

Devon Energy

**Lea County, NM (NAD 83)
Rio Blanco 4-33 Fed Com
38H**

OH

Design: OH

Survey Report - Geographic

24 September, 2018

Survey Report - Geographic

Company:	Devon Energy	Local Co-ordinate Reference:	Well 38H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GL 3415 + 30' KB @ 3445.00usft (H&P 540)
Site:	Rio Blanco 4-33 Fed Com	MD Reference:	GL 3415 + 30' KB @ 3445.00usft (H&P 540)
Well:	38H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14 Single User Db

Project	Lea County, NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Rio Blanco 4-33 Fed Com				
Site Position:		Northing:	486,260.98 usft	Latitude:	32.333856
From:	Map	Easting:	807,694.93 usft	Longitude:	-103.470958
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46 °

Well	38H					
Well Position	+N/-S	0.00 usft	Northing:	486,169.70 usft	Latitude:	32.333681
	+E/-W	0.00 usft	Easting:	804,256.97 usft	Longitude:	-103.482090
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,415.00 usft	

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/20/2017	6.80	60.18	48,166.20000000

Design	OH				
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	359.57	

Survey Program	Date	9/24/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
195.00	18,232.00	#1 Legacy MWD (OH)	MWD+IFR1	OWSG MWD + IFR1

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	486,169.70	804,256.97	32.333681	-103.482090
195.00	0.34	201.44	195.00	-0.54	-0.21	486,169.16	804,256.76	32.333679	-103.482091
312.00	0.15	202.27	312.00	-1.00	-0.40	486,168.70	804,256.57	32.333678	-103.482091
402.00	0.51	160.21	402.00	-1.49	-0.31	486,168.21	804,256.66	32.333676	-103.482091
498.00	0.40	169.23	495.99	-2.21	-0.10	486,167.50	804,256.87	32.333675	-103.482090
587.00	0.21	138.21	588.99	-2.84	0.07	486,167.06	804,257.04	32.333673	-103.482090
770.00	0.53	117.88	769.99	-3.29	1.04	486,168.41	804,258.01	32.333672	-103.482087
860.00	1.25	115.63	859.98	-3.91	2.29	486,165.79	804,259.26	32.333670	-103.482082
950.00	1.77	122.15	949.95	-5.07	4.35	486,164.63	804,261.32	32.333667	-103.482078
1,041.00	1.59	151.54	1,040.91	-8.93	8.15	486,162.77	804,263.11	32.333661	-103.482070
1,132.00	1.71	165.19	1,131.87	-9.35	7.09	486,160.35	804,264.08	32.333655	-103.482067
1,222.00	1.97	164.24	1,221.82	-12.14	7.86	486,157.56	804,264.83	32.333647	-103.482065

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Company: Devon Energy
Project: Lea County, NM (NAD 83)
Site: Rio Blanco 4-33 Fed Com
Well: 38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 38H
TVD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
MD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,312.00	2.10	188.15	1,311.77	-15.26	8.04	486,154.44	804,265.01	32.333638	-103.482064
1,402.00	3.12	190.06	1,401.87	-19.30	7.38	486,160.40	804,264.35	32.333627	-103.482066
1,492.00	4.18	195.09	1,491.49	-24.88	6.10	486,144.82	804,263.07	32.333612	-103.482071
1,583.00	6.00	199.63	1,582.13	-32.58	3.64	486,137.14	804,260.61	32.333591	-103.482079
1,673.00	7.36	202.47	1,671.52	-42.32	-0.14	486,127.38	804,258.82	32.333564	-103.482091
1,764.00	8.96	200.04	1,761.59	-54.37	-4.80	486,115.33	804,252.17	32.333531	-103.482107
1,859.00	8.80	192.59	1,855.48	-68.41	-8.92	486,101.29	804,248.05	32.333493	-103.482120
1,953.00	8.18	182.77	1,948.43	-82.11	-10.81	486,087.59	804,248.16	32.333455	-103.482127
2,047.00	7.67	182.13	2,041.53	-95.06	-11.37	486,074.65	804,245.60	32.333420	-103.482129
2,142.00	6.37	174.88	2,135.82	-106.64	-11.13	486,063.06	804,245.84	32.333388	-103.482129
2,236.00	5.41	172.02	2,229.32	-116.22	-10.05	486,053.48	804,246.92	32.333361	-103.482125
2,308.00	5.64	173.55	2,300.99	-123.10	-9.18	486,048.60	804,247.79	32.333342	-103.482123
2,425.00	5.67	177.27	2,417.42	-134.59	-8.26	486,035.11	804,248.71	32.333311	-103.482120
2,519.00	5.58	168.89	2,510.97	-143.71	-7.14	486,026.00	804,249.82	32.333286	-103.482117
2,614.00	5.88	147.21	2,605.50	-152.33	-3.60	486,017.37	804,253.37	32.333262	-103.482105
2,708.00	5.89	139.45	2,699.01	-160.04	2.14	486,009.66	804,259.11	32.333241	-103.482087
2,802.00	5.23	144.51	2,792.57	-167.19	7.76	486,002.51	804,264.73	32.333221	-103.482069
2,896.00	4.46	140.68	2,886.23	-173.51	12.57	485,996.19	804,269.54	32.333203	-103.482054
2,991.00	5.46	115.83	2,980.89	-178.34	18.98	485,991.37	804,275.94	32.333190	-103.482033
3,085.00	7.07	100.23	3,074.33	-181.31	28.70	485,988.39	804,285.66	32.333182	-103.482002
3,180.00	7.57	94.61	3,168.55	-182.85	40.69	485,986.85	804,297.66	32.333177	-103.481963
3,274.00	8.17	90.89	3,261.67	-183.45	53.54	485,986.25	804,310.51	32.333175	-103.481921
3,368.00	8.36	87.13	3,354.69	-183.22	67.06	485,986.49	804,324.02	32.333178	-103.481877
3,405.00	8.22	84.04	3,391.30	-182.81	72.38	485,986.90	804,329.35	32.333177	-103.481860
3,513.00	7.28	85.39	3,498.32	-181.45	86.88	485,988.25	804,343.85	32.333180	-103.481813
3,576.00	8.22	87.49	3,560.74	-180.94	95.36	485,988.76	804,352.33	32.333181	-103.481786
3,670.00	9.60	93.06	3,653.61	-181.06	109.90	485,988.64	804,366.87	32.333181	-103.481739
3,765.00	9.61	94.40	3,747.27	-182.09	125.72	485,987.61	804,382.68	32.333177	-103.481688
3,859.00	9.36	94.42	3,839.99	-183.28	141.16	485,986.42	804,398.13	32.333174	-103.481638
3,953.00	9.35	93.60	3,932.74	-184.35	156.40	485,985.35	804,413.37	32.333170	-103.481588
4,047.00	9.06	92.47	4,025.53	-185.15	171.42	485,984.55	804,428.39	32.333168	-103.481540
4,142.00	8.77	94.67	4,119.38	-186.06	186.11	485,983.64	804,443.08	32.333165	-103.481492
4,236.00	9.78	96.80	4,212.15	-187.59	201.19	485,982.11	804,458.16	32.333161	-103.481443
4,330.00	9.94	96.88	4,304.76	-189.51	217.18	485,980.19	804,474.15	32.333155	-103.481392
4,424.00	9.52	96.34	4,397.41	-191.33	232.96	485,978.37	804,489.93	32.333150	-103.481341
4,519.00	9.31	97.56	4,491.13	-193.21	248.38	485,978.49	804,505.35	32.333144	-103.481291
4,613.00	9.67	101.29	4,583.84	-195.76	263.66	485,973.94	804,520.63	32.333137	-103.481241
4,707.00	10.89	100.34	4,676.33	-198.90	280.14	485,970.80	804,537.11	32.333128	-103.481188
4,801.00	11.59	92.04	4,768.53	-200.83	298.31	485,968.87	804,555.28	32.333122	-103.481129
4,895.00	11.82	90.49	4,860.58	-201.25	317.38	485,968.45	804,574.35	32.333120	-103.481088
4,989.00	11.63	90.68	4,952.62	-201.44	336.48	485,968.26	804,593.45	32.333120	-103.481006
5,083.00	11.30	91.80	5,044.74	-201.84	355.16	485,967.86	804,612.13	32.333118	-103.480945
5,177.00	10.99	91.72	5,136.97	-202.40	373.32	485,967.30	804,630.29	32.333116	-103.480886
5,226.00	10.89	90.95	5,185.08	-202.62	382.62	485,967.08	804,639.58	32.333115	-103.480856
5,363.00	10.42	91.00	5,319.72	-203.05	407.94	485,966.65	804,664.91	32.333114	-103.480774
5,457.00	10.28	89.34	5,412.19	-203.10	424.83	485,966.60	804,681.80	32.333113	-103.480720
5,551.00	9.79	88.64	5,504.75	-202.81	441.21	485,966.89	804,698.17	32.333113	-103.480667
5,646.00	9.19	88.08	5,598.45	-202.37	456.86	485,967.34	804,713.83	32.333114	-103.480616
5,740.00	8.95	88.43	5,691.27	-201.91	471.67	485,967.79	804,728.64	32.333115	-103.480568
5,834.00	8.47	87.49	5,784.19	-201.41	485.90	485,968.29	804,742.87	32.333116	-103.480522
5,929.00	10.01	92.23	5,877.95	-201.42	501.14	485,968.28	804,758.11	32.333116	-103.480473
6,023.00	9.50	90.71	5,970.60	-201.84	517.08	485,967.86	804,774.03	32.333115	-103.480421
6,117.00	9.36	90.92	6,063.32	-202.06	532.46	485,967.85	804,789.43	32.333114	-103.480371
6,211.00	9.65	89.31	6,156.03	-202.08	547.98	485,967.62	804,804.95	32.333113	-103.480321
6,306.00	10.09	87.77	6,249.63	-201.66	564.26	485,968.04	804,821.23	32.333114	-103.480268

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6,400.00	10.31	86.10	6,342.14	-200.77	580.88	485,968.93	804,837.85	32.333116	-103.480214
6,485.00	10.83	83.87	6,435.53	-199.21	598.23	485,970.49	804,855.20	32.333120	-103.480158
6,588.00	10.57	94.40	6,526.92	-198.90	615.42	485,970.80	804,872.39	32.333120	-103.480103
6,683.00	10.39	95.81	6,620.34	-200.44	632.63	485,969.27	804,889.60	32.333116	-103.480047
6,777.00	10.39	95.89	6,712.80	-202.13	649.50	485,967.57	804,906.47	32.333111	-103.479992
6,871.00	10.62	96.38	6,805.22	-203.94	666.54	485,965.76	804,923.51	32.333105	-103.479937
6,966.00	10.19	88.92	6,898.66	-204.75	683.64	485,964.95	804,940.61	32.333103	-103.479882
7,060.00	9.80	88.72	6,991.24	-204.42	699.86	485,965.28	804,956.92	32.333103	-103.479829
7,154.00	9.79	86.37	7,083.87	-203.73	715.93	485,965.97	804,972.80	32.333105	-103.479777
7,248.00	8.79	86.57	7,176.83	-202.80	731.07	485,966.91	804,988.04	32.333107	-103.479728
7,343.00	7.75	86.48	7,270.64	-201.97	744.71	485,967.73	805,001.68	32.333109	-103.479684
7,437.00	7.09	86.41	7,363.86	-201.22	756.83	485,968.49	805,013.80	32.333111	-103.479645
7,531.00	6.72	80.56	7,457.17	-200.91	768.12	485,968.79	805,025.09	32.333112	-103.479608
7,625.00	5.17	92.02	7,550.67	-201.11	777.85	485,968.59	805,034.82	32.333111	-103.479577
7,719.00	6.37	89.02	7,644.19	-201.17	787.30	485,968.53	805,044.27	32.333110	-103.479546
7,814.00	7.98	85.29	7,738.44	-200.54	799.14	485,969.16	805,056.11	32.333112	-103.479508
7,908.00	8.59	83.77	7,831.46	-199.24	812.62	485,970.46	805,069.59	32.333115	-103.479464
8,002.00	9.57	83.34	7,924.28	-197.57	827.36	485,972.13	805,084.33	32.333119	-103.479416
8,097.00	9.74	90.30	8,017.94	-198.70	843.24	485,973.00	805,100.21	32.333121	-103.479365
8,191.00	10.42	87.75	8,110.49	-198.41	859.69	485,973.29	805,116.66	32.333122	-103.479312
8,285.00	9.68	85.28	8,203.05	-195.42	876.06	485,974.28	805,133.03	32.333124	-103.479259
8,379.00	10.61	90.58	8,295.58	-194.86	892.59	485,974.84	805,149.56	32.333125	-103.479205
8,474.00	9.35	90.78	8,389.14	-195.05	909.05	485,974.85	805,166.02	32.333125	-103.479152
8,568.00	7.92	85.72	8,482.07	-194.67	923.14	485,975.03	805,180.11	32.333125	-103.479106
8,662.00	8.89	83.73	8,575.06	-193.40	936.82	485,976.30	805,193.79	32.333129	-103.479062
8,756.00	9.09	88.78	8,667.91	-192.45	951.47	485,977.26	805,208.43	32.333131	-103.479015
8,850.00	8.11	84.29	8,760.85	-191.63	965.49	485,978.07	805,222.46	32.333133	-103.478969
8,945.00	8.33	81.40	8,854.87	-189.93	978.96	485,979.77	805,235.93	32.333137	-103.478925
9,039.00	9.00	88.84	8,947.80	-188.76	993.04	485,980.94	805,250.01	32.333140	-103.478880
9,133.00	9.72	99.42	9,040.56	-189.91	1,008.23	485,979.79	805,265.19	32.333137	-103.478831
9,227.00	13.44	98.81	9,132.83	-192.89	1,026.86	485,978.81	805,283.82	32.333128	-103.478770
9,322.00	10.93	97.44	9,225.48	-195.75	1,046.70	485,973.96	805,303.67	32.333120	-103.478706
9,416.00	10.62	96.16	9,317.82	-197.83	1,064.15	485,971.87	805,321.12	32.333114	-103.478650
9,510.00	9.80	92.55	9,410.34	-199.11	1,080.75	485,970.59	805,337.72	32.333110	-103.478596
9,605.00	9.06	92.90	9,504.05	-199.85	1,096.30	485,969.85	805,353.27	32.333107	-103.478546
9,699.00	10.63	99.21	9,596.87	-201.61	1,112.25	485,968.09	805,369.22	32.333102	-103.478494
9,749.00	10.20	97.44	9,645.84	-202.93	1,121.19	485,966.77	805,378.16	32.333098	-103.478465
9,781.00	9.57	96.95	9,687.22	-203.83	1,128.35	485,965.87	805,385.31	32.333096	-103.478442
KOP @ 9791' MD, 2843.50' FNL / 1589.52' FNL Sec 4									
9,823.00	13.45	88.08	9,718.57	-204.03	1,134.71	485,965.67	805,391.68	32.333095	-103.478422
9,854.00	17.67	74.81	9,748.44	-202.87	1,142.86	485,967.03	805,399.83	32.333098	-103.478395
9,886.00	21.16	71.12	9,778.62	-199.53	1,153.01	485,970.17	805,409.98	32.333107	-103.478362
9,917.00	25.58	62.36	9,807.07	-194.81	1,164.25	485,975.09	805,421.21	32.333120	-103.478326
9,948.00	28.15	55.46	9,834.73	-187.36	1,176.20	485,982.34	805,433.17	32.333140	-103.478287
9,980.00	31.09	46.60	9,862.56	-177.39	1,188.43	485,992.31	805,445.40	32.333167	-103.478247
10,011.00	32.57	36.85	9,888.92	-165.21	1,199.26	486,004.49	805,456.23	32.333200	-103.478212
10,043.00	35.11	30.83	9,915.50	-150.41	1,209.15	486,019.29	805,466.11	32.333241	-103.478179
10,074.00	37.97	25.09	9,940.41	-134.11	1,217.76	486,035.59	805,474.73	32.333285	-103.478151
10,106.00	39.35	21.01	9,965.40	-115.72	1,225.58	486,053.98	805,482.54	32.333336	-103.478125
10,137.00	40.91	18.93	9,989.11	-96.94	1,232.39	486,072.76	805,489.36	32.333387	-103.478103
10,169.00	41.57	14.74	10,013.17	-76.76	1,238.49	486,092.94	805,495.46	32.333442	-103.478082
10,200.00	43.59	12.03	10,036.00	-56.35	1,243.34	486,113.35	805,500.31	32.333498	-103.478066
10,231.00	45.04	12.11	10,058.18	-35.18	1,247.87	486,134.52	805,504.84	32.333557	-103.478051
10,263.00	45.99	10.48	10,080.60	-12.79	1,252.34	486,156.91	805,509.30	32.333618	-103.478036
10,294.00	48.23	7.81	10,101.70	9.63	1,255.94	486,179.33	805,512.90	32.333680	-103.478024

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Company: Devon Energy
Project: Lea County, NM (NAD 83)
Site: Rio Blanco 4-33 Fed Com
Well: 38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 38H
TYD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
MD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
North Reference: Grid
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Database: EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,326.00	52.04	6.98	10,122.21	33.98	1,259.09	486,203.68	805,516.06	32.333746	-103.478013
10,357.00	55.07	5.24	10,140.63	58.77	1,261.74	486,228.48	805,518.71	32.333814	-103.478004
10,388.00	58.45	5.20	10,157.62	84.59	1,264.10	486,254.29	805,521.07	32.333885	-103.477985
10,420.00	60.63	5.23	10,173.84	112.06	1,266.60	486,281.76	805,523.57	32.333961	-103.477988
10,451.00	62.26	5.68	10,188.65	139.16	1,269.19	486,308.86	805,526.16	32.334035	-103.477977
10,483.00	63.08	4.98	10,203.35	167.47	1,271.83	486,337.17	805,528.80	32.334113	-103.477968
10,514.00	63.23	3.98	10,217.35	195.04	1,273.99	486,364.74	805,530.98	32.334189	-103.477980
10,545.00	65.53	2.89	10,230.75	222.94	1,275.68	486,392.64	805,532.62	32.334265	-103.477954
10,592.00	70.55	1.21	10,248.32	268.49	1,277.20	486,436.19	805,534.17	32.334365	-103.477948
10,639.00	74.87	0.31	10,262.29	311.35	1,277.79	486,481.05	805,534.76	32.334508	-103.477945
10,687.00	77.52	358.47	10,273.74	357.95	1,277.29	486,527.68	805,534.26	32.334636	-103.477946
10,734.00	81.96	356.76	10,282.11	404.15	1,275.37	486,573.85	805,532.33	32.334763	-103.477951
10,781.00	85.15	356.22	10,287.39	450.76	1,272.51	486,620.46	805,529.47	32.334892	-103.477959
10,848.00	88.15	356.17	10,291.30	517.49	1,268.07	486,687.19	805,525.04	32.335075	-103.477971
10,851.58	88.19	356.17	10,291.41	521.08	1,267.83	486,690.76	805,524.80	32.335085	-103.477972
Rio Blanco 38H- LP									
10,942.00	89.19	356.08	10,293.48	611.25	1,261.72	486,780.95	805,518.68	32.335333	-103.477989
11,037.00	89.80	355.82	10,294.32	708.01	1,255.01	486,875.71	805,511.98	32.335594	-103.478009
11,131.00	89.02	356.88	10,295.29	799.81	1,249.02	486,969.51	805,505.99	32.335852	-103.478026
11,225.00	88.21	356.27	10,297.56	893.69	1,245.05	487,063.39	805,502.02	32.336110	-103.478036
11,320.00	88.80	358.14	10,300.04	988.61	1,242.07	487,158.31	805,499.04	32.336371	-103.478043
11,414.00	88.26	359.80	10,302.45	1,082.56	1,240.38	487,252.27	805,497.35	32.336629	-103.478046
11,508.00	89.13	0.26	10,304.59	1,178.54	1,240.43	487,346.24	805,497.40	32.336887	-103.478044
11,602.00	90.31	359.09	10,305.05	1,270.53	1,239.90	487,440.23	805,496.87	32.337146	-103.478043
11,696.00	89.36	0.21	10,305.32	1,364.53	1,239.33	487,534.23	805,496.29	32.337404	-103.478042
11,790.00	90.48	0.58	10,305.45	1,458.52	1,239.96	487,628.23	805,496.92	32.337662	-103.478038
11,885.00	92.07	0.58	10,303.34	1,553.49	1,240.80	487,723.19	805,497.87	32.337923	-103.478032
11,979.00	90.08	0.50	10,301.57	1,647.47	1,241.79	487,817.17	805,498.78	32.338182	-103.478027
12,073.00	87.70	0.28	10,303.39	1,741.44	1,242.43	487,911.14	805,499.40	32.338440	-103.478023
12,168.00	88.15	0.33	10,306.83	1,836.38	1,242.93	488,006.08	805,499.90	32.338701	-103.478019
12,262.00	89.27	359.80	10,308.95	1,930.35	1,243.04	488,100.05	805,500.01	32.338959	-103.478016
12,356.00	80.22	359.61	10,309.37	2,024.35	1,242.56	488,194.05	805,499.52	32.339217	-103.478015
12,450.00	88.40	0.16	10,310.50	2,118.34	1,242.37	488,288.04	805,499.33	32.339476	-103.478013
12,544.00	89.38	0.03	10,312.32	2,212.32	1,242.52	488,382.02	805,499.49	32.339734	-103.478010
12,639.00	90.98	359.88	10,312.02	2,307.31	1,242.45	488,477.02	805,499.42	32.339995	-103.478008
12,733.00	89.44	359.74	10,311.66	2,401.31	1,242.14	488,571.01	805,499.10	32.340253	-103.478008
12,827.00	90.25	359.55	10,311.83	2,495.31	1,241.55	488,665.01	805,498.52	32.340512	-103.478006
12,921.00	88.85	0.53	10,312.67	2,589.30	1,241.62	488,759.00	805,498.59	32.340770	-103.478003
12,971.37	89.08	0.42	10,313.58	2,639.66	1,242.04	488,809.36	805,499.00	32.340909	-103.478001
Cross Section Line 12971.37MD, 0FSL / 1735.26FWL									
13,015.00	89.27	0.32	10,314.21	2,683.29	1,242.32	488,852.99	805,499.28	32.341029	-103.477999
13,110.00	90.11	359.95	10,314.73	2,778.28	1,242.54	488,947.98	805,499.51	32.341290	-103.477995
13,204.00	90.84	359.79	10,313.95	2,872.28	1,242.33	489,041.98	805,499.29	32.341548	-103.477994
13,298.00	89.69	359.06	10,313.51	2,966.27	1,241.38	489,135.97	805,498.35	32.341806	-103.477994
13,392.00	87.76	359.07	10,315.61	3,060.23	1,239.85	489,229.93	805,496.82	32.342065	-103.477997
13,486.00	87.95	358.92	10,319.12	3,154.15	1,238.20	489,323.85	805,495.17	32.342323	-103.478000
13,580.00	87.09	0.08	10,323.19	3,248.08	1,237.38	489,417.76	805,494.35	32.342581	-103.478000
13,674.00	87.98	2.19	10,327.23	3,341.94	1,239.24	489,511.65	805,496.21	32.342839	-103.477992
13,768.00	89.44	3.16	10,329.35	3,435.81	1,243.83	489,605.52	805,500.80	32.343097	-103.477975
13,862.00	90.48	2.92	10,329.42	3,529.68	1,248.61	489,699.38	805,505.58	32.343355	-103.477956
13,957.00	92.55	1.41	10,328.90	3,624.57	1,252.20	489,794.27	805,509.17	32.343615	-103.477942
14,051.00	91.12	359.03	10,323.89	3,718.51	1,252.56	489,888.21	805,509.53	32.343874	-103.477939
14,145.00	92.24	356.72	10,321.14	3,812.45	1,250.72	489,982.15	805,507.69	32.344132	-103.477942
14,239.00	90.08	359.10	10,319.24	3,906.41	1,248.93	490,076.11	805,505.90	32.344390	-103.477946
14,333.00	88.77	358.30	10,320.18	4,000.38	1,246.80	490,170.08	805,503.77	32.344649	-103.477950

Survey Report - Geographic

Company: Devon Energy
Project: Lea County, NM (NAD 83)
Site: Rio Blanco 4-33 Fed Com
Well: 38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 38H
TVD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
MD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,428.00	89.52	358.22	10,321.60	4,095.32	1,243.91	490,265.03	805,500.88	32.344910	-103.477957
14,522.00	90.20	357.83	10,321.83	4,189.27	1,240.67	490,358.97	805,497.84	32.345168	-103.477965
14,616.00	88.43	357.88	10,322.95	4,283.19	1,236.99	490,452.89	805,493.96	32.345426	-103.477974
14,710.00	88.94	357.38	10,325.11	4,377.07	1,232.94	490,546.77	805,489.91	32.345684	-103.477985
14,804.00	90.36	357.47	10,325.68	4,470.97	1,228.72	490,640.67	805,485.69	32.345942	-103.477998
14,899.00	89.10	358.71	10,326.13	4,565.92	1,225.55	490,735.62	805,482.52	32.346203	-103.478004
14,993.00	89.27	0.27	10,327.47	4,659.90	1,224.72	490,829.60	805,481.68	32.346462	-103.478004
15,087.00	90.06	0.32	10,328.02	4,753.90	1,225.20	490,923.60	805,482.17	32.346720	-103.478000
15,182.00	91.32	0.33	10,326.87	4,848.89	1,225.74	491,018.59	805,482.71	32.346981	-103.477996
15,276.00	89.97	359.96	10,325.81	4,942.88	1,225.98	491,112.58	805,482.94	32.347239	-103.477993
15,370.00	90.28	359.19	10,325.61	5,036.87	1,225.28	491,206.57	805,482.25	32.347498	-103.477993
15,464.00	88.98	358.86	10,326.23	5,130.86	1,223.68	491,300.56	805,480.65	32.347756	-103.477996
15,559.00	90.11	358.85	10,327.00	5,225.83	1,221.78	491,395.53	805,478.75	32.348017	-103.477999
15,653.00	90.98	358.50	10,326.11	5,319.80	1,219.61	491,489.50	805,478.58	32.348276	-103.478004
15,747.00	89.19	359.41	10,325.97	5,413.78	1,217.89	491,583.48	805,474.86	32.348534	-103.478007
15,842.00	89.83	359.35	10,326.78	5,508.77	1,216.87	491,678.47	805,473.83	32.348795	-103.478008
15,936.00	91.18	359.49	10,325.95	5,602.76	1,215.91	491,772.46	805,472.88	32.349053	-103.478009
16,030.00	89.69	359.80	10,325.24	5,696.75	1,215.33	491,866.45	805,472.30	32.349312	-103.478008
16,125.00	88.26	0.14	10,326.94	5,791.74	1,215.28	491,961.44	805,472.25	32.349573	-103.478006
16,219.00	88.82	0.03	10,329.33	5,885.70	1,215.42	492,055.41	805,472.39	32.349831	-103.478003
16,313.00	89.97	359.92	10,330.33	5,979.70	1,215.38	492,149.40	805,472.35	32.350089	-103.478001
16,407.00	89.02	0.93	10,331.16	6,073.69	1,216.08	492,243.39	805,473.05	32.350348	-103.477998
16,501.00	89.75	0.84	10,332.16	6,167.67	1,217.37	492,337.38	805,474.33	32.350606	-103.477989
16,596.00	88.23	0.37	10,333.84	6,262.65	1,218.20	492,432.35	805,475.17	32.350867	-103.477984
16,690.00	89.13	0.12	10,336.00	6,356.63	1,218.60	492,526.33	805,475.57	32.351125	-103.477980
16,784.00	90.00	0.34	10,338.72	6,450.62	1,218.98	492,620.32	805,475.95	32.351384	-103.477977
16,878.00	91.49	0.17	10,335.50	6,544.61	1,219.40	492,714.31	805,476.37	32.351642	-103.477973
16,972.00	90.22	359.11	10,334.09	6,638.59	1,218.81	492,808.30	805,475.78	32.351900	-103.477972
17,067.00	88.68	358.53	10,335.00	6,733.57	1,216.85	492,903.27	805,473.82	32.352161	-103.477976
17,161.00	90.08	358.28	10,336.04	6,827.52	1,214.24	492,997.22	805,471.21	32.352420	-103.477982
17,255.00	88.68	358.09	10,337.07	6,921.47	1,211.26	493,091.17	805,468.23	32.352678	-103.477990
17,349.00	90.14	358.33	10,338.04	7,015.41	1,208.32	493,185.11	805,465.29	32.352936	-103.477997
17,444.00	92.07	358.16	10,338.21	7,110.35	1,205.42	493,280.05	805,462.38	32.353197	-103.478004
17,538.00	89.55	357.92	10,334.88	7,204.28	1,202.20	493,373.98	805,459.17	32.353456	-103.478012
17,632.00	88.15	357.93	10,338.77	7,298.19	1,198.80	493,467.89	805,455.77	32.353714	-103.478020
17,726.00	88.27	359.30	10,341.34	7,392.05	1,196.53	493,561.75	805,453.50	32.353972	-103.478025
17,821.00	88.89	359.47	10,347.01	7,486.87	1,195.51	493,656.57	805,452.48	32.354232	-103.478026
17,915.00	88.71	359.19	10,350.62	7,580.79	1,194.41	493,750.49	805,451.38	32.354491	-103.478027
17,922.03	88.79	359.14	10,350.77	7,587.82	1,194.31	493,757.52	805,451.28	32.354510	-103.478027
Rio Blanco 38H BHL									
18,009.00	89.80	358.56	10,351.84	7,674.76	1,192.57	493,844.47	805,449.53	32.354749	-103.478031
18,104.00	90.87	358.11	10,351.28	7,769.72	1,189.81	493,939.42	805,446.77	32.355010	-103.478037
18,152.20	91.81	358.11	10,350.15	7,817.88	1,188.22	493,987.58	805,445.19	32.355142	-103.478041
100' FNL @ 18152.2' MD, 100' FNL / 1716.48' FWL									
18,174.00	92.24	358.11	10,349.38	7,839.66	1,187.50	494,009.36	805,444.47	32.355202	-103.478043
Last Survey 18174' MD, 78.21' FNL / 1716.90' FWL									
18,232.00	92.24	358.11	10,347.12	7,897.58	1,185.59	494,067.28	805,442.56	32.355361	-103.478047
PTB 18232' MD, 20.39' FNL / 1714.34' FWL									

Survey Report - Geographic

Company: Devon Energy
Project: Lea County, NM (NAD 83)
Site: Rio Blanco 4-33 Fed Com
Well: 38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well 38H
TVD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
MD Reference: GL 3415 + 30' KB @ 3445.00usft (H&P 540)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.14 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,791.00	9,687.22	-203.83	1,128.35	KOP @ 9791'MD, 2843.50'FNL / 1589.52'FWL Sec4
12,971.37	10,313.58	2,639.66	1,242.04	Cross Section Line 12971.37'MD, 0'FSL / 1735.26'FWL
18,152.20	10,350.15	7,817.88	1,188.22	100' FNL @ 18152.2'MD, 100'FNL / 1716.48'FWL
18,174.00	10,349.38	7,839.66	1,187.50	Last Survey 18174'MD, 78.21'FNL / 1715.90'FWL
18,232.00	10,347.12	7,897.58	1,185.59	PTB 18232'MD, 20.39'FNL / 1714.34'FWL

Checked By: _____ Approved By: _____ Date: _____

devon

Company: Devon Energy
Field: Lea County, NM (NAD 83)
Location: Rio Blanco 4-33 Fed Com
Well: 38H
OH
Plan: Plan 8
GL 3415 + 30' KB @ 3445.00usft (H&P 540)



Admutha to Grid North
True North: -0.46°
Magnetic North: 6.34°
Magnetic Field
Strength: 48168.2uT
Dip Angle: 60.18°
Date: 12/20/2017
Model: HOGM

LEGACY DIRECTIONAL

To convert a Magnetic Direction to a Grid Direction, Add 6.34°
To convert a True Direction to a Grid Direction, Subtract 0.46°

PROJECT DETAILS: Lea County, NM (NAD 83)

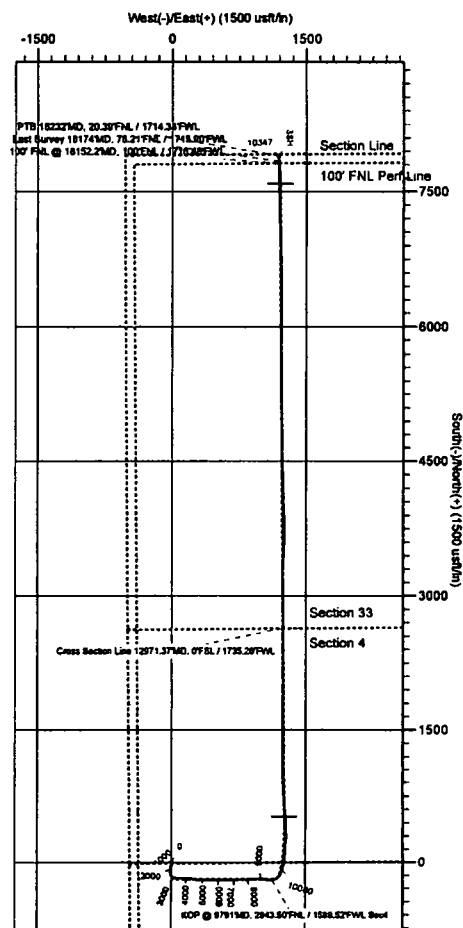
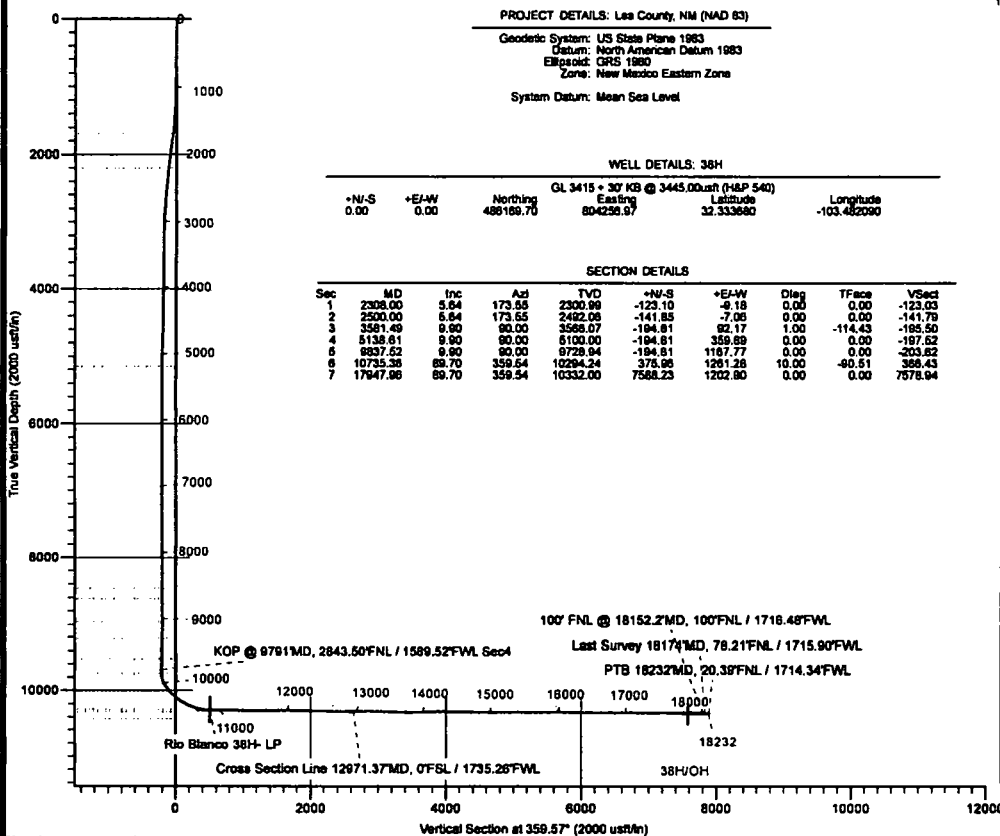
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS: 38H

GL 3415 + 30' KB @ 3445.00usft (H&P 540)
Northing: 489186.70
Easting: 804256.97
Latitude: 32.333680
Longitude: -103.482090

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSec
1	2308.00	5.64	173.55	2300.99	-123.10	-9.18	0.00	0.00	-123.03
2	2500.00	5.64	173.55	2492.08	-141.85	-7.05	0.00	0.00	-141.79
3	3561.49	9.90	90.00	3556.07	-194.81	92.17	1.00	-114.43	-195.50
4	5138.61	9.90	90.00	5100.00	-194.81	359.89	0.00	0.00	-197.62
5	8937.52	9.90	90.00	8728.94	-194.81	1167.77	0.00	0.00	-203.82
6	10735.38	89.70	359.54	10294.34	375.98	1261.26	10.00	-90.51	356.43
7	17947.98	89.70	359.54	10332.00	7568.23	1202.80	0.00	0.00	7578.94



Created By: Jenise Kitzpatrick

Date: 15.22, September 24 2018