



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1138581  
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: \_\_\_\_\_



1138581

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

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

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

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

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

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

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

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

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

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

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

<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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	HERMAN L. LOEB, LLC
Well Name	ART TODD 1-20
Doc ID	1138581

Tops

Name	Top	Datum
Chase	2433	-226
Heebner Shale	4030	-1823
Toronto	4045	-1838
Lansing 'A'	4187	-1980
Lansing/KC 'H'	4351	-2144
Kansas City 'I'	4396	-2189
Swope	4500	-2293
Hertha	4548	-2341
Base Kansas City	4578	-2371
Miss. Chert	4757	-2550
Kinderhook Sand	4848	-2641

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: Art Todd #1-20  
Location: 472' FSL & 1756' FEL, Sec. 20-T27S-R18W, Kiowa Co., KS.  
Licence Number: 15-097-21749-0000 Region: Unnamed Field  
Spud Date: 4/16/2013 Drilling Completed: 4/25/2013  
Surface Coordinates: 472' FSL & 1756' FEL, Sec. 20-T27S-R18W

Bottom Hole Same as above  
Coordinates:  
Ground Elevation (ft): 2196' K.B. Elevation (ft): 2207'  
Logged Interval (ft): 3350' To: 4900' Total Depth (ft): 4900'  
Formation: Kinderhook at Total Depth  
Type of Drilling Fluid: Native Mud/Gel to 3176'; Chemical Gel 3176' to 4900'

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") 4191' - 4208'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/20 Sec. , FFP Strong Blow BOB/30 Sec., no Gas to Surface, 0.5" Blowback on FSI; REC: 2375' Gas in Pipe, 20' GOCWM(9%G, 15%O, 7%W, 69%M), 60' GOCWM(17%G, 13%O, 12%W, 58%M), 60' SG & OCMW(5%G, 2%O, 83%W, 10%M), CI 80,000, Mud 6800; IFP 19-32#, ISIP 1314#, FFP 21-64#, FSIP 1349#, IHP 2143#, FHP 2076#, BHT 117 Deg. F.

DST #2(Kansas City "I") 4386' - 4408'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/2 Min., 2" Blowback on ISI, FFP Strong Blow Gas to Surface in 14", Gauged 12.5 MCFG in 45", BOB Blowback on FSI; REC: 275' GMCO(20%G, 56%O, 4%W, 20%M), 120' SMWO(85%O, 12%W, 3%M), Not enough Water for CI Check - possible Filtrate; IFP 36-66#, ISIP 1248#, FFP 66-154#, FSIP 1240#, IHP 2351#, FHP 2199#, BHT 117 Deg. F.

DST #3(Miss. Chert) 4735' - 4798'(Corrected Depths to Log) Test Times 15"-45"-45"-90" IFP Strong Blow BOB/1 Min., Weak Surface Blowback on ISI, FFP Strong Blow BOB/ 10 Sec. Gas to Surface in 28 Min. Gauged 6.9 MCFG/45" of FFP; REC: 150' SO&GCM(4%G, 1%O, 95%M) no Water; IFP 41-58#, ISIP 1319#, FFP 52-61#, FSIP 1430#, IHP 2532#, FHP 2377#, BHT 125 Deg. F.

## Comments

4/15/13 MIRU Sterling Drilling Co. Rig #2, 4/16/13 Spud at 5:00 AM., Trip out for Plugged bit at 164'; 4/17/13 Drilling at 650'; 4/18/13 Drilling at 1933'; 4/19/13 Drilling at 2945'; 4/20/13 Drilling at 3635'; 4/21/13 Drilling at 4196'; 4/22/13 Drilling at 4285'; 4/23/13 TD. 4414' - CCH for DST #2; 4/24/13 Drilling at 4555'; 4/25/13 TD. 4802' - TIH for DST #3; 4/26/13 RTD. 4900'; LTD. 4896', Nipple Down BOB, to Set 5 1/2" Production Casing.

Set new 8 5/8"(24#) Surface Casing at 565' with 350 sx. of Cement(Basic Energy Services). Cement did Circulate. PD. 8:00 PM. on 4/16/13.

Set new 5 1/2"(15.5#) Production Casing at 4893' with 200 sx. Cement(Basic Energy Services). PD. 11:15 PM. on 4/26/13.

Surveys: 0.75 Deg. at 570'(Surface Casing); 0.50 Deg. at 4214'(DST #1); 1.50 Deg. at 4414'(DST #2); 0.50 Deg. at 4802'(DST #3).


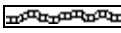
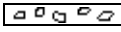
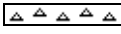
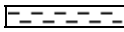







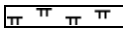
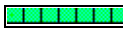
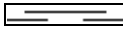
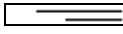
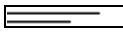



Pipe Strap at 4802'(DST #3): Strap 1.17' Short to the Board, no correction made to the Board.

After review of the Halliburton Logs, DST's, structural position and positive indication of commercial quantities of hydrocarbons, the operator elected to set new 5 1/2"(15.5#) Production Casing for completion in the Miss. Chert, Kansas City "I" and Lansing "A" zones.








































































LOG TOPS: Chase 2433(-226), Stotler Lmst. 3384(-1177), Howard 3588(-1381), Heebner Shale 4030(-1823), Toronto 4045(-1838), Brown Lmst. 4182(-1975), Lansing "A" 4187(-1980), L/KC "H" 4351(-2144), KC. "I" 4396(-2189), Stark Shale 4489(-2282), Swope 4500(-2293), Hertha 4548(-2341), Base Kansas City 4578(-2371), Marmaton 4626(-2419), Pawnee 4672(-2465), Cherokee Shale 4710(-2503), Miss. Chert 4757(-2550), Kinderhook Shale 4815(-2608), Kinderhook Sand 4848(-2641).

NOTE: This log was shifted upward by 4' - 6' for correlation purposes with the Halliburton LOGS.

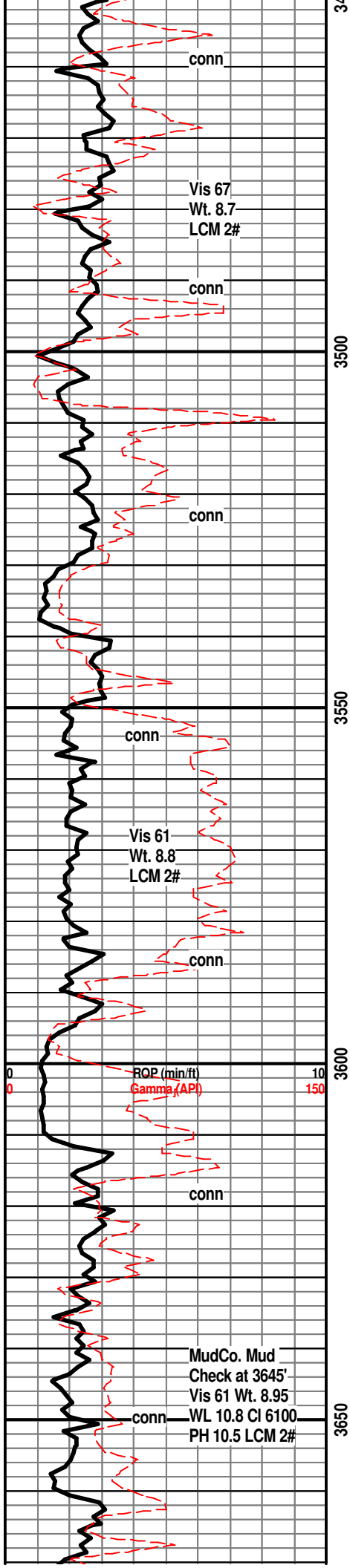
### ROCK TYPES

 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

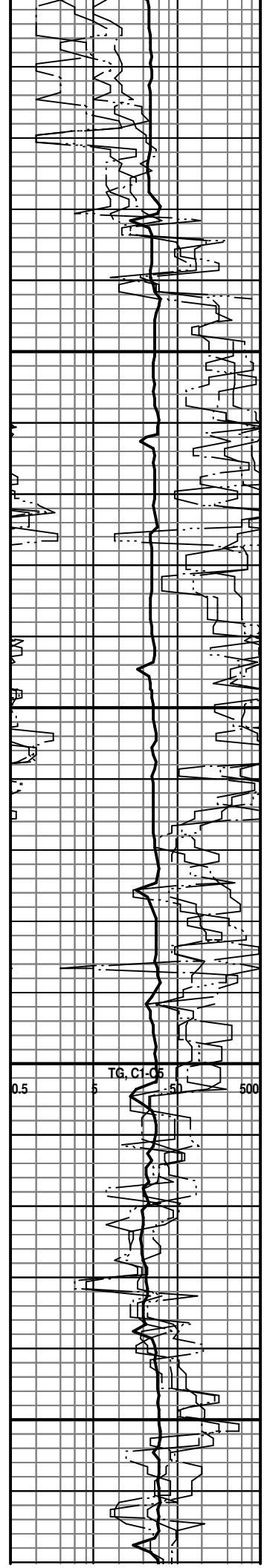
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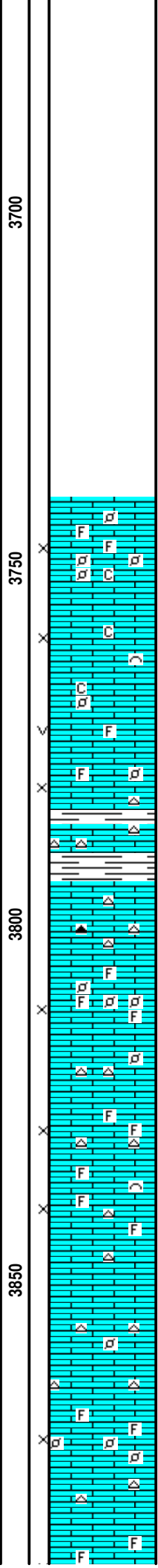
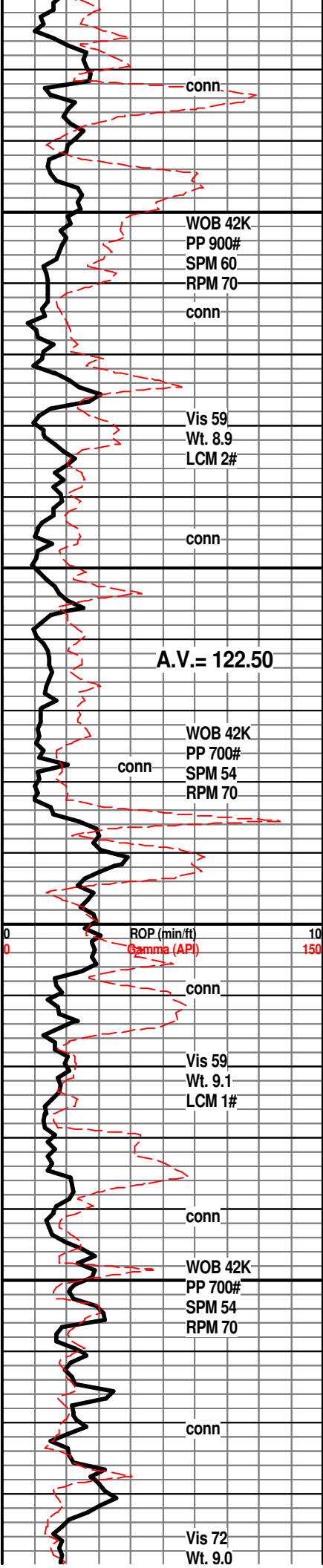




3  
3500  
3550  
3600  
3650

HOWARD 3588(-1381)





**START 10' Wet & Dry Samples**

LM; tan to lt brn, foss, scat pellets and some foss hash, occ chalky mtx, dull yel min fluor, fair interpart por, no stn or odor, no apparent gas kick

LM; tan to cream, buff, med xln w/foss mat, fair to occ gd interxln w/vug por in some, dull yel to no fluor, no stn or odor, ns.

LM; med brn, hd, cherty ip, tite  
SH; med gy, occ dk gy grn, firm

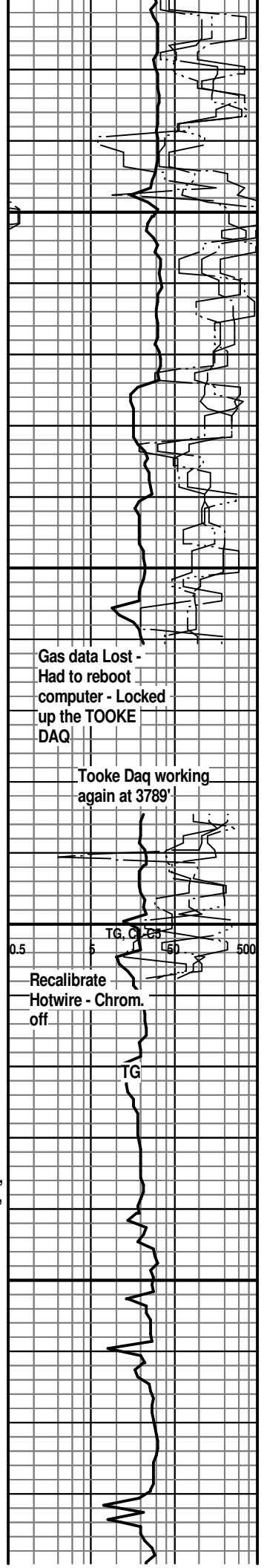
LM; lt brn, occ med gy brn, hd, blocky, scat tan/amber/gy cht, no vis por, scat med yel fluor, no stn or odor, ns.

LM; tan to lt brn, foss - finely pelletal, fair interpart por, lt to occ med yel min fluor, no stn, no gas kick, ns.

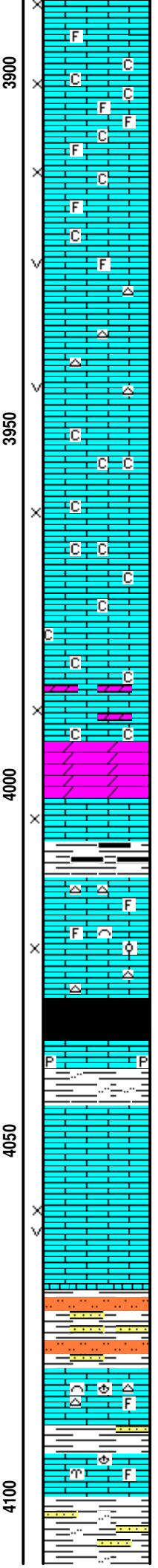
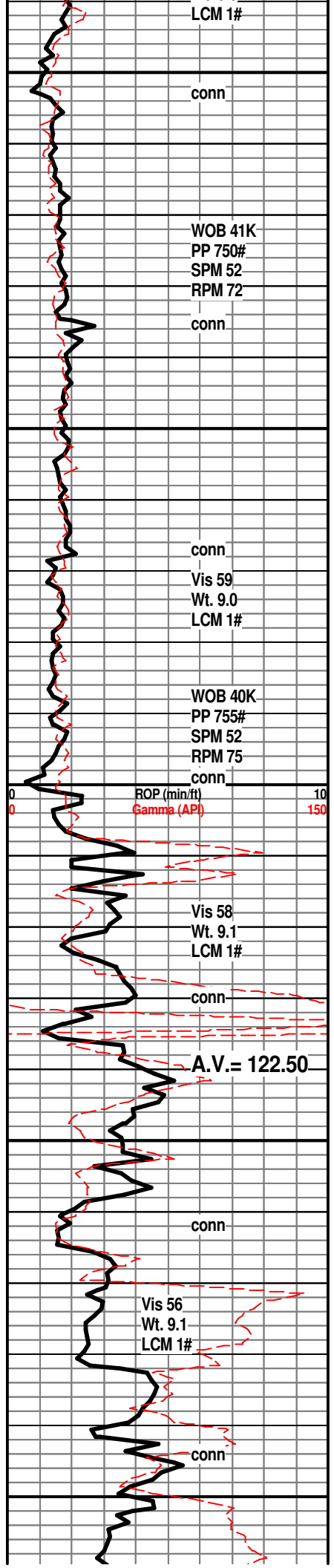
LM; tan to lt brn, f to med xln, fair to occ gd interxln por, interbdd foss lmst, cherty ip, lt to occ med yel min fluor, no stn, ns.

LM; lt gy, off wh, buff, f to med xln, interbdd hd cherty micrite, scat lt yel min fluor, poor interxln por, no gas kick, ns.

LM; tan to off wh, lt brn, foss ip w/occ pellets and fusulinids, minor chalky mtx, dull yel fluor, fair interpart por, ns.







LM; tan to buff, cream, most med xln to gran text, most tite, scat foss mat, occ soft chalky mtx, rare lt yel min fluor, no stn or odor, ns.

LM; tan to buff, off wh, med xln w/occ cse spar calc xtals, interbdd gy to tan cht, rare unconnected vug por, no fluor, ns.

LM; off wh, wh, tan, f to med xln, scat spar calc xtals, much soft chalk and chalky mtx, poor interxln por, dull yel min fluor, no stn or odor, ns.

LM; off wh, tan, wh, f to med xln, partly dolomitic, poor to fair interxln por, chalky, ns.

DOL; tan to lt brn, fxln to sucrosic, fair interxln por, lt yel min fluor, no stn or odor, ns.

SH; dk gy, some blk, platy

LM; tan to lt brn, buff, fxln, foss ip, poor to fair interxln por, occ gy cht, dull yel min fluor only, no stn or odor, ns.

**HEEBNER SHALE 4030(-1823)**  
 SH; blk, carb ip, platy  
 LM; med brn, dense, pyr ip, tite  
 SH; grn, gy grn, silty ip, firm

**TORONTO 4045(-1838)**  
 LM; off wh, wh, buff, fxln, most dense, blocky

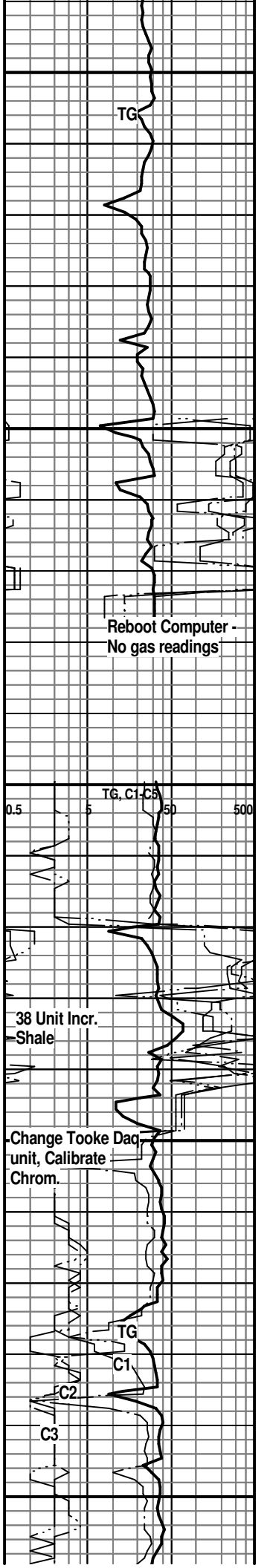
LM; wh, off wh, foss ip, fxln w/occ spar calc xtals, chalky mtx, fair interxln w/scat vug por, lt yel min fluor, no stn or odor, ns.

**DOUGLAS SHALE 4071(-1864)**  
 SH; lt gy, silty to sandy, interbdd mica hd vf gr qtz ss, firm

LM; med to dk brn, foss ip, well cem, scat gy cht, no vis por, ns.

LM; med gy, gy brn, scat cse foss frags, well cem, no vis por, lt yel fluor, ns.

SH; lt to med gy, silty to sandy, occ mica, firm



WOB 40K  
PP 815#  
SPM 52  
RPM 70

conn

conn

Vis 59  
Wt. 9.3  
LCM 1#

A.V. = 122.50

conn

DST #1

Lansing 'A'

4191' - 4208'

ROP (min)  
Gamma (A)

CFS. at 4208'

MudCo. Mud  
Check at 4208'  
Vis 63 Wt. 9.4  
WL 13.4 CI 6800  
PH 10.5 LCM 1#

conn

conn

WOB 41K  
PP 745#  
SPM 52  
RPM 65-70

conn

MudCo. Mud  
Check at 4295'  
Vis 55 Wt. 9.1  
WL 9.2 CI 6100  
PH 11.0 LCM 1#

conn

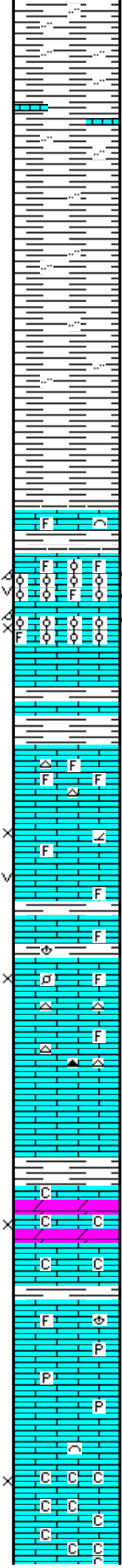
WOB 40K

4150

4200

4250

4300



SH; lt to med gy, most smooth, occ silty, thin lmy sh strngs.

SH; lt to med gy, silty ip, platy

SH; lt to med gy, platy, some flakey/sticky ip.

**BROWN LMST. 4182(-1975)**

LM; med brn, blocky, foss ip, tite

**LANSING "A" 4187(-1980)**

LM; lt brn, tan, foss - oolitic, most w/lrg molds, v. gd oomoldic por, occ vug por, occ cse foss frags, much brite yel fluor, fair/gd oil odor, SSFO with gas bubbles, some rextalized moldic por, fair to gd cut, few pcs bleeding oil/gas

**DST #1: Lansing "A" 4191' - 4208' Corrected Depths to LOG**

**LANSING "B" 4214(-2007)**

LM; off wh, buff, fxln w/rare foss mat, well cem, occ gy/tan cht, no vis por, no stn, no odor, n.s

LM; off wh, lt gy, med xln w/some sucrosic text, poor to fair interxln por, some gd vug por, interbdd cse spar calc xtals, no fluor, no stn, no gas kick, ns.

SH; grn, gy grn, interbdd hd brn foss lmst.

LM; tan to lt brn, foss ip, most dense, poor interpart por, minor tan/gy cht, no fluor, ns.

LM; lt to med brn, most dense, scat well cem foss, no vis por, cherty ip, tite, ns.

LM; tan to buff, off wh, foss ip, well cem, hd, no vis por, no fluor, ns.

LM; off wh, wh, buff, fxln w/some sucrosic text, interbdd dolomite and dolo. lmst, chalky mtz ip, soft, fair interxln por, dull yel min fluor, ns.

LM; tan to off wh, buff, foss ip, minor soft chalky mtz, no vis por, ns.

SH; med to dk gy, trc blk, foss

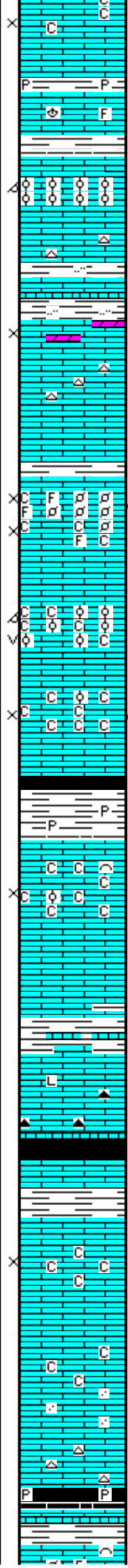
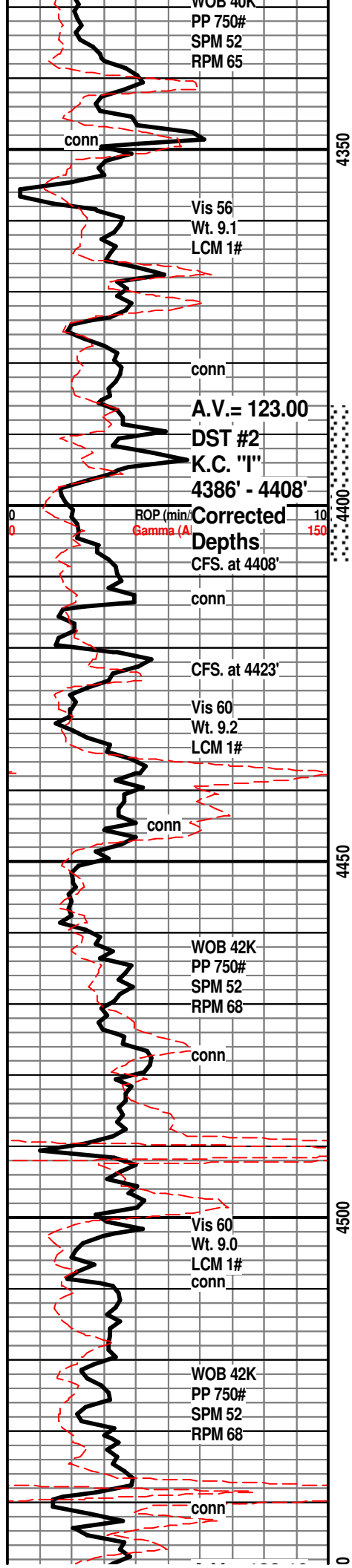
LM; tan to lt brn, hd, most micritic, scat pyr, no vis por, no fluor, ns.

LM; off wh, wh, buff, fxln, scat spar calc xtals, much chalk and chalky mtz, soft, poor interxln por, dull yel min fluor, no stn or odor, ns.

20 Unit Incr. SHOW

Extractor Filter Plugged off

Extractor motor burned out - change



LM; off wh, buff, tan, fxln w/occ spar calc xtals, chalky ip, poor interxln por, no fluor, ns.

SH; med gy, gy grn, platy, occ pyr

LM; med brn, hd, foss ip, tite

**LANSING/K.C. "H" 4351(-2144)**  
LM; tan to buff, foss - oolitic, most small/med size moldic por, lt yel min fluor, brittle ip, no stn or odor, no gas kick, ns.  
LM; lt brn, hd, foss ip, scat tan cht, tite

SH; grn, gy grn, silty ip, platy

LM; tan to cream, buff, fxln w/some sucrosic text, partly dolomitic, fair interxln por, much dense micrite, lt to occ med yel min fluor, no stn or odor, interbdd tan cht, ns.

**K.C. "I" 4396(-2189)**  
LM; cream, buff, abnt compact small oolites/pellets, some chalky mtx, brite yel fluor, fair interpart por, fair oil odor, Trc. light FO droplets, trc gas bubbles, good cut

**DST #2: K.C. "I" zone 4386' - 4408'**  
LM; tan to off wh, buff, foss - finely oolitic, fair oomoldic por, occ vug por, much soft chalky mtx, lt yel fluor, quest. gas bubbles, no vis oil stn, no odor, no cut

LM; wh, off wh, fxln, v. chalky - soft, brite yel fluor in chalky section - strong sulfur odor, trc spotted oil stn, no cut, gas kick unreliable due to oil in mud system, virtually no sample shows

SH; dk gy, some blk, platy, firm, occ pyr

**K.C. "J" DENNIS 4447(-2240)**  
LM; off wh, wh, buff, fxln, scat foss mat, abnt soft chalk and chalky mtx, poor to fair interxln por, dull yel fluor, no vis stn, no odor, ns.

LM; med to dk brn, dense, blocky, tite

SH; med gy brn, lmy w/interbdd argil lmst, firm

LM; med gy brn, dense, hd, litho ip, scat dk gy to occ smoky cht, tite

**STARK SHALE 4489(-2282)**  
SH; blk, carb ip, hd, blocky

SH; med gy grn, lmy, firm

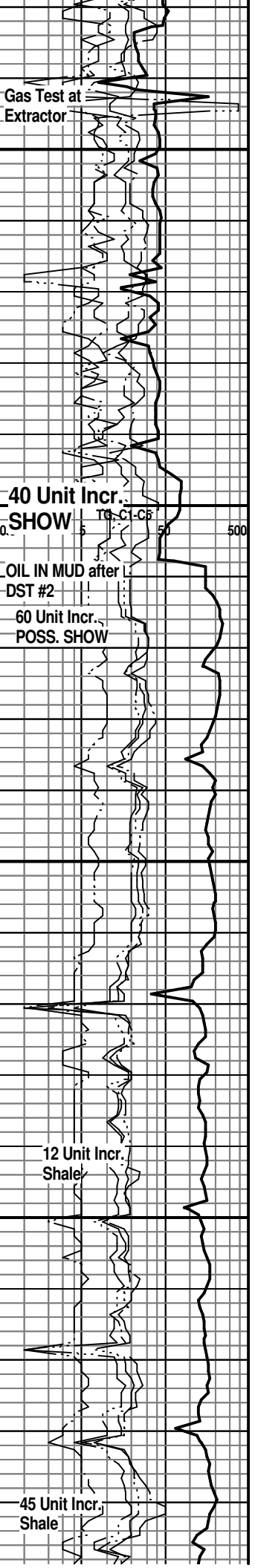
**SWOPE 4500(-2293)**  
LM; off wh, buff, tan, f to med xln, scat fair interxln por, interbdd soft partly chalky lmst, dull yel min fluor, no stn or odor, ns.

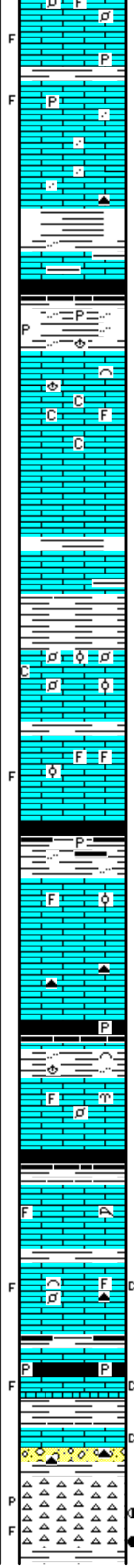
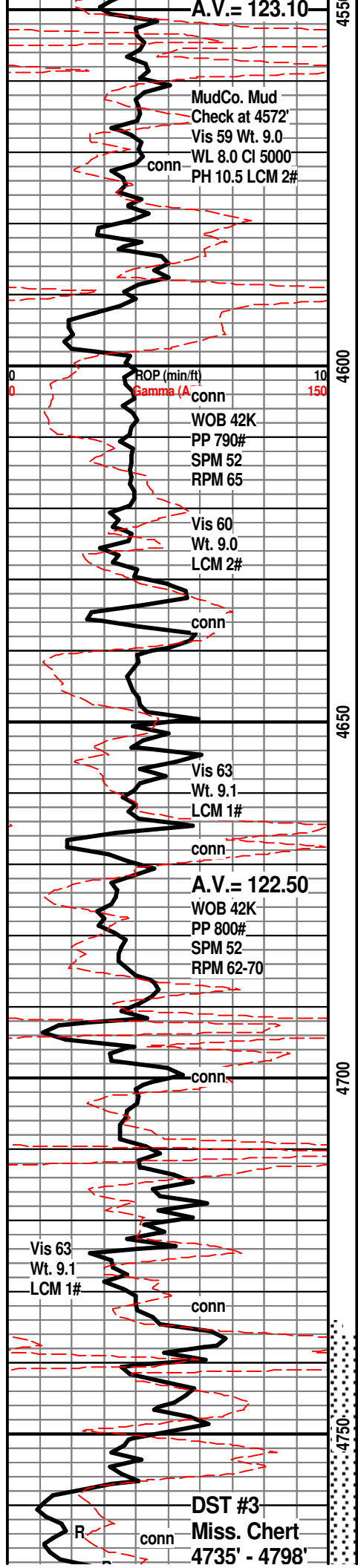
LM; off wh, lt gy, buff, most dense, blocky, micritic, minor chalky mtx, no vis por, no fluor, interbdd gritty to occ sandy text tite lmst, ns.

LM; med brn, blocky, scat gy/tan cht, tite

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

**HERTHA 4548(-2341)**  
LM; lt brn. tan. buff. foss w/scat foss pellets and foss





hash, most well cem, spotted med yel fluor, poor/no vis por, no stn, ns.

LM; med to dk gy brn, dk brn, dense/ litho, trc calc fld fracs, pyr ip, no vis por, no fluor, ns.

LM; med to dk brn, gy brn, some gritty text lmst, rare smoky cht, tite

**BASE KANSAS CITY 4578(-2371)**

LM; med gy, med gy brn, argil ip, tite

SH; grn, gy grn, some varic, interbdd argil lmst, some silty flakey shale, minor amt. of pyr

**PLEASANTON 4598(-2391)**

LM; tan to lt brn, some cream, foss ip, no vis por, interbdd chalky partly soft lmst, dull yel min fluor, no stn or odor, no sample shows

LM; off wh, cse xln w/some chalky mtz, v. firm, lt yel min fluor, no vis por, ns.

**MARMATON 4626(-2419)**

LM; lt brn, lt gy, occ gy grn, dense, argil ip, hd, no vis por, ns.

SH; grn, gy, occ varic, platy, firm

LM; tan to cream, buff, foss w/occ well cem foss pellets/ooids, minor chalky mtz, lt to med yel fluor, no vis por, ns.

LM; tan to lt brn, fxln w/scat foss mat, trc fracs w/open frac faces, most dense, dull to occ lt yel fluor, no vis stn, no odor, ns.

SH; med gy, some blk, platy

**PAWNEE 4672(-2465)**

LM; lt to med brn, rarely foss, fxln, much dense hd micrite, no vis por, no fluor, ns.

LM; tan to lt brn, most dense, occ amber to smoky cht, no vis por, no fluor, ns.

SH; blk, carb ip, blocky, rare pyr

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

LM; lt to med brn, rare buff, foss ip, hd, most dense - micritic, blocky, rare lt yel min fluor, ns.

**CHEROKEE SHALE 4710(-2503)**

SH; dk gy, blk, gy grn, platy

LM; tan to lt brn, off wh, well cem foss frags, trc corals, dense, no vis por, dull yel fluor, ns.

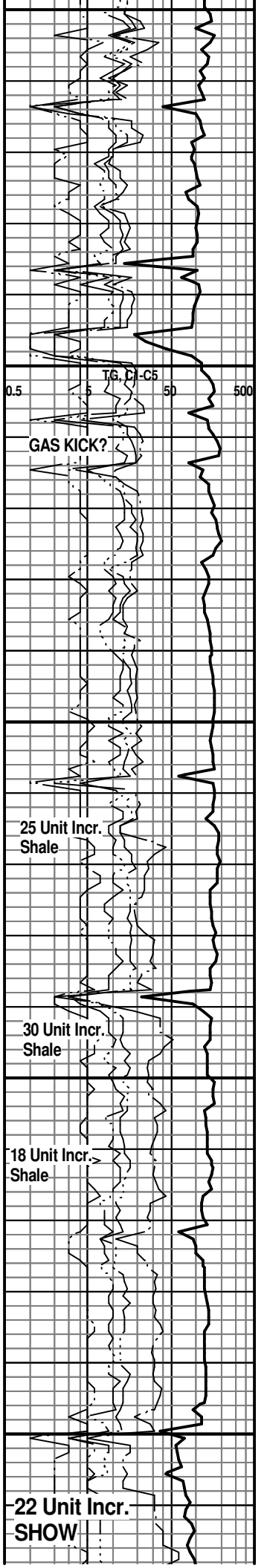
LM; lt brn, buff, fxln, rare foss mat, trc fracs w/blk tar/gils. on frac faces, few pcs. org cht, dull yel fluor, no odor, no apparent gas kick

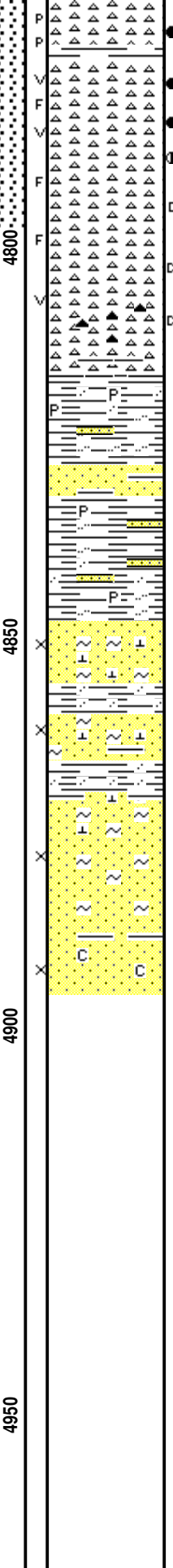
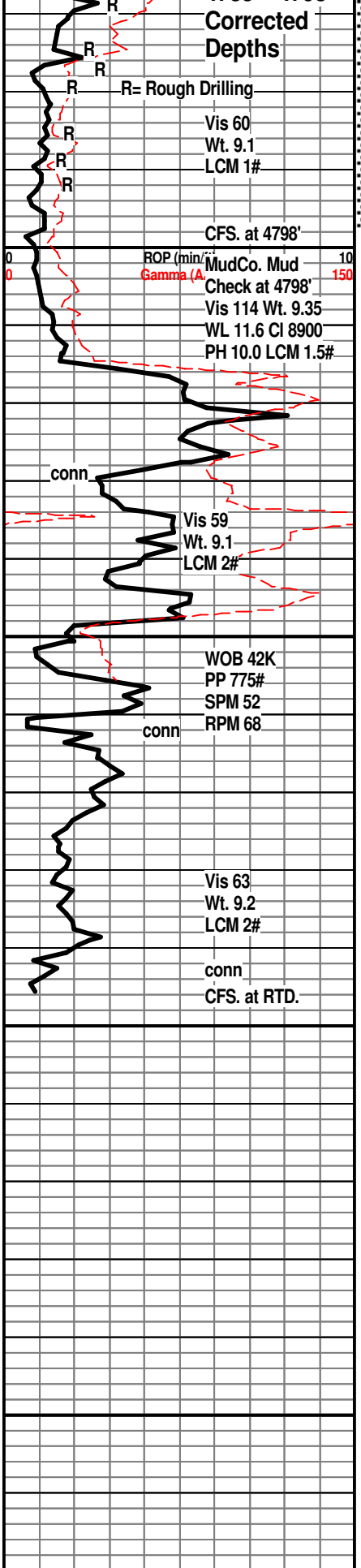
SH; blk, platy, occ pyr

LM; lt brn, tan, fxln, most dense, scat blk tar/gils spots, lt yel fluor, no odor, no gas kick

**MISSISSIPPI CHERT 4757(-2550)**

CHT; wh, off wh, med brn(oil stained), fresh cht w/ tripolite w/fair p-p por, some oil sat pcs, few fracs, some bleeding oil/gas bubbles, golden yel fluor, fair odor, gd cut





CHT; wh, off wh, spotted to even med brn live oil stn, SFO, gd odor, some gy spicular cht, mostly tripolite, fair to gd p-p por in some

CHT; lt brn, tripolite, oil saturated ip, fair to gd odor, med to brite yel fluor, SFO, occ gd vug por

CHT; tan, org, brn, off wh, pred fresh, sharp edges, likely fracs, decr. shows, spotted med to occ brite yel fluor, some dead tar/gilsonite

**DST #3: Miss. Chert 4735' - 4798'**  
**Corrected Depths to Log**

CHT; off wh, org, grn, red, fresh, scat blk tar/gilsonite, rare discontinuous vug por, poss fracs, spotted med yel fluor, no odor

**KINDERHOOK SHALE 4815(-2608)**  
SH; grn, gy grn, some varic, silty to sandy, firm, occ pyr

SS; lt gy to pale grn, vf gr qtz, soft ip, shaly, no fluor, no stn or odor, ns.

SH; grn, gy grn, rare varic sh, interbdd vg to rarely f gr qtz ss strngs, minor pyr, platy

**KINDERHOOK SAND 4848(-2641)**  
SS; wh, pale grn, glau ip, fair to gd intergran por, well srt, subang - subrnd gr, calc cmt, trc chlorite, no fluor, no vis stn, questionable gas bubbles, no cut

SS; wh, rare clr/lt gy, all f gr qtz, clusters, gd intergran por in some, calc, some argil, interbdd hd shales and shaly ss, no fluor, no vis stn, ns.

SS; wh, pale grn, f gr qtz, clusters, glau w/some chlorite, brn clay incl and flecks, argil ip, some well cem clusters, fair intergran por, no fluor, ns.

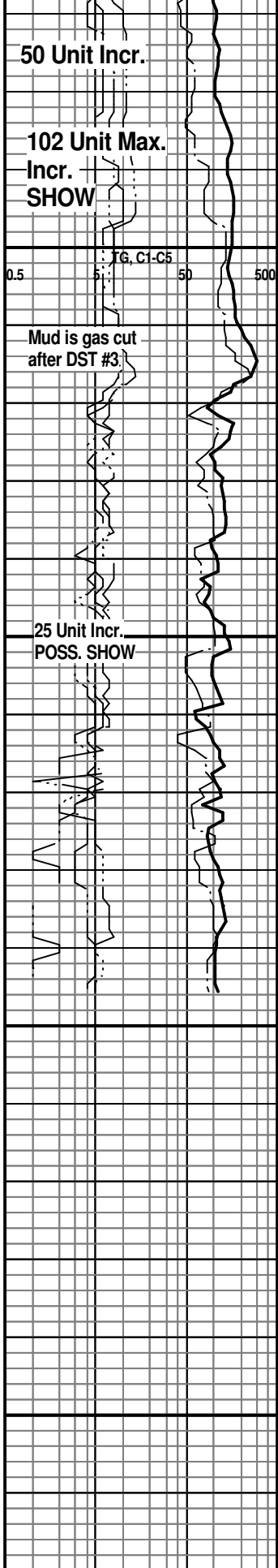
SS; wh, pale grn, f gr, well srt, clusters, minor soft chalky mtx, gd intergran por, no fluor, ns.

**RTD. 4900' at 11:00 PM. 4/25/13**

**LTD. 4896'**

**Halliburton DIL, NEU/DEN with PE, Microlog**

**NOTE: This log was shifted upward by 4' - 6' for correlation purposes with the Halliburton LOGS.**





## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Art Todd #1-20**

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

Start Date: 2013.04.21 @ 15:07:02

End Date: 2013.04.21 @ 22:49:47

Job Ticket #: 50479                      DST #: 1

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

Printed: 2013.04.29 @ 11:19:43



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

**20-27s-18w Kiowa,KS**  
**Art Todd #1-20**  
 Job Ticket: 50479 **DST#: 1**  
 Test Start: 2013.04.21 @ 15:07:02

## GENERAL INFORMATION:

Formation: **Lansing A**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:05:02  
 Time Test Ended: 22:49:47  
 Interval: **4197.00 ft (KB) To 4214.00 ft (KB) (TVD)**  
 Total Depth: 4214.00 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: 2207.00 ft (KB)  
 2196.00 ft (CF)  
 KB to GR/CF: 11.00 ft

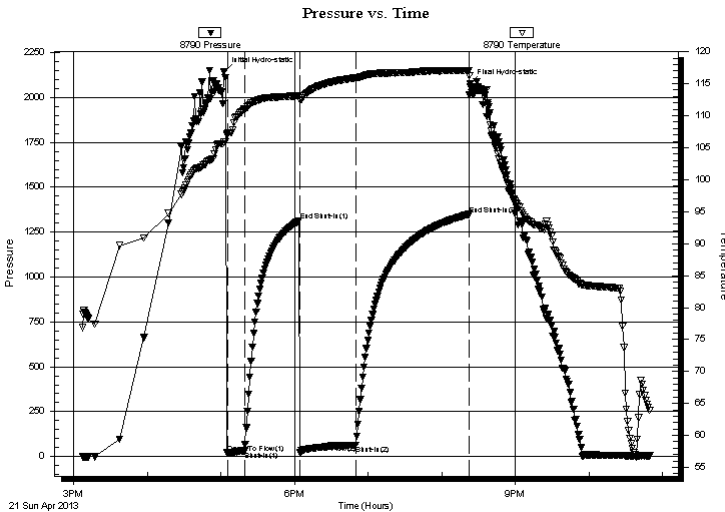
## Serial #: 8790

Inside

Press @ Run Depth: 64.17 psig @ 4198.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.21 End Date: 2013.04.21 Last Calib.: 2013.04.21  
 Start Time: 15:07:07 End Time: 22:49:46 Time On Btm: 2013.04.21 @ 17:02:32  
 Time Off Btm: 2013.04.21 @ 20:23:02

TEST COMMENT: IF: Strong blow . BOB in 20 sec. No GTS.  
 IS!: No blow  
 FF: Strong blow . BOB immed. No GTS.  
 FS!: Weak blow . Surf. - 1/2"

## PRESSURE SUMMARY



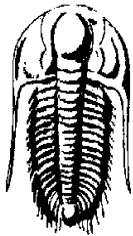
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2142.73	105.85	Initial Hydro-static
3	18.96	107.19	Open To Flow (1)
17	31.59	111.00	Shut-In(1)
62	1313.87	113.14	End Shut-In(1)
62	20.58	112.41	Open To Flow (2)
108	64.17	115.95	Shut-In(2)
200	1349.09	117.08	End Shut-In(2)
201	2076.36	114.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	2375' GIP	0.00
60.00	SLI OGCMW 2%oil, 5%gas, 10%mud, 83%0.30r	
60.00	WOGCM 12%w tr, 13%oil, 17%gas, 58%0.30	
20.00	WGCOM 7%w tr, 9%gas, 15%oil, 69%0.10	

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Herman L. Loeb LLC.

20-27s-18w Kiowa, KS

PO Box 838  
Lawrenceville, IL 62439

Art Todd #1-20

Job Ticket: 50479

DST#: 1

ATTN: Jon Christensen

Test Start: 2013.04.21 @ 15:07:02

## GENERAL INFORMATION:

Formation: **Lansing A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:05:02

Time Test Ended: 22:49:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Ryan Reynolds

Unit No: 48

Interval: **4197.00 ft (KB) To 4214.00 ft (KB) (TVD)**

Reference Elevations: 2207.00 ft (KB)

Total Depth: 4214.00 ft (KB) (TVD)

2196.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8792      Outside**

Press @ Run Depth:                      psig @      4198.00 ft (KB)

Capacity:    8000.00 psig

Start Date:                                  2013.04.21                      End Date:                                  2013.04.21

Last Calib.:                                      2013.04.21

Start Time:                                  15:03:02                      End Time:                                  22:52:41

Time On Btm:

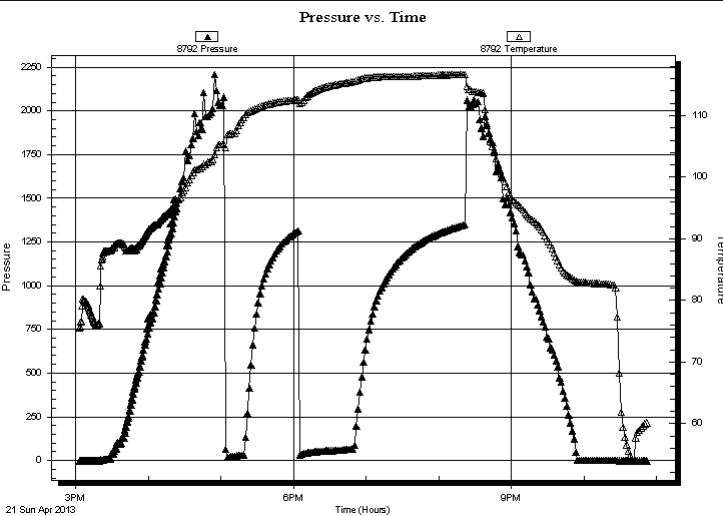
Time Off Btm:

TEST COMMENT: IF: Strong blow . BOB in 20 sec. No GTS.

IS: No blow

FF: Strong blow . BOB immed. No GTS.

FS: Weak blow . Surf. - 1/2"



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	2375' GIP	0.00
60.00	SLI OGCMW 2%oil, 5%gas, 10% mud, 83%	0.30
60.00	WOGCM 12%w tr, 13%oil, 17%gas, 58%	0.30
20.00	WGCOM 7%w tr, 9%gas, 15%oil, 69%	0.10

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50479

**DST#: 1**

ATTN: Jon Christensen

Test Start: 2013.04.21 @ 15:07:02

## Tool Information

Drill Pipe:	Length: 3983.00 ft	Diameter: 3.80 inches	Volume: 55.87 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: 216.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 81000.00 lb
			<u>Total Volume: 56.93 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 71000.00 lb
Depth to Top Packer:	4197.00 ft			Final 71500.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	39.00 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			4180.00	
Hydraulic tool	5.00			4185.00	
Safety Joint	2.00			4187.00	
Packer	5.00			4192.00	22.00 Bottom Of Top Packer
Packer	5.00			4197.00	
Stubb	1.00			4198.00	
Recorder	0.00	8790	Inside	4198.00	
Recorder	0.00	8792	Outside	4198.00	
Perforations	13.00			4211.00	
Bullnose	3.00			4214.00	17.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>39.00</b>				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50479

**DST#: 1**

ATTN: Jon Christensen

Test Start: 2013.04.21 @ 15:07:02

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 63.00 sec/qt  
Water Loss: 13.18 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6800.00 ppm  
Filter Cake: 0.20 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: 180000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2375' GIP	0.000
60.00	SLI OGCMW 2%oil, 5%gas, 10%mud, 83%w	0.295
60.00	WOGCM 12%w tr, 13%oil, 17%gas, 58%mud	0.295
20.00	WGCOM 7%w tr, 9%gas, 15%oil, 69%mud	0.098

Total Length: 140.00 ft      Total Volume: 0.688 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

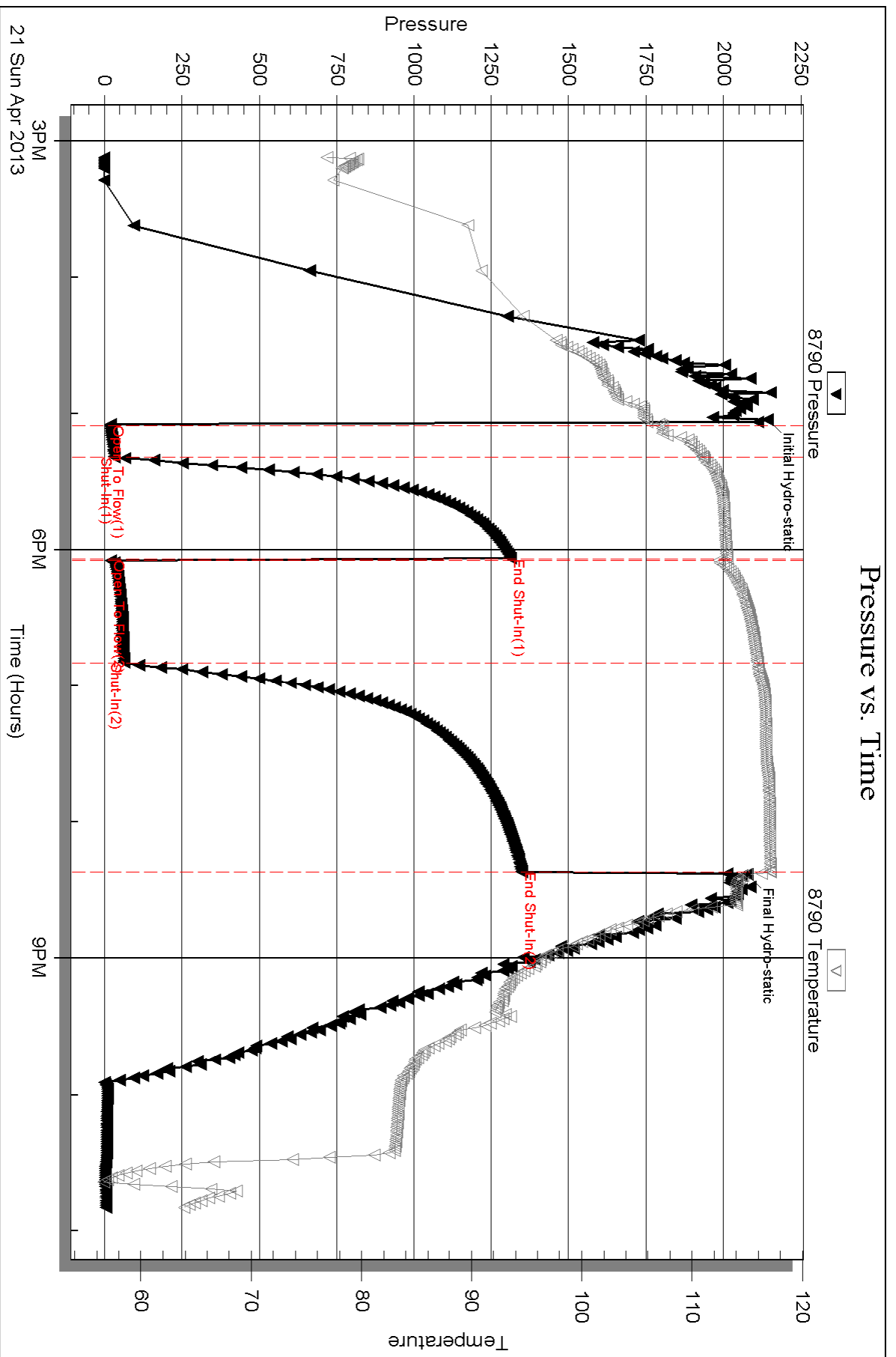
Serial #: 8790

Inside

Herrman L. Loeb LLC.

Art Todd #1-20

DST Test Number: 1

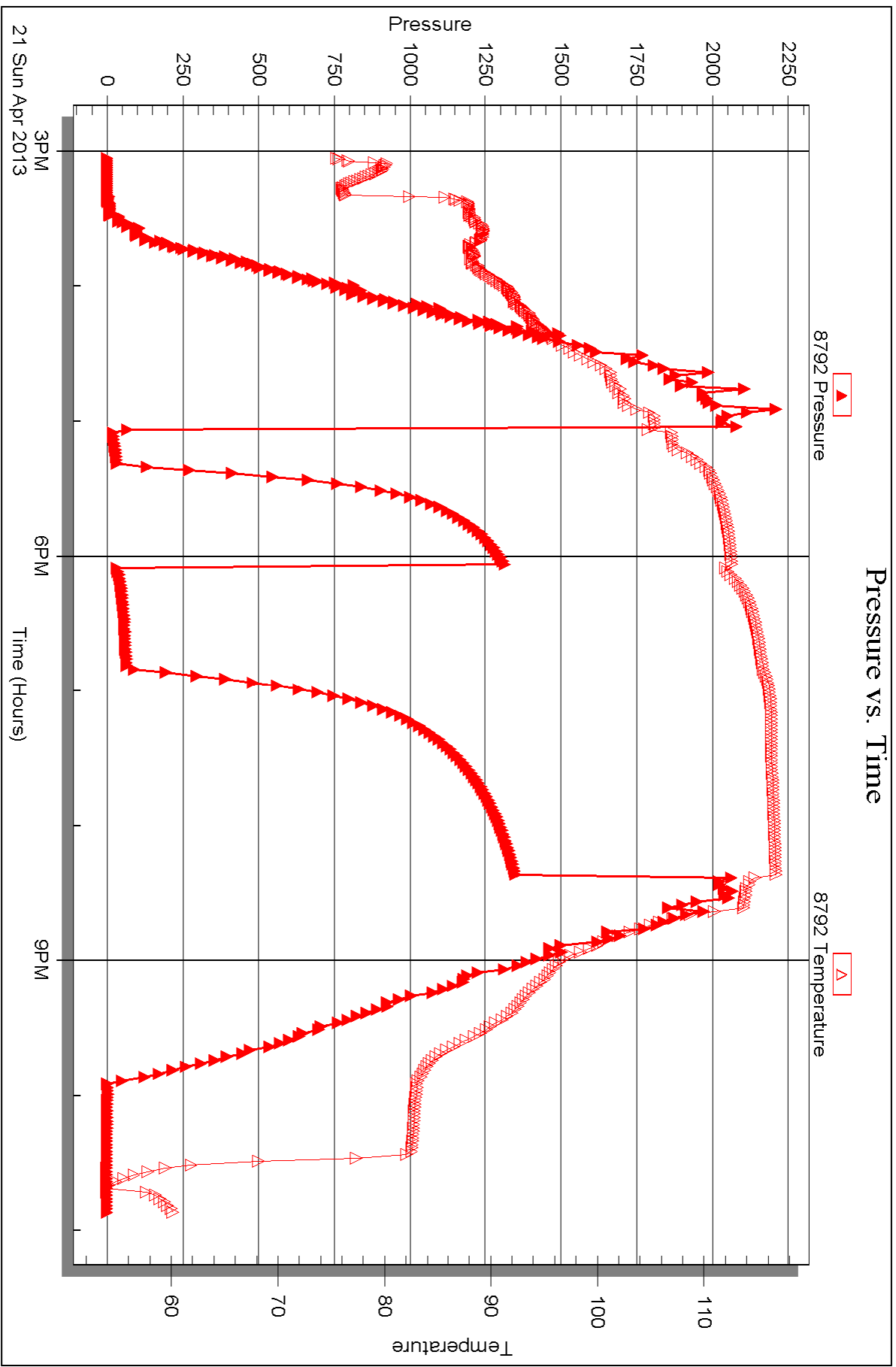


Serial #: 8792

Outside Herrman L. Loeb LLC.

Art Todd #1-20

DST Test Number: 1





## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Art Todd #1-20**

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

Start Date: 2013.04.23 @ 09:38:14

End Date: 2013.04.23 @ 17:50:59

Job Ticket #: 50480                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.29 @ 11:18:30



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

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

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

**Art Todd #1-20**

Job Ticket: 50480      **DST#: 2**  
Test Start: 2013.04.23 @ 09:38:14

## GENERAL INFORMATION:

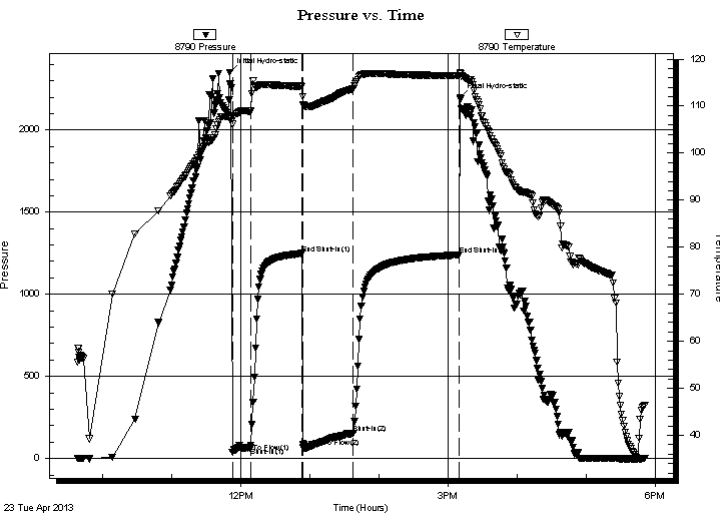
Formation: **KC. "I"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 11:52:44  
Time Test Ended: 17:50:59  
Interval: **4392.00 ft (KB) To 4414.00 ft (KB) (TVD)**  
Total Depth: 4414.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 2207.00 ft (KB)  
2196.00 ft (CF)  
KB to GR/CF: 11.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Ryan Reynolds  
Unit No: 48

## Serial #: 8790

Inside

Press @ Run Depth: 153.82 psig @ 4393.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2013.04.23      End Date: 2013.04.23      Last Calib.: 2013.04.23  
Start Time: 09:38:19      End Time: 17:50:58      Time On Btm: 2013.04.23 @ 11:50:14  
Time Off Btm: 2013.04.23 @ 15:10:29

TEST COMMENT: IF: Strong blow . BOB 2 min. No GTS.  
IS: Weak blow . Surf. - 2" - 1"  
FF: Strong blow . BOB immed. GTS @ 14 min. Gauged throughout.  
FS: Strong BB. BOB @ 54 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2351.01	107.77	Initial Hydro-static
3	36.02	106.16	Open To Flow (1)
19	65.93	108.89	Shut-In(1)
63	1248.13	114.21	End Shut-In(1)
64	65.55	110.31	Open To Flow (2)
108	153.82	113.70	Shut-In(2)
200	1239.72	116.49	End Shut-In(2)
201	2198.89	117.16	Final Hydro-static

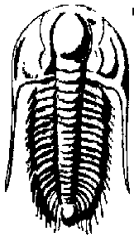
## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MWCO 3% mud, 12% w tr, 85% oil	0.59
275.00	SLI WCGMO 4% w tr, 20% gas, 20% mud, 2.98 oil	

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	11.00	9.51
Last Gas Rate	0.13	18.00	12.13
Max. Gas Rate	0.13	18.00	12.13



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50480 **DST#: 2**

ATTN: Jon Christensen

Test Start: 2013.04.23 @ 09:38:14

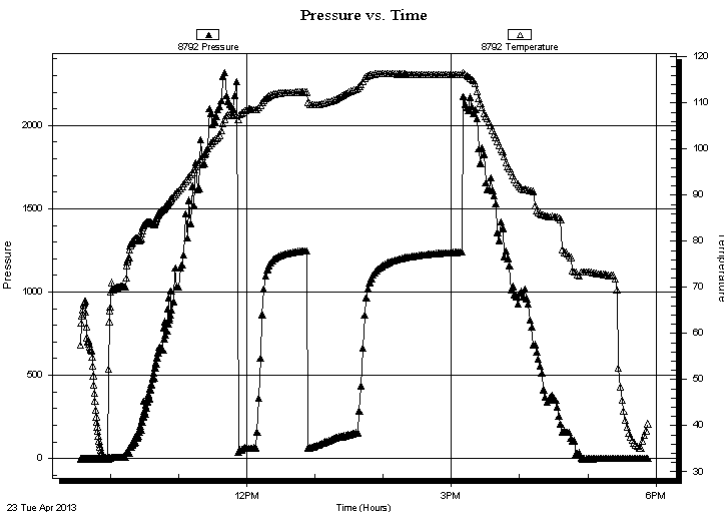
## GENERAL INFORMATION:

Formation: **KC. "I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:52:44  
 Time Test Ended: 17:50:59  
 Interval: **4392.00 ft (KB) To 4414.00 ft (KB) (TVD)**  
 Total Depth: 4414.00 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: 2207.00 ft (KB)  
 2196.00 ft (CF)  
 KB to GR/CF: 11.00 ft

## Serial #: 8792 Outside

Press @ Run Depth: psig @ 4393.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.04.23 End Date: 2013.04.23 Last Calib.: 2013.04.23  
 Start Time: 09:33:53 End Time: 17:53:32 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF: Strong blow . BOB 2 min. No GTS.  
 IS: Weak blow . Surf. - 2" - 1"  
 FF: Strong blow . BOB immed. GTS @ 14 min. Gauged throughout.  
 FS: Strong BB. BOB @ 54 min.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	MWCO 3% mud, 12% w tr, 85% oil	0.59
275.00	SLI WCGMO 4% w tr, 20% gas, 20% mud, 2.98 oil	

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	11.00	9.51
Last Gas Rate	0.13	18.00	12.13
Max. Gas Rate	0.13	18.00	12.13

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50480

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2013.04.23 @ 09:38:14

## Tool Information

Drill Pipe:	Length: 4174.00 ft	Diameter: 3.80 inches	Volume: 58.55 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: 216.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 59.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 74000.00 lb
Depth to Top Packer:	4392.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	44.00 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			4375.00	
Hydraulic tool	5.00			4380.00	
Safety Joint	2.00			4382.00	
Packer	5.00			4387.00	22.00 Bottom Of Top Packer
Packer	5.00			4392.00	
Stubb	1.00			4393.00	
Recorder	0.00	8790	Inside	4393.00	
Recorder	0.00	8792	Outside	4393.00	
Perforations	18.00			4411.00	
Bullnose	3.00			4414.00	22.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50480

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2013.04.23 @ 09:38:14

## 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:

8200 ppm

Viscosity: 70.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8200.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MWCO 3% mud, 12% w tr, 85% oil	0.590
275.00	SLI WCGMO 4% w tr, 20% gas, 20% mud, 56%	2.983

Total Length: 395.00 ft

Total Volume: 3.573 bbl

Num Fluid Samples: 1

Num Gas Bombs: 1

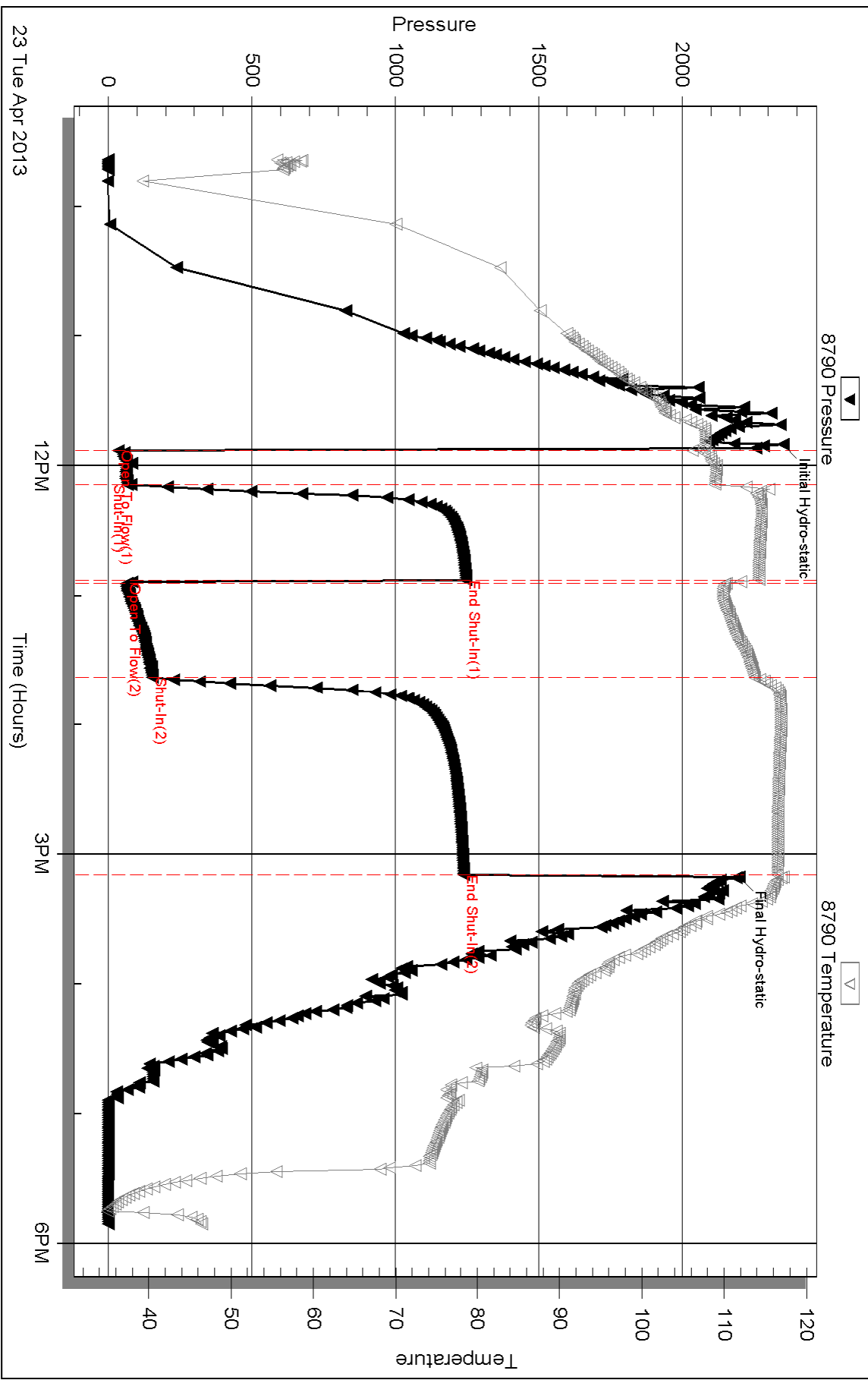
Serial #: RR-1

Laboratory Name: Caraway

Laboratory Location: Liberal, KS

Recovery Comments:

# Pressure vs. Time

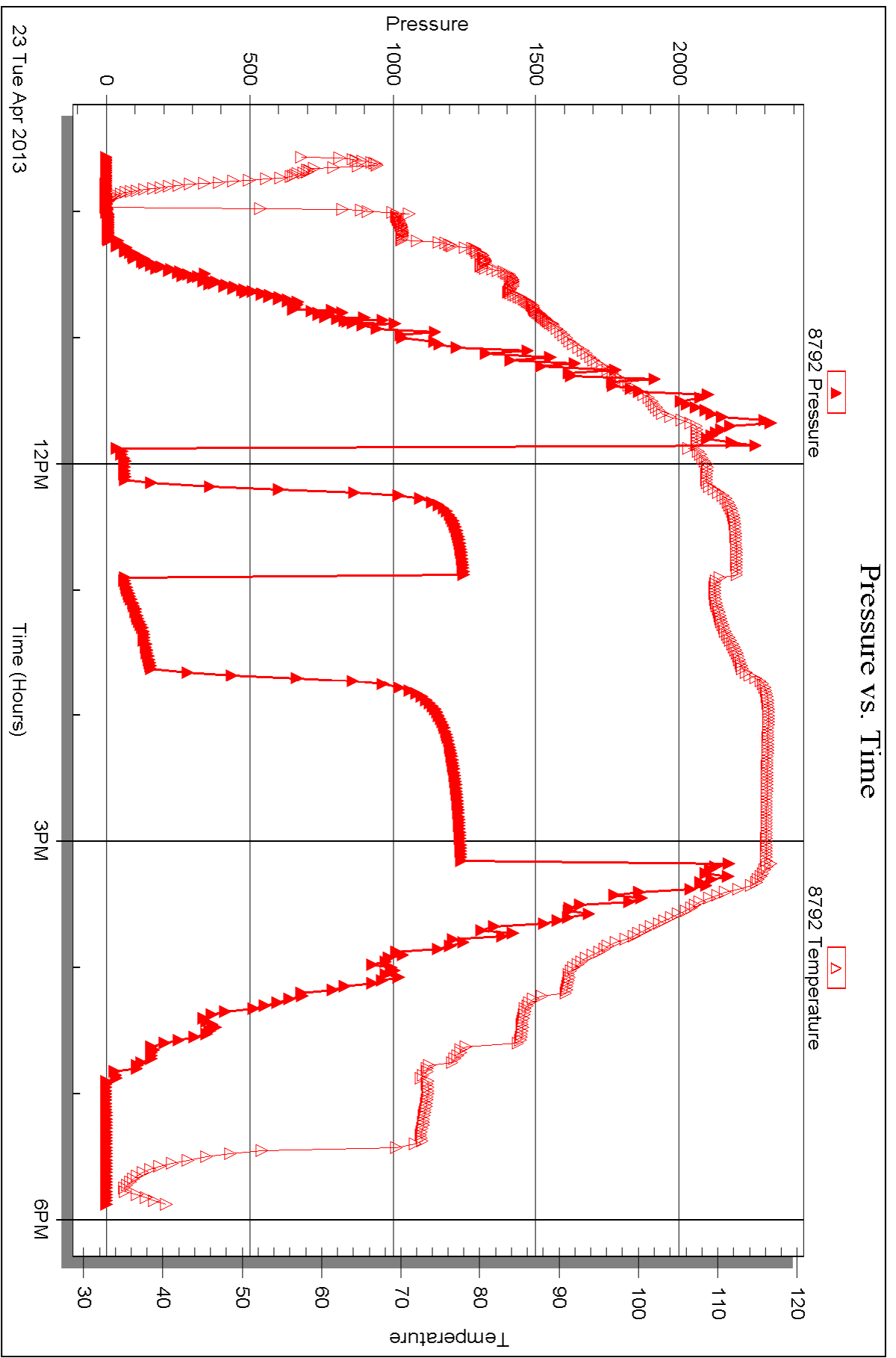


Serial #: 8792

Outside    Herman L. Loeb LLC.

Art Todd #1-20

DST Test Number: 2





## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

### **Art Todd #1-20**

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

Start Date: 2013.04.25 @ 06:20:04

End Date: 2013.04.25 @ 14:40:49

Job Ticket #: 50481                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.04.29 @ 11:17:47

Herman L. Loeb LLC.  
20-27s-18w Kiowa,KS  
Art Todd #1-20  
DST # 3  
Miss. Chert  
2013.04.25



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

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

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

**Art Todd #1-20**

Job Ticket: 50481      **DST#: 3**  
 Test Start: 2013.04.25 @ 06:20:04

## GENERAL INFORMATION:

Formation: **Miss. Chert**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 08:44:04  
 Time Test Ended: 14:40:49  
 Interval: **4739.00 ft (KB) To 4802.00 ft (KB) (TVD)**  
 Total Depth: 4802.00 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: 2207.00 ft (KB)  
 2196.00 ft (CF)  
 KB to GR/CF: 11.00 ft

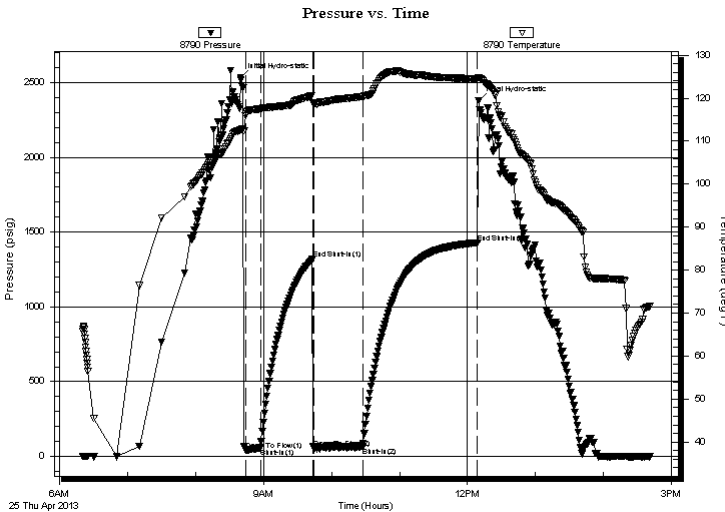
## Serial #: 8790

Inside

Press @ Run Depth: 61.44 psig @ 4740.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.04.25      End Date: 2013.04.25      Last Calib.: 2013.04.25  
 Start Time: 06:20:09      End Time: 14:40:48      Time On Btm: 2013.04.25 @ 08:39:34  
 Time Off Btm: 2013.04.25 @ 12:09:49

TEST COMMENT: IF: Strong blow . BOB @ 1 min. No GTS.  
 IS: Weak surf. blow .  
 FF: Strong blow . BOB @ 10 sec. GTS @ 28 min.  
 FS: No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2531.54	112.65	Initial Hydro-static
5	41.13	116.25	Open To Flow (1)
18	57.55	117.50	Shut-In(1)
64	1318.56	120.61	End Shut-In(1)
65	52.49	118.74	Open To Flow (2)
108	61.44	120.36	Shut-In(2)
210	1429.89	124.53	End Shut-In(2)
211	2377.18	124.78	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	SLI OCGM 1%oil, 4%gas, 95%mud	0.59
0.00	Spots of free oil in hyd. tool	0.00

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	3.00	6.51
Last Gas Rate	0.13	3.50	6.70
Max. Gas Rate	0.13	3.50	6.70





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50481

**DST#: 3**

ATTN: Jon Christensen

Test Start: 2013.04.25 @ 06:20:04

## Tool Information

Drill Pipe:	Length: 4525.00 ft	Diameter: 3.80 inches	Volume: 63.47 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: 216.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose:	84000.00 lb
			<u>Total Volume: 64.53 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	78000.00 lb
Depth to Top Packer:	4739.00 ft			Final	78000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	63.00 ft				
Tool Length:	85.00 ft				
Number of Packers:	2	Diameter: 6.50 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4722.00	
Hydraulic tool	5.00			4727.00	
Safety Joint	2.00			4729.00	
Packer	5.00			4734.00	22.00 Bottom Of Top Packer
Packer	5.00			4739.00	
Stubb	1.00			4740.00	
Recorder	0.00	8790	Inside	4740.00	
Recorder	0.00	8792	Outside	4740.00	
Perforations	2.00			4742.00	
Change Over Sub	1.00			4743.00	
Drill Pipe	32.00			4775.00	
Change Over Sub	1.00			4776.00	
Perforations	23.00			4799.00	
Bullnose	3.00			4802.00	63.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Herman L. Loeb LLC.

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

PO Box 838  
Lawrenceville, IL 62439

**Art Todd #1-20**

Job Ticket: 50481

**DST#: 3**

ATTN: Jon Christensen

Test Start: 2013.04.25 @ 06:20:04

## 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:

5000 ppm

Viscosity: sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.20 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	SLI OCGM 1%oil, 4%gas, 95%mud	0.590
0.00	Spots of free oil in hyd. tool	0.000

Total Length: 120.00 ft

Total Volume: 0.590 bbl

Num Fluid Samples: 1

Num Gas Bombs: 1

Serial #: RR-2

Laboratory Name: Caraway

Laboratory Location: Liberal, KS

Recovery Comments:



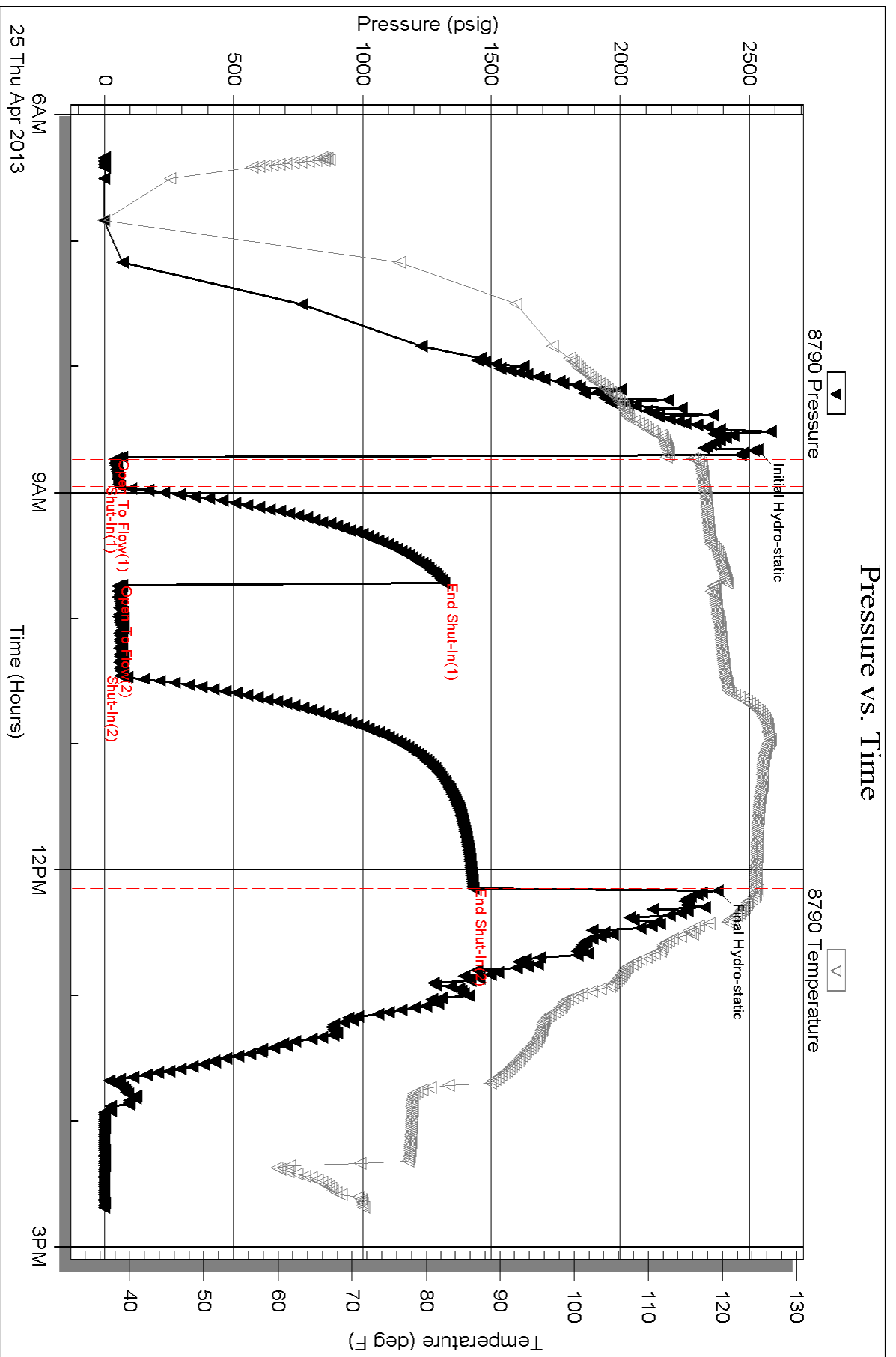
Serial #: 8790

Inside

Herrman L. Loeb LLC.

Art Todd #1-20

DST Test Number: 3

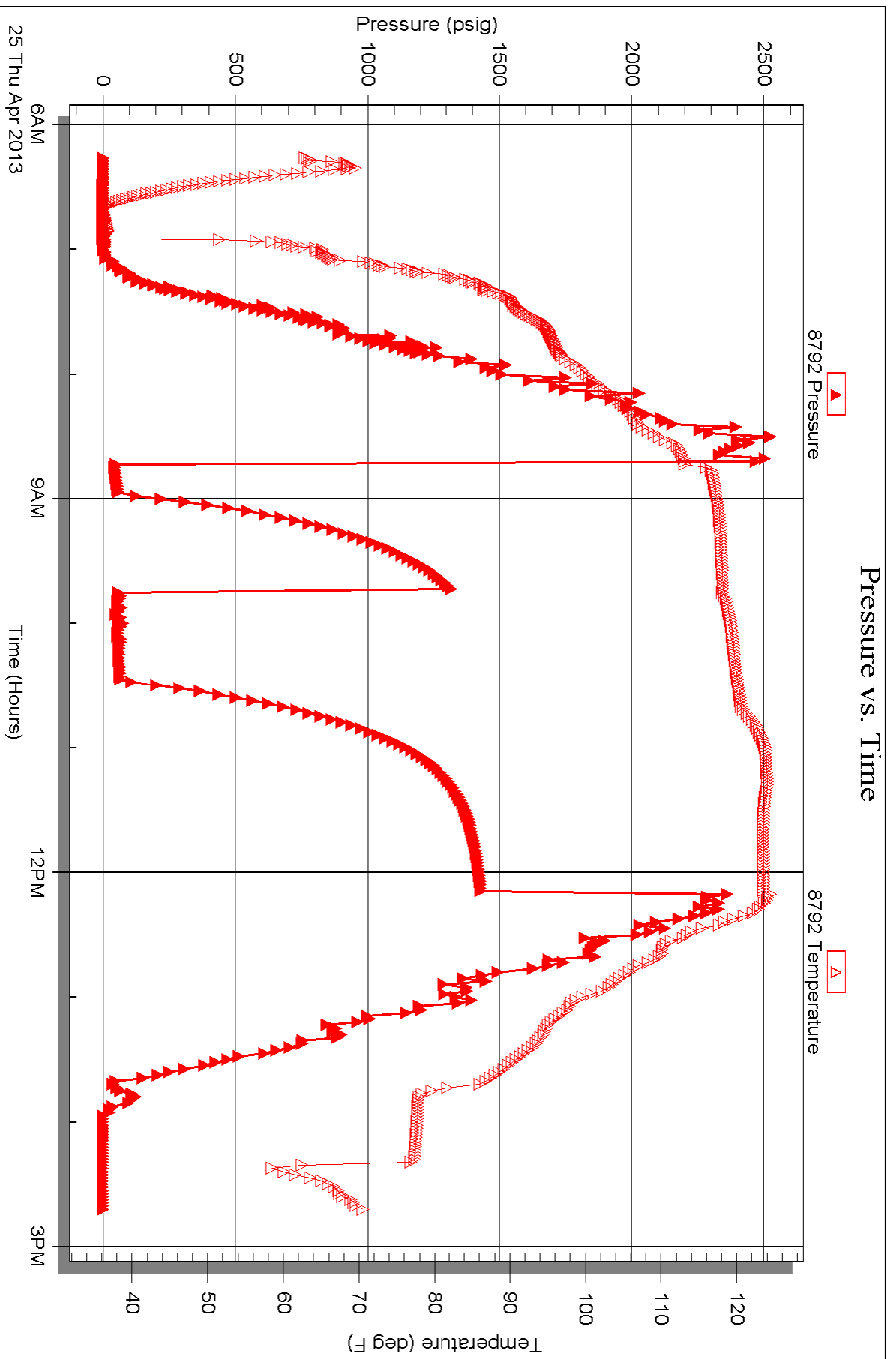


Serial #: 8792

Outside Herman L. Loeb LLC.

Art Todd #1-20

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50479

4/10

Well Name & No. Art Todd # 1-20 Test No. 1 Date 4-21-13  
 Company Herman L. Loeb LLC Elevation 2207 KB 2196 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling 2  
 Location: Sec. 20 Twp. 27s. Rge. 18w. Co. kiowa State KS

Interval Tested 4197-4214 Zone Tested Lansing "A"  
 Anchor Length 17' Drill Pipe Run 3983 Mud Wt. 9.4  
 Top Packer Depth 4192 Drill Collars Run 216 Vis 63  
 Bottom Packer Depth 4197 Wt. Pipe Run Ø WL 13.2  
 Total Depth 4214 Chlorides 6800 ppm System LCM 1#

Blow Description IF: Strong blow. BOB in 20 sec. No GTS.  
ISI: No blow  
FF: Strong blow. BOB immed. No GTS.  
FSI: Weak blow. Surf - 1/2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>2375</u>	<u>GIP</u>				
<u>20</u>	<u>WGLOM</u>	<u>9</u>	<u>15</u>	<u>7</u>	<u>69</u>
<u>60</u>	<u>WOGCM</u>	<u>17</u>	<u>13</u>	<u>12</u>	<u>58</u>
<u>60</u>	<u>SLI OCMW</u>	<u>5</u>	<u>2</u>	<u>83</u>	<u>10</u>

Rec Total 2515 BHT 117 Gravity W/C API RW 006 @ 58.5 F Chlorides 180000 ppm

(A) Initial Hydrostatic 2143  Test 1250 T-On Location 1420  
 (B) First Initial Flow 19  Jars \_\_\_\_\_ T-Started 1507  
 (C) First Final Flow 32  Safety Joint 75 T-Open 1705  
 (D) Initial Shut-In 1314  Circ Sub \_\_\_\_\_ T-Pulled 2020  
 (E) Second Initial Flow 21  Hourly Standby \_\_\_\_\_ T-Out 2250  
 (F) Second Final Flow 64  Mileage 251.10 81+81 Test "Dry" Comments Called to Loc. to run DST 2, Oper. shut down rig due to high winds/wthr.  
 (G) Final Shut-In 1349  Sampler \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 (H) Final Hydrostatic 2076  Straddle \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby + Total 1576.10  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1576.10

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. 50480

4/10

Well Name & No. Art Todd # 1-20 Test No. 2 Date 4-23-13  
 Company Herman L. Loeb, LLC. Elevation 2207 KB 2196 GL  
 Address P.O. Box 838 Lawrenceville, IL 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling # 2  
 Location: Sec. 20 Twp. 27s. Rge. 18w. Co. Kiowa State KS

Interval Tested 4392'-4414 Zone Tested K.C. "I"  
 Anchor Length 22' Drill Pipe Run 4174 Mud Wt. 9.1+  
 Top Packer Depth 4387 Drill Collars Run 216 Vis 70  
 Bottom Packer Depth 4392 Wt. Pipe Run Ø WL 10.8  
 Total Depth 4414 Chlorides 8200 ppm System LCM 1 #

Blow Description IF: Strong blow. BOB 2 min. No GTS.  
ISI: Weak blow. Surf - 2" - 1"  
FF: Strong blow. BOB immed. GTS @ 14 min. Graged gas throughout.  
FSI: Strong BB. BOB @ 54 min.

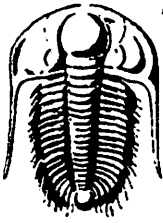
Rec	Feet of	%gas	%oil	%water	%mud
<u>275</u>	<u>SLI WLGMO</u>	<u>20</u>	<u>56</u>	<u>4</u>	<u>20</u>
<u>120</u>	<u>MWCO</u>	<u>85</u>	<u>12</u>	<u>3</u>	<u>3</u>
<u>    </u>	<u>(No enough wtr. to get RW)</u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

Rec Total 395 BHT 117 Gravity 43 API RW N/C @ N/C °F Chlorides 94000? ppm

(A) Initial Hydrostatic 2351  Test 1250 T-On Location 0920  
 (B) First Initial Flow 36  Jars      T-Started 0938  
 (C) First Final Flow 66  Safety Joint 75 T-Open 1153  
 (D) Initial Shut-In 1248  Circ Sub      T-Pulled 1510  
 (E) Second Initial Flow 66  Hourly Standby      T-Out 1751  
 (F) Second Final Flow 154  Mileage 81 125.55 Comments       
 (G) Final Shut-In 1240  Sampler       
 (H) Final Hydrostatic 2199  Straddle       
 Shale Packer       
 Ruined Shale Packer       
 Ruined Packer       
 Extra Packer       
 Extra Copies     

Initial Open 15  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 90  
 Day Standby 1 Day 10.5h  
 Accessibility       
 Sub Total 1450.55  
 Sub Total 350  
 Total 1800.55  
 MP/DST Disc't     

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



# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

## GAS VOLUME REPORT

Herman L. Loeb, LLC. OPERATOR

Art Todd #1-20 (KC "I") WELL NAME AND NO.

2 DST NO.

No GTS on IFP,  
Final Flow Period GTS @ 14 min.

Min.	Ins. of Water		Field	1 ATMS		Min.	Ins. of Water		CF/D
	PSIG	Orifice Size		M	CF/D 2000		PSIG	Orifice Size	
20	11 #	1/8"	8.9	9.507					
30	15 #	1/8"	10.3	11.004					
40	18 #	1/8"	11.3	12.127					
45	19 #	1/8"	11.7	12.501					

Remarks:



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50481

4/10

Well Name & No. Art Todd # 1-20 Test No. 3 Date 4-25-13  
 Company Herman L. Loeb, LLC. Elevation 2207 KB 2196 GL  
 Address P.O. Box 838 Lawrenceville, IL. 62439  
 Co. Rep / Geo. Jon Christensen Rig Sterling # 2  
 Location: Sec. 20 Twp. 27s. Rge. 18w. Co. Kiowa State KS

Interval Tested 4739-4802 Zone Tested Miss. Chert  
 Anchor Length 63 Drill Pipe Run 4525 Mud Wt. 9.0  
 Top Packer Depth 4734 Drill Collars Run 216 Vis 59  
 Bottom Packer Depth 4739 Wt. Pipe Run Ø WL 8.0  
 Total Depth 4802 Chlorides 5000 ppm System LCM 2#

Blow Description IF: Strong blow. BOB @ 1 min. No GTS.  
ISI: Weak surf. blow  
FF: Strong blow. BOB @ 10 sec. GTS @ 28min.  
FSI: No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>150</u>	<u>SLI OCGM</u>	<u>4</u>	<u>1</u>	<u>95</u>
<u>60</u>	<u>Feet of</u>	<u>(Spots of oil in hyd. tool)</u>			
<u>90</u>	<u>Feet of</u>				
<u>120</u>	<u>Feet of</u>				
<u>150</u>	<u>Feet of</u>				

Rec Total 150 BHT 125 Gravity M/C API RW N/C @ N/C °F Chlorides 5000 ppm

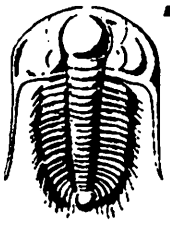
(A) Initial Hydrostatic 2532  Test 1250 T-On Location 0430  
 (B) First Initial Flow 41  Jars \_\_\_\_\_ T-Started 0620  
 (C) First Final Flow 58  Safety Joint 75 T-Open 0844  
 (D) Initial Shut-In 1319  Circ Sub \_\_\_\_\_ T-Pulled 1203  
 (E) Second Initial Flow 52  Hourly Standby \_\_\_\_\_ T-Out 1441  
 (F) Second Final Flow 61  Mileage 125.55 Comments \_\_\_\_\_  
 (G) Final Shut-In 1430  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2377  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby 1d 10.75h  
 Accessibility \_\_\_\_\_

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

Sub Total 1450.55

Sub Total 358.33  
 Total 1808.88  
 MP/DST Disc't \_\_\_\_\_

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.

P.O. Box 362 • Hays, Kansas 67601 • (785) 625-4778

## GAS VOLUME REPORT

Herman L. Loeb, LLC.  
OPERATOR

Art Todd 1-20 (Miss. Chert)  
WELL NAME AND NO.

3  
DST NO.

No GTS on IF  
Final Flow Period GTS @ 28min

Min.	In. of Water PSIG	Orifice Size	Field mCF/D	Atms		Min.	In. of Water PSIG	Orifice Size	CF/D
30	3#	1/8	6.1	6.513					
40	3.5#	1/8	6.3	6.700					
45	4#	1/8	6.5	6.887					

Remarks:



6076  
771ARTTODD  
6438

PAGE 1 of 1	CUST NO 1007589	INVOICE DATE 04/17/2013
INVOICE NUMBER 1718 - 91167457		

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 Art Todd 1-20  
 O LOCATION  
 B COUNTY Kiowa  
 S STATE KS  
 I JOB DESCRIPTION Cement-New Well Casing/Pi  
 T JOB CONTACT  
 E

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40586145	27463		Net 30 days	05/17/2013

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 04/16/2013 to 04/16/2013</i>				
0040586145				
171808166A-Cement-New Well Casing/Pi 04/16/2013				
Cement 8 5/8" Surface				
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
Flapper Type Insert Float Valves. 8 5/8"	1.00	EA	209.99	209.99
"8 5/8"" Basket (Blue)"	1.00	EA	236.23	236.23
"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

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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**BASIC**  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

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

FIELD SERVICE TICKET  
1718 08166-A

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

DATE OF JOB 4-16-13 DISTRICT Pratt		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 Loeb		LEASE Art Todd		WELL NO. 1-20						
ADDRESS		COUNTY Kiowa		STATE KS						
CITY		STATE		SERVICE CREW Orlando Mcbraw, Lawrence						
AUTHORIZED BY		JOB TYPE: CNW-8578 Sursado								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
27283	11						5/12/20			
27463	11					ARRIVED AT JOB				11:30
19826-19860	11					START OPERATION				7:00
						FINISH OPERATION				8:00
						RELEASED				9:30
						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: \_\_\_\_\_  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP101	A Con Blend Cement	SK	125		3150.00
CP100C	Common Cement	SK	125		2800.00
CL109	Cellulose	Lb	38		325.60
CL109	Calcium Chloride	Lb	825		866.25
CF105	Top Rubber Cement Plug 85%	ea	1		225.00
CF203	Guide Shoe 85% (P-2)	ea	1		550.00
CF1453	Flapper Type Insert Check Valve 85%	ea	1		280.00
CF1903	Basket 85%	ea	1		345.00
E100	Pickup Mileage	mi	35		148.75
E101	Heavy Equipment Mileage	mi	20		490.00
F113	Bulk Delivery	TN	578		924.00
CE201	Depth Charge 501-1000	ea	1		1200.00
CE240	Blending & Mixing	SK	350		490.00
CE504	Plug Container	ea	1		250.00
S003	Service Supervisor	ea	1		175.00
				SUB TOTAL	9142.20
				DLS	

CHEMICAL / ACID DATA:			

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

TOTAL

SERVICE REPRESENTATIVE Steve Orlando	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: _____
--------------------------------------	---

FIELD SERVICE ORDER NO. \_\_\_\_\_

(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

Customer <b>Herman Lueb</b>	Lease No.	Date <b>4-16-13</b>
Lease <b>Ant Todd</b>	Well # <b>1-00</b>	
Field Order # <b>2166</b>	Station <b>Pratt</b>	Casing <b>8 5/8</b>
		Depth <b>560</b>
Type Job <b>CNW- 8 5/8 Surface</b>	Formation	County <b>Rowan</b>
		State <b>KS</b>
		Legal Description <b>20.27-18</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <b>8 5/8</b>	Tubing Size	Shots/Ft	<b>175 sks</b>	Acid	<b>Hcon Blend</b>	RATE	PRESS	ISIP
Depth <b>560</b>	Depth	From	To	Pre Pad	<b>2.47-10</b>	Max		5 Min.
Volume <b>35.6</b>	Volume	From	To <b>175 sks</b>	Pad	<b>Common</b>	Min		10 Min.
Max Press <b>1000</b>	Max Press	From	To	Frac	<b>1.204-10</b>	Avg		15 Min.
Well Connection <b>P.C.</b>	Annulus Vol.	From	To			HHP Used		Annulus Pressure
Plug Depth <b>5 1/8</b>	Packer Depth	From	To	Flush	<b>33</b>	Gas Volume		Total Load

Customer Representative \_\_\_\_\_ Station Manager **David Scott** Treater **Steve Orlando**

Service Units	<b>27283</b>	<b>27463</b>	<b>19826</b>	<b>19860</b>					
Driver Names	<b>Orlando</b>	<b>McBain</b>	<b>Lawrence</b>						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<b>2:00 AM</b>					On location - Safety Meeting
					Run 13 sks 8 5/8 Surface
					& float shoe on 1st st w/insert
					Basket set @ 170'
					<del>Break</del> Break circ w/ris
	<b>300</b>		<b>77</b>	<b>5</b>	Mix 175 sks Hcon Blend
	<b>300</b>		<b>37</b>	<b>5</b>	Mix 175 sks Cement
					Release Plug
	<b>305</b>		<b>0</b>	<b>4 1/2</b>	Start H2O Displacement
	<b>300</b>		<b>13</b>	<b>4 1/2</b>	Cement to surface
<b>8:00 PM</b>	<b>500</b>		<b>33</b>	<b>4 1/2</b>	Plug Down - Hold
					Circulated 20 bbl top it
					Job Complete
					Thanks Steve



**BASIC**  
ENERGY SERVICES

6076  
771 ARTTODD  
6438

PAGE 1 of 1	CUST NO 1007589	INVOICE DATE 04/30/2013
INVOICE NUMBER 1718 - 91178953		

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 Art Todd 1-20  
O LOCATION  
B COUNTY Kiowa  
S STATE KS  
I JOB DESCRIPTION Cement-New Well Casing/Pi  
T  
E JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE	
40590749	20920		Net - 30 days	05/30/2013	
		QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 04/27/2013 to 04/27/2013</i>					
0040590749					
171808171A Cement-New Well Casing/Pi 04/27/2013 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 Milsage 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**  
40014  
MAY 13 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

CC4092144  
FIELD SERVICE TICKET

1718 08171 A

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

DATE OF JOB <b>4-26-13</b> DISTRICT <b>Pratt</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>Herman L. Lueb</b>		LEASE <b>Art Todd</b> WELL NO. <b>120</b>								
ADDRESS		COUNTY <b>Kiowa</b> STATE <b>KS</b>								
CITY STATE		SERVICE CREW <b>Orlando, McGraw, Youngs</b>								
AUTHORIZED BY		JOB TYPE: <b>CNW-5 1/2 L.S.</b>								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
<b>27283</b>	<b>1</b>						<b>4-26-13</b>			<b>1:00</b>
<b>33708-20920</b>	<b>1</b>					ARRIVED AT JOB				<b>4:00</b>
<b>7268673268</b>	<b>1</b>					START OPERATION				<b>10:30</b>
						FINISH OPERATION				<b>11:30</b>
						RELEASED	<b>4-27-13</b>			<b>12:30</b>
						MILES FROM STATION TO WELL				<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
CP104	50/50 P02	SK	200		2200.00
CP104	50/50 P02	SK	50		550.00
CC102	Celloflame	Lb	63		233.10
CC113	Gypsum	Lb	1050		787.50
CC129	FLA-302	Lb	105		787.50
CC201	Gilsonite	Lb	1500		1005.00
C700	KCL	Lb	566		849.00
CF607	Latch Down Plug + Baffle	ea	1		400.00
CF1251	Auto Fill Float Shoe	ea	1		360.00
CF1451	Turbolizer	ea	10		1320.00
CF1901	Basket	ea	1		290.00
CF2001	Cement Scratchers Cable Type	ea	6		450.00
C704	Claymax	Gal	5		175.00
CL151	Mud Flush	Gal	1000		860.00
E100	Pickup Mileage	mi.	35		148.75
E101	Heavy Equipment Mileage	mi.	70		490.00
E113	Bulk Delivery	Tm	368		588.00
CE205	Depth Charge 4001-5000	ea	1		2520.00
CE240	Blending & Mixing	sq	250		350.00
CE304	Plug Container	ea	1		350.00
5003	Service Supervisor	ea	1		175.00
SUB TOTAL					25000
DLS					175.00
TOTAL					11091.00

CHEMICAL / ACID DATA:			

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

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

Customer <b>Herman L. Loob</b>	Lease No.	Date <b>4-26-13</b>
Lease <b>Art Todd</b>	Well # <b>1-20</b>	
Field Order # <b>8171</b>	Station <b>P. all</b>	Casing <b>5 1/2 15.5'</b>
Type Job <b>CNW-5 1/2 L.S.</b>	Formation	Depth
		County <b>Keown</b>
		State <b>KS</b>
		Legal Description <b>20-27-18</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
		<b>2005vs</b>		<b>50/50 per</b>				
Depth	Depth	From	To	Pre Pad	Max		5 Min.	
Volume	Volume	From	To	Pad	Min		10 Min.	
Max Press	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To	<b>RH/mH</b>	HHP Used		Annulus Pressure	
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load	

Customer Representative	Station Manager <b>Dave Scott</b>	Treater <b>Steve Orlando</b>
Service Units <b>27283</b>	<b>33768</b>	<b>20920</b>
Driver Names <b>Orlando</b>	<b>McBraw</b>	<b>Young</b>
	<b>77684</b>	<b>73768</b>

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
					On location - Safety meeting
					Run 5 1/2 casing
					Card indices 1-2-3-4-5-8-11-12-13-16-20-24
					Basinet on 5 1/2 scratches on 2 + 11
					Casing on Bottom Break Circ w/ris
	300		5	5	H2O Ahead
	300		24	5	Mudflow
	300		5	5	H2O spacer
	300		48	5	Mix 2005vs 50/50 per @ 14 gal
					Shut Down - Clear pump + Line Release plus
	0		0	6	Start H2O Displacement
	600		95	5	KIT pressure
	800		105	4	Slow Rate
11:30 PM	1500		116	4	Plug Down - Hold
					Circulation Through
					Plus RH/mH w 505vs
					Job Complete
					Thanks, Steve

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

May 28, 2013

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

Re: ACO1  
API 15-097-21749-00-00  
ART TODD 1-20  
SE/4 Sec.20-27S-18W  
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