



Final MWD Survey Certification

Eddy, New Mexico

Client: Devon Energy

Well Name: Uraninite 32-33 State Fed Com 332H

Total Job No: SW-200231

API No: 30-015-46840

Start Date: 03/24/2020

End Date: 04/06/2020

Measured Start Depth: 200 feet

Measured End Depth: 16,362 feet

Vertical Section from well center at PTB: 7476.32 feet

I, "Christopher Meredith", certify that; I am employed by Total Directional Services, LLC and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Total Directional Services, LLC. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: 04/06/2020

Signed: *Chris Meredith*



Uraninite 32-33 State Fed Com 332H

Directional Survey Report

Start date: March 24, 2020

End date: April 6, 2020

Company: Devon Energy	State/Prov: New Mexico	Survey Company: Total Directional Services
Well Name: Uraninite 32-33 State Fed Com 332H	County: Eddy	Job Number: SW-200231
Field:	Country: US	Proposed Azimuth: 93.02
Rig ID: Cactus 135	Declination: 7.08	Elevations KB: 3332.8
API/UWI: 30-015-46840	North Reference: Grid	DF: 30
Location: Delaware Basin	Latitude/Longitude: 32.622078 / -104.104953	GL: 3302.8

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
TieIn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	
1	179.00	1.30	162.93	178.98	-1.94	0.60	0.70	2.03	162.93	0.73	179.00
2	275.00	1.73	176.06	274.95	-4.43	1.02	1.25	4.54	167.09	0.57	96.00
3	370.00	2.06	172.87	369.90	-7.55	1.33	1.72	7.67	170.04	0.36	95.00
4	465.00	1.89	162.39	464.84	-10.74	2.01	2.57	10.93	169.39	0.42	95.00
5	561.00	1.43	162.49	560.80	-13.39	2.85	3.55	13.69	167.98	0.48	96.00
6	656.00	1.89	144.24	655.76	-15.79	4.12	4.95	16.32	165.37	0.73	95.00
7	752.00	2.14	141.94	751.70	-18.49	6.15	7.12	19.49	161.59	0.27	96.00
8	847.00	2.34	133.13	846.63	-21.21	8.66	9.77	22.91	157.79	0.42	95.00
9	943.00	2.34	136.59	942.55	-23.98	11.44	12.69	26.56	154.49	0.15	96.00
10	1,038.00	2.16	142.65	1,037.48	-26.81	13.86	15.25	30.18	152.66	0.31	95.00
11	1,134.00	2.25	149.38	1,133.41	-29.87	15.92	17.47	33.84	151.95	0.29	96.00
12	1,229.00	2.60	156.11	1,228.32	-33.44	17.74	19.48	37.86	152.06	0.47	95.00
13	1,325.00	2.65	163.54	1,324.22	-37.56	19.25	21.20	42.21	152.87	0.36	96.00
14	1,420.00	2.80	168.24	1,419.11	-41.94	20.34	22.53	46.61	154.12	0.28	95.00
15	1,433.00	2.82	171.05	1,432.10	-42.57	20.46	22.67	47.23	154.33	1.07	13.00
16	1,610.00	2.26	178.97	1,608.92	-50.36	21.20	23.82	54.64	157.17	0.37	177.00
17	1,705.00	2.28	181.15	1,703.85	-54.12	21.19	24.02	58.12	158.61	0.09	95.00
18	1,800.00	1.79	202.61	1,798.79	-57.38	20.59	23.58	60.96	160.26	0.94	95.00
19	1,896.00	1.83	210.37	1,894.74	-60.08	19.23	22.37	63.09	162.25	0.26	96.00
20	1,991.00	1.74	240.73	1,989.70	-62.10	17.21	20.46	64.44	164.51	0.99	95.00
21	2,087.00	1.98	248.54	2,085.65	-63.42	14.39	17.72	65.03	167.21	0.36	96.00
22	2,182.00	1.44	266.20	2,180.61	-64.10	11.68	15.04	65.15	169.68	0.79	95.00
23	2,277.00	1.16	278.64	2,275.58	-64.03	9.53	12.89	64.74	171.53	0.42	95.00
24	2,373.00	1.13	285.05	2,371.56	-63.64	7.66	11.00	64.10	173.14	0.14	96.00
25	2,468.00	1.15	287.30	2,466.54	-63.11	5.84	9.16	63.38	174.71	0.05	95.00
26	2,563.00	1.33	289.31	2,561.52	-62.46	3.89	7.18	62.59	176.43	0.19	95.00
27	2,659.00	1.27	288.31	2,657.50	-61.76	1.83	5.08	61.79	178.30	0.07	96.00
28	2,754.00	1.01	292.92	2,752.48	-61.11	0.06	3.28	61.11	179.94	0.29	95.00
29	2,849.00	0.87	289.37	2,847.47	-60.54	-1.39	1.80	60.56	181.32	0.16	95.00
30	2,945.00	0.98	291.81	2,943.45	-59.99	-2.84	0.33	60.06	182.71	0.12	96.00
31	3,040.00	0.89	297.32	3,038.44	-59.35	-4.25	-1.12	59.50	184.10	0.13	95.00
32	3,063.00	1.06	297.23	3,061.44	-59.17	-4.60	-1.47	59.35	184.44	0.74	23.00
33	3,195.00	0.87	310.83	3,193.42	-57.96	-6.44	-3.38	58.32	186.34	0.22	132.00
34	3,291.00	0.48	305.43	3,289.41	-57.25	-7.32	-4.29	57.72	187.29	0.41	96.00
35	3,386.00	0.67	217.73	3,384.41	-57.46	-7.98	-4.95	58.01	187.91	0.85	95.00
36	3,482.00	1.45	190.33	3,480.39	-59.10	-8.55	-5.42	59.71	188.23	0.95	96.00
37	3,577.00	2.20	179.15	3,575.34	-62.10	-8.73	-5.45	62.71	188.01	0.87	95.00
38	3,672.00	3.13	180.27	3,670.24	-66.52	-8.72	-5.20	67.09	187.47	0.98	95.00
39	3,768.00	3.74	187.56	3,766.07	-72.24	-9.14	-5.32	72.82	187.21	0.78	96.00
40	3,862.00	4.04	190.89	3,859.85	-78.54	-10.17	-6.02	79.19	187.38	0.40	94.00
41	3,958.00	4.30	194.34	3,955.60	-85.34	-11.70	-7.19	86.14	187.81	0.38	96.00
42	4,053.00	5.08	199.88	4,050.28	-92.75	-14.02	-9.11	93.80	188.59	0.95	95.00
43	4,149.00	6.22	202.48	4,145.81	-101.55	-17.45	-12.07	103.04	189.75	1.22	96.00
44	4,244.00	6.49	202.83	4,240.23	-111.26	-21.50	-15.61	113.31	190.94	0.29	95.00
45	4,339.00	6.28	203.39	4,334.64	-120.97	-25.65	-19.24	123.66	191.97	0.23	95.00
46	4,435.00	6.05	202.22	4,430.08	-130.48	-29.64	-22.73	133.80	192.80	0.27	96.00
47	4,531.00	5.69	202.48	4,525.58	-139.56	-33.38	-25.98	143.49	193.45	0.38	96.00
48	4,627.00	5.57	200.06	4,621.12	-148.33	-36.79	-28.93	152.83	193.93	0.28	96.00
49	4,722.00	5.30	200.86	4,715.69	-156.76	-39.94	-31.62	161.77	194.29	0.30	95.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
50	4,818.00	5.33	203.88	4,811.28	-164.98	-43.32	-34.57	170.57	194.71	0.29	96.00
51	4,913.00	4.95	206.53	4,905.89	-172.68	-46.94	-37.78	178.95	195.21	0.47	95.00
52	5,009.00	5.80	206.09	5,001.47	-180.75	-50.92	-41.33	187.78	195.73	0.89	96.00
53	5,104.00	5.69	207.41	5,095.99	-189.24	-55.20	-45.15	197.12	196.26	0.18	95.00
54	5,200.00	5.46	212.95	5,191.54	-197.29	-59.88	-49.40	206.18	196.88	0.61	96.00
55	5,295.00	5.88	207.51	5,286.08	-205.40	-64.58	-53.67	215.32	197.45	0.72	95.00
56	5,390.00	5.86	208.92	5,380.58	-213.96	-69.17	-57.81	224.87	197.92	0.15	95.00
57	5,485.00	5.72	209.66	5,475.09	-222.32	-73.86	-62.05	234.27	198.38	0.17	95.00
58	5,581.00	5.49	212.18	5,570.63	-230.37	-78.68	-66.43	243.43	198.86	0.35	96.00
59	5,676.00	5.15	216.05	5,665.23	-237.66	-83.61	-70.97	251.94	199.38	0.52	95.00
60	5,771.00	5.10	212.70	5,759.85	-244.66	-88.40	-75.38	260.14	199.86	0.32	95.00
61	5,867.00	5.03	204.02	5,855.47	-252.10	-92.41	-79.00	268.50	200.13	0.80	96.00
62	5,962.00	4.51	204.11	5,950.14	-259.31	-95.64	-81.84	276.38	200.24	0.55	95.00
63	6,057.00	4.70	206.51	6,044.84	-266.20	-98.90	-84.74	283.98	200.38	0.28	95.00
64	6,153.00	4.47	205.82	6,140.53	-273.09	-102.28	-87.75	291.61	200.53	0.25	96.00
65	6,248.00	4.76	207.05	6,235.22	-279.93	-105.69	-90.79	299.22	200.68	0.32	95.00
66	6,343.00	5.49	202.39	6,329.84	-287.64	-109.21	-93.91	307.68	200.79	0.88	95.00
67	6,438.00	5.08	200.28	6,424.44	-295.79	-112.40	-96.66	316.43	200.81	0.48	95.00
68	6,534.00	4.99	198.32	6,520.07	-303.74	-115.19	-99.02	324.85	200.77	0.20	96.00
69	6,629.00	4.85	198.43	6,614.72	-311.47	-117.75	-101.18	332.99	200.71	0.15	95.00
70	6,724.00	5.31	195.27	6,709.34	-319.52	-120.18	-103.18	341.38	200.61	0.57	95.00
71	6,819.00	5.09	194.09	6,803.95	-327.85	-122.37	-104.92	349.94	200.47	0.26	95.00
72	6,915.00	4.69	197.75	6,899.60	-335.72	-124.60	-106.74	358.10	200.36	0.53	96.00
73	7,010.00	4.11	200.94	6,994.32	-342.60	-127.00	-108.77	365.38	200.34	0.66	95.00
74	7,106.00	5.17	197.23	7,090.01	-349.94	-129.51	-110.89	373.14	200.31	1.15	96.00
75	7,201.00	5.80	194.07	7,184.57	-358.69	-131.95	-112.86	382.19	200.20	0.74	95.00
76	7,297.00	4.56	194.69	7,280.18	-367.08	-134.09	-114.57	390.81	200.07	1.29	96.00
77	7,392.00	3.92	175.60	7,374.92	-373.98	-134.80	-114.91	397.53	199.82	1.62	95.00
78	7,488.00	2.57	186.45	7,470.77	-379.39	-134.79	-114.62	402.62	199.56	1.54	96.00
79	7,583.00	2.15	189.46	7,565.69	-383.26	-135.32	-114.94	406.45	199.45	0.46	95.00
80	7,678.00	1.66	184.93	7,660.63	-386.39	-135.73	-115.19	409.54	199.36	0.54	95.00
81	7,774.00	1.25	177.74	7,756.60	-388.82	-135.81	-115.14	411.86	199.25	0.47	96.00
82	7,869.00	1.37	182.41	7,851.58	-390.99	-135.82	-115.03	413.91	199.16	0.17	95.00
83	7,965.00	1.84	192.69	7,947.54	-393.64	-136.21	-115.28	416.54	199.09	0.57	96.00
84	8,060.00	2.69	205.13	8,042.46	-397.15	-137.49	-116.37	420.27	199.10	1.03	95.00
85	8,155.00	2.37	205.89	8,137.37	-400.93	-139.29	-117.98	424.44	199.16	0.34	95.00
86	8,251.00	2.00	163.66	8,233.31	-404.33	-139.69	-118.19	427.78	199.06	1.68	96.00
87	8,346.00	1.92	135.35	8,328.25	-407.05	-138.10	-116.47	429.84	198.74	1.01	95.00
88	8,424.00	1.65	131.17	8,406.22	-408.72	-136.34	-114.62	430.86	198.45	0.38	78.00
89	8,442.00	1.84	136.73	8,424.21	-409.10	-135.95	-114.20	431.10	198.38	1.41	18.00
90	8,537.00	9.74	87.18	8,518.68	-409.82	-126.86	-105.09	429.00	197.20	9.11	95.00
91	8,633.00	21.50	77.38	8,610.99	-405.56	-101.49	-79.98	418.06	194.05	12.51	96.00
92	8,728.00	31.99	79.11	8,695.71	-396.98	-59.67	-38.67	401.43	188.55	11.07	95.00
93	8,823.00	41.87	83.50	8,771.56	-388.61	-3.31	17.17	388.62	180.49	10.76	95.00
94	8,919.00	49.17	87.64	8,838.80	-383.48	64.92	85.03	388.94	170.39	8.20	96.00
95	9,014.00	55.35	86.91	8,896.92	-379.89	139.92	159.74	404.84	159.78	6.53	95.00
96	9,109.00	65.99	85.68	8,943.39	-374.50	222.45	241.87	435.58	149.29	11.26	95.00
97	9,205.00	77.00	89.60	8,973.82	-370.86	313.25	332.35	485.45	139.81	12.10	96.00
98	9,300.00	87.68	94.88	8,986.47	-374.59	407.16	426.32	553.25	132.61	12.52	95.00
99	9,396.00	88.61	95.24	8,989.58	-383.05	502.73	522.21	632.03	127.31	1.04	96.00
100	9,491.00	89.26	94.21	8,991.35	-390.87	597.39	617.15	713.90	123.20	1.28	95.00
101	9,587.00	87.85	92.19	8,993.77	-396.23	693.20	713.11	798.45	119.75	2.57	96.00
102	9,682.00	88.42	90.60	8,996.86	-398.54	788.12	808.02	883.16	116.83	1.78	95.00
103	9,777.00	89.24	90.49	8,998.80	-399.44	883.09	902.91	969.23	114.34	0.87	95.00
104	9,873.00	89.93	90.83	8,999.49	-400.55	979.08	998.83	1,057.85	112.25	0.80	96.00
105	9,968.00	88.66	89.93	9,000.66	-401.18	1,074.07	1,093.72	1,146.55	110.48	1.64	95.00
106	10,064.00	88.57	90.31	9,002.98	-401.38	1,170.04	1,189.57	1,236.98	108.93	0.41	96.00
107	10,159.00	88.82	90.86	9,005.15	-402.35	1,265.01	1,284.45	1,327.46	107.64	0.64	95.00
108	10,255.00	88.36	89.24	9,007.51	-402.43	1,360.98	1,380.29	1,419.23	106.47	1.75	96.00
109	10,350.00	88.63	89.36	9,010.00	-401.27	1,455.94	1,475.06	1,510.23	105.41	0.31	95.00
110	10,445.00	88.80	89.59	9,012.14	-400.40	1,550.91	1,569.85	1,601.77	104.48	0.30	95.00
111	10,541.00	89.06	89.52	9,013.93	-399.66	1,646.89	1,665.66	1,694.69	103.64	0.28	96.00
112	10,636.00	89.40	89.77	9,015.20	-399.07	1,741.88	1,760.49	1,787.01	102.90	0.44	95.00
113	10,731.00	89.75	89.97	9,015.91	-398.85	1,836.88	1,855.34	1,879.68	102.25	0.42	95.00
114	10,827.00	89.99	89.73	9,016.13	-398.60	1,932.88	1,951.20	1,973.55	101.65	0.35	96.00

Svy	Depth	Inc	Azm	TVD	NS	EW	VS	CD	CA	DLS	CL
115	10,922.00	90.54	89.88	9,015.69	-398.28	2,027.88	2,046.04	2,066.62	101.11	0.60	95.00
116	11,017.00	88.98	89.07	9,016.09	-397.41	2,122.87	2,140.86	2,159.75	100.60	1.85	95.00
117	11,112.00	89.65	89.41	9,017.22	-396.15	2,217.85	2,235.64	2,252.96	100.13	0.79	95.00
118	11,207.00	88.25	89.57	9,018.96	-395.30	2,312.83	2,330.45	2,346.37	99.70	1.48	95.00
119	11,303.00	86.06	89.36	9,023.73	-394.41	2,408.70	2,426.14	2,440.78	99.30	2.29	96.00
120	11,398.00	86.06	89.29	9,030.25	-393.29	2,503.47	2,520.72	2,534.18	98.93	0.07	95.00
121	11,494.00	86.63	89.35	9,036.37	-392.16	2,599.27	2,616.32	2,628.69	98.58	0.60	96.00
122	11,589.00	86.96	89.49	9,041.69	-391.20	2,694.12	2,710.98	2,722.37	98.26	0.38	95.00
123	11,684.00	88.21	89.34	9,045.69	-390.23	2,789.02	2,805.71	2,816.19	97.96	1.33	95.00
124	11,780.00	89.33	89.98	9,047.75	-389.66	2,885.00	2,901.52	2,911.19	97.69	1.34	96.00
125	11,875.00	89.68	89.83	9,048.57	-389.50	2,979.99	2,996.38	3,005.34	97.45	0.40	95.00
126	11,970.00	88.96	90.21	9,049.70	-389.53	3,074.99	3,091.24	3,099.56	97.22	0.86	95.00
127	12,066.00	89.23	90.31	9,051.21	-389.97	3,170.97	3,187.12	3,194.86	97.01	0.30	96.00
128	12,161.00	88.16	89.71	9,053.38	-389.98	3,265.95	3,281.96	3,289.15	96.81	1.29	95.00
129	12,256.00	88.64	89.80	9,056.03	-389.58	3,360.91	3,376.77	3,383.41	96.61	0.51	95.00
130	12,352.00	88.41	89.17	9,058.50	-388.72	3,456.87	3,472.55	3,478.66	96.42	0.70	96.00
131	12,447.00	87.96	89.04	9,061.51	-387.23	3,551.81	3,567.28	3,572.86	96.22	0.49	95.00
132	12,542.00	88.64	88.97	9,064.33	-385.58	3,646.76	3,662.01	3,667.08	96.04	0.72	95.00
133	12,638.00	87.60	89.55	9,067.48	-384.34	3,742.70	3,757.75	3,762.38	95.86	1.24	96.00
134	12,734.00	87.62	89.76	9,071.48	-383.77	3,838.61	3,853.50	3,857.75	95.71	0.22	96.00
135	12,830.00	88.21	89.78	9,074.97	-383.38	3,934.55	3,949.28	3,953.18	95.57	0.61	96.00
136	12,924.00	88.76	90.12	9,077.46	-383.30	4,028.51	4,043.11	4,046.71	95.44	0.69	94.00
137	13,020.00	88.96	90.24	9,079.37	-383.60	4,124.49	4,138.97	4,142.29	95.31	0.24	96.00
138	13,115.00	87.84	90.19	9,082.02	-383.96	4,219.45	4,233.82	4,236.89	95.20	1.18	95.00
139	13,210.00	86.75	90.81	9,086.50	-384.79	4,314.34	4,328.62	4,331.47	95.10	1.32	95.00
140	13,305.00	87.18	90.94	9,091.53	-386.23	4,409.20	4,423.42	4,426.08	95.01	0.47	95.00
141	13,401.00	87.48	91.25	9,096.01	-388.07	4,505.08	4,519.26	4,521.76	94.92	0.45	96.00
142	13,496.00	87.84	91.43	9,099.89	-390.29	4,599.97	4,614.14	4,616.50	94.85	0.42	95.00
143	13,592.00	88.01	90.42	9,103.36	-391.84	4,695.89	4,710.02	4,712.21	94.77	1.07	96.00
144	13,687.00	88.45	90.41	9,106.30	-392.52	4,790.85	4,804.87	4,806.90	94.68	0.46	95.00
145	13,782.00	88.81	90.31	9,108.57	-393.12	4,885.82	4,899.74	4,901.61	94.60	0.39	95.00
146	13,878.00	87.87	89.87	9,111.35	-393.27	4,981.77	4,995.58	4,997.27	94.51	1.08	96.00
147	13,973.00	88.35	90.10	9,114.48	-393.25	5,076.72	5,090.39	5,091.93	94.43	0.56	95.00
148	14,068.00	88.89	90.33	9,116.77	-393.60	5,171.69	5,185.25	5,186.65	94.35	0.62	95.00
149	14,164.00	89.41	90.41	9,118.19	-394.22	5,267.68	5,281.13	5,282.41	94.28	0.55	96.00
150	14,259.00	89.59	90.27	9,119.02	-394.79	5,362.68	5,376.03	5,377.19	94.21	0.24	95.00
151	14,354.00	90.00	89.96	9,119.36	-394.98	5,457.67	5,470.90	5,471.95	94.14	0.54	95.00
152	14,449.00	90.17	89.83	9,119.22	-394.80	5,552.67	5,565.76	5,566.69	94.07	0.23	95.00
153	14,545.00	90.35	89.87	9,118.79	-394.55	5,648.67	5,661.61	5,662.44	94.00	0.19	96.00
154	14,640.00	90.81	90.21	9,117.82	-394.62	5,743.67	5,756.48	5,757.21	93.93	0.60	95.00
155	14,736.00	91.30	90.55	9,116.06	-395.25	5,839.65	5,852.36	5,853.01	93.87	0.62	96.00
156	14,831.00	90.18	90.09	9,114.83	-395.78	5,934.64	5,947.25	5,947.82	93.82	1.27	95.00
157	14,926.00	90.49	90.15	9,114.27	-395.98	6,029.64	6,042.12	6,042.62	93.76	0.33	95.00
158	15,022.00	89.41	90.68	9,114.36	-396.68	6,125.63	6,138.02	6,138.46	93.71	1.25	96.00
159	15,117.00	90.01	90.39	9,114.84	-397.57	6,220.63	6,232.93	6,233.32	93.66	0.70	95.00
160	15,213.00	90.81	90.68	9,114.15	-398.46	6,316.62	6,328.84	6,329.17	93.61	0.89	96.00
161	15,308.00	89.76	89.47	9,113.68	-398.59	6,411.61	6,423.71	6,423.99	93.56	1.69	95.00
162	15,403.00	90.49	89.96	9,113.47	-398.11	6,506.61	6,518.55	6,518.78	93.50	0.93	95.00
163	15,498.00	88.70	90.05	9,114.14	-398.12	6,601.60	6,613.41	6,613.60	93.45	1.89	95.00
164	15,594.00	89.17	90.13	9,115.93	-398.27	6,697.59	6,709.27	6,709.42	93.40	0.50	96.00
165	15,689.00	90.11	90.26	9,116.52	-398.60	6,792.58	6,804.15	6,804.27	93.36	1.00	95.00
166	15,785.00	88.56	89.79	9,117.64	-398.64	6,888.57	6,900.01	6,900.10	93.31	1.69	96.00
167	15,880.00	89.12	90.17	9,119.56	-398.60	6,983.55	6,994.86	6,994.92	93.27	0.71	95.00
168	15,975.00	90.38	90.32	9,119.98	-399.01	7,078.55	7,089.74	7,089.79	93.23	1.34	95.00
169	16,070.00	89.21	90.11	9,120.32	-399.37	7,173.55	7,184.63	7,184.66	93.19	1.25	95.00
170	16,165.00	89.85	90.53	9,121.10	-399.90	7,268.54	7,279.52	7,279.53	93.15	0.81	95.00
171	16,261.00	90.79	90.53	9,120.56	-400.79	7,364.54	7,375.42	7,375.43	93.12	0.98	96.00
172	16,298.00	90.92	90.58	9,120.01	-401.14	7,401.53	7,412.38	7,412.39	93.10	0.38	37.00
PTB	16,362.00	90.92	90.58	9,118.98	-401.79	7,465.52	7,476.32	7,476.32	93.08	0.00	64.00