



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1191377  
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
-----------------------------------	-----------------	---

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: \_\_\_\_\_

1191377

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	HERMAN L. LOEB, LLC
Well Name	SCHOOL TRUST 22-5
Doc ID	1191377

Tops

Name	Top	Datum
Elgin Sand	3690	-2213
Stalnaker Sand	4170	-2693
Kansas City	4366	-2889
Cherokee Sand	4780	-3303
Mississippi Chert	4830	-3353
Mississippi Lime	4862	-3385
Woodford Shale	5226	-3749
Misener Sand	5263	-3786
Viola	5284	-3807
Arbuckle	5574	-4097

Form	ACO1 - Well Completion
Operator	HERMAN L. LOEB, LLC
Well Name	SCHOOL TRUST 22-5
Doc ID	1191377

#### Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
2	30 foot interval	Shot	4830 - 4860
2	6 foot interval	Shot	4898 - 4904
		Acid; 2500g 15% MCA	4830 - 4904
		Frac; 5428bbl Slickwater	4830 - 4904
	CIBP		4920
2	10 foot interval	Shot	4924 - 4934
2	8 foot interval	Shot	4936 - 4944
2	6 foot interval	Shot	4952 - 4958
2	6 foot interval	Shot	4970 - 4976
2	6 foot interval	Shot	4980 - 4986
2	4 foot interval	Shot	4988 - 4992
		Acid; 3000g 15% MCA	4924 - 4992



# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: School Trust #22-5  
Location: 2261' FSL & 1650' FWL, Sec. 5-T35S-R12W, Barber Co., KS.  
Licence Number: 15-007-24127-00-00 Region: Hardtner Field  
Spud Date: 2/7/2014 Drilling Completed: 2/19/14  
Surface Coordinates: 2261' FSL & 1650' FWL, Sec. 5-T35S-R12W

Bottom Hole Same as above  
Coordinates:  
Ground Elevation (ft): 1468' K.B. Elevation (ft): 1477'  
Logged Interval (ft): 3600' To: 5580' Total Depth (ft): 5580'  
Formation: Simpson Formation at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3408'; Chemical Gel 3408' to 5580'  
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(Stalnaker Sand) 4174' - 4190'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Strong Blow BOB/1 Min, 10" Blowback on ISI, FFP Strong Blow BOB/30 Sec., no Gas to Surface, BOB Blowback in 15 Min. of FSIP; REC: 830' Gas in Pipe, 1400' GCSW(5%G, 95%W) CI 87,000, Mud 5000; IFP 104-362#, ISIP 1685#, FFP 385-692#, FSIP 1684#, IHP 2115#, FHP 1995#, BHT 121 Deg. F.

DST #2(Miss. Limestone) 4866' - 4921'(Corrected Depths to Log) Test Times 15"-45"-30"-60" IFP Weak Blow built to 2.5", FFP Weak 2" Blow, no Blowback on SI's; REC: 10' SGCM(2%G, 98%M), no oil, no Water; IFP 25-29#, ISIP 107#. FFP 25-30#, FSIP 51#, IHP 2471#, FHP 2429#, BHT 119 Deg. F.

DST #3(Miss. Limestone) 4924' - 4976'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair 9" Blow, FFP Fair 8" Blow, no Blowback on SI's; REC: 189' Gas in Pipe, 121' GOCM(5%G, 5%O, 90%M), 63' GOCMW(2%G, 2%O, 60%W, 36%M), 124' SGCMSW(2%G, 74%W, 24%M) CI 125,000, Mud 3500; IFP 55-129#, ISIP 1132#, FFP 138-168#, FSIP 1037#, IHP 2486#, FHP 2454#, BHT 125 Deg. F.

DST #4(Misener Sand) 5258' - 5272'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Fair 9.5" Blow, FFP Fair 5.5" Blow, no Blowback on SI's; REC: 178' Gas in Pipe, 40' HOCM(30%O, 70%M), no Water; IFP 18-28#, ISIP 294#, FFP 18-36#, FSIP 814# and Building, IHP 2733#, FHP 2627#, BHT 127 Deg. F.

## Comments

2/7/14 MIRU Sterling Drilling Rig #4 Spud at 5:00 PM; 2/8/14 TD. 270' - WOC; 2/9/14 Drilling at 1337'; 2/10/14 Drilling at 2180'; 2/11/14 Drilling at 2965'; 2/12/14 Drilling at 3815'; 2/13/14 TD. 4194' - TOH with DST #1; 2/14/14 Drilling at 4523'; 2/15/14 TD. 4925' - TOH for DST #2; 2/16/14 TD. 4980' - TIH for DST #3; 2/17/14 Drilling at 5175'; 2/18/14 TD. 5275' - TIH after DST #4; 2/19/14 Drilling at 5538' - Reached TD. of 5580' at 12:05 PM., LTD. 5578'(Halliburton); 2/20/14 RTD. 5580' - LDDP to set 5 1/2" Production Casing - PD. 5:45 PM.

Set new 13 3/8"(55#) Surface Casing at 266' with 300 sacks of cement(Allied Cementing Co.). Cement did Circulate. PD. at 6:45 AM. 2/8/14.

Set new 5 1/2"(15.5#) Production Casing at 5575' with 350 sacks of "Loeb Blend" Cement(Basic Energy Services). PD. 5:45 PM. 2/20/14.

Surveys: 0.50 Deg. at 270'(Surface Casing); 0.50 Deg. at 1370'(Plugged Bit trip); 0.25 Deg. at 2450'(Bit Trip); 0.50 Deg. at 3504'; 0.75 Deg. at 4194'(DST #1); 2.50 Deg. at 4925'(DST #2); 3.0 Deg. at 4980'(DST #3); 0.50 Deg. at 5275'(DST #4); 0.75 Deg. at 5580'(RTD).


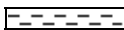

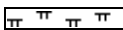

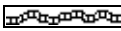




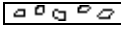


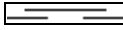

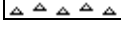



Pipe Strap at 4194'(DST #1): Strap 0.59' Short to the Board, no correction made to the Board.

After review of the Halliburton Logs, DST data, and positive shows of commercial amounts of recoverable hydrocarbons, the operator elected to set new 5 1/2" Production Casing for completion in the Mississippian section.








































































LOG TOPS: Elgin Sand 3690(-2213), Heebner Shale 3841(-2364), Toronto 3860(-2383), Iatan Lmst. 4099(-2622), Stalnaker Sand 4170(-2693), Kansas City 4366(-2889), Stark Shale 4542(-3065), Hertha 4578(-3101), Base Kansas City 4618(-3141), Marmaton 4636(-3159), Cherokee Shale 4752(-3275), Cherokee Sand 4780(-3303), Miss. Chert 4830(-3353), Miss. Lmst. 4862(-3385), Kinderhook Shale 5160(-3683), Woodford 5226(-3749), Misener Sand 5263(-3786), Viola 5284(-3807), Simpson Shale 5387(-3910), Wilcox Sand 5408(-3931), McLish Sand 5533(-4056), Arbuckle 5574(-4097).

NOTE: This log was shifted upward by 3' to 4' for correlation purposes with the Halliburton Logs.

### ROCK TYPES

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

### ACCESSORIES

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

OTHER SYMBOLS

- POROSITY**
- E Earthy
  - F Fenest
  - X Fracture
  - Inter
  - Moldic
  - Organic
  - Pinpoint

- V Vuggy
- SORTING**
- W Well
  - M Moderate
  - P Poor

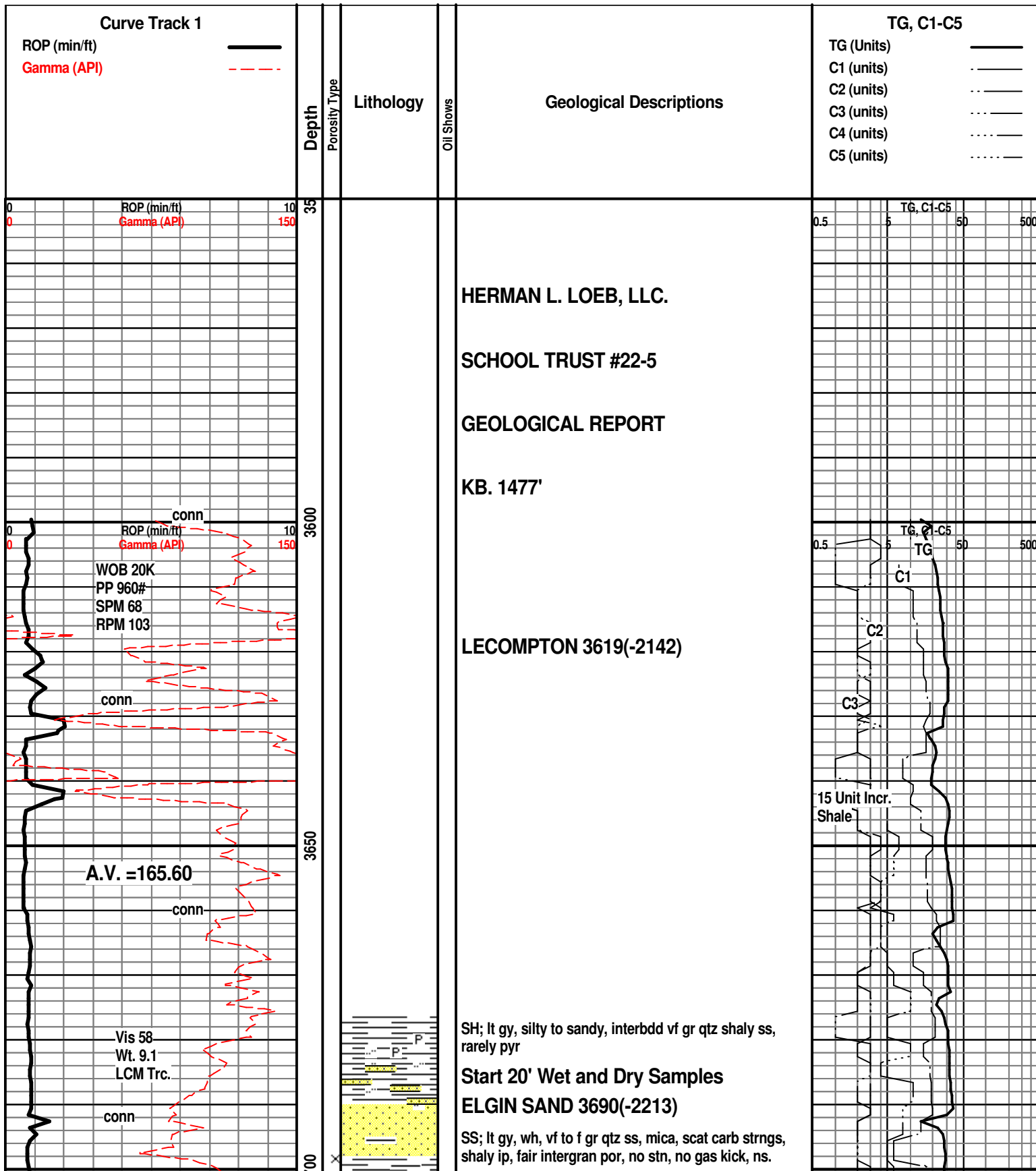
- ROUNDING**
- R Rounded
  - Subrnd
  - Subang
  - Angular

- Spotted
- Ques
- Dead

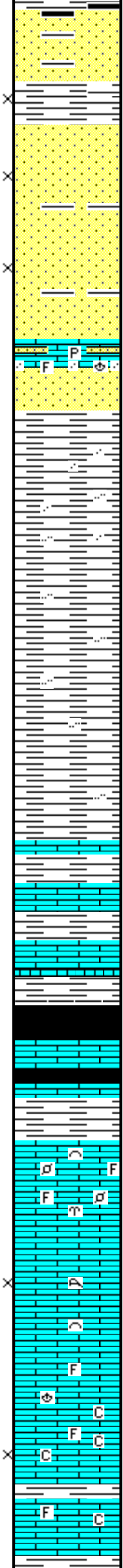
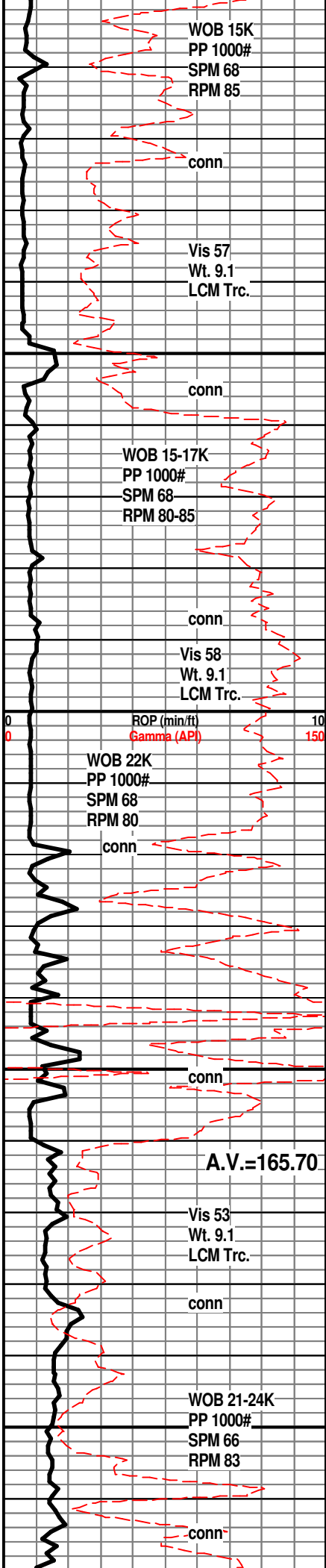
- EVENT**
- Rft
  - Sidewall

- INTERVAL**
- Core
  - Dst

- OIL SHOW**
- Even







SS; lt gy, pred f gr qtz, mica ip, fair to occ gd intergran por, argil ip - some very sticky, no stn, no fluor, ns.

SS; lt gy, clr, wh, f to med gr, clusters, mica ip, fairly clean, fair to gd intergran por, no stn or odor, no fluor, no gas kick

LM; lt brn, hd, foss ip, sandy, occ pyr, tite

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

SH; lt to med gy, platy, smooth, rarely silty

LM; med brn, dense, micritic, hd

SH; dk gy, platy, smooth

**HEEBNER SHALE 3841(-2364)**

SH; blk, carb ip, trc gas, blocky

LM; med brn, hd, micritic, dense

LM; tan - lt gy, dense, blocky

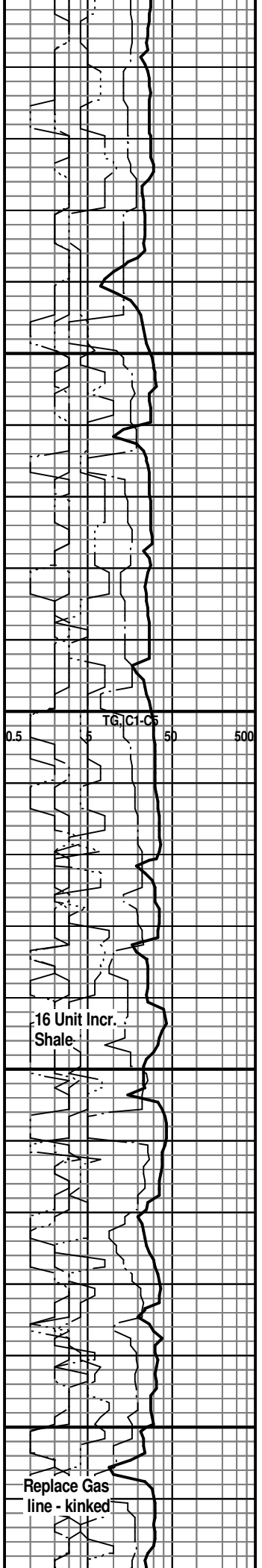
**TORONTO 3860(-2383)**

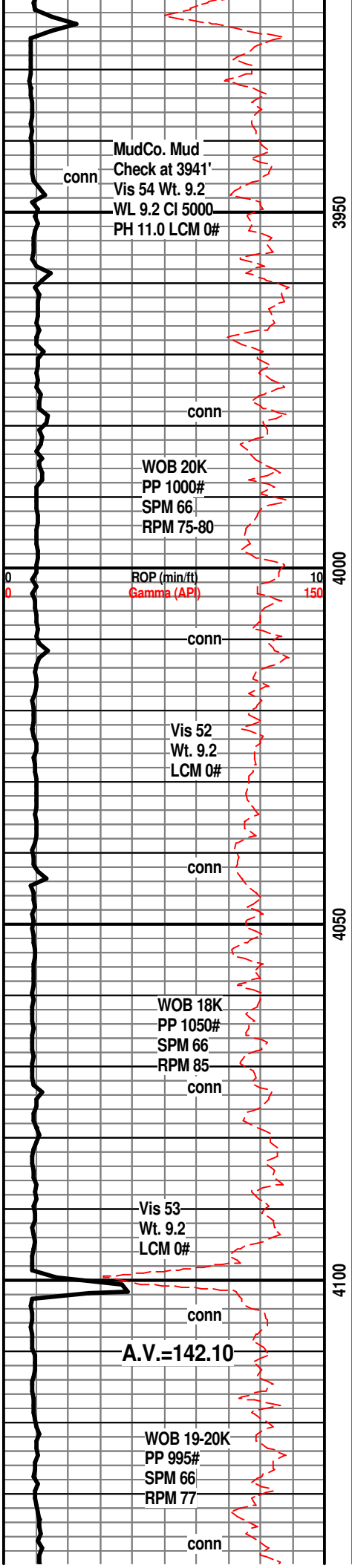
LM; off wh, buff, tan, foss ip w/scat pellets and foss hash, lt yel min fluor, poor to no vis interpart por, no stn or odor, ns.

LM; off wh, tan - buff, fxl n w/scat foss mat, trc poor interxln/interpart por, dull to lt yel min fluor, no stn or odor, no gas kick

LM; wh, off wh, tan, foss ip w/poor vis interpart por, occ med spar calc xtals, interbdd soft chalk and chalky lmst, dull to occ lt yel min fluor, no stn or odor, ns.

LM; lt brn, dense, micritic





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

SH; It to med gy, platy, interbdd sandy sh w/occ vf gr ss strngs.

SH; It to med gy, silty w/interbdd sltst, pyr ip, platy

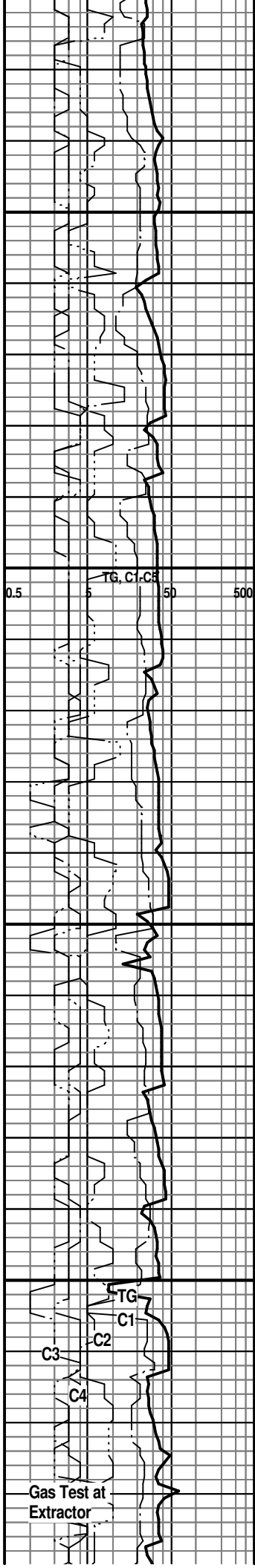
SH; It to med gy, silty w/interbdd sltst, firm

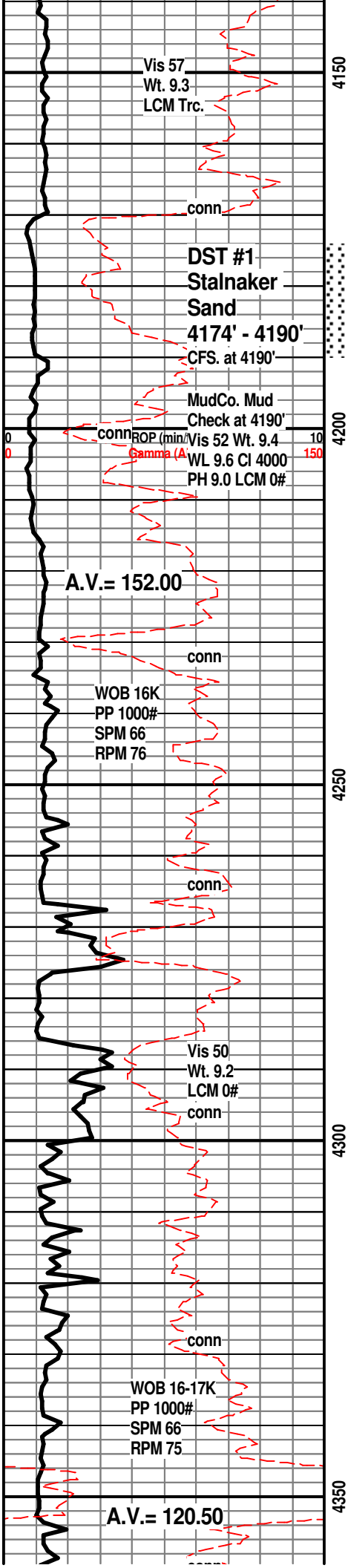
IATAN 4099(-2622)  
LM; med brn, hd, trc pyr, rare well cem foss.

NOTE: PULL 30 STAND WIPER TRIP  
AT 4109'

SH; It gy, silty to sandy, occ mica

SH; It gy, sandy w/occ strngs/interbdd vf gr qtz ss, tite





SH; lt gy, silty to sandy, mica ip, platy, interbdd tite vf gr qtz ss strngs

**STALNAKER SAND 4170(-2693)**  
 SS; lt gy, clr, pred f gr qtz, clusters, fair to gd intergran por, subrnd/subang gr, calc cmt, occ salt & pepper gr, scat dull yel/pale blue fluor, gas bubbles, v. faint gas odor, no stn, no cut

**DST #1: Stalnakar Sand 4174' - 4190' Corrected Depths to Log**  
 SS; lt gy, f gr qtz, clusters, fair to gd intergran por, subang gr, interbdd argil ss, no fluor, no stn or odor, ns.

SH; lt gy, sandy w/interbdd shaly ss

SS; lt gy, off wh, f to rarely med gr qtz, clusters, some gd intergran por, barren, no stn or odor, no gas kick

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

LM; lt gy, gy brn, sandy, pyr ip, hd

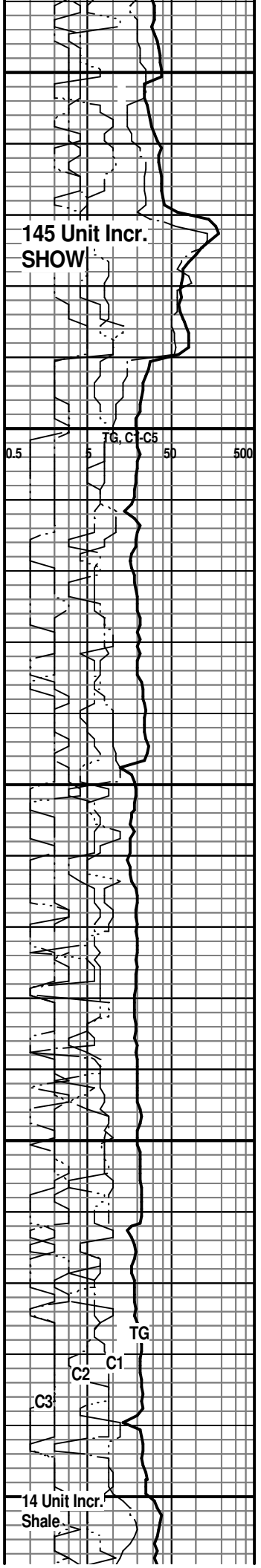
SH; lt to med gy, firm, platy

LM; med to occ dk brn, scat well cem foss mat, hd, dull yel min fluor, no vis por, ns.

SH; med gy, platy, interbdd med to dk brn lmy strngs, foss ip.

SH; med to dk gy, lmy ip, firm

SH; blk, carb, trc coaly frags, pyr ip.



### KANSAS CITY 4366(-2889)

LM; tan to off wh, buff, fxln w/occ foss mat, poor interxln por, dull yel min fluor, no stn or odor, no sample shows

LM; off wh, tan, foss ip, fair interpart por, minor chalky mtx, poor to fair interpart por, dull yel min fluor, no stn or odor, ns.

SH; med gy grn, platy

LM; lt brn, lt gy brn, most micritic, blocky, scat wh to off wh foss cht, no vis por, ns.

LM; off wh, buff, fxln, fair interxln por, minor soft chalky mtx, lt yel min fluor, no stn or odor, no gas kick

LM; tan to lt brn, f to med xln, scat well cem foss mat, fair interxln/interpart por, scat lt yel min fluor, no stn or odor, ns.

SH; med gy, gy grn, fiss

LM; off wh, buff, tan, fxln w/scat chalk and chalky mtx, trc poor interxln por, interbdd gy foss cht, lt yel min fluor, no stn, ns.

LM; lt to med brn, oolitic, med size molds, gd oomoldic por, brittle, some rextalized, lt yel min fluor, no vis stn, no odor, no gas kick

LM; lt brn, tan, fxln w/scat foss mat, well cem, occ gy/off wh cht, no fluor, no stn or odor, ns.

### STARK SHALE 4542(-3065)

SH; v. dk gy - blk, carb ip, trc gas

LM; tan to lt brn, buff, foss w/trc poor interpart por, most tite, trc blk dead tar/gilsonite on few pcs, no live shows, no odor, scat dull yel min fluor, no apparent gas kick

SH; blk, carb ip, blocky to soft, pyr ip.

DEPTH 4579(-2101)

22 Unit Incr.

T6, C1, C5  
0.5 5 50 500

TG

C1

C2

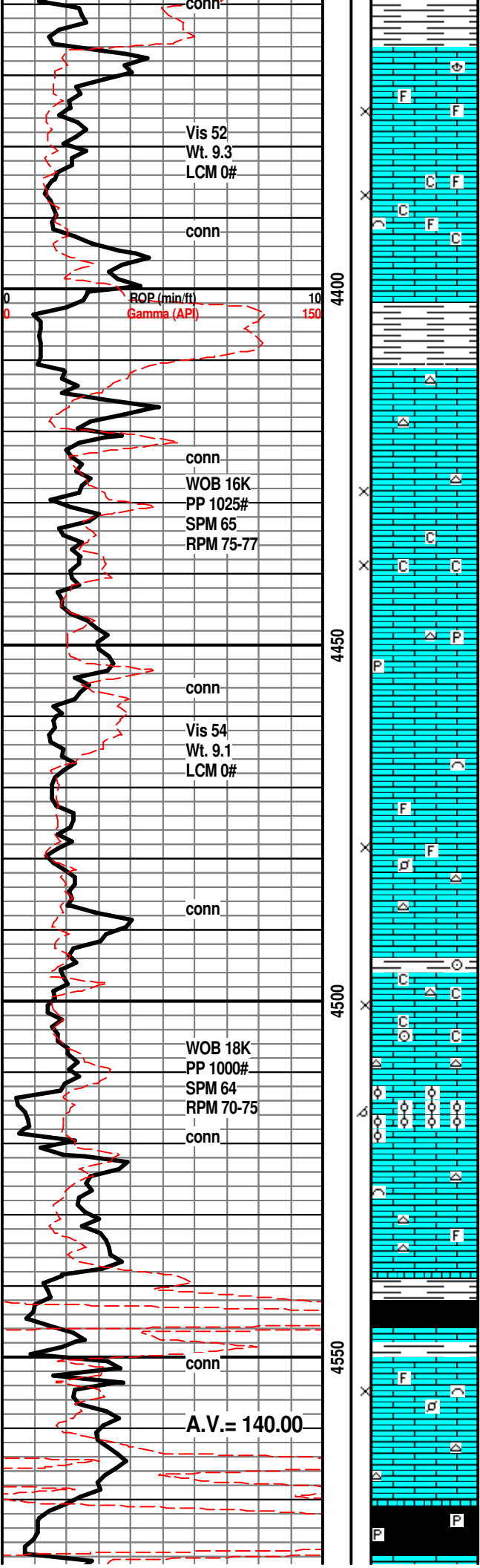
C3

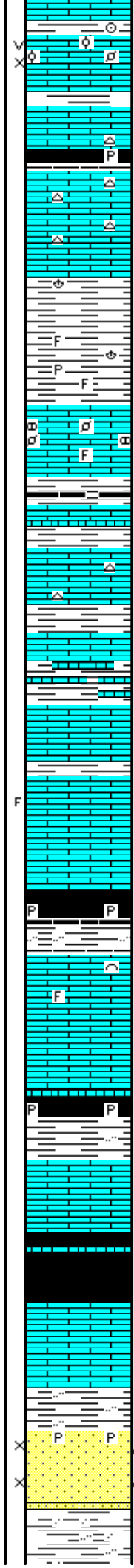
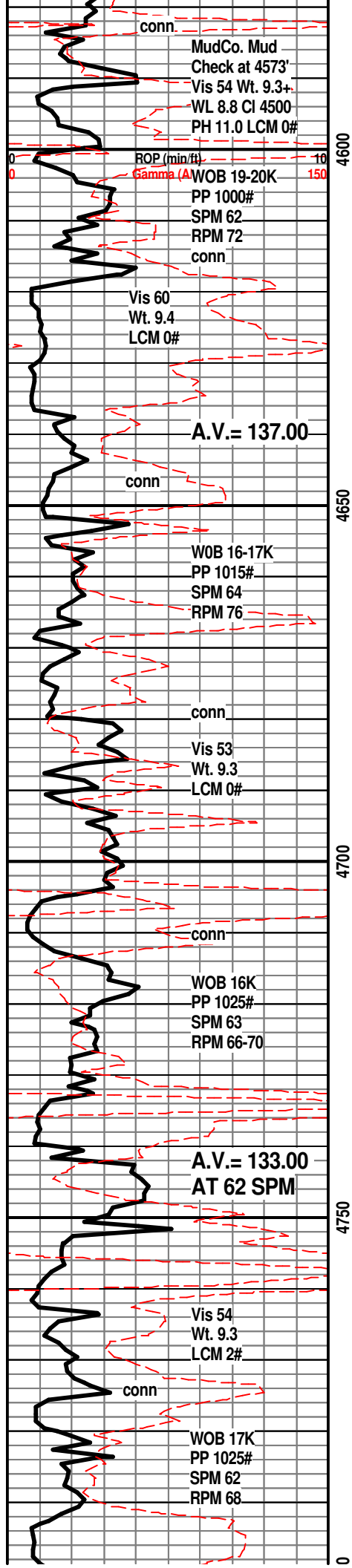
C4

40 Unit Incr. Shale

Recycle Shale

45 Unit Incr. Shale





**HERTHA 4578(-3101)**  
LM; lt brn, foss ip w/scat well cem ooids/oolitic ip, trc poor interpart/vug por, no vis stn, no odor, ns.  
SH; grn, rust red, brn, varic ip.  
SH; blk, platy, pyr ip.  
LM; med to dk brn, blocky, hd, scat gy to off wh cht, no vis por, no fluor, ns.

**BASE KANSAS CITY 4618(-3141)**  
SH; dk gy, gy grn, grn, platy, occ foss, minor pyr

**MARMATON 4636(-3159)**  
LM; med brn, hd, some nodular - rnd, foss ip, most dense, no fluor, ns.  
SH; dk gy, some blk, platy  
LM; med brn, hd, most micritic, blocky, rare lt brn/tan cht, no vis por, no fluor, ns.  
LM; grn, lt brn, argil w/interbdd grn platy sh  
LM; lt to med gy, gy grn, dense, micritic, tite  
LM; tan to cream, lt brn, fxln w/trc frags, scat med yel fluor, no odor, no vis oil stn, no apparent gas kick

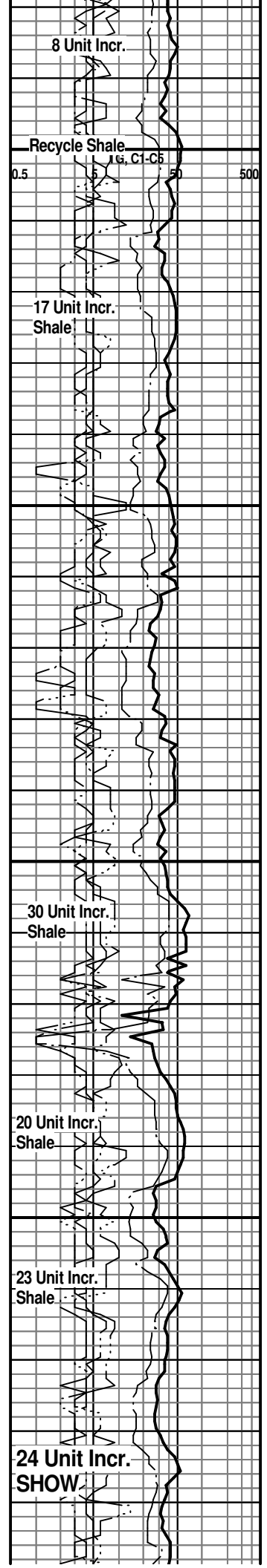
SH; blk, carb ip, platy, pyr ip, trc gas, also grn/gy grn silty sh

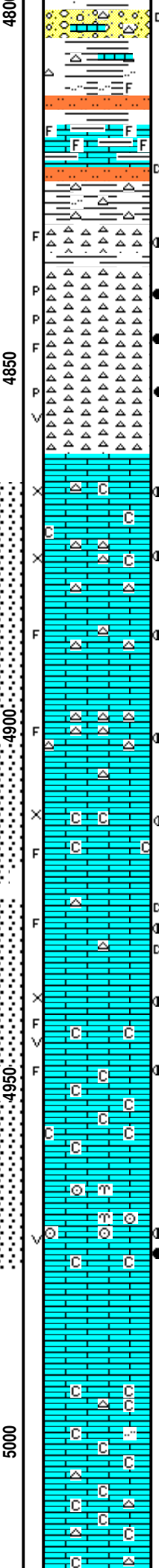
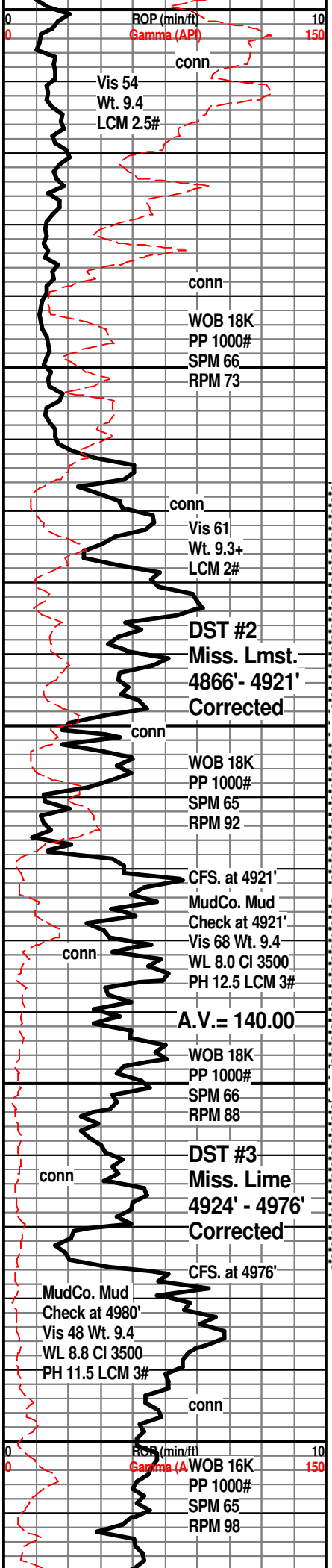
**PAWNEE 4713(-3236)**  
LM; lt to med brn, hd, rare well cem foss mat, most dense, no vis por, dull yel min fluor, no stn or odor, ns.  
LM; tan to lt brn, most dense - micritic, hd, no vis por, no fluor, ns.  
SH; blk, carb ip, blocky, scat pyr

LM; med brn, rare foss, hd, blocky, no vis por, rare dull yel min fluor, ns.

**CHEROKEE SHALE 4752(-3275)**  
SH; blk, blocky, carb ip.  
LM; med to occ dk brn, hd, blocky, interbdd grn to gy grn silty shale, no vis por, no stn or odor, ns.

**CHEROKEE SAND 4780(-3303)**  
SS; lt brn(Oil Stain) to wh, vf gr qtz, pyr fri, clusters, fair/gd intergran por, spotted to occ even dk brn oil stn-some live stn, lt yel fluor, faint odor/cut, no vis gas, well srt "sugar" sand  
SH; grn, gy, maroon, varic ip, occ silty to sandy





SH; varic ip, scat weath lmst and cht, trc hvy blk tarry dead oil, faint odor

SLTST; grn, platy, firm, with abnt sea grn soft sh, some grn highly foss argil lmst, interbdd weathered cht w/scat blk tar/gilsonite

**MISSISSIPPI CHERT 4830(-3353)**  
 CHT; wh, off wh, most fresh, fracs w/blk oil in frac faces, fair p-p por w/pcs bleeding blk oil drops, gas bubbles, golden yel fluor, faint odor

CHT; wh, dk brn/blk(Oil stn), fresh and trip, trip w/fair p-p por bleeding oil/gas, fracs vis in fresh cht, gd odor, dull golden yel fluor, SFO

CHT; wh, brn/blk(Oil stn), fair p-p w/scat vug por, SFO, gd odor, few gas bubbles, dull golden yel fluor, exc. cut

**MISSISSIPPI LMST. 4862(-3385)**  
 LM; tan to off wh, buff, f to med xln, fair interxln por, minor chalky mtx, spotted med brn oil stn, faint odor, med yel fluor, fair cut, scat cht w/live stn(some maybe from above)

LM; tan to off wh, wh, micritic ip, blocky, scat fresh wh cht, looks tite

LM; wh, off wh, cherty ip w/spotted dk brn/blk oil stn, fracs vis, med to brite yel fluor, gd cut/ SSFO

LM; wh, off wh, cherty ip, interbdd soft chalky mtx, scat blk dead oil on chert faces - some fracs, no odor, med yel fluor

LM; wh, cse xln, chalky ip, spotted live oil stn, v. faint odor, scat gd interxln por, occ cht w/fracs and blk oil stn, some barren por, med yel flour, trc gas bubbles(MUCH SHALE SLOUGH)

**DST #2: Miss. Limestone 4866' - 4921'(Corrected Depths to Log)**  
 LM; lt gy, off wh, med to cse xln, fracs w/live med brn stn in fracs, sev. gas bubbles, med/brite yel fluor, gd cut, faint odor, scat pcs w/blk dead tar/gils

LM; tan, lt gy, off wh, med xln to gran text, fair interxln por, SFO(hvy oil), faint odor, interbdd wh soft chalky lmst w/ns, fracs w/sev. lrg calc xtals w/scat oil stn

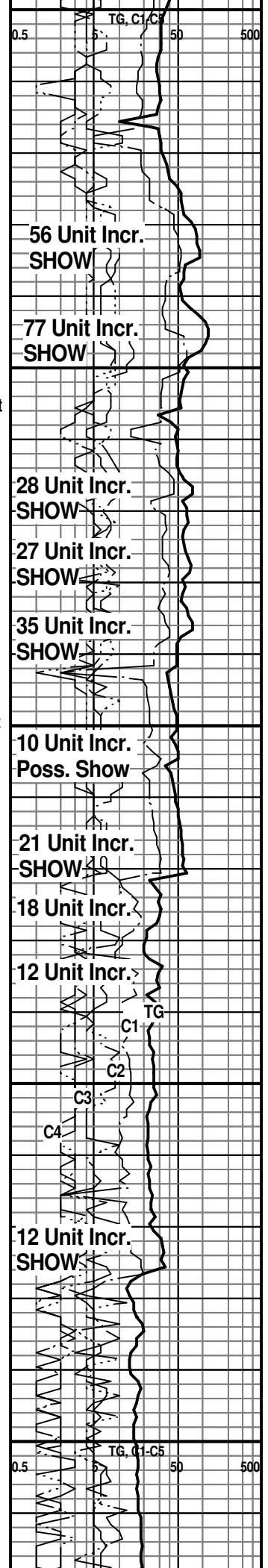
LM; off wh, wh, buff, fxln w/abnt soft chalk and chalky mtx, lt yel fluor, no vis stn, no odor

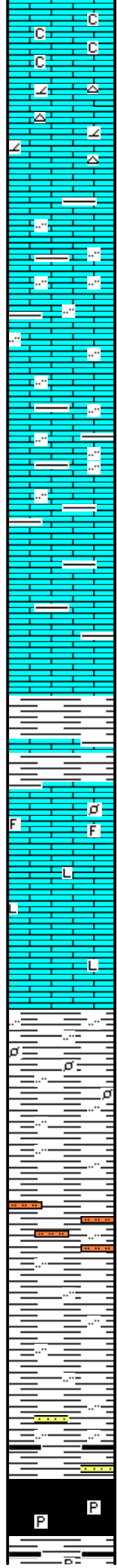
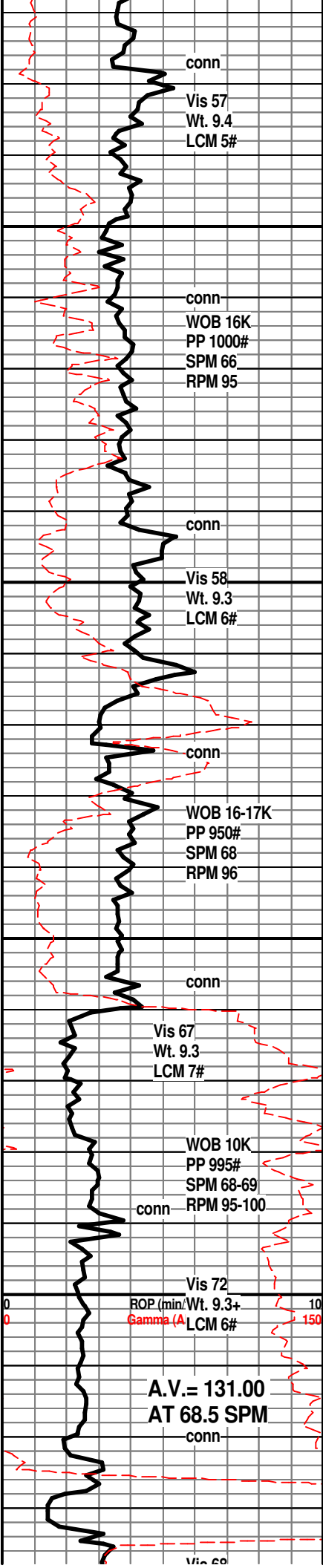
LM; off wh, lt gy, foss w/cse foss(crin & bryozoa) frags w/spotted to even dk brn oil stn w/SFO, abnt cse calc xtals, scat gd vug por

**DST #3: Miss. Limestone 4924' - 4976'(Corrected Depths to Log)**

SAMPLES MOSTLY SHALE SLOUGH AFTER DST

LM; wh, off wh, rare red/brn, fxln w/much chalk and chalky mtx, cherty ip w/fresh wh to transl cht, lt yel min fluor, no vis stn, no odor, ns.





LM; off wh, lt gy, fxl n w/some sucrosic text, interbdd dolomitic lmst, no vis por, minor chalky mtx, scat wh cht, no stn or odor, ns.

LM; grn, gy grn, gritty text, argil ip.

LM; med gy grn, argil, gritty, occ off wh chalky, interbdd shaly lmst, no vis por, no fluor, ns.

LM; lt to med brn, gy brn, blocky, hd, argil ip.

SH; grn, gy grn, platy

LM; lt to med brn, occ gy brn, fxl n w/rare foss mat, blocky, argil ip, no vis por, no fluor, ns.

LM; tan to lt brn, micritic, litho ip, hd, no vis por, no fluor, ns.

**KINDERHOOK SHALE 5160(-3683)**

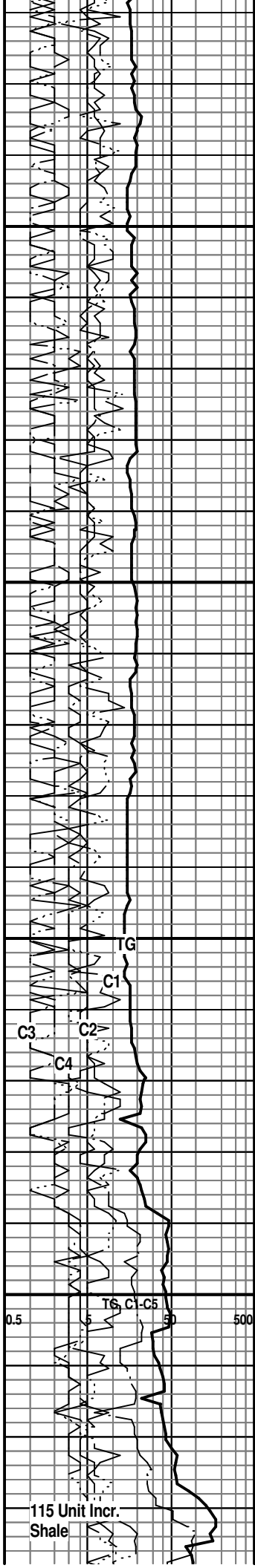
SH; med gy grn, trc maroon/red, grn, silty ip, firm, rare foss pellets

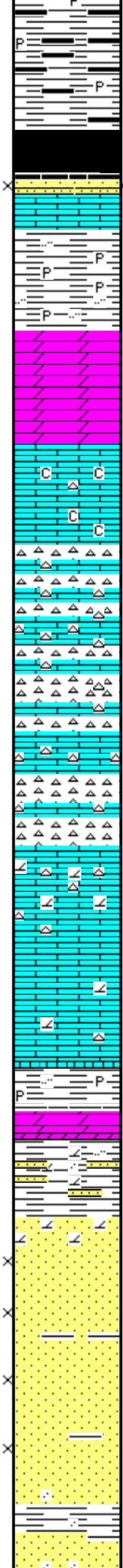
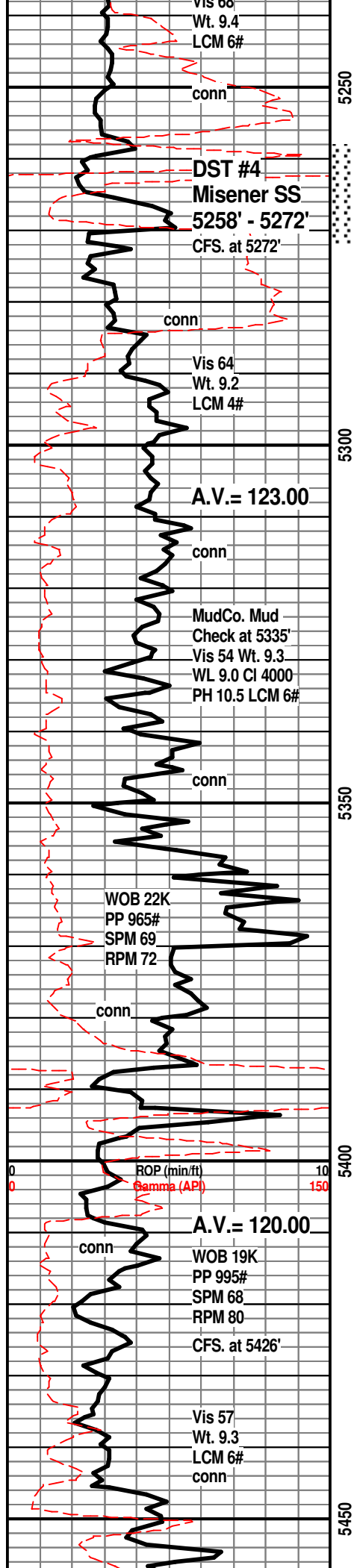
SH; med to dk gy, gy brn, silty, firm

SH; med gy brn, med brn, silty ip, platy, trc of vf gr qtz ss

**WOODFORD SHALE 5226(-3749)**

SH; blk, v. dk brn, gassy ip, occ pyr, soft, fair hydrocarbon odor





SH; dk brn - blk, carb, abnt yel "flecks" of fluor, hydrocarbon odor, occ pyr

SH; blk, v. dk brn, carb, odor

**MISENER SAND 5263(-3786)**  
 SS; clr, med gr qtz, subrnd-rnd gr, clusters and loose gr, fair/gd intergran por, faint odor, even lt brn oil stn w/SFO(light oil), med yel fluor, gd cut, gas bubb., lmy hd pyr tite ss, dk gy clay incl.

**DST #4: Misener Sand 5258' - 5272'**  
**Corrected Depths to Log**  
**VIOLA 5284(-3807)**

DOL; lt to med brn, rare gy brn, gritty to partly sucrosic text - partly sucrosic, hd, no vis por, no fluor, ns.

LM; off wh, tan, buff, med xln, interbdd soft chalky mtx, most dense, scat dove gy to tan cht, no fluor, no stn or odor, ns.

LM; tan to lt brn, blocky, most micritic, v. cherty ip w/ dove gy, gy & lt brn fresh cht, no vis por, scat cse spar calc xtals, no fluor, ns.

CHT & CHTY LM; med brn, gy brn, much fresh hd cht and cherty tite lmst, no vis por, no fluor, ns.

LM; med brn, gritty text, partly dolomitic, abnt med brn fresh cht, hd, no vis por, no fluor, ns.

LM; tan to lt brn, rarely cherty, some gritty text, hd, no vis por, ns.

**SIMPSON SHALE 5387(-3910)**

SH; med grn, flakey, pyr ip.

DOL; lt gy brn, cse rhombic ip, some lmy, tite, no vis por, no fluor, ns.

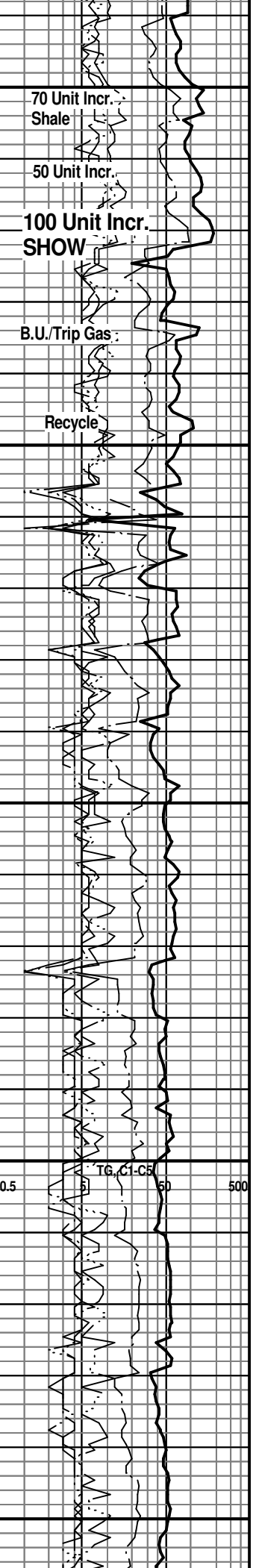
SH; med grn, platy, some pyr, sandy w/some dolomitic tite ss

**SIMPSON "WILCOX" SS 5408(-3931)**

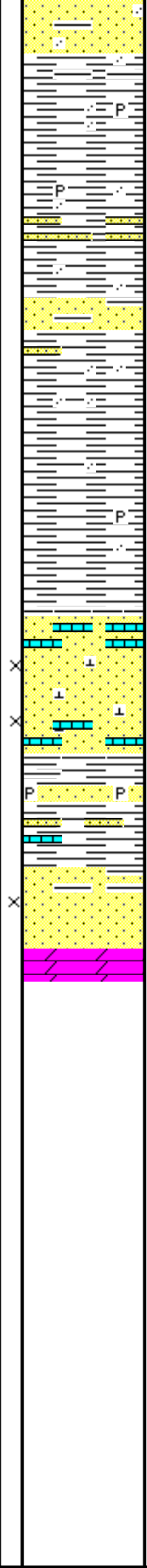
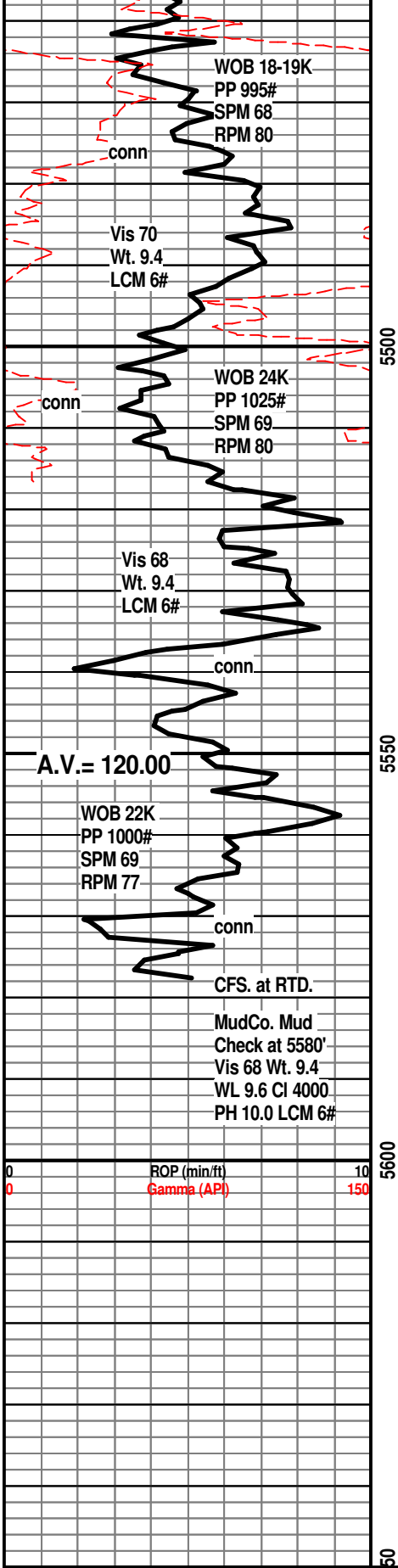
SS; lt gy, clr, f to med gr, qtz, clusters, dolomitic at top, some v. tite, bcm pred. med gr, rnd to subrnd gr, fri, fair to gd intergran por, no fluor, no stn or odor, no gas kick, barren, ns.

SS; lt gy - clr, f to med gr qtz, most rnd gr, fair srt, clusters, fri w/mostly gd intergran por, minor argil, no fluor, no stn or odor, ns.

SS; lt gy, vf to f gr, poorly srt, some argil, occ "salt and







pepper sand, no stn, ns.

SH; grn, gy grn, med gy, platy to flakey, rare pyr, sandy ip w/interbdd hd pyr ss

SS; lt gy, tan, most f gr qtz, argil w/shaly ss and sandy sh, dirty, no fluor, no stn, ns.

SH; med grn to sea grn, platy to flakey, occ waxy luster, scat sandy sh

**SIMPSON "MCLISH" SS 5533(-4056)**  
SS; lt gy, tan, f to occ med gr, poorly srt, most clustered sand, some clr subrnd - rnd gr, calc cmt, lmy at top, fair intergran por, no fluor, no stn or odor, interbdd argil ss, ns.

SH; grn, gy grn, interbdd clr med gr qtz ss, some v. hd lmy, pyr ip, interbdd grn sandy sh

SS; clr to tan, lt gy, med gr, some calc cmt, clusters and loose gr, fair to gd intergran por, rarely argil, no fluor, no stn or odor, ns.

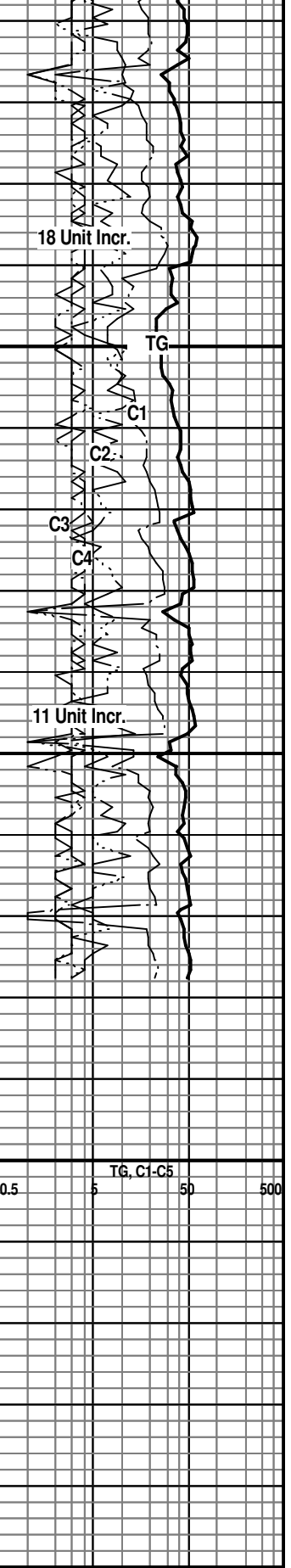
**ARBUCKLE 5574(-4097)**  
DOL; tan to lt brn, sucrosic to fine rhombic, uniform med yel fluor, no vis por, no stn, ns.

RTD. 5580' at 12:05 PM. 2/19/14

LTD. 5578'

Halliburton "Quad Stack" ACRT, NEU/DEN, Microlog, Sonic, and XRMI(Imaging Log)

NOTE: This log was shifted upward by 3' to 4' for correlation purposes with the Halliburton LOGS.





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
 Job Ticket: 51875 **DST#: 1**  
 Test Start: 2014.02.12 @ 23:56:25

## GENERAL INFORMATION:

Formation: **Stalnaker SS**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 02:38:10  
 Time Test Ended: 08:07:10  
 Interval: **4178.00 ft (KB) To 4194.00 ft (KB) (TVD)**  
 Total Depth: 4194.00 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: 1477.00 ft (KB)  
 1468.00 ft (CF)  
 KB to GR/CF: 9.00 ft

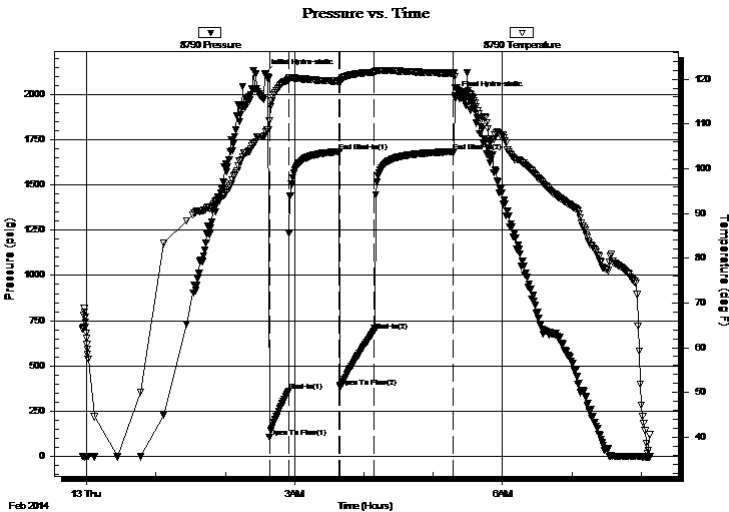
## Serial #: 8790

Inside

Press@RunDepth: 691.72 psig @ 4179.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.12 End Date: 2014.02.13 Last Calib.: 2014.02.13  
 Start Time: 23:56:30 End Time: 08:07:09 Time On Btm: 2014.02.13 @ 02:34:10  
 Time Off Btm: 2014.02.13 @ 05:18:40

TEST COMMENT: IF: Strong blow . BOB @ 1min. No GTS.  
 IS: Good blow . 1/2" - 10"  
 FF: Strong blow . BOB @ 30sec. No GTS.  
 FS: Strong blow . BOB @ 15min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2114.85	107.32	Initial Hydro-static
4	103.75	110.78	Open To Flow (1)
21	361.93	119.88	Shut-In(1)
65	1684.78	119.57	End Shut-In(1)
66	385.17	119.25	Open To Flow (2)
95	691.72	121.56	Shut-In(2)
164	1684.04	121.33	End Shut-In(2)
165	1995.47	120.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1400.00	GCW 5%gas, 95%w tr	17.65
0.00	830' GIP	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (m <sup>3</sup> /d)



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
Job Ticket: 51875      **DST#: 1**  
Test Start: 2014.02.12 @ 23:56:25

## 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:	87000 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.19 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.02 inches			

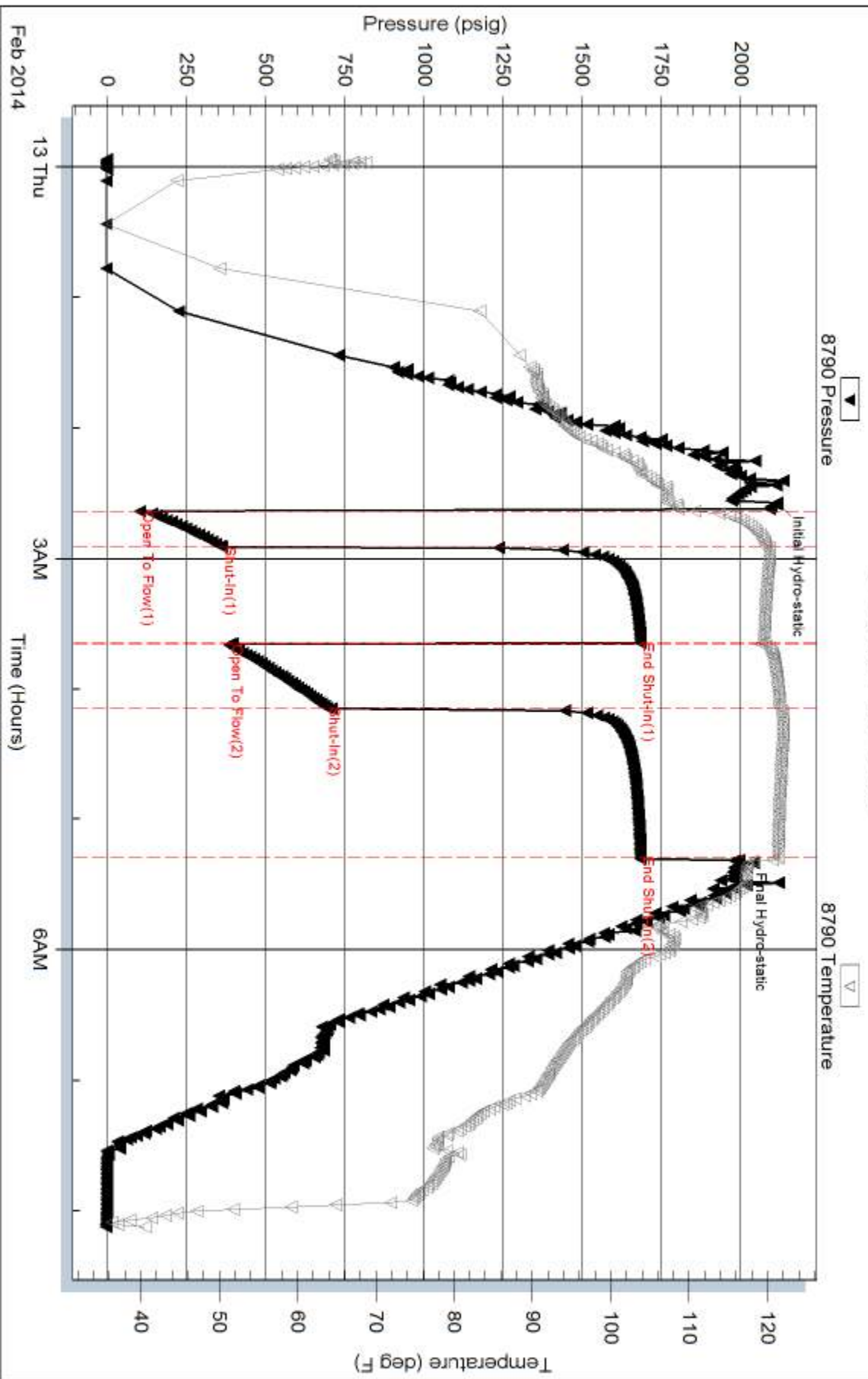
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1400.00	GCW 5%gas, 95%w tr	17.652
0.00	830' GIP	0.000

Total Length: 1400.00 ft      Total Volume: 17.652 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #: none  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
 Job Ticket: 51956 **DST#: 2**  
 Test Start: 2014.02.15 @ 08:18:03

## GENERAL INFORMATION:

Formation: **Mississippi Lime**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 10:37:03  
 Time Test Ended: 15:37:18  
 Interval: **4870.00 ft (KB) To 4925.00 ft (KB) (TVD)**  
 Total Depth: 4925.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 1477.00 ft (KB)  
 1468.00 ft (CF)  
 KB to GR/CF: 9.00 ft

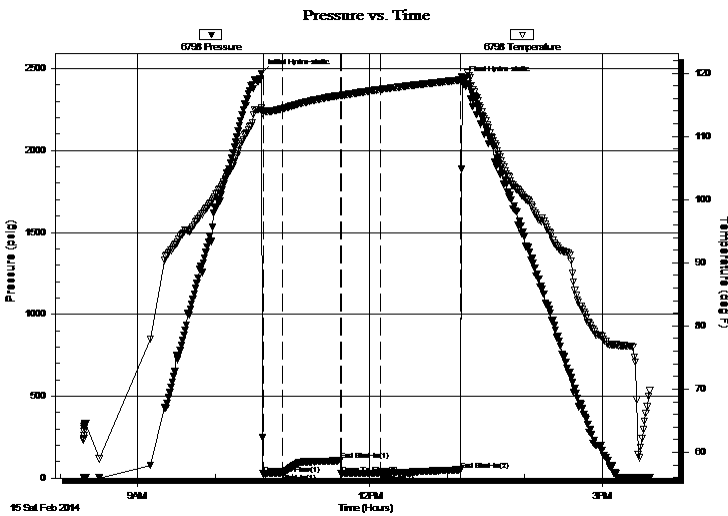
## Serial #: 6798

Inside

Press @ Run Depth: 30.06 psig @ 4871.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.15 End Date: 2014.02.15 Last Calib.: 2014.02.15  
 Start Time: 08:18:04 End Time: 15:37:18 Time On Btm: 2014.02.15 @ 10:35:48  
 Time Off Btm: 2014.02.15 @ 13:11:18

TEST COMMENT: IF: Weak Blow, Built to 2 1/2 inches  
 IS: No Blow Back  
 FF: Weak 2 inch Blow  
 IS: No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2471.15	114.46	Initial Hydro-static
2	25.01	114.12	Open To Flow (1)
17	28.70	114.37	Shut-In(1)
61	107.06	116.47	End Shut-In(1)
62	25.29	116.46	Open To Flow (2)
93	30.06	117.43	Shut-In(2)
155	50.87	118.91	End Shut-In(2)
156	2428.95	119.34	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	SGCM 2%G 98%M	0.05

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (m <sup>3</sup> /d)



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
 Job Ticket: 51956 **DST#: 2**  
 Test Start: 2014.02.15 @ 08:18:03

## GENERAL INFORMATION:

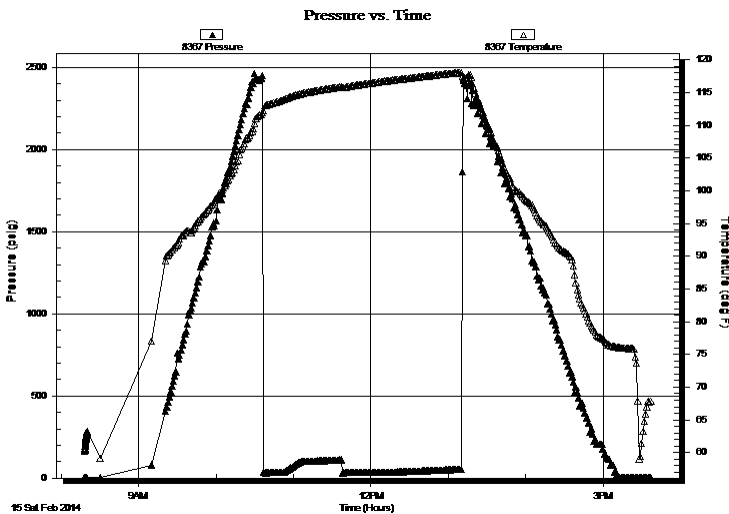
Formation: **Mississippi Lime**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 10:37:03  
 Time Test Ended: 15:37:18  
**Interval: 4870.00 ft (KB) To 4925.00 ft (KB) (TVD)**  
 Total Depth: 4925.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 1477.00 ft (KB)  
 1468.00 ft (CF)  
 KB to GR/CF: 9.00 ft

## Serial #: 8367

**Outside**

Press @ Run Depth: psig @ 4871.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.15 End Date: 2014.02.15 Last Calib.: 2014.02.15  
 Start Time: 08:18:04 End Time: 15:37:18 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: Weak Blow , Built to 2 1/2 inches  
 IS: No Blow Back  
 FF: Weak 2 inch Blow  
 IS: No Blow Back



## PRESSURE SUMMARY

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

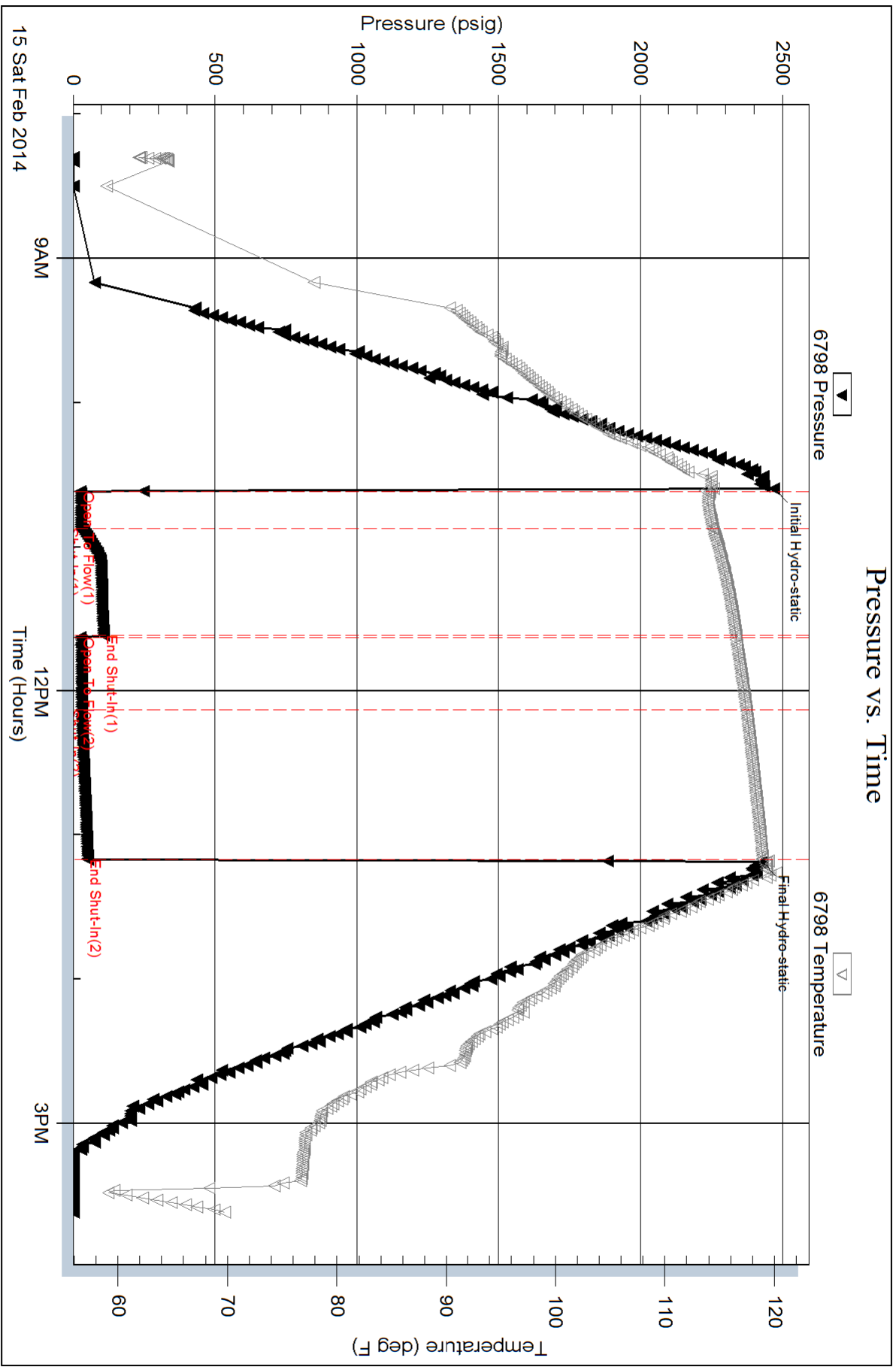
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	SGCM 2%G 98%M	0.05

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (m <sup>3</sup> /d)

\* Recovery from multiple tests

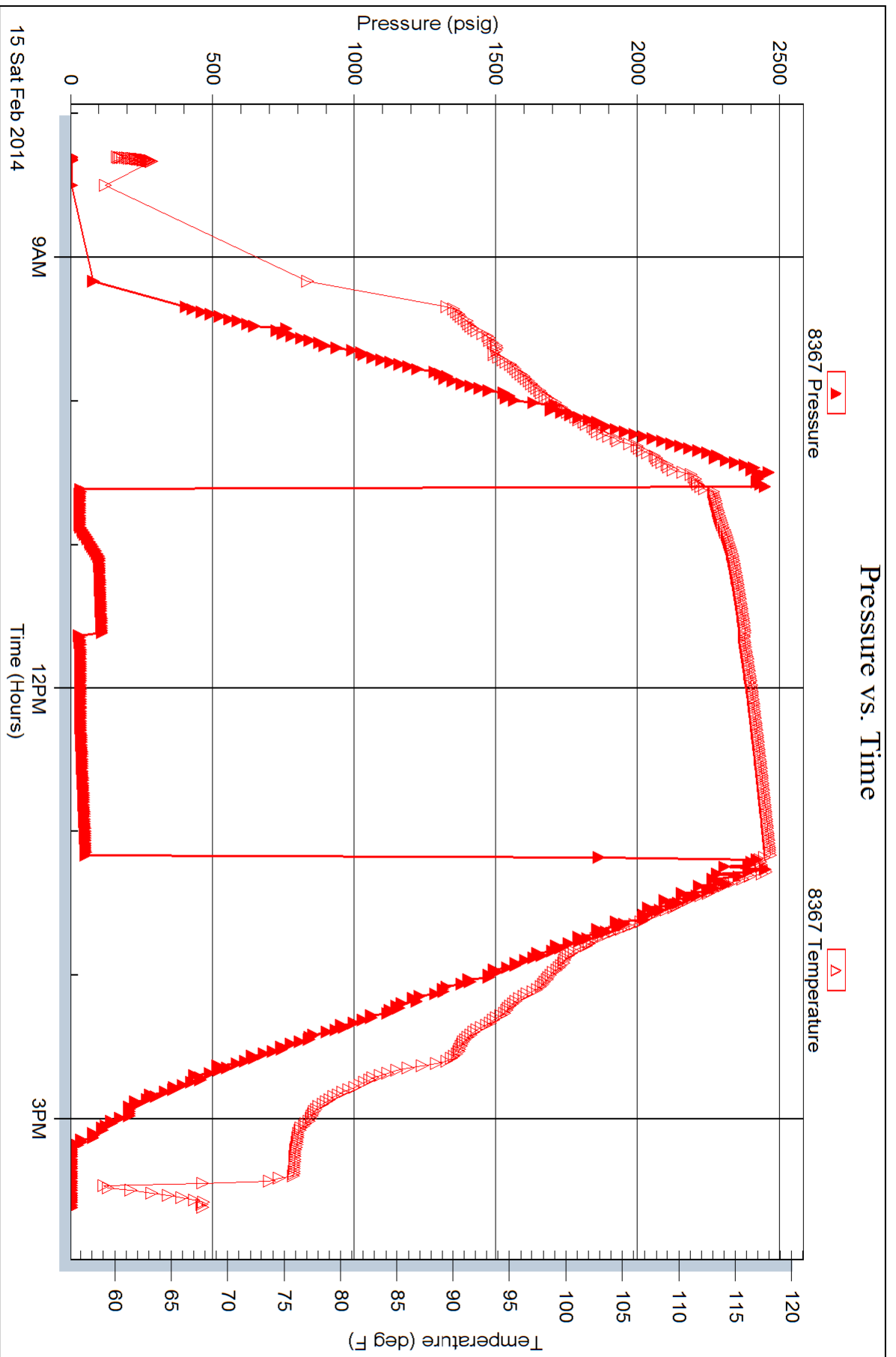


Serial #: 8367

Outside    Herrman L. Loeb, LLC.

School Trust 22-5

DST Test Number: 2







**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
 Job Ticket: 51957 **DST#: 3**  
 Test Start: 2014.02.16 @ 04:05:36

## GENERAL INFORMATION:

Formation: **Mississippi Lime**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 07:04:36  
 Time Test Ended: 13:06:51  
 Interval: **4928.00 ft (KB) To 4980.00 ft (KB) (TVD)**  
 Total Depth: 4980.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 1477.00 ft (KB)  
 1468.00 ft (CF)  
 KB to GR/CF: 9.00 ft

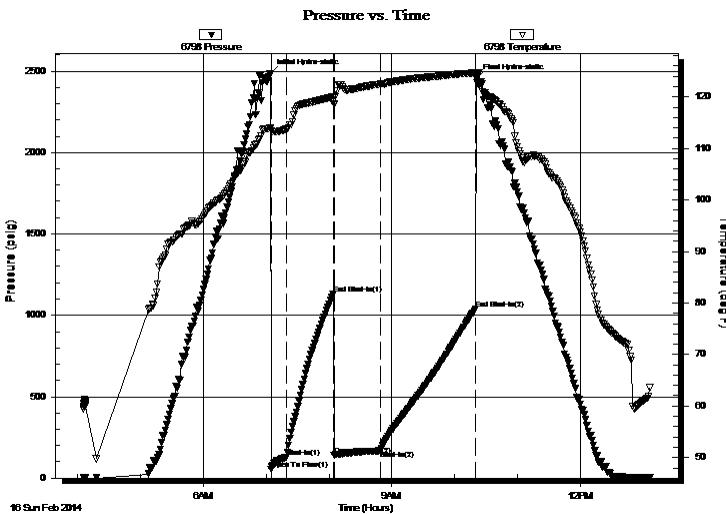
## Serial #: 6798

Inside

Press @ Run Depth: 168.47 psig @ 4929.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.16 End Date: 2014.02.16 Last Calib.: 2014.02.16  
 Start Time: 04:05:37 End Time: 13:06:51 Time On Btm: 2014.02.16 @ 07:03:51  
 Time Off Btm: 2014.02.16 @ 10:20:51

TEST COMMENT: IF: Fair Blow , Built to 9 inches  
 IS: No Blow Back  
 FF: Fair Blow , Built to 8 inches  
 FS: No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2486.23	113.97	Initial Hydro-static
1	55.23	113.42	Open To Flow (1)
16	128.77	113.76	Shut-In(1)
61	1131.63	120.02	End Shut-In(1)
61	138.14	118.54	Open To Flow (2)
106	168.47	122.49	Shut-In(2)
196	1037.20	124.66	End Shut-In(2)
197	2454.18	124.57	Final Hydro-static

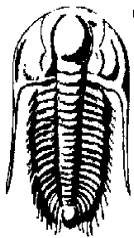
## Recovery

Length (ft)	Description	Volume (bbl)
0.00	189 GIP	0.00
124.00	GMCW 2%G 24%M 74%W	0.61
63.00	SGOMCW 2%G 2%O 36%M 60%W	0.31
121.00	SGOCM 5%G 5%O 90%M	1.41

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (m <sup>3</sup> /d)



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Herman L. Loeb, LLC.

**5-35s-12w Barber Co.**

P.O. Box 838  
Lawrenceville, IL 62439

**School Trust 22-5**

ATTN: Jon Christensen

Job Ticket: 51957

**DST#: 3**

Test Start: 2014.02.16 @ 04:05:36

**GENERAL INFORMATION:**

Formation: **Mississippi Lime**

Deviated: No Whipstock: 0.00 ft (KB)

Time Tool Opened: 07:04:36

Time Test Ended: 13:06:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

**Interval: 4928.00 ft (KB) To 4980.00 ft (KB) (TVD)**

Reference Elevations: 1477.00 ft (KB)

Total Depth: 4980.00 ft (KB) (TVD)

1468.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

**Serial #: 8367**

**Outside**

Press @ RunDepth: psig @ 4929.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.16

End Date: 2014.02.16

Last Calib.: 2014.02.16

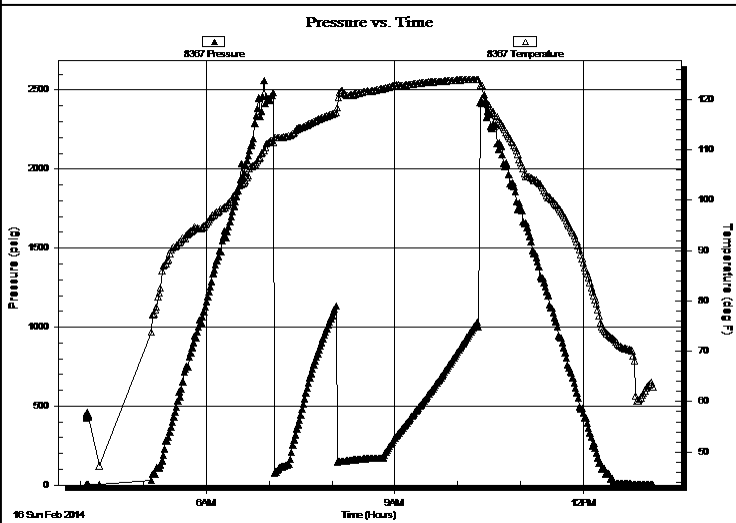
Start Time: 04:05:37

End Time: 13:06:51

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: Fair Blow , Built to 9 inches  
IS: No Blow Back  
FF: Fair Blow , Built to 8 inches  
FS: No Blow Back



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
0.00	189 GIP	0.00
124.00	GMCW 2%G 24%M 74%W	0.61
63.00	SGOMCW 2%G 2%O 36%M 60%W	0.31
121.00	SGOCM 5%G 5%O 90%M	1.41

\* Recovery from multiple tests

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (m³/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
Job Ticket: 51957      **DST#: 3**  
Test Start: 2014.02.16 @ 04:05:36

## 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: 125000 ppm	
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.18 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.02 inches			

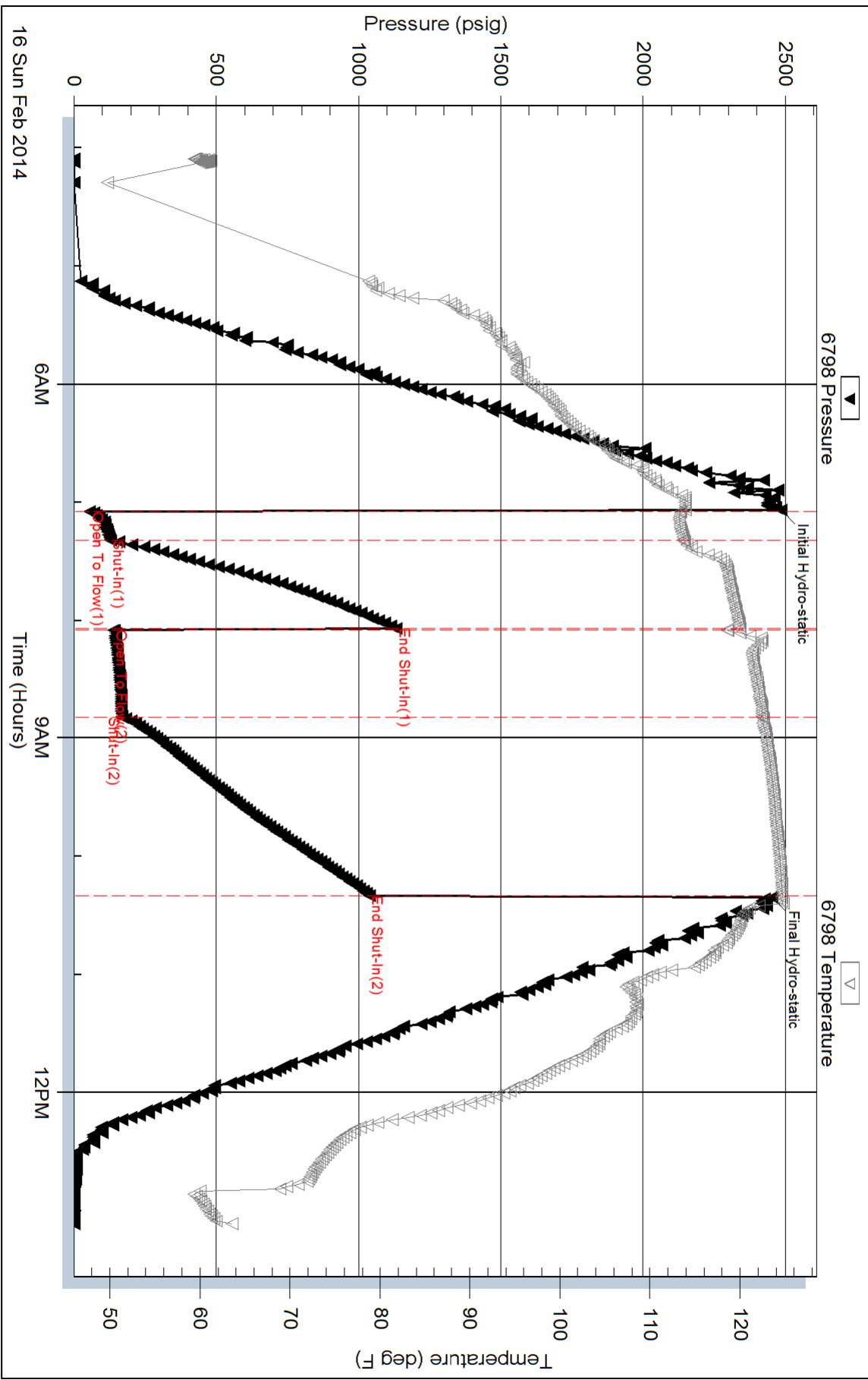
## Recovery Information

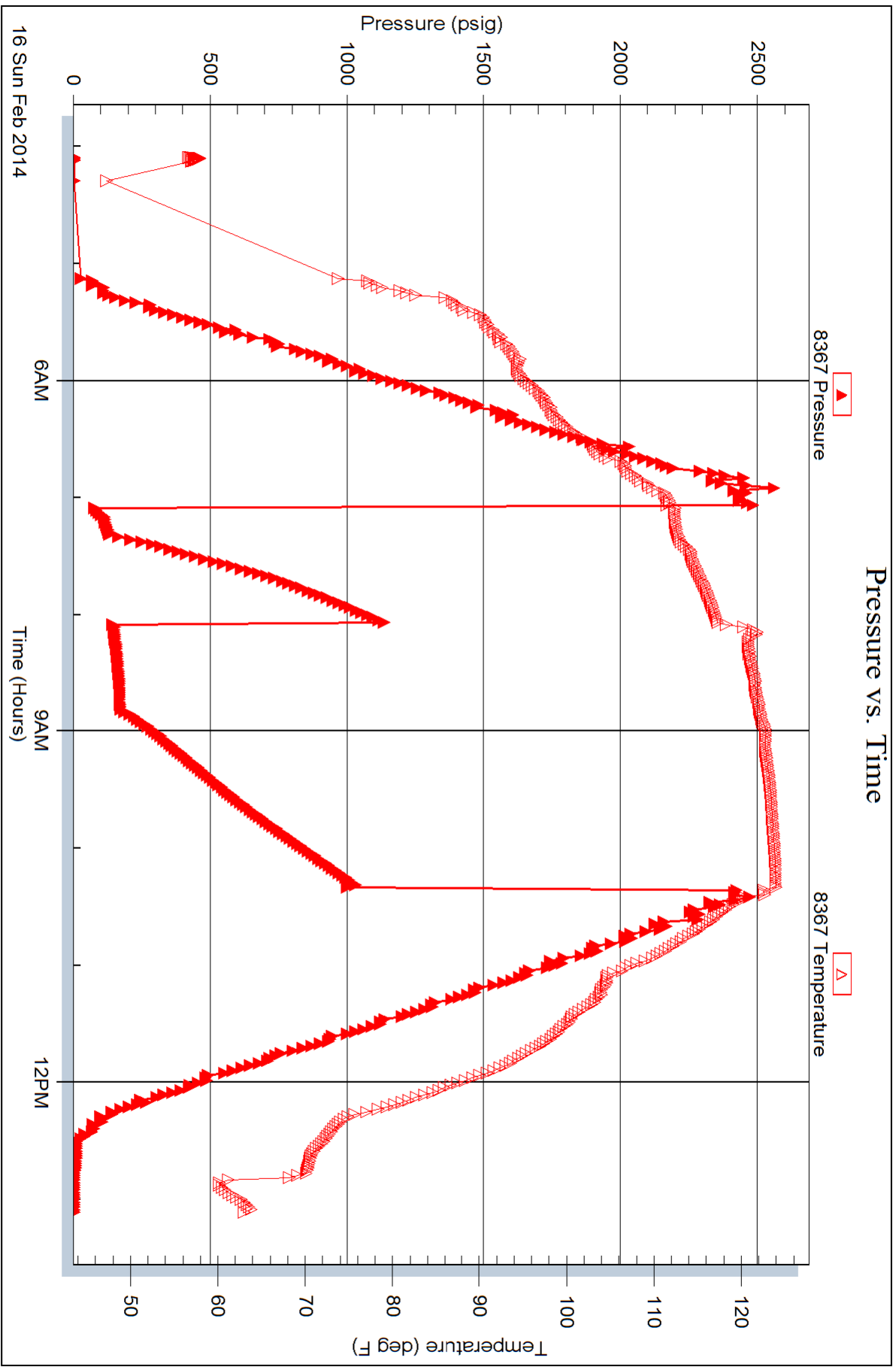
Recovery Table

Length ft	Description	Volume bbl
0.00	189 GIP	0.000
124.00	GMCW 2%G 24%M 74%W	0.610
63.00	SGOMCW 2%G 2%O 36%M 60%W	0.310
121.00	SGOCM 5%G 5%O 90%M	1.415

Total Length: 308.00 ft      Total Volume: 2.335 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments: RW w as .08 @ 60 degrees

### Pressure vs. Time







**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
 Job Ticket: 51958      **DST#: 4**  
 Test Start: 2014.02.17 @ 18:03:17

## GENERAL INFORMATION:

Formation: **Misener**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 20:58:02  
 Time Test Ended: 03:10:32  
 Interval: **5261.00 ft (KB) To 5275.00 ft (KB) (TVD)**  
 Total Depth: 5275.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 1477.00 ft (KB)  
 1468.00 ft (CF)  
 KB to GR/CF: 9.00 ft

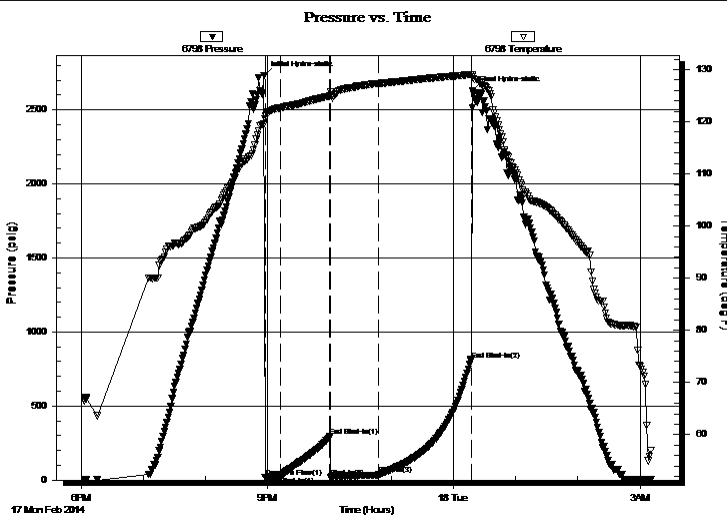
## Serial #: 6798

Inside

Press @ Run Depth: 27.97 psig @ 5262.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.02.17      End Date: 2014.02.18      Last Calib.: 2014.02.18  
 Start Time: 18:03:18      End Time: 03:10:32      Time On Btm: 2014.02.17 @ 20:56:32  
 Time Off Btm: 2014.02.18 @ 00:18:17

TEST COMMENT: IF: Fair Blow , Built to 9 1/2 inches  
 IS: No Blow Back  
 FF: Fair Blow , Built to 5 1/2 inches  
 FS: No Blow Back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2733.46	119.52	Initial Hydro-static
2	18.05	121.23	Open To Flow (1)
17	27.97	122.64	Shut-In(1)
64	293.76	124.91	End Shut-In(1)
65	17.96	125.67	Shut-In(2)
111	36.23	127.31	Shut-In(3)
201	814.09	129.07	End Shut-In(2)
202	2627.29	128.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	178 GIP	0.00
40.00	OCM 30%O 70%M	0.20

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (m <sup>3</sup> /d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

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

**5-35s-12w Barber Co.**  
**School Trust 22-5**  
Job Ticket: 51958      **DST#: 4**  
Test Start: 2014.02.17 @ 18:03:17

## Mud and Cushion Information

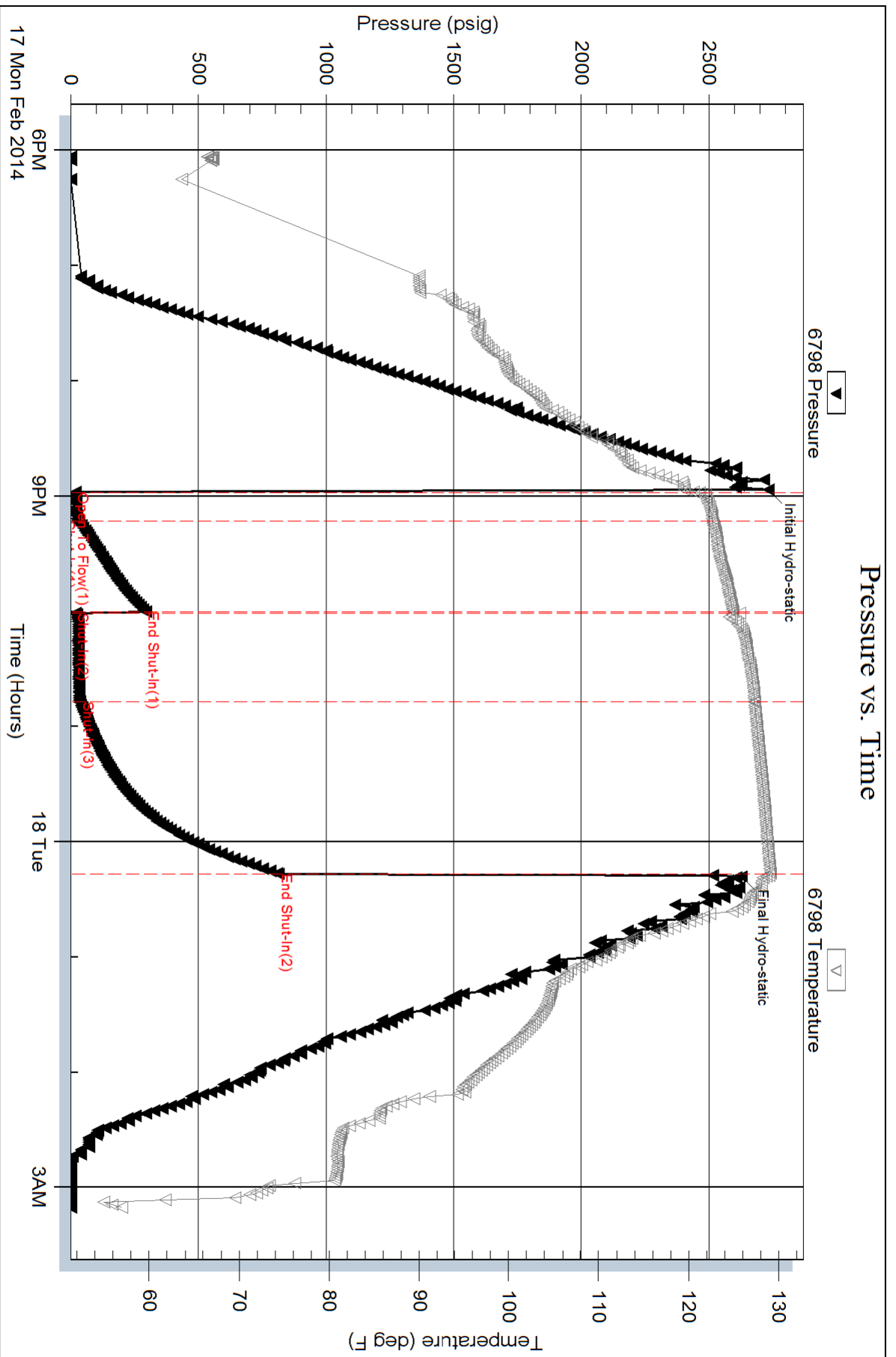
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.17 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.02 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	178 GIP	0.000
40.00	OCM 30%O 70%M	0.197

Total Length: 40.00 ft      Total Volume: 0.197 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:







PO Box 93999  
Southlake, TX 76092

Voice: (817) 546-7282  
Fax: (817) 246-3361

# INVOICE

Invoice Number: 141283  
Invoice Date: Feb 8, 2014  
Page: 1

4122  
706 School  
6438

**Bill To:**  
Herman L. Loeb LLC  
5518 S Oil Center Road  
Great Bend, KS 67530

Customer ID	Field Ticket #	Payment Terms	
Loeb	62292	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Medicine Lodge	Feb 8, 2014	3/10/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	School Trust #22-5		
180.00	CEMENT MATERIALS	Class A Common	17.90	3,222.00
120.00	CEMENT MATERIALS	Pozmix	9.35	1,122.00
5.00	CEMENT MATERIALS	Gel	23.40	117.00
10.00	CEMENT MATERIALS	Chloride	64.00	640.00
75.00	CEMENT MATERIALS	Flo Seal	2.97	222.75
327.42	CEMENT SERVICE	Cubic Feet Charge	2.48	812.00
353.14	CEMENT SERVICE	Ton Mileage Charge	2.60	918.16
1.00	CEMENT SERVICE	Surface	1,512.75	1,512.75
26.00	CEMENT SERVICE	Pump Truck Mileage	7.70	200.20
26.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	114.40
1.00	CEMENT SUPERVISOR	Carl Balding		
1.00	CEMENT SUPERVISOR	Ron Gilley		
1.00	OPERATOR ASSISTANT	James Bowen		

PAID  
47688  
FEB 27 2014  
SCAN

Subtotal	8,881.26
Sales Tax	380.65
Total Invoice Amount	9,261.91
Payment/Credit Applied	
<b>TOTAL</b>	<b>9,261.91</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$ 1,777.09

ONLY IF PAID ON OR BEFORE  
Mar 5, 2014

7484.82

*4122*  
**ALLIED OIL & GAS SERVICES, LLC** 062292

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
*Medicine Lodge, KS.*

DATE <i>2-8-2014</i>	SEC <i>5</i>	TWP <i>35S</i>	RANGE <i>12W</i>	CALLED OUT <i>1:00 AM</i>	ON LOCATION <i>2:30 AM</i>	JOB START <i>6:15 AM</i>	JOB FINISH <i>6:45 AM</i>
LEASE <i>School Trust</i> WELL # <i>22-5</i>			LOCATION <i>Hardtner, KS.</i>			COUNTY <i>Barber</i>	STATE <i>KS.</i>
OLD OR <u>NEW</u> (Circle one)							

CONTRACTOR *Stealing*  
TYPE OF JOB *suittare*  
HOLE SIZE *17 1/2* T.D. *256'*  
CASING SIZE *13 3/8* DEPTH *254'*  
TUBING SIZE *8 5/8 L.J.* DEPTH *11'*  
DRILL PIPE DEPTH  
TOOL DEPTH  
PRES. MAX *100* MINIMUM  
MEAS. LINE SHOE JOINT  
CEMENT LEFT IN CSG. *20'*  
PERFS.  
DISPLACEMENT *Bbls Freshwater*

OWNER *Herman, loeb*  
CEMENT  
AMOUNT ORDERED  
*300 sx 40:40 37.00 + 27.62L*  
*+ 1/4" Floseal*

COMMON	<i>180</i> sx	@	<i>17.90</i>	<i>3222.00</i>
POZMIX	<i>120</i> sx	@	<i>9.35</i>	<i>1122.00</i>
GEL	<i>5</i> sx	@	<i>23.40</i>	<i>117.00</i>
CHLORIDE	<i>10</i> sx	@	<i>64.00</i>	<i>640.00</i>
ASC		@		
<i>Floseal</i>	<i>75</i>	@	<i>2.97</i>	<i>222.75</i>
		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<i>327.42</i>	@	<i>1.48</i>	<i>412.00</i>
MILEAGE	<i>15.58/26</i>	@	<i>2.60</i>	<i>418.17</i>
				TOTAL <i>7053.92</i>

EQUIPMENT  
PUMP TRUCK CEMENTER *Carl Bolding*  
# *471-265* HELPER *Ken Billey*  
BULK TRUCK  
# *421-250* DRIVER *James Bowen*  
BULK TRUCK  
# DRIVER

REMARKS:

*Run 254' 13 3/8 with All 8 5/8  
Landing Joint Break circulation  
w/ Red Pump 300 sx 40:40 37.00  
+ 27.62L Displace with Bbls  
water. Leave 20'  
Cement in casing. Cement did  
circulate*

CHARGE TO: *Herman loeb*  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE  
DEPTH OF JOB *254'*  
PUMP TRUCK CHARGE *1512.75*  
EXTRA FOOTAGE @ \_\_\_\_\_  
MILEAGE *26* @ *7.70* *200.20*  
MANIFOLD @ \_\_\_\_\_  
*20 26* @ *4.40* *114.40*  
@ \_\_\_\_\_  
TOTAL *1827.35*

PLUG & FLOAT EQUIPMENT

	@	_____
	@	_____
<i>X</i>	@	_____
	@	_____
	@	_____
TOTAL _____		

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES *8881.27*  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS  
*NET 7104.18*

PRINTED NAME *LANNY SALOGA*  
SIGNATURE *Lanny Saloga*



6076  
706 School  
6438

PAGE	CUST NO	INVOICE DATE
1 of 1	1007589	02/21/2014
INVOICE NUMBER		
1718 - 91418421		

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 School Trust 22-5  
 O  
 B LOCATION  
 B COUNTY Barber  
 S STATE KS  
 I JOB DESCRIPTION Cement-New Well Casing/Pi  
 T  
 E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40694398	19843		Net - 30 days	03/23/2014

PAID  
 47839 U of M  
 MAR 06 2014  
 SCANNED

For Service Dates: 02/20/2014 to 02/20/2014	UNIT PRICE	INVOICE AMOUNT
0040694398		
171809872A Cement-New Well Casing/Pi 02/20/2014 Cement 5 1/2" Longstring		
50/50 POZ	400.00 EA	3,344.00 T
Celloflake	100.00 EA	281.20 T
Gypsum	1,680.00 EA	957.60 T
FLA-322	168.00 EA	957.60 T
Gilsonite	2,400.00 EA	1,222.08 T
Mud Flush	1,000.00 EA	653.60 T
KCL Potassium Chloride	906.00 EA	1,032.84 T
Claymax KCL Substitute	6.00 EA	159.60 T
"Latch Down Plug & Baffle, 5 1/2" (Blue)"	1.00 EA	304.00 T
"Auto Fill Float Shoe 5 1/2" (Blue)"	1.00 EA	273.60 T
"Turbolizer, 5 1/2" (Blue)"	15.00 EA	1,254.00 T
"5 1/2" Basket (Blue)"	3.00 EA	661.20 T
"Cement Scratchers Cable Type, 5 1/2" "	12.00 EA	684.00 T
"Unit Mileage Chg (PU, cars one way)"	55.00 MI	177.65 T
Heavy Equipment Mileage	110.00 MI	585.20 T
"Proppant & Bulk Del. Chgs., per ton mil	924.00 EA	1,123.58 T
Depth Charge; 5001-6000'	1.00 EA	2,188.80 T
Blending & Mixing Service Charge	400.00 BAG	425.60 T
Plug Container Util. Chg.	1.00 EA	190.00 T
"Service Supervisor, first 8 hrs on loc.	1.00 EA	133.00 T

<b>PLEASE REMIT TO:</b>	SEND OTHER CORRESPONDENCE TO:	<b>SUB TOTAL</b>	16,609.15
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	<b>TAX</b>	615.51
PO BOX 841903	801 CHERRY ST, STE 2100	<b>INVOICE TOTAL</b>	17,224.66
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

FIELD SERVICE TICKET  
1718 09872 A

5-355-12W

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

DATE OF JOB <u>2-20-14</u> DISTRICT <u>Pratt, Kansas</u>		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 <u>Herman L. Loeb, LLC</u>		LEASE <u>School Trust</u> WELL NO. <u>22-5</u>								
ADDRESS _____		COUNTY <u>Barber</u> STATE <u>Kansas</u>								
CITY _____ STATE _____		SERVICE CREW <u>C. Messick; M. McGraw; A. Nystrom</u>								
AUTHORIZED BY _____		JOB TYPE: <u>C.N.W. - Longstring</u>								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
<u>37,216</u>	<u>1.5</u>						<u>2-19-14</u>			<u>11:00</u>
						ARRIVED AT JOB	<u>2-20-14</u>			<u>9:00</u>
<u>19,889-19,843</u>	<u>1.5</u>					START OPERATION				<u>4:45</u>
						FINISH OPERATION				<u>6:15</u>
<u>19,960-21,010</u>	<u>1.5</u>					RELEASED	<u>2-20-14</u>			<u>6:30</u>
						MILES FROM STATION TO WELL				<u>55</u>

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: A. Nystrom  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
P CP 104	50/50 Poz Blend Cement	sh	350	\$	3,850 00
P CP 104	50/50 Poz Blend Cement	sh	50	\$	550 00
P CC 102	Cellflats	Lb	100	\$	370 00
P CC 113	Gypsum	Lb	1,680	\$	1,260 00
P CC 129	Fluid Loss	Lb	168	\$	1,260 00
P CC 201	Gilsonite	Lb	2,400	\$	1,608 00
P C 700	Potassium Chloride	Lb	906	\$	1,359 00
P CF 607	Latch Down Plug and Baffle, 5 1/2"	ea	1	\$	400 00
P CF 1251	Auto Fill Float Shoe, 5 1/2"	ea	1	\$	360 00
P CF 1651	Turbolizer, 5 1/2"	ea	15	\$	1,650 00
P CF 1901	Basket, 5 1/2"	ea	3	\$	870 00
P CF 2001	Recipricating Scratchers, 5 1/2"	ea	12	\$	900 00
P C 704	Claymax	Gal	6	\$	210 00
P CC 151	Mud Flush	Gal	1,000	\$	860 00

SUB TOTAL 16

CHEMICAL / ACID DATA:			

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

TOTAL

SERVICE REPRESENTATIVE <u>R. Messick</u>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <u>A. Nystrom</u> (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
--	--

FIELD SERVICE ORDER NO.



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

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

FIELD SERVICE TICKET

1718 ~~09873~~ A

Continuation

5-355-12W

DATE TICKET NO. 9,872

DATE OF JOB: 2-20-14	DISTRICT: Pratt, Kansas	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: Herman L. Loeb, LLC	LEASE: School Trust	WELL NO: 22-5								
ADDRESS:	COUNTY: Barber	STATE: Kansas								
CITY:	STATE:	SERVICE CREW: C. Messich; M. McGraw; A. Nystrom								
AUTHORIZED BY:	JOB TYPE: C.N.W. - Longstring									
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
						ARRIVED AT JOB				
						START OPERATION				
						FINISH OPERATION				
						RELEASED				
						MILES FROM STATION TO WELL				

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: *[Signature]*  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
P E 100	Pickup Mileage	mi	55	\$	233 75
P E 101	Heavy Equipment Mileage	mi	110	\$	770 00
P E 113	Built Delivery	tm	924	\$	1,478 40
P CE 206	Cement Pump: 5,001 Feet To 6,000 Feet	hrs	4	\$	2,880 00
P CE 240	Blending and mixing service	sh	400	\$	560 00
P CE 504	Plug Container	Job	1	\$	250 00
P S003	Service Supervisor	hrs	8	\$	175 00

CHEMICAL / ACID DATA:			

	SUB TOTAL	16,609 15
SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
	TOTAL	

SERVICE REPRESENTATIVE: <i>[Signature]</i>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <i>[Signature]</i>
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)	

FIELD SERVICE ORDER NO.

Customer Herman L. Loeb, LLC	Lease No.	Date 2-20-14	
Lease School Trust	Well # 22-5		
Field Order # 4872	Station Pratt, Kansas	Casing 5 1/2"	Depth 5,575 Feet
Type Job C.N.W. - Longstring	Formation	County Barber	State Kansas
		Legal Description 5-355-12W	

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size 5 1/2"	Tubing Size 3 1/2"	Shots/Ft 350	Acid 50/50 Poz with 28 Total Gel.	RATE	PRESS	ISIP 58 Fluid Loss,		
Depth 5,575 Feet	Depth 586 yds	From 586	To Sun, 58 ftcl, 25 lb./stk. Cellflats, 6 lb./stk. Gilsomite	Max		10 Min.		
Volume 32.7 Bbl.	Volume	From	To	Min		15 Min.		
Max Press 1,800 PSI	Max Press	From	To	Avg		15 Min.		
Well Connection Plug Container	Annulus Vol. 50 sacts of above blend to Plug Rat (30 sacts) and mouse (20 sacts) holes	From	To	HHP Used		Annulus Pressure		
Plug Depth 5,552 Feet	Packer Depth	From	To	Flush 132 Bbl. Fresh water	Gas Volume	Total Load		

Customer Representative Alan Vratel	Station Manager Kevin Gordley	Treater Clarence R. Messick
Service Units 37,216	19,889	19,843
Driver Names Messick	McGraw	Alystrom

Time A.M.	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
9:00					Trucks on location and hold safety meeting.
11:30					Sterling Drilling start to run Auto Fill Float Shoe, Shoe Joint with Latch Down Baffle screwed into collar and a total of 132 Joints new 15.5 Lb./ft. 5 1/2" casing. A Turbolizer was installed on collars # 1, 5, 7, 8, 12, 14, 15, 16, 17, 18, 19, 20, 32, 33, 34. A Basket was installed above collars # 1, 21 and # 35.
3:41					Casing in well. Circulate for 1 Hour.
4:44	300	2,000		6	Shut in well. Pressure Test. Open Well. Start Fresh water Pre-Flush.
			10	6	Start Mud Flush.
			34	6	Start Fresh Water Spacer.
5:00	300		54	5	Start mixing 350 sacts <sup>50/50 Poz</sup> <del>scat</del> cement
	0		138		Start Stoppumping. Shut in well. Wash pump and lines. Release Latch Down Plug. Open well.
5:19	150			6.5	Start 28 ftcl Displacement.
			900	4	Start to lift cement.
5:45	1,200		132		Plug down.
	1,800				Pressure up.
					Release pressure. Float shoe held.
			T-5	3	Plug Rat and mouse holes
					Wash up pump truck.
6:30					Job Complete.

Thank You Clarence, Mike, Adam