KOLAR Document ID: 1353339

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 # 4767
Name: Ritchie Exploration, Inc.
Address 1: 8100 E 22ND ST N # 700
Address 2: BOX 783188
City: WICHITA State: KS Zip: 67278 + 3188
Contact Person: Peter Fiorini
Phone: (316) 691-9500
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: John Goldsmith
Purchaser: CHS

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 #:

01/23/2017	02/03/2017	02/03/2017
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-109-21472-00-00
Spot Description: 45'S & 130'W of
__ - E2 - SW - SW Sec. 16 Twp. 15 S. R. 36 ☐ East ☑ West
615 Feet from ☐ North / ☑ South Line of Section
860 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Logan
Lease Name: BLAU 16C Well #: 1
Field Name:
Producing Formation: Altamont
Elevation: Ground: 3344 Kelly Bushing: 3349
Total Vertical Depth: 5020 Plug Back Total Depth: 4988
Amount of Surface Pipe Set and Cemented at: 220 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 2551 Feet
If Alternate II completion, cement circulated from: 0
feet depth to: 2551 w/ 300 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 24000 ppm Fluid volume: 860 bbls
Dewatering method used: Evaporated
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: 05/12/2017
☑ **Confidential Release Date:** 05/12/2019
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** Karen Ritter **Date:** 05/12/2017

Operator Name: Ritchie Exploration, Inc. Lease Name: BLAU 16C Well #: 1

Sec. 16 Twp. 15 S. R. 36 ☐ East ☑ West County: Logan

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 *(Attach Additional Sheets)*	☑ Yes	☐ No	
Samples Sent to Geological Survey	☑ Yes	☐ No	
Cores Taken	☐ Yes	☑ No	
Electric Log Run	☑ Yes	☐ No	
Geologist Report / Mud Logs	☐ Yes	☐ No	

List All E. Logs Run:
Attached

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

Name Top Datum

See Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.63	24	220	Common	165	3% cc, 2% gel
Production	7.88	5.5	15.5	5017	OWC	200	10% salt, 2% gel, 1/4% CDI-26 & 5# per

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

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: 02/22/2017	Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	107.78		0		25

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL: Top / Bottom
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

TUBING RECORD: Size: 2.88 Set At: 4968 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Ritchie Exploration, Inc.
Well Name	BLAU 16C 1
Doc ID	1353339

All Electric Logs Run

Dual Induction
Dual Comp Porosity Log
Microresistivity Log
Gamma Ray CCL Log

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Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4513' - 4519' (2/14/17)	500 gals 15% NE	

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Well Name	BLAU 16C 1
Doc ID	1353339

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.63	24	220	Common	165	3% cc, 2% gel
Production	7.88	5.5	15.5	5017	OWC	200	10% salt, 2% gel, 1/4% CDI-26 & 5# per sack Kol-seal

Wellsite Services, LLC

John Goldsmith
(316) 640-0236
427 Roosevelt St.
Cheney, KS 67025

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

Well Name:	#1 Blau 16C
API:	15-109-21472
Location:	615' FSL & 860' FWL, Sec 16-15S-36W, E/2 SW SW
License Number:	REI #4767
Region:	Logan County
Spud Date:	1/23/2017
Drilling Completed:	2/03/2017
Surface Coordinates:	LAT: 38.7464520 LONG: -101.3322799
Bottom Hole Coordinates:	Vertical Hole 1 Degree Deviation
Ground Elevation (ft):	3346'
K.B. Elevation (ft):	3349'
Logged Interval (ft):	3750' To: RTD
Total Depth (ft):	5020'
Formation:	Mississippian at RTD
Type of Drilling Fluid:	Chemical

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

OPERATOR

Company: Ritchie Exploration Inc.
Address: 8100 E. 22nd St. N. #700
Wichita, KS 67226
(316) 691-9500

GEOLOGIST

Name: John Goldsmith
Company: Wellsite Services LLC
Address: 427 Roosevelt St.
Cheney, KS 67025
(316) 640-0236

RIG RECORDS

Contractor: WW Drilling Rig #10
Pusher: Ricky Hilgers

Collar Tally: 496'

Pump: Emsco D-300
Liner & Stroke: 6 x 14

BIT RECORDS

Size:	Type:	Footage:	Condition:	Hours:	Serial #:
12 1/4"	Sm-tooth	0-220'	RR	2	RH6605
7 7/8"	Sm-F27	220'-5020'	New	119.25	RJ0642

COMMENTS

Surface Casing: 5 joints of 8 5/8" set @ 220'
Production Casing: 5.5" production casing was set.
Mud by: MudCo
DST's by: Diamond Testing
Logs by: Pioneer Energy Services (DIL, CN-CD, ML)
RTD = 5020' LTD = 5022'

FORMATION TOPS

FORMATION	SAMPLE TOPS Depth	Datum	LOG TOPS Depth	Datum
Heebner Shale	4050'	-701	4050'	-701
Toronto	4073'	-724	4073'	-724
Lansing	4095'	-746	4097'	-748
Muncie Creek Shale	4277'	-928	4278'	-929
Stark Shale	4369'	-1020	4370'	-1021
Hushpuckney Shale	4412'	-1063	4414'	-1065
Base of KC	4454'	-1105	4456'	-1107
Marmaton	4494'	-1145	4495'	-1146
Altamont	4511'	-1162	4513'	-1164
Pawnee	4602'	-1253	4603'	-1254
Myrick Station	4644'	-1295	4644'	-1295
Ft Scott	4660'	-1311	4660'	-1311
Chrokee Shale	4690'	-1341	4690'	-1341
Johnson Zone	4774'	-1425	4776'	-1427
Morrow	4827'	-1478	4829'	-1480
Mississippian	4949'	-1600	4950'	-1601
RTD	5020'	-1671		
LTD			5022'	-1673

DST's

DST #1 "Toronto" 4018'-4090' 1-27-17 30-45-45-60
1st Blw: 1/4" blw blt to BOB in 29min (No BB)
2nd Blw: Wk surf blw blt to BOB in 38min (No BB)
IFP: 14-106# ISIP: 1101# FFP: 109-187# FSIP: 1086#
Hyd: 1928-1918#
Rec: 145' MCW (55%Wtr), 250' SMCW (88%Wtr).

DST #2 "Lansing A" 4093'-4124' 1-28-17 30-30-30-30
1st Blw: 3.5" blw blt to BOB in 1.5min (No BB)
2nd Blw: 1.5" blw blt to BOB in 2.5min (No BB)
IFP: 195-817# ISIP: 1161# FFP: 832-1062# FSIP: 1165#
Hyd: 1931-1925#
Rec: 330' MCW (69%Wtr), 500' SMCW (98%Wtr), 1515' Wtr.

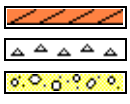
DST #3 "Lansing C" 4130'-4158' 1-29-17 30-45-45-60
1st Blw: Wk surf blw blt to 10" (No BB)
2nd Blw: Wk surf blw blt to BOB in 43.5min (No BB)
IFP: 13-98# ISIP: 1129# FFP: 99-166# FSIP: 1114#
Hyd: 1937-1935#
Rec: 100' WMw/OS (50%Wtr), 250' SMCW (91%Wtr).

DST #4 "Lansing D/E/F" 4160'-4234' 1-29-17 30-45-45-60
1st Blw: 1" blw blt to BOB in 5.5min (No BB)
2nd Blw: Wk surf blw blt to BOB in 7.5min (No BB)
IFP: 44-279# ISIP: 1154# FFP: 289-504# FSIP: 1127#
Hyd: 1969-1958#
Rec: 95' SWCMw/TrO (4%Wtr), 380' HMCWw/TrO (52%Wtr), 250' MCW (78%Wtr), 315'SMCW (93%Wtr), 60' WCM (24%Wtr).

DST #5 "Lansing I" 4318'-4346' 1-30-17 30-45-45-60
1st Blw: Wk surf blw blt to BOB in 20min (No BB)
2nd Blw: VWk surf blw blt to BOB in 27.5min (No BB)
IFP: 16-137# ISIP: 1225# FFP: 139-252# FSIP: 1206#
Hyd: 2049-2046#
Rec: 1' CO, 35' OHMCW (17%O, 44%Wtr), 190' SOHMCW (2%O, 58%Wtr), 255' SOMCW (3%O, 92%Wtr), 60' SOHWCM (1%O, 44%Wtr).

DST #6 "Altamont A" 4470'-4534' 1-31-17 30-45-45-60
1st Blw: 1" blw blt to BOB in 5.5min (2.5" BB)
2nd Blw: Wk surf blw blt to BOB in 7.5min (1.25" BB)
IFP: 45-251# ISIP: 1251# FFP: 261-463# FSIP: 1239#
Hyd: 2181-2129#
Rec: 485' GIP, 335' GO (89%O), 690' GSMCO (12%G, 83%O), 190' GHOCM (6%G, 45%O).

ROCK TYPES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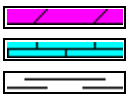
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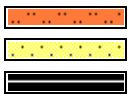
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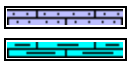
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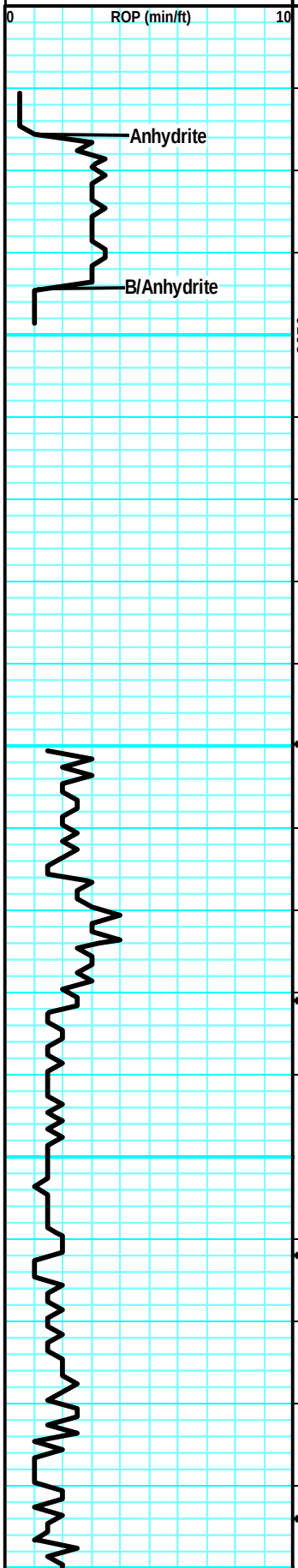
ACCESSORIES

EVENTS
- Circ
- Conn

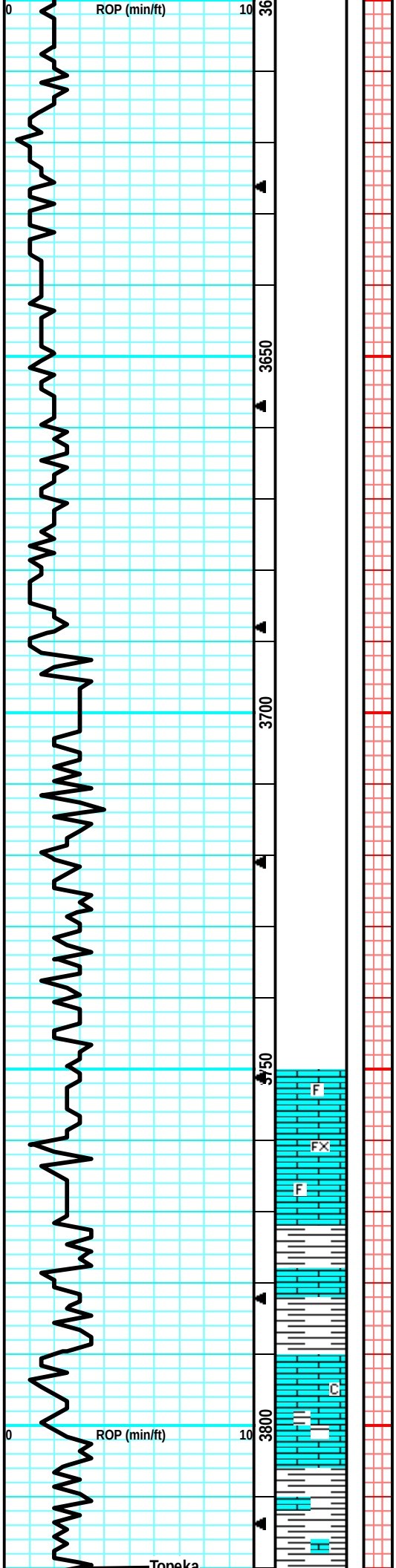
FOSSIL
- Brach
- Bryozoa
- Crin
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Fuss
- Oolcast

MINERAL
- Calc
- Chtdk
- Chtlt
- Glau
- Pyr
- Sil

TEXTURE
- Chalky
- Crsxln
- Finexln
- Microxln



Depth	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
				Morning Activity/Depth: Jan 23, 2017: Spud 1/24/17: drlg @ 256' 1/25/17: drlg @ 2590' 1/26/17: drlg @ 3470' (Mud Up) 1/27/17: Shot Trip @ 4003' (DST #1) 1/28/17: Circulating @ 4124' (DST #2 & DST #3) 1/29/17: Tripping Pipe after test (DST #4) 1/30/17: Circulating @ 4316' (DST #5) 1/31/17: drlg @ 4425' (DST #6) 2/1/17: drlg @ 4545' 2/2/17: drlg @ 4840' 2/3/17: TD @ 5020' (Ran Elec-Log) **Drilling Time @ 3500' on 1/26/2017**	MudCo Check #1 @ 0' on 01/18/17 Survey @ 220' = 1/4 Degree **Anhydrite @ 2626' (+723)** MudCo Check #2 @ 643' 01/23/17 @ 10:20am Wt: 8.5 Vis: 27 pH: 8.0 Filt: n/c Chlr: 200 LCM: 0# **B/Anhydrite @ 2644' (+705)** MudCo Check #3 @ 2743' 01/25/17 @ 9:40am Wt: 9.5 Vis: 32 pH: 7.0 Filt: n/c Chlr: 59.5K LCM: 4# **Displaced 680bbls of Mud @ 3451'** MudCo Check #4 @ 3528' 01/26/17 @ 9:50am Wt: 8.6 Vis: 67 pH: 11.5 Filt: 8.0 Chlr: 3K LCM: 1.5#



Samples Begin @ 3750' on 1/26/2017

LS: gry/tan, slght mott, fn xln, fw foss, no vis por, no cup odr, ns.

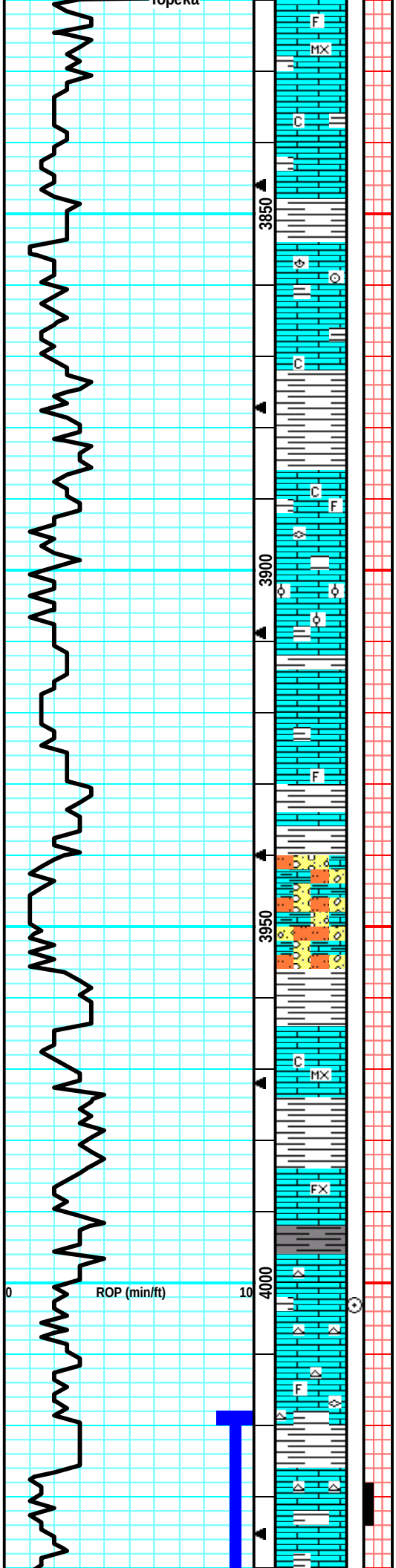
LS: tan/lt gry, mott in prt, fn xln, fw foss frags, no vis por, no cup odr, ns.

LS: lt gry/lt tan, fn xln, fw foss, flaky, chlky, tr no vis por, no cup odr, ns.

LS: lt gry/lt tan, mott, fn xln, dense, tr no vis por, inflx SH: brn, silty, gritty/sandy, sm firm, no cup odr, ns.

LS: lt tan/ltgry, slght mott, fn xln, dense, firm, fw foss, tr-nvp, sm SH: gry/brn, gritty, silty, sm friable, med crush, no cup odr, ns.

Topeka @ 3820' (-471)



LS: crm/lt tan, sing, micro-fn xln, fw foss frags, dense/firm, tr-nvp, fw SH: gry/brn, silty, soft, no cup odr, ns.

Much of the same: influx SS: silv/gry, fn grn, sub-rnd, arg, firm, tr-? intgrn por, no cup odr, ns.

LS: gry/tan, mott, fn xln, firm, foss w/ brach/crin, sm pr intfoss por, no cup odr, ns.

LS: lt tan, sing, micro-fn xln, deense, sm firm, fw sub chlky, tr-nvp, no cup odr, ns.

Mostly same: Lrg influx pur chlk, svrl SH: drk gry/brn, silty, soft, no cup odr, ns.

SH: gry/lt brn, silty, v soft, muddy, fw blk, friable, carb, no cup odr, ns.

Fw SltStn: brn/lt brn, gritty, silty, soft, fw LS: gry/tan, mott, foss w/ fuss/frags, tr-nvp, no cup odr, ns.

LS: tan, grainy, firm, fw ool, dense, matrx, tr-nvp, fw SH: gry/grn, silty, no cup odr, ns.

Much of the same w/ larg amout of pur chlk.

LS: tan/gry, mott, fn xln, fw foss frags, tr-nvp, fw SH: gry/grn, silty, gritty, no cup odr, ns.

SH: gry/grn, silty, soft, fw blk, carb, friable, no cup odr, ns.

SH: gry/brn, silty, sm SltStn: brn, gritty, v soft, sm muddy, fw LS: gry/tan, mott, dense, foss, tr-nvp, no cup odr, ns.

LS: crm/lt tan, sing, micro-fn xln, dense, firm, tr-nvp, no cup odr, ns.

Fw SH: gry/brn, silty, sm gritty, no cup odr, ns.

LS: lt tan/gry, slght mott, fn xln, dense, fw flakey, tr-nvp, no cup odr, ns.

60" smpl Influx SH: drk gry/brn, silty, gritty, med crush, no cup odr, ns.

LS: gry/brn, slght mott, fn xln, dense, firm, tr-nvp, fw Chert: wht/opaque, svrl SH: gry/brn, silty, no cup odr, ns.

LS: lt tan, sing, fn xln, foss w/ fuss/frags, dense, tr-nvp, fw Chert: wht/opaq, foss, no cup odr, ns.

LS: tan, fn xln, sub-chlky, scat fr vuggy por, sphr of oil cling to rx chp, fr cup odr, frsfo.

LS: tan/gry, fn xln, scat vuggy por, hvy stns in por, gas bub in vug, sml shpr of oil, gd fluor/cut, fr cup odr, fr sfo in 4-5 pcs/try

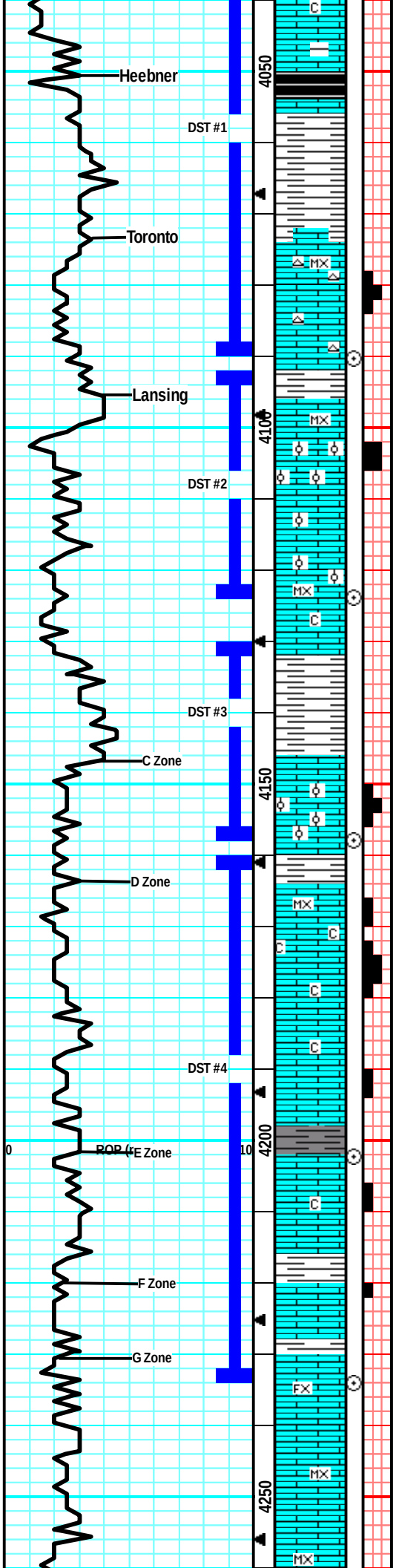
Topeka @ 3820' (-471)

MudCo Check #5 @ 4003'
01/27/17 @ 9:35am
Wt: 8.9 Vis: 54
pH: 11.0 Filt: 7.2
Chlr: 3.4K LCM: 2#

Short Trip 32 Stands @ 4003', Circ for 60"

CFS @ 4003'
30"/60"

DST #1 "Toronto" 4018'-4090' 1-27-17
30-45-45-60
1st Blw: 1/4" blw blt to BOB in 29min (No BB)
2nd Blw: Wk surf blw blt to BOB in 38min (No BB)
IFP: 14-106# ISIP: 1101# FFP: 109-187# FSIP: 1086#
Hyd: 1928-1918#
Rec: 145' MCW (55%Wtr), 250' SMCW (88%Wtr).



SH: blk, silty, carb, friable.

LS: gry/tan, mott, fn xln, fw foss, tr-nvp, no cup odr, ns.

SH: gry/brn, silty, sm soft.

LS: crm/lt tan, sing, micro-fn xln, dense, tr-nvp, fw
Chert: wht/opaq, sharp, no cup odr, ns.
LS: lt tan, fn xln, fr intxln por, lght brn stns, gd fluor, strm cut, fr-gd cup odr, 2 sml sphr oil cling to rx chp, 7-8 pcs/try, fr sfo.
60" Smpl: svrl more pcs w/ sho, more dense rx, micro-fn xln, sm gd por, only fr cup odr, fr sfo.

LS: crm/lt tan, micro-fn xln, dense, brittle, spttd drk brn stns, gd fluor/cut, ssfo, svrl SH: gry/brn, silty, sm fissile, no cup odr, ns.

LS: tan, mott, v ool, fr-tight intool por, sm v chlky, drk stns in por, fr sho fo on brk, gd fluor/cut, fr cup odr, abund pur chlk.

LS: tan, fn xln, sm ool, fw ool pcs w/ tight intool por, ssfo, faint cup odr, abund pur chlk.

LS: lt tan, micro-fn xln, dense, sm brittle, por intxln por in sm, vvsfo, faint cup odr.

60" Smpl: LS: crm/lt tan, micro-fn xln, sm intool por, slght vuggy, svrl pcs pur chlk, ssfo, faint cup odr.

LS: crm/lt tan, fn xln, mostly dense, brittle, tr-nvp, sm SH: brn/grn, silty, sm soft, no cup odr, ns.

LS: gry/brn, mott, fn xln, flakey/mealy, firm, tr-nvp, fw
SH: gry/brn, silty, no cup odr, ns.

SH: gry/brn, silty, soft, no cup odr, ns.

LS: tan/lt tan, slght mott, fn xln, sm v ool, sm dense, pr intool por, fw w/ fr intxln por, hvy stns in por, gd sfo on brk, dul yel fluor, strm cut, gd cup odr, svrl pcs/try.

LS: tan/gry, mott, micro-fn xln, fr intxln por, scat vug, fr sfo, sm drk dead oil, gd fluor/cut, faint cup odr, poss from base of the "C" zone.

LS: tan/gry, mott, fn xln, gd vuggy por, hvy stns in por, sphr oil clng to rx chp, fr cup odr, svrl pcs/try, gd sho fo.

LS: gry, fn xln, sm dense, many flakey, sub chlky in prt, tr-nvp.

LS: gry/lt tan, fn xln, sm vuggy, ssfo in por, dul yel fluor/strm cut, gd cup odr.

LS: tan/gry, slght mott, fn xln, dense, firm, sm flakey, scat vuggy por, stn in por, sphr of oil on rx chp, strg cup odr, ssfo.

LS: gry/lt tan, slght mott, fn xln, dense, firm, fw flakey/mealey, tr-nvp, fnt cup odr, fw pcs w/ patchy brn stns, vssfo on brk in cpl pcs.

LS: gry/lt tan, mott in prt, fn xln, dense, firm, many flakey, tr-nvp, fw SH: gry, silty, no cup odr, ns.

LS: tan/lt tan, slght mott, fn xln, fw dense, chlky, tr-nvp, svrl SH: grygrn, silty, no cup odr, ns.

LS: crm/lt tan, sing, micro-fn xln, dense, brittle, chlky, tr-nvp.

LS: crm, sing, micro xln, dense, brittle, tr-nvp, no cup odr, ns.

Heebner @ 4050' (-701)

Survey @ 4090' = 1 Degree

Toronto @ 4073' (-724)

CFS @ 4090'
30"/60"

Lansing @ 4095' (-746)

DST #2 "Lansing A" 4093'-4124' 1-28-17
30-30-30-30
1st Blw: 3.5" blw blt to BOB in 1.5min (No BB)
2nd Blw: 1.5" blw blt to BOB in 2.5min (No BB)
IFP: 195-817# ISIP: 1161# FFP: 832-1062# FSIP: 1165#
Hyd: 1931-1925#
Rec: 330' MCW (69%Wtr), 500' SMCW (98%Wtr), 1515' Wtr.

CFS @ 4124'
30"/60"

Strap Pipe: 1.54' Long to Board

MudCo Check #6 @ 4124'
01/28/17 @ 9:20am
Wt: 9.1 Vis: 53
pH: 11.0 Filt: 8.0
Chlr: 4K LCM: 1#

CFS @ 4158'
30"/60"

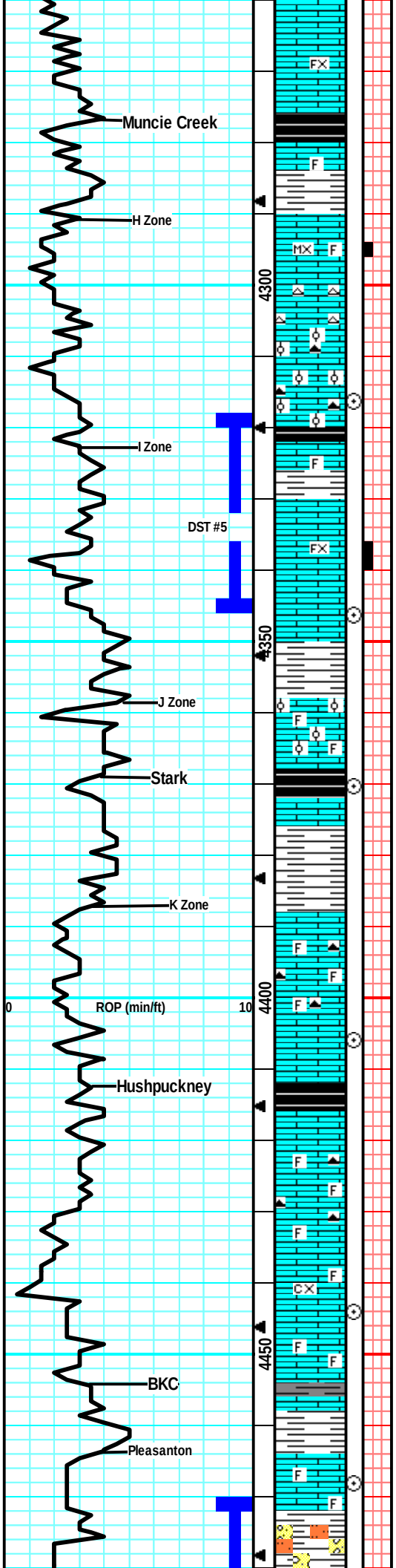
DST #3 "Lansing C" 4130'-4158' 1-29-17
30-45-45-60
1st Blw: Wk surf blw blt to 10" (No BB)
2nd Blw: Wk surf blw blt to BOB in 43.5min (No BB)
IFP: 13-98# ISIP: 1129# FFP: 99-166# FSIP: 1114#
Hyd: 1937-1935#
Rec: 100' WMw/OS (50%Wtr), 250' SMCW (91%Wtr).

MudCo Check #7 @ 4188'
01/29/17 @ 8:45am
Wt: 9.0 Vis: 59
pH: 10.5 Filt: 8.8
Chlr: 6.1K LCM: 2#

CFS @ 4202'
30"/60"

DST #4 "Lansing D/E/F" 4160'-4234' 1-29-17
30-45-45-60
1st Blw: 1" blw blt to BOB in 5.5min (No BB)
2nd Blw: Wk surf blw blt to BOB in 7.5min (No BB)
IFP: 44-279# ISIP: 1154# FFP: 289-504# FSIP: 1127#
Hyd: 1969-1958#
Rec: 95' SWCMw/TrO (4%Wtr), 380' HMCWw/TrO (52%Wtr), 250' MCW (78%Wtr), 315'SMCW (93%Wtr), 60' WCM (24%Wtr).

CFS @ 4202'
30"/60"



LS: lt tan/lt gry, slght mott, fn xln, dense, chlky, fw flakey like, tr-nvp.

LS: gry, slght mott, fn xln, flakey, sub chlky, dense, no cup odr, ns.

SH: blk, silty, carb, sm friable.

LS: gry/tan, mott, fn xln, foss w/ frags, flakey, firm, tr-nvp, no cup odr, ns.

LS: crm/lt tan, micro-fn xln, fw foss frags, mostly dense, abund chlk, tr-nvp, 2 pcs w/ tight scat vugs, lght brn stns, gd fluor/cut, ? sho fo on brk only, fw SH: gry.

LS: lt gry/lt tan, fn xln, dense, chlky, jtr-nvp, fw Chert: wht/opaque, foss, sharp, no cup odr, ns.

LS: lt tan, fn xln, sm ool, mostly dense, sm firm, tr-nvp, fw Chert: brn, foss, sharp, no odr, ns.

LS: gry/lt tan, fn xln, sm v ool, fw dense, firm, tr-nvp, svrl Chert: tan, ool/foss, sharp, no odr, ns.

LS: gry/tan, mott, fn xln, foss, dense, flakey, tr-? intxln por, svrl SH: blk, carb, silty, no odr, ns.

LS: tan, mott, fn xln, sm brittle, sub-chlky, sm fr intxln por w/ scat vugs, drk brn stns in por, vssfo on brk, gd fluor/cut, wk cup odr.

LS: lt gry/lt tan, slght mott, fn xln, sub-chlky, fw flakey, tr-nvp, no cup odr, ns.

LS: gry/tan, mostly sing, fn xln, many dense, sm brittle, sub-chlky, 3 pcs w/ pr intxln por on edges, drk brn stn on edge, wk-? fluor, pos cut, no cup odr, nsfo.

LS: drk gry/lt brn, mott, profus ool/foss, dense, sm firm, tr-pr intfoss por in v fw pcs, sm SH: gry, silty, no odr, ns.

LS: gry/lt tan, sing, fn xln, dense, sm brittle, tr-nvp, no cup odr, ns.

SH: blk, carb, silty, sm friable, no odr, ns.

LS: tan/gry, slght mott, fn xln, dense, firm, tr-nvp, abund SH: gry/blu, silty, gritty, friable, no odr, ns.

LS: tan/gry, mott, fn xln, foss, sm flakey, many firm, tr-nvp, no odr, ns.

LS: gry/tan, mott in prt, fn xln, v foss, many flakey/mealy, sub-chlky, brittle, tr-nvp, fw Chert: gry, foss, sharp, no cup odr, ns.

LS: gry/lt tan, sing, fn xln, dense, firm, sub-chlky in prt, tr-nvp, no odr, ns.

SH: blk, carb, silty, friable.

LS: gry/tan, slght mott, fn xln, dense, flakey, firm, tr-nvp, no odr, ns.

LS: gry, mott, fn xln, v foss, v flakey/mealy, chlky in prt, tr-nvp, sm Chert: gry, foss, sharp, no odr, ns.

LS: tan/gry, slght mott, fn-crs xln, flakey/mealy, brittle, sub-chlky, tr-nvp, no odr, ns.

LS: gry/tan, mott, fn xln, v foss, flakey, tr-nvp, no cup odr, ns.

LS: tan/gry, mott, fn xln, foss, dense, firm, tr-nvp, svrl SH: drk gry, silty, med crush, no odr, ns.

LS: gry, mott, fn xln, v foss, brittle, chlky, tr-nvp, fw SH: gry, silty, no odr, ns.

LS: gry, mott, fn xln, many foss, grain in sm, tr-nvp, no odr, ns.

LS: gry/lt brn, mott, fn xln, many foss, flakey, sm

Muncie Creek @ 4277' (-928)

CFS @ 4316'
30"/60"

DST #5 "Lansing I" 4318'-4346' 1-30-17
30-45-45-60
1st Blw: Wk surf blw blt to BOB in 20min (No BB)
2nd Blw: VWk surf blw blt to BOB in 27.5min (No BB)
IFP: 16-137# ISIP: 1225# FFP: 139-252# FSIP: 1206#
Hyd: 2049-2046#
Rec: 1' CO, 35' OHMCW (17%O, 44%Wtr), 190' SOHMCW (2%O, 58%Wtr), 255' SOMCW (3%O, 92%Wtr), 60' SOHWCM (1%O, 44%Wtr).

CFS @ 4346'
30"/60"

MudCo Check #8 @ 4346'
01/30/17 @ 9:20am
Wt: 9.2 Vis: 51
pH: 11.0 Filt: 7.2
Chlr: 5.5K LCM: 1.5#

Stark @ 4369' (-1020)

CFS @ 4370'
30"/60"

CFS @ 4406'
30"/60"

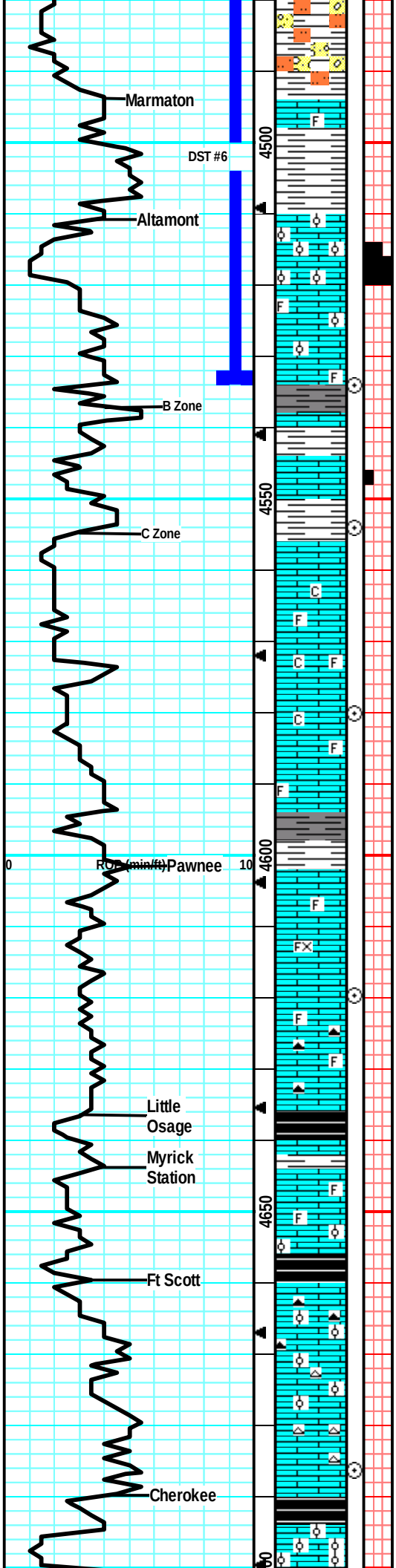
Hushpuckney @ 4412' (-1063)

CFS @ 4444'
30"/60"

BKC @ 4454' (-1105)

CFS @ 4468'
30"/60"

MudCo Check #9 @ 4468'
01/31/17 @ 10:45am
Wt: 9.2 Vis: 61
pH: 10.5 Filt: 8.8



brittle, tr-nvp, sm SH: brn/gry, silty, med crush, fw
SltStn: lt gry/lt brn, gritty, friable, soft, no cup odr, ns.

LS: gry/tan, slght mott, fn-crs xln, foss, flakey/mealy, tr-? intxln por, fw SH: gry/brn, silty, no odr, ns.

SH: gry/brn, silty, soft, sm muddy like, fw LS: gry, mott, fn-crs xln, mott, tr-nvp, no odr, ns.

LS: gry/tan, mott, fn xln, sm profus ool, gd intool/vuggy por in svrl, drk hvy saturation in por, free oil in por, gas bub on brk, gd sfo in 10+ pcs, fr-gd cup odr.

LS: gry/tan, mott, fn xln, ool/foss, much tighter por, scat vugs, fr sfo in svrl pcs, fnt cup odr.

LS: gry/tan, slght mott, fn xln, dense, sm flakey, tr-nvp, no odr, ns.

LS: tan/lt gry, fn xln, dense, sub-chlky, tr-nvp, svrl SH: gry/brn, silty, med crush, no odr, ns.

LS: tan/lt gry, fn xln, sub chlky, sm brittle, pr intxln por in cpl pcs, lght brn scat stn, nsfo, wk fluor, pos cut, no cup odr.

LS: crm/lt tan, sing, fn xln, dense, brittle, sub-chlky, tr-nvp, no odr, ns.

LS: gry/tan, fn xln, sm ool, flakey/mealy, brittle, tr-nvp, abund pur chlk, tr-nvp, sm SH: gry/blu, silty, soft, no cup odr, ns.

LS: gry/tan, mott, fn xln, foss, brittle, profus chlky, tr-nvp, abund pur chlk, no odr, ns.

LS: gry/tan, mott, fn xln, grainy, foss, sm brittle, tr-nvp, fw SH: gry, silty, no odr, ns.

LS: gry/lt brn, mott, fn xln, fw foss frags, flakey, firm, tr-nvp, fw pcs pur chlk, fw SH: gry, silty, no odr, ns.

LS: gry/tan, mott, fn xln, fw foss, mostly dense, firm, fw flakey, tr-nvp, sm SH: drk gry, silty, no odr, ns.

LS: gry/brn, fn xln, dense, firm, tr-nvp, no odr, ns.

LS: gry/lt brn, mott, fn xln, foss, flakey, sm brittle, tr-nvp, fw SH: drk gry, silty, no odr, ns.

sm Chert: drk gry, smokey, foss, sharp.

SH: blk, carb, silty, friable.

LS: gry/tan, fn xln, fw foss, flakey/mealy, sm grainy like, tr-nvp, fw SH: gry/blk, silty, sm carb, no cup odr, ns.

LS: lt gry/tan, fn xln, sm foss, sm ool, mostly dense, sm brittle, tr-nvp, fw Chert: gry, ool, sharp, no odr, ns.

SH: blk, silty, carb, friable.

LS: tan, fn xln, v ool, mostly dense, sm firm, tr-nvp, sm Chert: gry, ool, sharp, no odr, ns.

LS: gry/tan, fn xln, sm ool, many dense, sub-chlky, tr-nvp, sm Chert: wht/gry, foss, sharp, no odr, ns.

LS: gry/tan, fn xln, fn xln, dense, sm flakey, sub-chlky, tr-nvp, fw Chert: wht/gry, foss, sharp, no odr, ns.

SH: blk, silty, carb, friable.

LS: gry/tan, mott, fn xln, sm v ool, fw brittle, griany like, fw dense, tr-nvp, svrl SH: drk gry/blk, silty, sm

Chlr: 6.8K LCM: 1#

Marmaton @ 4494' (-1145)

Altamont @ 4511' (-1162)

DST #6 "Altamont A" 4470'-4534' 1-31-17
30-45-45-60
1st Blw: 1" blw blt to BOB in 5.5min (2.5" BB)
2nd Blw: Wk surf blw blt to BOB in 7.5min (1.25" BB)
IFP: 45-251# ISIP: 1251# FFP: 261-463# FSIP: 1239#
Hyd: 2181-2129#
Rec: 485' GIP, 335' GO (89%O), 690' GSMCO (12%G, 83%O), 190' GHOCM (6%G, 45%O).

CFS @ 4534'
30"/60"

CFS @ 4554'
30"/60"

CFS @ 4580'
30"/60"

MudCo Check #10 @ 4585'
02/01/17 @ 10:50am
Wt: 9.2 Vis: 64
pH: 10.0 Filt: 9.6
Chlr: 9.0K LCM: 1#

Pawnee @ 4602' (-1253)

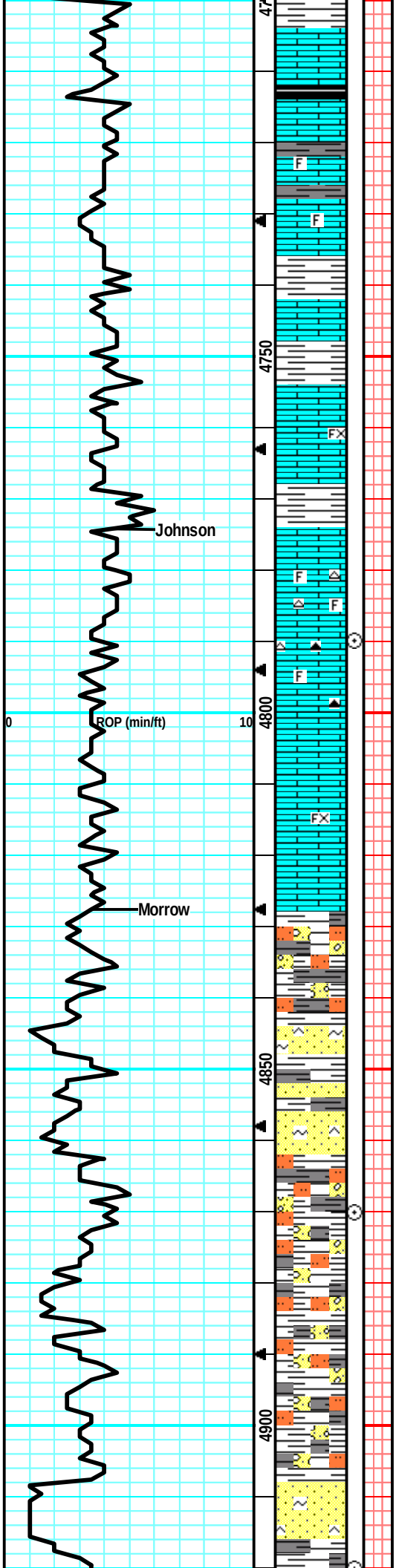
CFS @ 4620'
30"/60"

Myrick Station @ 4644' (-1295)

Ft Scott @ 4660' (-1311)

CFS @ 4686'
30"/60"

Cherokee @ 4690' (-1341)



like, fw dense, tr-nvp, svrl SH: drk gry/blk, silty, sm carb, no odr, ns.

LS: tan/gry, slght mott, fn xln, flakey/mealy, sm dense, firm, tr-nvp, sm SH: drk gry/blk, silty, carb, no odr, ns.

LS: tan/gry, fn xln, foss in prt, mostly dense, firm, tr-nvp, svrl SH: drk gry/blk, silty, sm carb, no odr, ns.

LS: tan/gry, mott in prt, fn xln, fw foss, sm dense, many flakey, firm, tr-nvp, svrl SH: drk gry/blk, silty, sm carb, no odr, ns.

LS: gry/tan, slght mott, fn xln, dense, sandy in prt, tr-nvp, abund SH: drk gry/blk, silty, soft, sm carb, no odr, ns.

LS: tan/lt gry, slght mott, fn xln, dense, sub-chlky, fw flakey, tr-nvp, fw SH: gry, silty, no odr, ns.

LS: tan/lt gry, slght mott, fn xln, dense, firm, sm flakey, sub-chlky, tr-nvp, fw pcs pur chlk, fw SH: gry, silty, no odr, ns.

Johnson @ 4774' (-1425)

LS: tan/lt gry, slght mott, fn xln, fw foss, flakey, brittle, sub-chlky, tr-nvp, fw Chert: wht/tan, foss, sharp, no odr, ns.

CFS @ 4790'
30"/60"

LS: gry/lt gry, slght mott, fn xln, fw foss frags, many flakey, tr-nvp, fw Chert: gry, smokey, foss, sharp, fw SH: gry, silty, no odr, ns.

LS: tan/gry, slght mott, fn xln, sm dense, many flakey, firm, tr-nvp, sm SH: gry, silty, no odr, ns.

LS: gry, mott, fn xln, flakey, firm, tr-nvp, fw SH: gry, silty, no odr, ns.

Morrow @ 4827' (-1478)

SH: gry/brn/grn/yel, sm wthrd, soft, silty, fw LS: gry, mott, fn xln, flakey, tr-nvp, no cup odr, ns.

SH: gry/brn, silty, soft, sm yel wthrd, fw SS: wht/crm, fn grn, sub rnd, friable, firm, sm glauc, tr-? intgrn por, no odr, ns.

SH: gry/brn, silty, sm soft.

SS: gry/why, fn grn, sub-ang, fw brittle, sm firm, sil cem, sm arg/chlky, fw glauc, no sho, no odr.

SH: gry/brn, silty, sm soft, no odr, ns.

CFS @ 4870'
30"/60"

SH: gry/brn, silty, soft, sm SltStn: gry, gritty, v soft, friable, no odr, ns.

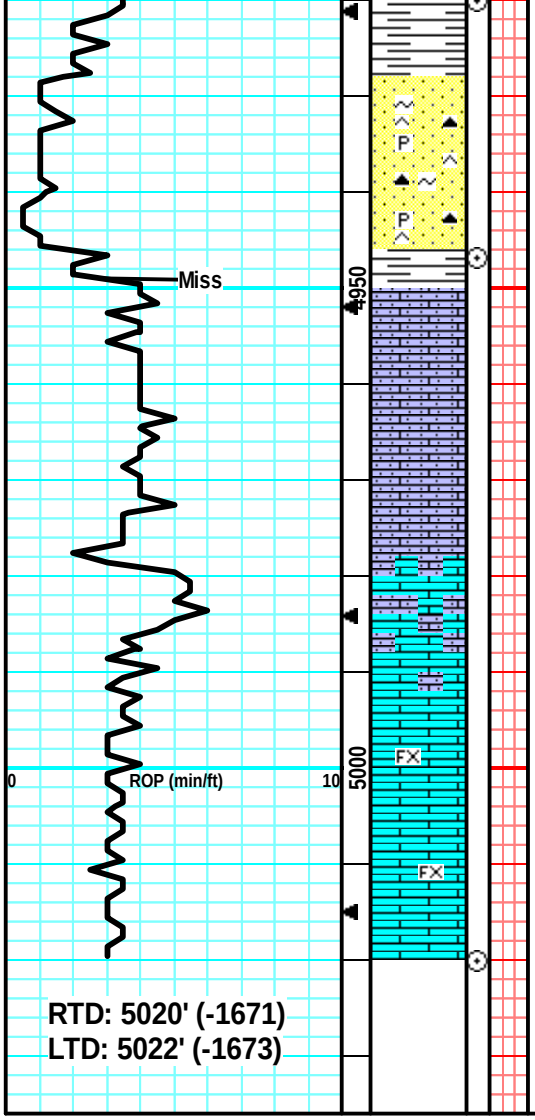
SH: gry/brn/yel, silty, soft, fw fissile, sm wthrd, fw SltStn: gry/brn, gritty, v soft, friable, no odr, ns.

SH: drk gry/brn/yel, silty, soft, sm wthrd, fw SS: gry/wht, sub rnd, arg, sm glauc, sil cem, tr-? intgrn in fw, no odr, ns.

SS: gry/crm, fn grn, sub ang, silc cem, sm glauc, fw silty/arg, tr-pr intgrn or in sm, no cup odr, ns.

MudCo Check #11 @ 4905'
02/02/17 @ 11:00am
Wt: 9.2 Vis: 63
pH: 10.0 Filt: 8.8
Chlr: 9.3K LCM: 2#

CFS @ 4920'



SH: gry/brn, silty, soft, sm SltStn: gry, gritty, v soft, no odr, ns.

SH: gry/grn/brn, silty, soft, sm muddy, fw SS: gry/grn, sm firm, fn grn, arg, sm glauc, tr-nvp, no odr, ns.

SS: pale grn, crs grn, sub-ang, arg, glauc, sm silty, sm frim, tr-nvp, no fluor, no sho, no odr.

SS: gry/wht/grn, fn-crs grn, sub-ang, arg, sm friable, sm firm, fw glauc, tr-nvp, sm Chert: org/pnk, trip, sharp, svrl pcs pyr, no odr, ns.

SH: drk gry/gry, silty, soft.

LS: crm/why, fn xln, sandy/gritty, friable, chlky, brittle, tr-nvp, svrl SH: drk gry, silty, soft, no odr, ns.

Same sandy/gritty LS. Still bunch of slough SH: most likely Morrow cavings, no odr, ns.

LS: crm/lt tan, fn xln, sandy/gritty, sm friable, fw firm, sm chlky, tr-nvp, no odr, ns.

Much of same sandy/gritty LS: sm dense, firm, flakey/mealy, tr-nvp, no odr, ns.

LS: lt gry/lt tan, slght mott, fn xln, sm flakey/mealy, dense, firm, tr-nvp, no odr, ns.

LS: gry/lt tan, slght mott, fn xln, many flakey/mealy, sm dense, many firm, tr-nvp, no cup odr, ns.

LS: gry/lt tan, fn xln, flakey/mealy, dense, firm, tr-nvp, no cup odr, ns.

30"/60"

CFS @ 4947'
30"/60"

Miss @ 4949' (-1600)

CFS @ 5020'
30"/60"

Survey @ 5020' = 1 Degree

RITCHIE
EXPLORATION, INC.
Wichita, Kansas

#1 Blau 16C
615' FSL & 860' FWL
45' S & 130' W of E/2 SW/4 SW/4 Section 16-15S-36W
Logan County, Kansas
Dirks NW Prospect
2016 Drilling Program
API# 15-109-21472-0000
Elevation: GL: 3344', KB: 3349'

Sample Tops			Ref. Well
Anhydrite	2626'	+723	-5
B/Anhydrite	2644'	+705	-4
Topeka	3820'	-471	N/A
Heebner	4051'	-702	+4
Toronto	4070'	-721	+3
Lansing	4108'	-759	Flat
Muncie Shale	4277'	-928	+12
Stark Shale	4369'	-1020	+10
Hush Shale	4412'	-1063	+8
BKC	4452'	-1103	+9
Marmaton	4494'	-1145	+9
Altamont	4508'	-1159	+11
Pawnee	4605'	-1256	-2
Myrick	4645'	-1296	-1
Fort Scott	4660'	-1311	Flat
Cherokee	4690'	-1341	Flat
Johnson	4774'	-1425	+1
Morrow Shale	4830'	-1471	+3
Mississippian	4948'	-1599	-19
RTD	5020'	-1671	

P.O. Box 783188
Wichita, Kansas 67278-3188

(316) 691-9500
Fax (316) 691-9550
rei@ritchie-exp.com

8100 E. 22nd St. N., Bldg. 700
Wichita, Kansas 67226-2328

7481
7378

CONSOLIDATED
Oil Well Services, LLC

TICKET NUMBER 51688
LOCATION Oakley KS
FOREMAN Miles Shaudy
Walt Dinkel

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

Invoice #809530

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
2-3-17	7173	Blau C-16 #1	16	15S	38W	Logan KS

CUSTOMER: Ritchie Exploration
MAILING ADDRESS: P.O. Box 783188
CITY: Wichita | STATE: KS | ZIP CODE: 67278-3188

Russell Springs Sanders 25 to Dakota 2¼E W/S

TRUCK #	DRIVER	TRUCK #	DRIVER
731	Steven D.		
479	Travis W.		
697			
703			

JOB TYPE Long String | HOLE SIZE 7⅞" | HOLE DEPTH 5020 | CASING SIZE & WEIGHT 5½ 15.5#
CASING DEPTH 5017 | DRILL PIPE | TUBING | OTHER PC @ 2582
SLURRY WEIGHT 13.8 | SLURRY VOL 1.42 | WATER gal/sk | CEMENT LEFT in CASING 21'
DISPLACEMENT 121 bbls | DISPLACEMENT PSI 1000/1500 | MIX PSI | RATE

REMARKS: Safety meeting and rig upon well drilling rig #10 Ruan casing Float equip Turbolizers on Jts 1, 2, 4, 6, 8, 10, 55, 57, 73 Baskets on Jts # 11 middle 56 bottom, 72 bottom, PC on Jt # 56 @ 2599', Circulate casing 1 hr w/ bottom mix 500 sal mud flush, Mix 200 sx OWC with Friction reducer down casing shut down clear pump lines release plug displace 121 bbls water with 1000 ps. lift plug did land @ 1500 psi

Mix 30 sx RH

Thanks Miles Crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0453	1	PUMP CHARGE	2800.00	2800.00
CE0002	35	MILEAGE	7.15	250.25
CE0710	10.81	Ton mileage delivery	1.75	662.11
CC5862	230 sx	OWC Cement	26.00	5980.00
CC5320	100#	Salt	N/C	N/C
CC6000	54#	CD-1 Friction reducer	7.85	423.90
CC6155	32#	Cement defoamer	10.20	326.40
CC6077	1150#	Kolseal	.50	575.00
CC6125	500gal	mud flush	.65	325.00
CP8254	1	5½" latchdown assembly plug	400.00	400.00
CP8485	1	5½" Float shoe AFU	585.00	585.00
CP8576	9	5½" Turbolizer	110.00	990.00
CP8629	3	5½" baskets	385.00	1155.00
CP8776	1	5½" Port Collar	2850.00	2850.00
			Subtotal	17322.66
		1+35 45% discount	7795.19	
			Subtotal	9527.47
			SALES TAX	598.86
			ESTIMATED TOTAL	10126.33

Ravin 3737

AUTHORIZTION Gary Rowe 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.

TERMS

In consideration of the prices to be charged for Consolidated Oil Well Services, LLC (COWS) services, equipment and products and for the performance of services and supplying of materials, Customer agrees to the following terms and conditions.

Terms. Cash in advance unless satisfactory credit is established. On credit sales, invoices are payable within 30 days of the invoice date. On all invoices not paid within 30 days, Customer agrees to pay COWS interest at the rate of 18% per annum or the maximum rate allowed by law, whichever is higher. In the event COWS retains an attorney to pursue collection of any account, Customer agrees to pay all collection costs and attorney's fees incurred by COWS.

Any applicable federal, state or local sales, use occupation, consumer's or emergency taxes shall be added to the quoted price. All process license fees required to be paid to others will be added to the scheduled prices.

All COWS' prices are subject to change without notice.

SERVICE CONDITIONS

Customer warrants that the well is in proper condition to receive the services, equipment, products and materials to be supplied by COWS. The Customer shall at all time have complete care, custody, and control of the well, the drilling and production equipment at the well, and the premises about the well. A responsible representative of the Customer shall be present to specify depths, pressures, or materials used for any service which is to be performed.

(a) COWS shall not be responsible for any claim, cause of action or demand (hereinafter referred to as a 'claim') for damage to property, or injury to or death of employees and representatives, of Customer or the well owner (if different from Customer), unless such damage, injury or death is caused by the willful misconduct or gross negligence of COWS, including but not limited to sub-surface damage and surface damage arising from sub-surface damage.

(b) Unless a claim is the result of the sole willful misconduct or gross negligence of COWS, Customer shall be responsible for and indemnify and hold COWS harmless from any claim for: (1) reservoir loss or damage, or property damage resulting from sub-surface pressure, losing control of the well and/or a well blowout; (2) damages as a result of a subsurface trespass, or an action in the nature thereof, arising from a service operation performed by COWS; (3) injury to or death of persons, other than employees of COWS, or damage to property (including, but not limited to, injury to the well), or any damages whatsoever, irrespective of cause, growing out of or in any way connected with the use of radioactive material in the well hole; and (4) well damage or reservoir damage caused by (i) loss of circulation, cement invasion, cement misplacement, pumping cement or cement plugs on wells with loss of circulation, including the failure to displace plug to proper depth, (ii) sub-surface pressure and resulting failure to complete pumping of cement or cement plug, including dehydration of cement slurry or flashing, plugged float shoe, annulus bridging or plugging, or (iii) down hole tools being lost or left in the well, or becoming stuck in the well for any reason and by any cause. COWS may furnish down hole tools and may supply supervision for the running and placement of such tools but will not be liable for any damage, loss or result caused by the use of such tools. Furthermore, Customer will be responsible for the cost to replace such tools if they are lost or left in the well.

(c) COWS makes no guarantee of the effectiveness of any COWS' products, supplies or materials, or the results of any COWS' treatment or services.

(d) Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, COWS is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by COWS. COWS' personnel will use their best efforts in gathering such information and their best judgement in interpreting it, but Customer agrees that COWS shall not be responsible for any damage arising from the use of such information except where due to COWS' gross negligence or willful misconduct in the preparation or furnishing of it.

(e) COWS may buy and re-sell to Customer down hole equipment, including but not limited to float equipment, DV tools, port collars, type A & B packers, and Customer agrees that COWS is not an agent or dealer for the companies who manufacture such items, and further agrees that Customer shall be solely responsible for and indemnify COWS against any claim with regard to the effectiveness, malfunction of, or functionality of such items.

WARRANTIES - LIMITATION OF LIABILITY

COWS warrants title to the products, supplies and materials, and that the same are free from defects in workmanship and materials. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, NOR ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PURPOSE, WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. COWS's liability and Customer's exclusive remedy in any claim (whether in contract, tort, breach of warranty or otherwise,) arising out of the sale or use of any COWS' products, supplies, materials or services is expressly limited to the replacement of such products, supplies, materials or services or their return to COWS or, at COWS' option, an allowance to Customer of credit for the cost of such items.

Customer waives and releases all claims against COWS for any special, incidental, indirect, consequential or punitive damages.

7490
7387
Invoice #809535

CONSOLIDATED
Oil Well Services, LLC

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

TICKET NUMBER 51689
LOCATION Oakley KS
FOREMAN Miles Shaw

FIELD TICKET & TREATMENT REPORT
CEMENT

US

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
2-7-17	7173	Blau C-16 #1	16	15S	38W	Logan

CUSTOMER: Ritchie Exploration
MAILING ADDRESS: P.O BOX 783188
CITY: Wichita STATE: KS ZIP CODE: 67278-3188

Russel Springs South Hwy 25 to Dakota Rd 2 1/4 E N.S

TRUCK #	DRIVER	TRUCK #	DRIVER
753	Steven O		
529/T-127			

JOB TYPE Port Collar HOLE SIZE ____ HOLE DEPTH ____ CASING SIZE & WEIGHT 5 1/2" 15.5#
CASING DEPTH ____ DRILL PIPE ____ TUBING 2 7/8" OTHER PC @ 2552
SLURRY WEIGHT 12.4 SLURRY VOL 1.9 WATER gal/sk ____ CEMENT LEFT in CASING ____
DISPLACEMENT 13.5 bls DISPLACEMENT PSI 500 MIX PSI ____ RATE ____

REMARKS: Safety meeting and rig up on Well. Test tools to 1250 psi hold. Open tool establish circulation mix 300sx 60/40 8% 1/4# flo seal displaced 13 1/2 bbls water Shut tool pressured to 1300 psi hold 5 min released off. Pull tubing ~~[illegible]~~ Pressure up 500 psi on casing Shut in

Thanks Miles & Crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0451	1	PUMP CHARGE	1900.00	1900.00
CE0002	35	MILEAGE	250.25	250.25
CE0710	13.05 ton	Ton Mileage delivery	1.75	799.31
CC5831	300 sx	Lite Weight blend VII 60/40 poz 8% gel	17.50	5250.00
CC6075	75 #	Cello flake Flo Seal	3.00	225.00
CC6080	500 #	Cotton Seed hulls	.50	250.00
			Subtotal	8674.56
		less 45%	discount	3903.55
			Subtotal	4771.01
			SALES TAX	251.90
			ESTIMATED TOTAL	5022.91

11257

Ravin 3737

AUTHORIZTION Gary Rowe TITLE ____ DATE ____

TERMS

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SERVICE CONDITIONS

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(a) COWS shall not be responsible for any claim, cause of action or demand (hereinafter referred to as a 'claim') for damage to property, or injury to or death of employees and representatives, of Customer or the well owner (if different from Customer), unless such damage, injury or death is caused by the willful misconduct or gross negligence of COWS, including but not limited to sub-surface damage and surface damage arising from sub-surface damage.

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WARRANTIES - LIMITATION OF LIABILITY

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Customer waives and releases all claims against COWS for any special, incidental, indirect, consequential or punitive damages.

7396
7294

CONSOLIDATED
Oil Well Services, LLC

TICKET NUMBER 51676
LOCATION Oakley KS
FOREMAN Walt Dinkel

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

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 809419

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
1-23-17	7173	Blau @ 16C #1	16	15S	36W	Logan

CUSTOMER: Ritchie Explorations
MAILING ADDRESS: PO Box 783188
CITY: Wichita | STATE: KS | ZIP CODE: 67278-3188

Hwy 25 + Dakota Rd 2E 1/2 S.

TRUCK #	DRIVER	TRUCK #	DRIVER
731	Miles Shaw		
479	Steven Odell		

JOB TYPE Surface | HOLE SIZE 12 1/4 | HOLE DEPTH 220' | CASING SIZE & WEIGHT 8 5/8 · 23#
CASING DEPTH 220' | DRILL PIPE | TUBING | OTHER
SLURRY WEIGHT 15.2 | SLURRY VOL | WATER gal/sk | CEMENT LEFT In CASING 15' to 20'
DISPLACEMENT 12 3/4 | DISPLACEMENT PSI | MIX PSI | RATE 4 BPM

REMARKS: Safety Meeting; Rig up on WW #10, circ casing on Bottom mix 165 sks Surface Blend II, Displace 12 3/4 BBL H2O, Shut in

Cement Did Circ

1 BBL to Pit

Thank You
Walt + Crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
C00471	1	PUMP CHARGE	1,150.00	1,150.00
C00002	30	MILEAGE	7.15	214.50
C00711	7.76	Ton Mileage Delivery	1.85	660.00
CC5871	165 SKs	Surface Blend II	23.00	3,795.00
				5,819.50
		Less 45% Disc		-2,618.78
				3,200.72
			SALES TAX	166.99
			ESTIMATED TOTAL	3367.71

1140

Ravin 3737

AUTHORIZTION Rich Odgers 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.

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Customer waives and releases all claims against COWS for any special, incidental, indirect, consequential or punitive damages.

DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	RITCHIE EXPLORATION, INC.		
Contact	JUSTIN CLEGG	Job Number	T587
Well Name	BLAU 16C #1	Representative	TIM VENTERS
Unique Well ID	DST #1, TORONTO, 4018-4090	Well Operator	RITCHIE EXPLORATION, INC.
Surface Location	SEC 16-15S-36W, LOGAN CO. KS.	Report Date	2017/01/28
Well License Number		Prepared By	TIM VENTERS
Field	WILDCAT		
Well Type	Vertical		

Test Information

Test Type	CONVENTIONAL		
Formation	DST #1, TORONTO, 4018-4090		
Well Fluid Type	01 Oil		
Test Purpose	Initial Test		
Start Test Date	2017/01/27	Start Test Time	19:33:00
Final Test Date	2017/01/28	Final Test Time	02:18:00
Gauge Name	5504		

Test Results

RECOVERED: 145' HMCW, 55% WATER, 45% MUD
250' SMCW, 88% WATER, 12% MUD
395' TOTAL FLUID

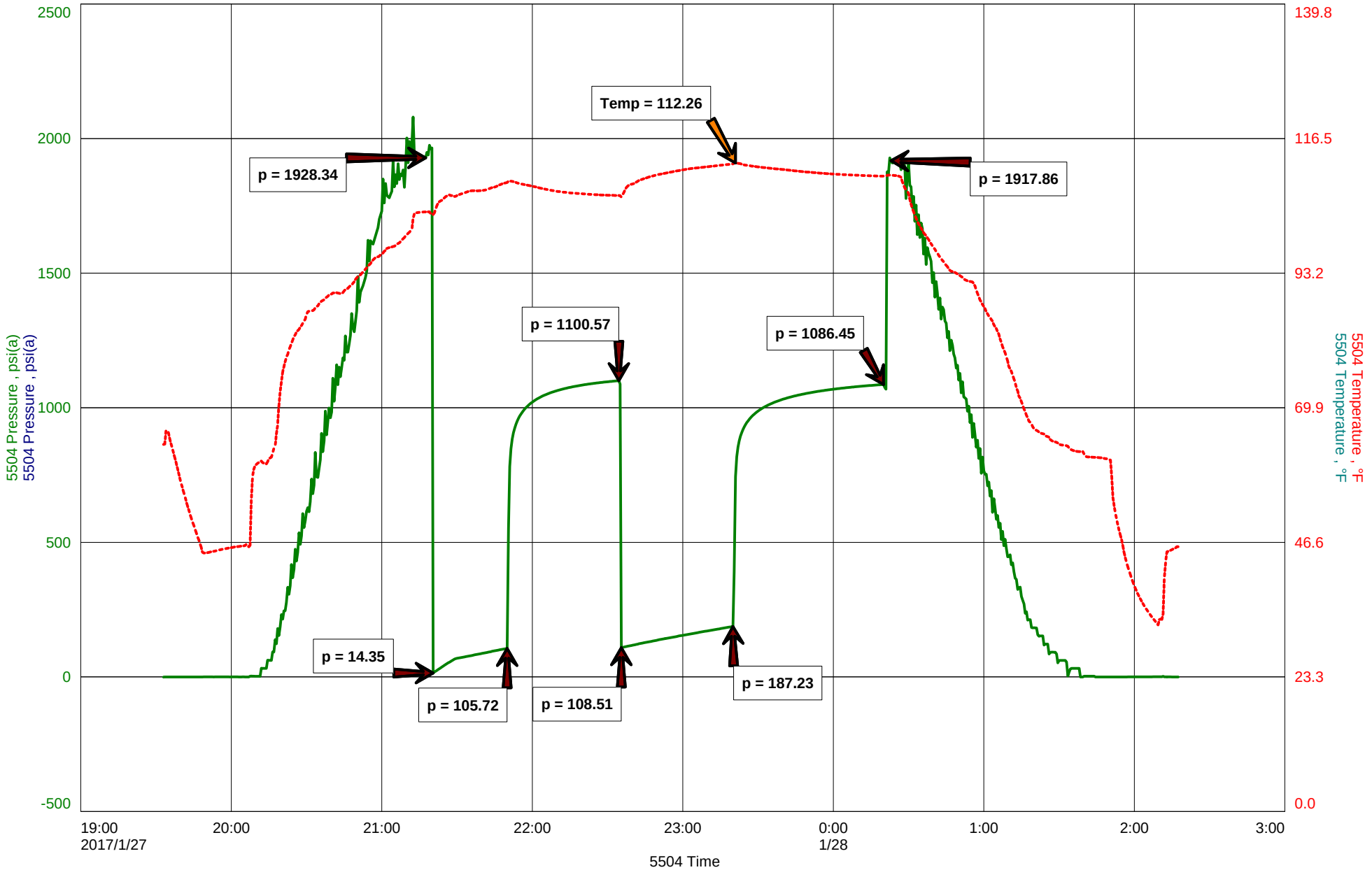
TOOL SAMPLE: 78% WATER, 22% MUD

CHLORIDES: 36,000 ppm
PH: 6.0
RW: .32 @ 56 deg

RITCHIE EXPLORATION, INC.
DST #1, TORONTO, 4018-4090
Start Test Date: 2017/01/27
Final Test Date: 2017/01/28

BLAU 16C #1
Formation: DST #1, TORONTO, 4018-4090
Pool: WILDCAT
Job Number: T587

BLAU 16C #1



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: BLAU16C1DST1

TIME ON: 19:33 1-27-17
TIME OFF: 02:18 1-28-17

Company RITCHIE EXPLORATION, INC. Lease & Well No. BLAU 16C #1

Contractor WW DRILLING, LLC RIG #10 Charge to RITCHIE EXPLORATION, INC.

Elevation 3349 KB Formation TORONTO Effective Pay _____ Ft. Ticket No. T587

Date 1-27-17 Sec. 16 Twp. 15 S Range 36 W County LOGAN State KANSAS

Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 1 Interval Tested from 4018 ft. to 4090 ft. Total Depth 4090 ft.

Packer Depth 4013 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 4018 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3999 ft. Recorder Number 5504 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4087 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 54 Drill Collar Length 124 ft. I.D. 2 1/4 in.

Weight 8.9 Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,400 P.P.M. Drill Pipe Length 3861 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 40 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. 32' DP IN ANCHOR Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: WEAK 1/4 INCH BLOW, BUILDING, REACHING BOB 29 MIN. (NO BB)

2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 38 MIN. (NO BB)

Recovered 145 ft. of HMCW, 55% WATER, 45% MUD

Recovered 250 ft. of SMCW, 88% WATER, 22% MUD

Recovered 395 ft. of TOTAL FLUID

Recovered _____ ft. of _____

Recovered _____ ft. of CHLORIDES: 36,000 ppm

Recovered _____ ft. of PH: 6.0

Remarks: RW: .32 @ 56 deg.

TOOL SAMPLE: 78% WATER, 22% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 9:20 PM A.M. P.M. Time Started Off Bottom 12:20 AM A.M. P.M. Maximum Temperature 112 deg.

Initial Hydrostatic Pressure..... (A) 1928 P.S.I.

Initial Flow Period..... Minutes 30 (B) 14 P.S.I. to (C) 106 P.S.I.

Initial Closed In Period..... Minutes 45 (D) 1101 P.S.I.

Final Flow Period..... Minutes 45 (E) 109 P.S.I. to (F) 187 P.S.I.

Final Closed In Period..... Minutes 60 (G) 1086 P.S.I.

Final Hydrostatic Pressure..... (H) 1918 P.S.I.

DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	RITCHIE EXPLORATION, INC.		
Contact	JUSTIN CLEGG	Job Number	T588
Well Name	BLAU 16C #1	Representative	TIM VENTERS
Unique Well ID	DST #2, LANSING "A", 4093-4124	Well Operator	RITCHIE EXPLORATION, INC.
Surface Location	SEC 16-15S-36W, LOGAN CO. KS.	Report Date	2017/01/28
Well License Number		Prepared By	TIM VENTERS
Field	WILDCAT		
Well Type	Vertical		

Test Information

Test Type	CONVENTIONAL
Formation	DST #2, LANSING "A", 4093-4124
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2017/01/28	Start Test Time	09:12:00
Final Test Date	2017/01/28	Final Test Time	15:17:00

Gauge Name	5504

Test Results

RECOVERED: 330' MCW, 69% WATER, 31% MUD
500' SMCW, 98% WATER, 2% MUD
1515' WATER
2345' TOTAL FLUID

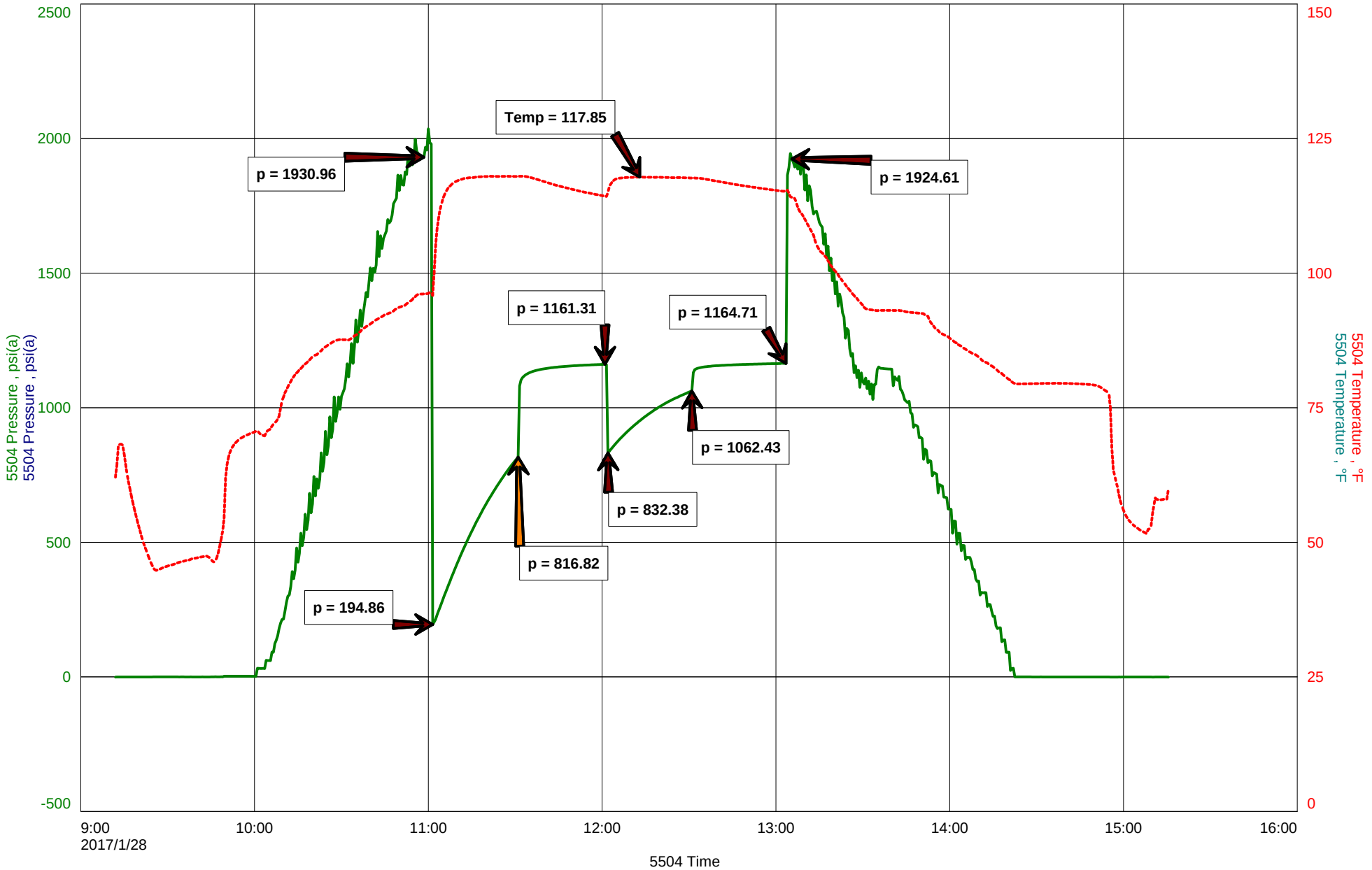
TOOL SAMPLE: 96% WATER, 4% MUD

CHLORIDES: 30,000,ppm
PH: 6.0
RW: .26 @ 61 deg.

RITCHIE EXPLORATION, INC.
DST #2, LANSING "A", 4093-4124
Start Test Date: 2017/01/28
Final Test Date: 2017/01/28

BLAU 16C #1
Formation: DST #2, LANSING "A", 4093-4124
Pool: WILDCAT
Job Number: T588

BLAU 16C #1



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: BLAU16C1DST2

TIME ON: 09:12
TIME OFF: 15:17

Company RITCHIE EXPLORATION, INC. Lease & Well No. BLAU 16C #1

Contractor WW DRILLING, LLC RIG #10 Charge to RITCHIE EXPLORATION, INC.

Elevation 3349 KB Formation LANSING "A" Effective Pay _____ Ft. Ticket No. T588

Date 1-28-17 Sec. 16 Twp. 15 S Range 36 W County LOGAN State KANSAS

Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 2 Interval Tested from 4093 ft. to 4124 ft. Total Depth 4124 ft.

Packer Depth 4088 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 4093 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4074 ft. Recorder Number 5504 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4121 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 53 Drill Collar Length 124 ft. I.D. 2 1/4 in.

Weight 9.1 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 4,000 P.P.M. Drill Pipe Length 3936 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 31 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: STRONG 3 1/2 INCH BLOW, BUILDING, REACHING BOB 1 1/2 MIN. (NO BB)

2nd Open: GOOD 1 1/2 INCH BLOW, BUILDING, REACHING BOB 2 1/2 MIN. (NO BB)

Recovered 330 ft. of MCW, 69% WATER, 31% MUD

Recovered 500 ft. of SMCW, 98% WATER, 2% MUD

Recovered 1515 ft. of WATER

Recovered 2345 ft. of TOTAL FLUID

Recovered _____ ft. of CHLORIDES: 30,000 ppm

Recovered _____ ft. of PH: 6.0

Remarks: RW: .26 @ 61 deg.

TOOL SAMPLE: 96% WATER, 4% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 11:01 AM A.M. P.M. Time Started Off Bottom 1:01 PM A.M. P.M. Maximum Temperature 118 deg.

Initial Hydrostatic Pressure..... (A) 1931 P.S.I.

Initial Flow Period..... Minutes 30 (B) 195 P.S.I. to (C) 817 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1161 P.S.I.

Final Flow Period..... Minutes 30 (E) 832 P.S.I. to (F) 1062 P.S.I.

Final Closed In Period..... Minutes 30 (G) 1165 P.S.I.

Final Hydrostatic Pressure..... (H) 1925 P.S.I.

DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	RITCHIE EXPLRORATION, INC.		
Contact	JUSTIN CLEGG	Job Number	T589
Well Name	BLAU 16C #1	Representative	TIM VENTERS
Unique Well ID	DST #3, LANSING "C", 4130-4158	Well Operator	RITCHIE EXPLORATION, INC.
Surface Location	SEC 16-15S-36W, LOGAN CO. KS.	Report Date	2017/01/29
Well License Number		Prepared By	TIM VENTERS
Field	WILDCAT		
Well Type	Vertical		

Test Information

Test Type	CONVENTIONAL
Formation	DST #3, LANSING "C", 4130-4158
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2017/01/28	Start Test Time	21:58:00
Final Test Date	2017/01/29	Final Test Time	05:04:00

Gauge Name	5504

Test Results

RECOVERED: 100' W&M W/O SPECKS, OIL SPECKS, 50% WATER, 50% MUD
250' SMCW, 91% WATER, 9% MUD
350' TOTAL FLUID

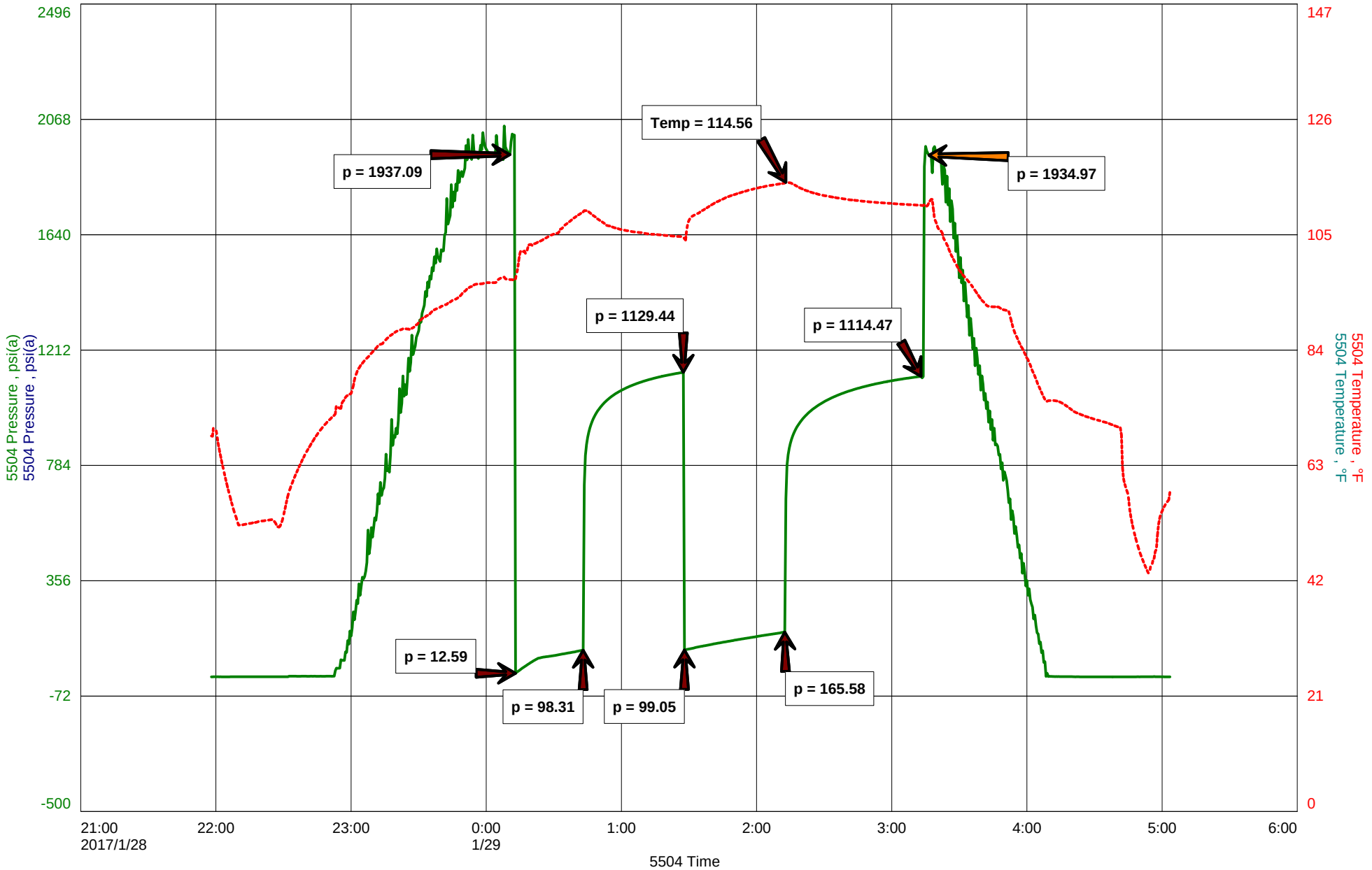
TOOL SAMPLE: 100% WATER

CHLORIDES: 22,000 ppm
PH: 6.5
RW: .33 @ 69 deg.

RITCHIE EXPLRORATION, INC.
DST #3, LANSING "C", 4130-4158
Start Test Date: 2017/01/28
Final Test Date: 2017/01/29

BLAU 16C #1
Formation: DST #3, LANSING "C", 4130-4158
Pool: WILDCAT
Job Number: T589

BLAU 16C #1



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: BLAU16C1DST3

TIME ON: 21:58 1-28-17
TIME OFF: 05:04 1-29-17

Company RITCHIE EXPLORATION, INC. Lease & Well No. BLAU 16C #1

Contractor WW DRILLING, LLC RIG #10 Charge to RITCHIE EXPLORATION, INC.

Elevation 3349 KB Formation LANSING "C" Effective Pay _____ Ft. Ticket No. T589

Date 1-29-17 Sec. 16 Twp. 15 S Range 36 W County LOGAN State KANSAS

Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 3 Interval Tested from 4130 ft. to 4158 ft. Total Depth 4158 ft.

Packer Depth 4125 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 4130 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4111 ft. Recorder Number 5504 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4155 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 53 Drill Collar Length 124 ft. I.D. 2 1/4 in.

Weight 9.1 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 4,000 P.P.M. Drill Pipe Length 3936 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 31 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: WEAK SURFACE BLOW, BUILDING TO 10 INCHES (NO BB)

2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 43 1/2 MIN. (NO BB)

Recovered 100 ft. of W&M W/O SPECKS, OIL SPECKS, 50% WATER, 50% MUD

Recovered 250 ft. of SMCW, 91% WATER, 9% MUD

Recovered 350 ft. of TOTAL FLUID

Recovered _____ ft. of _____

Recovered _____ ft. of CHLORIDES: 22,000 ppm

Recovered _____ ft. of PH: 6.5

Remarks: RW: .33 @ 69 deg.

TOOL SAMPLE: 100% WATER

Price Job
Other Charges
Insurance
Total

Time Set Packer(s) 12:12 AM A.M. P.M. Time Started Off Bottom 3:12 AM A.M. P.M. Maximum Temperature 115 deg.

Initial Hydrostatic Pressure ..... (A) 1937 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 13 P.S.I. to (C) 98 P.S.I.

Initial Closed In Period ..... Minutes 45 (D) 1029 P.S.I.

Final Flow Period ..... Minutes 45 (E) 99 P.S.I. to (F) 166 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 1114 P.S.I.

Final Hydrostatic Pressure ..... (H) 1935 P.S.I.

DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	RITCHIE EXPLORATION, INC.		
Contact	JUSTIN CLEGG	Job Number	T590
Well Name	BLAU 16C #1	Representative	TIM VENTERS
Unique Well ID	DST #4, LANSING "D,E,F", 4160-4234	Well Operator	RITCHIE EXPLORATION, INC.
Surface Location	SEC 16-15S-36W, LOGAN CO. KS.	Report Date	2017/01/30
Well License Number		Prepared By	TIM VENTERS
Field	WILDCAT		
Well Type	Vertical		

Test Information

Test Type	CONVENTIONAL
Formation	DST #4, LANSING"D,E,F", 4160-4234
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2017/01/29	Start Test Time	16:31:20
Final Test Date	2017/01/30	Final Test Time	00:00:00

Gauge Name	5504

Test Results

RECOVERED: 95' SWCM W/TR. O, TRACE OIL, 4% WATER, 96% MUD
380' HMCW W/TR. O, TRACE OIL, 52% WATER, 48% MUD
250' MCW, 78% WATER, 22% MUD
315' SMCW, 93% WATER, 7% MUD
60' WCM, 24% WATER, 76% MUD
1100' TOTAL FLUID

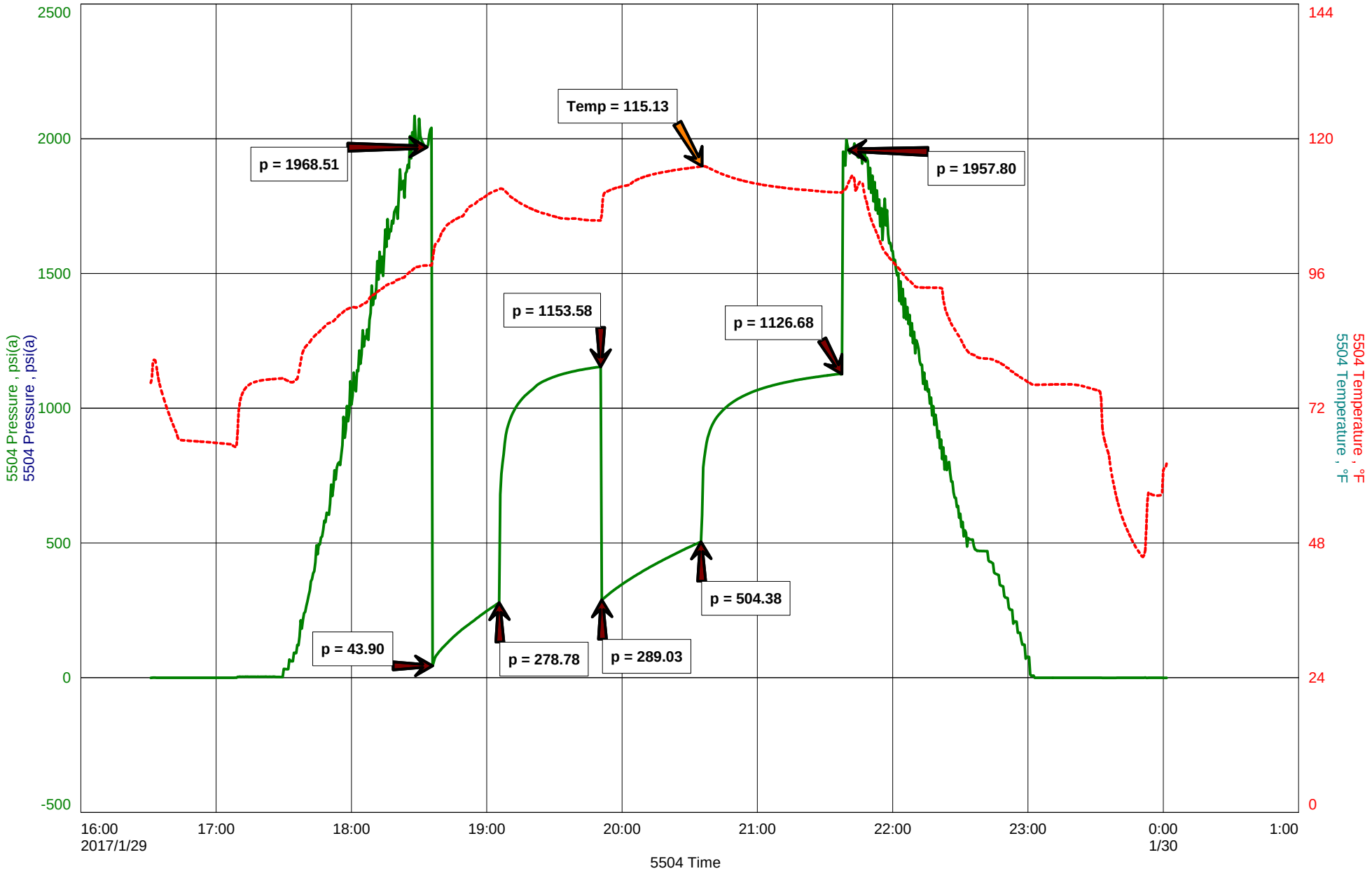
TOOL SAMPLE: 86% WATER, 14% MUD

CHLORIDES: 22,000 ppm
PH: 6.0
RW: .40 @ 58 deg.

RITCHIE EXPLORATION, INC.
DST #4, LANSING "D,E,F", 4160-4234
Start Test Date: 2017/01/29
Final Test Date: 2017/01/30

BLAU 16C #1
Formation: DST #4, LANSING"D,E,F", 4160-4234
Pool: WILDCAT
Job Number: T590

BLAU 16C #1



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DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: BLAU16C1DST4

TIME ON: 16:31 1-29-17
TIME OFF: 00:00 1-30-17

Company RITCHIE EXPLORATION, INC. Lease & Well No. BLAU 16C #1

Contractor WW DRILLING, LLC RIG #10 Charge to RITCHIE EXPLORATION, INC.

Elevation 3349 KB Formation LANSING "D,E,F" Effective Pay _____ Ft. Ticket No. T590

Date 1-29-17 Sec. 16 Twp. 15 S Range 36 W County LOGAN State KANSAS

Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 4 Interval Tested from 4160 ft. to 4234 ft. Total Depth 4234 ft.

Packer Depth 4155 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 4160 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4141 ft. Recorder Number 5504 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4231 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 59 Drill Collar Length 124 ft. I.D. 2 1/4 in.

Weight 9.0 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 6,100 P.P.M. Drill Pipe Length 4003 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 42 ft. Size 4 1/2-FH in

32' DP IN ANCHOR

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: GOOD 1 INCH BLOW, BUILDING, REACHING BOB 5 1/2 MIN. (NO BB)

2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 7 1/2 MIN. (NO BB)

Recovered 95 ft. of SWCM W/TR. O, TRACE OIL, 4% WATER, 96% MUD

Recovered 380 ft. of HMCW W/TR. O, TRACE OIL, 52% WATER, 48% MUD

Recovered 250 ft. of MCW, 78% WATER, 22% MUD

Recovered 315 ft. of SMCW, 93% WATER, 7% MUD

Recovered 60 ft. of WCM, 24% WATER, 76% MUD

Recovered 1100 ft. of TOTAL FLUID CHLORIDES: 22,00 ppm

Remarks: PH: 6.0

RW: .40 @ 58 deg.

TOOL SAMPLE: 86% WATER, 14% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 6:35 PM A.M. P.M. Time Started Off Bottom 9:35 PM A.M. P.M. Maximum Temperature 115 deg.

Initial Hydrostatic Pressure..... (A) 1969 P.S.I.

Initial Flow Period..... Minutes 30 (B) 44 P.S.I. to (C) 279 P.S.I.

Initial Closed In Period..... Minutes 45 (D) 1154 P.S.I.

Final Flow Period..... Minutes 45 (E) 289 P.S.I. to (F) 504 P.S.I.

Final Closed In Period..... Minutes 60 (G) 1127 P.S.I.

Final Hydrostatic Pressure..... (H) 1958 P.S.I.

DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	RITCHIE EXPLORATION, INC.		
Contact	JUSTIN CLEGG	Job Number	T591
Well Name	BLAU 16C #1	Representative	TIM VENTERS
Unique Well ID	DST #5, LANSING "I", 4318-4346	Well Operator	RITCHIE EXPLORATION, INC.
Surface Location	SEC 16-15S-36W, LOGAN CO. KS.	Report Date	2017/01/30
Well License Number		Prepared By	TIM VENTERS
Field	WILDCAT		
Well Type	Vertical		

Test Information

Test Type	CONVENTIONAL		
Formation	DST #5, LANSING "I", 4318-4346		
Well Fluid Type	01 Oil		
Test Purpose	Initial Test		
Start Test Date	2017/01/30	Start Test Time	13:16:00
Final Test Date	2017/01/30	Final Test Time	20:59:00
Gauge Name	5504		

Test Results

RECOVERED: 1' CLEAN OIL
35' O,HMCW, 17% OIL, 44% WATER, 39% MUD
190' SOHMCW, 2% OIL, 58% WATER, 40% MUD
255' SO&MCW, 3% OIL, 92% WATER, 5% MUD
60' SOHWCM, 1% OIL, 44% WATER, 55% MUD
541' TOTAL FLUID

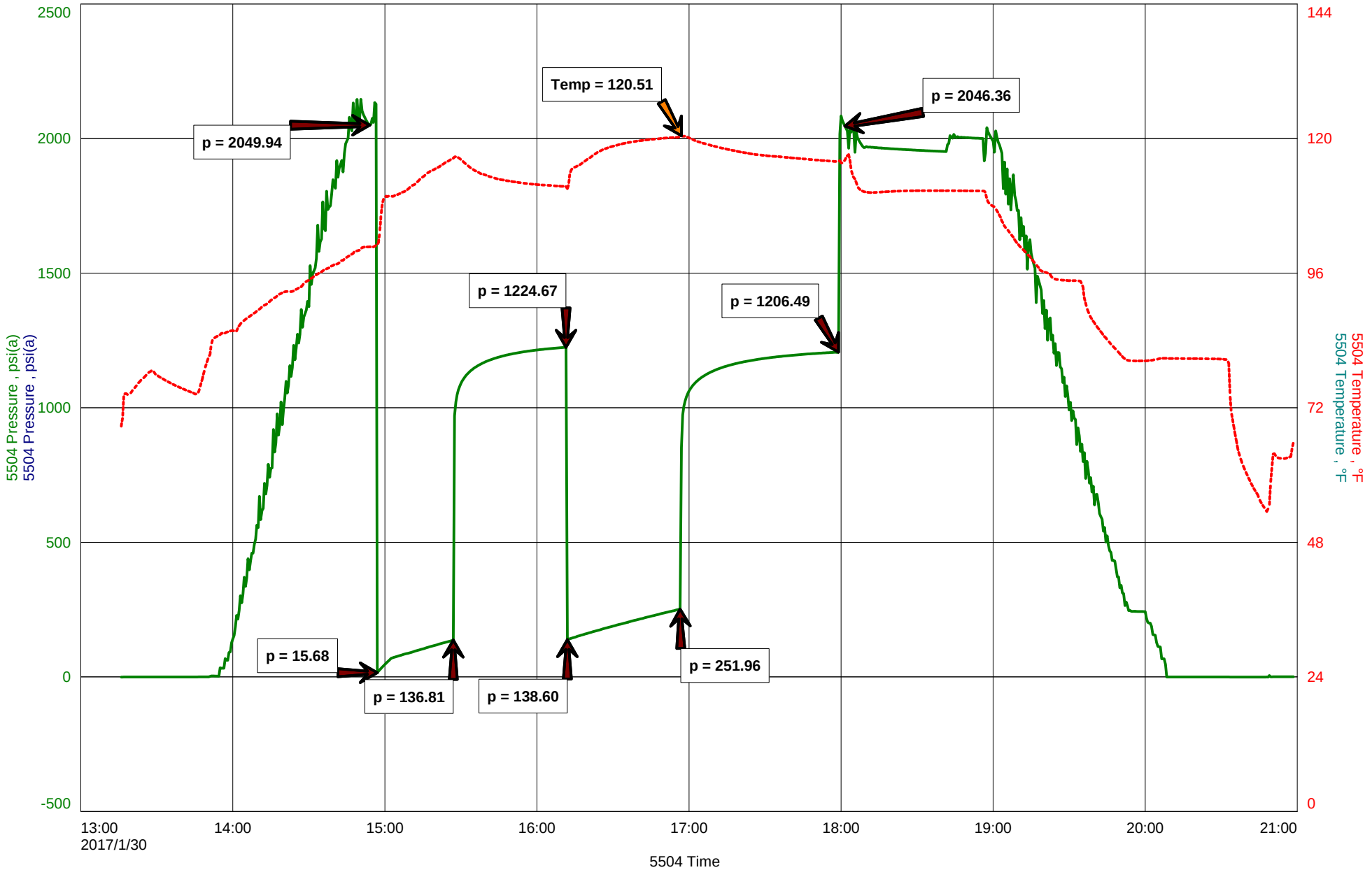
TOOL SAMPLE: 72% OIL, 22% WATER, 6% MUD

CHLORIDES: 22,000 ppm
PH: 6.0
RW: .34 @ 65 deg.

RITCHIE EXPLORATION, INC.
DST #5, LANSING "I", 4318-4346
Start Test Date: 2017/01/30
Final Test Date: 2017/01/30

BLAU 16C #1
Formation: DST #5, LANSING "I", 4318-4346
Pool: WILDCAT
Job Number: T591

BLAU 16C #1



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: BLAU16C1DST5

TIME ON: 13:16
TIME OFF: 20:59

Company RITCHIE EXPLORATION, INC. Lease & Well No. BLAU 16C #1

Contractor WW DRILLING, LLC RIG #10 Charge to RITCHIE EXPLORATION, INC.

Elevation 3349 KB Formation LANSING "I" Effective Pay _____ Ft. Ticket No. T591

Date 1-30-17 Sec. 16 Twp. 15 S Range 36 W County LOGAN State KANSAS

Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 5 Interval Tested from 4318 ft. to 4346 ft. Total Depth 4346 ft.

Packer Depth 4313 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 4318 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4299 ft. Recorder Number 5504 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4343 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 51 Drill Collar Length 124 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 5,500 P.P.M. Drill Pipe Length 4161 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 28 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 20 MIN. (NO BB)

2nd Open: VERY WEAK SURFACE BLOW, BUILDING, REACHING BOB 27 1/2 MIN. (NO BB)

Recovered 1 ft. of CLEAN OIL

Recovered 35 ft. of O,HMCW, 17% OIL, 44% WATER, 39% MUD

Recovered 190 ft. of SOHMCW, 2% OIL, 58% WATER, 40% MUD

Recovered 255 ft. of SO&MCW, 3% OIL, 92% WATER, 5% MUD

Recovered 60 ft. of SOHWCM, 1% OIL, 44% WATER, 55% MUD

Recovered 541 ft. of TOTAL FLUID CHLORIDES: 22,00 ppm

Remarks: PH: 6.0

RW: .34 @ 65 deg.

TOOL SAMPLE: 72% OIL, 22% WATER, 6% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 2:56 PM A.M. P.M. Time Started Off Bottom 5:56 PM A.M. P.M. Maximum Temperature 121 deg.

Initial Hydrostatic Pressure..... (A) 2049 P.S.I.

Initial Flow Period..... Minutes 30 (B) 16 P.S.I. to (C) 137 P.S.I.

Initial Closed In Period..... Minutes 45 (D) 1225 P.S.I.

Final Flow Period..... Minutes 45 (E) 139 P.S.I. to (F) 252 P.S.I.

Final Closed In Period..... Minutes 60 (G) 1206 P.S.I.

Final Hydrostatic Pressure..... (H) 2046 P.S.I.

DIAMOND TESTING, LLC

TESTER : TIM VENTERS
CELL # 620-388-6333

General Information

Company Name	RITCHIE EXPLORATION, INC.		
Contact	JUSTIN CLEGG	Job Number	T592
Well Name	BLAU 16C #1	Representative	TIM VENTERS
Unique Well ID	DST #6, ALTAMONT "A", 4470-4534	Well Operator	RITCHIE EXPLORATION, INC.
Surface Location	SEC 16-15S-36W, LOGAN CO. KS.	Report Date	2017/02/01
Well License Number		Prepared By	TIM VENTERS
Field	WILDCAT		
Well Type	Vertical		

Test Information

Test Type	CONVENTIONAL
Formation	DST #6, ALTAMONT "A", 4470-4534
Well Fluid Type	01 Oil
Test Purpose	Initial Test

Start Test Date	2017/01/31	Start Test Time	19:21:00
Final Test Date	2017/02/01	Final Test Time	03:11:00

Gauge Name	5504

Test Results

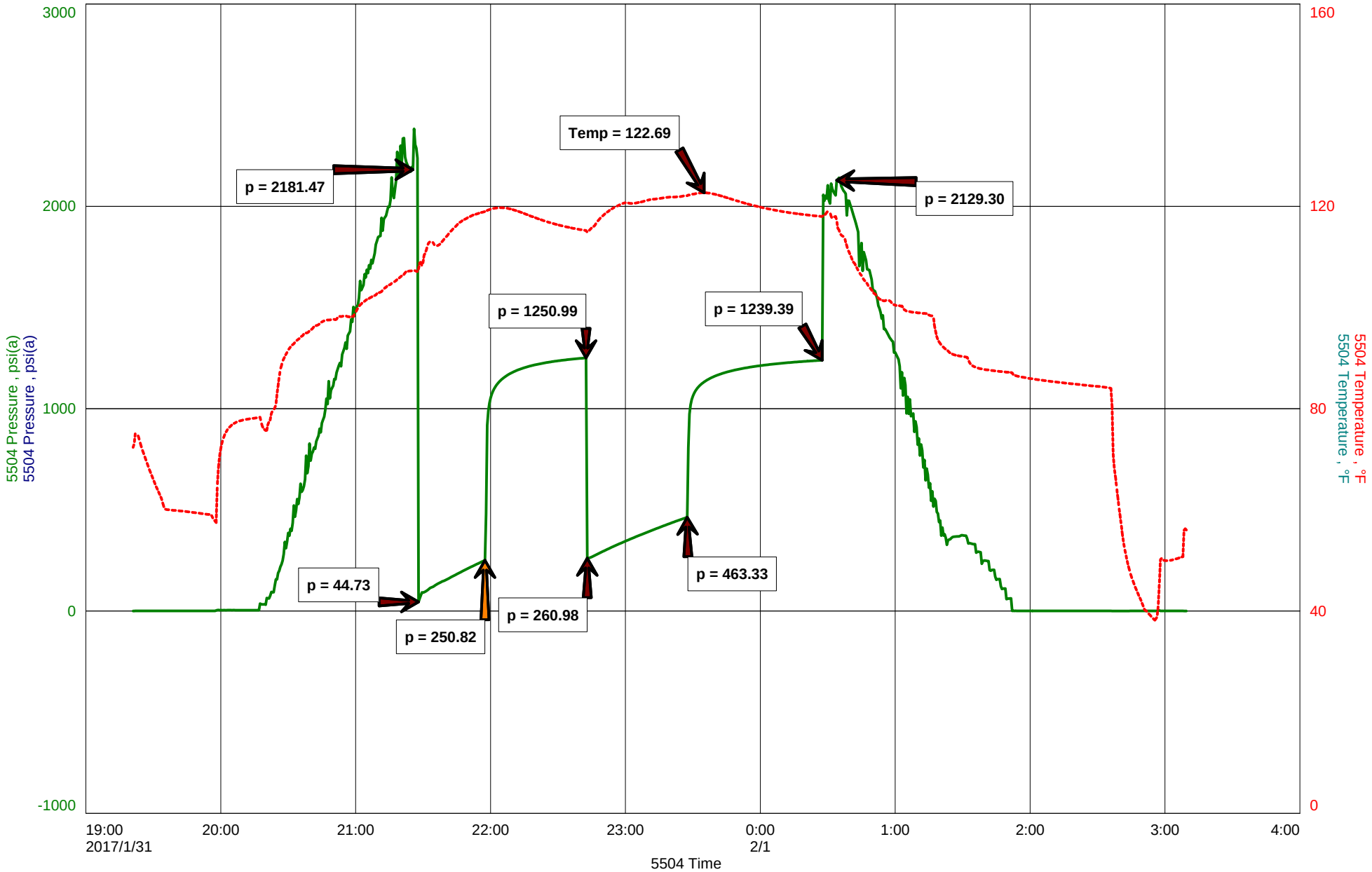
RECOVERED: 485' GAS IN PIPE
335' GO, 11% GAS, 89 % OIL, GRAVITY: 25
690' G,SMCO, 12% GAS, 83% OIL, 5% MUD
190' G,HOCM, 6% GAS, 45% OIL, 49% MUD
1215' TOTAL FLUID

TOOL SAMPLE: 7% GAS, 93% OIL

RITCHIE EXPLORATION, INC.
DST #6, ALTAMONT "A", 4470-4534
Start Test Date: 2017/01/31
Final Test Date: 2017/02/01

BLAU 16C #1
Formation: DST #6, ALTAMONT "A", 4470-4534
Pool: WILDCAT
Job Number: T592

BLAU 16C #1



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET

FILE: BLAU16C1DST6

TIME ON: 19:21 1-31-17

TIME OFF: 03:11 2-1-17

Company RITCHIE EXPLORATION, INC. Lease & Well No. BLAU 16C #1

Contractor WW DRILLING, LLC RIG #10 Charge to RITCHIE EXPLORATION, INC.

Elevation 3349 KB Formation ALTAMONT "A" Effective Pay ____ Ft. Ticket No. T592

Date 1-31-17 Sec. 16 Twp. 15 S Range 36 W County LOGAN State KANSAS

Test Approved By JOHN GOLDSMITH Diamond Representative TIM VENTERS

Formation Test No. 6 Interval Tested from 4470 ft. to 4534 ft. Total Depth 4534 ft.

Packer Depth 4465 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 4470 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 4451 ft. Recorder Number 5504 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4531 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth ____ ft. Recorder Number ____ Cap. ____ P.S.I.

Mud Type CHEMICAL Viscosity 61 Drill Collar Length 124 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 6,800 P.P.M. Drill Pipe Length 4313 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 33 ft. Size 4 1/2-FH in

31' DP IN ANCHOR

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: GOOD 1 INCH BLOW, BUILDING, REACHING BOB 5 1/2 MIN. (1 1/2" BB)

2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 7 1/2 MIN. (1 1/4" BB)

Recovered 485 ft. of GAS IN PIPE

Recovered 335 ft. of GO, 11% GAS, 89% OIL, GRAVITY: 25

Recovered 690 ft. of G,SMCO, 12% GAS, 83% OIL, 5% MUD

Recovered 190 ft. of G,HOCM, 6% GAS, 45% OIL, 49% MUD

Recovered 1215 ft. of TOTAL FLUID

Recovered ____ ft. of ____

Remarks: ____

TOOL SAMPLE: 7% GAS, 93% OIL

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 9:27 PM A.M. P.M. Time Started Off Bottom 12:27 AM A.M. P.M. Maximum Temperature 123 deg.

Initial Hydrostatic Pressure ..... (A) 2181 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 45 P.S.I. to (C) 251 P.S.I.

Initial Closed In Period ..... Minutes 45 (D) 1251 P.S.I.

Final Flow Period ..... Minutes 45 (E) 261 P.S.I. to (F) 463 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 1239 P.S.I.

Final Hydrostatic Pressure ..... (H) 2129 P.S.I.