

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
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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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Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	SAUER 1-5
Doc ID	1372259

All Electric Logs Run

CNCPD Micro Log
AI Shallow Focused Elect Log
Composite Log
Comp Sonic w/Transit Time
Micro. Log
Caliper Log

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	SAUER 1-5
Doc ID	1372259

Tops

Name	Top	Datum
Topeka	2810	-1024
Heebner	3121	-1335
Lansing	3308	-1522
Muncie Creek	3453	-1667
Stark	3522	-1736
Bs/Kansas City	3602	-1816
Viola	3751	-1965
LTD	3936	0





**Company: Grand Mesa  
Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC - Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

**DATE**  
October  
**27**  
2017

**DST #1**      **Formation: Misener-Viola**      **Test Interval: 3635 - 3780'**      **Total Depth: 3780'**  
Time On: 20:18 10/26      Time Off: 05:40 10/27  
Time On Bottom: 22:55 10/26      Time Off Bottom: 02:40 10/27

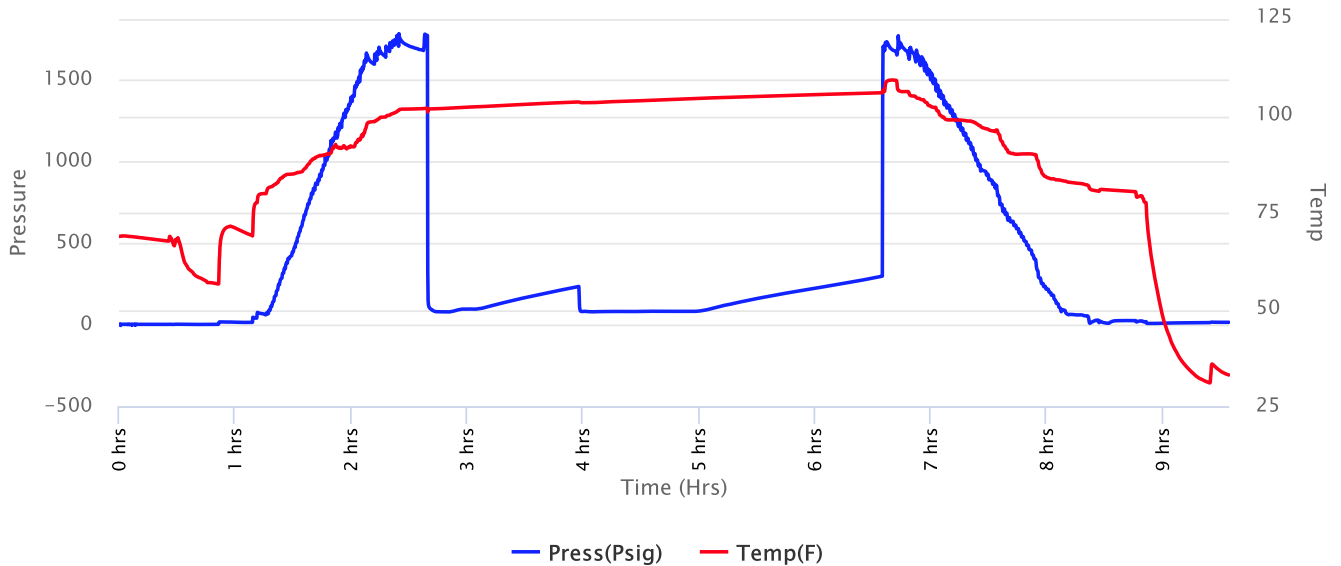
Electronic Volume Estimate:  
633'

1st Open  
Minutes: 30  
16.6" at 30 min

1st Close  
Minutes: 45  
0" at 45 min

2nd Open  
Minutes: 60  
44.8" at 60 min

2nd Close  
Minutes: 90  
0" at 90 min





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Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
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Time On: 20:18 10/26      Time Off: 05:40 10/27  
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Recovered

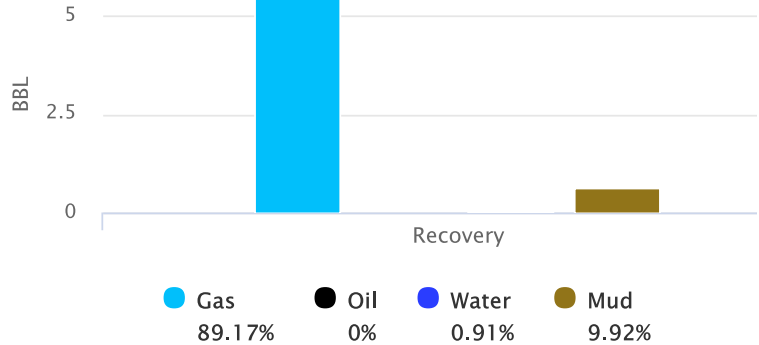
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
400	5.692	G	100	0	0	0
130	0.7327	SLGCSLWCM	5	0	8	87

Total Recovered: 530 ft  
Total Barrels Recovered: 6.4247

Reversed Out  
NO

Initial Hydrostatic Pressure	1680	PSI
Initial Flow	79 to 95	PSI
<b>Initial Closed in Pressure</b>	<b>233</b>	<b>PSI</b>
Final Flow Pressure	80 to 81	PSI
<b>Final Closed in Pressure</b>	<b>296</b>	<b>PSI</b>
Final Hydrostatic Pressure	1675	PSI
Temperature	106	°F
Pressure Change Initial Close / Final Close	0.0	%

**Recovery at a glance**





**Company: Grand Mesa  
Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC -  
Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

<b>DATE</b> October <b>27</b> 2017
---

**DST #1      Formation: Misener-  
Viola      Test Interval: 3635 -      Total Depth: 3780'**  
**3780'**

Time On: 20:18 10/26

Time Off: 05:40 10/27

Time On Bottom: 22:55 10/26      Time Off Bottom: 02:40 10/27

**REMARKS:**

30 min initial flow: BOB in 17 minutes.

45 min initial shut-in: No blowback.

60 min final flow: BOB in 15 seconds.

90 min final shut-in: No blowback.

Ph: 7.0

RW: .81 @ 35 degrees F

Chlorides: 16300 ppm





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County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC - Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

<b>DATE</b>
October
<b>27</b>
2017

**DST #1      Formation: Misener-Viola      Test Interval: 3635 - 3780'      Total Depth: 3780'**

Time On: 20:18 10/26      Time Off: 05:40 10/27  
Time On Bottom: 22:55 10/26      Time Off Bottom: 02:40 10/27

**Down Hole Makeup**

<b>Heads Up:</b> 30.07 FT	<b>Packer 1:</b> 3629.5 FT
<b>Drill Pipe:</b> 3512 FT <i>ID-3 1/2</i>	<b>Packer 2:</b> 3635 FT
<b>Weight Pipe:</b> FT <i>ID-2 7/8</i>	<b>Top Recorder:</b> 3618.92 FT
<b>Collars:</b> 120 FT <i>ID-2 1/4</i>	<b>Bottom Recorder:</b> 3642 FT
<b>Test Tool:</b> 34.07 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	<b>Well Bore Size:</b> 7 7/8
<b>Total Anchor:</b> 145	<b>Surface Choke:</b> 1"
<u><b>Anchor Makeup</b></u>	<b>Bottom Choke:</b> 5/8"
<b>Packer Sub:</b> 1 FT	
<b>Perforations: (top):</b> 5 FT <i>4 1/2-FH</i>	
<b>Change Over:</b> .5 FT	
<b>Drill Pipe: (in anchor):</b> 125 FT <i>ID-3 1/2</i>	
<b>Change Over:</b> .5 FT	
<b>Perforations: (below):</b> 13 FT <i>4 1/2-FH</i>	





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Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC -  
Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

<b>DATE</b>
October
<b>27</b>
2017

**DST #1      Formation: Misener-Viola      Test Interval: 3635 - 3780'      Total Depth: 3780'**  
 Time On: 20:18 10/26      Time Off: 05:40 10/27  
 Time On Bottom: 22:55 10/26      Time Off Bottom: 02:40 10/27

**Gas Volume Report**

1st Open

2nd Open

Time	Orifice	PSI	MCF/D
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Time	Orifice	PSI	MCF/D
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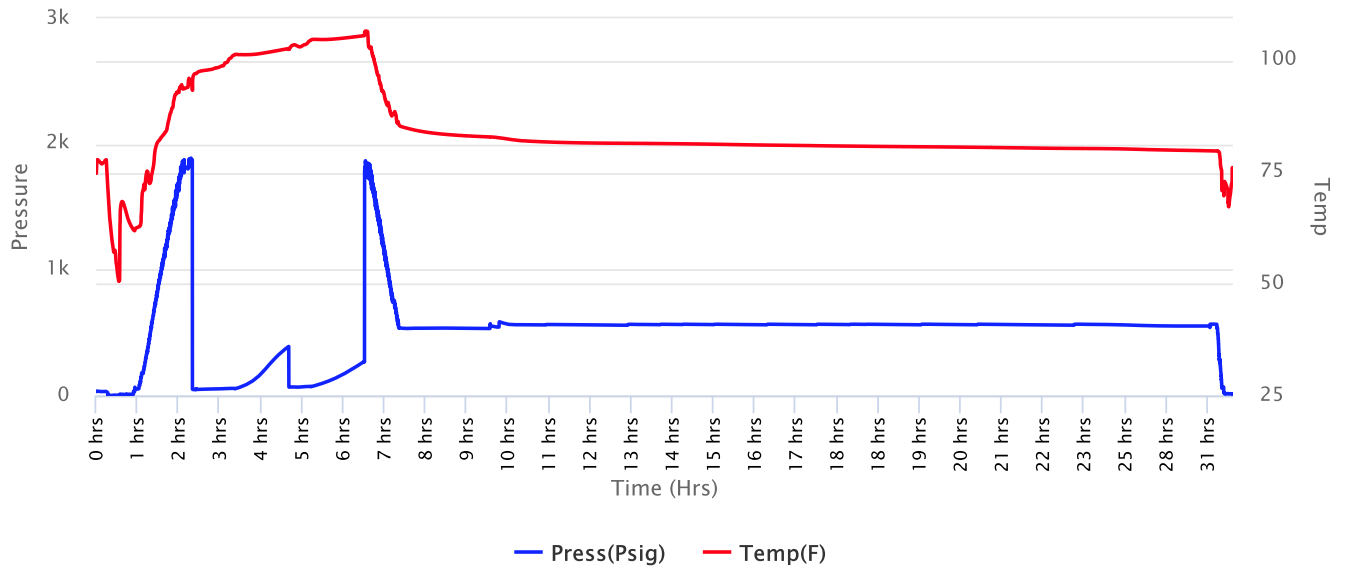
**Company: Grand Mesa  
Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC - Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

**DATE**  
October  
**27**  
2017

**DST #2**      **Formation: Viola**      **Test Interval: 3779 - 3800'**      **Total Depth: 3800'**  
Time On: 09:30 10/28      Time Off: 18:03 10/29  
Time On Bottom: 11:46 10/28      Time Off Bottom: 15:46 10/28

Electronic Volume Estimate: 70'	<u>1st Open</u> Minutes: 60 1.8" at 60 min	<u>1st Close</u> Minutes: 75 .7" at 75 min	<u>2nd Open</u> Minutes: 30 0" at 30 min	<u>2nd Close</u> Minutes: 75 0" at 75 min
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— Press(Psig)      — Temp(F)



**Company: Grand Mesa  
Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC - Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

**DATE**  
October  
**27**  
2017

**DST #2**      **Formation: Viola**      **Test Interval: 3779 - 3800'**      **Total Depth: 3800'**  
Time On: 09:30 10/28      Time Off: 18:03 10/29  
Time On Bottom: 11:46 10/28      Time Off Bottom: 15:46 10/28

Recovered

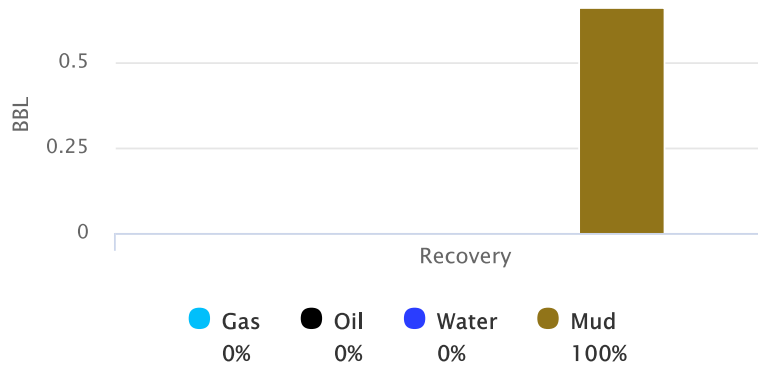
<u>Foot</u>	<u>BBLs</u>	<u>Description of Fluid</u>	<u>Gas %</u>	<u>Oil %</u>	<u>Water %</u>	<u>Mud %</u>
125	0.66155	M	0	0	0	100

Total Recovered: 125 ft  
Total Barrels Recovered: 0.66155

**Reversed Out**  
NO

Initial Hydrostatic Pressure	1833	PSI
Initial Flow	48 to 57	PSI
<b>Initial Closed in Pressure</b>	<b>391</b>	<b>PSI</b>
Final Flow Pressure	66 to 73	PSI
<b>Final Closed in Pressure</b>	<b>272</b>	<b>PSI</b>
Final Hydrostatic Pressure	1830	PSI
Temperature	106	°F
Pressure Change Initial Close / Final Close	30.4	%

**Recovery at a glance**





**Company: Grand Mesa  
Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC -  
Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

<b>DATE</b> October <b>27</b> 2017
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<b>DST #2</b>	<b>Formation: Viola</b>	<b>Test Interval: 3779 - 3800'</b>	<b>Total Depth: 3800'</b>
	Time On: 09:30 10/28	Time Off: 18:03 10/29	
	Time On Bottom: 11:46 10/28	Time Off Bottom: 15:46 10/28	

**REMARKS:**

60 min IF: Weak blow, Inc to 1.8" in bucket.

75 min ISI: Weak blowback @ .7".

(Initial blow and blowback may have been from the air in the pipe warming up and expanding.)



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County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC - Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

<p><b>DATE</b> October <b>27</b> 2017</p>
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**DST #2      Formation: Viola      Test Interval: 3779 - 3800'      Total Depth: 3800'**

Time On: 09:30 10/28      Time Off: 18:03 10/29  
Time On Bottom: 11:46 10/28      Time Off Bottom: 15:46 10/28

**Down Hole Makeup**

<b>Heads Up:</b> 12.57 FT	<b>Packer 1:</b> 3774 FT
<b>Drill Pipe:</b> 3639 FT <i>ID-3 1/2</i>	<b>Packer 2:</b> 3779 FT
<b>Weight Pipe:</b> FT <i>ID-2 7/8</i>	<b>Top Recorder:</b> 3763.42 FT
<b>Collars:</b> 120 FT <i>ID-2 1/4</i>	<b>Bottom Recorder:</b> 1 FT
<b>Test Tool:</b> 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	<b>Well Bore Size:</b> 7 7/8
<b>Total Anchor:</b> 21	<b>Surface Choke:</b> 1"
<u><b>Anchor Makeup</b></u>	<b>Bottom Choke:</b> 5/8"
<b>Packer Sub:</b> 1 FT	
<b>Perforations: (top):</b> FT <i>4 1/2-FH</i>	
<b>Change Over:</b> FT	
<b>Drill Pipe: (in anchor):</b> FT <i>ID-3 1/2</i>	
<b>Change Over:</b> 1 FT	
<b>Perforations: (below):</b> 19 FT <i>4 1/2-FH</i>	



**Company: Grand Mesa  
Operating Company  
Lease: Sauer #1-5**

SEC: 5 TWN: 24S RNG: 10W  
County: RENO  
State: Kansas  
Drilling Contractor: WW Drilling, LLC -  
Rig 4  
Elevation: 1786 KB  
Field Name: Zenith-Peace Creek  
Pool: WILDCAT  
Job Number: 68

<b>DATE</b> October <b>27</b> 2017
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**DST #2      Formation: Viola      Test Interval: 3779 - 3800'      Total Depth: 3800'**  
Time On: 09:30 10/28      Time Off: 18:03 10/29  
Time On Bottom: 11:46 10/28      Time Off Bottom: 15:46 10/28

**Mud Properties**

**Mud Type:** Chemical      **Weight:** 9.0      **Viscosity:** 65 (4#lcm)      **Filtrate:** 9.6      **Chlorides:** 9000 ppm







API\*

15-155-21747-00-00

9287  
9119

TICKET NUMBER 54768

LOCATION Ch Norado, KS

FOREMAN Fuzz

PRESSURE PUMPING LLC  
PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8876

FIELD TICKET & TREATMENT REPORT

CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-20-17	3372	Saucek 1'S	5	24	10	Rawl
CUSTOMER <u>Grand mesa operations</u>			TRUCK #	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS <u>1700 N. water front Bldg 600</u>			760	Chris		
CITY <u>W. ch. VA</u>			715	Jud		
STATE <u>KS</u>			725	Fuzz		
ZIP CODE <u>67200</u>						

JOB TYPE surFACE HOLE SIZE 778 HOLE DEPTH 220' CASING SIZE & WEIGHT 8 7/8  
 CASING DEPTH 220' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.2 SLURRY VOL 42.3 WATER gal/sk 6.5 CEMENT LEFT in CASING 20'  
 DISPLACEMENT 12.7 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: 5 x 8 day medicine on w. w #4. Rig up and pump 5 BBL water  
mix 175 sks class # 3900, 29 gal w/ 1/2" poly glue. Displace  
12 3/4 BBL + shot in.  
cement did not circulate - wait on more cement + 1-inch pipe  
Rig up and run 60' of 1-inch Hydril pipe and cement  
to surface with 140 sks class # 3900 29 gal  
water or cement 20 wt. w. did not fall back

Thanks Fuzz & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0450	1	PUMP CHARGE		
CE0002	50	MILEAGE		
CE0710	9.2	Tow mileage Delivery		
CE0711		Tow mileage 2nd Truck (mat)		
11340-CE5302A	315 sks	Class #		
CE5325	900 #	Calcium chloride		
CE5965	600 #	Gal.		
CE6075	150 #	Poly glue		
CE2011		1" Top off Pipe		
		Subtotal		
		SALES TAX		
		ESTIMATED TOTAL		

Rev'n 9737

AUTHORIZATION Noel Perez TITLE \_\_\_\_\_ DATE 10-20-17

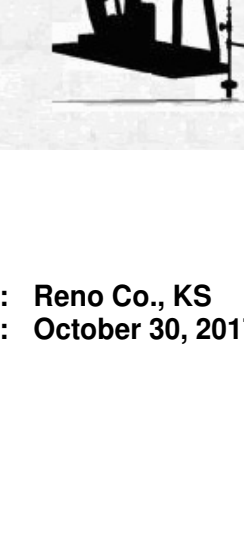
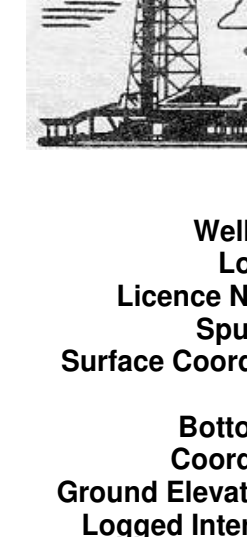
I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



# WELLSITE GEOLOGIST'S REPORT

VERNON S. SOFIAG  
CONSULTANT GEOLOGIST

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



Well Name: SAUER #1-5  
 Location: NE NW SE NW SEC. 05-24S-10W  
 Licence Number: API: 15-155-21747  
 Spud Date: October 19, 2017  
 Surface Coordinates: 1364' FNL 1915' FWL  
 Region: Reno Co., KS  
 Drilling Completed: October 30, 2017

Bottom Hole  
 Ground Elevation (ft): 1781' K.B. Elevation (ft): 1786'  
 Logged Interval (ft): 1400' To: RTD Total Depth (ft): 3940'  
 Formation: Simpson  
 Type of Drilling Fluid: Chemical Premix (Displaced)  
 Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

**Company:** Grand Mesa Operating Company  
 Address: 1700 N. Waterfront PKWY  
 BLDG 600  
 Wichita, KS

**OPERATOR:**

**DRILLING CONTRACTOR:**

WW DRILLING CO., INC., Rig #4  
 DP 4.5" XH (16.8#); DC 6-1/4" x 2-3/8" U 440.54, Kelly 41.13', Tool Joint 5.5" Bit: PDC Smith M616 until 2954, Smith F271Y button bit to RTD, 7-7/8", standard jets 15-15-15; used deviation stabilization system until 3780', Kelly Bushing 5' above ground level; Ward Brown (tool pusher).

There was considerable mechanical failure on this well involving power plants, mudpump and draw works motor with significant down time at various levels.

**CASING:**  
 8-5/8" at 219'

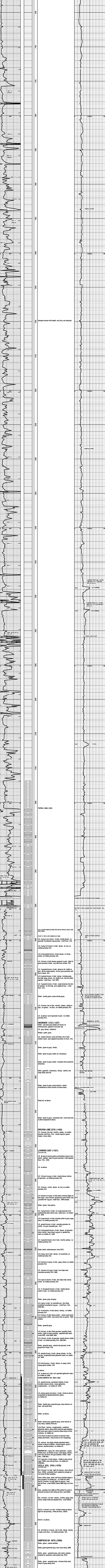
**CIRCULATION SYSTEM:**  
 Pump: Rustle (EMSCO) 300, duplex, 6 x 14 until 9217; then EMSCO D-375 thru RTD, Chemical, premix added at 2336', earth pits, MudCo/Service Mud, Inc., Brad Bortz.

**GAS DETECTION SYSTEM:**  
 USB-1208LS-41, portable hot-wire, Delphian 3.0 volt catalytic bead combustible gas detector.

**OPEN HOLE LOGS:**  
 DN (PE), DI (SP), ML, Sonic, stacked tools, Weatherford Wireline Services, Liberal, KS, Adam SIII, LTD 3936'.

**DRILL STEM TESTS:**  
 Diamond Testing, LLC, Pratt, KS.

**SAMPLES:**  
 Collected kelly-down wet samples from 1500 to 3000' mainly to provide sample box management for gas detection purposes. These were of very poor quality and non-descript and so were discarded. Collected ten foot wet & dry samples from 3000' to RTD. These were submitted to the sample library, KGS, Wichita Ks.



ROTARY TOTAL DEPTH 3940 (2154)