Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1156088

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 8914
Name: H & C Oil Operating Inc.
Address 1: PO BOX 86
Address 2:
City: PLAINVILLE State: KS Zip: 67663 + 0086
Contact Person: Charles Ramsay
Phone: (785) 434-7434
CONTRACTOR: License # 33493
Name: American Eagle Drilling LLC
Wellsite Geologist: Marc Downing
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☑ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

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

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

08/10/2013 Spud Date or Recompletion Date
08/18/2013 Date Reached TD
08/18/2013 Completion Date or Recompletion Date

API No. 15 - 15-065-23966-00-00
Spot Description:
E2 - SE - NW - SW Sec. 29 Twp. 7 S. R. 24 ☐ East ☑ West
1650 Feet from ☐ North / ☑ South Line of Section
1100 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Graham
Lease Name: GBM Unit Well #: 29-1
Field Name:
Producing Formation: none
Elevation: Ground: 2475 Kelly Bushing: 2482
Total Vertical Depth: 4030 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 264 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: 52000 ppm Fluid volume: 80 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

☑ **Confidentiality Requested**
Date: 08/27/2013
☑ **Confidential Release Date:** 08/27/2015
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 09/18/2013

1156088

Operator Name: H & C Oil Operating Inc. Lease Name: GBM Unit Well #: 29-1

Sec. 29 Twp. 7 S. R. 24 ☐ East ☑ West County: Graham

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

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

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

MIcroresistivity,
Dual induction
Dual compensated porosity log

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

Name	Top	Datum
Top anhydrite	2171	+311
Base Anhydrite	2202	+280
Topeka	3532	-1050
Heebner	3738	-1256
Toronto	3765	-1283
LKC	3780	-1298
BKC	3985	-1503

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	12.25	8.625	23	264	common	170	

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	- -			

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

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

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

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

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

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 22, 2013

Charles Ramsay
H & C Oil Operating Inc.
PO BOX 86
PLAINVILLE, KS 67663-0086

Re: ACO1
API 15-065-23966-00-00
GBM Unit 29-1
SW/4 Sec.29-07S-24W
Graham 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,
Charles Ramsay

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7443

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-10-13	29	7	24	Graham	KS		6:30AM

Location Penokee and 24 Hwy 3W, 3N, En 2

Lease GBM Unit | Well No. 29-1

Owner

Contractor American Eagle 2

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface

Hole Size 12¼ | T.D. 265

Charge To H&C oil

Csg. 8 5/8 | Depth 264

Street

Tbg. Size | Depth

City State

Tool | Depth

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 20 | Shoe Joint 20

Cement Amount Ordered 170 sx com 3% cc 2% gel

Meas Line | Displace ~~X~~ 15½ bbl

EQUIPMENT

Pumptrk 5	No.	Cementer Helper	Matt
Bulktrk 12	No.	Driver Driver	Chad
Bulktrk PU	No.	Driver Driver	Travis

JOB SERVICES & REMARKS

Remarks: Cement did circulate

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

Common	170
Poz. Mix	
Gel.	3
Calcium	6
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	179
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	Surface
Mileage	~~42~~ 28
Tax	
Discount	
Total Charge	

X Signature Brad Kuhn

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 | Home Office P.O. Box 32 Russell, KS 67665 | No. 7754

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-18-B	29	7	24	Graham	KS		10:00 PM

Location Penokee + 24 Hwy - 3W to 170th

Lease GBM Unit | Well No. 29-1 | Owner 3D, N/E Into

Contractor American Eagle #2

Type Job Plug

Hole Size 7 7/8" | T.D. 4030'

Csg. | Depth

Tbg. Size 4½" D.P. | Depth 2200'

Tool | Depth

Cement Left in Csg. | Shoe Joint

Meas Line | Displace H2O / Mud

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Charge To H+C oil operations

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 205 sx 60/40 4% Gel 1/4# Flo-Seal

EQUIPMENT

Pumptrk 16	No.	Cementer Helper	Billy
Bulktrk 23	No.	Driver Driver	David
~~Bulktrk~~ Pilot	No.	Driver Driver	Rick

JOB SERVICES & REMARKS

Remarks: 2200' - 25 sx

Rat Hole

Mouse Hole 1340' - 100 sx

Centralizers

Baskets 300' - 40 sx

D/V or Port Collar

40' - 10 sx w/plug

Rathole - 30 sx

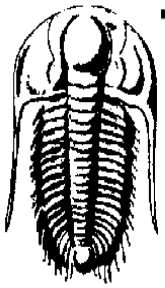
Cement did Circulate

Common	123
Poz. Mix	82
Gel.	7
Calcium	
Hulls	
Salt	
Flowseal	50#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	212
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
	1 - Dry hole plug
Pumptrk Charge	plug
Mileage	28
Tax	
Discount	
Total Charge	

X Signature Bradford Kuhn



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

GBM Unit #29-1

29-7s-24w Graham,KS

Start Date: 2013.08.15 @ 21:50:15
End Date: 2013.08.16 @ 07:39:15
Job Ticket #: 54388 DST #: 1

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

Printed: 2013.08.21 @ 09:18:58

DRILL STEM TEST REPORT

H&C Oil Operating

PO Box 86
Plainville KS 67663

ATTN: Marc Dow ning

29-7s-24w Graham,KS

GBM Unit #29-1

Job Ticket: 54388 **DST#: 1**

Test Start: 2013.08.15 @ 21:50:15

GENERAL INFORMATION:

Formation: **LKC E&F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:50:35
Time Test Ended: 07:39:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Tate Lang
Unit No: 41

Interval: 3835.00 ft (KB) To 3858.00 ft (KB) (TVD)
Total Depth: 3858.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

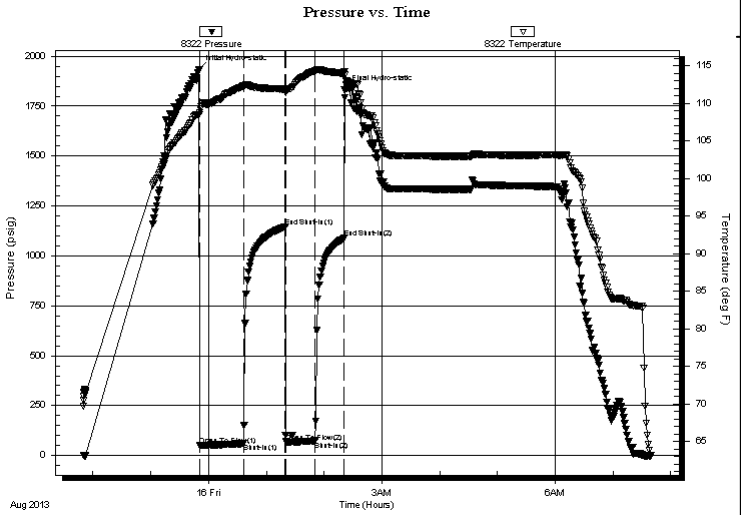
Reference Elevations: 2482.00 ft (KB)
2475.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8322 **Outside**

Press@RunDepth: 73.50 psig @ 3840.00 ft (KB)
Start Date: 2013.08.15 End Date: 2013.08.16
Start Time: 21:50:16 End Time: 07:39:15

Capacity: 8000.00 psig
Last Calib.: 2013.08.16
Time On Btm: 2013.08.15 @ 23:50:05
Time Off Btm: 2013.08.16 @ 02:21:15

TEST COMMENT: Slid 10 feet to bottom Fair surface blow built to 5"
Dead no blow back
Dead no blow Flushed tool w eaksurface blow
Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1934.24	108.44	Initial Hydro-static
1	51.43	108.76	Open To Flow (1)
47	60.04	112.26	Shut-In(1)
90	1145.15	111.90	End Shut-In(1)
90	69.29	111.56	Open To Flow (2)
121	73.50	114.34	Shut-In(2)
151	1089.21	113.98	End Shut-In(2)
152	1831.12	114.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	100%M w ith few oil spots	1.68

Gas Rates

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

DRILL STEM TEST REPORT

H&C Oil Operating

PO Box 86
Plainville KS 67663

ATTN: Marc Dow ning

29-7s-24w Graham,KS

GBM Unit #29-1

Job Ticket: 54388 **DST#: 1**

Test Start: 2013.08.15 @ 21:50:15

GENERAL INFORMATION:

Formation: **LKC E&F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:50:35
Time Test Ended: 07:39:15

Test Type: Conventional Bottom Hole (Initial)
Tester: Tate Lang
Unit No: 41

Interval: 3835.00 ft (KB) To 3858.00 ft (KB) (TVD)
Total Depth: 3858.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

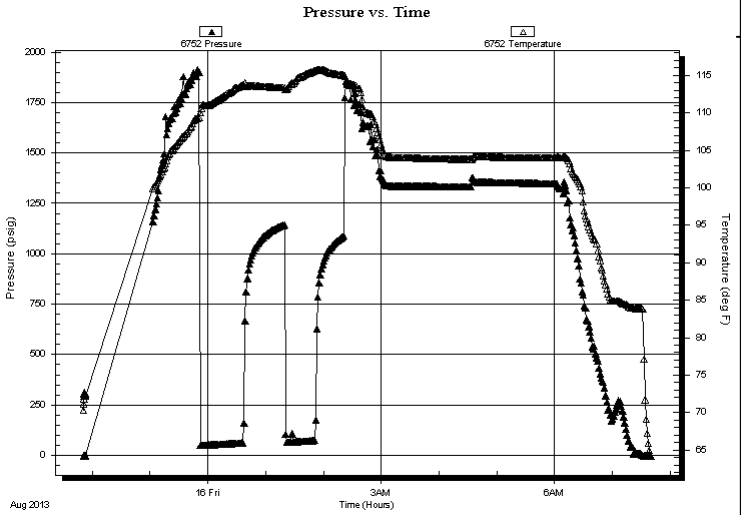
Reference Elevations: 2482.00 ft (KB)
2475.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6752 **Inside**

Press@RunDepth: psig @ 3840.00 ft (KB)
Start Date: 2013.08.15 End Date: 2013.08.16
Start Time: 21:50:58 End Time: 07:40:16

Capacity: 8000.00 psig
Last Calib.: 2013.08.15
Time On Btm:
Time Off Btm:

TEST COMMENT: Slid 10 feet to bottom Fair surface blow built to 5"
Dead no blow back
Dead no blow Flushed tool w eaksurface blow
Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	100%M w ith few oil spots	1.68

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating

PO Box 86
Plainville KS 67663

ATTN: Marc Dow ning

29-7s-24w Graham,KS

GBM Unit #29-1

Job Ticket: 54388 **DST#: 1**

Test Start: 2013.08.15 @ 21:50:15

Tool Information

Drill Pipe:	Length:	3836.00 ft	Diameter:	3.80	inches	Volume:	53.81	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25	inches	Volume:	0.00	bbl	
						Total Volume:	53.81	bbl	

Drill Pipe Above KB:	21.00 ft
Depth to Top Packer:	3835.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	23.00 ft
Tool Length:	43.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2000.00 lb
Weight set on Packer:		20000.00 lb
Weight to Pull Loose:		60000.00 lb
Tool Chased		10.00 ft
String Weight:	Initial	45000.00 lb
	Final	45000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3820.00		
Hydraulic tool	5.00			3825.00		
Packer	5.00			3830.00	20.00	Bottom Of Top Packer
Packer	5.00			3835.00		
Stubb	1.00			3836.00		
Perforations	4.00			3840.00		
Recorder	0.00	6752	Inside	3840.00		
Recorder	0.00	8322	Outside	3840.00		
Perforations	15.00			3855.00		
Bullnose	3.00			3858.00	23.00	Bottom Packers & Anchor
Total Tool Length:	**43.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

29-7s-24w Graham,KS

GBM Unit #29-1

Job Ticket: 54388 **DST#: 1**

Test Start: 2013.08.15 @ 21:50:15

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.39 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1200.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	100%M with few oil spots	1.683

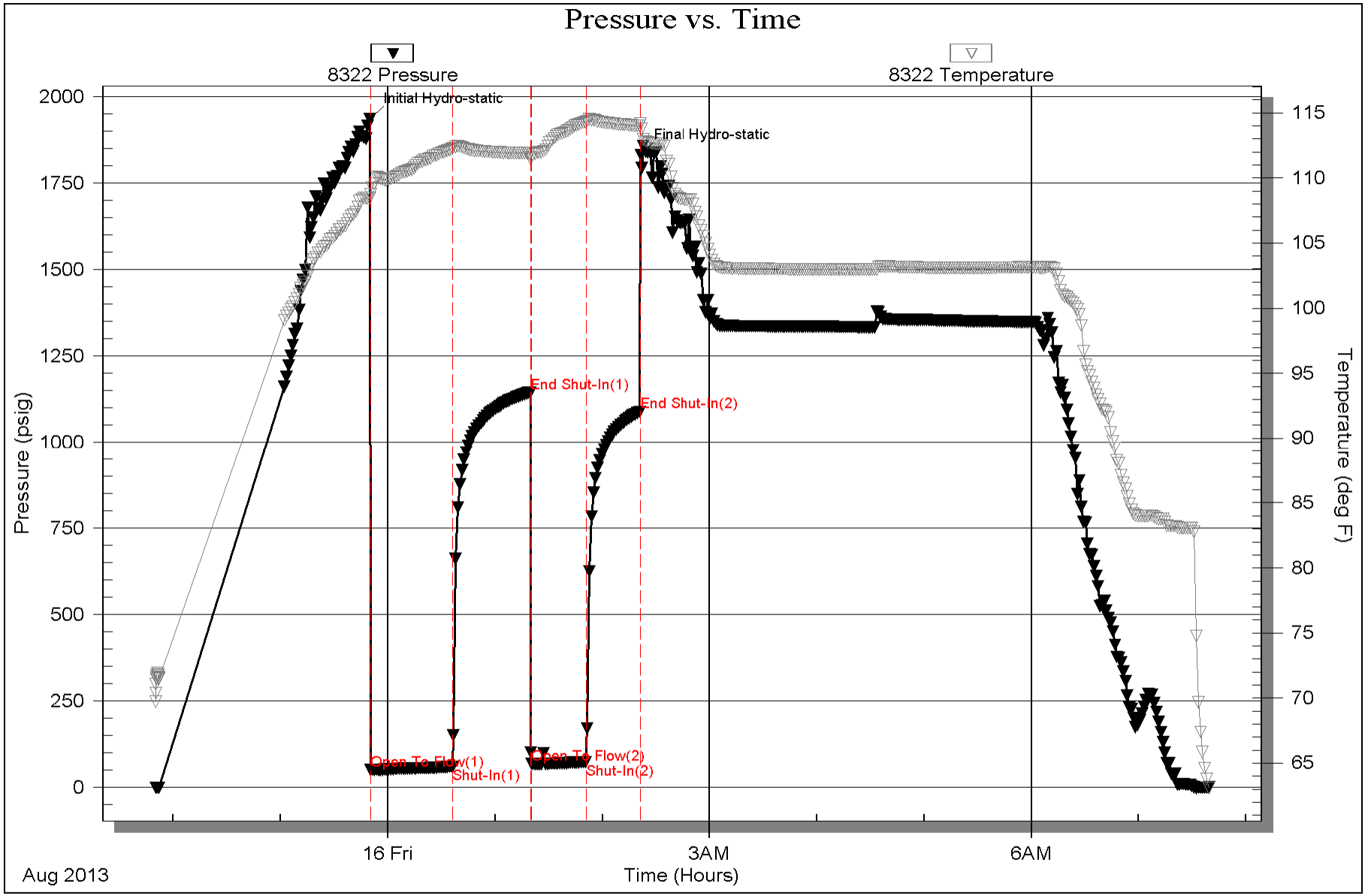
Total Length: 120.00 ft Total Volume: 1.683 bbl

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

Laboratory Name: Laboratory Location:

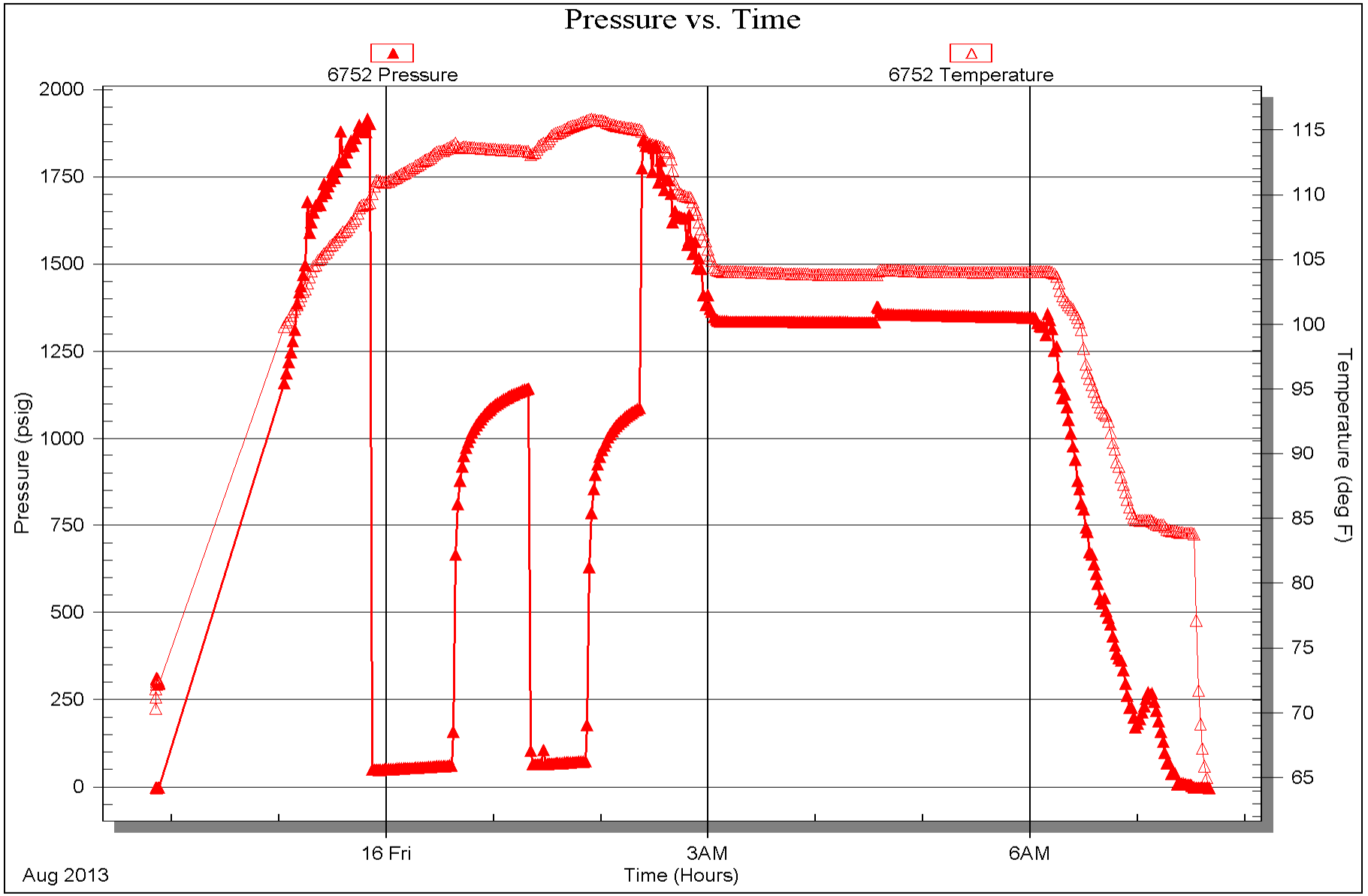
Recovery Comments:

Serial #: 8322 **Outside** H&C Oil Operating GBM Unit #29-1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 54388 Printed: 2013.08.21 @ 09:19:01

Serial #: 6752 **Inside** H&C Oil Operating GBM Unit #29-1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 54388 Printed: 2013.08.21 @ 09:19:01

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 54388

Well Name & No. GBM Unit # 29-1 Test No. ~~1~~ Date 8-15-13

Company H&C Oil Operating Elevation 2482 KB 2475 GL

Address PO Box 86 Plainville KS, 67663

Co. Rep / Geo. Marc Downing Rig American Eagle # 2

Location: Sec. 29 Twp. 7 Rge. 24 Co. Graham State KS

Interval Tested 3835 3858 Zone Tested LKC F+F

Anchor Length 23 Drill Pipe Run 3836 Mud Wt. 9.2

Top Packer Depth 3831 Drill Collars Run 0 Vis 54

Bottom Packer Depth 3835 Wt. Pipe Run 0 WL 7.4

Total Depth 3858 Chlorides 1200 ppm System LCM 2#

Blow Description Slid 10' to bottom Fair surface blow built to 5 in
Dead no blow back
Dead no blow Flushed tool Weak surface blow
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec 120	Feet of Mud with oil spots	%gas	%oil	%water 100	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 120 BHT ____ Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 1934	☒ Test 1150	T-On Location 18:45
(B) First Initial Flow 51	☐ Jars	T-Started 21:50
(C) First Final Flow 60	☐ Safety Joint	T-Open 23:50
(D) Initial Shut-In 1145	☐ Circ Sub	T-Pulled 02:20
(E) Second Initial Flow 69	☒ Hourly Standby 4hrs 400	T-Out 07:40 8-16-13
(F) Second Final Flow 74	☒ Mileage 150 RT 232.50	Comments Worked on DW while tripping Out of hole + DWT
(G) Final Shut-In 1089	☐ Sampler	
(H) Final Hydrostatic 1831	☐ Straddle	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
Initial Open 45	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 45	☐ Extra Recorder 1d 31.25h	Sub Total 1600
Final Flow 30	☒ Day Standby Loaded tools	Total 3382.50
Final Shut-In 30	☐ Accessibility 14:30 on 8-18-13	MP/DST Disc't
	Sub Total 1782.50	

Approved By ____ Our Representative [signature] Thanks

Marc Downing
Consulting Petroleum Geologist
1111 Main, Suite 300
Hays, Ks. 67601
Phone: 620-628-1366 (cell) 785-621-2266

GEOLOGIC REPORT LOG

COMPANY HrC Oil Operations, Inc.

WELL G&A Unit # 29-1

FIELD Wildcat

LOCATION 1650' FSL & 1160' FWL

SEC. 29 TWP. 7s RGE. 24w

COUNTY Graham

STATE Kansas

PRODUCTION DRY

ELEVATION KB 2462

DF

GL 2457

Sample Interval from 3350 to TD

Drilling Time from 3350 to TD

Sample Examined from 3350 to TD

Drilling Completed 4-15-13 Total Depth 4036

Logging Completed 4-15-13 Total Depth 4036

Date Completed 4-15-13 Total Depth 4036

Contractor Duke Drilling Co., Inc. Rig #6

Commenced 4-11-13

CASING RECORD

Surface 8 5/8" @ 226' 140 sx Common

Production

Drill Stem Tests

Open Hole Logs Run: DIL/CDL/CNL/PE

Geologist on Well: Marc Downing

Geologist Introduced: 3350'

Mud Up: 3900'

Type Mud: Chemical

Samples Saved From: 3350' to RTD

Samples Sent To: None

Drilling Time Kept From: 3900' to RTD

Remarks: Ran 4 1/2" Prod. csg. to TD

Status: Oil Well

Dry Hole

Plugged & Abandoned

Date: 4-15-13

Signature: Marc Downing

REFERENCE WELL FOR STRUCTURE: Black Oil Operations, Inc. Sec. 29-7s-24w

2772' FSL & 2587' FEL

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE	ELECTRIC LOG	SUB-SEA	STRUCTURAL POSITION
Top Anhydrite	2720	2721	+431	+5
Base Anhydrite	2752	2752	+399	+5
Topeka	3351	3352	-900	AA
Heebner	3738	3738	-1287	+10
Toronto	3763	3763	-1312	+10
LKC	3779	3779	-1328	+10
BKC	3994	3986	-1535	+11
ATD	4036	4036	-1574	+11
LTD		4034	-1572	

DRILL STEM TESTS

No.	Interval	Formation	Time	Recovery
1	3935-3958	LKC	45-45-30-30	120' mud w/ oil specks

DST #1
3935 - 3958
45-45-30-30
I.F. - Slid IB, Built to 5"
F.F. - Dead, Flush, Surf
IFP: 51-60
FFP: 69-74
SIP: 1145 - 1099
HP: 1934 - 1931
Rec:
120' mud w/ oil specks
BHT: 120°

Vis: 54 wt: 9.2

LEGEND

Anhydrite | Salt | Sandstone | Shale | Carb sh | Limestone | Ool.Lime | Chert | Dolomite

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases
5" 10" 15"

DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
3400				
		Sh: gry		
		LS: tan-crm, fn xln, prpr. Foss-sub xln-fx.		
3500		Sh: gry		
		LS: AIA		
		Sh: gry		
		LS: crm, fn xln, scat Frag Foss, spl & mnrly chlky in, tan chlky, NS.		
		Sh: gry		
		LS: crm-tn, mod xln, abd gd int ool &, scat chlky fx, NS.		
3600		LS: crm-tn, v Foss sel ool gd int-xln &, Many chlky in, NS. Trng prs & dms.		
		Sh: Black.		
		Sh: brn-red sil gry		
3650		LS: crm-tn, abd sil sml foss gd int ool &, many chlky in. NS.		
		Sh: Brn		
		LS: Mostly AIA		
		Sh: Black Carb		
3700		LS: crm-tn, mod xln, foss in part gd int-xln &, scat chlky in, NS.		
		Sh: gry		
		LS: crm-tn. tan, fn xln, Mostly prpr, Fr amt chlky in		
Heebner 3738(-1276)		Sh: Black Carb		
3750		Sh: gy-brn		
Toronto 3763(-1291)				
LKC 3779(-1317)		LS: crm-tn, fn xln, mostly prpr, Scat sub xln fx. Foss org strg, crm-tn, NS.		
		Sh: gy sil brn		
		LS: crm-tn, mdt-fn xln, Scat sml Foss, prpr, mostly dns. Same sub xln fx, AA NS.		
3800		Sh: drk gy; trng lt gy. Mnrly org strg chlky.		
		LS: crm-tn, fn xln, prpr & dns, AA NS org strg.		
		Sh: gry sil brn		
		LS: crm-tn, Fn-vfn xln-gr, scat sub xln fx, Foss org strg, sub xln to pel, pr-fair stn, Scat dead impreg, mnrly, Mottled		
DST #1 3935-3958		LS: tan-crm-tn, mod xln, Foss org strg, sub xln to pel, pr-fair stn, Scat dead impreg, Scat gd intergran & xln imp, Scat gd int-xln oil stn, Many Common fx, NS & odr		
CFS @ 30'				
3850		LS: Wht-Tan, Fn-vfn xln, Chlky, sil Foss, scat mod gd, Lt-Lt Gry, Gry, V. Chalky		
CFS @		Sh: Blk		
		Sh: Grn-Brn-Gry		
3900		LS: Tan-Off wh, St. Mottled, Subchlky, Chalky, Brn-Lt Gry & Varrgn		
		Sh: Off wh-Gry-Grn-Brn		
		LS: Off wh, Subchlk, DNS		
		Sh: Grn-Maroon		
		LS: Off wh, Fr-Subchlk, Scat Foss, Poor vug & Common V. Chalky, Wh-Tan, Fn Flour.		
CFS @ 50		Sh: Gry-Grn		
		LS: Off wh, Off wh-Tan, Fr-Subchlk, Scat Foss, Poor vug & Common V. Chalky, Wh-Tan, Fn Flour. Mnrly Gamma DNS		
		Sh: Grn-Gry		
BKC 3994(-1532)		LS: Wht-Tan, Fn-Subchlk, Sl spty wl fr Foss org & scat impreg & Stringers, Poor Intercrystalline, Fn Flour.		
CFS @		Sh: Grn-Gry		
4000		Sh: Grn-Gry, V. Silty		
		LS: Tan-Lt Gry, Mottled Subchlk		
ATD: 4036(-1574)				
LTD: 4034(-1572)				

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