

30-015-43279

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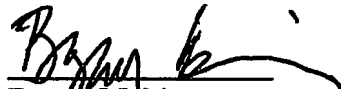
NOV 14 2019

DISTRICT/ARTESIAO.C.D.

State of New Mexico
Eddy County

I, Bryan McKinney, certify that; I am employed by Accel Directional; that I did on the day(s) of 07/17/2019 through 07/24/2019 conduct or supervise the taking of MWD survey(s) from a depth of 0' feet to a depth of 5220' feet; that the data is true, correct, complete and within the limitations of the tool set forth by Accel Directional; that I am authorized and qualified to make this report; that this report was conducted at the request of Limerock Resources for the Eagle 34B Fed #73, in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Accel Directional.


Jerry Howard
Well Planner


Bryan McKinney
Rig Coordinator

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DISTRICT 7 - ARTESIA O.C.D.



Enclosed, please find the original and one copy of the survey performed on the referenced well by Accel Directional, (Operator No. 301287) supervised by Will Romberg. Other information required by your office is as follows:

Name & Title of Supervisor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Bryan Mckinney		0' - 5220'	07/17/19 - 07/24/19	MWD

If any other information is required, please contact the undersigned.


Jerry Howard
Well Planner
jhoward@vectrtech.com
832-995-8855


Will Romberg
Operations Manager
wromberg@vectrtech.com
405-808-8596



SURVEY CALCULATION PROGRAM

Minimum Curvature

File:

OPERATOR: Lime Rock Resources										Target Information			VS Referenced to Offset from Surface				
WELL: Eagle 34B Fed #73										TARGET KB TVD:	0.00		NORTH/SOUTH:	0.00			
LOCATION: Eddy Co NM										TARGET INCL:	6.49		EAST/WEST:	0.00			
RIG: United 33										TARGET AZM:	183.01		(Enter 0° N and 0° E for Surface)				
JOB NUMBER: TX-19-051										PROPOSED DIRECTION: 183.01			Dec / Total Corr.(+/-): 7.06				
SURVEY COMPANY					DIRECTIONAL COMPANY					COMMENTS:							
Vectr Tech					Vectr Tech												
Directional Drillers					COORDINATORS												
Mark Woods					Bryan McKinney												
Kevin Dowdell					Will Romberg												
Lime Rock Resources					Eagle 34B Fed #73								Target Calculations				
SVY	MD	INC	TRUE AZM	TEMP °F	API Gamma	Course Length	TVD	N-S	E-W	Surface Vert Sect	CLOSURE DIST	DIR	DLS/ 100'	BUR/ 100'	TVD AT 0' V. SEC.	ABOVE (+) BELOW (-)	RIGHT(+) LEFT(-)
1	0	0.00	0.00			0.00	0.00	0.00	0.00		0.00	0.00	N/A	N/A			
2	390	1.10	148.80	95		390	389.98	-3.20	1.94	3.10	3.74	148.80	0.28	0.28	362.76	-362.76	-2.10
3	486	1.10	156.60	95		96	485.96	-4.84	2.78	4.68	5.58	150.08	0.16	0.00	444.79	-444.79	-3.03
4	582	1.30	158.80	102		96	581.94	-6.70	3.54	6.50	7.58	152.12	0.21	0.21	524.78	-524.78	-3.89
5	678	5.10	193.70	102		96	677.78	-11.86	2.93	11.69	12.22	166.14	4.27	3.96	575.01	-575.01	-3.54
6	774	5.30	192.10	102		96	773.38	-20.34	0.99	20.26	20.36	177.23	0.26	0.21	595.28	-595.28	-2.05
7	870	5.10	191.50	102		96	868.99	-28.86	-0.79	28.86	28.87	181.58	0.22	-0.21	615.30	-615.30	-0.72
8	965	5.80	184.90	102		95	963.56	-37.78	-2.05	37.83	37.83	183.10	0.99	0.74	630.98	-630.98	0.06
9	1,062	6.00	181.90	102		97	1060.04	-47.73	-2.63	47.80	47.80	183.16	0.38	0.21	639.85	-639.85	0.12
10	1,157	6.00	178.10	102		95	1154.52	-57.65	-2.63	57.71	57.71	182.62	0.42	0.00	647.21	-647.21	-0.40
11	1,253	5.70	180.30	95		96	1250.02	-67.43	-2.49	67.47	67.48	182.12	0.39	-0.31	656.90	-656.90	-1.05
12	1,349	8.40	192.70	102		96	1345.29	-79.05	-4.06	79.15	79.15	182.94	3.21	2.81	649.53	-649.53	-0.10
13	1,445	8.10	193.70	102		96	1440.30	-92.46	-7.20	92.71	92.74	184.45	0.35	-0.31	625.35	-625.35	2.34
14	1,541	8.00	192.30	102		96	1535.35	-105.55	-10.23	105.95	106.05	185.53	0.23	-0.10	604.03	-604.03	4.67
15	1,636	6.50	176.30	102		95	1629.60	-117.38	-11.29	117.81	117.92	185.49	2.63	-1.58	593.97	-593.97	5.11
16	1,732	6.20	177.00	102		96	1725.01	-127.98	-10.67	128.36	128.42	184.76	0.32	-0.31	596.62	-596.62	3.93
17	1,827	6.10	175.90	102		95	1819.47	-138.14	-10.04	138.47	138.50	184.16	0.16	-0.11	602.20	-602.20	2.77
18	1,923	5.80	175.40	102		96	1914.95	-148.06	-9.28	148.34	148.35	183.59	0.32	-0.31	610.93	-610.93	1.50
19	2,019	6.10	176.60	102		96	2010.43	-157.99	-8.59	158.22	158.22	183.11	0.34	0.31	619.59	-619.59	0.28
20	2,115	6.10	172.60	102		96	2105.89	-168.14	-7.63	168.31	168.31	182.60	0.44	0.00	626.39	-626.39	-1.21
21	2,211	6.20	171.10	102		96	2201.34	-178.32	-6.17	178.40	178.42	181.98	0.20	0.10	633.14	-633.14	-3.20
22	2,313	6.20	183.00	102		102	2302.74	-189.26	-5.61	189.29	189.34	181.70	1.26	0.00	638.75	-638.75	-4.34
23	2,409	6.30	183.10	102		96	2398.17	-199.70	-6.17	199.74	199.79	181.77	0.10	0.10	642.31	-642.31	-4.33
24	2,505	6.20	184.70	102		96	2493.60	-210.12	-6.88	210.19	210.23	181.87	0.21	-0.10	645.89	-645.89	-4.17
25	2,601	6.30	183.20	102		96	2589.03	-220.55	-7.59	220.64	220.68	181.97	0.20	0.10	649.47	-649.47	-4.00
26	2,697	3.60	178.00	102		96	2684.67	-228.82	-7.78	228.91	228.95	181.95	2.85	-2.81	672.39	-672.39	-4.24
27	2,793	0.60	158.80	102		96	2780.59	-232.30	-7.50	232.38	232.42	181.85	3.17	-3.13	737.89	-737.89	-4.71
28	2,889	0.70	163.10	102		96	2876.58	-233.33	-7.14	233.39	233.44	181.75	0.12	0.10	825.00	-825.00	-5.12
29	2,985	0.40	194.50	102		96	2972.58	-234.22	-7.06	234.27	234.32	181.73	0.43	-0.31	913.27	-913.27	-5.25
30	3,081	0.40	192.00	102		96	3068.58	-234.87	-7.21	234.92	234.98	181.76	0.02	0.00	1003.47	-1003.47	-5.13
31	3,177	0.40	186.40	102		96	3164.58	-235.53	-7.32	235.59	235.64	181.78	0.04	0.00	1093.62	-1093.62	-5.06
32	3,273	0.30	191.90	102		96	3260.57	-236.11	-7.41	236.17	236.23	181.80	0.11	-0.10	1184.49	-1184.49	-5.00
33	3,369	0.30	200.20	102		96	3356.57	-236.59	-7.55	236.66	236.71	181.83	0.05	0.00	1276.20	-1276.20	-4.89
34	3,465	0.40	168.90	102		96	3452.57	-237.16	-7.57	237.23	237.28	181.83	0.22	0.10	1367.23	-1367.23	-4.90
35	3,561	0.40	140.90	102		96	3548.57	-237.74	-7.29	237.80	237.86	181.76	0.20	0.00	1458.18	-1458.18	-5.20
36	3,656	0.80	346.40	102		95	3643.57	-237.36	-7.24	237.41	237.47	181.75	1.24	0.42	1556.60	-1556.60	-5.23
37	3,753	1.20	349.50	102		97	3740.55	-235.70	-7.58	235.77	235.82	181.84	0.42	0.41	1667.98	-1667.98	-4.80
38	3,849	1.10	351.00	102		96	3836.53	-233.80	-7.91	233.89	233.94	181.94	0.11	-0.10	1780.47	-1780.47	-4.38
39	3,945	1.10	338.20	102		96	3932.51	-232.04	-8.40	232.16	232.19	182.07	0.26	0.00	1891.73	-1891.73	-3.80
40	4,041	1.20	335.50	102		96	4028.49	-230.27	-9.16	230.43	230.45	182.28	0.12	0.10	2002.90	-2002.90	-2.95
41	4,136	1.20	334.50	102		95	4123.47	-228.46	-10.00	228.67	228.68	182.51	0.02	0.00	2113.32	-2113.32	-2.01
42	4,233	1.20	342.20	102		97	4220.45	-226.58	-10.74	226.83	226.83	182.71	0.17	0.00	2226.49	-2226.49	-1.17
43	4,328	1.00	341.40	102		95	4315.43	-224.85	-11.31	225.13	225.13	182.88	0.21	-0.21	2336.42	-2336.42	-0.51
44	4,424	0.50	328.30	102		96	4411.43	-223.70	-11.80	224.01	224.01	183.02	0.55	-0.52	2442.29	-2442.29	0.04
45	4,521	0.40	274.40	102		97	4508.42	-223.31	-12.36	223.65	223.65	183.17	0.43	-0.10	2542.41	-2542.41	0.62
46	4,616	0.60	270.00	102		95	4603.42	-223.28	-13.19	223.67	223.67	183.38	0.21	0.21	2637.25	-2637.25	1.45
47	4,712	0.60	271.70	102		96	4699.41	-223.27	-14.19	223.71	223.72	183.64	0.02	0.00	2732.91	-2732.91	2.45
48	4,808	0.60	273.90	102		96	4795.41	-223.22	-15.20	223.71	223.74	183.89	0.02	0.00	2828.88	-2828.88	3.46
49	4,904	0.50	288.20	102		96	4891.41	-223.06	-16.10	223.59	223.64	184.13	0.18	-0.10	2925.90	-2925.90	4.36
50	5,000	0.50	275.20	102		96	4987.40	-222.89	-16.91	223.47	223.53	184.34	0.12	0.00	3023.01	-3023.01	5.18
51	5,096	0.70	267.70	102		96	5083.40	-222.87	-17.91	223.51	223.59	184.60	0.22	0.21	3118.66	-3118.66	6.19
52	5,174	1.00	267.60	102		78	5161.39	-222.92	-19.07	223.61	223.73	184.89	0.38	0.38	3195.70	-3195.70	7.34
TD/PTB	5,220	1.00	267.60	102		46	5207.38	-222.95	-19.87	223.69	223.84	185.09	0.00	0.00	3241.03	-3241.03	8.14