

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 Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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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	OLSON FARM 1-16
Doc ID	1656419

Tops

Name	Top	Datum
Anhydrite	1264	1061
Chase	2550	-225
Heebner Shale	4144	-1819
Lansing A	4300	-1975
Lansing B	4324	-1999
LKC H	4478	-2153
KC J	4591	-2266
BKC	4706	-2381
Miss Spergen	4918	-2593



# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Olson Farm #1-16  
Location: 671' FNL & 918' FEL, Sec. 16-T28S-R20W, Kiowa Co., KS.  
Licence Number: 15-097-21860-00-00 Region: Fralick West Ext.  
Spud Date: 5/10/2022 Drilling Completed: 5/18/2022  
Surface Coordinates: 671' FNL & 918' FEL, Sec. 16-T28S-R20W

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 2312' K.B. Elevation (ft): 2325'  
Logged Interval (ft): 3450' To: 5000' Total Depth (ft): 5000'  
Formation: Mississippian at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3449'; Chemical Gel 3449' to 5000'  
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 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 'B' Zone) 4332' - 4350' Test Times 15"-45"-45"-90" IFP Strong Blow BOB/10 Sec., FFP Strong BOB Blow Immed., no GTS, no Blowback on SI's; REC: 1627' GIP, 10' GCM(10%G, 90%M), no oil or water; IFP 30-31#, ISIP 1168#, FFP 21-25#, FSIP 1259#, IHP 2270#, FHP 2152#, BHT 113 Deg. F.

DST #2(Miss. Spergen Dolomite) 4898' - 4930'(Corrected Depth to Log) Test Times 15"-45"-30"-90" IFP Strong Blow BOB in 5 Sec, Gas to Surface in 2 Min., Gauged 4.896 MMCFG/15", No Blowback on ISIP; FFP Strong Blow GTS Thru Gauged 4.736 MMCFG/30", 1" Blowback on FSI, Caught 2 gas samples for analysis, gas does burn; REC: 10' SWOCM(15%O, 5%W, 80%M), not enough water to get CI, probably filtrate; IFP 952-847#, ISIP 1458#, FFP 813-843#, FSIP 1444#, IHP 2598#, FHP 2445#, BHT 115 Deg. F.

## Comments

5/9 - 5/10/22 MIRU Sterling Drilling Co. Rig #5, Spud at 1:45 PM. on 5/10/22; 5/11/22 TD. 589' - WOC; 5/12/22 Drilling at 1500'; 5/13/22 Drilling at 2971'; 5/14/22 Drilling at 4035'; 5/15/22 TD. 4350' - TIH after DST #1; 5/16/22 Drilling at 4670'; 5/17/22 TD. 4932' - Short Trip for DST #2; 5/18/22 RTD. 5000' - Logging(Midwest Wireline, LLC.) - LTD 5000'; 5/19/22 Set new 5 1/2" Production Casing at 4993'. PD. 2:45 AM.

Set new 8 5/8"(23#) Surface Casing at 585' KB. with 400 sacks cement(Hurricane Cementing Services). Cement did Circulate. PD. at 6:00 AM. 5/11/22.

Set new 5 1/2"(15.5#) Production Casing at 4993' with 225 sacks of cement(Hurricane Cementing Services). PD. at 2:45 AM. 5/19/22(George Payne supervising).

Surveys: 0.5 Deg. at 589'(Surface Casing); Surveys taken by TeleDrift system, 0.6 Deg. at 1345'; 0.7 Deg. at 2238'; 0.5 Deg. at 2811'; 0.5 Deg. at 3321'; 0.2 Deg. at 3799'; 0.0 Deg. at 4310'; 0.7 Deg. at 4405'; 0.5 Deg. at 4565'; 0.4 Deg. at 4650'; 0.6 Deg. at 4852'; 0.4 Deg. at 4915'.


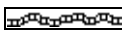
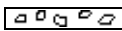
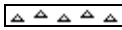
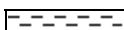







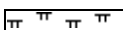

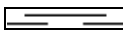
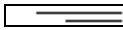
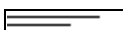



Pipe Strap at 4350'(DST #1): Strap 0.80' Short to the Board, no correction made to the Board.

After review of the Midwest Wireline, LLC. logs, DST and sample data, the operator elected to set new 5 1/2" Production Casing for completion in the Mississippi Spergen Dolomite section.








































































LOG TOPS: Blaine Gypsum 674(+1651), Stone Corral Anhydrite 1264(+1061), Chase 2550(-225), Stotler Lmst. 3480(-1155), Howard 3685(-1360), Heebner Shale 4144(-1819), Toronto 4160(-1835), Brown Lmst. 4292(-1967), Lansing 'A' 4300(-1975), Lansing 'B' 4324(-1999), L/K.C. 'H' 4478(-2153), K.C. 'J' zone 4591(-2266), Stark Shale 4624(-2299), Base K.C. 4706(-2381), Pawnee 4794(-2469), Cherokee Shale 4842(-2517), Base Cherokee Lmst. 4900(-2575), Miss. Spergen 4918(-2593).

NOTE: Portions of this log were shifted by 1' to 2' to correlate with the Midwest Wireline logs.

### ROCK TYPES

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

<b>MINERAL</b>  Anhy  Arggrn  Arg  Bent  Bit  Brecfrag  Calc  Carb  Chtdk  Chtlt  Dol  Feldspar  Ferrpel  Ferr  Glau	 Gyp  Hvymin  Kaol  Marl  Minxl  Nodule  Phos  Pyr  Salt  Sandy  Silt  Sil  Sulphur  Tuff	<b>FOSSIL</b>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  Fossil  Gastro  Oolite	 Ostra  Pelec  Pellet  Pisolite  Plant  Strom  <b>STRINGER</b>  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst	 Sltstrg  Ssstrg  <b>TEXTURE</b>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest
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**OTHER SYMBOLS**

- POROSITY**  
 [E] Earthy  
 [F] Fenest  
 [X] Fracture  
 [I] Inter  
 [M] Moldic  
 [O] Organic  
 [P] Pinpoint

- Vuggy  
**SORTING**  
 [W] Well  
 [M] Moderate  
 [P] Poor

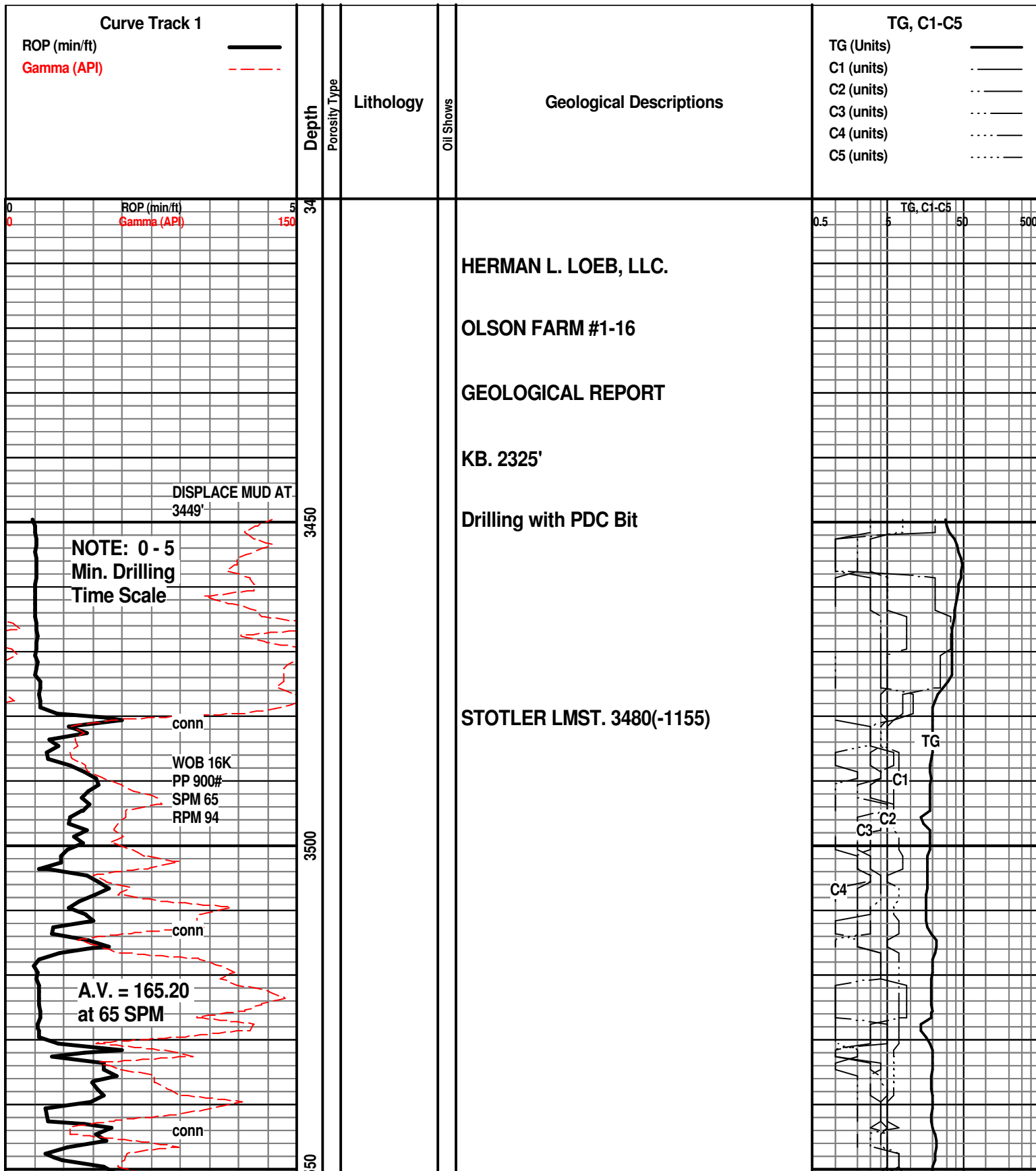
- ROUNDING**  
 [R] Rounded  
 [r] Subrnd  
 [a] Subang  
 [A] Angular

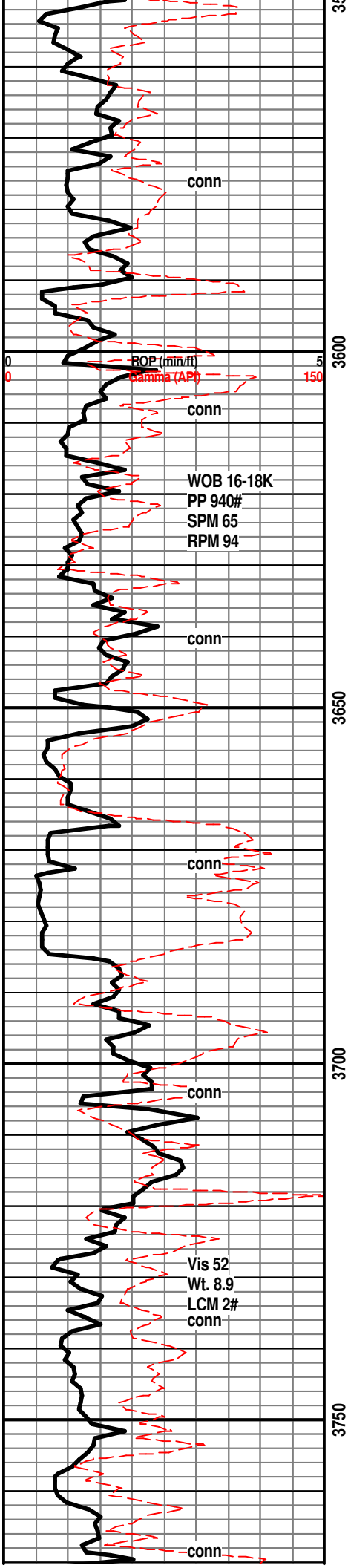
- Spotted  
 [Q] Ques  
 [D] Dead

- EVENT**  
 [▽] Rft  
 [▲] Sidewall

- INTERVAL**  
 [■] Core  
 [□] Dst

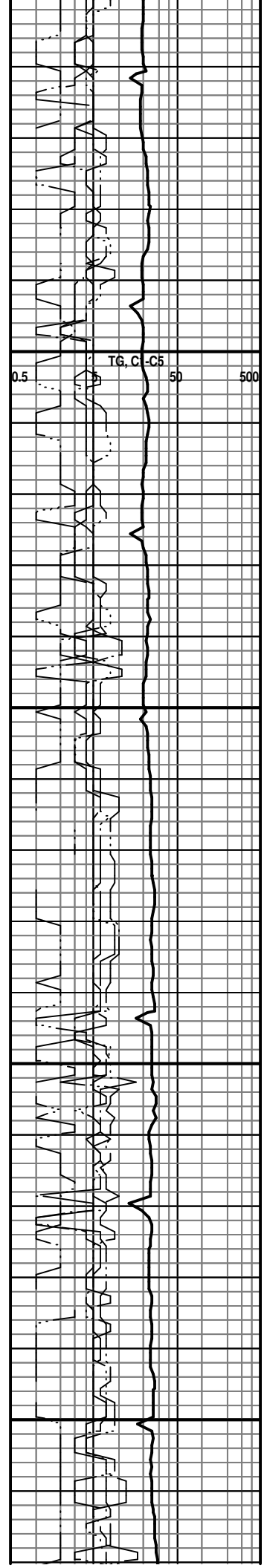
- OIL SHOW**  
 Even



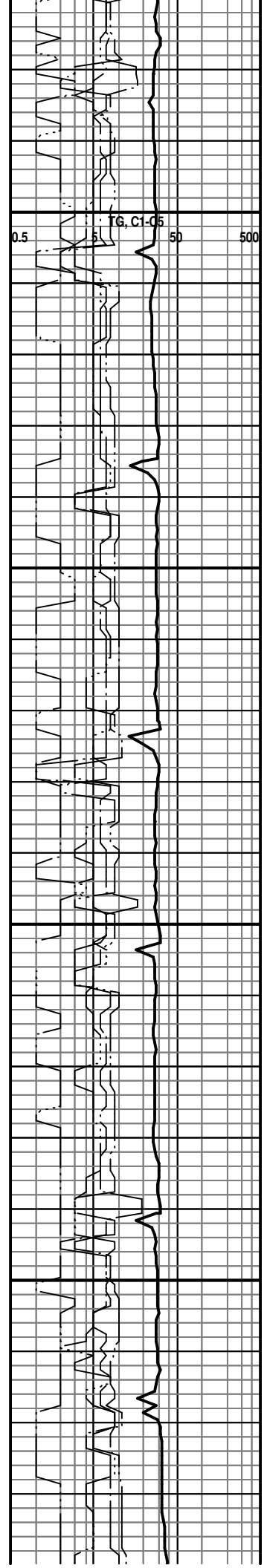
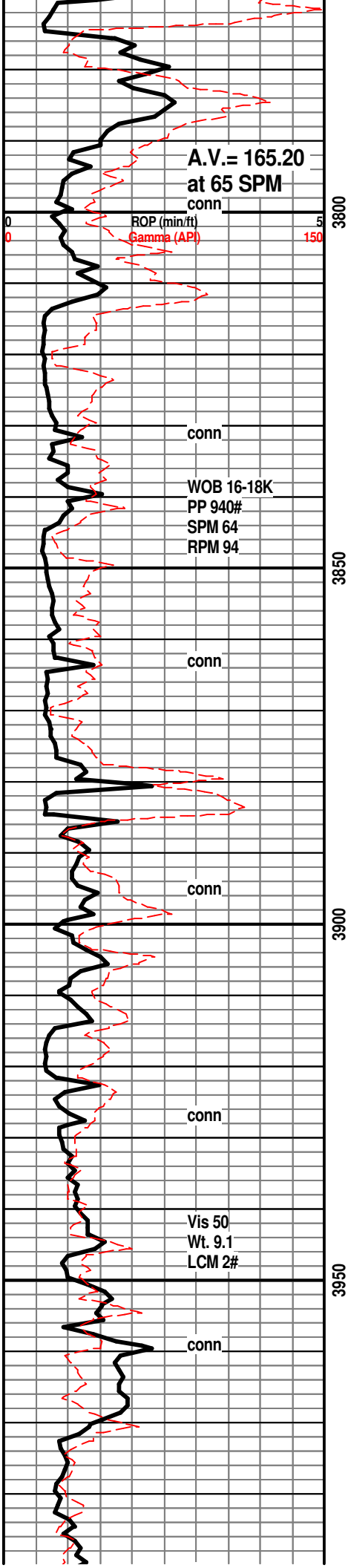


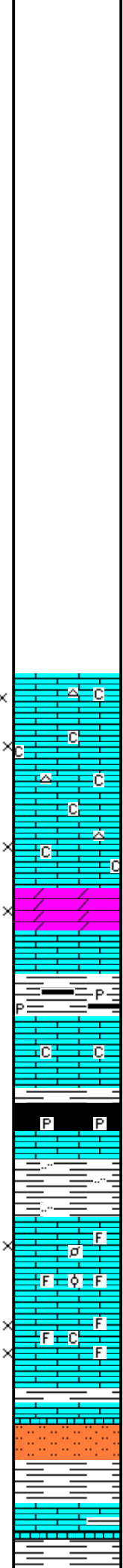
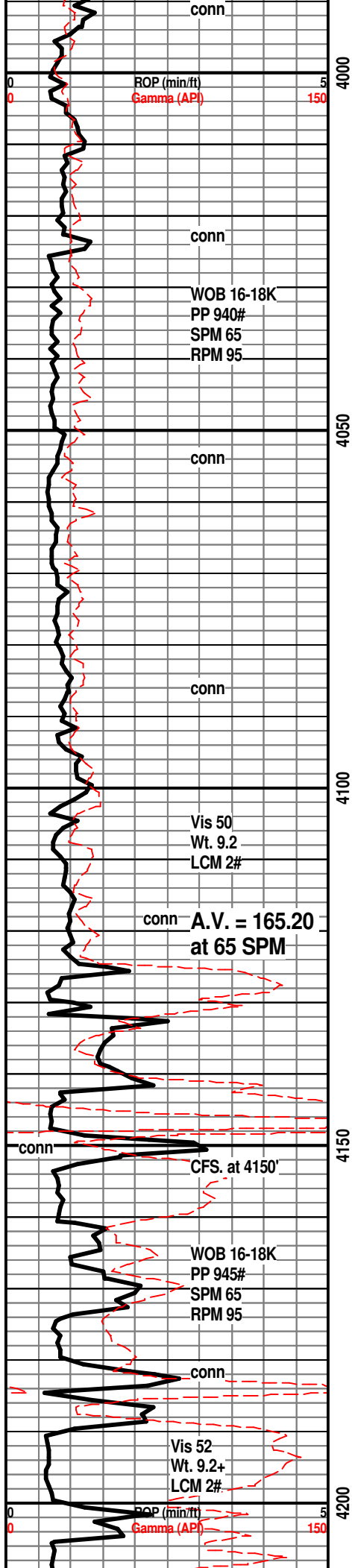
3600  
3650  
3700  
3750

HOWARD 3685(-1360)









LM; tan to cream, fxl n, chalky, fair to gd interxln por, rare lt gy to brn cht, dull yel min fluor

**START 20' Wet and Dry Samples at 4100'**

LM; lt brn, tan, med to cse xln, some gran, fair interxln por, chalky mtx, dull yel min fluor, rare gy/brn cht, ns.

DOL; lt brn, sucrosic, fair interxln por, lt yel min fluor, ns.

SH; med to dk gy, trc blk, platy, occ pyr

LM; lt gy, gy brn, most dense - micritic, dense, interbdd fxl n chalky lm, scat lt yel fluor, ns.

**HEEBNER SHALE 4144(-1819)**

SH; blk, carb ip, trc gas, occ pyr

LM; med brn, blocky, hd

SH; grn, gy grn, silty ip, fiss

**TORONTO 4160(-1835)**

LM; tan to off wh, foss ip, occ small pellets/ooids - most well cem, occ chalky mtx, poor interpart por, no fluor, ns.

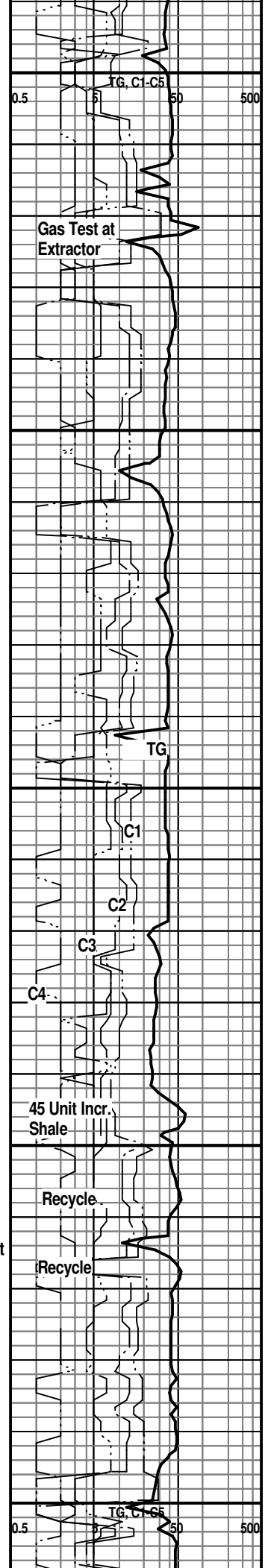
LM; tan to off wh, foss, med xln w/spar calc, fair interpart/interxln por, minor chalky mtx, lt yel min fluor, no stn or odor, ns.

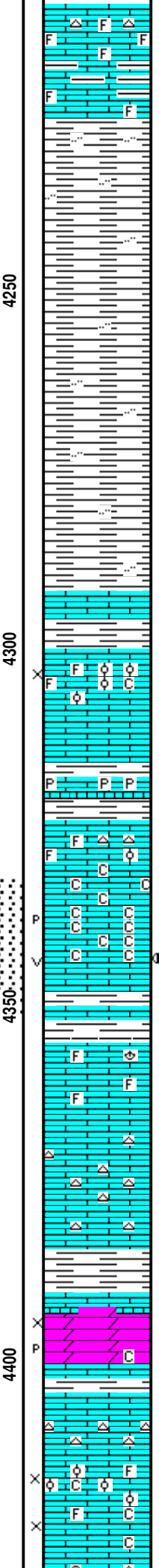
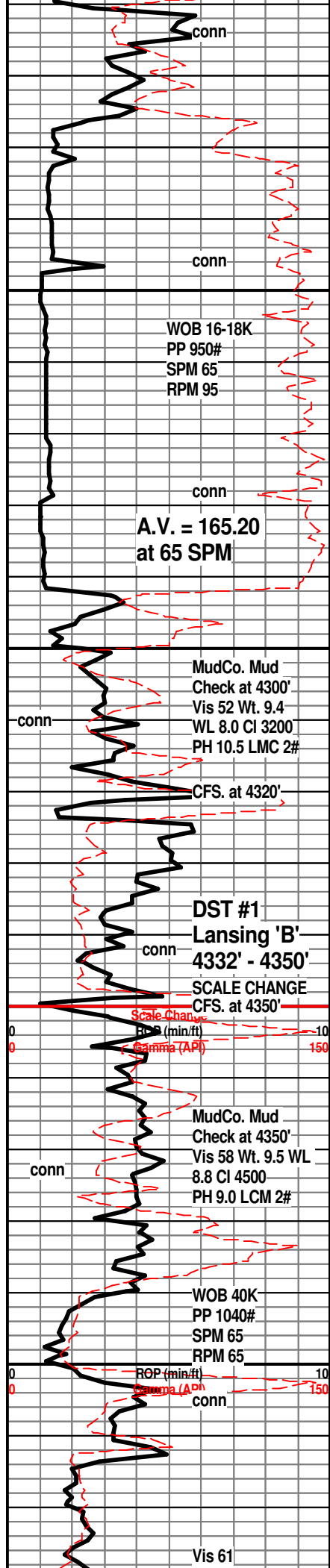
**DOUGLAS SHALE 4189(-1864)**

SLTST; lt gy, grn, sandy ip.

LM; lt brn, gy brn, argil ip

SH; med gy, platy





LM; lt brn, hd, micritic, scat gy cht, well cem foss mat also, tite

LM; med gy brn, hd, well cem foss mat, argil ip.

SH; lt to med gy, rare gy grn, silty ip.

SH; lt to med gy, gy grn, platy

SH; lt to med gy, platy, silty

**BROWN LMST. 4292(-1967)**  
LM; dk brn, micritic, blocky, tite

**LANSING 'A' 4300(-1975)**  
LM; tan to off wh, buff, foss to oolitic, poor interpart por, most well cem, minor chalky mtz, lt yel fluor, no stn or odor, no sample shows

LM; tan to lt brn, foss ip, no vis por, ns.

LM; med brn, hd, pyr ip.

**LANSING 'B' 4324(-1999)**  
LM; tan to lt brn, most dense - micritic, scat well cem foss mat, occ gy cht, no vis por, yel fluor

LM; tan to off wh, wh, rare lt gy, fxln, much chalky mtz, scat fair to gd vug and p-p por, faint odor, occ brite yel fluor, gas bubbles, fair cut, scat lt brn oil stn, mostly gas show

**DST #1: Lansing 'B' Zn. 4332' - 4350'**  
SH; med gy, platy, foss ip.

LM; lt to med brn, foss ip, hd, blocky, no vis por, no fluor, ns.

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

LM; tan to med brn, interbdd wh to gy fresh cht, no vis por, scat lt yel min fluor, ns.

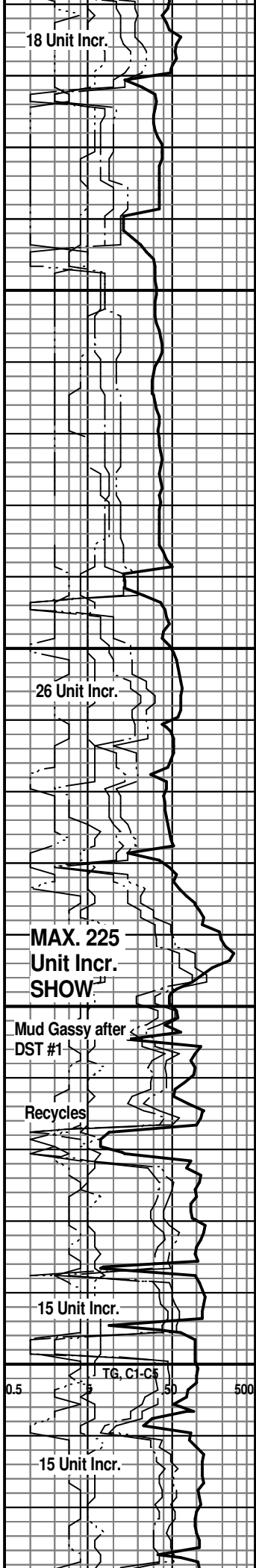
SH; med gy, gy grn, platy

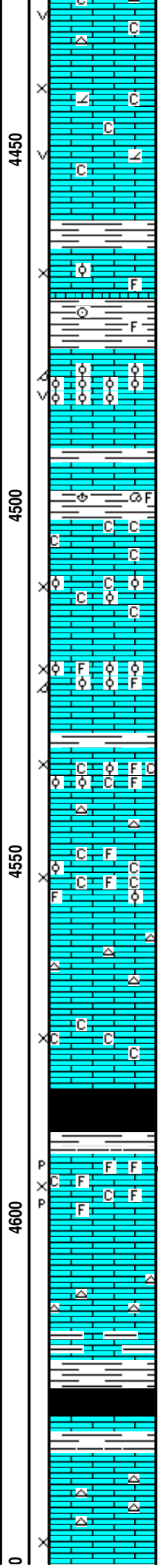
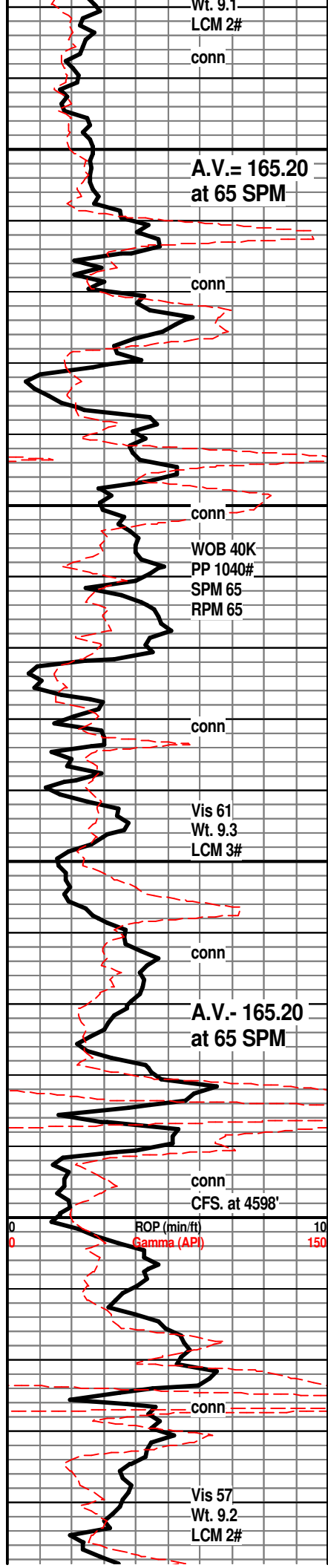
DOL; wh, off wh, tan, fxln to sucrosic text, occ soft chalky mtz, partly lmy, dull yel min fluor, fair interpart/scat p-p por, no stn/odor, ns.

SH; med gy, grn, platy

LM; lt brn, cherty ip, tite

LM; tan to cream, buff, foss to oolitic ip, loosely cem - fair interpart por, minor chalky mtz, no fluor, no stn or odor, ns.





Wt. 9.1  
LCM 2#  
conn

LM; tan to cream, rxln, occ sucrosic text, fair interxln w/scat vug por, chalky ip, no fluor, interbdd wh/off wh cht, ns.

LM; tan to cream, lt brn, fxln, sucrosic text, dolomitic, lt/med yel fluor, occ chalky, no stn or odor, ns.

LM; lt gy, micritic, tite

LM; tan to lt gy, foss ip, scat fair interpart por, no flour, ns.

SH; med to dk gy, rare gy grn, foss ip.

**LANSING/K.C. 'H' 4478(-2153)**  
LM; lt brn, oolitic, gd oomoldic por, brittle ip, scat small vug por also, lt yel min fluor only, no stn or odor, ns.

LM; tan to lt brn, micritic, blocky, tite

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

LM; off wh, tan, buff, fxln, occ soft chalky mtx, no vis por, dull yel min fluor, ns.

LM; off wh, tan, foss w/scat oolitic lmst, chalky mtx, poor interpart por, dull yel fluor, ns

LM; tan to lt brn, foss - oolitic, cse foss frags, fair/gd interpart and oomoldic por, lt yel fluor, no stn, ns.

**K.C. 'I' ZONE 4534(-2209)**  
LM; tan to lt brn, off wh, foss - partly oolitic, fair interpart por, much soft chalky mtx, rare wh cht, lt yel fluor, ns.

LM; tan to lt brn, foss, scat cse foss frags, chalky mtx, fair interpart por, dull to lt yel fluor, no stn or odor, ns.

LM; med brn, micritic, scat gy to brn occ foss cht, tite

LM; tan to buff, fxln, poor interxln por, scat soft chalky mtx, no fluor, no stn or odor, ns.

SH; blk, carb ip, trc gas

**K.C. 'J' ZONE 4591(-2266)**  
LM; off wh, highly foss, scat gd p-p and interpart por, occ chalky mtx, 3-4 pcs w/spotted live stn, med yel fluor, gd cut, faint odor, some barren por.

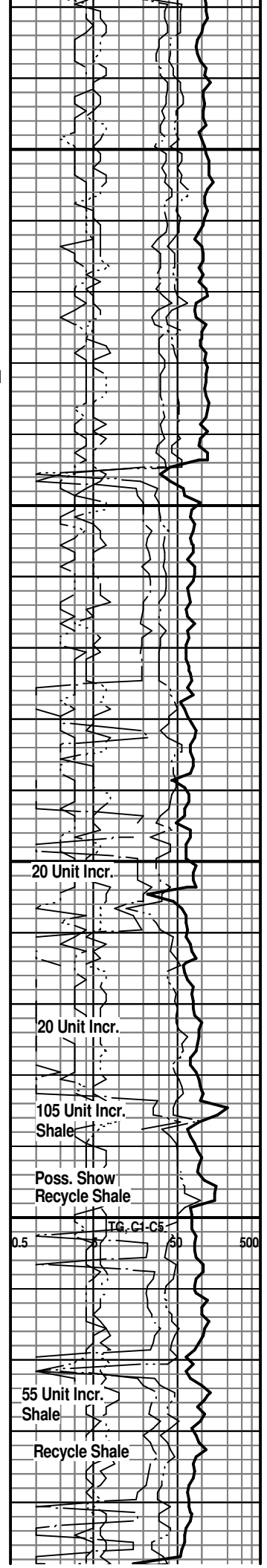
LM; off wh, tan, f to med xln, blocky, tite

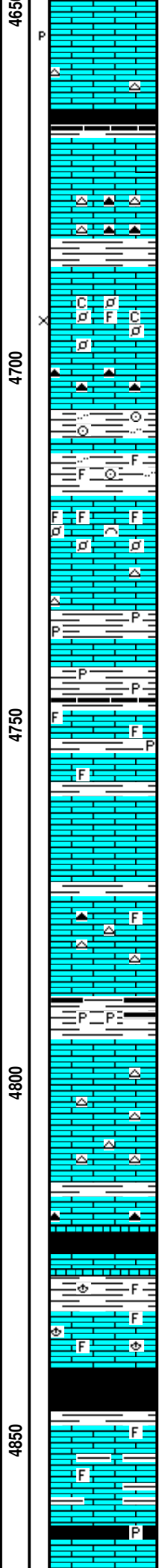
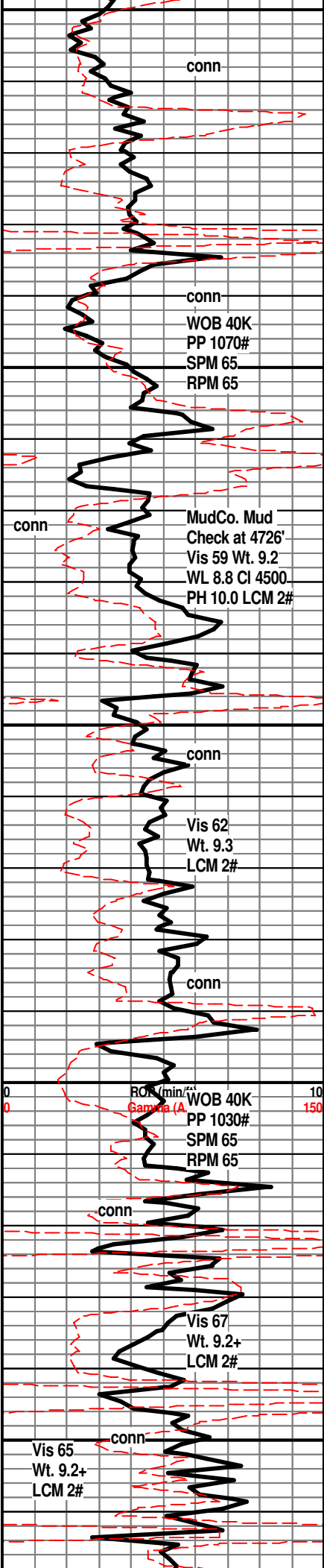
LM; med brn, gy brn, blocky, scat gy/brn cht, tite, interbdd argil lmst

**STARK SHALE 4624(-2299)**  
SH; blk, carb ip, blocky

**SWOPE 4633(-2308)**  
LM; off wh, tan, buff, most micritic, blocky, scat wh to gy cht, no vis por, ns.

LM; tan to buff, fxln, poor to fair interxln w/occ p-p por,





lt yel fluor, no stn or odor, ns.

LM; med brn, occ gy brn, cherty ip

SH; dk gy-blk, platy to blocky, some hd

**HERTHA 4668(-2343)**

LM; tan to lt brn, most dense, scat brn/dk gy cht, lt to med yel min fluor, no stn or odor, ns.

LM; tan to lt brn, foss, occ finely pelletal, fair interpart por, minor chalky mtx, lt yel fluor, no vis stn, no odor, no sample shows

LM; med/dk brn, hd, smoky to dk brn cht, tite

**BASE K.C. 4706(-2381)**

SH; lt gy, grn, gy grn, occ foss, silty ip.

**MARMATON 4718(-2393)**

LM; lt brn, foss - much foss hash, some cse xln lm, no vis por, lt yel fluor, no stn or odor, ns.

LM; tan to buff, fxln to micritic, blocky, rare tan cht, no vis por, ns.

LM; med brn, micritic, hd

SH; med gy, gy grn, pyr ip, some blk sh

LM; med brn, rare foss mat, interbdd hd grn lmst, tite

**ALTAMONT 4760(-2435)**

LM; tan to lt brn, most dense - micritic, blocky, no vis por, rare spar calc xtals, dull yel fluor, ns.

LM; off wh, tan, lt brn, most micritic, rare well cem foss, scat dk gy/off wh cht, lt yel min fluor, no stn or odor, ns.

SH; med to dk gy. trc blk, platy, occ pyr

**PAWNEE 4794(-2469)**

LM; tan to lt brn, micritic, blocky, hd, scat tan to wh cht, no vis por, lt yel fluor, ns.

LM; off wh, buff, fxln to micritic, dense, cherty ip, no vis por, lt yel fluor, ns.

LM; dk brn, hd, smoky to blue/gy cht, tite

**LABETTE SHALE 4821(-2496)**

SH; blk, carb ip, platy, trc gas

SH; med gy grn, foss ip.

LM; lt to med brn, foss ip, well cem, micritic ip, occ lt yel fluor, no stn or odor, ns.

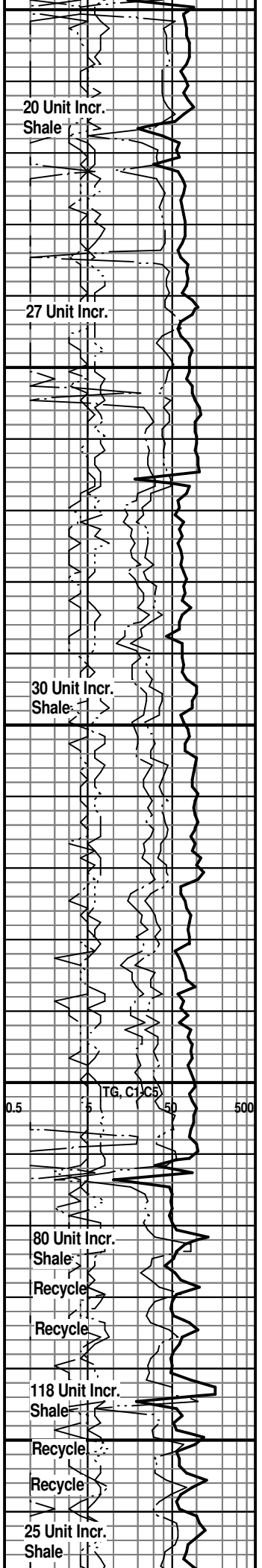
**CHEROKEE SHALE 4842(-2517)**

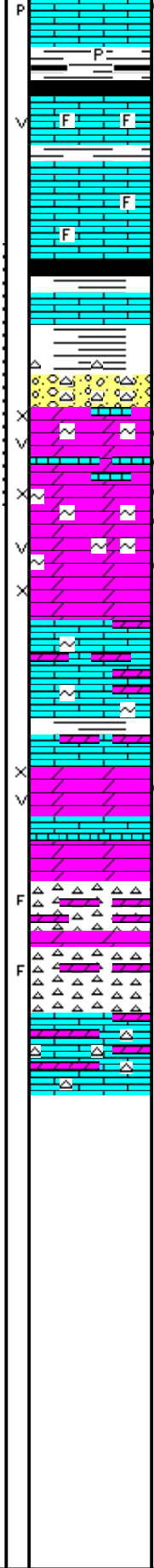
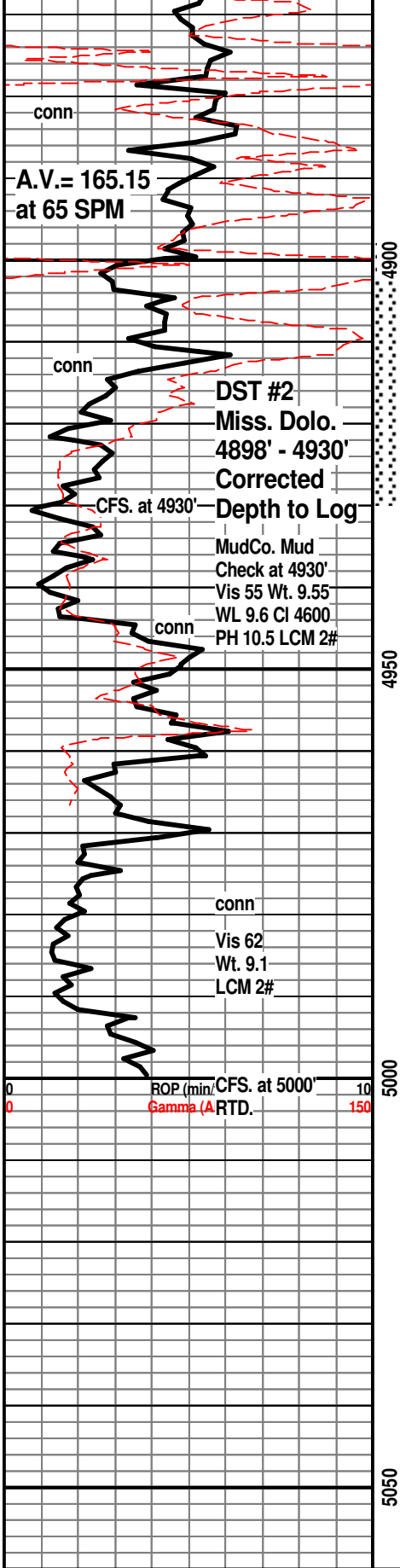
SH; blk, carb, soft to platy, gassy ip.

LM; lt to med brn, some gy brn, thinly bdd w/argil lmst, foss ip, most well cem, no vis por, no fluor, ns.

SH; blk, thinly bdd, pyr ip, blocky

LM; med brn, med xln w/occ foss mat, occ small





pellets/ooids, well cem, few pcs w/dk brn oil stn, lt yel fluor, faint odor, poor p-p por

SH; dk gy - blk, platy, pyr ip.

LM; lt to med brn, foss ip, most well cem, few pcs w/dk brn/blk hvy oil stn, scat poor vug por, dull yel fluor, faint odor, looks tite

LM; lt to med brn, med xln w/rare foss mat, hd, few pcs w/blk dead oil/gils, no live shows, tite

**BASE CHER. LMST. 4900(-2575)**

SH; varic: grn, rust red, maroon, interbdd lmst, also cherty conglomerate

**MISS. SPERGEN 4918(-2593)**

DOL; tan-lt brn, lmy ip, sucrosic, occ glau, fair vug/interxln por, med yel fluor, gd odor, most w/gd even med brn stn, gd cut, SFO + trc. gas

DOL; lt brn, sucrosic, lmy ip, most w/med brn oil stn, med yel flour, fair/gd cut, SFO + trc gas

**DST #2: Miss. Dolo. 4898' - 4930'**

DOL; off wh, lt brn, sucrosic, fair interxln w/some well dev. vug por, med yel fluor, spotted oil stn, Trc. F.O., faint odor, occ glau

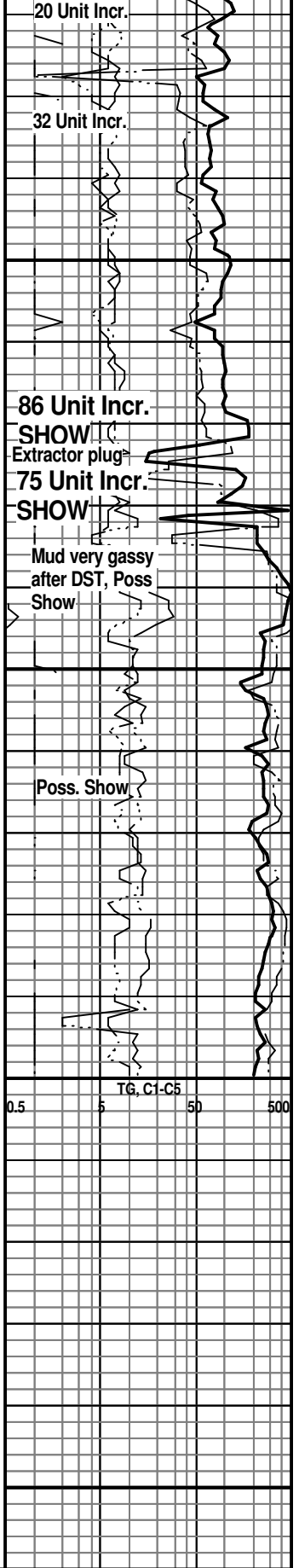
LM; lt gy to off wh, cse xln, hd, dolomitic ip, dull yel min fluor, glau ip., interdd hd lmy dolomite

DOL; tan to lt brn, sucrosic, fair interxln w/vug por, spotted med brn oil stn, SSFO, faint odor

DOL; off wh, tan, sucrosic, soft ip, ns.

CHT; wh, off wh, spicular, fresh, dolomitic ip, poss frags, no fluor, no stn or odor, ns.

LM; tan to lt brn, dolomitic, hd, cherty ip, no vis por, ns.



**RTD. 5000' at 2:00 AM. 5/18/22**

**LTD. 5000'**

**Midwest Wireline, LLC.**

**DIL, NEU/DEN, MICROLOG**



## DRILL STEM TEST REPORT

Prepared For: **Herman L Loeb LLC**

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Olson Farm 1-16**

### **16-28S-20W Kiowa,KS**

Start Date: 2022.05.14 @ 21:58:00

End Date: 2022.05.15 @ 06:28:02

Job Ticket #: 65433                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.05.20 @ 09:59:27



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

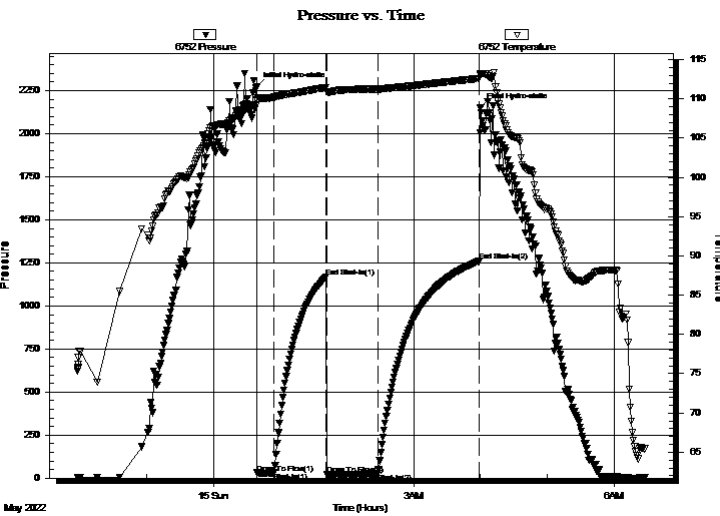
**16-28S-20W Kiowa, KS**  
**Olson Farm 1-16**  
 Job Ticket: 65433 **DST#: 1**  
 Test Start: 2022.05.14 @ 21:58:00

## GENERAL INFORMATION:

Formation: **LKC "B"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:39:17  
 Time Test Ended: 06:28:02  
 Interval: **4332.00 ft (KB) To 4350.00 ft (KB) (TVD)**  
 Total Depth: 4350.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Leal Cason  
 Unit No: 72  
 Reference Elevations: 2325.00 ft (KB)  
 2312.00 ft (CF)  
 KB to GR/CF: 13.00 ft

**Serial #: 6752 Inside**  
 Press@RunDepth: 25.22 psig @ 4338.00 ft (KB) Capacity: psig  
 Start Date: 2022.05.14 End Date: 2022.05.15 Last Calib.: 2022.05.15  
 Start Time: 21:58:01 End Time: 06:28:02 Time On Btm: 2022.05.15 @ 00:38:47  
 Time Off Btm: 2022.05.15 @ 03:59:47

**TEST COMMENT:** IF: Strong Blow , BOB in 10 seconds, Built to 73.36 inches  
 IS: No Blow  
 FF: Strong Blow , BOB Immediate, Built to 137.72 inches  
 FS:



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2270.59	109.24	Initial Hydro-static
1	30.58	109.82	Open To Flow (1)
16	31.30	110.21	Shut-In(1)
63	1167.86	111.40	End Shut-In(1)
63	21.80	110.87	Open To Flow (2)
109	25.22	111.21	Shut-In(2)
200	1258.91	112.61	End Shut-In(2)
201	2152.55	113.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	1627 GIP	0.00
10.00	GCM 10%G 90%M	0.05

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**16-28S-20W Kiowa, KS**  
**Olson Farm 1-16**  
 Job Ticket: 65433      **DST#: 1**  
 Test Start: 2022.05.14 @ 21:58:00

**Tool Information**

Drill Pipe:	Length: 4113.00 ft	Diameter: 3.80 inches	Volume: 57.69 bbl	Tool Weight: 2100.00 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: 211.00 ft	Diameter: 2.25 inches	Volume: 1.04 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 58.73 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4332.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	42.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			4313.00	
Hydraulic tool	5.00			4318.00	
EM Tool	3.00			4321.00	
Safety Joint	2.00			4323.00	
Packer	5.00			4328.00	24.00      Bottom Of Top Packer
Packer	4.00			4332.00	
Stubb	1.00			4333.00	
Handling Sub	5.00			4338.00	
Recorder	0.00	6752	Inside	4338.00	
Recorder	0.00	8365	Outside	4338.00	
Perforations	9.00			4347.00	
Bullnose	3.00			4350.00	18.00      Bottom Packers & Anchor

**Total Tool Length: 42.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**16-28S-20W Kiowa, KS**  
**Olson Farm 1-16**  
 Job Ticket: 65433      **DST#: 1**  
 Test Start: 2022.05.14 @ 21:58:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3200.00 ppm			
Filter Cake: 0.02 inches			

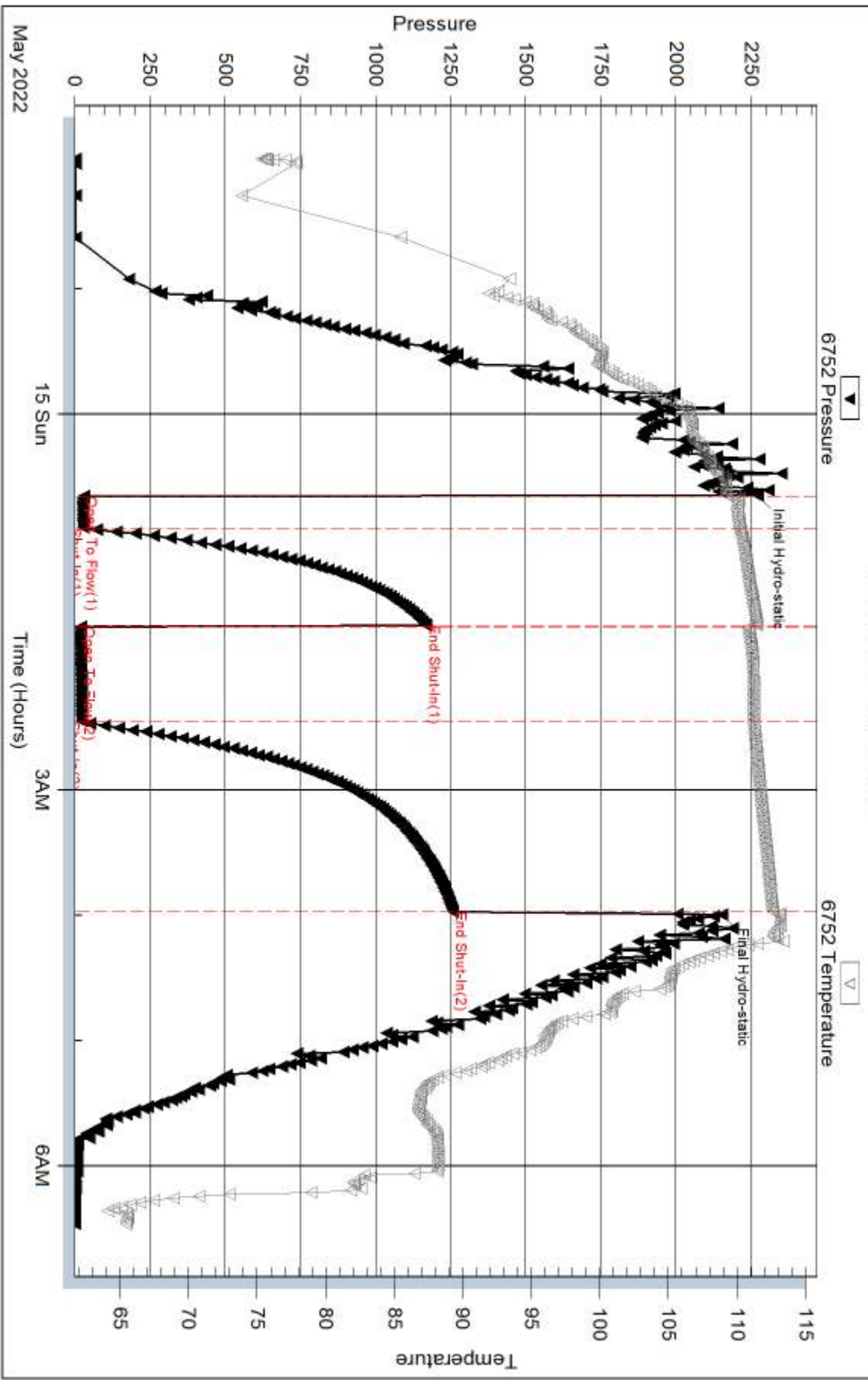
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	1627 GIP	0.000
10.00	GCM 10%G 90%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time

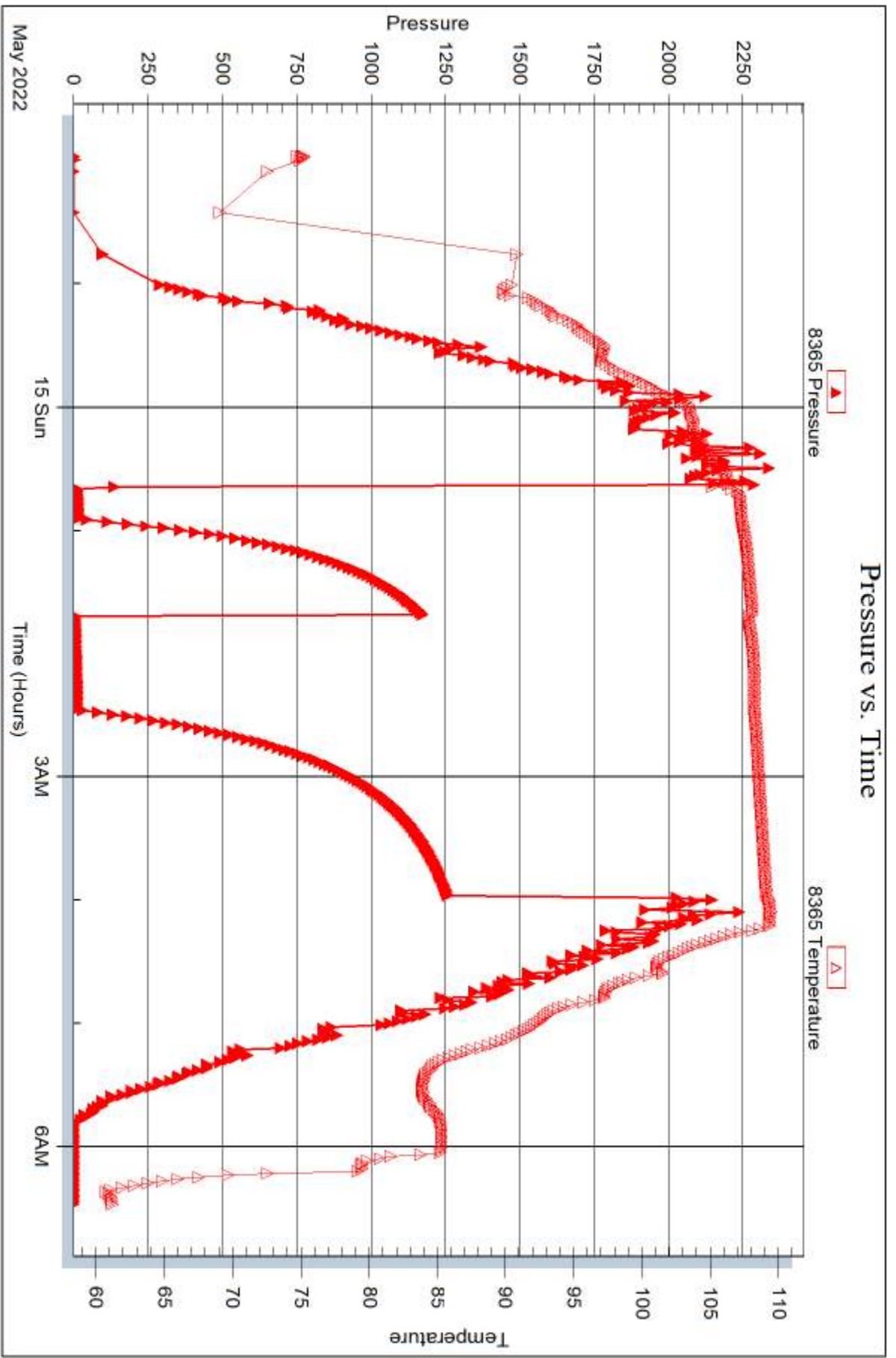


Serial #: 8365

Outside Herman L Loeb LLC

Olson Farm 1-16

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65433

Printed: 2022.05.20 @ 09:59:33



## DRILL STEM TEST REPORT

Prepared For: **Herman L Loeb LLC**

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Olson Farm 1-16**

### **16-28S-20W Kiowa**

Start Date: 2022.05.17 @ 11:13:00

End Date: 2022.05.17 @ 19:09:02

Job Ticket #: 65434                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.05.20 @ 09:56:21



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**16-28S-20W Kiowa**  
**Olson Farm 1-16**  
 Job Ticket: 65434 **DST#: 2**  
 Test Start: 2022.05.17 @ 11:13:00

## GENERAL INFORMATION:

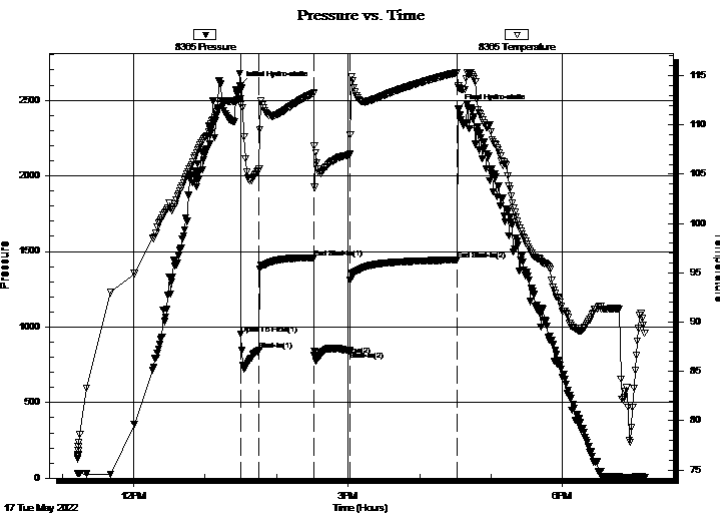
Formation: **Mississippi**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:30:02  
 Time Test Ended: 19:09:02  
 Interval: **4900.00 ft (KB) To 4932.00 ft (KB) (TVD)**  
 Total Depth: 4932.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 72  
 Reference Elevations: 2325.00 ft (KB)  
 2312.00 ft (CF)  
 KB to GR/CF: 13.00 ft

## Serial #: 8365

**Outside**

Press@RunDepth: 843.04 psig @ 4909.00 ft (KB) Capacity: psig  
 Start Date: 2022.05.17 End Date: 2022.05.17 Last Calib.: 2022.05.17  
 Start Time: 11:13:01 End Time: 19:09:02 Time On Btm: 2022.05.17 @ 13:29:17  
 Time Off Btm: 2022.05.17 @ 16:32:32

**TEST COMMENT:** IF: Strong Blow , BOB in 10 seconds, GTS in 2 minutes, Gauged Gas Caught Sample  
 IS: No Blow  
 FF: Strong Blow , BOB & GTS Immediate, Gauged Gas Caught Sample  
 FS: 1 inch Blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2598.16	112.64	Initial Hydro-static
1	951.94	112.04	Open To Flow (1)
16	846.80	105.48	Shut-In(1)
62	1458.14	113.21	End Shut-In(1)
63	813.04	107.88	Open To Flow (2)
93	843.04	107.01	Shut-In(2)
183	1444.47	115.28	End Shut-In(2)
184	2445.56	113.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	4888 GIP	0.00
10.00	SWOCM 5%W 15%O 80%M	0.05

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	160.00	5013.79
Last Gas Rate	1.00	163.00	4736.05
Max. Gas Rate	1.00	169.00	4896.23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

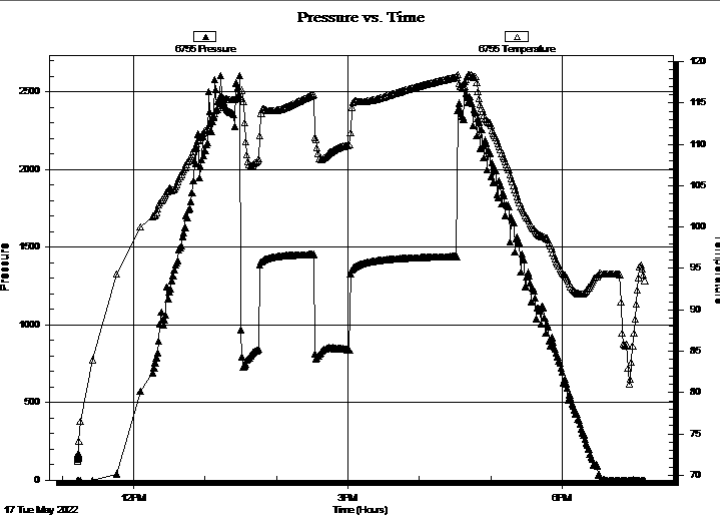
**16-28S-20W Kiowa**  
**Olson Farm 1-16**  
 Job Ticket: 65434 **DST#: 2**  
 Test Start: 2022.05.17 @ 11:13:00

## GENERAL INFORMATION:

Formation: **Mississippi**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:30:02  
 Time Test Ended: 19:09:02  
**Interval: 4900.00 ft (KB) To 4932.00 ft (KB) (TVD)**  
 Total Depth: 4932.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 72  
 Reference Elevations: 2325.00 ft (KB)  
 2312.00 ft (CF)  
 KB to GR/CF: 13.00 ft

**Serial #: 6755 Inside**  
 Press@RunDepth: psig @ 4909.00 ft (KB) Capacity: psig  
 Start Date: 2022.05.17 End Date: 2022.05.17 Last Calib.: 2022.05.17  
 Start Time: 11:13:01 End Time: 19:09:02 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF: Strong Blow , BOB in 10 seconds, GTS in 2 minutes, Gauged Gas Caught Sample  
 IS: No Blow  
 FF: Strong Blow , BOB & GTS Immediate, Gauged Gas Caught Sample  
 FS: 1 inch Blow



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

Recovery		
Length (ft)	Description	Volume (bbl)
0.00	4888 GIP	0.00
10.00	SWOCM 5%W 15%O 80%M	0.05

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	160.00	5013.79
Last Gas Rate	1.00	163.00	4736.05
Max. Gas Rate	1.00	169.00	4896.23

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

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

**16-28S-20W Kiowa**  
**Olson Farm 1-16**  
 Job Ticket: 65434      **DST#: 2**  
 Test Start: 2022.05.17 @ 11:13:00

**Tool Information**

Drill Pipe:	Length: 4687.00 ft	Diameter: 3.80 inches	Volume: 65.75 bbl	Tool Weight: 2100.00 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: 211.00 ft	Diameter: 2.25 inches	Volume: 1.04 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 66.79 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4900.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			4881.00	
Hydraulic tool	5.00			4886.00	
EM Tool	3.00			4889.00	
Safety Joint	2.00			4891.00	
Packer	5.00			4896.00	24.00      Bottom Of Top Packer
Packer	4.00			4900.00	
Stubb	1.00			4901.00	
perforations	3.00			4904.00	
Handling Sub	5.00			4909.00	
Recorder	0.00	6755	Inside	4909.00	
Recorder	0.00	8365	Outside	4909.00	
Perforations	20.00			4929.00	
Bullnose	3.00			4932.00	32.00      Bottom Packers & Anchor

**Total Tool Length: 56.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

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

**16-28S-20W Kiowa**  
**Olson Farm 1-16**  
Job Ticket: 65434      **DST#: 2**  
Test Start: 2022.05.17 @ 11:13:00

### 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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4600.00 ppm			
Filter Cake: 0.02 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	4888 GIP	0.000
10.00	SWOCM 5%W 15%O 80%M	0.049

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 2      Num Gas Bombs: 0      Serial #:

Laboratory Name: Graves      Laboratory Location: Liberal, KS

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Herman L Loeb LLC

**16-28S-20W Kiowa**

PO Box 838  
Lawrenceville, IL 62439

**Olson Farm 1-16**

Job Ticket: 65434

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2022.05.17 @ 11:13:00

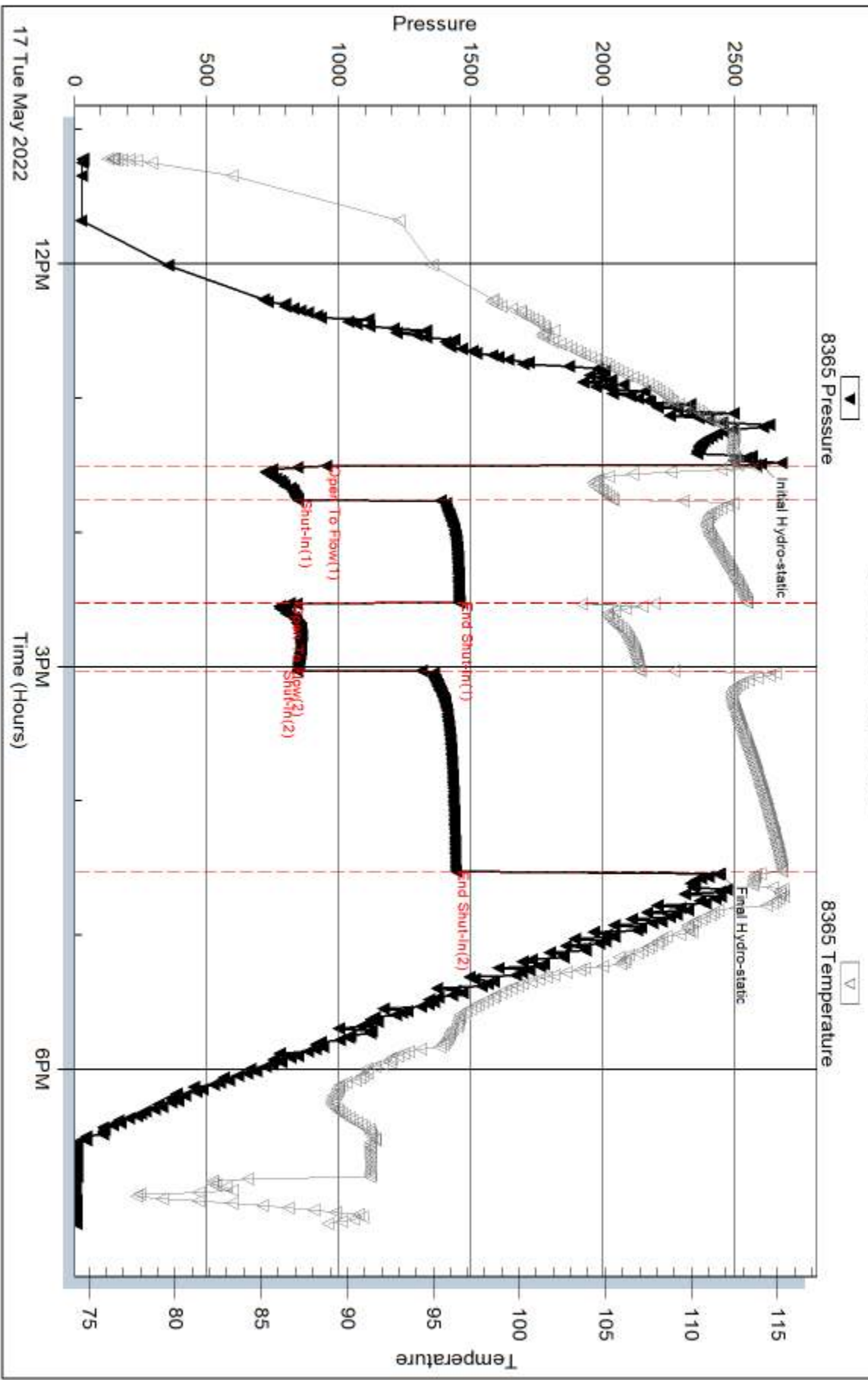
### Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.67  
Z Factor: 0.9

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	10	1.00	160.00	5013.79
1	15	1.00	169.00	4896.23
2	10	1.00	156.00	4549.17
2	20	1.00	162.00	4709.36
2	30	1.00	163.00	4736.05

### Pressure vs. Time



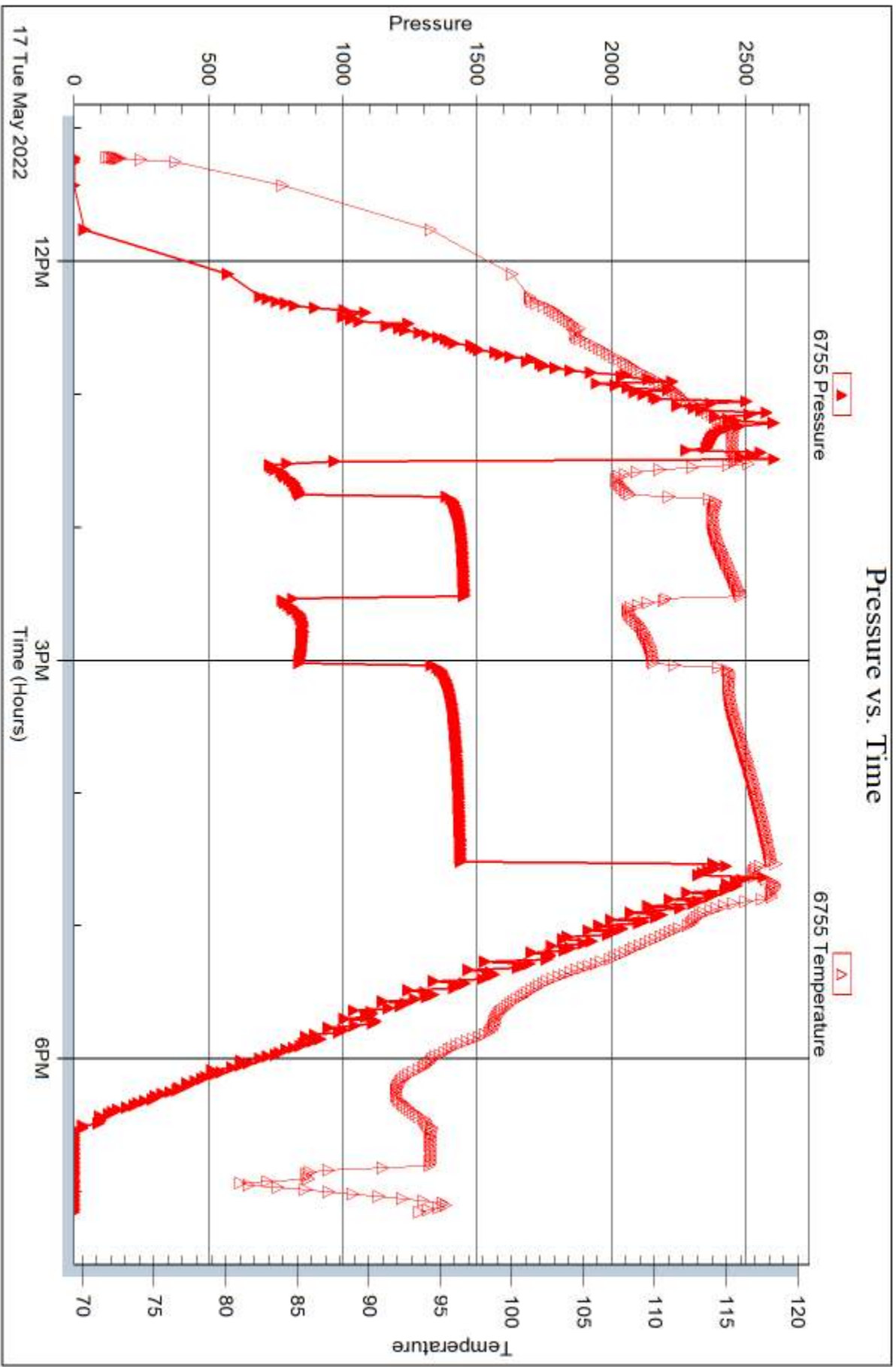
Serial #: 6755

Inside

Herman L Loeb LLC

Olson Farm 1-16

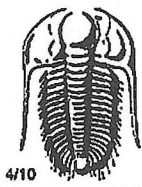
DST Test Number: 2



Triobite Testing, Inc

Ref. No: 65434

Printed: 2022.05.20 @ 09:56:22



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65433

Well Name & No. Olson Farm 1-16 Test No. 1 Date 05/14/22  
 Company Herman L Loeb LLC Elevation 2325 KB 2312 GL  
 Address PO Box 838 Lawrenceville IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling 5  
 Location: Sec. 16 Twp 28S Rge. 20W Co. Kiowa State KS

Interval Tested 4332 - 4350 Zone Tested LKC "B"  
 Anchor Length 18 Drill Pipe Run 4113 Mud Wt. 9.4  
 Top Packer Depth 4327 Drill Collars Run 211 Vis 52  
 Bottom Packer Depth 4332 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4350 Chlorides 3200 ppm System LCM 2

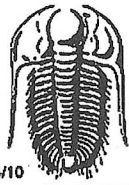
Blow Description IF: Strong Blow BOB in 10 seconds, Built to 73.36 inches  
ISI: NO BLOW  
FF: Strong Blow, BOB Immediate, Built to 137.72 inches  
F5I: NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>1627</u>	<u>GIP</u>				
<u>10</u>	<u>GCM</u>	<u>10%</u>			<u>90%</u>

Rec Total 10 BHT 113 Gravity 1950 API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic <u>2270</u>	<input checked="" type="checkbox"/> Test	T-On Location <u>20:45</u>
(B) First Initial Flow <u>30</u>	<input type="checkbox"/> Jars	T-Started <u>21:58</u>
(C) First Final Flow <u>31</u>	<input type="checkbox"/> Safety Joint	T-Open <u>00:39</u>
(D) Initial Shut-In <u>1168</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>03:58</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>06:28</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>(90)</u> 135	Comments _____
(G) Final Shut-In <u>1259</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2152</u>	<input type="checkbox"/> Straddle	<input checked="" type="checkbox"/> EM Tool
Initial Open <u>15</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>2085</u>
	Sub Total <u>2085</u>	MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]  
 Tritobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the note shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 65434

Well Name & No. Olson Farm 1-16 Test No. 2 Date 05/17/22  
 Company Herman L Loeb LLC Elevation 2325 KB 2312 GL  
 Address PO Box 838 Lawrenceville, IL 62438  
 Co. Rep / Geo. Jon Christensen Rig Sterling 5  
 Location: Sec. 16 Twp 28S Rge. 20W Co. KIOWA State KS

Interval Tested 4900 - 4932 Zone Tested Mississippi  
 Anchor Length 32 Drill Pipe Run 4687 Mud Wt. 9.5  
 Top Packer Depth 4895 Drill Collars Run 211 Vis 55  
 Bottom Packer Depth 4900 Wt. Pipe Run 0 WL 9.6  
 Total Depth 4932 Chlorides 4600 ppm System LCM 2

Blow Description IE: Strong Blow, BOB in 10 seconds, GTS in 2 minutes, Gauged Gas, caught sample  
ISI: NO BLOW

FF: Strong Blow, BOB + GTS Immediate, Gauged Gas + caught sample

FSI: 1 Lach Blow

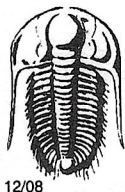
Rec	Feet of	%gas	%oil	%water	%mud
<u>4888</u>	<u>GIP</u>				
<u>10</u>	<u>SWOCM</u>		<u>15</u>	<u>5</u>	<u>80</u>

Rec Total 10 BHT 115 Gravity N/C API RW N/C @ N/C F Chlorides N/C ppm

(A) Initial Hydrostatic 2598  Test 1950 T-On Location 10:30  
 (B) First Initial Flow 952  Jars \_\_\_\_\_ T-Started 11:13  
 (C) First Final Flow 847  Safety Joint \_\_\_\_\_ T-Open 13:30  
 (D) Initial Shut-In 1458  Circ Sub \_\_\_\_\_ T-Pulled 16:31  
 (E) Second Initial Flow 813  Hourly Standby \_\_\_\_\_ T-Out 19:09  
 (F) Second Final Flow 843  Mileage 90 135 Comments \_\_\_\_\_  
 (G) Final Shut-In 1444  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2445  Straddle \_\_\_\_\_  EM Tool -350  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 15  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 90  
 Day Standby 2d 3h  
 Accessibility \_\_\_\_\_  
 Sub Total 2085  
 Sub Total 900-350  
 Total 2635  
 MP/DST Disc't \_\_\_\_\_

Approved By [Signature] Our Representative [Signature]  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



12/08

# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Gas Volume Report

Herman L LeebOlson Farm 1-162Operator  
GTS in 2 minutes

Well Name and No.

DST No.

Min.	Inch. of Water PSI	Orifice Size	MCF/D	Min.	Inch. of Water PSI	Orifice Size	MCF/D
10	160	1"	4655962	10	156	1"	<del>4549.174</del>
15	169	1"	4896235	20	162	1"	41709.356
				30	163	1"	41736.053

Remarks:



6/11



**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: 5/11/2022  
Invoice #: 0360715  
Lease Name: Olson Farm  
Well #: 1-16 (New)  
County: Kiowa, Ks  
Job Number: WP2766  
District: Pratt

#

11216 - 6720

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
H-CON	200.000	23.500	4,700.00
Cement Pozmix 60/40	200.000	14.100	2,820.00
Calcium Chloride	516.000	0.705	363.78
Cello Flake	50.000	1.645	82.25
Guide Shoe Reg 8 5/8"	1.000	564.000	564.00
8 5/8" Alum Baffle plate SI	1.000	141.000	141.00
8 5/8" Top rubber plug	1.000	164.500	164.50
Light Eq Mileage	45.000	1.880	84.60
Heavy Eq Mileage	90.000	3.760	338.40
Ton Mileage	810.000	1.410	1,142.10
Cement Blending & Mixing	0.000	0.000	526.40
Depth Charge 501'-1000'	1.000	1,175.000	1,175.00
Cement Plug Container	1.000	235.000	235.00
Cement Data Acquisition	1.000	235.000	235.00
Service Supervisor	1.000	275.000	275.00

**PAID**  
108391  
JUN 07 2022

**SCANNED**  
SHANE - APPROVED

JEREMY - APPROVED

**SCANNED**

**Total** 12,847.03

**TERMS:** Net 30 days. Interest may be charged on past due invoice at rate of 1 1/2% 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	Hermon L Loeb		Lease & Well #	Olson Farm 1-16		Date	5/11/2022	
Service District	Pratt Kansas		County & State	kiowa Kansas	Legals S/T/R	16-28s-20w	Job #	
Job Type	Surface	<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 #			wp 2766
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures						
916	M Brungardt	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging			
179/521	R Osborn	<input type="checkbox"/> H2S Monitor	<input type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection			
526/258	J Tevino	<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 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 type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below				
Comments								

Product/Service Code	Description	Unit of Measure	Quantity	Net Amount
cp025	H-Con	sack	200.00	\$4,700.00
cp070	60/40/2 Pozmix	sack	200.00	\$2,820.00
cp130	Calcium Chloride	lb	515.00	\$363.78
cp120	Cello-flake	lb	50.00	\$82.25
fc260	8 5/8" Guide Shoe	ea	1.00	\$564.00
fc290	8 5/8" Baffle	ea	1.00	\$141.00
fc235	8 5/8" Rubber Plug	ea	1.00	\$164.50
me015	Light Equipment Mileage	mi	45.00	\$84.50
me010	Heavy Equipment Mileage	mi	99.00	\$338.40
me020	Ton Mileage	tm	310.00	\$1,142.10
cs050	Cement Blending & Mixing Service	sack	400.00	\$526.40
dc011	Depth Charge: 501'-1000'	job	1.00	\$1,175.00
cs050	Cement Plug Container	job	1.00	\$235.00
cs035	Cement Data Acquisition	job	1.00	\$235.00
cs051	Service Supervisor	day	1.00	\$275.00

Customer's opinion of our rating (on a scale of 1-10)	Net:	\$12,847.03
Based on this job, how likely is it you would recommend HSI to a colleague? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" 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 Extremely Likely	Total Taxable \$	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: \$ 12,847.03
HSI Representative: <i>Mark Brungardt</i>		

**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 effect 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**

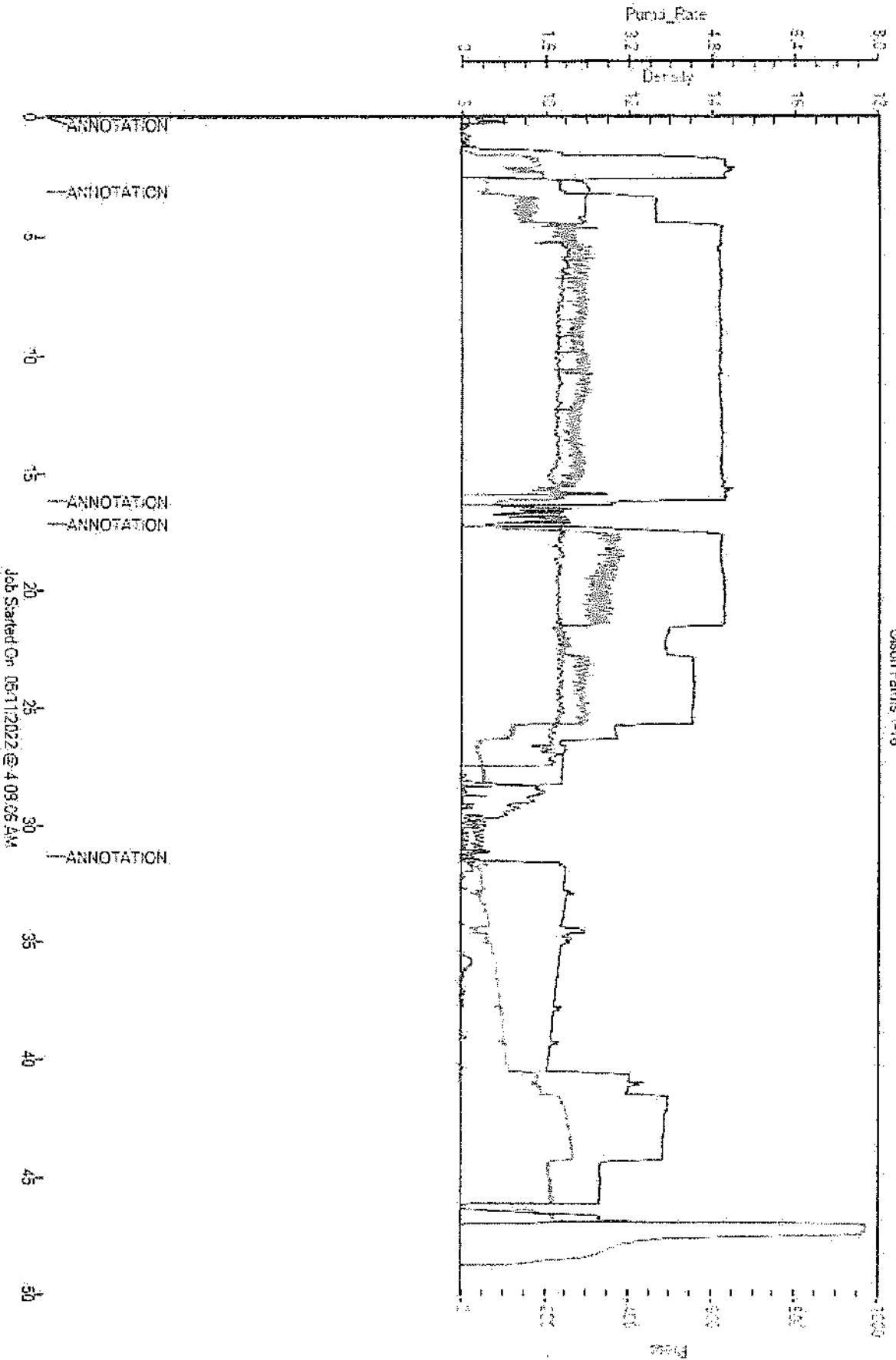
Customer:	Hermon L Loeb	Well:	Olson Farm 1-16	Ticket:	wp 2766
City, State:	Mullinville Kansas	County:	Kiowa Kansas	Date:	5/11/2022
Field Rep:	Lanny Saloga	S-T-R:	16-28s-20w	Service:	Surface

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	12 1/4 in	Blend:	H-Con	Blend:	60/40 2 & 3
Hole Depth:	588 ft	Weight:	12.0 ppg	Weight:	14.8 ppg
Casing Size:	8.5/8 in	Water / Sx:	14.4 gal / sx	Water / Sx:	5.2 gal / sx
Casing Depth:	584 ft	Yield:	2.47 ft <sup>3</sup> / sx	Yield:	1.21 ft <sup>3</sup> / sx
Tubing / Liner:	in	Annular Bbls / Ft.:	bbs / ft.	Annular Bbls / Ft.:	bbs / ft.
Depth:	ft	Depth:	ft	Depth:	ft
Tool / Packer:		Annular Volume:	0.0 bbls	Annular Volume:	0 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	34.5 bbls	Total Slurry:	87.9 bbls	Total Slurry:	43.0 bbls
		Total Sacks:	200 sx	Total Sacks:	200 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
1:30 AM					on location job and safety
1:45 AM					spot trucks and rig up
4:10 AM					start casing in the hole
5:05 AM					casing on bottom and circulate
5:15 AM					start cement
	5.0	200.0	5.0	5.0	fresh water
	5.0	350.0	87.0	92.0	mix 200 sacks lead
	5.0	350.0	43.0	135.0	mix 200 sacks tail
5:40 AM				135.0	cement in and shut down
					release plug
5:45 AM					start displacement
	2.0	100.0	5.0		
	4.0	250.0	15.0		
6:00 AM		500.0	34.5		plug down
					circulated 15 bbls to the pit

CREW		UNIT	SUMMARY		
Cementer:	M Brungardt	918	Average Rate	Average Pressure	Total Fluid
Pump Operator:	R Osborn	179/521	4.2 bpm	292 psi	190 bbls
Bulk #1:	J Tavino	528/256			
Bulk #2:					

Herrman Loeb  
Olson Farms 1-16





**CEMENT TREATMENT REPORT**

Customer: <b>HERMAN LOEB, LLC</b>	Well: <b>OLSON FARM1-16</b>	Ticket: <b>WP 2825</b>
City, State:	County: <b>KIOWA, KS.</b>	Date: <b>5/19/2022</b>
Field Rep: <b>GEORGE PAYNE</b>	S-T-R: <b>16-28S-20W</b>	Service: <b>LONGSTRING</b>

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	<b>7 7/8 in</b>	Blend:		Blend:	<b>50/50/2 POZMIX</b>
Hole Depth:	<b>5000 ft</b>	Weight:	<b>ppg</b>	Weight:	<b>14 ppg</b>
Casing Size:	<b>5 1/2 in</b>	Water / Sx:	<b>gal / sx</b>	Water / Sx:	<b>6.5 gal / sx</b>
Casing Depth:	<b>4993 ft</b>	Yield:	<b>ft<sup>3</sup> / sx</b>	Yield:	<b>1.37 ft<sup>3</sup> / sx</b>
Tubing / Liner:	<b>in</b>	Annular Bbls / Ft.:	<b>bbs / ft.</b>	Annular Bbls / Ft.:	<b>bbs / ft.</b>
PLUG DEPTH:	<b>4980 ft</b>	Depth:	<b>ft</b>	Depth:	<b>ft</b>
Tool / Packer:		Annular Volume:	<b>0.0 bbls</b>	Annular Volume:	<b>0 bbls</b>
SHOE JT:	<b>13 ft</b>	Excess:		Excess:	
Displacement:	<b>118.5 bbls</b>	Total Slurry:	<b>6.0 bbls</b>	Total Slurry:	<b>54.9 bbls</b>
		Total Sacks:	<b>0 sx</b>	Total Sacks:	<b>225 sx</b>

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
8:20PM			-	-	ON LOCATION- SPOT EQUIPMENT
9:30PM			-	-	RUN 119 JTS 5 1/2" X 15.5# CASING
///////			-	-	TURBOLIZERS- 1,2,3,5,8,11,14,16,17,19,21,23
///////			-	-	BASKETS- 16 AND 23
10:40PM			-	-	CIRCULATE 30 MIN ON JT 60
12:40AM			-	-	CASING ON BOTTOM
12:50AM			-	-	HOOK UP TO CASING - BREAK CIRCULATION WITH RIG PUMP AND MUD
1:50AM	6.0		24.0	24.0	MUD FLUSH
1:55AM	6.0		5.0	29.0	H2O SPACER
1:57AM	6.0		54.9	83.9	MIX 225 SKS 50/50/2 POZMIX @14 PPG
2:07AM				83.9	SHUT DOWN- CLEAR PUMP AND LINES- DROP LATCH DOWN PLUG
2:10AM	6.0	200.0	-		START DISPLACEMENT
2:36AM	5.0	400.0	82.0		LIFT PRESSURE
2:43AM	4.0	700.0	110.0		SLOW RATE
2:45AM	3.0	1,500.0	118.5		PLUG DOWN- HELD
					CIRCULATION THRU JOB
3:00AM	3.0		7.0		PLUG RATHOLE = 30 SKS H-PLUG
3:10AM	3.0		5.0		PLUG MOUSEHOLE = 20 SKS H-PLUG
3:30AM					WASH UP PUMP TRUCK
					JOB COMPLETE,
					THANKS- KEVEN AND CREW

CREW		UNIT	SUMMARY		
Cementer:	<b>LESLEY</b>	<b>926</b>	Average Rate	Average Pressure	Total Fluid
Pump Operator:	<b>CLIFTON</b>	<b>179-521</b>	<b>4.7 bpm</b>	<b>700 psi</b>	<b>406 bbls</b>
Bulk #1:	<b>TRAVINO</b>	<b>182-534</b>			
Bulk #2:					



Customer	HERMAN LOEB, LLC	Lease & Well #	OLSON FARM1-16	Date	5/19/2022
Service District	PRATT, KS.	County & State	KIOWA, KS.	Legals S/T/R	16-28S-20W
Job Type	LONGSTRING	<input 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			
926	LESLEY	<input type="checkbox"/> Hard hat	<input type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging
179-521	CLIFTON	<input type="checkbox"/> H2S Monitor	<input type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection
182-534	TRAVINO	<input type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations
		<input type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input type="checkbox"/> Overhead Hazards	<input type="checkbox"/> Muster Point/Medical Locations
		<input type="checkbox"/> Hearing Protection	<input type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below	

Comments	
5 1/2" LONGSTRING	

Product/ Service Code	Description	Unit of Measure	Quantity	Net Amount
CP065	50/50/2 Pozmix	sack	225.00	\$2,855.25
CP055	H-Plug	sack	50.00	\$658.00
CP105	Gypsum	lb	945.00	\$888.30
CP110	Kol Seal	lb	1,350.00	\$951.75
CP120	Cello-flake	lb	57.00	\$93.77
CP132	Cement Fluid Loss 2	lb	95.00	\$1,339.50
CP135	Defoamer Powder	lb	95.00	\$357.20
AF057	Potassium Chloride Powder	lb	509.00	\$717.69
FE145	5 1/2" Float Shoe - AFU Flapper Type	ea	1.00	\$352.50
FE170	5 1/2" Latch Down Plug & Baffle	ea	1.00	\$329.00
FE185	5 1/2" Cement Scratchers Resciprocating Type	ea	15.00	\$1,095.57
FE135	5 1/2 Turbolizer	ea	12.00	\$1,410.00
FE130	5 1/2" Cement Basket	ea	2.00	\$564.00
CP170	Mud Flush	gal	1,000.00	\$940.00
AF056	Liquid KCL Substitute 2	gal	3.00	\$56.40
M015	Light Equipment Mileage	mi	45.00	\$84.60
M010	Heavy Equipment Mileage	mi	45.00	\$169.20
M020	Ton Mileage	tm	520.00	\$733.20
D015	Depth Charge: 4001'-5000'	job	1.00	\$2,350.00
C050	Cement Plug Container	job	1.00	\$235.00
C035	Cement Data Acquisition	job	1.00	\$235.00
R061	Service Supervisor	day	1.00	\$275.00

Customer Section: On the following scale how would you rate Hurricane Services Inc.?		Net:	\$16,690.93
Based on this job, how likely is it you would recommend HSI to a colleague?		Total Taxable	\$ -
<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"/>		Tax Rate:	
Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely		Sale Tax:	\$ -
		Total:	\$ 16,690.93
		HSI Representative:	<i>Kevin Lesley</i>

**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**