

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1327662
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

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 SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

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
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1327662

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 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				

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

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

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

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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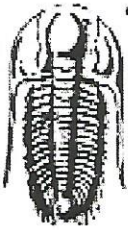
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Staab Oil Co., a General Partnership
Well Name	HAINES 1
Doc ID	1327662

Tops

Name	Top	Datum
anhydrite	1360	582
base	1395	547
topeka	2869	-927
heeb	3075	-1133
toronto	3097	--1155
lansing	3116	-1174
bkc	3335	-1393
arbuckle	3379	-1437
T.D.	3444	-1502



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Staab Oil Company
1607 Hopewell Rd
Hays, KS 67601
ATTN: Janel Staab

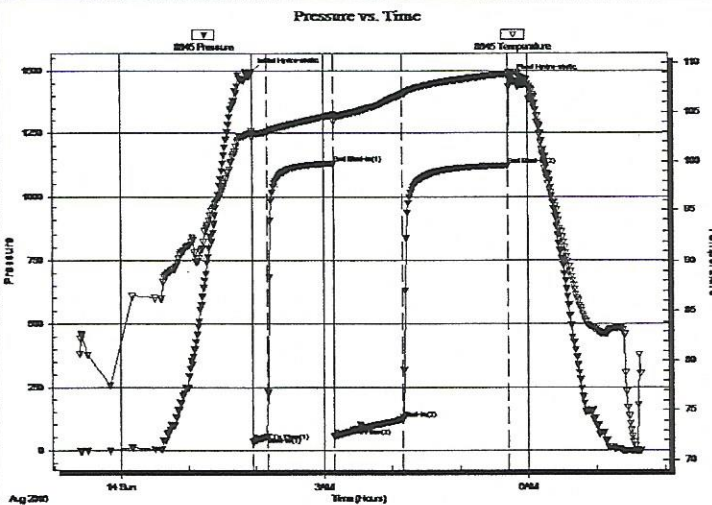
8-8s-18w Rooks, KS
Haines #1
Job Ticket: 65543 **DST#: 2**
Test Start: 2016.08.13 @ 23:23:00

GENERAL INFORMATION:

Formation: **LKC A - D**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:57:15
 Time Test Ended: 07:39:15
 Interval: **3108.00 ft (KB) To 3184.00 ft (KB) (TVD)**
 Total Depth: 3184.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 1942.00 ft (KB)
 1937.00 ft (CF)
 KB to GRVCF: 5.00 ft

Serial #: 8845 Outside
 Press@RunDepth: 122.97 psig @ 3109.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.08.13 End Date: 2016.08.14 Last Calib.: 2016.08.14
 Start Time: 23:23:05 End Time: 07:39:14 Time On Btm: 2016.08.14 @ 01:57:00
 Time Off Btm: 2016.08.14 @ 05:45:00

TEST COMMENT: IF: 5" blow . slid 4"
 IS: No return.
 FF: 3" blow .
 FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1496.46	103.11	Initial Hydro-static
1	34.15	102.36	Open To Flow (1)
13	52.53	102.98	Shut-In(1)
72	1131.11	104.71	End Shut-In(1)
73	53.68	104.06	Open To Flow (2)
133	122.97	106.82	Shut-In(2)
226	1124.03	108.91	End Shut-In(2)
228	1470.43	109.10	Final Hydro-static

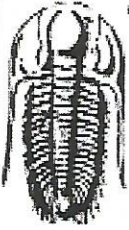
Recovery

Length (ft)	Description	Volume (bbl)
230.00	socm 2o 98m	1.69

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Staab Oil Company

8-8s-18w Rooks, KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

ATTN: Janel Staab

Job Ticket: 65544

DST#: 3

Test Start: 2016.08.15 @ 10:00:00

GENERAL INFORMATION:

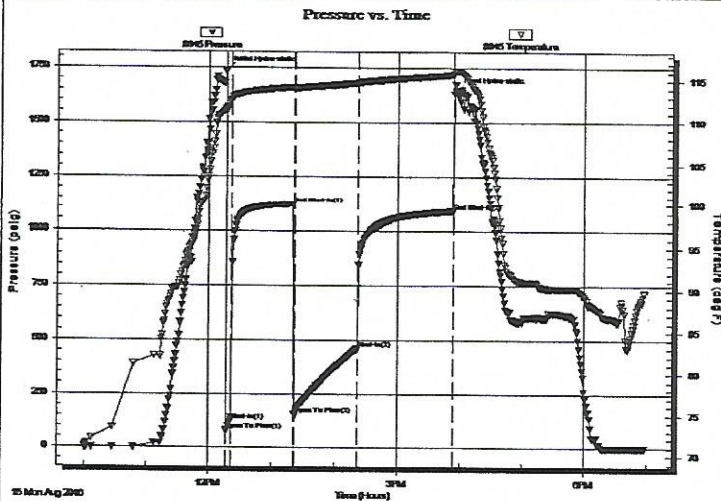
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:17:00
 Time Test Ended: 18:58:00
 Interval: **3367.00 ft (KB) To 3409.00 ft (KB) (TVD)**
 Total Depth: 3444.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 1942.00 ft (KB)
 1937.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8845

Inside

Press@RunDepth: 462.40 psig @ 3368.00 ft (KB)
 Start Date: 2016.08.15 End Date: 2016.08.15
 Start Time: 10:00:05 End Time: 18:58:00
 Capacity: 8000.00 psig
 Last Calib.: 2016.08.15
 Time On Btm: 2016.08.15 @ 12:16:30
 Time Off Btm: 2016.08.15 @ 15:55:30

TEST COMMENT: IF: BOB @ 2 minutes.
 IS: 4" return, receded to 1".
 FF: BOB @ 2 min.
 FSI: BOB @ 20 min, Receded to 7".



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.53	111.80	Initial Hydro-static
1	75.71	111.55	Open To Flow (1)
5	123.46	112.70	Shut-In(1)
65	1117.60	114.25	End Shut-In(1)
66	153.60	114.05	Open To Flow (2)
126	462.40	114.70	Shut-In(2)
217	1084.96	115.70	End Shut-In(2)
219	1643.73	116.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	gmco 30g 30m 40o	0.88
1140.00	go 30g 70o	13.67
0.00	880' GIP	0.00

* Recovery from multiple tests

Gas Rates

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

GLOBAL CEMENTING, L.L.C.

2683

REMIT TO 1958 E. Highway 40
Russell, KS 67665

SERVICE POINT: Russell

DATE <u>8-16-2016</u>	SEC. <u>8</u>	TWP. <u>8 S</u>	RANGE <u>18W</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>2:00 AM</u>
LEASE <u>Haines</u>	WELL # <u>#1</u>	LOCATION <u>Plainville 4W 9N</u>	COUNTY <u>ROCK'S</u>	STATE <u>KANSAS</u>			
OLD OR (NEW) (CIRCLE ONE)		<u>1/2 E & N INTO</u>					

CONTRACTOR Ghielos Drig. Rig #1 "George" OWNER _____

TYPE OF JOB PRODUCTION STRING "Circ Cement"

HOLE SIZE 7 7/8 T.D. 3440

CASING SIZE 5 1/2 USED DEPTH 3439

TUBING SIZE 2 5/8 14 #cs DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL LATCH DOWN ASSY DEPTH 3419

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT 20'

CEMENT LEFT IN CSG. 20'

PERFS _____

DISPLACEMENT 83 1/2 BBL

EQUIPMENT _____

CEMENT AMOUNT ORDERED 150 SX Comm 10% SALT 2% GEL 2% o/wc

400 SX MULTI-DENSITY

2 SX Sodium Metasilicate "ANHYDROUS"

COMMON _____ @ _____

POZMIX _____ @ _____

GEL _____ @ _____

CHLORIDE _____ @ _____

ASC _____ @ _____

HANDLING _____ @ _____

MILEAGE _____ @ _____

TOTAL _____

PUMP TRUCK # P-2 CEMENTER Glenn G.

BULK TRUCK # B-4 HELPER Cody H.

BULK TRUCK # B-5 DRIVER Heath L.

BULK TRUCK # _____ DRIVER Jason M.

REMARKS:
Set 5 1/2 csg @ 3439' Received CIRCULATION
DROP AFU BAL. Circ 1 HR. Pump Mud Flush
Mix 30 SX @ RATHOLE, 20 SX @ Mouse Hole
Mixed 400 SX Followed by 150 SX Cement
CLEAR-LINE Release LATCH DOWN Plug
& displaced 83 1/2 BBL H₂O LAD Plug
@ 1600 # Release PRESSURE & AFU-
Plug-(HELD). Cement DID CIRCULATE
TO SURFACE. THANKS

CHARGE TO: F. STAAB Oil Co. General Partnership

STREET _____

CITY _____ STATE _____ ZIP _____

Cement DID CIRCULATE TO SURFACE

Global Cementing, L.L.C.,
 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 George Becker

SIGNATURE Staab Oil Co Todd Staab

SERVICE

DEPTH OF JOB _____

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE _____ @ _____

MILEAGE _____ @ _____

MANIFOLD _____ @ _____

TOTAL _____

PLUG & FLOAT EQUIPMENT

FLDTShoe _____ @ _____

3-BASKETS _____ @ _____

9-CENTRALIZERS _____ @ _____

1-LATCH DOWN Plug _____ @ _____

1-BAFFle Plate _____ @ _____

TOTAL _____

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS

GLOBAL CEMENTING, L.L.C.

2679

REMIT TO 1958 E. Highway 40
Russell, KS 67665

SERVICE POINT: Russell

DATE <u>8-9-2016</u>	SEC. <u>8</u>	TWP. <u>8</u>	RANGE <u>18</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>11:30 PM</u>
LEASE <u>HAINES</u>	WELL #. <u>#1</u>	LOCATION <u>Plainville 4W 9 1/4N 1/4E</u>			COUNTY <u>ROOK'S</u>	STATE <u>KANSAS</u>	
OLD OR <input checked="" type="radio"/> NEW (CIRCLE ONE)							

CONTRACTOR <u>SHields Dalg. Rig #1 "George"</u>	OWNER
TYPE OF JOB <u>Cement Surface</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>217'</u>
CASING SIZE <u>8 5/8 NEW</u>	DEPTH <u>214'</u>
TUBING SIZE <u>20 # CSG.</u>	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS	
DISPLACEMENT <u>12 85/BL</u>	
EQUIPMENT	
PUMP TRUCK # <u>P-2</u>	CEMENTER <u>Glenn G.</u>
BULK TRUCK # <u>B-5</u>	HELPER <u>Heath L.</u>
BULK TRUCK #	DRIVER <u>Jason M.</u>
BULK TRUCK #	DRIVER

CEMENT AMOUNT ORDERED <u>150 SX Com.</u>	
<u>3 70 CC</u>	
<u>2 30 GEL</u>	
COMMON	@
POZMIX	@
GEL	@
CHLORIDE	@
ASC	@
HANDLING	@
MILEAGE	@
TOTAL	

REMARKS:
Set 8 5/8 @ 214
Received CIRCULATION
Cement w/ 150 SX Com 2+3
Displaced 13/BL Hz
SHUT IN @ 150 FT.
Cement DID CIRCULATE
THANKS

CHARGE TO: FRANK STAAB Oil Company
 STREET _____
 CITY _____ STATE _____ ZIP _____

DEPTH OF JOB	
PUMP TRUCK CHARGE	
EXTRA FOOTAGE	@
MILEAGE	@
MANIFOLD	@
TOTAL	

PLUG & FLOAT EQUIPMENT

	@
	@
	@
	@
	@
TOTAL	

Global Cementing, L.L.C.,
 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 George Begler
 SIGNATURE J. George Begler

SALES TAX (If Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS

Janel Staab
Consulting Petroleum Geologist

2428 Toulon Ave
Hays, KS 67601
Phone: 785-625-4311
Cell Phone: 785-635-1660

GEOLOGIST'S WELL REPORT

COMPANY Staab Oil Company (6037)
WELL Haines #1
FIELD Webster View Southeast
LOCATION (legal) NW-SE · NW-NW 765 FNL 975 F WL
Section 8 TWP 8S RGE 18W
(Map) From Plainville 9 north 1 w 1/2 S 2 1/2 W 3/4 N.
COUNTY Rooks STATE Kansas
ELEVATION: 1942 K.B., 1937 G.L.

Depths measured from Kelly Bushing

A. P. I. NUMBER 15-163-24315
GEOLOGY BY Janel Staab

PERTINENT WELL DATA

CONTRACTOR Shields Drilling Co. (5184)

RIG 1 HYDRAULICS Beth 225 6X14

DRILL PIPE 4 1/2' X H COLLARS 6 1/4" 233'

CASING: SURFACE 8 5/8" @ 214' w/150 SXCommon

PRODUCTION 5 1/2" @ 3443 w/150 SXCommon

DRILLING FLUID: COMPANY Mud-Co/Service Mud Inc

TYPE: Chemical Gary Schmidtberge

REMARKS: Full Service

DRILL STEM TESTS: COMPANY Trilobite Testing Inc

NUMBER OF TESTS 3

ELECTIC LOGS: COMPANY ELI

DETAIL (5") 2800 - RTD

TYPE DI, Comp N-D, Micro

DRILLING TIME FROM 2830 TO RTD

SAMPLE TIME FROM 2830 TO RTD

SUPERVISION FROM 2830 TO RTD

VERTICAL DEVIATION 3/4 @ 3110

PLUGGING REPORT _____

RESERVE PIT _____

DRILL STEM TESTS

NO	INTERVAL	IFT/TIME	ISIP/TIME	FFF/TIME	FSIP/TIME	IHP/FHP	RECOVERY
1	Topela-Toronto 3018-3110	48-121 10	1087 60	130.325 60	1082 90	1464 1394	120' GO 30% G 70% 120' Gwocm 10% G 170' Gwocm 10% G 300' Gwocm 10%
2	LKC-A-D 3108-3184	34-53 10	1131 60	54-123 60	1124 90	1496 1470	230' SOCM 2
3	Arb 3369-3409	75-123 5	1117 60	153.462 60	1084 90	1737 1643	120' Gmco 40% 114' GO 30% G 880' GIP
4							
5							
6							
7							
8							

MUD RECORD

CHK	DEPTH	WT	VIS	FIL	CHL	YP	LCM
1	1517	9.2	29	NC	17000	-	Nil
2	2540	9.3	29	NC	34000	-	Nil
3	3110	8.9	60+	7.2	1800	30	2
4	3184	9.1	57	6.8	1900	25	2
5	3440	9.0	59	7.4	1800	37	2
6							
7							
8							
9							
10							
11							

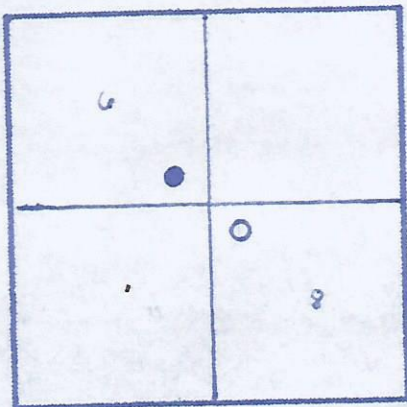
BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH	FEET	HOURS
1	12 1/4"	Reed	Mill Tooth	217'	217'	7 3/4
2	7 7/8"	Reed	S-52	3440	3223	74 3/4
3						
4						

FORMATION TOPS & STRUCTURAL GEO

REFERRED TO:

A: Hayes #1
 B: _____
 C: _____
 D: _____
 E: _____



oil
 20% W 50% M
 30% W 50% M
 90% W 90% M

oil
 30% G
 0% O

STRATIGRAPHIC MARKERS	SUBJECT WELL		STRUCTURAL POSITION		
	SAMPLE	E. LOG	DATUM	A	B

Anhydrite	1357	1360	+582	+595		
Base	1393	1395	+547	+562		
Topeka	2865	2869	-927	-933		
Heeb Sh	3071	3075	-1133	-1137		
Toronto	3096	3097	-1155	-1160		
Lansing	3114	3116	-1174	-1178		
BKC	3329	3335	-1393	-1400		
Arbuckle	3377	3379	-1437	-1455		
TD.	3400	3444	-1502	-1514		

*Structural position of subject well as compared to refer

n 6 7

SUMMARY

The Haines #1 was drilled using Shield
 Location was Sec 8, T 8S, R 18W in
 Kansas starting on August 9, 2016 and
 pipe on August 16, 2016

3-D Seismic had indicated that this
 had a Arbuckle high compared to surro
 drilled locations.

3 - DST's and logs were ran
 #1 + #3 had positive results. Logs con
 that this location was structurally high
 confirmed DST results as well as samp

As a result production pipe was r
 And focus areas will be in the Arbuc
 Lower topeka + Toronto + F Zone of LKC

Paul Seab

Rig.
 Co.
 sat
 Location
 ending
 DST's
 Armed
 and
 lbs.
 an
 de and

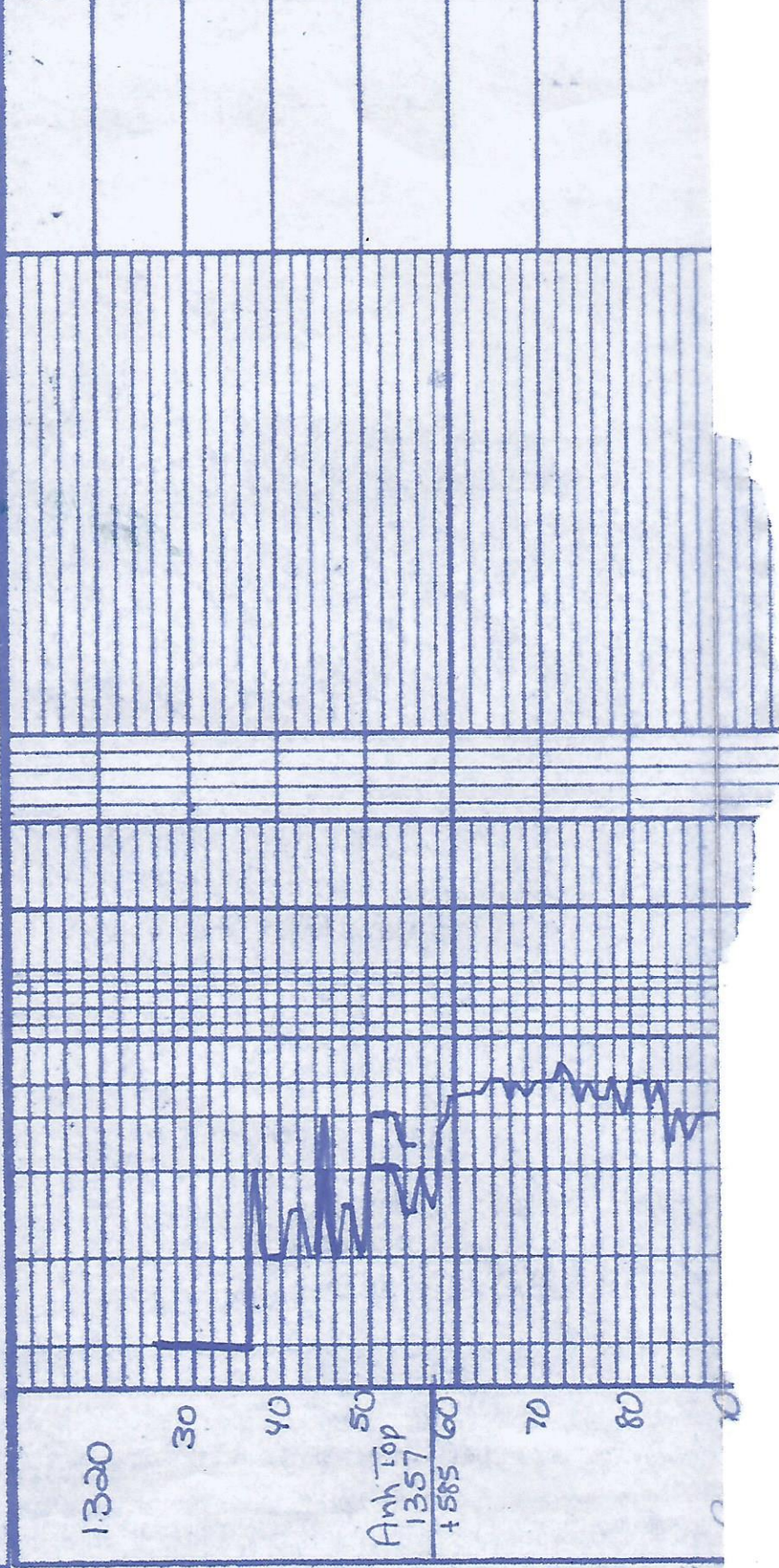
REMARKS

LITHOLOGY (LAGGED)

ρ & SHOWS
 POOR
 TAIR
 8000
 DST

DRILLING TIME (min/ft)

1/2 1 2 3 4 5 6 7 8 9 10



1320

30

40

50

Ank. Top
1357

+585 60

70

80

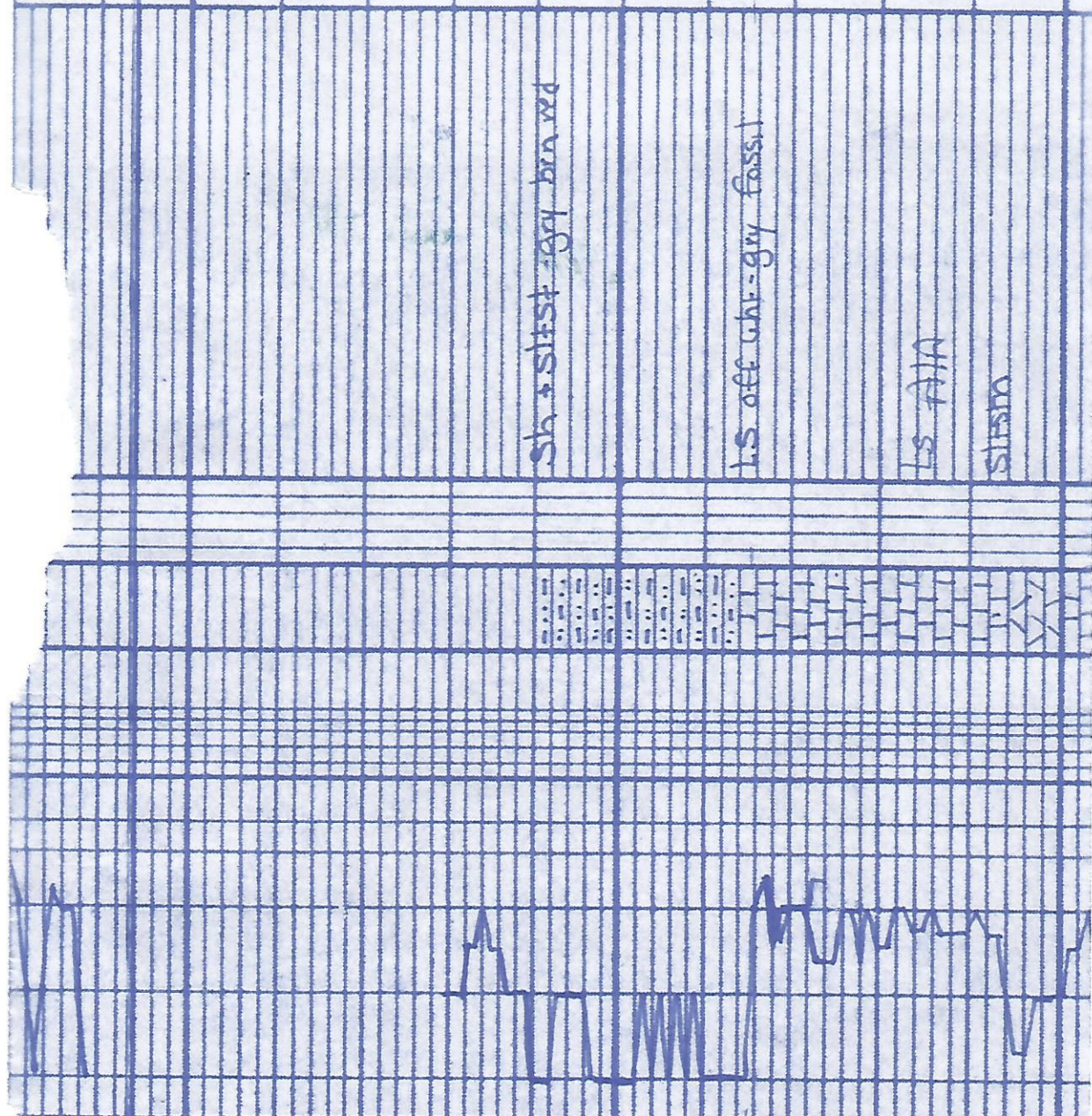
90

1065
1393 + 54
1400

2800

10
20
30
40
50
60
70
80
90
2900

Topokg
2865
-923



Sh + siltst - grey brown red

L.S. off wht - grey fossilif

L.S. AHA

Siltstn

Geo on location
@ 4:30 p.m.
8-12-16

Sh. gray

LS off wh. - tan. brn. fossil
sl. cherty

LS off wh. fossil brn. fossil
sl. cherty sl. cherty

sh. BK

LS off wh. - tan. brn. fossil
fossil

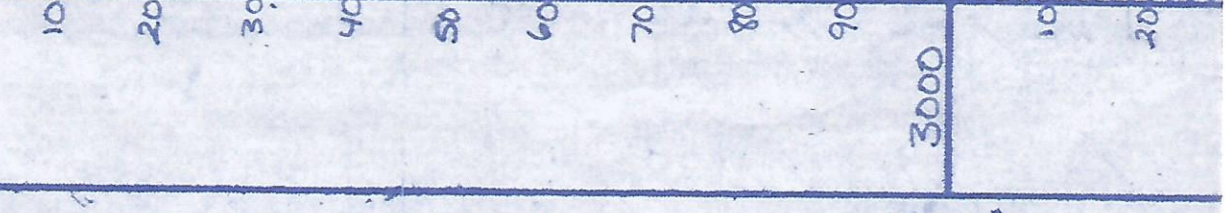
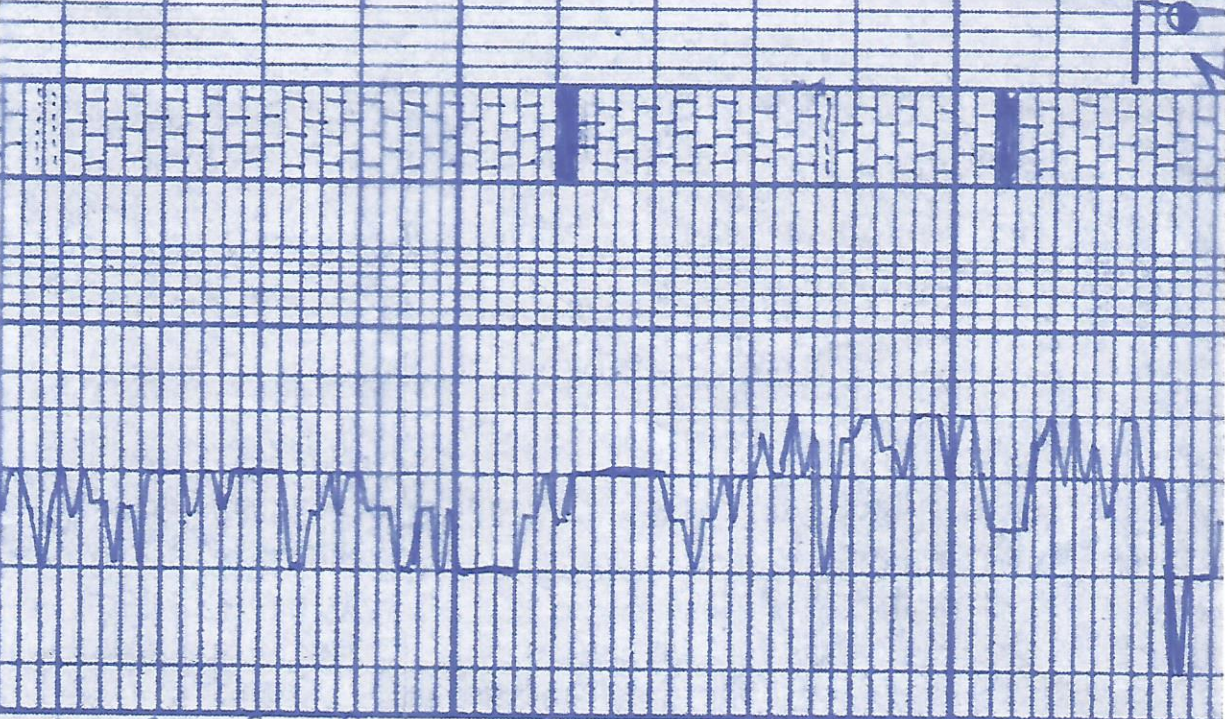
LS wh. - off wh. fossil. V. fossil
sl. pyrite

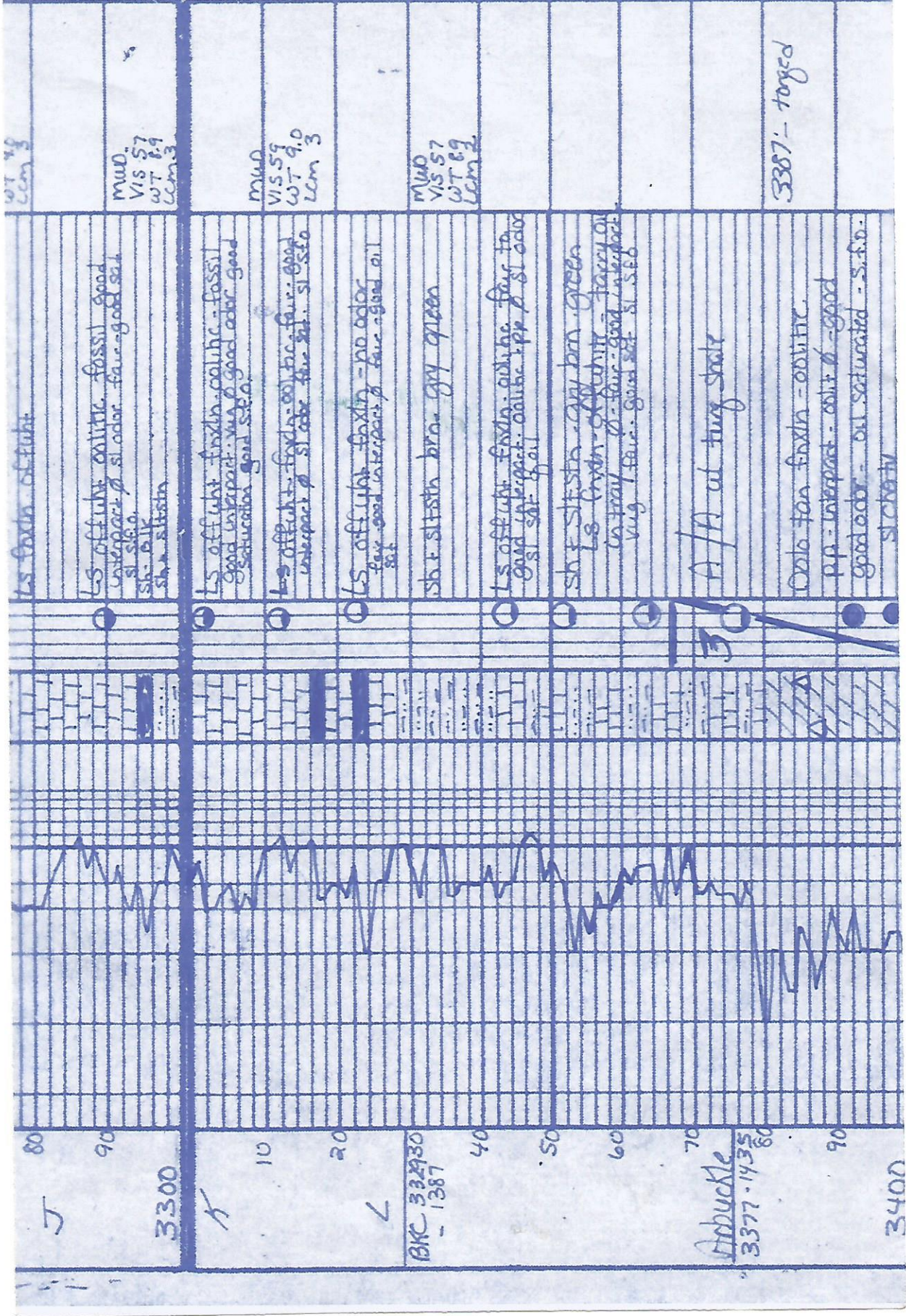
sh. BK

LS off wh. - gray fossil
fossil

LS off wh. fossil. fossil fossil
good, top part of good color. Sh. BK

OST #1
Top - Toronto





WT 1.0
Lcm 3

LS fossils of light
LS off light. oolitic. fossil good
interpart. ϕ sl odor. fair-good sat
sl. s.l.c.
sh. s.l.stsh

MUD.
VIS 57
WT 8.9
Lcm 3

LS off light. finsh. oolitic. fossil
good interpart. ϕ good odor. good
saturation good s.l.c.

MUD
VIS 59
WT 9.0
Lcm 3

LS off light. finsh. oolitic. fair. good
interpart. ϕ sl odor. fair. s.l. s.l.c.

LS off light. finsh. - no odor
fair. good interpart. ϕ fair. good oil
sat

MUD
VIS 57
WT 8.9
Lcm 3

sh. s.l.stsh brn. gray green

LS off light. finsh. oolitic. fair to
good interpart. oolitic. ϕ sl odor
sl sat. good

sh. s.l.stsh. gray brn. green
LS finsh. oolitic. fair to
in tray ϕ - fair - good interpart.
Vug. / fair. good sat. sl. s.l.c.

A/A at top shale

Only top finsh. - oolitic.
pp. - interpart. - oolitic. ϕ - good
good odor. - oil saturated - s.l.c.
sl. s.l.c.

3387 - topped

J

3300

K

10

L

20

BKC 332930
- 1387

40

50

60

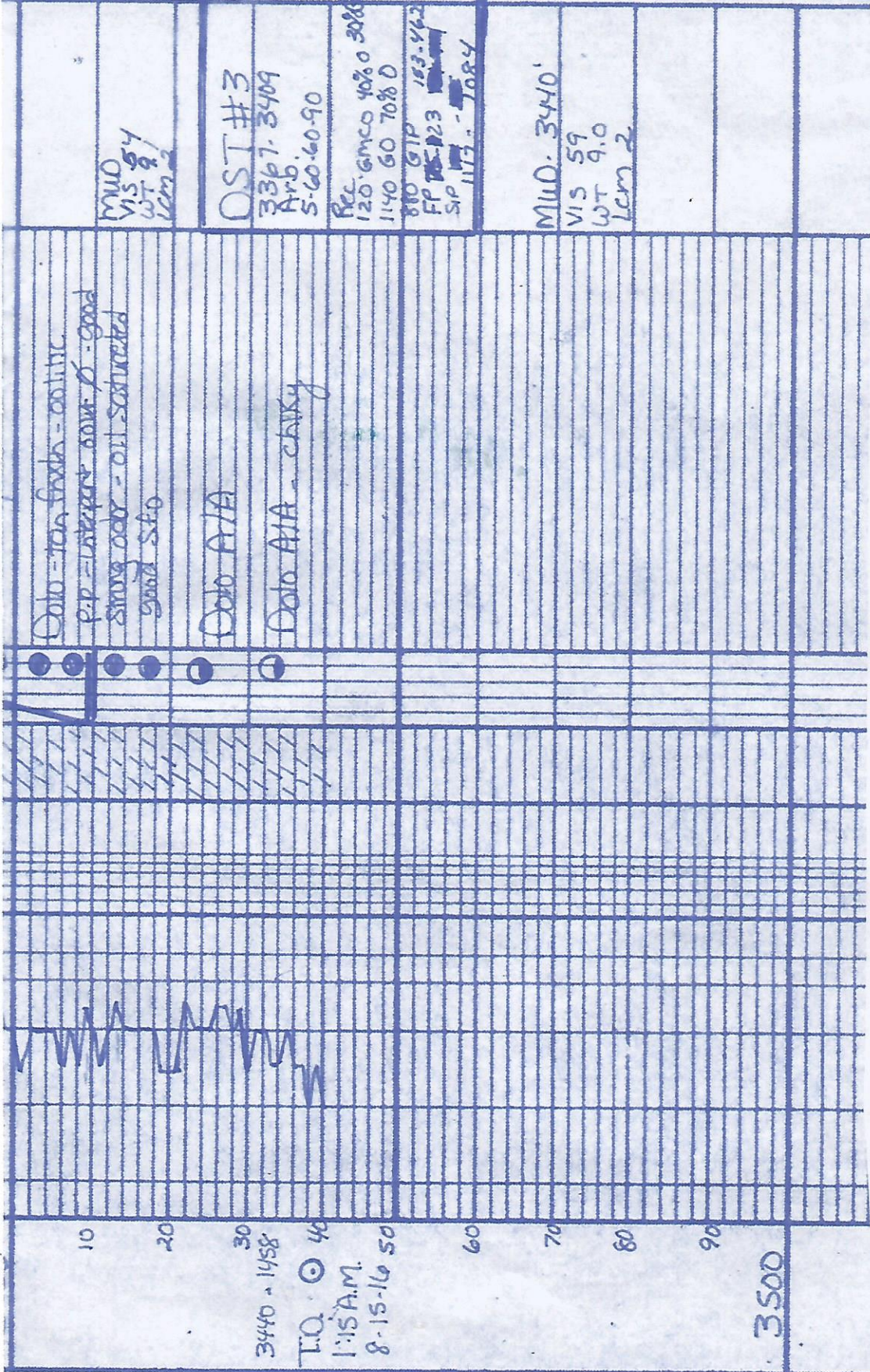
70

Arbuckle
3377-1435

80

90

3400



Dolo - tan frags - anitic
 p.p. = interpart cov. ϕ - good
 strong odor - oil saturated
 sand sifo

Dolo A/A

Dolo A/A - chalky

MUD
 VIS 6.4
 WT 9.1
 LCM 2

O.S.T. #3

3367-3409
 Arb.
 5-60-60-90

Rec.
 120 GMCO 40% 0 3086
 1140 60 70% 0

610 GIP 153-462
 FP 15-123
 SIP 1173 - 7084

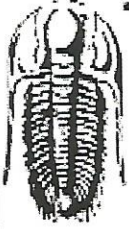
MUD. 3440'

VIS 5.9
 WT 9.0
 LCM 2

3440 - 1458'

T.O. \odot 40
 1:15 A.M.
 8-15-16 50

3500



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Staab Oil Company
1607 Hopewell Rd
Hays, KS 67601
ATTN: Janel Staab

8-8s-18w Rooks, KS

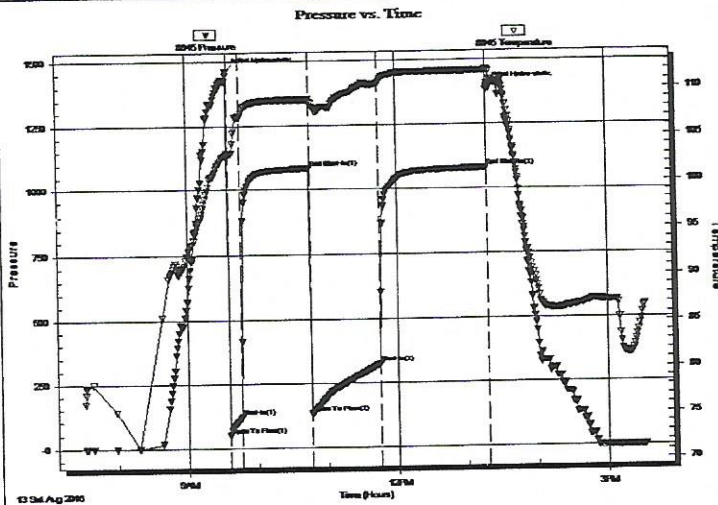
Haines #1
Job Ticket: 65542 **DST#: 1**
Test Start: 2016.08.13 @ 07:31:00

GENERAL INFORMATION:

Formation: **Oread - Toronto**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:35:45
Time Test Ended: 15:32:15
Interval: **3018.00 ft (KB) To 3110.00 ft (KB) (TVD)**
Total Depth: 3110.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Bradley Walter
Unit No: 78
Reference Elevations: 1942.00 ft (KB)
1937.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8845 **Outside**
Press@RunDepth: 325.28 psig @ 3019.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.08.13 End Date: 2016.08.13 Last Calib.: 2016.08.13
Start Time: 07:31:05 End Time: 15:32:14 Time On Btm: 2016.08.13 @ 09:35:15
Time Off Btm: 2016.08.13 @ 13:18:15

TEST COMMENT: IF: BOB @ 8 minutes (10' slide)
IS: Surface return, died @ 25 minutes.
FF: BOB @ 8 minutes.
FS: 4" return @ 45 min. receded to 1"



PRESSURE SUMMARY

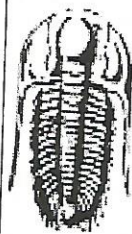
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1463.83	103.28	Initial Hydro-static
1	48.01	103.05	Open To Flow (1)
11	121.39	107.03	Shut-In(1)
71	1086.65	108.95	End Shut-In(1)
72	130.45	108.64	Open To Flow (2)
130	325.28	110.61	Shut-In(2)
222	1081.98	111.95	End Shut-In(2)
223	1394.17	112.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	omcw 1o 9m 90w	2.20
170.00	gow cm 10g 10o 30w 50m	1.27
120.00	gw ocm 10g 20w 20o 50m	1.68
120.00	go 30g 70o	1.68
0.00	300' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company
1607 Hopewell Rd
Hays, KS 67601
ATTN: Janel Staab

8-8s-18w Rooks, KS
Haines #1
Job Ticket: 65542 DST#: 1
Test Start: 2016.08.13 @ 07:31:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 38 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 28000 ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.18 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 1800.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	omcw 1o 9m 90w	2.204
170.00	gow cm 10g 10o 30w 50m	1.269
120.00	gw ocm 10g 20w 20o 50m	1.683
120.00	go 30g 70o	1.683
0.00	300' GIP	0.000

Total Length: 710.00 ft Total Volume: 6.839 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: rw is .212 @ 80f = 28,000ppm

Serial #: 8845

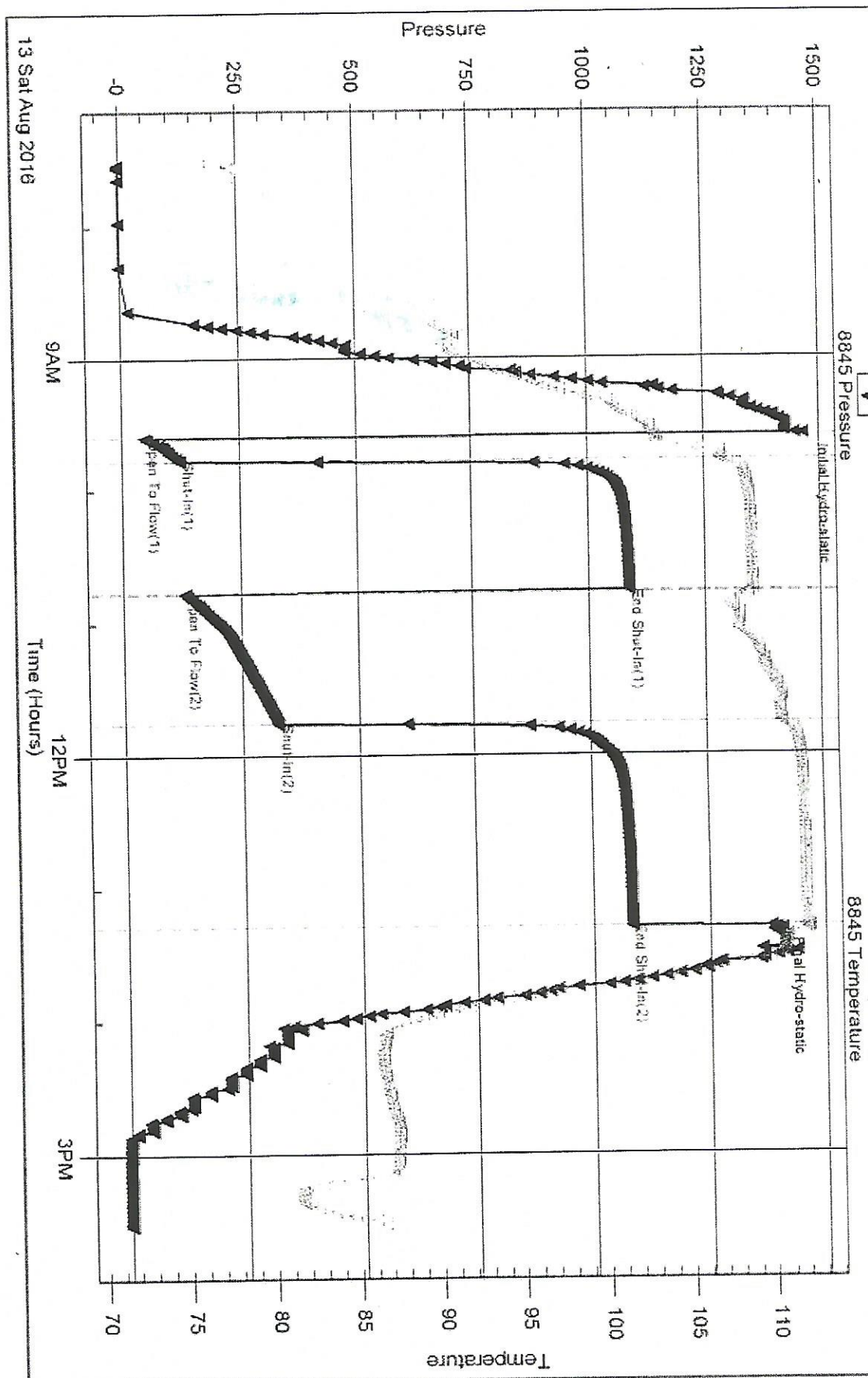
Outside

Staab Oil Company

Haines #1

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 65542

Printed 2016 08 17 @ 16:39:45

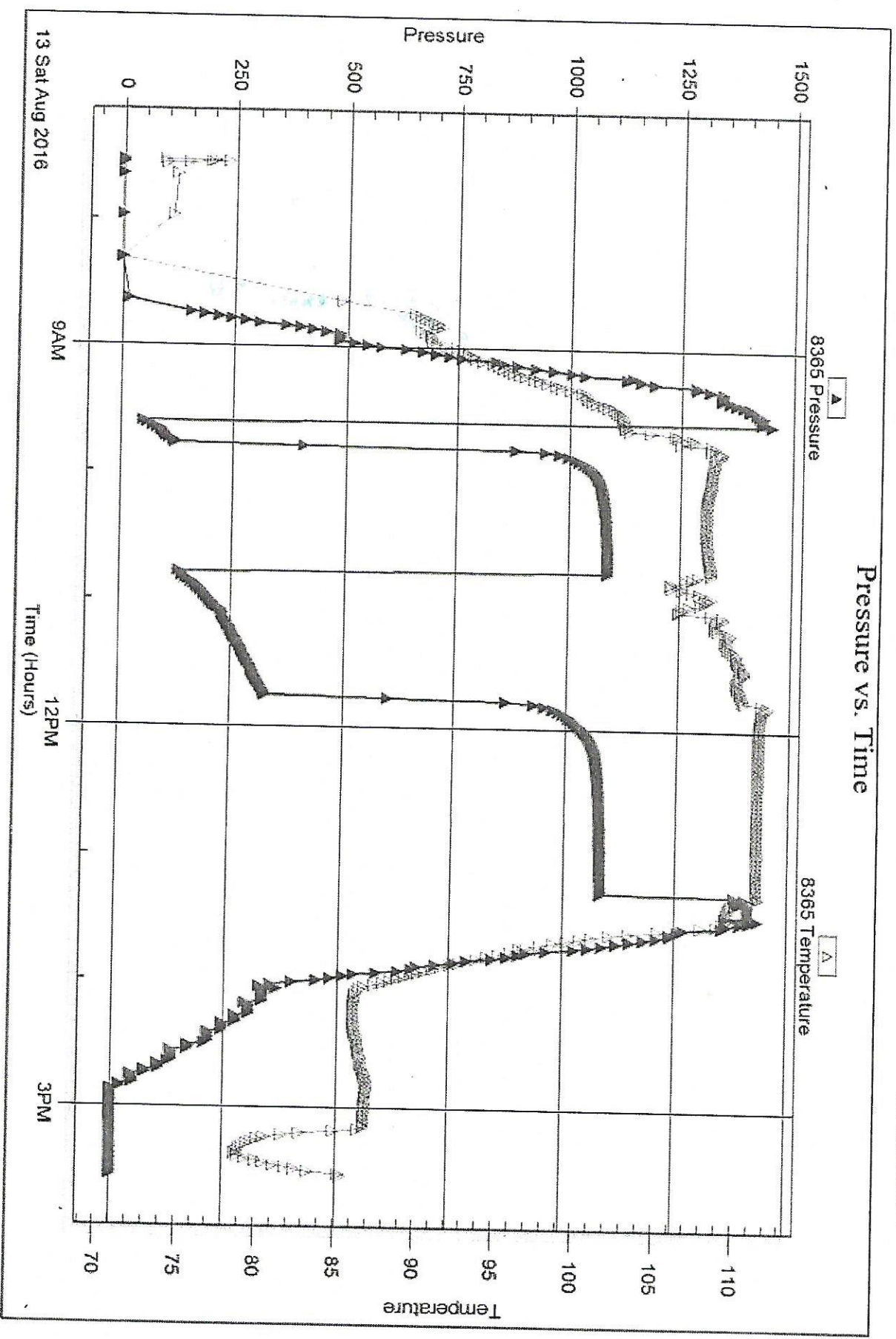
Serial #: 8365

Inside

Stab Oil Company

Haines #1

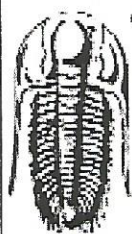
OST Test Number: 1



Traabite Testing, Inc

Ref. No: 65542

Printed: 2016 08 17 @ 16:39:46



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Staab Oil Company

8-8s-18w Rooks, KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

Job Ticket: 65543

DST#: 2

ATTN: Janel Staab

Test Start: 2016.08.13 @ 23:23:00

GENERAL INFORMATION:

Formation: **LKC A - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:57:15

Time Test Ended: 07:39:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 78

Interval: **3108.00 ft (KB) To 3184.00 ft (KB) (TVD)**

Reference Elevations: 1942.00 ft (KB)

Total Depth: 3184.00 ft (KB) (TVD)

1937.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8845 Outside

Press@RunDepth: 122.97 psig @ 3109.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.08.13

End Date: 2016.08.14

Last Calib.: 2016.08.14

Start Time: 23:23:05

End Time: 07:39:14

Time On Btm: 2016.08.14 @ 01:57:00

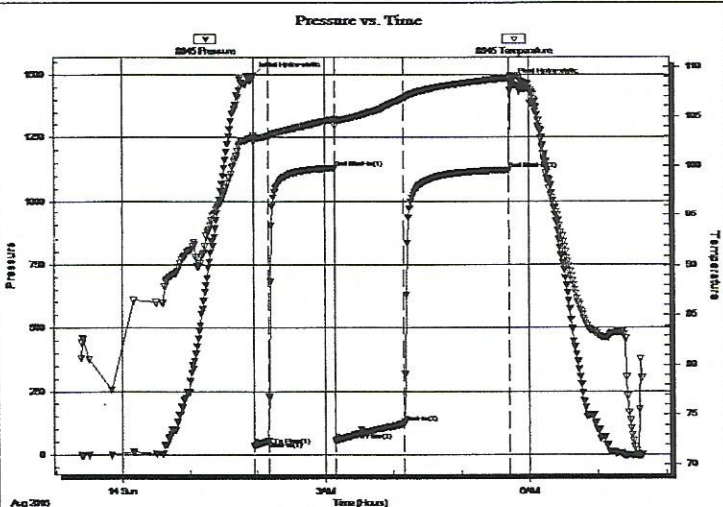
Time Off Btm: 2016.08.14 @ 05:45:00

TEST COMMENT: IF: 5" blow . slid 4'

IS: No return.

FF: 3" blow .

FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1496.46	103.11	Initial Hydro-static
1	34.15	102.36	Open To Flow (1)
13	52.53	102.98	Shut-In(1)
72	1131.11	104.71	End Shut-In(1)
73	53.68	104.06	Open To Flow (2)
133	122.97	106.82	Shut-In(2)
226	1124.03	108.91	End Shut-In(2)
228	1470.43	109.10	Final Hydro-static

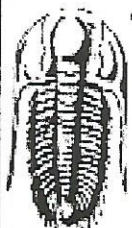
Recovery

Length (ft)	Description	Volume (bbl)
230.00	socm 2o 98m	1.69

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Staab Oil Company

8-8s-18w Rooks, KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

Job Ticket: 65543

DST#: 2

ATTN: Janel Staab

Test Start: 2016.08.13 @ 23:23:00

Tool Information

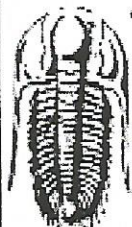
Drill Pipe:	Length: 2638.00 ft	Diameter: 3.80 inches	Volume: 37.00 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 467.00 ft	Diameter: 2.75 inches	Volume: 3.43 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 40.43 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 53000.00 lb
Depth to Top Packer:	3108.00 ft			Final 53000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	96.00 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			3089.00	
Shut In Tool	5.00			3094.00	
Hydraulic tool	5.00			3099.00	
Packer	5.00			3104.00	20.00 Bottom Of Top Packer
Packer	4.00			3108.00	
Stubb	1.00			3109.00	
Recorder	0.00	8365	Inside	3109.00	
Recorder	0.00	8845	Outside	3109.00	
Perforations	7.00			3116.00	
Change Over Sub	1.00			3117.00	
Drill Pipe	63.00			3180.00	
Change Over Sub	1.00			3181.00	
Bullnose	3.00			3184.00	76.00 Bottom Packers & Anchor

Total Tool Length: 96.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company

8-8s-18w Rooks, KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

Job Ticket: 65543

DST#: 2

ATTN: Janel Staab

Test Start: 2016.08.13 @ 23:23:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
230.00	socm 2o 98m	1.690

Total Length: 230.00 ft

Total Volume: 1.690 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8845

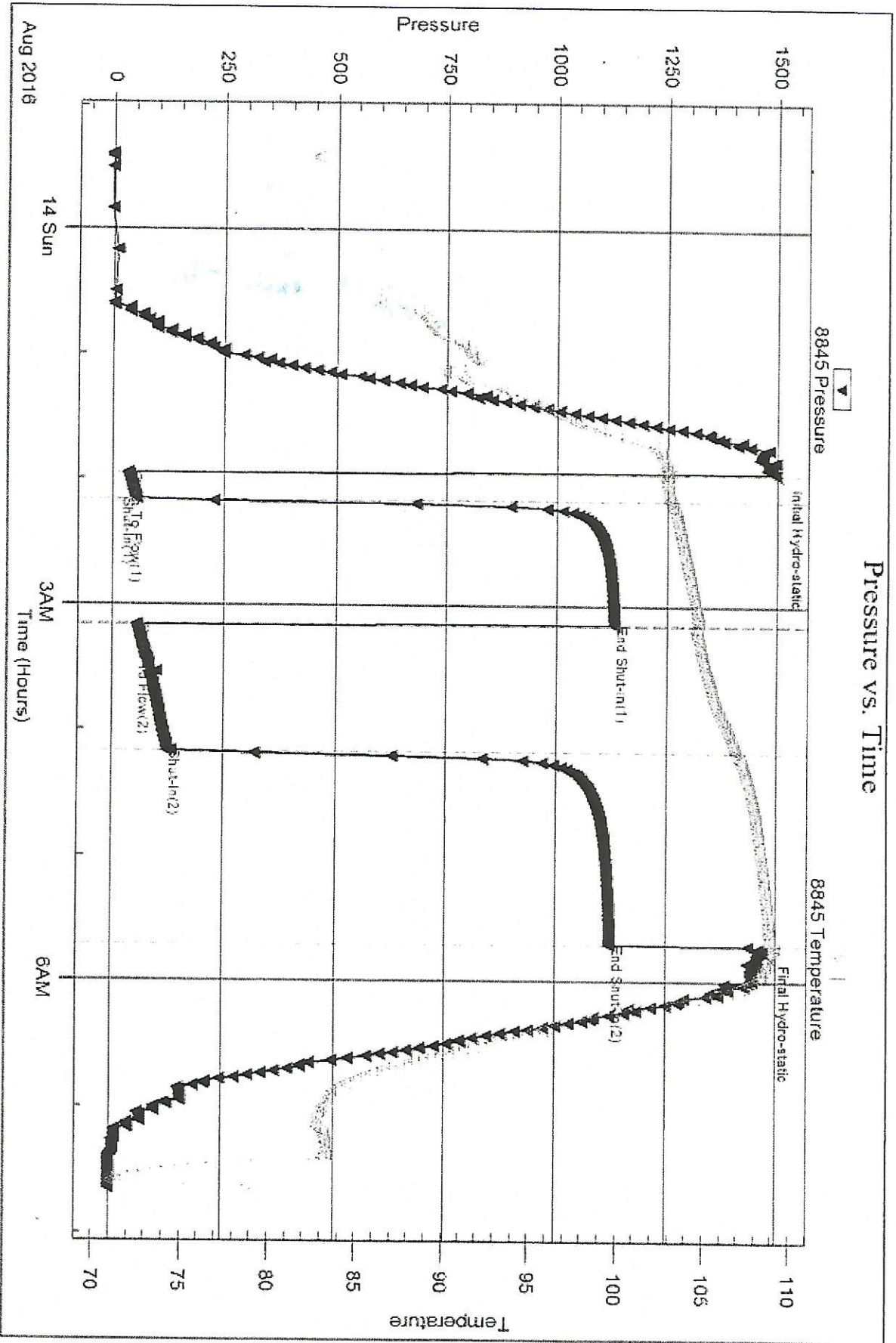
Outside

Staab Oil Company

Hanes #1

OST Test Number: 2

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 65543

Printed 2016 08 17 @ 16:34:43

Serial #: 8365

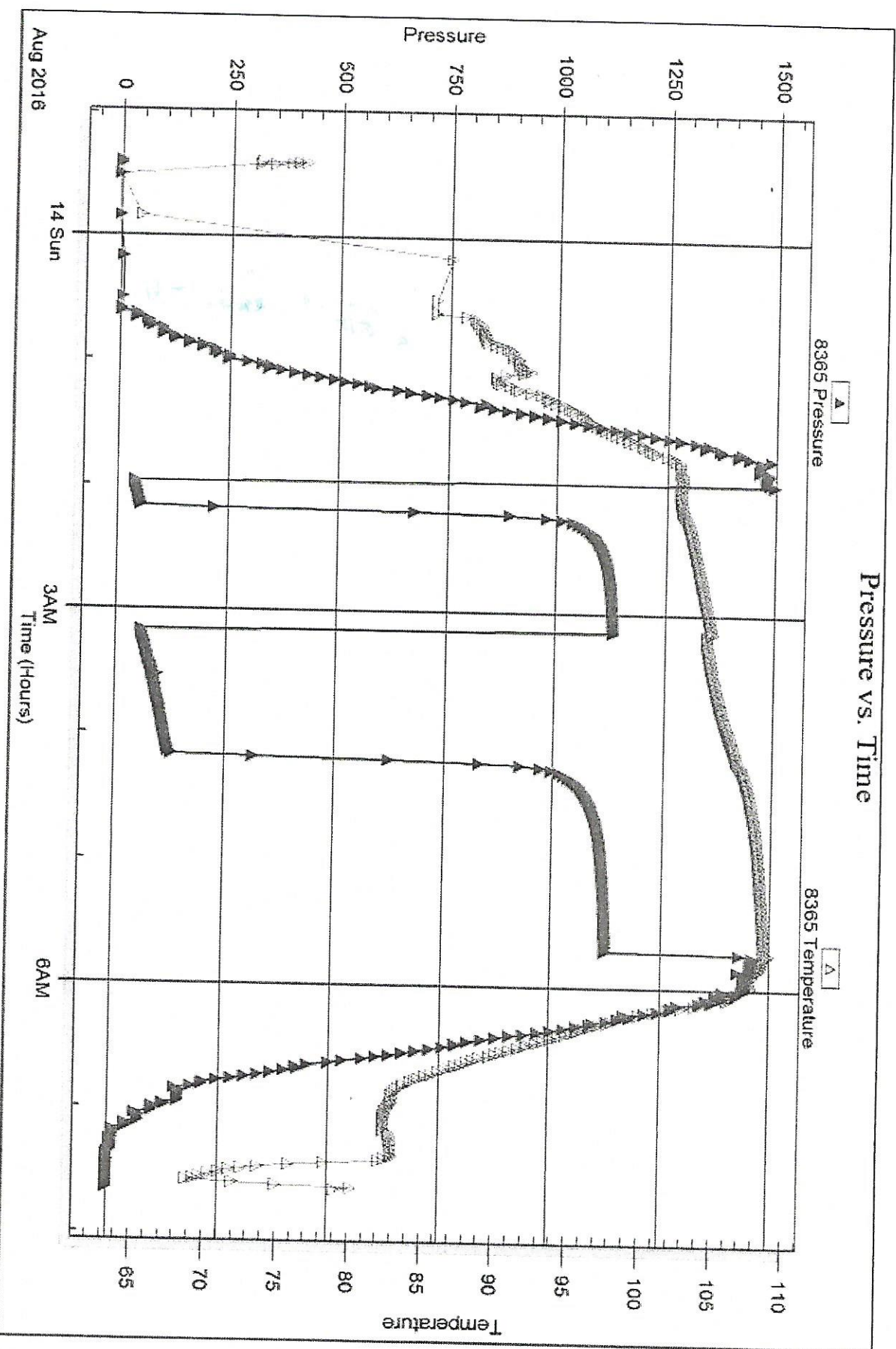
Inside

Staab Oil Company

Haines #1

DST Test Number: 2

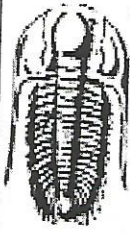
Pressure vs. Time



Triobite Testing, Inc

Ref. No: 05543

Printed: 2016 08 17 @ 16:34:43



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Staab Oil Company
 1607 Hopewell Rd
 Hays, KS 67601
 ATTN: Janel Staab

8-8s-18w Rooks, KS

Haines #1

Job Ticket: 65544

DST#: 3

Test Start: 2016.08.15 @ 10:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:17:00
 Time Test Ended: 18:58:00
 Interval: **3367.00 ft (KB) To 3409.00 ft (KB) (TVD)**
 Total Depth: 3444.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 1942.00 ft (KB)
 1937.00 ft (CF)
 KB to GR/CF: 5.00 ft

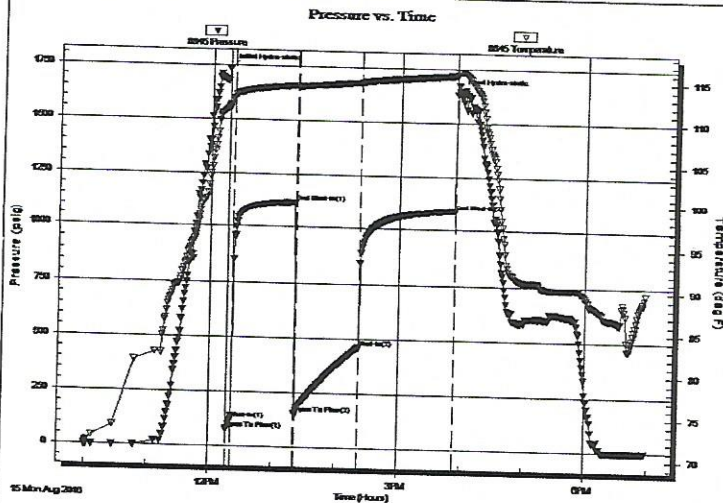
Serial #: 8845

Inside

Press@RunDepth: 462.40 psig @ 3368.00 ft (KB)
 Start Date: 2016.08.15 End Date: 2016.08.15
 Start Time: 10:00:05 End Time: 18:58:00

Capacity: 8000.00 psig
 Last Calib.: 2016.08.15
 Time On Btm: 2016.08.15 @ 12:16:30
 Time Off Btm: 2016.08.15 @ 15:55:30

TEST COMMENT: IF: BOB @ 2 minutes.
 IS: 4" return, receded to 1".
 FF: BOB @ 2 min.
 FSI: BOB @ 20 min, Receded to 7".



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.53	111.80	Initial Hydro-static
1	75.71	111.55	Open To Flow (1)
5	123.46	112.70	Shut-In(1)
65	1117.60	114.25	End Shut-In(1)
66	153.60	114.05	Open To Flow (2)
126	462.40	114.70	Shut-In(2)
217	1084.96	115.70	End Shut-In(2)
219	1643.73	116.07	Final Hydro-static

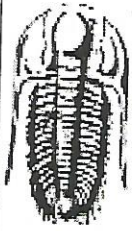
Recovery

Length (ft)	Description	Volume (bbl)
120.00	gmco 30g 30m 40o	0.88
1140.00	go 30g 70o	13.67
0.00	880' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Staab Oil Company

8-8s-18w Rooks, KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

Job Ticket: 65544

DST#: 3

ATTN: Janel Staab

Test Start: 2016.08.15 @ 10:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: _____ ft (KB)
 Time Tool Opened: 12:17:00
 Time Test Ended: 18:58:00
 Interval: **3367.00 ft (KB) To 3409.00 ft (KB) (TVD)**
 Total Depth: 3444.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)
 Tester: Bradley Walter
 Unit No: 78
 Reference Elevations: 1942.00 ft (KB)
 1937.00 ft (CF)
 KB to GR/CF: 5.00 ft

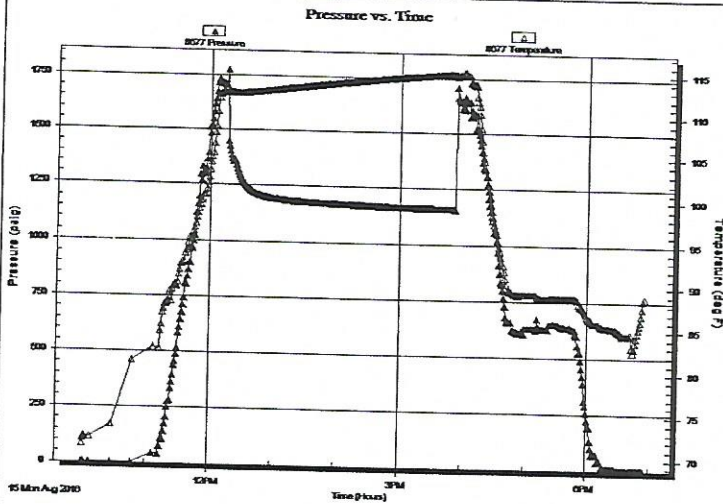
Serial #: 8677

Below (Straddle)

Press@RunDepth: _____ psig @ 3441.00 ft (KB)
 Start Date: 2016.08.15 End Date: _____
 Start Time: 10:00:05 End Time: _____

Capacity: 8000.00 psig
 Last Calib.: 2016.08.15
 Time On Btm: _____
 Time Off Btm: _____

TEST COMMENT: IF: BOB @ 2 minutes.
 IS: 4" return, receded to 1".
 FF: BOB @ 2 min.
 FSI: BOB @ 20 min, Receded to 7".



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	gmco 30g 30m 40o	0.88
1140.00	go 30g 70o	13.67
0.00	880' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Staab Oil Company

8-8s-18w Rooks, KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

ATTN: Janel Staab

Job Ticket: 65544

DST#: 3

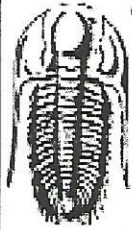
Test Start: 2016.08.15 @ 10:00:00

Tool Information

Drill Pipe:	Length: 2898.00 ft	Diameter: 3.80 inches	Volume: 40.65 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 467.00 ft	Diameter: 2.75 inches	Volume: 3.43 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: 70000.00 lb
			Total Volume: 44.08 bbl	Tool Chased: 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	3367.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	104.00 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			3341.00	
Shut In Tool	5.00			3346.00	
Hydraulic tool	5.00			3351.00	
Jars	5.00			3356.00	
Safety Joint	2.00			3358.00	
Packer	5.00			3363.00	27.00 Bottom Of Top Packer
Packer	4.00			3367.00	
Stubb	1.00			3368.00	
Recorder	0.00	8845	Inside	3368.00	
Recorder	0.00	8365	Outside	3368.00	
Perforations	1.00			3369.00	
Change Over Sub	0.50			3369.50	
Drill Pipe	30.00			3399.50	
Change Over Sub	0.50			3400.00	
Perforations	5.00			3405.00	
Blank Off Sub	1.00			3406.00	77.00 Tool Interval
Packer	3.00			3409.00	
Blank Spacing	1.00			3410.00	
Perforations	31.00			3441.00	
Recorder	0.00	8677	Below	3441.00	
Bullnose	3.00			3444.00	1000103.00 Bottom Packers & Anchor
Total Tool Length:	104.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Staab Oil Company

8-8s-18w Rooks,KS

1607 Hopewell Rd
Hays, KS 67601

Haines #1

Job Ticket: 65544

DST#: 3

ATTN: Janel Staab

Test Start: 2016.08.15 @ 10:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
120.00	gmco 30g 30m 40o	0.882
1140.00	go 30g 70o	13.673
0.00	880' GIP	0.000

Total Length: 1260.00 ft

Total Volume:

14.555 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

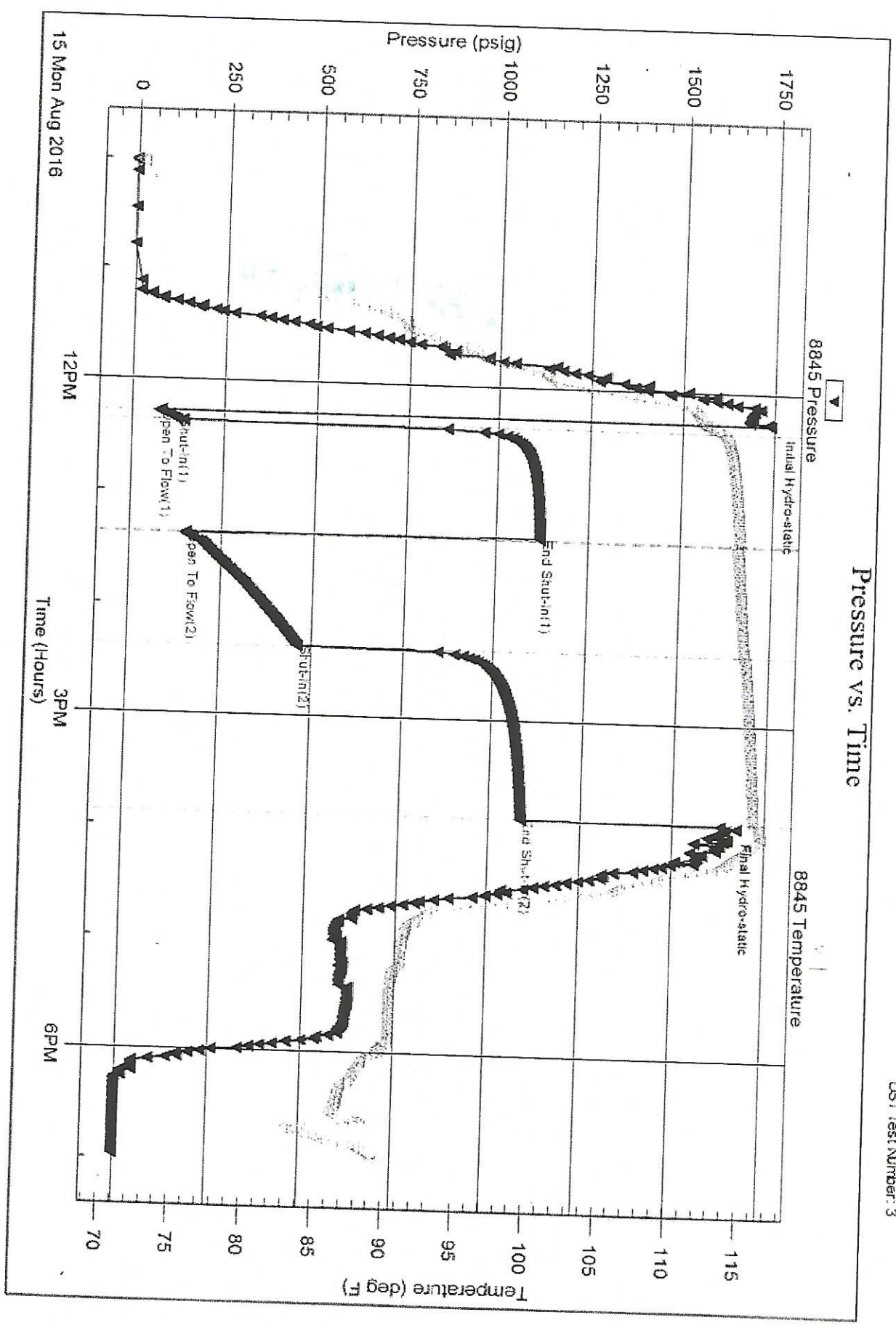
Laboratory Location:

Recovery Comments:

Serial # 8845 Inside Staab Oil Company

Haines #1

OST Test Number: 3

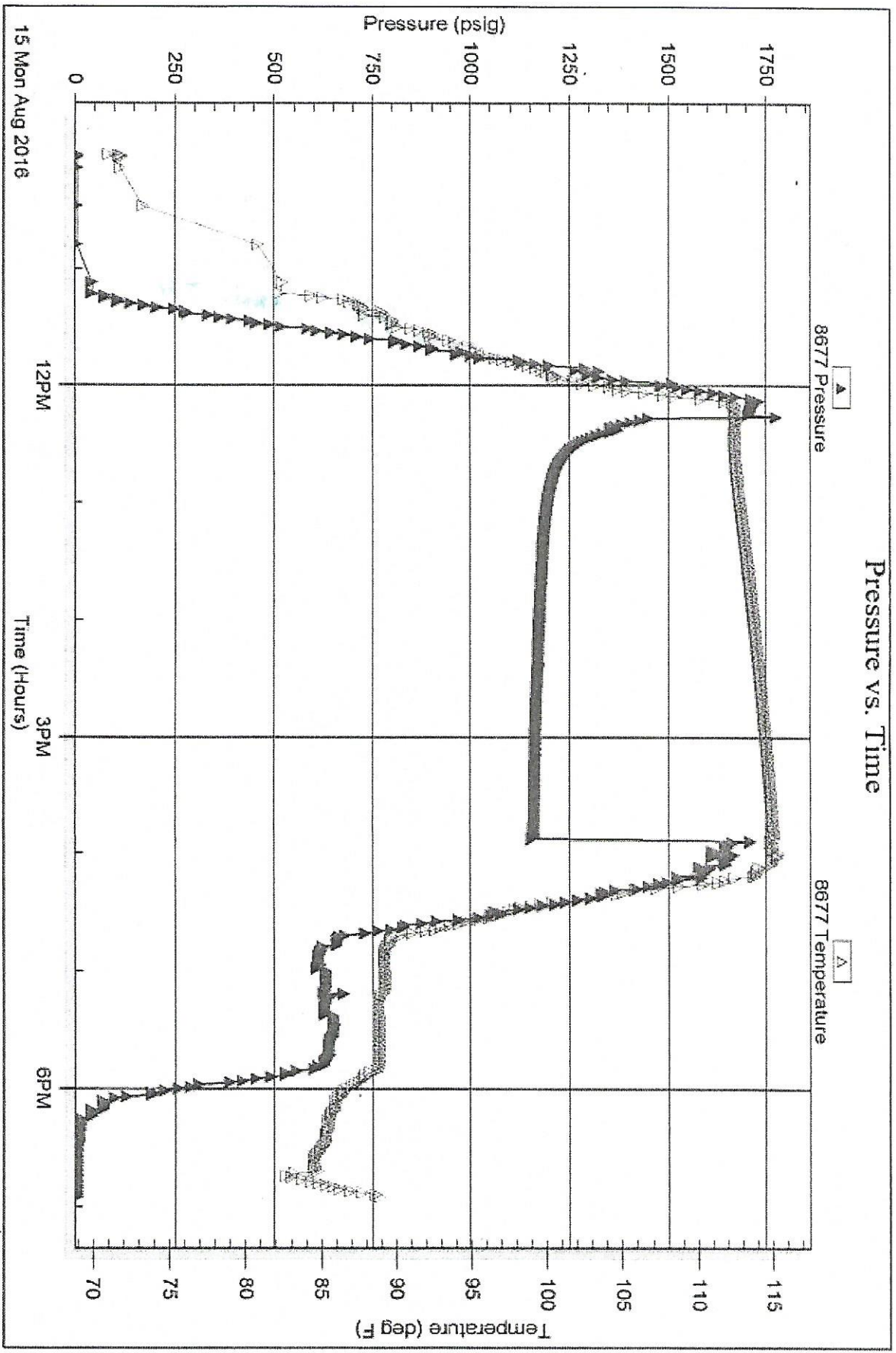


Serial #: 8677

Below (Stratfield) Oil Company

Haines #1

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 65544

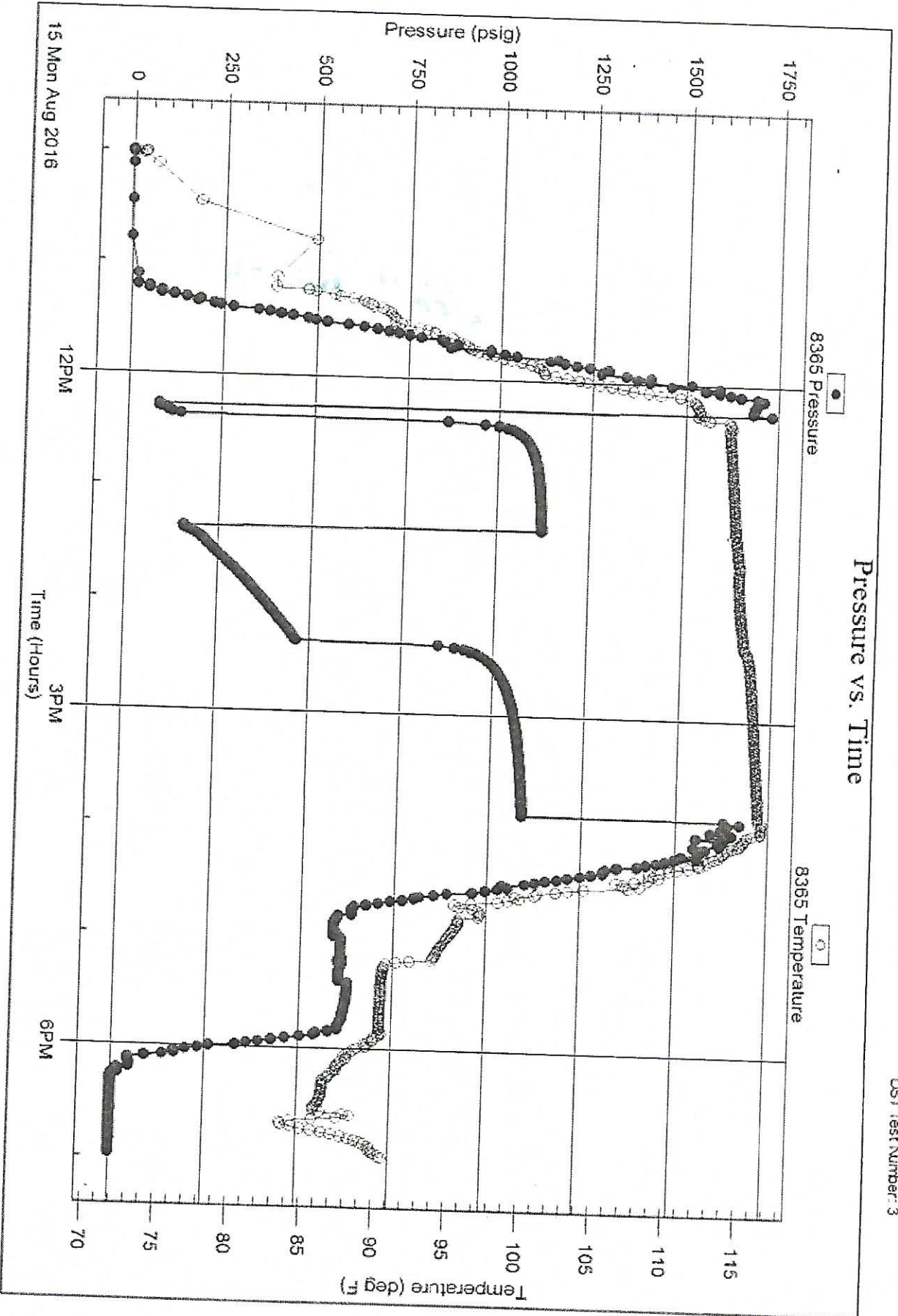
Printed: 2016 08 17 @ 16:34 02

Serial #: 8365

Outside Staab Oil Company

Haines #1

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 65544

Printed 2016 08 17 @ 16:34:03