Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1089523

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 # 34110
Name: Caerus Kansas LLC
Address 1: 600 17TH ST, STE 1600 N
Address 2:
City: DENVER State: CO Zip: 80202 + __ __ __ __
Contact Person: Amy Lay
Phone: (303) 565-4600
CONTRACTOR: License # 34541
Name: Ninnescah Drilling LLC
Wellsite Geologist: Jeff Lawler
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 #:

6/25/2012	7/3/2012	7/18/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-185-23757-00-00
Spot Description:
SE - SW - NW - NE Sec. 2 Twp. 25 S. R. 13 ☐ East ☑ West
1076 Feet from ☑ North / ☐ South Line of Section
2028 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: Stafford
Lease Name: Astle Well #: 2-31
Field Name:
Producing Formation: Arbuckle
Elevation: Ground: 1916 Kelly Bushing: 1925
Total Vertical Depth: 4195 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 756 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: 5000 ppm Fluid volume: 320 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Caerus Kansas LLC
Lease Name: McNaughten B #4 License #: 34110
Quarter NW Sec. 27 Twp. 24 S. R. 13 ☐ East ☑ West
County: Stafford Permit #: E-12,286

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: 08/04/2012
☑ **Confidential Release Date:** 08/04/2014
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Deanna Garrison **Date:** 08/10/2012

[redacted] 1089523

Operator Name: Caerus Kansas LLC Lease Name: Astle Well #: 2-31

Sec. 2 Twp. 25 S. R. 13 ☐ East ☑ West County: Stafford

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:

Attached

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

Name	Top	Datum
Stone Corral	1183	
Stotler	2775	
Heebner Shale	3396	
Lansing	3571	
Base KS City	3846	
Viola	3956	
Arbuckle	4116	

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	756	Common	400	3% CC 2% Gel
Production	7.875	5.50	15.5	4186	60/40 POz	150	15% salt 5# Gilsonite

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
6	3812-3818	250 gal 15% mud acid	3812-3818
6	3735-3739	500 gal 15% mud acid	3735-3739
6	3708-3712	250 gal 15% mud acid	3708-3712

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run:
	2-3/8"	4150	3674	☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 7/23/2012

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	4	0	3		28

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:
3708-3818

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

Form	ACO1 - Well Completion
Operator	Caerus Kansas LLC
Well Name	Astle 2-31
Doc ID	1089523

All Electric Logs Run

Compensated Density/Neutron
Microlog
Sonic Log
Dual Induction Log

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 04, 2012

Amy Lay
Caerus Kansas LLC
600 17TH ST, STE 1600 N
DENVER, CO 80202

Re: ACO1
API 15-185-23757-00-00
Astle 2-31
NE/4 Sec.02-25S-13W
Stafford 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,
Amy Lay

QUALITY WELL SERVICE, INC.

5592

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Heath's Cell 620-727-3410
Office / Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-25-12	2	25	35	Stafford	KS		5:30pm

Lease | Well No. | Location St John 6S 2½W 5 into

Contractor Ninnescha Drilling
Type Job Surface
Hole Size 12¼ T.D. 760
Csg. 8⅝ Depth 756.53
Tbg. Size Depth
Tool Depth
Cement Left in Csg. 20 ft Shoe Joint
Meas Line Displace 46.87

Owner
To Quality Well Service, 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 Caerus
Street
City State
The above was done to satisfaction and supervision of owner agent or contractor.
Cement Amount Ordered 400 sx Com 3%CC 2%Gel ¼ C.F.

EQUIPMENT

Pumptrk No.	8	Cody
Bulktrk No.	5	mike
Bulktrk No.		
Pickup No.		

JOB SERVICES & REMARKS

Rat Hole
Mouse Hole
Centralizers
Baskets
D/V or Port Collar
Ran 18 jts of 8⅝ casing & landing it
Est Circulation with mud pump
Hooked up and mixed 400 sx - shut down
Released plug and disp bbl of H20
Shut in @ 300 psi
Cement Did Circulate to Surface
Thank You!!

Common	400
Poz. Mix	
Gel.	7
Calcium	14
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	421
Mileage	20

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
	8⅝ Rubber Plug
Pumptrk Charge	Surface
Mileage	20
Tax	
Discount	
Total Charge	

X Signature

BASiC energy services, L.P.

TREATMENT REPORT

Customer: Carrol Drilling	Lease No.	Date: 7-4-13
Lease: Asllo	Well #: 2-31	

Field Order #: 6149	Station: Pratt	Casing: 5½	Depth: 4180	County: Stafford	State: KS

Type Job: CNW - 5½ LS [illegible]	Formation	Legal Description: 2-25-13

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME			
Casing Size	Tubing Size	Shots/Ft	150 sk 60/40 [illegible]	~~Acid~~		RATE	PRESS	ISIP
Depth 4180	Depth	From	To	Pre Pad 1.18 [illegible]	Max	15% Salt		5 Min.
Volume 97.6	Volume	From	To 50 sk	Pad 60/40 [illegible]	Min	3/4% [illegible]		10 Min.
Max Press 1500	Max Press	From	To	Frac RH/MH	Avg	5#/sk [illegible]		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used			Annulus Pressure
Plug Depth 4179	Packer Depth	From	To	Flush 97	Gas Volume			Total Load

Customer Representative: [illegible]	Station Manager: Dave Scott	Treater: Steve [illegible]

Service Units	27283	27463	19960/21010							
Driver Names	[illegible]	McLain	Lawrence							

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
2030					On location [illegible]
					Run 136 jts 5½ 15.5# [illegible]
					Baffle #7
					Centralizers 4-7-11-14-16-18
					Casing on bottom break circ w/ rig
					[illegible] casing [illegible]
1:10	300		12	6	Mud flush
1:12	300		5	6	H2O spacer
1:15	300		31.5	6	Mix 150 sk 60/40 @ [illegible]
					Shut down - clean pump lines
1:27	0		0	6	Start H2O displacement
1:[illegible]	300		70	5	Lift pressure
1:4[illegible]	600		87	4	Slow rate - stop rotating casing
1:45	1500		97	4	Plug down - held
			6/11		Mix RH/MH w 50 sk 60/40
					Job complete
					Thanks, Steve

DRILL STEM TEST REPORT

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46967 **DST#: 1**

Test Start: 2012.06.29 @ 01:54:37

GENERAL INFORMATION:

Formation: **Lansing H / I**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 03:47:22
Time Test Ended: 11:16:07

Test Type: Conventional Bottom Hole (Initial)
Tester: Ryan Reynolds
Unit No: 63

Interval: 3702.00 ft (KB) To 3750.00 ft (KB) (TVD)
Total Depth: 3750.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor

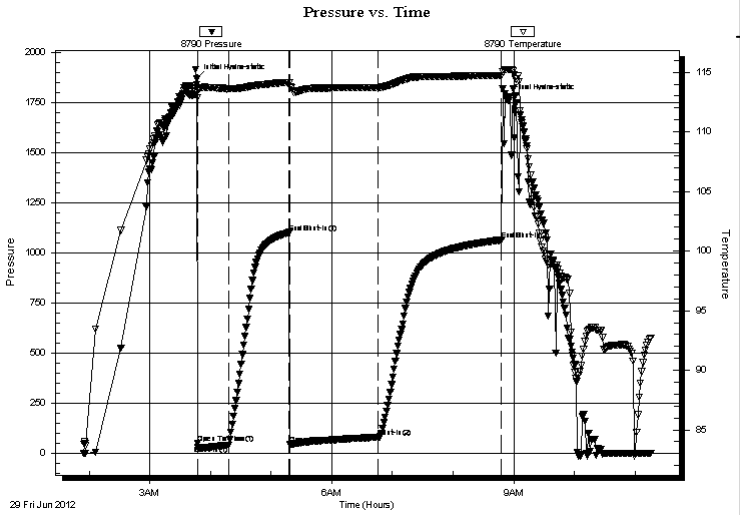
Reference Elevations: 1929.00 ft (KB)
1914.00 ft (CF)
KB to GR/CF: 15.00 ft

Serial #: 8790 **Inside**

Press@RunDepth: 80.08 psig @ 3703.00 ft (KB)
Start Date: 2012.06.29 End Date: 2012.06.29
Start Time: 01:54:42 End Time: 11:16:07

Capacity: 8000.00 psig
Last Calib.: 2012.06.29
Time On Btm: 2012.06.29 @ 03:46:37
Time Off Btm: 2012.06.29 @ 08:52:52

TEST COMMENT: IF: Strong Blow . BOB 3 min. No GTS.
ISI: No blow
FF:Strong Blow . BOB 15sec. GTS in 80min. TSTM
FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1867.89	113.98	Initial Hydro-static
1	47.65	112.85	Open To Flow (1)
32	38.49	113.60	Shut-In(1)
92	1101.30	114.16	End Shut-In(1)
93	41.13	113.81	Open To Flow (2)
180	80.08	113.73	Shut-In(2)
302	1064.16	114.72	End Shut-In(2)
307	1769.76	115.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
85.00	OCM 40%oil 60%mud	0.62
15.00	clean oil	0.11

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46967 **DST#: 1**

Test Start: 2012.06.29 @ 01:54:37

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	36 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	4600 ppm
Viscosity:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.19 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4600.00 ppm				
Filter Cake:	0.03 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
85.00	OCM 40%oil 60%mud	0.624
15.00	clean oil	0.110

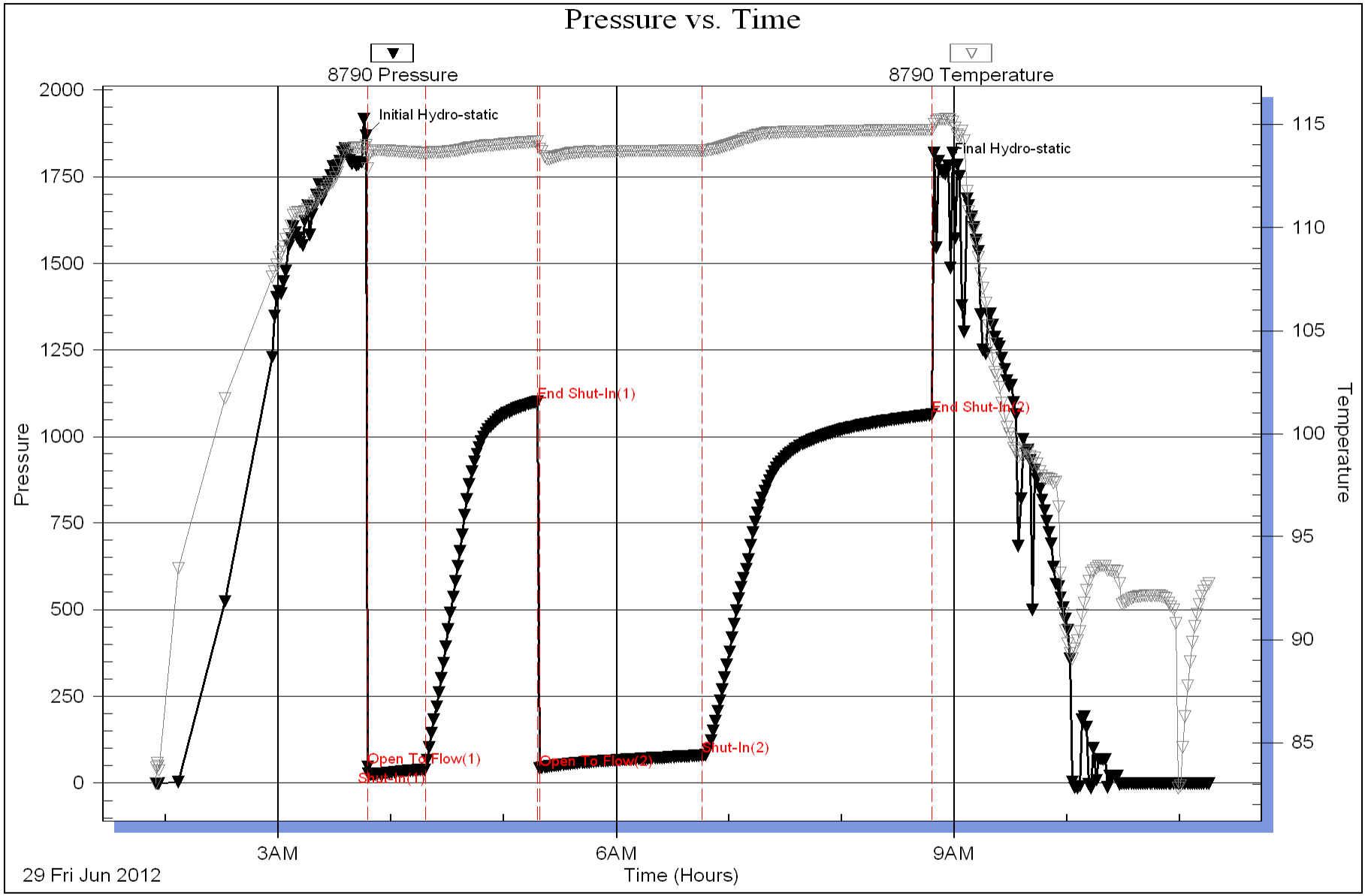
Total Length: 100.00 ft Total Volume: 0.734 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8790 **Inside** Caerus Kansas LLC. Astle 2-31 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 46967 Printed: 2012.06.30 @ 12:52:08

DRILL STEM TEST REPORT

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46967 **DST#: 2**

Test Start: 2012.06.29 @ 22:38:00

GENERAL INFORMATION:

Formation: **Lansing J & K**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 00:59:15
Time Test Ended: 08:46:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Reynolds
Unit No: 63

Interval: 3770.00 ft (KB) To 3830.00 ft (KB) (TVD)
Total Depth: 3830.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

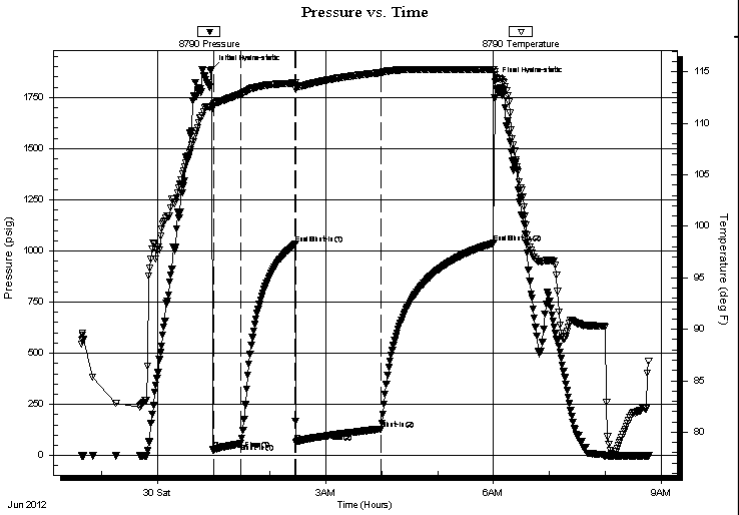
Reference Elevations: 1929.00 ft (KB)
1914.00 ft (CF)
KB to GR/CF: 15.00 ft

Serial #: 8790 **Inside**

Press@RunDepth: 129.71 psig @ 3771.00 ft (KB)
Start Date: 2012.06.29 End Date: 2012.06.30
Start Time: 22:38:05 End Time: 08:46:15

Capacity: 8000.00 psig
Last Calib.: 2012.06.30
Time On Btm: 2012.06.30 @ 00:57:30
Time Off Btm: 2012.06.30 @ 06:01:30

TEST COMMENT: IF: Strong blow . BOB 3 min. No GTS
ISI: No blow
FF: Strong blow . BOB 5 min. No GTS
FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1886.83	111.64	Initial Hydro-static
2	28.18	111.68	Open To Flow (1)
32	58.71	112.84	Shut-In(1)
90	1032.90	113.90	End Shut-In(1)
91	66.01	113.60	Open To Flow (2)
182	129.71	114.90	Shut-In(2)
303	1037.51	115.20	End Shut-In(2)
304	1826.29	114.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
175.00	SOCMW 1% oil, 9% mud, 90%w ater	1.29
60.00	SOCMW 5% oil, 35% mud, 60%w ater	0.44
60.00	WOCM 15%w ater, 35%oil, 50%mud	0.44
5.00	Clean oil	0.04
1400.00	GIP	10.28

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46967 **DST#: 2**

Test Start: 2012.06.29 @ 22:38:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	36 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	120000 ppm
Viscosity:	58.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.39 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	0.03 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
175.00	SOCMW 1% oil, 9% mud, 90%w ater	1.286
60.00	SOCMW 5% oil, 35% mud, 60%w ater	0.441
60.00	WOCM 15%w ater, 35%oil, 50%mud	0.441
5.00	Clean oil	0.037
1400.00	GIP	10.285

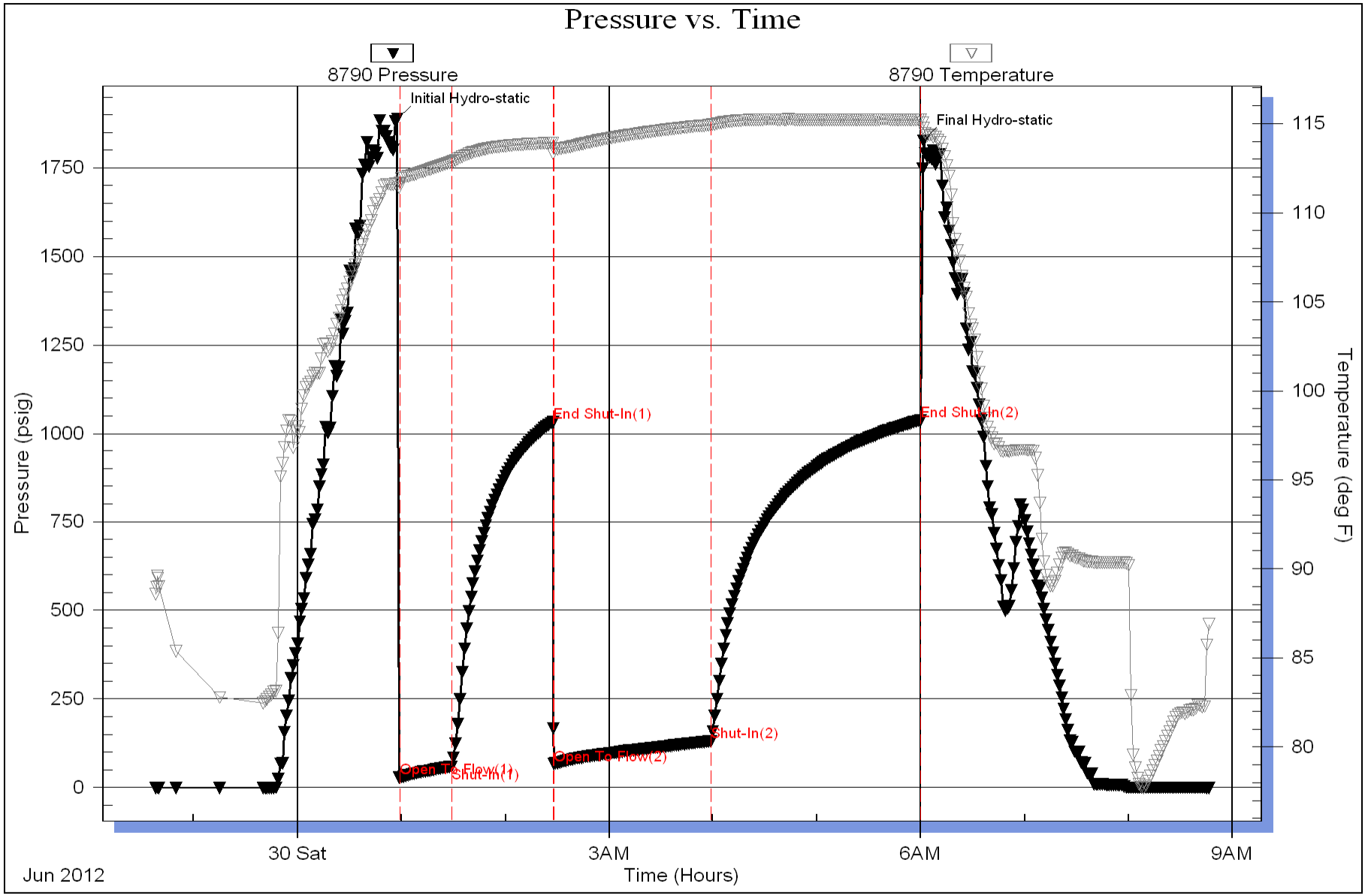
Total Length: 1700.00 ft Total Volume: 12.490 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8790 **Inside** Caerus Kansas LLC. Astle 2-31 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 46967 Printed: 2012.06.30 @ 12:51:27

DRILL STEM TEST REPORT

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46968 **DST#: 3**

Test Start: 2012.06.30 @ 22:01:39

GENERAL INFORMATION:

Formation: **Kinderhook**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 23:58:24
Time Test Ended: 07:24:39

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Reynolds
Unit No: 63

Interval: 3895.00 ft (KB) To 3937.00 ft (KB) (TVD)
Total Depth: 3937.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

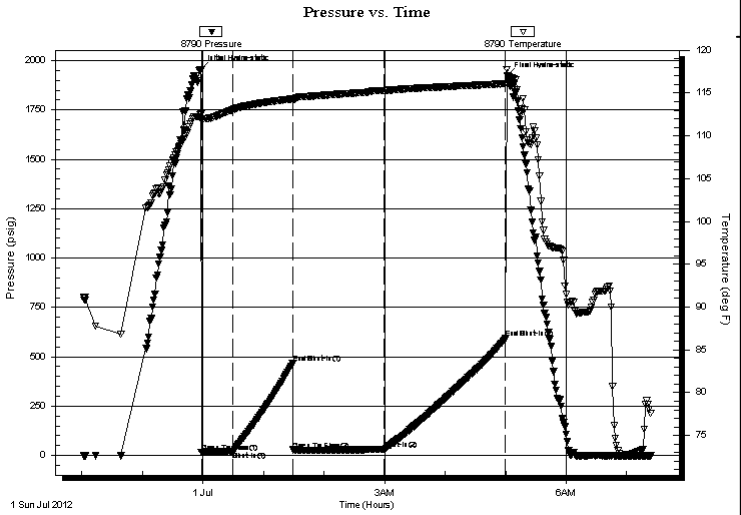
Reference Elevations: 1929.00 ft (KB)
1914.00 ft (CF)
KB to GR/CF: 15.00 ft

Serial #: 8790 **Inside**

Press@RunDepth: 30.90 psig @ 3896.00 ft (KB)
Start Date: 2012.06.30 End Date: 2012.07.01
Start Time: 22:01:44 End Time: 07:24:39

Capacity: 8000.00 psig
Last Calib.: 2012.07.01
Time On Btm: 2012.06.30 @ 23:58:09
Time Off Btm: 2012.07.01 @ 05:01:09

TEST COMMENT: IF: Fair-Strong blow . 1/4" - BOB in 25min.
ISI: No Blow
FF: Strong blow . BOB 5sec. No GTS
FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1955.53	112.55	Initial Hydro-static
1	16.05	111.84	Open To Flow (1)
31	19.87	113.04	Shut-In(1)
91	465.47	114.32	End Shut-In(1)
92	28.21	114.17	Open To Flow (2)
182	30.90	115.30	Shut-In(2)
302	592.91	116.10	End Shut-In(2)
303	1921.69	117.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	GOCM 5%gas 5%oil 90%drlg mud	0.33

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46968 **DST#: 3**

Test Start: 2012.06.30 @ 22:01:39

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	5000 ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.78 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	0.03 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	GOCM 5%gas 5%oil 90%drlg mud	0.331

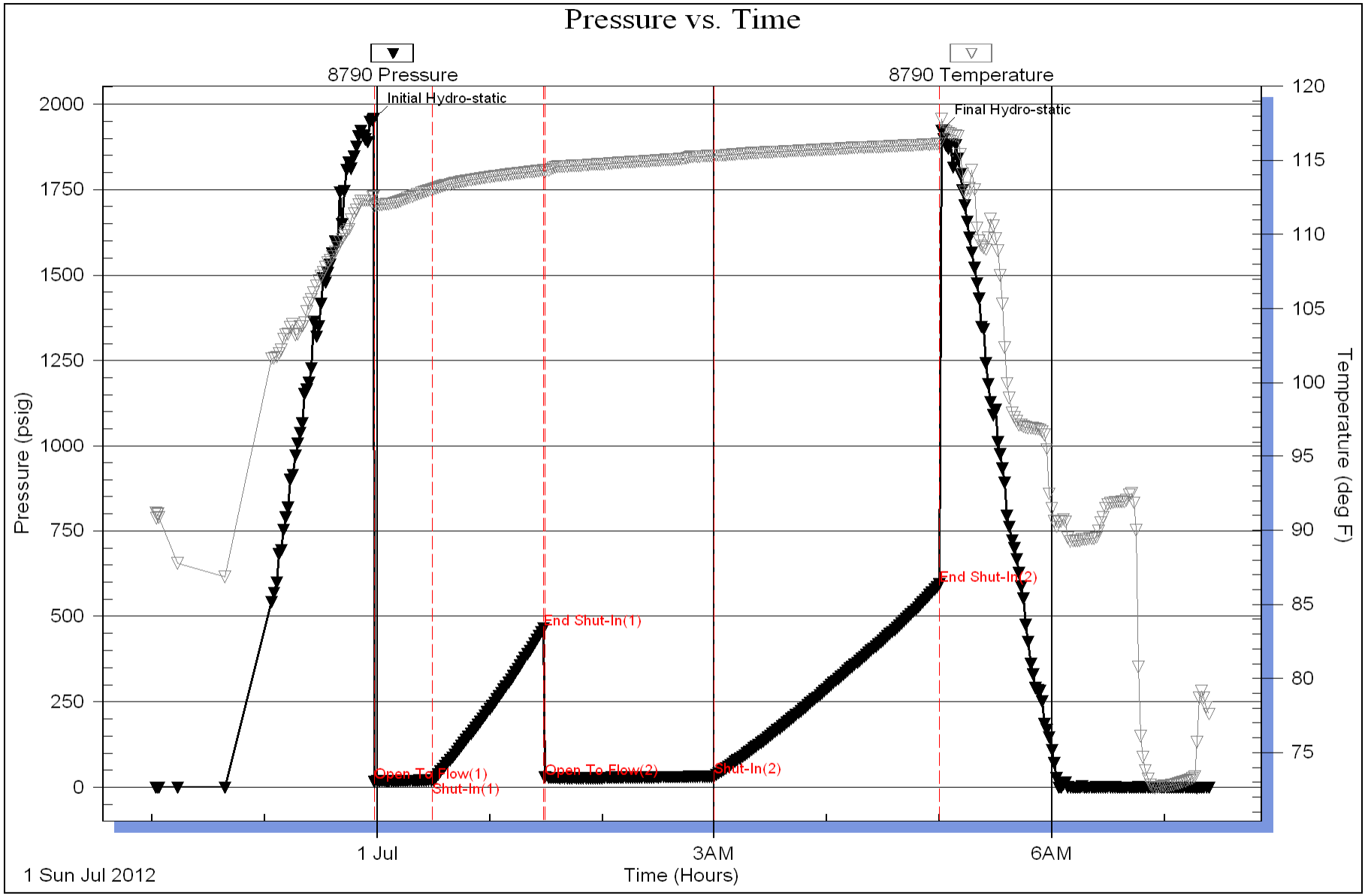
Total Length: 45.00 ft Total Volume: 0.331 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8790 **Inside** Caerus Kansas LLC. Astle 2-31 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 46968 Printed: 2012.07.01 @ 18:55:49

DRILL STEM TEST REPORT

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46969 **DST#: 4**

Test Start: 2012.07.02 @ 06:22:11

GENERAL INFORMATION:

Formation: **Simpson + Arbuckle**
Deviated: No Whipstock: 0.00 ft (KB)
Time Tool Opened: 08:26:26
Time Test Ended: 16:27:26

Test Type: Conventional Bottom Hole (Reset)
Tester: Ryan Reynolds
Unit No: 63

Interval: 4068.00 ft (KB) To 4127.00 ft (KB) (TVD)
Total Depth: 4127.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

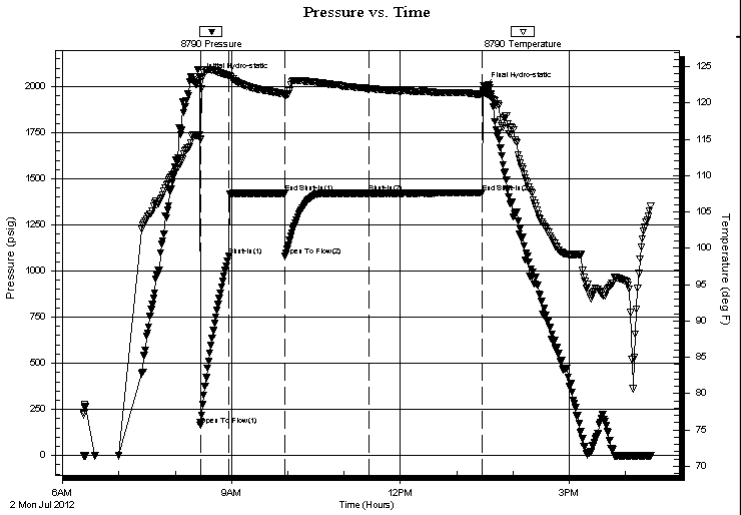
Reference Elevations: 1929.00 ft (KB)
1914.00 ft (CF)
KB to GR/CF: 15.00 ft

Serial #: 8790 **Inside**

Press@RunDepth: 1421.98 psig @ 4069.00 ft (KB)
Start Date: 2012.07.02 End Date: 2012.07.02
Start Time: 06:22:16 End Time: 16:27:26

Capacity: 8000.00 psig
Last Calib.: 2012.07.02
Time On Btm: 2012.07.02 @ 08:26:11
Time Off Btm: 2012.07.02 @ 13:28:41

TEST COMMENT: IF: Strong blow . B.O.B. 1 1/2min. No GTS.
ISI: No blow
FF: Strong - Fair blow . B.O.B. 3min.- 8"
FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2051.07	115.68	Initial Hydro-static
1	163.43	114.98	Open To Flow (1)
31	1079.37	123.76	Shut-In(1)
91	1421.66	121.25	End Shut-In(1)
91	1080.21	121.05	Open To Flow (2)
180	1421.98	121.95	Shut-In(2)
301	1422.14	121.22	End Shut-In(2)
303	2001.81	121.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3180.00	SLI GCMW <1%gas, 1%mud, 98%w ate	23.36

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Caerus Kansas LLC.

1390 E. 8th st., Ste. B
Hays, KS 67601-3974

ATTN: Roger Fisher

Stafford Co., KS

Astle 2-31

Job Ticket: 46969 **DST#: 4**

Test Start: 2012.07.02 @ 06:22:11

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:	27000 ppm
Viscosity:	48.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.39 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	0.03 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3180.00	SLI GCMW <1%gas, 1%mud, 98%water	23.362

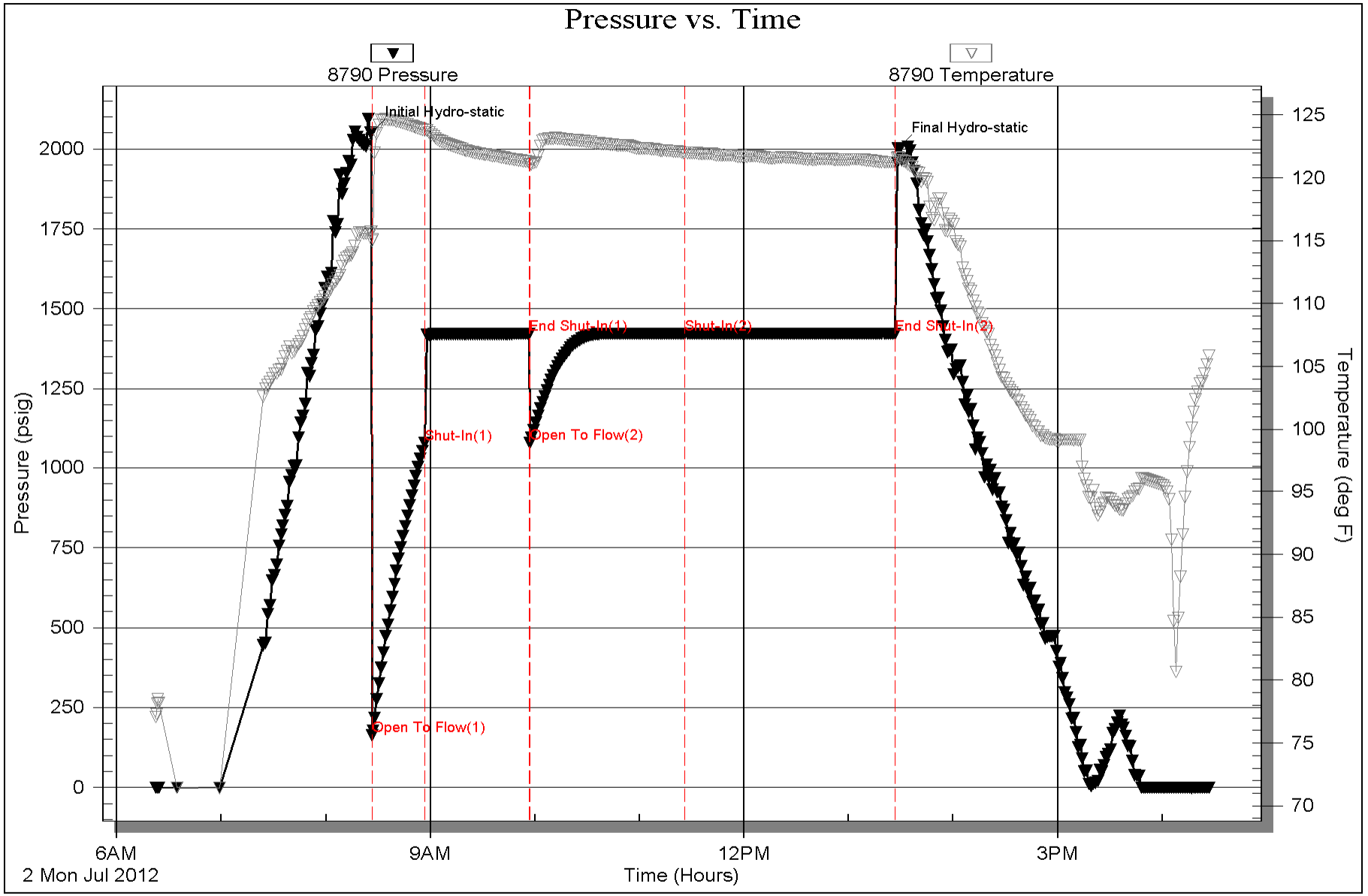
Total Length: 3180.00 ft Total Volume: 23.362 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8790 **Inside** Caerus Kansas LLC. Astle 2-31 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 46969 Printed: 2012.07.02 @ 17:37:04