



**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
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- 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

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

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

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

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

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

Total 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**

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



1066034

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

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

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

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 Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  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
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

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

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

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	HERMAN L. LOEB, LLC
Well Name	Hardy 3
Doc ID	1066034

Tops

Name	Top	Datum
Stotler	3442	-1211
Howard	3638	-1407
Heebner Shale	4054	-1823
Toronto	4072	-1841
Brown Limestone	4220	-1989
Lansing A	4234	-2003
Lansing KC 'H'	4397	-2166
Swope	4538	-2307
Base Kansas City	4626	-2395
Marmaton	4677	-2446
Pawnee	4720	-2489
Cherokee Shale	4754	-2523
Mississippi Chert	4804	-2573
Kinderhook Shale	4867	-2636
Kinderhook Sand	4872	-2641

# LITHOLOGY STRIP LOG

## WellSight Systems

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

Well Name: #3 Hardy  
Location: C SE NE Section 23-T28S-R18W, Kiowa Co., KS.  
Licence Number: 15-097-21700-0000  
Spud Date: 7/18/2011  
Surface Coordinates: 1980' FNL & 660' FEL, Section 23-T28S-R18W  
Region: Hardy Field  
Drilling Completed: 7/27/2011

Bottom Hole Same as Above  
Coordinates:  
Ground Elevation (ft): 2220' K.B. Elevation (ft): 2231'  
Logged Interval (ft): 3400' To: 4882' Total Depth (ft): 4882'  
Formation: Kinderhook at Total Depth  
Type of Drilling Fluid: Freshwater/Gel to 3307'; Chemical Gel 3307' to 4882'

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') 4244' - 4262' Test Times 15"-60"-45"-90" IFP Strong Blow BOB/15 Sec., FFP Strong Blow BOB/1 Min., No Gas to Surface, no Blowback on SI's; REC: 2500' Gas in Pipe, 185' Total Fluid: 125' SO&GCWM(4%G, 1%O, 43%W, 52%M), 60' MSW(90%W, 10%M) CI 125,000, Mud 5800; IFP 30-52#, ISIP 1251#, FFP 57-89#, FSIP 1173#, IHP 2174#, FHP 2123#, BHT 118 Deg. F.

DST #2(Miss. Chert) 4786' - 4844' Test Times 15"-60"-45"-90" IFP Strong Blow BOB/30 Sec. Gas to Surface in 12", FFP Strong Blow Gas to Surface throughout, Stabilized at 52.9 MCFGPD/45" of FFP, 4" Blowback on ISI, 2" Blowback on FSI; REC: 125' SGCM(2%G, 98%M), no water; IFP 130-84#, ISIP 693#, FFP 78-105#, FSIP 636#, IHP 2428#, FHP 2385#, BHT 121 Deg. F.

## Comments

7/18/11 MIRU Sterling Drilling Co. Rig #2, Spud at 4:30 PM.; 7/19/11 TD. 528' - Cement Surface Csg.; 7/20/11 Drilling at 1255'; 7/21/11 Drilling at 2507'; 7/22/11 Drilling at 3226'; 7/23/11 Drilling at 3760'; 7/24/11 TD. 4262' - Short trip prior to DST #1; 7/25/11 Drilling at 4378'; 7/26/11 Drilling at 4786'; 7/27/11 RTD. 4882' - CCH for LOGS, LTD 4878'; 7/28/11 RTD. 4882' - LTD. 4878' - Running 5 1/2" Production Casing.

Set new 8 5/8" (23#) Surface Casing set at 523' w/350 sx.(Basic Energy Services). PD. 8:00 AM. 7/19/11. Cement Did Circulate.

Set new 5 1/2" (15.5#) Production Casing at 4875' with 200 sx. cement(Basic Energy Services). PD. 9:15 AM. 7/28/11.

Surveys: 0.5 Deg. at 528'(Surface Casing); 0.75 Deg. at 4262'(DST #1); Deg. at 4844'(DST #1).


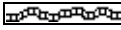
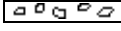

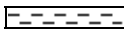







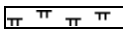

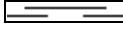
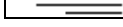
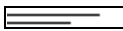


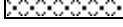
Pipe Strap at 4262'(DST #1): Strap 2.06' Short to the Board, no correction made to the Board.

After review of the Halliburton Logs, DST results and structural position, the operator elected to set new 5 1/2" (15.5#) Production Casing for completion in the Mississippian Chert.








































































LOG TOPS: Stotler 3442(-1211), Howard 3638(-1407), Heebner Shale 4054(-1823), Toronto 4072(-1841), Brown Lmst. 4220(-1989), Lansing A 4234(-2003), L/KC. 'H' 4397(-2166), Swope 4538(-2307), Base Kansas City 4626(-2395), Marmaton 4677(-2446), Pawnee 4720(-2489), Cherokee Shale 4754(-2523), Mississippi Chert 4804(-2573), Kinderhook Shale 4867(-2636), Kinderhook Sand 4872(-2641).

NOTE: This log was shifted upward by 4' to 5' for correlation purposes to correspond to the Halliburton LOG TOPS.

## ROCK TYPES

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

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

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

V Vuggy

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

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

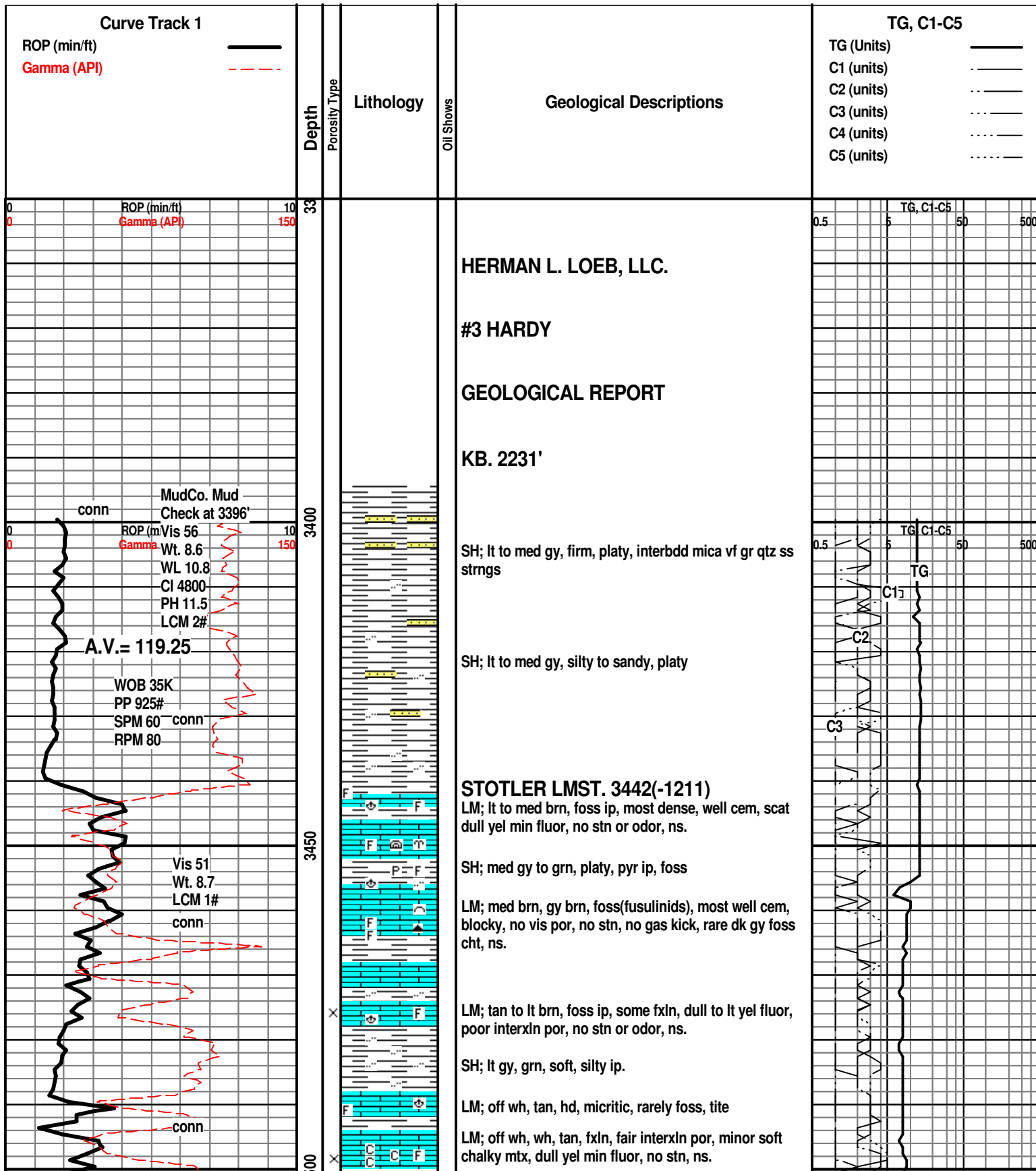
**OIL SHOW**

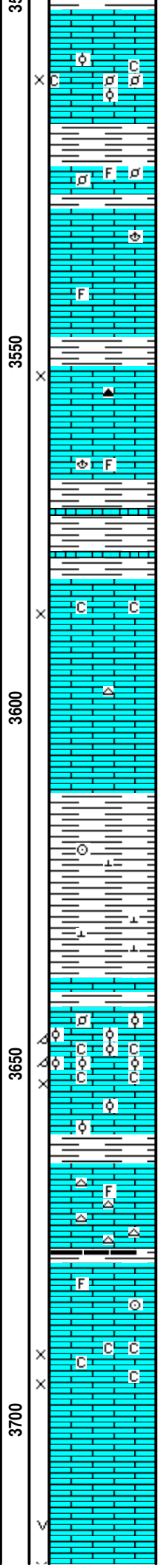
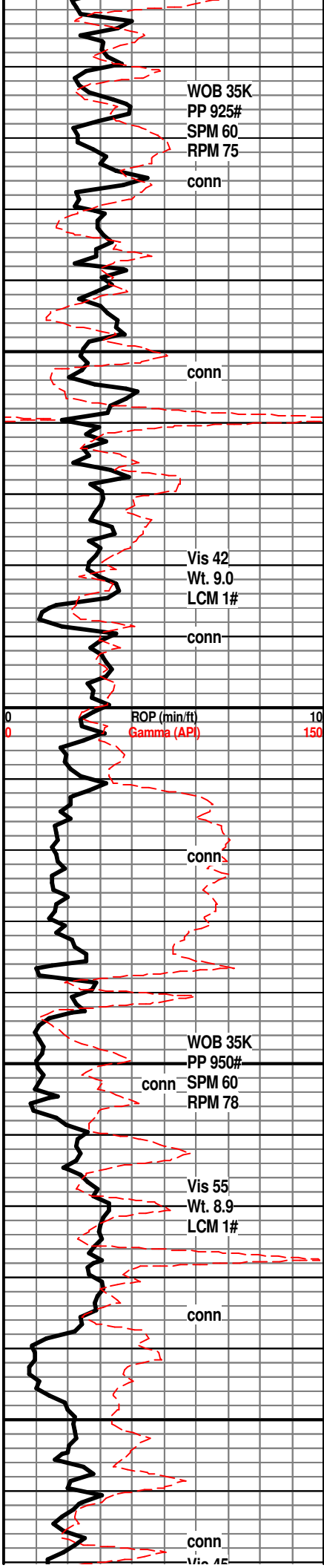
- Even

- Spotted
- Ques
- Dead

- INTERVAL**
- Core
  - Dst

- EVENT**
- Rft
  - Sidewall





**EMPORIA 3502(-1271)**  
LM; off wh, tan-lt brn, foss-pelletal to oolitic, poor interpart por, scat soft chalky mtx, no fluor, no gas kick, ns.

SH; grn, gy grn, fiss  
LM; tan to buff, lt brn, scat foss mat, most well cem, rare gy foss pellets, no fluor, ns.

LM; tan to lt brn, fxln to dense, rarely foss, no vis por, no stn or odor, ns.

LM; tan to lt brn, rare off wh, fxln, poor interxln por, trc dk gy cht, no fluor, no stn or odor, ns.

LM; tan to lt brn, most dense, scat foss mat - well cem, no vis por, ns.

SH; med gy, fiss to flakey, firm, interbdd hd shaly lmst.

LM; wh to off wh, fxln, soft ip, some chalky mtx, lt yel fluor, no stn or odor, no gas kick, ns.

LM; tan to off wh, buff, interbdd dk brn, most dense, some hard-sharp, trc off wh cht, no fluor, n.s

SH; med to dk gy, firm, platy, occ foss

SH; dk gy, silty ip, firm, calc, interbdd thin tite lmst strngs.

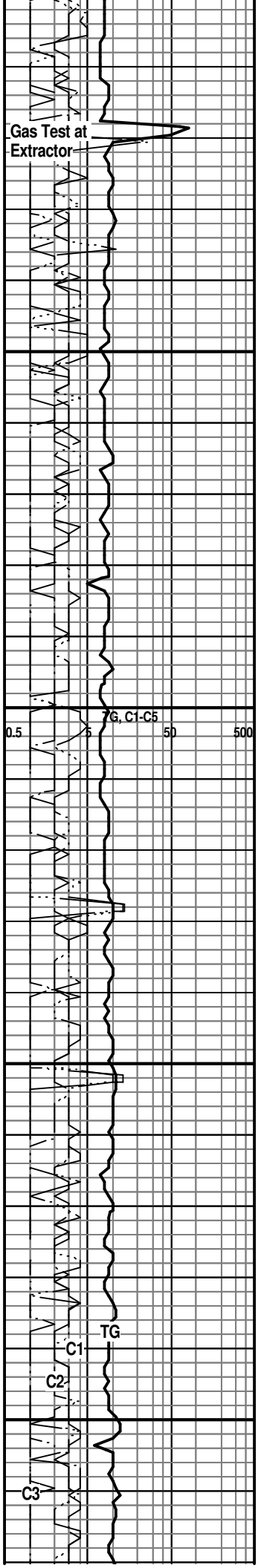
**HOWARD 3638(-1407)**  
LM; off wh, cream, foss - finely oolitic ip, interbdd med xln/gran text, fair oomoldic w/occ gd interxln por, minor soft chalky mtx, dull to lt yel min fluor, no stn or odor, no gas kick, ns.

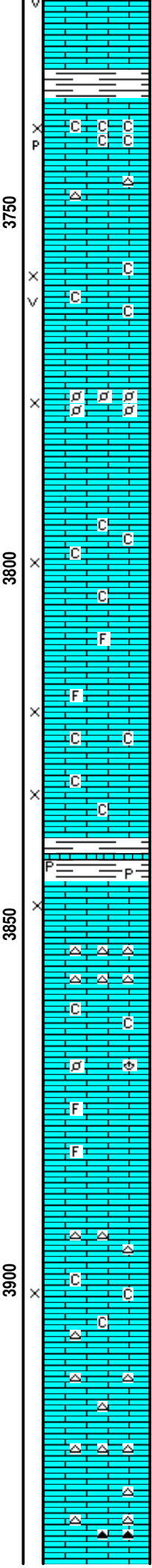
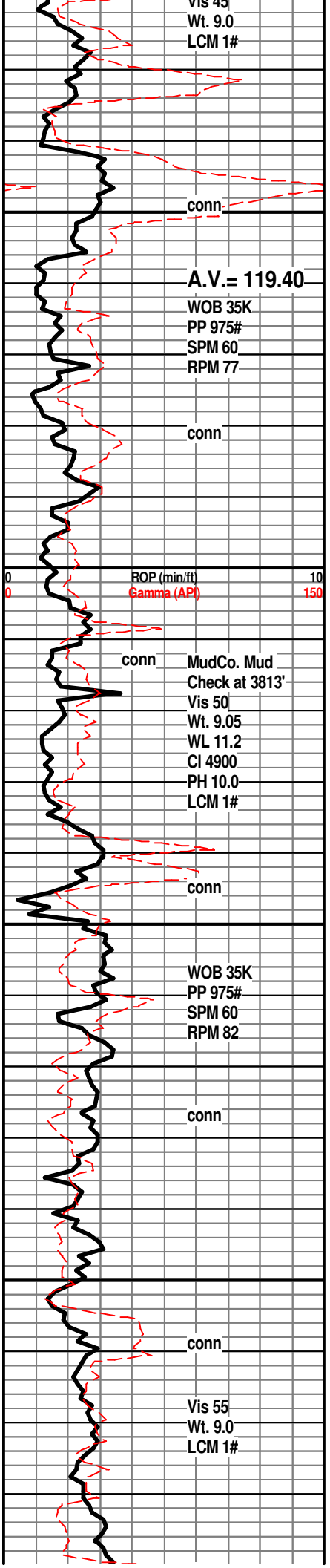
LM; lt to med brn, blocky, occ well cem foss, most dense - micritic, scat tan to off wh cht, no por, ns.

LM; tan to off wh, lt gy, fxln to micritic, foss ip, most dense, no fluor, ns.

LM; off wh, wh, f to med xln, gran text ip, gd interxln por, soft chalky mtx, dull yel min fluor only, no stn or odor, no gas kick, ns.

LM; tan to buff, lt brn, foss ip, most dense, blocky, interbdd foss lmst w/fair vug por, dull to occ lt yel fluor,





ns.

SH; med to dk gy, fiss  
**TOPEKA 3734(-1503)**  
 LM; tan to cream, off wh, gran to med xln, fair interxln and occ p-p por, chalky mtx ip, dull yel fluor, no stn or odor, no gas kick, ns.

LM; med brn, dense, occ gy/off wh cht, tite

LM; tan to off wh, med to cse xln, some gran, loosely cem, most w/gd interxln & scat vug por, occ soft chalky mtx, dull yel min fluor, no stn or odor, ns.

LM; tan to lt brn, scat cse pellets and foss frags, much spar calc cmt, fair interpart por, no fluor, no stn, no gas kick, barren, ns.

LM; tan to cream, lt brn, f to occ med xln, fair interxln por, minor soft chalky mtx, no fluor, no stn or odor, ns.

LM; tan to cream, buff, lt brn, f to med xln, occ interbdd gran to cse xln lmsst, fair to occ gd interxln por, minor chalky mtx, rare lt yel min fluor, no stn or odor, no gas kick, ns.

SH; med to dk gy, fiss, occ pyr

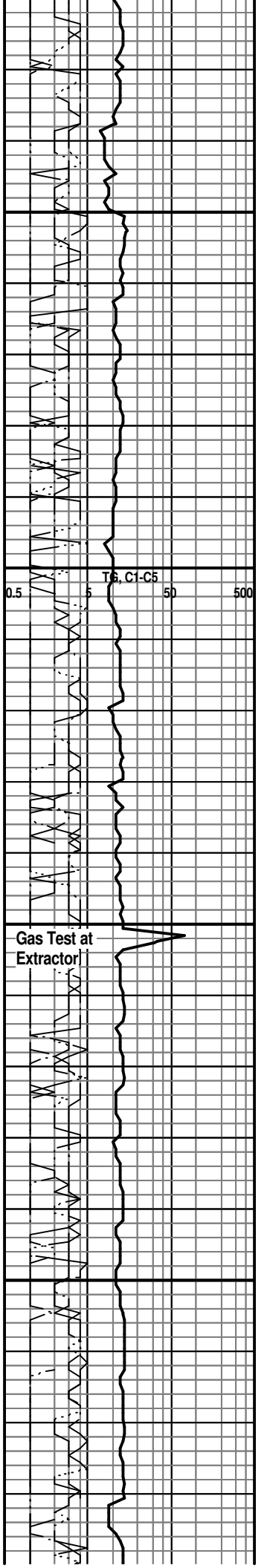
LM; lt brn, fxln, sandy text, gd interxln por, lt yel min fluor, no stn, ns.

LM; lt brn, hd, blocky, interbdd banded gy cht, tite

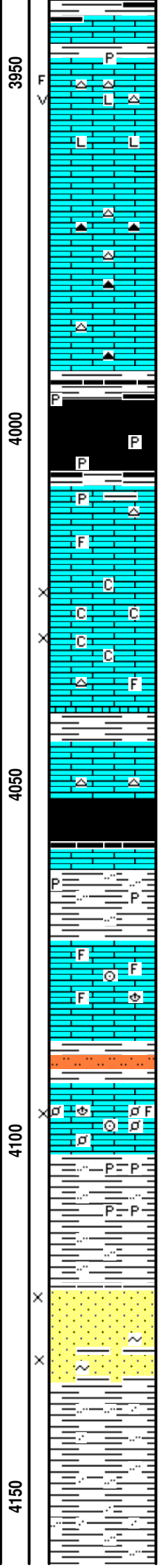
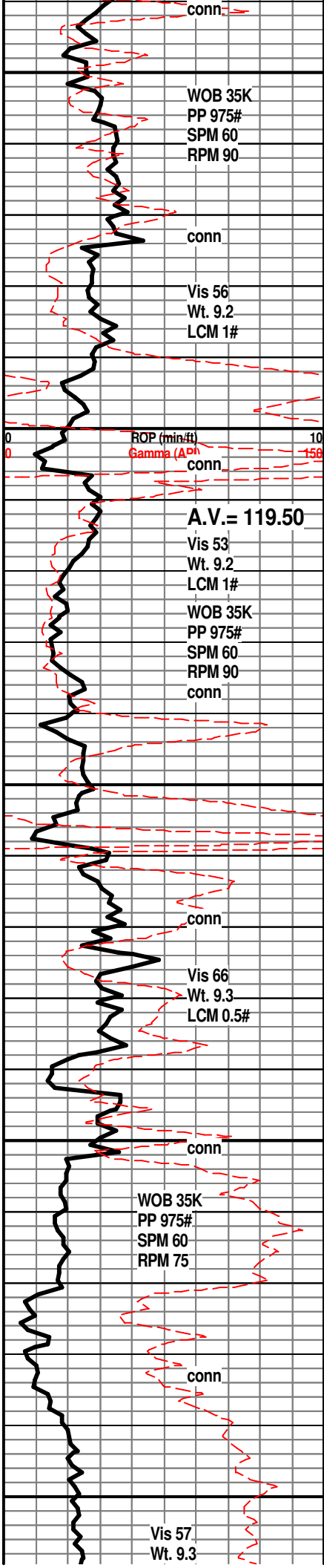
LM; tan to lt brn, occ off wh, foss ip, most well cem, scat gy, off wh and dk gy/smoky cht, dull yel min fluor, no stn or odor, ns.

LM; wh to off wh, buff, fxln, scat poor to fair interxln por, interbdd wh to gy cht, chalky mtx ip, no fluor, no stn or odor, ns.

LM; tan to off wh, lt brn, fxln, scat cse spar calc xtals, cherty ip, no fluor, no stn or odor, ns.







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

LM; lt brn, med xln - scat cse spar calc xtals, spotted lt brn oil stn, brite yel fluor, no apparent gas kick, scat vug por/fracs, fair milky cut, no odor, most looks tite

LM; tan to off wh, lt brn, fxln to micritic, most blocky, rare gy/wh cht, no fluor, no stn, ns.

LM; tan to lt brn, cream, fxln, cherty, most dense, micritic, no vis por, no fluor, ns.

SH; dk gy to blk, platy, soft to brittle, trc gas, rarely pyr

LM; tan to lt gy brn, most dense, occ pyr, some interbdd shaly lmst, rarely foss, no vis por, no fluor, ns.

LM; tan to off wh, wh, buff, fxln, chalky-soft, poor to fair interxln por, dull yel to no fluor, no stn or odor, ns.

SH; med to dk gy, firm

LM; tan to cream, buff, fxln, scat foss mat, most tite, rare gy/off wh cht, no fluor, no vis por, ns.

**HEEBNER SHALE 4054(-1823)**  
SH; blk, carb ip, soft to brittle, gassy

SH; grn, gy grn, silty ip, firm, occ pyr

**TORONTO 4072(-1841)**  
LM; off wh, lt brn, foss ip, most well cem, blocky, no vis por, no stn, scat dull yel min fluor, ns.

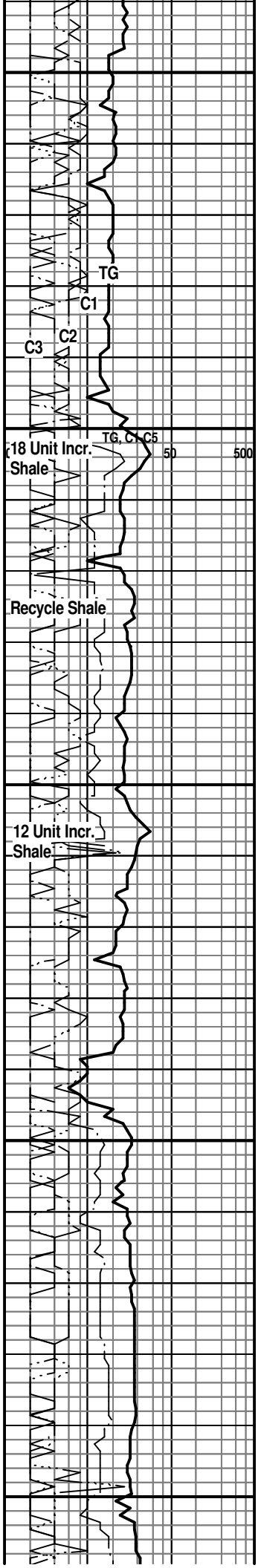
SH; lt gy, soft, silty w/interbdd sltst.

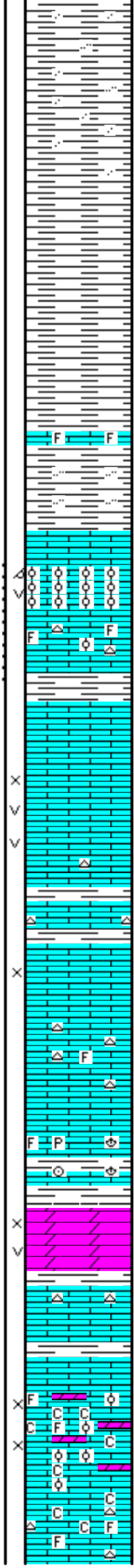
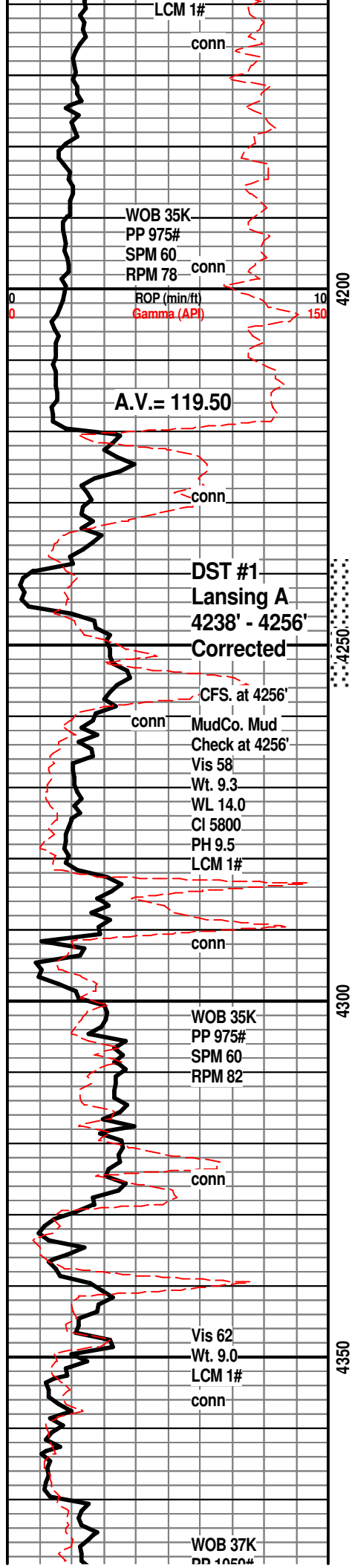
LM; tan to lt brn, v. foss ip - pelletal, poor to no interpart por, dull yel min fluor, ns.

SH; lt to med gy, silty, platy, occ pyr strngs.

SS; lt gy, rare wh, vf to f gr qtz, all clusters, fri, fair to gd intergran por, subrnd to subang gr, mica, no fluor, no stn, no gas kick, barren, , interbdd argil ss, rare glau, ns.

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





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

SH; lt to med gy, fiss to flakey, soft

SH; med gy, smooth, sticky ip.

**BROWN LMST. 4220(-1989)**  
LM; med to occ dk brn, hd, foss ip.  
SH; med gy, firm, occ silty

**LANSING 'A' 4234(-2003)**  
LM; tan to med brn, oolitic, med to lrg molds, gd oomoldic por, scat vug por, med to brite golden yel fluor, fair/gd odor, spotted to even lt brn stn, SFO, gas bubbles vis, most w/gd cut  
LM; lt to med brn, foss ip, dense, scat tan cht  
**DST #1: Lansing 'A' 4238' - 4256' Corrected Depths to LOG**  
LM; off wh, med xln to gran text, chalky soft mtx ip, scat med yel fluor, quest. stn, faint odor  
LM; lt gy gy tan, med xln, fair interxln w/vug por, spotted oil stn, strong sulfur odor, med to occ brite yel fluor, fair cut, quest. gas bubbles, interbdd cse opaque spar calc xtals, fair to poor show

LM; med to dk brn, mottled text, cherty, tite

LM; tan to lt brn, gran to cse xln, fair interxln por, dull yel fluor, no stn or odor, ns.

LM; lt brn, tan to cream, most dense, micritic, rarely foss, scat tan cht, no vis por, no stn, ns.

LM; dk brn, occ foss, blocky, pyr ip, tite

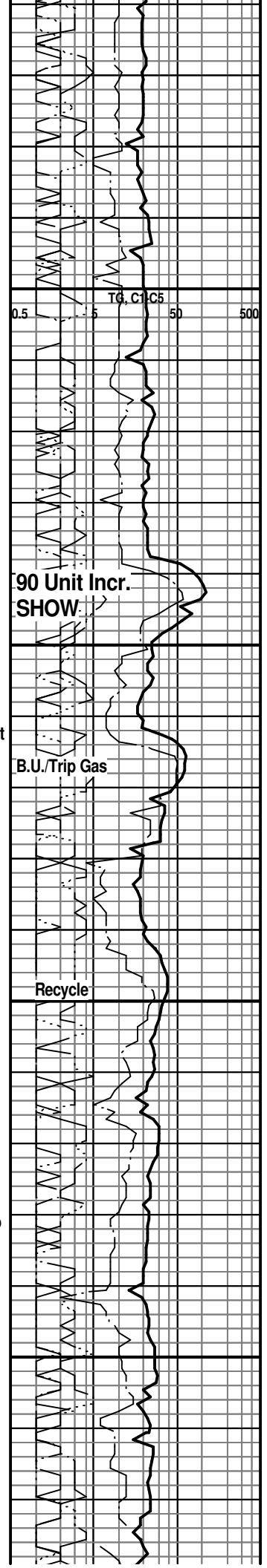
SH; med gy grn, firm, foss

DOL; off wh, wh, tan, sucrosic, partly chalky mtx, fair to gd interxln por, scat vug por, dull yel min fluor, no stn odor, ns.

LM; tan to off wh, hd, cherty ip, tite

**LANSING 'G' POROSITY 4350(-2119)**  
LM; off wh, foss - oolitic ip, much sucrosic text dolomitic lmst, scat soft chalky mtx, fair interpart/interxln por, dull to lt yel fluor, no vis stn, no gas kick, barren, ns.

LM; tan to off wh, cream, buff, fxln, scat foss mat, chalky mtx ip, dull yel min fluor, interbdd gy to tan cht,



PP 1050#  
SPM 50  
RPM 85  
conn

ROP (min/ft) 10  
Gamma (API) 150

CFS. at 4418'  
MudCo. Mud  
Check at 4418'  
Vis 60  
Wt. 9.3  
WL 11.6  
conn  
CI 6200  
PH 11.0  
LCM Trc.

WOB 37K  
conn  
PP 975#  
SPM 60  
RPM 78

A.V.= 119.60

conn  
Vis 52  
Wt. 9.2+  
LCM 1#

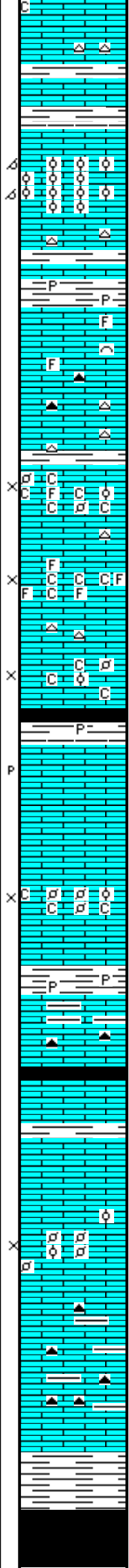
conn

conn  
WOB 36K  
PP 1000#  
SPM 60  
RPM 75

Vis 53  
wt. 9.3  
LCM 1#  
conn

A.V.=119.00

4400  
4450  
4500  
4550



no vis por, ns.

SH; med gy, fiss, interbdd gy hd lmst.

### LANS/KC. 'H' 4402(-2171)

LM; tan to lt brn, buff, oolitic, small to med size moldic por, brittle, dull yel fluor, faint sulfur odor, no stn, no gas kick, barren, ns.

LM; tan to lt brn, buff, foss ip, hd, cherty ip.

SH; grn, gy grn, fiss, occ pyr

LM; tan to off wh, foss ip, interbdd med xln, no vis por, cherty ip, no fluor, no stn, ns.

LM; med brn, micritic, occ cherty, tite

### KC 'I' ZONE 4444(-2213)

LM; off wh, tan, finely pelletal/rarely oolitic, poor interpart por, scat to patchy uneven lt brn to blk residual to dead stn, med yel fluor in chalky sections, faint odor, no gas kick, poor/no show

LM; tan to cream, off wh, med xln, scat foss mat, much soft chalky mtx, fair interxln por, dull yel min fluor, no vis stn, no odor, ns.

LM; off wh, tan, foss - med xln ip, scat fair interxln por, chalky mtx, faint sulfur odor, no vis stn, no gas kick, ns.

SH; blk, carb ip, pyr

LM; tan to cream, lt brn, foss - oolitic/pelletal ip, scat blk tar/gils., poor p-p por, dull yel fluor, no odor, no live shows, no gas kick, looks tite

LM; tan to cream, buff, foss to finely pelletal, fair interpart por, soft chalky mtx ip, no fluor, no stn or odor, ns.

SH; med to dk gy, fiss - flakey, occ pyr

LM; med to dk brn, gy brn, micritic, argil ip, hd - blocky, rare smoky cht, tite

### STARK SHALE 4538(-2307)

SH; blk, carb ip, platy

### SWOPE 4538(-2307)

LM; tan to cream, lt brn, foss - finely pelletal to oolitic, poor to fair interpart por, scat lt yel min fluor, no stn or odor, ns.

LM; lt to med brn, most dense, blocky, interbdd argil lmst, no vis por, scat dk brn to smoky cht, no fluor, ns.

LM; med to dk brn, hd, micritic, tite, interbdd dk gy cht

SH; blk, fiss, gassy ip

TG. 01-C5  
TG

C1  
C2  
C3  
C4

3 Unit Incr.

8 Unit Incr.

5 Unit Incr. Shale

Gas Tests

Gas Tests

Gas Test - New Filament

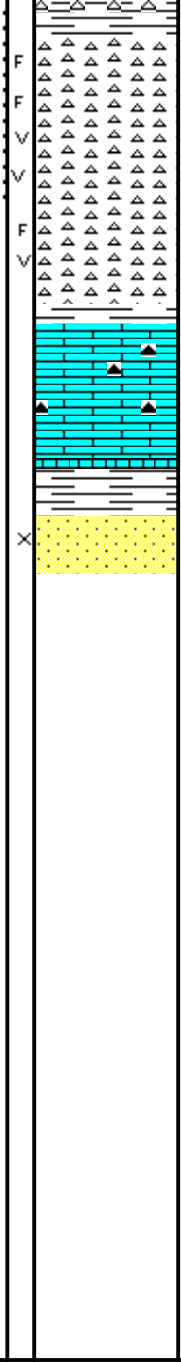
48 Unit Incr. Shale



Vis 61  
 Wt. 9.2  
 LCM 1#  
 conn  
 CFS. at 4840'  
 MudCo. Mud  
 Check at 4840'  
 Vis 53  
 Wt. 9.4  
 WL 10.0  
 CI 5800  
 PH 10.0  
 LCM 1#  
 conn

CFS. at 4882'  
 RTD = 4878' LOG  
 MudCo. Mud  
 Check at 4882'  
 Vis 74  
 Wt. 9.35  
 WL 10.4  
 CI 6700  
 PH 9.5  
 LCM 1#

4850  
 4900  
 4950

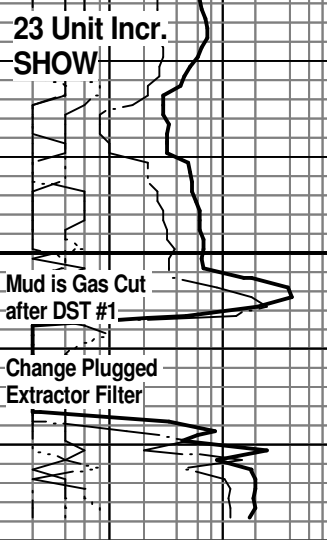


spotted lt/med brn oil stn, occ p-p & vug por, gas bubbles, dull/lt yel fluor, no odor  
 CHT; wh to off wh, fresh and tripolite, frags and vug por visible, some fri, other porc - hd, scat brite yel fluor, faint odor, vis. gas bubbles, Trc. FO. only when crushed, fair cut  
 DST #2: Miss. Chert 4782' - 4840'  
 Corrected Depths to LOG  
 CHT; wh to off wh, fresh and tripolite, sl. incr in live oil stn, incr. in brite yel fluor, frags and vug por, faint odor, spotted stn  
 SH; rust red, soft, grn & gy shales also  
 LM; med brn, some rose red/brn, blocky, dense, cherty w/amber to org fresh cht, no vis por, ns.

**KINDERHOOK SHALE 4867(-2636)**  
**KINDERHOOK SS 4872(-2641)**  
 SS; clr, lt gy, most fgr qtz, hd - qtzitic ip, poor to no por, no fluor, trc blk dead oil stn, no odor  
 BIT CRATERED AT 4882' ROTARY DEPTH

RTD. 4882' at 6:50 AM. 7/27/11  
 LTD. 4878'  
 Halliburton DIL, NEU/DEN + PE,  
 Microlog

NOTE; This log was shifted upward by 4' to 5' for correlation purposes with the Halliburton LOGS.





6010  
701/15207

PAGE 1 of 1	CRMT NO 1001845	INVOICE DATE 07/30/2011
INVOICE NUMBER 1718 - 90660212		

Pratt (620) 672-1201  
 B HERMAN L. LOEB  
 I PO Box: 524  
 L LAWRENCEVILLE  
 L IL US 62439  
 T  
 O ATTN:

J LEASE NAME Hardy 3  
 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
40350026	19905		Net - 30 days	08/29/2011

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 07/28/2011 to 07/28/2011</i>				
0040350026				
171804342A Cement-New Well Casing/Pi 07/28/2011 Longstring				
50/50 POZ	200.00	EA	8.69	1,737.90 T
60/40 POZ	50.00	EA	9.48	473.97 T
KCL Potassium Chloride	453.00	EA	1.18	536.77 T
Cello-flake	50.00	EA	2.92	146.14 T
Cal-Set	840.00	EA	0.59	497.67 T
FLA-322	84.00	EA	5.92	497.67 T
Gilsonite	1,200.00	EA	0.53	635.12 T
Mud Flush	1,000.00	EA	0.68	679.36 T
CS-1L KCL Substitute	5.00	EA	27.65	138.24 T
Latch Down Plug & Baffle 5 1/2" (Blue)	1.00	EA	315.98	315.98
Auto Fill Float Shoe 5 1/2" (Blue)	1.00	EA	284.38	284.38
Turbolizer 5 1/2" (Blue)	10.00	EA	86.90	868.95
5 1/2" Basket (Blue)	1.00	EA	229.09	229.09
Unit Mileage Charge-Pickups, Vans & Cars	30.00	HR	3.36	100.72
Heavy Equipment Mileage	60.00	MI	5.53	331.78
Proppant and Bulk Delivery Charges	317.00	MI	1.26	400.66
Depth Charge; 4001-5000'	1.00	HR	1,990.69	1,990.69
Blending & Mixing Service Charge	250.00	MI	1.11	276.48
Plug Container Utilization Charge	1.00	EA	197.49	197.49
Supervisor	1.00	HR	138.24	138.24

**PAID**  
 # 002705  
 8-11-11

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	10,477.30
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	390.03
PO BOX 841903	PO BOX 10460	INVOICE TOTAL	10,867.33
DALLAS, TX 75284-1903	MIDLAND, TX 79702		



**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 04342 A

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

DATE OF JOB: 7-28-11	DISTRICT: PRATT, KS	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	LEASE: HARDY	WELL NO. 3							
ADDRESS:	COUNTY: KEOWA	STATE: KS.							
CITY:	STATE:	SERVICE CREW: KEAN - BRSON MIKE L.							
AUTHORIZED BY:	JOB TYPE: CNW - LOWSTRENG								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	CAMP	TIME
19901		19831					7-28	PM	1200
		19862	3/4					AM	200
19903	3/4							AM	0830
19905	1/4							AM	0915
								AM	1000
						MILES FROM STATION TO WELL	30		

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 POZ	SK.	200		2200.00	
CP103	60/40 POZ	SK.	50		600.00	
C700	KCL	lb.	453		679.50	
CC102	CELLFLAME	lb.	50		185.00	
CC113	CAL-SET	lb.	840		630.00	
CC129	FLA-322	lb.	84		630.00	
CC201	GILSONITE	lb.	1200		804.00	
CF607	5" LATCH DOWN PLUG	EA.	1		400.00	
CF1251	5" LAFU FLOAT SHOE	EA.	1		360.00	
CF1651	5" TURBOLIZER	EA.	10		1100.00	
CF1901	5" BUSILET	EA.	1		290.00	
CC151	MUD FLUSH	gal.	1000		860.00	
C704	C5-12 KCL	gal.	5		175.00	
E100	PICKUP MILEAGE	mile	30		127.50	
E101	TRUCK MILEAGE	mile	60		420.00	
E113	BULK DELIVERY	TM	317		506.40	
CE205	Plan P CHARGE	EA.	1		2520.00	
CE240	BLENDING CHARGE	SK	250		350.00	
CE504	PLUG CONTRACTOR	EA.	1		250.00	
5003	SERVICE SUPERVISOR	EA.	1		175.00	
					SUB TOTAL	175.00
CHEMICAL / ACID DATA:						
				SERVICE & EQUIPMENT	%TAX ON \$	
				MATERIALS	%TAX ON \$	
					TOTAL	10,477.30

SERVICE REPRESENTATIVE: K. GORDLEY	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)	

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

# BASIC

energy services, L.P.

## TREATMENT REPORT

Customer **HERMAN L. COEB** Lease No. \_\_\_\_\_ Date **7-28-11**  
 Lease **HARDY** Well # **3**  
 Field Order # **4342** Station **PRATT, KS.** Casing **5 1/2** Depth **4875** County **KEOWA** State **Ks**  
 Type Job **CNW - LOW STRENGTH** Formation **TD-4882** Legal Description **23-28-18**

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME	
Casing Size <b>5 1/2</b>	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth <b>4875</b>	Depth	From	To	Pre Pad	Max		5 Min.
Volume <b>115.5</b>	Volume	From	To	Pad	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth <b>4853</b>	Packer Depth	From	To	Flush	Gas Volume		Total Load

Customer Representative **GEORGE** Station Manager **SCOTTY** Treater **GORDLEY**  
 Service Units **19907** **19903-19905** **19831-19862**  
 Driver Names **KG** **BRIAN** **MIKE L.**

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<b>0630</b>					ON LOCATION SHE JT-22' RUN 4875 5 1/2 15.5" CS 116-Jts API FLOATSHE, LARCH BAFFLE 1 <sup>ST</sup> COLUMN CENT. - 1-2-3-5-8-11-14-19-25-29 BASKET - BOTTOM JT. #15
<b>0730</b>					TO BOTTOM - DROP BALL - CIRCULATE
<b>0830</b>	<b>400</b>		<b>24</b>	<b>6</b>	PUMP 24 bbl. MUD FLUSH
	<b>300</b>		<b>5</b>	<b>6</b>	PUMP 5 bbl. H <sub>2</sub> O
	<b>300</b>		<b>48</b>	<b>6</b>	PUMP 200 SK 50/50 P02 2% GEL, 5% GYPSUM, 5% HCL, - 5% FLA-322, 1/4" CELLFIBRE, 6" GILSONITE MIXED WITH COOL CITY H <sub>2</sub> O.
					STOP - WASH LINE - DROP PLUG
	<b>0</b>		<b>0</b>	<b>6 1/2</b>	START DISP. w/ 2% HCL H <sub>2</sub> O
	<b>400</b>		<b>82</b>	<b>6 1/2</b>	LEFT CEMENT
	<b>900</b>		<b>110</b>	<b>4 1/2</b>	SLOW RATE
<b>0915</b>	<b>2000</b>		<b>115.5</b>	<b>4</b>	PLUG DOWN - HOLD PLUG RAT HOLE - 30 SK 60/40 P02 PLUG MOUSE HOLE - 20 SK 60/40 P02
<b>1000</b>					JOB COMPLETE - REVIEW





70 Hardy 3  
1567  
6076

PAGE 1 of 1	CUST NO 1001845	INVOICE DATE 07/21/2011
INVOICE NUMBER 1718 - 90651547		

Pratt (620) 672-1201  
 B HERMAN L. LOEB  
 I PO Box: 524  
 L LAWRENCEVILLE  
 L IL US 62439  
 T  
 O ATTN:

J LEASE NAME Hardy 3  
 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
40346307	19842		Net - 30 days	08/20/2011

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 07/19/2011 to 07/19/2011</i>				
0040346307				
171804622A Cement-New Well Casing/Pi 07/19/2011				
8 5/8" Surface Pipe				
A Serv Lite	175.00	EA	10.01	1,751.75 T
Common	175.00	EA	12.32	2,156.00 T
Cello-flake	88.00	EA	2.85	250.71 T
Cement Gel	330.00	EA	0.19	63.53 T
Calcium Chloride	954.00	EA	0.81	771.31 T
Top Rubber Cement Plug	1.00	EA	173.25	173.25
Unit Mileage Charge-Pickups, Vans & Cars	30.00	HR	3.27	98.18
Heavy Equipment Mileage	60.00	MI	5.39	323.40
Depth Charge; 501-1000'	1.00	HR	924.00	924.00
Proppant and Bulk Delivery Charges	477.00	MI	1.23	587.66
Blending & Mixing Service Charge	350.00	MI	1.08	377.30
Plug Container Utilization Charge	1.00	EA	192.50	192.50
Supervisor	1.00	HR	134.75	134.75

**PAID**  
# 22410  
7-26-11

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	7,804.34
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	364.51
PO BOX 841903	PO BOX 10460	INVOICE TOTAL	8,168.85
DALLAS, TX 75284-1903	MIDLAND, TX 79702		

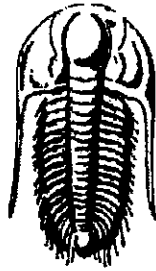


Customer <b>HERMAN LOEB</b>	Lease No.	Date <b>7-19-2011</b>
Lease <b>HARDY</b>	Well # <b>3</b>	
Field Order # <b>4022</b>	Station <b>PRATT, KS.</b>	Casing <b>8 5/8"</b> Depth <b>528'</b>
Type Job <b>CNW - 8 5/8" S.P.</b>	Formation	County <b>KIOWA</b> State <b>Ks.</b>
		Legal Description <b>23-28-18</b>

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <b>8 5/8"</b>	Tubing Size	Shots/Ft	<b>CMT-</b>	Acid <b>175 SK ASERVLITE</b>	RATE	PRESS	ISIP	
Depth <b>509.93'</b>	Depth	From	To	Pre Pad <b>@ 1.64 CU FT<sup>3</sup></b>	Max		5 Min.	
Volume <b>32.63 BBL</b>	Volume	From	To <b>CMT-</b>	Pad <b>175 SKS COMMON</b>	Min		10 Min.	
Max Press <b>500</b>	Max Press	From	To	Frac <b>@ 1.34 CU FT<sup>3</sup></b>	Avg		15 Min.	
Well Connection <b>P.L.</b>	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth <b>489.93'</b>	Packer Depth	From	To	Flush <b>31 BBL H<sub>2</sub>O</b>	Gas Volume		Total Load	

Customer Representative <b>GEORGE PAINE</b>	Station Manager <b>D. SCOTT</b>	Treater <b>K. LESLEY</b>
Service Units <b>27883 19889 19842 19832 21010</b>		
Driver Names <b>LESLEY MITCHELL LAWRENCE</b>		

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
4:00 AM					ON LOCATION - SAFETY MEETING
5:30 AM					RUN 8 5/8" x 23# CS9. = 12 JTS.
6:35 AM					CS9. ON BOTTOM
6:40 AM					HOOK UP TO CS9. / BREAK CIRC. W/ RIG
6:50 AM	100		5	5	H <sub>2</sub> O AHEAD
6:52 AM	100		51	5	MIX 175 SKS. ASERVLITE @ 136# / GAL
7:02 AM	50		42	5	MIX 175 SKS COMMON @ 15# / GAL
7:10 AM					SHUT DOWN - DROP PLUG
7:50 AM	0		0	4	START DISPLACEMENT
7:58 AM	100		21	3	SLOW RATE
8:00 AM	150		31	3	PLUG DOWN - CLOSE MANIFOLD
					CIRCULATION THRU JOB
					CIRCULATED 10 BBL TO PIT
					JOB COMPLETE,
					THANKS -
					KEVEN LESLEY



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Herman L Loeb, LLC**  
PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

**23-28s-18w Kiowa,KS**

**Hardy # 3**

Start Date: 2011.07.24 @ 10:46:26

End Date: 2011.07.24 @ 20:06:11

Job Ticket #: 43933      DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Herman L Loeb, LLC

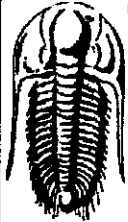
Hardy # 3

23-28s-18w Kiowa,KS

DST # 1

Lansing "A"

2011.07.24



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

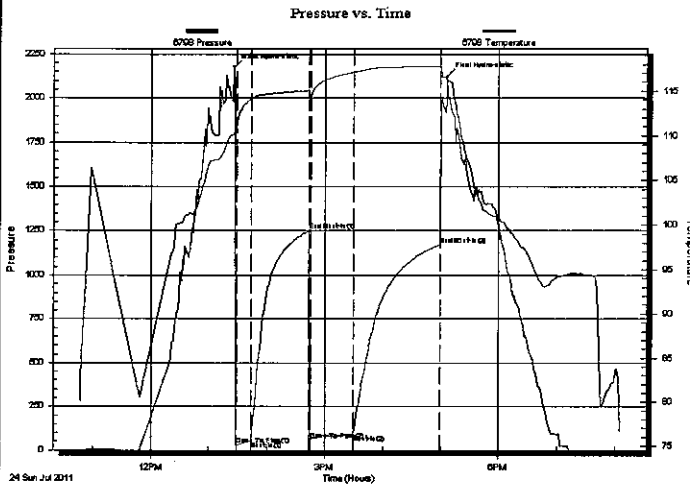
**Hardy # 3**  
**23-28s-18w Kiowa,KS**  
 Job Ticket: 43933 **DST#: 1**  
 Test Start: 2011.07.24 @ 10:46:26

## GENERAL INFORMATION:

Formation: **Lansing "A"**  
 Deviated: **No Whipstock** ft (KB)  
 Time Tool Opened: 13:27:41  
 Time Test Ended: 20:06:11  
 Interval: **4244.00 ft (KB) To 4262.00 ft (KB) (TVD)**  
 Total Depth: **4262.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Good**  
 Test Type: **Conventional Bottom Hole**  
 Tester: **Leal Cason**  
 Unit No: **45**  
 Reference Elevations: **2231.00 ft (KB)**  
**2220.00 ft (CF)**  
 KB to GR/CF: **11.00 ft**

**Serial #: 6798** Inside  
 Press@RunDepth: **89.20 psig @ 4245.00 ft (KB)** Capacity: **8000.00 psig**  
 Start Date: **2011.07.24** End Date: **2011.07.24** Last Calib.: **2011.07.24**  
 Start Time: **10:46:27** End Time: **20:06:11** Time On Btm: **2011.07.24 @ 13:25:11**  
 Time Off Btm: **2011.07.24 @ 17:06:41**

**TEST COMMENT:** IF: Strong Blow, BOB in 15 seconds  
 IS: Bled Off, No Blow back  
 FF: Strong Blow, BOB in 1 minute  
 FS: Bled Off, No Blow back



## PRESSURE SUMMARY

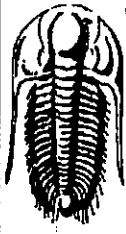
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2174.19	110.17	Initial Hydro-static
3	29.72	111.30	Open To Flow (1)
18	52.11	114.07	Shut-In(1)
78	1251.06	115.05	End Shut-In(1)
81	57.03	114.38	Open To Flow (2)
124	89.20	117.10	Shut-In(2)
214	1172.76	117.78	End Shut-In(2)
222	2123.13	116.37	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
0.00	2500 GIP	0.00
60.00	MCW 10%M 90%W	0.30
125.00	SOGWCM 1%O 4%G 43%W 52%M	0.61

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

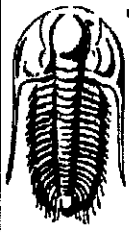
Herman L Loeb, LLC  
 PO Box 838  
 Lawrenceville, IL 62439  
 ATTN: Jon Christensen

**Hardy # 3**  
**23-28s-18w Kiowa,KS**  
 Job Ticket: 43933      **DST#: 1**  
 Test Start: 2011.07.24 @ 10:46:26

**Tool Information**

Drill Pipe:	Length: 4026.00 ft	Diameter: 3.80 inches	Volume: 56.47 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: 213.00 ft	Diameter: 2.25 inches	Volume: 1.05 bbl	Weight to Pull Loose:	80000.00 lb
			<b>Total Volume: 57.52 bbl</b>	Tool Chased	ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	4244.00 ft			Final	71000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	40.00 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			4227.00	
Hydraulic tool	5.00			4232.00	
Safety Joint	2.00			4234.00	
Packer	5.00			4239.00	22.00      Bottom Of Top Packer
Packer	5.00			4244.00	
Stubb	1.00			4245.00	
Recorder	0.00	6798	Inside	4245.00	
Recorder	0.00	8367	Outside	4245.00	
Perforations	14.00			4259.00	
Bullnose	3.00			4262.00	18.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>40.00</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Herman L Loeb, LLC

**Hardy # 3**

PO Box 838  
Lawrenceville, IL 62439

**23-28s-18w Kiowa, KS**

Job Ticket: 43933

**DST#: 1**

ATTN: Jon Christensen

Test Start: 2011.07.24 @ 10:46:26

**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: 59.00 sec/qt

Cushion Volume:

bbl

Water Loss: 13.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 0.20 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
0.00	2500 GIP	0.000
60.00	MCW 10%M 90%W	0.295
125.00	SOGWCM 1%O 4%G 43%W 52%M	0.615

Total Length: 185.00 ft      Total Volume: 0.910 bbl

Num Fluid Samples: 0

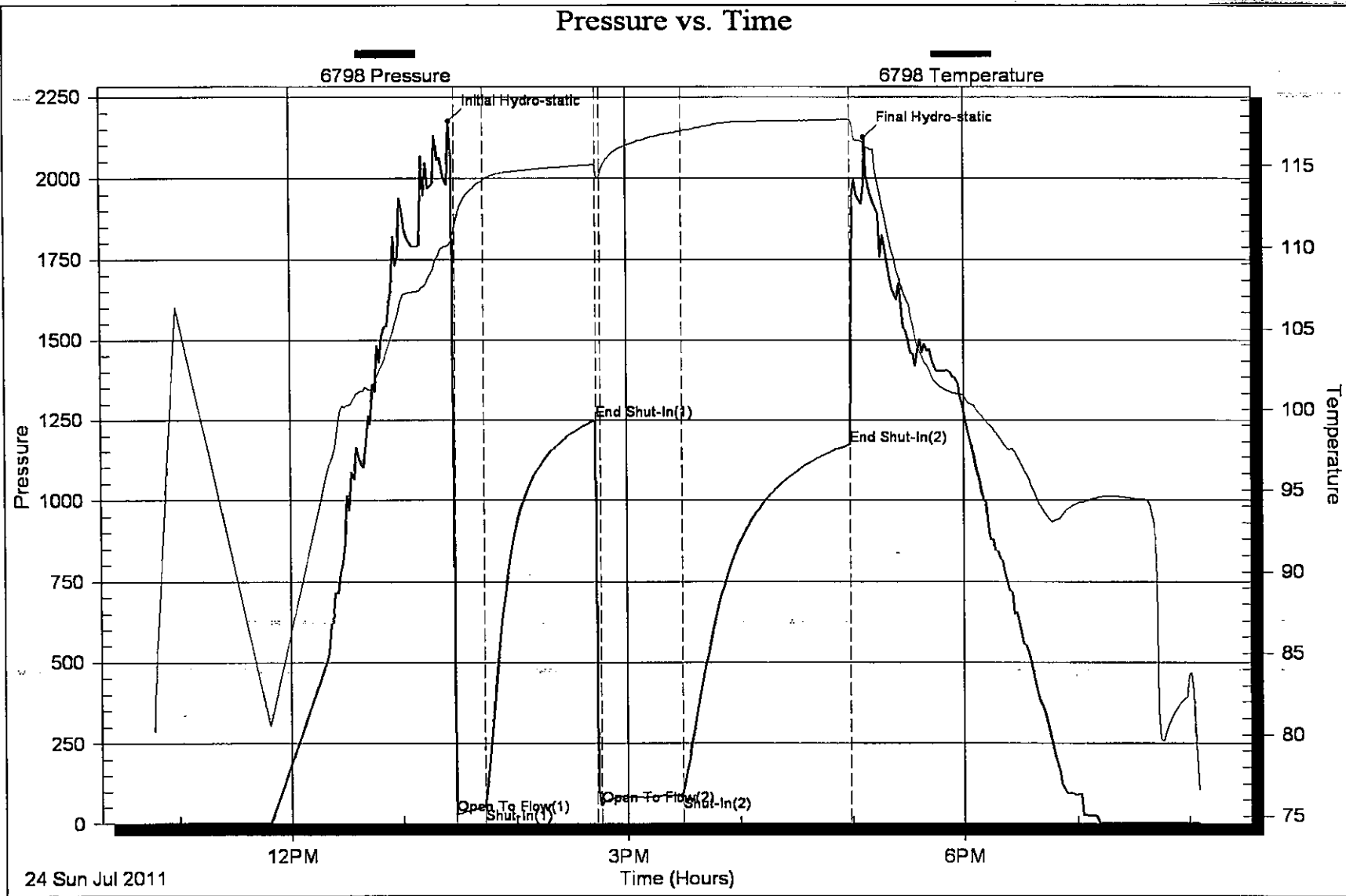
Num Gas Bombs: 0

Serial #:

Laboratory Name:

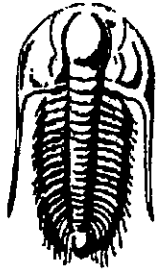
Laboratory Location:

Recovery Comments: RW was .065 @ 85 degrees









**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

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

PO Box 838  
Lawrenceville, IL 62439

ATTN: Jon Christensen

**23-28s-18w Kiowa,KS**

**Hardy # 3**

Start Date: 2011.07.26 @ 14:55:29

End Date: 2011.07.27 @ 00:25:29

Job Ticket #: 43934      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Herman L Loeb, LLC

Hardy # 3

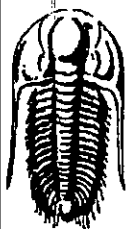
23-28s-18w Kiowa,KS

DST # 2

Mississippi

2011.07.26





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Herman L Loeb, LLC

**Hardy # 3**

PO Box 838  
Lawrenceville, IL 62439

**23-28s-18w Kiowa, KS**

Job Ticket: 43934      **DST#: 2**

ATTN: Jon Christensen

Test Start: 2011.07.26 @ 14:55:29

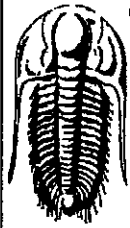
### Tool Information

Drill Pipe:	Length: 4566.00 ft	Diameter: 3.80 inches	Volume: 64.05 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: 213.00 ft	Diameter: 2.25 inches	Volume: 1.05 bbl	Weight to Pull Loose: 85000.00 lb
			<b>Total Volume: 65.10 bbl</b>	Tool Chased ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	4786.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	58.00 ft			
Tool Length:	80.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4769.00	
Hydraulic tool	5.00			4774.00	
Safety Joint	2.00			4776.00	
Packer	5.00			4781.00	22.00      Bottom Of Top Packer
Packer	5.00			4786.00	
Stubb	1.00			4787.00	
Recorder	0.00	6798	Inside	4787.00	
Recorder	0.00	8367	Outside	4787.00	
Perforations	6.00			4793.00	
Change Over Sub	1.00			4794.00	
Drill Pipe	32.00			4826.00	
Change Over Sub	1.00			4827.00	
Perforations	14.00			4841.00	
Bullnose	3.00			4844.00	58.00      Bottom Packers & Anchor

**Total Tool Length: 80.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Herrman L Loeb, LLC

**Hardy # 3**

PO Box 838  
Lawrenceville, IL 62439

**23-28s-18w Kiowa, KS**

Job Ticket: 43934

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2011.07.26 @ 14:55:29

**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: 61.00 sec/qt

Cushion Volume:

bbl

Water Loss: 9.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 0.20 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
0.00	4654 GIP	0.000
125.00	SGCM 2%G 98%M	0.615

Total Length: 125.00 ft      Total Volume: 0.615 bbl

Num Fluid Samples: 0

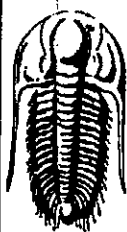
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Herman L Loeb, LLC  
PO Box 838  
Lawrenceville, IL 62439

**Hardy # 3**

**23-28s-18w Kiowa, KS**

Job Ticket: 43934

**DST#: 2**

ATTN: Jon Christensen

Test Start: 2011.07.26 @ 14:55:29

### Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
1	15	0.25	28.00	67.26
1	15	0.25	28.00	67.26
2	10	0.25	20.00	54.57
2	20	0.25	22.00	57.75
2	30	0.25	22.00	57.75
2	40	0.25	19.00	52.99

