



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1138813  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

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

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

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

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

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1138813

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

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

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

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

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

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR. \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	HERMAN L. LOEB, LLC
Well Name	FARMER 1-13
Doc ID	1138813

Tops

Name	Top	Datum
Chase	2480	-234
Heebner Shale	4061	-1815
Lansing 'A'	4219	-1973
Lansing/KC 'H'	4386	-2140
Kansas City 'I'	4438	-2192
Hertha	4572	-2326
Base Kansas City	4605	-2359
Marmaton	4654	-2408
Pawnee	4698	-2452
Cherokee Shale	4736	-2490
Cherokee Sand	4798	-2552
Mississippi Chert	4806	-2560
Kinderhook Sand	4919	-2673

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Farmer #1-13  
Location: 1177' FSL & 2141' FEL, Sec. 13-T27S-R19W, Kiowa Co., KS.  
Licence Number: 15-097-21753-0000 Region: Wildcat  
Spud Date: 4/30/2013 Drilling Completed: 5/9/2013  
Surface Coordinates: 1177' FSL & 2141' FEL, Sec. 13-T27S-R19W

Bottom Hole Same as above  
Coordinates:  
Ground Elevation (ft): 2235' K.B. Elevation (ft): 2246'  
Logged Interval (ft): 3350' To: 4950' Total Depth (ft): 4950'  
Formation: Kinderhook at Total Depth  
Type of Drilling Fluid: Native Mud/Gel to 3095'; Chemical Gel 3095' to 4950'

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: 9002 W. Silver Hollow St.  
Wichita, KS. 67205-8856

### Cores

None Taken

### DSTs

DST #1(Lansing "A") 4224' - 4240'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak Surface Blow, FFP Weak 0.75" Blow, no Blowback on SI's; REC: 60' Gas in Pipe, 10' SOCM(1%O, 99%M), Free oil in Test tool, no Water; IFP 15-20#, ISIP 893#, FFP 15-20#, FSIP 301#, IHP 2283#, FHP 2051#, BHT 113 Deg. F.

DST #2(Cherokee Sandstone & Upper Miss. Chert) 4764' - 4812'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair to Good 9" Blow, FFP Good 10" Blow, no Blowback on SI's; REC: 350' Gas in Pipe, 10' Drlg. Mud, no shows; IFP 21-22#, ISIP 100#, FFP 13-21#, FSIP 151#, IHP 2403#, FHP 2366#, BHT 122 Deg. F.

DST #3(Miss. Chert) 4812' - 4835'(Corrected Depths to Log) Test Times 15"-45"-60"-120" IFP Strong Blow BOB/15 Sec. Gas to Surface 1 Min. into ISI(= GTS. in 16 Min.), FFP GTS Throughout Gauged 64.9 MCFG/60" of FFP, no Blowback on SI's; REC: 15' VSOCM(1%O, 99 %M), Free Oil spots in Tool, trc Filtrate water; IFP 22-39#, ISIP 1435#, FFP 17-51#, FSIP 1392#, IHP 2461#, FHP 2370#, BHT 121 Deg. F.

DST #4(Miss. Chert) 4835' - 4850'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair 5" Blow, FFP Fair to Good 9" Blow, Weak Surface Blowback on FSI; REC: 63' Gas in Pipe, 64' OCWM(5%O, 45%W, 50%M), 193' MW(Trc. Oil, 95%W, 5%M) CI 92,000, Mud 5,400; IFP 21-59#, ISIP 1515#, FFP 66-126#, FSIP 1516#, IHP 2507#, FHP 2381#, BHT 129 Deg. F.

## Comments

4/29/13 MIRU Sterling Drilling Co. Rig #2, Spud at 10:15 PM.; 4/30/13 TD. 579' - Wiper Trip; 5/1/13 Drilling at 1182'; 5/2/13 Drilling at 2460'; 5/3/13 Drilling at 3160'; 5/4/13 Drilling at 3780'; 5/5/13 TD. 4242' - Survey prior to DST #1; 5/6/13 Drilling at 4445'; 5/7/13 Drilling at 4750'; 5/8/13 TD. 4838' - CFS/CCH for DST #3; 5/9/13 TD. 4853' - DST #4, Reached Total Depth of 4950' at 6:15 PM.; 5/10/13 RTD. 4950', LTD. 4950' - Logging; 5/11/13 Rig Down after setting Production Casing.

Set new 8 5/8"(24#) Surface Casing at 574' with 350 sx. of Cement(Basic Energy Services). Cement did Circulate. PD. 9:45 AM. on 4/30/13.

Set new 5 1/2"(15.5#) Production Casing at 4942' with 200 sx. "Loeb Blend" cement(Basic Energy Services). PD. 1:30 AM. 5/11/13.


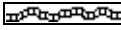
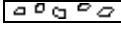

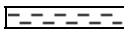







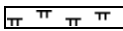

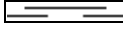
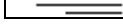
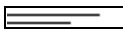


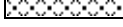
Surveys: 0.75 Deg. at 579'(Surface Casing); 1.50 Deg. at 4242'(DST #1); 1.0 Deg. at 4815'(DST #2); 1 Deg. at 4950' RTD.

After evaluation of the Halliburton Logs, DST data, structural position and positive shows of commercial amounts of hydrocarbons, the operator elected to set 5 1/2" Production Casing for completion in the Mississippian Chert.








































































LOG TOPS: Chase 2480(-234), Stotler Lmst. 3432(-1186), Howard 3630(-1384), Queen Hill Shale 3928(-1682), Heebner Shale 4061(-1815), Toronto 4077(-1831), Brown Lmst. 4213(-1967), Lansing "A" 4219(-1973), Lans/K.C. "H" 4386(-2140), K.C. "I" 4438(-2192), Stark Shale 4526(-2280), Hertha 4572(-2326), Base Kansas City 4605(-2359), Marmaton 4654(-2408), Pawnee 4698(-2452), Cherokee Shale 4736(-2490), Cherokee Sand 4798(-2552), Miss. Chert 4806(-2560), Kinderhook Shale 4890(-2644), Kinderhook Sand 4919(-2673).

NOTE: This log was shifted upward by 2' to 3' for correlation purposes with the Halliburton Logs.

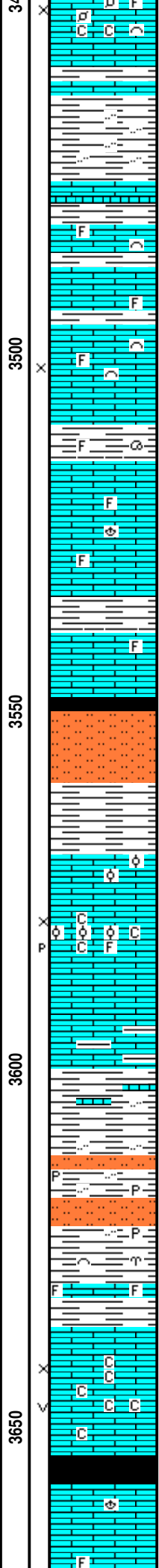
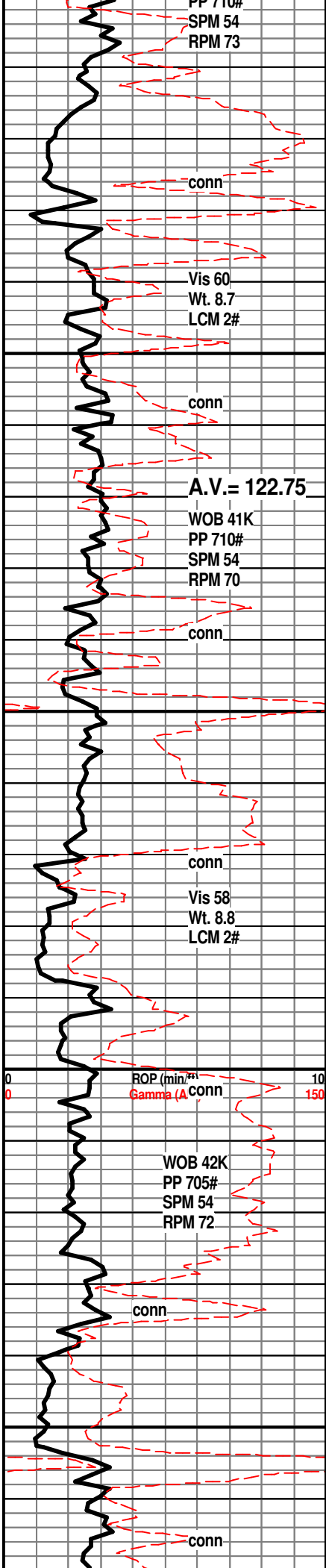
## ROCK TYPES

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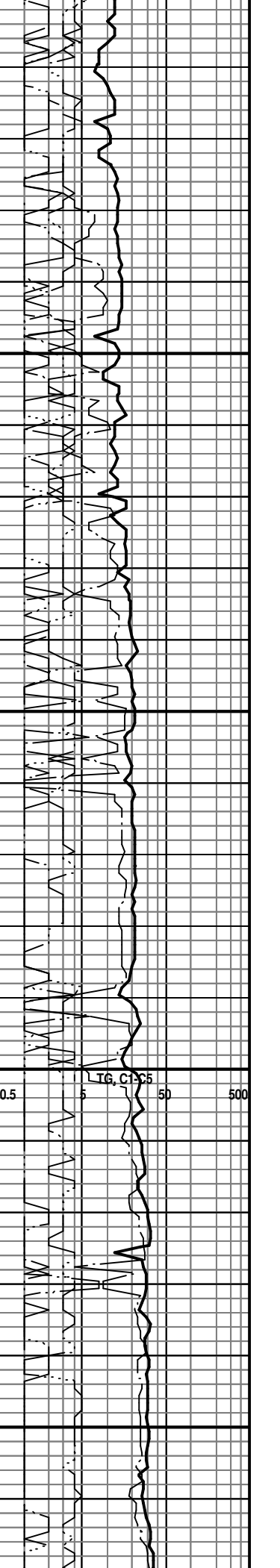
## ACCESSORIES

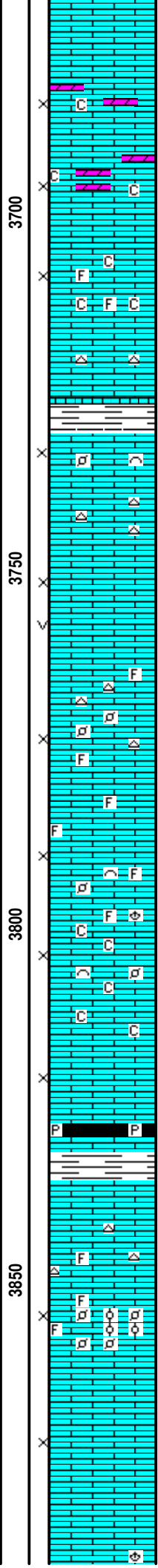
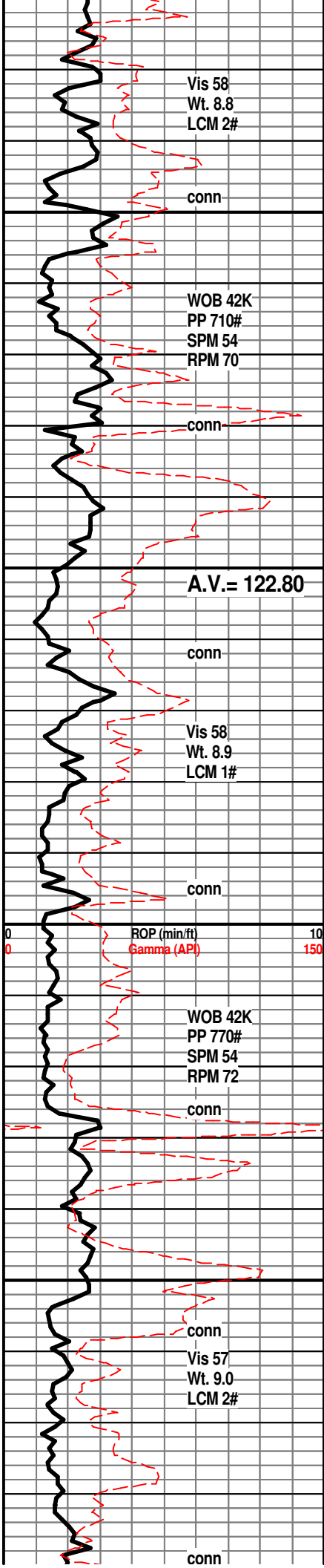
<b>MINERAL</b>  Anhy  Arggrn  Arg  Bent  Bit  Brecfrag  Calc  Carb  Chtdk  Chtlt  Dol  Feldspar  Ferrpel  Ferr  Glau	 Gyp  Hvymin  Kaol  Marl  Minxl  Nodule  Phos  Pyr  Salt  Sandy  Silt  Sil  Sulphur  Tuff	<b>FOSSIL</b>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  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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LM; off wh, buff, foss ip, most f to med xln w/occ soft chalky mtx, trc poor interxln por, lt yel fluor, ns.  
 SH; med gy, gy grn, silty ip, firm, interbdd shaly lmst  
 LM; med gy brn, med gy, hd, micritic, tite  
 LM; off wh, wh, buff, foss ip, minor soft chalky mtx, lt yel fluor, no vis por, ns.  
 LM; med gy brn, med brn, micritic, rarely foss, no vis por, ns.  
 LM; tan to lt brn, foss, scat poor interpart por, spotted lt yel fluor, no stn or odor, ns.  
 SH; med gy, firm, foss ip.  
 LM; lt to med brn, hd, blocky, scat well cem foss mat, no vis por, no fluor, ns.  
 LM; lt gy to lt brn, fxl n w/occ foss mat, dull to lt yel min fluor, no stn, ns.  
 SLTST; lt gy, calc, platy  
 SH; med gy, rare gy grn, platy, lmy ip.  
 LM; off wh, buff, f to med xln, foss - partly oolitic, fair interxln w/scat p-p por, minor soft chalky mtx, lt yel min fluor, no stn, no gas kick, ns.  
 LM; lt to med gy, dense, argil ip, tite  
 SH; lt to med gy, firm, lmy ip, silty  
 SH; lt to med gy, grn, rare dk gy, pyr ip, silty w/interbdd sltst.  
**HOWARD 3630(-1384)**  
 LM; med to dk brn, dense, foss, tite  
 LM; off wh, buff, med xln w/fair to gd interxln por, scat small vug por, chalky ip, lt to occ med yel min fluor, no stn or odor, no gas kick, barren, ns.  
 SH; dk gy, blk, platy  
 LM; tan to lt brn, dense, scat foss mat, most well cem, micritic, no fluor, ns.





LM; lt gy, lt brn, fxl n ip, most dense, blocky, tite

LM; off wh, wh, fxl n to sucrosic text, dolomitic ip, minor chalky mtx, fair interxl n por, lt yel min fluor, ns.

LM; off wh, tan, cream, fxl n, fair interxl n por, minor soft chalky mtx, scat foss mat, dull yel min fluor, ns.

LM; med brn, hd, blocky, scat gy cht

SH; med to dk gy, trc blk, platy

LM; tan to buff, fxl n w/poor vis interxl n por, minor foss mat, dull yel min fluor, no stn or odor, interbdd off wh cht, ns.

LM; tan to buff, tan, f to med xln, fair interxl n w/rare unconnected vug por, spotted lt yel fluor, no stn, ns.

LM; tan to lt brn, buff, foss w/scat foss hash and small pellets, rare off wh to lt gy cht, poor to fair interxl n por, dull yel fluor, no stn, ns.

LM; tan to buff, off wh, f to med xln, scat foss mat, chalky mtx ip, fair interxl n/interpart por, dull yel fluor, ns.

LM; tan to cream, buff, fxl n w/scat sucrosic text, soft, fair interxl n por, lt yel min fluor, ns.

SH; dk brn/blk, carb ip, occ pyr

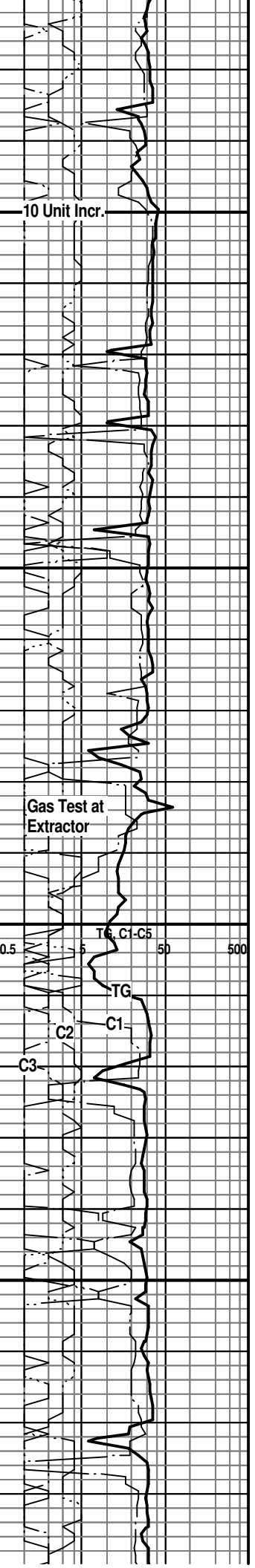
SH; dk gy, gy grn, firm, flakey

LM; lt to med brn, occ gy brn, dense, rare well cem foss mat, no vis por, scat gy cht, tite

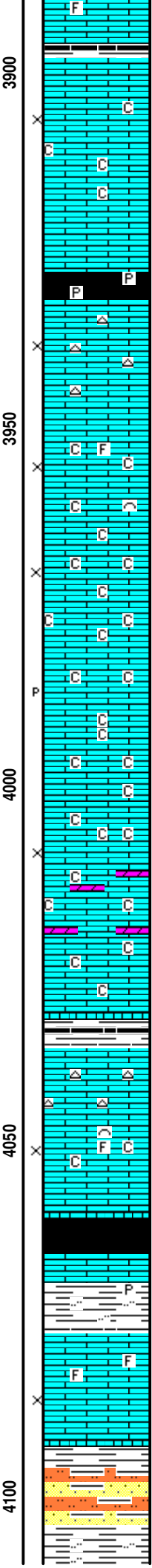
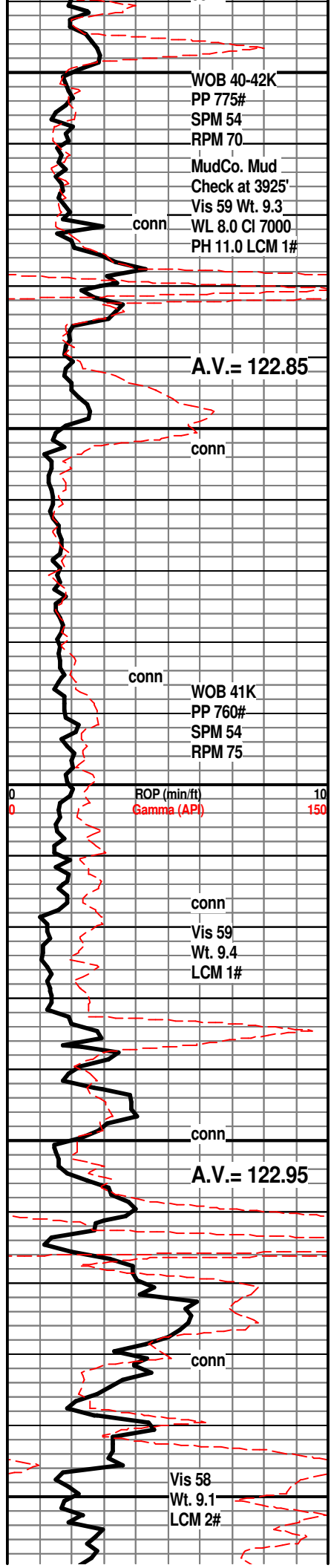
LM; lt gy brn, finely pelletal/oolitic, fair interpart por, dull yel fluor, no stn or odor, ns.

LM; tan to lt brn, f to med xln, some gran text, poor to fair interxl n por, scat off wh/gy cht, dull yel fluor, no stn, no gas kick, ns.

LM; tan to lt brn, buff, most dense, micritic, scat well







cem foss(fusulinids), tite

SH; med to dk gy, trc blk, platy

LM; tan to lt brn, buff, fxln, poor to fair interxln por, some chalky-soft mtz, dull yel min fluor, no stn or odor, ns.

LM; med brn, gy brn, dense, hd, ns.

**QUEEN HILL SHALE 3928(-1682)**  
SH; blk, platy, occ pyr

LM; tan to off wh, cream, fxln w/fair interxln por, interbdd off wh/gy fresh cht, dull yel fluor, no stn or odor, no gas kick, ns.

LM; off wh, tan, wh, f to occ med xln, rarely foss, poor vis interxln por, interbdd soft chalky lmst, spotted lt yel min fluor, no stn, ns.

LM; off wh, tan, fxln, abnt soft chalky and chalky lmst, rare poor p-p por, lt yel min fluor, no stn, no gas kick, ns.

LM; off wh, wh, buff, fxln ip, much soft wh chalk and chalky lmst, trc sucrosic text, lt yel min fluor, ns.

LM; off wh, tan, med to cse xln, scat cse spar calc xtals, chalky ip, lt yel fluor, ns.

SH; dk gy, some blk, platy

LM; tan to off wh, buff, dense, off wh cht, tite

LM; tan to cream, foss to fxln, poor vis interxln por, minor soft chalky mtz, dull yel fluor, no stn or odor, ns.

**HEEBNER SHALE 4061(-1815)**  
SH; blk, carb, platy  
LM; med brn, dense, pyr ip, hd

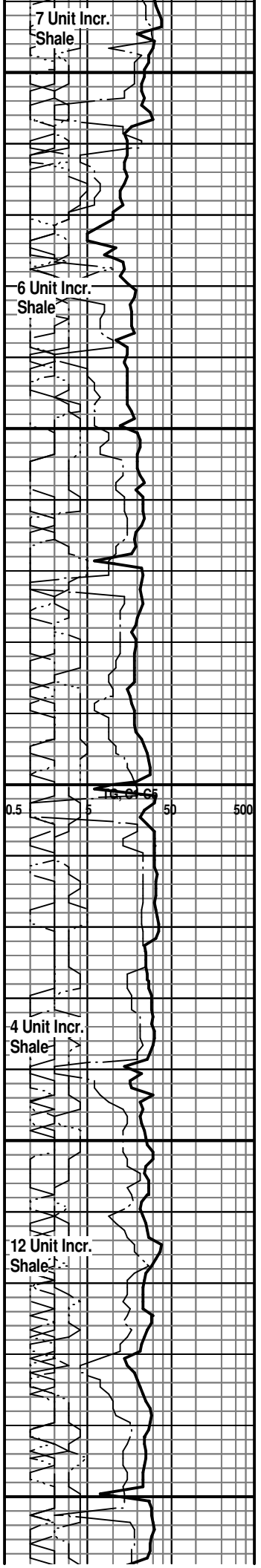
SH; grn, gy grn, silty, occ mica

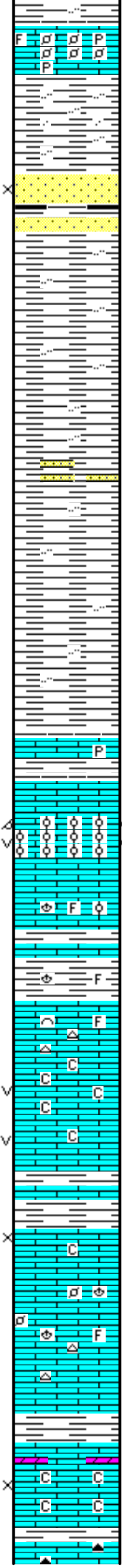
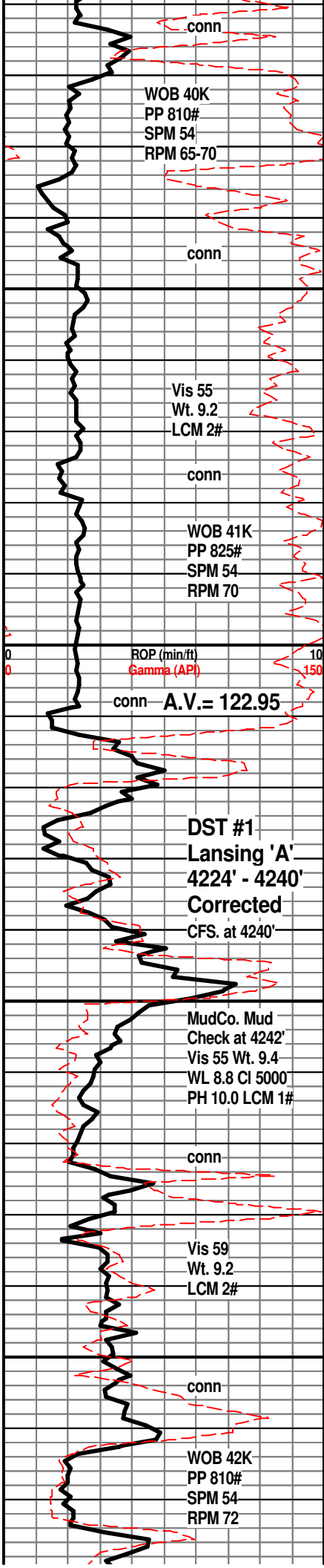
**TORONTO 4077(-1831)**  
LM; lt gy, gy brn, hd, foss ip, tite

LM; wh, off wh, f to med xln, fair interxln por, some sucrosic text, lt yel fluor, no stn or odor, no gas kick, ns.

**DOUGLAS SHALE 4093(-1847)**  
SS; lt gy, silty, vf gr qtz, soft, occ mica, argil w/grn shale interbdd

SH; lt gy, grn, platy, silty ip.





LM; med brn, gy brn, foss w/scat pellets and hash, well cem, pyr ip, tite, ns.

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

SS; lt gy, some clr, most f gr qtz, clusters, mica ip, fair intergran por, scat blk carb/coaly strks, no fluor, no stn or odor, ns.

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

SH; lt to med gy, most smooth, flakey ip, occ interbdd ss strngs

SH; med gy, fiss to flakey, rarely silty

**BROWN LMST. 4213(-1967)**  
LM; med brn, hd, micritic, rare pyr

**LANSING "A" 4219(-1973)**  
LM; lt brn, rare med brn, oolitic, med to occ lrg moldic por, gd oomoldic w/scat vug por, med to occ brite yel fluor, spotted/occ even lt brn oil stn, gas bubbles, Trc. FO., fair/gd odor, fair cut

**DST #1: Lansing "A" 4224' - 4240'**  
Corrected Depths to Log

SH; med gy, firm, occ foss

**LANSING "B" 4250(-2004)**  
LM; tan to lt brn, buff, foss ip, most well cem, interbdd off wh cht, no vis por, ns.

LM; tan to lt gy, fxln w/scat soft chalky mtX, fair vug por in some, dull yel min fluor, no stn or odor, no gas kick, ns.

SH; lt to med gy, gy grn, fiss

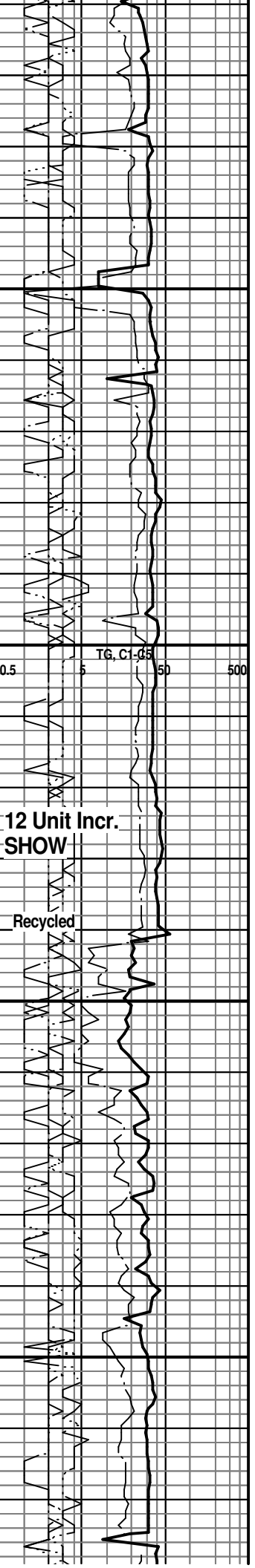
LM; off wh, buff, tan, med xln w/scat spar calc, minor chalky mtX, trc poor interxln por, no fluor, no stn, ns.

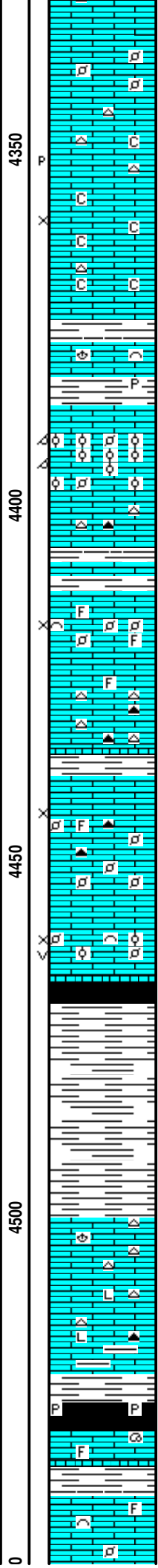
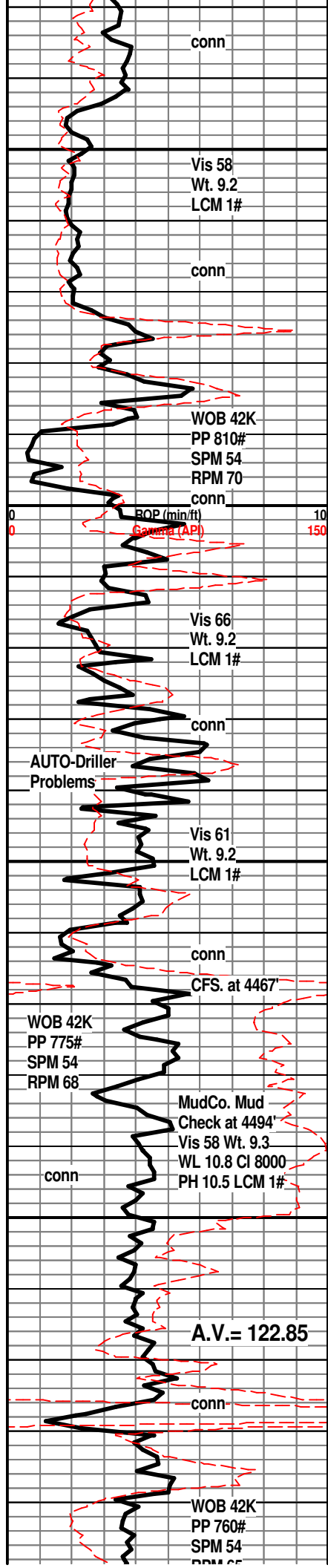
LM; lt to med brn, foss, hd, most well cem, scat gy cht, dull yel min fluor only, no stn, ns.

SH; grn, gy grn, platy

LM; off wh, tan, fxln w/scat sucrosic text, partly dolomitic, much soft chalky mtX, lt yel min fluor, fair interxln por, no stn, no gas kick, ns.

LM; med to occ dk brn, dense, scat smoky cht, no fluor.





ns.

LM; tan to cream, buff, fxln to micritic, rare well cem foss/small pellets, no vis por, ns.

LM; off wh, cream, buff, f to occ med xln, fair vis interxln w/occ p-p por, scat spar calc xtals, interbdd wh to off wh cht, minor chalky mtz, no fluor, no stn, ns.

LM; off wh, buff, med xln, chalky ip, poor to no vis por, no fluor, ns.

LM; med to dk brn, hd, foss ip, tite

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

**LANSING/.KC. "H" 4386(-2140)**

LM; tan to lt brn, oolitic, most w/med to occ lrg molds, brittle ip, gd oomoldic por, spotted lt yel min fluor, no stn or odor, no gas kick, ns.

LM; med brn, hd, occ cherty, tite

SH; gy grn, firm, some waxy

LM; tan to cream, buff, foss w/scat pellets and cse foss frags, poor to fair interpart por, dull yel min fluor, no stn or odor, no gas kick, ns.

LM; tan to lt brn, most dense, scat off wh to brn cht, no vis por, no fluor, ns,

**K.C. "I" 4438(-2192)**

LM; tan to lt brn, foss - finely pelletal, most well cem, poor interpart por, spotty lt yel fluor, no odor, trc blk tar/dead oil stn, scat blk/smoky cht, no gas kick

LM; tan to buff, off wh, foss ip, most med xln w/scat fair vug and interxln por, lt yel min fluor, no vis oil stn, no odor, no cut, no sample shows

SH; dk gy, trc blk, platy

SH; gy grn, grn, some varic w/red - brn, silty ip.

**K. C. "J" 4500(-2254)**

LM; tan to lt brn, buff, fxln w/rare foss mat, blocky, cherty ip, no vis por, scat lt yel min fluor, no stn or odor, ns.

LM; lt to med brn, hd, micritic to litho, scat gy to smoky cht, some argil lmst, no vis por, ns.

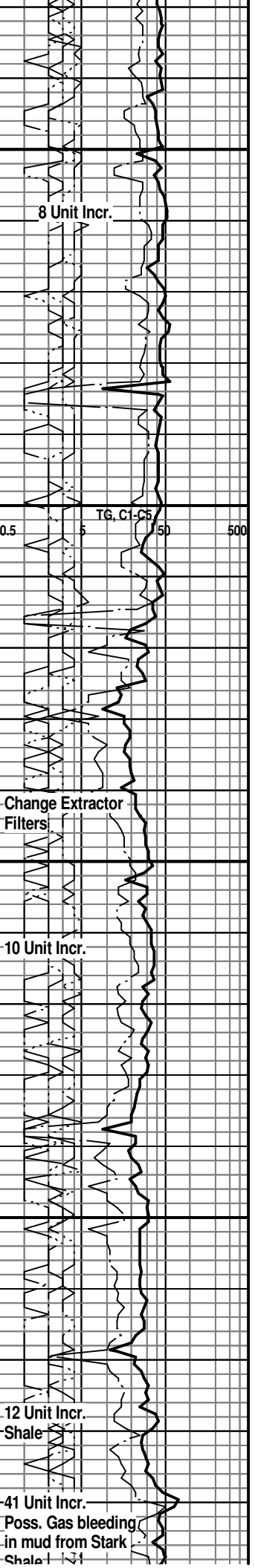
**STARK SHALE 4526(-2280)**

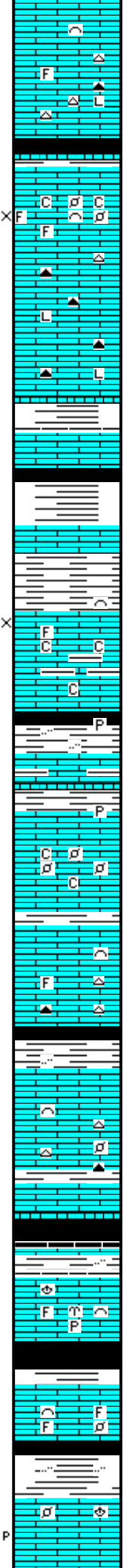
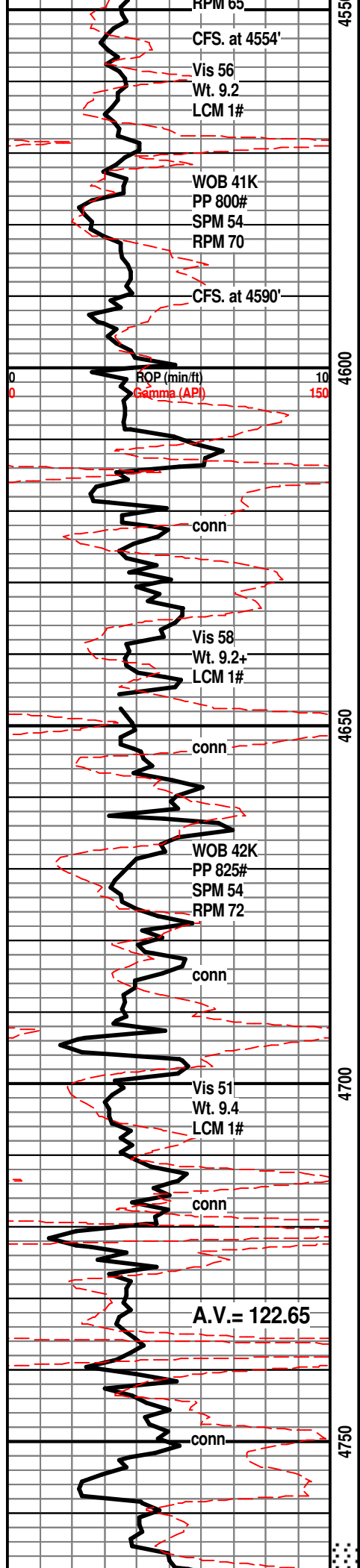
SH; blk, carb ip, platy, occ pyr

LM; med brn, foss ip, dense

**SWOPE 4539(-2293)**

LM; tan to cream, lt brn, scat foss mat, most well cem, lt yel fluor, no vis stn, no odor, no vis gas bubbles, no sample shows





sample shows  
LM; lt brn, tan, most micritic, rare foss mat, no vis por, spotted lt yel fluor, no vis stn, no odor, some litho lmst, interbdd tan/amber cht, ns.

SH; dk gy, trc blk, platy  
**HERTHA 4572(-2326)**  
LM; off wh, tan, wh, foss ip, scat med xln chalky soft lmst, poor to fair interxln w/trc small vug por, no fluor, no odor, few pcs. w/blk tar/dead residual oil, no apparent gas kick

LM; med brn, some mottled text, scat amber to smoky cht, litho ip, hd, no vis por, ns.  
**BASE KANSAS CITY 4605(-2359)**

SH; grn, rust red, brn, varic, some blk, flakey  
**PLEASANTON 4622(-2376)**  
LM; tan to med brn, f to med xln, most dense, no vis por, no fluor, ns.

LM; off wh, buff, tan, med xln, scat foss mat, soft chalky mtx in some, poor interxln por, no fluor, no stn or odor, no samples shows  
LM; lt to med gy, some rose/pink, weathered, argil ip, tite

**MARMATON 4654(-2408)**  
LM; lt gy, gy brn, hd, micritic, some argil  
SH; dk gy, pyr ip, platy  
LM; tan to lt brn, rare off wh, fxln w/scat foss pellets, well cem, dense, no vis por, dull yel to no fluor, minor chalky mtx, no stn, ns.

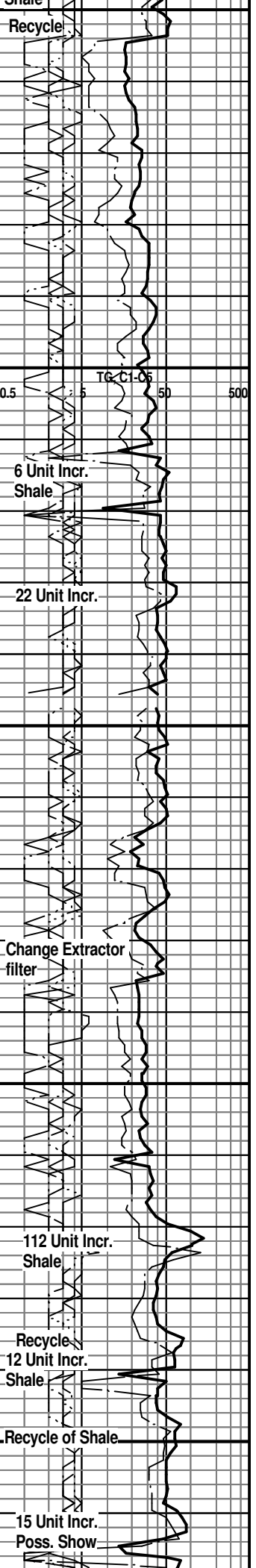
LM; tan to buff, off wh, foss ip, most dense, blocky, rare tan/amber cht, no vis por, no fluor, ns.

SH; grn, gy grn, some blk, platy  
**PAWNEE 4698(-2452)**  
LM; tan to off wh, buff, foss ip, well cem, scat lt yel fluor, no stn or odor, no gas kick, ns.  
LM; lt to med brn, hd, scat gy/amber cht, no vis por, no fluor, ns.

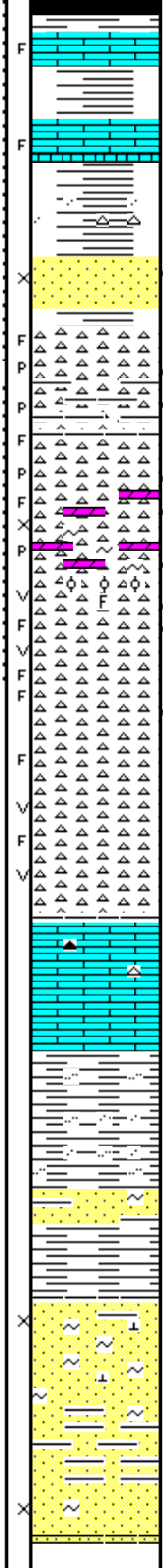
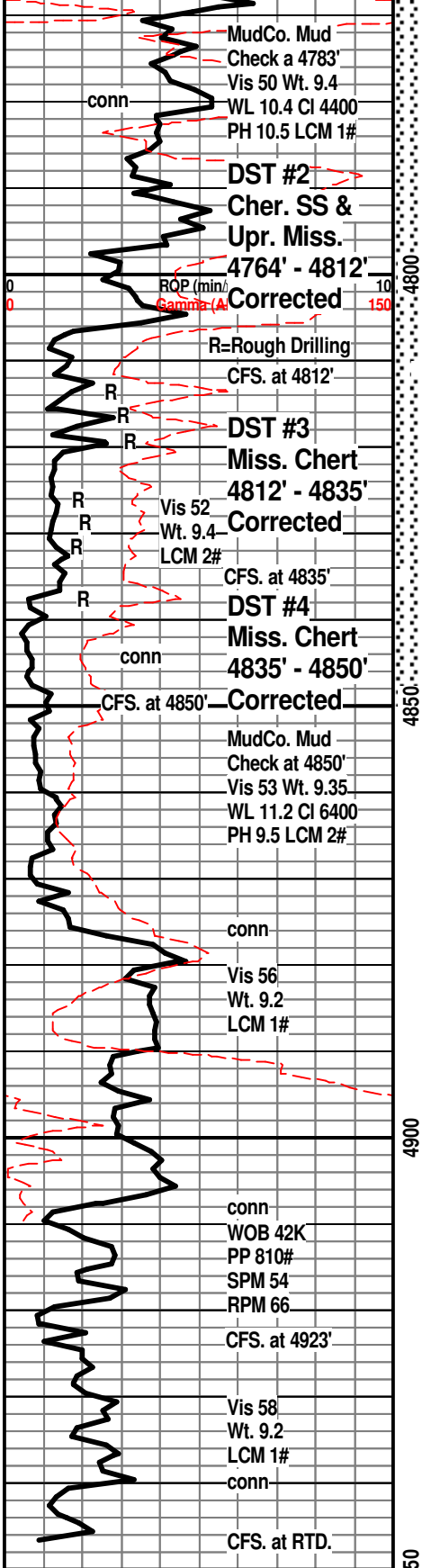
SH; blk, carb ip, blocky, gassy ip.  
LM; lt brn, tan, hd, rare foss, occ pyr, no vis por, spotted lt yel fluor, no stn or odor, ns.  
**CHEROKEE SHALE 4736(-2490)**

SH; dk gy, blk, carb ip, platy  
LM; tan to lt brn, fxln, most dense, scat well cem foss mat, spotted lt yel fluor, no stn or odor, ns.

SH; varic, fiss - flakey, silty ip.  
LM; tan to brn, foss ip, scat poor p-p por, occ dk brn/blk residual oil/tar, spotted lt yel fluor, no odor, no live shows







SH; dk gy, blk, grn, some varic, platy  
LM; off wh, tan, med xln w/scat fracs, lt to med yel fluor, no vis stn, no vis gas bubbles  
SH; varic, platy to flakey

LM; tan, off wh, fxln, most dense, trc fracs, trc blk tar/gils/dead oil, lt yel fluor, no odor

**CHEROKEE SANDST. 4798(-2552)**  
SS; clr, lt gy, f to med gr, qtz, rnd/subrnd, some loose gr, fair intergran por, lt yel fluor, scat dk brn live stn/blk tar/gils, faint odor, poorly srted

**MISS. CHERT 4806(-2560)**  
CHT; wh, off wh, fresh and trip, fracs, fair p-p por, blk tar/some med brn stn, gas bubbles, faint odor, lt to med yel fluor

**DST #2: Cher.SS & Miss. 4764' - 4812'**  
CHT; wh, off wh, trip and fresh, spotted/even oil stn, fair odor, much brite yel fluor, SSFO, fair p-p por, fracs, some blk tar/gils, some grn tripolite

CHT; off wh, grn, dolo w/cherty dolo, much spotted lt brn stn, fair odor, SSFO, fair p-p and interxln por, most w/med to brite yel fluor

**DST #3: Miss. Chert 4812' - 4835'**  
CHT; wh, off wh, scat lrg qtz xtals, fresh and trip, p-p and vug por w/SFO, spotted/even lt brn stn, faint odor, fracs, occ foss cht, shows decreasing toward base

**DST #4: Miss. Chert 4835' - 4850'**  
Corrected Depths to Log  
CHT; wh, off wh, fresh and trip, rare dk brn spotted oil stn, decrease in show with depth, scat fracs, no odor, v. spotted med yel fluor

CHT; wh, most fresh, porc, scat vug por, no fluor, no stn, ns.

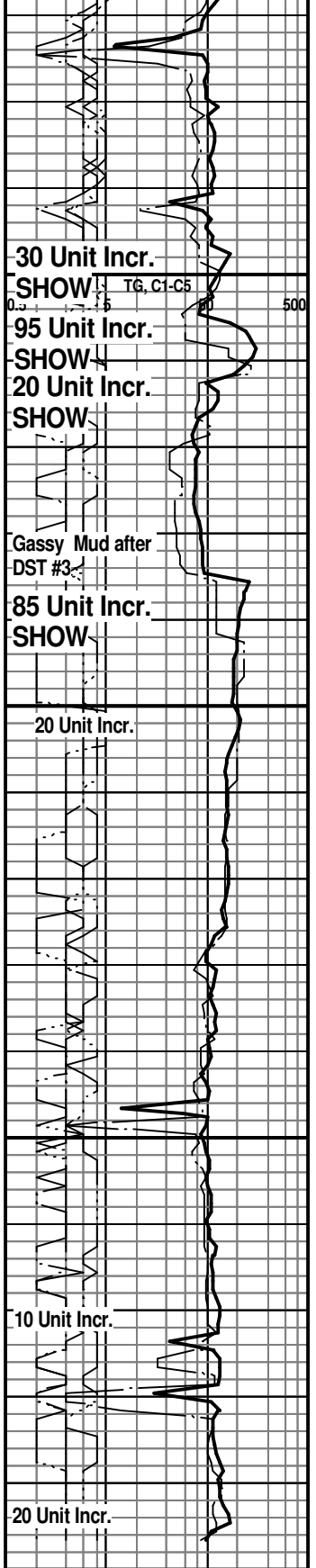
LM; med gy brn, some red brn, weathered, oxidized, cherty, hs.

**KINDERHOOK SHALE 4890(-2644)**  
SH; grn, gy grn, some varic, platy, occ silty  
SH; grn, gy grn, firm, silty to sandy

SS; lt gy, lt brn, some pale grn, vf gr qtz, argil, dirty, no fluor, ns.

**KINDERHOOK SAND 4919(-2673)**  
SS; wh, pale grn, some glau, all f gr qtz, clusters, calc mtx, fair intergran por, no fluor, no stn or odor, no sample shows, interbdd hd partly siliceous ss

SS; wh, pale brn, rare tan tint, most f gr qtz, clusters, scat glau, fair to scat gd intergran por, no fluor, no stn or odor, ns.



RTD. 4950' at 6:15 PM. 5/9/13

LTD. 4950'

Halliburton DIL, NEU/DEN, Microlog, Sonic

NOTE: This log was shifted upward by





**BASIC**  
ENERGY SERVICES

6076  
771 Farmer  
6438

PAGE	CUST NO	INVOICE DATE
1 of 1	1007589	05/15/2013
INVOICE NUMBER		
1718 - 91189286		

Pratt (620) 672-1201  
 B HERMAN L LOEB LLC  
 I PO Box: 838  
 L LAWRENCEVILLE  
 L IL US 62439  
 T  
 O ATTN: ACCOUNTS PAYABLE

J LEASE NAME Farmer 1-13  
 O LOCATION  
 B COUNTY Kiowa  
 S STATE KS  
 I JOB DESCRIPTION Cement-New Well Casing/Pi  
 E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40595884	20920		Net - 30 days	06/14/2013

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 05/11/2013 to 05/11/2013</i>				
0040595884				
171806949A Cement-New Well Casing/Pi 05/11/2013 Cement 5 1/2" Longstring				
50/50 POZ	250.00	EA	8.25	2,062.37 T
Celloflake	63.00	EA	2.77	174.82 T
Gypsum	1,050.00	EA	0.56	590.59 T
FLA-322	105.00	EA	5.62	590.59 T
Gilsonite	1,500.00	EA	0.50	753.71 T
KCL, Potassium Chloride	566.00	EA	1.12	636.72 T
Claymax KCL Substitute	5.00	EA	26.25	131.24 T
Mud Flush	1,000.00	EA	0.64	644.97 T
"Latch Down Plug & Baffle, 5 1/2" (Blu	1.00	EA	299.98	299.98
"Auto Fill Float Shoe 5 1/2" (Blue)"	1.00	EA	269.99	269.99
"Turbolizer, 5 1/2" (Blue)"	12.00	EA	82.50	989.95
"5 1/2" Basket (Blue)"	1.00	EA	217.49	217.49
"Cement Scratchers Cable Type, 5 1/2" "	6.00	EA	56.25	337.48
"Unit Mileage Chg (PU, cars one way)"	35.00	MI	3.19	111.56
Heavy Equipment Mileage	70.00	MI	5.25	367.48
"Proppant & Bulk Del. Chgs., per ton mil	368.00	EA	1.20	441.58
Depth Charge; 4001'-5000'	1.00	EA	1,889.90	1,889.90
Blending & Mixing Service Charge	250.00	BAG	1.05	262.49
Plug Container Util. Chg.	1.00	EA	187.49	187.49
"Service Supervisor, first 8 hrs on loc.	1.00	EA	131.24	131.24

PAID  
40402  
MAY 24 2013  
SCANNED

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	11,091.64
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	407.71
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	11,499.35
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		



**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61  
P.O. Box 8613  
Pratt, Kansas 67124  
Phone 620-672-1201

114099154  
FIELD SERVICE TICKET

1718 06949 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB <b>5-11-13</b> DISTRICT <b>PRATT K1</b>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:						
CUSTOMER <b>HARMAN L. LOEB</b>		LEASE <b>FARMER</b> <b>1-13</b> WELL NO.:						
ADDRESS		COUNTY <b>KIOWA</b> STATE <b>KS</b>						
CITY STATE		SERVICE CREW <b>Sullivan, Romine, Netherton</b>						
AUTHORIZED BY		JOB TYPE <b>CNW 5 1/2" Long String</b>						
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED <b>5-10-13</b> DATE	AM	TIME
<b>23708-20920</b>	<b>1</b>					<b>ARRIVED AT JOB</b>	<b>5-10-13</b>	<b>8:00</b>
<b>20959-19918</b>	<b>1</b>					<b>START OPERATION</b>	<b>5-11-13</b>	<b>1235</b>
<b>37900</b>						<b>FINISH OPERATION</b>		<b>1:30</b>
						<b>RELEASED</b>		<b>2:30</b>
						<b>MILES FROM STATION TO WELL</b>		<b>35</b>

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED:   
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP 104	50/50 P02 CNT	SK	200		2,200.00
CP 104	50/50 P02	SK	50		550.00
CC 102	cell take	lb	43		233.10
PC 113	(7-1/2" sum)	lb	1050		787.50
CC 129	ZIA-322	lb	105		787.50
CC 201	Gilsonite	lb	1500		1,005.00
C 700	KCL Potassium chloride	lb	566		849.00
CF 607	LATCH DOWN PLUG + BASKET 5 1/2"	SA	1		400.00
CF 1251	Auto Fill Job shoe	SA	1		360.00
PF 1051	Tarbolite	SA	12		1,320.00
CF 1901	RAKET	SA	1		290.00
CF 2001	CNT SCRAM	SA	6		450.00
C 704	CLAY MAX	CAL	5		175.00
CC 151	ntud - flush	AL	1000		860.00
C 100	pickup m	mi	35		149.95
C 101	HEAVY Escal m	mi	70		490.00

CHEMICAL / ACID DATA:			

SUB TOTAL	ALS	
SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		

SERVICE REPRESENTATIVE THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:

FIELD SERVICE ORDER NO. \_\_\_\_\_ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)





Customer <i>Hickman / L-13</i>	Lease No.	Date <i>05-11-13</i>
Lease <i>Farmok</i>	Well # <i>1-13</i>	
Field Order # <i>6977</i>	Station <i>11177 KS</i>	Casing <i>5 1/2</i>
		Depth <i>4742</i>
Type Job <i>OPW - 1/2 Laminar Flow</i>	Formation	Legal Description <i>13-37-19</i>
		County <i>KLINGA</i>
		State <i>KS</i>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
<i>5 1/2</i>				Pre Pad	Max		5 Min.	
Depth <i>4742</i>	Depth	From	To	Pad	Min		10 Min.	
Volume <i>117</i>	Volume	From	To	Frac	Avg		15 Min.	
Max Press <i>3000</i>	Max Press	From	To		HHP Used		Annulus Pressure	
Well Connection <i>P.C.</i>	Annulus Vol.	From	To	Flush	Gas Volume		Total Load	
Plug Depth <i>4742</i>	Packer Depth	From	To					

Customer Representative	Station Manager <i>DAVE SCOTT</i>	Treater <i>Robert Jullien</i>
Service Units <i>33708 21820 70959 19915</i>		
Driver Names		

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>8:00</i>					<i>on the set, waiting</i>
					<i>Run 118 ft 5 1/2" pipe</i>
					<i>in 30 min 1/2 way</i>
<i>11:35</i>					<i>Change out Lateral</i>
<i>11:30</i>					<i>Hook up to cake</i>
<i>12:35</i>			<i>3</i>	<i>3.5</i>	<i>Spacer</i>
	<i>150</i>		<i>24</i>		<i>mix MW fluid</i>
			<i>3</i>		<i>Spacer</i>
			<i>45</i>	<i>5</i>	<i>mix out 2000 50% spacer 14.25</i>
					<i>cut on 1" shut down, wash plug, lower</i>
					<i>Release Plug</i>
				<i>6</i>	<i>At 1000</i>
	<i>250</i>		<i>82</i>		<i>let it</i>
				<i>25</i>	<i>Slow Rate</i>
<i>1:30</i>	<i>650</i>		<i>117</i>		<i>Plug down plug for LAMP pump</i>
			<i>7</i>		<i>plug 24 up x 4 34L over total</i>
			<i>7</i>		<i>plug 24 up / 2700 = 120</i>
					<i>Release the Plug H. H. H.</i>
					<i>50B - low rate by George Payne</i>
					<i>Thank you</i>



10076  
777 Farmer  
6438

PAGE 1 of 1	CUST NO 1007589	INVOICE DATE 05/01/2013
INVOICE NUMBER 1718 - 91179799		

Pratt (620) 672-1201  
 B HERMAN L LOEB LLC  
 I PO Box: 838  
 L LAWRENCEVILLE  
 T IL US 62439  
 O ATTN: ACCOUNTS PAYABLE

J LEASE NAME Farmer 1-13  
 O B LOCATION  
 B COUNTY Kiowa  
 S STATE KS  
 I T JOB DESCRIPTION Cement-New Well Casing/Pi  
 E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE	
40591201	19843		Net - 30 days	05/31/2013	
<b>For Service Dates: 04/30/2013 to 04/30/2013</b>					
0040591201					
171807947A Cement-New Well Casing/Pi 04/30/2013 Cement 8 5/8 Surface					
		QTY	U of M	INVOICE AMOUNT	
				UNIT PRICE	
A-Con Blend Common		175.00	EA	13.50	2,362.35 T
Common Cement		175.00	EA	12.00	2,099.86 T
Celloflake		88.00	EA	2.77	244.18 T
Calcium Chloride		825.00	EA	0.79	649.64 T
"Top Rubber Cmt Plug, 8 5/8""		1.00	EA	168.74	168.74
"8 5/8"" Guide Shoe (Red)"		1.00	EA	412.47	412.47
"8 5/8"" Basket (Blue)"		1.00	EA	236.23	236.23
Flapper Type Ins Float Valve 8 5/8"(Blue		1.00	EA	209.99	209.99
"Unit Mileage Chg (PU, cars one way)"		35.00	MI	3.19	111.56
Heavy Equipment Mileage		70.00	MI	5.25	367.48
"Proppant & Bulk Del. Chgs., per ton mil		578.00	EA	1.20	693.55
Depth Charge; 501'-1000'		1.00	EA	899.94	899.94
Blending & Mixing Service Charge		350.00	BAG	1.05	367.48
Plug Container Util. Chg.		1.00	EA	187.49	187.49
"Service Supervisor, first 8 hrs on loc.		1.00	EA	131.24	131.24

PAID  
40014  
MAY 13 2013  
SCANNED

PLEASE REMIT TO: BASIC ENERGY SERVICES, LP PO BOX 841903 DALLAS, TX 75284-1903	SEND OTHER CORRESPONDENCE TO: BASIC ENERGY SERVICES, LP 801 CHERRY ST, STE 2100 FORT WORTH, TX 76102	SUB TOTAL TAX INVOICE TOTAL	9,142.20 390.99 9,533.19
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10244 NE Hwy. 61  
P.O. Box 8613  
Pratt, Kansas 67124  
Phone 620-672-1201

FIELD SERVICE TICKET  
1718 07947 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB <b>4-30-2013</b> DISTRICT _____				NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO. _____					
CUSTOMER <b>HERMAN L. LOEB, LLC</b>				LEASE <b>FARMER</b> <b>1-13</b> WELL NO.					
ADDRESS _____				COUNTY <b>KIOWA</b> STATE <b>Ks.</b>					
CITY _____ STATE _____				SERVICE CREW <b>LESLEY, MARQUEZ, YOUNG</b>					
AUTHORIZED BY _____				JOB TYPE: <b>CNW - 8 5/8" S.P.</b>					
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED <b>4-30-13</b>	DATE	AM	TIME
<b>37586</b>	<b>4</b>					ARRIVED AT JOB		AM	<b>3:30</b>
<b>19889-19843</b>	<b>4</b>					START OPERATION		AM	<b>5:00</b>
<b>77686-73768</b>	<b>4</b>					FINISH OPERATION		AM	<b>6:30</b>
						RELEASED		AM	<b>9:45</b>
						MILES FROM STATION TO WELL		AM	<b>10:30</b>

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: \_\_\_\_\_  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP-101	A-CON BLEND	SK	175		3,150.00
CP 100C	COMMON CEMENT	SK	175		2,800.00
CC 402	CELLOFLAKE	lb	88		325.00
CC 109	CALCIUM CHLORIDE	lb	825		866.25
CF 105	TOP RUBBER CMT. PLUG, 8 5/8"	EA	1		225.00
CF 203	GUIDE SHOE, 8 5/8"	EA	1		550.00
CF 1453	FLAPPER TYPE INSERT FLOAT VALVE, 8 5/8"	EA	1		280.00
CF 1903	BASKET, 8 5/8"	EA	1		315.00
E 100	DICKUP MILEAGE	MI	35		148.75
E 101	HEAVY EQUIPMENT MILEAGE	MI	70		490.00
E 113	BULK DELIVERY	TM	578		924.00
PE 201	DEPTH CHARGE 501-1000'	HR	1-4		1,200.00
PE 240	BLENDING CHARGE	SK	350		490.00
PE 504	PLUG CONTAINER CHARGE	YOB	1		250.00
S 003	SERVICE SUPERVISOR	EA	1		175.00

SUB TOTAL **9,142.20**

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$
TOTAL	

SERVICE REPRESENTATIVE <b>Lesley</b>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: _____ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
FIELD SERVICE ORDER NO. _____	

Customer	HERMAN L. LOEB, LLC	Lease No.		Date	4-30-2013
Lease	FARMER	Well #	1-13		
Field Order #	07947	Station	PRATT, KS.	Casing	8 5/8" Depth
Type Job	CNW - 8 5/8" S.P.	Formation	TD - 579'	County	KIOWA State KS.
				Legal Description	13-27-19

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME				
Casing Size	8 5/8" x 24'	Tubing Size		Shots/Ft	CMT -	Acid	175SK A-CON	RATE	PRESS	ISIP
Depth	573.25	Depth		From	To	Pre Pad	@ 2.47 CUFT	Max		5 Min.
Volume	4.45 BBL	Volume		From	To	Pad	175SK COMMON	Min	5.13'	10 Min.
Max Press	300	Max Press		From	To	Frac	@ 1.20 CUFT	Avg		15 Min.
Well Connection	P.C.	Annulus Vol.		From	To			HHP Used		Annulus Pressure
Plug Depth	570.12'	Packer Depth		From	To	Flush	33.7 BBL	Gas Volume		Total Load

Customer Representative	EVARD ST. #2	Station Manager	D. SCOTT	Treater	K. LESLEY
-------------------------	--------------	-----------------	----------	---------	-----------

Service Units	37586	19889	19843	77681	73768				
Driver Names	LESLEY	MARQUEZ	—	YOUNG	—				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
5:00AM					ON LOCATION - SAFETY MEETING
7:45AM					RUN 13 JTS. 8 5/8" x 24' CSG. BASKET - #10
8:45AM					CSG. ON BOTTOM
8:50AM					HOOK UP TO CSG. / BREAK CIRC. W/ RIG
9:13AM	300		5	6	H2O AHEAD
9:15AM	200		77	6	MIX 175SKS. A-CON @ 12 PPG
9:27AM	100		38	6	MIX 175SKS. COMMON @ 15.6 PPG
9:33AM					SHUT DOWN - DROP T.R. PLUG
9:36AM	0		0	4	START DISPLACEMENT
9:43AM	250		28	3	SLOW RATE
9:45AM	500		33.7	2	PLUG DOWN
					CIRC. THRU V.B
					CIRC. 20 BBL TO PIT
					JOB COMPLETE,
					THANKS -
					KEVEN LESLEY



## DRILL STEM TEST REPORT

Prepared For: **Herman L. Loeb, LLC.**

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Farmer #1-13**

### **13-27s-19w Kiowa,KS**

Start Date: 2013.05.05 @ 08:57:50

End Date: 2013.05.05 @ 15:54:20

Job Ticket #: 50485                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.15 @ 11:34:18

Herman L. Loeb, LLC. 13-27s-19w Kiowa,KS Farmer #1-13 DST # 1 Lansing "A" 2013.05.05



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
 Job Ticket: 50485      **DST#: 1**  
 Test Start: 2013.05.05 @ 08:57:50

## GENERAL INFORMATION:

Formation: **Lansing "A"**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 11:10:50  
 Time Test Ended: 15:54:20  
 Interval: **4226.00 ft (KB) To 4242.00 ft (KB) (TVD)**  
 Total Depth: 4242.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ryan Reynolds  
 Unit No: 48  
 Reference Elevations: 2246.00 ft (KB)  
 2235.00 ft (CF)  
 KB to GR/CF: 11.00 ft

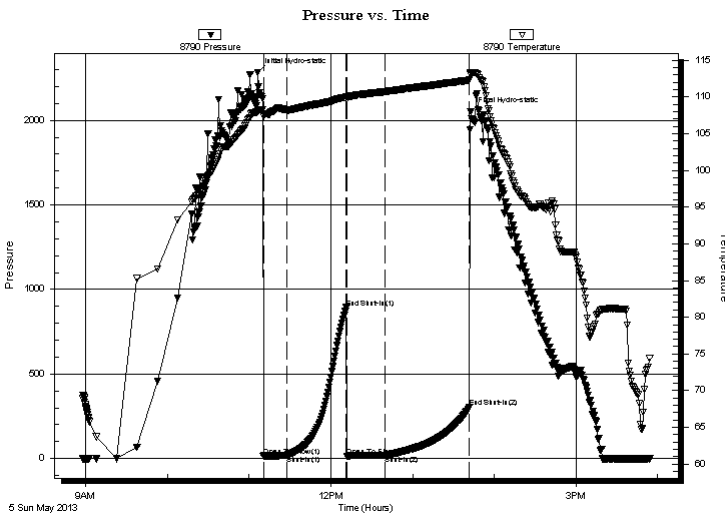
## Serial #: 8790

Inside

Press @ Run Depth: 19.90 psig @ 4227.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.05.05      End Date: 2013.05.05      Last Calib.: 2013.05.05  
 Start Time: 08:57:55      End Time: 15:54:19      Time On Btm: 2013.05.05 @ 11:06:20  
 Time Off Btm: 2013.05.05 @ 13:42:50

TEST COMMENT: IF: Weak blow . 1/4" - Surf.  
 IS: No blow  
 FF: Weak blow 1/4" - 3/4"  
 FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2283.41	108.04	Initial Hydro-static
5	15.00	107.72	Open To Flow (1)
22	19.77	108.22	Shut-In(1)
65	892.69	109.96	End Shut-In(1)
66	14.74	109.77	Open To Flow (2)
94	19.90	110.72	Shut-In(2)
156	300.83	112.27	End Shut-In(2)
157	2051.31	113.30	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	SLI OCM 1%oil, 99%mud	0.05
0.00	60' GIP, (Free oil in hyd. tool)	0.00

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb, LLC.

**13-27s-19w Kiowa,KS**

PO Box 838  
Lawrenceville, IL 62439

**Farmer #1-13**

Job Ticket: 50485

**DST#: 1**

ATTN: Jon Christensen

Test Start: 2013.05.05 @ 08:57:50

## Tool Information

Drill Pipe:	Length: 4016.00 ft	Diameter: 3.80 inches	Volume: 56.33 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: 83000.00 lb
			<u>Total Volume: 57.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 69000.00 lb
Depth to Top Packer:	4226.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	38.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4209.00	
Hydraulic tool	5.00			4214.00	
Safety Joint	2.00			4216.00	
Packer	5.00			4221.00	22.00 Bottom Of Top Packer
Packer	5.00			4226.00	
Stubb	1.00			4227.00	
Recorder	0.00	8790	Inside	4227.00	
Recorder	0.00	8792	Outside	4227.00	
Perforations	12.00			4239.00	
Bullnose	3.00			4242.00	16.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>38.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
Job Ticket: 50485      **DST#: 1**  
Test Start: 2013.05.05 @ 08:57:50

## Mud and Cushion Information

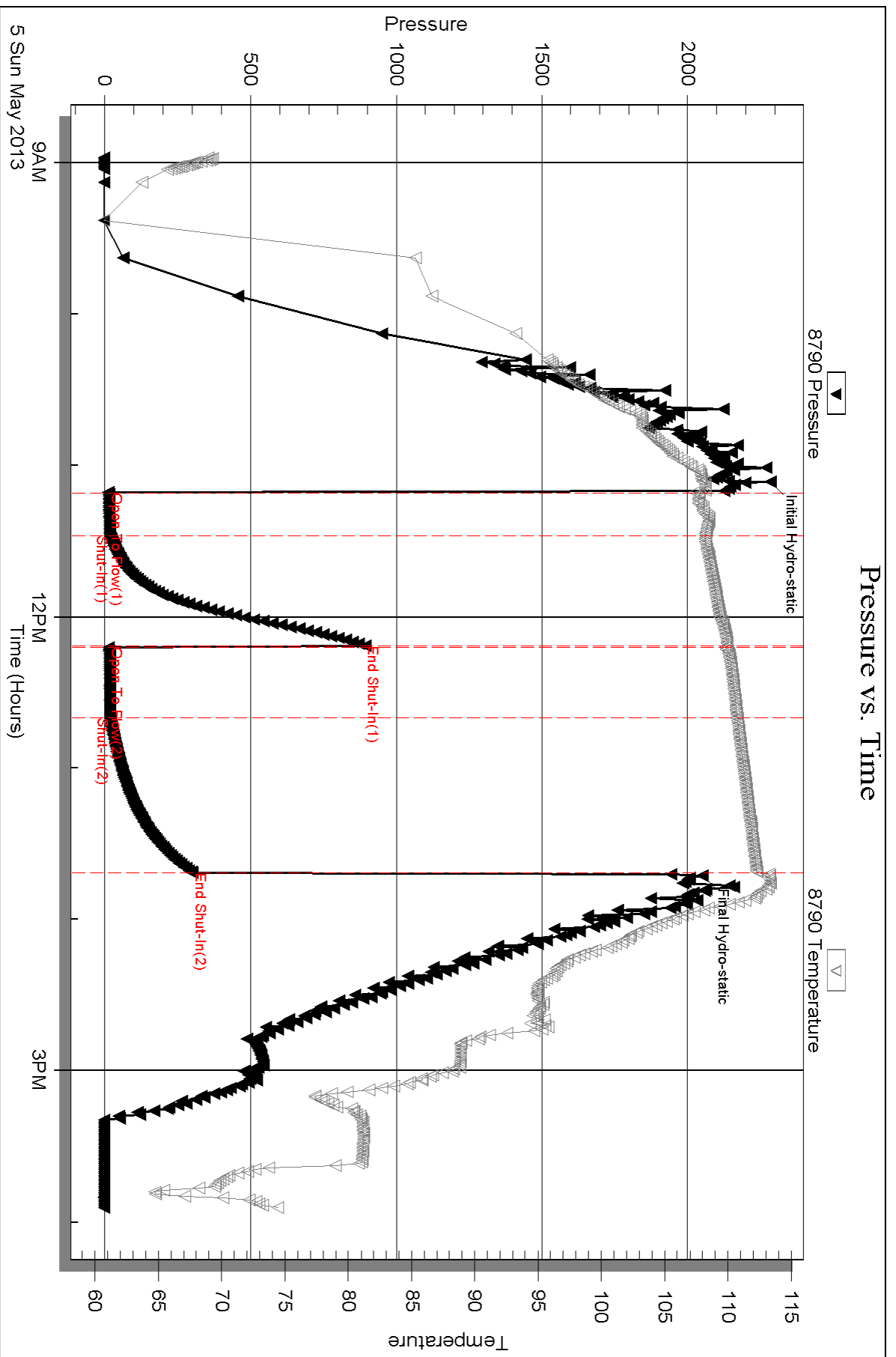
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	7000 ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 7000.00 ppm			
Filter Cake: 0.02 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	SLI OCM 1%oil, 99%mud	0.049
0.00	60' GIP, (Free oil in hyd. tool)	0.000

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

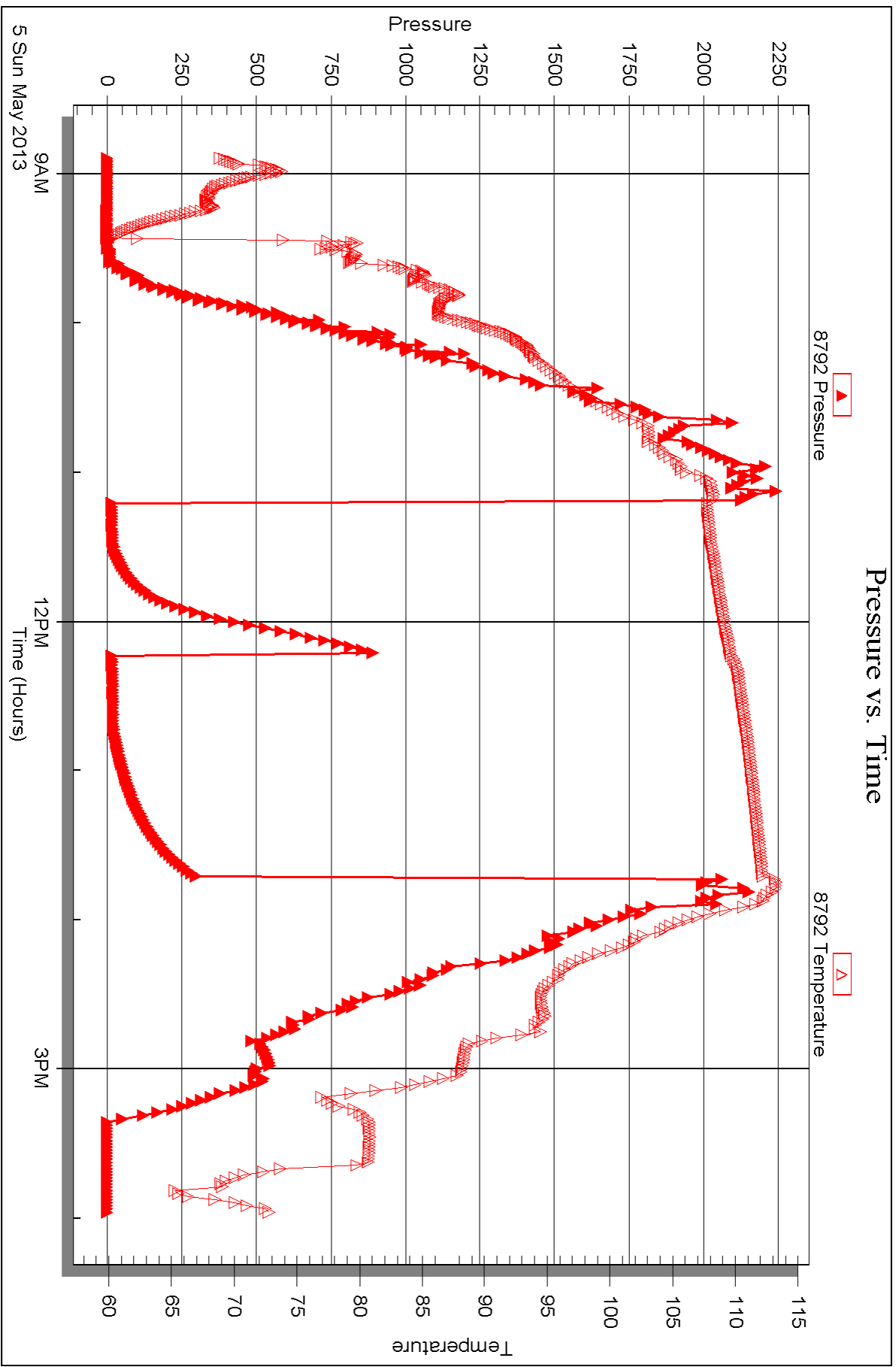


Serial #: 8792

Outside Herman L. Loeb, LLC.

Farmer #1-13

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Herman L. Loeb, LLC.**

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Farmer #1-13**

### **13-27s-19w Kiowa,KS**

Start Date: 2013.05.07 @ 17:58:14

End Date: 2013.05.08 @ 01:51:29

Job Ticket #: 50486                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.15 @ 11:33:21

Herman L. Loeb, LLC.

13-27s-19w Kiowa,KS

Farmer #1-13

DST # 2

Cherokee SS/ Miss.

2013.05.07



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
 Job Ticket: 50486 **DST#: 2**  
 Test Start: 2013.05.07 @ 17:58:14

## GENERAL INFORMATION:

Formation: **Cherokee SS/ Miss.**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:25:44  
 Time Test Ended: 01:51:29  
 Interval: **4767.00 ft (KB) To 4815.00 ft (KB) (TVD)**  
 Total Depth: 4815.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Reynolds  
 Unit No: 48  
 Reference Elevations: 2246.00 ft (KB)  
 2235.00 ft (CF)  
 KB to GR/CF: 11.00 ft

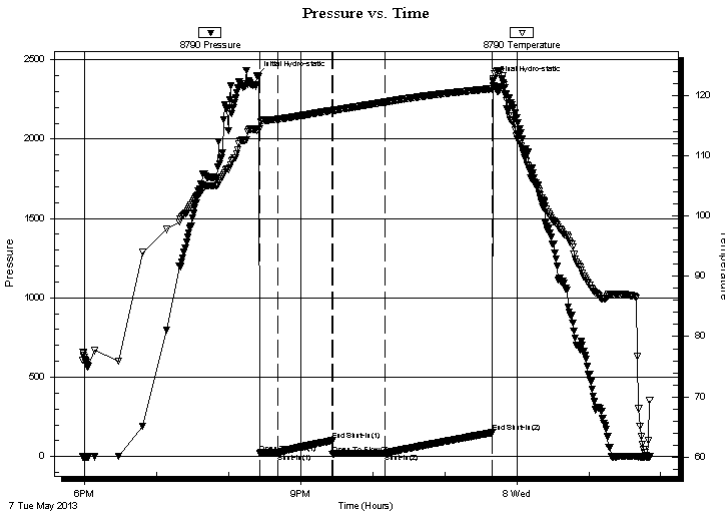
## Serial #: 8790

Inside

Press @ RunDepth: 21.00 psig @ 4768.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.05.07 End Date: 2013.05.08 Last Calib.: 2013.05.08  
 Start Time: 17:58:19 End Time: 01:51:28 Time On Btm: 2013.05.07 @ 20:23:44  
 Time Off Btm: 2013.05.07 @ 23:40:29

TEST COMMENT: IF: Good blow . 1/2" - 9"  
 IS: No blow  
 FF: Good blow . 3" - 10"  
 FS: No blow .

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2402.73	114.25	Initial Hydro-static
2	21.31	114.49	Open To Flow (1)
17	22.36	116.04	Shut-In(1)
63	99.84	117.53	End Shut-In(1)
63	12.86	117.49	Open To Flow (2)
107	21.00	118.90	Shut-In(2)
196	150.68	121.12	End Shut-In(2)
197	2365.92	122.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drig mud 100% mud	0.05
0.00	350' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb, LLC.

**13-27s-19w Kiowa,KS**

PO Box 838  
Lawrenceville, IL 62439

**Farmer #1-13**

Job Ticket: 50486

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2013.05.07 @ 17:58:14

## Tool Information

Drill Pipe:	Length: 4557.00 ft	Diameter: 3.80 inches	Volume: 63.92 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: 84000.00 lb
			Total Volume: 64.96 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4767.00 ft			Final 77000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	70.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4750.00	
Hydraulic tool	5.00			4755.00	
Safety Joint	2.00			4757.00	
Packer	5.00			4762.00	22.00 Bottom Of Top Packer
Packer	5.00			4767.00	
Stubb	1.00			4768.00	
Recorder	0.00	8790	Inside	4768.00	
Recorder	0.00	8792	Outside	4768.00	
Perforations	5.00			4773.00	
Change Over Sub	1.00			4774.00	
Drill Pipe	32.00			4806.00	
Change Over Sub	1.00			4807.00	
Perforations	5.00			4812.00	
Bullnose	3.00			4815.00	48.00 Bottom Packers & Anchor

**Total Tool Length: 70.00**





**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
Job Ticket: 50486      **DST#: 2**  
Test Start: 2013.05.07 @ 17:58:14

**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:	4400 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.38 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: 0.02 inches			

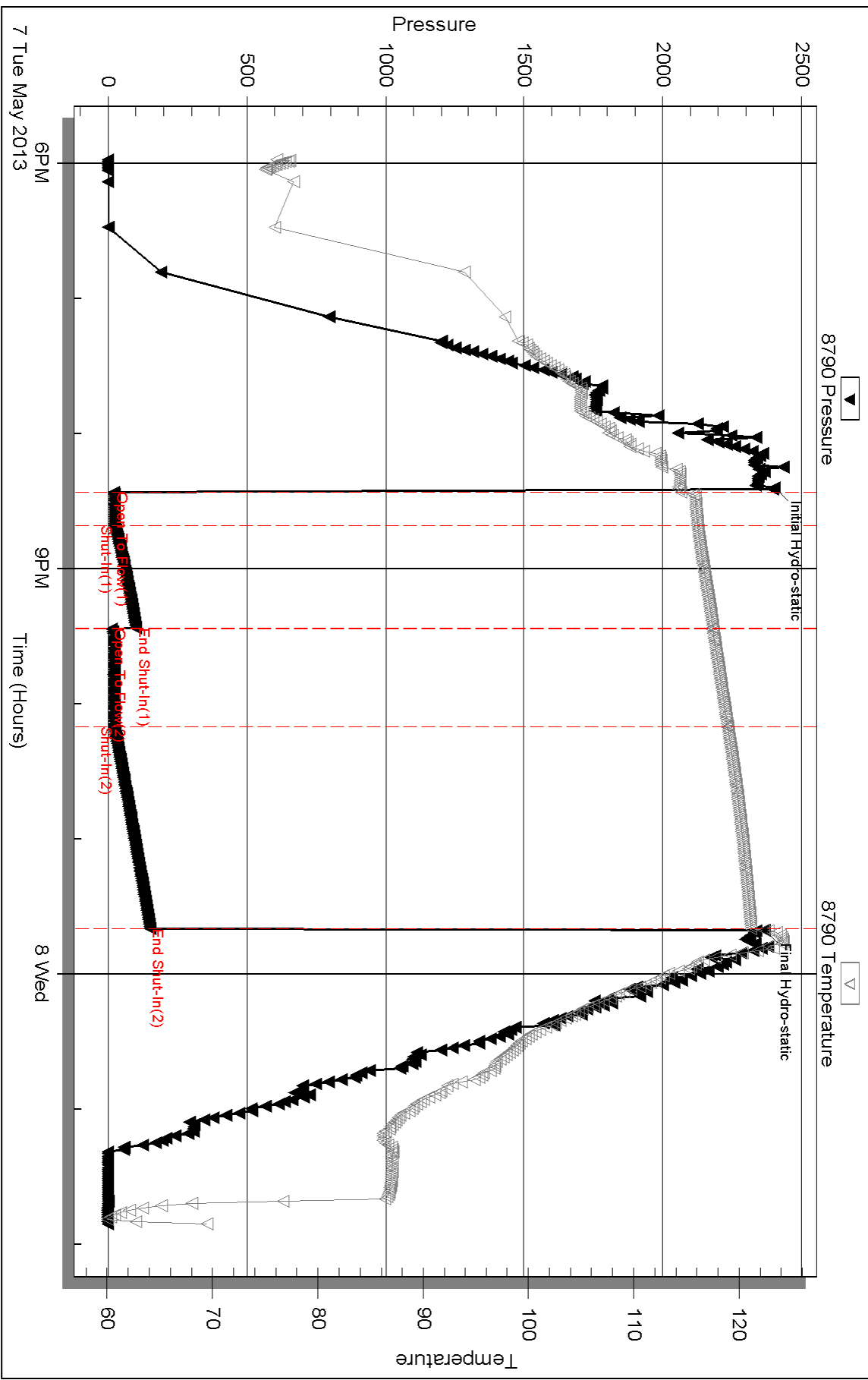
**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
10.00	Drig mud 100%mud	0.049
0.00	350' GIP	0.000

Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time

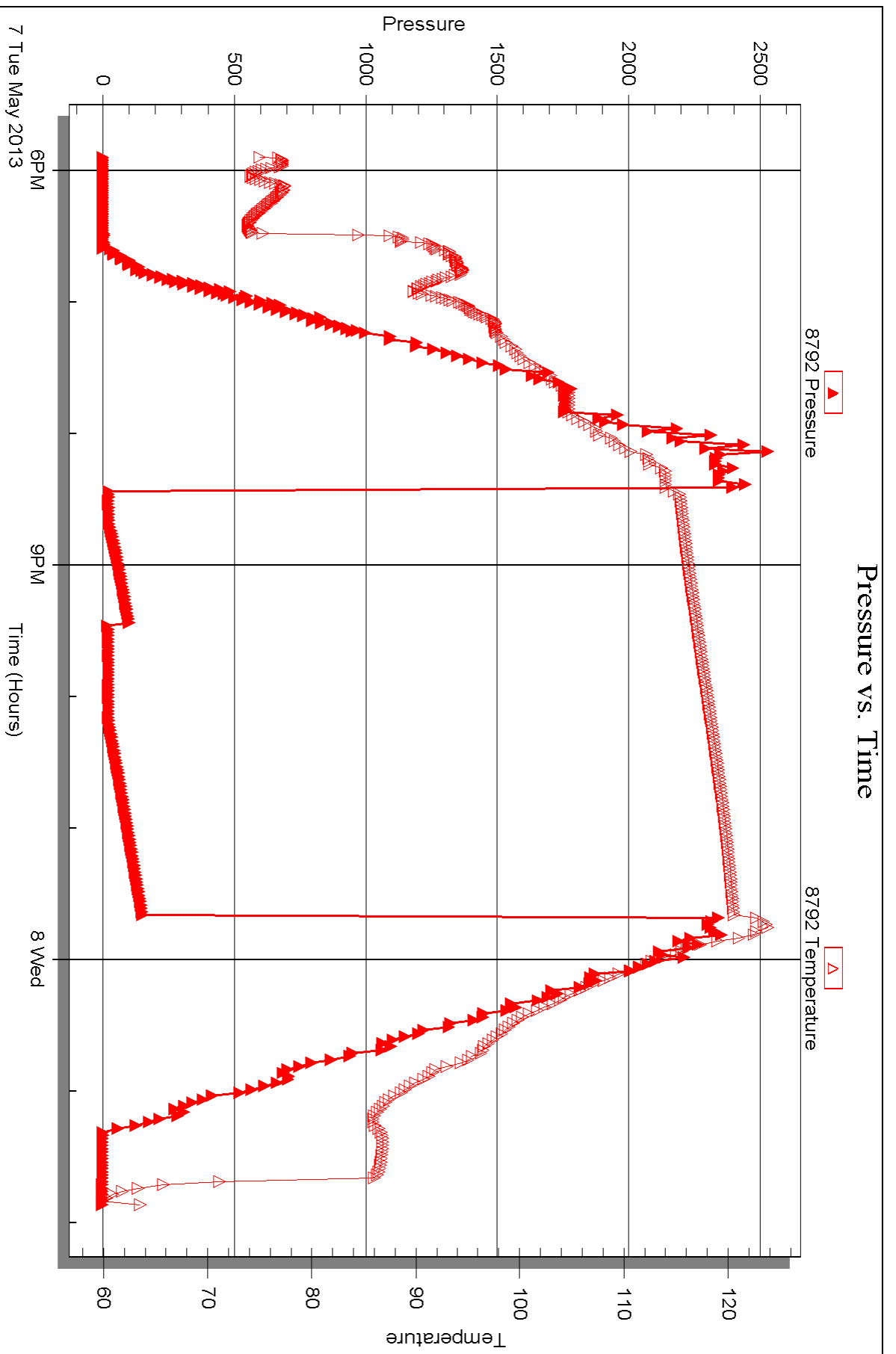


Serial #: 8792

Outside Herman L. Loeb, LLC.

Farmer #1-13

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50486

Printed: 2013.05.15 @ 11:33:26



## DRILL STEM TEST REPORT

Prepared For: **Herman L. Loeb, LLC.**

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Farmer #1-13**

### **13-27s-19w Kiowa,KS**

Start Date: 2013.05.08 @ 10:06:06

End Date: 2013.05.08 @ 18:36:21

Job Ticket #: 50487                      DST #: 3

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

Printed: 2013.05.15 @ 11:36:47



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**13-27s-19w Kiowa,KS**

**Farmer #1-13**

Job Ticket: 50487

**DST#: 3**

Test Start: 2013.05.08 @ 10:06:06

## GENERAL INFORMATION:

Formation: **Miss. Chert**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:22:51  
 Time Test Ended: 18:36:21  
 Interval: **4815.00 ft (KB) To 4838.00 ft (KB) (TVD)**  
 Total Depth: 4838.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Reynolds  
 Unit No: 48  
 Reference Elevations: 2246.00 ft (KB)  
 2235.00 ft (CF)  
 KB to GR/CF: 11.00 ft

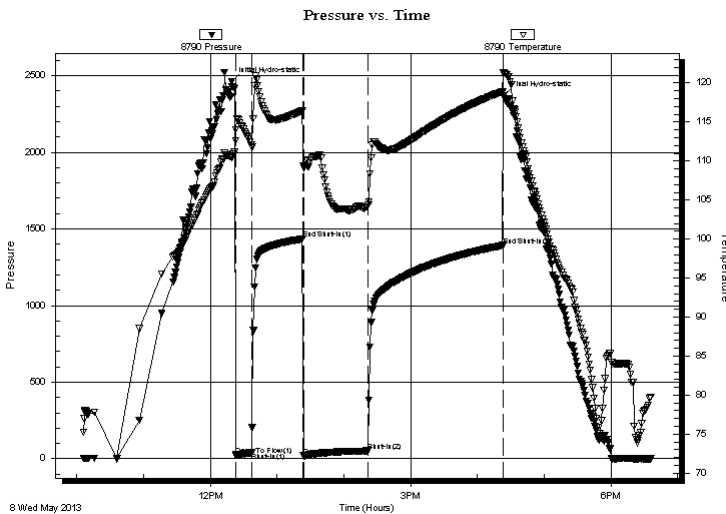
## Serial #: 8790

Inside

Press @ Run Depth: 50.85 psig @ 4816.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.05.08 End Date: 2013.05.08 Last Calib.: 2013.05.08  
 Start Time: 10:06:11 End Time: 18:36:20 Time On Btm: 2013.05.08 @ 12:19:21  
 Time Off Btm: 2013.05.08 @ 16:23:36

TEST COMMENT: IF: Strong blow . BOB @ 15 sec. No GTS.  
 IS: GTS @ 1 min. into S.I. No blow  
 FF: Strong blow . BOB immed. Gauged gas throughout  
 FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2460.98	110.42	Initial Hydro-static
4	22.05	114.00	Open To Flow (1)
18	38.99	111.88	Shut-In(1)
64	1434.63	116.50	End Shut-In(1)
65	17.21	109.11	Open To Flow (2)
123	50.85	104.39	Shut-In(2)
244	1392.05	118.90	End Shut-In(2)
245	2369.55	121.37	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	SLI OCM trc%oil, 99% mud	0.07
0.00	Hvy OSptdM in Hyd. tool	0.00
0.00	GTS	0.00

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	15.00	46.64
Last Gas Rate	0.25	26.00	64.09
Max. Gas Rate	0.25	26.00	64.09





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb, LLC.

**13-27s-19w Kiowa,KS**

PO Box 838  
Lawrenceville, IL 62439

**Farmer #1-13**

Job Ticket: 50487

**DST#: 3**

ATTN: Jon Christensen

Test Start: 2013.05.08 @ 10:06:06

## Tool Information

Drill Pipe:	Length: 4589.00 ft	Diameter: 3.80 inches	Volume: 64.37 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:	110000.0 lb
			<u>Total Volume: 65.41 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	4815.00 ft			Final	77000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	23.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4798.00	
Hydraulic tool	5.00			4803.00	
Safety Joint	2.00			4805.00	
Packer	5.00			4810.00	22.00 Bottom Of Top Packer
Packer	5.00			4815.00	
Stubb	1.00			4816.00	
Recorder	0.00	8790	Inside	4816.00	
Recorder	0.00	8792	Outside	4816.00	
Perforations	19.00			4835.00	
Bullnose	3.00			4838.00	23.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
Job Ticket: 50487      **DST#: 3**  
Test Start: 2013.05.08 @ 10:06:06

## 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:	4400 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.37 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: 0.02 inches			

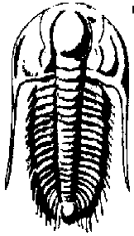
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	SLI OCM trc%oil, 99%mud	0.074
0.00	Hvy OSptdM in Hyd. tool	0.000
0.00	GTS	0.000

Total Length: 15.00 ft      Total Volume: 0.074 bbl  
 Num Fluid Samples: 1      Num Gas Bombs: 1      Serial #: RR-1  
 Laboratory Name: Caraway      Laboratory Location: Liberal, KS  
 Recovery Comments:





**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Herman L. Loeb, LLC.

**13-27s-19w Kiowa,KS**

PO Box 838  
Lawrenceville, IL 62439

**Farmer #1-13**

Job Ticket: 50487

**DST#: 3**

ATTN: Jon Christensen

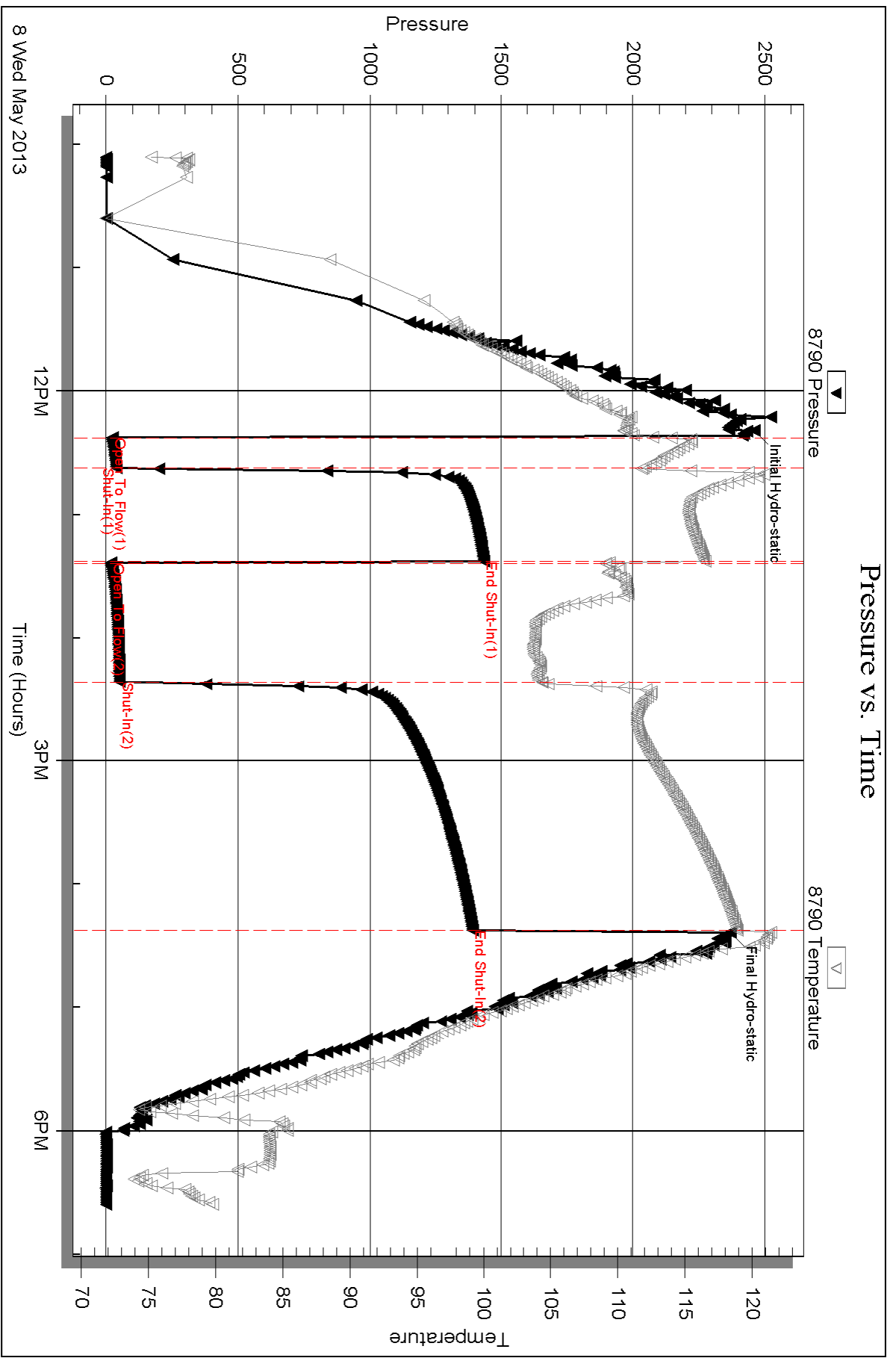
Test Start: 2013.05.08 @ 10:06:06

### 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	10	0.25	15.00	46.64
2	10	0.25	15.00	46.64
2	20	0.25	20.00	54.57
2	30	0.25	24.00	60.92
2	40	0.25	25.00	62.50
2	50	0.25	26.00	64.09

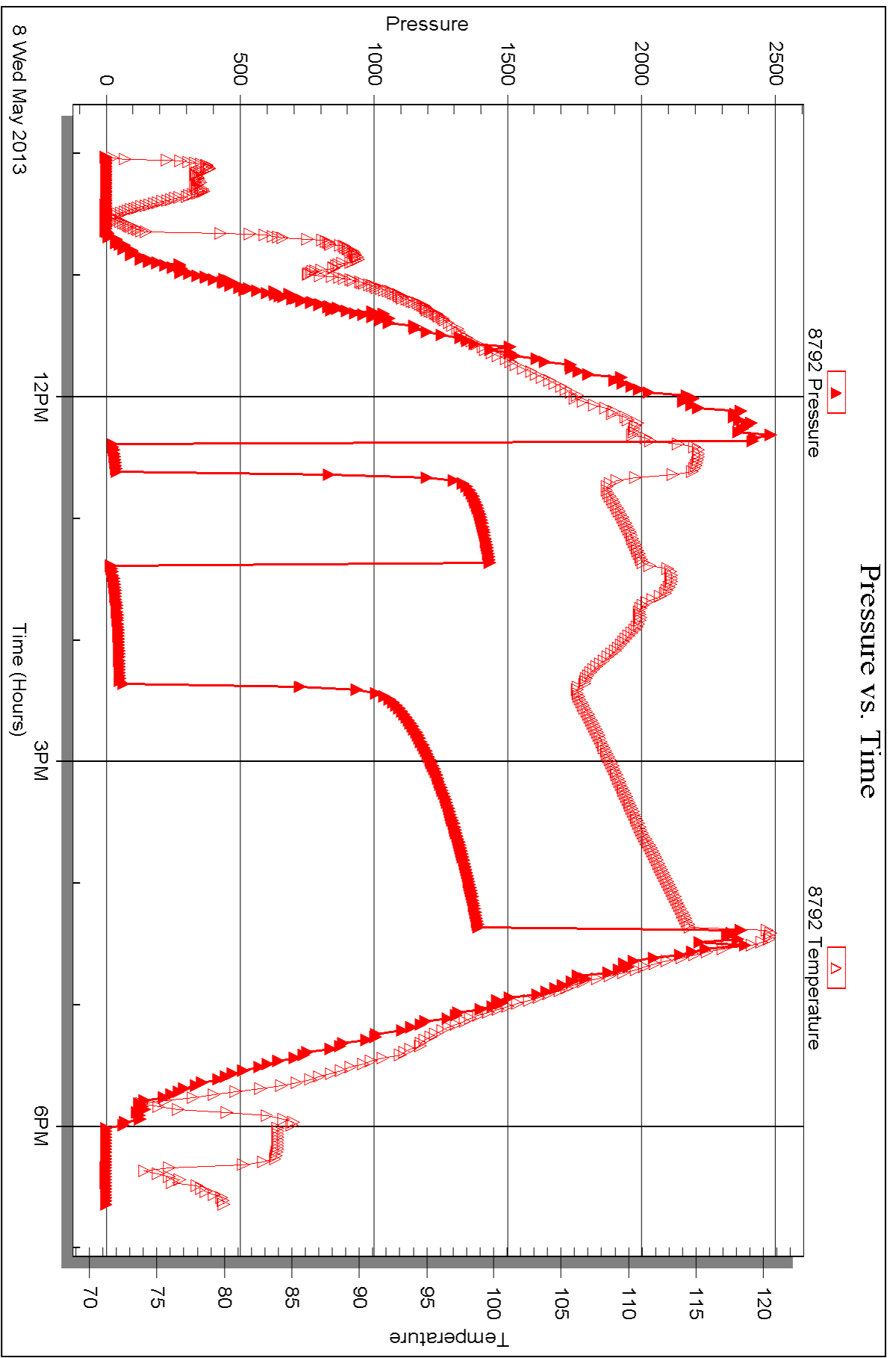


Serial #: 8792

Outside Herman L. Loeb, LLC.

Farmer #1-13

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50487

Printed: 2013.05.15 @ 11:36:50



## DRILL STEM TEST REPORT

Prepared For: **Herman L. Loeb, LLC.**

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Farmer #1-13**

### **13-27s-19w Kiowa,KS**

Start Date: 2013.05.09 @ 01:47:58

End Date: 2013.05.09 @ 10:11:13

Job Ticket #: 50488                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.15 @ 11:26:23



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**13-27s-19w Kiowa,KS**

**Farmer #1-13**

Job Ticket: 50488

**DST#: 4**

Test Start: 2013.05.09 @ 01:47:58

## GENERAL INFORMATION:

Formation: **Miss. Chert**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:24:13  
 Time Test Ended: 10:11:13  
 Interval: **4838.00 ft (KB) To 4853.00 ft (KB) (TVD)**  
 Total Depth: 4853.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Reynolds  
 Unit No: 48  
 Reference Elevations: 2246.00 ft (KB)  
 2235.00 ft (CF)  
 KB to GR/CF: 11.00 ft

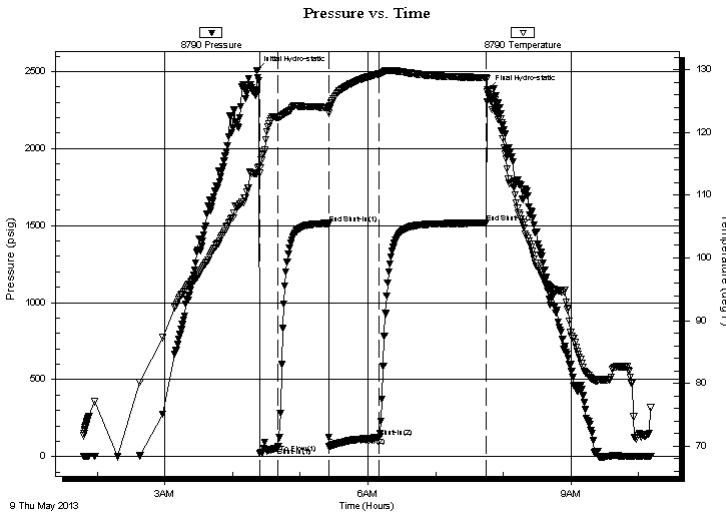
## Serial #: 8790

Inside

Press @ Run Depth: 125.67 psig @ 4839.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.05.09 End Date: 2013.05.09 Last Calib.: 2013.05.09  
 Start Time: 01:48:03 End Time: 10:11:12 Time On Btm: 2013.05.09 @ 04:21:43  
 Time Off Btm: 2013.05.09 @ 07:45:58

TEST COMMENT: IF: Fair blow . 1/4" - 5"  
 IS: No blow  
 FF: Good blow . 1/4" - 9"  
 FS: Weak surf. blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2507.16	113.62	Initial Hydro-static
3	20.62	113.49	Open To Flow (1)
19	58.70	122.32	Shut-In(1)
64	1514.80	124.02	End Shut-In(1)
64	66.20	123.73	Open To Flow (2)
109	125.67	129.36	Shut-In(2)
203	1516.48	128.77	End Shut-In(2)
205	2381.40	126.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
193.00	VSLI OCMW Trc%oil, 5%mud, 95%w tr	0.95
64.00	OCWM 5%oil, 45%w tr, 50%mud	0.73
0.00	63' GIP	0.00

## Gas Rates

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

\* 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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
Job Ticket: 50488      **DST#: 4**  
Test Start: 2013.05.09 @ 01:47:58

**Tool Information**

Drill Pipe:	Length: 4621.00 ft	Diameter: 3.80 inches	Volume: 64.82 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: 85000.00 lb
			<u>Total Volume: 65.86 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4838.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	37.00 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			4821.00	
Hydraulic tool	5.00			4826.00	
Safety Joint	2.00			4828.00	
Packer	5.00			4833.00	22.00      Bottom Of Top Packer
Packer	5.00			4838.00	
Stubb	1.00			4839.00	
Recorder	0.00	8790	Inside	4839.00	
Recorder	0.00	8792	Outside	4839.00	
Perforations	11.00			4850.00	
Bullnose	3.00			4853.00	15.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>37.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**13-27s-19w Kiowa,KS**  
**Farmer #1-13**  
Job Ticket: 50488      **DST#: 4**  
Test Start: 2013.05.09 @ 01:47:58

## 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:	92000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5400.00 ppm			
Filter Cake: 0.02 inches			

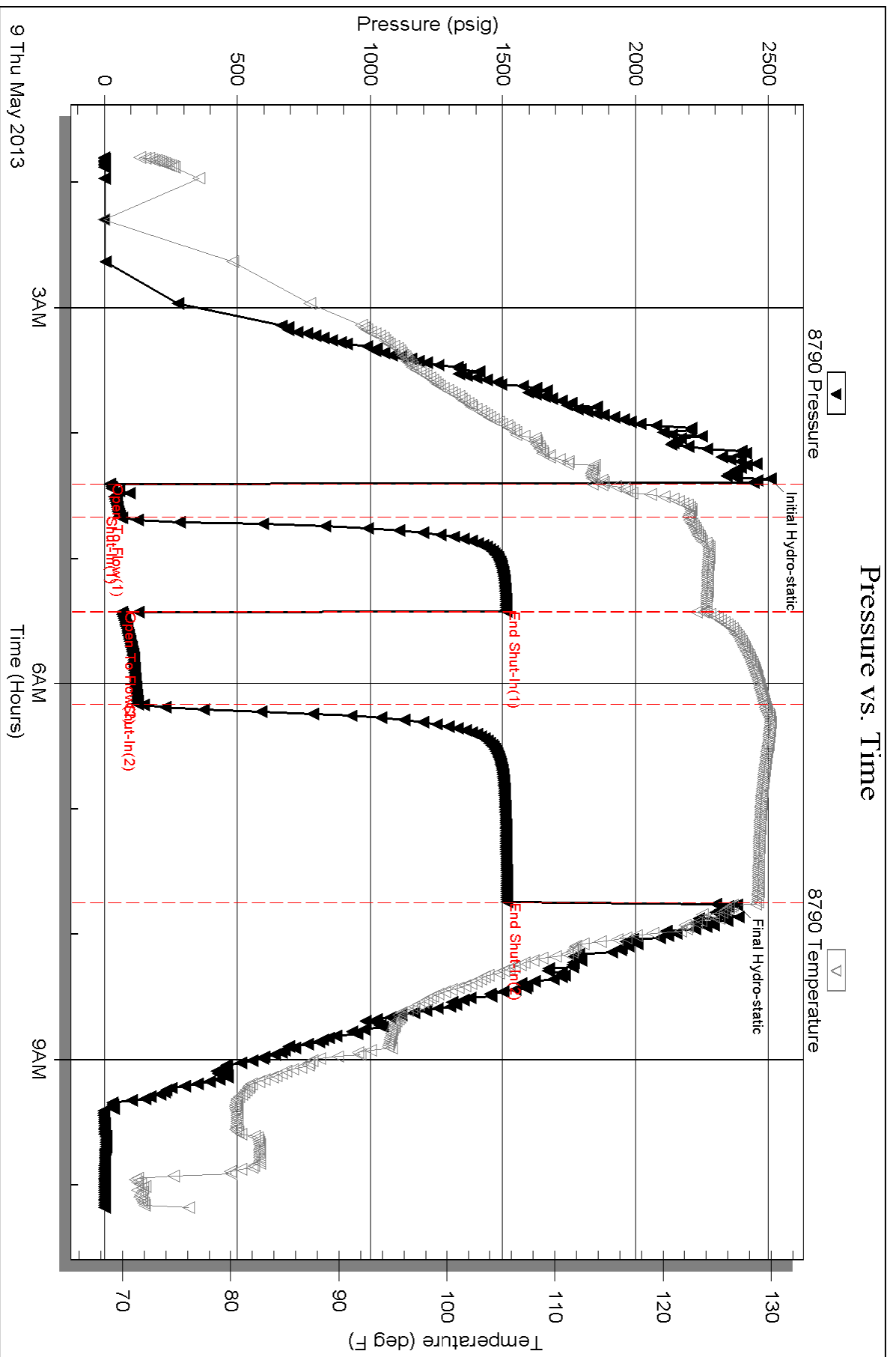
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
193.00	VSLI OCMW Trc%oil, 5%mud, 95%w tr	0.949
64.00	OCWM 5%oil, 45%w tr, 50%mud	0.734
0.00	63' GIP	0.000

Total Length: 257.00 ft      Total Volume: 1.683 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none  
Laboratory Name:      Laboratory Location:  
Recovery Comments:



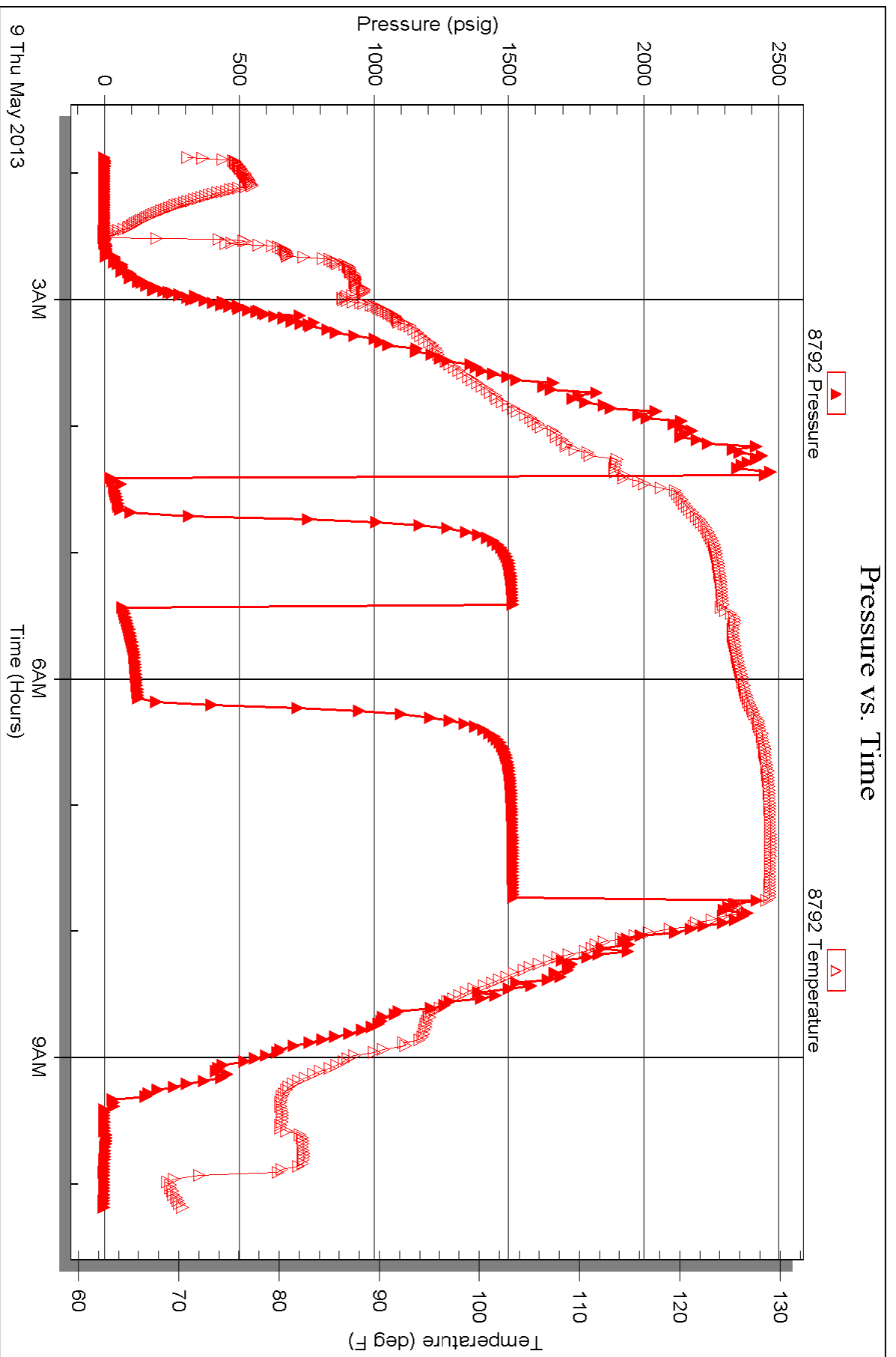


Serial #: 8792

Outside Herman L. Loeb, LLC.

Farmer #1-13

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 50488

Printed: 2013.05.15 @ 11:26:26



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50485

4/10

Well Name & No. Farmer #1-13 Test No. 1 Date 5-5-13  
 Company Herman L. Loeb, LLC Elevation 2246 KB 2235 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling #2  
 Location: Sec. 13 Twp. 27s. Rge. 19w. Co. Kiowa State KS

Interval Tested 4226-4242 Zone Tested Lansing "A"  
 Anchor Length 16 Drill Pipe Run 4016 Mud Wt. 9.3  
 Top Packer Depth 4221 Drill Collars Run 211 Vis 59  
 Bottom Packer Depth 4226 Wt. Pipe Run ∅ WL 8.0  
 Total Depth 4242 Chlorides 7000 ppm System LCM 1#  
 Blow Description IF: Weak blow. 1/4" - Surf. ISI: No blow

FF: Weak blow. 1/4" - 3/4"

FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>GIP</u>				
<u>10</u>	<u>SLI 0cm</u>		<u>1</u>		<u>99</u>
	<u>(Free oil in hyd. tool)</u>				

Rec Total 70 BHT 113 Gravity N/C API RW N/C @ N/C °F Chlorides 7000 ppm

(A) Initial Hydrostatic	<u>2283</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>0845</u>
(B) First Initial Flow	<u>15</u>	<input type="checkbox"/> Jars		T-Started	<u>0858</u>
(C) First Final Flow	<u>20</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>1111</u>
(D) Initial Shut-In	<u>893</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>1342</u>
(E) Second Initial Flow	<u>15</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>1554</u>
(F) Second Final Flow	<u>20</u>	<input checked="" type="checkbox"/> Mileage	<u>92</u> 142.60	Comments	
(G) Final Shut-In	<u>301</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2051</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	

Initial Open	<u>15</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>45</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>30</u>	<input checked="" type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>60</u>	<input checked="" type="checkbox"/> Day Standby	<u>2</u>	Total	<u>1467.60</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1467.60</u>		

Approved By [Signature] Our Representative Ryan Reynolds  
 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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50486

4/10

Well Name & No. Farmer 1-13 Test No. 2 Date 5-7-13  
 Company Herman L. Loeb, LLC. Elevation 2246 KB 2235 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling #2  
 Location: Sec. 13 Twp. 27s. Rge. 19w. Co. Kiowa State KS

Interval Tested 4767-4815 Zone Tested Cherokee SS / Miss.  
 Anchor Length 48' Drill Pipe Run 4557 Mud Wt. 9.4  
 Top Packer Depth 4762 Drill Collars Run 211 Vis 50  
 Bottom Packer Depth 4767 Wt. Pipe Run Ø WL 10.4  
 Total Depth 4815 Chlorides 4400 ppm System LCM 1#  
 Blow Description IF: Good blow. 1/2" - 9" IST: No blow

FF: Good blow. 3" - 10"  
FST: No blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>350</u>	<u>GTP</u>	<u>100</u>			
<u>10</u>	<u>Dry mud</u>			<u>100</u>	

Rec Total 360 BHT 122 Gravity N/L API RW N/L @ N/L °F Chlorides 4400 ppm

(A) Initial Hydrostatic 2403  Test 1250 T-On Location 1740  
 (B) First Initial Flow 21  Jars \_\_\_\_\_ T-Started 1758  
 (C) First Final Flow 22  Safety Joint 75 T-Open 2026  
 (D) Initial Shut-In 100  Circ Sub \_\_\_\_\_ T-Pulled 2339  
 (E) Second Initial Flow 13  Hourly Standby \_\_\_\_\_ T-Out 0151  
 (F) Second Final Flow 21  Mileage 92 142.60 Comments \_\_\_\_\_  
 (G) Final Shut-In 151  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2366  Straddle \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Sub Total 841.67  
 Total 2309.27  
 MP/DST Disc't \_\_\_\_\_  
 Sub Total 1467.60

Initial Open 15  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 90

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.







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50487

4/10

Well Name & No. Farmer 1-13 Test No. 3 Date 5-8-13  
 Company Herman L. Loeb, LLC. Elevation 2246 KB 2235 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling #2  
 Location: Sec. 13 Twp. 27s. Rge. 19w. Co. Kiowa State KS

Interval Tested 4815-4838 Zone Tested Miss. Chert  
 Anchor Length 23 Drill Pipe Run 4589 Mud Wt. 9.4  
 Top Packer Depth 4810 Drill Collars Run 211 Vis 50  
 Bottom Packer Depth 4815 Wt. Pipe Run X WL 10.4  
 Total Depth 4838 Chlorides 4400 ppm System LCM 1#

Blow Description IF: Strong blow. BOB @ 15 sec. No GTS  
ISI: GTS 1 min. into bleed off. No blow  
FF: Strong blow. BOB immed. Gauged gas throughout.  
FSTI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>SLI 0cm</u>	<u>Tr</u>		<u>99+</u>	
Rec	Feet of <u>(No Spd oil/mud in hgt tool)</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 121 Gravity N/C API RW N/C @ N/C °F Chlorides 4400 ppm  
 (A) Initial Hydrostatic 2461  Test 1250 T-On Location 0945  
 (B) First Initial Flow 22  Jars T-Started 1006  
 (C) First Final Flow 39  Safety Joint 75 T-Open 1223  
 (D) Initial Shut-In 1435  Circ Sub T-Pulled 1622  
 (E) Second Initial Flow 17  Hourly Standby T-Out 1836  
 (F) Second Final Flow 51  Mileage 92 142.60 Comments  
 (G) Final Shut-In 1392  Sampler  
 (H) Final Hydrostatic 2370  Straddle  Ruined Shale Packer  
 Shale Packer  Ruined Packer  
 Extra Packer  Extra Copies

Initial Open 15  Extra Recorder Sub Total 0  
 Initial Shut-In 45  Day Standby Total 1467.60  
 Final Flow 60  Accessibility MP/DST Disc't  
 Final Shut-In 120  Sub Total 1467.60

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 of 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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50488

4/10

Well Name & No. Farmer 1-13 Test No. 4 Date 5-9-13  
 Company Herman L. Loeb, LLC Elevation 2246 KB 2235 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling 2  
 Location: Sec. 13 Twp. 27s. Rge. 19w. Co. Kiowa State KS

Interval Tested 4838-4853 Zone Tested Miss. Chert  
 Anchor Length 15 Drill Pipe Run 4621 Mud Wt. 9.4+  
 Top Packer Depth 4833 Drill Collars Run 211 Vis 52  
 Bottom Packer Depth 48.38 Wt. Pipe Run Ø WL 9.6  
 Total Depth 4853 Chlorides 5400 ppm System LCM 2#  
 Blow Description IF: Fair blow, 1/4" - 5" ISI: No blow  
FF: Good blow, 1/4" - 9"  
FSI: Weak surf. blow.

Rec	Feet of	%gas	%oil	%water	%mud
<u>63</u>	<u>GIP</u>	<u>100</u>			
<u>64</u>	<u>OLWM</u>		<u>5</u>	<u>45</u>	<u>50</u>
<u>193</u>	<u>VSLI OLWM</u>		<u>Trc</u>	<u>95</u>	<u>5</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 320 BHT 129 Gravity N/C API RW 008 @ 74 °F Chlorides 92000 ppm

(A) Initial Hydrostatic 2507  Test 1250 T-On Location 0145  
 (B) First Initial Flow 21  Jars \_\_\_\_\_ T-Started 0148  
 (C) First Final Flow 59  Safety Joint 75 T-Open 0424  
 (D) Initial Shut-In 1515  Circ Sub \_\_\_\_\_ T-Pulled 0740  
 (E) Second Initial Flow 66  Hourly Standby \_\_\_\_\_ T-Out 1011  
 (F) Second Final Flow 126  Mileage 142.60 Comments \_\_\_\_\_  
 (G) Final Shut-In 1516  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2381  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 15  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1467.60  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 90 Sub Total 1467.60

Approved By [Signature] Our Representative Ryan Reynolds  
 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 of 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.

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

August 14, 2013

Jesse Middagh  
HERMAN L. LOEB, LLC  
PO BOX 838  
LAWRENCEVILLE, IL 62439

Re: ACO1  
API 15-097-21753-00-00  
FARMER 1-13  
SE/4 Sec.13-27S-19W  
Kiowa County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Jesse Middagh