

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) (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	L. D. Drilling, Inc.
Well Name	VANDENBERG 1-8
Doc ID	1546173

Tops

Name	Top	Datum
ANHYDRITE	1382	+819
BASE ANHYDRITE	1408	+793
HEEBNER	3718	-1517
LANSING	3769	-1568
BASE KANSAS CITY	4093	-1892
FORT SCOTT	4246	-2045
CHEROKEE	4265	-2064
MISSISSIPPI OSAGE	4326	-2125



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
09
 2020

DST #1 **Formation: Mississippian** **Test Interval: 4287 - 4341'** **Total Depth: 4341'**
 Time On: 12:50 11/09 Time Off: 20:28 11/09
 Time On Bottom: 15:14 11/09 Time Off Bottom: 18:14 11/09

Electronic Volume Estimate:
 46'

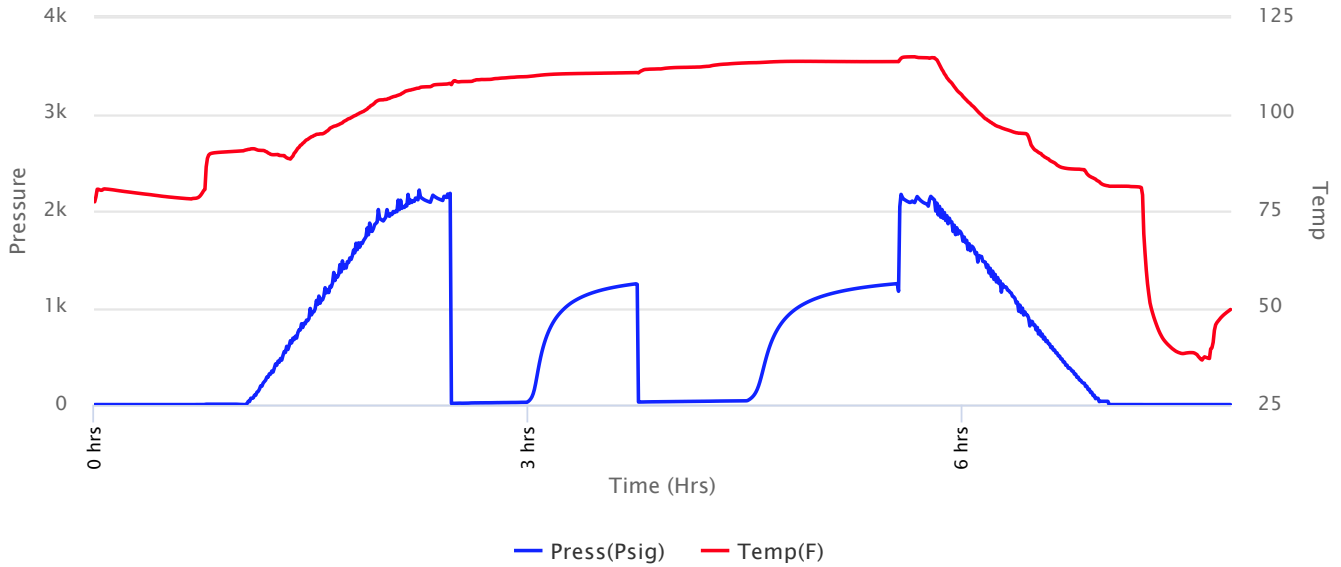
1st Open
 Minutes: 30
 Current Reading: 2.0" at 30 min
 Max Reading: 2.0"

1st Close
 Minutes: 45
 Current Reading: 0" at 45 min
 Max Reading: 0"

2nd Open
 Minutes: 45
 Current Reading: 2.0" at 45 min
 Max Reading: 2.0"

2nd Close
 Minutes: 60
 Current Reading: 0" at 60 min
 Max Reading: 0"

Inside Recorder





Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
09
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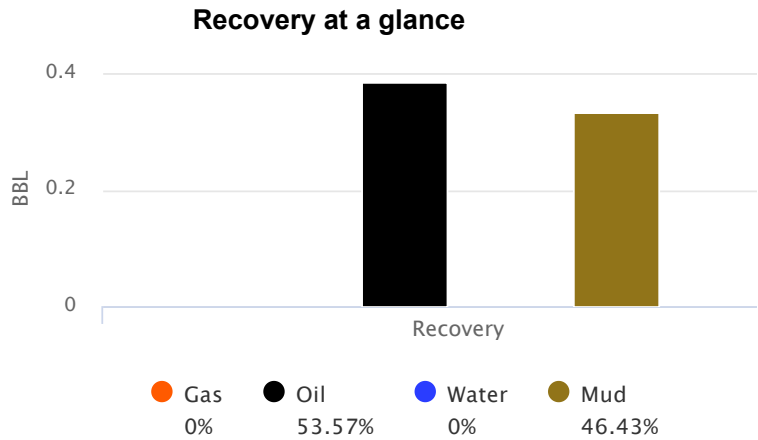
DST #1 **Formation: Mississippian** **Test Interval: 4287 - 4341'** **Total Depth: 4341'**
 Time On: 12:50 11/09 Time Off: 20:28 11/09
 Time On Bottom: 15:14 11/09 Time Off Bottom: 18:14 11/09

Recovered		Description of Fluid	Gas %	Oil %	Water %	Mud %
Foot	BBLs					
5	0.0513	O	0	100	0	0
65	0.6669	HMCO	0	50	0	50

Total Recovered: 70 ft
 Total Barrels Recovered: 0.7182

Reversed Out
 NO

Initial Hydrostatic Pressure	2106	PSI
Initial Flow	13 to 25	PSI
Initial Closed in Pressure	1247	PSI
Final Flow Pressure	28 to 42	PSI
Final Closed in Pressure	1249	PSI
Final Hydrostatic Pressure	2105	PSI
Temperature	114	°F
Pressure Change Initial Close / Final Close	0.0	%



GIP cubic foot volume: 0



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
County: PAWNEE
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
Uploading recovery &
pressures

DATE
November
09
2020

DST #1	Formation: Mississippian	Test Interval: 4287 - 4341'	Total Depth: 4341'
	Time On: 12:50 11/09	Time Off: 20:28 11/09	
	Time On Bottom: 15:14 11/09	Time Off Bottom: 18:14 11/09	

BUCKET MEASUREMENT:

1st Open: 1/4" blow building to 2"
1st Close: No BB
2nd Open: Surface blow building to 2"
2nd Close: No BB

REMARKS:

Tool Sample: 0% Gas 38% Oil 0% Water 62% Mud

Gravity: 39.5 @ 60 °F



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
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State: Kansas
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Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
Uploading recovery & pressures

DATE
November
09
2020

DST #1 **Formation:** **Test Interval: 4287 -** **Total Depth: 4341'**
Mississippian **4341'**
Time On: 12:50 11/09 Time Off: 20:28 11/09
Time On Bottom: 15:14 11/09 Time Off Bottom: 18:14 11/09

Down Hole Makeup

Heads Up: 31.02 FT	Packer 1: 4281.74 FT
Drill Pipe: 4285.19 FT <i>ID-3 1/4</i>	Packer 2: 4286.74 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4271.16 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4324 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 54.26	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 2 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 31.26 FT <i>ID-3 1/4</i>	
Change Over: 1 FT	
Perforations: (below): 18 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
County: PAWNEE
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
Uploading recovery &
pressures

DATE
November
09
2020

DST #1 **Formation:** **Test Interval: 4287 -** **Total Depth: 4341'**
Mississippian **4341'**
Time On: 12:50 11/09 Time Off: 20:28 11/09
Time On Bottom: 15:14 11/09 Time Off Bottom: 18:14 11/09

Mud Properties

Mud Type: Chemical **Weight:** 9.5 **Viscosity:** 56 **Filtrate:** 12.0 **Chlorides:** 7,100 ppm



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
09
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DST #1 **Formation: Mississippian** **Test Interval: 4287 - 4341'** **Total Depth: 4341'**
 Time On: 12:50 11/09 Time Off: 20:28 11/09
 Time On Bottom: 15:14 11/09 Time Off Bottom: 18:14 11/09

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
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DST #2 **Formation: Mississippian Osage** **Test Interval: 4337 - 4349'** **Total Depth: 4349'**
 Time On: 03:49 11/10 Time Off: 11:21 11/10
 Time On Bottom: 06:13 11/10 Time Off Bottom: 09:13 11/10

Electronic Volume Estimate:
 98'

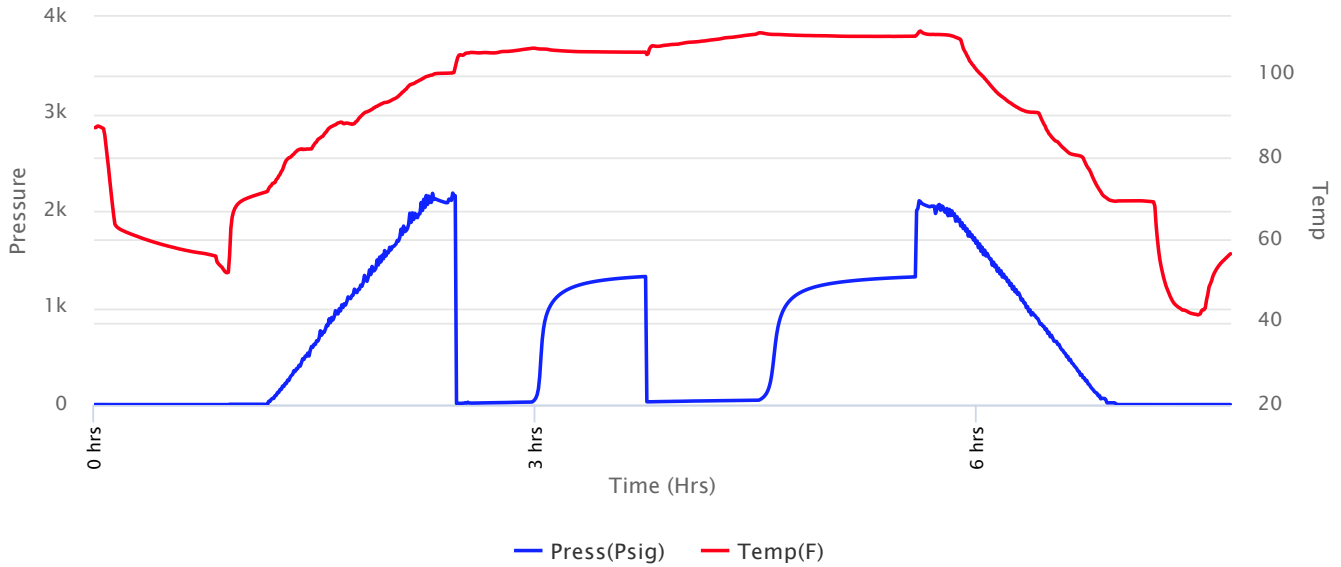
1st Open
 Minutes: 30
 Current Reading: 3.8" at 30 min
 Max Reading: 3.8"

1st Close
 Minutes: 45
 Current Reading: 0" at 45 min
 Max Reading: 0"

2nd Open
 Minutes: 45
 Current Reading: 4.8" at 45 min
 Max Reading: 4.8"

2nd Close
 Minutes: 60
 Current Reading: 0" at 60 min
 Max Reading: 0"

Inside Recorder





Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
10
 2020

DST #2 **Formation: Mississippian Osage** **Test Interval: 4337 - 4349'** **Total Depth: 4349'**
 Time On: 03:49 11/10 Time Off: 11:21 11/10
 Time On Bottom: 06:13 11/10 Time Off Bottom: 09:13 11/10

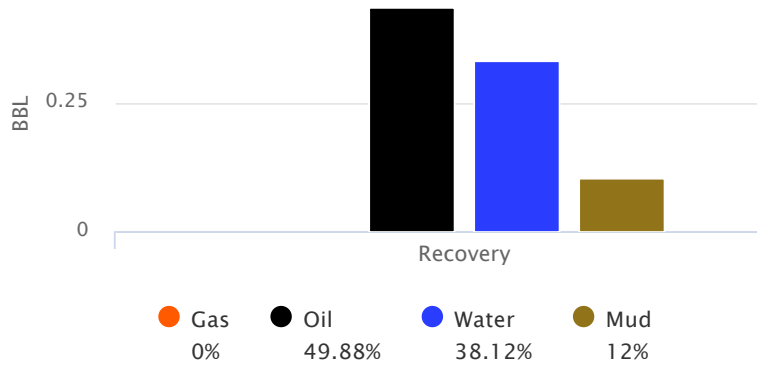
Recovered		Description of Fluid	Gas %	Oil %	Water %	Mud %
Foot	BBLs					
25	0.2565	O	0	100	0	0
60	0.6156	SLMCOCW	0	29	54	17

Total Recovered: 85 ft
 Total Barrels Recovered: 0.8721

Reversed Out
 NO

Initial Hydrostatic Pressure	2107	PSI
Initial Flow	13 to 28	PSI
Initial Closed in Pressure	1322	PSI
Final Flow Pressure	30 to 48	PSI
Final Closed in Pressure	1318	PSI
Final Hydrostatic Pressure	2103	PSI
Temperature	111	°F
Pressure Change Initial Close / Final Close	0.3	%

Recovery at a glance



GIP cubic foot volume: 0



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
County: PAWNEE
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
Uploading recovery &
pressures

DATE
November
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2020

DST #2 **Formation:** **Test Interval: 4337 -** **Total Depth: 4349'**
Mississippian Osage **4349'**
Time On: 03:49 11/10 Time Off: 11:21 11/10
Time On Bottom: 06:13 11/10 Time Off Bottom: 09:13 11/10

BUCKET MEASUREMENT:

1st Open: Surface blow building to 3 1/2"
1st Close: Weak surface BB
2nd Open: 1/4" blow building to 4 1/2"
2nd Close: Very weak surface BB

REMARKS:

Tool Sample: 0% Gas 48% Oil 19% Water 33% Mud
Gravity: 36.4 @ 60 °F
Ph: 7.0
Measured RW: .53 @ 71 degrees °F
RW at Formation Temp: 0.35 @ 111 °F
Chlorides: 12,000 ppm



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
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 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery &
 pressures

DATE
 November
10
 2020

DST #2 **Formation:** **Test Interval: 4337 -** **Total Depth: 4349'**
 Mississippian Osage **4349'**
 Time On: 03:49 11/10 Time Off: 11:21 11/10
 Time On Bottom: 06:13 11/10 Time Off Bottom: 09:13 11/10

Down Hole Makeup

Heads Up: 12.03 FT	Packer 1: 4332 FT
Drill Pipe: 4316.46 FT <i>ID-3 1/4</i>	Packer 2: 4337 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4321.42 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4339 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 12	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 0 FT <i>4 1/2-FH</i>	
Change Over: 0 FT	
Drill Pipe: (in anchor): 0 FT <i>ID-3 1/4</i>	
Change Over: 0 FT	
Perforations: (below): 11 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
County: PAWNEE
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
Uploading recovery &
pressures

DATE
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DST #2 **Formation:** **Test Interval: 4337 -** **Total Depth: 4349'**
Mississippian Osage **4349'**
Time On: 03:49 11/10 Time Off: 11:21 11/10
Time On Bottom: 06:13 11/10 Time Off Bottom: 09:13 11/10

Mud Properties

Mud Type: Chemical **Weight:** 9.5 **Viscosity:** 56 **Filtrate:** 12.0 **Chlorides:** 7,100 ppm



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
10
 2020

DST #2 **Formation: Mississippian Osage** **Test Interval: 4337 - 4349'** **Total Depth: 4349'**
 Time On: 03:49 11/10 Time Off: 11:21 11/10
 Time On Bottom: 06:13 11/10 Time Off Bottom: 09:13 11/10

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
10
 2020

DST #3 **Formation: Mississippian Osage** **Test Interval: 4347 - 4359'** **Total Depth: 4359'**
 Time On: 18:13 11/10 Time Off: 04:16 11/11
 Time On Bottom: 20:42 11/10 Time Off Bottom: 23:42 11/11

Electronic Volume Estimate:
 4271'

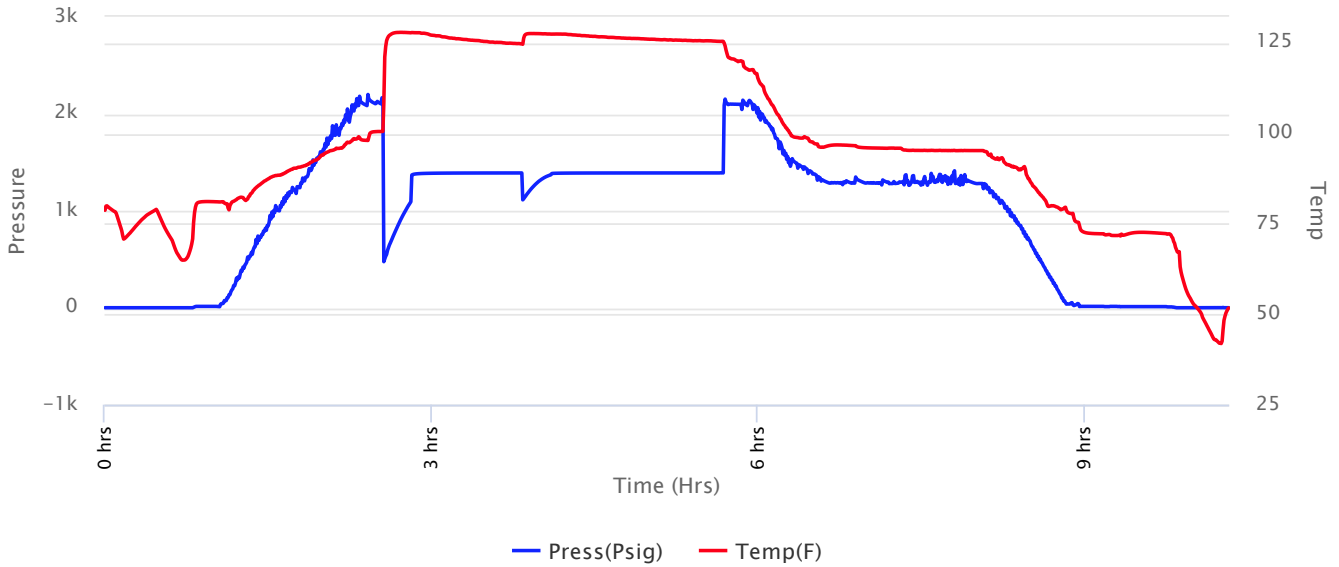
1st Open
 Minutes: 15
 Current Reading: 357.0" at 15 min
 Max Reading: 357.0"

1st Close
 Minutes: 60
 Current Reading: 0" at 60 min
 Max Reading: 0"

2nd Open
 Minutes: 15
 Current Reading: 239.5" at 15 min
 Max Reading: 239.5"

2nd Close
 Minutes: 90
 Current Reading: 0" at 90 min
 Max Reading: 0"

Inside Recorder





Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery & pressures

DATE
 November
10
 2020

DST #3 **Formation: Mississippian Osage** **Test Interval: 4347 - 4359'** **Total Depth: 4359'**
 Time On: 18:13 11/10 Time Off: 04:16 11/11
 Time On Bottom: 20:42 11/10 Time Off Bottom: 23:42 11/11

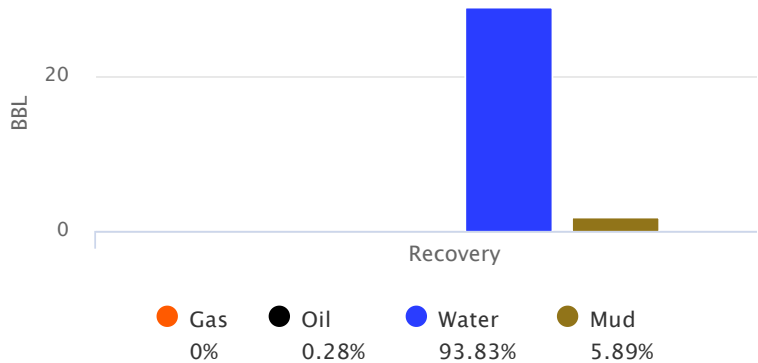
Recovered						
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
240	2.4624	HWCM (trace O)	0	.1	47.9	52
125	1.2825	SLMCW (trace O)	0	.5	91.5	8
2520	25.8552	W (trace O)	0	.3	99.7	0
125	1.2825	HMCW	0	0	66	34

Total Recovered: 3010 ft
 Total Barrels Recovered: 30.8826

Reversed Out YES

Initial Hydrostatic Pressure	2103	PSI
Initial Flow	475 to 1094	PSI
Initial Closed in Pressure	1390	PSI
Final Flow Pressure	1113 to 1370	PSI
Final Closed in Pressure	1390	PSI
Final Hydrostatic Pressure	2101	PSI
Temperature	128	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance



GIP cubic foot volume: 0



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
County: PAWNEE
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
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pressures

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DST #3	Formation: Mississippian Osage	Test Interval: 4347 - 4359'	Total Depth: 4359'
	Time On: 18:13 11/10	Time Off: 04:16 11/11	
	Time On Bottom: 20:42 11/10	Time Off Bottom: 23:42 11/11	

BUCKET MEASUREMENT:

1st Open: 6" blow building to BOB 30 sec.
1st Close: No BB
2nd Open: 6" blow building to BOB 30 sec.
2nd Close: No BB

REMARKS:

Tool Sample: 0% Gas .1% Oil 99.9% Water 0% Mud

Ph: 7.0

Measured RW: .53 @ 50 degrees °F

RW at Formation Temp: 0.223 @ 128 °F

Chlorides: 20,000 ppm



Company: L. D. Drilling, Inc
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 Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
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DST #3 **Formation: Mississippian Osage** **Test Interval: 4347 - 4359'** **Total Depth: 4359'**
 Time On: 18:13 11/10 Time Off: 04:16 11/11
 Time On Bottom: 20:42 11/10 Time Off Bottom: 23:42 11/11

Down Hole Makeup

Heads Up: 33.58 FT	Packer 1: 4342 FT
Drill Pipe: 4348.01 FT <i>ID-3 1/4</i>	Packer 2: 4347 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4331.42 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4349 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 12	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 0 FT <i>4 1/2-FH</i>	
Change Over: 0 FT	
Drill Pipe: (in anchor): 0 FT <i>ID-3 1/4</i>	
Change Over: 0 FT	
Perforations: (below): 11 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
County: PAWNEE
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2195 EGL
Field Name: Browns Grove
Pool: Infield
Job Number: 459
API #: 15-145-21863

Operation:
Uploading recovery &
pressures

DATE
November
10
2020

DST #3 **Formation:** **Test Interval: 4347 -** **Total Depth: 4359'**
Mississippian Osage **4359'**
Time On: 18:13 11/10 Time Off: 04:16 11/11
Time On Bottom: 20:42 11/10 Time Off Bottom: 23:42 11/11

Mud Properties

Mud Type: Chemical **Weight:** 9.35 **Viscosity:** 61 **Filtrate:** 12.0 **Chlorides:** 9,100 ppm



Company: L. D. Drilling, Inc
Lease: Vandenberg #1-8

SEC: 8 TWN: 20S RNG: 20W
 County: PAWNEE
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 2195 EGL
 Field Name: Browns Grove
 Pool: Infield
 Job Number: 459
 API #: 15-145-21863

Operation:
 Uploading recovery &
 pressures

DATE
 November
10
 2020

DST #3 **Formation:** **Test Interval: 4347 -** **Total Depth: 4359'**
 Mississippian Osage **4359'**
 Time On: 18:13 11/10 Time Off: 04:16 11/11
 Time On Bottom: 20:42 11/10 Time Off Bottom: 23:42 11/11

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D

KIM B. SHOEMAKER

CONSULTING GEOLOGIST

318-834-9799 • WICHITA, KS

GEOLOGIST'S REPORT

DRILLING LOG AND SAMPLE LOG

COMPANY: L. D. DRILLING, INC. SERVICE:

WELL: #1-8 VANDENBERG DEPTH: 2201

FIELD: BROWNS GROVE

LOCATION: 1750' FSL 2310' FWL

LOG: 8 20s 20w

PROPERTY: PAWNEE KANSAS

OPERATOR: L. D. DRILLING, INC.

DATE: 11-2-2020 TIME: 11-11-20

WELL: 4359

LOG: 3528 CHEMICAL

2201

2196

2201 KB

8 5/8" @ 476'

DUAL IND., DENS-N.

3600 4359

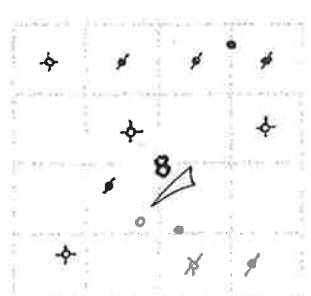
3500 4359

3600 4359

3800 4359

KIM B. SHOEMAKER

FORMATION TYPE	LOG	DEPTH
ANHYDRITE	1382+ 819	1389+ 812
B/ANN.	1408+ 793	1410+ 791
HEEBNER	3718- 1517	3717- 1516
LANSING	3769- 1568	3770- 1569
B/KC	4093- 1892	4096- 1895
FORT SCOTT	4246- 2045	4247- 2046
CHEROKEE	4265- 2064	4266- 2065
MISSISSIPPI OSAGE	4326- 2125	4323- 2122

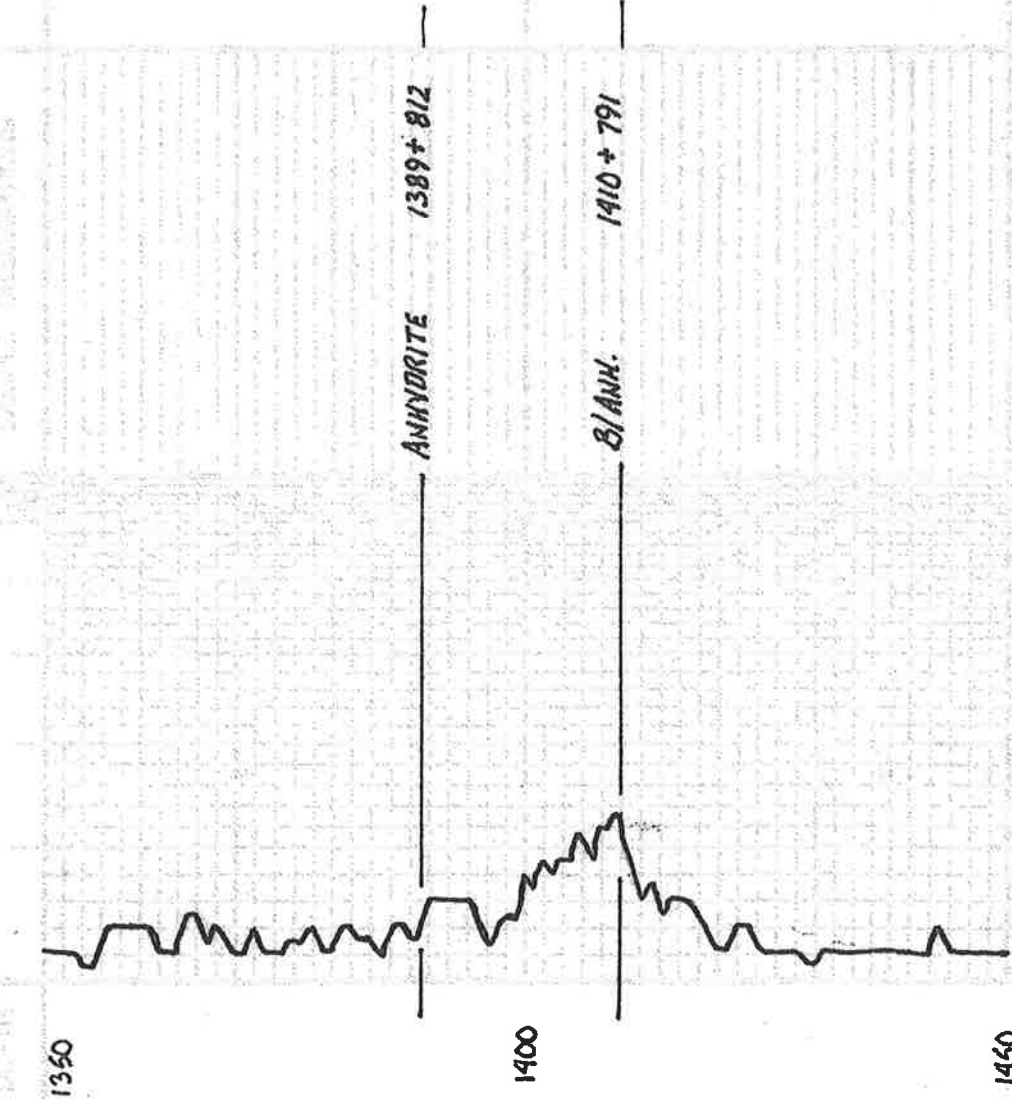


- 11-2-20 SPUD
- 11-3 @ 479'
- 11-4 @ 1460'
- 11-5 @ 2455'
- 11-6 @ 2993'
- 11-7 @ 3595'
- 11-8 @ 3006'
- 11-9 @ 4331'
- 11-10 @ 4349'
- 11-11 @ 4359'

APR. 15-145-21863

LEGEND

- [Symbol] 11-2-20 SPUD
- [Symbol] 11-3 @ 479'
- [Symbol] 11-4 @ 1460'
- [Symbol] 11-5 @ 2455'
- [Symbol] 11-6 @ 2993'
- [Symbol] 11-7 @ 3595'
- [Symbol] 11-8 @ 3006'
- [Symbol] 11-9 @ 4331'
- [Symbol] 11-10 @ 4349'
- [Symbol] 11-11 @ 4359'



1450

3500

3600

3700

Samples are bagged

Sh. Ltg. G

LS. wt to Foss.

LS. To Foss. Sil. chily

LS. Ltg. G. vs. calcitic

LS. To Foss. Sil. Calcitic

LS. wt. Sil. A

LS. To Foss. Sil. chily

VIS: 53
WT: 8.9
MC: 8.0
CNC: 4600

HEEBNER 3717-1516
Sh. Red. Ltg.

Sh. Ltg.

LS. wt. Sil. Foss. Sil. A

Sh. Red. Ltg.

LANSING 3770-1569

LS. wt. Sil. Foss. Sil. A

LANSING 3770-1569

LS wt. SI: Foss. SI: A

Sh. chly. G

LS To wt. SI: Foss

Sh. chly. G

LS To wt. SI: Foss. SI: A

LS To wt. Foss. SI: Foss. SI: chly.

Sh. DE G

LS Bl G, VSI: Foss

LS To Foss.ool. VSI. ool.

LS To wt. VSI: Foss. VSI: A

LS wt. Foss.ool. VSI: A

LS chly. VSI: Foss. SI: A

LS To wt. SI: Foss. VSI: chly.

Sh. RL

LS wt. SI: Foss. SI: chly.

LS G. VSI: A VSI: Calotte

LS wt. SI: Foss. SI: chly.

LS wt. chly.

Sh. G

LS To Foss.ool. VSI: chly.

LS wt. ool. VSI: chly.

Sh. L1 Bl G

LS wt. SI: Foss. SI: A

LS chly. VSI: A

LS wt. SI: Foss. Foss. VSI: chly.

Sh. Bl G

LS wt. SI: Foss. SI: chly.

Sh. G. DE G

Sh. DE G

LS chly. VSI: Foss

Sh. Maroon. L1 G

LS wt. SI: A

B/KC 4096-1895

Sh. Rd. Maroon, G

3800

3900

4000

4100

VIS: 47

WT: 9.2

WL: 9.6

CAL: 6900

4100

Sb. Rd. Maroon G.

45. To g. VSI Foss VSI A

Sb. Rd. L1G

SHORT TRIP @ 4127

MARMATON 4130-1929

45. Wt. Sl. Foss Sl. A

Sb. L1G Maroon

PANNEE 4162-1961

45. To Maroon Sl. A

45. L1G Silty

45. L1G VSI chly

54 g. dk g.

Sb. L1G Maroon G.

45. Wt. VSI Foss VSI A

Sb. Blue Carb.

Sb. dk chly

FORT SCOTT 4297-2046

45. To Sl. Foss Sl. A

45. To VSI Foss VSI A

CHEROKEE 4266-2065

54. Rd. dk g.

45. Wt. Sl. chly, VSI A

Sb. L1G. Blue.

Sb. Yellow Maroon

45. Yellow Sl. Weathered

MISSISSIPPI 4323-2122

45. Wt. Foss Cut w/ Spd Sl. T. F.D.

45. Wt. Ch. A To Trip w/ L1G To Gal

45. Wt. To Trip w/ Gal P. P. P.

45. Wt. Sl. Sl. VSI F.D. F. Fl. Col. d. b. b.

45. Wt. Foss Cut w/ Spd Sl.

45. Wt. Trip w/ P. F. Col. Foss

45. Wt. Foss Cut Spd Sl. Ober

45. Wt. Trip w/ gal p. p. p. Sl. d.

45. Wt. Foss Cut Sl. Sl. Sl.

45. Wt. Foss Cut Sl. Sl. Sl.

45. Wt. Foss Cut Sl. Sl. Sl.

45. Wt. Foss Cut Sl. Sl. Sl.

45. Wt. Foss Cut Sl. Sl. Sl.

4400

⊙

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DST (1) 4287-4391

1st OPEN: Blow built to 2" "

2nd OPEN: " " " 2" "

30-45-45-60

Rec. 5' Clean Oil Grav. 98.5 @ 60'

65' Muddy Oil (20' Oil Soil M)

70'

FP: 13-25 28-42 *

SIP: 1297-1299 *

Temp. 119.9°

DST (2) 4337-4349

1st OPEN: Blow built to 3 1/2" "

2nd OPEN: " " " 4 1/2" "

30-45-45-60

Rec. 25' Clean Oil Grav. 36.4 @ 60'

60' Muddy Oil (20' Oil Soil M)

70'

FP: 13-28 30-48 *

SIP: 1322-1318 *

Temp. 111

PH: 2

RWD 71.5

RWD 111.5

CYC: 12.000

RTD 4359-2158

VIS: 56 WT: 95

WL: 12.0 CHL: 7100

VIS: 61 WT: 9.35

WL: 12.0 CHL: 9100

RTD 4359-2158

VIS: 61 WT: 9.35

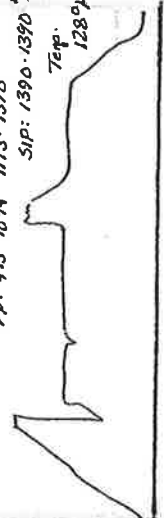
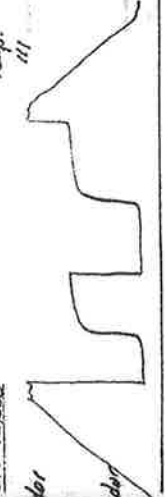
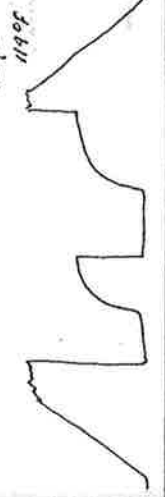
WL: 12.0 CHL: 9100

RTD 4359-2158

FP: 425-494 1113-1370 *

SIP: 1390-1390 *

Temp. 128.9°





HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

Customer:

L D DRILLING, INC.
7 SW 26TH AVE
GREAT BEND, KS 67530

Invoice Date: 11/11/2020
Invoice #: 0350314
Lease Name: Vandenberg
Well #: 1-8
County: Pawnee, Ks
Job Number: ICT4408
District: Pratt

Date/Description	HRS/QTY	Rate	Total
Plug to Abandon	0.000	0.000	0.00
H-Plug	150.000	9.750	1,462.50
Cello Flake	38.000	1.313	49.88
Wooden plug 8 5/8"	1.000	112.500	112.50
Light Eq Mileage	50.000	1.500	75.00
Heavy Eq Mileage	50.000	3.000	150.00
Ton Mileage	323.000	1.125	363.37
Cement Pump Service	1.000	825.000	825.00

Net Invoice 3,038.25
Sales Tax: 187.81
Total 3,226.06

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

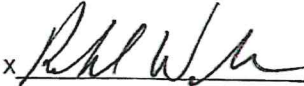
SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!



Customer: L.D. DRILLING		Lease & Well #: VANDENBERG 1-8		Date: 11/11/2020	
Service District: PRATT		County & State: PAWNEE KS		Legals S/T/R: 8-20S-20W	
Job Type: PLUG TO ABAN		<input checked="" type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> SWD		New Well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> No	
Ticket #: ICT4408					
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures			
912	MATTAL	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging
525/522	MCGRAW	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection
181/256	WHITFIELD	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations
		<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input type="checkbox"/> Overhead Hazards	<input type="checkbox"/> Muster Point/Medical Locations
		<input type="checkbox"/> Hearing Protection	<input type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below	
Comments					
Product/ Service Code					
		Description	Unit of Measure	Quantity	Net Amount
CP055	H-Plug		sack	150.00	\$1,462.50
CP120	Cello-flake		lb	38.00	\$49.88
FE290	8 5/8" Wooden Plug		ea	1.00	\$112.50
MO15	Light Equipment Mileage		mi	50.00	\$75.00
MO10	Heavy Equipment Mileage		mi	50.00	\$150.00
MO20	Ton Mileage		tm	323.00	\$363.38
CO11	Cement Pump Service		ea	1.00	\$825.00
Customer Section: On the following scale how would you rate Hurricane Services Inc.?					
Based on this job, how likely is it you would recommend HSI to a colleague? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely				Net: \$3,038.25 Total Taxable \$ - Tax Rate: State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt. Sale Tax: \$ - Total: \$ 3,038.25	
HSI Representative: <i>Mike Mattal</i>					

TERMS: Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to affect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well information in determining taxable services.

x  _____ **CUSTOMER AUTHORIZATION SIGNATURE**



CEMENT TREATMENT REPORT

Customer: L.D. DRILLING	Well: VANDENBERG 1-8	Ticket: ICT4408
City, State: BURDETT KS	County: PAWNEE KS	Date: 11/11/2020
Field Rep: RICK WILSON	S-T-R: 8-20S-20W	Service: PLUG TO ABAN

Downhole Information	
Hole Size:	in
Hole Depth:	ft
Casing Size:	in
Casing Depth:	ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	bbbls

Calculated Slurry - Lead	
Blend:	H PLUG
Weight:	13.8 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.43 ft ³ / sx
Annular Bbls / Ft.:	bbls / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	38.0 bbls
Total Sacks:	150 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft ³ / sx
Annular Bbls / Ft.:	bbls / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	#DIV/0! sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
1:30 PM			-	-	ON LOCATION, SAFTEY MEETING
				-	1ST PLUG AT 1450'
3:00 PM	4.5	100.0	15.0	15.0	PUMP 15 BBL WATER
3:04 PM	4.0	100.0	13.0	28.0	MIX 50 SKS H-PLUG
3:07 PM	4.0	50.0	12.0	40.0	START DISPLACEMENT
				40.0	2ND PLUG AT 500'
4:00 PM	4.0	100.0	5.0	45.0	PUMP 5 BBL WATER
4:04 PM	4.0	100.0	13.0	58.0	MIX 50 SKS H-PLUG
4:08 PM	4.0	50.0	3.0	61.0	START DISPLACEMENT
				61.0	3RD PLUG AT 60' WITH WOODEN PLUG
5:25 PM	1.0	50.0	5.0	66.0	MIX 20 SKS H-PLUG
				66.0	CEMENT TO SURFACE
5:30 PM	1.0	50.0	7.0	73.0	MIX 30 SKS H-PLUG FOR RAT HOLE
				-	
				-	JOB COMPLETE, THANK YOU!
				-	MIKE MATTAL
				-	MIKE & BRYAN
				-	
				-	
				-	
				-	
				-	
				-	
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				-	
				-	
				-	
				-	
				-	
				-	

CREW		UNIT	SUMMARY		
Cementor:	MATTAL	912	Average Rate	Average Pressure	Total Fluid
Pump Operator:	MCGRAW	525/522	3.3 bpm	75 psi	73 bbls
Bulk #1:	WHITFIELD	181/256			
Bulk #2:					



HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

Customer:
L D DRILLING, INC.
7 SW 26TH AVE
GREAT BEND, KS 67530

Invoice Date: 11/2/2020
Invoice #: 0350164
Lease Name: Vandenberg
Well #: 1-8 (New)
County: Pawnee, Ks
Job Number: ICT4365
District: Pratt

Date/Description	HRS/QTY	Rate	Total
8 5/8" Surface	0.000	0.000	0.00
Cement Pozmix 60/40	350.000	9.750	3,412.50
Calcium Chloride	903.000	0.563	507.94
Cello Flake	88.000	1.313	115.50
Wooden plug 8 5/8"	1.000	112.500	112.50
Light Eq Mileage	50.000	1.500	75.00
Heavy Eq Mileage	50.000	3.000	150.00
Ton Mileage	753.000	1.125	847.12
Cement Pump Service	1.000	562.500	562.50
Cement Plug Container	1.000	187.500	187.50

Total 5,970.56

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!



Customer: LD DRILLING, INC.		Lease & Well #: VANDENBERG 1-8		Date: 11/2/2020	
Service District: PRATT, KS.		County & State: PAWNEE, KS.		Legals S/T/R: 8-20S-20W	
Job Type: 8 5/8 SURFACE		<input checked="" type="checkbox"/> PROD	<input type="checkbox"/> INJ	<input type="checkbox"/> SWD	New Well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> No
Ticket #: ICT 4365					
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures			
75	LESLEY	<input checked="" type="checkbox"/> Hard hat	<input checked="" type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging
526-521	McGRAW	<input checked="" type="checkbox"/> H2S Monitor	<input checked="" type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection
181-532	EJ McGRAW	<input checked="" type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input type="checkbox"/> Slip/Trip/Fall Hazards	<input checked="" type="checkbox"/> Specific Job Sequence/Expectations
		<input checked="" type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input checked="" type="checkbox"/> Overhead Hazards	<input checked="" type="checkbox"/> Muster Point/Medical Locations
		<input type="checkbox"/> Hearing Protection	<input checked="" type="checkbox"/> Fire Extinguisher	<input checked="" type="checkbox"/> Additional concerns or issues noted below	
Comments					
Product/ Service Code					
Description		Unit of Measure	Quantity	Net Amount	
CP070	60/40/2 Pozmix	sack	350.00		\$3,412.60
CP100	Calcium Chloride	lb	903.00		\$507.94
CP120	Cello-flake	lb	88.00		\$115.50
FE290	8 5/8" Wooden Plug	ea	1.00		\$112.50
M015	Light Equipment Mileage	mi	50.00		\$75.00
M010	Heavy Equipment Mileage	mi	50.00		\$150.00
M020	Ton Mileage	tm	753.00		\$847.13
C010	Cement Pump Service	ea	1.00		\$562.50
C050	Cement Plug Container	job	1.00		\$187.50
Customer Section: On the following scale how would you rate Hurricane Services Inc.?					Net: \$5,970.56
Based on this job, how likely is it you would recommend HSI to a colleague? <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely					Total Taxable \$ - Tax Rate:
					Total: \$ 5,970.56
State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.					Sale Tax: \$ -
HSI Representative:					

TERMS: Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to affect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well information in determining taxable services.

X  **CUSTOMER AUTHORIZATION SIGNATURE**



CEMENT TREATMENT REPORT

Customer: LD DRILLING, INC.	Well: VANDEMBERG 1-8	Ticket: ICT 4365
City, State:	County: PAWNEE, KS.	Date: 11/2/2020
Field Rep: RICK WILSON	S-T-R: 8-20S-20W	Service: 8 5/8 SURFACE

Downhole Information	
Hole Size:	12 1/4 in
Hole Depth:	479 ft
Casing Size:	8 5/8 in 23#
Casing Depth:	476.8 ft
Tubing / Liner:	in
PLUG DEPTH:	456 ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	bbls

Calculated Slurry - Lead	
Blends:	60/40/2 POZMIX
Weight:	14.8 ppg
Water / Sx:	5.2 gal / sx
Yield:	1.21 ft ³ / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	75.4 bbls
Total Sacks:	350 sx

Calculated Slurry - Tail	
Blends:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft ³ / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	#DIV/0! sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
9:30PM			-	-	ON LOCATION- SPOT EQUIPMENT
9:40PM					RIG UP FOR JOB
11:30AM					RUN 11 JOINTS 8 5/8" X 23# CASING
2:30AM					CASING ON BOTTOM
2:45AM					HOOK UP TO CASING AND BREAK CIRCULATION WITH RIG PUMP
3:00AM	5.0	350.0	10.0	10.0	H2O AHEAD
3:05AM	5.0	250.0	75.4	85.4	MIX 350 SKS 60/40/2 POZMIX @14.8 PPG
3:20AM				85.4	SHUT DOWN - DROP WOODEN PLUG
3:22AM	5.0	100.0	-	85.4	START DISPLACEMENT
3:26AM	4.0	350.0	19.0	104.4	SLOW RATE - CEMENT TO SURFACE
3:30AM	3.0	400.0	29.0	133.4	PLUG @ DESIRED DEPTH
				133.4	CIRCULATED 10 BBL TO PIT
				133.4	CIRCULATION THRU JOB
				133.4	WASH UP PUMP TRUCK
				133.4	
				133.4	JOB COMPLETE,
				133.4	THANK YOU - KEVEN AND CREW
				133.4	
				133.4	
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				133.4	

CREW		UNIT	SUMMARY		
Cementer:	LESLEY	75	Average Rate	Average Pressure	Total Fluid
Pump Operator:	McGRAW	526-521	4.4 bpm	290 psi	133 bbls
Bulk #1:	EJ McGRAW				
Bulk #2:					