



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1070407
OIL & GAS CONSERVATION DIVISION

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 # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-
Sec. _____ Twp. _____ S. R. _____ East West

_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-
Feet from North / South Line of Section

_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-_____-
Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

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
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1070407

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. 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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

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				

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 <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



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

Mark Sievers, Chairman
Ward Loyd, Commissioner
Thomas E. Wright, Commissioner

Sam Brownback, Governor

December 21, 2011

DEAN PATTISSON
Woolsey Operating Company, LLC
125 N MARKET STE 1000
WICHITA, KS 67202-1729

Re: ACO1
API 15-007-23751-00-00
SUMMERS 4
SW/4 Sec.17-34S-11W
Barber 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,
DEAN PATTISSON

ALLIED CEMENTING CO., LLC. 040769

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Mch. Woodsfel

DATE <u>8-23-11</u>	SEC. <u>17</u>	TWP. <u>34s</u>	RANGE <u>11w</u>	CALLED OUT	ON LOCATION	JOB START <u>7:30pm</u>	JOB FINISH <u>8:00pm</u>
LEASE <u>Summers</u>	WELL# <u>4</u>	LOCATION <u>281 + Scott Canyon Rd 2E,</u>			COUNTY <u>Barber</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)		<u>1 south, westgate</u>					

CONTRACTOR H-2 R₁₃ #3
 TYPE OF JOB Surface
 HOLE SIZE 14 3/4 T.D. 225'
 CASING SIZE 10 3/4 DEPTH 223'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX 300 psi MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG. 20'
 PERFS.

OWNER Woolsey Operating
 CEMENT
 AMOUNT ORDERED 240sk class A + 3% out 2% gel

DISPLACEMENT 19 1/2 bbls @ 20'
 EQUIPMENT

COMMON	<u>A 240 sk</u>	@ <u>16.25</u>	<u>3900.00</u>
POZMIX		@	
GEL	<u>5 sk</u>	@ <u>21.25</u>	<u>106.25</u>
CHLORIDE	<u>9 sk</u>	@ <u>58.20</u>	<u>523.80</u>
ASC		@	

WELL FILE

Regulatory Correspondence	@	
Drig Comp	@	
Tests / Meters	@	
	@	
	@	
	@	

PUMP TRUCK CEMENTER Matt Thoresch
 # 369/265 HELPER Jason Thoresch
 BULK TRUCK
 # 363/290 DRIVER Eddie / Adam
 BULK TRUCK
 # DRIVER

HANDLING	<u>254</u>	@ <u>2.25</u>	<u>571.50</u>
MILEAGE	<u>254/15/11</u>		<u>419.10</u>
			TOTAL <u>5520.65</u>

REMARKS:

Bulk disp with truck
pump 3 bbls @ 20' ahead
MTR 240 sk cement
disp. 19 1/2 bbls @ 20' shut in
cement disp. @ 20' late

SERVICE

DEPTH OF JOB	<u>223'</u>		
PUMP TRUCK CHARGE			<u>1125.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>30</u>	@ <u>7.00</u>	<u>210.00</u>
MANIFOLD		@	
<u>light vehicle</u>	<u>30</u>	@ <u>4.00</u>	<u>120.00</u>
			TOTAL <u>1455.00</u>

CHARGE TO: Woolsey Operating
 STREET _____
 CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	

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 MARK TAARP
 SIGNATURE M. Taarp

SALES TAX (If Any)	
TOTAL CHARGES	<u>6975.65</u>
DISCOUNT	<u>20%</u> IF PAID IN 30 DAYS
	<u>Net 5580.52</u>

ALLIED CEMENTING CO., LLC. 037725

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:
Medalsfeld

DATE <u>8-31-11</u>	SEC <u>17</u>	TWP <u>34s</u>	RANGE <u>11w</u>	CALLED OUT	ON LOCATION	JOB START <u>11:00 am</u>	JOB FINISH <u>12:00 pm</u>
LEASE <u>Summer</u>		WELL # <u>4</u>	LOCATION <u>281 + Scott Canyon Rd</u>		COUNTY <u>Barber</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)			<u>2 East, 1 South, west into</u>				

CONTRACTOR H-2 RB #3
 TYPE OF JOB Production
 HOLE SIZE 2 7/8 T.D. 5220'
 CASING SIZE 5 1/2 DEPTH 5070'
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX 1700 ps MINIMUM
 MEAS. LINE SHOE JOINT 42'
 CEMENT LEFT IN CSG. 42'
 PERFS.
 DISPLACEMENT 121 bbls 2 3/4 cu

OWNER wooley operating
 CEMENT
 AMOUNT ORDERED 75 sk 60:40:40 gel
150 sk class H 6 1/2 gypsum + 10% salt
+ 6 1/2 sk bleed + .8% FI-160 + 2 1/2 sk seal

EQUIPMENT
 PUMP TRUCK CEMENTER Mark Thamesch
 # 364/265 HELPER Jason Thamesch
 BULK TRUCK
 # 364 DRIVER Adam
 BULK TRUCK
 # DRIVER

COMMON <u>Class A 45 sk</u>	@ <u>16.25</u>	<u>731.25</u>
POZMIX <u>30 sk</u>	@ <u>8.50</u>	<u>255.00</u>
GEL <u>3 sk</u>	@ <u>21.25</u>	<u>63.75</u>
CHLORIDE	@	
ASC	@	
<u>Class H 150 sk</u>	@ <u>19.25</u>	<u>2887.50</u>
<u>Gyp seal 14 sk</u>	@ <u>34.20</u>	<u>478.80</u>
<u>Salt 17 sk</u>	@ <u>23.95</u>	<u>407.15</u>
<u>Ko seal 900 #</u>	@ <u>8.9</u>	<u>801.00</u>
<u>FI-160 112 #</u>	@ <u>17.20</u>	<u>1926.40</u>
<u>Flo seal 37 #</u>	@ <u>2.70</u>	<u>99.90</u>
<u>Clapro 12 Gals</u>	@ <u>31.25</u>	<u>375.00</u>
	@	
HANDLING <u>276</u>	@ <u>2.25</u>	<u>621.00</u>
MILEAGE <u>276/15/11</u>		<u>455.40</u>
		TOTAL <u>9102.15</u>

REMARKS:
Back core with rig pump ball through
mix 25 sk for Rot hole
mix 50 sk scavenger cement
mix 150 sk cement shut down
wash pump + lines Release plug
disp. 121 bbls 2 3/4 cu
bump plug (1000 ps) to (1700 ps)
plug held.

SERVICE
 DEPTH OF JOB 5070'
 PUMP TRUCK CHARGE 2695.00
 EXTRA FOOTAGE @
 MILEAGE 30 @ 7.00 210.00
 MANIFOLD Head Rental @ 200.00
Light Vehicle @ 4.00 120.00
 @
 @
 TOTAL 3225.00

CHARGE TO: wooley operating
 STREET
 CITY WELL FILE STATE FILE ZIP

OCT 06 2011
 5/2 PLUG & FLOAT EQUIPMENT
1-AFU wide shse 349.00
1-Latch down plug Assy @ 277.00
11-turbo lizers @ 80.00 880.00
20-scavengers @ 76.00 1520.00
 @
 @
 TOTAL 3026.00

Regulatory Correspondence
 Drg / Comp Workovers
 Tests / Meters Operations
 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.

SALES TAX (If Any)
 TOTAL CHARGES 15,353.15
 DISCOUNT 20% IF PAID IN 30 DAYS
NET 12,282.52

PRINTED NAME MIKE THARD
 SIGNATURE [Signature]

Covey

The Well Watchers

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

Well Name: **SUMMERS #4**
Location: **Section 17 - Township 34 South - Range 11 West**
Licence Number: **15-007-23,751. 0000** Region: **Barber County, KS.**
Spud Date: **23 August 2011** Drilling Completed: **30 August 2011**
Surface Coordinates: **1,160' FSL & 330' FWL**
(NW SW SW)

Bottom Hole
Coordinates:
Ground Elevation (ft): **1,409'** K.B. Elevation (ft): **1,418'**
Logged Interval (ft): **4,400'** To: **5,220'** Total Depth (ft): **5,220'**
Formation: **Kansas City Group -----> Wilcox Sandstone**
Type of Drilling Fluid: **Chemical; Low Solids (non-dispersed)**

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: **WOOLSEY OPERATING COMPANY, LLC**
Address: **125 North Water, Suite 1000** Geologist:
Wichita, Kansas 67202 **Marc Summervill**
(316) 267-4379

GEOLOGIST

Name: **Curtis Covey**
Company: **COVEY - The Well Watchers**
Address: **6548 Bedford Circle**
Derby, Kansas 67037 Office: **(316) 776 - 0367** Cell: **(316) 258-9976**

FORMATION TOPS

Formation	Rotary Sample Depth (Datum)	E-log Depth (Datum)
Stark SH	4,395' (-2,977')	4,394' (-2,976')
Hushpuckney SH	4,422' (-3,004')	4,422' (-3,004')
B / KC	4,469' (-3,051')	4,468' (-3,050')
Pawnee LS	4,560' (-3,142')	4,560' (-3,142')
Cherokee Gp	4,613' (-3,195')	4,614' (-3,196')
Mississippian Chert	4,638' (-3,220')	4,638' (-3,220')
Kinderhook Sh	4,870' (-3,452')	4,869' (-3,451')
Woodford Sh	4,950' (-3,532')	4,950' (-3,532')
Viola	5,002' (-3,584')	5,006' (-3,588')
Wilcox SS	5,186' (-3,768')	5,186' (-3,768')

RTD: 5,220' LTD: 5,222' ATD: 5,222'

E-log is 0' - 2' low to rotary sample depth.

Loggers:
Superior Well Services
Hays, Kansas

14-3/4" Hole

7-7/8" Hole

7-7/8" Hole

23 August --- Spud @ 3pm.
 Drill to 225'.
 Run 10-3/4" casing.
 Set casing @ 223'.
 Cemented w/ 240 sx Class A
 (2% Gel + 3% CC). [Allied]
 Cement did circulate.
 Plug down @ 7pm.
 WOC.

24 Aug --- Under surface casing @ 4am.
 7am @ 445'.
 25 --- 7am @ 2,041'.
 26 --- 7am @ 2,860'.
 27 --- Displaced Mud @ 3,400'.
 7am @ 3,650'.
 28 --- 7am @ 4,180'.

29 Aug --- 7am @ 4,630'.
 30 --- 7am @ 4,991'.
 RTD (5,220') @ 9:20pm.
 31 --- Logging truck broke
 down (fan belt) enroute.
 Replacement truck arrived.
 E-Log.
 [Superior Well Services]

HOLE DEVIATION (225' - 5,220')

DEPTH / TVD	INCLINATION	AZIMUTH	NORTH	SOUTH	EAST	WEST	DOGLEG deg/100'
225' /	--- 1.25						(Surface Casing)
1,227' /	--- 0.75						
1,761' /	--- 0.50						
2,262' /	--- 1.00						
2,763' /	--- 0.50						
3,264' /	--- 0.50						
3,640' /	--- 1.00						
3,798' /	--- 0.50						
4,049' /	--- 0.50						
4,143' /	--- 0.50						
4,707' /	--- 0.50						
5,220' /	--- 1.50						(RTD)

CONTRACTOR

H2 Drilling --- Rig #3

10,500 E. Berkeley Square Parkway, Suite 1000
 Wichita, Kansas 67230
 Office: (316) 636-2090

Rig #3 - (620) 388-1903

Toolpusher: James Schultz - (620) 290-5912

Pump: EMSCO D-375
 6" x 14" @ 60 SPM.
 1,200 PSI @ Standpipe.

WOB 35M (39.9M corrected) @ 80 RPM
 while drilling main hole.

Drill Collars: 6.25" x 2.25" --- 559'. (91#/ft)
 Dry Collar Weight: 50,864#
 (@ 9.2 ppg / Buoyancy Factor 0.860)
 Buoyancy Collar Weight: 43,747#
 Design Factor: 15%, therefore:
 available WOB is 37,185#
 Drill Pipe: 4-1/2"XH. (16.6#/ft - new)

BIT RECORD

DATE	SIZE	TYPE	JET SIZE	DEPTH IN / OUT	CUM. FT.	HOURS	ROP
23 Aug 2011	14-3/4"	VAREL L-117	14 - 15 - 14	0' / 225'	225'	3.00	59.5
24 Aug 2011	7-7/8"	VAREL Hp-21	14 - 15 - 14	225' / 5,220'	4,995'	144.00	34.7

ROCK TYPES

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

LITHOLOGY

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Granite wash
- Congl
- Dol lmst
- Silty dol

- Calc dol
- Dol 2
- Dol
- Gyp
- Igne
- Lmst 2
- Lmst
- Meta
- Mrlst
- Salt
- Shale 3
- Shale 3
- Shale
- Shcol
- Shgy
- Sltst
- Ss
- Till
- Ss 2

MINERAL

- Mica
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breccfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl

- Mica
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breccfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl

- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Copper
- Ooliticastic
- Ooloid
- Oolite
- Sucrosic
- Dark specks

- Arg
 - Bent
 - Coal
 - Dol
 - Gyp
 - Ls
 - Mrst
 - Calc dol
 - Sltstrg
 - Ssstrg
 - Chalk
 - New symbol
- SHOW**
- Oil
 - Spotted
 - Ques
 - Dead
 - Gas
 - Oil/gas
 - Bed contact

STRINGER

- Calc dol
- Silty dol
- Anhy

ACCESSORIES

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Spore
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro

- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

MINERAL

- Mica
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breccfrag

- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos

- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Copper
- Ooliticastic
- Ooloid
- Oolite
- Sucrosic
- Dark specks

STRINGER

- Calc dol

- Silty dol
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Calc dol
- Sltstrg
- Ssstrg
- Chalk
- New symbol

OTHER SYMBOLS

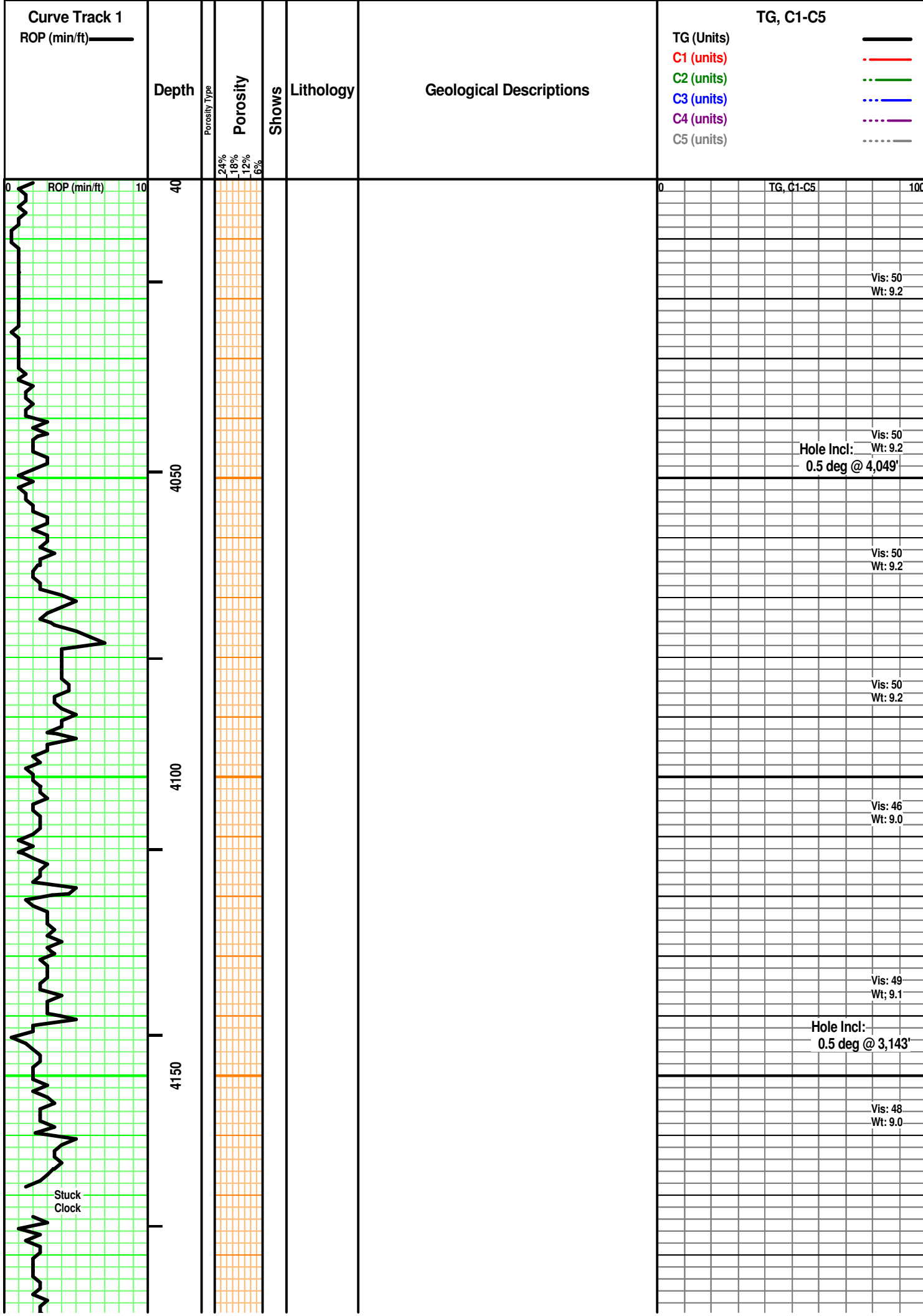
ACTIVITY

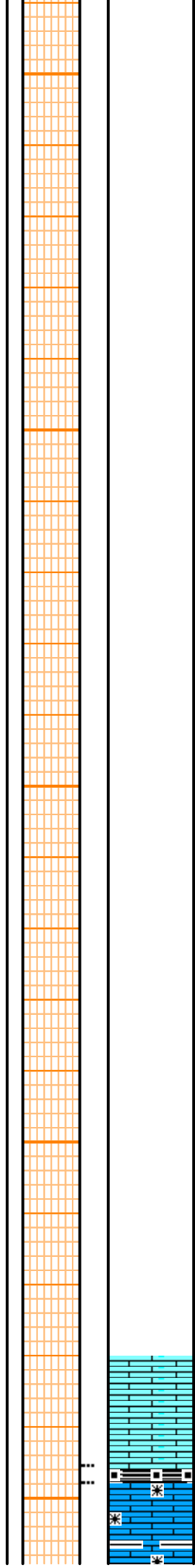
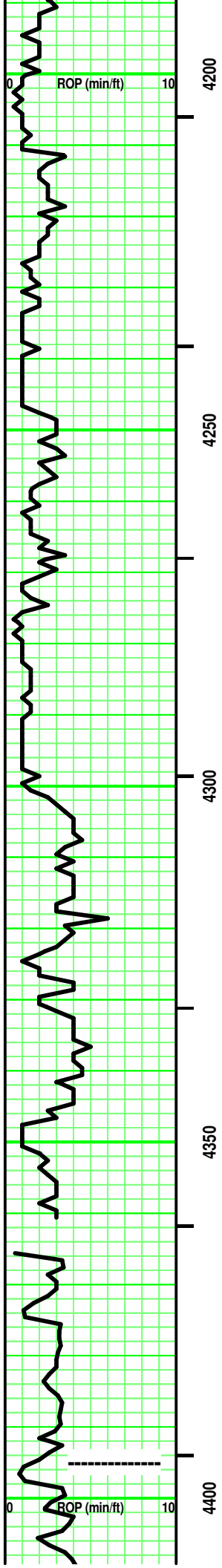
- Lost circluation
- Circulate for same

- Circulate for same
- Rtd
- Trip

- Connection
- Rft

- Sidewall

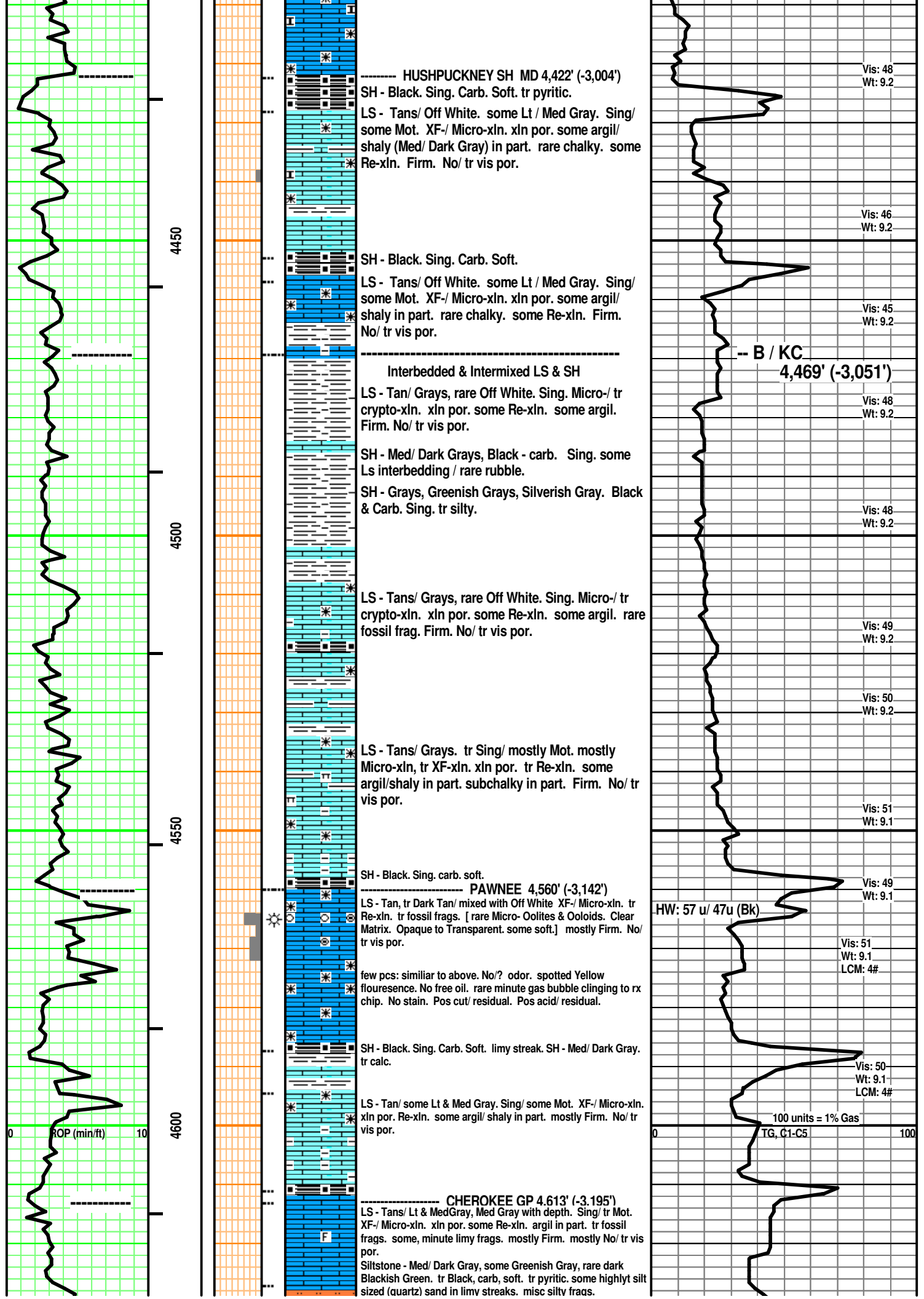


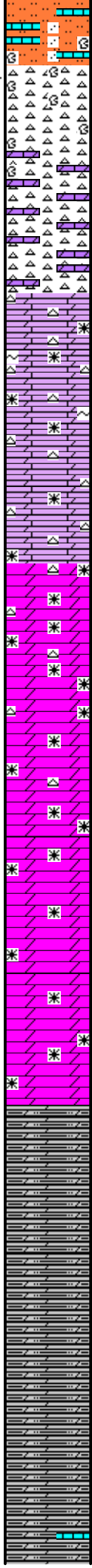
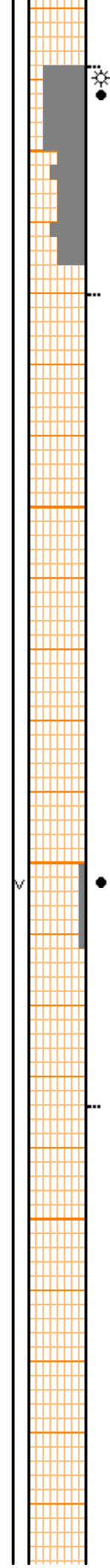
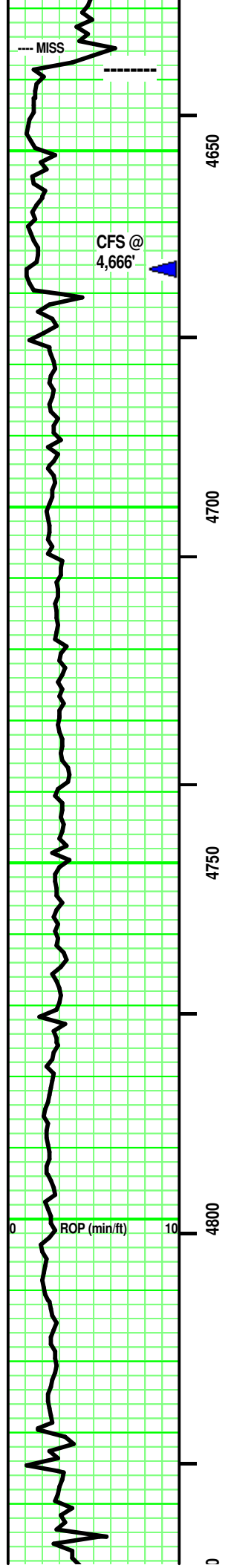


STARK SH 4,395' (-2,977')

SH - Black. Sing. Carb. Soft.
 LS - Tan/ Off White. Sing/ tr Mot. Micro-/ XF-xln.
 xln por. tr subchalky. some Re-xln. rare fossil
 frag. some argil/shale in part. Firm. No/ tr vis por.

0	TG, C1-C5	100
		Vis: 46 Wt: 9.0
		Vis: 48 Wt: 9.1
DISPLACED MUD @ 3,400'		
		Vis: 46 Wt: 9.1
<p>Dry Wt of Collars: 50,864# [559' x 91#/ft = 50,864#] Drill Collars: 6-1/4" x 2-1/4" Buoyancy Wt of Collars: 43,747# [50,864# x .860 (9.2ppg) = 43,747#] Available WOB: 37,185# [43,747# x .85 = 37,185#]</p>		
		Vis: 46 Wt: 9.2
<p>Weight Indicator Check @ 4,458'</p> <p>DC - (See Above) = 50,864# DP - 4,416' x 16.6#/ft = 50,869# Total Dry Wt = 124,175#</p>		
		Vis: 47 Wt: 9.1
<p>Buoyancy Wt = 106,791# [124,175# x .860 (8.6ppg) = 106,791#]</p> <p>Buoyancy Wt + Surface Equipment = String Weight [106,791# + 10,000# = 116,791#] String Weight = 116,791#</p>		
		Vis: 47 Wt: 9.2
<p>Weight Indicator shows 90M; therefore, weight indicator is 13% light.</p>		
		Vis: 48 Wt: 9.1
<p>Contractor reports running 35M# on bit on WI is actually 39,600# WOB. -vs- Calculated available 37,185# WOB</p>		
		4,380' - Vis: 48 Wt: 9.3 Wtr Loss: 10.0 PV: 10 YP: 15 Gels: 12/45 pH: 11.0 LCM: 0 Cl (4,000) Ca (80) Solids: 6.9%
		Vis: 46 Wt: 9.1
<p>100 units = 1% Gas</p>		
0	TG, C1-C5	100
		Vis: 48 Wt: 9.2





Rubble

MISS CHERT 4,638' (-3,220')

CHERT - White/ Tan/ some Slivery Gray, Bluish Gray. Mot/Mixed. Opaque to semitransparent. some misc fossil frags/hash inclusions. rare, minute pyrite. Limy dol or dol frags & streaks in part with depth. [Carbonate frags are A/ some SA, M/F sized, mostly Tans/ rare Pale Lt Gray.] Tr/ fair/ Good vis por

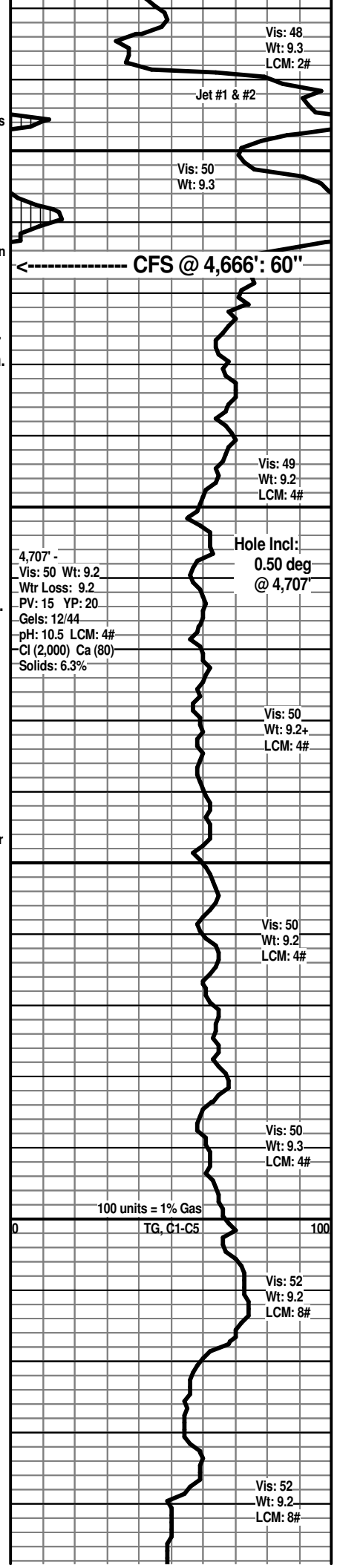
Faint to Good odor. some Spotted/ some Uniform Yellow fluorescence. rare free Med Brown oil/ few minute gas bubble. Spotted/ some Uniform Tripolitic with some Spotted/ uniform Lt/ Med Brown stain. Stain as above (30% - 80%) . Weak Pos/ Pos cut & residual. Weak Pos/ Pos acid & residual. Oil spots on wash water.

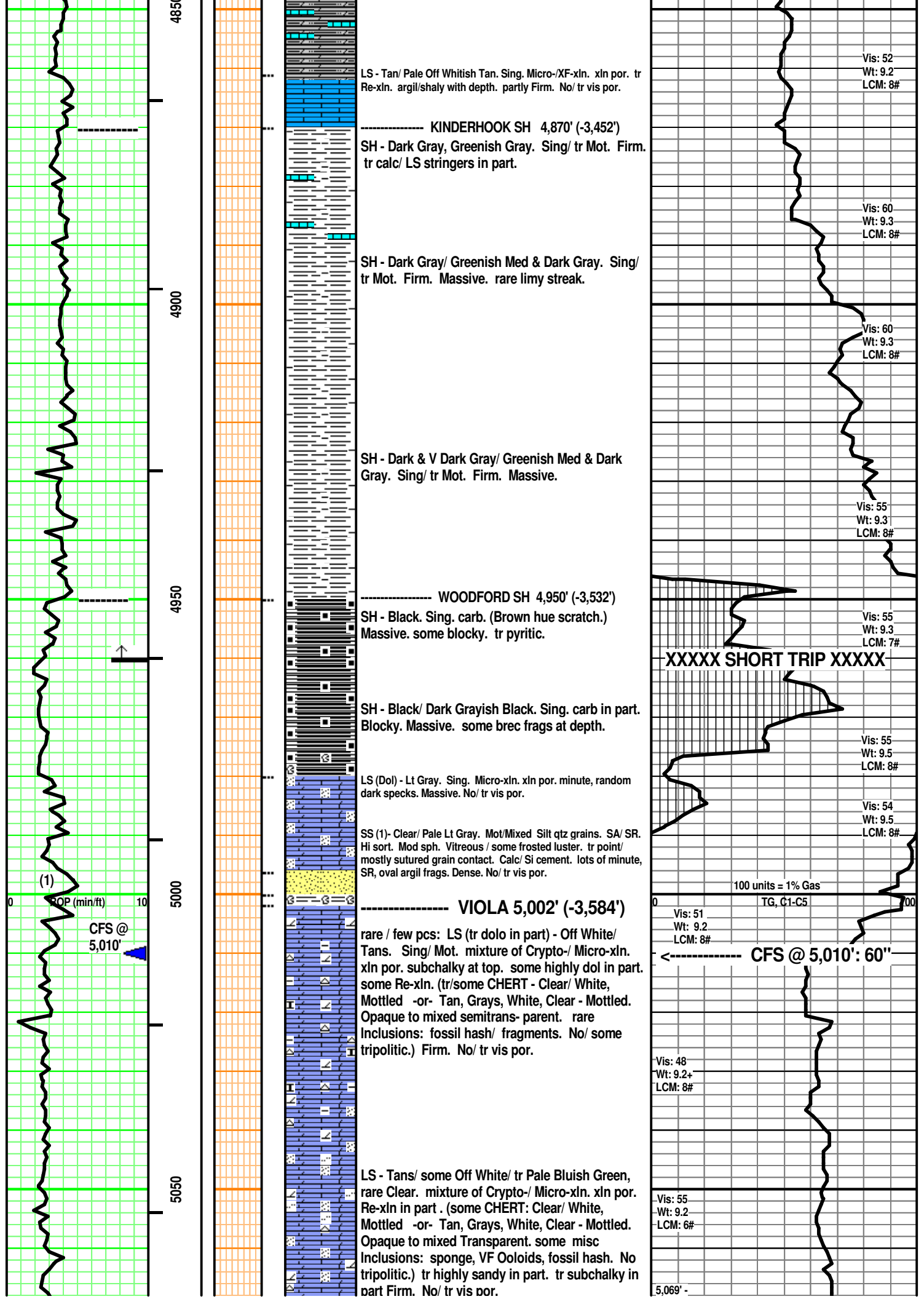
DOL (Calc) - Tans / tr Lt Gray. tr Tannish Gray. rare, minute Pale Green. Sing. Re-xln. xln & tr sucrosic por. tr Silty in part. [tr CHERT - similiar to immediately above. Add: tr glauc grains/ Green. similiar show in part.] Add: tr free, Dark Brown oil. Massive. some No/ mostly tr vis por.

DOL (no/ tr calc) - Tans/ some Lt & Med Gray. Sing. XF-/ Micro-xln. xln & sucrosic por. some Re-xln. [tr CHERT - Clear/ Tan/ Grays. Mixed/ Mot. Opaque to semi-transparent - mixed. tripolitic in part. tr Inclusions.] silty in part. Massive. tr vis por.

Add: tr Dolomite (tr calc) - Tan. Sing. Micro-Re-xln. sucrosic/ tr vuggy por. Firm. Good vis por. No odor. Uniform Yellow fluorescence in vuggy por. No free oil or gas. "Wet" oil face in vuggy por. Spotted Med Brown stain around vuggy por/ uniform Med Brown stain in vuggy por. Weak/ Pos cut & residual. Weak/ Pos acid & residual.

DOL - Med/ some Dark Gray. tr Lt Gray. - Sing. Micro-Re-xln. xln por. highly Silty. rare misc, minute inclusion. Massive. No/ tr vis por.





LS - Tan/ Pale Off Whitish Tan. Sing. Micro-/XF-xln. xln por. tr Re-xln. argil/shaly with depth. partly Firm. No/ tr vis por.

Vis: 52
Wt: 9.2
LCM: 8#

----- KINDERHOOK SH 4,870' (-3,452')
SH - Dark Gray, Greenish Gray. Sing/ tr Mot. Firm. tr calc/ LS stringers in part.

Vis: 60
Wt: 9.3
LCM: 8#

SH - Dark Gray/ Greenish Med & Dark Gray. Sing/ tr Mot. Firm. Massive. rare limy streak.

Vis: 60
Wt: 9.3
LCM: 8#

SH - Dark & V Dark Gray/ Greenish Med & Dark Gray. Sing/ tr Mot. Firm. Massive.

Vis: 55
Wt: 9.3
LCM: 8#

----- WOODFORD SH 4,950' (-3,532')
SH - Black. Sing. carb. (Brown hue scratch.) Massive. some blocky. tr pyritic.

Vis: 55
Wt: 9.3
LCM: 7#

XXXXX SHORT TRIP XXXXX

SH - Black/ Dark Grayish Black. Sing. carb in part. Blocky. Massive. some brec frags at depth.

Vis: 55
Wt: 9.5
LCM: 8#

LS (Dol) - Lt Gray. Sing. Micro-xln. xln por. minute, random dark specks. Massive. No/ tr vis por.

Vis: 54
Wt: 9.5
LCM: 8#

SS (1)- Clear/ Pale Lt Gray. Mot/Mixed Silt qtz grains. SA/ SR. Hi sort. Mod sph. Vitreous / some frosted luster. tr point/ mostly sutured grain contact. Calc/ Si cement. lots of minute, SR, oval argil frags. Dense. No/ tr vis por.

100 units = 1% Gas
TG, C1-C5

----- VIOLA 5,002' (-3,584')
rare / few pcs: LS (tr dolo in part) - Off White/ Tans. Sing/ Mot. mixture of Crypto-/ Micro-xln. xln por. subchaly at top. some highly dol in part. some Re-xln. (tr/some CHERT - Clear/ White, Mottled -or- Tan, Grays, White, Clear - Mottled. Opaque to mixed semitrans- parent. rare Inclusions: fossil hash/ fragments. No/ some tripolitic.) Firm. No/ tr vis por.

Vis: 51
Wt: 9.2
LCM: 8#

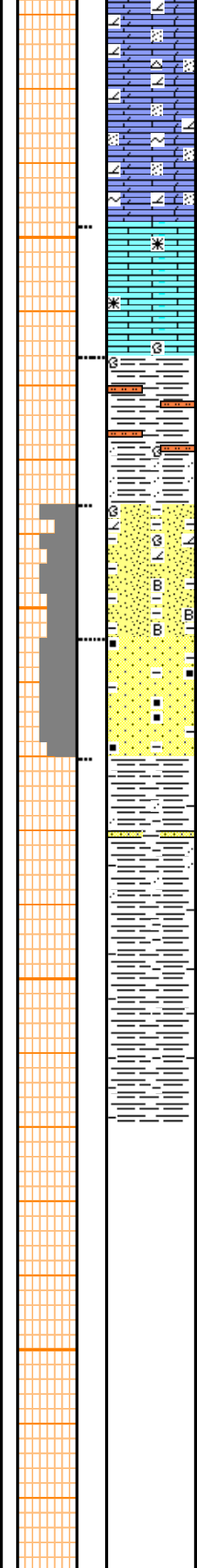
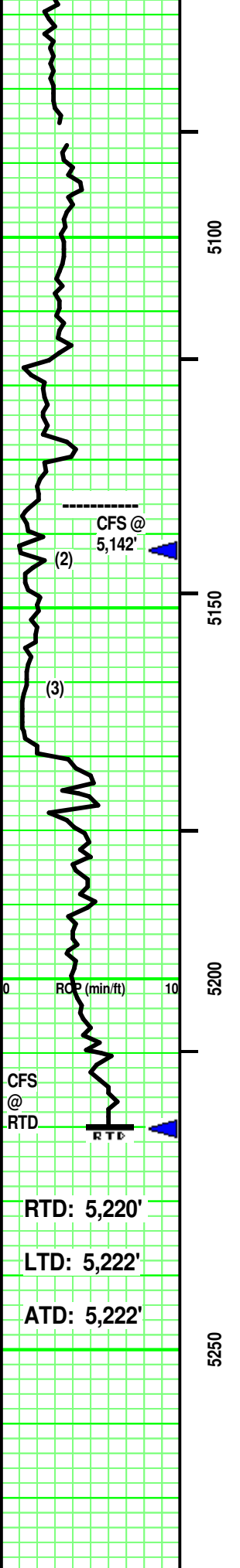
CFS @ 5,010': 60"

LS - Tans/ some Off White/ tr Pale Bluish Green, rare Clear. mixture of Crypto-/ Micro-xln. xln por. Re-xln in part. (some CHERT: Clear/ White, Mottled -or- Tan, Grays, White, Clear - Mottled. Opaque to mixed Transparent. some misc Inclusions: sponge, VF Ooloids, fossil hash. No tripolitic.) tr highly sandy in part. tr subchaly in part Firm. No/ tr vis por.

Vis: 48
Wt: 9.2+
LCM: 8#

Vis: 55
Wt: 9.2
LCM: 6#

5,069' -



LS - Tans/ tr Lt Gray. Sing. Micro-xln. xln por. rare Re-xlnt. Massive. some brec frags at depth. No/ tr vis por

Interbedded SH, Siltstone & SS
 SH - Green/ Greenish Gray/ Blue Green. Sing. Firm. Massive. tr ductile. tr sandy as below.
 Siltstone - Pale Green/ Pale Greenish Blue. Sing. sandy as below in part.

----- **WILCOX SD 5,186' (-3,768')**
 SS (2) - Clear/ Pale Greenish Gray/ Off White/ tr Tan, tr Lt Gray. rare Sing/ someMot/ mostly Mixed. VF-/ tr silt sized qtz grains, SR/SA. Mod sort. Mod sph. Vitreous/ some frosted grain contact. Dol/ tr sil cement. some Point/ mostly sutured grain contact. argi fragsl in part. partly Friable. Fair/ good vis por.

SS (3) - Clear/ Lt Brownish Tan/ rare Pale Lt Gray. Mot. VF-/ tr silt sized qtz grains. SR/SA. Mod sort. Mod sph. Vitreous/ some frosted grain contact. Calc/ tr sil cement. some/ highly sutured grain contact. some SR, VF obladed argil grains & carb flecks in part. partly Friable. Fair/ Good vis por.

SH - Grays/ Green Gray/ Pale Greenish Gray. Sing/ tr Mot. highly sandy stringers in part (similar to immediately above). mixture of 'crumbly' / grainy / blocky / some waxy. Massive.

Vis: 61 Wt: 9.1
 Wtr Loss: 8.8
 PV: 20 YP: 20
 Gels: 14/48
 pH: 11.5 LCM: 5#
 Cl (2,000) Ca (60)
 Solids: 5.6%

Vis: 60
 Wt: 9.2
 LCM: 6#

Vis: 50
 Wt: 9.2
 LCM: 6#

Vis: 51
 Wt: 9.3
 LCM: 7#

100 units = 1% Gas
 TG, C1-C5

Vis: 51
 Wt: 9.3
 LCM: 7#

----- **XXXXXXXX RTD XXXXXXXX**
 ^--- CFS @ RTD: 60"
 ^--- S/T: 10 stands.
 ^--- CHC @ RTD: 90"
 Work Kelly (15") slowly.
 No shake.
 Check Sample Box (15")
 for Volume/Type of Fill.
 ^--- Hole Incl: 1.5 deg @ RTD.
 ^--- E-LOG
 [Superior Well Services

SUMMERS #4
 1,160' FSL & 330' FWL 17-T34S-R11W
 Barber County, Kansas

WOOLSEY OPERATING COMPANY
 Wichita, Kansas

Wellsite Geologist:
 Curtis Covey
 COVEY - The Well Watchers

Well Number: 1,122