

Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

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

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

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

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

New Well  Re-Entry  Workover

Oil  WSW  SWD

Gas  DH  EOR

OG  GSW

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 EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27  NAD83  WGS84

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

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

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

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

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

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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

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

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	White Exploration, Inc.
Well Name	Arnold 1
Doc ID	1291962

All Electric Logs Run

Compensated Density/Neutron
Dual Induction Log
Micro Log
Sonic Log





Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country  
Est. Road, Liberal KS 67901

**PRESSURE PUMPING Job Log**

Customer:	Ken White Exploration	Cement Pump No.:	38117, 19919 23Hrs.	Operator TRK No.:	78938
Address:		Ticket #:	1717 06783 A	Bulk TRK No.:	30464, 37724 Jose
City, State, Zip:		Job Type:	Z42 Cement Production Casing		
Service District:	Liberal Ks.	Well Type:	OIL		
Well Name and No.:	Arnold #1	Well Location:	6,29,40	County:	Stanton
				State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
A-Con Blend	60	3% CALCIUM CHLORIDE, 1/4# POLYFLAKE	30464, 37724 Jose	Front	Back
AA2 Cement	200	5% W-60, 10% SALT, .5% C-15, 1/4# DEFOAMER, 5# GILSONITE	30464, 37724	Front	Back
A-Con Blend	315	3% CALCIUM CHLORIDE, 1/4# POLYFLAKE	14355, 37725	Front	Back
Premium Plus Cement	100	2% CALCIUM CHLORIDE, 1/4# POLYFLAKE	14355, 37725	Front	Back
Premium Plus Cement	50	2% CALCIUM CHLORIDE, 1/4# POLYFLAKE	14355, 37725	Front	Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
<b>Lead #1:</b>	11.4	2.93	18	175.8	Man Hours:	
<b>Tail #1:</b>	14.8	1.51	6.64	302	# of Men on Job:	3
<b>Lead #2:</b>	11.4	2.95	18.1	929.25		
<b>Tail #2:</b>	14.8	1.34	6.33	134		
<b>Tail</b>	14.8	1.34	6.33	67		

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
20:00							ON LOCATION
20:05							WAIT ON RIG TO L.D. D.P & D.C.
1:45 AM							SAFETY MEETING
2:00 AM							RUN FLOAT EQUIPMENT
3:40 AM							AT 65 JOINTS CIRCULATE
5:45							CASING ON BOTTOM RIG UP TO CIRCULATE
6:10							CIRCULATE
							RIG UP P.T.
9:50							PRESSURE TEST TO 3000 P.S.I.
10:00	5					500	PUMP 500 GAL. SUPER FLUSH II
10:05	6.3	31.3 slurry				600	PUMP 60SK. 'A-CON' BLEND @ 11.4#
10:12	6.2	53.7 slurry				200	PUMP 200SK AA2 @ 14.8#
10:30							SHUTDOWN / W.P. / DROP PLUG
10:35	6.2	10				50	DISPLACE
	6.2	70				50	
	6.4	80				50	
	6.3	90				200	
	6.3	100				250	
	6	110				700	
	6.1	120				850	

Size Hole	7 7/8"	Depth	5701'		PLUG C.	ROTATING HEAD	
Size & Wt. Csg.	5 1/2" 15.5#	Depth	New / Used		Two STG Collar	Depth	3216'
tbg.		Depth			Retainer	Depth	
Top Plugs		Type			Perfs	CIBP	

Customer Signature: *[Signature]*  
 Basic Representative: Daniel Beck  
 Basic Signature: *[Signature]*  
 Date of Service: 1/6/2015

*White Exploration*



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country  
Est. Road, Liberal KS 67901

**PRESSURE PUMPING**

**Job Log**

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Address:		Ticket #:	1717 06783 A	Bulk TRK No.:	30464, 37724 Jose   14355, 37725 Jose
City, State, Zip:		Job Type:	Z42 Cement Production Casing		
Service District:	Liberal Ks	Well Type:	OIL		
Well Name and No.:	Arnold #1	Well Location:	6,29,40	County:	Stanton
				State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
			30464, 37724 Jose	Front	Back
			14355, 37725 Jose	Front	Back
				Front	Back

Lead/Tail:	Weight #1 Gal.	Yield	Water Requirements	CU. FT.	Man Hours / Personnel
<b>Lead:</b>				0	Man Hours:
<b>Tail:</b>				0	# of Men on Job:

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
10:56	2	125				800	SLOW RATE
11:00	0	135.1				1600	LAND PLUG AND PRESSURE UP
							RELEASE BACK FLOAT HELD
11:20 AM							PUMP PILL WENT THRU AT 1200 P.S.I.
11:25 AM							DISCONNECT FROM P.T. / RIG TO CIRCULATE
13:15							RIG UP P.T.
13:20		165.4 slurry					PUMP 315SK 'A-CON' BLEN @11.4#
1:53 PM		23.8 slurry					PUMP 100SK PREMIUM PLUS @ 14.8#
13:58							SHUTDOWN / DROP PLUG
14:02	5.8	10				0	DISPLACEMENT
	5.6	20				0	
	5.6	30				100	
	1.5	40				100	LOW ON WATER
	4.8	50				300	
	4.6	60				500	
	2.1	65				600	SLOW RATE
	2.1	70				650	
14:24	0	76.1				1800	TOOL CLOSED RELEASED BACK FLOAT HELD
							PLUG RAT & MOUSE W/ 50SK
14:30							JOB COMPLETE

Size Hole	7 7/8"	Depth	5701'		TYPE	
Size & Wt. Csg.	5 1/2" 15.5#	Depth	0	New / Used	Packer	Depth
tbg.		Depth	0		Retainer	Depth
Top Plugs	0	Type			Perfs	CIBP

Customer Signature: <i>[Signature]</i>	Basic Representative:	Daniel Beck
	Basic Signature:	<i>[Signature]</i>
	Date of Service:	1/6/2015

*Ken White Exploration*



**Scale 1:240 (5"=100') Imperial  
Measured Depth Log**

**Well Name:** Arnold #1  
**Location:** 6-29S-40W  
**License Number:** API: 15-187-21324  
**Spud Date:** 12/26/15  
**Surface Coordinates:** 490' FSL, 1515' FEL

**Region:** Stanton Co., KS  
**Drilling Completed:** 01/05/16

**Bottom Hole  
Coordinates:**  
**Ground Elevation (ft):** 3311                      **K.B. Elevation (ft):** 3322  
**Logged Interval (ft):** 4200              **To:** 5700              **Total Depth (ft):** 5700  
**Formation:** Mississippian  
**Type of Drilling Fluid:** Chemical

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

**OPERATOR**

**Company:** White Exploration, Inc.  
**Address:** 1635 N. Waterfront Pkwy.  
St. 100  
Wichita, KS 67206

**GEOLOGIST**

**Name:** Andrew White  
**Company:** White Exploration, Inc.  
**Address:**

**Remarks**

After log and DST evaluation, it was decided that casing be run on the Arnold #1 to perforate the Keyes Sand.

**General Info**

**Drilling Contractor:** Murfin Rig 21

**Logs:** CJ Cased Hole Solutions  
Compensated Density/Neutron, Dual, Micro, Sonic

**Drilling Mud:** Mudco/Service Mud, Inc.

**DST:** Trilobite Testing

**Surveys:** 595'-.75, 907'-.75, 3767'-.75, 5430'-1, 5700'-1

## Daily Status

12/26/15: Spud Well @ 3:00 A.M.

12/27/15: Lost Circulation @ 1413

12/28/15: Lost Circulation @ 1492, Drill to 1721' run 41 joints of 8-5/8" 24# Surface Casing, cement with 430 sacks A-Con Blend Cement with 3% CC, 1/4# polyflake and .2%WCA-1 and 150 sacks of Premium Plus Cement with 2%CC and 1/4# polyflake

12/29/15: Waiting on Cement for top 150' of surface casing, cement from top thru 1" with 200 sacks common cement with 2% CC

12/30/15: Drilling @ 1985', lost circ @ 2337

12/31/15: Drilling @ 3100'

01/01/16: Drilling @ 4292'

01/02/16: Drilling @ 5189'

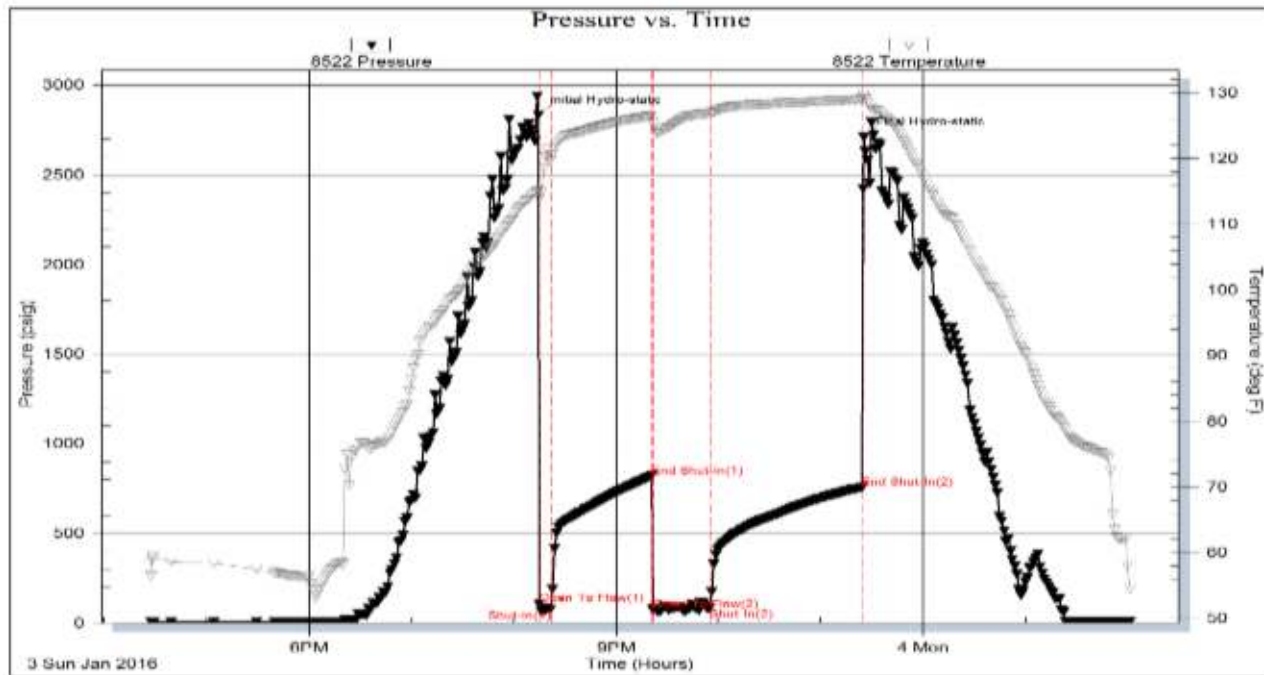
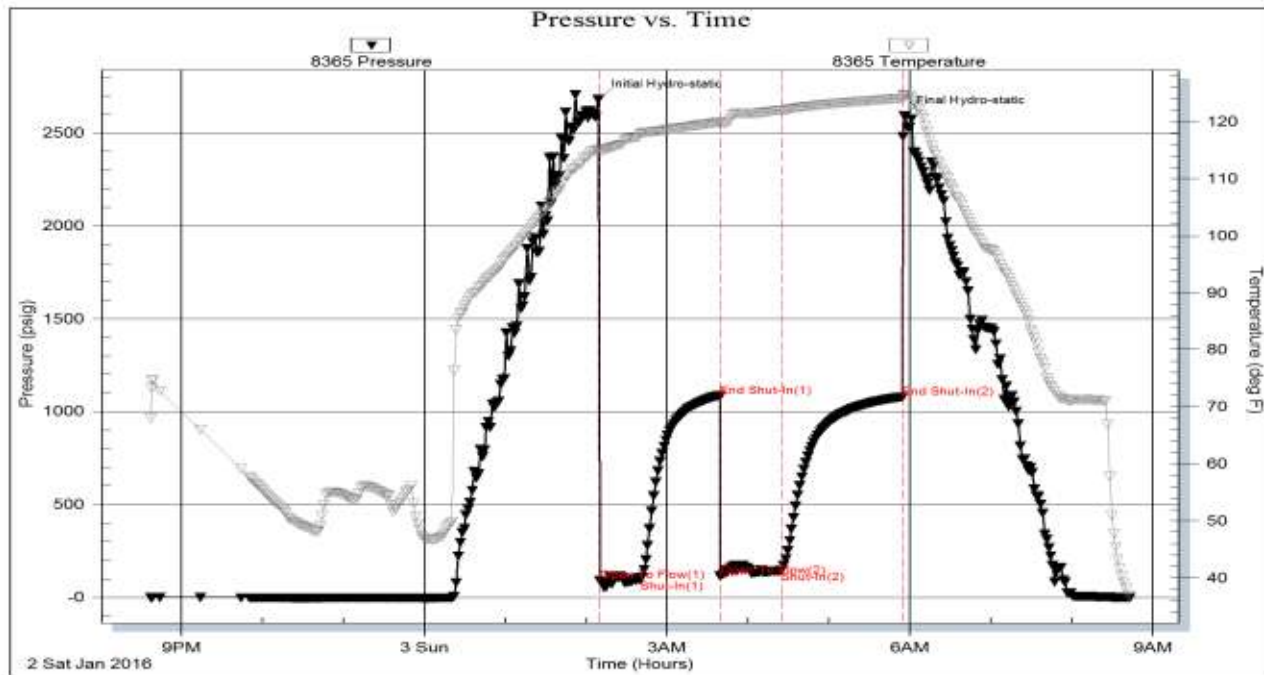
01/03/16: Coming out of hole with DST #1

01/04/16: Drilling @ 5509'

01/05/16: Logging


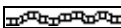
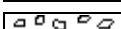
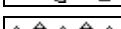
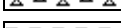
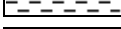

	White Ex			Berexco		J.M. Huber		Stelbar	
	Arnold #1			Earl Arnold 7-2		Earl Arnold 7-1		#1-31 Plummer	
	629S-40W			7-29S-40W		7-29S-40W		31-28S-40W	
	490' FSL, 1515' FEL			335' FNL, 335' FWL		2300' FNL, 500' FWL		1310' FSL, 1300' FEL	
	KB:3322			KB: 3336		KB: 3337		KB: 3321	
	Sample	Log	Datum	Relationship		Relationship		Relationship	
Heebner		3693	-371	-7		9		-4	
Lansing		3783	-461	-22		-20		4	
Cherokee	4545	4547	-1225	-20		-17		-3	
Morrow	5020	5021	-1699	-27		-20		-2	
LMM	5345	5341	-2019	-27		-17		-13	
Miss	5654	5579	-2257	-20		-18		-22	





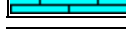

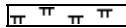



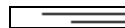







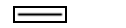







### ROCK TYPES






### LITHOLOGY

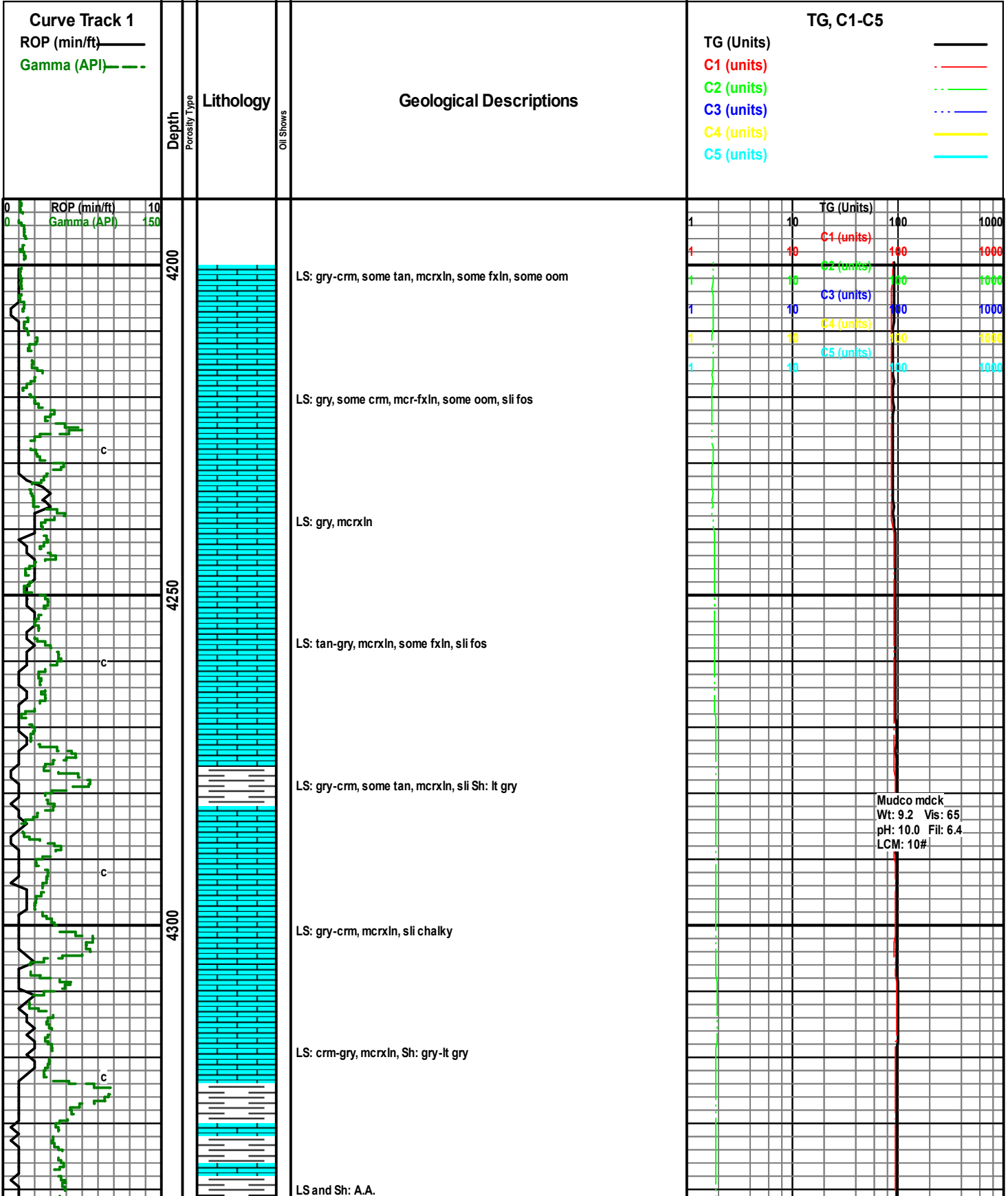
-  Anhy
-  Bent
-  Brec
-  Cht
-  Clyst
-  Black shale
-  Congl

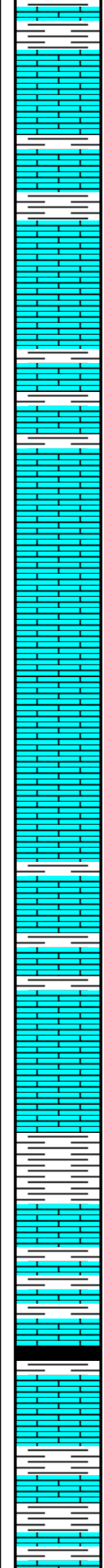
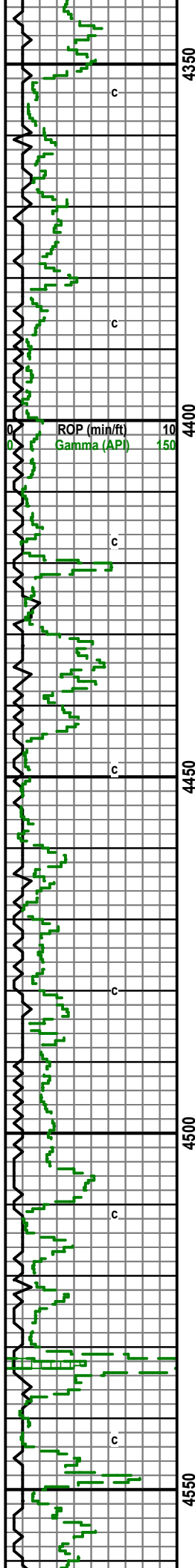
-  Dol
-  Gyp
-  Igne
-  Lmst
-  Meta
-  Mrlst
-  Salt
-  Shale

-  Shcol
  -  Shgy
  -  Slstst
  -  Ss
  -  Till
- STRINGER**
-  Anhy

-  Arg
-  Bent
-  Coal
-  Dol
-  Gyp
-  Ls
-  Mrst
-  Slststrg

-  Ssstrg
- OIL SHOW**
-  Even
  -  Spotted
  -  Ques
  -  Dead





LS: crm, sli tan-gry, mcr-fxln, sli Sh: lt gry, some slt

LS: crm-tan, mcr-fxln, sli ool, some oom

LS: crm, sli gry, mcrxln, Sh: lt gry, sli stly

LS: crm-gry, sli tan, mcrxln, some fxln, sli oom, some chlk

LS: A.A. with some ool

LS: crm-gry, mcr-fxln, some mxln, sli fos, sli oom, sli chlky, some Sh: gry-drk gry

LS: crm-gry, f-mxln, sli fos, sli chlk, some Sh: A.A.

Sh: gry-drk gry, some blk, some slty, few LS: gry-crm, mcrxln

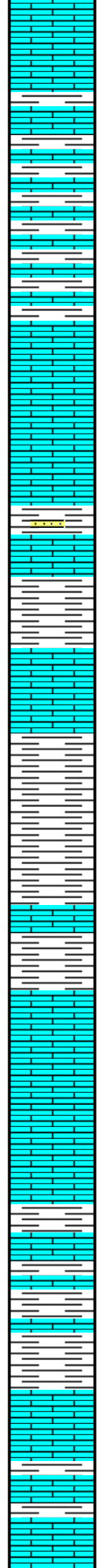
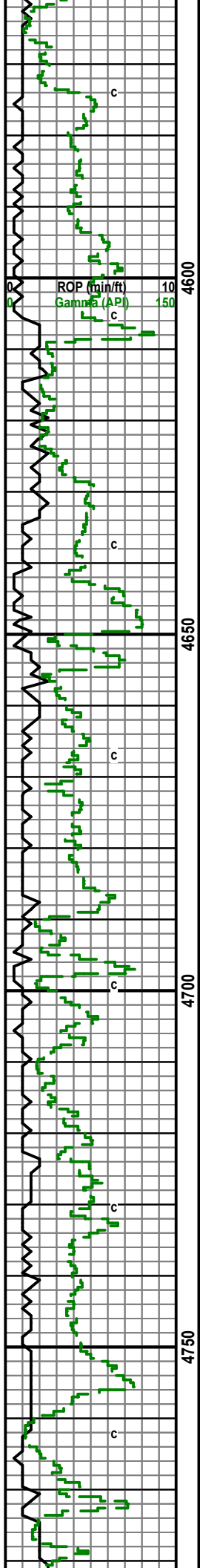
LS: gry-crm, mcr-fxln, dense, sli fos, Sh: drk gry-gry

LS; gry, mcrxln, Sh: drk gry-gry-lt gry, some slty

LS: gry, sli crm, mcrxln, Sh: gry

	TG (Units)		
1	10	100	1000
1	10	C1 (units)	1000
1	10	C2 (units)	1000
1	10	C3 (units)	1000
1	10	C4 (units)	1000
1	10	C5 (units)	1000

**Cherokee Shale: 4545 (-1223)**



LS: gry--crm, mcr-fxln, sli Sh: gry-lt gry

LS: crm-gry, mcr-fxln, some mxln, sli fos

Sh: drk gry-gry, some silty, sli SS: gry-clr vf-fgrn, some LS: gry-crm, fxln, no show

Mostly Sh: A.A. with some SS: clr-gry, vf-fgrn, pos sli odor, no fluor, pos vvr show, some LS: A.A.

Sh: drk gry-gry

Sh: A.A. with some LS: crm-gry, mcrxln

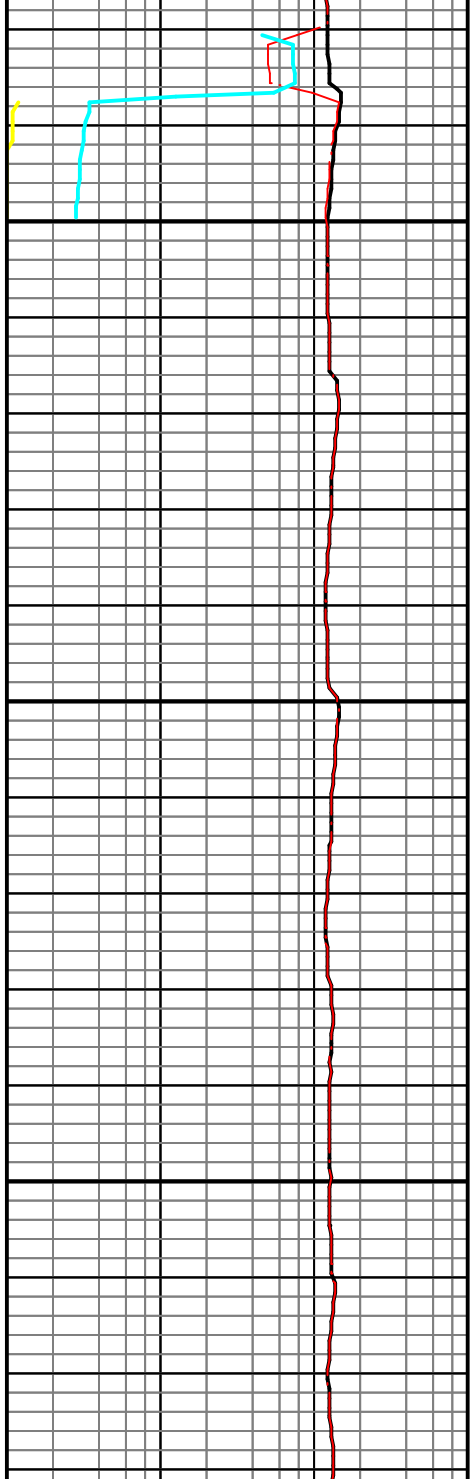
LS: crm, some gry, mcrxln

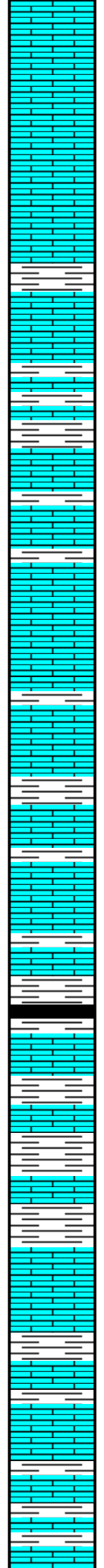
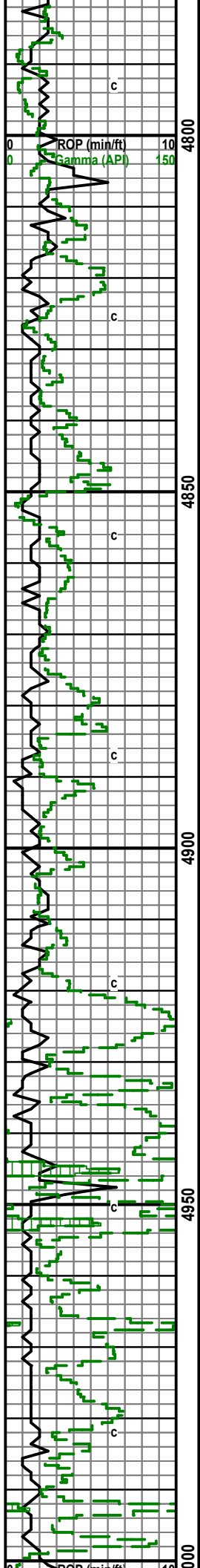
Sh: gry, sli lt-drk gry

Sh: A,A, with LS: crm-gry, mcrxln

LS: crm-gry mcrxln some fxln

	TG (Units)		
1	10	100	1000
1	10	C1 (units)	1000
1	10	C2 (units)	1000
1	10	C3 (units)	1000
1	10	C4 (units)	1000
1	10	C5 (units)	1000





LS: gry-crm, mcrxln, sli fos, few chalky

LS: A.A. with Sh: drk gry-gry

LS: crm-gry, sli tan, mcrxln, Sh: A.A.

LS: tan-crm, sli gry, mcr-fxln, Sh: drk gry-gry

LS: gry, sli crm-tan, mcr-fxln, Sh: drk gry-gry

LS: gry-crm, mcrxln, Sh: A.A.

LS: gry, sli crm, mcrxln, Sh: drk gry, some gry

LS: gry-crm, mcrxln, Sh: A.A.

LS and Sh A.A. with some blk

Sh: drk gry- blk-gry, LS: gry, sli crm, mcrxln

Sh: A.A. LS: A.A.

Sh: drk gry-gry, slty lt gry

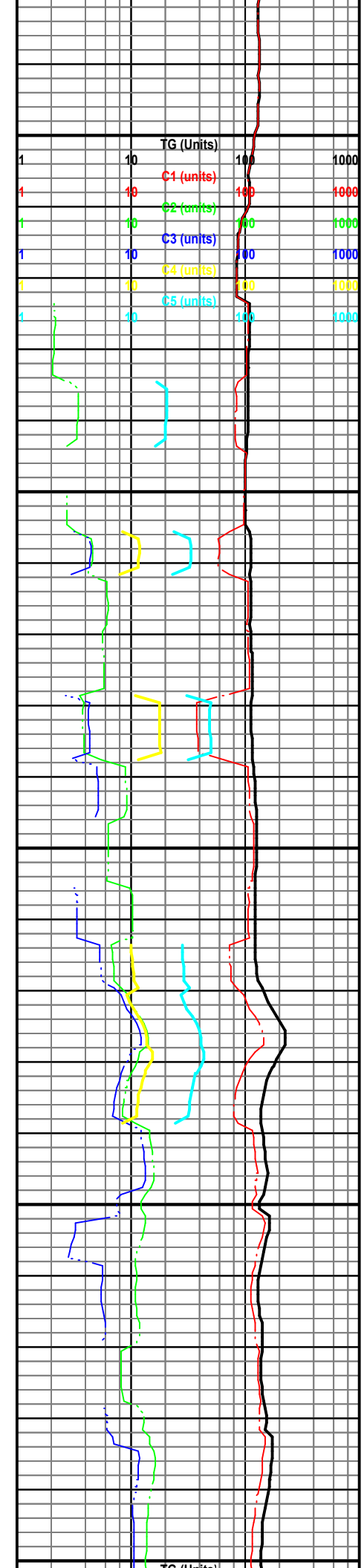
Sh: gry-drk gry, few slty, LS: gry-crm, mcr-fxln, sli cherty

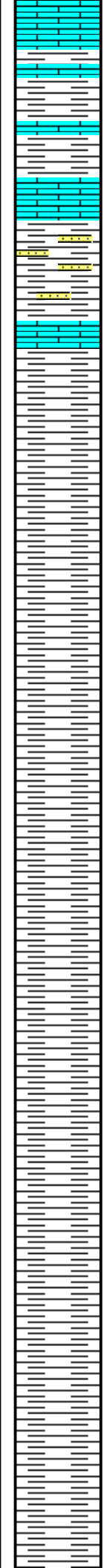
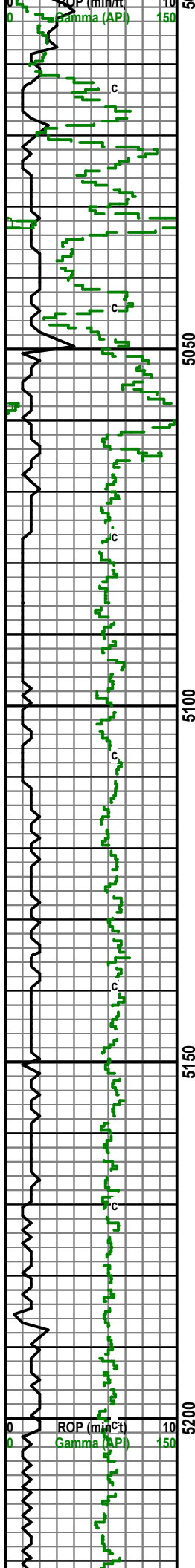
LS: gry-crm mcrxln, Sh: drk gry-gry

Sh: drk gry-blck, few LS: gry, sli crm, mcrxln

LS: gry-crm, mcrxln, Sh: drk gry-blck-gry

LS: gry-crm, mcrxln, Sh: drk gry-gry





LS: gry, sli crm, mcrxln, Sh: gry-drk gry

Sh: gry-drk gry, some LS: gry, mcrxln

Sh: gry-drk gry-lt gry, some SS: clear, sli gry, vfgrn, glauc, NS

Sh: A.A. with few SS: A.A.

Sh: gry-drk gry, some lt gry stly, some LS: crm-gry, mcrxln

Sh: gry-drk gry some blk, some lt gry stly

Sh: gry-drk gry-lt gry, some stly

Sh: gry-drk gry-lt gry

Sh: gry-drk gry

Sh: A.A.

Sh: gry-drk gry

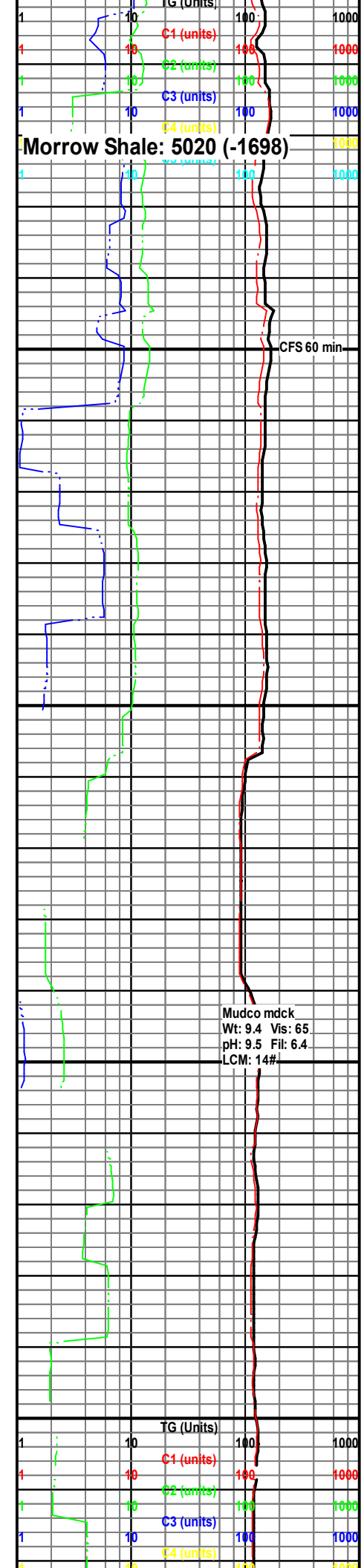
Sh: A.A.

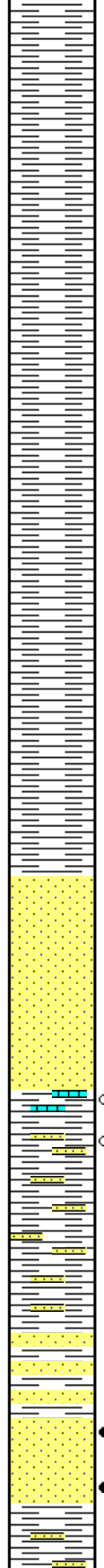
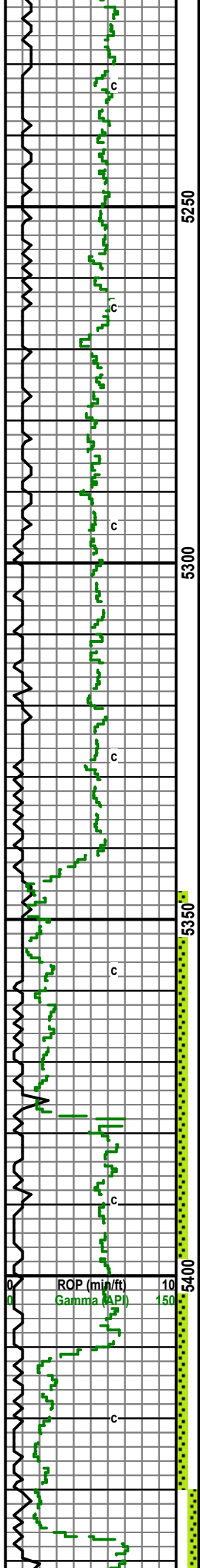
Sh: A.A.

Sh: A.A.

Sh: gry-drk gry-lt gry

Sh: A.A.





Sh: A.A.

Sh: A.A.

Sh: A.A.

Sh: A.A.

Sh: A.A.

Sh: A.A. with SS: clear, vf-fgrn, dense, glauc, subang, pr sort

Sh and SS: A.A. with some sand more limey

Sh: A.A. with SS: crm-clr, sli glauc, limy, LS: gry-crm, mcr-fxln some of the SS had a possible sli show gas, and there is a possible faint odor, no fluor, pr por

Sh: gry-drk gry, few SS cluster: clear, f-vfgrn, glauc, pr sort, sub ang

Sh: gry-drk gry, some SS: A.A.

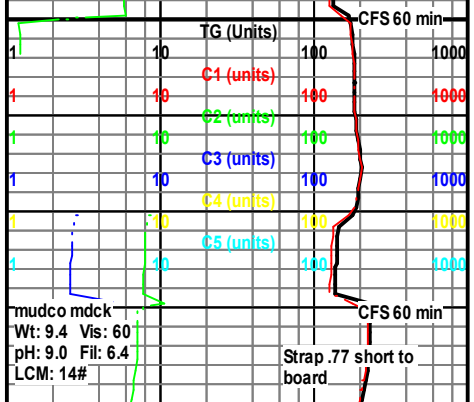
Sh: A.A. with SS: clr, f-mgrn, friable, sub ang, fr sort, sli odor, sli fluor, sli-fr SO

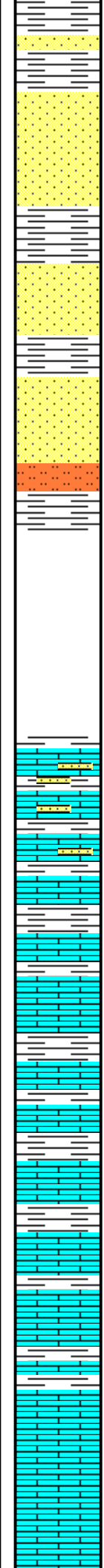
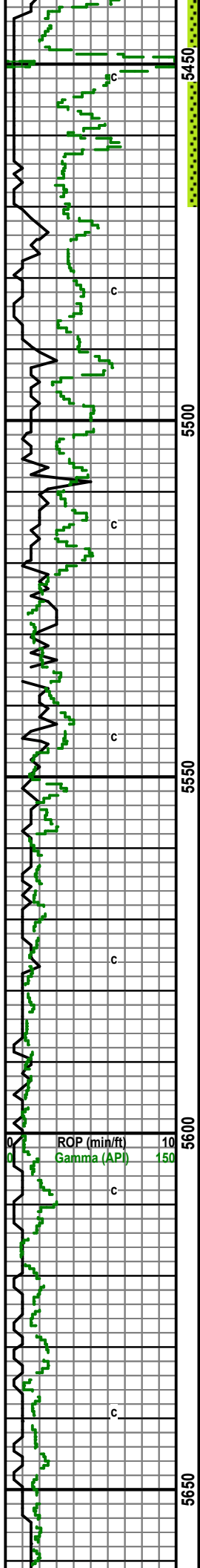
SS: clr, f-mgrn, some vfgrn, friable, sub ang, fr sort, sli odor, sli fluor, sli-fr SO, some gas bubbles, sli glauc

Sh: gry-drk gry, few pieces of SS: clr, vf-fgrn, NS

**Lower Morrow Marker: 5345 (-2023)**

DST #1 5346-5430  
 30-60-45-90  
 IF: 1/2" died, flushed no help  
 FF: 1" blow reduced to surface  
 Rec: 270' WCM, O spts on tool (15% W, 85%M) {  
 IFP: 97-97 ISIP: 1082  
 FFP: 113-146 FSIP: 1078





Sample 80% Sh: gry-drk gry, some SS: A.A. with some LS: crm, mcrxln, friable, sli cherty

SS: clear-opaque, vf-fgrn, sub rnd, pr-well sort, vr friable, sli odor, pr-fr SO, sli pp por, dull-bri yellow fluor, ques stain on some, ques dead oil

SS: clr, vf-fgrn, sub rnd, well srt, sub fri, sli odor, prSO, pp por, few pieces dull yellow fluor, ques stain,

SS: clr, vf-fgrn, few mgrn, sub rnd well srt, sub fri, sli odor, vpr-no SO, sli pp por, few pieces dull yellow fluor

SS: clr, vf-fgrn, sub rnd, well sort, sli glauc, no-sli odor, NSO, few dull yellow fluor, Sh: gry-drk gry, sample had some SitS: gry-reddish tan

No Samples

Sh: gry-drk gry-rd, some grn, few pieces SS: clr, vf-fgrn, sli glauc, some LS: crm-reddish brwn, mcrxln

Sh: gry-drk gry-rd, some stly, some sandy LS, crm-reddish brwn

Sh: A.A. with some LS: mcrxln, sandy, red-brwn, some grnish, some crm

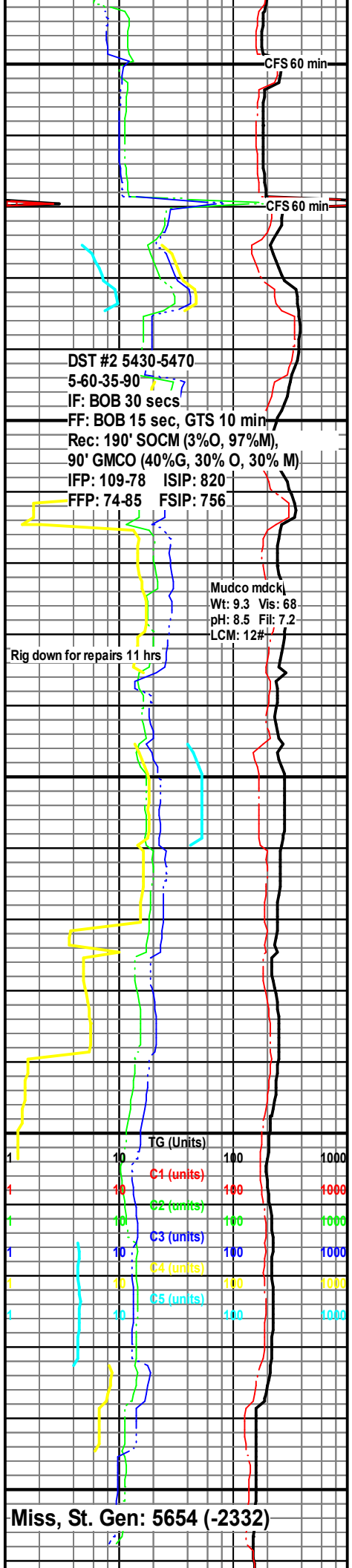
sample A.A.

sample A.A.

LS: reddish brwn-crm some gry, sandy, mcr-fxln, friable, sub dense with Sh: gry-drk gry

LS: crm, mcr-fxln, sli ool, sli chalky

LS: A.A.



DST #2 5430-5470  
 5-60-35-90  
 IF: BOB 30 secs  
 FF: BOB 15 sec, GTS 10 min  
 Rec: 190' SOCM (3%O, 97%M),  
 90' GMCO (40%G, 30% O, 30% M)  
 IFP: 109-78 ISIP: 820  
 FFP: 74-85 FSIP: 756

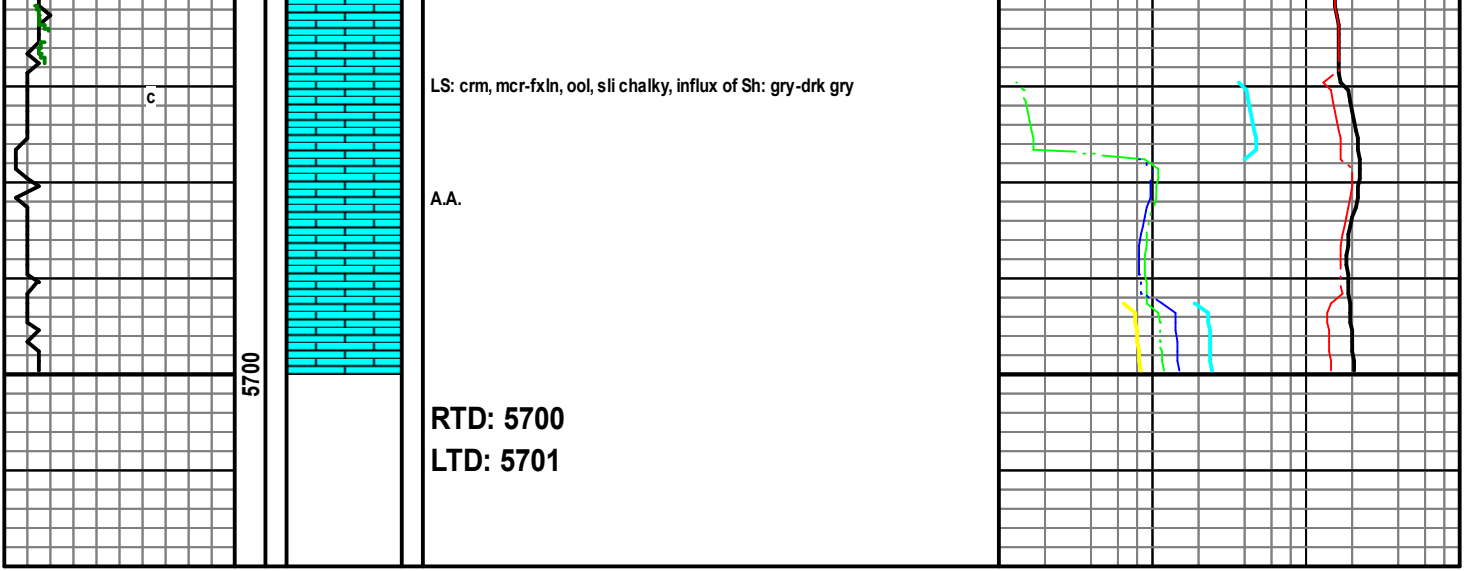
Mudco mdck  
 Wt: 9.3 Vis: 68  
 pH: 8.5 Fil: 7.2  
 LCM: 12#

Rig down for repairs 11 hrs

TG (Units)	C1 (units)	C2 (units)	C3 (units)	C4 (units)	C5 (units)
10	100	100	100	100	100
10	100	100	100	100	100
10	100	100	100	100	100
10	100	100	100	100	100
10	100	100	100	100	100
10	100	100	100	100	100

Miss, St. Gen: 5654 (-2332)







Liberal Yard #171 Phone 620-624-2277 - 1700 S. Country  
 Estate Road, Liberal KS 67901

**PRESSURE PUMPING**

**Job Log**

Customer:	Ken White Exploration		Cement Pump No.:	38117, 19919 24Hrs.		Operator TRK No.:	78938			
Address:			Ticket #:	1717 06778 A		Bulk TRK No.:	27808, 19883 Mario	19831, 14284 Margarito		
City, State, Zip:	Wichita Ks		Job Type:	Z42 - Cement Surface Casing						
Service District:	Liberal Ks		Well Type:	OIL						
Well Name and No.:	Arnold #1		Well Location:	6,29,40	County:	Stanton	State:	Ks		
Type of Cmt	Sacks	Additives			Truck Loaded On					
A-Con' Blend	300	3% CALCIUM CHLORIDE, 1/4# POLYFLAKE, .2% WCA1			27808, 19883 Mario		Front	Back		
A-Con' Blend	130	3% CALCIUM CHLORIDE, 1/4# POLYFLAKE, .2% WCA1			19831, 14284 Margarito		Front	Back		
Premium Plus Cement	50	2% CALCIUM CHLORIDE, 1/4# POLYFLAKE			19831, 14284 Margarito		Front	Back		
Premium Plus Cement	100	2% CALCIUM CHLORIDE, 1/4# POLYFLAKE			19831, 14284 Margarito		Front	Back		
<b>Lead/Tail:</b>	Weight #1 Gal.	Cu/Ft/sk	Water Requirements		CU. FT.	Man Hours / Personnel				
<b>Lead:</b>	11.4	2.95	18.1		1268.5	Man Hours:				
<b>Tail:</b>	12	2.37	14		118.5					
<b>Tail:</b>	14.8	1.34	6.33		134	# of Men on Job:	4			
Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure(PSI)		Description of Operation and Materials			
			T	C	Tubing	Casing				
2:45							On Location, Wait on Rig Wiper Trip, Circulating			
13:45							Run Casing & Float Equipment			
2:15 PM							Safety Meeting w/ B.E.S. Employees			
2:30 PM							Rig Up			
3:30 PM							Rig Up P.C. and Circulate			
15:45							Safety Meeting w/ Rig Crew			
4:00 PM							Pressure Test to 2500psi			
16:10	2.9	225.9 slurry				20	Pump 430sk 'A-Con' Blend			
17:27	2.9	21.1 slurry					Pump 50sk 12# Premium Plus			
17:37	2.9	23.8 slurry					Pump 100sk 14.8# Premium Plus Cement			
17:46							Shutdown / Drop Plug			
17:47							Displacement			
	2	6					Hole Went on Vacume			
	1.3	20								
		30					Begin Staging Cement Wait 15 Minutes at a Time			
	1	40								
	1	50				20	Pump Continuously			
19:10							Slow Mud Returns			
	1	60				60				
	1	70				60				
	1	80				150				
Size Hole	12 1/4"	Depth	1721'			TYPE				
Size & Wt. Csg.	8 5/8" 24#	Depth	New / Used			Packer	Depth			
tbg.		Depth				Retainer	Depth			
Top Plugs		Type				Perfs	CIBP			
Customer Signature: <i>X. JUAN TINOCO</i>					Basic Representative:		Daniel Beck			
					Basic Signature:		<i>Daniel Beck</i>			
					Date of Service:		12/28/2015			





Attached to ACO-1 Form for  
WHITE EXPLORATION, INC.  
ARNOLD #1  
490' FSL and 1515' FEL  
Section 6-29S-40W  
Stanton County, Kansas  
API# 15-187-21324-00-00

#### Surface Casing Cement

Cemented with 430 sacks of A-Con Blend Cement with 3% CC, ¼# polyflake and .2% WCA-1 and 150 Sacks of Premium Plus Cement with 2% CC and ¼# polyflake.

From surface, ran in 1" pipe along casing and stopped @ 125'. Mix and pump 200 sacks common cement with 2% CC and filled to top.

#### Production Casing Cement

Cemented Bottom Stage with 60 sacks of A-Con Blend Cement with 3% CC, and ¼# polyflake/sack followed by 200 sacks of AA2 Cement with 5% W-60, 10% salt, .6% C-15, ¼# defoamer and 5# gilsonite/sack.

Cemented top stage thru DV Tool @ 3216' with 315 sacks of A-Con Blend Cement with 3% CC and ¼# polyflake/sack and 100 sacks of Premium Plus Cement with 2% CC and ¼ polyflake/sack. Cement circulated to surface.

#### Acid Treatment

Acidize with 1000 gallons of 7-1/2% Mud Acid

#### Fracture Treatment

Frac with 14,000# of 16/30 Sand and 3,000# of 16/30 Resin Coated Sand with 18,500 gallons of crosslinked gel fluid.



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

white Exploration, Inc  
 1635 N Waterfront Pkwy  
 Ste 100  
 Wichita, Ks 67206  
 ATTN: Andy White

**6 29s 40w Stanton, ks**

**Arnold #1**

Job Ticket: 64633

**DST#: 1**

Test Start: 2016.01.02 @ 20:37:00

## GENERAL INFORMATION:

Formation: **Keys Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:09:45

Time Test Ended: 08:43:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Bradley Walter

Unit No: 69

**Interval: 5348.00 ft (KB) To 5430.00 ft (KB) (TVD)**

Reference Elevations: 3322.00 ft (KB)

Total Depth: 5430.00 ft (KB) (TVD)

3311.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8365**

**Inside**

Press @ Run Depth: 145.75 psig @ 5349.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.01.02

End Date:

2016.01.03

Last Calib.:

2016.01.03

Start Time: 20:37:05

End Time:

08:43:45

Time On Btm:

2016.01.03 @ 02:09:00

Time Off Btm:

2016.01.03 @ 05:55:45

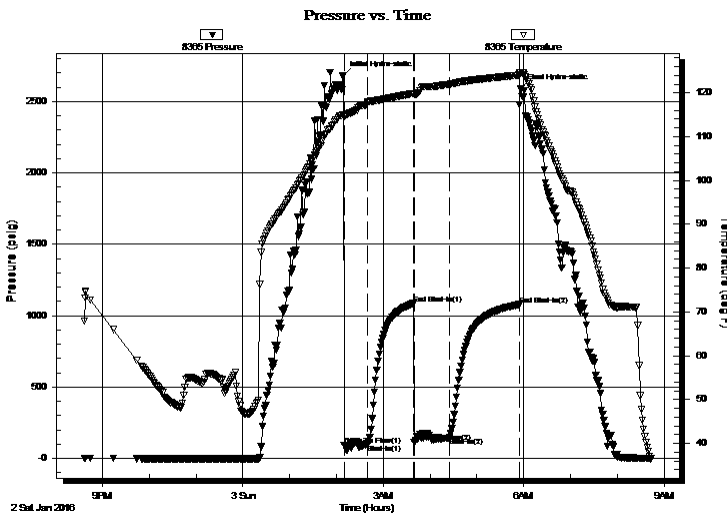
**TEST COMMENT:** IF: 1 1/2" blow , died @ 10 min, Flushed tool, blow died.

IS: No return.

FF: 1" blow , receded to surface.

FS: No return.

## PRESSURE SUMMARY



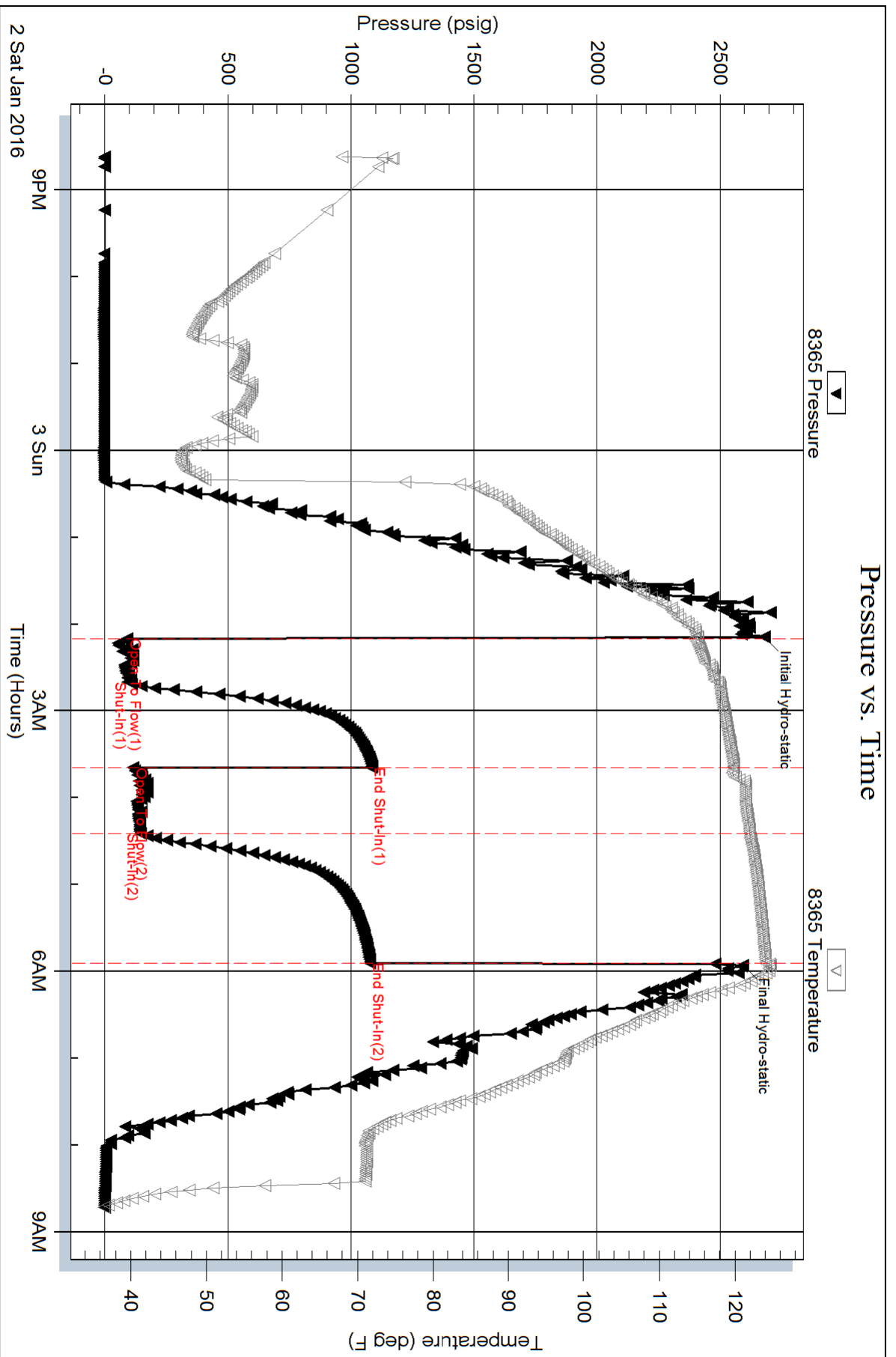
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2681.50	115.10	Initial Hydro-static
1	91.53	114.63	Open To Flow (1)
32	96.98	117.88	Shut-In(1)
90	1082.18	119.88	End Shut-In(1)
91	115.01	119.72	Open To Flow (2)
136	145.75	121.95	Shut-In(2)
226	1077.66	124.07	End Shut-In(2)
227	2592.40	124.68	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
270.00	w cm 15w 85m (oil spots in tool)	1.33

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

white Exploration, Inc  
1635 N Waterfront Pkwy  
Ste 100  
Wichita, Ks 67206  
ATTN: Andy White

**6 29s 40w Stanton, ks**

**Arnold #1**

Job Ticket: 63635

**DST#: 2**

Test Start: 2015.12.15 @ 18:30:00

## GENERAL INFORMATION:

Formation: **Key Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 02:13:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Bradley Walter

Unit No: 69

**Interval: 5430.00 ft (KB) To 5470.00 ft (KB) (TVD)**

Reference Elevations: 3322.00 ft (KB)

Total Depth: 5470.00 ft (KB) (TVD)

3311.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8522 Outside**

Press @ RunDepth: 756.13 psig @ 5431.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.01.03

End Date:

2016.01.04

Last Calib.:

2016.01.04

Start Time:

16:27:05

End Time:

02:02:00

Time On Btm:

2016.01.03 @ 20:14:15

Time Off Btm:

2016.01.03 @ 23:25:15

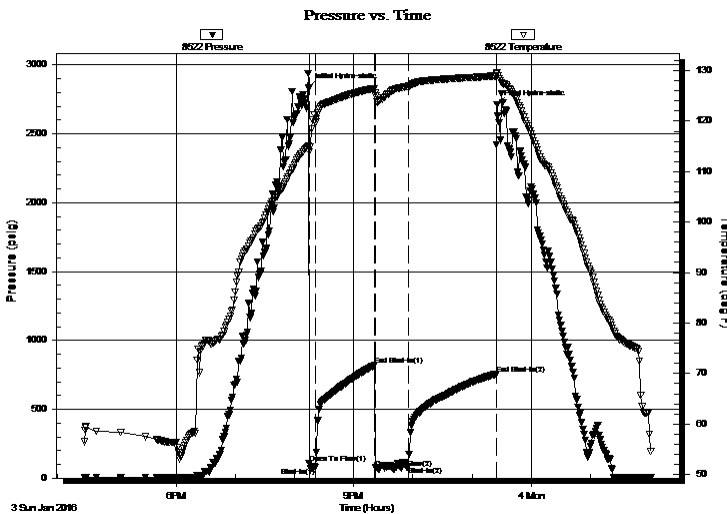
TEST COMMENT: IF: BOB @ 30 sec.

IS: No return.

FF: BOB @ 15 sec. Gas to surface @ 10 minutes. oil mist @ 35 min.

FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2832.15	115.17	Initial Hydro-static
1	108.65	113.86	Open To Flow (1)
8	77.93	119.78	Shut-In(1)
67	819.54	126.47	End Shut-In(1)
68	73.50	125.54	Open To Flow (2)
101	84.50	126.89	Shut-In(2)
190	756.13	128.96	End Shut-In(2)
191	2710.48	129.64	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	gmco 40g 30m 30o	0.44
190.00	socm 2o 98m	0.93
0.00	gas to surface	0.00

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

white Exploration, Inc

**6 29s 40w Stanton, ks**

1635 N Waterfront Pkwy  
Ste 100  
Wichita, Ks 67206  
ATTN: Andy White

**Arnold #1**

Job Ticket: 63635

**DST#: 2**

Test Start: 2015.12.15 @ 18:30:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	gmco 40g 30m 30o	0.443
190.00	socm 2o 98m	0.934
0.00	gas to surface	0.000

Total Length: 280.00 ft      Total Volume: 1.377 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gas to surface @ 10 minutes second open.

