



Jagged Peak Energy

Ward County, TX (NAD83 TC)

RK-UTL 3031

RK-UTL 3031B-17 #2H

API: 42-475-33932

OH

Design: Final Surveys

Standard Survey Report

29 July, 2018

Company:	Jagged Peak Energy	Local Co-ordinate Reference:	Well RK-UTL 3031B-17 #2H
Project:	Ward County, TX (NAD83 TC)	TVD Reference:	KB @ 2744.00usft (Integrity 6)
Site:	RK-UTL 3031	MD Reference:	KB @ 2744.00usft (Integrity 6)
Well:	RK-UTL 3031B-17 #2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 5000.14 Single User Db

Project	Ward County, TX (NAD83 TC)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Texas Central Zone		

Site		RK-UTL 3031			
Site Position:		Northing:	10,576,851.86 usft	Latitude:	31° 39' 14.230 N
From:	Map	Easting:	1,401,989.75 usft	Longitude:	103° 12' 31.309 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.48 °

Well	RK-UTL 3031B-17 #2H					
Well Position	+N/-S	0.00 usft	Northing:	10,576,823.06 usft	Latitude:	31° 39' 13.948 N
	+E/-W	0.00 usft	Easting:	1,401,998.15 usft	Longitude:	103° 12' 31.204 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	2,738.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/19/17	6.71	59.59	47,606.34831402

Design	Final Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	313.64	

Survey Program	Date	07/29/18			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
5.00	1,140.00	-40' Corrected Bit -Sensor (OH)	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5.00	0.50	14.76	5.00	0.02	0.01	0.01	10.00	10.00	0.00	
5' MD First MWD Survey										
31.00	0.50	359.00	31.00	0.24	0.03	0.15	0.53	0.00	-60.62	
59.00	0.30	349.10	59.00	0.44	0.02	0.29	0.75	-0.71	-35.36	
88.00	0.30	79.62	88.00	0.53	0.08	0.31	1.47	0.00	312.14	
180.00	0.50	286.60	180.00	0.68	-0.07	0.52	0.85	0.22	-166.33	
293.00	0.30	295.10	292.99	0.95	-0.81	1.24	0.18	-0.18	7.52	
381.00	0.60	295.00	380.99	1.24	-1.44	1.90	0.34	0.34	-0.11	
426.00	0.50	332.30	425.99	1.52	-1.74	2.31	0.81	-0.22	82.89	
496.00	0.70	302.60	495.99	2.02	-2.24	3.02	0.52	0.29	-42.43	



Windows User
Survey Report

Company:	Jagged Peak Energy	Local Co-ordinate Reference:	Well RK-UTL 3031B-17 #2H
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Site:	RK-UTL 3031	MD Reference:	KB @ 2744.00usft (Integrity 6)
Well:	RK-UTL 3031B-17 #2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 5000.14 Single User Db

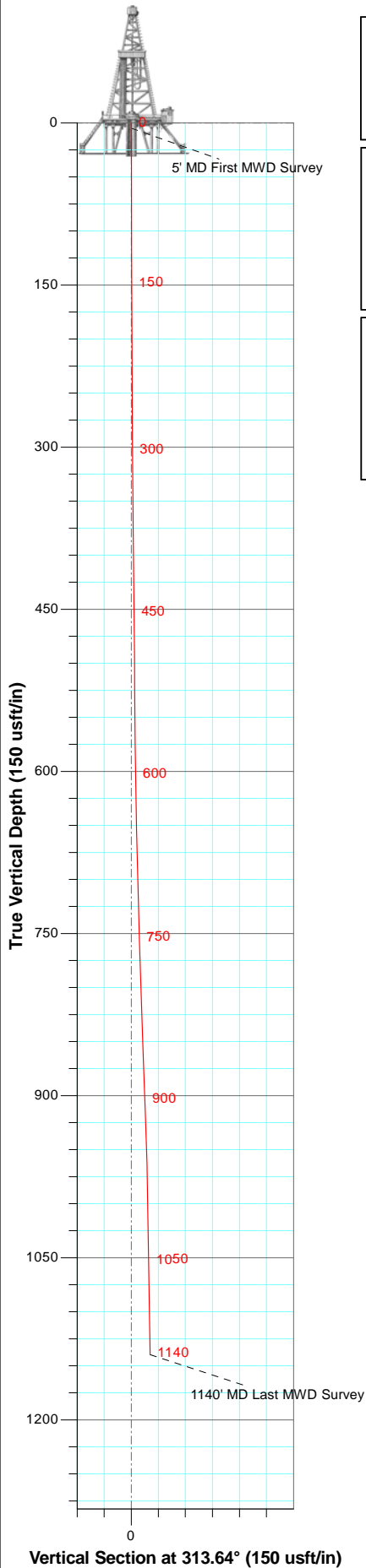
Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
607.00	1.10	250.90	606.97	2.03	-3.82	4.17	0.78	0.36	-46.58
653.00	1.30	314.60	652.97	2.26	-4.61	4.89	2.78	0.43	138.48
744.00	1.60	311.80	743.94	3.83	-6.29	7.20	0.34	0.33	-3.08
786.00	1.90	307.70	785.92	4.64	-7.28	8.47	0.77	0.71	-9.76
832.00	2.00	305.20	831.89	5.57	-8.54	10.03	0.29	0.22	-5.43
918.00	2.10	313.40	917.83	7.52	-10.91	13.09	0.36	0.12	9.53
963.00	1.60	325.00	962.81	8.60	-11.87	14.53	1.38	-1.11	25.78
1,140.00	1.00	27.00	1,139.77	12.00	-12.59	17.39	0.81	-0.34	35.03
1140' MD Last MWD Survey									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5.00	5.00	0.02	0.01	5' MD First MWD Survey
1,140.00	1,139.77	12.00	-12.59	1140' MD Last MWD Survey

Checked By: _____	Approved By: _____	Date: _____
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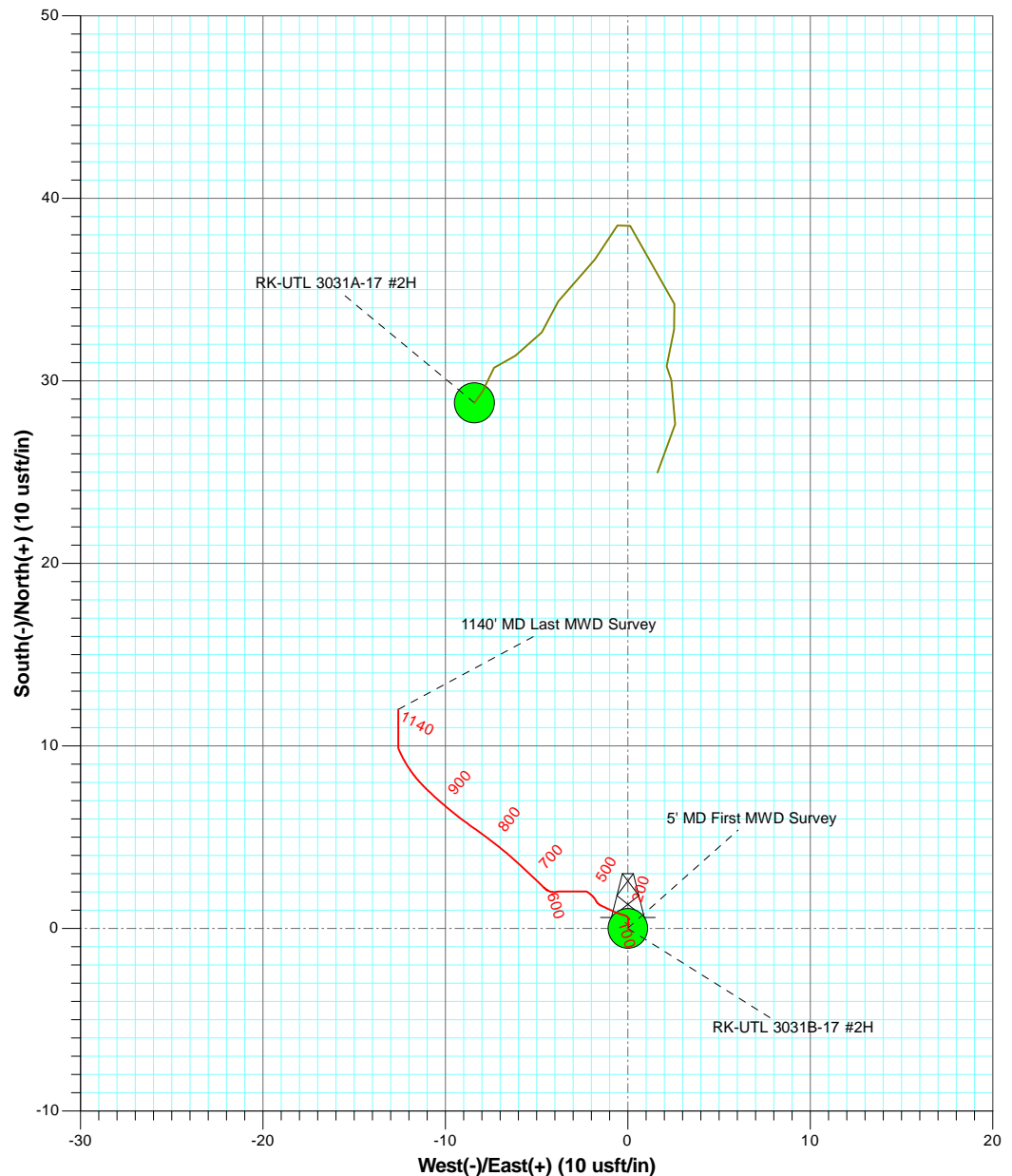
Project: Ward County, TX (NAD83 TC)
Site: RK-UTL 3031
Well: RK-UTL 3031B-17 #2H
Wellbore: OH
Design: Final Surveys
Rig: Integrity 6

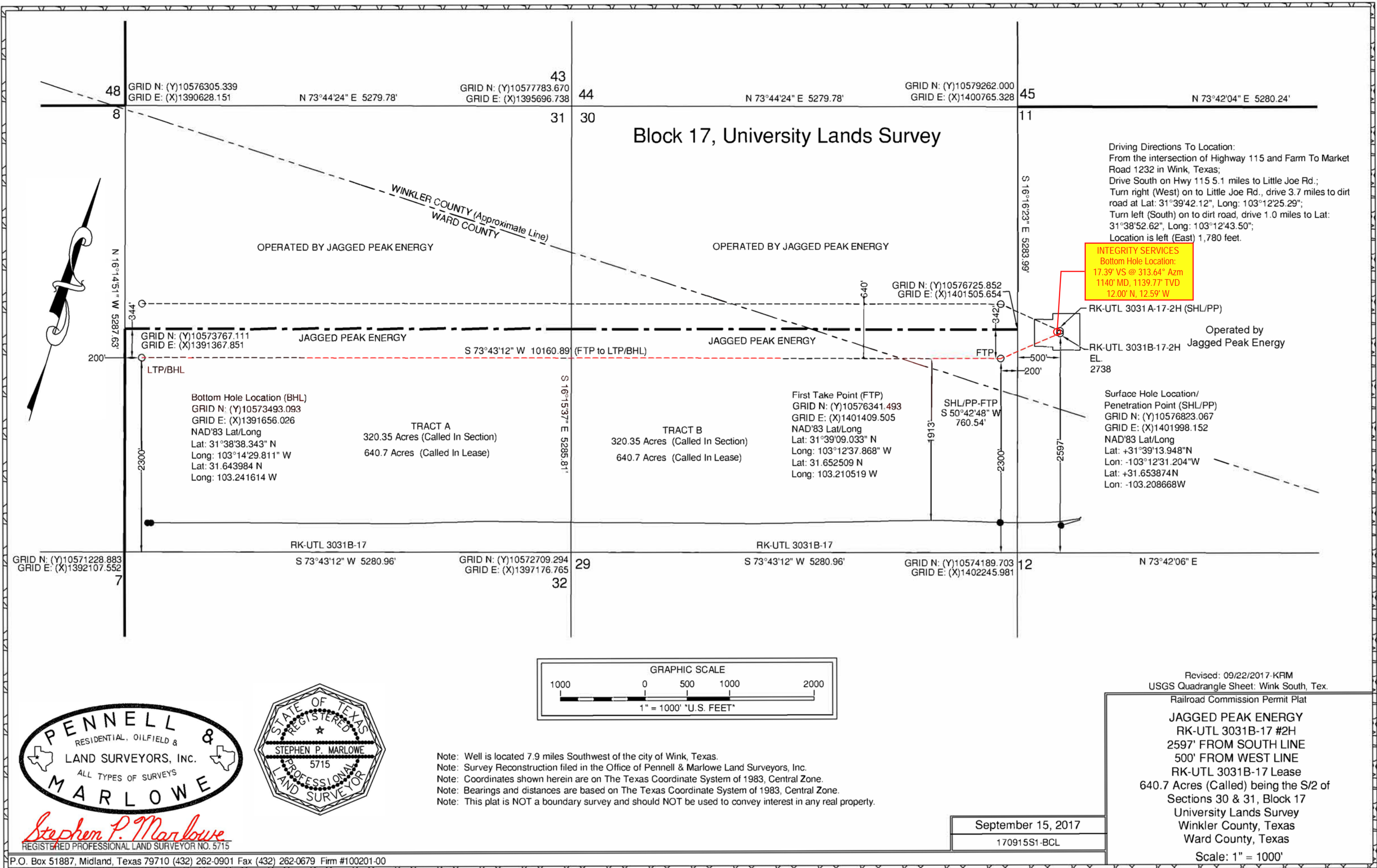


WELL DETAILS					
Depth Reference: KB @ 2744.00usft (Integrity 6)					
Ground Elevation: 2738.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	10576823.07	1401998.15	31° 39' 13.948 N	103° 12' 31.204 W

	<p>Azimuths to Grid North True North: 1.48° Magnetic North: 8.19°</p> <p>Magnetic Field Strength: 47606.3nT Dip Angle: 59.59° Date: 10/19/2017 Model: IGRF2015</p>	<p>Map System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone Name: Texas Central Zone</p> <p>Local Origin: Well RK-UTL 3031B-17 #2H, Grid North</p> <p>Latitude: 31° 39' 13.948 N Longitude: 103° 12' 31.204 W</p> <p>Grid East: 1401998.15 Grid North: 10576823.07 Scale Factor: 1.000</p> <p>Geomagnetic Model: IGRF2015 Sample Date: 19-Oct-17 Magnetic Declination: 6.71° Dip Angle from Horizontal: 59.59° Magnetic Field Strength: 47606.34831403nT</p> <p>To convert a Magnetic Direction to a Grid Direction, Add 8.19° To convert a Magnetic Direction to a True Direction, Add 6.71° East To convert a True Direction to a Grid Direction, Add 1.48°</p>
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LEGEND	
	RK-UTL 3031A-17 #2H, OH, Final Surveys V0
	Final Surveys







Survey Certification Letter

July 29, 2018

State of Texas
County of Ward

I, Chris Harris, certify that; I am employed by **Integrity Services, LLC**; that I did on the day(s) of 10/20/2017 through 10/22/2017 conducted and / or supervised the MWD survey(s) taken from the depth of 5 feet to depth of 1140 feet; that the data is true, correct, complete and within the specifications and limitations of the survey tool provided by **Integrity Services, LLC**; that I am authorized and qualified to make this survey report; that was requested by Jagged Peak Energy, LLC for the surveys performed on the RK-UTL 3031B-17 #2H well, API No. 42-475-33932. In Ward County, Texas; and that I have reviewed this report and find that it conforms to the principles and procedures set forth by **Integrity Services, LLC**.

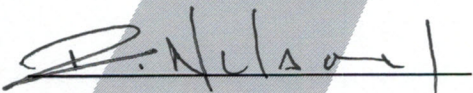
Chris Harris

Chris Harris
Performance Supervisor
P.O. Box 5989 | Midland, TX 79704
Office: 432-682-0703
chris@integrity-serv.com

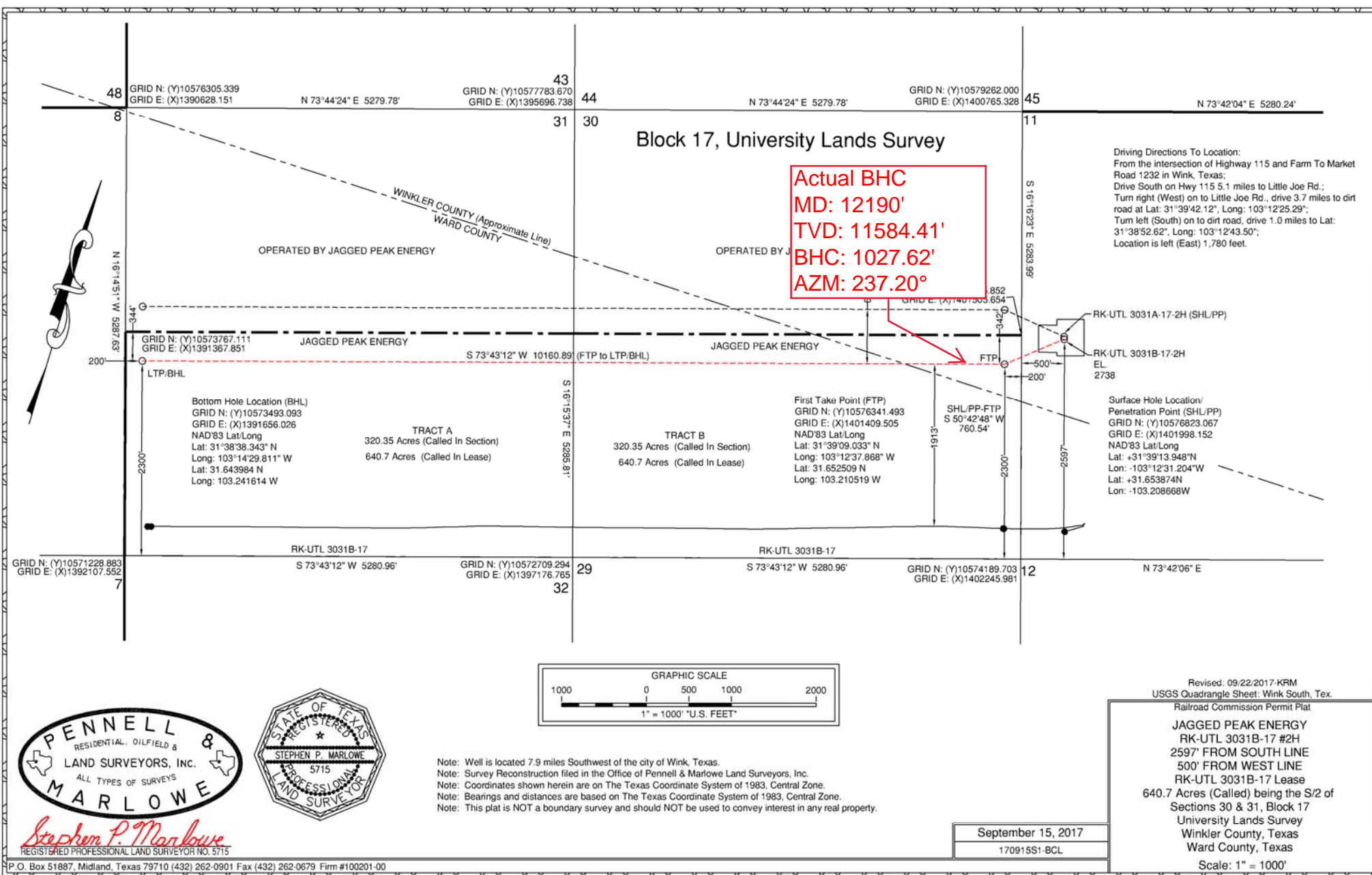
State of Texas

I, Ryan Nelson, an authorized employee of Altitude Energy Partners, Inc.,
have verified the Measurement While Drilling surveys performed on 11/16/2017
through 12/01/2017, from 1143 ft. to a depth of 12190 ft.
I certify that the data is true, correct, complete, and within the limitations of the tool as
set forth by Altitude Energy Partners Inc. This survey was conducted at the request of
Jagged Peak Energy for the RK-UTL 3031B-17-2H well in
Winkler County, State of Texas.

Sincerely,



Ryan Nelson
Operations Coordinator





Directional Survey Report

Oil Company:	Jagged Peak Energy	County:	Winkler	Job #:	GT 18008	Mag Correction:	6.71
Well:	RK-UTL 3031B-17 2H	State:	TX	Latitude:	31.653874	Mag Reference:	True North
Rig:	Sidewinder 219	Field:	Phantom "(Wolfcamp)"	Longitude:	-103.208668	RKB Height:	25
Service Comp:	Gordon Technologies LLC.	API:	42-495-33932	Vert. Section:	250.67	Elevation:	2738

Survey	MD	TVD	Inc	Azimuth	VS	NS	EW	DLS	Build	Turn	Temp
Tie In	12118	11583.49	89.07	249.81	927.43	-530.02	-796.91				
1	12169.00	11584.14	89.47	246.74	971.47	-548.89	-844.28	6.07	0.78	-6.02	142.00
2	12260.00	11583.13	91.80	247.85	1062.12	-584.01	-928.21	2.84	2.56	1.22	142.00
3	12353.00	11581.31	90.45	249.08	1154.90	-618.14	-1014.70	1.96	-1.45	1.32	149.14
4	12445.00	11580.13	91.01	250.09	1246.79	-650.23	-1100.91	1.26	0.61	1.10	156.29
5	12537.00	11579.84	89.35	249.31	1338.69	-682.15	-1187.20	1.99	-1.80	-0.85	156.29
6	12628.00	11580.16	90.25	250.21	1429.61	-713.63	-1272.57	1.40	0.99	0.99	156.29
7	12720.00	11579.85	90.14	249.62	1521.53	-745.22	-1358.98	0.65	-0.12	-0.64	156.29
8	12814.00	11579.85	89.86	249.82	1615.44	-777.80	-1447.15	0.37	-0.30	0.21	163.43
9	12909.00	11579.48	90.59	251.49	1710.40	-809.27	-1536.78	1.92	0.77	1.76	163.43
10	13002.00	11578.32	90.84	251.96	1803.39	-838.43	-1625.09	0.57	0.27	0.51	163.43
11	13097.00	11576.69	91.12	251.76	1898.37	-868.00	-1715.35	0.36	0.29	-0.21	163.43
12	13190.00	11575.78	90.00	252.19	1991.36	-896.78	-1803.78	1.29	-1.20	0.46	170.57
13	13284.00	11575.76	90.03	252.20	2085.36	-925.52	-1893.28	0.03	0.03	0.01	163.43
14	13378.00	11576.79	88.71	251.28	2179.35	-954.97	-1982.54	1.71	-1.40	-0.98	163.43
15	13472.00	11577.94	89.89	252.23	2273.34	-984.40	-2071.80	1.61	1.26	1.01	170.57
16	13566.00	11578.00	90.03	252.20	2367.34	-1013.11	-2161.31	0.15	0.15	-0.03	170.57
17	13660.00	11579.01	88.74	251.03	2461.32	-1042.76	-2250.50	1.85	-1.37	-1.24	170.57
18	13754.00	11580.44	89.52	250.78	2555.28	-1073.50	-2339.32	0.87	0.83	-0.27	170.57
19	13848.00	11581.50	89.19	250.64	2649.25	-1104.55	-2428.04	0.38	-0.35	-0.15	170.57
20	13942.00	11582.28	89.86	251.21	2743.22	-1135.27	-2516.87	0.94	0.71	0.61	170.57
21	14036.00	11582.69	89.64	251.14	2837.20	-1165.60	-2605.84	0.25	-0.23	-0.07	170.57
22	14130.00	11583.28	89.64	251.40	2931.18	-1195.79	-2694.86	0.28	0.00	0.28	170.57
23	14224.00	11583.23	90.42	252.08	3025.18	-1225.24	-2784.13	1.10	0.83	0.72	170.57
24	14318.00	11582.95	89.92	251.81	3119.18	-1254.37	-2873.50	0.60	-0.53	-0.29	170.57
25	14413.00	11584.58	88.12	251.78	3214.16	-1284.05	-2963.73	1.89	-1.89	-0.03	177.71
26	14507.00	11587.36	88.49	251.54	3308.11	-1313.61	-3052.91	0.47	0.39	-0.26	177.71
27	14601.00	11588.73	89.83	250.83	3402.08	-1343.92	-3141.88	1.61	1.43	-0.76	170.57
28	14695.00	11590.62	87.87	249.99	3496.01	-1375.43	-3230.41	2.27	-2.09	-0.89	163.43
29	14789.00	11592.48	89.86	251.35	3589.95	-1406.54	-3319.09	2.56	2.12	1.45	170.57
30	14882.00	11592.17	90.53	253.29	3682.94	-1434.78	-3407.69	2.21	0.72	2.09	177.71
31	14976.00	11591.73	90.00	253.36	3776.92	-1461.75	-3497.74	0.57	-0.56	0.07	177.71
32	15071.00	11590.92	90.98	252.76	3871.91	-1489.43	-3588.61	1.21	1.03	-0.63	177.71
33	15164.00	11589.96	90.20	253.69	3964.89	-1516.27	-3677.65	1.31	-0.84	1.00	177.71
34	15258.00	11590.83	88.74	251.83	4058.87	-1544.13	-3767.41	2.52	-1.55	-1.98	170.57
35	15353.00	11593.73	87.76	251.27	4153.82	-1574.18	-3857.49	1.19	-1.03	-0.59	170.57
36	15447.00	11595.29	90.34	252.38	4247.80	-1603.49	-3946.78	2.99	2.74	1.18	177.71
37	15539.00	11593.37	92.05	253.58	4339.76	-1630.41	-4034.72	2.27	1.86	1.30	170.57
38	15632.00	11589.59	92.61	253.40	4432.66	-1656.82	-4123.81	0.63	0.60	-0.19	177.71
39	15727.00	11586.27	91.40	252.61	4527.60	-1684.57	-4214.61	1.52	-1.27	-0.83	177.71
40	15821.00	11585.07	90.06	252.61	4621.58	-1712.66	-4304.30	1.43	-1.43	0.00	177.71
41	15915.00	11585.80	89.05	252.81	4715.58	-1740.60	-4394.05	1.10	-1.07	0.21	177.71
42	16009.00	11585.27	91.60	254.60	4809.53	-1766.97	-4484.26	3.31	2.71	1.90	177.71
43	16103.00	11582.72	91.51	255.21	4903.40	-1791.44	-4574.98	0.66	-0.10	0.65	177.71
44	16196.00	11580.74	90.92	255.30	4996.25	-1815.10	-4664.90	0.64	-0.63	0.10	177.71
45	16290.00	11579.23	90.92	255.30	5090.10	-1838.95	-4755.81	0.00	0.00	0.00	177.71
46	16384.00	11578.64	89.80	253.24	5184.03	-1864.44	-4846.28	2.49	-1.19	-2.19	177.71
47	16478.00	11577.38	91.74	251.30	5278.02	-1893.06	-4935.80	2.92	2.06	-2.06	177.71
48	16572.00	11572.85	93.79	251.03	5371.88	-1923.37	-5024.66	2.20	2.18	-0.29	177.71
49	16685.00	11566.76	92.38	248.99	5484.63	-1961.94	-5130.69	2.19	-1.25	-1.81	177.71
50	16780.00	11565.55	89.08	246.91	5579.33	-1997.59	-5218.72	4.11	-3.47	-2.19	170.57
51	16874.00	11565.05	91.54	248.90	5673.05	-2032.95	-5305.80	3.37	2.62	2.12	177.71
52	16968.00	11564.47	89.16	249.70	5766.92	-2066.17	-5393.72	2.67	-2.53	0.85	177.71
53	17061.00	11565.33	89.78	251.27	5859.87	-2097.23	-5481.38	1.81	0.67	1.69	177.71
54	17155.00	11566.20	89.16	249.79	5953.82	-2128.56	-5569.99	1.71	-0.66	-1.57	177.71
55	17249.00	11567.17	89.66	251.80	6047.78	-2159.48	-5658.75	2.20	0.53	2.14	184.86
56	17343.00	11566.58	91.06	256.77	6141.69	-2184.93	-5749.21	5.49	1.49	5.29	184.86
57	17437.00	11565.96	89.69	255.71	6235.45	-2207.29	-5840.50	1.84	-1.46	-1.13	184.86
58	17532.00	11565.61	90.73	255.24	6330.30	-2231.11	-5932.47	1.20	1.09	-0.49	184.86
59	17625.00	11563.16	92.30	253.90	6423.18	-2255.85	-6022.08	2.22	1.69	-1.44	184.86
60	17719.00	11558.32	93.59	250.74	6517.04	-2284.35	-6111.51	3.63	1.37	-3.36	184.86
61	17813.00	11553.38	92.44	248.68	6610.82	-2316.90	-6199.54	2.51	-1.22	-2.19	184.86
62	17907.00	11549.75	91.99	248.14	6704.54	-2351.46	-6286.88	0.75	-0.48	-0.57	184.86

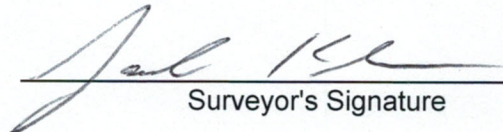


MWD SURVEY CERTIFICATION
Gordon Technologies, LLC

State Of Texas

County Of Winkler

I, Jacob Klein certify that; I am employed by Gordon Technologies, LLC.;
that I did on the day(s) of January 13, 2018 through January 30, 2018 conduct
or supervise the taking of a MWD survey from a depth of 12,169 feet to a depth of
21,647 feet; that the data is true, correct, complete and within the limitations of the
tool set forth by Gordon Technologies, LLC.; that I am authorized and qualified to make this report;
that this survey was conducted at the request of Jagged Peak Energy LLC for the
RK-UTL 3031B-17 2H Well, A.P.I. No. 42-495-33932 in
Phantom (Wolfcamp) Field and that I have reviewed this report and find that
it conforms to the principles and procedures set forth by Gordon Technologies, LLC.



Surveyor's Signature

MWD Coordinator
Title

