

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](mailto:kcc-well-logs@kcc.ks.gov). Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Herman L. Loeb, LLC
Well Name	L-ROC 1-20
Doc ID	1590100

Tops

Name	Top	Datum
Blaine Anhy	1164	1046
Chase	2444	-234
Heebner Shale	4026	-1816
Lansing A	4181	-1971
LKC H	4354	-2144
KC I	4404	-2194
KC J	4439	-2229
BKC	4572	-2362
Miss Chert	4756	-2546
Kinderhook Shale	4811	-2601



# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: L-ROC #1-20  
Location: 525' FSL & 1385' FWL, Sec. 20-T27S-R18W, Kiowa Co., KS.  
Licence Number: 15-097-21859-00-00  
Spud Date: 6/28/2021  
Surface Coordinates: 525' FSL & 1385' FWL, Sec. 20-T27S-R18W  
Region: Einsel North Ext.  
Drilling Completed: 7/7/2021

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 2199' K.B. Elevation (ft): 2210'  
Logged Interval (ft): 3500' To: 4815' Total Depth (ft): 4815'  
Formation: Kinderhook Shale at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3336'; Chemical Gel 3336' to 4815'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

### OPERATOR

Company: Herman L. Loeb, LLC.  
Address: P.O. Box 838  
Lawrenceville, IL. 62439-0838

### GEOLOGIST

Name: Jon D. Christensen  
Company: Consulting Petroleum Geologist  
Address: 277 S. Maple Dunes Ct.  
Wichita, KS. 67235-7500

### Cores

None Taken

## DSTs

DST #1(Lansing/K.C. 'H' Zone) 4366' - 4388' Test Times 30"-45"-30"-60" IFP Weak 0.05" Blow built to 2.11"/30"; FFP Weak Blow built to 0.11", no Blowback on SI's; REC: 31' Gas in Pipe, 68' GOSpkd Mud(2%G, 98%M), no water; IFP 48-51#, ISIP 1274#, FFP 56-58#, FSIP 1178#, IHP 2094#, FHP 2078#, BHT 112 Deg F.

DST #2(Middle K.C. 'I' Porosity) 4406' - 4420' Test Times 30"-60"-45"-90" IFP Weak Blow built to 6.59", FFP Fair Blow built to 8.68", No Blowback on SI's; REC: 340' Gas in Pipe, 15' GOCM(9%G, 6%O, 85%M), no water; IFP 26-31#, ISIP 469#, FFP 32-40#, FSIP 721#, IHP 2114#, FHP 2136#, BHT 112 Deg. F.

DST #3(Lower K.C. 'I' Porosity) 4422' - 4436' Test Times 15"-45"-45"-90" IFP Strong Blow BOB/90 Sec., FFP Strong Blow BOB/30 Sec., Gas to Surface in 37 Min. Gauged 9.57 MCFG(no Gas sample, gas burns bright orange flame), BOB Blowback on FSI; REC: 96' CGO(40.5 Deg. API), 62'GOCM(42%G, 23%O, 35%M), 62' HGCOM(83%G, 10%O, 6%M, 1%Wtr), 64' G&OCWM(25%G, 25%O, 45%M, 5%W), not enough water to get CL, could be filtrate; IFP 32-44#, ISIP 1021#, FFP 35-105#, FSIP 1012#, IHP 2094#, FHP 2138#, BHT 113 Deg. F.

DST #4(K.C. 'J' Zone) 4442' - 4457' Test Times 15"-45"-45"-90" IFP Strong Blow BOB/30 Sec., Gas to Surface in 15"(ISIP), FFP Gauged Max. 91.08 MCFG/45"(Caught 2 gas samples - Gas burns bright orange flame); Blow would not Bleed off FSIP; REC: 140' CGO(35.2 Deg. API), 480' SMGCO(1%G, 94%O, 3%M, 2%W), 192' G&MCWO(20%G, 60%O, 3%M, 17%W), 826' SW(CI 100,000 - MudCo); IFP 217-328#, ISIP 836#, FFP 447-577#, FSIP FAILED - SHUTIN TOOL FAILED; IHP 2086#, FHP 2088#, BHT 117 Deg. F.

## Comments

6/28/21 MIRU Sterling Drilling Co. Rig #4, Spud at 7:00 PM.; 6/29/21 Drilling at 590'; 6/30/21 Drilling at 840'; 7/1/21 Drilling at 2444'; 7/2/21 Drilling at 3830'; 7/3/21 Drilling at 4265'; 7/4/21 Drilling at 4405'; 7/5/21 TD. 4436' - DST #3; 7/6/21 TD. 4457' - DST #4; 7/7/21 Drilling at 4735', Reached TD. 4815' at 11:07 AM; 7/8/21 RTD. 4815', LTD. 4815' - Running 5 1/2" Production Casing.

Set new 8 5/8"(32# and 23#) Surface Casing at 605' KB. with 350 sacks cement(Hurricane Services Cementing). Cement did Circulate. PD. at 1:00 PM. 6/29/21.

Set new 5 1/2"(15.5#) Production Casing at 4808' with 200 sacks of "Loeb Blend" cement(Hurricane Services Cementing). PD at 12:15 PM. on 7/8/2021.

Surveys: 0.60 Deg. at 610'(Surface Casing); Surveys taken every 32' by TeleDrift system: 0.6 Deg. at 820'; 1.0 Deg. at 1425'; 0.7 Deg. at 2030'; 0.5 Deg. at 2699'; 0.6 Deg. at 3400'; 1.1 Deg. at 3814'; 0.8 Deg. at 3910'; 1.0 Deg. at 3973'(Bit Trip); 0.6 Deg. at 4133'; 0.5 Deg. at 4388'(DST #1); 0.8 Deg. at 4420'(DST #2); 0.6 Deg. at 4486'; 0.30 Deg. at 4613'; 0.50 Deg. at 4708'; 0.2 Deg. at 4772'; 0.1 Deg. at 4815'(Total Depth).

Pipe Strap at 3973'(Bit Trip): Strap 1.12' Short to the Board, no correction made to the Board.

After review of the ELI Wireline logs, DST's and positive shows of commercial amounts of hydrocarbons, the operator elected to set new 5 1/2" Production Casing for completion in the Kansas City 'I' and 'J' zones. Additional zones in the Mississippian and Lansing 'A' zones may be tested at a later date.

LOG TOPS: Blaine Anhydrite 1164(+1046), Chase 2444(-234), Stotler Lmst. 3384(-1174), Heebner Shale 4026(-1816), Toronto 4042(-1832), Brown Lmst. 4176(-1966), Lansing 'A' 4181(-1971), Lansing/KC 'H' 4354(-2144), K.C. 'I' 4404(-2194), K.C. 'J' 4439(-2229), Stark Shale 4487(-2277), Base Kansas City 4572(-2362), Marmaton 4617(-2407), Pawnee 4664(-2454), Cherokee Shale 4702(-2492), Miss. Chert 4756(-2546), Kinderhook Shale 4811(-2601).

NOTE: Portions of this log were shifted for correlation purposes with the ELI Wireline logs.



Time Scale

A.V.= 164.72  
at 64 SPM

conn

Vis 56  
Wt. 8.8  
LCM 2#

3550

conn

WOB 16K  
PP 1005#  
SPM 64  
RPM 95

conn

3600

ROP (min/ft) 5  
Gamma (API) 150

conn

3650

conn

Vis 60  
Wt. 8.8  
LCM 3#

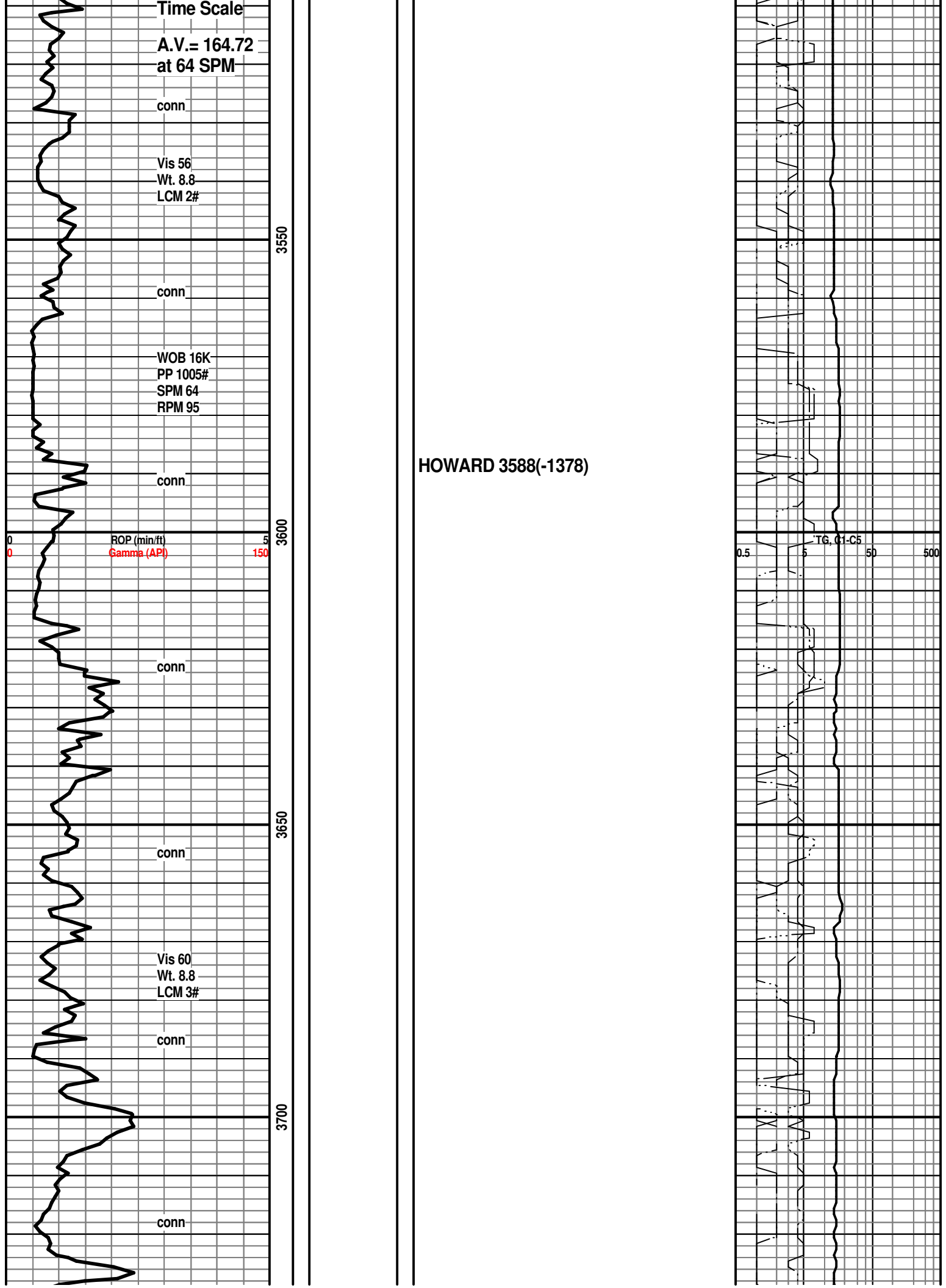
conn

3700

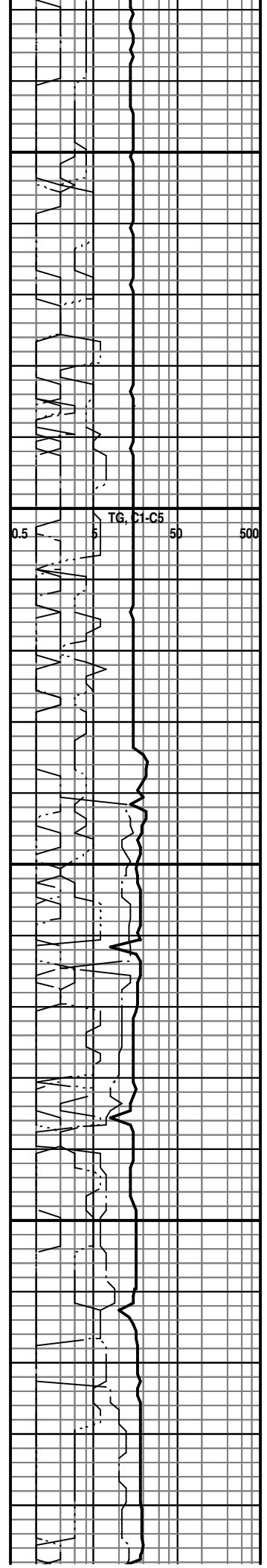
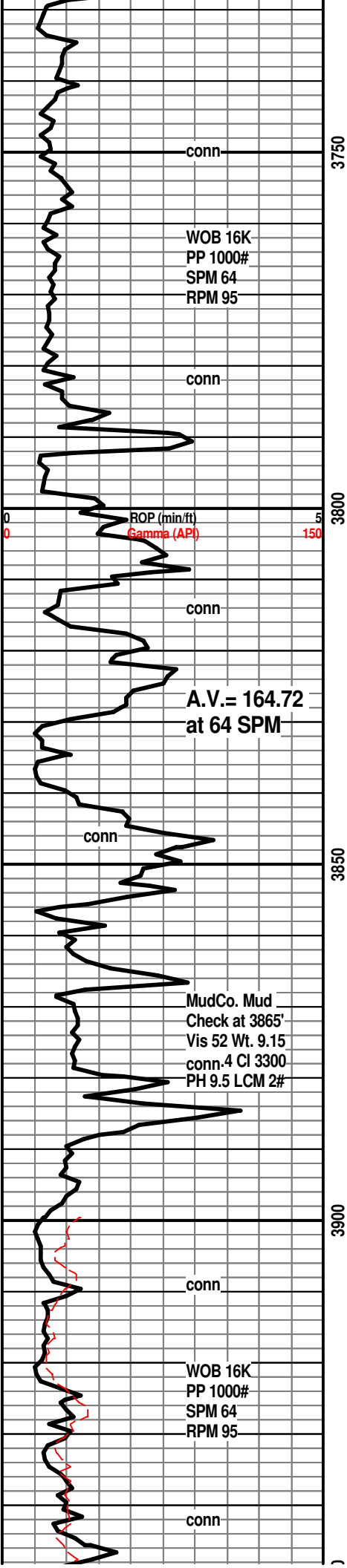
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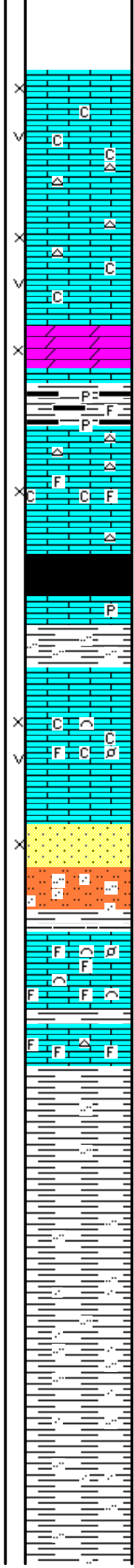
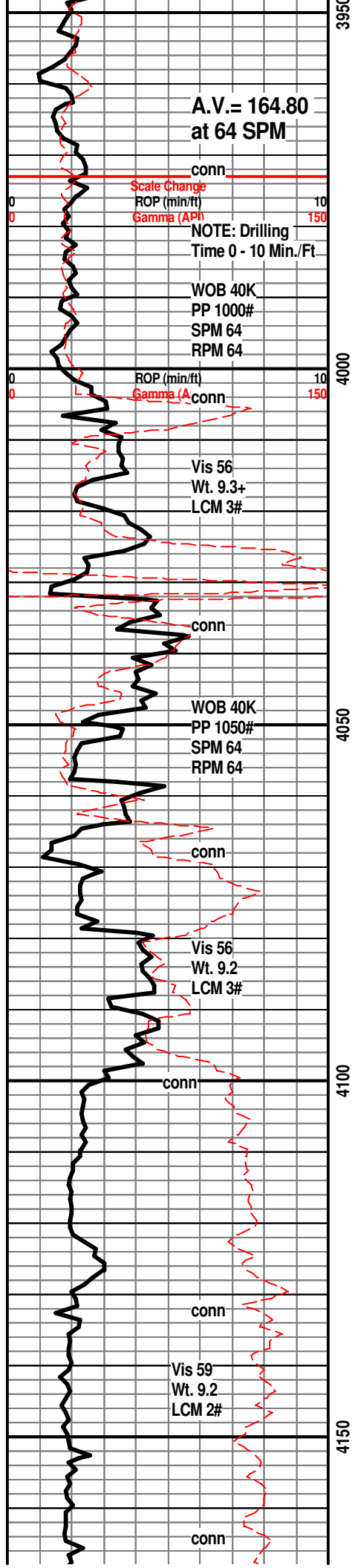
HOWARD 3588(-1378)

TG, C1-C5 0.5 5 50 500









LM; off wh, tan, buff, med xln w/scat cse spar calc xtals, gd interxln w/occ vug por, chalky mtx ip, dull yel min fluor, ns.

**BIT TRIP AT 3973'**

**Start 10' Wet and Dry Samples at 3980' - Drilling with Button Bit**

LM; tan to lt brn, buff, fxln, scat fair interxln and vug por, cherty ip, dull yel min fluor, interbdd chalky lmst, ns.

DOL; lt to med brn, sucrosic, some hd - lmy, most poor interxln por, lt yel fluor, ns.

SH; med to dk gy, blk, occ pyr, foss ip.

LM; tan to lt brn, most dense - micritic, scat gy to tan cht, no vis por, ns.

LM; tan to off wh, f to med xln w/occ foss mat, poor to fair interxln/interpart por, rare soft chalky mtx, no fluor, ns.

**HEEBNER SHALE 4026(-1816)**  
SH; blk, carb, trc gas

LM; med brn, dense, blocky, rare pyr.

SH; lt gy, gy grn, silty, firm

**TORONTO 4042(-1832)**

LM; wh, off wh, foss, scat fair to gd interpart and vug por, chalky ip, lt yel min fluor, no stn or odor, ns.

LM; lt gy, off wh, dense, blocky, tite

**DOUGLAS SHALE 4064(-1854)**  
SS; lt gy, vf to f gr qtz, fri ip, fair to gd intergran por, no fluor, no stn or odor, ns.

SLTY SH; lt gy, sandy ip, firm

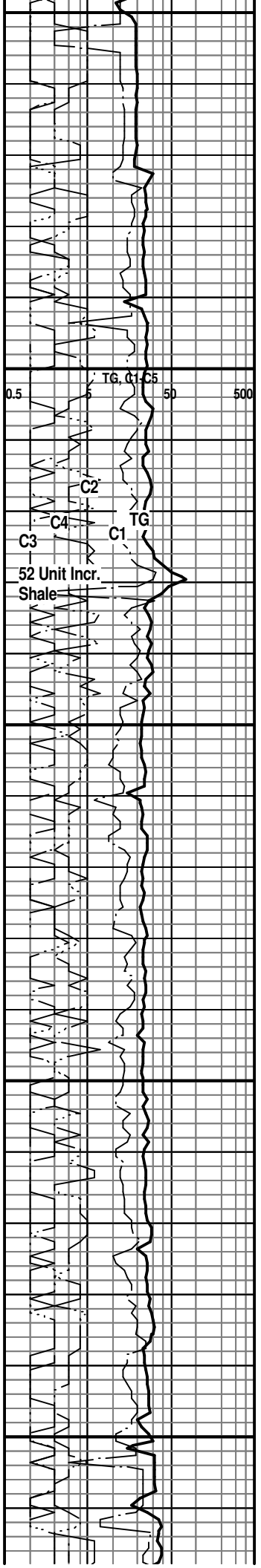
LM; med to dk brn, v. foss, well cem - blocky, no vis por, no fluor, ns.

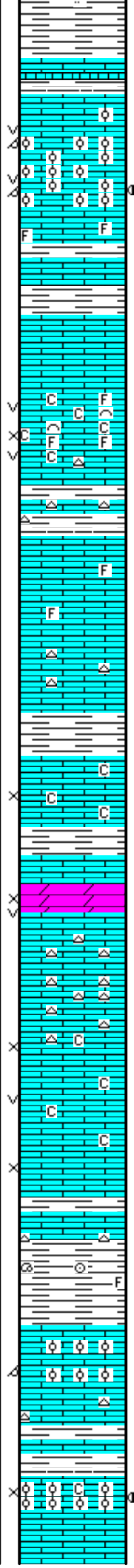
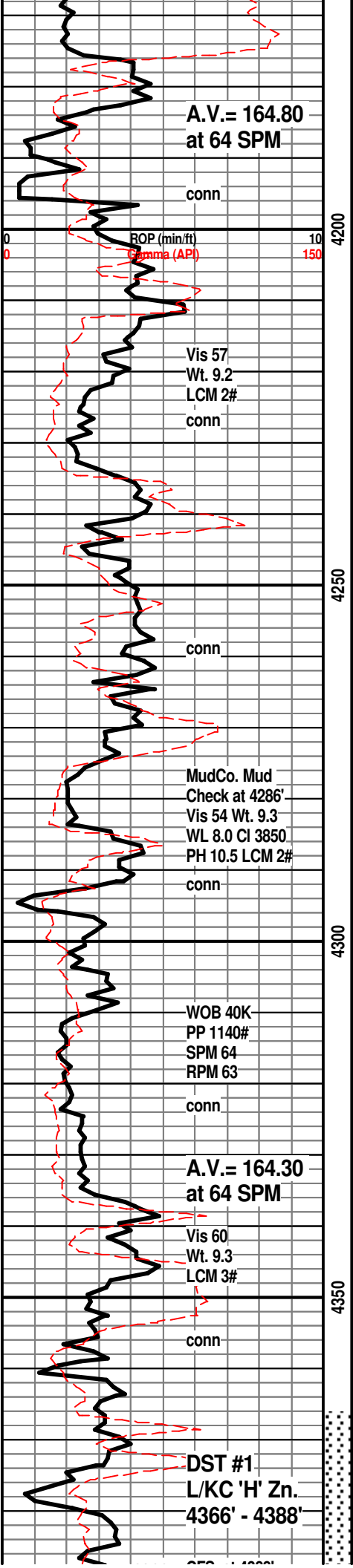
LM; lt brn, csely foss, well cem, cherty ip, tite

SH; lt gy, most silty, platy

SH; lt to med gy, platy, silty to occ sandy

SH; lt to med gy, silty, firm





**BROWN LMST. 4176(-1966)**

LM; med to dk brn, hd, blocky

**LANSING 'A' 4181(-1971)**

LM; lt brn, rare dk brn, foss - profusely oolitic, some tite, some w/well dev. oomoldic and vug por, med yel fluor, rare spotted lt brn oil stn, gas bubbles, fair odor, weak to no cut(gas show mainly)

LM; lt to med brn, rare foss, most dense, scat gy cht

**LANSING 'B' 4212(-2002)**

LM; tan to buff, rare lt gy, micritic, blocky, tite

LM; off wh, tan, lt gy, highly foss ip, occ soft chalk and chalky mtx, some well dev. interpart and vug por, no fluor, no stn or odor, ns.

LM; med brn, dense, scat brn cht, tite

LM; tan to lt brn, hd, rare foss mat - well cem, no vis por, no fluor, ns.

LM; lt to med brn, dense, scat gy/brn cht, no vis por, ns.

SH; grn, gy grn, platy

LM; tan to cream, buff, f to med xln, occ sucrosic text, fair interxln and p-p por, chalky ip, no fluor, no stn or odor, ns.

DOL; tan - lt brn, sucrosic, gd interxln w/rare vug por, minor chalky mtx, dull yel min fluor, ns.

LM; tan to cream, buff, fxln, abnt wh/gy cht, no vis por, dull yel min fluor, no stn or odor, ns.

LM; tan to cream, buff, med xln, fair interxln w/occ small vug por, chalky mtx, dull yel min fluor, no stn or odor, ns.

LM; tan, buff, lt brn, fxln, poor interxln por, scat wh spar calc xtals, dull yel fluor, ns.

LM; lt gy brn, cherty ip, tite

SH; med to dk gy, platy, foss ip.

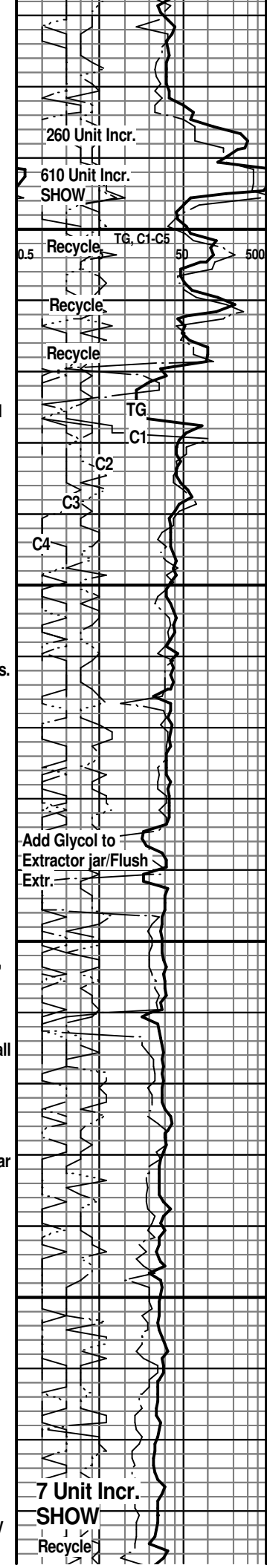
**LANSING/K.C. 'H' 4354(-2144)**

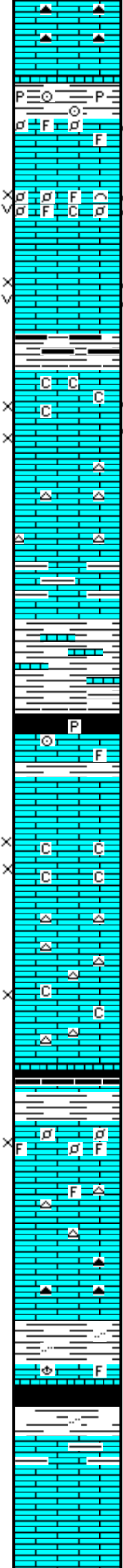
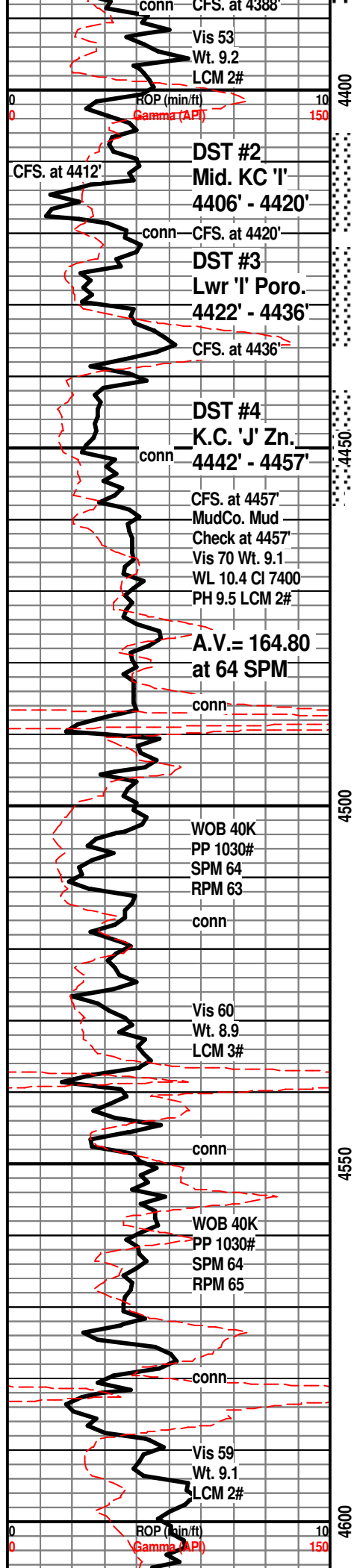
LM; lt gy, tan, foss - oolitic, most well cem, poor oomoldic por, v. dull yel min fluor, no stn or odor, no gas kick, barren

LM; tan to buff, dense - blocky, scat tan cht, tite

**LOWER L/K.C. 'H' 4375(-2165)**

LM; tan, buff, oolitic, stacked ooids, fair interpart por, med to brite yel fluor, SFO, spotted lt brn oil stn, gd odor, few gas bubbles, fair cut, some tite, minor chalky mtx





**DST #1: L/KC 'H' 4366' - 4388'**  
LM; med to dk brn, hd, scat dk brn cht, tite

SH; med gy, platy, occ pyr, foss ip.

**K.C. 'I' ZONE 4404(-2194)**  
LM; tan - cream, foss - finely pelletal, most w/poor interpart por, few pcs w/spotted lt brn stn, lt yel fluor, most tite

LM; tan/cream, foss, gd interpart and vug por, gd odor, SFO, gas bubbles, med/brite yel fluor, fair cut, spotted to even lt brn stn, occ chalky

**DST #2: Middle K.C. 'I' 4406' - 4420'**  
LM; tan/cream, foss and med xln, fair interxln w/occ gd vug por, strong odor, gas bubbles, spotted/even lt brn oil stn, SFO, med/brite yel fluor, gd cut

**DST #3: Lower KC 'I' Zn. 4422' - 4436'**  
**KANSAS CITY 'J' ZN. 4439(-2229)**  
LM; tan, wh, very chalky - chalk has brite yel fluor, fair to good odor, wh cse xln foss lmost w/brite yel fluor, gas bubbles, fair/gd interxln and interpart por, spotted to even oil stn, lt brn F.O. droplets, fair/gd cut, some barren porosity

**DST #4: K.C. 'J' Zone 4442' - 4457'**  
LM; tan to lt brn, blocky, micritic, occ cherty

LM; med to dk gy brn, argil ip.

SH; med to dk gy, gy brn, lmy, very firm

**STARK SHALE 4487(-2277)**  
SH; blk, carb ip, trc gas, rarely pyr  
LM; med to dk brn, foss ip, tite

**SWOPE 4496(-2286)**  
LM; tan to cream, wh, fxln, scat fair interxln por, occ cse sparry calc, soft chalky mtx, no fluor, no stn odor, ns.

LM; lt brn, most dense, scat wh to off wh cht, no fluor, no stn or odor, ns.

LM; off wh, tan, fxln, some fair interxln por, scat chalky mtx, no fluor, ns.

**HUSH. SHALE 4537(-2327)**  
SH; blk, carb ip, platy

**HERTHA 4544(-2334)**  
LM; lt brn, highly foss - pelletal, most well cem, occ poor interpart por, no fluor, no stn or odor, ns.

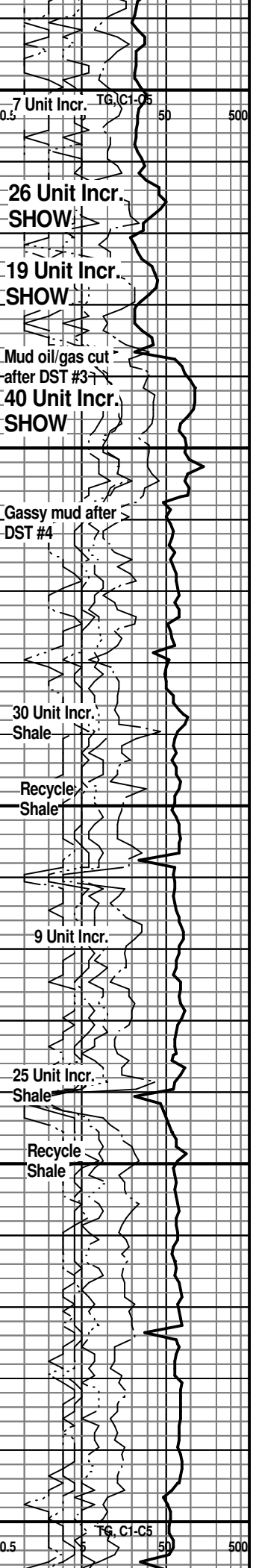
LM; lt to med brn, foss ip, well cem, scat brn occ foss cht/fresh, no vis por, no fluor, ns.

LM; dk brn, hd, litho, scat dk brn/dk gy cht, tite

**BASE KANSAS CITY 4572(-2362)**  
SH; med gy, gy grn, grn, silty ip.  
LM; lt brn, tan, foss ip, tite  
SH; blk, lt gy/grn, some varic, platy, rare silty

**PLEASANTON 4588(-2378)**  
LM; lt to med gy, argil ip., some micritic, some gritty text, no vis por, ns.

LM; tan, lt gy, lt brn, hd, blocky, some litho, no vis por, ns.





LYD: 4810

ELI Wireline: DIL, NEU/DEN/PE,  
Microlog, Sonic

**NOTE: Portions of this log were shifted  
for correlation purposes with the ELI  
Wireline logs.**

4850



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Herman L, Loeb LLC  
P.O. Box 838  
Lawranceville, IL 62439  
ATTN: Jon Christensen

**20-27s-18w Kiowa Co Ks**

**L-Roc #1-20**

Job Ticket: 67249

**DST#: 1**

Test Start: 2021.07.03 @ 18:28:56

## GENERAL INFORMATION:

Formation: **Lansing/KC H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:10:11

Time Test Ended: 02:06:41

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 68

**Interval: 4366.00 ft (KB) To 4388.00 ft (KB) (TVD)**

Reference Elevations: 2210.00 ft (KB)

Total Depth: 4388.00 ft (KB) (TVD)

2199.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8931**

**Inside**

Press@RunDepth: 58.03 psig @ 4367.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.07.03

End Date:

2021.07.04

Last Calib.:

2021.07.04

Start Time: 18:29:01

End Time:

02:06:40

Time On Btm:

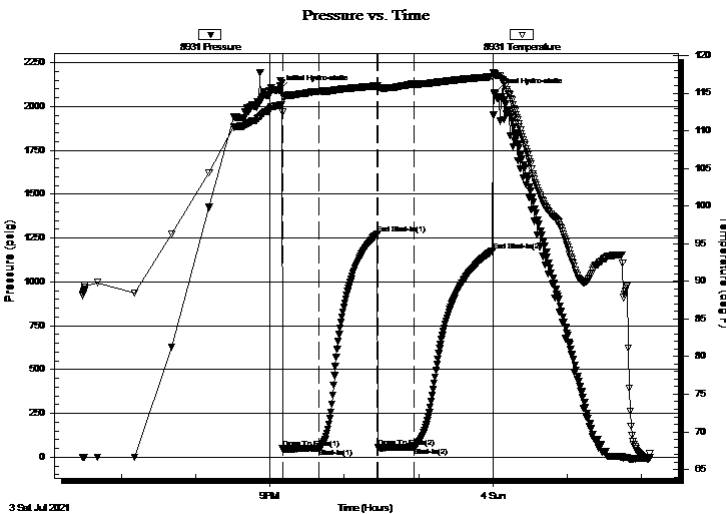
2021.07.03 @ 21:07:41

Time Off Btm:

2021.07.04 @ 00:01:26

**TEST COMMENT:** IF: Weak Blow . Built to 2.11" (30)  
IS: No Blow . (45)  
FF: Weak Surface Blow . Built to .11". (30)  
FS: No Blow . (60)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.61	113.35	Initial Hydro-static
3	48.12	112.48	Open To Flow (1)
33	51.15	115.20	Shut-In(1)
79	1273.58	115.96	End Shut-In(1)
80	55.53	115.74	Open To Flow (2)
109	58.03	116.16	Shut-In(2)
173	1178.06	117.19	End Shut-In(2)
174	2078.40	117.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
68.00	GOSM 2%g 98%m	0.52
0.00	31' GIP 100%g	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L, Loeb LLC  
P.O. Box 838  
Lawrenceville, IL 62439  
ATTN: Jon Christensen

**20-27s-18w Kiowa Co Ks**  
**L-Roc #1-20**  
Job Ticket: 67249      **DST#: 1**  
Test Start: 2021.07.03 @ 18:28:56

## Mud and Cushion Information

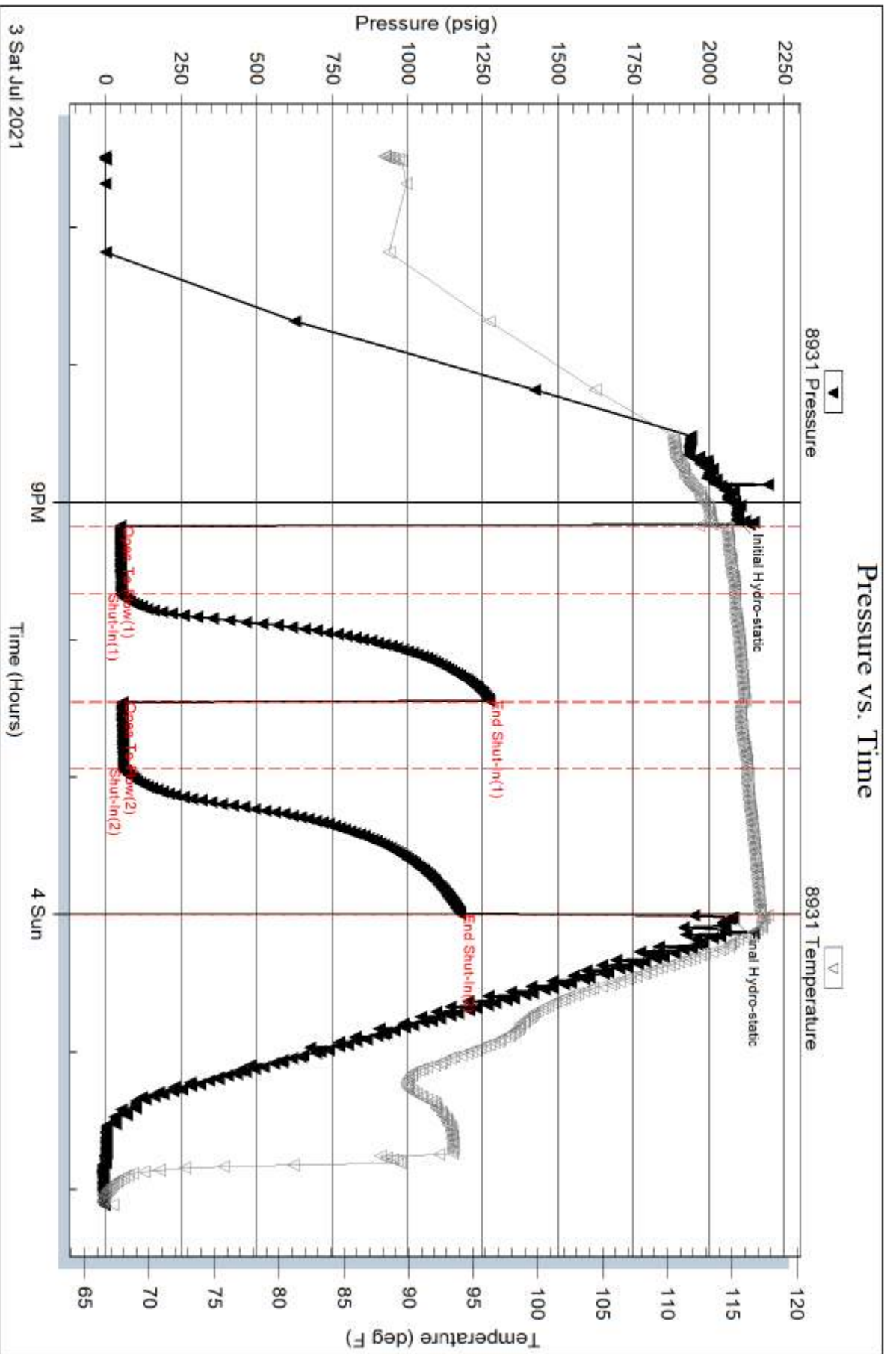
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	3850 ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 3850.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
68.00	GOSM 2%g 98%m	0.518
0.00	31' GIP 100%g	0.000

Total Length: 68.00 ft      Total Volume: 0.518 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: None  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

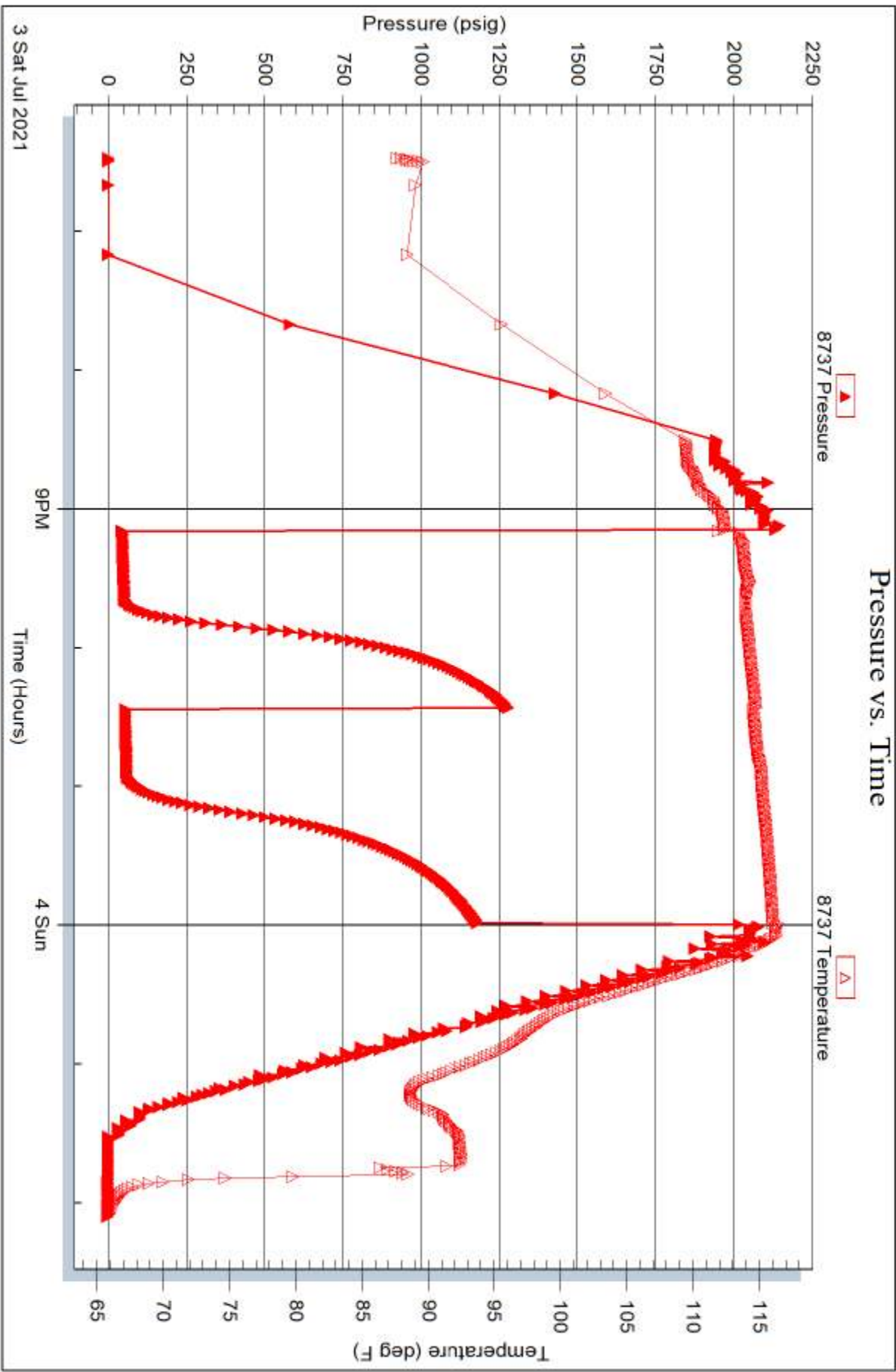


Serial #: 8737

Outside Herman L. Loeb LLC

L-Roc #1-20

DST Test Number: 1





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Herman L, Loeb LLC  
 P.O. Box 838  
 Lawrenceville, IL 62439  
 ATTN: Jon Christensen

**20-27s-18w Kiowa Co Ks**

**L-Roc #1-20**

Job Ticket: 67250

**DST#: 2**

Test Start: 2021.07.04 @ 11:28:28

## GENERAL INFORMATION:

Formation: **Middle KC "I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:09:43  
 Time Test Ended: 20:12:13  
 Interval: **4406.00 ft (KB) To 4420.00 ft (KB) (TVD)**  
 Total Depth: 4420.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Matt Smith  
 Unit No: 68  
 Reference Elevations: 2210.00 ft (KB)  
 2199.00 ft (CF)  
 KB to GR/CF: 11.00 ft

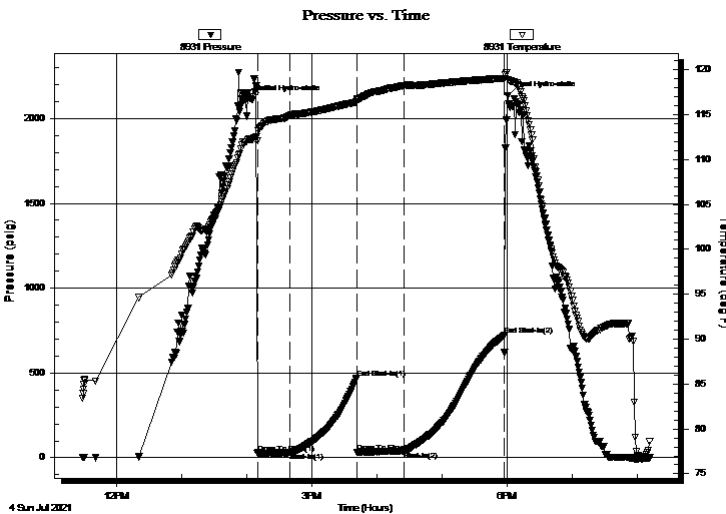
## Serial #: 8931

Inside

Press@RunDepth: 39.75 psig @ 4407.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.07.04 End Date: 2021.07.04 Last Calib.: 2021.07.04  
 Start Time: 11:28:33 End Time: 20:12:13 Time On Btm: 2021.07.04 @ 14:04:43  
 Time Off Btm: 2021.07.04 @ 18:00:43

TEST COMMENT: IF: Fair Blow . Built to 6.59". (30)  
 IS: No Blow . (60)  
 FF: Fair Blow . Built to 8.68". (45)  
 FS: No Blow . (90)

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2113.68	112.28	Initial Hydro-static
5	26.20	112.12	Open To Flow (1)
35	31.04	114.93	Shut-In(1)
97	469.30	116.42	End Shut-In(1)
98	31.59	116.77	Open To Flow (2)
141	39.75	118.26	Shut-In(2)
233	720.59	119.06	End Shut-In(2)
236	2136.50	118.92	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	GOCM 9%g 6%o 85%m	0.11
0.00	340' G.I.P. 100%g	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Herman L, Loeb LLC  
P.O. Box 838  
Law eranceville, IL 62439  
ATTN: Jon Christensen

**20-27s-18w Kiowa Co Ks**  
**L-Roc #1-20**  
Job Ticket: 67250      **DST#: 2**  
Test Start: 2021.07.04 @ 11:28:28

### 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:	4700 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 4700.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: 0.20 inches			

### Recovery Information

Recovery Table

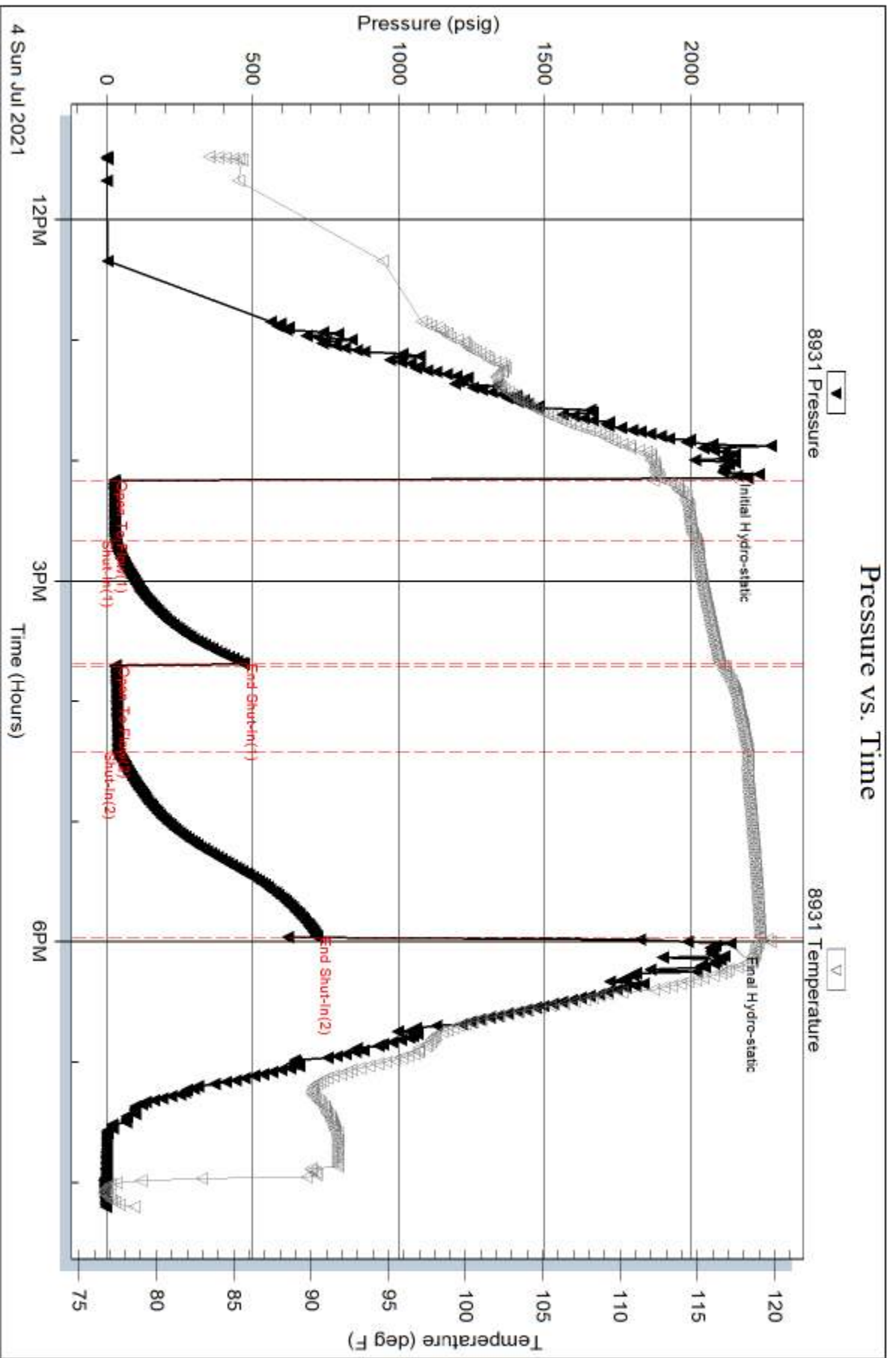
Length ft	Description	Volume bbl
15.00	GOCM 9%g 6%o 85%m	0.114
0.00	340' G.I.P. 100%g	0.000

Total Length: 15.00 ft      Total Volume: 0.114 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: None

Laboratory Name:      Laboratory Location:

Recovery Comments: 340 Feet of Gas In Pipe.

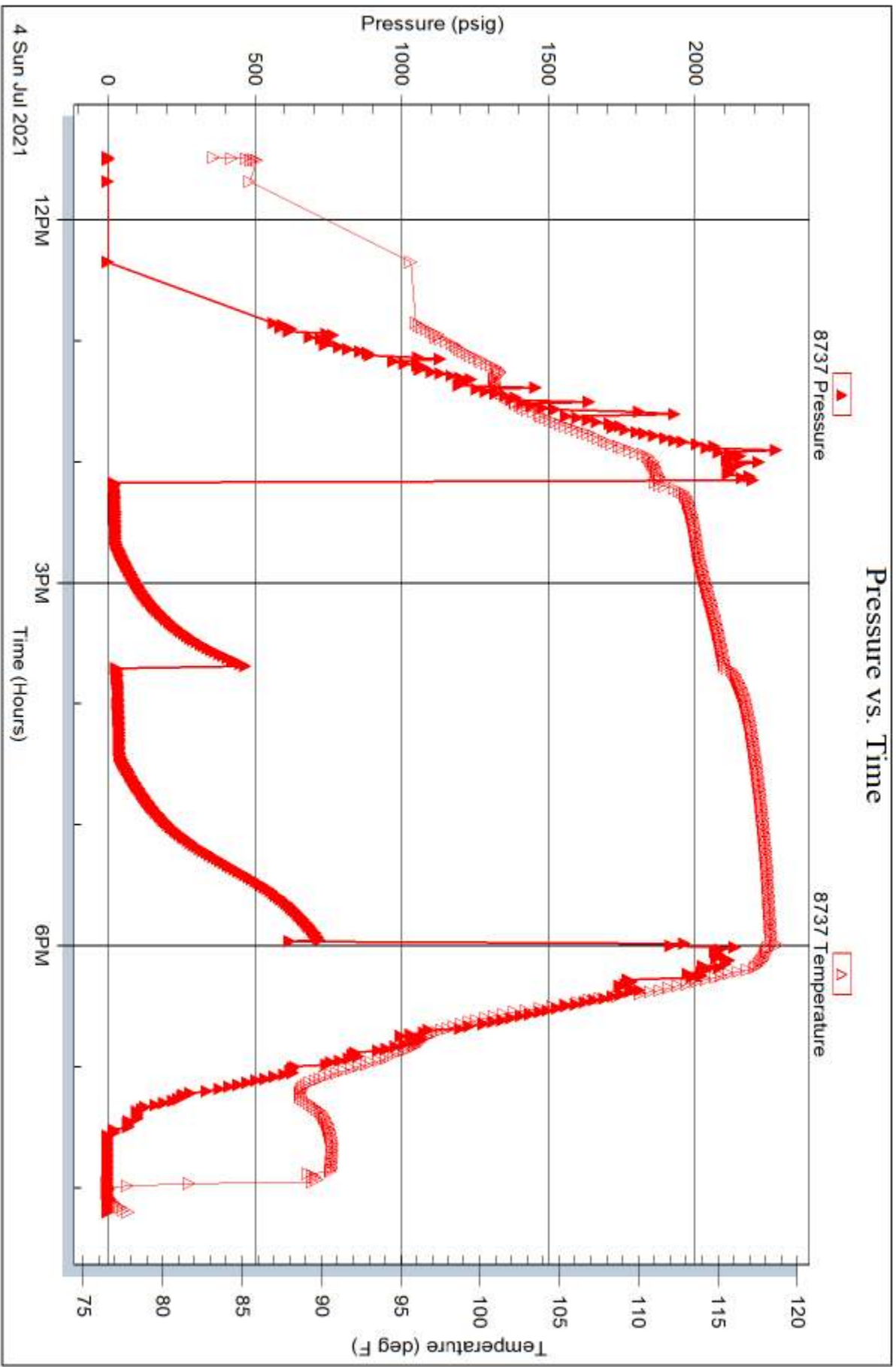


Serial #: 8737

Outside Herman L. Loeb LLC

L-Roc #1-20

DST Test Number: 2







**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Herman L, Loeb LLC  
 P.O. Box 838  
 Lawrenceville, IL 62439  
 ATTN: Jon Christensen

**20-27s-18w Kiowa Co Ks**  
**L-Roc #1-20**  
 Job Ticket: 67151 **DST#: 3**  
 Test Start: 2021.07.05 @ 04:16:10

## GENERAL INFORMATION:

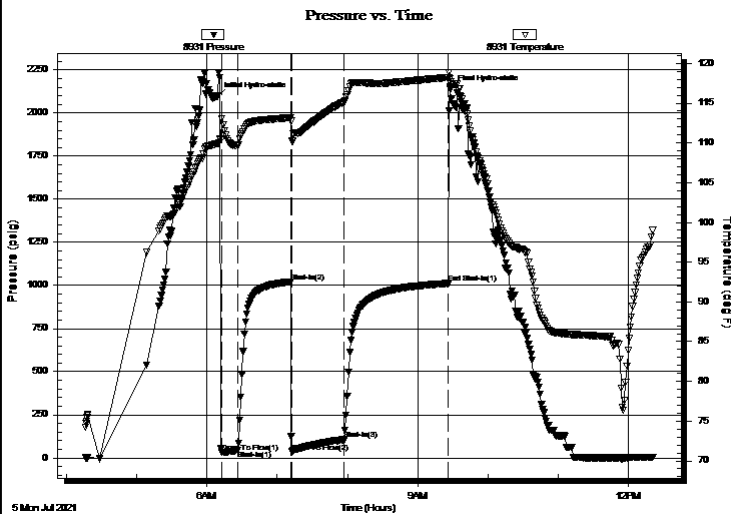
Formation: **Lower KC "I"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 06:12:40 Tester: Matt Smith  
 Time Test Ended: 12:21:40 Unit No: 68  
 Interval: **4422.00 ft (KB) To 4436.00 ft (KB) (TVD)** Reference Elevations: 2210.00 ft (KB)  
 Total Depth: 4436.00 ft (KB) (TVD) 2199.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 11.00 ft

## Serial #: 8931

Inside

Press@RunDepth: 43.98 psig @ 4423.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.07.05 End Date: 2021.07.05 Last Calib.: 2021.07.05  
 Start Time: 04:16:15 End Time: 12:21:39 Time On Btm: 2021.07.05 @ 06:09:10  
 Time Off Btm: 2021.07.05 @ 09:28:10

TEST COMMENT: IF: Strong Blow . B.O.B. in 1 1/2 mins. Built to 131". (15)  
 IS: No Blow . (45)  
 FF: Strong Blow . B.O.B. in 30 secs. G.T.S. in 37 mins. 1/8". Choke. Built to 313.43". (45)  
 FS: Strong Blow . Bled off for 10 mins. B.O.B. in 15 mins. (25). Built to 12.60". (90)



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2093.65	109.89	Initial Hydro-static
4	32.40	113.08	Open To Flow (1)
18	43.98	109.73	Shut-In(1)
63	1021.08	113.19	Shut-In(2)
64	35.16	110.23	Open To Flow (2)
109	105.37	115.17	Shut-In(3)
198	1011.79	118.24	End Shut-In(1)
199	2138.29	117.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
64.00	GOWCM 25%g 25%o 5%w 45%m	0.49
62.00	GOWCM 83%g 10%o 1%w 6%m	0.47
62.00	GOCM 42%g 23%o 35%m	0.47
96.00	CO 100%o	1.15

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	11.16	9.57





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L, Loeb LLC  
P.O. Box 838  
Law eranceville, IL 62439  
ATTN: Jon Christensen

**20-27s-18w Kiowa Co Ks**  
**L-Roc #1-20**  
Job Ticket: 67151      **DST#: 3**  
Test Start: 2021.07.05 @ 04:16:10

## 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:	4700 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 4700.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
64.00	GOWCM 25%g 25%o 5%w 45%m	0.487
62.00	GOWCM 83%g 10%o 1%w 6%m	0.472
62.00	GOCM 42%g 23%o 35%m	0.472
96.00	CO 100%o	1.154

Total Length: 284.00 ft      Total Volume: 2.585 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: None

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity w as 42.5 @ 80 Degrees. Gravity is 40.5 @ 60 Degrees corrected.

3,921 FEET of G.I.P. 100% Gas.



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Herman L, Loeb LLC

**20-27s-18w Kiowa Co Ks**

P.O. Box 838  
Lawrenceville, IL 62439

**L-Roc #1-20**

Job Ticket: 67151

**DST#: 3**

ATTN: Jon Christensen

Test Start: 2021.07.05 @ 04:16:10

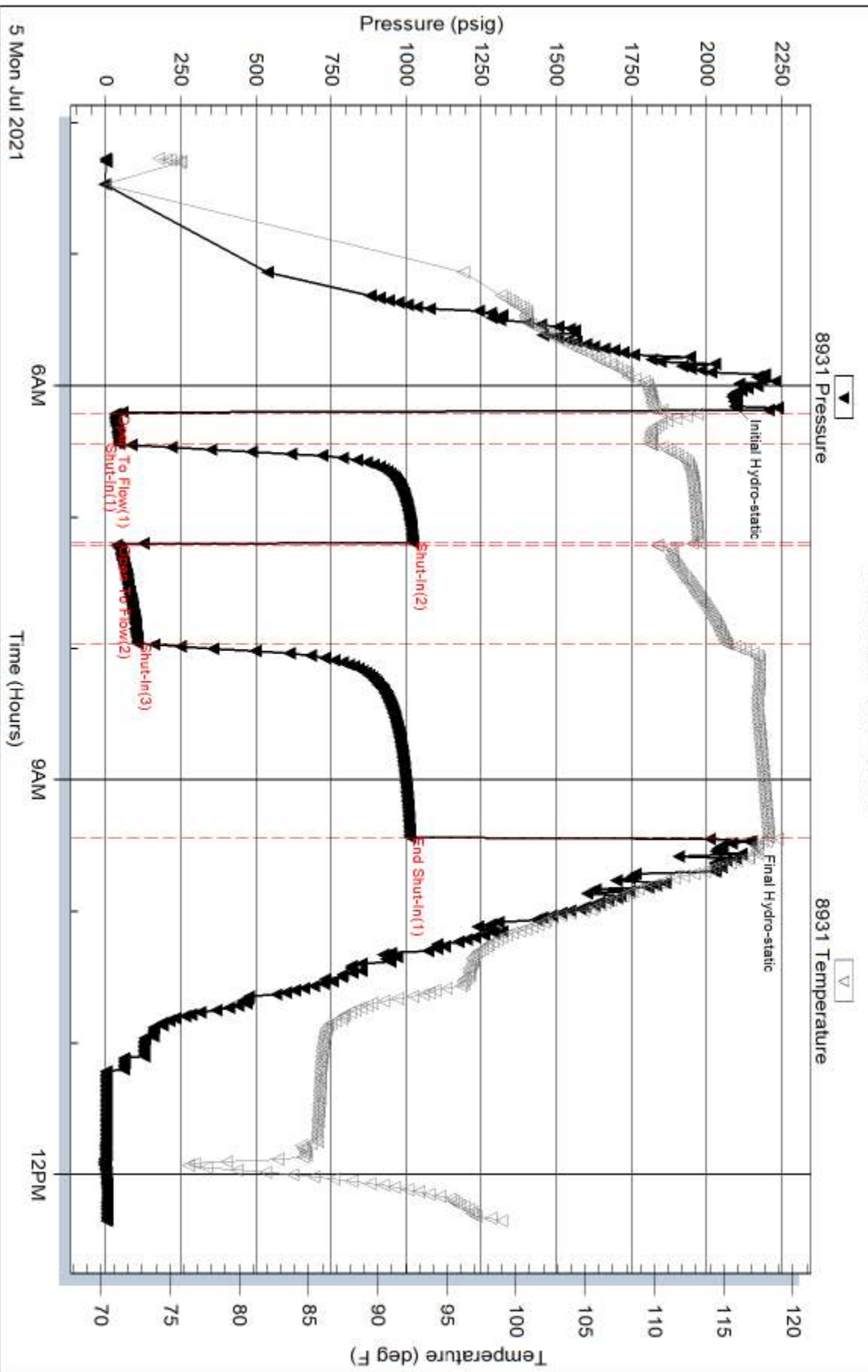
### Gas Rates Information

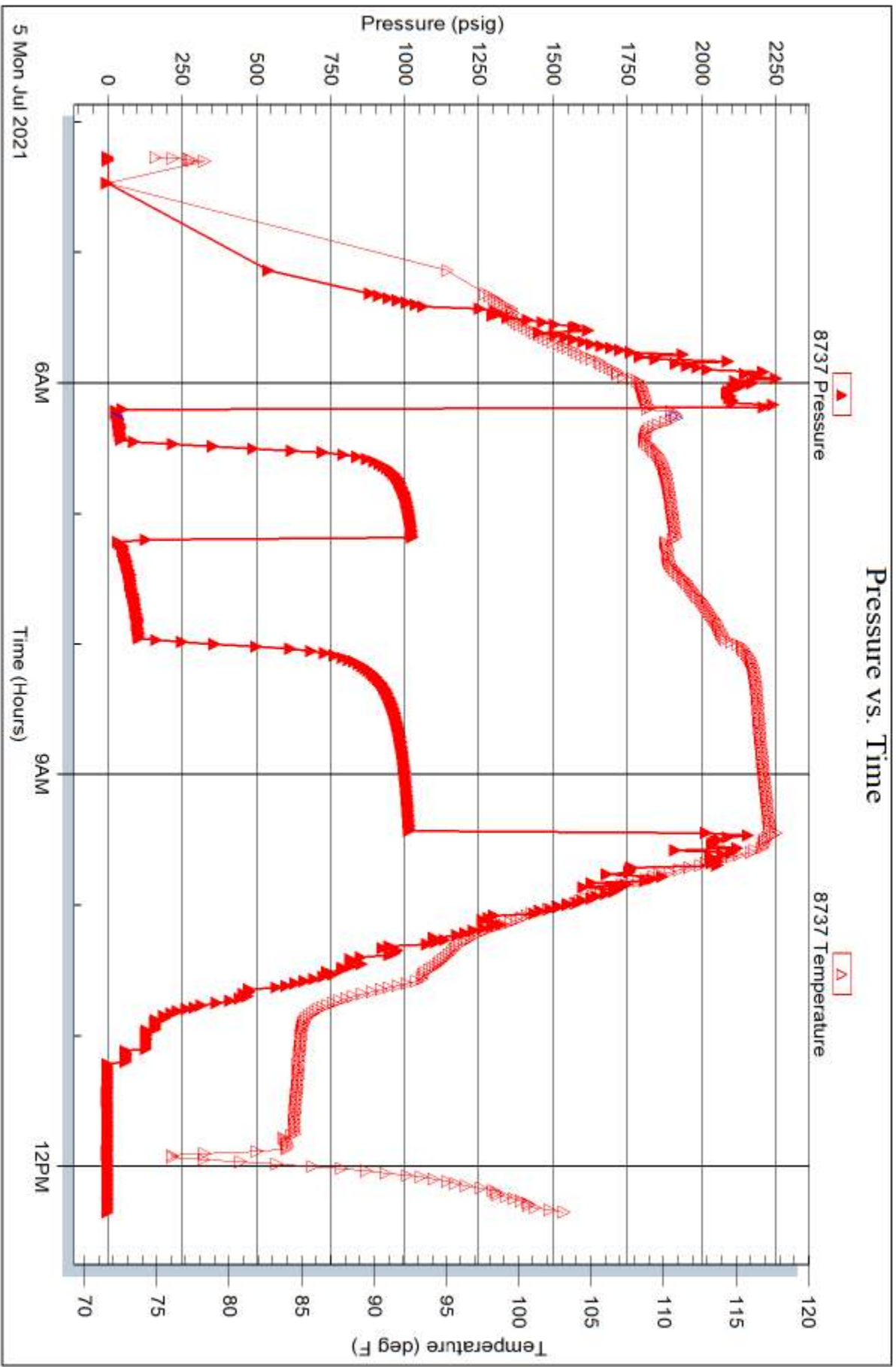
Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	40	0.13	11.16	9.57

### Pressure vs. Time







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Herman L, Loeb LLC  
PO Box 838  
Lawranceville, IL 62439  
ATTN: Jon Christensen

**20-27s-18w Kiowa,KS**

**L-Roc #1-20**

Job Ticket: 67152

**DST#: 4**

Test Start: 2021.07.05 @ 21:21:57

## GENERAL INFORMATION:

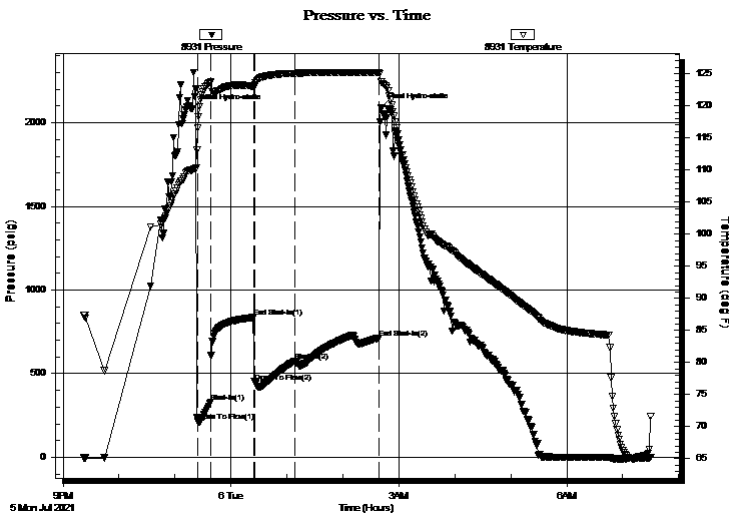
Formation: **KC "J"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 23:24:12  
 Tester: Matt Smith  
 Time Test Ended: 07:29:57  
 Unit No: 68  
 Interval: **4442.00 ft (KB) To 4457.00 ft (KB) (TVD)**  
 Reference Elevations: 2210.00 ft (KB)  
 Total Depth: 4457.00 ft (KB) (TVD)  
 2199.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 11.00 ft

## Serial #: 8931

Inside

Press@RunDepth: 576.59 psig @ 4443.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2021.07.05 End Date: 2021.07.06 Last Calib.: 2021.07.06  
 Start Time: 21:22:02 End Time: 07:29:57 Time On Btm: 2021.07.05 @ 23:18:42  
 Time Off Btm: 2021.07.06 @ 02:41:12

**TEST COMMENT:** IF: Strong Blow . B.O.B. in 30 secs. Built to 800+". (15)  
 IS: Strong Blow . Bled off for 10 mins. B.O.B. immediately. Built to 152.41". GTS (45)  
 FF: Strong Blow . B.O.B. in 45 secs. G.T.S. immediate. Gauged Gas. (45)  
 FS: is not valid. Shut in bearing went out w hile shutting the tool in. Strong Blow . Bled off for 13 mins, B.O.B. immediate.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2086.28	110.01	Initial Hydro-static
6	216.93	116.52	Open To Flow (1)
20	327.53	123.70	Shut-In(1)
66	836.11	123.05	End Shut-In(1)
67	446.69	123.35	Open To Flow (2)
110	576.59	125.06	Shut-In(2)
200	713.23	125.20	End Shut-In(2)
203	2088.16	123.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
218.00	W 100%w	1.66
608.00	W 100%w	8.53
480.00	GOWCM 1%g 94%o 2%w 3%m	6.73
192.00	GOMCW 20%g 60%o 3%m 17%w	2.69
140.00	CO 100%o	1.96

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	3.65	6.76
Last Gas Rate	0.25	43.01	91.07
Max. Gas Rate	0.25	43.01	91.07

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L, Loeb LLC  
 PO Box 838  
 Lawrenceville, IL 62439  
 ATTN: Jon Christensen

**20-27s-18w Kiowa,KS**  
**L-Roc #1-20**  
 Job Ticket: 67152      **DST#: 4**  
 Test Start: 2021.07.05 @ 21:21:57

## 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:	26000 ppm
Viscosity: 58.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 6400.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: ppm			
Filter Cake: 0.20 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
218.00	W 100%w	1.660
608.00	W 100%w	8.529
480.00	GOWCM 1%g 94%o 2%w 3%m	6.733
192.00	GOMCW 20%g 60%o 3%m 17%w	2.693
140.00	CO 100%o	1.964

Total Length: 1638.00 ft      Total Volume: 21.579 bbl

Num Fluid Samples: 1      Num Gas Bombs: 0      Serial #: P-4 P-15

Laboratory Name:      Laboratory Location:

Recovery Comments: Gravity 36 @ 68 Degrees = 35.2 @ 60.

RW .29 @ 62 Degrees = 26,000 Chlorides.



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**GAS RATES**

Herman L, Loeb LLC  
PO Box 838  
Lawrenceville, IL 62439  
ATTN: Jon Christensen

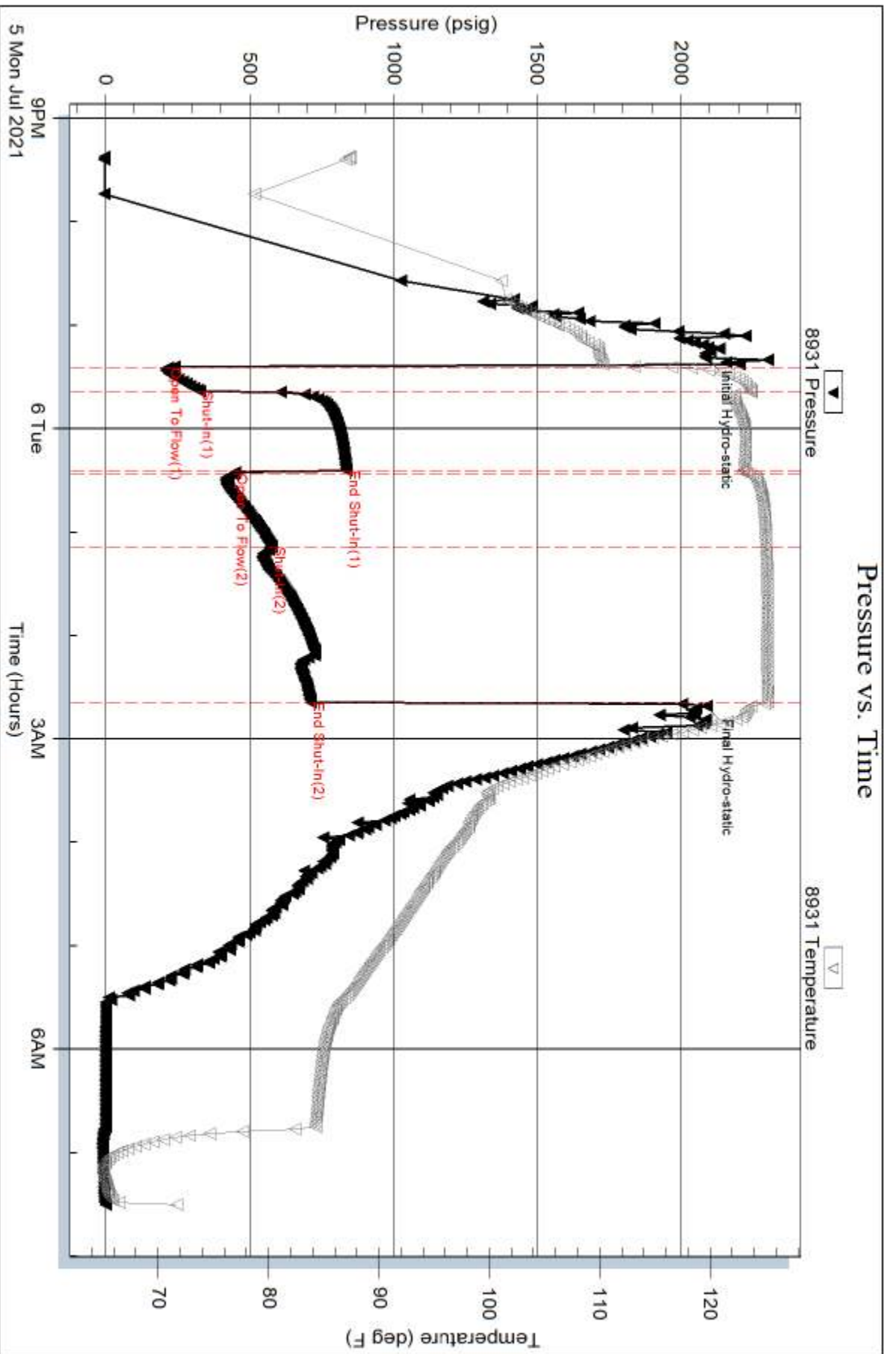
**20-27s-18w Kiowa,KS**  
**L-Roc #1-20**  
Job Ticket: 67152      **DST#: 4**  
Test Start: 2021.07.05 @ 21:21:57

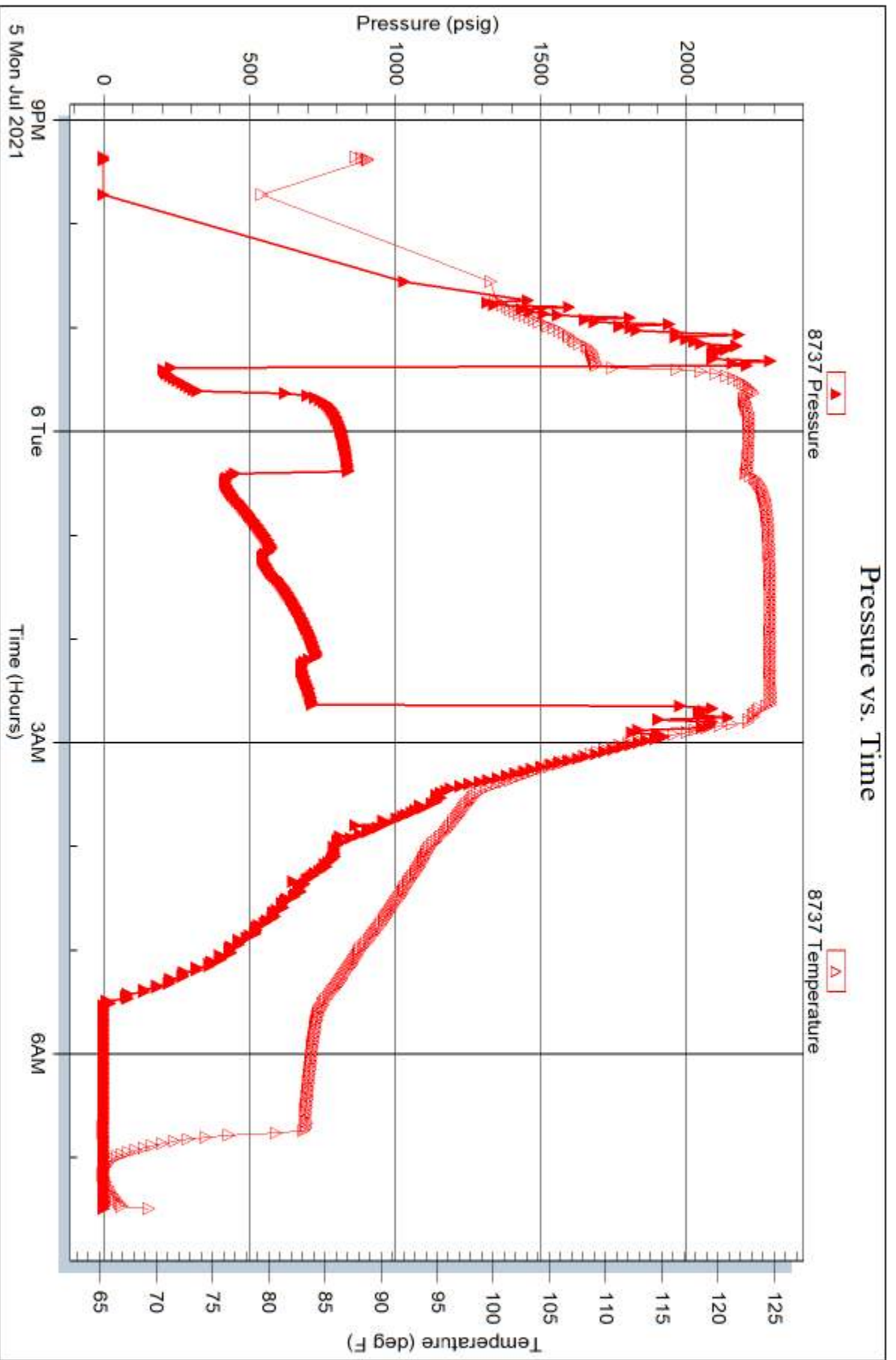
## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	6	0.13	3.65	6.76
2	10	0.13	13.79	10.55
2	20	0.25	30.25	70.83
2	30	0.25	38.98	84.68
2	40	0.25	42.33	90.00
2	45	0.25	43.01	91.07





7/12

J ✓



**HURRICANE SERVICES INC**

Remit To: Hurricane Services, Inc.  
250 N. Water, Suite 200  
Wichita, KS 67202  
316-303-9515

Customer:  
HERMAN L LOEB LLC  
PO BOX 838  
LAWRENCEVILLE, IL 62439

**PAID**  
102638  
JUL 13 2021  
**SCANNED**

Invoice Date: 6/29/2021  
Invoice #: 0353840  
Lease Name: L-Roc  
Well #: 1-20 (New)  
County: Kiowa, Ks  
Job Number: WP1532  
District: Pratt

11216 → 6420 → LROC

Date/Description	HRS/QTY	Rate	Total
8 5/8" SP	0.000	0.000	0.00
H-CON	175.000	18.480	3,234.00
Cement Pozmix 60/40	175.000	11.440	2,002.00
Calcium Chloride	948.000	0.660	625.68
Cello Flake	89.000	1.540	137.06
Guide Shoe Reg 8 5/8"	1.000	528.000	528.00
8 5/8" Alum Baffle plate SI	1.000	132.000	132.00
8 5/8" Top rubber plug	1.000	154.000	154.00
Light Eq Mileage	40.000	1.760	70.40
Heavy Eq Mileage	40.000	3.520	140.80
Ton Mileage	632.000	1.320	834.24
Cement Pump Service	1.000	660.000	660.00
Cement Plug Container	1.000	220.000	220.00

**Total** 8,738.18

**TERMS:** Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

**SALES TAX:** Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

**WE APPRECIATE YOUR BUSINESS!**



Customer	HERMAN LOEB LLC	Lease & Well #	L-ROC 1-20	Date	6/29/2021
Service District	PRATT,KS	County & State	KIOWA,KS.	Legals S/T/R	20-27S-18W
Job Type	8 5/8" SP	<input checked="" type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> No	Ticket #
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures			
75	LESLEY	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging
176-521	MCLAMORE	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection
181-532	TRAVINO	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input type="checkbox"/> Slip/Trip/Fall Hazards	<input checked="" type="checkbox"/> Specific Job Sequence/Expectations
		<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input type="checkbox"/> Overhead Hazards	<input checked="" type="checkbox"/> Muster Point/Medical Locations
		<input type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below	
<b>Comments</b>					

Product/ Service Code	Description	Unit of Measure	Quantity	Net Amount
	#REF!	#REF!	#REF!	
CP025	H-Con	sack	175.00	\$3,234.00
CP070	60/40/2 Pozmix	sack	175.00	\$2,002.00
CP100	Calcium Chloride	lb	948.00	\$625.68
CP120	Cello-flake	lb	89.00	\$137.06
FE260	8 5/8" Guide Shoe	ea	1.00	\$528.00
FE260	8 5/8" Baffle	ea	1.00	\$132.00
FE265	8 5/8" Rubber Plug	ea	1.00	\$154.00
M015	Light Equipment Mileage	mi	40.00	\$70.40
M010	Heavy Equipment Mileage	mi	40.00	\$140.80
M020	Ton Mileage	tm	632.00	\$834.24
C010	Cement Pump Service	ea	1.00	\$660.00
C050	Cement Plug Container	job	1.00	\$220.00

Customer Section: On the following scale how would you rate Hurricane Services Inc.?		Total Taxable	\$ -	Tax Rate:		Net:	\$8,738.18
Based on this job, how likely is it you would recommend HSI to a colleague?		State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.		Sale Tax:	\$ -	Total:	\$ 8,738.18
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely		HSI Representative:					

**TERMS:** Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to affect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well information in determining taxable services.

X  CUSTOMER AUTHORIZATION SIGNATURE



**CEMENT TREATMENT REPORT**

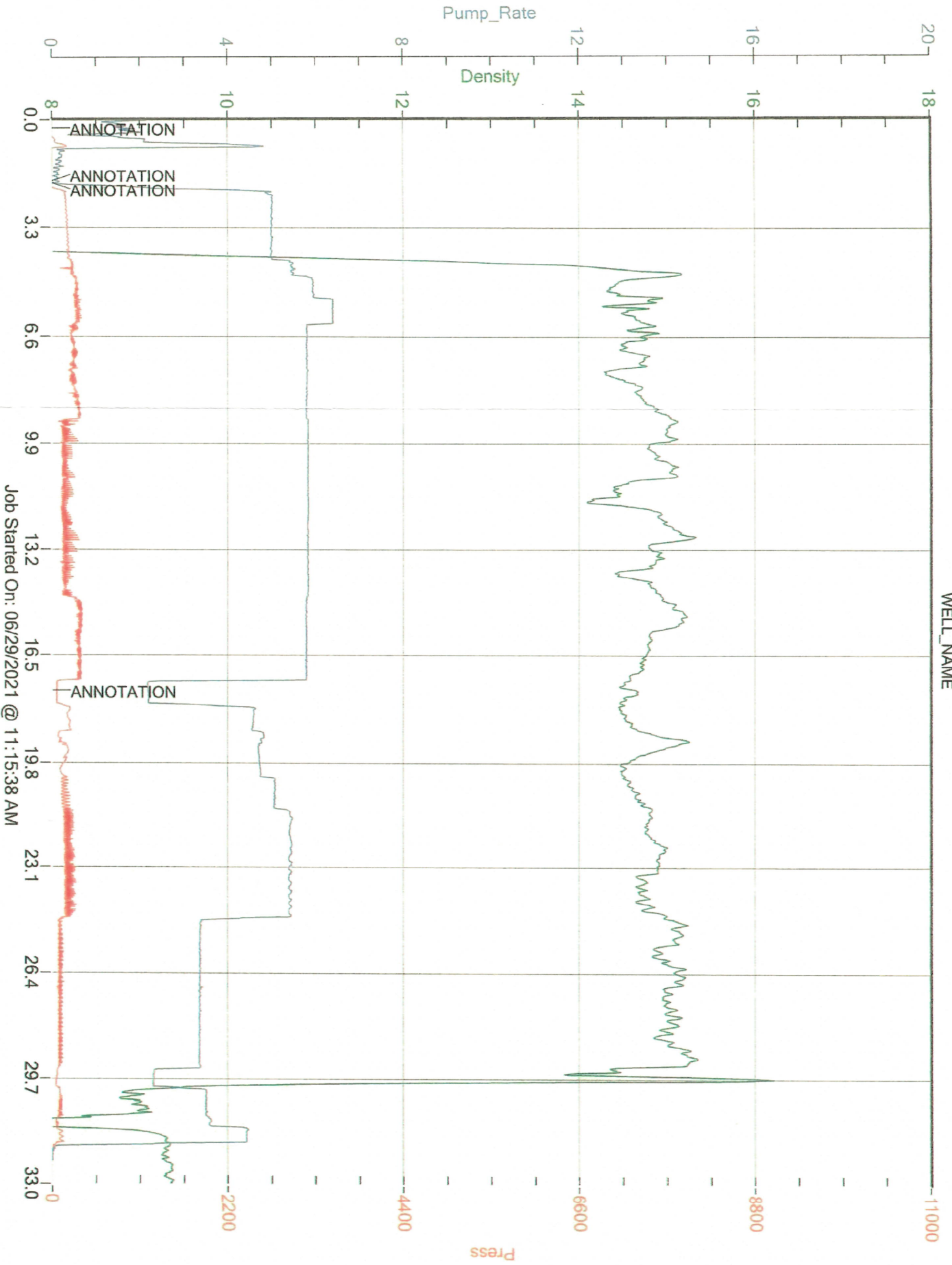
Customer:	HERMAN LOEB LLC	Well:	L-ROC 1-20	Ticket:	WP 1532
City, State:		County:	KIOWA,KS.	Date:	6/29/2021
Field Rep:		S-T-R:	20-27S-18W	Service:	8 5/8" SP

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	12 1/4 in	Blend:	H-CON	Blend:	60/40/2 POZMIX
Hole Depth:	ft	Weight:	11.6 ppg	Weight:	14.8 ppg
Casing Size:	8 5/8 in 5=32#	Water / Sx:	16.8 gal / sx	Water / Sx:	5.2 gal / sx
Casing Depth:	605.44 ft 8=23#	Yield:	2.77 ft <sup>3</sup> / sx	Yield:	1.21 ft <sup>3</sup> / sx
Tubing / Liner:	in	Annular Bbbs / Ft.:	bbs / ft.	Annular Bbbs / Ft.:	bbs / ft.
Plug Depth:	558.25 ft	Depth:	ft	Depth:	ft
Tool Packer:		Annular Volume:	0.0 bbbs	Annular Volume:	0 bbbs
Tool Depth:	ft	Excess:		Excess:	
Displacement:	34.3 bbbs	Total Slurry:	86.0 bbbs	Total Slurry:	38.0 bbbs
		Total Sacks:	175 sx	Total Sacks:	176 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
9:45AM			-	-	ON LOCATION
11:00AM				-	RUN 5 JTS - 8 5/8" X 32#
				-	RUN 8 JTS - 8 5/8" X 23#
				-	CSG. ON BOTTOM
11:50AM				-	HOOK UP TO CSG/ BREAK CIRC.WITH RIG PUMP AND MUD
12:00PM	5.0	200.0	10.0	10.0	H2o AHEAD
12:02PM	5.0	200.0	86.0	96.0	MIX 175 SKS H-CON @ 11.6 PPG
12:20PM	4.0	175.0	38.0	134.0	MIX 175 SKS 60/40/2 POZMIX @ 14.8 PPG
12:45PM				134.0	SHUT DOWN-DROP T.R. PLUG
12:52PM	5.0	-	-	134.0	START DISPLACEMENT
12:58PM	4.0	200.0	30.0	164.0	SLOW RATE
1:00PM	3.0	400.0	34.3		PLUG DOWN
					CIRCULATION THRU JOB
					CIRCULATED 1 BBL TO PIT 15
					JOB COMPLETE,
					THANKS,
					KEVEN AND CREW

CREW		UNIT	SUMMARY		
Cementer:	LESLEY	75	Average Rate	Average Pressure	Total Fluid
Pump Operator:	MCLAMORE	176-521	4.3 bpm	196 psi	198 bbbs
Bulk #1:	TRAVINO	181-532			
Bulk #2:					

CUSTOMER  
WELL\_NAME





7/27

✓  
J



### HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.  
250 N. Water, Suite 200  
Wichita, KS 67202  
316-303-9515

Customer:  
HERMAN L LOEB LLC  
PO BOX 838  
LAWRENCEVILLE, IL 62439

Invoice Date: 7/8/2021  
Invoice #: 0354052  
Lease Name: L-Roc  
Well #: 1-20 (New)  
County: Kiowa, Ks  
Job Number: WP1565  
District: Oakley

11216 → 6420 → LROC

Date/Description	HRS/QTY	Rate	Total
5.5" Longstring	0.000	0.000	0.00
Cement Pozmix 50/50	200.000	10.560	2,112.00
H-Plug	50.000	11.440	572.00
GYP Seal	1,008.000	0.880	887.04
KOL Seal	1,008.000	0.660	665.28
Cello Flake	42.000	1.540	64.68
Cement Fluid Loss 2	84.000	13.200	1,108.80
Defoamer Powder C-41P	84.000	3.520	295.68
Potassium Chloride Powder	840.000	1.320	1,108.80
Cement baskets 5 1/2"	1.000	264.000	264.00
5 1/2" Turbolizers	12.000	70.400	844.80
5 1/2" Floatshoe-Flapper AFU	1.000	330.000	330.00
5 1/2" LD Plug & Baffle	1.000	308.000	308.00
Reciprocating scratcher 5 1/2"	5.000	68.376	341.88
Mud flush	1,000.000	0.880	880.00
KCL	5.000	17.600	88.00
Light Eq Mileage	45.000	1.760	79.20
Heavy Eq Mileage	45.000	3.520	158.40
Ton Mileage	473.000	1.320	624.36
Cement Pump Service	1.000	1,320.000	1,320.00
Cement plug container	1.000	220.000	220.00

PAID  
102932  
AUG 03 2021  
SCANNED

Continued



## HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.  
250 N. Water, Suite 200  
Wichita, KS 67202  
316-303-9515

Customer:

HERMAN L LOEB LLC  
PO BOX 838  
LAWRENCEVILLE, IL 62439

Invoice Date: 7/8/2021  
Invoice #: 0354052  
Lease Name: L-Roc  
Well #: 1-20 (New)  
County: Kiowa, Ks  
Job Number: WP1565  
District: Oakley

Date/Description	HRS/QTY	Rate	Total
Cement Data Acquisition	1.000	220.000	220.00

**Total** 12,492.92

**TERMS:** Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

**SALES TAX:** Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

**WE APPRECIATE YOUR BUSINESS!**



Customer	Herman Loeb	Lease & Well #	L-Roc # 1-20	Date	7/8/2021
Service District	Oakley KS	County & State	Kiowa KS	Legals S/T/R	20-27S-18W
Job Type	5.5" longstring	<input checked="" type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> SWD	New Well?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> No	Job #
Equipment #	Driver	Ticket #			

Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures					
78	Fennis	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging		
180/520	Mike	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection		
527/250	Kale	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input checked="" type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations		
		<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input checked="" type="checkbox"/> Overhead Hazards	<input checked="" type="checkbox"/> Muster Point/Medical Locations		
		<input checked="" type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below			

**Comments**  
 Muster point entrance of location. Person in charge of head count Fennis. Nearest hospital Greensburg KS. Emergency phone # 911

Product/ Service Code	Description	Unit of Measure	Quantity	Net Amount
CP065	50/50/2 Pozmix	sack	200.00	\$2,112.00
CP055	H-Plug	sack	50.00	\$572.00
CP105	Gypsum	lb	1,008.00	\$887.04
CP110	Kol Seal	lb	1,008.00	\$665.28
CP120	Cello-flake	lb	42.00	\$64.68
CP132	Cement Fluid Loss 2	lb	84.00	\$1,108.80
CP135	Defoamer Powder	lb	84.00	\$295.68
AF057	Potassium Chloride Powder	lb	840.00	\$1,108.80
FE130	5 1/2" Cement Basket	ea	1.00	\$264.00
FE135	5 1/2 Turbolizer	ea	12.00	\$844.80
FE145	5 1/2" Float Shoe - AFU Flapper Type	ea	1.00	\$330.00
FE170	5 1/2" Latch Down Plug & Baffle	ea	1.00	\$308.00
FE185	5 1/2" Cement Scratchers Resciprocating Type	ea	5.00	\$341.88
CP170	Mud Flush	gal	1,000.00	\$880.00
AF056	Liquid KCL Substitute 2	gal	5.00	\$88.00
M015	Light Equipment Mileage	mi	45.00	\$79.20
M010	Heavy Equipment Mileage	mi	45.00	\$158.40
M020	Ton Mileage	tm	473.00	\$624.36
C015	Cement Pump Service	ea	1.00	\$1,320.00
C050	Cement Plug Container	job	1.00	\$220.00
C035	Cement Data Acquisition	job	1.00	\$220.00

Customer Section: On the following scale how would you rate Hurricane Services Inc.?		Net:	\$12,492.92	
Based on this job, how likely is it you would recommend HSI to a colleague?		Total Taxable	\$ -	
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <i>Extremely Likely</i>		Tax Rate:		
		State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.	Sale Tax:	\$ -
		Total:	\$ 12,492.92	
		HSI Representative:	<i>Fennis Garduno</i>	

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X \_\_\_\_\_ **CUSTOMER AUTHORIZATION SIGNATURE**



**CEMENT TREATMENT REPORT**

Customer: Herman Loeb	Well: L-Roc # 1-20	Ticket: WP 1565
City, State:	County: Kiowa KS	Date: 7/8/2021
Field Rep:	S-T-R: 20-27S-18W	Service: 5.5" longstring

Downhole Information	
Hole Size:	7.875 in
Hole Depth:	4815 ft
Casing Size:	5 1/2 in
Casing Depth:	4817.77 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	114.0 bbls

Calculated Slurry - Lead	
Blend:	50/50/2
Weight:	14.0 ppg
Water / Sx:	5.5 gal / sx
Yield:	1.36 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	48.5 bbls
Total Sacks:	200 sx

Calculated Slurry - Tail	
Blend:	H-Plug
Weight:	13.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.41 ft <sup>3</sup> / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	12.5 bbls
Total Sacks:	50 sx

TIME	RATE	PSI	BBLs	TOTAL BBLs	REMARKS
1:15 AM			-	-	Journey mangement meeting
1:30 AM			-	-	Convoy to location
4:15 AM			-	-	Arrive on location
4:20 AM			-	-	safety meeting
4:30 AM			-	-	Spot in rig / up equipment
			-	-	Total pipe ran 4817.77' shoe trac 20'
			-	-	Cement basket jt 7, turbolizers jts 1,2,5,7,9,10,11,13,16,19,22,25 scratchers on jt 2 4' from thread then spaced out every 5' total of
5:50 AM			-	-	Start running casing
7:30 AM		150.0		-	Circulate at jt 45
9:25 AM	8.0	1,200.0	8.0	8.0	Rig land casing start circulating, pressured up to 1100 psi, hooked cement pump to casing got psi to break over @ 1200 psi
9:45 AM		250.0		8.0	Rig circulate
10:55 AM	5.0	270.0	24.0		Hook cement pump to casing pump mud flush
11:01 AM	5.0	200.0	10.0		Pump fresh water spacer
11:05 AM	2.0	80.0	12.5		Plug rh with 30 sx H-Plug @ 13.8 ppg plug mh with 20 sx H-plug @ 13.8 ppg
11:15 AM	6.0	300.0	48.5		Mix 200 sx 50/50/2 @ 14 ppg
11:35 AM					S/D wash pumps and lines
11:43 AM	7.0	100.0			Drop plug start fresh water displacement
11:55 AM	7.0	350.0	80.0		See lift pressure
12:00 PM	2.5	700.0	104.0		Slow to land plug
12:05 PM	2.0	1,700.0	116.5		Plug landed
12:10 PM					Check floats, floats held got .75 bbl back
1:00 PM					Rig down leave location

CREW		UNIT	SUMMARY		
Cementer:	Fennis	78	Average Rate	Average Pressure	Total Fluid
Pump Operator:	Mike	180/520	4.9 bpm	482 psi	404 bbls
Bulk #1:	Kale	527/250			
Bulk #2:					

Herman Loeb  
L-Roc 1-20

