

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 Recompletion Date \_\_\_\_\_ 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](mailto: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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Osage Wireline, Inc.

PO Box 490  
Cleveland, OK 74020

# Invoice

Date	Invoice #
6/21/2023	04489

Bill To
FASTRAK ENERGY 543 A 22000 RD CHERRYVALE, KS 67335

Lease/Well No.	Legal Description	Terms	Field Work Order No.	
Compton #10	28 33S 19E - Labette	Due on receipt	7038	
Item	Description	Rate	Service Date	Amount
Cased Hole	Ran GR/CCL/Radial Bond Log from 842' - Surface Perforated from: 822' - 826' w/ 16 Shots 790' - 794' - w/ 16 Shots 616' - 620' - w/ 8 Shots 552' - 562' - w/ 20 Shots - 60 total Shots Out-of-state sale, exempt from sales tax	6,850.00	6/20/2023	6,850.00
		0.00%		0.00
Please include Invoice number w/ Payment. Any Invoices 90 day or older will be subject to an 18% APR.				<b>Total</b> \$6,850.00
				<b>Payments/Credits</b> \$0.00
				<b>Balance Due This Invoice</b> \$6,850.00

Phone #
918.358.5155

E-mail
malori@osagewirelineinc.com



Air Drilling Specialist  
Oil & Gas Wells

**THORNTON AIR ROTARY, LLC**  
Office Phone: 620-879-2073

PO Box 449  
Caney, KS 67333

Invoice

Date Started	4-25-23
Date Completed	4-26-23

Operator	A.P.I #	County	State
Fastrak Energy	15-099-24724-00-00	Labette	Kansas

Well No.	Lease	Section	Township	Range
10	Compton	28	33	19

Type of Well	Driller	Cement	Surface	TD	Size of Hole
Oil	Billy Thornton		21' 7" 8 5/8	857	6 3/4

Depth	Log Description	Depth	Log Description	Depth	Log Description
0-2	DIRT	361-396	SANDY SHALE	757-775	SHALE
2-12	LIME	382	GAS TEST-1#,1/2	775-777	BLACK SHALE
12-25	SHALE		33.9 CHOKE	777-789	SHALE
25-29	LIME	396-397	LIME	789-793	MISS. CHAT / LIGHT
29-36	SAND / DAMP	397-400	BLK SHALE (CROWBERG)		ODOR
36-70	SANDY SHALE	400-414	SHALE	793-811	GRAY LIME
70-128	SHALE	407	GAS TEST - SAME	811-824	CHERT
128-155	LIME	414-424	BLACK SHALE	824-840	GRAY LIME/GOOD
155-160	BLACK SHALE	424-425	LIME		OIL SHOW/LOTS OF
160-166	SHALE	425-455	SHALE		WATER
166-173	SANDY SHALE	455-466	SANDY SHALE	840-858	BROWN LIME
173-192	SHALE	466-515	SHALE	858	TD
192-197	SAND/LIGHT ODOR	515-527	BLACK SHALE		
197-201	SAND/GOOD ODOR	527-528	COAL (BLUE JACKET)		
201-203	SANDY SHALE	528-535	SHALE		
203-205	SAND/GOOD ODOR	532	GAS TEST -SAME		
205-223	SHALE	535-552	BROWN SAND		
223-248	LIME (OSWEGO)	552-570	SAND/LIGHT ODOR		
232	GAS TEST - NO GAS	570-573	SANDY SHALE		
248-253	BLACK SHALE/DAMP	573-577	BLACK SAND		
	(SUMMIT)	577-587	SHALE		
253-272	LIME	587-601	BLACK SAND/LIGHT ODOR		
272-276	BLK SHALE / DAMP	601-604	SANDY SHALE		
	(MULKY)	604-609	SAND		
276-280	LIME	609-619	SANDY SHALE		
280-358	SHALE	619-622	SAND/BLEEDING OIL		
307	GAS TEST-10#, 1/8		SHOW		
332	WENT TO WATER	622-640	SUGAR SAND		
358-359	LIME	640-754	SHALE		
359-361	BLACK SHALE	754-757	LIME		

# Geological Report

Compton#10

W/2-E/2-SE-SW, Sec.28; T33S; R19E

660'FSL & 2000'FWL

Labette County, KS

API# 15-099-24724-00-00

**Operator:** Fastrak Energy, LLC, Kris Kowalsky, 543A 22000 Rd., Cherryvale, KS 67335

**Drilling Contractor:** Thornton Air Rotary, LLC, Billy Thornton, Driller, Shramm air rotary rig

**Wellsite Geologist:** Mark Brecheisen - on location from 20' to T. D.

**Date Drilled:** April 26, 2023

**Size of Hole:** 6 3/4"

**Total Depth:** 857'

**Elevation:** 904' (estimated)

**Drilling Fluid:** Compressed air with injected water

**Surface Casing:** 20' of 8 5/8" casing cemented with 6 sacks of cement to surface

**Formation Tops:** Formation tops correlated to electric log

**Electric Logs Run:** Litho Density Neutron Log, Dual Induction LL3/GR Log

**Status:** Oil Well

<b>Gas Shows:</b>	Summit & Mulky Black Shales	307'	8.9mcf
	Bevier Coal & "B" Bevier	382'	33.9mcf
	Croweberg Coal	407'	33.9mcf
	Mineral/Pittsburg-Weir/Bluejacket	532'	33.9mcf
<b>Oil Shows:</b>	Bartlesville Sandstone	535-636'	See Report
	Mississippian (2nd break)	823-826'	See Report

**Water Encountered:** Summit & Mulky; 2nd break of Mississippian

**On Location:** April 26, 2023, 7:00 A.M. Drilling Depth of 20', left@ TD 857'.

**Notes:** Well cuttings were examined at rig and discarded. Samples of zones of interest were saved and examined with binocular microscope and UV light.

0-128' Samples not examined.

**Top of Pawnee Limestone at 128' (+776')**

- 128-155' Limestone, light pinkish gray, fine crystalline, granular texture, fair intercrystalline porosity, no petroliferous odor or show
- 155-162' Lexington shale, dark gray to black, trace disseminated pyrite
- 162-172' Shale, medium gray, soft, greasy texture
- 172-182' Shale, medium dark to dark gray, silty in part
- 182-193' Shale, medium dark to dark gray, silty/sandy in part
- 193-197' Shale, medium gray, sandy with few sand laminations present
- 197-200' Shale, dark gray, sandy in part
- 200-206' Peru sandstone, light gray to light brown, very fine grain, good petroliferous odor to sample, pinpoint free oil show to some sample surfaces, no free oil show to pit
- 206-222' Shale, medium dark gray

**Top of Oswego Limestone at 222' (+682')**

- 222-247' Limestone, olive gray to pinkish brown, fine crystalline with traces of intercrystalline porosity present, friability overall poor, no petroliferous odor or show
- 247-253' Summit shale, dark gray to black, blocky, fissile, slightly carbonaceous
- 253-272' Limestone, olive gray to medium brown, fine crystalline, traces of intergranular porosity present, trace dark gray shale present
- 272-275' Mulky shale, grayish black to black, carbonaceous in part, trace nodular pyrite present
- 275-282' Limestone, medium brown, fine crystalline, no petroliferous odor or show
- 282-359' Shale, medium dark gray, soft, greasy, silty to sandy in part, occasional medium brown interbedded limestone present
- 307' Gas Test- Summit/Mulky Test: 9# on 1/8"choke = 8.9mcf

***Water injections started at 332'.***

- 359-360' Bevier coal, black, vitreous luster, blocky with many flat cleat faces present
- 360-366' Shale, medium dark gray, trace dark brown limestone present
- 366-368' Shale, medium gray, sandy, slight petroliferous odor, no free oil show to samples
- 368-376' Shale, medium dark to dark gray
- 376-377' "B"Bevier coal, black, metallic luster, carbonaceous
- 377-394' Shale, medium dark gray, interbedded limestone present



**Top of Verdigris Limestone at 394' (+510')**

- 394-396' Limestone, olive gray, fine crystalline, hard, dense, no intergranular porosity observed, conchoidal fracturing
- 396-403' Croweburg shale and coal, black, carbonaceous, traces of disseminated pyrite present
- 403-410' Shale, dark gray
- 407' Gas Test - Croweburg shale & coal test: 1# on a 0.5"choke= 33.9mcf
- 410-411' Fleming coal, black, metallic luster, banded, 10-15% flat cleat faces
- 411-438' Shale, medium dark to dark gray, silty to sandy in part with trace laminated sand present
- 438-440' Mineral coal, black, metallic to vitreous luster, banded, carbonaceous
- 440-466' Shale, light to medium dark gray, traces of interbedded limestone and sandstone present in sample
- 466-476' Shale, light to medium gray, silty to sandy
- 476-480' Sandstone, dark gray to dark brown, very laminated, slight oil sheen to freshly washed samples
- 480-516' Shale, dark gray, occasional interbedded limestone present
- 516-520' Pittsburg/Weir shale, grayish black to black, fissile, non-carbonaceous
- 520-526' Shale, dark gray
- 526-527' Bluejacket coal, metallic luster, banded, less than 10% flat cleat faces
- 527-535' Shale, medium gray, silty to sandy
- 532' Gas Test: Pittsburg-Weir/Bluejacket Test: 1# on 0.5" choke= 33.9mcf
- 535-537' Shale (60%), light gray to black, greasy texture to silty/sandy texture, trace coal present; Sandstone (40%), medium light gray to brownish gray, very fine to fine grained, well sorted with sub-angular to sub-rounded grains, argillaceous, very pyritic, micritic in part, friability overall poor with traces of vugular porosity on few sample surfaces, mottled light brown oil staining on few samples, saturation overall poor, 30% mottled, very dull yellow hydrocarbon fluorescence, slow streaming poor milky blue cut, no residual oil show to tray after cut, sample exhibited a fair petroliferous odor, pinpoint oil show to some sample surfaces, very slight free oil show to the pit
- 537-547' Shale (70%), medium to dark gray, silty/sandy in part, pyritic in part; Sandstone (30%), light gray to brownish gray, very fine to fine grained, well sorted with sub-angular to sub-rounded grains, micaceous, friability poor, no vugular porosity observed, trace mottled light brown oil staining on few samples, oil saturation poor, 10-13% pinpoint to mottled very dull yellow hydrocarbon fluorescence, slow even

poor milky blue cut, very faint residual oil show to tray after cut, sample exhibited a fair petroliferous odor, sample exhibited iridescent sheen to some surfaces, no free oil show to pit

- 547-552' Sandstone (60%), medium light gray to brownish gray, very fine to fine grained, well sorted with sub-angular to sub-rounded grains, argillaceous, pyritic, micaceous, friability poor, mottled to even light to medium brown oil staining on sample surfaces, saturation poor to fair, 60% mottled to even medium to bright yellow hydrocarbon fluorescence, slow even poor milky blue cut, no residual oil show to tray after cut, sample exhibited a fair petroliferous odor, iridescent oil sheen to some samples, no free oil show to pit; Shale (40%), light to medium gray
- 552-557' Sandstone (85%), light to medium dark brown, very fine to fine grained, well sorted with sub-angular to sub-rounded grains, micaceous, pyritic, argillaceous in part, friability overall fair with vugular porosity observed on some sample surfaces, moderately cemented grainstone, even medium brown oil staining on sample surfaces, saturation overall fair, sample exhibited a faint petroliferous odor, slight iridescent oil sheen to few samples, no free oil show to pit, 75% even medium bright yellow hydrocarbon fluorescence, very slow bleeding poor milky blue cut, no residual oil show to tray after cut; Shale (15%), medium to medium dark gray
- 557-562' Sandstone (80%), medium to medium dark brown, very fine to fine grained, well sorted with sub-angular to sub-rounded grains, micaceous, pyritic, argillaceous in part, friability overall good with vugular porosity observed on many sample surfaces, even medium to medium dark brown oil stain on sample surfaces, saturation overall fair, sample exhibited good petroliferous odor, iridescent oil sheen to sample surfaces, slight free oil show to pit, 80% mostly even dull yellow hydrocarbon fluorescence, fairly fast streaming to even good milky blue cut, fair residual oil show to tray after cut; Shale (20%), medium dark gray to black, silty in part
- 562- 567' Sandstone (90%), medium light gray to medium brown, very fine to fine grained, well sorted with angular to sub-rounded grains, disseminated and nodular pyrite on some sample surfaces, micaceous, argillaceous in part, friability overall poor, traces of vugular porosity on few sample surfaces, mottled to even medium to medium dark brown oil staining on sample surfaces, oil saturation overall poor, sample exhibited a good petroliferous odor, pinpoint to mottled free oil show to samples, fair show to the pit, 70% mottled to even dull yellow hydrocarbon fluorescence, fairly fast even strong milky blue cut, fair residual oil show to tray after cut; Shale (10%), medium dark to dark gray
- 567-572' Shale (65-70%), medium dark gray to black; Sandstone (30-35%), medium light gray, very fine to fine grained, bitumen present in most samples, very micaceous, friability fair to good with abundant vugular porosity on many sample surfaces, pinpoint to mottled black oil stain on sample surfaces, saturation overall poor with no live oil present, sample exhibited good petroliferous odor, fair pinpoint to even oil show to sample surfaces, very slight show to pit, 30% mostly even medium bright yellow hydrocarbon fluorescence, slow even fair milky blue cut, faint residual oil show to tray after cut
- 572-577' Sandstone (70%), medium light gray, very fine to medium grained, fairly well sorted with angular to sub-rounded grains, very micaceous, micritic in part, pyritic, friability

- overall good with abundant vugular porosity on many sample surfaces, pinpoint to mottled bitumen on sample surfaces, saturation overall poor, sample exhibited a fair petroliferous odor, pinpoint to mottled show to sample surfaces, slight free oil show, 70% mottled to even medium bright yellow hydrocarbon fluorescence, slow even fair milky blue cut, fair residual oil show to tray after cut; Shale (30%), medium dark gray
- 577-582' Sandstone (85%), medium light gray, very fine to medium grained, fairly well sorted with angular to sub-rounded grains, very micaceous, micritic in part, pyritic, friability overall good with abundant vugular porosity on many sample surfaces, pinpoint to mottled bitumen on sample surfaces, saturation overall poor, sample exhibited a fair petroliferous odor, pinpoint to mottled show to sample surfaces, no free oil show to pit, 60% mottled to even medium bright yellow hydrocarbon fluorescence, slow even poor milky blue cut, no residual oil show to tray after cut; Shale (15%), medium to medium dark gray, pyritic
- 582-587' Sandy shale: no sample collected
- 587-597' Sandstone, medium gray to brownish gray, very fine to fine grained, well sorted with sub-angular to sub-rounded grains, traces of interbedded shale present, very micaceous, overall clean well-cemented grainstone, friability fair to good with abundant vugular porosity on some sample surfaces, pinpoint to even dark brown oil staining on some sample surfaces, saturation overall fair, sample exhibited a good petroliferous odor, iridescent sheen of oil on some sample surfaces, slight free oil show to pit, 60-65% even medium bright yellow hydrocarbon fluorescence, fairly fast streaming to even fair milky blue cut, slight residual oil show to tray after cut
- 597-602' Sandstone, brownish gray, very fine to fine grained, well sorted with sub-angular to sub-round grains very micaceous, micritic in part, well cemented packstone/grainstone, friability overall fair with vugular porosity on many sample surfaces, pinpoint to mottled light brown oil staining on few sample surfaces, saturation overall pinpoint to incomplete, sample exhibited a good petroliferous odor, pinpoint to mottled free oil show to sample surfaces, slight to fair free oil show to pit, 55% laminar to mottled very dull yellow hydrocarbon fluorescence, slow bleeding poor milky blue cut, no residual oil show to tray after cut
- 602-607' Sandstone (65%), medium light gray to medium brown, very fine to medium grained, fairly well sorted with angular to sub-rounded grains, micaceous, argillaceous in part, traces of thinly interbedded medium gray shale present, friability overall good with abundant vugular porosity on many sample surfaces, pinpoint to mottled medium brown oil staining on few sample surfaces, saturation overall poor, sample exhibited a good petroliferous odor, pinpoint to mottled free oil show to sample surfaces, fair free oil show to pit, 15% mottled to even medium bright yellow hydrocarbon fluorescence, fairly fast streaming to even fair milky blue cut, no residual oil show to tray after cut; Shale (35%), medium to dark gray, silty/sandy in part
- 607-612' Sandstone (55%), medium light gray to medium dark brown, very fine to fine grained, well sorted with angular to sub-rounded grains, very micaceous, argillaceous in part, fairly clean well cemented grainstone, friability overall good with abundant vugular porosity on many sample surfaces, mottled medium dark brown oil stain on some sample surfaces, saturation overall poor, sample exhibited slight petroliferous odor, iridescent oil sheen to some sample surfaces, slight free oil show to pit, 5%

- pinpoint to mottled medium bright yellow hydrocarbon fluorescence, fast bleeding good milky blue cut, faint residual oil show to tray after cut; Shale (45%), medium light gray to medium dark gray, silty/sandy laminated in part
- 612-617' Shale (100%), dark gray, silty/ sandy; no sample saved
- 617-622' Sandstone (85%), medium light gray to dark brown, fine to medium grained, fairly well sorted with angular to sub-rounded grains, very micaceous, glauconitic, friability overall very good with abundant vugular porosity on most sample surfaces, clean poorly cemented grainstone, mottled to even dark brown oil staining on sample surfaces, saturation overall fair, sample exhibited a strong petroliferous odor, pinpoint to mottled free oil show to sample surfaces, fair free oil show to pit, 85% pinpoint variegated yellow hydrocarbon fluorescence, slow even good milky blue cut, very faint residual oil show to tray after cut; Shale (15%), medium to medium dark gray, silty/sandy
- 622-627' Sandstone (65%), medium light gray, very fine to fine grained, well sorted with angular to sub-rounded grains, micaceous, argillaceous in part, thinly interbedded limestone present, bitumen present on many samples, fairly clean poorly cemented grainstone, friability overall very good with abundant vugular porosity present on many sample surfaces, trace mottled dark brown oil stain present on few samples, saturation overall very poor, probable water contact, fair petroliferous odor, poor pinpoint free oil show to sample, no show to pit, less than 5% pinpoint to slightly mottled medium bright yellow hydrocarbon fluorescence, slow bleeding poor milky blue cut, no residual oil show to tray after cut; Shale (30%), medium dark to dark gray; Limestone (5%)
- 627-632' Sandstone (85-87%), medium light gray, very fine to fine grained, well sorted with angular to sub-rounded grains, micaceous, glauconitic, clean well-cemented grainstone, friability overall poor with abundant vugular porosity present on many sample surfaces, pinpoint dark brown to black oil stain on few sample surfaces, saturation overall very poor, sample exhibited slight petroliferous odor, no free oil show to sample surfaces, no free oil show to the pit, 5-7% pinpoint medium bright yellow hydrocarbon fluorescence, no hydrocarbon cut; Shale (10%), medium dark gray; Limestone (3-5%), olive gray
- 632-637' Sandstone "sugar sand", probable water zone, no sample was able to be collected, no oil show to pit
- 637-648' Shale, dark gray, fissile, platy
- 648-652' Shale, medium to medium dark gray
- 652-670' Shale, medium to medium dark gray, silty to sandy with occasional thinly interbedded limestone present
- 670-715' Shale, medium to medium dark gray, silty to sandy in part, occasional limestone present
- 715-716' Rowe coal, no sample collected
- 716-774' Shale, medium dark gray to dark gray, silty to sandy in part, occasional interbedded limestone present

774-776' Riverton coal, black, dull luster, pyritic, carbonaceous

776-788' Shale, dark gray to grayish black

**Top of the Mississippian 788' (+116')**

788-791' Limestone, brownish gray, fine grained, micritic, hard, no visible porosity; Siliceous limestone (chat), very light gray, good vugular porosity on sample surfaces, friability poor to fair, mottled dark brown oil staining on "chat" samples, saturation overall poor, sample exhibited a fair petroliferous odor, pinpoint to mottled free oil show to few sample surfaces, no free oil show to pit, 30-35% mottled to even variegated bluish yellow hydrocarbon fluorescence, slow even good milky blue cut, faint residual oil show to tray after cut; traces of grayish black shale in sample

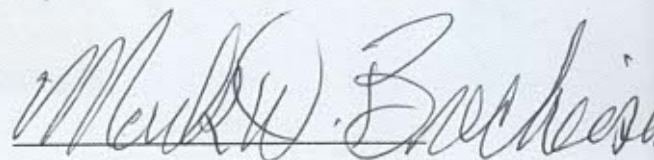
791-824' Limestone, brownish gray, fine grained, traces of dolomite present, no petroliferous odor or show

824-832' Limestone, olive gray, very fine crystalline, dense, hard, no porosity; Dolomite, bluish gray to olive gray, fine crystalline, sucrosic texture, mottled in part with light to medium dark brown oil stain on surface only, saturation very slight

**NOTE: 824-825'** 2nd break in the Mississippian with oil and water. Upon thorough examination of samples, oil in break does not originate from the limestone and dolomite present, but rather out of veins in crystalline calcite between bedding plains in limestone and dolomite. Saturation of oil in limestone is void; and, just slight oil staining occurs on some dolomite surfaces. Samples of calcite appear to be completely oil stained with free oil on the surface and in between individual calcite crystals. The calcite exhibits visible fluid flow patterns in the crystal structure that is now filled with oil and water.

832-857' Limestone, light olive gray to olive gray, very fine crystalline, hard, no visible porosity present, trace brownish black dolomite present with disseminated pyrite present on few samples, sample exhibited a slight petroliferous odor and oil coating which were from passing through the oil zone in the 2nd break of the Mississippian, no true petroliferous odor or show to the samples below the 2nd break, no fluorescence, no cut

**TD 857'**



Mark D. Brecheisen

Petroleum Geologist

**Recommendation:**

My recommendation is to complete this well as an oil well in the 2nd break of the Mississippian. Completion recommendations to be determined at a later date.