



Scale 1:240 Imperial

Well Name: Keough 4-34  
 Surface Location: S2 NE SE NW  
 Bottom Location:  
 API: 15-057-20962  
 License Number: 5004  
 Spud Date: 6/1/2015 Time: 9:00 PM  
 Region:  
 Drilling Completed: 6/12/2015 Time: 1:49 PM  
 Surface Coordinates: 1780 FNL & 2310 FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2522.00ft  
 K.B. Elevation: 2535.00ft  
 Logged Interval: 4200.00ft To: 5335.00ft  
 Total Depth: 5335.00ft  
 Formation: MISS  
 Drilling Fluid Type: Chemical Mud

**OPERATOR**

Company: Vincent Oil Corporation  
 Address: 155 N Market St  
 Ste 700  
 Wichita KS 67202  
 Contact Geologist: Dick Jordan  
 Contact Phone Nbr: 3162623573  
 Well Name: Keough 4-34  
 Location: S2 NE SE NW API: 15-057-20962  
 Pool: Development Field: Mulberry Creek  
 State: KS Country: Ford

**CONTRACTOR**

Contractor: Duke Duilling Co., Ind.  
 Rig #: 9  
 Rig Type: Rotary  
 Spud Date: 6/1/2015 Time: 9:00 PM  
 TD Date: 6/12/2015 Time: 1:49 PM  
 Rig Release: 6/13/2015 Time: 4:00 PM

**LOGGED BY**

Company: Vincent Oil Corporation  
 Address: 155 N Market St  
 Ste 700  
 Wichita KS 67202  
 Phone Nbr: 3162623573  
 Logged By: Geologist Name: Tom Dudgeon

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: 99.8229104  
 Latitude: 37.5672242

Longitude: -99.8239194  
 N/S Co-ord: 1780 FNL  
 E/W Co-ord: 2310 FWL

Latitude: 37.5672342

**ELEVATIONS**

K.B. Elevation: 2535.00ft      Ground Elevation: 2522.00ft  
 K.B. to Ground: 13.00ft

**TOTAL DEPTH**

Measurement Type:	Measurement Depth:	TVD:
RTD	5335.00	5340.00
LTD	5340.00	5340.00

**DRILLING FLUID SUMMARY**

Type	Date	From Depth	To Depth
Chemical Mud	6/5/2015	3800.00ft	5340.00ft

**OPEN HOLE LOGS**

Logging Company: Nabors Completion and Production Services Co.  
 Logging Engineer: Blake Waggoner  
 Truck #: 3802  
 Logging Date: 6/12/2015      Time Spent: 6  
 # Logs Run: 4      # Logs Run Successful: 4

**LOGS RUN**

Tool	Logged Interval	Logged Interval	Hours	Remarks	Run #
Dual Induction	0.00ft	5340.00ft	3.00		1
Density Neutron	4250.00ft	5340.00ft	3.00		1
Micro	4250.00ft	5340.00ft	3.00		2
Sonic	0.00ft	5340.00ft	3.00		2

**LOGGING OPERATION SUMMARY**

Date	From	To	Description Of Operation
6/12/2015	0.00ft	0.00ft	Open hole logs ran successfully, 6:30 PM to 12:30AM

**CASING SUMMARY**

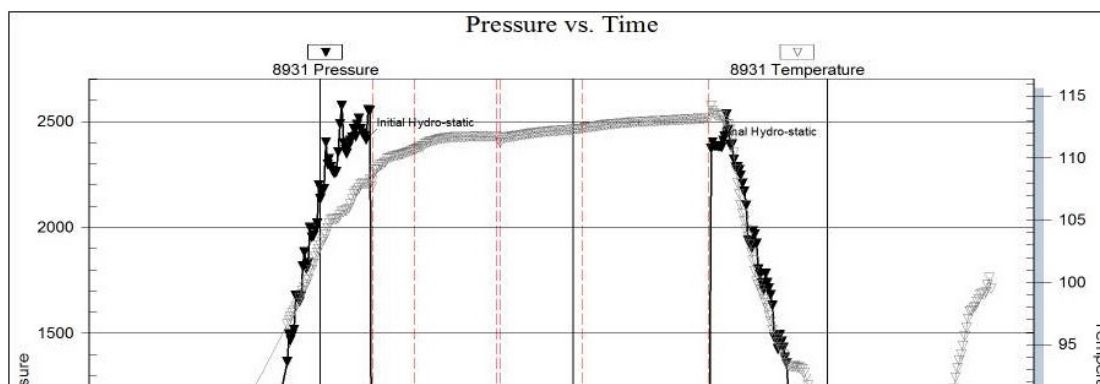
	Surface	Intermediate	Main		
Bit Size					
Hole Size					
	Size	Set At	Type	# of Joints	Drilled Out At
Surf Casing					
Int Casing					
Prod Casing					

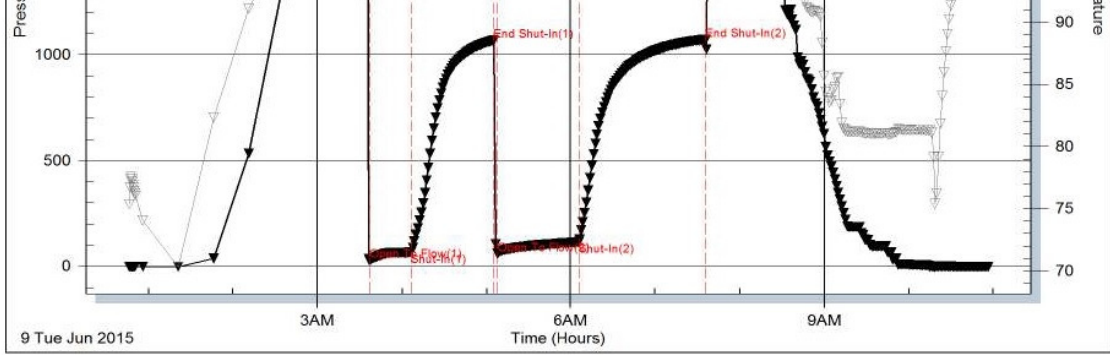
**CASING SEQUENCE**

Type	Hole Size	Casing Size	At
	0.00 in	0.00	0.00 ft

**DST 1**

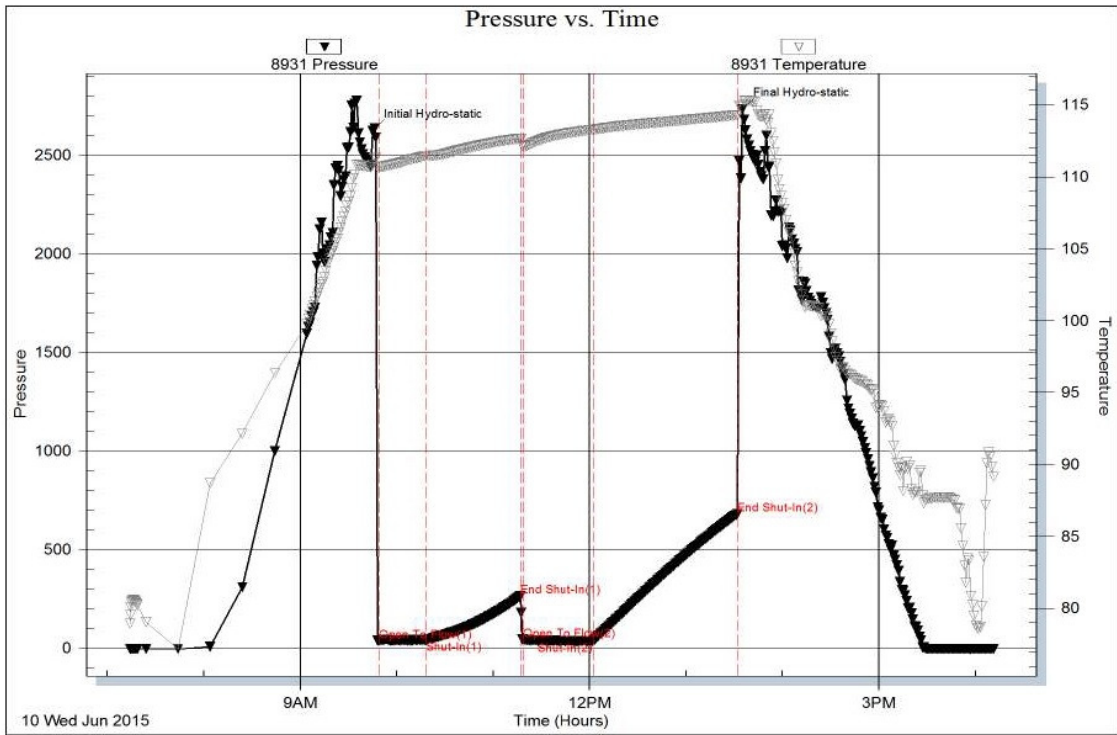
Serial #: 8931      Inside      Vincent Oil Corporation      Keough #4-34      DST Test Number: 1





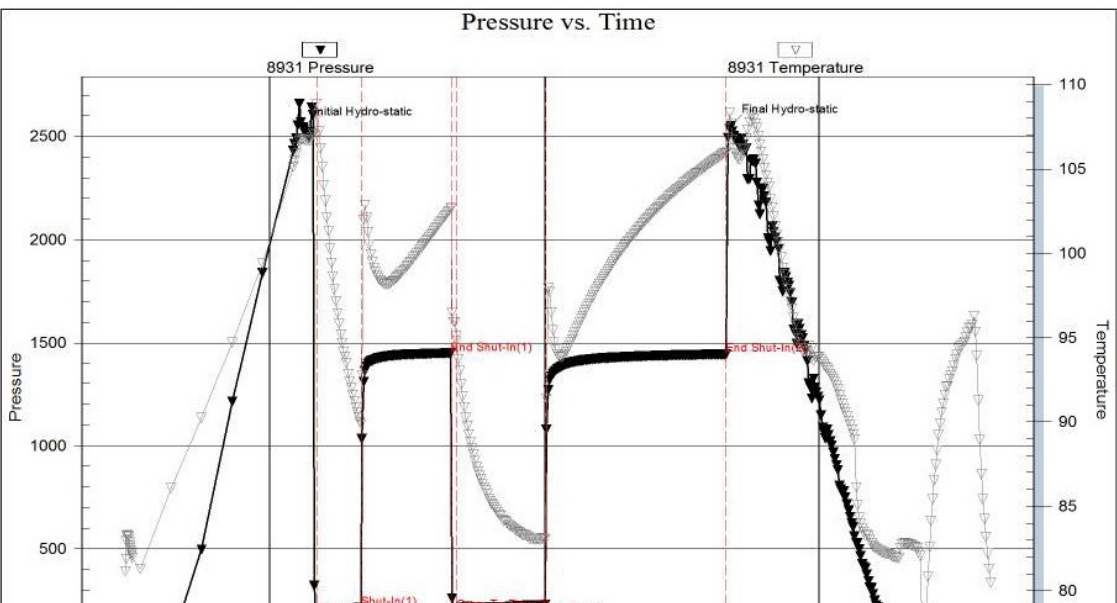
### DST 2

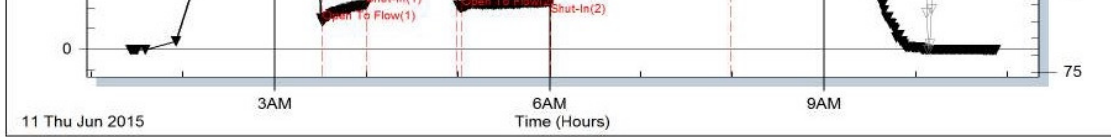
Serial #: 8931    Inside    Vincent Oil Corporation    Keough #4-34    DST Test Number: 2



### DST 3

Serial #: 8931    Inside    Vincent Oil Corporation    Keough #4-34    DST Test Number: 3



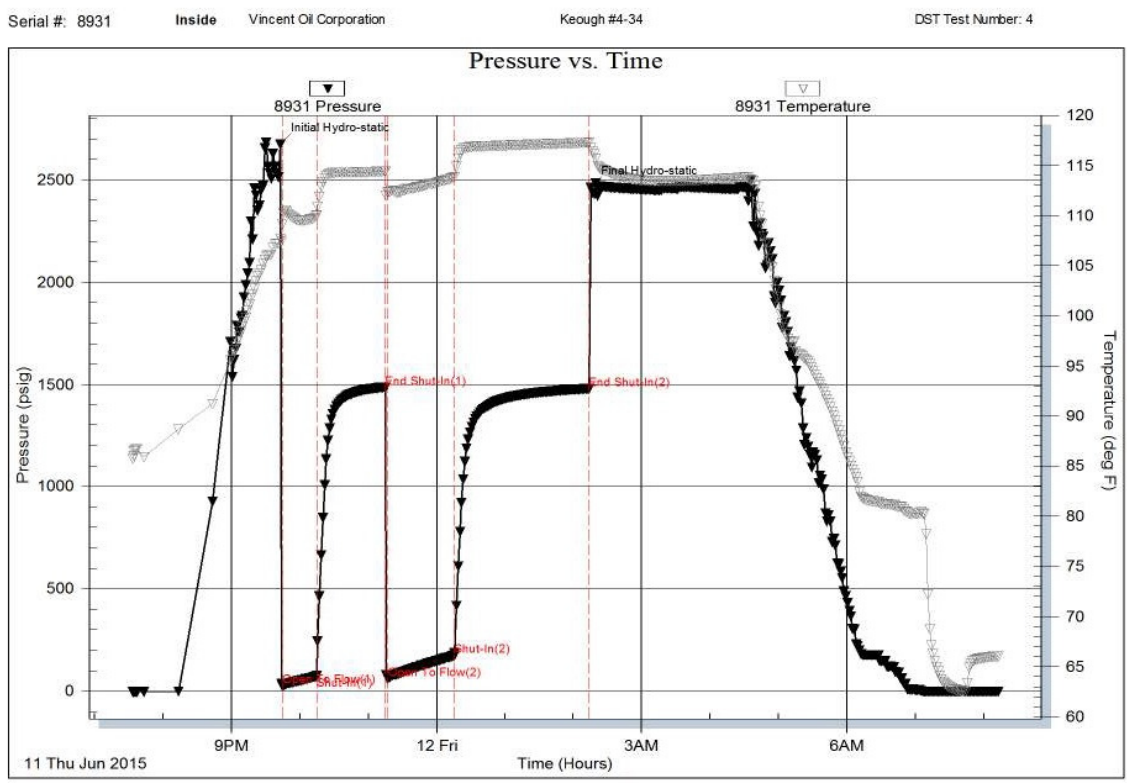


Tribolite Testing, Inc

Ref. No: 57825

Printed: 2015.06.12 @ 14:22:37

### DST 4



Tribolite Testing, Inc

Ref. No: 59801

Printed: 2015.06.12 @ 10:52:50

### ROCK TYPES

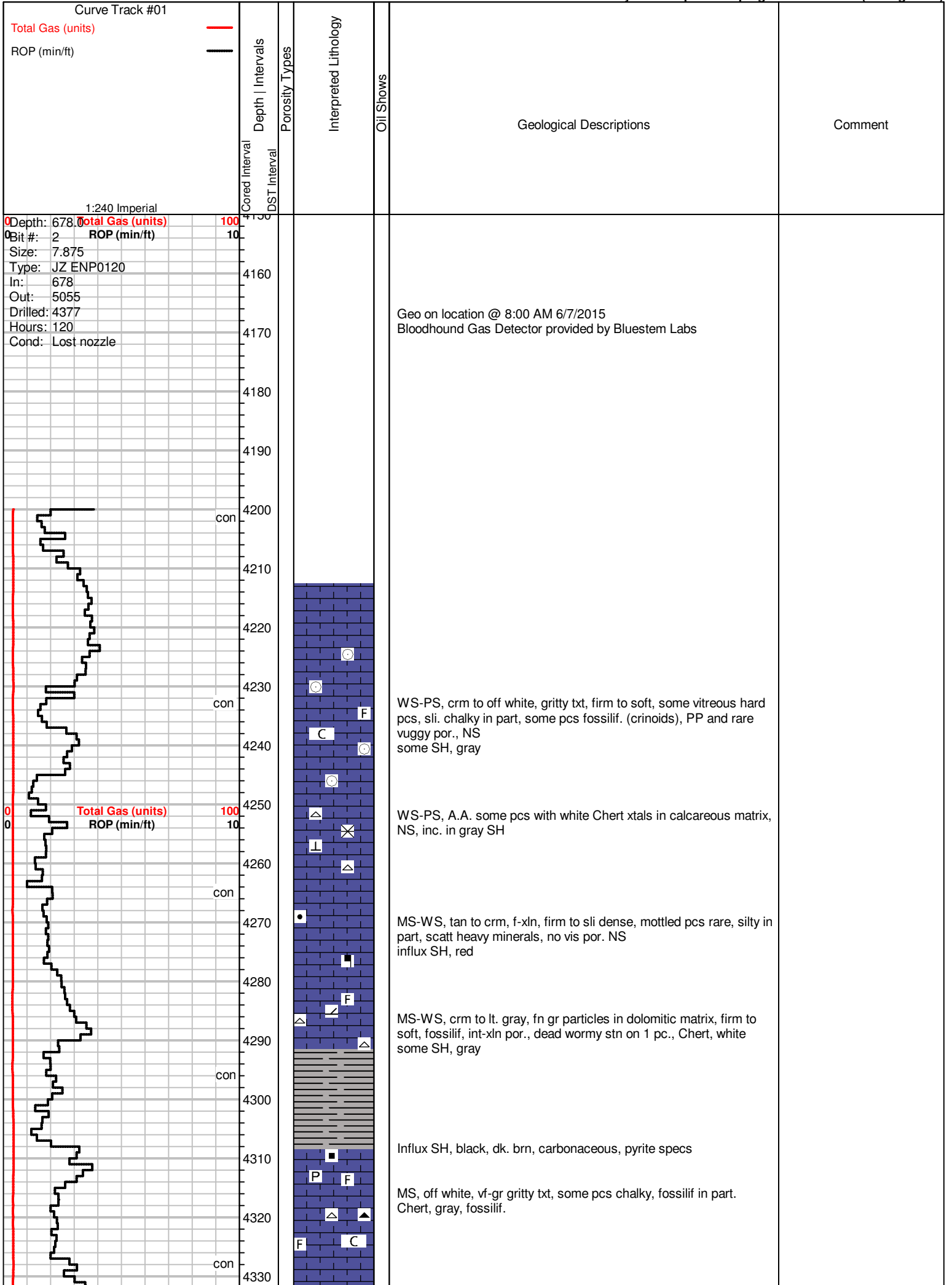
- |        |           |       |          |         |
|--------|-----------|-------|----------|---------|
| Coal   | Lmst fw<7 | Shgy  | Shcol    | Chtcong |
| Dolsec | Lmst fw>7 | Shblk | Cht vari |         |

### ACCESSORIES

- |  |   |  |  |                                       |
|--|---|--|--|---------------------------------------|
| <b>MINERAL</b><br>⊥ Calcareous<br>■ Carbonaceous Flakes<br>▲ Chert, dark<br>⊔ Dolomitic<br>• Ferruginous, grains or p<br>∞ Glauconite<br>■ Heavy, dark minerals<br>✕ Mineral Crystals<br>P Pyrite<br>• Sandy<br>• Silty<br>△ Chert White | <b>FOSSIL</b><br>◇ Brachiopod<br>∩ Coral<br>○ Crinoids<br>F Fossils < 20%<br>◊ Oolite<br>△ Spicules | <b>STRINGER</b><br>Dolomite<br>Sandstone | <b>TEXTURE</b><br>C Chalky<br>CX Cryptocrystalline<br>e Earthy | <b>MISC</b><br>∥ Fractures<br>∥ Veins |
|--|---|--|--|---------------------------------------|

### OTHER SYMBOLS

- |   |  |                                     |
|---|--|-------------------------------------|
| <b>POROSITY TYPE</b><br>× Intercrystalline<br>φ Interoolitic<br>V Vuggy<br>P Pinpoint<br>∞ Moldic<br>O Organic<br>F Fracture<br>e Earthy<br>□ Fenestral | <b>OIL SHOWS</b><br>● Even Stn<br>● Spotted Stn 50 - 75 %<br>● Spotted Stn 25 - 50 %<br>○ Spotted Stn 1 - 25 %<br>○ Questionable Stn<br>D Dead Oil Stn<br>■ Fluorescence | <b>INTERVALS</b><br>■ Core<br>∙ DST |
|---|--|-------------------------------------|



Geo on location @ 8:00 AM 6/7/2015  
Bloodhound Gas Detector provided by Bluestem Labs

WS-PS, crm to off white, gritty txt, firm to soft, some vitreous hard pcs, sli. chalky in part, some pcs fossilif. (crinoids), PP and rare vuggy por., NS some SH, gray

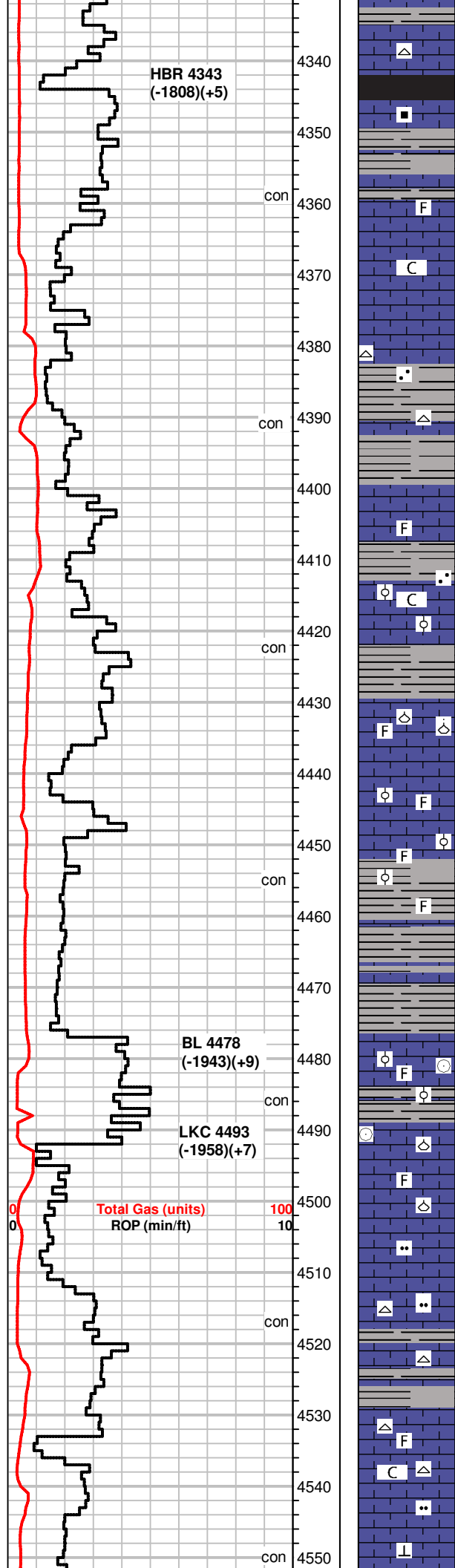
WS-PS, A.A. some pcs with white Chert xtals in calcareous matrix, NS, inc. in gray SH

MS-WS, tan to crm, f-xln, firm to sli dense, mottled pcs rare, silty in part, scatt heavy minerals, no vis por. NS influx SH, red

MS-WS, crm to lt. gray, fn gr particles in dolomitic matrix, firm to soft, fossilif, int-xln por., dead wormy stn on 1 pc., Chert, white some SH, gray

Influx SH, black, dk. brn, carbonaceous, pyrite specs

MS, off white, vf-gr gritty txt, some pcs chalky, fossilif in part. Chert, gray, fossilif.



MS, off white to tan, f-xln to dense, sli. marbled looking, firm to hard, some white Chert xtals in MS matrix., scatt SH, blk, A.A.

SH, blk, dk. gray, carbonaceous, some gas bubbles.

MS-WS, crm to gray, f-xln to mic-xln, hard, dense, scatt fossils, no vis por., NS

con

F

C

MS-WS, crm to off white, some lt gry and tan, chalky, soft to firm, some mottled pcs-rare, NS  
SH, blk A.A., new pcs green & red, sandy

WS-PS, tan to crm, some lt. gray, f-xln, hard, dense, gritty txt in part, sli, chalky pcs, scatt dull fluor., NS  
Chert, white

con

SH, blk, gray

F

MS-WS, A.A, some mottled pcs, black ooids, m-gr in a chalky matrix, scatt fossils(fusulinids, ooids), NS

con

scatt blk/gray/green SH

MS-WS, crm to off white, some tan and gray, firm to hard, dense pcs common throughout, some oolitic, m-gr, fossilif(brachs), SH, gray, green, fossil casts/molds

WS-PS, gray to crm, mottled pcs, marby appearance, chalk matrix in part, fossilif. oolitic, scatt heavy minerals, NS

con

SH, green, gray, some red

SH, green to gray, decreasing amount

MS-WS, crm to tan, scatt brn, hard, dense, mottled pcs scatt., some mic-xln, fossilif(cronoids, ooids, fusulinids), NS

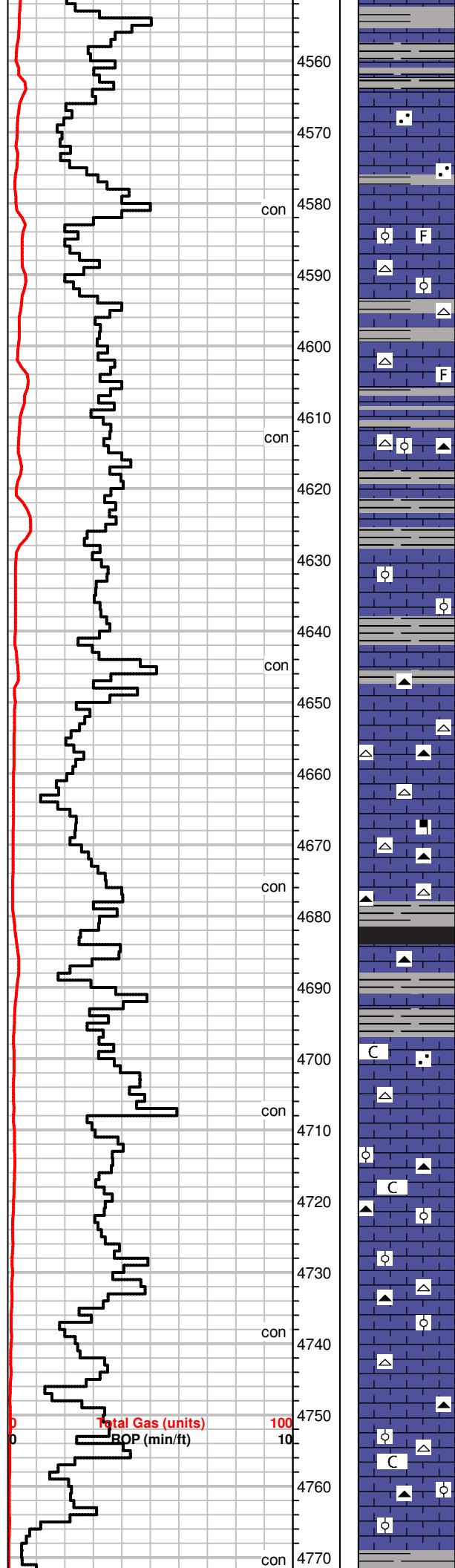
con

MS-WS, crm to lt gray, off white, chalky matrix, gritty txt in scatt pcs, soft to firm, scatt fossils(brachs), pp por.

MS, off white to gray, rare brn, crip-xln to mic-xln txt, dense, rare gritty txt in pcs, firm, Chert, white  
SH, gray, dk. gray

MS-WS, A.A., some pcs oolitic in part, dark m-gr ooids, chalky pcs scatt, pyrite, moldic por., Chert, white, brn, fossilif.

MS, crm to tan, lt. brn, dense, mic-xln to gritty txt, chalky matrix in some pcs, soft, rare calcite on edge in scatt pcs, dull fluor. NS



SH, gray, dk. gray, rare blk

MS-WS, crm to lt. tan, gray, A.A., sandy, most firm to hard, rare dense, NS

MS-WS, crm to off white, tan to brn in part, mostly chalky pcs, some with chalky mtrx and gritty sandy txt, tan&brn pcs hard, dense, silty, rare fossils, NS  
Chert, white

MS, crm to brn, decrease in off white pcs, dense, rare glauc, fossilif, NS  
Chert, white, tan  
SH, gray, green

MS, A.A

MS, A.A., inc in crm pcs, firm, some dense pcs, scatt mottled pcs, f to m-gr dark (brn to blk) ooids, fossilif, NS

MS-WS, brn to gray, some crm A.A, m-xln, firm to hard, dense, scatt f-gr oolitic pcs, Chert, white, tan, fossilif.  
Ch, brn, dk. gray, gray, striated, sandy green pcs

MS, crm to lt. tan, earthy txt, chalky matrix, calcite inclusions, dense, dead wormy stn (1pc), rare dark minerals(magnetite)  
Chert, white, tan, blk, fossilif

SH, gray, dk. gray, rare blk

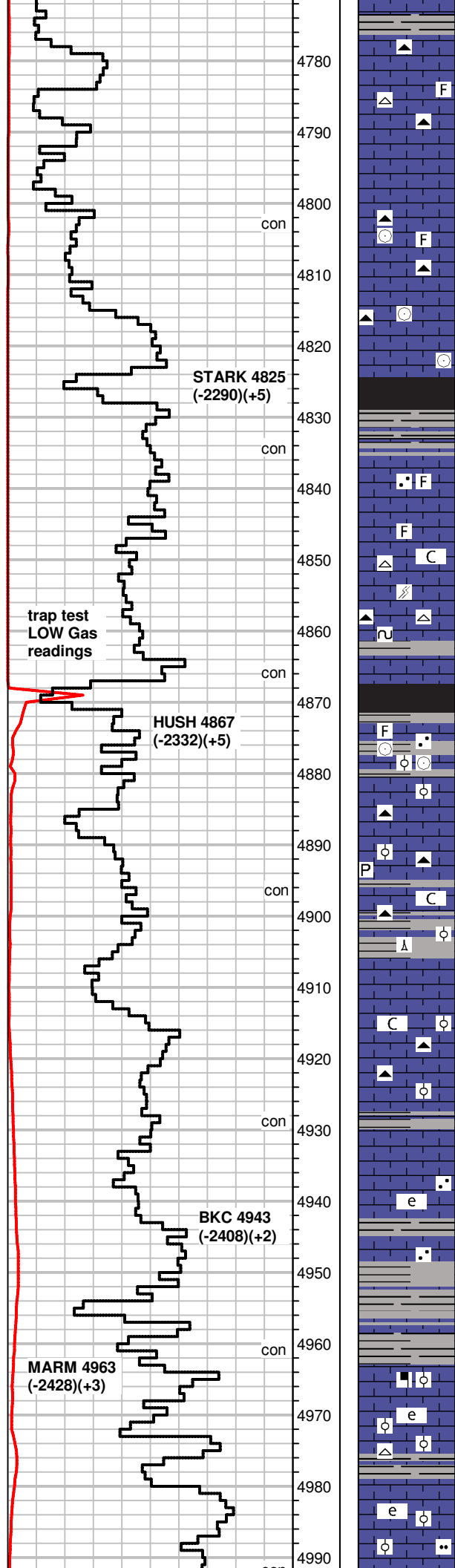
SH, dk. gray, rare blk, sli. sandy  
MS-WS, crm to lt. gray, tan, f-xln, dense, mostly hard, sandy in part, rare chalky pcs, faint edge stn in dry  
Chert, white, tan, fossilif., spicules

MS, off white to crm, earthy txt, soft, partly chalky, rare PS, off white, mic-xln, oolitic, m-gr, hard, NS, Chert, gray  
scatt. SH, gray

MS-WS, A.A., influx crm to brn pcs, f-xln, hard, sub oolitic, scatt fossils, Chert, gray, milky white, fossilif., some pcs cherty on edge of MS  
SH, gray, blk, yellow( cavings?)

some SH, gray  
MS-WS, crm, f-xln, earthy in part, vitreous luster, some glauc, sub oolitic to fossilif pcs, partly chalky txt, scatt mottled pcs, NS  
Chert, tan, brn

MS-WS, rare PS, crm to lt. tan, chalky pcs common, some oolitic, f to m-gr mottled tan pcs, tite, dense to soft in chalky pcs, calcite frgmts, scatt fossils, pyrite, moldic por. NS



SH, gray, dk. gray pyrite, striated

MS, crm to brn, scatt PS, f to m-xln, dense pcs rare, most soft, friable, sub oolitic to oolitic, dark m-gr ooids, some fossils, moldic por., NS, Chert, gray, tan

MS-WS, rare PS, crm to off white, mic-xln, scatt f-xln, hard, fossilif (crinoids), sub oolitic in part, Chert, gray, white, fossilif, int-xln por., very faint dead edge stn in dry

MS-WS, A.A.

SH, blk, gray, rare crinoid fossil replacement

MS, crm, f-xln, firm, gritty txt, calcite xtals, rare fossils, dull fluor, NS  
SH, gray

MS, off white to lt. gray, gritty txt, soft to firm, fractured?, chalky in part, rare glauc. scatt pp por.  
Chert, white, smoky gray, fossils

SH, blk, dk. gray, fresh

MS-WS, gray to brn, mic to f-xln, hard to firm, mottled pcs, sub oolitic, scatt dark ringed m-gr ooids, fossilif (crinoids), rare moldic por.

MS, brn to crm, earthy to gritty txt in majority of pcs, some f-xln, dense, fossilif., pyrite, scatt chalky pcs  
Chert, gray, spicules  
some SH, rare blk, dk. gray

MS, crm to gray, some brn, A.A., chalky to silty, soft to firm, sub oolitic, rare fossils, NS  
Chert, brn, smoky gray  
scatt SH, dk gray, brn

SH, gray, green, brn, silty to waxy

MS, lt. gray to of white, sub oolitic, hard, fractures readily, pp por., Chert, white

SH, gray, blk,

MS, gray to crm, m to f-xln, hard to firm, chalky in part, NS

Dec in SH, gray, dk. gray  
MS, crm to gray, earthy to f-xln, A.A., mottled pcs scatt, dark minerals, dull fluor, NS

MS, crm to off white, chalky to f-xln, firm to hard, some pcs silty, rare m-gr dark ooids in matrix  
rare Chert, white.

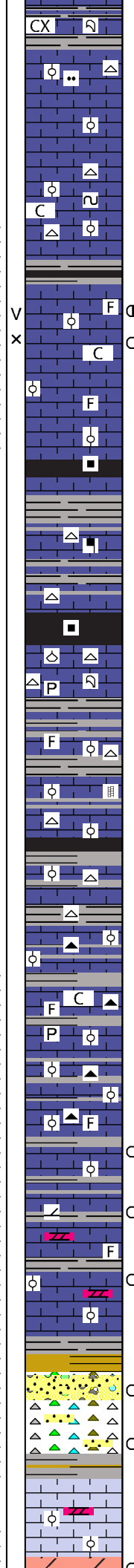
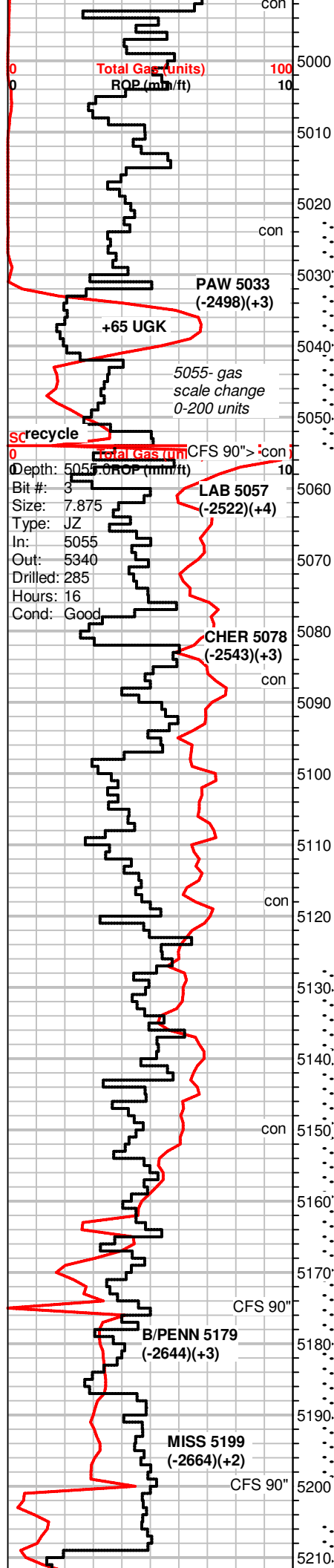
SH, green gray, rare blk

MS-WS, crm to off white, massive to earthy txt, scatt pcs dense, some oolitic, m-gr, friable, some pcs silty,

MS, off white to scatt brn, crm-xln, dense, hard, calcite inclusions

**DST #1 5022-5055**  
**Pawnee**  
 30-60-60-90  
 SB BOB/8"  
 NBB  
 SB BOB/30sec  
 WBB built to 4 inches,  
 surf BB in 16 minutes  
 GTS in 45", TSTM  
 GIP  
 Rec: 40' GMCO  
 (15g,70o,15m)  
 60' GOCMW  
 (53g,37o,4m,6w)  
 60' GOMW(60g,3o,4m,6w)  
 60' GOMW  
 (50g,35o,5m,10w)  
 60' GOMCW





MS, cr to white to scatt brn, crip-xln, dense, hard, calcite inclusions, fossilif (coral), rare chalky pcs, dull fluor, NS  
SH, gray

MS, crm to lt. tan, mic to f-xln, dense, hard, A.A., rare gritty pcs, scatt sub oolitic

MS, lt. gray to off white, hard, sub oolitic, fractures readily, Chert, white  
scatt. SH, gray, green

MS-WS, crm to off white, some tan, hard, most pcs dense, vitreous to silky luster, glauc specs, some chalky pcs, sub oolitic, bright fluor in scatt pcs, 1 pc cut  
Chert, white, smoky

SH, rare blk, gray  
WS-PS, crm to off white, soft, chalky pcs common, fossilif to oolitic, m-gr ooids, friable, rare bright fluor, few pcs slow milky cut, good odor in bag, no free oil, vuggy and int-xln por.

MS-WS, crm to tan, f-xln, fossils, lesser oolitic pcs, good odor, few pcs w/ bright fluor, few pcs inst. cut, streaming, some residual ring cut.

SH, blk, carb., gray, green

MS, crm to gray, f-xln gritty txt, some massive txt (crip-xln), scatt heavy minerals, rare fossils, pp por.  
Chert, white, smoky

SH, blk, dk. gray  
MS, crm to off white, chalky to f-xln, some pcs dense, fossilif (brachs, coral), some pyrite, light edge stn in dry,  
Chert, tan, opaque

SH, gray, blk  
MS, gray, crm, f to m-xln, dense, sub oolitic in part, rare fossils, rare bright fluor, no cut, NS, Chert, white, fossilif.

MS, crm to gray, mic to f-xln, dense, hard, calcite veins, rare bright fluor, no cut, NS, Chert, white, tan, rare fossils.

SH, blk, dk. grays, striated, pyrite  
MS-WS, crm to gray A.A., rare chalky pcs, scatt fossils, rare sub oolitic, dull fluor, NS, Chert, white  
SH, gray

MS-WS, crm to brn, mic-xln, dense, sub oolitic, rare glauc, NS,  
Chert, white, tan, gray  
scatt SH, gray

MS, crm to tan, f-xln to earthy txt, dense pcs common, scatt chalky, fossilif, brittle, dull fluor, NS, Chert, gray  
SH, blk, gray, pyrite, fossil casts

MS-WS, gray to crm, tan, f-xln, dense, fossilif, shaly in part, suboolitic, dark, m-gr ooids. Chert, tan, smoky gray  
some SH, gray blk

WS, crm, brn, lt. gray, f-xln, waxy, sub oolitic, fossilif pcs, most hard, dense, brittle, rare bright fluor, 2pcs streaming cut when broken, no odor

MS-WS, crm to off white, tan, f-xln, firm to hard, brittle, fossilif, tite matrix, some pcs dolomitic, rare bright fluor, inst cut few pcs, no odor  
SH, blk, gray, green

MS-WS, crm to brn, f to m-xln, dense, sub oolitic, rare bright fluor in tray, most dull mineral fluor, 1 pc inst cut, no odor in bag  
60min-Inc in crm pcs, no new shows

SH, dk. gray, sea green, influx Chert, varicolored, fossilif, some in calcareous cement, carrying MS, A.A.

SH, sea green, gray, yellow, some silty to sandy  
Chert, varicolored, orange, yellow, white, gray, red-orange, fossilif  
5200-30min-SS clusters, gray, fn-gr, well sorted, rounded, firm to hard, very faint fluor, streaming cut when broken, tite. Chert-rare pcs with oil stn, spotty bright fluor, slow cut, 60min- Chert, A.A., SS, A.A, **rare co. qtz grns,**

WS-PS, off white to crm, f-xln, dense, hard, fossilif, oolitic, m-gr, NS

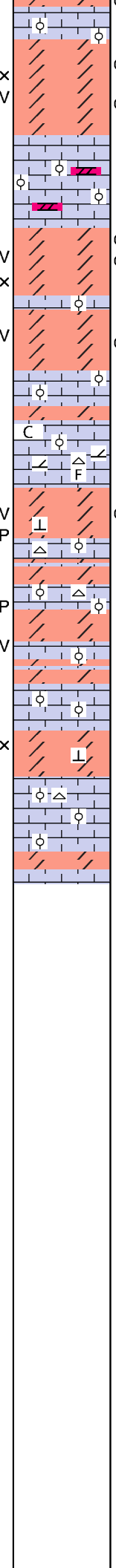
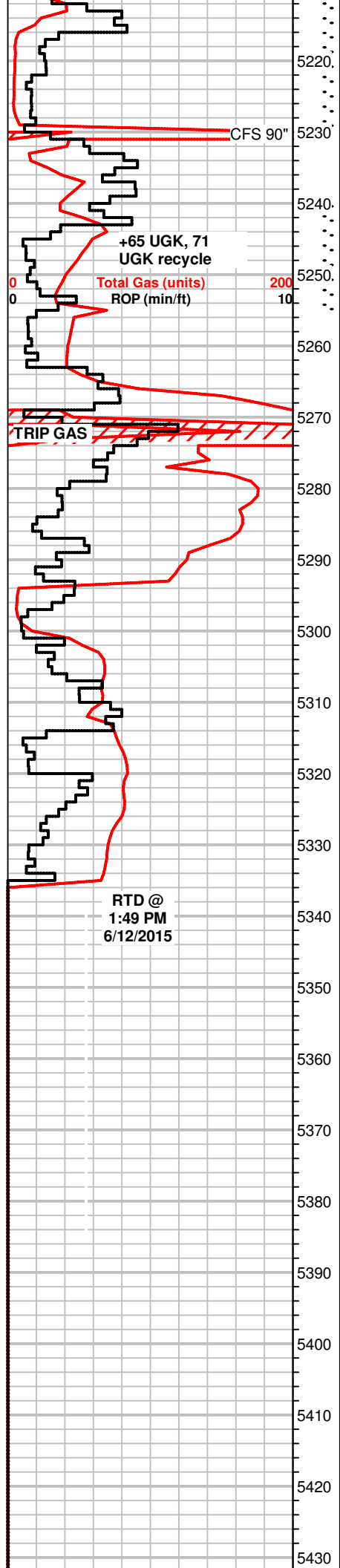
(50g, 15o, 10m, 25w)  
IH 2415#  
IF 29-65# ISIP 1067#  
FF 59-116# FSIP 1072#  
FH 2372#  
113°F  
CI 48000 ppm

+3 UGK shale gas

+65 UGK, 35 unit recycle

DST #2 5127-5200  
Penn Lime-Cong  
30-60-45-90  
WB surf to 1.75"  
NBB  
FB blt to SB, BOB 20min  
NBB  
Rec: 5' Mud  
IH 2622#  
IF 39-43# ISIP 265#  
FF 44-37# FSIP 681#  
FH 2731#  
Temp 114°F

35 UGK, w/ 20 unit  
recycles



rare Dolo, lt. gray to brn, sugary txt, firm, faint odor, dull fluor, no cut, scatt WS-PS A.A.

Dolo, lt. gray to brn, f-suc txt, some pcs sandy, inc sandy pcs-90" smpl, soft, **good odor in bag, bright fluor scatt in tray, good stn on most pcs, oil saturated pore spaces, streaming cut, free oil in tray, vuggy and int-xln por.**

WS-PS, crm to off white, scatt brn, hard, dense pcs, some fracture/brittle, oolitic to sub oolitic, sli. dolomitic, dull fluor, NS Chert, white, gray, fossilif.

Dolo, brn to lt. gray, most pcs f-suc txt, f to m-xln, firm, **spotty stn most pcs, good saturation in scatt pcs, free oil in tray, good odor in bag, less odor in 60min. sample, bright fluor to mineral fluor, inst cut majority of select pcs, vuggy to int-xln por.**

Dolo, brn, m-xln, scatt f-xln, co-gr sugary txt, some pcs hard, most friable, scatt bright fluor, spotty stn, inst cut, fair odor in bag

WS-PS, crm to off white, some pcs brn to tan, f-xln, dense to firm, chalky pcs scatt., oolitic, brn ooids in crm matrix, fossilif, Chert, white, fossilif in part, Scatt dolomitic pcs, dull fluor, NS

Dolo, lt. brn to crm, m-xln, to f-xln, firm, scatt limy pcs, dull fluor, rare bright fluor, rare spotty stn slow milky cut, few pcs, vuggy to int-xln por.

WS-PS, crm to brn, some pcs brn ooids in crm matrix, m-gr oolitic, f-xln, some micro oolitic, rare glauc, Chert, white, blocky  
Dolo, brn to tan, scatt gray, f-xln, some m-xln, sandy pcs, calcareous, firm to hard, dull fluor, spotty stn dry, mostly barren

Dolo, gray to brn, vf-xln, f-suc txt, brittle, dull fluor to rare bright mineral fluor, NS

MS-WS, crm to brn, off white, f-xln, massive txt, oolitic pcs A.A., dull fluor, NS

Dolo, brn, brn to gray, scatt pcs striated, limy in part, m-xln, firm to hard, tite matrix, dull fluor, barren dry, NS

MS-WS, off white to crm, oolitic to micro oolitic pcs, dense, scatt Chert, white

Dolo, crm to brn, vf-suc txt, firm, dull fluor, NS  
MS-WS, scatt PS, crm to brn, f-xln, dense, oolitic, fossilif (brachs, crinoids)

**Gas not lagging correctly?  
106 UGK at 50 minutes of circulating**

**DST #3 5205-5230**  
Miss  
30-60-60-120  
SB BOB/30sec GTS/5min  
1st open GA on .75 inch choke  
771 MCF/10"  
880 MCF/20"  
959 MCF/30"  
20" to bleed off  
2nd open GA on .75 inch choke  
1068 MCF/10"  
1084 MCF/20"  
1091 MCF/30"  
1107 MCF/40"  
1115 MCF/50"  
1138 MCF/60"  
WB BB, surf to 2.5 inch after 50 min  
5024' GIP  
Rec: 60' GOCM (10g,40o,50m)  
60' GOCM (15g,50o,35m)  
60' WMGCO (38g,42o,17m,3w)  
IH 2538#  
IF 133-215# ISIP 1450#  
FF 200-229# FSIP 1445#  
FHIP 2550#  
Temp 108°F

**DST #4 5239-5255**  
Miss  
SB BOB/2min  
NB GTS/7min, bled off in 13 min  
SB BOB/GTS/immed  
GA 1/8 inch choke  
8.4 MCF/10"  
10.3 MCF/20"  
12.5 MCF/30"  
14.7 MCF/40"  
16.6 MCF/50"  
18.9 MCF/60"  
5239' GIP  
Rec: 138' CO (38.5 API)  
64' MGO (30g,60o,10m)  
120' OMG (45g,15o,40m)  
60' OCMG (48g,12o,40m)  
IH 2672#  
IF 28-75# ISIP 1486#  
FF 61-175# FSIP 1480#  
FH 2460#  
Temp 117°F

RTD @  
1:49 PM  
6/12/2015

