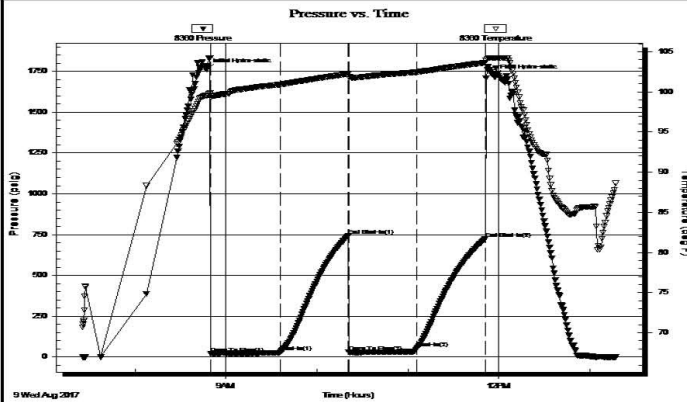
4-15s18w Ellis
Derrick #3
 Job Ticket: 63012 **DST#: 2**
 Test Start: 2017.08.09 @ 07:25:19

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:50:04
 Time Test Ended: 13:17:19
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Interval: **3554.00 ft (KB) To 3646.00 ft (KB) (TVD)**
 Total Depth: 3646.00 ft (KB) (TVD)
 Reference Elevations: 2032.00 ft (KB)
 2023.00 ft (CF)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 KB to GR/CF: 9.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 52.04 psig @ 3578.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.09 End Date: 2017.08.09 Last Calib.: 2017.08.09
 Start Time: 07:25:24 End Time: 13:17:18 Time On Btm: 2017.08.09 @ 08:47:19
 Time Off Btm: 2017.08.09 @ 11:56:34

TEST COMMENT: 45_IFP-w k bl thru-out 1/2" to 3" bl
 45-ISIP-no bl
 45-FFP-w k bl thru-out 1/4" to 1" bl
 FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1761.47	99.57	Initial Hydro-static
3	22.37	99.31	Open To Flow (1)
49	32.06	100.91	Shut-In(1)
94	743.62	102.24	End Shut-In(1)
94	31.82	101.83	Open To Flow (2)
139	52.04	102.47	Shut-In(2)
184	724.01	103.63	End Shut-In(2)
190	1724.06	104.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	75'GIP	0.00
10.00	OO	0.14
35.00	OCM 25%O75	0.49

Gas Rates

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

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 63012

Printed: 2017.08.09 @ 13:57:15

ROCK TYPES

Cht vari	Dolsec	Lmst fw7>	shale, gry
Chtcongl	Dol Lime	Lscongl	Carbon Sh
Dolprim	Lmst fw<7	shale, grn	shale, red

ACCESSORIES

MINERAL

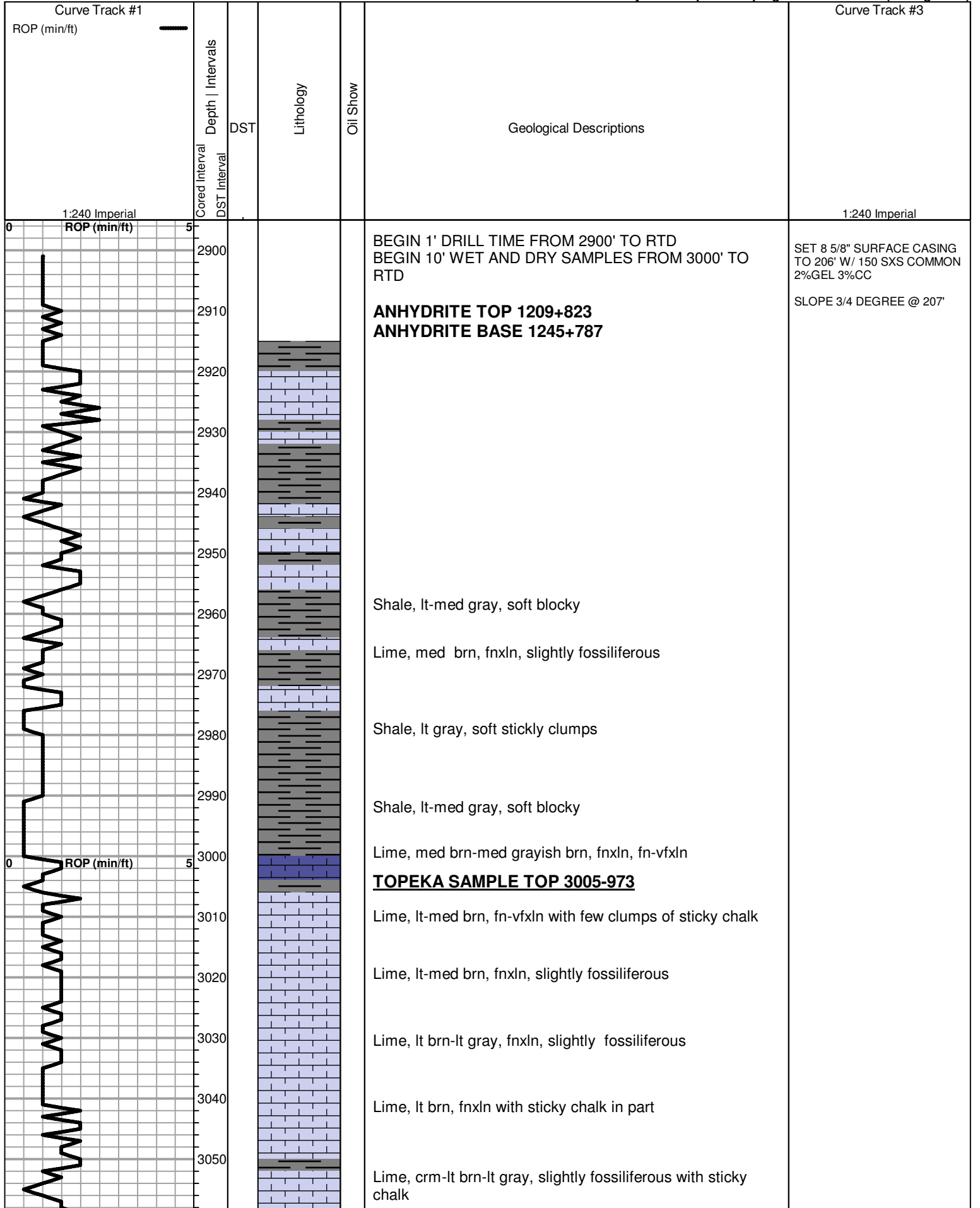
FOSSIL

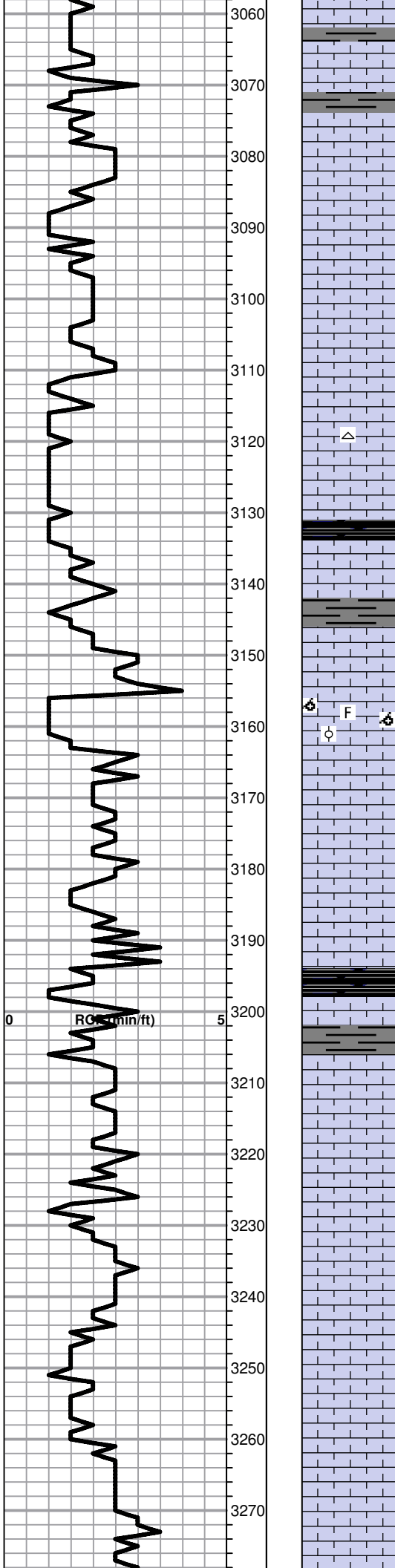
△ Chert White

F Fossils < 20%

○ Oolite

⊗ Oomoldic





Lime, lt brn-lt gray, fnxln, slight bedded chalk, fusulinids

Lime, tl brn-lt gray, fnxln with micro xln in part

Lime, lt-med brn-med grayish brn, fn-vfxln, slightly fossiliferous

Lime, lt-med brn, fnxln with bedded chalk in part

Lime, lt-med brn-lt grayish brn, fn-vfxln, fusulinids in part

Lime, lt-med brn, fnxln-granular in part, slightly fossiliferous

Lime, lt-med brn, fnxln-granular, bedded chalk, slightly fossiliferous

Shale, black carbonaceous, blocky

Lime, lt-med brn, fnxln, slightly fossiliferous

Shale, lt gray, soft sticky clumping

Lime, crm, fn-micro xln

Lime, lt brn, granular with fossil fragments, NS,NFO, no wet cut

Lime, crm-lt brn, fn-vfxln, slight bedded chalk with lt white wash

Lime, crm-lt brn, fn-vfxln, slight bedded chalk and slightly fossiliferous

Lime, lt brn-lt gray, fn-vfxln

Shale, black carbonaceous, blocky

Lime, lt-med brn-lt gray, fnxln, slightly fossiliferous

Lime, lt-med brn, fnxln with slight bedded chalk, NS

Lime, lt-med brn, fnxln, NS

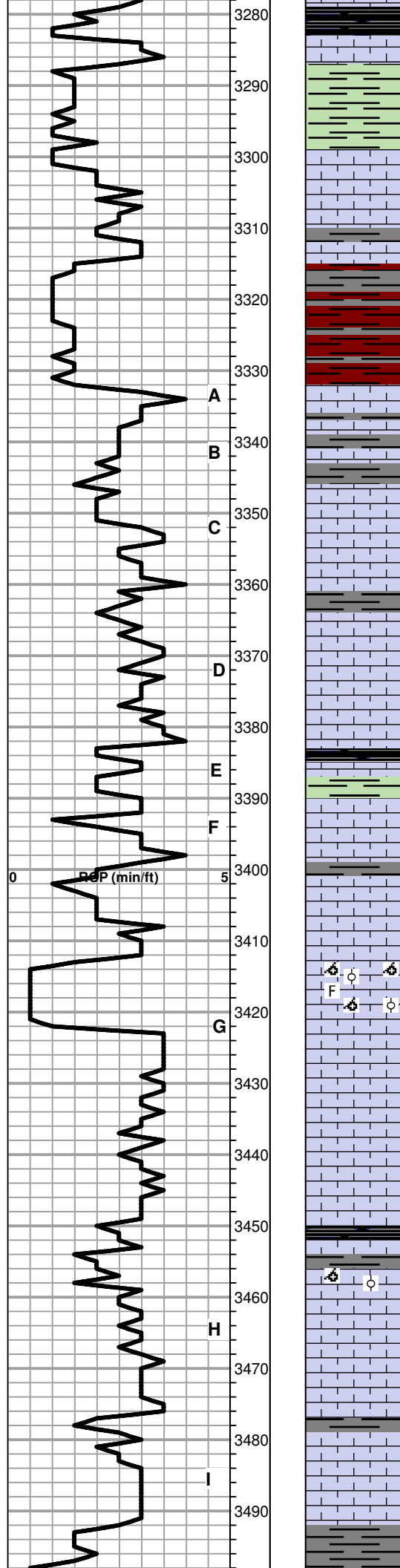
Lime, lt-med brn, fn-micro xln, slight fossiliferous

Lime, lt-med brn-med grayish brn, fn-vfxln

Lime, lt brn, fnxln-slightly granular in part, NS

Lime, lt brn, fnxln, bedded chalk with lt white wash

HEEPNER SHALE SAMPLE TOP 3270 1247



HEEBNER SHALE SAMPLE TOP 3279-1247

Shale, black carbonaceous, fissile, blicky
Lime, med brn, micro xln

Shale, dove gray-lime green, soft sticky mud

TORONTO SAMPLE TOP 3299-1267

Lime, crm-lt brn, fn-vfxln, bedded chalk, NS

Lime, crm-lt brn, fn-vfxln,

Shale, red soft mud - lt-med gray, soft

LKC SAMPLE TOP 3332-1300

Lime, crm-lt brn, fn-vfxln, slight bedded chalk, NS

Lime, med brn-lt gray, fn-vfxln

Lime, crm-lt brn, fnxln-granular in part, NS, no odor

Lime, crm-tan, fnxln, bedded chalk
Shale, lt gray, soft blocky

Lime, lt brn, fn-vfxln, slight bedded chalk, NS

Lime, lt brn, fn-micro xln

Shale, black carbonaceous
Lime, lt grayish green, vfxln

Lime, crm, fnxln with scattered fossil casts and voids with lt spotty staining, very lt odor, NFO, not well developed

Lime, crm-lt brn, fn-vfxln

Lime, crm-tan, fn-micro xln

Lime, crm, oolmoldic

Lime, crm-lt brn, fn-vfxln

Lime, crm, fn-vfxln, slight bedded chalk

Lime, crm-lt brn-lt gray, fn-vfxln
Shale, gray-black carbonaceous, blocky

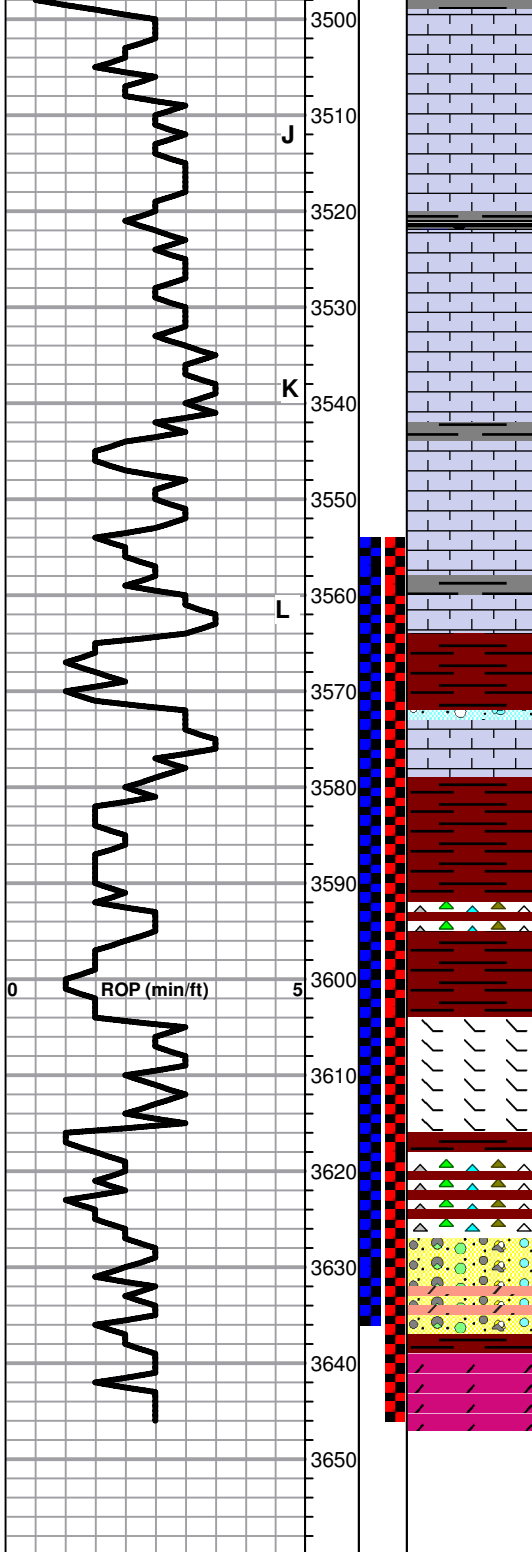
Lime, crm, fn-vfxln, few oomoldic chips with no staining or SFO

Lime, crm-lt brn, fn-vfxln

Shale, gray-black, blocky
Lime, offwhite-crm, fn-micro xln NS

Lime, crm, fn-micro xln

Shale, med gray, soft-firm blocky, calcareous in part



Lime, crm, fn-micro xln, NS

Lime, crm-tan, fn-micro xln

Lime, crm-med brn, fn-micro xln
Shale, gray-black carbonaceous, blocky

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

BKC SAMPLE TOP 3564-1532

Shale, red mudo reddish brn, soft blocky

Lime, lt brn-lt grayish brn, fn-micro xln, some clastics in part

Shale, red, soft mud with red wash

Shale, red, soft mud with red wash

Lime, crm, fn-vfxln, few chips of orange chert

Shale, red-white, soft sticky clumps, vari color cherts

REWORKED ARBUCKLE SAMPLE TOP 3626-1594

Mix of chert and fresh dolomite chips, ivory, granular, lt odor and scattered staining

ARBUCKLE SAMPLE TOP 3638-1606

Dolomite, ivory-crm, fnxln-coarse granular, rhombic in part, fair odor and staining

RTD 3646-1614

DST # 1 3554' TO 3636' SEE
HEADER FOR TEST
SUMMARY

DST # 2 3554' TO 3646' SEE
HEADER FOR TEST
SUMMARY

GLOBAL OIL FIELD SERVICES, LLC

3072

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell, KS

DATE <u>8-4-17</u>	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE	WELL #.	LOCATION <u>Derrick #3</u>			COUNTY <u>Ellis</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE)							

CONTRACTOR SOUTHWIND Drilling Rig#1

TYPE OF JOB CEMENTING

HOLE SIZE 12 1/4 T.D. 207'

CASING SIZE 8 5/8 DEPTH 197.40

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX. MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG.

PERFS

DISPLACEMENT 11 BBL

EQUIPMENT

PUMP TRUCK CEMENTER BRAD

417 HELPER ASAD

BULK TRUCK

378 DRIVER KALIS

BULK TRUCK

DRIVER

OWNER

CEMENT AMOUNT ORDERED 150 SY comm 30% cc 20% cc

COMMON @

POZMIX @

GEL @

CHLORIDE @

ASC @

HANDLING @

MILEAGE @

TOTAL

REMARKS:

Run casing, circulate mud, mix 150 SY wash up + displace w/ 11 BBL H₂O, shut in @ 20PSI, cement did circulate

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

MANIFOLD @

TOTAL

CHARGE TO: TDI

STREET

CITY STATE ZIP

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

SIGNATURE Jeffrey Wood

SALES TAX (if Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

GLOBAL OIL FIELD SERVICES, LLC

3074

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT:

Russell

DATE 8-9-17	SEC. 4	TWP. 15	RANGE 13W	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE DEARICK	WELL #. 3	LOCATION			COUNTY Ellis	STATE KS	
OLD OR <u>NEW</u> (CIRCLE ONE)							

CONTRACTOR SOUTHWEST DEARICK RIG #1

TYPE OF JOB DRY HOLE PLUG

HOLE SIZE 7 7/8 T.D. _____

CASING SIZE _____ DEPTH _____

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX. _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS _____

DISPLACEMENT _____

EQUIPMENT _____

PUMP TRUCK CEMENTER BEANS

409 HELPER COY

BULK TRUCK _____

410 DRIVER KRIS

BULK TRUCK _____

_____ DRIVER _____

OWNER _____

CEMENT AMOUNT ORDERED 285 60/40/02 4% GEL 1/4" FC0

COMMON 10C @ _____

POZMIX @ _____

GEL @ _____

CHLORIDE @ _____

ASC 10C @ 10 W

@ _____

@ _____

@ _____

@ _____

HANDLING @ _____

MILEAGE 10C @ _____

TOTAL _____

REMARKS:

1st 361A' 505X

2ND - 1230 505X

3RD 525 805X

4th 260 505X

5th 40' 105X

MOUSE 155X

RAT 305X

CHARGE TO: TDI

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 LARRY BEANS

SIGNATURE Larry Beans

SERVICE

DEPTH OF JOB _____

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE @ _____

MILEAGE @ _____

MANIFOLD @ _____

@ _____

TOTAL _____

3C

6 PLUG & FLOAT EQUIPMENT

@ _____

@ _____

@ _____

@ _____

TOTAL _____

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS



DRILL STEM TEST REPORT

Prepared For: **TDI, Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Derrick #3

4-15s18w Ellis,KS

Start Date: 2017.08.08 @ 19:40:24

End Date: 2017.08.09 @ 00:59:33

Job Ticket #: 63011 DST #: 1

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

Printed: 2017.08.09 @ 15:08:28

TDI, Inc
4-15s18w Ellis,KS
Derrick #3
DST # 1
Arbuckle
2017.08.08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc
 1310 Bison Rd
 Hays KS 67601-9696
 ATTN: Herb Deines

4-15s18w Ellis,KS
Derrick #3
 Job Ticket: 63011 **DST#: 1**
 Test Start: 2017.08.08 @ 19:40:24

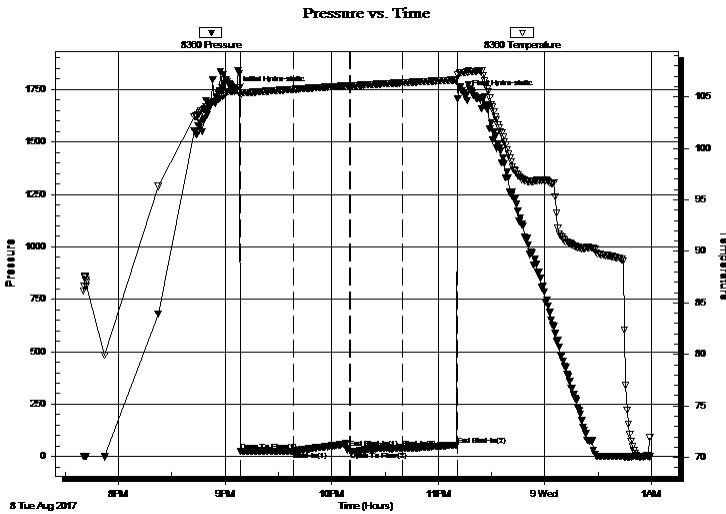
GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:08:49
 Time Test Ended: 00:59:33
 Interval: **3554.00 ft (KB) To 3636.00 ft (KB) (TVD)**
 Total Depth: 3636.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2032.00 ft (KB)
 2023.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 38.36 psig @ 3568.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.08.08 End Date: 2017.08.09 Last Calib.: 2017.08.09
 Start Time: 19:40:24 End Time: 00:59:33 Time On Btm: 2017.08.08 @ 21:06:34
 Time Off Btm: 2017.08.08 @ 23:15:04

TEST COMMENT: 30-IFP-w k bl ,died in 22 min
 30-ISIP-no bl
 30-FFP-no bl
 30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1744.92	105.59	Initial Hydro-static
3	24.52	105.05	Open To Flow (1)
33	25.79	105.73	Shut-In(1)
64	39.18	106.06	End Shut-In(1)
64	25.93	106.07	Open To Flow (2)
94	38.36	106.36	Shut-In(2)
124	55.25	106.64	End Shut-In(2)
129	1723.40	107.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	mud w/ show of oil in tool	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

4-15s18w Ellis,KS
Derrick #3
Job Ticket: 63011 **DST#: 1**
Test Start: 2017.08.08 @ 19:40:24

Tool Information

Drill Pipe:	Length: 3551.00 ft	Diameter: 3.80 inches	Volume: 49.81 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	55000.00 lb
			<u>Total Volume: 49.81 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial	46000.00 lb
Depth to Top Packer:	3554.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	82.00 ft				
Tool Length:	103.00 ft				
Number of Packers:	2	Diameter: 7.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3534.00	
Shut In Tool	5.00			3539.00	
Hydraulic tool	5.00			3544.00	
Packer	5.00			3549.00	21.00 Bottom Of Top Packer
Packer	5.00			3554.00	
Stubb	1.00			3555.00	
Perforations	13.00			3568.00	
Recorder	0.00	8360	Inside	3568.00	
Recorder	0.00	8673	Outside	3568.00	
Blank Spacing	65.00			3633.00	
Bullnose	3.00			3636.00	82.00 Bottom Packers & Anchor

Total Tool Length: 103.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

4-15s18w Ellis,KS
Derrick #3
Job Ticket: 63011 **DST#: 1**
Test Start: 2017.08.08 @ 19:40:24

Mud and Cushion Information

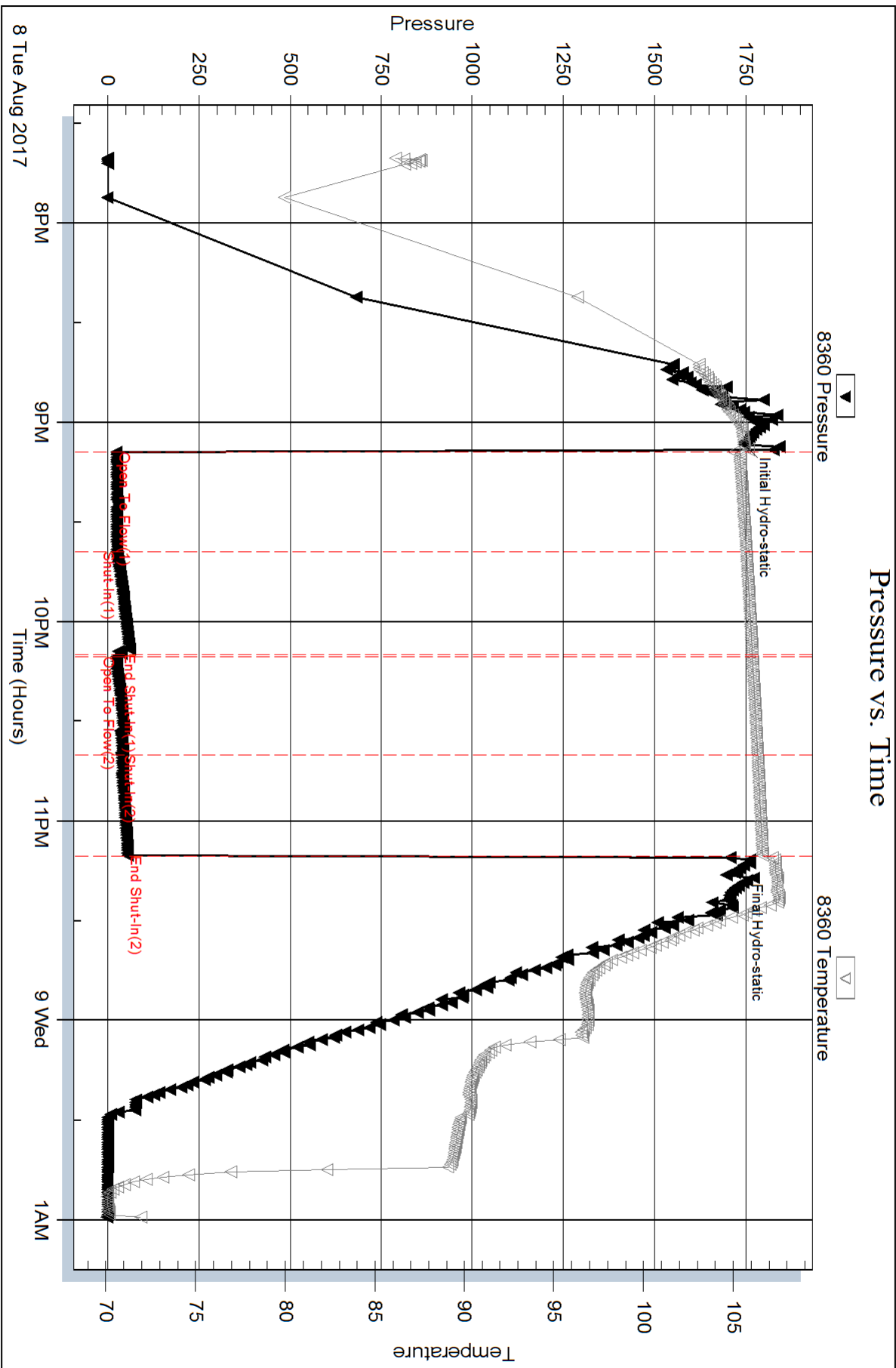
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.35 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3900.00 ppm			
Filter Cake: 1.00 inches			

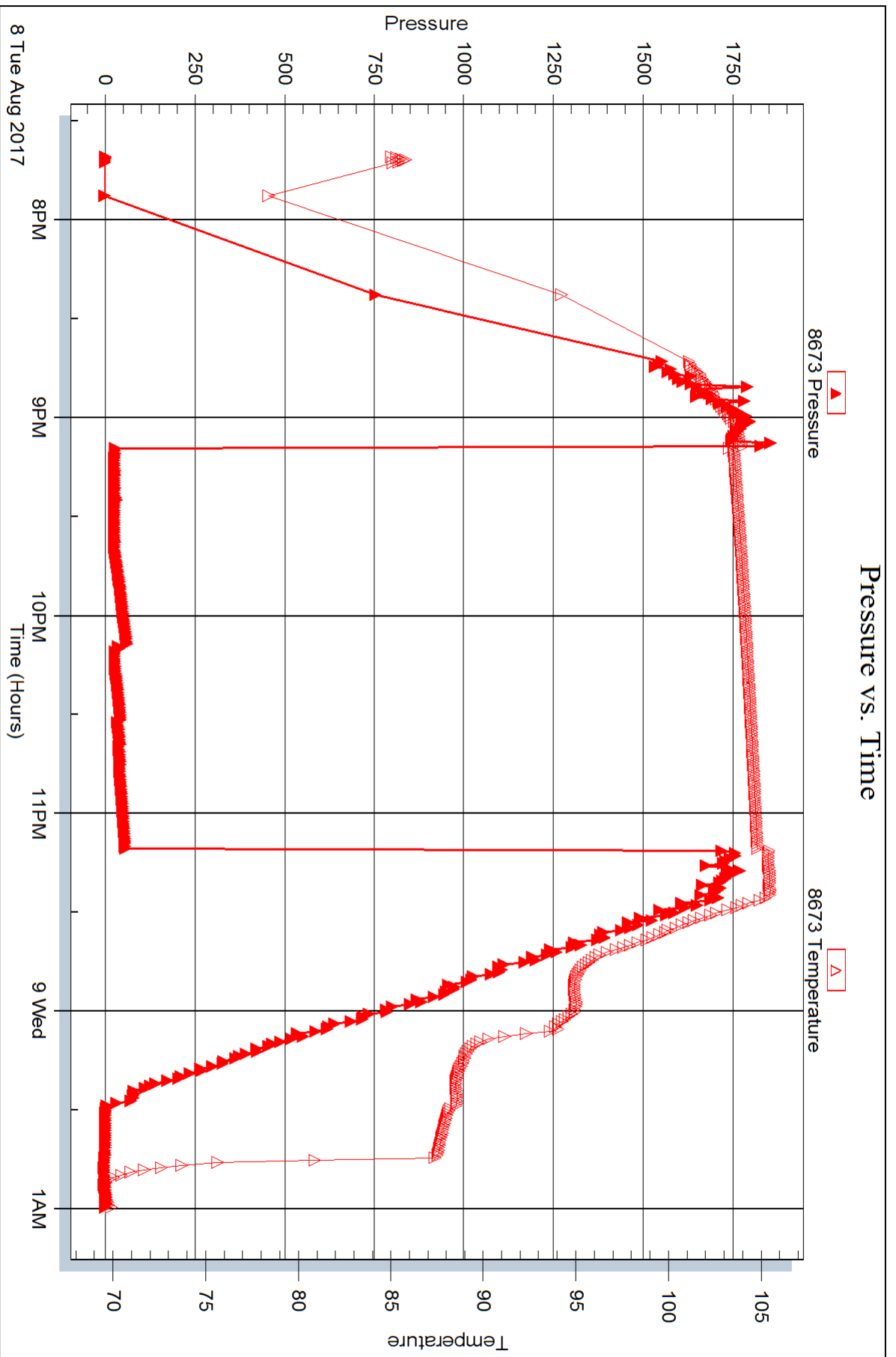
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	mud w/ show of oil in tool	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **TDI, Inc**

1310 Bison Rd
Hays KS 67601-9696

ATTN: Herb Deines

Derrick #3

4-15s18w Ellis,KS

Start Date: 2017.08.09 @ 07:25:19

End Date: 2017.08.09 @ 13:17:19

Job Ticket #: 63012 DST #: 2

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

Printed: 2017.08.09 @ 15:05:42

TDI, Inc
4-15s18w Ellis,KS
Derrick #3
DST # 2
Arbuckle
2017.08.09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI, Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

4-15s18w Ellis,KS
Derrick #3
Job Ticket: 63012 **DST#: 2**
Test Start: 2017.08.09 @ 07:25:19

Tool Information

Drill Pipe:	Length: 3550.00 ft	Diameter: 3.80 inches	Volume: 49.80 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 49.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3554.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	113.00 ft			
Number of Packers:	2	Diameter: 7.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3534.00	
Shut In Tool	5.00			3539.00	
Hydraulic tool	5.00			3544.00	
Packer	5.00			3549.00	21.00 Bottom Of Top Packer
Packer	5.00			3554.00	
Stubb	1.00			3555.00	
Perforations	23.00			3578.00	
Recorder	0.00	8360	Inside	3578.00	
Recorder	0.00	8673	Outside	3578.00	
Blank Spacing	65.00			3643.00	
Bullnose	3.00			3646.00	92.00 Bottom Packers & Anchor

Total Tool Length: 113.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI, Inc
1310 Bison Rd
Hays KS 67601-9696
ATTN: Herb Deines

4-15s18w Ellis,KS
Derrick #3
Job Ticket: 63012 **DST#: 2**
Test Start: 2017.08.09 @ 07:25:19

Mud and Cushion Information

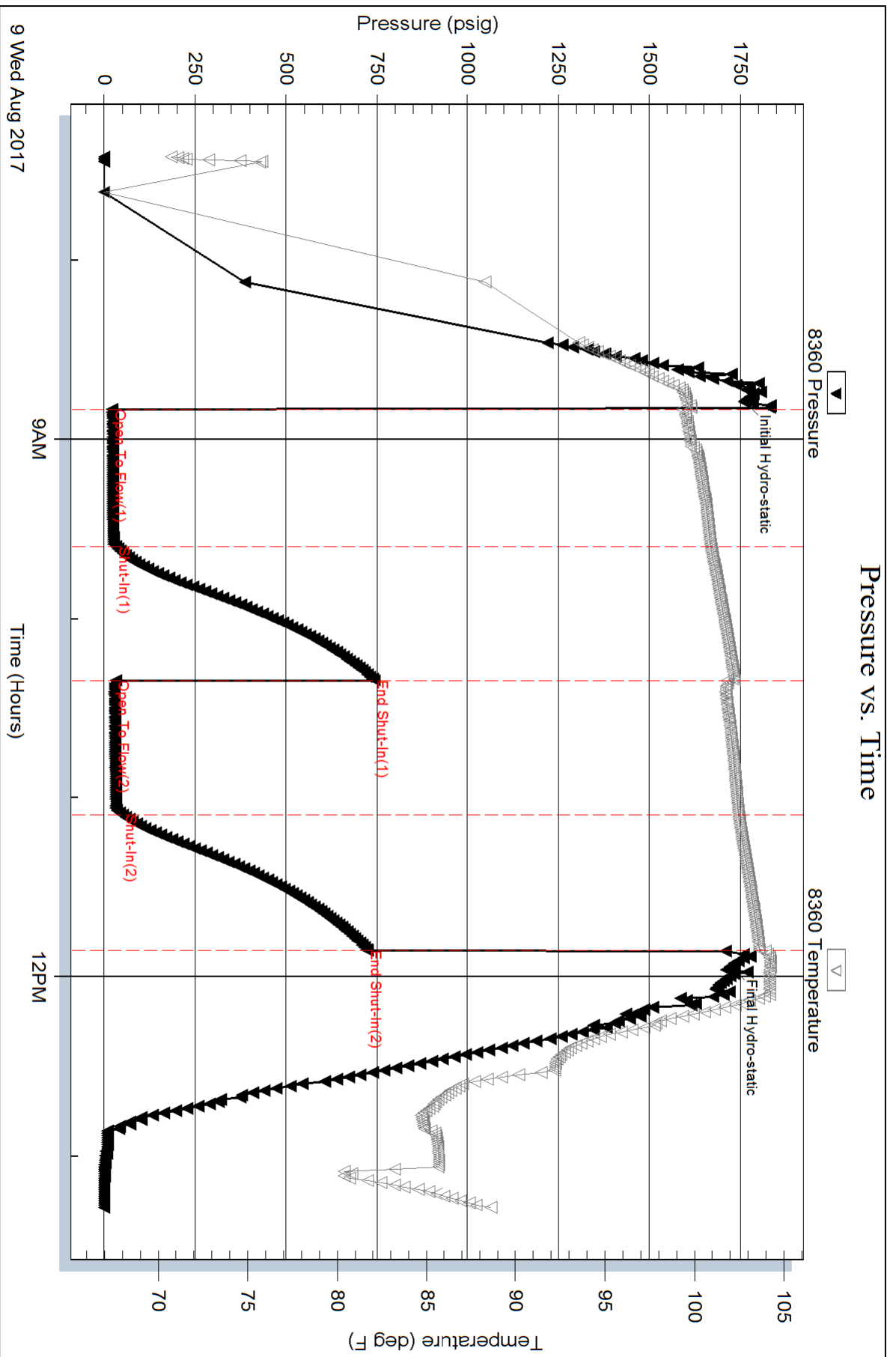
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.35 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 6800.00 ppm			
Filter Cake: 1.00 inches			

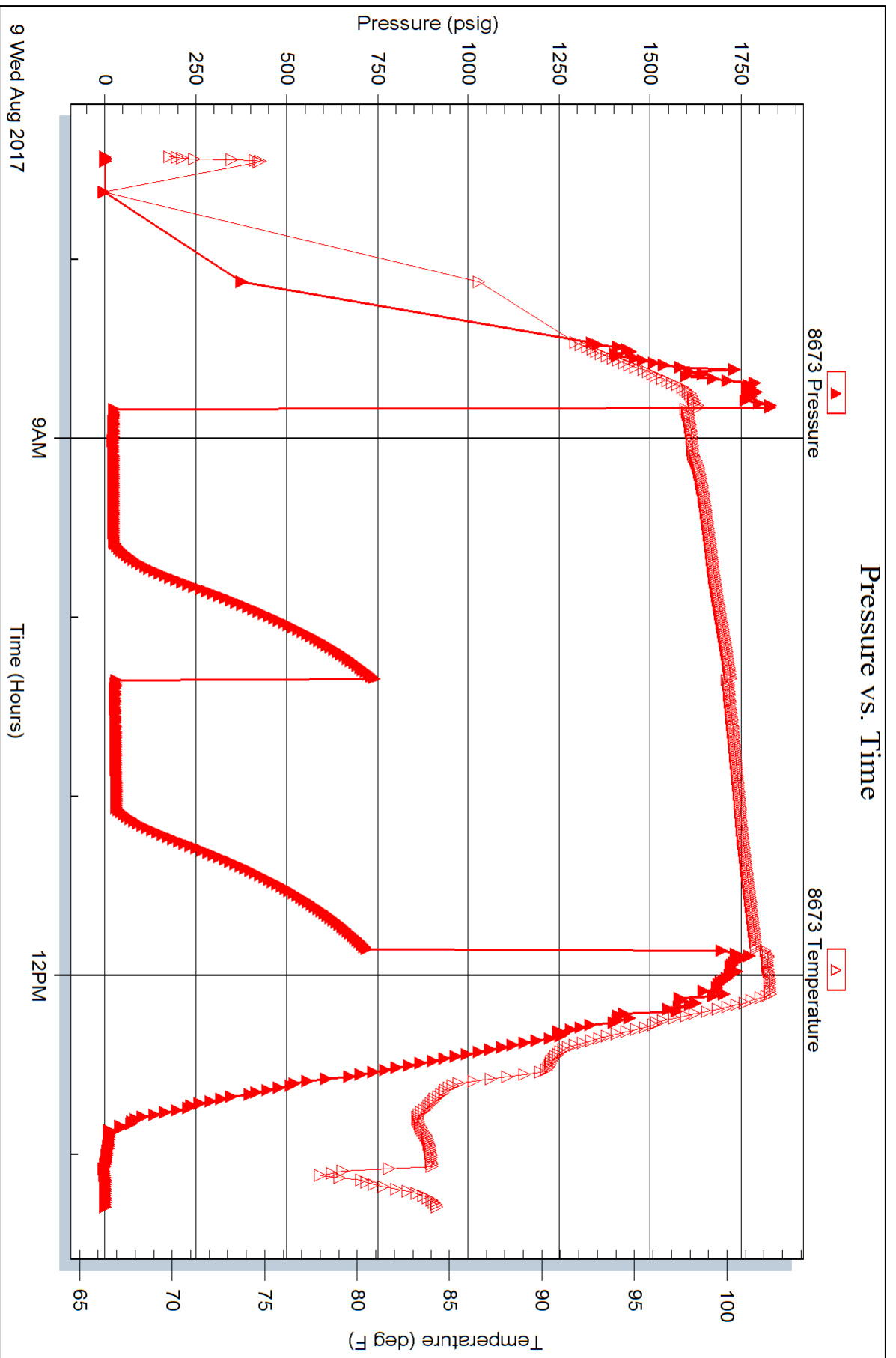
Recovery Information

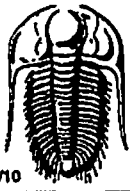
Recovery Table

Length ft	Description	Volume bbl
0.00	75'GIP	0.000
10.00	CO	0.140
35.00	OCM 25%O75	0.491

Total Length: 45.00 ft Total Volume: 0.631 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63011

Well Name & No. Derrick #3 Test No. 1 Date 8-8-17
 Company TDI Inc Elevation 2032 KB 2023 GL
 Address 1310 Bison Rd. Hays, Ks 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind rig 1
 Location: Sec. 4 Twp. 15^s Rge. 18^w Co. Ellis State Ks

Interval Tested 3554-3636 Zone Tested Arbuckle
 Anchor Length 82 Drill Pipe Run 3551 Mud Wt. 9.5
 Top Packer Depth 3549 Drill Collars Run — Vis 52
 Bottom Packer Depth 3554 Wt. Pipe Run — WL 8.4
 Total Depth 3636 Chlorides 3900 ppm System LCM 2#

Blow Description IFP - Weak Blow died in 22 min
ISIP - NO Blow
FFP - NO Blow
FSTP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>				
	<u>w/show foil Top of Tool</u>				

Rec Total 10 BHT 106 Gravity — API RW — @ — °F Chlorides — ppm

- (A) Initial Hydrostatic 1744
- (B) First Initial Flow 24
- (C) First Final Flow 25
- (D) Initial Shut-In 39
- (E) Second Initial Flow 25
- (F) Second Final Flow 38
- (G) Final Shut-In 55
- (H) Final Hydrostatic 1723

- Test 1050
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 20 RT 15
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1065

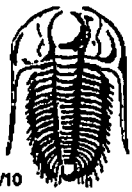
T-On Location 1720
 T-Started 1940
 T-Open 2115
 T-Pulled 2315
 T-Out 0120

Comments _____
 Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1065
 MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30

Approved By _____

Our Representative Ray Schwager Thank you



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63012

Well Name & No. Deerick #3 Test No. 2 Date 8-9-17
 Company TDI Inc Elevation 2032 KB 2023 GL
 Address 1310 Bison Rd Hays Ks 67601-9696
 Co. Rep / Geo. Herb Deines Rig Southwind rig
 Location: Sec. 4 Twp. 15' Rge. 18" Co. ELLIS State Ks

Interval Tested 3554-3646 Zone Tested Arbuckle
 Anchor Length 92 Drill Pipe Run 3550 Mud Wt. 9.4
 Top Packer Depth 3549 Drill Collars Run — Vis 49
 Bottom Packer Depth 3554 Wt. Pipe Run — WL 7.8
 Total Depth 3646 Chlorides 6800 ppm System LCM 2#
 Blow Description IFP - Weak Blow thru-out 1/2" To 3" Blow
Istp - NO Blow
FFP - Weak Blow thru-out 1/4" To 1" Blow
Fstp - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>75</u>	<u>GIP</u>				
<u>10</u>	<u>CO</u>				
<u>35</u>	<u>OCM</u>		<u>25</u>		<u>25</u>

Rec Total 45 BHT 123 Gravity 28 API RW — @ — °F Chlorides — ppm
 (A) Initial Hydrostatic 1761 Test 1050 T-On Location 0705
 (B) First Initial Flow 22 Jars — T-Started 0725
 (C) First Final Flow 32 Safety Joint — T-Open 0850
 (D) Initial Shut-In 243 Circ Sub — T-Pulled 1150
 (E) Second Initial Flow 31 Hourly Standby — T-Out 1317
 (F) Second Final Flow 52 Mileage 20RT 15 Comments —
 (G) Final Shut-In 224 Sampler —
 (H) Final Hydrostatic 1724 Straddle —
 Shale Packer —
 Extra Packer —
 Extra Recorder —
 Day Standby —
 Accessibility —
 Sub Total 1065

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45

Approved By _____

Our Representative

RAY SWAGAN Thank you