

Cholla Production, LLC

10490 Bradford Rd, Suite 201
Littleton, CO 80127

Zimmerman No. 1-3-16-20

735' FNL & 2065' FWL
Sec. 3-T16S-R20W

Rush County, Kansas

KB = 2173'

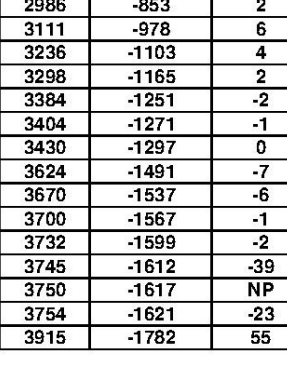
Scale: 1/2" = 40' Imperial

Well Name:	Zimmerman No. 1-3		
Surface Location:	10490 Bradford Rd, 735' FNL-2065' FWL Sec 3-T16S-R20W		
Bottom Location:			
License APT:	15-165-22166		
Spud Date:	9/27/2019	Time:	2:45 PM
Region:	Rush		
Drilling Completed:	2/4/2021	Time:	12:47 AM
Surface Coordinates:			
Bottom Hole Coordinates:			
Ground Elevation:	2166.00ft		
K.B. Elevation:	2173.00ft		
Logged Interval:	2900.00ft	To:	3900.00ft
Total Depth:	3900.00ft		
Fluid Type:	Lansing-Kansas City Chemical Fresh Water Gel		
Drilling Mud Type:			

OPERATOR
Company: Cholla Production, LLC
Address: 10490 Bradford Rd, Suite 201, Littleton, CO 80127

Contact Geologist: Bill Goff
Contact Phone Nbr: 303-904-0400 (cell), 303-623-4565
Well Name: Zimmerman No. 1-3
Location: 735' FNL-2065' FWL Sec 3-T16S-R20W
API: 15-165-22166
Pool: Field: Wildcat
State: Kansas Country: USA

LOGGED BY



Company: Charlie Sturdavant Consulting
Address: 920 12th Street, Golden, CO 80401
Phone Nbr: 303-907-2295 / 303-384-9481
Logged By: Geologist Name: Charlie Sturdavant

NOTES

The Cholla Production, LLC Zimmerman No. 1-3 well was drilled to an RTD and LTD of 3900', bottoming in the Pre-Cambrian Quartzite. The geologist was on location, examining samples at 2900'. Sample locations of oil were noted in the Lansing A, C, D, F, G, H, I, J, and K, as well as minor shows in the Pawnee.

Three DST's were conducted in the Lansing, with rather mixed results. DST #1 covering Lansing zones A,B,C, and D, recovered 169' of GIP, and 139' of GOM (20% gas, 20% oil, 60% mud). DST #2 covering Lansing zones D, E, and F, recovered 263' GIP, 283' GOM (15% gas, 35% oil, 50% mud). DST #3 tested the Lansing G zone (recovered 449' GIP, 124' MCOW (10% oil, 85% w, 5% gum), and 231' MCMVO (15% gas, 55% oil, 20% w, 10% mud).

Based on the sample shows, DST results, and log analysis, it was determined by all parties involved that the well should be further tested through production casing.

The samples were saved and will be available for review at the Kansas Geological Survey well sample library, located in Wichita, Kansas.

Respectfully submitted,
Charlie Sturdavant
Consulting Geologist

CHARLIE STURDAVANT CONSULTING

WELL COMPARISON SHEET

Formation	2147 KB				COMPARISON WELL				COMPARISON WELL			
	Depth	Sub-Sea	Log	Relationship	Depth	Sub-Sea	Sample	Relationship	Depth	Sub-Sea	Sample	Relationship
Topsoil	3218	-858	2980	271	1382	771	14	18	1398	-789		
Bottom Anhydrite	1428	748	1425	247	1420	733	12	14	1395	752	-7	-5
Stipite	2978	-858			2943	-819	2	2	2952	-856	2	-2
Turkio	3024	-851	3024	-851	2986	-853	2	2	3050	-833	2	2
Topsoil	3148				3134				3145			
King Hill	3272	-1059	3274	-1101	3236	-1103	4	2	3250	-1103	4	2
Quoin Hill	3336	-1163	3336	-1163	3298	-1165	2	2	3314	-1167	4	4
Hedder	3426	-1253	3426	-1253	3404	-1251	2	2	3468	-1247	4	4
Termino	3448	-1272	3444	-1273	3434	-1273	-1	0	3425	-1278	6	7
Leaving	3470	-1297	3470	-1297	3430	-1297	0	0	3468	-1301	4	4
Shark	3674	-1498	3674	-1497	3634	-1493	-7	-6	3648	-1501	3	4
Leaving	3716	-1540	3716	-1540	3696	-1542	0	0	3742	-1547	4	4
Marmaton	3741	-1568	3743	-1573	3700	-1567	-1	3/20	3754	-1587	19	3760
Pawnee	3774	-1601	3775	-1602	3742	-1600	-2	3	3746	-1608	7	6
Cherokee Shale	3824	-1651	3813	-1640	3745	-1645	29	28	3745	-1645	-5	-5
Pre-Cambrian	3817	-1644	3817	-1644	3750	-1647	NP	NP	3845	-1668	54	54
Conglomerate Sand	3900	-1727	3900	-1727	3815	-1762	55	55	3920	-1773	46	46

CHARLIE STURDAVANT CONSULTING

DAILY DRILLING REPORT

Company: Charlie Sturdavant Consulting
Operator: Cholla Production, LLC
Well: Zimmerman No. 1-3
Location: 735' FNL & 2065' FWL Sec 3-T16S-R20W
Rush County, Kansas

DATE	7:00 AM (DEPTH)	REMARKS
9/27/2019	0 ft	Spud on 10490 Bradford Rd, 735' FNL, 2065' FWL Sec 3-T16S-R20W
9/28/2019	370 ft	Drilling ahead. Cemented w/ 16% ex cement. Plug down @ 230 hrs.
9/29/2019	2147 ft	Drilling ahead. Drilled plug out @ 630 hrs.
9/30/2019	2925 ft	Drilling ahead. Geologist on location @ 0500 hrs. @ 2802.
10/1/2019	3551 ft	Circulating for samples. Prep for DST 3474-3522. Short trip to above anhydrite. Pipe strap: 0.42' long to board. Deviation: 1 degree. Rec: 139' GOM (20% gas), 169' MCOW (10% oil, 85% w, 5% gum), 169' GOM (15% gas, 35% oil, 50% mud), 263' GIP, 124' MCOW (10% oil, 85% w, 5% gum), and 231' MCMVO (15% gas, 55% oil, 20% w, 10% mud). DST #1: 353-3597, Rec: 124' MCOW (10% oil, 85% w, 5% gum), 169' GIP, 124' MCOW (15% gas, 55% oil, 20% w, 10% mud). DST #2: 350-3557, Rec: 124' MCOW (10% oil, 85% w, 5% gum), 169' GIP, 124' MCOW (15% gas, 55% oil, 20% w, 10% mud). DST #3: 353-3597, Rec: 124' MCOW (10% oil, 85% w, 5% gum), 169' GIP, 124' MCOW (15% gas, 55% oil, 20% w, 10% mud).
10/3/2019	3630 ft	Drilling ahead.
10/4/2019	3900 ft	Reached RTD and LTD @ 0647 hrs. Lioneer Logging on location @ 0300 hrs. Loggers left location @ 0600 hrs. Decision was made to run pipes. Geologist on location @ 1200 hrs.

SURFACE CO-ORDINATES	
Well Type:	Vertical
Longitude:	N 38.634638 W
Latitude:	W 99.522163
NIS Co-ord:	
E/W Co-ord:	

CONTRACTOR			
Contractor:	STP Drilling		
Ref #:			
Rig Type:	mud rotary		
Spud Date:	9/27/2019	Time:	2:45 PM
TD Date:	2/4/2021	Time:	12:47 AM
Rig Release:		Time:	

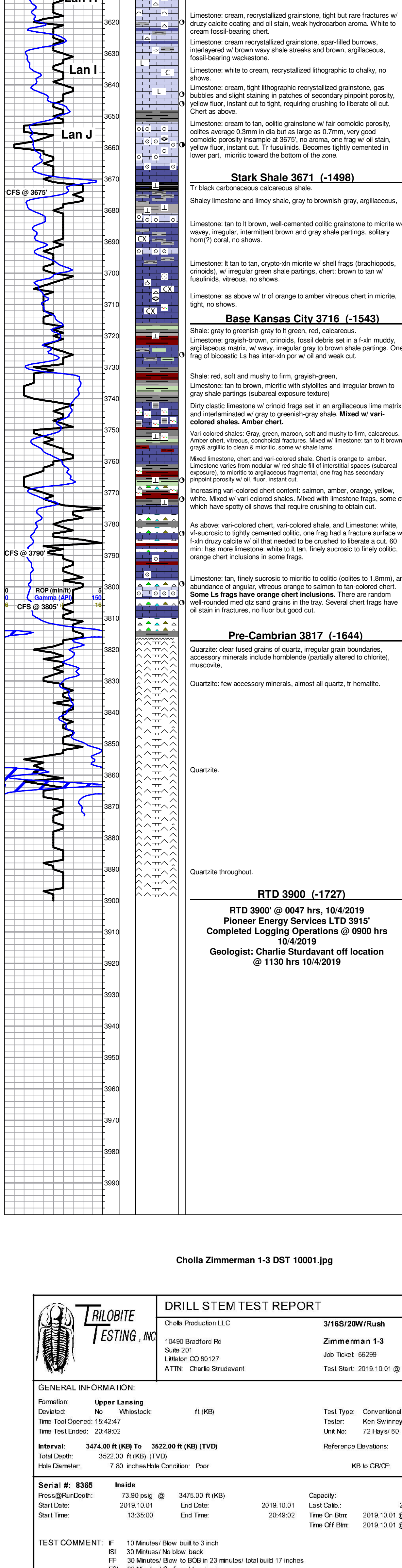
ELEVATIONS			
K.B. Elevation:	2173.00ft	Ground Elevation:	2166.00ft
K.B. to Ground:	7.00ft		

ROCK TYPES						
Chert var.	Limestone	Shale	Shale, gray	Shale, red	Carbon Sh	Quartz

ACCESSORIES				
MINEERAL	FOSSIL	STRATIFIED STRUCTS	STRINGER	TEXTURE
Argillaceous Agillaceous Calcareous Chert White Chert dark Varicolored chert Euhed form of dol Pyrite Siliceous	Biohermal or Fragmental Brachiopod Cnidaria Corals Crinoid Fish Scale Fossiliferous Fossils Sponges Worm Tubes	Uniformity	Limestone Gypsum Green shale red shale red shale	Chalky Crystalline Lignitic MX Microfossil

OTHER SYMBOLS	
MISC	DST
Daily Report	DST Int
Digital Photo	DST Int
Document	
Folder	
Link	
Vertical Log File	
Horizontal Log File	
Core Log File	
Dial Cuttings Rpt	

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Cholla Zimmerman 1-3 DST 10001.jpg

GENERAL INFORMATION:	
Formation:	Lansing D
Deviated:	No
Time Tool Opened:	22:25:02
Time Tool Closed:	02:23:02
Interval:	3475.00 ft (KB) to 3522.00 ft (KB) (TVG)
Total Depth:	3550.00 ft (KB) (TVG)
Hole Diameter:	7.50 inches/kilo Condition: Fair

PRESSURE SUMMARY			
Time (Min)	Pressure (psig)	Temp (deg F)	Arbitration
0	1710.49	100.88	Initial Hydro-static
1	138.58	104.72	Open to Flow (1)
11	54.48	106.38	Shut (1)
41	90.07	105.06	Shut (1)
41	63.87	105.13	Open to Flow (2)
71	73.90	106.40	Shut (2)
163	97.31	107.94	End Shut (2)
184	164.66	108.30	Final Hydro-static

RECOVERY		
Length (ft)	Designation	Value (bbl)
178.00	GOM / G 15% / O 35% / M 50%	0.58
199.00	0.00	0.00
0.00	283.00 GIP	0.00
0.00		0.00

Cholla Zimmerman 1-3 DST 20001.jpg

GENERAL INFORMATION:	
Formation:	Lansing D
Deviated:	No
Time Tool Opened:	08:19:02
Time Tool Closed:	12:39:02
Interval:	3550.00 ft (KB) to 3555.00 ft (KB) (TVG)
Total Depth:	3550.00 ft (KB) (TVG)
Hole Diameter:	7.50 inches/kilo Condition: Fair

PRESSURE SUMMARY			
Time (Min)	Pressure (psig)	Temp (deg F)	Arbitration
0	1745.24	100.88	Initial Hydro-static
1	58.83	104.08	Open to Flow (1)
11	63.87	106.38	Shut (1)
41	90.07	105.06	Shut (1)
42	112.42	111.23	Open to Flow (2)
59	183.20	115.88	Shut (2)
105	107.59	114.56	End Shut (2)
107	165.67	113.06	Final Hydro-static

RECOVERY		
Length (ft)	Designation	Value (bbl)
178.00	MCOW / M 15% / Euhed of 10% / W 20% / G 15%	0.58
231.00	GOM / G 15% / O 35% / M 50%	0.58
0.00	449.00 GIP	0.00
0.00		0.00

Cholla Zimmerman 1-3 DST 30001.jpg

GENERAL INFORMATION:	
Formation:	Lansing D
Deviated:	No
Time Tool Opened:	02:23:02
Time Tool Closed:	12:39:02
Interval:	3550.00 ft (KB) to 3555.00 ft (KB) (TVG)
Total Depth:	3550.00 ft (KB) (TVG)
Hole Diameter:	7.50 inches/kilo Condition: Fair

PRESSURE SUMMARY			
Time (Min)	Pressure (psig)	Temp (deg F)	Arbitration
0	1745.24	100.88	Initial Hydro-static
1	58.83	104.08	Open to Flow (1)
11	63.87	106.38	Shut (1)
41	90.07	105.06	Shut (1)
42	112.42	111.23	Open to Flow (2)
59	183.20	115.88	Shut (2)
105	107.59	114.56	End Shut (2)
107	165.67	113.06	Final Hydro-static

RECOVERY		
Length (ft)	Designation	Value (bbl)
178.00	MCOW / M 15% / Euhed of 10% / W 20% / G 15%	0.58
231.00	GOM / G 15% / O 35% / M 50%	0.58
0.00	449.00 GIP	0.00
0.00		0.00

Cholla Zimmerman 1-3 DST 40011.jpg

GENERAL INFORMATION:	
Formation:	Lansing D
Deviated:	No
Time Tool Opened:	02:23:02
Time Tool Closed:	12:39:02
Interval:	3550.00 ft (KB) to 3555.00 ft (KB) (TVG)
Total Depth:	3550.00 ft (KB) (TVG)
Hole Diameter:	7.50 inches/kilo Condition: Fair

PRESSURE SUMMARY			
Time (Min)	Pressure (psig)	Temp (deg F)	Arbitration
0	1745.24	100.88	Initial Hydro-static
1	58.83	104.08	Open to Flow (1)
11	63.87	106.38	Shut (1)
41	90.07	105.06	Shut (1)
42	112.42	111.23	Open to Flow (2)
59	183.20	115.88	Shut (2)
105	107.59	114.56	End Shut (2)
107	165.67	113.06	Final Hydro-static

RECOVERY		
Length (ft)	Designation	Value (bbl)
178.00	MCOW / M 15% / Euhed of 10% / W 20% / G 15%	0.58
231.00	GOM / G 15% / O 35% / M 50%	0.58
0.00	449.00 GIP	0.00
0.00		0.00