

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

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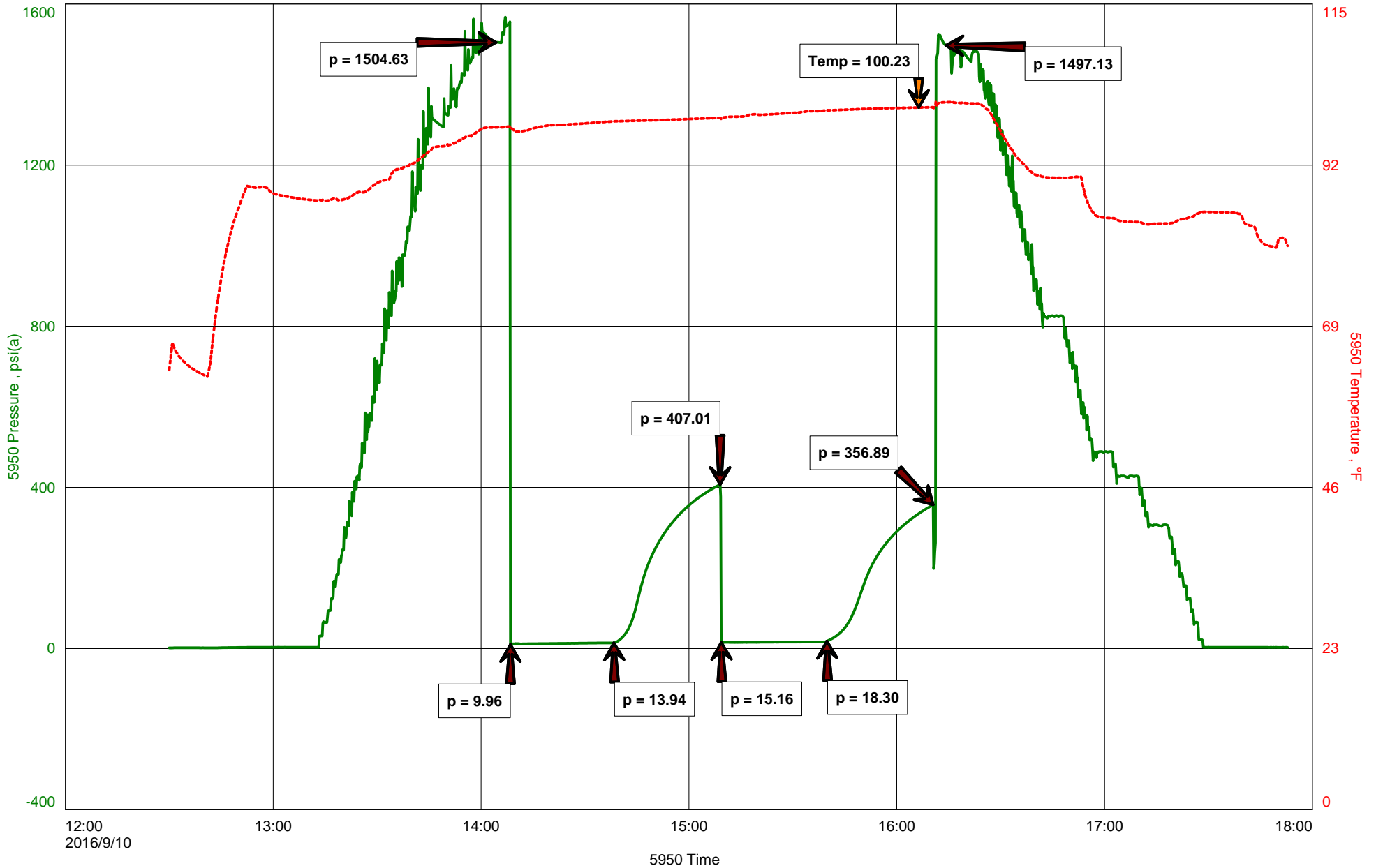
Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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RJM
Dst #1 Lans "A" 3197-3210'
Start Test Date: 2016/09/10
Final Test Date: 2016/09/10

Ervin #1
Formation: Dst #1 Lans "A" 3197-3210'
Pool: Infield
Job Number: P0128

Ervin #1





Hoisington, Kansas

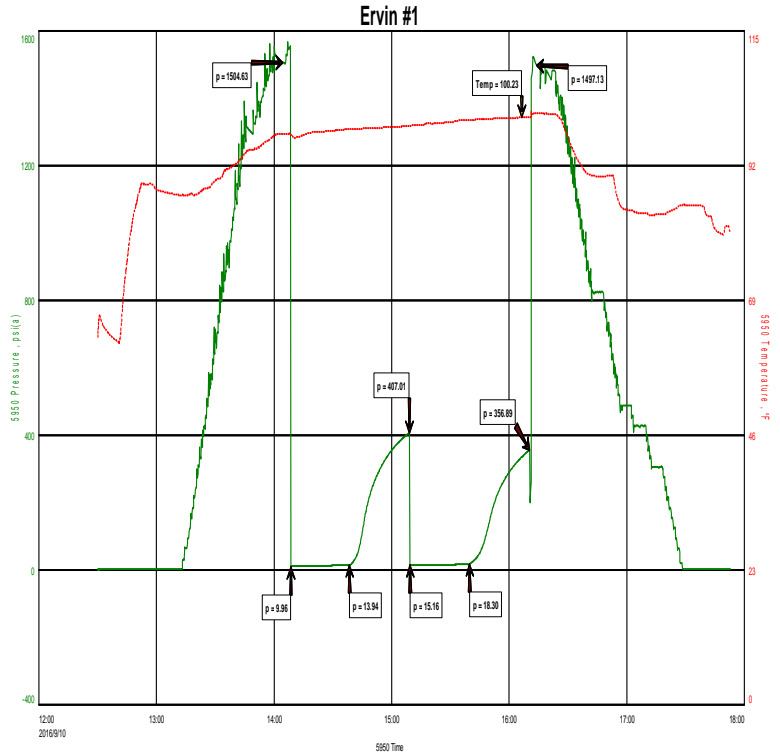
Michael Carroll
620-617-0368
carroll.dtlc@gmail.com

General Information

Company Name RJM

Contact	Chris Hoffman
Well Name	Ervin #1
Unique Well ID	Dst #1 Lans "A" 3197-3210'
Surface Location	Sec 31-17s-14w Barton County
Field	Hlavaty
Well Type	Vertical
Test Type	Drill Stem Test
Well Operator	RJM

Formation	Dst #1 Lans "A" 3197-3210'
Well Fluid Type	01 Oil
Test Purpose	Initial Test
Start Test Date	2016/09/10
Start Test Time	12:30:00
Final Test Time	17:52:00
Job Number	P0128
Report Date	2016/09/10
Prepared By	Michael Carroll



TEST RECOVERY

Remarks Recovery: 10' SLWCM 2%W 98%M

Total Fluid: 10'

Tool Sample: 3%O 29%W 68%M

Chlorides 16000PPM
 RW .5 @ 65 Degrees
 PH 9



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: ERVIN#1DST#1

TIME ON: 1230
TIME OFF: 1752

Company RJM Lease & Well No. ERVIN #1
Contractor SOUTHWIND DRLG RIG 3 Charge to RJM
Elevation 1943EST Formation LANS "A" Effective Pay _____ Ft. Ticket No. P0128
Date 9-10-16 Sec. 31 Twp. 17 S Range 14 W County BARTON State KANSAS
Test Approved By JIM MUSGROVE Diamond Representative Michael Carroll

Formation Test No. 1 Interval Tested from 3197 ft. to 3210 ft. Total Depth 3210 ft.
Packer Depth 3192 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3197 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3185 ft. Recorder Number 5950 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 3201 ft. Recorder Number 0230 Cap. 5000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 67 Drill Collar Length 0 ft. I.D. 2 1/4 in.
Weight 8.7 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 3500 P.P.M. Drill Pipe Length 3172 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 13 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: WSB-BUILT TO 1/2" IN 30 MINUTES **NOBB**
2nd Open: NO BLOW-BUILT TO WSB IN 30 MINUTES **NOBB**

Recovered 10 ft. of SLWCM 2%W 98%M CHLORIDES 16000 PPM
Recovered 10 ft. of TOTAL FLUID RW .5 @ 65 DEGREES
Recovered _____ ft. of _____ PH 9
Recovered _____ ft. of _____

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>TOOL SAMPLE: 3%O 29%W 68%M</u>	Insurance
_____	Total

Time Set Packer(s) 2:05 P.M. A.M. P.M. Time Started Off Bottom 4:05 P.M. A.M. P.M. Maximum Temperature 100

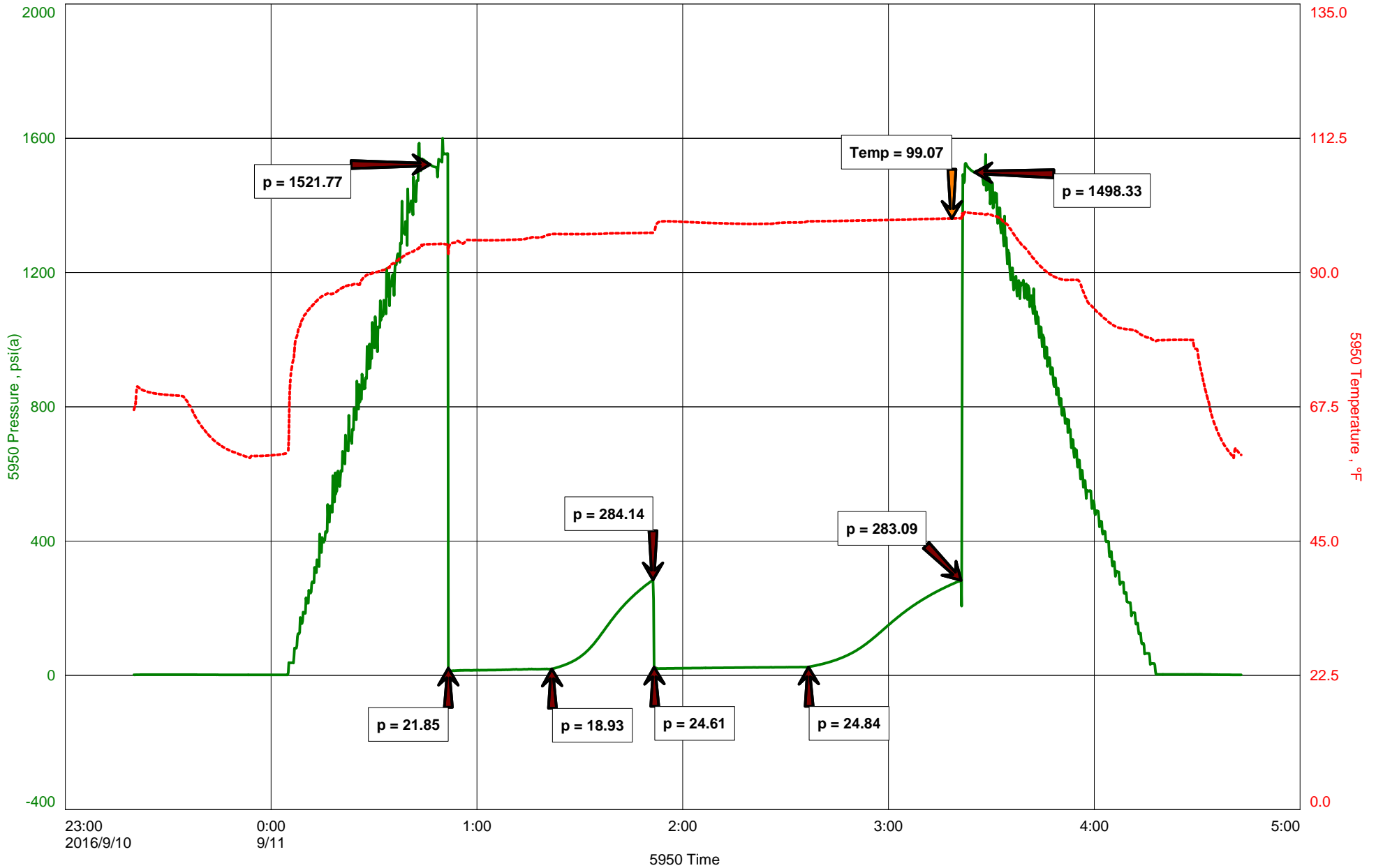
Initial Hydrostatic Pressure..... (A) 1505 P.S.I.
Initial Flow Period..... Minutes 30 (B) 10 P.S.I. to (C) 14 P.S.I.
Initial Closed In Period..... Minutes 30 (D) 407 P.S.I.
Final Flow Period..... Minutes 30 (E) 15 P.S.I. to (F) 18 P.S.I.
Final Closed In Period..... Minutes 30 (G) 357 P.S.I.
Final Hydrostatic Pressure..... (H) 1497 P.S.I.

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RJM
Dst #2 Lans 'B' 3208-3230'
Start Test Date: 2016/09/10
Final Test Date: 2016/09/11

Ervin #1
Formation: Dst #2 Lans 'B' 3208-3230'
Pool: Infield
Job Number: P0129

Ervin #1



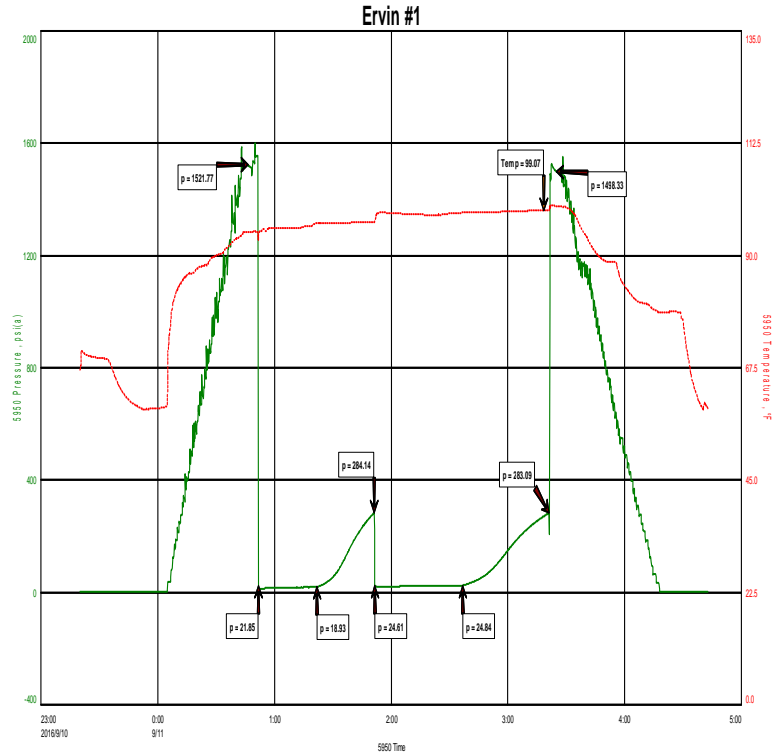


Hoisington, Kansas

Michael Carroll
620-617-0368
carroll.dtlc@gmail.com

General Information

Company Name	RJM
Contact	Chris Hoffman
Well Name	Ervin #1
Unique Well ID	Dst #2 Lans 'B' 3208-3230'
Surface Location	Sec 31-17s-14w Barton County
Field	Hlavaty
Well Type	Vertical
Test Type	Drill Stem Test
Well Operator	RJM
Formation	Dst #2 Lans 'B' 3208-3230'
Well Fluid Type	06 Water
Test Purpose	Initial Test
Start Test Date	2016/09/10
Start Test Time	23:20:00
Final Test Time	04:45:00
Job Number	P0129
Report Date	2016/09/11
Prepared By	Michael Carroll



TEST RECOVERY

Remarks	Recovery:	30'	MW	66%W	34%M
	Total Fluid:	30'			
	Tool Sample:	2%O	65%W	33%M	
	Chlorides	16000 PPM			
	RW	.39 @ 60 Degrees			
	PH	9			



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: ERVIN#1DST#2

TIME ON: 2320 9-10
 TIME OFF: 0445 9-11

Company RJM Lease & Well No. ERVIN #1
 Contractor SOUTHWIND DRLG RIG 3 Charge to RJM
 Elevation 1943EST Formation LANS "B" Effective Pay _____ Ft. Ticket No. P0129
 Date 9-11-16 Sec. 31 Twp. _____ 17 S Range _____ 14 W County BARTON State KANSAS
 Test Approved By JIM MUSGROVE Diamond Representative Michael Carroll

Formation Test No. 2 Interval Tested from 3208 ft. to 3230 ft. Total Depth 3230 ft.
 Packer Depth 3203 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth 3208 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3196 ft. Recorder Number 5950 Cap. 5000 P.S.I.
 Bottom Recorder Depth (Outside) 3212 ft. Recorder Number 0230 Cap. 5000 P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 67 Drill Collar Length 0 ft. I.D. 2 1/4 in.
 Weight 8.7 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
 Chlorides 3500 P.P.M. Drill Pipe Length 3183 ft. I.D. 3 1/2 in.
 Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in.
 Did Well Flow? NO Reversed Out NO Anchor Length 22 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: WSB-BUILT TO 1 1/2" IN 30 MINUTES NOBB
 2nd Open: WSB-BUILT TO 3/4" IN 45 MINUTES NOBB

Recovered 30 ft. of MW 66%W 34%M CHLORIDES 16000 PPM
 Recovered 30 ft. of TOTAL FLUID RW .39 @ 60 DEGREES
 Recovered _____ ft. of _____ PH 9

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Recovered _____ ft. of _____	Insurance
Remarks: <u>TOOL SAMPLE: 2%O 65%W 33%M</u>	Total

Time Set Packer(s) 12:50 A.M. A.M. P.M. Time Started Off Bottom 3:20 A.M. A.M. P.M. Maximum Temperature 99

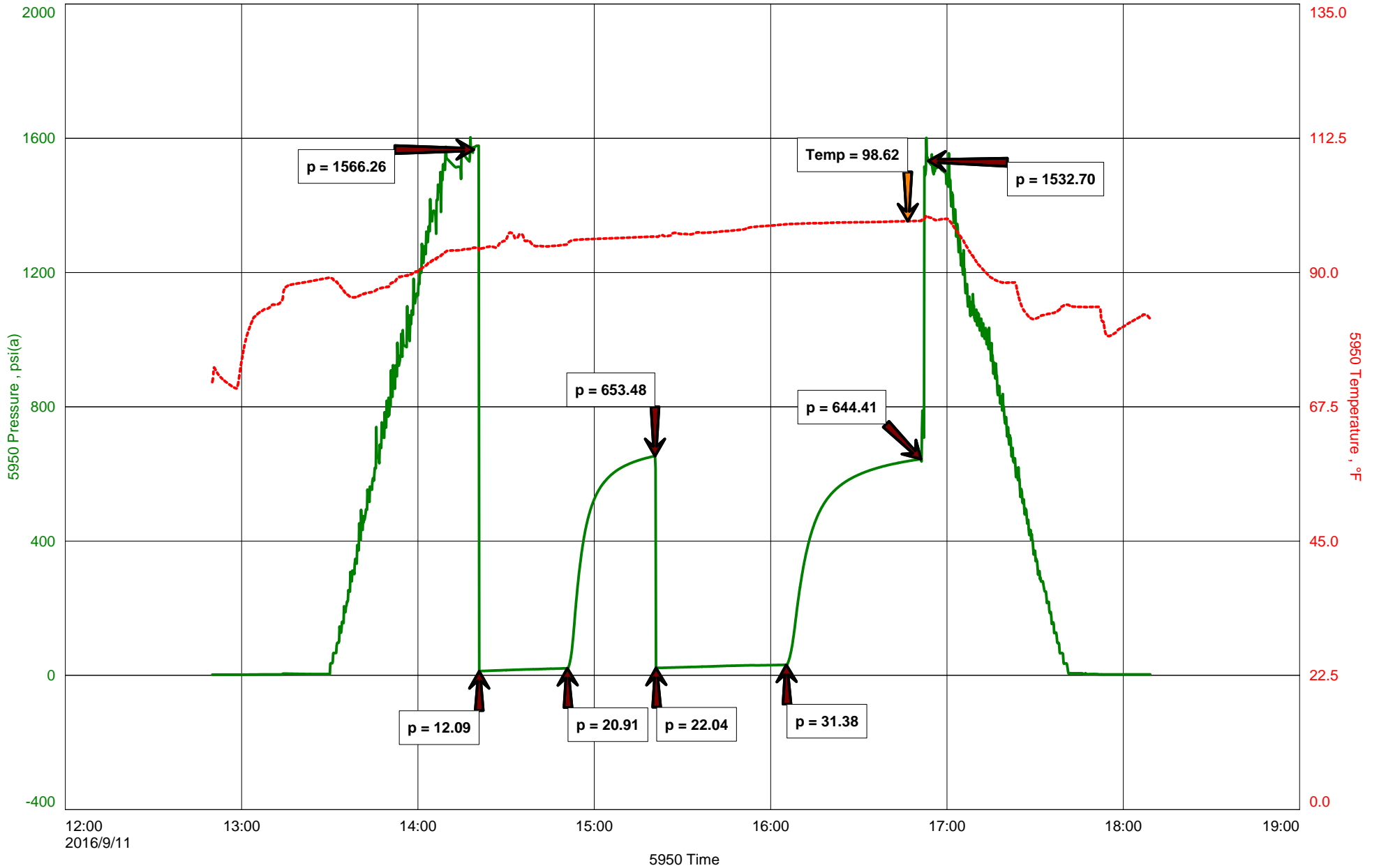
Initial Hydrostatic Pressure..... (A) 1522 P.S.I.
 Initial Flow Period..... Minutes 30 (B) 22 P.S.I. to (C) 19 P.S.I.
 Initial Closed In Period..... Minutes 30 (D) 284 P.S.I.
 Final Flow Period..... Minutes 45 (E) 25 P.S.I. to (F) 25 P.S.I.
 Final Closed In Period..... Minutes 45 (G) 283 P.S.I.
 Final Hydrostatic Pressure..... (H) 1498 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

RJM
Dst #3 Lans 'F&G' 3248-3303'
Start Test Date: 2016/09/11
Final Test Date: 2016/09/11

Ervin #1
Formation: Dst #3 Lans 'F&G' 3248-3303'
Pool: Infield
Job Number: P0130

Ervin #1



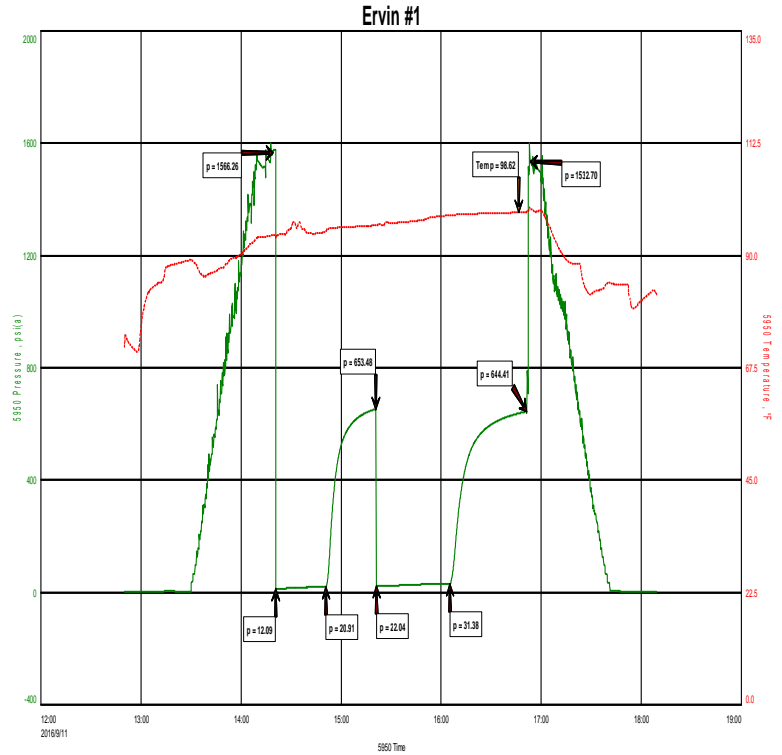


Hoisington, Kansas

Michael Carroll
620-617-0368
carroll.dtlc@gmail.com

General Information

Company Name	RJM
Contact	Chris Hoffman
Well Name	Ervin #1
Unique Well ID	Dst #3 Lans 'F&G' 3248-3303'
Surface Location	Sec 31-17s-14w Barton County
Field	Hlavaty
Well Type	Vertical
Test Type	Drill Stem Test
Well Operator	RJM
Formation	Dst #3 Lans 'F&G' 3248-3303'
Well Fluid Type	01 Oil
Test Purpose	Initial Test
Start Test Date	2016/09/11
Start Test Time	12:50:00
Final Test Time	18:08:00
Job Number	P0130
Report Date	2016/09/11
Prepared By	Michael Carroll



TEST RECOVERY

Remarks	Recovery:	45'	Mud	100%M
	Total Fluid:	45'		
	Tool Sample:	100%M	With Oil Specks	



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: ERVIN#1DST#3

TIME ON: 1250
TIME OFF: 1808

Company RJM Lease & Well No. ERVIN #1
Contractor SOUTHWIND DRLG RIG 3 Charge to RJM
Elevation 1943EST Formation _____ Lans/KC F&G Effective Pay _____ Ft. Ticket No. P0130
Date 9-11-16 Sec. 31 Twp. _____ 17 S Range _____ 14 W County BARTON State KANSAS
Test Approved By JIM MUSGROVE Diamond Representative Michael Carroll

Formation Test No. 3 Interval Tested from 3248 ft. to 3303 ft. Total Depth 3303 ft.
Packer Depth 3243 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3248 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3236 ft. Recorder Number 5950 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 3285 ft. Recorder Number 0230 Cap. 5000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 55 Drill Collar Length 0 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 4500 P.P.M. Drill Pipe Length 3225 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 55(23.5A) 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: WSB-BUILT TO 2" IN 30 MINUTES NOBB
2nd Open: NO BLOW-BUILT TO 2" IN 45 MINUTES NOBB

Recovered 45 ft. of MUD 100%M
Recovered 45 ft. of TOTAL FLUID
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>TOOL SAMPLE: 100%M WITH OIL SPECKS</u>	Insurance
_____	Total

Time Set Packer(s) 2:17 P.M. A.M. P.M. Time Started Off Bottom 4:47 P.M. A.M. P.M. Maximum Temperature 99

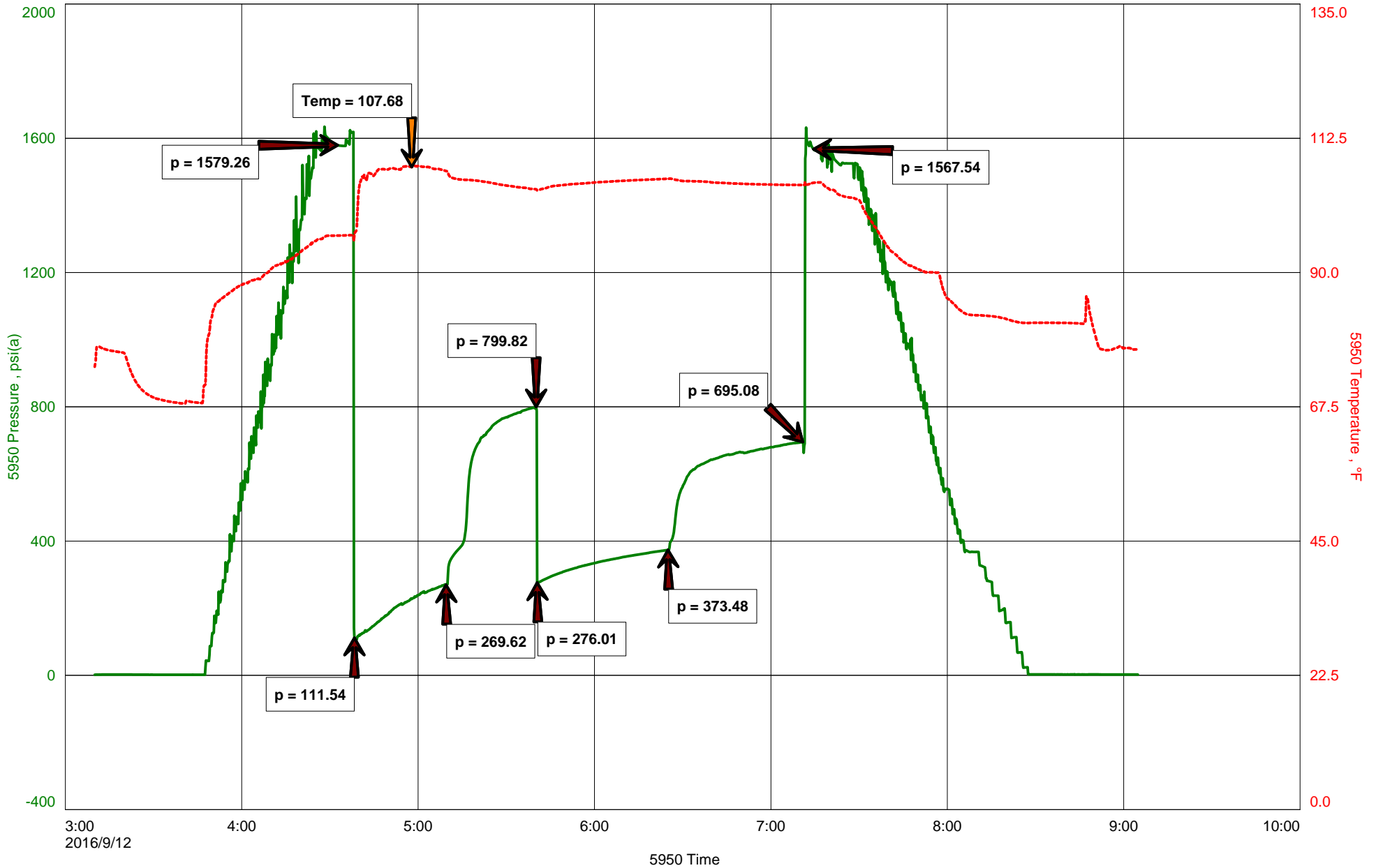
Initial Hydrostatic Pressure..... (A) 1566 P.S.I.
Initial Flow Period..... Minutes 30 (B) 12 P.S.I. to (C) 21 P.S.I.
Initial Closed In Period..... Minutes 30 (D) 653 P.S.I.
Final Flow Period..... Minutes 45 (E) 22 P.S.I. to (F) 31 P.S.I.
Final Closed In Period..... Minutes 45 (G) 644 P.S.I.
Final Hydrostatic Pressure..... (H) 1533 P.S.I.

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RJM
Dst #4 Lans/KC H-K 3318-3403'
Start Test Date: 2016/09/12
Final Test Date: 2016/09/12

Ervin #1
Formation: Dst #4 Lans/KC H-K 3318-3403'
Pool: Infield
Job Number: P0131

Ervin #1





Hoisington, Kansas

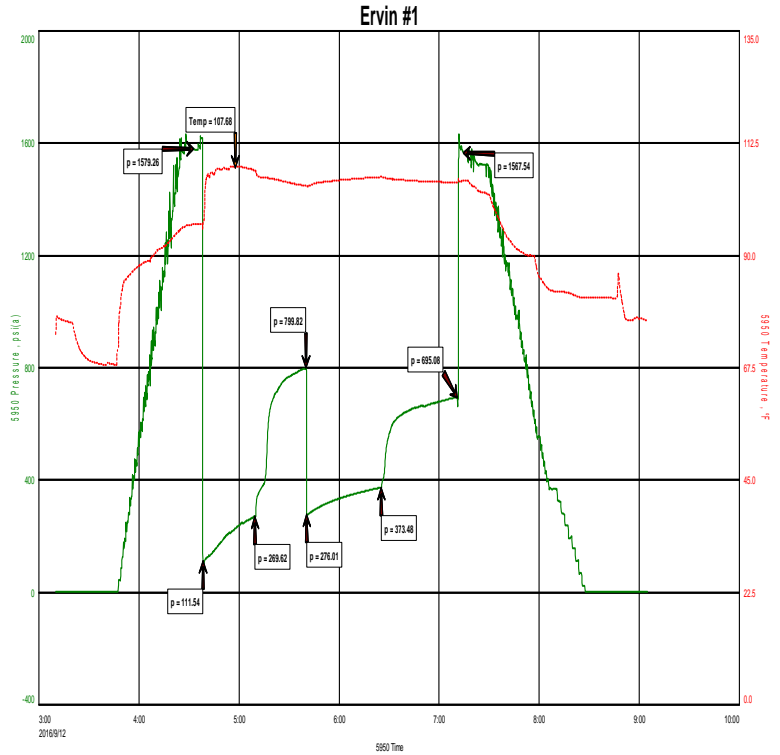
Michael Carroll
620-617-0368
carroll.dtlc@gmail.com

General Information

Company Name RJM

Contact	Chris Hoffman
Well Name	Ervin #1
Unique Well ID	Dst #4 Lans/KC H-K 3318-3403'
Surface Location	Sec 31-17s-14w Barton County
Field	Hlavaty
Well Type	Vertical
Test Type	Drill Stem Test
Well Operator	RJM

Formation	Dst #4 Lans/KC H-K 3318-3403'
Well Fluid Type	06 Water
Test Purpose	Initial Test
Start Test Date	2016/09/12
Start Test Time	03:10:00
Final Test Time	09:05:00
Job Number	P0131
Report Date	2016/09/12
Prepared By	Michael Carroll



TEST RECOVERY

Remarks	Recovery:	144'	SLOCMW	1%O	60%W	39%M
		636'	MCW	80%W	20%M	

Total Fluid: 780'

Tool Sample: 100%W

Chlorides 39000 PPM
RW .15 @ 75 Degrees
PH 7



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: ERVIN#1DST#4

TIME ON: 0310
TIME OFF: 0905

Company RJM Lease & Well No. ERVIN #1
Contractor SOUTHWIND DRLG RIG 3 Charge to RJM
Elevation 1943EST Formation _____ Lans/KC H-K _____ Effective Pay _____ Ft. Ticket No. P0131
Date 9-12-16 Sec. 31 Twp. _____ 17 S Range _____ 14 W County BARTON State KANSAS
Test Approved By JIM MUSGROVE Diamond Representative Michael Carroll

Formation Test No. 4 Interval Tested from 3318 ft. to 3403 ft. Total Depth 3403 ft.
Packer Depth 3313 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3318 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3306 ft. Recorder Number 5950 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 3387 ft. Recorder Number 0230 Cap. 5000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 55 Drill Collar Length 0 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 4500 P.P.M. Drill Pipe Length 3293 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 85(21.5A) 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: 3"BLOW-BUILT TO BOB IN 2 MINUTES NOBB
2nd Open: 1"BLOW-BUILT TO BOB IN 10 MINUTES 10 SECONDS NOBB

Recovered 144 ft. of SLOCMW 1%O 60%W 39%M CHLORIDES 39000 PPM
Recovered 636 ft. of MCW 80%W 20%M RW .15 @ 75 DEGREES
Recovered 780 ft. of TOTAL FLUID PH 7

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Recovered _____ ft. of _____	Insurance
Remarks: <u>TOOL SAMPLE: 100% WATER</u>	Total

Time Set Packer(s) 4:36 A.M. A.M. P.M. Time Started Off Bottom 7:06 A.M. A.M. P.M. Maximum Temperature 108

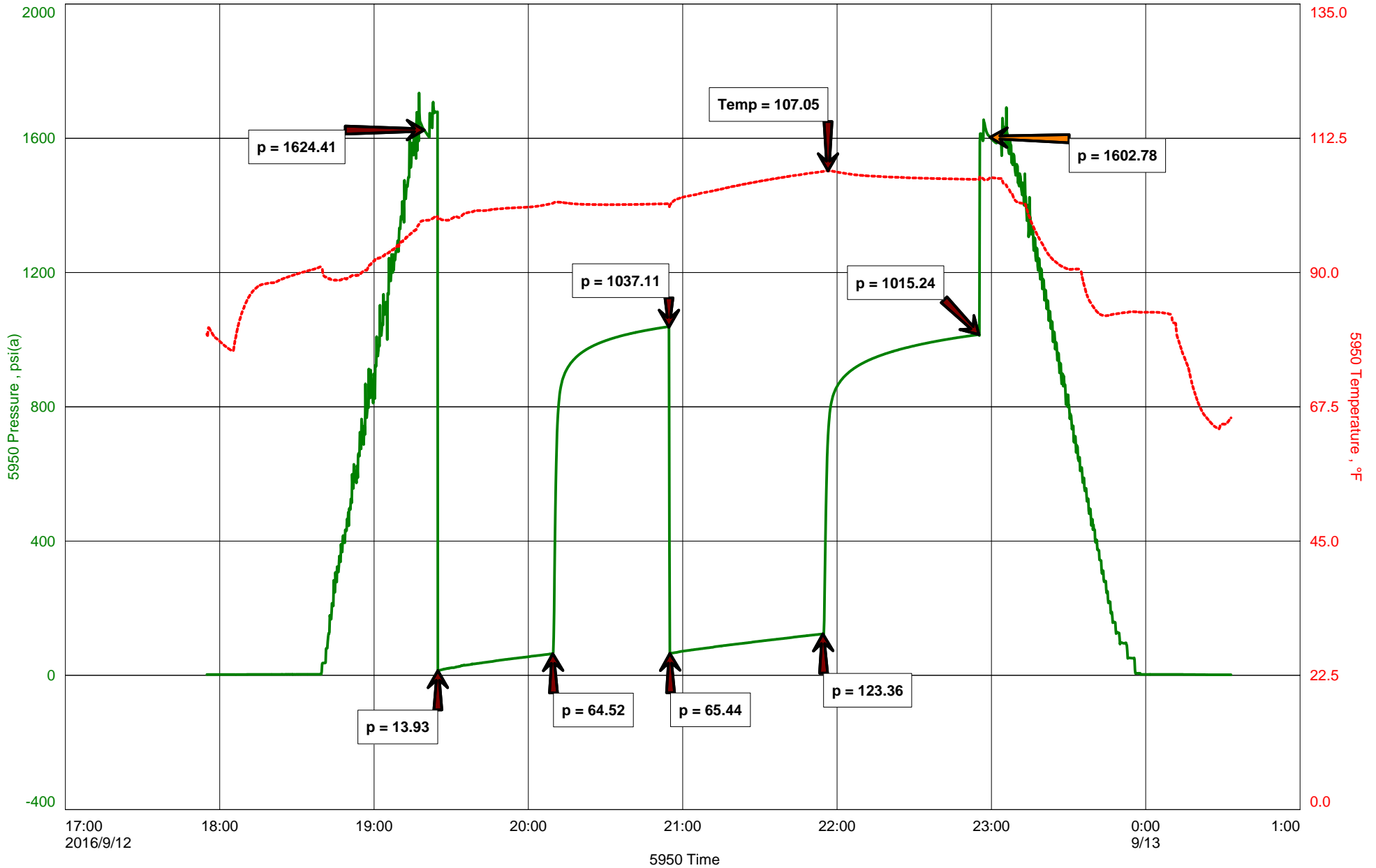
Initial Hydrostatic Pressure..... (A) 1579 P.S.I.
Initial Flow Period..... Minutes 30 (B) 112 P.S.I. to (C) 270 P.S.I.
Initial Closed In Period..... Minutes 30 (D) 800 P.S.I.
Final Flow Period..... Minutes 45 (E) 276 P.S.I. to (F) 373 P.S.I.
Final Closed In Period..... Minutes 45 (G) 695 P.S.I.
Final Hydrostatic Pressure..... (H) 1568 P.S.I.

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RJM
Dst #5 Arbuckle 3400-3468'
Start Test Date: 2016/09/12
Final Test Date: 2016/09/12

Ervin #1
Formation: Dst #5 Arbuckle 3400-3468'
Pool: Infield
Job Number: P0132

Ervin #1





Michael Carroll
 620-617-0368
 carroll.dtlc@gmail.com

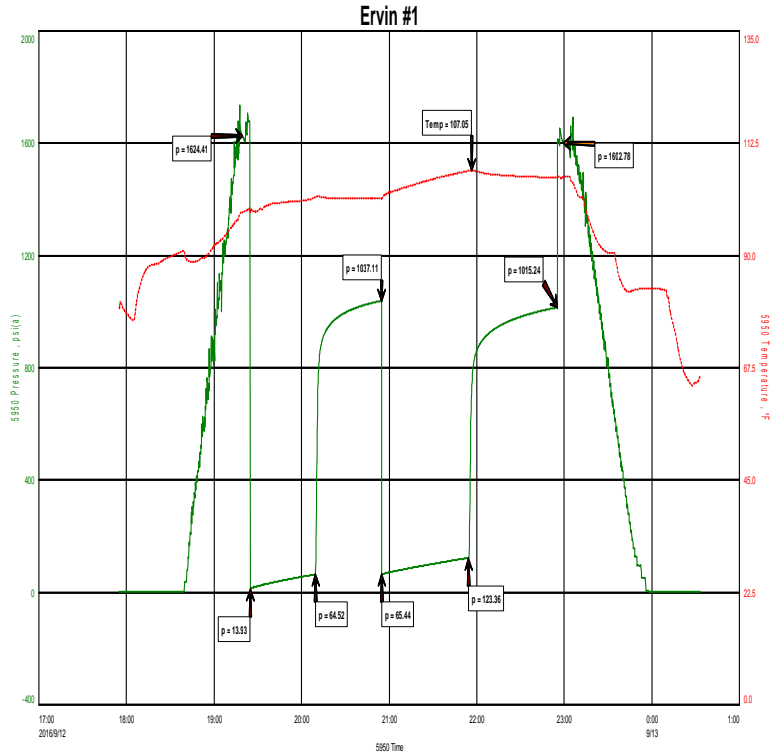
Hoisington, Kansas

General Information

Company Name RJM

Contact Chris Hoffman
 Well Name Ervin #1
 Unique Well ID Dst #5 Arbuckle 3400-3468'
 Surface Location Sec 31-17s-14w Barton County
 Field Hlavaty
 Well Type Vertical
 Test Type Drill Stem Test
 Well Operator RJM

Formation Dst #5 Arbuckle 3400-3468'
 Well Fluid Type 06 Water
 Test Purpose Initial Test
 Start Test Date 2016/09/12
 Start Test Time 17:55:00
 Final Test Time 00:34:00
 Job Number P0132
 Report Date 2016/09/12
 Prepared By Michael Carroll



TEST RECOVERY

Remarks	Recovery:	53'	WM	40%W	60%M
		63'	MW	60%W	40%M
		126'	MCW	90%W	10%M

Total Fluid: 242'

Tool Sample: 100% Water

Chlorides 33000 PPM
 RW .2 @ 70 Degrees
 PH 7



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: ERVIN#1DST#5

TIME ON: 1755 9-12
TIME OFF: 0034 9-13

Company RJM Lease & Well No. ERVIN #1
Contractor SOUTHWIND DRLG RIG 3 Charge to RJM
Elevation 1943EST Formation ARBUCKLE Effective Pay _____ Ft. Ticket No. P0132
Date 9-12-16 Sec. 31 Twp. 17 S Range 14 W County BARTON State KANSAS
Test Approved By JIM MUSGROVE Diamond Representative Michael Carroll

Formation Test No. 5 Interval Tested from 3400 ft. to 3468 ft. Total Depth 3468 ft.
Packer Depth 3395 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3400 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____
Top Recorder Depth (Inside) 3388 ft. Recorder Number 5950 Cap. 5000 P.S.I.
Bottom Recorder Depth (Outside) 3437 ft. Recorder Number 0230 Cap. 5000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 47 Drill Collar Length 0 ft. I.D. 2 1/4 in.
Weight 9.4 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 5000 P.P.M. Drill Pipe Length 3375 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 68(36.5A) 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: 1/4" BLOW-BUILT TO 11" IN 45 MINUTES WSBB
2nd Open: NO BLOW-BUILT TO 11 1/2" IN 60 MINUTES NOBB

Recovered 53 ft. of WM 40%W 60%M CHLORIDES 33000 PPM
Recovered 63 ft. of MW 60%W 40%M RW .2 @ 70 DEGREES
Recovered 126 ft. of MCW 90%W 10%M PH 7
Recovered 242 ft. of TOTAL FLUID

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>TOOL SAMPLE: 100% WATER</u>	Insurance
	Total

Time Set Packer(s) 7:23 P.M. A.M. P.M. Time Started Off Bottom 10:53 P.M. A.M. P.M. Maximum Temperature 107

Initial Hydrostatic Pressure..... (A) 1624 P.S.I.
Initial Flow Period..... Minutes 45 (B) 14 P.S.I. to (C) 65 P.S.I.
Initial Closed In Period..... Minutes 45 (D) 1037 P.S.I.
Final Flow Period..... Minutes 60 (E) 65 P.S.I. to (F) 123 P.S.I.
Final Closed In Period..... Minutes 60 (G) 1015 P.S.I.
Final Hydrostatic Pressure..... (H) 1603 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 1769

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-7-16	31	17	14	Barton	KS		4:15pm
Lease <u>Ervin</u>				Well No. <u>1</u>		Owner <u>To Quality Oilwell Cementing, Inc.</u>	
Contractor <u>Southwind #3</u>				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Type Job <u>Surface</u>				Charge To <u>R. J. M.</u>			
Hole Size <u>12 1/4</u>		T.D. <u>905</u>		Street			
Csg. <u>8 5/8</u>		Depth <u>905</u>		City			
Tbg. Size		Depth		State			
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Cement Left in Csg. <u>40'</u>		Shoe Joint		Cement Amount Ordered <u>350 60/40 3 1/2 CC 2 1/2 CC 1/4 #</u>			
Meas Line		Displace <u>55 RL</u>		Common <u>270 210</u>			
<p style="text-align: center;">EQUIPMENT</p> Pumptrk <u>5</u> No. Cementer <u>raig</u> Bulktrk No. Helper <u>Dick</u> Bulktrk <u>4</u> No. Driver <u>Doug</u>				Poz. Mix <u>140</u> Gel. <u>7</u> Calcium <u>15</u>			
JOB SERVICES & REMARKS				Hulls			
Remarks:				Salt			
Rat Hole				Flowseal <u>87 #</u>			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48			
Baskets				CFL-117 or CD110 CAF 38			
D/V or Port Collar				Sand			
<u>8 5/8 on bottom Est. Circulation.</u>				Handling <u>372</u>			
<u>Mix 350SK & Displace Plug</u>				Mileage			
<u>Cement Circulated?</u>				<p style="text-align: center;">FLOAT EQUIPMENT</p> Guide Shoe <u>8 5/8 Rubber Plug</u>			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge <u>Long Surface</u>			
				Mileage <u>21</u>			
				Tax			
				Discount			
				Total Charge			
X Signature <u>Jim Ervin</u>							

GENERAL TERMS AND CONDITIONS

DEFINITIONS: In these terms and conditions, "Quality" shall mean Quality Oilwell Cementing, Inc., and "Customer" shall refer to the party identified by that term on the front of this contract. As applicable, "Job" relates to the services described on the front side of this contract, "merchandise" refers to the material described on the front of this contract and to any other materials, products, or supplies used, sold, or furnished under the requirements of this contract.

- **TERMS:** Unless satisfactory credit has been established, "CUSTOMER" must tender full cash payment to "QUALITY" before the job is undertaken or merchandise is delivered. If satisfactory credit has been established, the terms of payment for the job and/or merchandise, including bulk cement, are net cash, payable in 30 days from the completion of the job and/or delivery of the merchandise. For all past due invoices, "CUSTOMER" agrees to pay interest on amounts invoiced at a rate of 18 percent per annum until paid. Notwithstanding the foregoing in no event shall this Contract provide for interest exceeding the maximum rate of interest that "CUSTOMER" may agree to pay under applicable law. If any such interest should be provided for, it shall be and hereby is deemed to be a mistake, and this contract shall be automatically reformed to lower the rate of interest to the maximum legal contract rate, any amounts previously paid as excess interest shall be deducted from the amounts owing from the "CUSTOMER" or at the option of "QUALITY," refunded directly to "CUSTOMER." For purposes of this paragraph, QUALITY and CUSTOMER agree that KANSAS law shall apply. Any discounts granted with this contract are null and void if the charges are not paid when due.

- **ATTORNEY FEES:** In any legal action or proceeding between the parties to enforce any of the terms of this Service Contract, or in any way pertaining to the term of this Contract, the prevailing party shall be entitled to recover all expenses, including, but not limit to, a reasonable sum as and attorney's fees.

- **PRICES AND TAXES:** All merchandise listed in "QUALITY'S" current price schedule are F.O.B. QUALITY'S local station and are subject to change without notice. All prices are exclusive of any federal, state, local, or special taxes for the sale or use of the merchandise or services listed. The amount of taxes required to be paid by QUALITY shall be added to the quoted prices charged to CUSTOMER.

- **TOWING CHARGES:** QUALITY will make a reasonable attempt to get to and from each job site using its own equipment. Should QUALITY be unable to do so because of poor or inadequate road conditions, and should it become necessary to employ a tractor or other pulling equipment to get to or from the job site, the tractor or pulling equipment will be supplied by CUSTOMER or, if furnished by QUALITY, will be charged to and paid by CUSTOMER.

- **PREPARATION CHARGES:** If a job and/or merchandise is ordered and CUSTOMER cancels the order after preparation of a chemical solution or other material, CUSTOMER will pay QUALITY for the expenses incurred by QUALITY as a result of the cancellation.

- **DEADHAUL, CHARGES:** Unless otherwise specified on the front of this Contract, a deadhaul charges as set forth in QUALITY'S current price book will be charged each way for each service unit which is ordered by CUSTOMER but not used.

- **SERVICE CONDITIONS AND LIABILITIES:** 1. QUALITY carries public liability and property damage insurance, but since there are so many uncertain and unknown conditions beyond QUALITY'S control, QUALITY shall not be liable for injuries to property or persons or for loss or damage arising from the performance of the job or delivery of the merchandise. Customer shall be responsible for and indemnify, defend, and hold harmless QUALITY, its officers, agents and employees, from and against any and all claims or suits for:

(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with QUALITY'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of QUALITY or its employees.

2. With respect to any of QUALITY'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to QUALITY at the landing, CUSTOMER shall either recover the lost item without cost to QUALITY or reimburse QUALITY the current replacement cost of the item unless the loss or damage results from the sole negligence of QUALITY or its employees.

3. QUALITY does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

WARRANTIES: 1. QUALITY warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. QUALITY'S obligation under this warranty is expressly limited to repair replacement, or allowance for credit, at its option, for any merchandise which is determined by QUALITY to be defective. THIS IS THE SOLE WARRANTY OF QUALITY AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and QUALITY shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

2. More specifically:

(A) Nothing in this contract shall be construed as a warranty by QUALITY of the success or the effectiveness of the result of any work done or merchandise used, sold, or furnished under this contract.

(B) Nothing in this contract shall be construed as a warranty of the accuracy or correctness of any facts, information, or data furnished by QUALITY or any interpretation of test, meter readings, chart information, analysis or research, or recommendations made by QUALITY, unless the inaccuracy or incorrectness is caused by the willful misconduct or gross negligence of QUALITY or its employees in the preparation or furnishing of such facts, information or data. (C) Work done by QUALITY shall be under the direct supervision and control of the CUSTOMER or his agent and QUALITY will accomplish the job as an independent contractor and not as an employee or agent of the CUSTOMER.

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. 1772

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-13-16	31	17	14	Barton	KS		7:15 A.M.

Location 281 1/4 Hwy 4 3 1/2 W Sinto

Lease	Well No. 1	Owner
Contractor		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Type Job		Charge To
Hole Size	T.D.	To
Csg.	Depth	Street
Tbg. Size	Depth	City
Tool	Depth	State
Cement Left in Csg.	Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.
		Cement Amount Ordered

Meas Line	Displace	
EQUIPMENT		Common
Pumptrk	No.	Cement
18		Helper
Bulktrk	No.	Driver
		Driver
Bulktrk	No.	Driver
9		Driver

JOB SERVICES & REMARKS		Hulls
Remarks:		Salt
Rat Hole		Flowseal
30SK		Kol-Seal
Mouse Hole		Mud CLR 48
Centralizers		CFL-117 or CD110 CAF 38
Baskets		Sand
D/V or Port Collar		Handling
15 3440 50SK		Mileage
2 960 80SK		
3 300 40SK		
4 40 10SK		

FLOAT EQUIPMENT		
Guide Shoe		8 5/8 Dry Hole Plug
Centralizer		
Baskets		
AFU Inserts		
Float Shoe		
Latch Down		
Pumptrk Charge		
Mileage		

Signature		Tax
		Discount
		Total Charge

