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NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

DOMINATOR 25 FED #710H

OWB

Design: ACTUAL WELLPATH

Standard Survey Report

08 November, 2018



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

Project	LEA COUNTY, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	BULLDOG			
Site Position:		Northing:	398,637.10 usft	Latitude: 32° 5' 36.820 N
From:	Map	Easting:	741,887.40 usft	Longitude: 103° 33' 8.116 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.42 °

Well	DOMINATOR 25 FED #710H			
Well Position	+N-S	0.0 usft	Northing:	399,180.00 usft
	+E-W	0.0 usft	Easting:	749,529.80 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Ground Level:	3,335.6 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM2015	1/30/2018	6.88	59.93	47,789.47358885

Design	ACTUAL WELLPATH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	356.20

Survey Program	Date 10/22/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	11,715.0	GYRO (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,885.0	17,600.0	MWD-CURVE/LATERAL (OWB)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.52	45.87	100.0	0.3	0.3	0.3	0.52	0.52	0.00
125.0	0.49	45.41	125.0	0.5	0.5	0.4	0.12	-0.12	-1.84
150.0	0.48	53.53	150.0	0.6	0.6	0.6	0.28	-0.04	32.48
175.0	0.53	65.66	175.0	0.7	0.8	0.7	0.47	0.20	48.52
200.0	0.74	73.20	200.0	0.8	1.1	0.7	0.90	0.84	30.16
225.0	0.84	81.15	225.0	0.9	1.4	0.8	0.59	0.40	31.80
250.0	0.81	84.26	250.0	0.9	1.8	0.8	0.22	-0.12	12.44
275.0	0.85	79.41	275.0	1.0	2.1	0.8	0.32	0.16	-19.40
300.0	0.86	82.68	300.0	1.0	2.5	0.9	0.20	0.04	13.08



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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)
325.0	0.82	80.09	325.0	1.1	2.9	0.9	0.22	-0.16	-10.36
350.0	0.79	85.38	350.0	1.1	3.2	0.9	0.32	-0.12	21.16
375.0	0.79	87.52	375.0	1.2	3.6	0.9	0.12	0.00	8.56
400.0	0.78	86.96	400.0	1.2	3.9	0.9	0.05	-0.04	-2.24
425.0	0.75	89.16	425.0	1.2	4.2	0.9	0.17	-0.12	8.80
450.0	0.76	88.19	450.0	1.2	4.6	0.9	0.06	0.04	-3.88
475.0	0.74	88.02	475.0	1.2	4.9	0.9	0.08	-0.08	-0.68
500.0	0.73	85.23	500.0	1.2	5.2	0.9	0.15	-0.04	-11.16
525.0	0.76	85.65	525.0	1.3	5.5	0.9	0.12	0.12	1.68
550.0	0.73	90.23	550.0	1.3	5.9	0.9	0.27	-0.12	18.32
575.0	0.66	89.39	575.0	1.3	6.2	0.9	0.28	-0.28	-3.36
600.0	0.64	90.23	600.0	1.3	6.5	0.8	0.09	-0.08	3.36
625.0	0.56	80.85	625.0	1.3	6.7	0.8	0.51	-0.32	-37.52
650.0	0.55	80.83	650.0	1.3	7.0	0.9	0.04	-0.04	-0.08
675.0	0.45	79.20	675.0	1.4	7.2	0.9	0.40	-0.40	-6.52
700.0	0.40	73.06	700.0	1.4	7.3	0.9	0.27	-0.20	-24.56
725.0	0.23	80.14	725.0	1.4	7.5	0.9	0.70	-0.68	28.32
750.0	0.43	75.94	750.0	1.5	7.6	1.0	0.81	0.80	-16.80
775.0	0.48	82.12	775.0	1.5	7.8	1.0	0.28	0.20	24.72
800.0	0.40	78.25	800.0	1.5	8.0	1.0	0.34	-0.32	-15.48
825.0	0.33	75.31	825.0	1.6	8.2	1.0	0.29	-0.28	-11.76
850.0	0.27	74.58	850.0	1.6	8.3	1.1	0.24	-0.24	-2.92
875.0	0.16	64.96	875.0	1.6	8.4	1.1	0.46	-0.44	-38.48
900.0	0.12	286.84	900.0	1.7	8.4	1.1	1.05	-0.16	-552.48
925.0	0.30	272.10	924.9	1.7	8.3	1.1	0.75	0.72	-58.96
950.0	0.43	292.72	949.9	1.7	8.1	1.2	0.73	0.52	82.48
975.0	0.56	278.79	974.9	1.8	7.9	1.2	0.70	0.52	-55.72
1,000.0	0.57	279.53	999.9	1.8	7.7	1.3	0.05	0.04	2.96
1,025.0	0.59	279.63	1,024.9	1.8	7.4	1.4	0.08	0.08	0.40
1,050.0	0.57	277.26	1,049.9	1.9	7.2	1.4	0.12	-0.08	-9.48
1,075.0	0.66	280.76	1,074.9	1.9	6.9	1.5	0.39	0.36	14.00
1,100.0	0.62	279.30	1,099.9	2.0	6.6	1.5	0.17	-0.16	-5.84
1,125.0	0.57	291.04	1,124.9	2.0	6.4	1.6	0.53	-0.20	46.96
1,150.0	0.58	294.66	1,149.9	2.1	6.2	1.7	0.15	0.04	14.48
1,175.0	0.70	306.59	1,174.9	2.3	5.9	1.9	0.71	0.48	47.72
1,200.0	0.48	302.12	1,199.9	2.4	5.7	2.0	0.90	-0.88	-17.88
1,225.0	0.41	303.14	1,224.9	2.5	5.6	2.2	0.28	-0.28	4.08
1,250.0	0.39	294.77	1,249.9	2.6	5.4	2.3	0.25	-0.08	-33.48
1,275.0	0.26	290.53	1,274.9	2.7	5.3	2.3	0.53	-0.52	-16.96
1,300.0	0.35	289.67	1,299.9	2.7	5.1	2.4	0.36	0.36	-3.44
1,325.0	0.39	275.55	1,324.9	2.8	5.0	2.4	0.40	0.16	-56.48
1,350.0	0.31	279.12	1,349.9	2.8	4.8	2.4	0.33	-0.32	14.28
1,375.0	0.36	288.54	1,374.9	2.8	4.7	2.5	0.30	0.20	37.68



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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)
1,400.0	0.23	314.82	1,399.9	2.9	4.6	2.6	0.74	-0.52	105.12
1,425.0	0.37	291.98	1,424.9	2.9	4.5	2.6	0.73	0.56	-91.36
1,450.0	0.27	293.40	1,449.9	3.0	4.3	2.7	0.40	-0.40	5.68
1,475.0	0.32	275.04	1,474.9	3.0	4.2	2.7	0.43	0.20	-73.44
1,500.0	0.24	284.10	1,499.9	3.0	4.1	2.8	0.36	-0.32	36.24
1,525.0	0.33	262.36	1,524.9	3.0	4.0	2.8	0.56	0.36	-86.96
1,550.0	0.49	216.52	1,549.9	2.9	3.8	2.7	1.41	0.64	-183.36
1,575.0	1.17	207.14	1,574.9	2.6	3.7	2.4	2.76	2.72	-37.52
1,600.0	1.60	203.88	1,599.9	2.1	3.4	1.9	1.75	1.72	-13.04
1,625.0	1.89	204.84	1,624.9	1.4	3.1	1.2	1.17	1.16	3.84
1,650.0	1.88	203.79	1,649.9	0.6	2.8	0.5	0.14	-0.04	-4.20
1,675.0	1.99	206.27	1,674.9	-0.1	2.4	-0.3	0.55	0.44	9.92
1,700.0	2.11	206.90	1,699.9	-0.9	2.0	-1.1	0.49	0.48	2.52
1,725.0	2.11	209.30	1,724.8	-1.7	1.6	-1.8	0.35	0.00	9.60
1,750.0	2.03	209.07	1,749.8	-2.5	1.1	-2.6	0.32	-0.32	-0.92
1,775.0	2.12	210.06	1,774.8	-3.3	0.7	-3.3	0.39	0.36	3.96
1,800.0	2.11	212.66	1,799.8	-4.1	0.2	-4.1	0.39	-0.04	10.40
1,825.0	2.20	213.56	1,824.8	-4.9	-0.3	-4.9	0.38	0.36	3.60
1,850.0	2.18	215.68	1,849.8	-5.7	-0.9	-5.6	0.33	-0.08	8.48
1,875.0	2.15	217.76	1,874.7	-6.4	-1.4	-6.3	0.34	-0.12	8.32
1,900.0	2.15	216.58	1,899.7	-7.2	-2.0	-7.0	0.18	0.00	-4.72
1,925.0	2.26	221.80	1,924.7	-7.9	-2.6	-7.7	0.92	0.44	20.88
1,950.0	2.18	221.02	1,949.7	-8.6	-3.2	-8.4	0.34	-0.32	-3.12
1,975.0	2.21	218.67	1,974.7	-9.4	-3.8	-9.1	0.38	0.12	-9.40
2,000.0	2.20	221.66	1,999.7	-10.1	-4.5	-9.8	0.46	-0.04	11.96
2,025.0	2.15	219.55	2,024.6	-10.8	-5.1	-10.5	0.38	-0.20	-8.44
2,050.0	2.19	220.36	2,049.6	-11.6	-5.7	-11.2	0.20	0.16	3.24
2,075.0	2.15	220.94	2,074.6	-12.3	-6.3	-11.8	0.18	-0.16	2.32
2,100.0	2.14	220.84	2,099.6	-13.0	-6.9	-12.5	0.04	-0.04	-0.40
2,125.0	2.06	219.03	2,124.6	-13.7	-7.5	-13.2	0.42	-0.32	-7.24
2,150.0	2.12	221.58	2,149.5	-14.4	-8.1	-13.8	0.44	0.24	10.20
2,175.0	2.05	220.18	2,174.5	-15.1	-8.7	-14.5	0.35	-0.28	-5.60
2,200.0	2.10	222.09	2,199.5	-15.8	-9.3	-15.1	0.34	0.20	7.64
2,225.0	2.09	221.39	2,224.5	-16.4	-9.9	-15.7	0.11	-0.04	-2.80
2,250.0	1.96	222.33	2,249.5	-17.1	-10.5	-16.4	0.54	-0.52	3.76
2,275.0	2.10	225.68	2,274.5	-17.7	-11.1	-17.0	0.73	0.56	13.40
2,300.0	1.79	223.54	2,299.5	-18.3	-11.7	-17.5	1.27	-1.24	-8.56
2,325.0	1.62	220.41	2,324.4	-18.9	-12.2	-18.0	0.78	-0.68	-12.52
2,350.0	1.86	223.34	2,349.4	-19.4	-12.7	-18.6	1.02	0.96	11.72
2,375.0	1.91	223.93	2,374.4	-20.0	-13.3	-19.1	0.21	0.20	2.36
2,400.0	1.91	223.63	2,399.4	-20.6	-13.9	-19.7	0.04	0.00	-1.20
2,425.0	1.88	225.59	2,424.4	-21.2	-14.4	-20.2	0.29	-0.12	7.84
2,450.0	1.94	226.60	2,449.4	-21.8	-15.0	-20.8	0.28	0.24	4.04



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2,475.0	2.06	225.25	2,474.4	-22.4	-15.7	-21.3	0.52	0.48	-5.40
2,500.0	2.00	225.04	2,499.3	-23.0	-16.3	-21.9	0.24	-0.24	-0.84
2,525.0	2.03	227.27	2,524.3	-23.6	-16.9	-22.5	0.34	0.12	8.92
2,550.0	1.98	226.18	2,549.3	-24.2	-17.6	-23.0	0.25	-0.20	-4.36
2,575.0	2.20	225.72	2,574.3	-24.9	-18.2	-23.6	0.88	0.88	-1.84
2,600.0	2.29	224.79	2,599.3	-25.6	-18.9	-24.3	0.39	0.36	-3.72
2,625.0	2.56	222.68	2,624.3	-26.3	-19.6	-25.0	1.14	1.08	-8.44
2,650.0	2.53	222.01	2,649.2	-27.2	-20.4	-25.7	0.17	-0.12	-2.68
2,675.0	2.60	221.08	2,674.2	-28.0	-21.1	-26.5	0.33	0.28	-3.72
2,700.0	3.06	218.34	2,699.2	-28.9	-21.9	-27.4	1.92	1.84	-10.96
2,725.0	3.71	214.44	2,724.1	-30.1	-22.8	-28.6	2.76	2.60	-15.60
2,750.0	3.69	215.71	2,749.1	-31.5	-23.7	-29.8	0.34	-0.08	5.08
2,775.0	3.83	216.71	2,774.0	-32.8	-24.7	-31.1	0.62	0.56	4.00
2,800.0	3.75	216.12	2,799.0	-34.1	-25.7	-32.3	0.36	-0.32	-2.36
2,825.0	3.79	215.27	2,823.9	-35.4	-26.6	-33.6	0.27	0.16	-3.40
2,850.0	3.63	214.22	2,848.9	-36.8	-27.5	-34.9	0.70	-0.64	-4.20
2,875.0	3.62	212.74	2,873.8	-38.1	-28.4	-36.1	0.38	-0.04	-5.92
2,900.0	3.55	211.77	2,898.8	-39.4	-29.3	-37.4	0.37	-0.28	-3.88
2,925.0	3.54	210.61	2,923.7	-40.7	-30.1	-38.7	0.29	-0.04	-4.64
2,950.0	3.57	211.87	2,948.7	-42.1	-30.9	-39.9	0.33	0.12	5.04
2,975.0	3.45	208.33	2,973.6	-43.4	-31.6	-41.2	0.99	-0.48	-14.16
3,000.0	3.26	208.87	2,998.6	-44.7	-32.3	-42.4	0.77	-0.76	2.16
3,025.0	3.12	206.39	3,023.5	-45.9	-33.0	-43.6	0.79	-0.56	-9.92
3,050.0	3.13	205.89	3,048.5	-47.1	-33.6	-44.8	0.12	0.04	-2.00
3,075.0	2.91	202.11	3,073.5	-48.3	-34.1	-46.0	1.19	-0.88	-15.12
3,100.0	2.77	200.21	3,098.4	-49.5	-34.6	-47.1	0.67	-0.56	-7.60
3,125.0	2.82	202.63	3,123.4	-50.6	-35.0	-48.2	0.51	0.20	9.68
3,150.0	2.85	201.49	3,148.4	-51.8	-35.5	-49.3	0.26	0.12	-4.56
3,175.0	2.78	202.89	3,173.3	-52.9	-35.9	-50.4	0.39	-0.28	5.60
3,200.0	3.17	210.97	3,198.3	-54.0	-36.5	-51.5	2.29	1.56	32.32
3,225.0	3.30	212.24	3,223.3	-55.3	-37.3	-52.7	0.59	0.52	5.08
3,250.0	3.33	212.66	3,248.2	-56.5	-38.0	-53.8	0.15	0.12	1.68
3,275.0	3.70	214.24	3,273.2	-57.7	-38.9	-55.0	1.53	1.48	6.32
3,300.0	4.15	218.10	3,298.1	-59.1	-39.9	-56.4	2.09	1.80	15.44
3,325.0	4.16	218.22	3,323.1	-60.6	-41.0	-57.7	0.05	0.04	0.48
3,350.0	4.15	213.89	3,348.0	-62.0	-42.1	-59.1	1.26	-0.04	-17.32
3,375.0	4.13	213.98	3,372.9	-63.5	-43.1	-60.5	0.08	-0.08	0.36
3,400.0	4.18	213.07	3,397.9	-65.0	-44.1	-62.0	0.33	0.20	-3.64
3,425.0	4.13	213.94	3,422.8	-66.5	-45.1	-63.4	0.32	-0.20	3.48
3,450.0	4.15	214.34	3,447.7	-68.0	-46.1	-64.8	0.14	0.08	1.60
3,475.0	4.32	224.89	3,472.7	-69.4	-47.3	-66.2	3.18	0.68	42.20
3,500.0	4.50	229.41	3,497.6	-70.7	-48.7	-67.4	1.57	0.72	18.08
3,525.0	4.52	229.79	3,522.5	-72.0	-50.2	-68.5	0.14	0.08	1.52
3,550.0	4.41	233.39	3,547.4	-73.2	-51.7	-69.6	1.20	-0.44	14.40



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
3,575.0	4.35	236.83	3,572.4	-74.3	-53.3	-70.6	1.08	-0.24	13.76
3,600.0	4.33	236.31	3,597.3	-75.4	-54.8	-71.6	0.18	-0.08	-2.08
3,625.0	4.36	236.53	3,622.2	-76.4	-56.4	-72.5	0.14	0.12	0.88
3,650.0	4.34	236.49	3,647.1	-77.5	-58.0	-73.4	0.08	-0.08	-0.16
3,675.0	4.41	235.94	3,672.1	-78.5	-59.6	-74.4	0.33	0.28	-2.20
3,700.0	4.41	235.52	3,697.0	-79.6	-61.2	-75.4	0.13	0.00	-1.68
3,725.0	4.45	234.83	3,721.9	-80.7	-62.8	-76.4	0.27	0.16	-2.76
3,750.0	4.44	234.87	3,746.9	-81.8	-64.3	-77.4	0.04	-0.04	0.16
3,775.0	4.26	234.22	3,771.8	-82.9	-65.9	-78.4	0.75	-0.72	-2.60
3,800.0	4.47	233.41	3,796.7	-84.0	-67.4	-79.4	0.88	0.84	-3.24
3,825.0	4.51	233.75	3,821.6	-85.2	-69.0	-80.4	0.19	0.16	1.36
3,850.0	4.40	234.51	3,846.6	-86.3	-70.6	-81.5	0.50	-0.44	3.04
3,875.0	4.16	235.24	3,871.5	-87.4	-72.1	-82.4	0.98	-0.96	2.92
3,900.0	3.76	234.38	3,896.4	-88.4	-73.5	-83.3	1.62	-1.60	-3.44
3,925.0	3.42	233.43	3,921.4	-89.3	-74.8	-84.2	1.38	-1.36	-3.80
3,950.0	2.94	232.60	3,946.3	-90.2	-75.9	-84.9	1.93	-1.92	-3.32
3,975.0	2.81	231.97	3,971.3	-90.9	-76.9	-85.6	0.54	-0.52	-2.52
4,000.0	2.94	229.19	3,996.3	-91.7	-77.8	-86.4	0.76	0.52	-11.12
4,025.0	2.83	231.64	4,021.2	-92.5	-78.8	-87.1	0.66	-0.44	9.80
4,050.0	3.29	228.58	4,046.2	-93.4	-79.8	-87.9	1.95	1.84	-12.24
4,075.0	3.37	229.46	4,071.2	-94.3	-80.9	-88.8	0.38	0.32	3.52
4,100.0	3.36	227.99	4,096.1	-95.3	-82.0	-89.7	0.35	-0.04	-5.88
4,125.0	3.31	228.50	4,121.1	-96.3	-83.1	-90.6	0.23	-0.20	2.04
4,150.0	3.35	231.15	4,146.0	-97.2	-84.2	-91.4	0.64	0.16	10.60
4,175.0	3.32	230.57	4,171.0	-98.1	-85.4	-92.3	0.18	-0.12	-2.32
4,200.0	3.23	231.45	4,196.0	-99.0	-86.5	-93.1	0.41	-0.36	3.52
4,225.0	3.21	230.46	4,220.9	-99.9	-87.6	-93.9	0.24	-0.08	-3.96
4,250.0	3.20	232.21	4,245.9	-100.8	-88.7	-94.7	0.39	-0.04	7.00
4,275.0	3.19	232.32	4,270.8	-101.6	-89.8	-95.5	0.05	-0.04	0.44
4,300.0	3.09	232.46	4,295.8	-102.5	-90.8	-96.2	0.40	-0.40	0.56
4,325.0	3.16	232.75	4,320.8	-103.3	-91.9	-97.0	0.29	0.28	1.16
4,350.0	2.91	231.34	4,345.7	-104.1	-93.0	-97.7	1.04	-1.00	-5.64
4,375.0	2.99	232.35	4,370.7	-104.9	-94.0	-98.5	0.38	0.32	4.04
4,400.0	2.89	230.02	4,395.7	-105.7	-95.0	-99.2	0.62	-0.40	-9.32
4,425.0	2.96	220.10	4,420.6	-106.6	-95.9	-100.0	2.04	0.28	-39.68
4,450.0	3.17	211.63	4,445.6	-107.7	-96.7	-101.1	1.99	0.84	-33.88
4,475.0	3.05	205.66	4,470.6	-108.9	-97.3	-102.2	1.38	-0.48	-23.88
4,500.0	3.19	203.35	4,495.5	-110.1	-97.9	-103.4	0.75	0.56	-9.24
4,525.0	3.12	198.90	4,520.5	-111.4	-98.4	-104.6	1.02	-0.28	-17.80
4,550.0	3.18	202.90	4,545.4	-112.7	-98.9	-105.9	0.91	0.24	16.00
4,575.0	3.11	201.22	4,570.4	-114.0	-99.4	-107.1	0.46	-0.28	-6.72
4,600.0	3.38	202.93	4,595.4	-115.3	-99.9	-108.4	1.15	1.08	6.84
4,625.0	3.99	208.50	4,620.3	-116.7	-100.6	-109.8	2.83	2.44	22.28



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
4,650.0	4.02	209.65	4,645.3	-118.2	-101.5	-111.3	0.34	0.12	4.60
4,675.0	3.94	207.86	4,670.2	-119.8	-102.3	-112.7	0.59	-0.32	-7.16
4,700.0	4.00	209.36	4,695.1	-121.3	-103.1	-114.2	0.48	0.24	6.00
4,725.0	4.21	210.65	4,720.1	-122.8	-104.0	-115.7	0.92	0.84	5.16
4,750.0	4.13	209.81	4,745.0	-124.4	-104.9	-117.2	0.40	-0.32	-3.36
4,775.0	4.24	210.23	4,769.9	-126.0	-105.8	-118.7	0.46	0.44	1.68
4,800.0	4.30	211.74	4,794.9	-127.6	-106.8	-120.2	0.51	0.24	6.04
4,825.0	4.52	213.25	4,819.8	-129.2	-107.8	-121.8	0.99	0.88	6.04
4,850.0	4.62	211.31	4,844.7	-130.9	-108.9	-123.4	0.74	0.40	-7.76
4,875.0	4.60	211.53	4,869.6	-132.6	-109.9	-125.0	0.11	-0.08	0.88
4,900.0	4.59	211.42	4,894.6	-134.3	-111.0	-126.6	0.05	-0.04	-0.44
4,925.0	4.62	211.13	4,919.5	-136.0	-112.0	-128.3	0.15	0.12	-1.16
4,950.0	4.60	211.72	4,944.4	-137.7	-113.1	-129.9	0.21	-0.08	2.36
4,975.0	4.74	213.06	4,969.3	-139.4	-114.2	-131.6	0.71	0.56	5.36
5,000.0	4.56	213.72	4,994.2	-141.1	-115.3	-133.2	0.75	-0.72	2.64
5,025.0	4.44	213.98	5,019.1	-142.8	-116.4	-134.7	0.49	-0.48	1.04
5,050.0	4.23	213.54	5,044.1	-144.3	-117.4	-136.2	0.85	-0.84	-1.76
5,075.0	4.13	214.54	5,069.0	-145.9	-118.4	-137.7	0.49	-0.40	4.00
5,100.0	4.06	213.26	5,093.9	-147.3	-119.4	-139.1	0.46	-0.28	-5.12
5,125.0	3.77	214.59	5,118.9	-148.7	-120.4	-140.4	1.22	-1.16	5.32
5,150.0	3.74	215.86	5,143.8	-150.1	-121.3	-141.7	0.35	-0.12	5.08
5,175.0	3.51	216.89	5,168.8	-151.4	-122.3	-142.9	0.96	-0.92	4.12
5,200.0	3.46	214.04	5,193.7	-152.6	-123.2	-144.1	0.72	-0.20	-11.40
5,225.0	3.44	212.96	5,218.7	-153.9	-124.0	-145.3	0.27	-0.08	-4.32
5,250.0	3.42	214.38	5,243.6	-155.1	-124.8	-146.5	0.35	-0.08	5.68
5,275.0	3.31	214.49	5,268.6	-156.3	-125.6	-147.6	0.44	-0.44	0.44
5,300.0	3.37	213.59	5,293.6	-157.5	-126.5	-148.8	0.32	0.24	-3.60
5,325.0	3.40	214.19	5,318.5	-158.7	-127.3	-150.0	0.19	0.12	2.40
5,350.0	3.31	218.36	5,343.5	-159.9	-128.1	-151.1	1.04	-0.36	16.68
5,375.0	3.43	226.67	5,368.4	-161.0	-129.1	-152.1	2.01	0.48	33.24
5,400.0	3.35	234.01	5,393.4	-161.9	-130.3	-152.9	1.76	-0.32	29.36
5,425.0	3.40	236.51	5,418.3	-162.8	-131.5	-153.7	0.62	0.20	10.00
5,450.0	3.55	239.12	5,443.3	-163.6	-132.8	-154.4	0.87	0.60	10.44
5,475.0	3.74	240.60	5,468.3	-164.4	-134.1	-155.1	0.85	0.76	5.92
5,500.0	4.32	243.50	5,493.2	-165.2	-135.7	-155.8	2.46	2.32	11.60
5,525.0	4.14	240.91	5,518.1	-166.1	-137.3	-156.6	1.05	-0.72	-10.36
5,550.0	4.32	242.05	5,543.1	-166.9	-138.9	-157.4	0.79	0.72	4.56
5,575.0	4.23	240.28	5,568.0	-167.8	-140.6	-158.2	0.64	-0.36	-7.08
5,600.0	4.19	241.59	5,592.9	-168.7	-142.2	-158.9	0.42	-0.16	5.24
5,625.0	4.12	239.72	5,617.8	-169.6	-143.8	-159.7	0.61	-0.28	-7.48
5,650.0	4.09	240.33	5,642.8	-170.5	-145.3	-160.5	0.21	-0.12	2.44
5,675.0	4.15	239.66	5,667.7	-171.4	-146.9	-161.3	0.31	0.24	-2.68
5,700.0	4.13	241.00	5,692.7	-172.3	-148.4	-162.1	0.40	-0.08	5.36



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
5,725.0	4.12	240.93	5,717.6	-173.2	-150.0	-162.9	0.04	-0.04	-0.28
5,750.0	4.03	239.56	5,742.5	-174.1	-151.6	-163.6	0.53	-0.36	-5.48
5,775.0	4.04	237.44	5,767.5	-175.0	-153.1	-164.4	0.60	0.04	-8.48
5,800.0	4.00	236.23	5,792.4	-175.9	-154.5	-165.3	0.38	-0.16	-4.84
5,825.0	4.00	236.89	5,817.3	-176.9	-156.0	-166.2	0.18	0.00	2.64
5,850.0	3.97	236.15	5,842.3	-177.9	-157.4	-167.0	0.24	-0.12	-2.96
5,875.0	4.08	237.46	5,867.2	-178.8	-158.9	-167.9	0.57	0.44	5.24
5,900.0	4.17	238.05	5,892.2	-179.8	-160.4	-168.7	0.40	0.36	2.36
5,925.0	4.10	237.57	5,917.1	-180.7	-161.9	-169.6	0.31	-0.28	-1.92
5,950.0	4.05	235.66	5,942.0	-181.7	-163.4	-170.5	0.58	-0.20	-7.64
5,975.0	3.96	237.09	5,967.0	-182.7	-164.9	-171.3	0.54	-0.36	5.72
6,000.0	3.92	235.31	5,991.9	-183.6	-166.3	-172.2	0.51	-0.16	-7.12
6,025.0	3.95	235.19	6,016.8	-184.6	-167.7	-173.1	0.12	0.12	-0.48
6,050.0	3.88	234.92	6,041.8	-185.6	-169.1	-174.0	0.29	-0.28	-1.08
6,075.0	3.88	235.96	6,066.7	-186.6	-170.5	-174.8	0.28	0.00	4.16
6,100.0	3.84	235.68	6,091.7	-187.5	-171.9	-175.7	0.18	-0.16	-1.12
6,125.0	3.92	236.00	6,116.6	-188.4	-173.3	-176.5	0.33	0.32	1.28
6,150.0	3.95	235.97	6,141.6	-189.4	-174.7	-177.4	0.12	0.12	-0.12
6,175.0	3.90	235.43	6,166.5	-190.4	-176.1	-178.3	0.25	-0.20	-2.16
6,200.0	3.94	235.82	6,191.4	-191.3	-177.5	-179.1	0.19	0.16	1.56
6,225.0	4.04	235.98	6,216.4	-192.3	-179.0	-180.0	0.40	0.40	0.64
6,250.0	4.01	236.29	6,241.3	-193.3	-180.4	-180.9	0.15	-0.12	1.24
6,275.0	3.99	237.07	6,266.3	-194.2	-181.9	-181.8	0.23	-0.08	3.12
6,300.0	3.92	236.29	6,291.2	-195.2	-183.3	-182.6	0.35	-0.28	-3.12
6,325.0	3.94	236.78	6,316.1	-196.1	-184.8	-183.5	0.16	0.08	1.96
6,350.0	4.09	237.65	6,341.1	-197.1	-186.2	-184.3	0.65	0.60	3.48
6,375.0	4.08	231.73	6,366.0	-198.1	-187.7	-185.2	1.69	-0.04	-23.68
6,400.0	3.93	237.08	6,391.0	-199.1	-189.1	-186.2	1.61	-0.60	21.40
6,425.0	3.85	236.09	6,415.9	-200.1	-190.5	-187.0	0.42	-0.32	-3.96
6,450.0	3.90	235.80	6,440.8	-201.0	-191.9	-187.8	0.21	0.20	-1.16
6,475.0	3.89	234.41	6,465.8	-202.0	-193.3	-188.7	0.38	-0.04	-5.56
6,500.0	3.87	233.51	6,490.7	-203.0	-194.7	-189.6	0.26	-0.08	-3.60
6,525.0	3.84	233.88	6,515.7	-204.0	-196.0	-190.5	0.16	-0.12	1.48
6,550.0	3.78	234.51	6,540.6	-204.9	-197.4	-191.4	0.29	-0.24	2.52
6,575.0	3.77	233.75	6,565.6	-205.9	-198.7	-192.3	0.20	-0.04	-3.04
6,600.0	3.80	233.13	6,590.5	-206.9	-200.0	-193.2	0.20	0.12	-2.48
6,625.0	3.90	232.95	6,615.4	-207.9	-201.4	-194.1	0.40	0.40	-0.72
6,650.0	3.91	232.68	6,640.4	-208.9	-202.7	-195.0	0.09	0.04	-1.16
6,675.0	3.91	233.46	6,665.3	-210.0	-204.1	-196.0	0.22	0.00	3.20
6,700.0	3.94	233.37	6,690.3	-211.0	-205.5	-196.9	0.12	0.12	-0.36
6,725.0	3.99	233.11	6,715.2	-212.0	-206.9	-197.8	0.21	0.20	-1.04
6,750.0	3.92	233.20	6,740.2	-213.0	-208.2	-198.8	0.28	-0.28	0.36
6,775.0	3.81	232.55	6,765.1	-214.1	-209.6	-199.7	0.47	-0.44	-2.60
6,800.0	3.94	231.74	6,790.0	-215.1	-210.9	-200.6	0.56	0.52	-3.24



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
6,825.0	3.91	231.54	6,815.0	-216.2	-212.3	-201.6	0.13	-0.12	-0.80
6,850.0	3.96	231.41	6,839.9	-217.2	-213.6	-202.6	0.20	0.20	-0.52
6,875.0	3.92	232.14	6,864.9	-218.3	-215.0	-203.6	0.26	-0.16	2.92
6,900.0	3.90	231.17	6,889.8	-219.3	-216.3	-204.5	0.28	-0.08	-3.88
6,925.0	3.96	232.19	6,914.7	-220.4	-217.6	-205.5	0.37	0.24	4.08
6,950.0	3.89	230.45	6,939.7	-221.5	-219.0	-206.5	0.55	-0.28	-6.96
6,975.0	3.89	231.21	6,964.6	-222.6	-220.3	-207.5	0.21	0.00	3.04
7,000.0	3.81	230.90	6,989.6	-223.6	-221.6	-208.4	0.33	-0.32	-1.24
7,025.0	3.72	230.26	7,014.5	-224.6	-222.9	-209.4	0.40	-0.36	-2.56
7,050.0	3.76	230.00	7,039.5	-225.7	-224.1	-210.3	0.17	0.16	-1.04
7,075.0	3.71	231.05	7,064.4	-226.7	-225.4	-211.3	0.34	-0.20	4.20
7,100.0	3.61	229.69	7,089.4	-227.7	-226.6	-212.2	0.53	-0.40	-5.44
7,125.0	3.65	229.57	7,114.3	-228.8	-227.8	-213.2	0.16	0.16	-0.48
7,150.0	3.53	229.38	7,139.3	-229.8	-229.0	-214.1	0.48	-0.48	-0.76
7,175.0	3.50	229.65	7,164.2	-230.8	-230.2	-215.0	0.14	-0.12	1.08
7,200.0	3.50	228.45	7,189.2	-231.8	-231.3	-215.9	0.29	0.00	-4.80
7,225.0	3.58	227.96	7,214.1	-232.8	-232.5	-216.9	0.34	0.32	-1.96
7,250.0	3.56	228.22	7,239.1	-233.9	-233.6	-217.8	0.10	-0.08	1.04
7,275.0	3.50	228.51	7,264.0	-234.9	-234.8	-218.8	0.25	-0.24	1.16
7,300.0	3.54	228.56	7,289.0	-235.9	-235.9	-219.7	0.16	0.16	0.20
7,325.0	3.41	226.96	7,313.9	-236.9	-237.0	-220.7	0.65	-0.52	-6.40
7,350.0	3.38	225.43	7,338.9	-237.9	-238.1	-221.6	0.38	-0.12	-6.12
7,375.0	3.41	227.03	7,363.8	-239.0	-239.2	-222.6	0.40	0.12	6.40
7,400.0	3.34	225.29	7,388.8	-240.0	-240.2	-223.5	0.50	-0.28	-6.96
7,425.0	3.38	225.33	7,413.8	-241.0	-241.3	-224.5	0.16	0.16	0.16
7,450.0	3.30	225.75	7,438.7	-242.0	-242.3	-225.4	0.33	-0.32	1.68
7,475.0	3.35	224.98	7,463.7	-243.0	-243.4	-226.4	0.27	0.20	-3.08
7,500.0	3.25	226.14	7,488.6	-244.1	-244.4	-227.3	0.48	-0.40	4.64
7,525.0	3.29	225.68	7,513.6	-245.0	-245.4	-228.2	0.19	0.16	-1.84
7,550.0	3.19	225.22	7,538.6	-246.0	-246.4	-229.2	0.41	-0.40	-1.84
7,575.0	2.68	226.20	7,563.5	-246.9	-247.3	-230.0	2.05	-2.04	3.92
7,600.0	2.42	226.98	7,588.5	-247.7	-248.1	-230.7	1.05	-1.04	3.12
7,625.0	2.32	229.06	7,613.5	-248.4	-248.9	-231.3	0.53	-0.40	8.32
7,650.0	2.34	228.13	7,638.5	-249.1	-249.7	-232.0	0.17	0.08	-3.72
7,675.0	2.38	228.38	7,663.4	-249.7	-250.4	-232.6	0.17	0.16	1.00
7,700.0	2.31	228.17	7,688.4	-250.4	-251.2	-233.2	0.28	-0.28	-0.84
7,725.0	2.28	227.39	7,713.4	-251.1	-251.9	-233.8	0.17	-0.12	-3.12
7,750.0	2.33	229.15	7,738.4	-251.8	-252.7	-234.5	0.35	0.20	7.04
7,775.0	2.28	227.44	7,763.4	-252.4	-253.4	-235.1	0.34	-0.20	-6.84
7,800.0	2.20	228.64	7,788.3	-253.1	-254.2	-235.7	0.37	-0.32	4.80
7,825.0	2.21	226.32	7,813.3	-253.7	-254.9	-236.3	0.36	0.04	-9.28
7,850.0	2.23	225.27	7,838.3	-254.4	-255.6	-236.9	0.18	0.08	-4.20
7,875.0	2.24	225.69	7,863.3	-255.1	-256.3	-237.5	0.08	0.04	1.68



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
7,900.0	2.18	227.22	7,888.3	-255.8	-257.0	-238.2	0.34	-0.24	6.12
7,925.0	2.18	222.69	7,913.2	-256.4	-257.6	-238.8	0.69	0.00	-18.12
7,950.0	2.05	220.64	7,938.2	-257.1	-258.3	-239.4	0.60	-0.52	-8.20
7,975.0	1.99	216.54	7,963.2	-257.8	-258.8	-240.1	0.63	-0.24	-16.40
8,000.0	1.99	216.78	7,988.2	-258.5	-259.3	-240.7	0.03	0.00	0.96
8,025.0	2.03	217.49	8,013.2	-259.2	-259.8	-241.4	0.19	0.16	2.84
8,050.0	2.06	218.99	8,038.2	-259.9	-260.4	-242.1	0.25	0.12	6.00
8,075.0	2.02	217.58	8,063.1	-260.6	-261.0	-242.7	0.26	-0.16	-5.64
8,100.0	2.05	218.81	8,088.1	-261.3	-261.5	-243.4	0.21	0.12	4.92
8,125.0	2.26	230.75	8,113.1	-262.0	-262.2	-244.0	1.98	0.84	47.76
8,150.0	2.46	240.89	8,138.1	-262.5	-263.0	-244.5	1.85	0.80	40.56
8,175.0	2.51	240.09	8,163.1	-263.1	-264.0	-245.0	0.24	0.20	-3.20
8,200.0	2.47	238.74	8,188.0	-263.6	-264.9	-245.5	0.28	-0.16	-5.40
8,225.0	2.39	237.33	8,213.0	-264.2	-265.8	-246.0	0.40	-0.32	-5.64
8,250.0	2.21	231.00	8,238.0	-264.8	-266.6	-246.5	1.24	-0.72	-25.32
8,275.0	2.03	228.82	8,263.0	-265.4	-267.3	-247.1	0.79	-0.72	-8.72
8,300.0	1.76	230.82	8,288.0	-265.9	-267.9	-247.6	1.11	-1.08	8.00
8,325.0	1.21	259.95	8,313.0	-266.2	-268.5	-247.8	3.67	-2.20	116.52
8,350.0	1.26	309.59	8,338.0	-266.1	-269.0	-247.6	4.15	0.20	198.56
8,375.0	1.76	330.86	8,362.9	-265.5	-269.4	-247.1	2.97	2.00	85.08
8,400.0	1.81	332.21	8,387.9	-264.9	-269.7	-246.4	0.26	0.20	5.40
8,425.0	1.85	333.00	8,412.9	-264.2	-270.1	-245.7	0.19	0.16	3.16
8,450.0	1.84	334.12	8,437.9	-263.4	-270.5	-244.9	0.15	-0.04	4.48
8,475.0	1.88	332.38	8,462.9	-262.7	-270.8	-244.2	0.28	0.16	-6.96
8,500.0	1.85	331.90	8,487.9	-262.0	-271.2	-243.4	0.14	-0.12	-1.92
8,525.0	1.88	331.89	8,512.9	-261.3	-271.6	-242.7	0.12	0.12	-0.04
8,550.0	1.85	332.85	8,537.9	-260.6	-272.0	-241.9	0.17	-0.12	3.84
8,575.0	1.87	332.33	8,562.8	-259.8	-272.3	-241.2	0.10	0.08	-2.08
8,600.0	1.89	331.63	8,587.8	-259.1	-272.7	-240.5	0.12	0.08	-2.80
8,625.0	1.84	330.95	8,612.8	-258.4	-273.1	-239.7	0.22	-0.20	-2.72
8,650.0	1.88	329.66	8,637.8	-257.7	-273.5	-239.0	0.23	0.16	-5.16
8,675.0	1.84	327.54	8,662.8	-257.0	-273.9	-238.3	0.32	-0.16	-8.48
8,700.0	1.75	328.05	8,687.8	-256.3	-274.4	-237.6	0.37	-0.36	2.04
8,725.0	1.68	325.88	8,712.8	-255.7	-274.8	-236.9	0.38	-0.28	-8.68
8,750.0	1.66	324.05	8,737.8	-255.1	-275.2	-236.3	0.23	-0.08	-7.32
8,775.0	1.74	323.29	8,762.7	-254.5	-275.6	-235.7	0.33	0.32	-3.04
8,800.0	1.72	322.41	8,787.7	-253.9	-276.1	-235.0	0.13	-0.08	-3.52
8,825.0	1.76	323.03	8,812.7	-253.3	-276.5	-234.4	0.18	0.16	2.48
8,850.0	1.71	323.17	8,837.7	-252.7	-277.0	-233.8	0.20	-0.20	0.56
8,875.0	1.75	323.23	8,862.7	-252.1	-277.5	-233.1	0.16	0.16	0.24
8,900.0	1.83	321.15	8,887.7	-251.5	-277.9	-232.5	0.41	0.32	-8.32
8,925.0	1.78	318.98	8,912.7	-250.9	-278.4	-231.9	0.34	-0.20	-8.68
8,950.0	1.74	318.45	8,937.7	-250.3	-278.9	-231.3	0.17	-0.16	-2.12



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
8,975.0	1.70	317.00	8,962.7	-249.7	-279.4	-230.7	0.24	-0.16	-5.80
9,000.0	1.77	316.52	8,987.6	-249.2	-280.0	-230.1	0.29	0.28	-1.92
9,025.0	1.77	314.40	9,012.6	-248.6	-280.5	-229.5	0.26	0.00	-8.48
9,050.0	1.75	314.89	9,037.6	-248.1	-281.1	-228.9	0.10	-0.08	1.96
9,075.0	1.69	313.89	9,062.6	-247.6	-281.6	-228.4	0.27	-0.24	-4.00
9,100.0	1.69	314.91	9,087.6	-247.1	-282.1	-227.8	0.12	0.00	4.08
9,125.0	1.69	314.95	9,112.6	-246.5	-282.6	-227.3	0.00	0.00	0.16
9,150.0	1.67	315.33	9,137.6	-246.0	-283.2	-226.7	0.09	-0.08	1.52
9,175.0	1.50	319.57	9,162.6	-245.5	-283.6	-226.2	0.83	-0.68	16.96
9,200.0	0.62	345.53	9,187.6	-245.1	-283.9	-225.8	3.92	-3.52	103.84
9,225.0	0.59	356.45	9,212.6	-244.9	-283.9	-225.5	0.48	-0.12	43.68
9,250.0	0.58	346.62	9,237.6	-244.6	-283.9	-225.3	0.40	-0.04	-39.32
9,275.0	0.57	356.98	9,262.6	-244.4	-284.0	-225.0	0.42	-0.04	41.44
9,300.0	0.56	354.67	9,287.6	-244.1	-284.0	-224.8	0.10	-0.04	-9.24
9,325.0	0.62	343.68	9,312.6	-243.9	-284.1	-224.5	0.51	0.24	-43.96
9,350.0	0.58	338.91	9,337.6	-243.6	-284.1	-224.3	0.26	-0.16	-19.08
9,375.0	0.65	325.30	9,362.5	-243.4	-284.3	-224.0	0.65	0.28	-54.44
9,400.0	0.74	320.16	9,387.5	-243.2	-284.4	-223.8	0.44	0.36	-20.56
9,425.0	0.83	312.87	9,412.5	-242.9	-284.7	-223.5	0.54	0.36	-29.16
9,450.0	0.76	311.44	9,437.5	-242.7	-284.9	-223.3	0.29	-0.28	-5.72
9,475.0	0.92	305.04	9,462.5	-242.5	-285.2	-223.0	0.74	0.64	-25.60
9,500.0	0.94	301.30	9,487.5	-242.2	-285.6	-222.8	0.26	0.08	-14.96
9,525.0	1.02	300.52	9,512.5	-242.0	-285.9	-222.5	0.32	0.32	-3.12
9,550.0	1.13	294.58	9,537.5	-241.8	-286.3	-222.3	0.63	0.44	-23.76
9,575.0	1.30	290.06	9,562.5	-241.6	-286.8	-222.0	0.78	0.68	-18.08
9,600.0	1.32	288.79	9,587.5	-241.4	-287.4	-221.8	0.14	0.08	-5.08
9,625.0	1.36	286.45	9,612.5	-241.2	-287.9	-221.6	0.27	0.16	-9.36
9,650.0	1.37	291.76	9,637.5	-241.0	-288.5	-221.4	0.51	0.04	21.24
9,675.0	1.38	285.70	9,662.5	-240.8	-289.1	-221.1	0.58	0.04	-24.24
9,700.0	1.37	287.94	9,687.5	-240.7	-289.6	-220.9	0.22	-0.04	8.96
9,725.0	1.36	289.29	9,712.5	-240.5	-290.2	-220.7	0.13	-0.04	5.40
9,750.0	1.25	302.40	9,737.5	-240.2	-290.7	-220.4	1.27	-0.44	52.44
9,775.0	1.22	319.81	9,762.5	-239.9	-291.1	-220.1	1.50	-0.12	69.64
9,800.0	1.30	321.90	9,787.5	-239.5	-291.5	-219.6	0.37	0.32	8.38
9,825.0	1.20	322.87	9,812.5	-239.0	-291.8	-219.2	0.41	-0.40	3.88
9,850.0	1.25	321.58	9,837.5	-238.6	-292.1	-218.7	0.23	0.20	-5.16
9,875.0	1.30	318.70	9,862.4	-238.2	-292.5	-218.3	0.33	0.20	-11.52
9,900.0	1.31	312.81	9,887.4	-237.8	-292.9	-217.8	0.54	0.04	-23.56
9,925.0	1.48	306.84	9,912.4	-237.4	-293.3	-217.4	0.89	0.68	-23.88
9,950.0	1.38	308.21	9,937.4	-237.0	-293.8	-217.0	0.42	-0.40	5.48
9,975.0	1.30	309.97	9,962.4	-236.6	-294.3	-216.6	0.36	-0.32	7.04
10,000.0	0.92	319.99	9,987.4	-236.3	-294.6	-216.2	1.70	-1.52	40.08
10,025.0	0.86	327.62	10,012.4	-236.0	-294.9	-215.9	0.53	-0.24	30.52
10,050.0	0.78	326.00	10,037.4	-235.7	-295.1	-215.6	0.33	-0.32	-6.48



Survey Report

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Site: BULLDOG
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TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
10,075.0	0.68	333.29	10,062.4	-235.4	-295.2	-215.3	0.55	-0.40	29.16
10,100.0	0.53	329.71	10,087.4	-235.2	-295.4	-215.1	0.62	-0.60	-14.32
10,125.0	0.46	330.72	10,112.4	-235.0	-295.5	-214.9	0.28	-0.28	4.04
10,150.0	0.38	309.93	10,137.4	-234.9	-295.6	-214.7	0.68	-0.32	-83.16
10,175.0	0.42	280.83	10,162.4	-234.8	-295.7	-214.7	0.82	0.16	-116.40
10,200.0	0.50	271.49	10,187.4	-234.8	-295.9	-214.6	0.44	0.32	-37.36
10,225.0	0.84	254.98	10,212.4	-234.8	-296.2	-214.7	1.55	1.36	-66.04
10,250.0	1.09	239.03	10,237.4	-235.0	-296.6	-214.8	1.46	1.00	-63.80
10,275.0	1.31	229.79	10,262.4	-235.3	-297.0	-215.1	1.17	0.88	-36.96
10,300.0	1.44	222.72	10,287.4	-235.7	-297.4	-215.5	0.85	0.52	-28.28
10,325.0	1.71	223.35	10,312.4	-236.2	-297.9	-215.9	1.08	1.08	2.52
10,350.0	1.77	217.98	10,337.4	-236.8	-298.4	-216.5	0.69	0.24	-21.48
10,375.0	1.75	212.86	10,362.3	-237.4	-298.9	-217.1	0.63	-0.08	-20.48
10,400.0	1.82	207.85	10,387.3	-238.1	-299.2	-217.7	0.68	0.28	-20.04
10,425.0	1.79	200.13	10,412.3	-238.8	-299.6	-218.4	0.98	-0.12	-30.88
10,450.0	1.78	198.56	10,437.3	-239.5	-299.8	-219.1	0.20	-0.04	-6.28
10,475.0	1.85	195.05	10,462.3	-240.3	-300.1	-219.9	0.53	0.28	-14.04
10,500.0	1.73	197.95	10,487.3	-241.0	-300.3	-220.6	0.60	-0.48	11.60
10,525.0	1.83	204.09	10,512.3	-241.8	-300.6	-221.3	0.86	0.40	24.56
10,550.0	1.52	219.72	10,537.3	-242.4	-300.9	-221.9	2.20	-1.24	62.52
10,575.0	1.72	222.72	10,562.3	-242.9	-301.4	-222.4	0.87	0.80	12.00
10,600.0	1.66	222.25	10,587.2	-243.4	-301.9	-222.9	0.25	-0.24	-1.88
10,625.0	1.75	223.41	10,612.2	-244.0	-302.4	-223.4	0.39	0.36	4.64
10,650.0	1.73	227.00	10,637.2	-244.5	-302.9	-223.9	0.44	-0.08	14.36
10,675.0	1.71	227.46	10,662.2	-245.0	-303.5	-224.4	0.10	-0.08	1.84
10,700.0	1.88	226.74	10,687.2	-245.6	-304.1	-224.9	0.69	0.68	-2.88
10,725.0	1.87	232.55	10,712.2	-246.1	-304.7	-225.4	0.76	-0.04	23.24
10,750.0	1.84	233.10	10,737.2	-246.6	-305.3	-225.8	0.14	-0.12	2.20
10,775.0	1.91	232.97	10,762.2	-247.1	-306.0	-226.3	0.28	0.28	-0.52
10,800.0	1.95	236.49	10,787.1	-247.6	-306.7	-226.7	0.50	0.16	14.08
10,825.0	2.07	243.92	10,812.1	-248.0	-307.4	-227.1	1.15	0.48	29.72
10,850.0	1.97	243.19	10,837.1	-248.4	-308.2	-227.4	0.41	-0.40	-2.92
10,875.0	1.84	249.27	10,862.1	-248.7	-309.0	-227.7	0.96	-0.52	24.32
10,900.0	1.43	258.31	10,887.1	-248.9	-309.7	-227.9	1.93	-1.64	36.16
10,925.0	0.58	273.36	10,912.1	-249.0	-310.1	-227.9	3.53	-3.40	60.20
10,950.0	0.34	292.09	10,937.1	-249.0	-310.3	-227.8	1.12	-0.96	74.92
10,975.0	0.27	316.85	10,962.1	-248.9	-310.4	-227.8	0.59	-0.28	99.04
11,000.0	0.33	327.30	10,987.1	-248.8	-310.5	-227.6	0.32	0.24	41.80
11,025.0	0.34	308.52	11,012.1	-248.7	-310.6	-227.5	0.44	0.04	-75.12
11,050.0	0.32	291.57	11,037.1	-248.6	-310.7	-227.5	0.40	-0.08	-67.80
11,075.0	0.54	270.73	11,062.1	-248.6	-310.9	-227.4	1.07	0.88	-83.36
11,100.0	0.86	260.43	11,087.1	-248.6	-311.2	-227.4	1.37	1.28	-41.20
11,125.0	1.03	252.41	11,112.1	-248.7	-311.6	-227.5	0.86	0.68	-32.08



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: DOMINATOR 25 FED #710H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
11,150.0	1.15	255.29	11,137.1	-248.8	-312.0	-227.8	0.53	0.48	11.52
11,175.0	1.36	265.01	11,162.1	-248.9	-312.6	-227.7	1.19	0.84	38.88
11,200.0	1.56	265.96	11,187.1	-249.0	-313.2	-227.7	0.81	0.80	3.80
11,225.0	1.63	267.06	11,212.0	-249.0	-313.9	-227.7	0.31	0.28	4.40
11,250.0	1.65	266.84	11,237.0	-249.1	-314.6	-227.6	0.08	0.08	-0.88
11,275.0	1.70	265.18	11,262.0	-249.1	-315.3	-227.6	0.28	0.20	-6.64
11,300.0	1.65	261.39	11,287.0	-249.2	-316.1	-227.7	0.49	-0.20	-15.16
11,325.0	1.58	259.80	11,312.0	-249.3	-316.8	-227.8	0.33	-0.28	-6.36
11,350.0	1.44	257.98	11,337.0	-249.4	-317.4	-227.8	0.59	-0.56	-7.28
11,375.0	1.50	261.51	11,362.0	-249.5	-318.0	-227.9	0.43	0.24	14.12
11,400.0	1.49	259.16	11,387.0	-249.7	-318.7	-228.0	0.25	-0.04	-9.40
11,425.0	1.42	260.21	11,412.0	-249.8	-319.3	-228.0	0.30	-0.28	4.20
11,450.0	1.50	260.07	11,437.0	-249.9	-319.9	-228.1	0.32	0.32	-0.56
11,475.0	1.60	258.79	11,462.0	-250.0	-320.6	-228.2	0.42	0.40	-5.12
11,500.0	1.64	258.72	11,486.9	-250.1	-321.3	-228.3	0.16	0.16	-0.28
11,525.0	1.92	256.31	11,511.9	-250.3	-322.1	-228.4	1.16	1.12	-9.64
11,550.0	2.25	250.47	11,536.9	-250.6	-322.9	-228.6	1.57	1.32	-23.36
11,575.0	2.46	248.94	11,561.9	-250.9	-323.9	-228.9	0.88	0.84	-6.12
11,600.0	2.82	245.47	11,586.9	-251.4	-324.9	-229.3	1.57	1.44	-13.88
11,625.0	2.79	241.10	11,611.8	-251.9	-326.0	-229.8	0.86	-0.12	-17.48
11,650.0	3.11	241.38	11,636.8	-252.5	-327.2	-230.3	1.28	1.28	1.12
11,675.0	3.33	237.85	11,661.8	-253.3	-328.4	-230.9	1.18	0.88	-14.12
11,700.0	3.37	234.89	11,686.7	-254.1	-329.6	-231.7	0.71	0.16	-11.84
11,715.0	3.56	236.15	11,701.7	-254.6	-330.3	-232.1	1.36	1.27	8.40
11,885.0	2.33	271.23	11,871.5	-257.4	-338.2	-234.5	1.25	-0.72	20.64
11,979.0	2.06	276.25	11,965.4	-257.2	-341.8	-234.0	0.35	-0.29	5.34
12,074.0	1.07	3.10	12,060.4	-256.1	-343.4	-232.8	2.39	-1.04	91.42
12,168.0	0.91	337.85	12,154.4	-254.6	-343.7	-231.2	0.49	-0.17	-26.86
12,263.0	1.41	319.74	12,249.4	-253.0	-344.7	-229.6	0.65	0.53	-19.06
12,310.0	5.05	329.81	12,296.3	-250.8	-346.1	-227.3	7.81	7.74	21.43
12,358.0	13.24	343.30	12,343.6	-243.7	-348.8	-220.0	17.52	17.06	28.10
12,405.0	17.79	355.05	12,388.9	-231.3	-350.9	-207.6	11.72	9.68	25.00
12,452.0	21.76	354.40	12,433.1	-215.5	-352.4	-191.7	8.46	8.45	-1.38
12,499.0	28.99	353.46	12,475.6	-195.5	-354.5	-171.6	15.41	15.38	-2.00
12,547.0	36.09	353.28	12,516.0	-169.9	-357.5	-145.8	14.79	14.79	-0.38
12,594.0	38.86	357.14	12,553.3	-141.4	-359.9	-117.2	7.72	5.89	8.21
12,642.0	41.18	0.38	12,590.1	-110.5	-360.5	-86.4	6.50	4.83	6.75
12,689.0	45.28	2.28	12,624.3	-78.4	-359.8	-54.3	9.15	8.72	4.04
12,737.0	54.55	4.76	12,655.2	-41.8	-357.5	-18.0	19.71	19.31	5.17
12,784.0	62.45	5.62	12,679.7	-1.9	-353.8	21.6	16.88	16.81	1.83
12,832.0	66.62	2.35	12,700.4	41.3	-350.8	64.5	10.64	8.69	-6.81
12,879.0	69.07	0.41	12,718.1	84.8	-349.8	107.9	6.46	5.21	-4.13
12,927.0	72.43	0.53	12,733.9	130.2	-349.4	153.0	7.00	7.00	0.25



Survey Report

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Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well DOMINATOR 25 FED #710H
TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
MD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
12,974.0	74.59	0.89	12,747.3	175.2	-348.9	198.0	4.65	4.60	0.77
13,022.0	76.65	359.82	12,759.2	221.7	-348.6	244.3	4.80	4.29	-2.23
13,069.0	81.75	359.76	12,768.0	267.9	-348.7	290.4	10.85	10.85	-0.13
13,104.0	83.80	0.66	12,772.4	302.6	-348.6	325.0	6.39	5.86	2.57
13,151.0	84.95	1.10	12,777.0	349.3	-347.9	371.6	2.62	2.45	0.94
13,198.0	85.77	0.38	12,780.8	396.2	-347.3	418.3	2.32	1.74	-1.53
13,244.0	88.01	0.36	12,783.3	442.1	-347.0	464.2	4.87	4.87	-0.04
13,339.0	89.36	0.10	12,785.5	537.1	-346.6	558.9	1.45	1.42	-0.27
13,435.0	90.25	359.07	12,785.8	633.1	-347.3	654.7	1.42	0.93	-1.07
13,529.0	91.20	0.13	12,784.6	727.1	-348.0	748.5	1.51	1.01	1.13
13,623.0	90.84	1.69	12,782.9	821.0	-346.5	842.2	1.70	-0.38	1.66
13,718.0	89.22	3.11	12,782.9	916.0	-342.5	936.6	2.27	-1.71	1.49
13,813.0	89.33	3.02	12,784.1	1,010.8	-337.4	1,031.0	0.15	0.12	-0.09
13,905.0	90.34	2.51	12,784.3	1,102.7	-333.0	1,122.4	1.23	1.10	-0.55
13,999.0	89.36	2.59	12,784.6	1,196.6	-328.8	1,215.8	1.05	-1.04	0.09
14,093.0	89.83	4.36	12,785.3	1,290.4	-323.1	1,309.0	1.95	0.50	1.88
14,188.0	89.92	3.30	12,785.5	1,385.2	-316.7	1,403.2	1.12	0.09	-1.12
14,282.0	88.77	2.81	12,786.5	1,479.1	-311.7	1,496.5	1.33	-1.22	-0.52
14,376.0	88.10	0.61	12,789.1	1,573.0	-308.9	1,590.0	2.45	-0.71	-2.34
14,470.0	88.54	359.22	12,791.9	1,666.9	-309.1	1,683.8	1.55	0.47	-1.48
14,564.0	92.05	357.78	12,791.4	1,760.9	-311.5	1,777.7	4.04	3.73	-1.53
14,658.0	91.40	358.51	12,788.5	1,854.8	-314.6	1,871.6	1.04	-0.69	0.78
14,752.0	92.04	359.37	12,785.7	1,948.7	-316.3	1,965.4	1.14	0.68	0.91
14,847.0	89.02	358.64	12,784.8	2,043.7	-318.0	2,060.3	3.27	-3.18	-0.77
14,942.0	89.24	359.93	12,786.3	2,138.7	-319.2	2,155.1	1.38	0.23	1.36
15,037.0	88.91	0.02	12,787.8	2,233.7	-319.2	2,249.9	0.36	-0.35	0.09
15,132.0	88.74	359.29	12,789.8	2,328.7	-319.8	2,344.7	0.79	-0.18	-0.77
15,227.0	91.37	359.16	12,789.7	2,423.6	-321.0	2,439.6	2.77	2.77	-0.14
15,322.0	88.40	358.87	12,789.9	2,518.6	-322.7	2,534.5	3.14	-3.13	-0.31
15,418.0	87.84	357.41	12,793.0	2,614.5	-325.8	2,630.4	1.63	-0.58	-1.52
15,513.0	85.91	356.49	12,798.2	2,709.2	-330.8	2,725.2	2.25	-2.03	-0.97
15,607.0	87.90	356.75	12,803.3	2,802.9	-336.4	2,819.1	2.13	2.12	0.28
15,701.0	92.30	3.91	12,803.1	2,896.8	-335.8	2,912.7	8.94	4.68	7.62
15,796.0	91.71	5.04	12,799.8	2,991.5	-328.4	3,006.7	1.34	-0.62	1.19
15,890.0	90.03	3.58	12,798.4	3,085.2	-321.4	3,099.7	2.37	-1.79	-1.55
15,984.0	87.98	0.38	12,800.0	3,179.1	-318.1	3,193.2	4.04	-2.18	-3.40
16,079.0	86.97	359.89	12,804.2	3,274.0	-317.9	3,287.9	1.18	-1.06	-0.52
16,173.0	90.22	1.53	12,806.5	3,368.0	-316.7	3,381.6	3.87	3.46	1.74
16,268.0	90.20	1.15	12,806.1	3,462.9	-314.5	3,476.2	0.40	-0.02	-0.40
16,362.0	91.12	1.07	12,805.0	3,556.9	-312.7	3,569.8	0.98	0.98	-0.09
16,457.0	93.33	2.88	12,801.4	3,651.8	-309.4	3,664.3	3.01	2.33	1.91
16,550.0	90.70	1.62	12,798.1	3,744.6	-305.8	3,756.7	3.14	-2.83	-1.35
16,644.0	90.20	0.86	12,797.4	3,838.6	-303.7	3,850.3	0.97	-0.53	-0.81
16,737.0	87.06	359.80	12,799.6	3,931.6	-303.2	3,943.0	3.56	-3.38	-1.14



Survey Report

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TVD Reference: RKB=3335.6+29 @ 3364.6usft (NOARM 23)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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)
16,831.0	85.60	359.45	12,805.6	4,025.4	-303.8	4,036.7	1.60	-1.55	-0.37
16,925.0	87.76	359.13	12,811.0	4,119.2	-305.0	4,130.4	2.32	2.30	-0.34
17,019.0	88.77	358.68	12,813.9	4,213.1	-308.8	4,224.2	1.18	1.07	-0.48
17,114.0	89.10	359.55	12,815.6	4,308.1	-308.2	4,319.1	0.98	0.35	0.92
17,208.0	89.89	359.50	12,816.5	4,402.1	-309.0	4,412.9	0.84	0.84	-0.05
17,302.0	89.80	359.72	12,816.7	4,496.1	-309.7	4,506.7	0.25	-0.10	0.23
17,396.0	91.79	0.79	12,815.4	4,590.1	-309.2	4,600.5	2.40	2.12	1.14
17,490.0	92.13	1.43	12,812.2	4,684.0	-307.4	4,694.1	0.77	0.36	0.68
17,541.0	91.76	0.84	12,810.5	4,735.0	-306.4	4,744.9	1.36	-0.73	-1.16
17,600.0	91.76	0.84	12,808.7	4,793.9	-305.5	4,803.7	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	17,506	22	5	17,302	49	5	17,148	26	5	16,975	22	5	16,798	22	5
	17,484	22	5	17,284	19	5	17,133	25	5	16,953	22	5	16,776	21	5
	17,462	22	5	17,265	20	5	17,108	26	5	16,931	22	5	16,755	23	5
	17,440	22	4	17,245	17	4	17,082	18	4	16,909	22	4	16,732	16	4
	17,418	23	4	17,228	15	4	17,054		4	16,887	23	4	16,716	28	4
	17,395	22	3	17,213	20	3	17,041	21	3	16,884	22	3	16,688	26	3
	17,373	22	3	17,193	19	3	17,020	23	3	16,842	22	3	16,662	19	3
	17,351		3	17,174		3	16,997		3	16,820		3	16,643		3
	Plug to Plug	91	32	Plug to Plug	65	32	Plug to Plug	74	32	Plug to Plug	77	32	Plug to Plug	74	32
	Frac Plug	17,531	Total Shots	Frac Plug	17,310	Total Shots	Frac Plug	17,156	Total Shots	Frac Plug	16,986	Total Shots	Frac Plug	16,806	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	16,605	38	5	16,440	26	5	16,267	28	5	16,090	22	5	15,913	22	5
	16,590	14	5	16,422	22	5	16,242	19	5	16,068	22	5	15,913	44	5
	16,576	21	5	16,400	21	5	16,223	23	5	16,048	22	5	15,869	22	5
	16,555	22	4	16,379	23	4	16,200	21	4	16,024	22	4	15,847	22	4
	16,533	22	4	16,358	19	4	16,179	22	4	16,002	22	4	15,825	22	4
	16,511	23	3	16,337	26	3	16,157	23	3	15,980	22	3	15,803	17	3
	16,488	22	3	16,311	16	3	16,134	22	3	15,958	23	3	15,786	28	3
	16,466		3	16,295		3	16,112		3	15,935		3	15,758		3
	Plug to Plug	58	32	Plug to Plug	69	32	Plug to Plug	75	32	Plug to Plug	74	32	Plug to Plug	74	32
	Frac Plug	16,613	Total Shots	Frac Plug	16,448	Total Shots	Frac Plug	16,275	Total Shots	Frac Plug	16,098	Total Shots	Frac Plug	15,921	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	15,722	36	5	15,550	31	5	15,382	26	5	15,205	23	5	15,030	21	5
	15,708	16	5	15,537	22	5	15,366	28	5	15,183	22	5	15,006	17	5
	15,692	22	5	15,515	22	5	15,338	22	5	15,161	22	5	14,989	27	5
	15,670	22	4	15,493	22	4	15,316	22	4	15,139	22	4	14,962	25	4
	15,648	22	4	15,471	22	4	15,294	22	4	15,117	22	4	14,937	19	4
	15,626	22	3	15,449	22	3	15,272	22	3	15,095	22	3	14,918	25	3
	15,604	23	3	15,427	19	3	15,250	22	3	15,073	22	3	14,893	19	3
	15,581		3	15,408		3	15,228		3	15,051		3	14,874		3
	Plug to Plug	60	32	Plug to Plug	68	32	Plug to Plug	74	32	Plug to Plug	74	32	Plug to Plug	76	32
	Frac Plug	15,730	Total Shots	Frac Plug	15,561	Total Shots	Frac Plug	15,390	Total Shots	Frac Plug	15,213	Total Shots	Frac Plug	15,038	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	14,839	35	5	14,655	42	5	14,488	25	5	14,321	22	5	14,144	22	5
	14,822	17	5	14,641	20	5	14,475	22	5	14,298	22	5	14,121	18	5
	14,805	20	5	14,621	21	5	14,453	24	5	14,276	22	5	14,103	26	5
	14,785	22	4	14,600	20	4	14,429	20	4	14,254	22	4	14,077	27	4
	14,763	22	4	14,580	17	4	14,409	23	4	14,232	22	4	14,050	17	4
	14,741	22	3	14,563	24	3	14,386	21	3	14,210	22	3	14,033	23	3
	14,719	22	3	14,539	16	3	14,365	22	3	14,188	22	3	14,010	21	3
	14,697		3	14,523		3	14,343		3	14,166		3	13,989		3
	Plug to Plug	62	32	Plug to Plug	57	32	Plug to Plug	80	32	Plug to Plug	78	32	Plug to Plug	78	32
	Frac Plug	14,847	Total Shots	Frac Plug	14,657	Total Shots	Frac Plug	14,509	Total Shots	Frac Plug	14,332	Total Shots	Frac Plug	14,155	Total Shots

From Bottom to Top		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots		Distance Between Perfs	Shots
	13,952	37	5	13,784	28	5	13,613	19	5	13,438	22	5	13,246	35	5
	13,940	18	5	13,768	23	5	13,591	23	5	13,414	28	5	13,230	15	5
	13,922	22	5	13,745	19	5	13,568	22	5	13,386	17	5	13,215	23	5
	13,900	22	4	13,726	25	4	13,546	22	4	13,369	25	4	13,192	22	4
	13,878	22	4	13,701	26	4	13,524	22	4	13,344	19	4	13,170	22	4
	13,856	22	3	13,675	18	3	13,502	22	3	13,325	22	3	13,148	22	3
	13,834	22	3	13,657	25	3	13,480	22	3	13,303	22	3	13,126	22	3
	13,812		3	13,632		3	13,458		3	13,281		3	13,104		3
	Plug to Plug	62	32	Plug to Plug	69	32	Plug to Plug	78	32	Plug to Plug	78	32	Plug to Plug	64	32
	Frac Plug	13,962	Total Shots	Frac Plug	13,795	Total Shots	Frac Plug	13,624	Total Shots	Frac Plug	13,447	Total Shots	Frac Plug	13,256	Total Shots

From Bottom to Top		Distance Between Perfs	Shots	Stage 27	Distance Between Perfs	Shots	Stage 28	Distance Between Perfs	Shots	Stage 29	Distance Between Perfs	Shots	Stage 30	Distance Between Perfs	Shots
	13,082	22	5		12,927	5		0	5		0	5		0	5
	13,063	27	5			5			5			5			5
	13,036	21	5			5			5			5			5
	13,015	22	4			4			4			4			4
	12,993	22	4			4			4			4			4
	12,971	22	3			3			3			3			3
	12,949	22	3			3			3			3			3
	12,927		3			3			3			3			3
	Plug to Plug	82	32	Plug to Plug	0	32	Plug to Plug	0	32	Plug to Plug	0	32	Plug to Plug	0	32
	Frac Plug	13,097	Total Shots	Frac Plug		Total Shots	Frac Plug		Total Shots	Frac Plug		Total Shots	Frac Plug		Total Shots

Dominator Federal Com #710H

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	1554	360244	278544
2	1554	322820	300762
3	1512	359134	332598
4	1554	360578	303072
5	1512	360566	297654
6	1512	365241	300762
7	1554	361735	296268
8	1554	363722	311262
9	1512	359154	355656
10	1512	359918	288876
11	1512	360163	343938
12	1512	360878	294336
13	1512	361316	299502
14	2604	360140	301770
15	1512	360375	304080
16	1596	360253	308322
17	1890	360005	337890
18	1512	358381	337134
19	1512	359081	324576
20	1512	360640	290220
21	1512	361458	335622
22	1512	360130	331926
23	1512	357759	289296
24	1428	383572	335622
25	1680	358063	331926
26	1512	362748	284340
Totals	41,160	9,358,074	8,115,954