



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1234090
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: _____

1234090

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 <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 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				

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	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)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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MIKE ENGELBRECHT

Licensed Geologist No. 334

2513 Spring Meadow
Wichita, KS 67205

Phone: 316-721-9226
Cell: 316-641-8098

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR RITCHEE EXPLORATION INC.

LEASE # 1 HEIER 13 D

FIELD WILDEART

LOCATION NW SE SE = 975' FSL & 1150' EEL

SEC. 13 TWP. 12 RGE. 29W

COUNTY GOVE STATE KS.

CONTRACTOR WV DRUG RIG # 8

CONN. 9-3-14 COMP. 9-13-14

RTD 4640 LOG TD 4641

SAMPLES SAVED FROM 355D TO RTD

DRILLING TIME KEPT FROM 3400 TO RTD

SAMPLES EXAMINED FROM 355D TO RTD

GEOLOGICAL SUPERVISION FROM 3860 TO RTD

HAND UP 3400' DISPLACED TYPE CHEMICAL

API # 15-063-22,216-00 00

FORMATION	TOP	LOG	DATUM	TOP	SAMPLE	DATUM	STRUCT. COMP.
ANHYDRITE	2291	+498		2290	+499		-3
BASE	2327	+462		2327	+462		-3
STETLER	3538	-749		3537	-748		+6
NEEMER	3898	-1109		3895	-1106		+1
LANISING	3936	-1147		3935	-1146		+3
MUNDIE SH	4074	-1285		4072	-1283		+4
STARK SH	4161	-1372		4160	-1371		+5
BKE	4216	-1427		4214	-1425		+10
ALTAMONT	4259	-1470		4256	-1467		+3
PAWNEE	4336	-1547		4335	-1546		+4
MYRIAD	4380	-1591		4377	-1588		+2
FLSCOTT	4414	-1625		4412	-1623		+6
CHEXOKEE	4442	-1653		4438	-1649		+4
MISSISSIPPI	4511	-1722		4508	-1719		+4

ELEVATION

KB 2789

DF

GL 2784

Measurements Are All From KB 2789

CASING RECORD

SURFACE 8 5/8" @ 250'

w/180 SKS.

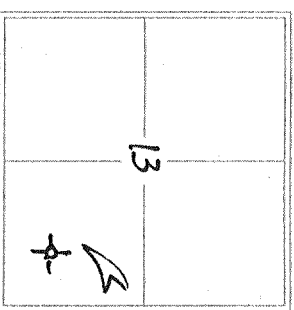
PRODUCTION NA

WELL LOG SURVEYS

NABORS

COMP DENS PER. DATA INDUCTION

JAN MARRS



REFERENCE WELL FOR STRUCTURAL COMPARISON

RET #1 KUHN 19A OIL WELL
1900' ENL & 1490' EEL 19-12-20W

FACILITY Q TAG DATA

DATE	DEPTH	NO	SIZE	WGT	TYPE	DEPTH CUT
9-3-14	MIRT/SPUD					
9-4	DRLG. @ 1070'					
9-5	DRLG. @ 2980					
9-6	DRLG. @ 3706					
9-7	DST#1 @ 3975					
9-8	QFS @ 4098					
9-9	DST#4 @ 4154					
9-10	QFS @ 4275'					
9-11	DST#6 @ 4445					
9-12	QFS @ 4530					
9-13	PLUGGING					

FORMATION

MATERIAL

DESCRIPTION OF STRAT

2300

10

20

BASE ANH 2327

30

1462

40

3400

10

20

30

40

50

60

70

80

90

3500

10

20

30

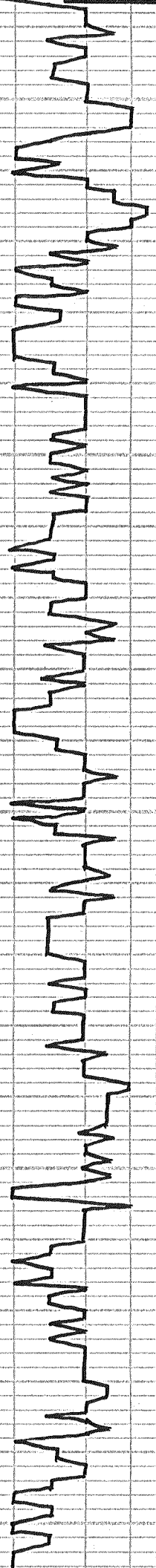
STOTLER 3537

← VISC: 60
WT: 8.6
LCM: 2#

PRED GRAY SILS GUMBO

Vertical text on the left margin, possibly a well name or log ID.

40
50
60
70
80
90
3600
10
20
30
40
50
60
70
80
90
3700
10
20
30
40
50



LT GRAY FN GRN SST DIRTY MICA NS
60 SHS AA FEW LT CRM SLI FOSS LS
POOR ϕ - NS NO ODOR

LT CRM - SEMI FOSS LS P-F ϕ
NS NO ODOR

80 LS AA FAIR ϕ - NS INC CRM

LT TAN BUFF FOSS LS FAIR ϕ - NS
NO ODOR FEW DK GRN BLK SHS
60 LS AA - NS SLI INC CRM

WH - LT CRM SLI FOSS CRM LS
NS NO ODOR

20 LT GRAY SLI FOSS LS DNSE POOR ϕ
NS NO ODOR

LT TAN GRN BUFF SLI FOSS LS
POOR ϕ - NS NO ODOR

40 WH - LT CRM - TAN SLI FOSS LS
POOR ϕ - NS

LT BUFF SLI FOSS LS P-F FOSS ϕ
FEW SCAT LT SYN, NO FO
NO ODOR CRM - MEALY

60 LT BUFF LT TAN SEMI FOSS LS
P-F ϕ W/SCAT LT SYN, NO ODOR

LT MD GRAY SLI FOSS LS POOR ϕ
NS

80 LT CRM - LT TAN SEMI FOSS LS
P-F ϕ - NS NO ODOR

LT TAN BUFF SEMI FOSS LS
P-F ϕ - NS

100 LT CRM - LT BUFF V. FOSS LS
FAIR ϕ - NS NO ODOR

LT CRM - LT GRAY FN XLN LS
DNSE POOR ϕ - NS

20 LT CRM V. FOSS LS FAIR FOSS ϕ
NS NO ODOR

LT CRM - BUFF V. FOSS LS FAIR ϕ
NS NO ODOR

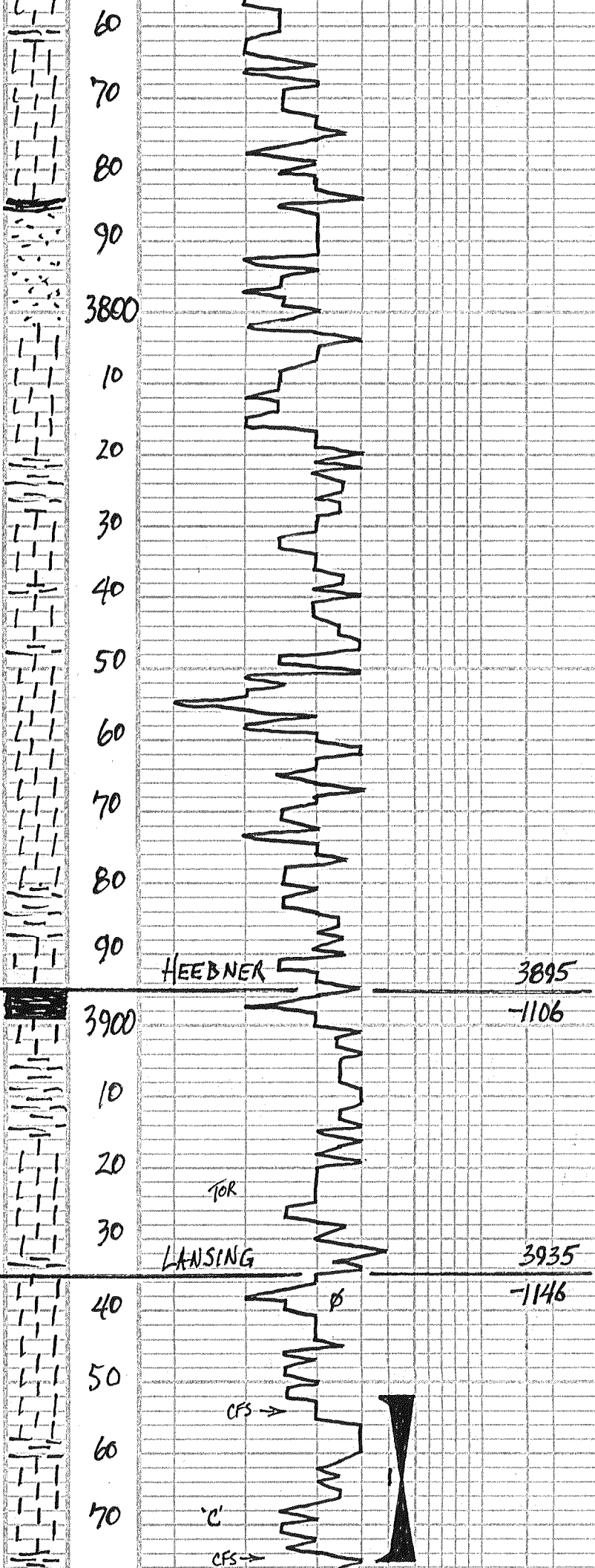
40 LT BUFF LT TAN FOSS LS - NS

LT GRAY - BUFF SHY LS P-F ϕ
NS NO ODOR

60 LT CRM SEMI FOSS LS PTLY CRM
P-F ϕ - NS NO ODOR

FLOOD WH - LT CRM FOSS OOCL LS
P-F FOSS ϕ - NS NO ODOR
INC CRM

80 WH - LT CRM CRM LS AA - NS



PREN WH-LTCRM SLI-FOSS LS
P-FØ - NS NO ODOR

00 LTCRM-LT TAN SLI-FOSS LS
P-FØ - NS

FEW BLK SHS LS AA NS

20 FEW LT GRN GRN FN GR SST
SILTØ - SHLY - CKY - NS NO ODOR

FLOOD WH-LTCRM CKY LS Peorp
NS NO ODOR

40 CRM-LT BUFF SLI-FOSS LS
POOR Ø - NS DNSE - CKY

LS AA-NS CKY-DNSE-NO ODOR
FEW BLK SHS

60 LTCRM-BUFF FOSS LS P-FØ
NS NO ODOR PTLY CKY

WH-LTCRM FOSS CKY LS P-FØ
NS NO ODOR

80 LTCRM LT TAN FN XLN SLI-FOSS
LS POOR Ø - NS NO ODOR

90 LTCRM-LT TAN SEMI-ØØ LS
P-FØ - NS NO ODOR CKY

00 LTCRM SUB ØØ LS P-F ØØ
NS NO ODOR PTLY CKY

700# PP
VISC: 57 FILT: 6.8
WT: 8.6 CKL: 1,700
GEOLOG ON LOC. SAT 12:30 PM
9-6-14

10 LOTS LT TAN CKY LS W/SCAT
LT DEAD STN NO ODOR
LOTS BLK SHS

20 LTCRM-BUFF SLI-FOSS CKY LS
POOR Ø - NS NO ODOR

30 LTCRM LS AA 1/2 LT GRN GRN SHS

40 FLOOD WH FOSS CKY-LT LS
P-FØ - NS NO ODOR

50 CRM-V-LT GRN FN XLN SLI-FOSS LS
POOR Ø - NS NO ODOR PTLY CKY

54) WH-LTCRM ØØ LS P-FØ PTLY
CKY NS NO ODOR

20 MIN: FLOOD WH SEMI FOSS CKY LS
P-FØ SOFT NS NO ODOR

45 MIN: WH-LTCRM SLI-FOSS LS P-FØ
NS NO ODOR PTLY CKY

WH-LTCRM SLI-FOSS LS - NS

70 LTCRM-LT TAN SLI-FOSS LS
POOR Ø - NS NO ODOR SLI CKY

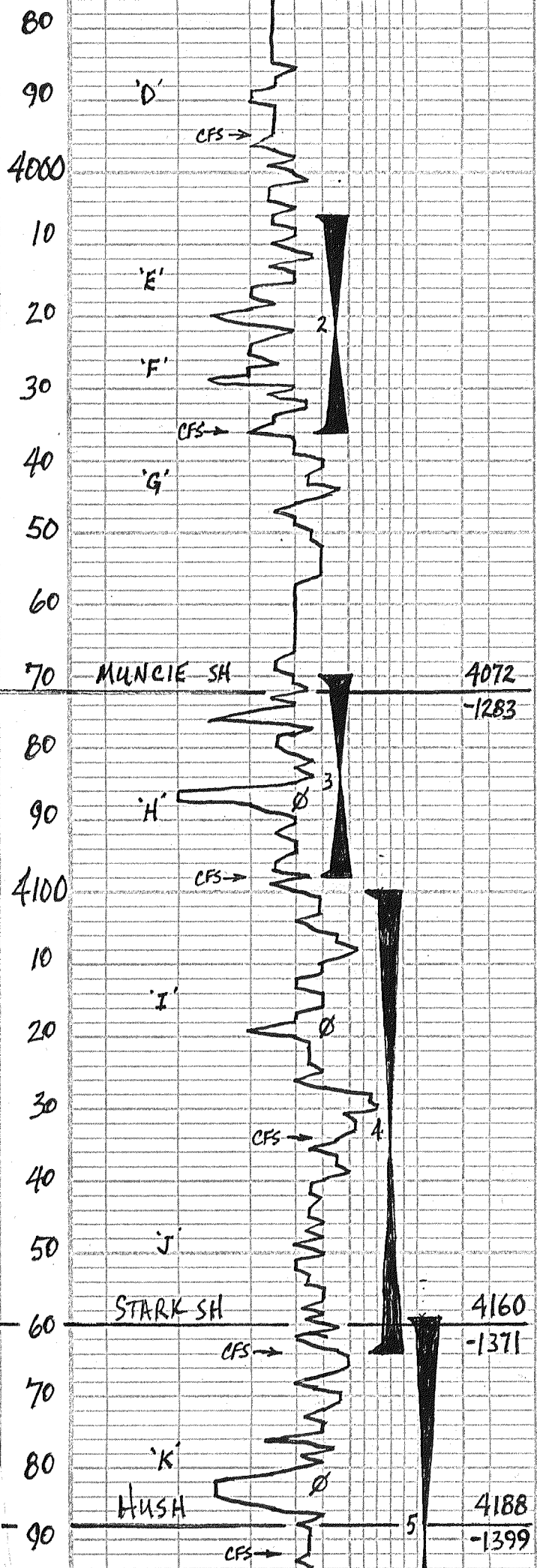
75) LTCRM-SLI-FOSS LS W/Peorp
Ø - NS NO ODOR INC GRN SHS

20 MIN: LTCRM ØØ LS W/P-F INTER
ØØ W/DRK BRN FD TRACE GAS
BRN FD ØØ ON BRK CLEAN LOW ENDR

45 MIN: FEW PØS AA W/SS DRFO,
INC IN CKY

SHORT TRIP 44 STDS
PIPE STRAP .20 SHORT
S.H.T. = 3/4"

DST #1 3952-3975
30-45-45-60
IF: WK BUILT TO 50' M
FF: V.WK BUILT TO 5 1/2"
REC: 15' WCM = 21% W, 79% M
175' MCW = 17% W, 83% M
190' T.F. CHL = 53,000
SID: 1246-1237
IDP: 10-67 FFD: 69-99



90 PRED RUST-BRN SHS FEW GRM SHS
 95) FEW LTCRM. BUFF SLI-FOSS LS
 POOR ϕ - NS NO ODOR
 20 MIN: WH-LTCRM SLI-FOSS LS
 POOR ϕ MOSTLY CLK NS NO ODOR
 45 MIN: PRED, WH-LTCRM SLI-FOSS
 LS POOR ϕ - NS NO ODOR CLK
 10 WH-LTCRM SLI-FOSS LS - NS
 PTRY CLK NO ODOR
 20 LTCRM-LT TAN FN-MD-XLN LS
 POOR ϕ - NS NO ODOR PTRY CLK

TEMP: 116
 DST#2 4006-4036
 30-45-45-60
 IF: WK BUILT TO BOB 19 MIN.
 FF: WK BUILT TO BOB 21 MIN.
 REC: 78' HMCW = 47% M, 53% W
 189' SLMCW = 18% M, 82% W
 248' VSLMCW = 1% M, 99% W
 515' T.F. = CHL = 53,000
 SIP: 1244-1241
 IFP: 14-132 FFP: 134-250
 TEMP: 125

30 WH-LTCRM V, FOSS LS W/P-F TINY
 FOSS ϕ W/SSLT BRGFO, LT ODOR
 SLI CLK 12 PCS
 36) DECR IN LTCRM SEMI-FOSS LS
 6 PCS W/SSLT BRNFO, FT ODOR
 20 MIN: WH-LTCRM FOSS LS W/P-F
 TINY PPT - LTR VUG ϕ W/S-FSLTGO
 40 PCS FAIR ODOR MOSTLY CLEAN FEW CLK
 45 MIN: DECR IN WH-LTCRM FOSS LS
 20 W/P-F FOSS ϕ W/SSGFO, FAIR ODOR
 PCS SLI IN CLK PCS, MOST CLEAN
 50 WH-LTCRM SLI-FOSS LS W/POOR
 FOSS ϕ FEW A W/SSLT BRFO, FT ODOR

DST#3 4070-4098
 30-45-45-60
 IF: WKS BUILT TO 3"
 FF: NO BLOW BUILT TO 2"
 REC: 10' CO = 36° GRAV.
 61' SLO & WCM = 5% D, 5% W, 90% A
 61' SLO & WCM = 3% D, 40% W, 57% A
 132' T.F. CHL = 39,000
 SIP: 1140-1058
 IFP: 11-42 FFP: 47-68
 TEMP: 116°

60 WH-LTCRM SLI-FOSS LS P-F ϕ
 NS NO ODOR
 70 FLOOD WH FN-MD-XLN LS
 MOSTLY CLK POOR ϕ NS NO ODOR
 80 FLOOD LT WH-LT GRN FN-XLN LS
 POOR ϕ - NS NO ODOR CLK
 90 FLOOD BLK SHS!

DST#4 4100-4164
 30-30-30-30
 IF: WK DIED IN 19 MINS.
 FF: NO BLOW - FLUSH
 REC: 101' MUD
 SIP: 38-130
 IFP: 12-13 FFP: 13-66

98) LTCRM-LT TAN GRAN ATN, LS
 P-F INTER GRAN SLI-FOSS PCS FEWS
 SRT STN LOTS SSV LTGFO, GD ODOR
 30 MIN: DECR IN PCS W/SSLT GFO
 IN P-F FOSS ϕ LT ODOR
 60 MIN: WH-LTCRM FN-XLN LS
 DNSE - CLK - POOR ϕ NS NO ODOR
 10 LTCRM-LT BUFF FN-MD-XLN LS
 POOR ϕ - NS NO ODOR SLI CLK
 20 PRED LT GRN SLI-FOSS DNSE LS
 POOR ϕ - NS NO ODOR

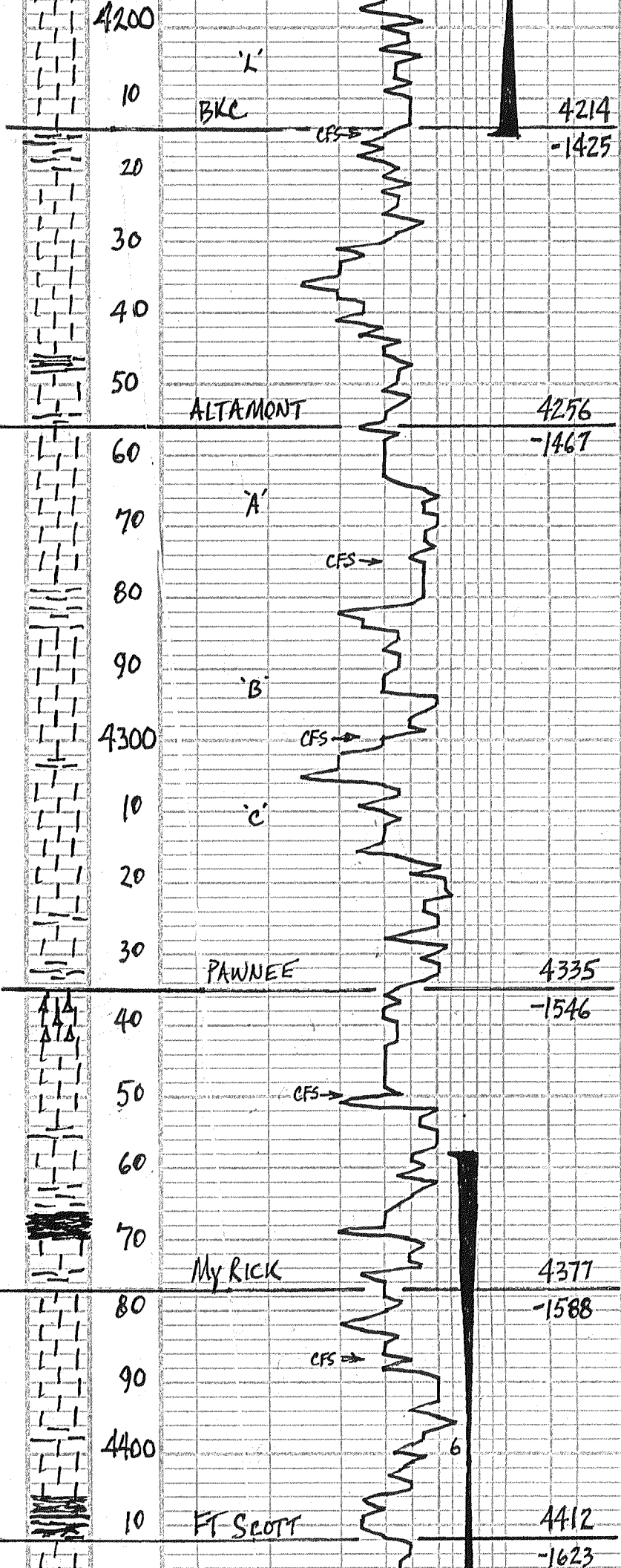
DST#5 4159-4215
 30-45-30-45
 IF: BUILT TO 2" SLID 5" TO BOT
 FF: WK SURF BLOW
 REC: 123' MUD
 SIP: 1121-1002
 IFP: 46-62 FFP: 63-72
 TEMP: 116°

30 LT TAN TINY-FOSS PPT ϕ LS 10 PCS
 W/SSLT BRNGFO, FT ODOR ON BRK
 LOW ENERGY NO SNAP CRACK POP
 34) DECREASE IN PCS AA WH-CRM
 FN-XLN SLI-FOSS LS - NS NO ODOR
 30 MIN: LTCRM SLI-FOSS LS POOR
 ϕ - NS NO ODOR, PTRY CLK
 50 PRED RUST-RED GUMBO SHS *

LTCRM MICRO-FOSS LS W/POOR FOSS
 60 ϕ W/SCAT LT STN, FEW PCS SSLTGO
 LT ODOR ON BRK SLI-CLK
 64) LTCRM SLI-FOSS LS W/SCAT MED
 VUG ϕ W/SSLTGO, FAIR-GD ODOR
 SNAP-CRACK-POP SLI CLK
 30 MIN: LTCRM SLI-FOSS LS W/SCAT
 VUG ϕ W/S-FSLTGO FAIR ODOR
 60 MIN: CRM LS AA W/SSLTGO
 LT-FAIR ODOR, SLI CLK, LOTS GRV/SH
 80 PRED GRAY-BLK SHS & LT BUFF SLI-
 FOSS LS W/POOR ϕ - NS NO ODOR

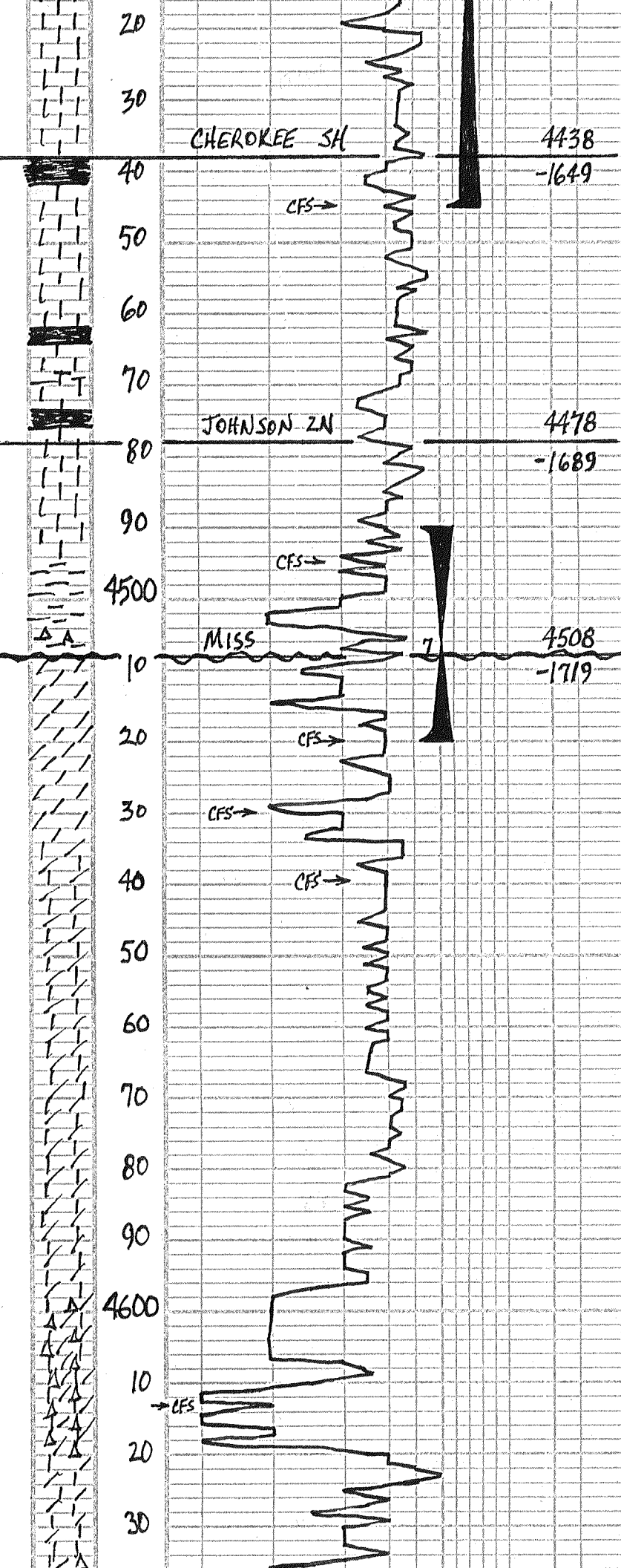
90 FLOOD V. LT GRN - BUFF FN-MD-XLN
 LS PTRY CLK POOR ϕ NS NO ODOR
 92) LT GRN BUFF GRAN SLI-FOSS LS
 FAIR ϕ - NS NO ODOR PTRY CLK
 30 MIN: V. LT GRN - BUFF SLI-FOSS LS
 PARTLY GRAN POOR ϕ NS NO ODOR?
 PTRY CLK FEW GRN-BLK SHS
 60 MIN: LTCRM BUFF FOSS - NOB LS
 P-F ϕ - NS NO ODOR PTRY CLK
 FEW GRN-BLK SHS

TEMP: 116°



60 LOTS GRAY - BLK SHS.
 70 LT BUFF SLI - FOSS LS W/P-F INTER
 - XLN & SCAT STN LT ODR
 15) FLOOD LT CRM - BUFF SLI - FOSS
 LS P-F FEW PCS LT STN, NO ODR
 30 MIN: LT CRM - LT GRAY FN-MD XLN
 LS, POOR & FEW SCAT STN, NO FO
 60 MIN: LT CRM - BUFF SLI - FOSS
 LS W/P-F FEW PCS LT STN
 NO FO, PTLY CRK
 30 PRED GRAY SHS FEW SILTY
 40 FEW LT CRM BUFF SLI - FOSS LS
 POOR & - NS NO ODR
 50 WH - LT CRM CRK LS POOR & - NS
 NO ODR - LOTS GRAY - BRN SHS
 60 WH - LT CRM - V. LT GRAY CRK LS
 POOR & - NS NO ODR
 LT GRN - PURP SILTY SHS
 70 LT CRM - V. LT GRAY FN - XLN LS POOR &
 NS NO ODR PTLY CRK
 75) LT CRM SLI - FOSS LS POOR & - NS
 NO ODR PTLY CRK
 30 MIN: LT CRM SILTY - CRK LS
 POOR & - NS NO ODR LT PUR SHS
 60 MIN: LT CRM - LT BUFF FN - XLN LS
 POOR & - NS NO ODR
 80 LS AA - NS NO ODR LOTS SHS
 90 LT CRM - BUFF SLI - FOSS LS W/POOR
 & - NS NO ODR, LOTS GRAY - BRN SHS
 100 WH - LT PURPLE SLI - FOSS CRK LS
 POOR & - NS NO ODR
 30 MIN: LT CRM - LT PURP FN - XLN
 CRK LS POOR & - NS NO ODR
 60 MIN: CRK - V. LT PURP FN - XLN LS
 POOR & - NS NO ODR
 10 CRK - BUFF SLI - FOSS LS POOR &
 NS NO ODR
 20 WH - LT CRM SLI - FOSS LS POOR &
 NS NO ODR, INC CRK
 30 LT GRAY - BUFF FN - XLN LS POOR &
 PTLY CRK - DNSE, NS, NO ODR
 40 V. LT PEACH GRAY MEALY LS - NS
 INC BRN - RUSTY SHS
 50) FLOOD WH FN - XLN LS DNSE - CRK
 & DRILL WH - LT GRAY A POOR & NS
 30 MIN: WH - V. LT BUFF FN - XLN GRAY
 LS POOR & - NS NO ODR DNSE - CRK
 60 MIN: LS AA - NS NO ODR
 60 PRED V. LT GRAY - BUFF FN - XLN LS
 POOR & - NS NO ODR
 70 LT - MD GRAY FN - XLN LS POOR &
 NS NO ODR
 80 FLOOD BLK SHS!
 87) PRED BLK SHS LESSOR THAN BUFF
 FUSSLD LS POOR & QUES STN NO FO
 30 MIN: LT CRM V. CRK LS W/FAIR ODR
 & W/SSLTGD FAIR ODR 13 PCS
 60 MIN: LT CRM LS W/FAIR FOSS &
 W/SSLTGD FAIR ODR FEW
 W/SC POP SLI CRK FEW LT POS
 PRED GRAY FN - XLN LS DNSE -
 100 SLI CRK POOR & - NS NO ODR
 LOTS BLK SHS & LS AA - NS
 *
 • 10 LT CRM FOSS LS W/P-F FOSS &
 4 PCS W/SSLTGD, LT ODR SLI - CRK
 20 FLOOD BLK FOSS SHS! SSG Bub

MUD-COV
 VISC: 48 FILT: 8.0
 WT: 9.4 CHL: 1,600
 LCM: 1#
 ADDING PRE-MIX
 950# PP
 VISC: 52
 WT: 9.2
 DST#6 4358-4445
 30-45-45-60
 IF: WK BUILT TO 9 1/2"
 FF: V. WK BUILT TO 11 1/2"
 REC: 217' GIP
 35' SLOCH = 10% 0.96% M



* 30 LTCRM - BUFF LS w/ SCAT MD FOSS & 10 PCS w/ SSLTGF, LT ODOR CLEAN

40 FLOOD LTCRM - BUFF SEMI-FOSS LS w/ POOR & FEW SCAT STN NO FO

45) FEW PCS LT BUFF LS w/ SCAT STN, LT ODOR SH-CHK

30 MIN: LOTS BLK SH

60 MIN: LTCRM SLI-FOSS LS POOR & - NS NO ODOR, PTLY CHK

60 GRAY - SALT-PEPPER SLI-FOSS LS POOR & - NS NO ODOR DNSE-CHK

70 FLOOD WH FN-XLN LS DNSE-CHK POOR & - NS NO ODOR

80 WH-LTCRM-LT TAN FN-XLN LS NS NO ODOR FEW GRAY-BLK SHS

90 WH-LTCRM-LT BUFF FN-XLN LS POOR & - NS NO ODOR GRAY-BLK SHS

95) LS AA- NS INC GRAY GRN BLK SHS

30 MIN: WH-CRM-LT TAN FN-XLN LS POOR & - NS DNSE-CHK NO ODOR

50 MIN: WH-CRM FN-XLN LS POOR & - NS NO ODOR PTLY CHK

PRED WH-CRM SLI-FOSS LS POOR &

10 FEW CL QUARTZITE NUNKS POOR & 12 FN-GR SST POOR & DIRTY LNS FEW ORN-GOLD SHARP ΔS - NS

20) LOTS LIGHT BRIGHT GRN SHS INC Δ SHARP NS NO ODOR

30 MIN: LT TAN DOLD FEW SUCROSIC & BIG VUG & PCS w/ FSDR BFO TRACE GAS BUB, LT ODOR ON BRK

60 MIN: INC TAN DOLD w/ FAIR VUG & DECK IN PCS w/ FSDR LT ODOR ON BREAK FEW GAS BUB HR S.C.P.

30) PRED GOLD & PURPLE SHS

30 MIN: FEW PCS WH-LT GRAY DOLD FN-XLN w/ SCAT VUG & 3 PCS w/ SFO SLUFF & MOST BARREN FROM DRK

60 MIN: LOTS LT TAN SUCR DOLD w/ FAIR FOSS-VUG & - NS NO ODOR

40) LT GRAY-VLT BUFF DOLD FEW w/ F VUG & - NS NO ODOR FEW GRAY

30 MIN: FLOOD WH-CRM LS PTLY VUGGY FOSS P-F & NS NO ODOR

60 MIN: WH-LTCRM DOLD LS w/ P-F SCAT VUG & - NS NO ODOR PTLY CRK

50 PRED WH-CRM DOLD & DOLD LS P-F & NS NO ODOR

60 LTCRM - BUFF CRK DOLD LS P-F & NS NO ODOR LOTS CRK

70 WH-LTCRM SUB COC CRK & LS P-F & - NS NO ODOR

80 WH-LTCRM CRK COC LS POOR & NS NO ODOR

90 DIRTY GRAY MEALY DOLD LS SLI-FOSS CRK - NS NO ODOR

60 MURDY GRAY SUCR DOLD FN-XLN POOR & - NS NO ODOR

13) DIRTY GRAY SUCR DOLD FN-GR POOR & - NS NO ODOR

30 MIN: LOTS PURE WH CRK & LT GRAY-WH SHARP Δ - NS

122' SLOAN = 5% O, 95% M
157' T.F.
SIP: 973-934
IFP: 17-71 FFP: 75-84
TEMP: 121°

DST #17 4490'-4520'
30-45-30-45
IF: WSB BUILT TO 1/2"
FF: NO BLOW-FLUSH-NO BLOW
REC: 10' osp Mud = 1% O, 99% M
SIP: 71-56
IFP: 12-15 FFP: 16-19
TEMP: 120°

Visc: 52
WT: 9.4

20 WH CRK DOLD & LS ALSO LT GRAY SEMI OPAQUE Δ - NS NO ODOR

30 WH CRK DOLD & WH Δ POOR & NS NO ODOR SOFT CRK

40 LT TAN FN-XLN DOLD w/ GRAC INCLUS POOR & - NS

30 MIN: LT GRAY-WH SUCR Δ POOR & - NS NO ODOR

LOST CIRC WHILE CFS. PULLED 6 STDS MIXING PRE-MIX HULLS TOOK 10K OFF & LWR PSI TO 600# REGAINED CIRC - SHORTLY AFTER ADDING PRE-MIX MUD. CO. OK

AST
15/

40

CFS → N

RTD 4640

LTD 4641

MINI CO. CH
VISC: 62 FILT: 8.0
WT: 9.2 LCM: 4#
CHL: 1,500 PH: 10.5



RITCHIE

EXPLORATION, INC.
Wichita, Kansas

#1 Heier 13D

975' FSL & 1150' FEL

15' S & 160' W of NW SE SE Section 13-12S-29W

Gove County, Kansas

API# 15-063-22216-0000

Elevation: GL: 2784', KB: 2789'

Sample Tops			Ref. Well
Anhydrite	2295'	+494	-7
B/Anhydrite	2327'	+462	-3
Stotler	3537'	-748	+7
Heebner	3895'	-1106	+4
Toronto	3919'	-1130	+5
Lansing	3934'	-1145	+5
Muncie Shale	4072'	-1283	+6
Stark	4161'	-1372	+5
Hush	4190'	-1401	+4
BKC	4217'	-1428	+9
Altamont	4256'	-1467	+6
Pawnee	4335'	-1546	+5
Myrick	4375'	-1586	+7
Fort Scott	4412'	-1623	+8
Cherokee Shale	4438'	-1649	+8
Johnson	4478'	-1689	+10
B/Johnson	4493'	-1704	+7
Mississippian	4508'	-1719	+16
RTD	4640'	-1851	



CONSOLIDATED
Oil Well Services, LLC

2710 77

TICKET NUMBER 46552
LOCATION Oakley KS
FOREMAN Dane Retzlaff

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
9-13-14	7173	Har 13D #1	13	12	29	Grope
CUSTOMER			Grainfield South to ROV			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
Ritchie			399	Jordon		
CITY			397	Mike		
STATE						
ZIP CODE						

JOB TYPE PTA HOLE SIZE 7 7/8 HOLE DEPTH _____ CASING SIZE & WEIGHT _____
 CASING DEPTH _____ DRILL PIPE 4.5 TUBING _____ OTHER _____
 SLURRY WEIGHT 13.8 SLURRY VOL 1.42 WATER gal/sk 6.7 CEMENT LEFT in CASING _____
 DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting. Rig up. Plug as ordered.

2300 50 SKS
1340 100 SKS
300 50 SKS
40 10 SKS
RH 30 SKS
Plug down at 8:45 AM
240 SKS 60/40 4% gel 1/4 Flo

Thanks Dane + crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401	1	PUMP CHARGE	1395.00	1395.00 ✓
5406	35	MILEAGE	5.25	183.75 ✓
5407A	10.32	TON Mileage Delivery	1.75	632.10 ✓
1131	240 SKS	60/40 Poz Mix	15.86	3806.40 ✓
1118B	826	Bentonite	.27	223.02 ✓
1107	60	Flo Seal	2.97	178.20 ✓
4432	1	8 5/8 Wooden Plug	100.75	100.75 ✓
			Sub	6519.22 ✓
			less 10%	6519.22 ✓
			Total	5867.30 ✓

completed

SALES TAX 306.33
 ESTIMATED TOTAL 6173.64
 AUTHORIZATION Walt Brown TITLE Toolpusher DATE 9-13-14

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



CONSOLIDATED
Oil Well Services, LLC.

270889

TICKET NUMBER 46719

LOCATION Oakley, KS

FOREMAN Dane Pletzloff

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT

CEMENT

KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY	
9-3-14	7173	Heire 135 #1	13	12	29	Polk	
CUSTOMER		Grainfield 5 FORDY West into		TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS		Ritchie		399	Mike		
CITY		STATE	ZIP CODE	460	Rob		
					Bill		

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 251 CASING SIZE & WEIGHT 8 5/8 24 LBS
 CASING DEPTH 251 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8 SLURRY VOL 1.36 WATER gal/sk 6.5 CEMENT LEFT in CASING 20
 DISPLACEMENT 14.7 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting. Rig up. W/O #8. Break Circulation. Mix 180 sks of Class A
3% cc 2% gel. Displace 15 BPH. Wash up. Shut in.
Cement did circulate

Thanks Dane & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
54019	1	PUMP CHARGE	1150.00	1150.00 ✓
5406	45	MILEAGE	5.25	236.25 ✓
5407A	8.46	Tow Mileage Delivery	1.75	666.22 ✓
11045	180 sks	Class A cement	18.55	3339.00 ✓
1162	507	Calcium Chloride	476.58 ✓ .94	477.14
1118A	338	Bentonite	91.26 ✓ .22	91.37
			5959.31 Sub	5959.78
			595.93 10%	595.99
			5363.38 Total	5363.99
			SALES TAX	277.78
			ESTIMATED TOTAL	5641.77 ✓

Ravin 3737

AUTHORIZATION [Signature] TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

93-144 28280