

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

BASEBALL CAP FED COM #601H

OWB

Design: AWP

Standard Survey Report

01 October, 2019

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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
From:	Map	Easting:	741,887.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 36.820 N
		Longitude:	103° 33' 8.116 W
		Grid Convergence:	0.42 °

Well	BASEBALL CAP FED COM #601H		
Well Position	+N/-S	0.0 usft	Northing: 431,174.90 usft
	+E/-W	0.0 usft	Easting: 783,127.00 usft
Position Uncertainty		3.0 usft	Wellhead Elevation: usft
			Latitude: 32° 10' 55.582 N
			Longitude: 103° 25' 5.550 W
			Ground Level: 3,376.7 usft

Wellbore	OWB		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	7/26/2019	6.65
			Dip Angle (°) 60.02
			Field Strength (nT) 47,712.85418083

Design	AWP		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°) 1.39

Survey Program	Date 8/22/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
99.9	11,733.6	GYRO-SURF/INTER (OWB)	Standard Keeper 104
11,800.0	22,676.0	MWD-CURVE/LATERAL (OWB)	MWD+IFR1+MS
			Description
			Standard Wireline Keeper ver 1.0.4
			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
99.9	0.80	327.62	99.9	0.6	-0.4	0.6	0.80	0.80	0.00
100.0	0.80	327.61	100.0	0.6	-0.4	0.6	0.11	0.00	-7.69
125.0	0.80	327.11	125.0	0.9	-0.6	0.9	0.03	0.00	-2.00
150.0	0.81	322.73	150.0	1.2	-0.8	1.2	0.25	0.04	-17.52
175.0	0.88	327.26	175.0	1.5	-1.0	1.4	0.39	0.28	18.12
200.0	0.91	329.05	200.0	1.8	-1.2	1.8	0.16	0.12	7.16
225.0	0.94	321.38	225.0	2.1	-1.4	2.1	0.51	0.12	-30.68
250.0	0.95	325.38	250.0	2.5	-1.7	2.4	0.27	0.04	16.00
275.0	0.89	317.58	275.0	2.8	-1.9	2.7	0.55	-0.24	-31.20

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
300.0	0.86	325.23	300.0	3.1	-2.1	3.0	0.48	-0.12	30.60
325.0	0.82	322.74	325.0	3.4	-2.4	3.3	0.22	-0.16	-9.96
350.0	0.87	332.33	350.0	3.7	-2.6	3.6	0.60	0.20	38.36
375.0	0.90	324.02	375.0	4.0	-2.8	3.9	0.53	0.12	-33.24
400.0	0.94	320.57	400.0	4.3	-3.0	4.3	0.27	0.16	-13.80
425.0	0.94	322.59	425.0	4.7	-3.3	4.6	0.13	0.00	8.08
450.0	0.89	319.47	450.0	5.0	-3.5	4.9	0.28	-0.20	-12.48
475.0	0.84	322.45	475.0	5.3	-3.7	5.2	0.27	-0.20	11.92
500.0	0.89	326.24	499.9	5.6	-4.0	5.5	0.30	0.20	15.16
525.0	0.94	323.43	524.9	5.9	-4.2	5.8	0.27	0.20	-11.24
550.0	0.90	320.04	549.9	6.2	-4.4	6.1	0.27	-0.16	-13.56
575.0	0.75	316.07	574.9	6.5	-4.7	6.4	0.64	-0.60	-15.88
600.0	0.53	303.48	599.9	6.7	-4.9	6.5	1.04	-0.88	-50.36
625.0	0.43	316.04	624.9	6.8	-5.1	6.7	0.58	-0.40	50.24
650.0	0.33	303.55	649.9	6.9	-5.2	6.8	0.52	-0.40	-49.96
675.0	0.27	315.73	674.9	7.0	-5.3	6.8	0.35	-0.24	48.72
700.0	0.32	284.08	699.9	7.0	-5.4	6.9	0.67	0.20	-126.60
725.0	0.33	282.99	724.9	7.1	-5.5	6.9	0.05	0.04	-4.36
750.0	0.37	276.72	749.9	7.1	-5.7	7.0	0.22	0.16	-25.08
775.0	0.30	277.38	774.9	7.1	-5.8	7.0	0.28	-0.28	2.64
800.0	0.24	285.53	799.9	7.1	-5.9	7.0	0.28	-0.24	32.60
825.0	0.18	293.25	824.9	7.2	-6.0	7.0	0.26	-0.24	30.88
850.0	0.24	296.69	849.9	7.2	-6.1	7.0	0.25	0.24	13.76
875.0	0.32	299.78	874.9	7.3	-6.2	7.1	0.33	0.32	12.36
900.0	0.32	299.24	899.9	7.3	-6.3	7.2	0.01	0.00	-2.16
925.0	0.30	277.88	924.9	7.4	-6.5	7.2	0.47	-0.08	-85.44
950.0	0.16	275.61	949.9	7.4	-6.6	7.2	0.56	-0.56	-9.08
975.0	0.09	288.67	974.9	7.4	-6.6	7.2	0.30	-0.28	52.24
1,000.0	0.10	288.32	999.9	7.4	-6.7	7.2	0.04	0.04	-1.40
1,025.0	0.18	302.76	1,024.9	7.4	-6.7	7.3	0.35	0.32	57.76
1,050.0	0.17	290.18	1,049.9	7.5	-6.8	7.3	0.16	-0.04	-50.32
1,075.0	0.21	280.79	1,074.9	7.5	-6.9	7.3	0.20	0.16	-37.56
1,100.0	0.17	270.03	1,099.9	7.5	-6.9	7.3	0.21	-0.16	-43.04
1,125.0	0.10	277.73	1,124.9	7.5	-7.0	7.3	0.29	-0.28	30.80
1,150.0	0.12	272.72	1,149.9	7.5	-7.0	7.3	0.09	0.08	-20.04
1,175.0	0.15	280.83	1,174.9	7.5	-7.1	7.3	0.14	0.12	32.44
1,200.0	0.26	281.09	1,199.9	7.5	-7.2	7.4	0.44	0.44	1.04
1,225.0	0.29	269.08	1,224.9	7.5	-7.3	7.4	0.26	0.12	-48.04
1,250.0	0.30	245.98	1,249.9	7.5	-7.4	7.3	0.47	0.04	-92.40
1,275.0	0.41	220.13	1,274.9	7.4	-7.6	7.2	0.77	0.44	-103.40
1,300.0	0.41	213.70	1,299.9	7.3	-7.7	7.1	0.18	0.00	-25.72
1,325.0	0.42	220.54	1,324.9	7.1	-7.8	6.9	0.20	0.04	27.36
1,350.0	0.38	227.81	1,349.9	7.0	-7.9	6.8	0.26	-0.16	29.08

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
1,375.0	0.44	228.42	1,374.9	6.9	-8.0	6.7	0.24	0.24	2.44
1,400.0	0.48	226.17	1,399.9	6.7	-8.2	6.5	0.18	0.16	-9.00
1,425.0	0.49	225.37	1,424.9	6.6	-8.3	6.4	0.05	0.04	-3.20
1,450.0	0.51	206.61	1,449.9	6.4	-8.4	6.2	0.66	0.08	-75.04
1,475.0	0.65	184.97	1,474.9	6.2	-8.5	6.0	1.03	0.56	-86.56
1,500.0	0.89	164.71	1,499.9	5.9	-8.5	5.6	1.44	0.96	-81.04
1,525.0	1.13	154.60	1,524.9	5.4	-8.3	5.2	1.19	0.96	-40.44
1,550.0	1.33	150.89	1,549.9	5.0	-8.1	4.8	0.86	0.80	-14.84
1,575.0	1.36	151.45	1,574.9	4.5	-7.8	4.3	0.13	0.12	2.24
1,600.0	1.34	152.77	1,599.9	3.9	-7.5	3.8	0.15	-0.08	5.28
1,625.0	1.35	149.75	1,624.9	3.4	-7.2	3.2	0.29	0.04	-12.08
1,650.0	1.71	140.89	1,649.9	2.9	-6.8	2.7	1.72	1.44	-35.44
1,675.0	2.17	133.84	1,674.9	2.3	-6.3	2.1	2.07	1.84	-28.20
1,700.0	2.52	130.34	1,699.8	1.6	-5.5	1.4	1.51	1.40	-14.00
1,725.0	2.81	128.88	1,724.8	0.8	-4.6	0.7	1.19	1.16	-5.84
1,750.0	3.19	125.86	1,749.8	0.0	-3.6	0.0	1.65	1.52	-12.08
1,775.0	3.85	122.97	1,774.7	-0.8	-2.3	-0.9	2.73	2.64	-11.56
1,800.0	4.27	122.22	1,799.7	-1.8	-0.8	-1.8	1.69	1.68	-3.00
1,825.0	4.81	120.58	1,824.6	-2.8	0.9	-2.8	2.22	2.16	-6.56
1,850.0	5.37	119.91	1,849.5	-3.9	2.8	-3.9	2.25	2.24	-2.68
1,875.0	5.92	120.25	1,874.4	-5.2	4.9	-5.0	2.20	2.20	1.36
1,900.0	6.26	120.18	1,899.2	-6.5	7.2	-6.3	1.36	1.36	-0.28
1,925.0	6.35	120.76	1,924.1	-7.9	9.6	-7.6	0.44	0.36	2.32
1,950.0	6.33	120.27	1,948.9	-9.3	12.0	-9.0	0.23	-0.08	-1.96
1,975.0	6.38	120.88	1,973.8	-10.7	14.3	-10.3	0.34	0.20	2.44
2,000.0	6.36	121.02	1,998.6	-12.1	16.7	-11.7	0.10	-0.08	0.56
2,025.0	6.41	120.37	2,023.5	-13.5	19.1	-13.1	0.35	0.20	-2.60
2,050.0	6.38	120.56	2,048.3	-14.9	21.5	-14.4	0.15	-0.12	0.76
2,075.0	6.41	120.46	2,073.2	-16.4	23.9	-15.8	0.13	0.12	-0.40
2,100.0	6.44	120.62	2,098.0	-17.8	26.3	-17.1	0.14	0.12	0.64
2,125.0	6.45	120.16	2,122.8	-19.2	28.7	-18.5	0.21	0.04	-1.84
2,150.0	6.36	121.44	2,147.7	-20.6	31.1	-19.9	0.68	-0.36	5.12
2,175.0	6.21	122.71	2,172.5	-22.1	33.5	-21.3	0.82	-0.60	5.08
2,200.0	6.14	123.60	2,197.4	-23.6	35.7	-22.7	0.47	-0.28	3.56
2,225.0	6.17	123.79	2,222.2	-25.0	37.9	-24.1	0.15	0.12	0.76
2,250.0	6.13	123.67	2,247.1	-26.5	40.2	-25.5	0.17	-0.16	-0.48
2,275.0	6.16	123.04	2,272.0	-28.0	42.4	-27.0	0.30	0.12	-2.52
2,300.0	6.15	123.23	2,296.8	-29.5	44.6	-28.4	0.09	-0.04	0.76
2,325.0	6.23	123.55	2,321.7	-30.9	46.9	-29.8	0.35	0.32	1.28
2,350.0	6.26	123.98	2,346.5	-32.5	49.2	-31.3	0.22	0.12	1.72
2,375.0	6.23	123.84	2,371.4	-34.0	51.4	-32.7	0.13	-0.12	-0.56
2,400.0	6.21	124.31	2,396.2	-35.5	53.7	-34.2	0.22	-0.08	1.88
2,425.0	6.26	123.85	2,421.1	-37.0	55.9	-35.6	0.28	0.20	-1.84

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
2,450.0	6.27	123.70	2,445.9	-38.5	58.2	-37.1	0.08	0.04	-0.60
2,475.0	6.28	124.01	2,470.8	-40.1	60.4	-38.6	0.14	0.04	1.24
2,500.0	6.30	123.34	2,495.6	-41.6	62.7	-40.0	0.30	0.08	-2.68
2,525.0	6.32	122.55	2,520.5	-43.1	65.0	-41.5	0.36	0.08	-3.16
2,550.0	6.29	123.17	2,545.3	-44.6	67.3	-42.9	0.30	-0.12	2.48
2,575.0	6.25	122.91	2,570.2	-46.0	69.6	-44.3	0.20	-0.16	-1.04
2,600.0	6.33	124.00	2,595.0	-47.6	71.9	-45.8	0.57	0.32	4.36
2,625.0	6.34	123.51	2,619.9	-49.1	74.2	-47.3	0.22	0.04	-1.96
2,650.0	6.33	124.03	2,644.7	-50.6	76.5	-48.7	0.23	-0.04	2.08
2,675.0	6.42	123.78	2,669.6	-52.2	78.8	-50.2	0.38	0.36	-1.00
2,700.0	6.44	123.88	2,694.4	-53.7	81.1	-51.7	0.09	0.08	0.40
2,725.0	6.31	123.62	2,719.3	-55.3	83.4	-53.2	0.53	-0.52	-1.04
2,750.0	6.00	126.27	2,744.1	-56.8	85.6	-54.7	1.68	-1.24	10.60
2,775.0	5.87	126.88	2,769.0	-58.3	87.7	-56.2	0.58	-0.52	2.44
2,800.0	5.94	128.14	2,793.8	-59.9	89.7	-57.7	0.59	0.28	5.04
2,825.0	5.97	128.03	2,818.7	-61.5	91.8	-59.3	0.13	0.12	-0.44
2,850.0	5.95	128.00	2,843.6	-63.1	93.8	-60.8	0.08	-0.08	-0.12
2,875.0	5.95	127.39	2,868.4	-64.7	95.9	-62.3	0.25	0.00	-2.44
2,900.0	5.94	127.65	2,893.3	-66.3	97.9	-63.9	0.11	-0.04	1.04
2,925.0	6.06	127.98	2,918.2	-67.9	100.0	-65.4	0.50	0.48	1.32
2,950.0	6.03	127.52	2,943.0	-69.5	102.1	-67.0	0.23	-0.12	-1.84
2,975.0	5.99	126.60	2,967.9	-71.1	104.2	-68.5	0.42	-0.16	-3.68
3,000.0	6.06	127.58	2,992.8	-72.6	106.3	-70.0	0.50	0.28	3.92
3,025.0	6.06	127.79	3,017.6	-74.3	108.4	-71.6	0.09	0.00	0.84
3,050.0	6.17	126.81	3,042.5	-75.9	110.5	-73.2	0.61	0.44	-3.92
3,075.0	6.07	127.12	3,067.3	-77.5	112.6	-74.7	0.42	-0.40	1.24
3,100.0	6.10	127.78	3,092.2	-79.1	114.7	-76.3	0.30	0.12	2.64
3,125.0	6.11	127.62	3,117.0	-80.7	116.8	-77.9	0.08	0.04	-0.64
3,150.0	6.13	127.36	3,141.9	-82.3	118.9	-79.4	0.14	0.08	-1.04
3,175.0	6.11	126.49	3,166.8	-83.9	121.1	-81.0	0.38	-0.08	-3.48
3,200.0	6.02	126.31	3,191.6	-85.5	123.2	-82.5	0.37	-0.36	-0.72
3,225.0	5.97	126.59	3,216.5	-87.1	125.3	-84.0	0.23	-0.20	1.12
3,250.0	5.99	127.18	3,241.3	-88.6	127.4	-85.5	0.26	0.08	2.36
3,275.0	5.85	125.94	3,266.2	-90.2	129.4	-87.0	0.76	-0.56	-4.96
3,300.0	5.65	125.91	3,291.1	-91.6	131.5	-88.4	0.80	-0.80	-0.12
3,325.0	5.24	125.28	3,316.0	-93.0	133.4	-89.7	1.66	-1.64	-2.52
3,350.0	4.90	124.06	3,340.9	-94.3	135.2	-91.0	1.43	-1.36	-4.88
3,375.0	4.79	123.24	3,365.8	-95.4	137.0	-92.1	0.52	-0.44	-3.28
3,400.0	4.84	124.60	3,390.7	-96.6	138.7	-93.2	0.50	0.20	5.44
3,425.0	4.85	124.43	3,415.6	-97.8	140.4	-94.4	0.07	0.04	-0.68
3,450.0	4.76	124.32	3,440.5	-99.0	142.2	-95.5	0.36	-0.36	-0.44
3,475.0	4.61	123.46	3,465.4	-100.1	143.9	-96.6	0.66	-0.60	-3.44
3,500.0	4.33	121.65	3,490.4	-101.2	145.5	-97.6	1.25	-1.12	-7.24
3,525.0	4.22	122.76	3,515.3	-102.2	147.1	-98.6	0.55	-0.44	4.44

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
3,550.0	4.19	121.66	3,540.2	-103.1	148.6	-99.5	0.34	-0.12	-4.40
3,575.0	4.13	120.40	3,565.2	-104.1	150.2	-100.4	0.44	-0.24	-5.04
3,600.0	4.11	121.84	3,590.1	-105.0	151.7	-101.3	0.42	-0.08	5.76
3,625.0	4.16	121.03	3,615.0	-105.9	153.3	-102.2	0.31	0.20	-3.24
3,650.0	4.20	120.46	3,640.0	-106.9	154.8	-103.1	0.23	0.16	-2.28
3,675.0	4.14	120.43	3,664.9	-107.8	156.4	-104.0	0.24	-0.24	-0.12
3,700.0	4.16	121.36	3,689.8	-108.7	158.0	-104.9	0.28	0.08	3.72
3,725.0	4.27	121.96	3,714.8	-109.7	159.5	-105.8	0.47	0.44	2.40
3,750.0	4.29	121.58	3,739.7	-110.7	161.1	-106.7	0.14	0.08	-1.52
3,775.0	4.30	121.68	3,764.6	-111.7	162.7	-107.7	0.05	0.04	0.40
3,800.0	4.27	122.18	3,789.6	-112.6	164.3	-108.6	0.19	-0.12	2.00
3,825.0	4.35	121.36	3,814.5	-113.6	165.9	-109.6	0.40	0.32	-3.28
3,850.0	4.32	120.68	3,839.4	-114.6	167.5	-110.5	0.24	-0.12	-2.72
3,875.0	4.13	123.72	3,864.3	-115.6	169.1	-111.4	1.17	-0.76	12.16
3,900.0	4.19	127.51	3,889.3	-116.6	170.5	-112.5	1.13	0.24	15.16
3,925.0	4.18	128.07	3,914.2	-117.8	172.0	-113.5	0.17	-0.04	2.24
3,950.0	4.21	128.18	3,939.1	-118.9	173.4	-114.6	0.12	0.12	0.44
3,975.0	4.25	130.08	3,964.1	-120.0	174.8	-115.8	0.58	0.16	7.60
4,000.0	4.23	129.38	3,989.0	-121.2	176.3	-116.9	0.22	-0.08	-2.80
4,025.0	4.24	128.76	4,013.9	-122.4	177.7	-118.0	0.19	0.04	-2.48
4,050.0	4.23	130.07	4,038.9	-123.6	179.1	-119.2	0.39	-0.04	5.24
4,075.0	4.25	130.54	4,063.8	-124.8	180.5	-120.3	0.16	0.08	1.88
4,100.0	4.23	130.19	4,088.7	-126.0	181.9	-121.5	0.13	-0.08	-1.40
4,125.0	4.21	130.29	4,113.7	-127.1	183.3	-122.7	0.09	-0.08	0.40
4,150.0	4.34	130.74	4,138.6	-128.4	184.8	-123.8	0.54	0.52	1.80
4,175.0	4.35	131.32	4,163.5	-129.6	186.2	-125.0	0.18	0.04	2.32
4,200.0	4.26	130.42	4,188.5	-130.8	187.6	-126.2	0.45	-0.36	-3.60
4,225.0	4.22	130.63	4,213.4	-132.0	189.0	-127.4	0.17	-0.16	0.84
4,250.0	4.31	131.39	4,238.3	-133.3	190.4	-128.6	0.43	0.36	3.04
4,275.0	4.38	132.33	4,263.2	-134.5	191.8	-129.8	0.40	0.28	3.76
4,300.0	4.35	131.48	4,288.2	-135.8	193.2	-131.1	0.29	-0.12	-3.40
4,325.0	4.39	130.73	4,313.1	-137.0	194.7	-132.3	0.28	0.16	-3.00
4,350.0	4.49	128.74	4,338.0	-138.3	196.2	-133.5	0.73	0.40	-7.96
4,375.0	4.42	128.99	4,363.0	-139.5	197.7	-134.7	0.29	-0.28	1.00
4,400.0	4.64	129.14	4,387.9	-140.7	199.2	-135.9	0.88	0.88	0.60
4,425.0	4.77	127.73	4,412.8	-142.0	200.8	-137.1	0.70	0.52	-5.64
4,450.0	4.90	125.76	4,437.7	-143.3	202.5	-138.3	0.84	0.52	-7.88
4,475.0	4.93	123.80	4,462.6	-144.5	204.3	-139.5	0.68	0.12	-7.84
4,500.0	5.14	123.30	4,487.5	-145.7	206.1	-140.7	0.86	0.84	-2.00
4,525.0	5.46	122.64	4,512.4	-147.0	208.0	-141.9	1.30	1.28	-2.64
4,550.0	5.68	121.20	4,537.3	-148.2	210.1	-143.1	1.04	0.88	-5.76
4,575.0	5.71	121.64	4,562.2	-149.5	212.2	-144.3	0.21	0.12	1.76
4,600.0	5.69	121.10	4,587.0	-150.8	214.3	-145.6	0.23	-0.08	-2.16

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
4,625.0	5.75	120.73	4,611.9	-152.1	216.5	-146.8	0.28	0.24	-1.48
4,650.0	5.77	121.64	4,636.8	-153.4	218.6	-148.1	0.37	0.08	3.64
4,675.0	5.73	121.21	4,661.7	-154.7	220.8	-149.3	0.24	-0.16	-1.72
4,700.0	5.77	121.10	4,686.5	-156.0	222.9	-150.6	0.17	0.16	-0.44
4,725.0	5.60	121.26	4,711.4	-157.3	225.0	-151.8	0.68	-0.68	0.64
4,750.0	5.60	120.35	4,736.3	-158.5	227.1	-153.0	0.36	0.00	-3.64
4,775.0	5.50	119.46	4,761.2	-159.7	229.2	-154.1	0.53	-0.40	-3.56
4,800.0	5.36	121.32	4,786.1	-160.9	231.2	-155.3	0.90	-0.56	7.44
4,825.0	5.40	121.01	4,811.0	-162.2	233.3	-156.4	0.20	0.16	-1.24
4,850.0	5.40	120.80	4,835.8	-163.4	235.3	-157.6	0.08	0.00	-0.84
4,875.0	5.42	119.96	4,860.7	-164.6	237.3	-158.7	0.33	0.08	-3.36
4,900.0	5.44	121.18	4,885.6	-165.8	239.3	-159.9	0.47	0.08	4.88
4,925.0	5.43	121.28	4,910.5	-167.0	241.4	-161.1	0.06	-0.04	0.40
4,950.0	5.54	120.35	4,935.4	-168.2	243.4	-162.3	0.57	0.44	-3.72
4,975.0	5.58	120.32	4,960.3	-169.4	245.5	-163.4	0.16	0.16	-0.12
5,000.0	5.76	120.96	4,985.2	-170.7	247.6	-164.6	0.76	0.72	2.56
5,025.0	5.95	121.17	5,010.0	-172.0	249.8	-165.9	0.76	0.76	0.84
5,050.0	5.91	119.95	5,034.9	-173.3	252.0	-167.2	0.53	-0.16	-4.88
5,075.0	5.93	120.30	5,059.8	-174.6	254.3	-168.4	0.17	0.08	1.40
5,100.0	6.02	121.16	5,084.6	-175.9	256.5	-169.7	0.51	0.36	3.44
5,125.0	6.02	121.57	5,109.5	-177.3	258.7	-171.0	0.17	0.00	1.64
5,150.0	6.11	120.29	5,134.3	-178.7	261.0	-172.3	0.65	0.36	-5.12
5,175.0	6.05	121.03	5,159.2	-180.0	263.3	-173.6	0.39	-0.24	2.96
5,200.0	5.95	122.48	5,184.1	-181.4	265.5	-174.9	0.73	-0.40	5.80
5,225.0	5.96	123.07	5,208.9	-182.8	267.7	-176.2	0.25	0.04	2.36
5,250.0	5.84	123.02	5,233.8	-184.2	269.8	-177.6	0.48	-0.48	-0.20
5,275.0	5.60	123.79	5,258.7	-185.6	271.9	-178.9	1.01	-0.96	3.08
5,300.0	5.21	127.46	5,283.6	-186.9	273.8	-180.2	2.08	-1.56	14.68
5,325.0	4.96	128.27	5,308.5	-188.3	275.6	-181.6	1.04	-1.00	3.24
5,350.0	4.60	129.21	5,333.4	-189.6	277.2	-182.8	1.47	-1.44	3.76
5,375.0	4.16	130.89	5,358.3	-190.8	278.7	-184.0	1.83	-1.76	6.72
5,400.0	3.25	128.90	5,383.3	-191.9	279.9	-185.0	3.68	-3.64	-7.96
5,425.0	2.78	130.16	5,408.2	-192.7	280.9	-185.8	1.90	-1.88	5.04
5,450.0	2.62	128.26	5,433.2	-193.5	281.8	-186.6	0.73	-0.64	-7.60
5,475.0	2.69	127.85	5,458.2	-194.2	282.8	-187.2	0.29	0.28	-1.64
5,500.0	2.64	125.51	5,483.1	-194.9	283.7	-187.9	0.48	-0.20	-9.36
5,525.0	2.64	129.79	5,508.1	-195.6	284.6	-188.6	0.79	0.00	17.12
5,550.0	2.72	134.17	5,533.1	-196.3	285.5	-189.4	0.88	0.32	17.52
5,575.0	2.72	133.75	5,558.1	-197.2	286.3	-190.2	0.08	0.00	-1.68
5,600.0	2.74	130.76	5,583.0	-198.0	287.2	-190.9	0.58	0.08	-11.96
5,625.0	2.67	131.42	5,608.0	-198.7	288.1	-191.7	0.31	-0.28	2.64
5,650.0	2.67	130.47	5,633.0	-199.5	289.0	-192.4	0.18	0.00	-3.80
5,675.0	2.66	130.31	5,657.9	-200.3	289.9	-193.2	0.05	-0.04	-0.64

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)	
5,700.0	2.68	131.08	5,682.9	-201.0	290.7	-193.9	0.16	0.08	3.08	
5,725.0	2.70	130.25	5,707.9	-201.8	291.6	-194.6	0.18	0.08	-3.32	
5,750.0	2.69	130.19	5,732.9	-202.5	292.5	-195.4	0.04	-0.04	-0.24	
5,775.0	2.76	133.62	5,757.8	-203.3	293.4	-196.2	0.71	0.28	13.72	
5,800.0	2.76	130.57	5,782.8	-204.1	294.3	-196.9	0.59	0.00	-12.20	
5,825.0	2.69	131.03	5,807.8	-204.9	295.2	-197.7	0.29	-0.28	1.84	
5,850.0	2.74	133.63	5,832.7	-205.7	296.1	-198.5	0.53	0.20	10.40	
5,875.0	2.79	131.10	5,857.7	-206.5	297.0	-199.3	0.53	0.20	-10.12	
5,900.0	2.82	131.64	5,882.7	-207.3	297.9	-200.0	0.16	0.12	2.16	
5,925.0	2.79	130.90	5,907.7	-208.1	298.8	-200.8	0.19	-0.12	-2.96	
5,950.0	2.79	131.73	5,932.6	-208.9	299.7	-201.6	0.16	0.00	3.32	
5,975.0	2.75	131.25	5,957.6	-209.7	300.6	-202.4	0.18	-0.16	-1.92	
6,000.0	2.78	128.76	5,982.6	-210.5	301.5	-203.1	0.50	0.12	-9.96	
6,025.0	2.77	129.88	6,007.5	-211.3	302.5	-203.9	0.22	-0.04	4.48	
6,050.0	2.84	132.62	6,032.5	-212.1	303.4	-204.7	0.60	0.28	10.96	
6,075.0	2.81	132.58	6,057.5	-212.9	304.3	-205.5	0.12	-0.12	-0.16	
6,100.0	2.92	130.47	6,082.5	-213.8	305.2	-206.3	0.61	0.44	-8.44	
6,125.0	2.85	129.80	6,107.4	-214.6	306.2	-207.1	0.31	-0.28	-2.68	
6,150.0	2.84	129.39	6,132.4	-215.4	307.2	-207.8	0.09	-0.04	-1.64	
6,175.0	2.90	130.70	6,157.4	-216.2	308.1	-208.6	0.36	0.24	5.24	
6,200.0	2.90	129.69	6,182.3	-217.0	309.1	-209.4	0.20	0.00	-4.04	
6,225.0	2.81	130.50	6,207.3	-217.8	310.0	-210.2	0.39	-0.36	3.24	
6,250.0	2.88	132.54	6,232.3	-218.6	311.0	-211.0	0.49	0.28	8.16	
6,275.0	2.92	131.47	6,257.2	-219.5	311.9	-211.8	0.27	0.16	-4.28	
6,300.0	2.82	129.10	6,282.2	-220.3	312.9	-212.6	0.62	-0.40	-9.48	
6,325.0	2.86	130.25	6,307.2	-221.1	313.8	-213.4	0.28	0.16	4.60	
6,350.0	2.87	130.56	6,332.1	-221.9	314.8	-214.2	0.07	0.04	1.24	
6,375.0	2.92	130.38	6,357.1	-222.7	315.7	-215.0	0.20	0.20	-0.72	
6,400.0	2.92	128.80	6,382.1	-223.5	316.7	-215.7	0.32	0.00	-6.32	
6,425.0	2.88	127.03	6,407.0	-224.3	317.7	-216.5	0.39	-0.16	-7.08	
6,450.0	2.86	127.62	6,432.0	-225.0	318.7	-217.2	0.14	-0.08	2.36	
6,475.0	2.76	129.45	6,457.0	-225.8	319.7	-218.0	0.54	-0.40	7.32	
6,500.0	2.79	128.64	6,482.0	-226.6	320.6	-218.7	0.20	0.12	-3.24	
6,525.0	2.52	129.21	6,506.9	-227.3	321.5	-219.4	1.09	-1.08	2.28	
6,550.0	2.40	129.39	6,531.9	-228.0	322.3	-220.1	0.48	-0.48	0.72	
6,575.0	2.37	131.62	6,556.9	-228.6	323.1	-220.7	0.39	-0.12	8.92	
6,600.0	2.35	131.05	6,581.9	-229.3	323.9	-221.4	0.12	-0.08	-2.28	
6,625.0	2.24	130.59	6,606.8	-230.0	324.7	-222.0	0.45	-0.44	-1.84	
6,650.0	2.40	131.99	6,631.8	-230.6	325.4	-222.7	0.68	0.64	5.60	
6,675.0	2.27	129.09	6,656.8	-231.3	326.2	-223.3	0.70	-0.52	-11.60	
6,700.0	2.31	131.81	6,681.8	-232.0	327.0	-223.9	0.46	0.16	10.88	
6,725.0	2.40	133.20	6,706.8	-232.6	327.7	-224.6	0.43	0.36	5.56	
6,750.0	2.39	129.35	6,731.7	-233.3	328.5	-225.3	0.64	-0.04	-15.40	
6,775.0	2.34	132.41	6,756.7	-234.0	329.3	-225.9	0.54	-0.20	12.24	

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
6,800.0	2.41	132.50	6,781.7	-234.7	330.0	-226.6	0.28	0.28	0.36
6,825.0	2.42	131.71	6,806.7	-235.4	330.8	-227.3	0.14	0.04	-3.16
6,850.0	2.44	132.51	6,831.6	-236.1	331.6	-228.0	0.16	0.08	3.20
6,875.0	2.44	129.48	6,856.6	-236.8	332.4	-228.7	0.52	0.00	-12.12
6,900.0	2.17	130.19	6,881.6	-237.5	333.2	-229.3	1.09	-1.08	2.84
6,925.0	2.05	134.14	6,906.6	-238.1	333.9	-229.9	0.75	-0.48	15.80
6,950.0	2.03	134.33	6,931.6	-238.7	334.5	-230.5	0.08	-0.08	0.76
6,975.0	1.97	134.17	6,956.6	-239.3	335.1	-231.1	0.24	-0.24	-0.64
7,000.0	1.82	136.90	6,981.5	-239.9	335.7	-231.7	0.70	-0.60	10.92
7,025.0	1.89	135.23	7,006.5	-240.5	336.3	-232.3	0.35	0.28	-6.68
7,050.0	1.84	134.76	7,031.5	-241.1	336.8	-232.8	0.21	-0.20	-1.88
7,075.0	1.83	136.33	7,056.5	-241.6	337.4	-233.4	0.21	-0.04	6.28
7,100.0	1.85	135.21	7,081.5	-242.2	338.0	-233.9	0.16	0.08	-4.48
7,125.0	1.96	137.43	7,106.5	-242.8	338.5	-234.5	0.53	0.44	8.88
7,150.0	1.82	136.01	7,131.5	-243.4	339.1	-235.1	0.59	-0.56	-5.68
7,175.0	1.73	140.00	7,156.4	-244.0	339.6	-235.7	0.61	-0.36	15.96
7,200.0	1.77	140.73	7,181.4	-244.6	340.1	-236.2	0.18	0.16	2.92
7,225.0	1.66	138.73	7,206.4	-245.1	340.6	-236.8	0.50	-0.44	-8.00
7,250.0	1.58	140.58	7,231.4	-245.7	341.0	-237.3	0.38	-0.32	7.40
7,275.0	1.53	141.93	7,256.4	-246.2	341.5	-237.8	0.25	-0.20	5.40
7,300.0	1.31	148.75	7,281.4	-246.7	341.8	-238.3	1.11	-0.88	27.28
7,325.0	1.18	154.44	7,306.4	-247.2	342.1	-238.8	0.72	-0.52	22.76
7,350.0	1.29	158.52	7,331.4	-247.7	342.3	-239.3	0.56	0.44	16.32
7,375.0	0.92	167.46	7,356.4	-248.1	342.4	-239.8	1.63	-1.48	35.76
7,400.0	0.82	173.68	7,381.4	-248.5	342.5	-240.1	0.55	-0.40	24.88
7,425.0	0.86	172.16	7,406.4	-248.9	342.6	-240.5	0.18	0.16	-6.08
7,450.0	0.69	185.15	7,431.4	-249.2	342.6	-240.8	0.97	-0.68	51.96
7,475.0	0.53	248.00	7,456.4	-249.4	342.4	-241.0	2.60	-0.64	251.40
7,500.0	0.60	264.53	7,481.4	-249.5	342.2	-241.1	0.71	0.28	66.12
7,525.0	0.70	269.14	7,506.4	-249.5	341.9	-241.1	0.45	0.40	18.44
7,550.0	0.62	263.47	7,531.4	-249.5	341.6	-241.1	0.41	-0.32	-22.68
7,575.0	0.65	273.17	7,556.4	-249.5	341.4	-241.1	0.45	0.12	38.80
7,600.0	0.70	265.97	7,581.4	-249.5	341.1	-241.2	0.39	0.20	-28.80
7,625.0	0.59	269.35	7,606.4	-249.5	340.8	-241.2	0.47	-0.44	13.52
7,650.0	0.64	268.98	7,631.4	-249.5	340.5	-241.2	0.20	0.20	-1.48
7,675.0	0.71	268.16	7,656.4	-249.5	340.2	-241.2	0.28	0.28	-3.28
7,700.0	0.71	263.42	7,681.4	-249.6	339.9	-241.2	0.23	0.00	-18.96
7,725.0	0.58	272.12	7,706.4	-249.6	339.6	-241.3	0.65	-0.52	34.80
7,750.0	0.65	276.15	7,731.4	-249.6	339.4	-241.2	0.33	0.28	16.12
7,775.0	0.71	265.96	7,756.4	-249.5	339.1	-241.2	0.54	0.24	-40.76
7,800.0	0.58	268.39	7,781.4	-249.6	338.8	-241.3	0.53	-0.52	9.72
7,825.0	0.67	269.80	7,806.4	-249.6	338.5	-241.3	0.37	0.36	5.64
7,850.0	0.69	268.35	7,831.4	-249.6	338.2	-241.3	0.11	0.08	-5.80

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
7,875.0	0.69	266.73	7,856.3	-249.6	337.9	-241.3	0.08	0.00	-6.48
7,900.0	0.64	273.36	7,881.3	-249.6	337.6	-241.3	0.37	-0.20	26.52
7,925.0	0.73	271.34	7,906.3	-249.6	337.3	-241.3	0.37	0.36	-8.08
7,950.0	0.74	261.55	7,931.3	-249.6	337.0	-241.3	0.50	0.04	-39.16
7,975.0	0.72	263.29	7,956.3	-249.6	336.7	-241.4	0.12	-0.08	6.96
8,000.0	0.68	264.39	7,981.3	-249.7	336.4	-241.4	0.17	-0.16	4.40
8,025.0	0.72	266.93	8,006.3	-249.7	336.1	-241.5	0.20	0.16	10.16
8,050.0	0.75	262.45	8,031.3	-249.7	335.8	-241.5	0.26	0.12	-17.92
8,075.0	0.63	262.62	8,056.3	-249.8	335.5	-241.5	0.48	-0.48	0.68
8,100.0	0.74	263.24	8,081.3	-249.8	335.2	-241.6	0.44	0.44	2.48
8,125.0	0.78	255.68	8,106.3	-249.9	334.9	-241.7	0.43	0.16	-30.24
8,150.0	0.75	259.33	8,131.3	-249.9	334.5	-241.7	0.23	-0.12	14.60
8,175.0	0.67	262.62	8,156.3	-250.0	334.2	-241.8	0.36	-0.32	13.16
8,200.0	0.80	262.10	8,181.3	-250.0	333.9	-241.8	0.52	0.52	-2.08
8,225.0	0.73	260.72	8,206.3	-250.1	333.6	-241.9	0.29	-0.28	-5.52
8,250.0	0.77	257.67	8,231.3	-250.1	333.2	-242.0	0.23	0.16	-12.20
8,275.0	0.81	262.48	8,256.3	-250.2	332.9	-242.0	0.31	0.16	19.24
8,300.0	0.76	256.35	8,281.3	-250.3	332.6	-242.1	0.39	-0.20	-24.52
8,325.0	0.69	259.96	8,306.3	-250.3	332.3	-242.2	0.33	-0.28	14.44
8,350.0	0.84	262.00	8,331.3	-250.4	331.9	-242.2	0.61	0.60	8.16
8,375.0	0.81	254.61	8,356.3	-250.4	331.6	-242.3	0.44	-0.12	-29.56
8,400.0	0.72	260.63	8,381.3	-250.5	331.3	-242.4	0.48	-0.36	24.08
8,425.0	0.78	261.54	8,406.3	-250.6	330.9	-242.5	0.24	0.24	3.64
8,450.0	0.84	256.14	8,431.3	-250.6	330.6	-242.5	0.39	0.24	-21.60
8,475.0	0.75	255.53	8,456.3	-250.7	330.3	-242.6	0.36	-0.36	-2.44
8,500.0	0.86	259.64	8,481.3	-250.8	329.9	-242.7	0.50	0.44	16.44
8,525.0	0.87	258.25	8,506.3	-250.9	329.5	-242.8	0.09	0.04	-5.56
8,550.0	0.74	259.04	8,531.3	-250.9	329.2	-242.9	0.52	-0.52	3.16
8,575.0	0.72	260.01	8,556.3	-251.0	328.9	-242.9	0.09	-0.08	3.88
8,600.0	0.79	260.72	8,581.3	-251.0	328.6	-243.0	0.28	0.28	2.84
8,625.0	0.80	258.78	8,606.3	-251.1	328.2	-243.1	0.11	0.04	-7.76
8,650.0	0.77	257.51	8,631.3	-251.2	327.9	-243.1	0.14	-0.12	-5.08
8,675.0	0.79	260.20	8,656.3	-251.2	327.5	-243.2	0.17	0.08	10.76
8,700.0	0.88	254.23	8,681.3	-251.3	327.2	-243.3	0.50	0.36	-23.88
8,725.0	0.81	250.39	8,706.3	-251.4	326.8	-243.4	0.36	-0.28	-15.36
8,750.0	0.77	254.64	8,731.3	-251.5	326.5	-243.5	0.28	-0.16	17.00
8,775.0	0.88	255.27	8,756.3	-251.6	326.2	-243.6	0.44	0.44	2.52
8,800.0	0.83	247.31	8,781.3	-251.8	325.8	-243.8	0.51	-0.20	-31.84
8,825.0	0.78	252.09	8,806.3	-251.9	325.5	-243.9	0.33	-0.20	19.12
8,850.0	0.79	256.30	8,831.3	-252.0	325.2	-244.0	0.23	0.04	16.84
8,875.0	0.87	253.87	8,856.3	-252.1	324.8	-244.1	0.35	0.32	-9.72
8,900.0	0.80	251.70	8,881.3	-252.2	324.5	-244.2	0.31	-0.28	-8.68
8,925.0	0.74	249.97	8,906.3	-252.3	324.1	-244.3	0.26	-0.24	-6.92

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
8,950.0	0.86	252.16	8,931.3	-252.4	323.8	-244.5	0.50	0.48	8.76
8,975.0	0.89	253.55	8,956.2	-252.5	323.4	-244.6	0.15	0.12	5.56
9,000.0	0.79	247.98	8,981.2	-252.6	323.1	-244.7	0.52	-0.40	-22.28
9,025.0	0.78	248.25	9,006.2	-252.8	322.8	-244.8	0.04	-0.04	1.08
9,050.0	0.85	250.75	9,031.2	-252.9	322.4	-245.0	0.31	0.28	10.00
9,075.0	0.84	246.79	9,056.2	-253.0	322.1	-245.1	0.24	-0.04	-15.84
9,100.0	0.82	241.32	9,081.2	-253.2	321.8	-245.3	0.33	-0.08	-21.88
9,125.0	0.71	251.54	9,106.2	-253.3	321.5	-245.4	0.70	-0.44	40.88
9,150.0	0.78	251.11	9,131.2	-253.4	321.2	-245.5	0.28	0.28	-1.72
9,175.0	0.79	243.50	9,156.2	-253.5	320.8	-245.7	0.42	0.04	-30.44
9,200.0	0.73	243.21	9,181.2	-253.7	320.6	-245.8	0.24	-0.24	-1.16
9,225.0	0.76	249.34	9,206.2	-253.8	320.3	-246.0	0.34	0.12	24.52
9,250.0	0.80	248.88	9,231.2	-253.9	319.9	-246.1	0.16	0.16	-1.84
9,275.0	0.76	244.57	9,256.2	-254.1	319.6	-246.2	0.28	-0.16	-17.24
9,300.0	0.76	248.27	9,281.2	-254.2	319.3	-246.4	0.20	0.00	14.80
9,325.0	0.84	244.94	9,306.2	-254.3	319.0	-246.5	0.37	0.32	-13.32
9,350.0	0.80	239.04	9,331.2	-254.5	318.7	-246.7	0.37	-0.16	-23.60
9,375.0	0.75	248.84	9,356.2	-254.7	318.4	-246.9	0.57	-0.20	39.20
9,400.0	0.78	247.38	9,381.2	-254.8	318.1	-247.0	0.14	0.12	-5.84
9,425.0	0.81	241.61	9,406.2	-254.9	317.8	-247.1	0.34	0.12	-23.08
9,450.0	0.71	232.85	9,431.2	-255.1	317.5	-247.3	0.61	-0.40	-35.04
9,475.0	0.79	245.40	9,456.2	-255.3	317.2	-247.5	0.73	0.32	50.20
9,500.0	0.86	250.10	9,481.2	-255.4	316.9	-247.6	0.39	0.28	18.80
9,525.0	0.77	243.85	9,506.2	-255.6	316.5	-247.8	0.51	-0.36	-25.00
9,550.0	0.71	243.42	9,531.2	-255.7	316.3	-247.9	0.24	-0.24	-1.72
9,575.0	0.79	245.41	9,556.2	-255.8	316.0	-248.1	0.34	0.32	7.96
9,600.0	0.74	239.45	9,581.2	-256.0	315.7	-248.3	0.38	-0.20	-23.84
9,625.0	0.70	241.55	9,606.2	-256.1	315.4	-248.4	0.19	-0.16	8.40
9,650.0	0.73	241.30	9,631.2	-256.3	315.1	-248.6	0.12	0.12	-1.00
9,675.0	0.69	234.03	9,656.2	-256.5	314.9	-248.7	0.39	-0.16	-29.08
9,700.0	0.61	229.08	9,681.2	-256.6	314.6	-248.9	0.39	-0.32	-19.80
9,725.0	0.53	232.23	9,706.2	-256.8	314.4	-249.1	0.34	-0.32	12.60
9,750.0	0.53	219.64	9,731.2	-257.0	314.3	-249.2	0.46	0.00	-50.36
9,775.0	0.40	217.92	9,756.2	-257.1	314.1	-249.4	0.52	-0.52	-6.88
9,800.0	0.40	231.82	9,781.2	-257.2	314.0	-249.5	0.39	0.00	55.60
9,825.0	0.54	227.76	9,806.2	-257.4	313.9	-249.7	0.58	0.56	-16.24
9,850.0	0.32	213.86	9,831.2	-257.5	313.7	-249.8	0.97	-0.88	-55.60
9,875.0	0.34	225.41	9,856.2	-257.6	313.7	-249.9	0.28	0.08	46.20
9,900.0	0.32	214.40	9,881.2	-257.7	313.6	-250.0	0.27	-0.08	-44.04
9,925.0	0.25	218.31	9,906.2	-257.8	313.5	-250.1	0.29	-0.28	15.64
9,950.0	0.21	218.49	9,931.2	-257.9	313.4	-250.2	0.16	-0.16	0.72
9,975.0	0.26	212.46	9,956.2	-258.0	313.4	-250.3	0.22	0.20	-24.12
10,000.0	0.27	210.04	9,981.2	-258.1	313.3	-250.4	0.06	0.04	-9.68
10,025.0	0.13	200.03	10,006.2	-258.2	313.3	-250.5	0.58	-0.56	-40.04

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
10,050.0	0.09	149.22	10,031.2	-258.2	313.3	-250.5	0.40	-0.16	-203.24
10,075.0	0.13	131.62	10,056.2	-258.2	313.3	-250.6	0.21	0.16	-70.40
10,100.0	0.25	122.15	10,081.2	-258.3	313.4	-250.6	0.49	0.48	-37.88
10,125.0	0.45	116.19	10,106.2	-258.4	313.5	-250.7	0.81	0.80	-23.84
10,150.0	0.71	117.70	10,131.2	-258.5	313.7	-250.8	1.04	1.04	6.04
10,175.0	0.86	111.86	10,156.2	-258.6	314.0	-250.9	0.68	0.60	-23.36
10,200.0	0.83	116.40	10,181.2	-258.8	314.4	-251.1	0.29	-0.12	18.16
10,225.0	0.83	119.92	10,206.2	-258.9	314.7	-251.2	0.20	0.00	14.08
10,250.0	0.88	114.83	10,231.2	-259.1	315.0	-251.4	0.36	0.20	-20.36
10,275.0	0.95	110.36	10,256.2	-259.3	315.4	-251.5	0.40	0.28	-17.88
10,300.0	0.90	103.08	10,281.2	-259.4	315.8	-251.6	0.51	-0.20	-29.12
10,325.0	0.81	90.26	10,306.2	-259.4	316.1	-251.7	0.84	-0.36	-51.28
10,350.0	0.79	86.92	10,331.2	-259.4	316.5	-251.7	0.20	-0.08	-13.36
10,375.0	0.88	83.93	10,356.1	-259.4	316.9	-251.6	0.40	0.36	-11.96
10,400.0	0.87	82.42	10,381.1	-259.3	317.2	-251.6	0.10	-0.04	-6.04
10,425.0	0.80	78.85	10,406.1	-259.3	317.6	-251.5	0.35	-0.28	-14.28
10,450.0	0.77	85.79	10,431.1	-259.2	317.9	-251.4	0.40	-0.12	27.76
10,475.0	0.85	83.88	10,456.1	-259.2	318.3	-251.4	0.34	0.32	-7.64
10,500.0	0.85	77.35	10,481.1	-259.1	318.6	-251.3	0.39	0.00	-26.12
10,525.0	0.81	87.79	10,506.1	-259.1	319.0	-251.3	0.62	-0.16	41.76
10,550.0	0.91	82.21	10,531.1	-259.1	319.4	-251.2	0.52	0.40	-22.32
10,575.0	0.89	85.78	10,556.1	-259.0	319.8	-251.2	0.24	-0.08	14.28
10,600.0	0.76	82.28	10,581.1	-259.0	320.1	-251.1	0.56	-0.52	-14.00
10,625.0	0.97	82.93	10,606.1	-258.9	320.5	-251.1	0.84	0.84	2.60
10,650.0	0.86	83.14	10,631.1	-258.9	320.9	-251.0	0.44	-0.44	0.84
10,675.0	0.83	92.54	10,656.1	-258.9	321.3	-251.0	0.57	-0.12	37.60
10,700.0	0.86	82.71	10,681.1	-258.9	321.6	-251.0	0.59	0.12	-39.32
10,725.0	0.83	89.79	10,706.1	-258.8	322.0	-250.9	0.43	-0.12	28.32
10,750.0	0.81	83.78	10,731.1	-258.8	322.4	-250.9	0.35	-0.08	-24.04
10,775.0	0.77	89.18	10,756.1	-258.8	322.7	-250.9	0.34	-0.16	21.60
10,800.0	0.92	84.81	10,781.1	-258.8	323.1	-250.9	0.65	0.60	-17.48
10,825.0	0.82	89.43	10,806.1	-258.8	323.4	-250.8	0.49	-0.40	18.48
10,850.0	0.87	93.14	10,831.1	-258.8	323.8	-250.8	0.30	0.20	14.84
10,875.0	0.99	84.73	10,856.1	-258.8	324.2	-250.8	0.73	0.48	-33.64
10,900.0	0.98	85.49	10,881.1	-258.7	324.6	-250.8	0.07	-0.04	3.04
10,925.0	0.97	91.88	10,906.1	-258.7	325.1	-250.7	0.44	-0.04	25.56
10,950.0	0.84	98.16	10,931.1	-258.7	325.5	-250.8	0.65	-0.52	25.12
10,975.0	0.99	92.13	10,956.1	-258.8	325.9	-250.8	0.71	0.60	-24.12
11,000.0	0.95	98.60	10,981.1	-258.8	326.3	-250.8	0.47	-0.16	25.88
11,025.0	0.93	94.03	11,006.1	-258.9	326.7	-250.9	0.31	-0.08	-18.28
11,050.0	0.99	103.43	11,031.1	-258.9	327.1	-250.9	0.67	0.24	37.60
11,075.0	0.98	97.37	11,056.1	-259.0	327.5	-251.0	0.42	-0.04	-24.24
11,100.0	1.01	102.07	11,081.1	-259.1	328.0	-251.0	0.35	0.12	18.80

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
11,125.0	1.10	102.26	11,106.1	-259.2	328.4	-251.1	0.36	0.36	0.76
11,150.0	1.05	113.02	11,131.1	-259.3	328.8	-251.3	0.83	-0.20	43.04
11,175.0	1.06	106.43	11,156.0	-259.5	329.3	-251.4	0.49	0.04	-26.36
11,200.0	1.06	102.70	11,181.0	-259.6	329.7	-251.5	0.28	0.00	-14.92
11,225.0	1.18	106.29	11,206.0	-259.7	330.2	-251.6	0.56	0.48	14.36
11,250.0	1.08	111.03	11,231.0	-259.9	330.7	-251.8	0.55	-0.40	18.96
11,275.0	1.23	117.42	11,256.0	-260.1	331.1	-252.0	0.79	0.60	25.56
11,300.0	1.29	112.52	11,281.0	-260.3	331.6	-252.2	0.49	0.24	-19.60
11,325.0	1.22	115.54	11,306.0	-260.5	332.1	-252.4	0.39	-0.28	12.08
11,350.0	1.33	116.51	11,331.0	-260.8	332.6	-252.6	0.45	0.44	3.88
11,375.0	1.37	116.43	11,356.0	-261.0	333.2	-252.9	0.16	0.16	-0.32
11,400.0	1.36	118.17	11,381.0	-261.3	333.7	-253.1	0.17	-0.04	6.96
11,425.0	1.21	123.77	11,406.0	-261.6	334.2	-253.4	0.78	-0.60	22.40
11,450.0	1.12	128.10	11,431.0	-261.9	334.6	-253.7	0.50	-0.36	17.32
11,475.0	1.08	130.98	11,456.0	-262.2	334.9	-254.0	0.27	-0.16	11.52
11,500.0	1.00	138.59	11,481.0	-262.5	335.3	-254.3	0.64	-0.32	30.44
11,525.0	1.04	142.89	11,506.0	-262.9	335.5	-254.6	0.35	0.16	17.20
11,550.0	1.01	155.41	11,531.0	-263.2	335.8	-255.0	0.90	-0.12	50.08
11,575.0	1.13	155.48	11,556.0	-263.7	336.0	-255.4	0.48	0.48	0.28
11,600.0	1.20	152.40	11,581.0	-264.1	336.2	-255.9	0.38	0.28	-12.32
11,625.0	1.26	157.76	11,606.0	-264.6	336.4	-256.4	0.52	0.24	21.44
11,650.0	1.27	151.89	11,630.9	-265.1	336.7	-256.9	0.52	0.04	-23.48
11,675.0	1.30	156.63	11,655.9	-265.6	336.9	-257.4	0.44	0.12	18.96
11,700.0	1.38	151.79	11,680.9	-266.1	337.2	-257.9	0.55	0.32	-19.36
11,725.0	1.35	155.25	11,705.9	-266.7	337.4	-258.4	0.35	-0.12	13.84
11,733.6	1.44	162.66	11,714.6	-266.9	337.5	-258.6	2.33	1.04	85.76
11,893.0	1.39	194.59	11,873.9	-270.6	337.6	-262.4	0.49	-0.03	20.04
First MWD Survey @ 11893'MD									
11,988.0	1.27	200.38	11,968.9	-272.7	336.9	-264.5	0.19	-0.13	6.09
12,050.0	0.61	132.95	12,030.8	-273.6	336.9	-265.4	1.90	-1.06	-108.76
12,082.0	3.88	20.80	12,062.8	-272.7	337.5	-264.4	12.96	10.22	-350.47
12,113.0	9.24	9.37	12,093.6	-269.3	338.2	-261.0	17.71	17.29	-36.87
12,145.0	14.03	358.55	12,124.9	-262.9	338.6	-254.6	16.39	14.97	-33.81
12,176.0	18.14	359.30	12,154.7	-254.3	338.4	-246.0	13.27	13.26	2.42
12,208.0	21.84	0.32	12,184.8	-243.3	338.4	-235.1	11.61	11.56	3.19
12,239.0	25.06	0.07	12,213.2	-231.0	338.4	-222.7	10.39	10.39	-0.81
12,271.0	26.90	1.22	12,242.0	-217.0	338.6	-208.7	5.96	5.75	3.59
12,302.0	28.08	359.89	12,269.5	-202.7	338.7	-194.4	4.29	3.81	-4.29
12,334.0	30.82	0.27	12,297.4	-187.0	338.7	-178.7	8.58	8.56	1.19
12,365.0	32.67	1.82	12,323.7	-170.6	339.0	-162.4	6.52	5.97	5.00
12,393.0	33.80	2.25	12,347.1	-155.3	339.6	-147.0	4.12	4.04	1.54
12,428.0	35.36	2.12	12,376.0	-135.5	340.3	-127.2	4.46	4.46	-0.37
12,460.0	35.87	1.13	12,402.0	-116.8	340.9	-108.5	2.41	1.59	-3.09

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
12,483.4	38.45	0.16	12,420.6	-102.7	341.0	-94.4	11.31	11.03	-4.14
FTP @ 12483.4'MD / 12420.6'MD									
12,491.0	39.29	359.87	12,426.5	-97.9	341.0	-89.6	11.31	11.05	-3.83
12,523.0	42.07	357.95	12,450.8	-77.1	340.6	-68.8	9.53	8.69	-6.00
12,554.0	45.54	358.27	12,473.2	-55.6	339.9	-47.4	11.22	11.19	1.03
12,586.0	49.23	358.51	12,494.8	-32.1	339.3	-23.9	11.54	11.53	0.75
12,617.0	51.61	358.73	12,514.6	-8.2	338.7	0.0	7.70	7.68	0.71
12,649.0	53.92	357.53	12,533.9	17.2	337.8	25.4	7.81	7.22	-3.75
12,680.0	57.83	356.81	12,551.3	42.9	336.6	51.0	12.76	12.61	-2.32
12,711.0	59.35	357.02	12,567.5	69.3	335.1	77.4	4.94	4.90	0.68
12,743.0	60.40	356.61	12,583.5	96.9	333.6	105.0	3.46	3.28	-1.28
12,771.0	61.18	355.23	12,597.2	121.3	331.9	129.3	5.12	2.79	-4.93
12,803.0	63.71	355.08	12,612.0	149.6	329.5	157.5	7.92	7.91	-0.47
12,834.0	67.19	356.32	12,624.9	177.7	327.4	185.6	11.80	11.23	4.00
12,866.0	70.34	356.05	12,636.5	207.4	325.4	215.3	9.88	9.84	-0.84
12,897.0	75.83	355.70	12,645.5	237.0	323.2	244.8	17.74	17.71	-1.13
12,929.0	79.37	355.93	12,652.4	268.2	321.0	275.9	11.08	11.06	0.72
12,960.0	81.90	354.75	12,657.4	298.7	318.5	306.3	8.98	8.16	-3.81
12,992.0	84.96	355.08	12,661.1	330.3	315.7	337.9	9.62	9.56	1.03
13,033.0	91.42	355.59	12,662.4	371.1	312.3	378.6	15.81	15.76	1.24
13,064.0	92.87	356.46	12,661.2	402.0	310.2	409.5	5.45	4.68	2.81
13,158.0	92.26	357.05	12,657.0	495.8	304.9	503.0	0.90	-0.65	0.63
13,252.0	92.56	356.92	12,653.0	589.6	299.9	596.7	0.35	0.32	-0.14
13,347.0	92.06	358.16	12,649.2	684.4	295.9	691.4	1.41	-0.53	1.31
13,441.0	88.12	359.24	12,649.1	778.4	293.7	785.3	4.35	-4.19	1.15
13,535.0	87.39	358.91	12,652.8	872.3	292.2	879.1	0.85	-0.78	-0.35
13,630.0	87.95	359.24	12,656.6	967.2	290.7	974.0	0.68	0.59	0.35
13,724.0	88.38	359.97	12,659.6	1,061.1	290.0	1,067.9	0.90	0.46	0.78
13,818.0	88.44	0.23	12,662.2	1,155.1	290.2	1,161.8	0.28	0.06	0.28
13,913.0	88.33	359.92	12,664.9	1,250.1	290.3	1,256.7	0.35	-0.12	-0.33
14,007.0	89.46	358.95	12,666.7	1,344.0	289.4	1,350.7	1.58	1.20	-1.03
14,101.0	91.17	359.02	12,666.2	1,438.0	287.7	1,444.6	1.82	1.82	0.07
14,195.0	91.49	358.86	12,664.0	1,532.0	286.0	1,538.5	0.38	0.34	-0.17
14,290.0	92.07	358.99	12,661.1	1,626.9	284.2	1,633.3	0.63	0.61	0.14
14,384.0	90.20	358.84	12,659.2	1,720.9	282.4	1,727.2	2.00	-1.99	-0.16
14,478.0	90.26	358.41	12,658.8	1,814.9	280.2	1,821.1	0.46	0.06	-0.46
14,572.0	90.81	358.97	12,658.0	1,908.8	278.0	1,915.0	0.84	0.59	0.60
14,667.0	89.77	358.78	12,657.5	2,003.8	276.2	2,009.9	1.11	-1.09	-0.20
14,761.0	90.84	359.89	12,657.0	2,097.8	275.1	2,103.8	1.64	1.14	1.18
14,855.0	90.61	359.92	12,655.8	2,191.8	274.9	2,197.8	0.25	-0.24	0.03
14,949.0	90.41	0.00	12,654.9	2,285.8	274.8	2,291.8	0.23	-0.21	0.09
15,043.0	90.54	359.62	12,654.2	2,379.8	274.5	2,385.7	0.43	0.14	-0.40
15,138.0	90.90	359.50	12,653.0	2,474.8	273.8	2,480.7	0.40	0.38	-0.13
15,231.0	91.34	0.05	12,651.2	2,567.7	273.4	2,573.6	0.76	0.47	0.59

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
15,326.0	90.70	0.13	12,649.5	2,662.7	273.6	2,668.6	0.68	-0.67	0.08
15,420.0	88.12	358.72	12,650.4	2,756.7	272.6	2,762.5	3.13	-2.74	-1.50
15,515.0	86.93	358.45	12,654.5	2,851.6	270.3	2,857.3	1.28	-1.25	-0.28
15,609.0	87.04	359.01	12,659.5	2,945.4	268.2	2,951.1	0.61	0.12	0.60
15,703.0	88.12	356.03	12,663.5	3,039.3	264.2	3,044.8	3.37	1.15	-3.17
15,797.0	93.59	358.58	12,662.0	3,133.1	259.7	3,138.5	6.42	5.82	2.71
15,891.0	98.17	0.64	12,652.4	3,226.6	259.1	3,231.9	5.34	4.87	2.19
15,985.0	98.98	0.57	12,638.4	3,319.5	260.1	3,324.8	0.86	0.86	-0.07
16,079.0	97.98	359.96	12,624.5	3,412.5	260.5	3,417.8	1.24	-1.06	-0.65
16,174.0	97.95	1.61	12,611.4	3,506.6	261.8	3,511.9	1.72	-0.03	1.74
16,268.0	97.11	1.73	12,599.1	3,599.7	264.5	3,605.1	0.90	-0.89	0.13
16,362.0	95.02	1.40	12,589.1	3,693.1	267.1	3,698.5	2.25	-2.22	-0.35
16,457.0	94.43	1.80	12,581.3	3,787.8	269.7	3,793.2	0.75	-0.62	0.42
16,551.0	93.91	1.18	12,574.5	3,881.5	272.1	3,887.0	0.86	-0.55	-0.66
16,646.0	93.94	0.86	12,568.0	3,976.3	273.8	3,981.7	0.34	0.03	-0.34
16,740.0	94.33	0.73	12,561.2	4,070.0	275.1	4,075.5	0.44	0.41	-0.14
16,834.0	94.11	0.23	12,554.3	4,163.7	275.9	4,169.2	0.58	-0.23	-0.53
16,929.0	93.66	0.16	12,547.8	4,258.5	276.2	4,264.0	0.48	-0.47	-0.07
17,023.0	90.86	359.69	12,544.1	4,352.4	276.1	4,357.9	3.02	-2.98	-0.50
17,117.0	90.63	359.47	12,542.9	4,446.4	275.4	4,451.8	0.34	-0.24	-0.23
17,211.0	92.63	359.61	12,540.2	4,540.4	274.7	4,545.7	2.13	2.13	0.15
17,306.0	92.89	359.28	12,535.7	4,635.3	273.8	4,640.5	0.44	0.27	-0.35
17,400.0	95.17	0.03	12,529.1	4,729.0	273.2	4,734.3	2.55	2.43	0.80
17,495.0	92.95	359.09	12,522.3	4,823.8	272.5	4,829.0	2.54	-2.34	-0.99
17,589.0	92.28	359.35	12,518.0	4,917.7	271.2	4,922.8	0.76	-0.71	0.28
17,683.0	92.09	359.54	12,514.5	5,011.6	270.3	5,016.7	0.29	-0.20	0.20
17,778.0	92.09	0.20	12,511.0	5,106.5	270.1	5,111.6	0.69	0.00	0.69
17,872.0	90.81	0.41	12,508.6	5,200.5	270.6	5,205.5	1.38	-1.36	0.22
17,966.0	91.07	359.96	12,507.1	5,294.5	270.9	5,299.5	0.55	0.28	-0.48
18,060.0	91.01	359.67	12,505.4	5,388.5	270.6	5,393.5	0.31	-0.06	-0.31
18,155.0	91.27	359.45	12,503.5	5,483.5	269.8	5,488.4	0.36	0.27	-0.23
18,249.0	91.69	358.79	12,501.0	5,577.4	268.4	5,582.3	0.83	0.45	-0.70
18,343.0	90.75	358.81	12,499.0	5,671.4	266.4	5,676.2	1.00	-1.00	0.02
18,438.0	90.95	358.04	12,497.6	5,766.3	263.8	5,771.0	0.84	0.21	-0.81
18,532.0	91.40	358.09	12,495.7	5,860.2	260.6	5,864.8	0.48	0.48	0.05
18,626.0	91.44	358.56	12,493.4	5,954.2	257.9	5,958.7	0.50	0.04	0.50
18,721.0	89.87	358.64	12,492.3	6,049.1	255.6	6,053.6	1.65	-1.65	0.08
18,815.0	90.87	359.72	12,491.7	6,143.1	254.2	6,147.5	1.57	1.06	1.15
18,909.0	91.47	359.79	12,489.8	6,237.1	253.8	6,241.4	0.64	0.64	0.07
19,003.0	92.34	359.49	12,486.6	6,331.0	253.2	6,335.3	0.98	0.93	-0.32
19,098.0	92.74	359.10	12,482.4	6,425.9	252.1	6,430.2	0.59	0.42	-0.41
19,192.0	90.58	359.72	12,479.7	6,519.9	251.1	6,524.1	2.39	-2.30	0.66
19,286.0	90.52	359.20	12,478.8	6,613.9	250.2	6,618.0	0.56	-0.06	-0.55

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	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)
19,381.0	91.26	358.95	12,477.3	6,708.9	248.7	6,712.9	0.82	0.78	-0.26
19,475.0	91.44	359.36	12,475.1	6,802.8	247.3	6,806.8	0.48	0.19	0.44
19,570.0	90.54	1.07	12,473.5	6,897.8	247.6	6,901.8	2.03	-0.95	1.80
19,664.0	90.00	0.78	12,473.0	6,991.8	249.2	6,995.8	0.65	-0.57	-0.31
19,758.0	90.97	0.66	12,472.2	7,085.8	250.3	7,089.8	1.04	1.03	-0.13
19,853.0	92.11	0.80	12,469.7	7,180.7	251.5	7,184.7	1.21	1.20	0.15
19,947.0	91.40	0.93	12,466.8	7,274.7	253.0	7,278.7	0.77	-0.76	0.14
20,041.0	90.95	0.15	12,464.9	7,368.7	253.9	7,372.6	0.96	-0.48	-0.83
20,136.0	90.10	359.97	12,464.0	7,463.7	254.0	7,467.6	0.91	-0.89	-0.19
20,230.0	88.80	0.39	12,464.9	7,557.6	254.2	7,561.6	1.45	-1.38	0.45
20,324.0	88.61	359.74	12,467.0	7,651.6	254.4	7,655.5	0.72	-0.20	-0.69
20,418.0	89.72	359.53	12,468.4	7,745.6	253.8	7,749.5	1.20	1.18	-0.22
20,512.0	89.61	359.18	12,468.9	7,839.6	252.7	7,843.4	0.39	-0.12	-0.37
20,606.0	90.57	358.84	12,468.8	7,933.6	251.1	7,937.3	1.08	1.02	-0.36
20,701.0	90.40	358.05	12,468.0	8,028.5	248.5	8,032.2	0.85	-0.18	-0.83
20,766.0	91.87	359.31	12,466.7	8,093.5	247.0	8,097.1	2.98	2.26	1.94
20,860.0	91.57	359.88	12,463.9	8,187.5	246.3	8,191.0	0.68	-0.32	0.61
20,954.0	90.69	359.49	12,462.0	8,281.4	245.8	8,285.0	1.02	-0.94	-0.41
21,049.0	90.09	359.21	12,461.4	8,376.4	244.7	8,379.9	0.70	-0.63	-0.29
21,143.0	90.07	358.96	12,461.3	8,470.4	243.2	8,473.8	0.27	-0.02	-0.27
21,237.0	90.50	358.53	12,460.8	8,564.4	241.2	8,567.7	0.65	0.46	-0.46
21,331.0	90.59	356.95	12,459.9	8,658.3	237.5	8,661.5	1.68	0.10	-1.68
21,426.0	90.95	357.09	12,458.6	8,753.2	232.5	8,756.2	0.41	0.38	0.15
21,520.0	92.32	358.56	12,455.9	8,847.1	229.0	8,850.0	2.14	1.46	1.56
21,614.0	91.79	358.44	12,452.6	8,941.0	226.5	8,943.8	0.58	-0.56	-0.13
21,709.0	91.55	358.04	12,449.8	9,035.9	223.6	9,038.7	0.49	-0.25	-0.42
21,803.0	91.52	357.54	12,447.3	9,129.8	220.0	9,132.4	0.53	-0.03	-0.53
21,897.0	91.33	357.33	12,444.9	9,223.7	215.8	9,226.2	0.30	-0.20	-0.22
21,992.0	90.53	356.84	12,443.4	9,318.5	210.9	9,320.9	0.99	-0.84	-0.52
22,086.0	90.01	356.69	12,443.0	9,412.4	205.6	9,414.6	0.58	-0.55	-0.16
22,198.0	90.45	356.62	12,442.5	9,524.2	199.1	9,526.2	0.40	0.39	-0.06
22,292.0	89.50	2.35	12,442.5	9,618.1	198.2	9,620.1	6.18	-1.01	6.10
22,386.0	89.29	2.34	12,443.5	9,712.1	202.1	9,714.1	0.22	-0.22	-0.01
22,481.0	88.47	2.31	12,445.4	9,807.0	205.9	9,809.1	0.86	-0.86	-0.03
22,545.9	88.19	2.19	12,447.3	9,871.8	208.5	9,873.9	0.47	-0.44	-0.18
LTP @ 22545.9'MD / 12447.3'TVD									
22,575.0	88.06	2.14	12,448.2	9,900.8	209.6	9,903.0	0.47	-0.44	-0.18
22,617.0	87.85	2.10	12,449.7	9,942.8	211.1	9,945.0	0.51	-0.50	-0.10
Final MWD Survey @ 22617'MD									
22,676.0	87.85	2.10	12,452.0	10,001.7	213.3	10,003.9	0.00	0.00	0.00
PTD @ 22676'MD / 12452'TVD									

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well BASEBALL CAP FED COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3406.7usft (SCAN QUEST)
Well:	BASEBALL CAP FED COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	EDM_Users

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP (BASEBALL CAP - actual wellpath misses target center by 58.8usft at 22546.0usft MD (12447.3 TVD, 9871.9 N, 208.5 E) - Point	0.00	0.00	12,400.3	9,872.1	243.9	441,047.00	783,370.90	32° 12' 33.248 N	103° 25' 1.734 W
PBHL (BASEBALL CAP - actual wellpath misses target center by 56.4usft at 22676.0usft MD (12452.0 TVD, 10001.7 N, 213.3 E) - Rectangle (sides W100.0 H10,322.0 D20.0)	1.52	179.61	12,500.0	10,002.1	242.9	441,177.00	783,369.90	32° 12' 34.534 N	103° 25' 1.733 W
FTP (BASEBALL CAP - actual wellpath misses target center by 178.2usft at 12602.7usft MD (12505.6 TVD, -19.4 N, 338.9 E) - Point	0.00	0.00	12,642.0	-132.6	320.6	431,042.30	783,447.60	32° 10' 54.243 N	103° 25' 1.833 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,893.0	11,873.9	-270.6	337.6	First MWD Survey @ 11893'MD
12,483.4	12,420.6	-102.7	341.0	FTP @ 12483.4'MD / 12420.6'MD
22,545.9	12,447.3	9,871.8	208.5	LTP @ 22545.9'MD / 12447.3'TVD
22,617.0	12,449.7	9,942.8	211.1	Final MWD Survey @ 22617'MD
22,676.0	12,452.0	10,001.7	213.3	PTD @ 22676'MD / 12452'TVD

Checked By: _____ Approved By: _____ Date: _____