KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1061328

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30535
Name: Hartman Oil Co., Inc.
Address 1: 10500 E BERKELEY SQ PKWY STE 100
Address 2:
City: WICHITA State: KS Zip: 67206 + __ __ __ __
Contact Person: Stan Mitchell
Phone: (620) 272-3988
CONTRACTOR: License # 33793
Name: H2 Drilling LLC
Wellsite Geologist: Derek W Patterson
Purchaser: NCRA

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [x] 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 #:

6/16/2011	6/26/2011	7/22/2011
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-193-20797-00-00
Spot Description:
NW - SE - SE - SW Sec. 14 Twp. 10 S. R. 33 [ ] East [x] West
400 Feet from [ ] North / [x] South Line of Section
2190 Feet from [ ] East / [x] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [ ] NW [ ] SE [x] SW
County: Thomas
Lease Name: Krug Well #: 1
Field Name:
Producing Formation: Ft Scott
Elevation: Ground: 3141 Kelly Bushing: 3150
Total Depth: 4800 Plug Back Total Depth: 4770
Amount of Surface Pipe Set and Cemented at: 420 Feet
Multiple Stage Cementing Collar Used? [x] Yes [ ] No
If yes, show depth set: 2274 Feet
If Alternate II completion, cement circulated from: 2274
feet depth to: 0 w/ 510 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 3200 ppm Fluid volume: 8000 bbls
Dewatering method used: Evaporated
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

- [x] **Letter of Confidentiality Received**
  Date: 08/11/2011
- [x] **Confidential Release Date:** 08/10/2013
- [x] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [x] **I** [ ] **II** [ ] **III** **Approved by:** NAOMI JAMES **Date:** 08/17/2011

Side Two

1061328

Operator Name: Hartman Oil Co., Inc. Lease Name: Krug Well #: 1

Sec. 14 Twp. 10 S. R. 33 ☐ East ☑ West County: Thomas

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No
Electric Log Run ☑ Yes ☐ No
Electric Log Submitted Electronically ☐ Yes ☑ No
(If no, Submit Copy)

List All E. Logs Run:
Attached

☐ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ 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
Surface Casing	12.250	8.625	25.00	419	JT	245	3%cc 2% gel
Production Casing	7.875	5.50	15.50	4796	lite commom	325	.25 flo 2%gel

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 *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: 2.625 Set At: 4750 Packer At:

Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 7/22/2011

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	54	0	0		

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☑ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Hartman Oil Co., Inc.
Well Name	Krug 1
Doc ID	1061328

All Electric Logs Run

Spectral Density Dual Spaced Neutron Log
Microlog
Array Compensated Ture Resistivity Log
Sonic Cement Bond Log

Form	ACO1 - Well Completion
Operator	Hartman Oil Co., Inc.
Well Name	Krug 1
Doc ID	1061328

Tops

Name	Top	Datum
Heeber	4041	-890
Lansing	4078	-927
Stark Shale	4301	-1150
Bace kansas City	4357	-1206
Ft Scott	4532	-1381
Cherokee	4546	-1395
Johnson Zone	4625	-1474
Mississippi	4705	-1554
RTD	4800	-1649

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

Kansas
Corporation Commission

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

August 11, 2011

Stan Mitchell
Hartman Oil Co., Inc.
10500 E BERKELEY SQ PKWY STE 100
WICHITA, KS 67206

Re: ACO1
API 15-193-20797-00-00
Krug 1
SW/4 Sec.14-10S-33W
Thomas 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,
Stan Mitchell

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

Well Name:	Krug #1		
Location:	Sec. 14 - T10S - R33W, Thomas County, KS		
Licence Number:	API No.: 15-193-20797-0000	**Region:**	Nolette East
Spud Date:	June 16, 2011	**Drilling Completed:**	June 25, 2011
Surface Coordinates:	400' FSL & 2190' FWL; 3-D Location		
Bottom Hole Coordinates:			
Ground Elevation (ft):	3141'	**K.B. Elevation (ft):**	3151'
Logged Interval (ft):	3600' To: 4800'	**Total Depth (ft):**	4796' (LTD)
Formation:	Mississippian		
Type of Drilling Fluid:	Chemical Gel/Polymer		

OPERATOR

Company: Hartman Oil Co., Inc.
Address: 10500 E. Berkeley Sq. Parkway Suite 100
Wichita, KS 67206

GEOLOGIST

Name: Derek W. Patterson
Company: Valhalla Exploration, LLC
Address: 133 N. Glendale
Wichita, KS 67208

Hartman Oil Co., Inc.

DAILY DRILLING REPORT

Company: Hartman Oil Co., Inc.
10500 E. Berkeley Sq. Parkway
Suite 100
Wichita, KS 67206
Contact: Chris Peters: O: 316.652.1605 C: 316.210.2366
Geologist: Derek W. Patterson
Cell: 316.655.3550
Office: 316.558.5202
Drilling Contractor: H2 Drilling, LLC - Rig #2
Toolpusher: Steve Craig

Well: Krug #1
Location: 400' FSL & 2190' FWL
Sec. 14 - T10S - R33W
Thomas Co., KS
Elevation: 3141' GL – 3151' KB
Field: Nollette East
API: 15-193-20797-0000
Surface Casing: 404.16' of 8 5/8" set @ 419' KB
Spud Date: June 16, 2011
Drilling Complete: June 25, 2011

DATE	7:00 AM DEPTH	PREVIOUS 24 HOURS OF OPERATIONS
6.21.2011	4124'	Drilling and connections Topeka. Geologist Derek W. Patterson on location, 2030 hrs 6.20.11. Work on/Reset Tooke Daq System. Resume drilling and connections Topeka, King Hill, Queen Hill, Heebner, Toronto, and into Lansing. CFS @ 4116' (LKC 'A'). Resume drilling Lansing. DMC: $0.00 CMC: $ 9,167.30
6.22.2011	4335'	Drilling and connections Lansing. CFS @ 4137' (LKC 'C'), CFS @ 4167' (LKC 'E'), CFS @ 4182' (LKC 'F Ran new lines to Gas Detector and re-routed flow lines. System had positive response to lighter and propane tests. Re-zero gas detector. Resume drilling and connections Lansing. CFS @ 4257' (LKC 'H'), CTCH @ 4300' (LKC 'J'). Resume drilling and connections Lansing. CFS @ 4335' (LKC 'K'). Shows warrant DST. CTCH, short trip 20 stands, 0315 hrs 6.22.11. CTCH drop survey. Made 211' over past 24 hrs of operations. DMC: $980.70 CMC: $10,148.00
6.23.2011	4478'	Strap Out for DST #1, 0700 hrs 6.22.11. Conducting DST #1, test successful. TIH w/ bit, CTCH, resume drilling Lansing, 1930 hrs 6.22.11. Drilling and connections Lansing, Base Kansas City, and into Marmaton. Made 143' over past 24 hrs of operations. DMC: $847.00 CMC: $10,995.00
6.24.2011	4586'	Drilling and connections Marmaton, Pawnee, Ft. Scott, and into Cherokee. CFS @ 4553' (Cherokee). Shows in Ft. Scott warrant DST. CTCH, TOH for DST #2, 1500 hrs 6.23.11. Conducting DST #2, test successful. TIH with bit, CTCH, resume drilling Cherokee, 0430 hrs 6.24.11. Drilling and connections upper Cherokee. Made 108' over past 24 hrs of operations. DMC: $205.20 CMC: $11,200.20
6.25.2100	4704'	Drilling and connections upper Cherokee, lower Cherokee, and into Johnson Zone. CFS @ 4635' (Johnson Zone), resume drilling Johnson Zone. CFS @ 4659' (Johnson Zone). Shows warrant DST. CTCH, TOH for DST #3, 1520 hrs 6.24.11. Conducting DST #3, test successful. TIH with bit, CTCH, resume drilling Cherokee, 0415 hrs 6.25.11. Drilling and connections Cherokee. Made 118' over past 24 hrs of operations. DMC: $1,030.60 CMC: $12,230.80
6.26.2011	RTD - 4800' LTD - 4796'	Drilling and connections Cherokee and into Mississippian, ahead to RTD of 4800'. RTD reached 1300 hrs 6.25.11. CTCH, drop survey, TOH for open hole logging operations 1500 hrs 6.25.11. Commence open hole logging operations, 1715 hrs 6.25.11. Open hole logging operations complete, 2045 hrs 6.25.11. Decision made to run 5 1/2" production casing to further evaluate hole. Geologist Derek W. Patterson off location, 2230 hrs 6.25.11. Made 96' over past 24 hrs of operations.

Hartman Oil Co., Inc.

WELL COMPARISON SHEET

	DRILLING WELL				COMPARISON WELL				COMPARISON WELL				COMPARISON WELL			
	Hartman Oil Co - Krug #1 400' FSL & 2190' FWL Sec. 14 - 10W - 33S				Amer. Energies - Krug #1 'OWWO' C W/2 SW SW Sec. 14 - 10W - 33S				Amer. Energies - Mollie #1 C W/2 NW NE Sec. 23 - 10W - 33S				White Exploration - Mollie #1 C E/2 NW NE Sec. 14 - 10W - 33S			
	3151 KB				Oil - LKC 'K' 3147 KB		Structural Relationship		Oil - LKC 'K' 3148 KB		Structural Relationship		Oil - LKC 'K' 3148 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Topeka	3829	-678	3821	-670	3826	-679	1	9	3821	-673	-5	3	3822	-674	-4	4
King Hill	3931	-780	3926	-775	3931	-784	4	9	3927	-779	-1	4	3929	-781	1	6
Queen Hill	3999	-848	3993	-842	3997	-850	2	8	3994	-846	-2	4	3996	-848	0	6
Heebner	4049	-898	4041	-890	4043	-896	-2	6	4042	-894	-4	4	4044	-896	-2	6
Toronto	4065	-914	4059	-908	4064	-917	3	9	4061	-913	-1	5	4062	-914	0	6
Lansing	4085	-934	4078	-927	4081	-934	0	7	4080	-932	-2	5	4083	-935	1	8
Muncie Creek	4222	-1071	4216	-1065	4218	-1071	0	6	4218	-1070	-1	5	4217	-1069	-2	4
Stark Shale	4305	-1154	4301	-1150	4300	-1153	-1	3	4302	-1154	0	4	4303	-1155	1	5
Swope	4316	-1165	4311	-1160	4310	-1163	-2	3	4312	-1164	-1	4	4312	-1164	-1	4
Base KC	4363	-1212	4358	-1207	4354	-1207	-5	0	4358	-1210	-2	3	4353	-1205	-7	-2
Marmaton	4388	-1237	4384	-1233	4382	-1235	-2	2	4386	-1238	1	5	4387	-1239	2	6
Pawnee	4503	-1352	4498	-1347	4504	-1357	5	10	4497	-1349	-3	2	4497	-1349	-3	2
Fort Scott	4537	-1386	4532	-1381	4542	-1395	9	14	4533	-1385	-1	4	4537	-1389	3	8
Cherokee	4551	-1400	4546	-1395	4555	-1408	8	13	4545	-1397	-3	2	4548	-1400	0	5
Johnson Zone	4630	-1479	4625	-1474	4636	-1489	10	15	4623	-1475	-4	1	4628	-1480	1	6
Cherokee Sand	4686	-1535	4681	-1530	4678	-1531	-4	1	4672	-1524	-11	-6	4680	-1532	-3	2
Mississippian	4710	-1559	4705	-1554	4722	-1575	16	21	4705	-1557	-2	3	Not Penetrated			
Total Depth	4800	-1649	4796	-1645	4800	-1653	4	8	4777	-1629	-20	-16	4700	-1552	-97	-93

BIT RECORD

Bit #	Size	Make	Type	Serial Number	Depth In	Depth Out	Feet	Hours
1	12 1/4"	Varel	CHS1GJMS	245085	0'	420'	420'	3.5
2	7 7/8"	Varel	HE21MSV	1247024	420'	4800'	4380'	115.25

SURFACE CASING RECORD

6.16.11 **Ran 10 joints of new 25#/ft 8 5/8" casing, tallying 404.16', set @ 419' KB. Cemented with 245 sacks of common, 3% CC, 2% gel, cement did circulate. Plug down @ 0615 hrs 6.17.11.**

DEVIATION SURVEY RECORD

Depth	Survey
420'	1/4°
2578'	1 1/4°
4335'	3/4°
4800'	3/4°

PIPE STRAP RECORD

Depth	Pipe Strap
4335'	0.52' Short to Board

DRILL STEM TEST REPORT

Weatherford®
Completion Systems

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14/10s/33w Thomas KS

Job Ticket: 042906 **DST#: 1**

Test Start: 2011.06.22 @ 09:30:00

GENERAL INFORMATION:

Formation: **LKC "K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:08:00
Time Test Ended: 16:17:00

Test Type: Conventional Bottom Hole
Tester: James Winder
Unit No: 46

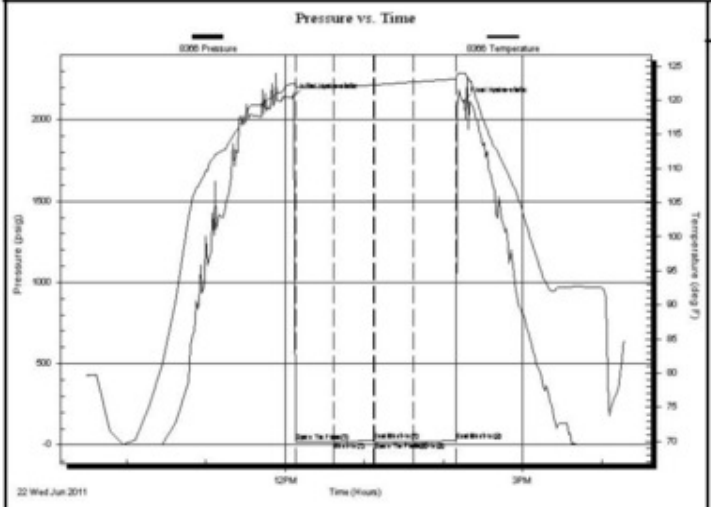
Interval: 4298.00 ft (KB) To 4335.00 ft (KB) (TVD)
Total Depth: 4335.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3151.00 ft (KB)
3140.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8366 **Inside**
Press@RunDepth: 20.87 psig @ 4299.00 ft (KB)
Start Date: 2011.06.22 End Date: 2011.06.22
Start Time: 09:30:05 End Time: 16:16:59

Capacity: 8000.00 psig
Last Calib.: 2011.06.22
Time On Btm: 2011.06.22 @ 12:06:00
Time Off Btm: 2011.06.22 @ 14:15:30

TEST COMMENT: IF: Weak surface blow , dead after 3 min.
ISI: No blow back
FF: No blow
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2138.35	122.38	Initial Hydro-static
2	19.43	122.09	Open To Flow (1)
31	20.32	121.92	Shut-In(1)
61	26.76	122.26	End Shut-In(1)
62	19.40	122.27	Open To Flow (2)
92	20.87	122.69	Shut-In(2)
124	25.36	123.14	End Shut-In(2)
130	2114.13	123.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01

Gas Rates

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

DRILL STEM TEST REPORT

Weatherford® Completion Systems

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14/10s/33w Thomas KS

Job Ticket: 042907 **DST#: 2**

Test Start: 2011.06.23 @ 16:52:00

GENERAL INFORMATION:

Formation: **Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:58:00
Time Test Ended: 01:11:00

Test Type: Conventional Bottom Hole
Tester: James Winder
Unit No: 46

Interval: 4522.00 ft (KB) To 4553.00 ft (KB) (TVD)
Total Depth: 4553.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

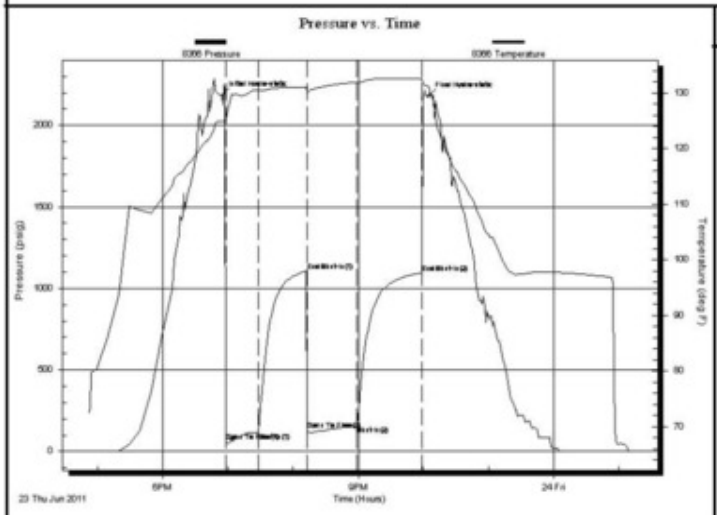
Reference Elevations: 3151.00 ft (KB)
3141.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Inside**

Press@RunDepth: 158.28 psig @ 4523.00 ft (KB)
Start Date: 2011.06.23 End Date: 2011.06.24
Start Time: 16:52:05 End Time: 01:10:59

Capacity: 8000.00 psig
Last Calib.: 2011.06.24
Time On Btm: 2011.06.23 @ 18:54:30
Time Off Btm: 2011.06.23 @ 22:04:30

TEST COMMENT: IF: Blow built to BOB (11") in 4 1/2 min.
ISI: Blow back built to 8 1/2"
FF: Blow built to BOB in 4 1/2 min.
FSI: Bled off at 4 min., Blow back built to BOB at 17 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2184.98	124.91	Initial Hydro-static
4	63.09	124.86	Open To Flow (1)
34	115.82	130.53	Shut-In(1)
78	1107.97	130.98	End Shut-In(1)
79	132.44	130.13	Open To Flow (2)
124	158.28	131.91	Shut-In(2)
185	1096.24	132.49	End Shut-In(2)
190	2177.43	131.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	SO/GWM 46%m, 38%w , 14%g, 2%o	0.31
60.00	GWOCM 50%g, 32%m, 13%o, 5%w	0.30
120.00	SW/GMCO 57%o, 30%m, 12%g, 1%w	0.59
72.00	GMCO 53%g, 30%o, 17%m	1.01
70.00	CGO 64%o, 35%g, 1%m	0.98
0.00	GIP = 1660'	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Weatherford®
Completion Systems

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14/10s/33w Thomas KS

Job Ticket: 042908 **DST#: 3**

Test Start: 2011.06.24 @ 17:24:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:41:00
Time Test Ended: 00:54:30

Test Type: Conventional Bottom Hole
Tester: James Winder
Unit No: 46

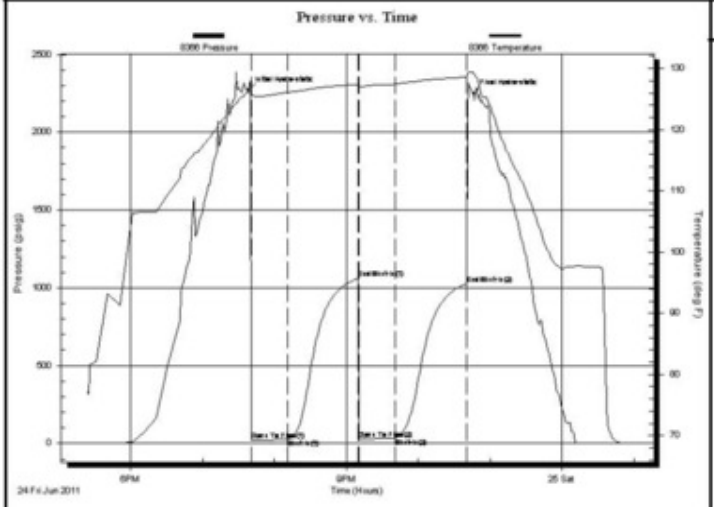
Interval: 4605.00 ft (KB) To 4659.00 ft (KB) (TVD)
Total Depth: 4659.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3151.00 ft (KB)
3141.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Inside**
Press@RunDepth: 32.55 psig @ 4606.00 ft (KB)
Start Date: 2011.06.24 End Date: 2011.06.25
Start Time: 17:24:05 End Time: 00:54:29

Capacity: 8000.00 psig
Last Calib.: 2011.06.25
Time On Btm: 2011.06.24 @ 19:38:00
Time Off Btm: 2011.06.24 @ 22:46:00

TEST COMMENT: IF: Weak surface blow , dead at 6 min.
ISI: No blow back
FF: No blow
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2268.10	126.03	Initial Hydro-static
3	20.24	125.66	Open To Flow (1)
33	26.06	126.11	Shut-In(1)
92	1061.23	127.42	End Shut-In(1)
93	28.79	127.12	Open To Flow (2)
123	32.55	127.45	Shut-In(2)
182	1026.36	128.59	End Shut-In(2)
188	2247.05	129.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	SOCM 94%m, 5%o, 1%g	0.20

Gas Rates

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

ROCK TYPES

LITHOLOGY

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till
- Sltstn
- Shale
- Sandylms
- Lms
- Gry sh
- Dtd
- Dol
- Carb sh
- pipesymbol
- unknown lith
- Red shale

FOSSIL

- Oomoldic
- Fuss
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

MINERAL

- Slty
- Sand
- Dol
- Chlorite
- 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

STRINGER

- Red shale
- Sh
- Sandylms
- Lms
- Grysltt
- Grysh
- Dol
- Clystn
- Carbsh
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OIL SHOW

- Gas show
- Good
- Fair
- Poor
- Dead

INTERVAL

- Dst
- Core
- Dst
- Straddle test t

EVENT

- Rft
- Sidewall
- Dst
- Open hole
- Perforations

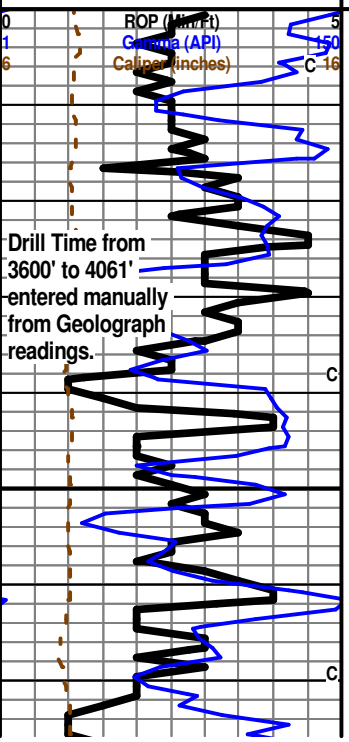
Curve Track 1

- ROP (Min/Ft)
- Gamma (API)
- Caliper (inches)

Depth | Lithology | Oil Shows | Geological Descriptions

Engineering Data

- TG (Units)
- C1 (units)
- C2 (units)
- C3 (units)
- C4 (units)
- C5 (units)



Hartman Oil Co., Inc.
Krug #1
400' FSL & 2190' FWL
Sec. 14 - 10S - 33W
Thomas Co., KS

API: 15-193-20797-0000

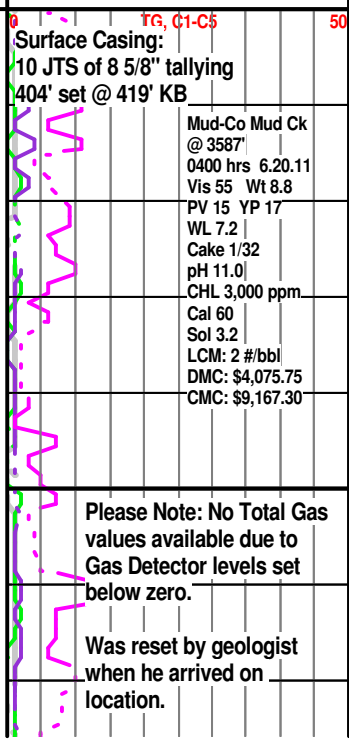
Elevation: 3141' GL
3151' KB

Drilling Contractor: H2 Drilling, LLC
Rig #2

Toolpusher: Steve Craig

Drillers: Daylight: DJ Meredith
Evening: Steve Clark
Morning: Kiven Cornelson

Mud Company: Mud-Co/Service Mud
Mud Engineer: Reid Adkins



Testing Company: Trilobite
Tester: James Winder

Logging Company: Haliburton
Logging Engineer: Curtis Haverkamp

Tooke Daq on location and operational @ 500'. The ROP, TG, C1 (Methane), C2 (Ethane), C3 (Propane) & C4 (N-Butane = C4 Butane + C5 Iso Butane) DATA was downloaded from the Tooke Daq. Said DATA was imported and displayed on this Geo Log.

Geologist: Derek W. Patterson

Displaced Mud System @ 3402'

3700

3750

3800

3850

0 ROP (Min/Ft) 5
1 Gamma (API) 150
6 Caliper (inches) 16

0 TG, C1-C5 50

Start 10' Wet & Dry Samples @ 3800'

Limestone: lt cream cream, dense matrix, micro-vfxln, fossiliferous with some oolitic, fair 2ndary xln along edges in most, some scattered poor pinpoint porosity in few pieces, no shows noted, no fluorescence.

Shale: red brick red, rounded to sub-blocky, soft, silty and micaceous in part, some scattered pyritic.

Topeka 3829 (-678)

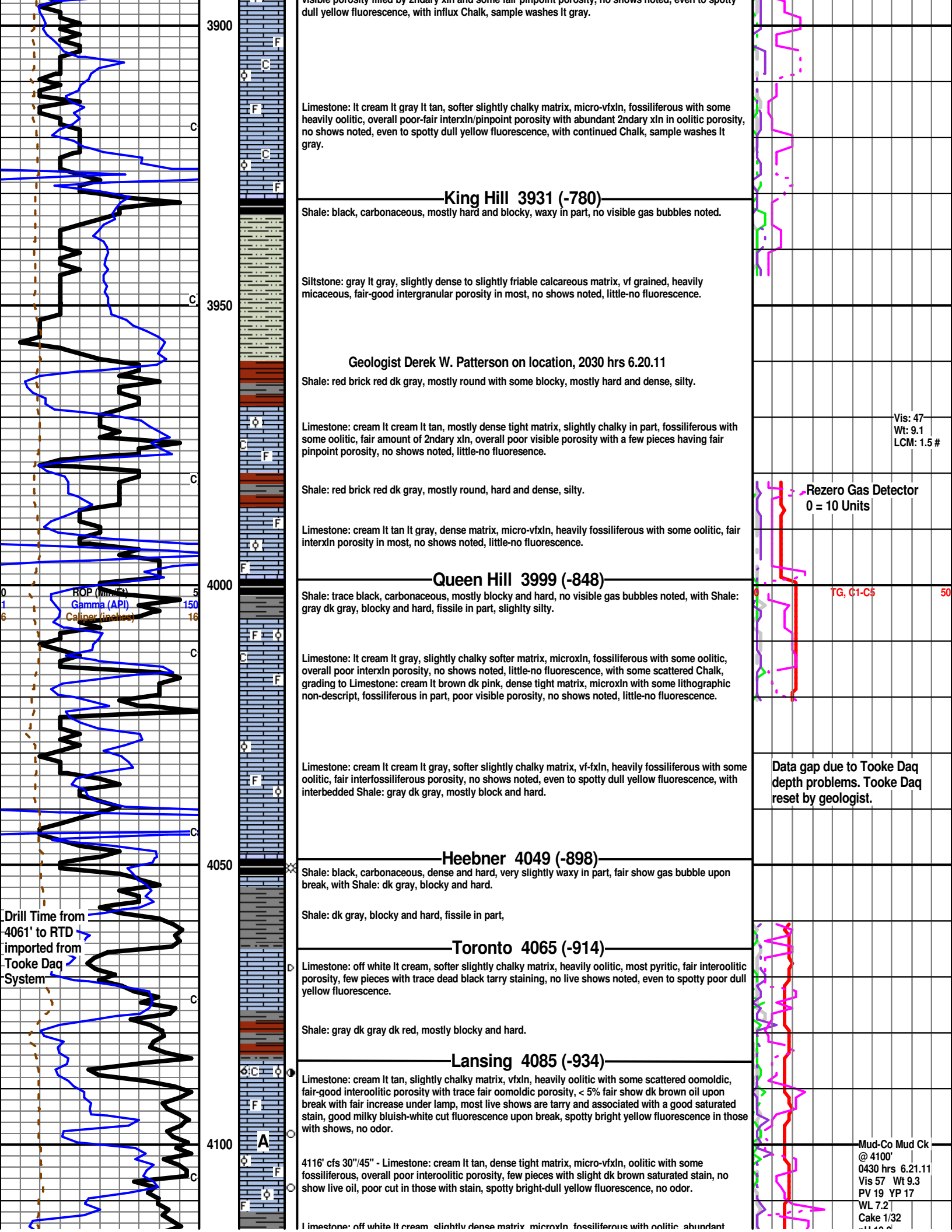
Limestone: off white lt cream lt gray, softer sub-chalky matrix, micro-vfxln, heavily fossiliferous with abundant oolitic, scattered poor interfossiliferous porosity, no shows noted, even bright yellowish-white fluorescence.

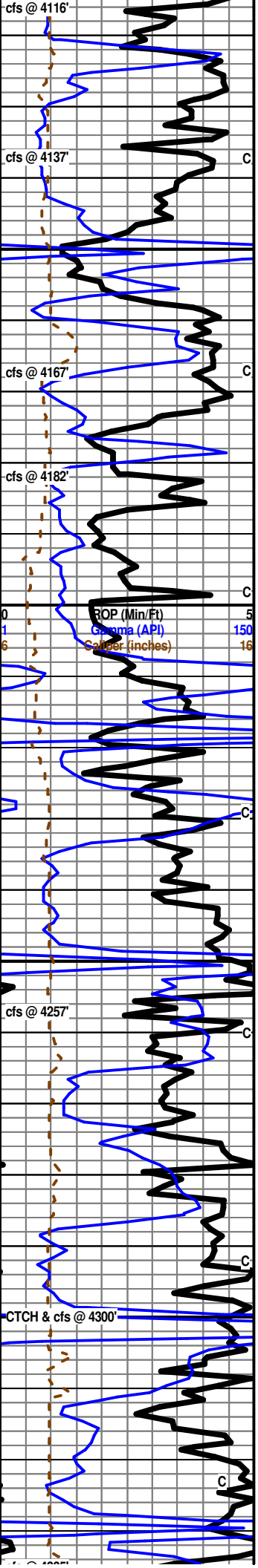
Limestone: lt cream off white lt gray, dense to sub-chalky softer matrix, micro-vfxln, heavily fossiliferous with abundant oolitic as above, fair amount of imbedded calcite crystals and 2ndary xln in most, poor interxln/interfossiliferous porosity, no shows noted, even bright yellowish-white fluorescence, with interbedded Shale: red brick red, rounded to sub-blocky, soft, silty and micaceous in part.

Limestone: lt cream lt gray off white, mostly dense matrix, micro-vfxln, heavily fossiliferous with some scattered oolitic, continued imbedded calcite crystals and 2ndary xln as above, overall poor interxln/interfossiliferous porosity with a few pieces with fair pinpoint porosity, no shows noted, scattered even bright yellowish-white fluorescence.

Shale: red brick red gray dk gray, mostly rounded with some sub-blocky, pyritic in part, with trace loose Pyrite nodules in sample, with interbedded Limestone as above, no shows noted.

Limestone: lt cream lt gray, softer slightly chalky matrix, micro-vfxln, fossiliferous to heavily fossiliferous with some oolitic, some scattered fair interxln/interfossiliferous porosity with most visible porosity filled by 2ndary xln and some fair pinpoint porosity, no shows noted, even to spotty


3900
3950
4000
4050
4100
ROP (Min/ft)
Gamma (API)
Caliper (inches)
Drill Time from 4061' to RTD imported from Tooke Daq System
visible porosity filled by 2ndary xln and some fair pinpoint porosity, no shows noted, even to spotty dull yellow fluorescence, with influx Chalk, sample washes lt gray.
Limestone: lt cream lt gray lt tan, softer slightly chalky matrix, micro-vfxln, fossiliferous with some heavily oolitic, overall poor-fair interxln/pinpoint porosity with abundant 2ndary xln in oolitic porosity, no shows noted, even to spotty dull yellow fluorescence, with continued Chalk, sample washes lt gray.
King Hill 3931 (-780)
Shale: black, carbonaceous, mostly hard and blocky, waxy in part, no visible gas bubbles noted.
Siltstone: gray lt gray, slightly dense to slightly friable calcareous matrix, vf grained, heavily micaceous, fair-good intergranular porosity in most, no shows noted, little-no fluorescence.
Geologist Derek W. Patterson on location, 2030 hrs 6.20.11
Shale: red brick red dk gray, mostly round with some blocky, mostly hard and dense, silty.
Limestone: cream lt cream lt tan, mostly dense tight matrix, slightly chalky in part, fossiliferous with some oolitic, fair amount of 2ndary xln, overall poor visible porosity with a few pieces having fair pinpoint porosity, no shows noted, little-no fluoresence.
Shale: red brick red dk gray, mostly round, hard and dense, silty.
Limestone: cream lt tan lt gray, dense matrix, micro-vfxln, heavily fossiliferous with some oolitic, fair interxln porosity in most, no shows noted, little-no fluorescence.
Queen Hill 3999 (-848)
Shale: trace black, carbonaceous, mostly blocky and hard, no visible gas bubbles noted, with Shale: gray dk gray, blocky and hard, fissile in part, slighlty silty.
Limestone: lt cream lt gray, slightly chalky softer matrix, microxln, fossiliferous with some oolitic, overall poor interxln porosity, no shows noted, little-no fluorescence, with some scattered Chalk, grading to Limestone: cream lt brown dk pink, dense tight matrix, microxln with some lithographic non-descript, fossiliferous in part, poor visible porosity, no shows noted, little-no fluorescence.
Limestone: cream lt cream lt gray, softer slightly chalky matrix, vf-fxln, heavily fossiliferous with some oolitic, fair interfossiliferous porosity, no shows noted, even to spotty dull yellow fluorescence, with interbedded Shale: gray dk gray, mostly block and hard.
Heebner 4049 (-898)
Shale: black, carbonaceous, dense and hard, very slightly waxy in part, fair show gas bubble upon break, with Shale: dk gray, blocky and hard.
Shale: dk gray, blocky and hard, fissile in part,
Toronto 4065 (-914)
Limestone: off white lt cream, softer slightly chalky matrix, heavily oolitic, most pyritic, fair interoolitic porosity, few pieces with trace dead black tarry staining, no live shows noted, even to spotty poor dull yellow fluorescence.
Shale: gray dk gray dk red, mostly blocky and hard.
Lansing 4085 (-934)
Limestone: cream lt tan, slightly chalky matrix, vfxln, heavily oolitic with some scattered oomoldic, fair-good interoolitic porosity with trace fair oomoldic porosity, < 5% fair show dk brown oil upon break with fair increase under lamp, most live shows are tarry and associated with a good saturated stain, good milky bluish-white cut fluorescence upon break, spotty bright yellow fluorescence in those with shows, no odor.
4116' cfs 30"/45" - Limestone: cream lt tan, dense tight matrix, micro-vfxln, oolitic with some fossiliferous, overall poor interoolitic porosity, few pieces with slight dk brown saturated stain, no show live oil, poor cut in those with stain, spotty bright-dull yellow fluorescence, no odor.
Limestone: off white lt cream, slightly dense matrix, microxln, fossiliferous with oolitic, abundant
Vis: 47
Wt: 9.1
LCM: 1.5 #
Rezero Gas Detector
0 = 10 Units
TG, C1-C5
Data gap due to Tooke Daq depth problems. Tooke Daq reset by geologist.
Mud-Co Mud Ck
@ 4100'
0430 hrs 6.21.11
Vis 57 Wt 9.3
PV 19 YP 17
WL 7.2
Cake 1/32



med-large vugs, fair-good interfossiliferous/vuggy porosity in most, moderate oily sheen across sample, fair-poor show free oil from porosity with fair-good increase upon break/left under lamp, fair-good brown saturated staining in porosity of most pieces, streaming milky-white cut fluorescence, spotty bright lt yellow fluorescence, moderate odor.

4137' cfs 20"/40" - Limestone: cream lt cream, dense tight matrix, microxln, sub-fossiliferous with trace sub-oolitic, poor interxln porosity, few pieces with some poor dk brown dead staining around edges (may be from above), no live shows noted, poor spotty bright yellow fluorescence, no odor.

4167' cfs 0" - Limestone: cream lt tan, softer chalky matrix that breaks fairly easily, micro-vfxln, fossiliferous, some scattered solution vugs, fair interxln/vuggy porosity in those with show, slight oily sheen across sample and trace free dk brown oil in tray, very poor show free oil from porosity with very slight increase upon break/left under lamp, fair saturated staining in porosity of most pieces, streaming milky-white cut fluorescence, spotty bright lt yellow fluorescence, moderate odor.

4167' cfs 20"/40" - Limestone: off white lt cream, dense very slightly chalky matrix, micro-vfxln, few slightly oolitic pieces, poor interoolitic porosity, 2 pieces with dk black oil residue in porosity, very poor show free oil upon break/left under lamp, no other shows noted, no cut fluorescence, even dull pale yellow to no fluorescence, no odor.

4182' cfs 20"/40" - Limestone: lt cream off white, softer chalky matrix, microxln, sub-fossiliferous in part, poor visible porosity, only few pieces with poor dead black staining along edges, no live shows noted, no cut fluorescence, very poor-no fluorescence, no odor.

Limestone: cream lt cream, slightly dense chalky matrix, micro-vfxln, scattered sub-fossiliferous, fair pinpoint porosity in most pieces, no shows noted, very poor dull yellow fluorescence to no fluorescence, no odor.

Limestone: cream lt cream, slightly dense chalky matrix, vfxln, sub-fossiliferous, some scattered imbedded calcite crystals, fair pinpoint porosity in most pieces, no shows noted, very poor dull yellow fluorescence to no fluroescence, no odor, with influx Chalk in sample.

Shale: dk gray, mostly rounded, soft and waxy.

Muncie Creek 4222 (-1071)

Shale: black, carbonaceous, rounded to blocky, mostly soft and waxy.

Limestone: tan lt brown dk cream, slightly chalky softer matrix that breaks fairly easily, vf-fxln, sub-fossiliferous in part, fair-good interxln/pinpoint porosity, trace brown free oil in tray, very poor show free brown oil from porosity with fair increase upon break/left under lamp, free oil is tarry and stringy, most show rocks have very good golden brown saturated stain, streaming milky bluish-white cut fluorescence, even bright yellow fluorescence in those with shows, faint odor.

Limestone: lt cream lt gray, dense cherty matrix, micro-cryptoxln, fossiliferous with some oolitic, poor visible porosity with some scattered solution vugs, few pieces with fair golden brown saturated staining along edges and in vugs, fair show very lt golden brown oil upon break in those with staining, good forced milky bluish-white cut fluorescence, spotty bright yellow fluorescence in those with shows, faint odor, with influx Chert: smokey gray, fresh and sharp, barren, no shows noted.

Shale: black, carbonaceous, with Shale: gray dk gray dk green, mostly blocky with scattered rounded, soft and waxy to dense and hard.

Limestone: cream gray tan, dense tight matrix, micro-vfxln, fossilferous to heavily fossiliferous, very poor visible porosity, no shows noted, little-no fluorescence, no odor.

Limestone: cream lt tan, dense slightly chalky matrix, micro-vfxln, fossiliferous with abundant oolitic material, poor pinpoint porosity, 1 piece with slight dead black staining along edges, no live shows noted, little-no fluorescence, no odor.

Shale: red brick red some purple, mostly blocky and hard.

4300' cfs 0"/20"/40" - Limestone: lt cream off white lt tan, dense slightly chalky matrix, vfxln, fossiliferous with abundant oolitic material, small scattered vugs, fair interxln/vuggy porosity in few pieces, 1 pieces with very slight show lt brown oil upon break, very poor cut fluorescence, little-no fluorescence, with Limestone: lt gray cream, dense tight matrix, cryptoxln-lithographic, barren, no visible porosity, no shows noted, even dull yellow fluorescence, no odor.

Stark Shale 4305 (-1154)

Shale: black, carbonaceous, round to blocky, most soft and waxy in part, with Shale: gray dk gray dk green, mostly blocky and soft, some fissile.

Limestone: lt gray lt cream, mostly dense sub-chalky tight matrix, vfxln, fossiliferous and heavily oolitic, scattered small-med solution vugs, poor-fair interoolitic/interxln/vuggy porosity in few pieces with most tight, 5% poor show free brown oil from porosity with fair-good increase upon break/left under lamp, good dk brown saturated staining within porosity and along edges of few show rocks, fair forced bluish-white cut fluorescence, spotty bright yellow fluorescence, faint odor.

4335' cfs 20"40" - Limestone: cream lt cream, dense sub-chalky matrix, vf-microxln, fossiliferous in part with some sub-oolitic, scattered 2ndary xln, fair-poor interoolitc/interxln porosity, no shows noted, little-no fluorescence. no odor.

Hushpuckney 4334 (-1183)

pH 10.0
CHL 3,700 ppm
Cal 60
Sol 6.6
LCM: 2 #/bbl
DMC: $0.00
CMC: $9,167.30

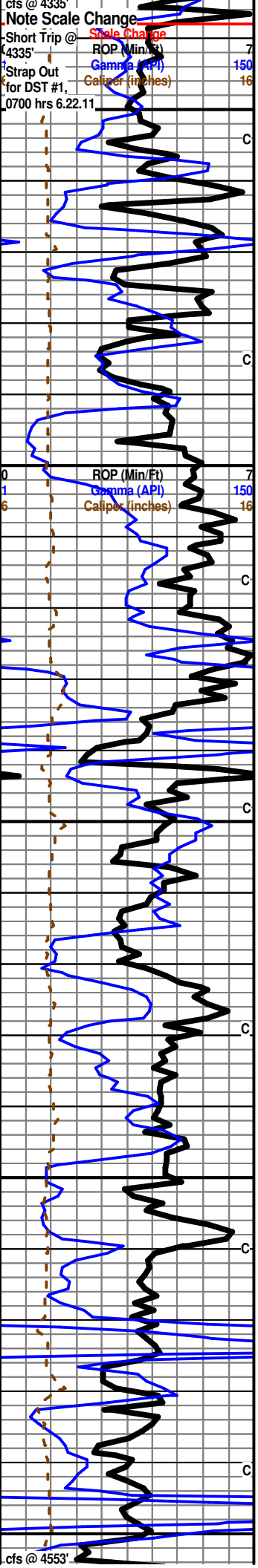
Ran new lines to Gas Detector and re-routed flow lines. Positive response from lighter and propane tests on system.

0 TG, C1-C5 50

Vis: 60
Wt: 9.3
LCM: 1 #

Vis: 56
Wt: 9.3
LCM: 2 #

Mud-Co Mud Ck



Shale: black, carbonaceous, mostly blocky, soft and waxy.

Resume Drilling Following DST #1,1930 hrs 6.22.11

Shale: gray dk gray some dk green, mostly blocky, slightly hard to soft, waxy in part.

Limestone: cream tan lt gray, very dense tight matrix, micro-cryptoxln, fossiliferous, some scattered imbedded calcite crystals, very poor visible porosity, no shows noted, very poor even dull dk yellow fluorescence, with some scattered Pyrite nodules in sample.

Limestone: cream tan gray, dense very slightly chalky matrix, vf-fxln with some microxln, fossiliferous in part, fair interxln porosity in most, no shows noted, poor pale yellow to dk yellow fluorescence, with scattered Shale: red brick red, mostly blocky and softer.

Base Kansas City 4363 (-1212)

Shale: gray dk gray brown, mostly blocky and soft.

Limestone: cream lt tan, dense tight matrix, micro-vfxln, most heavily fossilferous, fair amount of 2ndary xln along edges and between fossils, poor interxln/interfossiliferous porosity, no shows noted, little-no fluorescence, with interbedded Shale: gray dk gray brown, mostly blocky and soft.

Shale: gray dk gray dk green some brown, blocky, soft to hard.

Marmaton 4388 (-1237)

Limestone: lt cream off white lt tan, dense sub-chalky matrix, microxln, fossiliferous in part with some scattered oolitic, poor visible porosity, no shows noted, little-no fluorescence.

Limestone: lt cream off white lt tan, very dense tight matrix, microxln-cryptoxln, sub-fossiliferous in part, poor visible porosity, no shows noted, little-no fluorescence, with influx Shale: gray dk gray dk green, mostly rounded and soft.

INTERBEDDED -- Shale: gray dk gray dk green, mostly blocky and hard, and Limestone: cream lt tan, dense tight matrix, micro-cryptoxln, mostly barren, poor visible porosity, no shows note, little-no fluorescence.

Shale: gray dk gray some black carbonaceous, mostly blocky, slightly soft to hard, waxy in part.

Limestone: off white lt cream cream, dense slightly sub-chalky matrix, microxln, fossiliferous in part with some sub-oolitic, poor visible porosity, no shows noted, no fluorescence.

Shale: gray dk gray dk green brick red, mostly blocky, soft to hard, some fissile.

Limestone: lt cream off white, dense tight matrix, microxln, fossiliferous with some heavily oolitic, very poor visible porosity, no shows noted, very poor-no fluorescence.

Limestone: lt cream lt gray gray, dense slightly cherty matrix, micro-vfxln, fossiliferous with some scattered oolitic to barren, overall poor-fair interxln porosity, no shows noted, no fluorescence.

Limestone: cream lt tan, dense slightly chalky matrix, micro-vfxln, scattered sub-oolitic, sub-cherty in part, overall poor interxln porosity with a few scattered small vugs, few pieces with very poor show lt brown oil upon break, very poor cut fluorescence in those with shows, very poor spotty lt yellow fluorescene in those with shows, no odor, and influx Chert: gray smokey gray, fresh and sharp, mostly barren, grading to Shale: gray dk gray dk green, mostly blocky and softer.

Pawnee 4503 (-1352)

Limestone: cream lt cream lt tan, dense tight matrix, microxln, fossiliferous in part, scattered 2ndary xln along edges in most pieces, poor visible porosity, no shows noted, little-no fluorescence.

Limestone: cream lt gray, dense tight matrix, micro-vfxln with some cryptoxln, fossiliferous in part, poor interxln porosity in most, no shows noted, no fluorescence.

Labette Shale 4526 (-1375)

Shale: black, carbonaceous, blocky, dense and waxy, poor show gas bubbles.

Shale: gray dk gray some black carbonaceous, blocky, mostly dense and hard, some waxy, fissile in part.

Ft Scott 4537 (-1385)

Limestone: lt cream off white, dense sub-chalky & sub-cherty matrix, micro-vfxln, fossiliferous, fair interxln/vuggy porosity, very slight show lt brown oil and gas from porosity with fair-good increase upon break/left under lamp, good lt brown sat stain, strong milky-white cut fl, even bright lt yellow-green fl, moderate-strong odor, shows decline in 30"/60" cfs.

Cherokee 4551 (-1400)

Shale: black, carbonaceous, blocky and waxy, fair show gas bubbles.

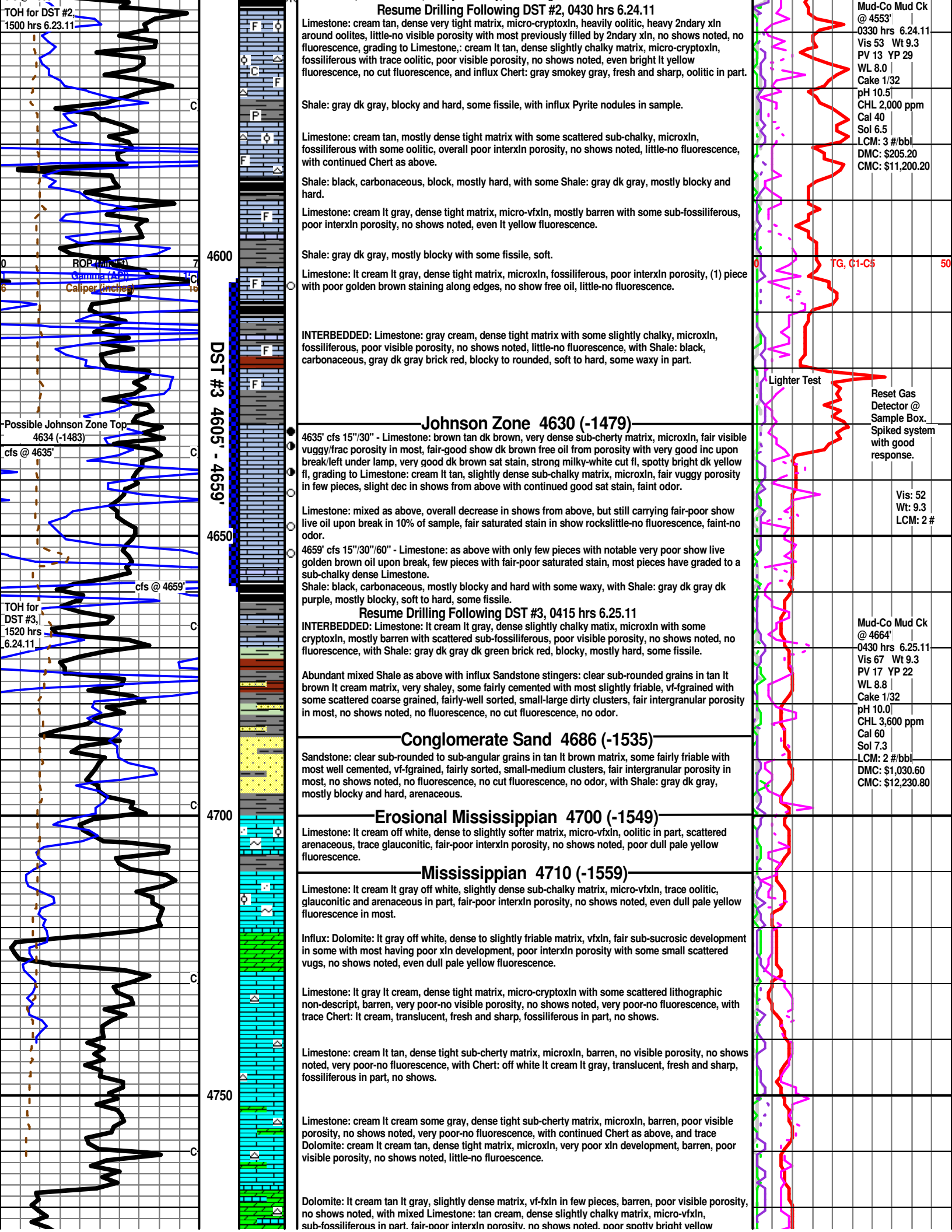
@ 4335'
0400 hrs 6.22.11
Vis 57 Wt 9.3
PV 19 YP 16
WL 8.0
Cake 1/32
pH 9.5
CHL 3,200 ppm
Cal 60
Sol 6.6
LCM: 2 #/bbl
DMC: $980.70
CMC: $10,148.00

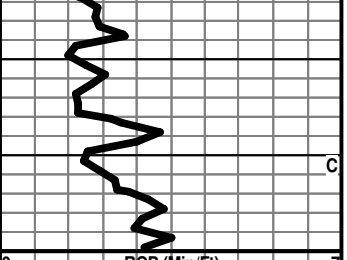
0 TG, C1-C5 50

Vis: 50
Wt: 9.3
LCM: 2 #

Mud-Co Mud Ck
@ 4479'
0645 hrs 6.23.11
Vis 54 Wt 9.2
PV 14 YP 20
WL 7.2
Cake 1/32
pH 10.5
CHL 1,300 ppm
Cal Tr
Sol 6.4
LCM: 3 #/bbl
DMC: $847.00
CMC: $10,995.00

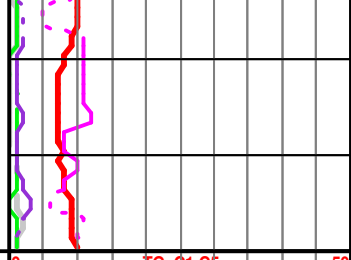
Vis: 58
Wt: 9.2
LCM: 2 #


TOH for DST #2, 1500 hrs 6.23.11
ROP (Min/Ft)
Gamma (API)
Caliper (Inches)
4600
DST #3 4605' - 4659'
Possible Johnson Zone Top 4634 (-1483)
cfs @ 4635'
cfs @ 4659'
TOH for DST #3, 1520 hrs 6.24.11
4650
4700
4750
Resume Drilling Following DST #2, 0430 hrs 6.24.11
Limestone: cream tan, dense very tight matrix, micro-cryptoxln, heavily oolitic, heavy 2ndary xln around oolites, little-no visible porosity with most previously filled by 2ndary xln, no shows noted, no fluorescence, grading to Limestone,: cream lt tan, dense slightly chalky matrix, micro-cryptoxln, fossiliferous with trace oolitic, poor visible porosity, no shows noted, even bright lt yellow fluorescence, no cut fluorescence, and influx Chert: gray smokey gray, fresh and sharp, oolitic in part.
Shale: gray dk gray, blocky and hard, some fissile, with influx Pyrite nodules in sample.
Limestone: cream tan, mostly dense tight matrix with some scattered sub-chalky, microxln, fossiliferous with some oolitic, overall poor interxln porosity, no shows noted, little-no fluorescence, with continued Chert as above.
Shale: black, carbonaceous, block, mostly hard, with some Shale: gray dk gray, mostly blocky and hard.
Limestone: cream lt gray, dense tight matrix, micro-vfxln, mostly barren with some sub-fossiliferous, poor interxln porosity, no shows noted, even lt yellow fluorescence.
Shale: gray dk gray, mostly blocky with some fissile, soft.
Limestone: lt cream lt gray, dense tight matrix, microxln, fossiliferous, poor interxln porosity, (1) piece with poor golden brown staining along edges, no show free oil, little-no fluorescence.
INTERBEDDED: Limestone: gray cream, dense tight matrix with some slightly chalky, microxln, fossiliferous, poor visible porosity, no shows noted, little-no fluorescence, with Shale: black, carbonaceous, gray dk gray brick red, blocky to rounded, soft to hard, some waxy in part.
Johnson Zone 4630 (-1479)
4635' cfs 15"/30" - Limestone: brown tan dk brown, very dense sub-cherty matrix, microxln, fair visible vuggy/frac porosity in most, fair-good show dk brown free oil from porosity with very good inc upon break/left under lamp, very good dk brown sat stain, strong milky-white cut fl, spotty bright dk yellow fl, grading to Limestone: cream lt tan, slightly dense sub-chalky matrix, microxln, fair vuggy porosity in few pieces, slight dec in shows from above with continued good sat stain, faint odor.
Limestone: mixed as above, overall decrease in shows from above, but still carrying fair-poor show live oil upon break in 10% of sample, fair saturated stain in show rockslittle-no fluorescence, faint-no odor.
4659' cfs 15"/30"/60" - Limestone: as above with only few pieces with notable very poor show live golden brown oil upon break, few pieces with fair-poor saturated stain, most pieces have graded to a sub-chalky dense Limestone.
Shale: black, carbonaceous, mostly blocky and hard with some waxy, with Shale: gray dk gray dk purple, mostly blocky, soft to hard, some fissile.
Resume Drilling Following DST #3, 0415 hrs 6.25.11
INTERBEDDED: Limestone: lt cream lt gray, dense slightly chalky matix, microxln with some cryptoxln, mostly barren with scattered sub-fossiliferous, poor visible porosity, no shows noted, no fluorescence, with Shale: gray dk gray dk green brick red, blocky, mostly hard, some fissile.
Abundant mixed Shale as above with influx Sandstone stingers: clear sub-rounded grains in tan lt brown lt cream matrix, very shaley, some fairly cemented with most slightly friable, vf-fgrained with some scattered coarse grained, fairly-well sorted, small-large dirty clusters, fair intergranular porosity in most, no shows noted, no fluorescence, no cut fluorescence, no odor.
Conglomerate Sand 4686 (-1535)
Sandstone: clear sub-rounded to sub-angular grains in tan lt brown matrix, some fairly friable with most well cemented, vf-fgrained, fairly sorted, small-medium clusters, fair intergranular porosity in most, no shows noted, no fluorescence, no cut fluorescence, no odor, with Shale: gray dk gray, mostly blocky and hard, arenaceous.
Erosional Mississippian 4700 (-1549)
Limestone: lt cream off white, dense to slightly softer matrix, micro-vfxln, oolitic in part, scattered arenaceous, trace glauconitic, fair-poor interxln porosity, no shows noted, poor dull pale yellow fluorescence.
Mississippian 4710 (-1559)
Limestone: lt cream lt gray off white, slightly dense sub-chalky matrix, micro-vfxln, trace oolitic, glauconitic and arenaceous in part, fair-poor interxln porosity, no shows noted, even dull pale yellow fluorescence in most.
Influx: Dolomite: lt gray off white, dense to slightly friable matrix, vfxln, fair sub-sucrosic development in some with most having poor xln development, poor interxln porosity with some small scattered vugs, no shows noted, even dull pale yellow fluorescence.
Limestone: lt gray lt cream, dense tight matrix, micro-cryptoxln with some scattered lithographic non-descript, barren, very poor-no visible porosity, no shows noted, very poor-no fluorescence, with trace Chert: lt cream, translucent, fresh and sharp, fossiliferous in part, no shows.
Limestone: cream lt tan, dense tight sub-cherty matrix, microxln, barren, no visible porosity, no shows noted, very poor-no fluorescence, with Chert: off white lt cream lt gray, translucent, fresh and sharp, fossiliferous in part, no shows.
Limestone: cream lt cream some gray, dense tight sub-cherty matrix, microxln, barren, poor visible porosity, no shows noted, very poor-no fluorescence, with continued Chert as above, and trace Dolomite: cream lt cream tan, dense tight matrix, microxln, very poor xln development, barren, poor visible porosity, no shows noted, little-no fluroescence.
Dolomite: lt cream tan lt gray, slightly dense matrix, vf-fxln in few pieces, barren, poor visible porosity, no shows noted, with mixed Limestone: tan cream, dense slightly chalky matrix, micro-vfxln, sub-fossiliferous in part, fair-poor interxln porosity, no shows noted, poor spotty bright yellow
Mud-Co Mud Ck @ 4553' 0330 hrs 6.24.11 Vis 53 Wt 9.3 PV 13 YP 29 WL 8.0 Cake 1/32 pH 10.5 CHL 2,000 ppm Cal 40 Sol 6.5 LCM: 3 #/bbl DMC: $205.20 CMC: $11,200.20
0 TG, C1-C5 50
Lighter Test
Reset Gas Detector @ Sample Box. Spiked system with good response.
Vis: 52 Wt: 9.3 LCM: 2 #
Mud-Co Mud Ck @ 4664' 0430 hrs 6.25.11 Vis 67 Wt 9.3 PV 17 YP 22 WL 8.8 Cake 1/32 pH 10.0 CHL 3,600 ppm Cal 60 Sol 7.3 LCM: 2 #/bbl DMC: $1,030.60 CMC: $12,230.80



fluorescence in few pieces, with continued Chert as above.

4800' cfs 30"/60" - Dolomite: cream lt cream, slightly dense matrix, vf-fxln, barren to sub-fossiliferous, fair-poor interxln porosity, no shows noted, very poor fluorescence, with continued mixed Limestone as above, and Chert: white lt gray, translucent to transparent, fresh and sharp, fossiliferous to barren, no shows noted.



C

4800

0 ROP (Min/Ft) 7
1 Gamma (API) 150
6 Caliper (inches) 16

TOH for Logging,1500 hrs 6.25.11

0 TG, C1-C5 50

RTD 4800 (-1649)
LTD 4796 (-1645)

Rotary TD @ 4800', 1300 hrs 6.25.11
Halliburton Open Hole Logging TD @ 4796'
Commence Open Hole Logging Operations, 1715 hrs 6.25.11
Complete Open Hole Logging Operations, 2045 hrs 6.25.11
Orders Received to Run 5 1/2" Production Casing

Geologist Derek W. Patterson off location, 2230 hrs 6.25.11

Respectfully Submitted,
Derek W. Patterson

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

14-10s-33w Thomas KS

Krug #1

Start Date: 2011.06.22 @ 09:30:00
End Date: 2011.06.22 @ 16:17:00
Job Ticket #: 042906 DST #: 1

FILE

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

ORIGINAL

DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042906 **DST#: 1**

Test Start: 2011.06.22 @ 09:30:00

GENERAL INFORMATION:

Formation: **LKC "K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:08:00
Time Test Ended: 16:17:00

Test Type: Conventional Bottom Hole
Tester: James Winder
Unit No: 46

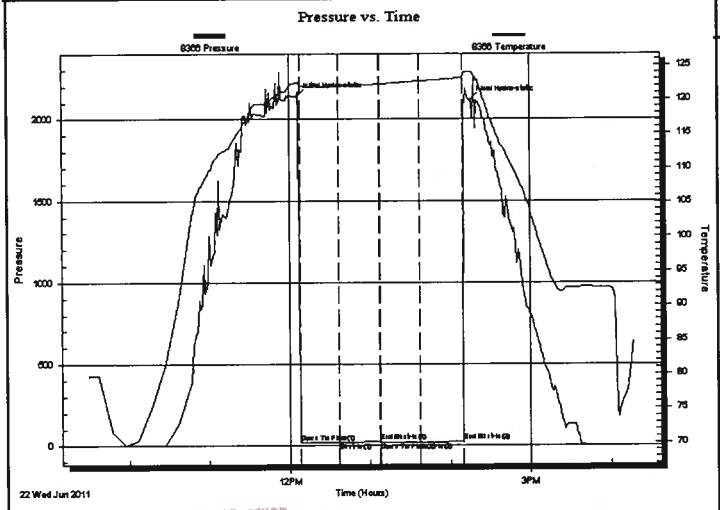
Interval: 4298.00 ft (KB) To 4335.00 ft (KB) (TVD)
Total Depth: 4335.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3151.00 ft (KB)
3141.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Inside**
Press@RunDepth: 20.87 psig @ 4299.00 ft (KB)
Start Date: 2011.06.22 End Date: 2011.06.22
Start Time: 09:30:05 End Time: 16:16:59

Capacity: 8000.00 psig
Last Calib.: 2011.06.22
Time On Btm: 2011.06.22 @ 12:06:00
Time Off Btm: 2011.06.22 @ 14:15:30

TEST COMMENT: IF: Weak surface blow , dead after 3 min.
ISI: No blow back
FF: No blow
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2138.35	122.38	Initial Hydro-static
2	19.43	122.09	Open To Flow (1)
31	20.32	121.92	Shut-In(1)
61	26.76	122.26	End Shut-In(1)
62	19.40	122.27	Open To Flow (2)
92	20.87	122.69	Shut-In(2)
124	25.36	123.14	End Shut-In(2)
130	2114.13	123.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud 100%	0.01

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042906 **DST#: 1**

Test Start: 2011.06.22 @ 09:30:00

Tool Information

Drill Pipe:	Length:	4051.00 ft	Diameter:	3.80 inches	Volume:	56.82 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	243.00 ft	Diameter:	2.25 inches	Volume:	1.20 bbl	
					Total Volume:	58.02 bbl	

Drill Pipe Above KB:	24.00 ft
Depth to Top Packer:	4298.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	37.00 ft
Tool Length:	65.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		100000.0 lb
Tool Chased		0.00 ft
String Weight:	Initial	73000.00 lb
	Final	73000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4275.00		
Hydraulic tool	5.00			4280.00		
Jars	5.00			4285.00		
Safety Joint	3.00			4288.00		
Packer	5.00			4293.00	28.00	Bottom Of Top Packer
Packer	5.00			4298.00		
Stubb	1.00			4299.00		
Recorder	0.00	8366	Inside	4299.00		
Recorder	0.00	8320	Outside	4299.00		
Perforations	33.00			4332.00		
Bullnose	3.00			4335.00	37.00	Bottom Packers & Anchor
Total Tool Length:	**65.00**					

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042906 **DST#: 1**

Test Start: 2011.06.22 @ 09:30:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	57.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3200.00 ppm				
Filter Cake:	1.00 inches				

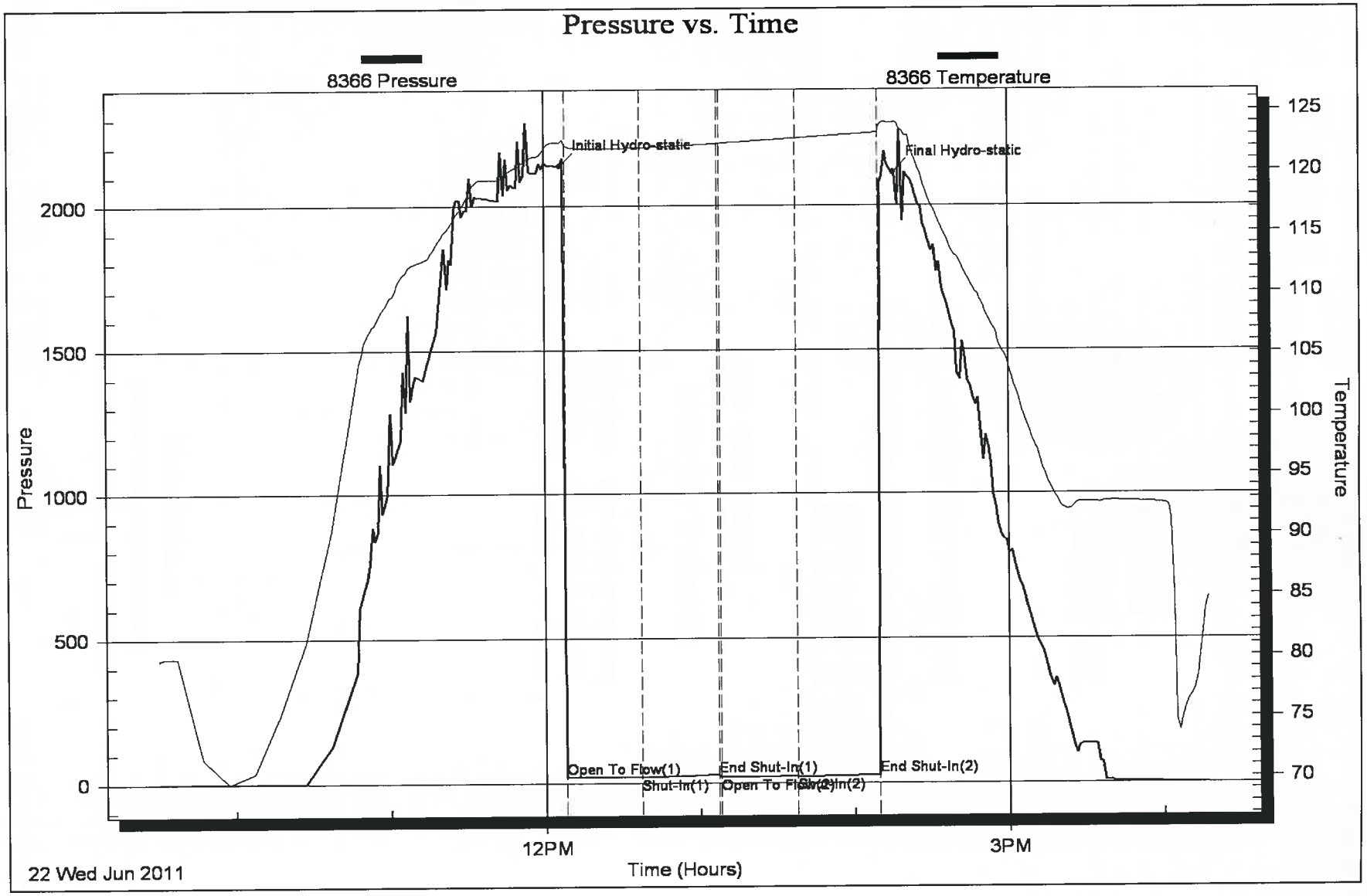
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud 100%	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8366 Pressure
8366 Temperature
Initial Hydro-static
Final Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
End Shut-In(2)
2000
1500
1000
500
0
Pressure
125
120
115
110
105
100
95
90
85
80
75
70
Temperature
12PM
3PM
Time (Hours)
22 Wed Jun 2011

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

14-10s-33w Thomas KS

Krug #1

Start Date: 2011.06.23 @ 16:52:00
End Date: 2011.06.24 @ 01:11:00
Job Ticket #: 042907 DST #: 2

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042907 **DST#: 2**

Test Start: 2011.06.23 @ 16:52:00

GENERAL INFORMATION:

Formation: **Ft. Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:58:00
Time Test Ended: 01:11:00

Test Type: Conventional Bottom Hole
Tester: James Winder
Unit No: 46

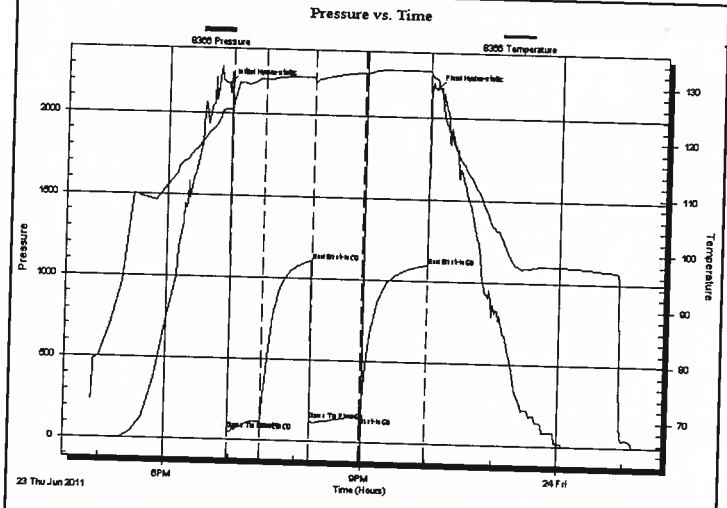
Interval: 4522.00 ft (KB) To 4553.00 ft (KB) (TVD)
Total Depth: 4553.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3151.00 ft (KB)
3141.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Inside**
Press@RunDepth: 158.28 psig @ 4523.00 ft (KB)
Start Date: 2011.06.23 End Date: 2011.06.24
Start Time: 16:52:05 End Time: 01:10:59

Capacity: 8000.00 psig
Last Calib.: 2011.06.24
Time On Btm: 2011.06.23 @ 18:54:30
Time Off Btm: 2011.06.23 @ 22:04:30

TEST COMMENT: IF: Blow built to BOB (11") in 4 1/2 min.
ISI: Blow back built to 8 1/2"
FF: Blow built to BOB in 4 1/2 min.
FSI: Bled off at 4 min., Blow back built to BOB at 17 min.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2184.98	124.91	Initial Hydro-static
4	63.09	124.86	Open To Flow (1)
34	115.82	130.53	Shut-In(1)
78	1107.97	130.98	End Shut-In(1)
79	132.44	130.13	Open To Flow (2)
124	158.28	131.91	Shut-In(2)
185	1096.24	132.49	End Shut-In(2)
190	2177.43	131.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	SO/GWM 46%m, 38%w, 14%g, 2%o	0.31
60.00	GWOCM 50%g, 32%m, 13%o, 5%w	0.30
120.00	SW/GMCO 57%o, 30%m, 12%g, 1%w	0.59
72.00	GMCO 53%g, 30%o, 17%m	1.01
70.00	CGO 64%o, 35%g, 1%m	0.98
0.00	GIP = 1660'	0.00

Gas Rates

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

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042907 **DST#: 2**

Test Start: 2011.06.23 @ 16:52:00

Tool Information

Drill Pipe:	Length:	4270.00 ft	Diameter:	3.80 inches	Volume:	59.90 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	243.00 ft	Diameter:	2.25 inches	Volume:	1.20 bbl	
					Total Volume:	61.10 bbl	

Drill Pipe Above KB:	19.00 ft
Depth to Top Packer:	4522.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	31.00 ft
Tool Length:	59.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2500.00 lb
Weight set on Packer:	25000.00 lb
Weight to Pull Loose:	100000.0 lb
Tool Chased	0.00 ft
String Weight: Initial	77000.00 lb
Final	78000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4499.00		
Hydraulic tool	5.00			4504.00		
Jars	5.00			4509.00		
Safety Joint	3.00			4512.00		
Packer	5.00			4517.00	28.00	Bottom Of Top Packer
Packer	5.00			4522.00		
Stubb	1.00			4523.00		
Recorder	0.00	8366	Inside	4523.00		
Recorder	0.00	8320	Outside	4523.00		
Perforations	27.00			4550.00		
Bullnose	3.00			4553.00	31.00	Bottom Packers & Anchor
Total Tool Length:	**59.00**					

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042907 **DST#: 2**

Test Start: 2011.06.23 @ 16:52:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	38.8 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	50000 ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.18 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1300.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

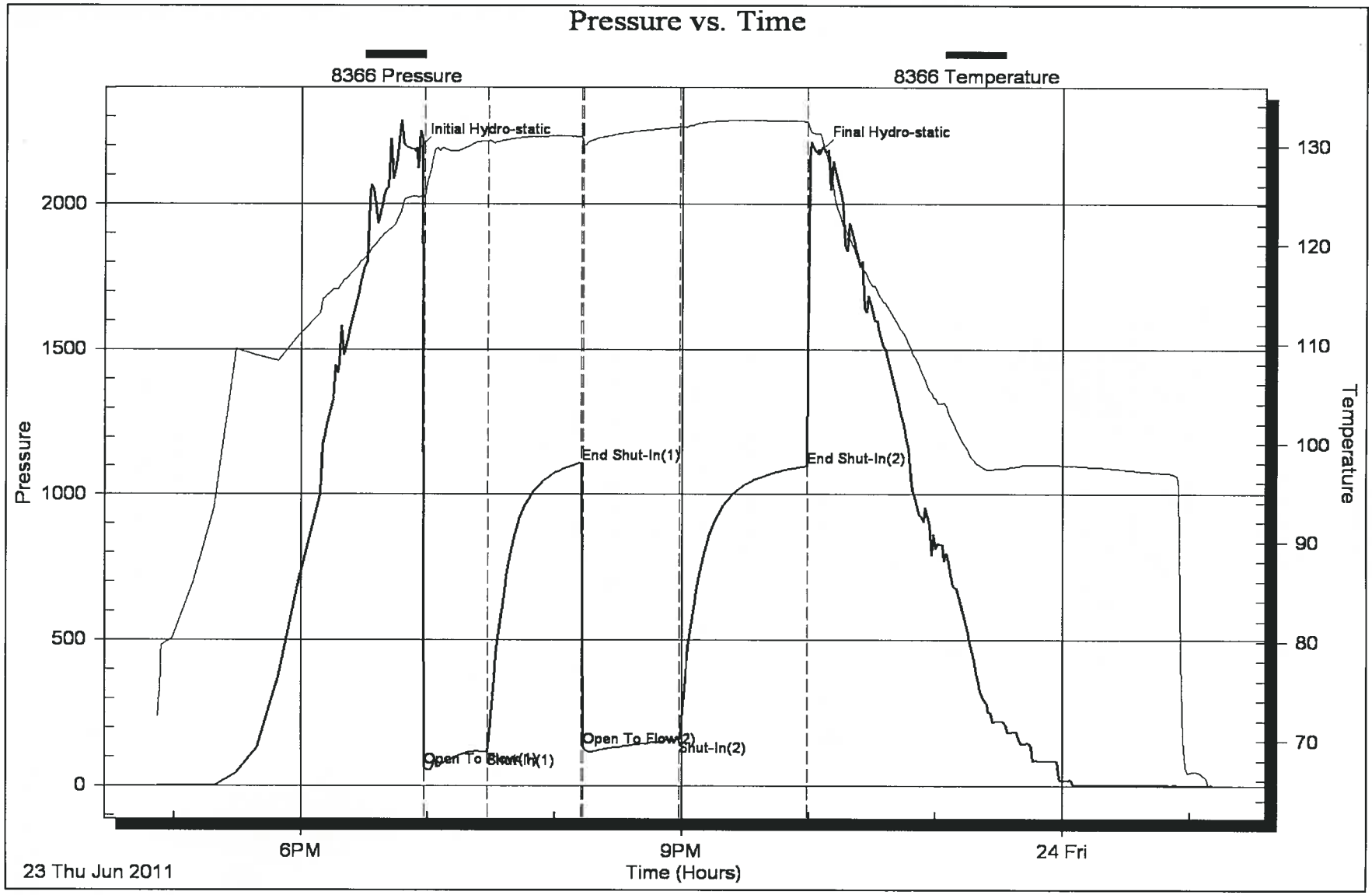
Length ft	Description	Volume bbl
63.00	SO/GWM 46%m, 38%w, 14%g, 2%o	0.310
60.00	GWOCM 50%g, 32%m, 13%o, 5%w	0.295
120.00	SW/GMCO 57%o, 30%m, 12%g, 1%w	0.590
72.00	GMCO 53%g, 30%o, 17%m	1.010
70.00	CGO 64%o, 35%g, 1%m	0.982
0.00	GIP = 1660'	0.000

Total Length: 385.00 ft Total Volume: 3.187 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gravity = 39.4 api @ 66 deg F
RW = .163 ohms @ 67.5 deg F


Pressure vs. Time
8366 Pressure
8366 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2000
1500
1000
500
0
130
120
110
100
90
80
70
6PM
9PM
24 Fri
23 Thu Jun 2011
Time (Hours)

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

14-10s-33w Thomas KS

Krug #1

Start Date: 2011.06.24 @ 17:24:00
End Date: 2011.06.25 @ 00:54:30
Job Ticket #: 042908 DST #: 3

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

DRILL STEM TEST REPORT

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042908 **DST#: 3**

Test Start: 2011.06.24 @ 17:24:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:41:00
Time Test Ended: 00:54:30

Test Type: Conventional Bottom Hole
Tester: James Winder
Unit No: 46

Interval: 4605.00 ft (KB) To 4659.00 ft (KB) (TVD)
Total Depth: 4659.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

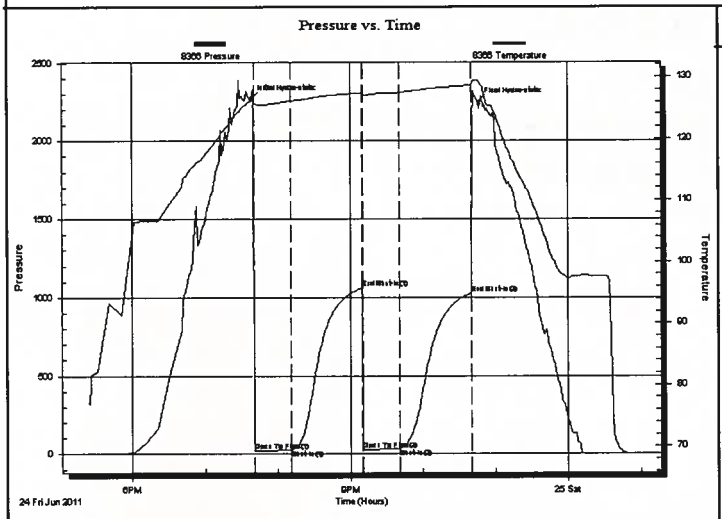
Reference Elevations: 3151.00 ft (KB)
3141.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Inside**

Press@RunDepth: 32.55 psig @ 4606.00 ft (KB)
Start Date: 2011.06.24 End Date: 2011.06.25
Start Time: 17:24:05 End Time: 00:54:29

Capacity: 8000.00 psig
Last Calib.: 2011.06.25
Time On Btm: 2011.06.24 @ 19:38:00
Time Off Btm: 2011.06.24 @ 22:46:00

TEST COMMENT: IF: Weak surface blow , dead at 6 min.
ISI: No blow back
FF: No blow
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2268.10	126.03	Initial Hydro-static
3	20.24	125.66	Open To Flow (1)
33	26.06	126.11	Shut-In(1)
92	1061.23	127.42	End Shut-In(1)
93	28.79	127.12	Open To Flow (2)
123	32.55	127.45	Shut-In(2)
182	1026.36	128.59	End Shut-In(2)
188	2247.05	129.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	SOCM 94%m, 5%o, 1%g	0.20

Gas Rates

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

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042908 **DST#: 3**

Test Start: 2011.06.24 @ 17:24:00

Tool Information

Drill Pipe:	Length:	4363.00 ft	Diameter:	3.80 inches	Volume:	61.20 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	243.00 ft	Diameter:	2.25 inches	Volume:	1.20 bbl	
					Total Volume:	62.40 bbl	

Drill Pipe Above KB:	29.00 ft
Depth to Top Packer:	4605.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	54.00 ft
Tool Length:	82.00 ft
Number of Packers:	2
Diameter:	6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		102000.0 lb
Tool Chased		0.00 ft
String Weight:	Initial	77000.00 lb
	Final	77000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4582.00		
Hydraulic tool	5.00			4587.00		
Jars	5.00			4592.00		
Safety Joint	3.00			4595.00		
Packer	5.00			4600.00	28.00	Bottom Of Top Packer
Packer	5.00			4605.00		
Stubb	1.00			4606.00		
Recorder	0.00	8366	Inside	4606.00		
Recorder	0.00	8320	Outside	4606.00		
Perforations	16.00			4622.00		
Blank Spacing	32.00			4654.00		
Perforations	2.00			4656.00		
Bullnose	3.00			4659.00	54.00	Bottom Packers & Anchor
Total Tool Length:	**82.00**					

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co., Inc.

10500 E Berkeley SQ PKWY
STE 100 Wichita, KS 67206

ATTN: Derek Patterson

Krug #1

14-10s-33w Thomas KS

Job Ticket: 042908 **DST#: 3**

Test Start: 2011.06.24 @ 17:24:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 53.00 sec/qt
Water Loss: 7.97 in³
Resistivity: ohm.m
Salinity: 2000.00 ppm
Filter Cake: 1.00 inches

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

Oil API: deg API
Water Salinity: ppm

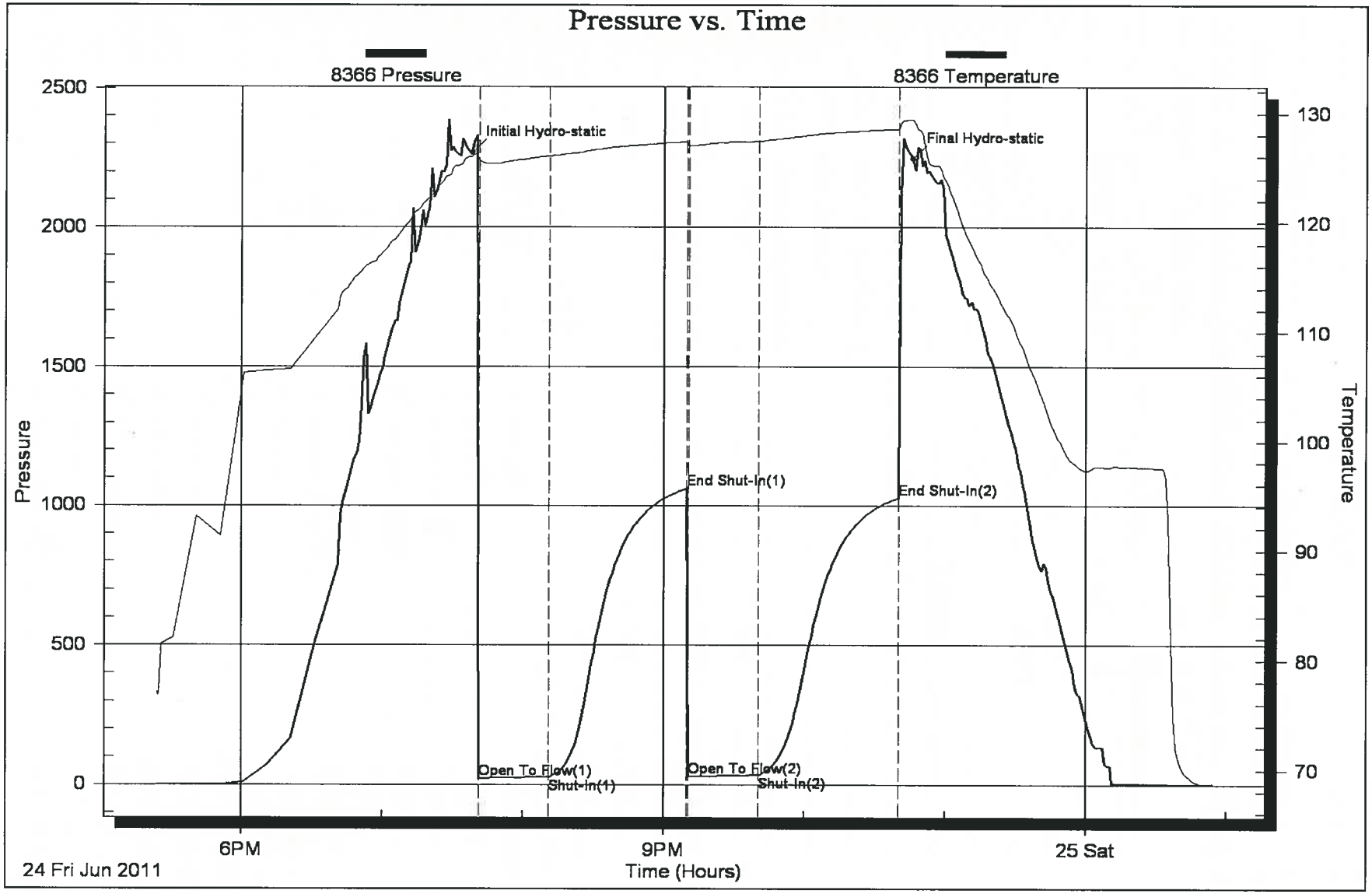
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	SOCM 94%m, 5%o, 1%g	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
8366 Pressure
8366 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2500
2000
1500
1000
500
0
130
120
110
100
90
80
70
6PM
9PM
25 Sat
24 Fri Jun 2011
Time (Hours)

ALLIED
CEMENTING CO., LLC
Cementing & Acidizing Services
PO BOX 31 Russell, KS 67665

Voice: (785) 483-3887
Fax: (785) 483-5566

INVOICE

Invoice Number: 127625
Invoice Date: Jun 12, 2011
Page: 1

Bill To:
Hartman Oil Co., Inc.
H2 Drilling & H2 Trucking
3545 W. Jones Avenue
Garden City, KS 67846

Federal Tax I.D.#: 20-5975804

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Hart	Krug #1 86218	Net 30 Days	
Job Location	**Camp Location**	**Service Date**	**Due Date**
KS1-01	Oakley	Jun 12, 2011	7/12/11

Quantity	Item	Description	Unit Price	Amount
245.00	MAT	Class A Common	16.25	3,981.25
5.00	MAT	Gel	21.25	106.25
9.00	MAT	Chloride	58.20	523.80
259.00	SER	Handling	2.25	582.75
10.00	SER	Mileage 259 sx @.11 per sk per mi	28.49	284.90
1.00	SER	Surface	1,125.00	1,125.00
20.00	SER	Pump Truck Mileage	7.00	140.00
1.00	SER	Manifold & Head Rental	200.00	200.00
20.00	SER	Light Vehicle Mileage	4.00	80.00
1.00	EQP	8.5/8 Wooden Plug	92.00	92.00
1.00	CEMENTER	Terry Heinrich		
1.00	OPER ASSIST	Earl Rebarchek		
1.00	OPER ASSIST	Chris Helpingstine		

A. Mulcher
6-30-11

NEW WELL COMPLETION

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

$ 1423.19

ONLY IF PAID ON OR BEFORE
Jul 7, 2011

Subtotal	7,115.95
Sales Tax	343.34
Total Invoice Amount	7,459.29
Payment/Credit Applied	
TOTAL	**7,459.29**

and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL

TOTAL 92 EA

ALLIED CEMENTING CO., LLC. 039846

Federal Tax I.D.# 20-5975804

MIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: OAKLEY

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
6-12-11	14	10S	33W		12:30 AM	5:45 AM	6:15 AM

LEASE	WELL #	LOCATION	COUNTY	STATE
KRAIG	1	OAKLEY 3N TO ROC - 6W - 1N	Thomas	KS

OLD OR NEW (Circle one) 1/2E - NINTO

CONTRACTOR H-2 DRLG Rig 2
TYPE OF JOB SURFACE
HOLE SIZE 12¼" T.D. 420'
CASING SIZE 8 5/8" DEPTH 419'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 25 3/4 BBLS

OWNER SAME

CEMENT

AMOUNT ORDERED
245 SKS COM 3%CC 2% GEL

COMMON	245 SKS	@ 16.25	3981.25
POZMIX		@	
GEL	5 SKS	@ 21.25	106.25
CHLORIDE	9 SKS	@ 58.00	522.00
ASC		@	
HANDLING	259 SKS	@ 2.25	582.75
MILEAGE	11¢ PER SK/MILE		284.90
		TOTAL	5478.90

EQUIPMENT

PUMP TRUCK # 422	CEMENTER	TERRY
	HELPER	EARL
BULK TRUCK # 347	DRIVER	CHRIS
BULK TRUCK #	DRIVER	

REMARKS:

MIX 245 SKS COM 3%CC 2% GEL. DISPLACED WITH 25¾ BBL. WATER

CEMENT IN CELLAR

THANK YOU

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			1125.00
EXTRA FOOTAGE		@	
MILEAGE	10 X 2	@ 7.00	140.00
MANIFOLD	HEAD	@ 200.00	200.00
LIGHT VEHICLE	10 X 2	@ 4.00	80.00
		@	
		TOTAL	1545.00

PLUG & FLOAT EQUIPMENT

8 5/8 WOODEN PLUG			92.00
		@	
		@	
		@	
		@	
		@	
		TOTAL	92.00

CHARGE TO: HARTMAN OIL CO

STREET

CITY STATE ZIP

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

PRINTED NAME STEVEN CRAIG

SIGNATURE Steven Craig

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

Bid

ALLIED
CEMENTING CO., LLC
Cementing & Acidizing Services
PO BOX 31 Russell, KS 67665

Voice: (785) 483-3887
Fax: (785) 483-5566

INVOICE

Invoice Number: 127711
Invoice Date: Jun 26, 2011
Page: 1

Bill To:
Hartman Oil Co., Inc.
H2 Drilling & H2 Trucking
3545 W. Jones Avenue
Garden City, KS 67846

Federal Tax I.D.#: 20-5975804

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Hart	Krug #1 86218	Net 30 Days	
Job Location	**Camp Location**	**Service Date**	**Due Date**
KS1-02	Oakley	Jun 26, 2011	7/26/11

Quantity	Item	Description	Unit Price	Amount
200.00	MAT	Class A Common	16.25	3,250.00
3.00	MAT	Gel	21.25	63.75
560.00	MAT	ALW	14.50	8,120.00
875.00	MAT	Gilsonite	0.89	778.75
159.00	MAT	Flo Seal	2.70	429.30
16.00	MAT	Salt	23.95	383.20
915.00	SER	Handling	2.25	2,058.75
10.00	SER	Mileage 915 sx @.11 per sk per mi	100.65	1,006.50
1.00	SER	Production -- Two Stage	2,405.00	2,405.00
20.00	SER	Pump truck mileage	7.00	140.00
1.00	SER	Manifold Rental	200.00	200.00
20.00	SER	Light Vehicle Mileage	4.00	80.00
1.00	EQP	5.5 AFU Float Shoe	349.00	349.00
2.00	EQP	5.5 Basket	337.00	674.00
10.00	EQP	5.5 Centralizer	49.00	490.00
1.00	EQP	5.5 Latch Down Assembly	277.00	277.00
1.00	EQP	5.5 D V Tool	3,721.00	3,721.00
1.00	CEMENTER	Alan Ryan		
1.00	EQUIP OPER	Wayne McGhghy		
1.00	OPER ASSIST	Earl Rebarchek		
1.00	OPER ASSIST	Chris Helpingstine		

A. Mulcahy
7-11-11

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

$ 4885.35

ONLY IF PAID ON OR BEFORE
Jul 21, 2011

Subtotal	24,426.25
Sales Tax	1,353.13
Total Invoice Amount	25,779.38
Payment/Credit Applied	
TOTAL	**25,779.38**

NEW WELL
COMPLETION

contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL

TOTAL 5511.00

ALLIED CEMENTING CO., LLC. 039970

Federal Tax I.D.# 20-5975804

TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Oakley Bottom

DATE 6/26/11	SEC. 14	TWP. 10	RANGE 33	CALLED OUT	ON LOCATION 3:30-4:30pm Bottom	JOB START 7:30pm	JOB FINISH 8:30pm
LEASE Krug	WELL # 1		LOCATION Oakley N 70 Rd C W to Rd 23			COUNTY Thomas	STATE KS
OLD OR NEW (Circle one)			N to Rd 0 1/2 E N into				

CONTRACTOR H2
TYPE OF JOB Production 2 Stage
HOLE SIZE 7 7/8 T.D.
CASING SIZE 5 1/2 15½ DEPTH 4296'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL D V DEPTH 2298
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT 22.5
CEMENT LEFT IN CSG. 22.5
PERFS.
DISPLACEMENT Both 59 H2O 56 Bbl Mud
EQUIPMENT Top 55 1/2 BBL H2O

OWNER Same

CEMENT Bottom
AMOUNT ORDERED 175 SKs Lite 5# Gilsonite 1/4 Flo, 150 SKs Com 10% Salt 2% Gel
Top - 460 Lite 1/4 Flo - 50 SK Com

COMMON	200 SKs	@ 16.25	3250.00
POZMIX		@	
GEL	3	@ 21.25	63.75
CHLORIDE		@	
ASC		@	
ALW	500 SKs	@ 14.80	8120.50
		@	
Gilsonite	875 lb	@ .89	228.25
		@	
Flo Seal	159 lb	@ 2.70	429.30
		@	
Salt	16	@ 23.85	385.20
		@	
HANDLING	915 SKs	@ 2.25	2058.75
MILEAGE	114 SK/mile		1026.00
		TOTAL	16090.25

PUMP TRUCK CEMENTER Alan
422 HELPER Wayne
BULK TRUCK
394 DRIVER Earl
BULK TRUCK
404 DRIVER Chris

REMARKS:

Ran Csg Circulate Mix Lite Tail w/150 Com 10% Salt 2% Gel Wash Truck & Lines, Displace Plug to Latch Down w/59 BBL H2O 56 BBL Big Mud w/700 PSI Lift, Land Plug @ 1800 PSI, Drop Open Tool w/800 PSI, Circulate 3 Hrs, Mix 30 SKs RH 20 SKs MH. Mix 325 SKs Down 5 1/2 Tail w/150 SKs Com Displace Plug to Tool w/55 1/2 BBL H2O w/800 PSI Lift. Land Plug @ 1900 PSI. Tool Did Close. Cement Did Circulate

Thank You Alan, Wayne, Earl, Chris

SERVICE

DEPTH OF JOB			4815'
PUMP TRUCK CHARGE			2405.00
EXTRA FOOTAGE		@	
MILEAGE	10 x 2	@ 7.00	140.00
MANIFOLD		@ 200.00	200.00
Lite Vehicle	10 x 2	@ 40.00	80.00
		@	
		TOTAL	2825.00

CHARGE TO: Hartman Oil
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

AFU Float Shoe		@ 349.00	349.00
2 Basket		@ 337.00	674.00
Centralizer		@ 49.00	490.00
Latch Down Assembly		@ 277.00	277.00
D.V. Tool		@ 3221.00	3221.00
		TOTAL	5511.00

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

PRINTED NAME STEVEN CRAIG
SIGNATURE Steven Craig

SALES TAX (If Any)
TOTAL CHARGES
DISCOUNT IF PAID IN 30 DAYS

Steve Clark Bid
Alan by Allied Cement Co.
Steve Craig