



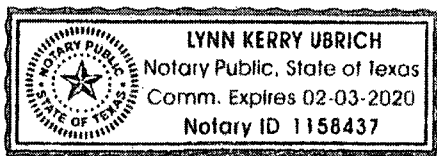
MWD SURVEY CERTIFICATION
Legacy Directional Drilling, LLC.

State Of New Mexico

County Of Lea

I, Mark L. Miller certify that; I am employed by Legacy Directional Drilling, LLC.;
that I did on the day(s) of April 24, 2018 through May 13, 2018 conduct
or supervise the taking of a MWD survey from a depth of 1,147 feet to a depth of
17,232 feet; that the data is true, correct, complete and within the limitations of the
tool set forth by Legacy Directional Drilling, LLC.; that I am authorized and qualified to make this report;
that this survey was conducted at the request of Santo Operating, LLC for the
Ocotillo Sunrise 15 WA AP FEE 2H Well, A.P.I. No. 30-026-44294 in
Wolfcamp Field and that I have reviewed this report and find that
it conforms to the principles and procedures set forth by Legacy Directional Drilling, LLC.

Surveyor's Signature



MLWD Technical Director

Title



Directional Survey Report

Company Name: SANTO OPERATING LLC

State/Prov: NM

Survey Company: Legacy Directional

Proposed Azimuth: 179.52°

Well Name: OCOTILLO SUNRISE 15 WA AP FEE 2H

County: Lea County

Job Number: MD180023

Declination: 6.34°

Field: WOLFCAMP

Location: Sec. 15 T25S R34E

Latitude: 32° 8' 14.471" N

North Reference: GRID

Rig ID: PRECISION 590

API/UWI: 30-025-44294

Longitude: 103° 27' 1.328" W

KB: 3357.8 FT

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	CD	CA	Temp
Tie-In	959	1.58	304.34	958.90	10.15	-5.38	-10.19	0.00	0	11.49	332.07	0
1	1147	1.32	280.38	1146.84	12.00	-9.65	-12.08	0.35	188	15.40	321.20	109.0
2	1239	1.58	272.74	1238.81	12.25	-11.98	-12.35	0.35	92	17.12	315.70	109.0
3	1332	0.88	250.06	1331.79	12.07	-13.91	-12.19	0.90	93	18.42	310.95	109.0
4	1425	1.54	183.53	1424.77	10.58	-14.66	-10.70	1.55	93	18.08	305.82	109.0
5	1517	2.11	177.55	1516.73	7.65	-14.66	-7.78	0.65	92	16.54	297.57	109.0
6	1609	2.37	177.38	1608.66	4.06	-14.50	-4.18	0.28	92	15.06	285.65	109.0
7	1703	1.05	167.53	1702.61	1.28	-14.23	-1.40	1.43	94	14.29	275.14	109.0
8	1795	0.84	162.96	1794.60	-0.19	-13.85	0.07	0.24	92	13.85	269.22	109.0
9	1888	0.97	165.51	1887.59	-1.60	-13.45	1.49	0.15	93	13.55	263.21	109.0
10	1981	0.92	158.57	1980.58	-3.06	-12.98	2.95	0.13	93	13.34	256.74	109.0
11	2074	0.79	160.76	2073.56	-4.36	-12.50	4.25	0.14	93	13.24	250.77	109.0
12	2166	0.88	137.21	2165.56	-5.48	-11.81	5.38	0.38	92	13.02	245.12	109.0
13	2258	0.88	143.8	2257.54	-6.57	-10.91	6.47	0.11	92	12.74	238.97	109.0
14	2351	1.01	142.48	2350.53	-7.79	-9.99	7.71	0.14	93	12.67	232.05	109.0
15	2443	1.14	138.44	2442.52	-9.12	-8.89	9.04	0.16	92	12.74	224.27	109.0
16	2536	1.27	132.99	2535.49	-10.51	-7.52	10.45	0.19	93	12.93	215.58	109.0
17	2628	0.62	121.92	2627.48	-11.47	-6.36	11.42	0.73	92	13.12	208.98	109.0
18	2721	0.84	100.56	2720.47	-11.86	-5.26	11.82	0.37	93	12.98	203.90	109.0
19	2813	1.36	98.01	2812.46	-12.14	-3.51	12.11	0.57	92	12.64	196.14	109.0
20	2907	0.79	77.09	2906.44	-12.15	-1.78	12.14	0.73	94	12.28	188.32	109.0
21	3000	1.01	68.04	2999.43	-11.70	-0.39	11.70	0.28	93	11.71	181.92	109.0
22	3092	1.71	73.93	3091.40	-11.02	1.68	11.03	0.77	92	11.14	171.34	124.0
23	3184	1.76	49.93	3183.36	-9.73	4.08	9.76	0.79	92	10.55	157.25	124.0
24	3276	1.27	15.92	3275.33	-7.84	5.44	7.88	1.09	92	9.54	145.24	124.0
25	3370	1.54	17.06	3369.30	-5.63	6.10	5.68	0.29	94	8.30	132.72	124.0
26	3462	1.98	18.73	3461.26	-2.94	6.97	3.00	0.48	92	7.56	112.89	124.0
27	3554	1.85	6.34	3553.21	0.04	7.64	0.02	0.47	92	7.64	89.71	124.0
28	3648	0.88	350.26	3647.18	2.26	7.69	-2.19	1.10	94	8.01	73.63	124.0
29	3741	0.4	34.9	3740.18	3.23	7.75	-3.16	0.71	93	8.40	67.39	102.4
30	3834	0.62	54.5	3833.17	3.79	8.35	-3.72	0.30	93	9.17	65.60	102.4
31	3926	1.01	46.77	3925.16	4.63	9.35	-4.55	0.44	92	10.43	63.64	102.4
32	4018	0.4	96.78	4017.16	5.15	10.25	-5.06	0.88	92	11.48	63.34	102.4
33	4111	0.26	162.26	4110.15	4.91	10.64	-4.82	0.40	93	11.72	65.23	102.4

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	CD	CA	Temp
34	4204	0.26	104.95	4203.15	4.65	10.91	-4.56	0.27	93	11.86	66.89	102.4
35	4297	0.35	103.46	4296.15	4.53	11.39	-4.44	0.10	93	12.26	68.29	102.4
36	4390	0.66	83.24	4389.15	4.53	12.20	-4.43	0.38	93	13.01	69.62	102.4
37	4484	0.66	93.44	4483.14	4.56	13.28	-4.45	0.12	94	14.04	71.04	102.4
38	4576	1.36	106.62	4575.13	4.22	14.85	-4.09	0.80	92	15.44	74.14	102.4
39	4668	1.71	110.05	4667.09	3.44	17.19	-3.29	0.39	92	17.53	78.70	102.4
40	4762	1.23	136.77	4761.06	2.22	18.20	-2.06	0.88	94	19.32	83.41	102.4
41	4854	0.92	270.36	4853.06	1.50	19.13	-1.34	2.15	92	19.19	85.50	102.4
42	4948	0.62	270.89	4947.05	1.52	17.87	-1.37	0.32	94	17.93	85.15	102.4
43	5040	0.57	161.2	5039.05	1.09	17.52	-0.94	1.06	92	17.55	86.43	102.4
44	5133	1.19	137.12	5132.03	-0.05	18.33	0.21	0.76	93	18.33	90.17	102.4
45	5226	1.27	144.77	5225.01	-1.60	19.58	1.77	0.20	93	19.64	94.68	102.4
46	5318	0.66	201.11	5317.00	-2.93	19.97	3.10	1.15	92	20.19	98.35	102.4
47	5410	0.53	230.46	5409.00	-3.70	19.46	3.86	0.36	92	19.80	100.76	102.4
48	5503	0.35	219.74	5501.99	-4.19	18.94	4.35	0.21	93	19.40	102.47	102.4
49	5597	0.35	210.6	5595.99	-4.66	18.61	4.81	0.06	94	19.19	104.04	102.4
50	5689	0.44	213.67	5687.99	-5.19	18.27	5.34	0.10	92	19.00	105.86	102.4
51	5783	0.44	218.95	5781.99	-5.77	17.85	5.92	0.04	94	18.76	107.92	102.4
52	5875	0.4	220.71	5873.98	-6.29	17.42	6.44	0.05	92	18.52	109.86	102.4
53	5967	0.48	219.3	5965.98	-6.83	16.96	6.97	0.09	92	18.29	111.94	102.4
54	6059	0.62	220.71	6057.98	-7.51	16.39	7.65	0.15	92	18.03	114.61	102.4
55	6152	0.62	215.61	6150.97	-8.30	15.77	8.43	0.06	93	17.82	117.75	102.4
56	6244	0.66	209.98	6242.97	-9.16	15.22	9.29	0.08	92	17.76	121.05	102.4
57	6336	0.62	213.85	6334.96	-10.03	14.68	10.16	0.06	92	17.78	124.36	102.4
58	6429	0.66	210.42	6427.95	-10.91	14.12	11.03	0.06	93	17.85	127.70	102.4
59	6521	0.66	218.51	6519.95	-11.79	13.53	11.90	0.10	92	17.94	131.07	102.4
60	6613	0.66	211.39	6611.94	-12.65	12.92	12.76	0.09	92	18.08	134.40	102.4
61	6706	0.7	212.53	6704.94	-13.59	12.34	13.69	0.05	93	18.35	137.77	102.4
62	6798	0.79	218.16	6796.93	-14.56	11.64	14.66	0.13	92	18.64	141.36	102.4
63	6890	0.7	214.55	6888.92	-15.52	10.93	15.61	0.11	92	18.99	144.85	102.4
64	6983	0.75	218.07	6981.91	-16.47	10.23	16.56	0.07	93	19.39	148.15	102.4
65	7075	0.75	236.35	7073.91	-17.28	9.36	17.36	0.26	92	19.65	151.55	102.4
66	7168	0.84	242.94	7166.90	-17.93	8.25	17.99	0.14	93	19.73	155.29	102.4
67	7262	0.97	247.07	7260.88	-18.55	6.90	18.61	0.15	94	19.79	159.59	102.4
68	7355	0.92	250.32	7353.87	-19.11	5.47	19.15	0.08	93	19.88	164.02	102.4
69	7446	0.97	246.55	7444.86	-19.66	4.08	19.69	0.09	91	20.08	168.28	102.4
70	7540	0.88	263.33	7538.85	-20.06	2.63	20.08	0.30	94	20.23	172.53	102.4
71	7633	0.75	262.89	7631.84	-20.22	1.32	20.23	0.14	93	20.26	176.27	102.4
72	7725	0.79	254.46	7723.83	-20.46	0.11	20.46	0.13	92	20.46	179.69	102.4

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	CD	CA	Temp
73	7819	0.88	250.06	7817.82	-20.88	-1.19	20.87	0.12	94	20.92	183.27	102.4
74	7912	0.66	258.06	7910.81	-21.24	-2.39	21.22	0.26	93	21.37	186.42	102.4
75	8006	0.57	252.52	8004.81	-21.49	-3.36	21.46	0.11	94	21.75	188.90	102.4
76	8099	0.75	249.88	8097.80	-21.84	-4.38	21.80	0.20	93	22.27	191.34	102.4
77	8191	0.7	254.46	8189.79	-22.20	-5.48	22.15	0.08	92	22.86	193.88	102.4
78	8283	0.88	237.4	8281.78	-22.73	-6.62	22.67	0.32	92	23.67	196.24	102.4
79	8376	1.19	245.14	8374.77	-23.52	-8.10	23.45	0.36	93	24.87	199.00	102.4
80	8468	1.41	242.94	8466.74	-24.43	-9.97	24.35	0.25	92	26.39	202.20	102.4
81	8560	1.01	248.74	8558.72	-25.24	-11.74	25.14	0.45	92	27.84	204.94	102.4
82	8652	0.92	243.82	8650.71	-25.86	-13.16	25.75	0.13	92	29.02	206.96	102.4
83	8745	1.14	228.44	8743.70	-26.81	-14.52	26.68	0.38	93	30.48	208.44	102.4
84	8837	1.19	230.11	8835.68	-28.03	-15.94	27.89	0.07	92	32.24	209.62	102.4
85	8929	1.54	229.93	8927.65	-29.43	-17.61	29.29	0.38	92	34.30	210.90	102.4
86	9022	1.58	239.6	9020.62	-30.89	-19.68	30.72	0.29	93	36.62	212.50	102.4
87	9114	1.67	241.1	9112.58	-32.18	-21.94	31.99	0.11	92	38.95	214.29	102.4
88	9207	1.19	235.91	9205.55	-33.37	-23.93	33.17	0.53	93	41.07	215.64	102.4
89	9299	0.79	212.09	9297.54	-34.45	-25.06	34.23	0.62	92	42.60	216.04	102.4
90	9392	0.7	195.22	9390.53	-35.54	-25.55	35.32	0.25	93	43.77	215.71	102.4
91	9484	1.05	158.83	9482.52	-36.87	-25.39	36.65	0.70	92	44.76	214.56	102.4
92	9576	0.97	162.52	9574.50	-38.39	-24.85	38.19	0.11	92	45.74	212.92	102.4
93	9668	1.27	174.74	9666.49	-40.15	-24.53	39.95	0.42	92	47.05	211.42	102.4
94	9761	1.67	193.46	9759.46	-42.50	-24.75	42.29	0.67	93	49.18	210.21	102.4
95	9854	1.67	200.23	9852.42	-45.09	-25.53	44.87	0.21	93	51.81	209.52	109.6
96	9946	1.89	212.18	9944.37	-47.63	-26.80	47.40	0.47	92	54.65	209.37	109.0
97	10038	1.67	228.97	10036.33	-49.79	-28.62	49.55	0.61	92	57.43	209.89	109.0
98	10130	1.36	243.29	10128.30	-51.16	-30.61	50.90	0.53	92	59.62	210.89	109.0
99	10222	1.1	222.2	10220.28	-52.31	-32.18	52.04	0.56	92	61.41	211.60	109.0
100	10314	1.23	202.95	10312.26	-53.87	-33.16	53.59	0.45	92	63.26	211.61	109.0
101	10407	0.92	225.8	10405.24	-55.31	-34.08	55.02	0.56	93	64.97	211.64	109.0
102	10500	0.88	271.95	10498.23	-55.81	-35.33	55.51	0.76	93	66.05	212.34	124.1
103	10593	0.62	281.7	10591.22	-55.68	-36.54	55.37	0.31	93	66.60	213.27	124.1
104	10686	0.13	202.69	10684.22	-55.68	-37.07	55.36	0.65	93	66.89	213.66	124.1
105	10777	0.13	44.22	10775.22	-55.70	-37.04	55.39	0.28	91	66.89	213.62	124.1
106	10869	0.132	164.98	10867.22	-55.73	-38.94	55.41	0.25	92	66.85	213.54	124.1
107	10962	0.68	100.82	10960.22	-55.93	-38.38	55.62	0.66	93	66.72	213.04	124.1
108	11055	0.31	321.6	11053.22	-55.83	-38.01	55.53	0.99	93	66.44	212.82	124.1
109	11147	0.44	287.33	11145.21	-55.53	-38.50	55.22	0.28	92	66.46	213.32	124.1
110	11240	0.79	330.3	11238.21	-54.87	-37.18	54.56	0.60	93	66.27	214.11	124.1
111	11333	1.1	324.77	11331.20	-53.58	-38.00	53.26	0.35	93	65.69	215.34	124.1

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	CD	CA	Temp
112	11426	1.23	323.19	11424.18	-52.05	-39.11	51.73	0.14	93	65.11	216.92	124.1
113	11467	1.23	327.84	11465.17	-51.33	-39.61	51.00	0.24	41	64.83	217.65	124.1
114	11607	0.97	355.18	11605.14	-48.88	-40.51	48.54	0.41	140	63.48	219.65	124.1
115	11700	1.19	357.99	11698.13	-47.13	-40.61	46.79	0.24	93	62.21	220.75	124.1
116	11793	1.01	349.73	11791.11	-45.36	-40.79	45.01	0.26	93	61.00	221.96	124.1
117	11886	0.79	340.06	11884.10	-43.95	-41.15	43.60	0.29	93	60.21	223.12	124.1
118	11978	1.05	339.36	11976.08	-42.56	-41.66	42.21	0.28	92	59.56	224.39	124.1
119	12083	1.27	286.89	12081.07	-41.32	-43.12	40.96	0.99	105	59.72	226.22	124.1
120	12114	2.68	189.86	12112.05	-41.94	-43.57	41.57	10.01	31	60.47	226.09	124.1
121	12144	6.77	177.99	12141.95	-44.40	-43.63	44.03	13.95	30	62.24	224.50	124.1
122	12176	10.42	170.78	12173.58	-49.14	-43.10	48.78	11.87	32	65.36	221.25	124.1
123	12206	14.15	167.71	12202.89	-55.40	-41.88	55.05	12.62	30	69.45	217.09	124.1
124	12237	17.67	169.03	12232.70	-63.73	-40.18	63.39	11.41	31	75.34	212.23	124.1
125	12268	20.48	171.84	12261.99	-73.72	-38.51	73.39	9.53	31	83.17	207.59	124.1
126	12298	25.01	173.68	12289.65	-85.22	-37.07	84.91	15.28	30	92.93	203.51	124.1
127	12359	33.8	174.04	12342.74	-114.97	-33.88	114.68	14.41	61	119.86	196.42	124.1
128	12452	48.77	175.44	12413.54	-174.73	-28.48	174.48	13.98	93	177.03	189.26	124.1
129	12544	59.34	181.15	12468.75	-248.03	-28.60	247.80	14.53	92	249.45	186.12	124.1
130	12636	73.63	181.33	12505.36	-332.15	-28.43	331.90	15.53	92	333.37	184.89	124.1
131	12728	77.23	180.8	12528.50	-421.16	-30.08	420.90	3.95	92	422.24	184.09	124.1
132	12759	81.05	180.45	12534.34	-451.60	-30.41	451.33	12.37	31	452.62	183.85	124.1
133	12820	87.52	179.75	12540.41	-512.27	-30.52	511.99	10.67	61	513.17	183.41	124.1
134	12913	90.51	179.31	12542.01	-605.24	-29.75	604.97	3.25	93	605.97	182.81	124.1
135	13005	91.25	178.87	12540.60	-697.22	-28.29	696.95	0.94	92	697.79	182.32	124.1
136	13097	91.43	179.84	12538.45	-789.18	-27.26	788.93	1.07	92	789.65	181.98	124.1
137	13191	90.55	180.45	12536.82	-883.17	-27.49	882.91	1.14	94	883.60	181.78	124.1
138	13283	91.69	180.98	12535.03	-975.14	-28.64	974.87	1.37	92	975.56	181.68	124.1
139	13375	90.33	181.95	12533.40	-1067.09	-30.99	1066.80	1.82	92	1067.54	181.66	124.1
140	13467	90.86	181.68	12532.45	-1159.04	-33.91	1158.72	0.65	92	1159.54	181.68	124.1
141	13559	90.68	181.33	12531.21	-1251.00	-36.32	1250.65	0.43	92	1251.53	181.66	124.1
142	13652	90.33	181.33	12530.39	-1343.97	-38.48	1343.60	0.38	93	1344.52	181.64	124.1
143	13744	89.67	181.59	12530.39	-1435.94	-40.83	1435.55	0.77	92	1436.52	181.63	124.1
144	13836	88.18	181.24	12532.12	-1527.90	-43.10	1527.48	1.66	92	1528.50	181.62	124.1
145	13928	88.13	181.24	12535.08	-1619.83	-45.09	1619.39	0.05	92	1620.45	181.59	124.1
146	14020	87.21	180.63	12538.82	-1711.74	-46.59	1711.29	1.20	92	1712.37	181.56	124.1
147	14113	87.96	180.89	12542.74	-1804.64	-47.82	1804.18	0.85	93	1805.28	181.52	124.1
148	14206	90.15	181.59	12544.27	-1897.60	-49.83	1897.12	2.47	93	1898.26	181.50	124.1
149	14298	89.35	180.63	12544.67	-1989.58	-51.61	1989.08	1.35	92	1990.25	181.49	124.1
150	14390	89.32	180.01	12545.73	-2081.58	-52.13	2081.07	0.68	92	2082.23	181.43	124.1

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	DLS	CL	CD	CA	Temp
151	14483	89.49	179.48	12546.69	-2174.57	-51.71	2174.06	0.60	93	2175.18	181.36	124.1
152	14575	89.49	180.36	12547.51	-2266.57	-51.59	2266.05	0.96	92	2267.15	181.30	124.1
153	14668	89.54	180.19	12548.30	-2359.56	-52.03	2359.04	0.19	93	2360.13	181.26	124.1
154	14760	88.88	180.45	12549.57	-2451.55	-52.55	2451.02	0.77	92	2452.11	181.23	124.1
155	14852	89.23	180.19	12551.08	-2543.54	-53.06	2543.00	0.47	92	2544.09	181.20	124.1
156	14945	89.54	179.92	12552.08	-2636.53	-53.15	2635.99	0.44	93	2637.07	181.15	124.1
157	15037	89.14	180.1	12553.14	-2728.52	-53.17	2727.98	0.48	92	2729.04	181.12	124.1
158	15129	88.97	180.71	12554.66	-2820.51	-53.82	2819.96	0.69	92	2821.02	181.09	124.1
159	15221	91.47	182.47	12554.31	-2912.46	-56.37	2911.89	3.32	92	2913.01	181.11	124.1
160	15313	90.29	183	12552.89	-3004.34	-60.76	3003.73	1.41	92	3004.96	181.16	124.1
161	15408	89.67	182.82	12552.93	-3099.22	-65.58	3098.56	0.68	95	3099.91	181.21	124.1
162	15502	86.86	182.74	12555.77	-3193.06	-70.14	3192.36	2.99	94	3193.83	181.26	124.1
163	15594	86.24	182.12	12561.31	-3284.81	-74.03	3284.07	0.95	92	3285.64	181.29	124.1
164	15686	85.67	181.51	12567.80	-3376.53	-76.94	3375.77	0.91	92	3377.41	181.31	124.1
165	15779	86.2	181.42	12574.39	-3469.27	-79.31	3468.48	0.58	93	3470.17	181.31	124.1
166	15872	86.02	181.07	12580.70	-3562.03	-81.32	3561.22	0.42	93	3562.96	181.31	124.1
167	15965	86.42	180.71	12586.83	-3654.82	-82.77	3654.00	0.58	93	3655.75	181.30	124.1
168	16057	86.95	180.54	12592.15	-3746.66	-83.77	3745.82	0.60	92	3747.59	181.28	124.1
169	16150	87.52	179.4	12596.64	-3839.55	-83.72	3838.71	1.37	93	3840.46	181.25	124.1
170	16242	87.96	179.22	12600.27	-3931.47	-82.61	3930.64	0.52	92	3932.34	181.20	124.1
171	16335	88.84	178.78	12602.86	-4024.42	-80.99	4023.60	1.06	93	4025.23	181.15	124.1
172	16427	89.85	178.61	12603.91	-4116.39	-78.89	4115.58	1.11	92	4117.14	181.10	124.1
173	16520	90.81	178.25	12603.38	-4209.35	-76.35	4208.56	1.10	93	4210.04	181.04	124.1
174	16612	91.91	177.64	12601.19	-4301.28	-73.05	4300.50	1.37	92	4301.88	180.97	124.1
175	16705	92.62	176.94	12597.52	-4394.08	-68.66	4393.35	1.07	93	4394.62	180.90	124.1
176	16797	92	176.85	12593.81	-4485.87	-63.68	4485.18	0.68	92	4486.33	180.81	124.1
177	16889	91.43	177.2	12591.06	-4577.71	-58.90	4577.05	0.73	92	4578.09	180.74	124.1
178	16982	92.79	177.2	12587.63	-4670.53	-54.36	4669.91	1.46	93	4670.85	180.67	124.1
179	17074	93.71	176.78	12582.42	-4762.25	-49.52	4761.67	1.11	92	4762.51	180.60	124.1
180	17168	94.11	176.5	12576.01	-4855.87	-44.01	4855.33	0.51	94	4856.07	180.52	124.1
PTB	17232	94.11	176.5	12571.42	-4919.59	-40.11	4919.07	0.00	64	4919.75	180.47	0.0