KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1091312

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 5088
Name: Darrah, John Jay, Jr.
Address 1: 225 N MARKET STE 300
Address 2:
City: WICHITA State: KS Zip: 67202 + 2024
Contact Person: Will Darrah
Phone: (316) 219-3390
CONTRACTOR: License # 4958
Name: Mallard, J. V., Inc.
Wellsite Geologist: Seth Evenson
Purchaser: NCRA

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [x] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [ ] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] CM *(Coal Bed Methane)*
- [ ] Cathodic
- [ ] Other *(Core, Expl., etc.)*:

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

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

- [ ] Deepening
- [ ] Re-perf.
- [ ] Conv. to ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

07/27/2012	08/02/2012	08/23/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-053-21273-00-00
Spot Description:
E2 - SE - SW - SE Sec. 32 Twp. 15 S. R. 10 [ ] East [x] West
330 Feet from [ ] North / [x] South Line of Section
1510 Feet from [x] East / [ ] West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- [ ] NE
- [ ] NW
- [x] SE
- [ ] SW

County: Ellsworth
Lease Name: John Vacek Well #: #6
Field Name:
Producing Formation: Arbuckle
Elevation: Ground: 1780 Kelly Bushing: 1783
Total Depth: 3285 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 369 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] 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: 50 ppm Fluid volume: 10 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

- [ ] **Letter of Confidentiality Received**
  Date:
- [ ] **Confidential Release Date:**
- [ ] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [x] **I** [ ] **II** [ ] **III** **Approved by:** NAOMI JAMES **Date:** 09/27/2012

Side Two

1091312

Operator Name: Darrah, John Jay, Jr. Lease Name: John Vacek Well #: #6

Sec. 32 Twp. 15 S. R. 10 ☐ East ☑ West County: Ellsworth

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☐ Yes ☑ No

Electric Log Submitted Electronically ☐ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:

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

Name	Top	Datum
Attached	Attached	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	12.75	8.625	23	369	SMD	200	2% gel 3% CC
Production	7.875	5.5	14	3276	SMD	100	10% salt %5 gilsonite

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:
☐ Perforate
☐ Protect Casing
☐ Plug Back TD
☐ Plug Off Zone

Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
-			
-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: 2 3/8" Set At: 3282 Packer At: NA Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 08/23/2012

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	8.34				

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☑ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
3280'

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Darrah, John Jay, Jr.
Well Name	John Vacek #6
Doc ID	1091312

Tops

Name	Top	Datum
Topeka	2526	-743
Oread	2742	-959
Heebner	2825	-1042
Brown Lime	2925	-1142
Lansing	2943	-1160
Base KC	3213	-1430
Simpson	3242	-1459
Arbuckle	3273	-1490
RTD	3282	-1499

DRILL STEM TEST REPORT

Darrah,John Jay Jr

225 N Market Ste 300
Wichita Ks 67202 + 2024

ATTN: Will Darrah

32-15s-10w

John Vacek #6

Job Ticket: 49340 **DST#: 1**

Test Start: 2012.08.01 @ 05:17:53

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:23:00
Time Test Ended: 09:19:23

Test Type: Conventional Bottom Hole (Initial)
Tester: Jeff Brown
Unit No: 44

Interval: 3266.00 ft (KB) To 3282.00 ft (KB) (TVD)
Total Depth: 3282.00 ft (KB) (TVD)
Hole Diameter: 6.75 inches Hole Condition:

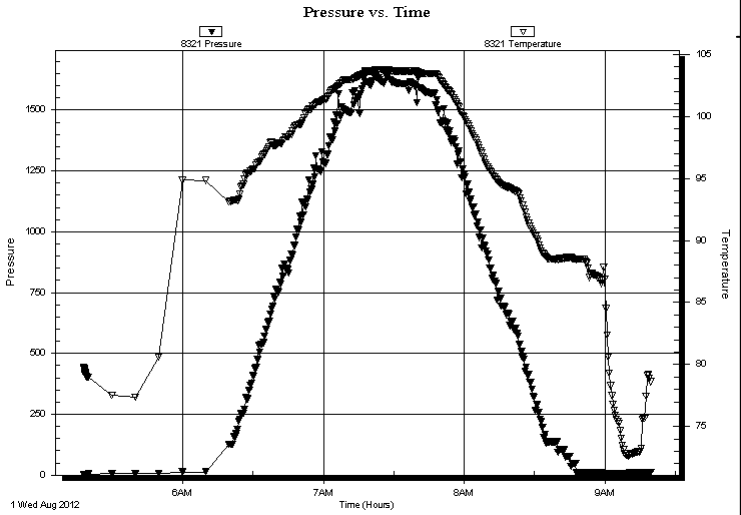
Reference Elevations: 1783.00 ft (KB)
1778.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8321 **Inside**

Press@RunDepth: psig @ 3269.00 ft (KB)
Start Date: 2012.08.01 End Date: 2012.08.01
Start Time: 05:17:54 End Time: 09:19:23

Capacity: 8000.00 psig
Last Calib.: 2012.08.01
Time On Btm:
Time Off Btm:

TEST COMMENT: MIS-Run Packer failure



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
210.00	Mud	1.03

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah,John Jay Jr

225 N Market Ste 300
Wichita Ks 67202 + 2024

ATTN: Will Darrah

32-15s-10w

John Vacek #6

Job Ticket: 49340 **DST#: 1**

Test Start: 2012.08.01 @ 05:17:53

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	Mud	1.033

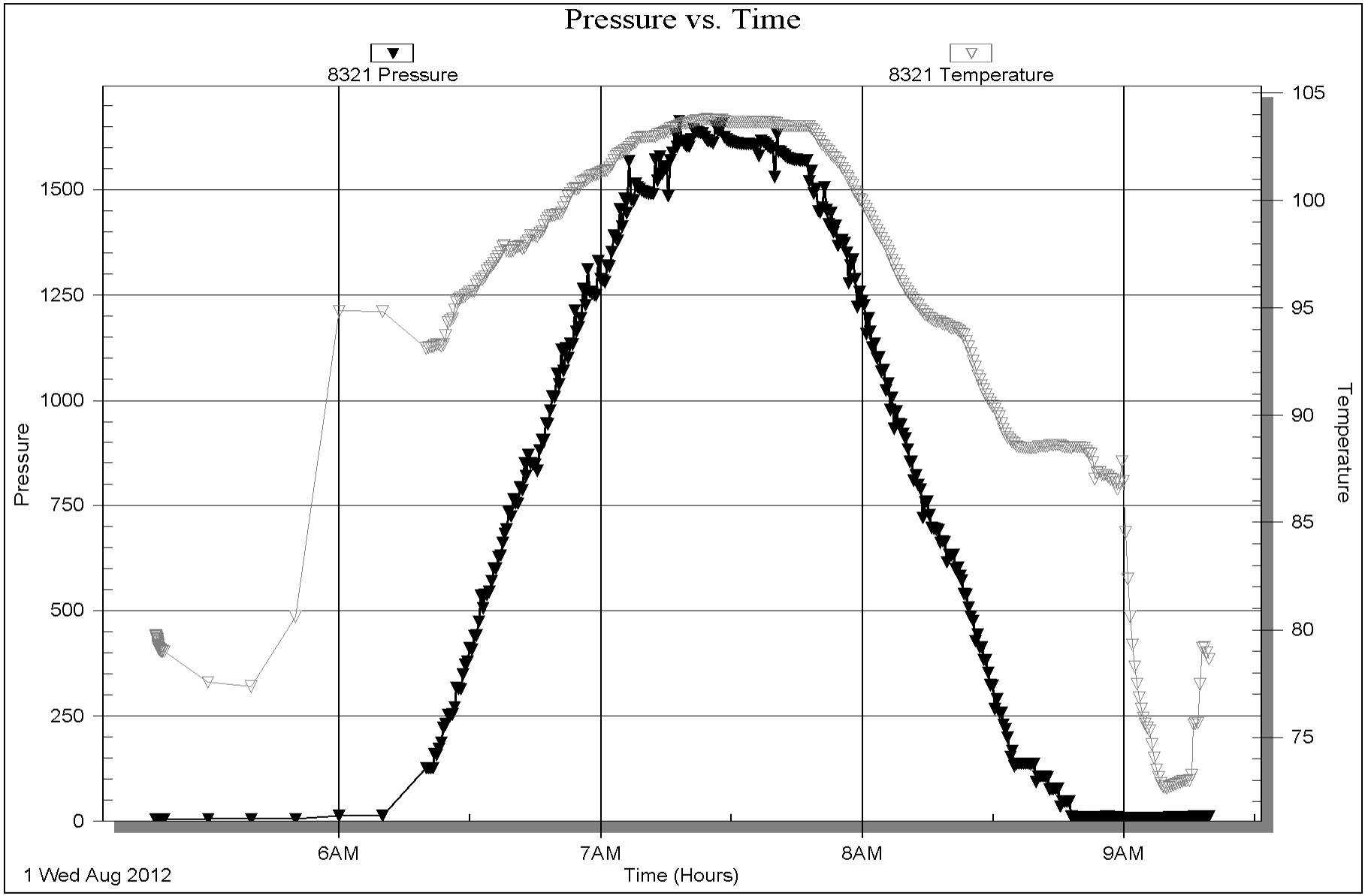
Total Length: 210.00 ft Total Volume: 1.033 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: Mis-Run Packer Failure

Serial #: 8321 **Inside** Darrah,John Jay Jr John Vacek #6 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 49340 Printed: 2012.08.01 @ 16:26:06

DRILL STEM TEST REPORT

Darrah,John Jay Jr

225 N Market Ste 300
Wichita Ks 67202 + 2024

ATTN: Will Darrah

32-15s-10w

John Vacek #6

Job Ticket: 49341 **DST#: 2**

Test Start: 2012.08.01 @ 09:45:44

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 11:07:14
Time Test Ended: 15:50:44

Test Type: Conventional Bottom Hole (Reset)
Tester: Jeff Brown
Unit No: 44

Interval: 3350.00 ft (KB) To 3382.00 ft (KB) (TVD)
Total Depth: 3282.00 ft (KB) (TVD)
Hole Diameter: 6.75 inches Hole Condition: Good

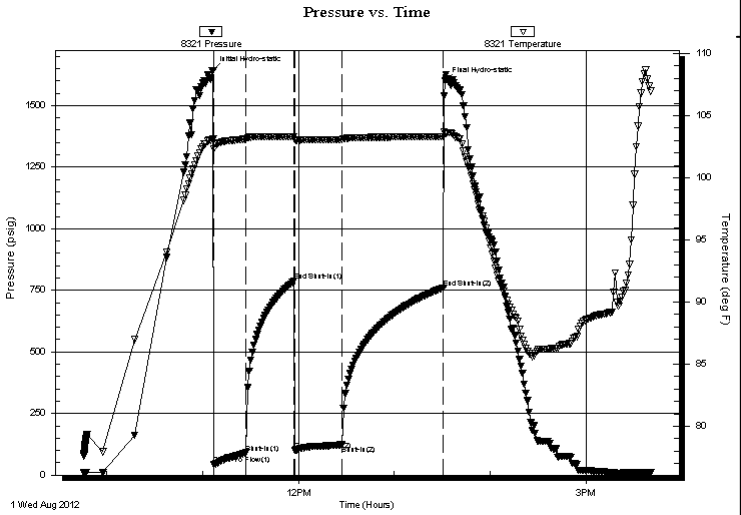
Reference Elevations: 1783.00 ft (KB)
1778.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8321 **Inside**

Press@RunDepth: 122.79 psig @ 3355.00 ft (KB)
Start Date: 2012.08.01 End Date: 2012.08.01
Start Time: 09:45:45 End Time: 15:40:44

Capacity: 8000.00 psig
Last Calib.: 2012.08.01
Time On Btm: 2012.08.01 @ 11:06:44
Time Off Btm: 2012.08.01 @ 13:31:44

TEST COMMENT: IFP-Fair blow Built to 9 in
ISI-Weak surface blow back died out in 15 min
FFP-Fair blow built to 8 1/2 in
FSI-Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1642.95	103.11	Initial Hydro-static
1	42.85	102.35	Open To Flow (1)
21	90.29	103.11	Shut-In(1)
51	787.04	103.31	End Shut-In(1)
51	100.58	103.08	Open To Flow (2)
81	122.79	103.06	Shut-In(2)
144	760.18	103.31	End Shut-In(2)
145	1598.53	103.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCO 45%M 55%O	0.89
91.00	Gassy Oil 25%G 75%O	0.73

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Darrah,John Jay Jr

225 N Market Ste 300
Wichita Ks 67202 + 2024

ATTN: Will Darrah

32-15s-10w

John Vacek #6

Job Ticket: 49341 **DST#: 2**

Test Start: 2012.08.01 @ 09:45:44

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	33 deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	ppm				
Filter Cake:	inches				

Recovery Information

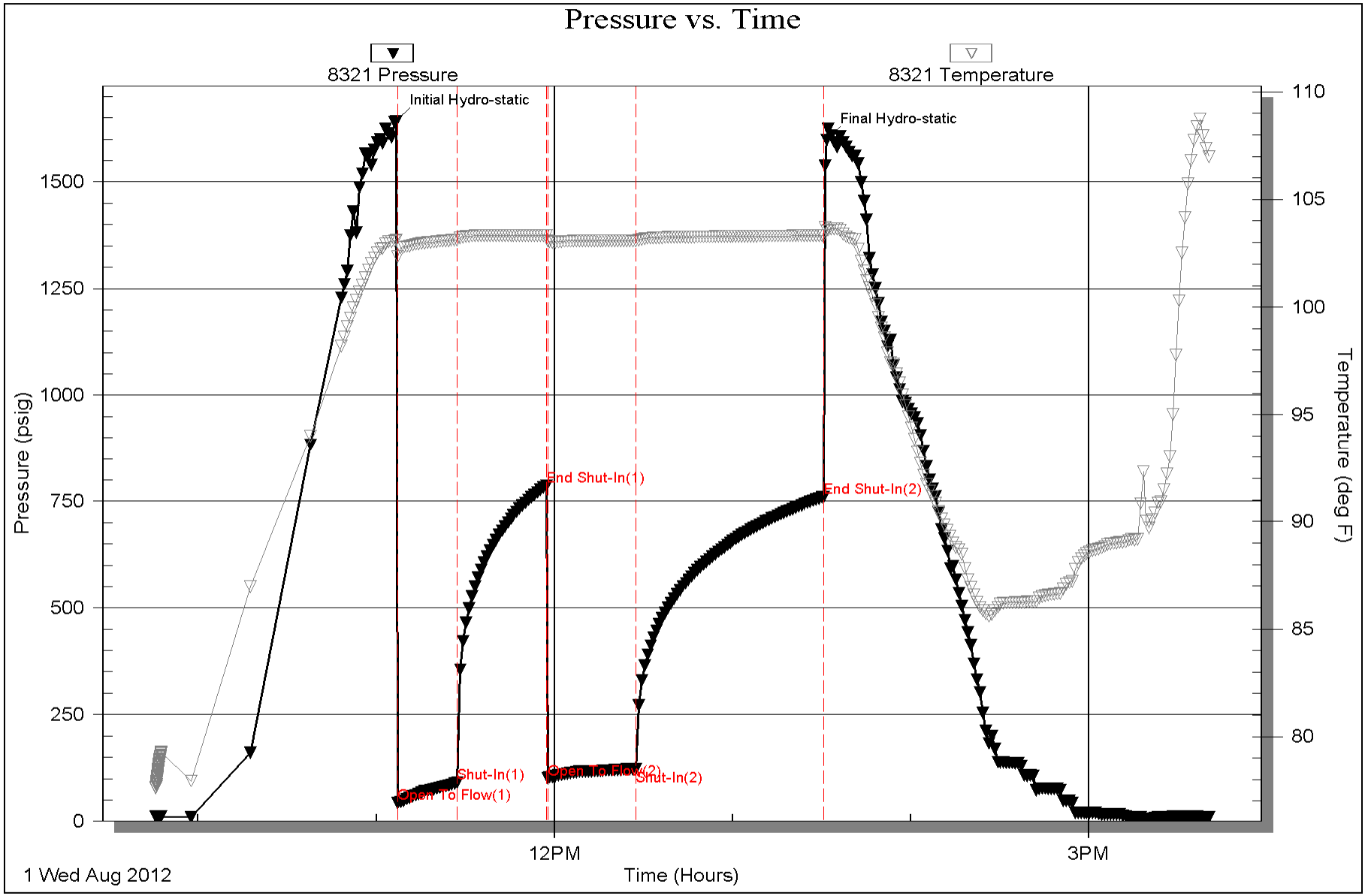
Recovery Table

Length ft	Description	Volume bbl
180.00	MCO 45%M 55%O	0.885
91.00	Gassy Oil 25%G 75%O	0.730

Total Length: 271.00 ft Total Volume: 1.615 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8321 **Inside** Darrah,John Jay Jr John Vacek #6 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 49341 Printed: 2012.08.01 @ 16:25:12

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 818

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-2-12	32	15	10	ELLSWORTH	KANSAS		3:45 AM

Lease JOHN VACEK Well No. #6 Location WILSON STO RD N-1E-1N-½E-N INTO

Contractor MALLARD # 2

Type Job PROD. STRING

Hole Size 8⅝" T.D. 3282'

Csg. 5½" Depth 3277'

Tbg. Size Depth

Tool Depth

Cement Left in Csg. Shoe Joint 18'

Meas Line Displace 79.½

Owner DARRAH OIL.

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.

Charge To DARRAH OIL.

Street 225 N MARKET STE 300

City WICHITA State KS, 67202

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 130 SKS 10% SALT 500 gal Mud Clear 48

EQUIPMENT

Pumptrk #15 No. Cementer Helper NICK

Bulktrk #10 No. Driver Driver JASON

Bulktrk PU No. Driver Driver CISCO RICK

Rick

JOB SERVICES & REMARKS

Remarks:

Rat Hole 30 SKS

Mouse Hole

Centralizers #2

Baskets

D/V or Port Collar

DROPPED BALL. BROKE CIRCULATION 30 MIN ON BOTTOM - PUMPED 500 GALLONS MUD FLUSH - DISCONNECTED PLUGGED RAT HOLE 30 SKS - RE-CONNECTED MIXED 130 SKS DOWN 5½" - DROPPED PLUG & DISPLACED PLUG LANDED & HELD

THANK YOU

X Signature Frank Espinoza

Common	130
Poz. Mix	
Gel.	
Calcium	
Hulls	
Salt	11
Flowseal	
Kol-Seal	
Mud CLR 48	500 GAL.
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	

FLOAT EQUIPMENT

Guide Shoe	1-5½"
Centralizer	1-5½"
Baskets	
AFU Inserts	1-5½"
Float Shoe	
Latch Down	

Pumptrk Charge	Prod Long String
Mileage	34
Tax	
Discount	
Total Charge	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 762
Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-27-12	32	15	10	Ellsworth	KS		10:15pm

Lease John Vacek Well No. 6 Location Wilson S Rd N 1E 1N ½E N into

Contractor Mallard		Owner
Type Job Surface		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.
Hole Size 12¼	T.D. 369	
Csg. 8 5/8	Depth 369	Charge To Darrah Oil
Tbg. Size	Depth	Street 225 N Market, Suite 300
Tool	Depth	City Wichita State KS 67202
Cement Left in Csg.	Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.
Meas Line	Displace 22½ BL	Cement Amount Ordered 200 com 3%cc 2%gel

EQUIPMENT

	No.		
Pumptrk 16	No.	Cementer / Helper	Craig
Bulktrk	No.	Driver / Driver	Travis
Bulktrk 14	No.	Driver / Driver	Lonnie

Item	
Common	200
Poz. Mix	
Gel.	4
Calcium	7
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	211
Mileage	

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

8 5/8 on bottom. Est Circulation.
Mix 200sk & Displace.
Cement Circulated!

FLOAT EQUIPMENT

Item	
Guide Shoe	
Centralizer	
Baskets	8 5/8 Swage
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	Surface
Mileage	34
Tax	
Discount	
Total Charge	

X Signature [signature]

Darrah Oil Company

Geologic Report

#6 John Vacek
15-053-21273

330 FSL & 1510 FEL
Sec. 32 T15S R10W
Ellsworth County Kansas

KB: 1783'
GL: 1778'

All measurements taken from KB

Contractor: Mallard JV

Spud date: July 27th, 2012
Drilling complete: August1st, 2012

Geologist Seth Evenson on location 11:45 am July, 30th 2012 @ 2560 ft. MD

Drill time taken from 2400 ft. to TD
Samples logged from 2490 ft. to TD

Sample Tops:

Topeka	2526' (-743)	Lansing G zn	3015' (-1232)
Oread	2742' (-959)	Muncie Creek shale	3073' (-1290)
Heebner	2825' (-1042)	Stark shale	3157' (-1374)
Toronto	2848' (-1065)	Hushpuckney shale	3189' (-1406)
Douglas	2855' (-1072)	BKC	3213' (-1430)
Brown Lime	2925' (-1142)	Simpson	3242' (-1459)
Lansing	2943' (-1160)	Arbuckle	3273' (-1490)
Lansing B zn	2971' (-1188)	Arbuckle porosity	3277' (-1494)
		TD	3282' (-1499)

Formation Tests:

DST #1
3266' - 3282' MD
MIS-RUN
Packer did not seat

Rec: 210' Mud

DST #2
3250' – 3282' MD
HP 1643 - 1598
IFP 43 – 90 20 min
ISI 787 30 min
FFP 100 – 123 30 min
FSI 760 60 min
Rec. 91' GO (25% G; 75% O)
180' MCO (45% M; 55% O)

Structural Comparison:

	#6 John Vacek E2/SE/SW/SE Sec 32 15S-10W	#5 John Vacek E2/SW/SE/SE Sec 32 15S-10W	#3 Adamek A NE/NE/NW Sec 5 16S-10W
Topeka	-743	-745 (-2)	-749 (-6)
Douglas	-1072	-1071 (+1)	-1074 (-2)
Lansing	-1160	-1159 (+1)	-1162 (-2)
Stark	-1374	-1371 (+3)	-1372 (+2)
BKC	-1430	-1432 (-2)	-1432 (-2)

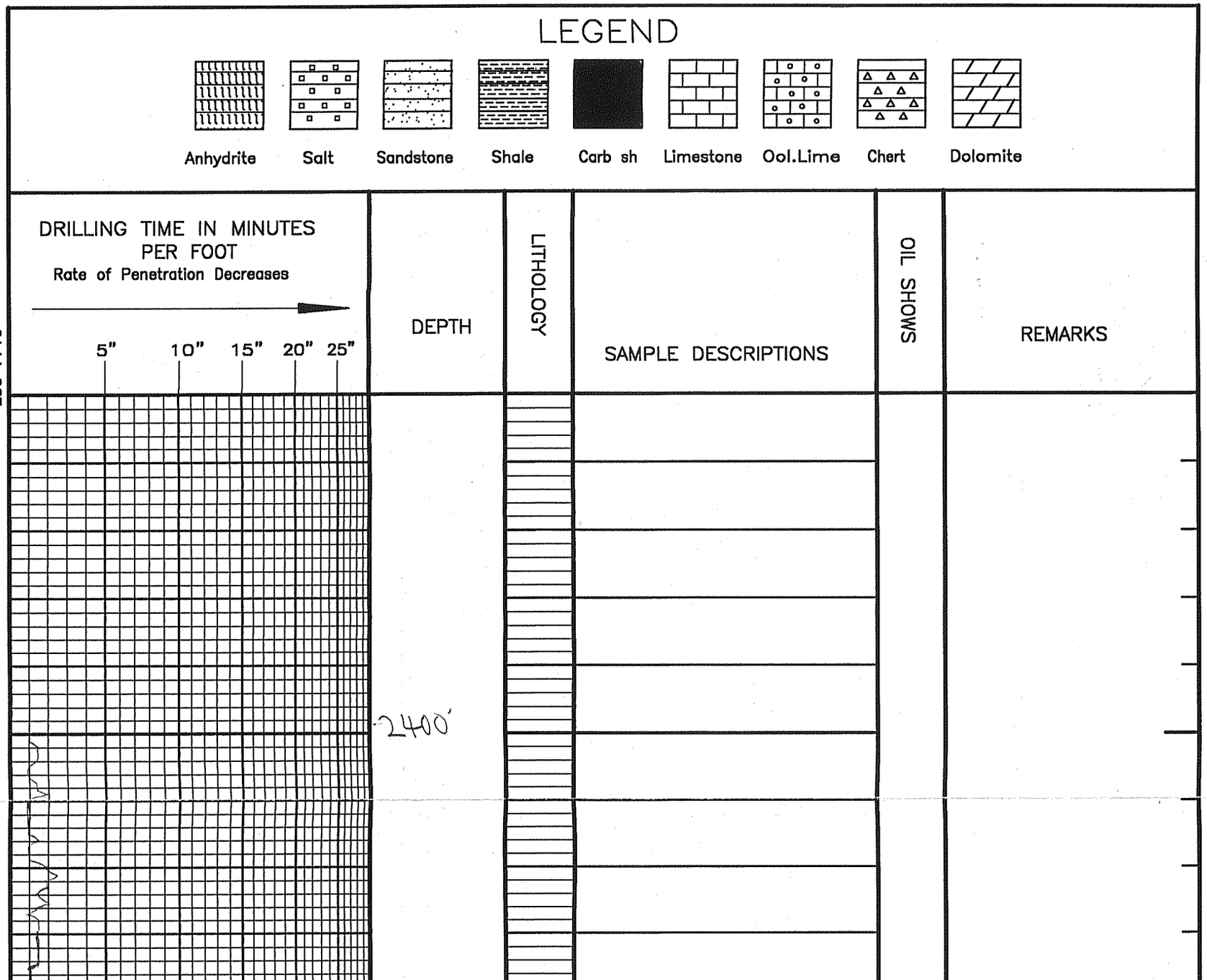
Simpson	-1450	-1452 (-2)	-1453 (-3)
Arbuckle	-1494	-1516 (-22)	-1507 (-13)

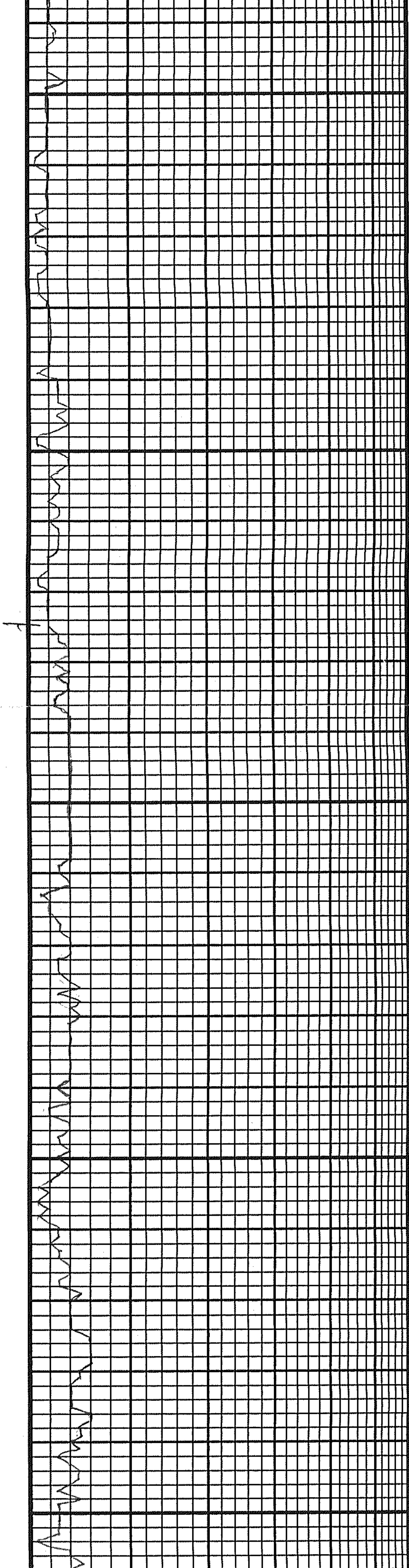
Due to significant structural advantage in comparison to nearby wells, coupled with the positive results from DST #2; it was decided to run 5 1/2 inch production casing six feet off bottom (3276' MD -1493 SS) to further test the Arbuckle dolomite. Well was open-hole completed as above, with the wiper plug down and holding @ 3:45 am on Thursday August the 1st, 2012.

Respectfully Submitted by,

Seth Evenson
Geologist
Darrah Oil Co
September 4th, 2012

On location 11:45 am 7/30/2012 2560ft





50'

2500

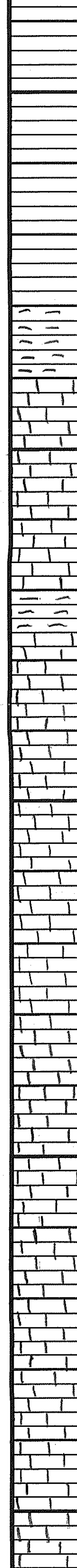
2500

Topeka 2526'? (-743)

50

2600

50



Shale gry & rust red, platy also abnt Lms tan-brwn, vry fn xtln, hrd res, abndt fossils, tite no vis Ø

Shale gry, rust red as abv, also drk gry grn shale platy & Lms crm, non foss micro xtln to gry-brwn abdt foss pr-no vis Ø

Shale gry-rust red, platy, some waxy. Also Lms crm, micro xtln, hrd res abndt small rnd ooids pr-no vis Ø

Lms crm micro xtln oolitic as abv, & Lms tan-brwn-gry, fn xtln, med-hrd res, abndtly foss, pr-no vis Ø

Shale, & Lms shale/shaley Lms, gry med-hrd res micro xtln few to no allochems pr-no vis Ø

Lms crm-tan-lt gry, micro-vry fn xtln med-hrd res pr-no vis Ø, much fewer allochems (fossils) than above pcs

Lms crm, micro xtln, few to no allochems pr-no vis Ø

Lms gry-lt gry, micro-vry fn xtln, few to no allochems pr-no vis Ø med-hrd res, some pcs poss sli shaley matrix

Lms crm to gry vry fn xtln, hrd res, abndt fossils, pr-no vis Ø Also much gry platy shale soft to mushy.

Lms gry micro xtln, med-hrd res, often vry shaley matrix. Few to no allochems pr-no vis Ø

Lms lt gry micro xtln, hrd res, some w/ abndt crs fossils, ammonoid etc. pr-no vis Ø, some sli chlky, Pelecypod fossils

Lms off wht-crm-tan, micro-fn xtln, somewhat foss. pelecypod etc. hrd res, pr-no vis Ø

Lms, gry, vry fn xtln, abndtly foss. ammonoid fossils, tite xtln matrix med-hrd res pr-no vis Ø

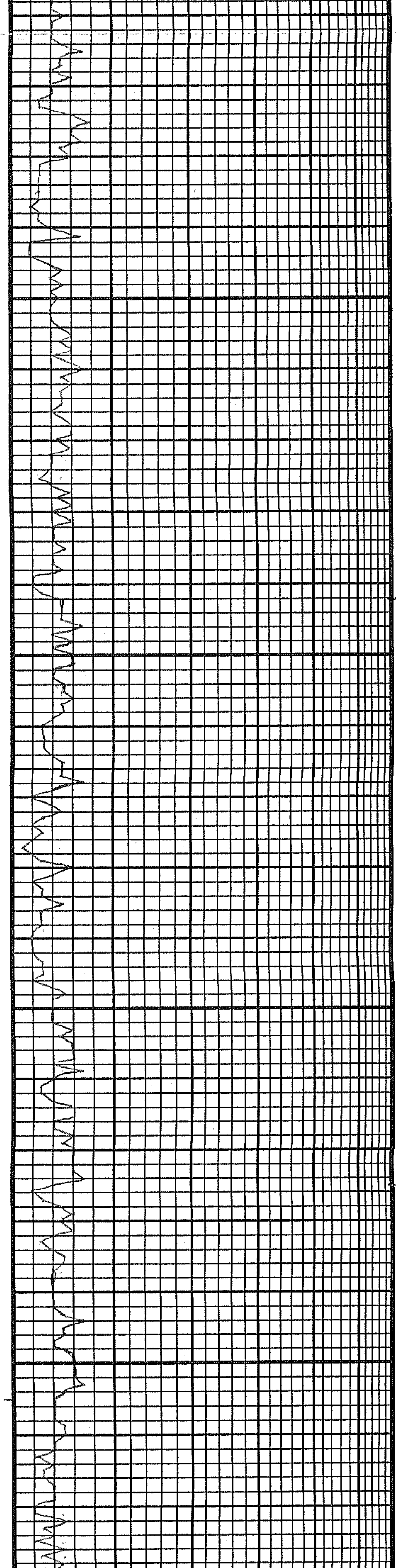
Lms crm-tan, fn xtln, med-hrd res, abndt foss. Ammonoid foss. pr-no vis Ø

Lms tan-gry, micro-vry fn xtln, abndt foss. vry hrd res, pr-no vis Ø; sharp frsh gry chert, and cherty Lms gry.

Lms crm-tan micro-fn xtln, sli foss, some sli chlky hrd-some hrd res, Rough text, pr-no vis Ø

Lms, tan, lt brwn, gry, drk gry, micro xtln hrd res, vry abndt ammonoid fossils, pr-no vis Ø Drk gry frsh sharp chert,

Lms tan-brwn, micro-fn xtln, very highly fossiliferous, hrd res, pr-no vis Ø, Occasional Cherty. Rough surface text.



2690' O.C.? (-907)

2700'

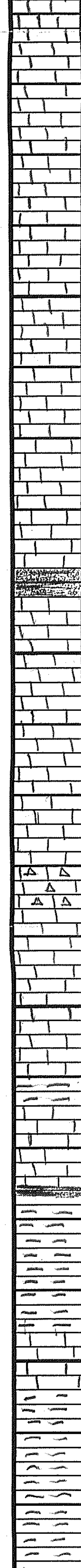
Oread? 2742' (-959)

50

2800'

Heebner

50'



Lms tan, some lt gry, micro-vry fn xtln, med-hrd res, vry few w/ fossils, many sli chlky matrix pr-no vis Ø, occ sqty lt ruttred surface stn, no cut, flor [illegible], no [illegible]

Lms tan - lt brwn, fn xtln, foss, hrd res pr-no vis Ø and abndt lt gry-bone chert to cherty lms micro xtln non allochemical shrp frsh

Lms tan - lt gry cherty micro xtln no vis Ø non allochemical & some lms tan, fn xtln, sli foss pr-no vis Ø also shale gry / gry grn platy & gry shaley lms [illegible] hrd res.

Lms lt brwn - gry vry hrd res fn xtln, somewhat fossiliferous, pr-no vis Ø, rough / bumpy text also shale dark gry-blk - some [illegible] & [illegible] grn occs, silty.

Lms, tan-lt gry vry fn xtln, med-hrd res occ foss. pr-no vis Ø rough text. Blk carb shale brttle.

Lms lt gry-gry, vry fn xtln, sparsely foss, pr-no vis Ø med-hrd res, rough, ratty looking text,

Lms lt gry fn xtln, vry occ blk foss inclusions med-hrd res, pr-no vis Ø, rough text, sli fracture in some pcs, sli chlky some pcs

Lms crm-tan, vry fn xtln, abndt fn foss inclusions, brtl-med res, pr-fr inter xtln Ø, sli chlky matrix,

Lms crm - tan - brwn, micro-vry fn xtln somewhat foss, brtl-hrd res, pr vis Ø. Also shale gry, grn, red platy

Lms gry, brtle-med res, sli shaley, pr vis Ø occ foss. Blk carb shale blky brtl.

Lms brwn-gry fn-med xtln, med-hrd res pr-no vis Ø, occ vry fn foss inclusions. Sli ratty looking. xtln matrix Blk carb shale as abv.

Lms tan-gry fn xtln med-hrd res, vry few foss allochems pr-no vis Ø, silty gry shale, blk shrp chert, 1 pc blk carb lms & blk carb shale

Chert, drk gry-blk shrp frsh, blk carb shale brtl & crmbly, Also lms Tan-gry fn xtln, med res pr vis Ø

Lms tan vry fn-med xtln, med-hrd res. xtln matrix, pr vis Ø Some sparse foss, some sli chlky.

Lms tan micro-vry fn xtln sli chlky, med-hrd res few w/ foss. pr-no vis Ø Shale gry, grn red brwn, yell marroon platy, silty.

Shale gry, grn, red-brwn, earthy brwn, some gry silty, some gry sli carbonaceous, a few pcs pyrite, Also Lms as abv

Shale drk gry, blky med-hrd res, [illegible], red brwn platy, lt gry silty, platy & Lms as abv.

Shale blk-carb, sft-med res, sli gassy also gry platy shale.

Shale blk carb as abv, gry, marroon, red brwn, grn platy also Lms tan-lt gry micro xtln, hrd res, abndt [illegible] small ooids no vis Ø

Lms, crm, off wht, lt gry micro xtln hrd res, smooth text some off wht-gry pcs w/ abndt blk ooids, pr-no vis Ø. Some pyrite

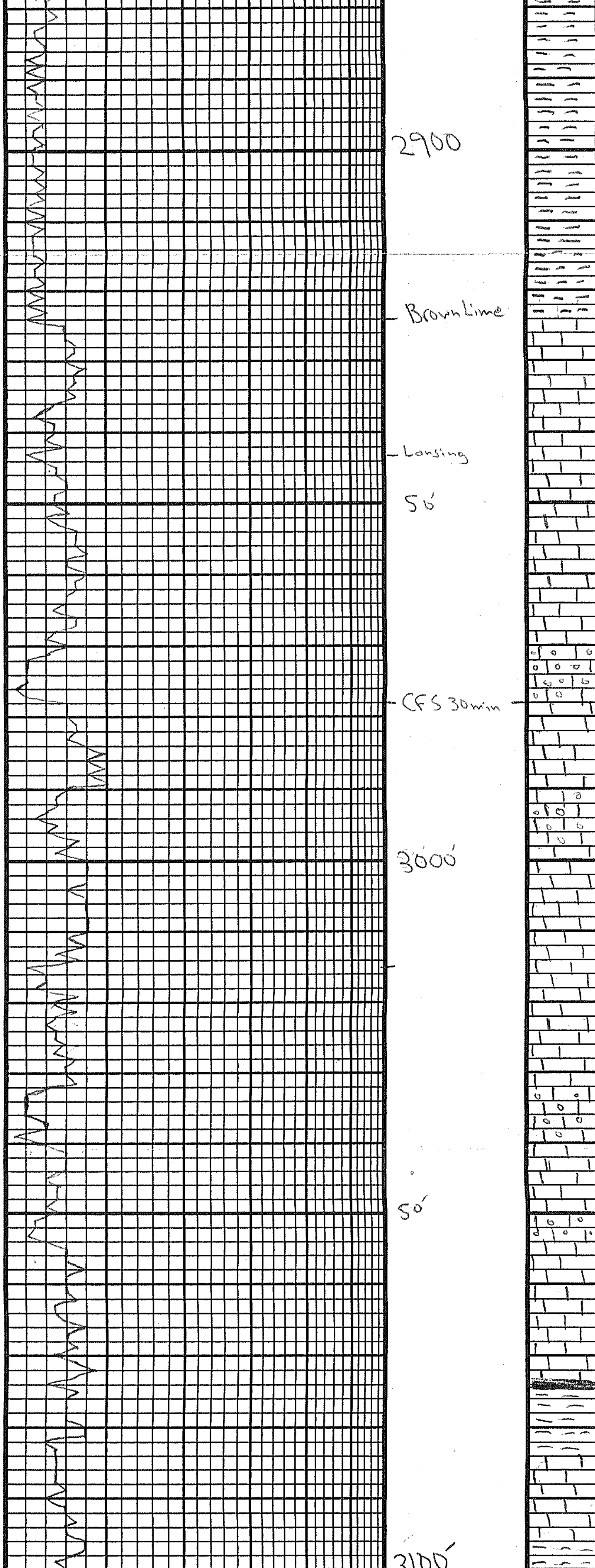
Lms off wht-crm, med res, micro xtln. non allochemical, chlky, no vis Ø

Lms crm, med-hrd res, micro xtln, non allochemical no vis Ø, some gry lms, sli foss, hrd res rough text, also shale gry, grn, blk

Heebner Shale 2825' (-1042)

Toronto Lime 2848' (-1065)

Douglas Group 2855' (-1072)



Shale & shaley lms lt gry-gry, silty, hrd res, no vis ø platy also, gry, red brwn platy shale. Shaley SS lt gry fn grained vry shaley

Shale gry, gry grn, red brwn, platy, blk carb. gry shale often silty. Sample over 50% crm colored tight lms. micro xtln

Shale lt gry silty to Sndy, sli micaceous. A few dusts brwn vry shaley SS. hrd res no vis ø

Shale & S.S. lt gry silty shale to ~~Sndy SS. tight pr-no vis ø~~ also redbrwn, grn & some maroon platy shale

Shale lt gry silty as abv, some grading to sndy. Hrd res, pr-no vis ø

Shale as abv & Lms brwn-gry brwn, micro xtln, jagged edges, hrd res. some sli sndy, no vis ø few allochems, fractures.

Lms lt gry-dk gry, brwn, micro-fn xtln hrd res, sli foss, pr-no vis ø often shrp edges

Lms off wht-tan, micro xtln oolitic, abundnt rnd ooids. some w/ sprs shallow rnd oomoldic vugs, pr-fr vugular ø pr ø overall poss fnt & 1 wc droplet oil.

Lms off wht-tan micro-vry fn xtln abndt rnd ooids, some sprs oomoldic vugs med-hrd res pr overall ø, no stn or show noticed.

Lms tan-gry, micro-fn xtln, some tan pcs chlky w/ allochems, no vis ø gry fn xtln pcs sli foss. pr-no vis ø, rough text. less oolitic than abv.

Lms crm-tan, micro xtln, brtl-mstly med-hrd res, abundntly oolitic w/ some sprse shallow oomoldic vugs, pr overall ø mstly tan micro xtln non allochemical

Lms crm-tan micro xtln mstly hrd oolitic & sprsly oomoldic vugs as abv, barren. Also Lms gry vry fn xtln. hrd res, sprsly oolitic, mstly non allochemical, non vugular pr-no vis ø

Lms off wht-lt gry, occ oolitic & sli foss, micro xtln hrd res pr-no vis ø sli rough text. 1 vry crs crinoid foss.

Lms crm-tan-some gry micro-vry fn xtln med-hrd res some gry oolitic pcs similar to abv. Mstly non allochemical xtln pr-no vis ø

Lms gry fn xtln, med-hrd res foss, pr-no vis ø sli rough text jagged edges. Also, Lms off wht oomoldic vugular fr-gd vuggy ø barren.

Lms crm micro-vry fn xtln, mstly non allochemical, pr vis ø occ, a few pcs oomoldic vugular. poss sli stn on surface. No cut mstly barren. Also shale gry, blk, red brwn & grn, platy

Lms crm, micro-vry fn xtln, med-hrd res, often non allochemical smooth uniform text, occ abundntly oolitic, smooth text, no vis ø

Lms crm non allochemical as abv, also Lms tan vry fn xtln, abndt shallow oomoldic vugs, med-hrd res, vry occ dead surface stn, looks barren only mineral flor, no cut

Lms lt gry micro xtln, few pcs w/ allochems, med-hrd res pr-no vis ø, sli rough text. 1 pc pr vis ø w/ abndt dead blk surf stn, no cut. Also shale gry, grn, blk platy.

Lms gry micro-vry fn xtln, hrd res, pr-no vis ø few to no allochems, sli rough text. Also increase in shale gry, dk gry nearly blk, grn, reddish platy, sft/washy.

Lms gry micro-vry fn xtln as abv some w/ pyritized ammonoid fossils pr-no vis ø

Shale gry, red brwn, brwn, blk, platy fissile in some pcs. Also Lms as abv. A few oomoldic pcs gd ø, barren.

Brown Lime
2925' (-1142)

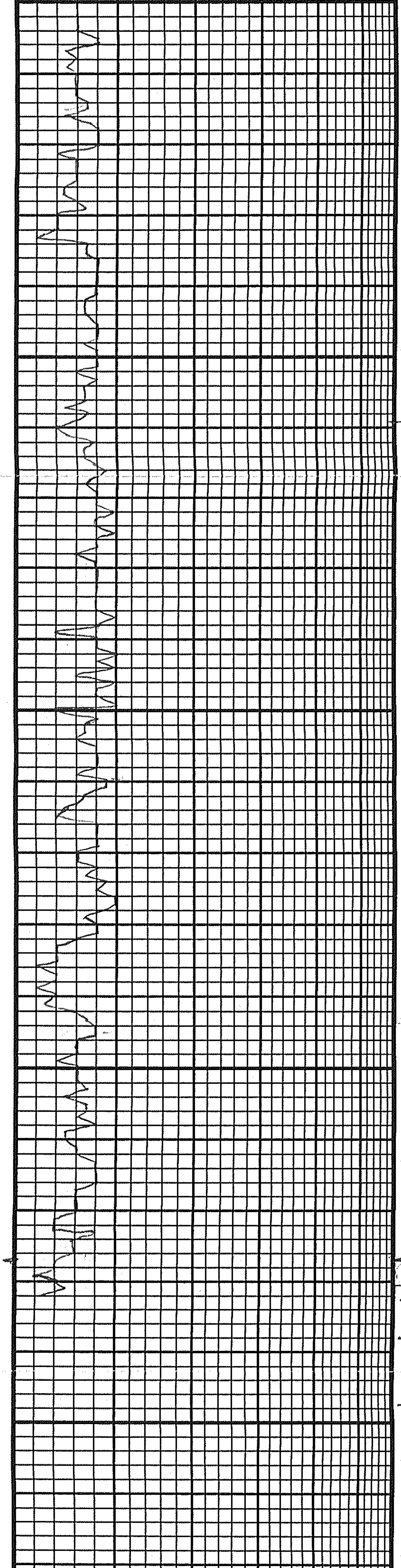
Lansing Group
2943' (-1160)

Lansing B 2971' (-1188)

CFS 15 min @ 2978'
Lms lt gry-gry, vry fn xtln hrd res, non foss, pr-no vis ø, some tan oolitic Lms as abv, Shale gry, grn, purple, blk carb shale. two pcs lt gry shrp chrt
CFS 30 min
Lms off wht-gry, micro-vry fn xtln med-hrd res some oolitic mst non allochemical pr-no vis ø. A few pcs oolitic lms off wht-lt gry w/ minor oomoldic vugs med res pr-fr overall ø. Chert lt gry-gry shrp frsh. also tan oolitic lwy chrt.

Lans G zone
3015' (-1232)

Muncie Creek Shale
3073' (-1290)



3100

50'

3200'

conn

50'

(2)

(1)

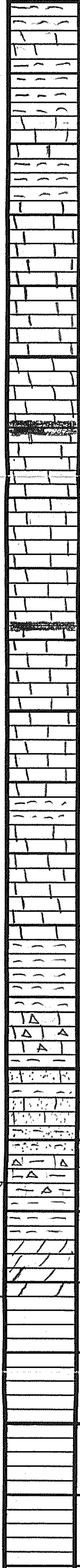
ARB

CFS

CFS

TD
3282'

TD reach @ approx 12 am Aug 1st, 2012



Shale as abv. abndt crm-tan micro xtln lms smooth text no vis ∅

Shale as abv & tan-brwn micro xtln hrd res tight lms also gry vry fn xtln hrd res, sli foss lms pr-no vis ∅

Shale as abv, lms crm-tan, micro xtln, sft-med res, sli chlky, non allochemical uniform text. no vis ∅

Lms crm-tan, fn xtln, brtl, occ, xtln crd ooids, pr-no vis ∅, some sli chlky as abv, some gry fn xtln lms jagged edges rough text.

Shale gry, drk gry nearly blk, red brwn, platy also lms crm-tan, micro xtln non allochemical sli chlky brtl, no vis ∅

Varicolored shale gry, blk carb, blky, purple, red brwn also lms mix of abv & lms gry, gritty text, cotty looking no vis ∅

Lms crm-tan micro xtln, brtl-med res, pr-no vis ∅ few to no allochems Also shale as abv.

Lms lt gry, micro-vry fn xtln med-hrd res, non allochemical, sli rough surface text pr-no vis ∅

Lms crm-tan & lt gry, micro xtln as abv, pr-no vis ∅ also shale gry sli silty red brwn, maroon, drk gry grn platy

Shale gry, red brwn maroon, some blk sli carbonaceous, also lms crm-tan, med-hrd res micro-vry fn xtln, few to no allochems pr-no vis ∅ few pcs brwn, micro xtln micro foss to oolitic hrd res lms

Lms off wht-crm, micro xtln, brtl-med res, few to no allochems pr-no vis ∅ some sli chlky, brwn oolitic hrd res as abv & shale as abv, some blk carb shale

Lms brwn micro xtln abndt crs ooids no vis ∅ also shale gry, grn, brwn, maroon, sft, platy, mst sample lms as abv.

Shale varicolored, gry, grn, purple, yellow, red brwn, maroon platy, also lms crm-tan some gry micro xtln, non allochemical hrd res

Shale gry-drk gry, red brwn, a few grn pcs fissil, abndt small chips lms crm-tan micro xtln no vis ∅

Shale gry, red, brwn, maroon-purple, platy & waxy pcs blk carb shale fissile. also pyrite & 1 pc lt gry silty shale/shaley SS.

Shale varicolored, gry, purple, grn, blk carb fissile, red brwn, brwn sli earth, trc yellowish shrp chrt; 1 pc vry fn grained gry S.S. shaley no vis ∅

Lms/chrty lms yellowish abndt oolitic, hrd res, no vis ∅ much varicolored chrt, some shaley drk wht w/ purplish inclusions, some reddish washy congl shale. ← 70'

Chrt, wht to bone frsh shrp sli oolitic sli lmy, a few pcs yellow shaley S.S. vry fn grain no vis ∅ mix of varicolored shale & chrt as abv 1 pc lt gry micaceous shaley SS. no vis ∅ 1 crs ang qtz snd grain no show. ← 75'

Stark Shale
3157' (-1374)

Hushpuckney Shale
3189' (-1406)

BKC
3213' (-1430)

Basal Penn Shale?
3233' (-1450)

Simpson Group
3242' (-1459)

Arbuckle
3273' (-1490)

Arb Porosity
3277' (-1494)

3275-80' Varicolored shale gry, lt blu gry, purple, brt grn, red brwn earthy some shrp frsh off wht chrt, 1 pc shaley, oolitic lms?

CFS @ 3280'

15min: Vivid varicolored shale brite grn yellow blue grn, purple, blu gry, red etc. 1 clast vry fn grained gry appears titely cemented, no vis stn. fr cut upon squeeze, vry gd, vry gd sat, no stn noticed, vry tight cemnt, 1 crs sub ang grn poss dead surface stn, no cut.

30min: Dolomite, lt brwn, tan-off wht, vry fn-fn xtln, brtl-med res, some sucrosic, fr show fo upon brk in some pcs, gd even flor, sli odor in cup. Some sli gry grn tinged sucrosic pcs have no stn, no cut

upon crsh. Vry Brt yell flur in sli vuggy pcs w/ small inter xtln surface vugs, lt brwn stn in vugs some irregular rhombs.

45 min: Dolomite off wht-tan-lt gry, fn-med xtln, med-hd res, sli siliceous, occ spty brwn stn in vugs, fr-gd inter xtln Ø fr vugular Ø mstly uniform sized rhombs, mst pcs trc to fr shw FO upon brk. Mst pcs gd to brt yell flor. mst pcs sli-fr streaming cut, mst pcs excellent cut & bloom upon brk. Fr-Gd shw overall. Sli odor in cup.

60 min: Dolo, off wht-tan, lt brwn, fn xtln, med-hd res, sli siliceous, well cmnted, pr-fr inter xtln Ø, fr vugular Ø, sli surface stn, trc to GSFO upon brk, gd yell grn even flur. Mst pcs vry high pr… cut, … gd cut upon brk, gd even sat, gd bloom upon brk. FSFO

CFS 3282'

15 min: Dolomite off wht-lt gry cream-tan fn xtln med-hd res fr inter xtln Ø, some w/ fr vugular Ø sli trc to GSFO upon brk. Sli to fr odor in cup. Small spts FO release from pinpoint inter xtln Ø upon brk. Gd brt yell flor mst pcs, sli-fr streaming cut mst pcs, pours out cut upon brk brt wht excellent bloom upon brk. Excellent sat. Vuy internal/ inter xtln sat. perhaps inter xtln matrix is a little tight well cmnted Quite possibly better vugular Ø than abv.

45 min Plus after circulation was off for at least an hour

Mstly shale blended maroon w/ lt blue some maroon w/ brt yell grn. Many pcs reddish to red orange shp fresh chrt. Much wht-tan fn-crs xtln dolomite, Several pcs wht-off wht sucrosic no stn, no fluor no cut. Many pcs off wht, vuggy fn-med xtln dolo w/ brt yell flor & sli brwn stn no cut until brk, excellent wht cut & bloom. Appears to be more crs rhombic dolo than abv samples all exhibit excellent cut upon brk only; except for sucrosic off wht dolo which is not carrying show. Sli-fr odor in cup trc free oil mst pcs GSFO upon brk in crs xtln pcs w/ inter xtln vugs.

5" 10" 15" 20" 25" DRILLING TIME Minutes/Foot Rate of Penetration Decreases	DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS

CONTRACTOR Mallard JV

LEASE #6 John Vacek IP

ELEVATION 1783' KB RTD 3282'

LOCATION 330 FSL & 1510 FEL Section

SEC 32 TWP 15S RNG 10W

COUNTY Ellsworth STATE Kansas

DST #1

3266-82'

Misrun

Packer did not seat

Rec 210' Mud

DST #2

3250'-3282'

IHP 1643 #s

FHP 1598 #'s

IFP 43-90 #s

FFP 100-123 #s

ISIP 787 #s

FSIP 760 #s

Rec 91 ft GO (25%G; 75%O)

180 ft MCO (45%M; 55%O)

20-30-30-60

Dry Sample Analysis

3230-40' Lms cream-tan-lt gry med-hd res microxtln, sli chlky mst pr-no vis Ø, Shale gry, grn, maroon platy, 1 or 2 med sub ang loose snd grains no stn, no clusters.

3240-50' Shale gry, grn, maroon, blu, platy to fissile, 1 pc lt gry vry fn to silty shale/shaley S.S. pr-no vis Ø no stn.

3250-60' Less shale than abv, more tan-lt gry gry fn-microxtln lms, 2 sub ang med qtz sand grains, no vis stn, no fluor, no cut, blu-sharp fresh chert.

3260-70' Red brwn earth globby shale & yellowish micro xtln shaley oolitic lms, crs snd tan-yell grn ooids, no vis Ø, yell grn sharp fresh chert, yellowish-tan, off wht sharp chert, a few med-crs sub ang qtz snd grains loose poss sli blk stn, no clusters, no cut, no fluor.

3270-75' Varicolored shale & chrt, now vivid blue grn shale, yell, brwn, grnish sharp fresh chert, some off wht, varicolored shale gry, red, grn, blu grn, maroon, 1 pc lt gry vry shaley siltstone no vis Ø.
Sli yell to off wht-lt gry vry fn xtln, sli chlky siliceous lms, pr vis Ø 1 pc Dolo possible Arb. , no stn noticed. Some off wht xtln dolo, no fluor, tite, no loose snd grains noticed

3275-80' [illegible]

3280' 30min

Dolomite off wht lt gry-brwn fn-med xtln, many w/ fr-gd vugular Ø inter xtln vugs, gd even brwn stn & satt in about half of Dolo pcs. Some semi sucrosic pcs w/ chlky matrix & no stn pr vis Ø in these pcs, mst pcs med-hrd res. Some tan w/ pyrite inclusions, Pcs without stain appear to have inter xtln Ø infilled w/ chlk. notice 1 sub ang qtz sand grain med no stn, the rest of sample varicolored shale & chrt as abv.

3280' 45min

Dolomite much like abv, much tan-brwn med to crs rhombic w/ gd vugular & inter xtln Ø, gd even satt & brwn stn, Some pcs off wht-lt gry micro-vry fn xtln, hrd-vry hrd res, no vis Ø no stn. Still many pcs dolo off wht-lt gry med & uniform rhombic xtln, w/ tight sli chlky matrix & no stn. trc sub ang qtz S.S. as abv. loose grain only

3282' 15min

Dolomite, appears to be decrease in highly stn vugular pcs from abv & perhaps increase in off wht to lt gry pcs [illegible] rhombic xtln, Semi sucrosic

3282' 45min

✩ Please note that this Sample was taken after the mud pump was off line for about an hour. The 45 min sample @ TD was taken a few minutes after circulation was restored; therefor it should not be considered a good representative Sample from 3282'. However it is apparently a good representative sample of the moteled, varicolored Simpson Shale, as it dominates this sample.

Moteled & blended ✩ Beautiful, vivid, purple, purple/blu grn, purple/yell grn, varicolored shale, Reddish, red orange sharp fresh chert, Dolomite similar to those described abv.

3275-80 Varicoloured Shale & chrt as abv, Dolo, off wht lt gry micro xtln, hd res, no stn pr-no vis ø, 1 pc w/ sprs pinpoint vugs, no fluor, no cut, sli siliceous, vry hd res no shw, microxtln tite, 1 subrnd snd grain w/ blk stn, med, no cut or fluor.

3280' 15 min Varicoloured shale, much blu, maroon & yell grn shale a few pcs chrt shrp frsh brn-gry, also, vry few loose subrnd frosted qtz snd grains a few w/ sli stn, no fluor, no cut, also vry few pcs off wht vry fn xtln dolo, tite, no fluor, cut or stn.

[illegible]

lacking stn. These pcs may have sli increase in ø due to less presence of chlk in inter xtln matrix. Weaker show than abv samples but still fr [illegible] inter xtln ø overall. A few pcs siliceous dolo micro xtln vry hd res, almost smooth text w/ shiney luster, no vis ø. This sample contains dolo w/ gd brwn even stn & sat which have lg inter xtln vugs due to irregular sized rhombs, may be different rock than those described abv.