



CONCHO

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

ZEUS

LITTLE BEAR FED COM #2H

OWB

Design: ACTUAL WELLPATH

Standard Survey Report

18 October, 2018

HOBBS OCD
AUG 01 2019
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Survey Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Site: ZEUS
 Well: LITTLE BEAR FED COM #2H
 Wellbore: OWB
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
 TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
 MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
 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	ZEUS				
Site Position:		Northing:	597,166.40 usft	Latitude:	32° 38' 24.583 N
From:	Map	Easting:	692,087.80 usft	Longitude:	103° 42' 33.536 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.34 °

Well	LITTLE BEAR FED COM #2H					
Well Position	+N/-S	0.0 usft	Northing:	554,965.50 usft	Latitude:	32° 31' 23.950 N
	+E/-W	0.0 usft	Easting:	738,982.00 usft	Longitude:	103° 33' 28.744 W
Position Uncertainty	3.0 usft	Wellhead Elevation:	usft	Ground Level:	3,815.0 usft	

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	WMM2015	5/8/2018	6.90	60.31	48,008.83215095

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	358.12	

Survey Program	Date 10/17/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	10,870.0	GYRO (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
10,890.0	18,742.0	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	0.37	69.01	100.0	0.1	0.3	0.1	0.37	0.37	0.00	
125.0	0.41	63.78	125.0	0.2	0.5	0.2	0.21	0.16	-20.92	
150.0	0.45	56.41	150.0	0.3	0.6	0.3	0.27	0.16	-29.48	
175.0	0.62	30.24	175.0	0.4	0.8	0.4	1.17	0.68	-104.68	
200.0	0.48	38.96	200.0	0.6	0.9	0.6	0.65	-0.56	34.88	
225.0	0.65	27.35	225.0	0.9	1.0	0.8	0.82	0.68	-46.44	
250.0	0.52	57.39	250.0	1.0	1.2	1.0	1.31	-0.52	120.16	



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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)
275.0	0.51	44.82	275.0	1.2	1.4	1.1	0.45	-0.04	-50.28
300.0	0.46	42.58	300.0	1.3	1.5	1.3	0.21	-0.20	-8.96
325.0	0.42	50.24	325.0	1.5	1.7	1.4	0.28	-0.16	30.64
350.0	0.55	26.14	350.0	1.6	1.8	1.6	0.96	0.52	-96.40
375.0	0.51	53.48	375.0	1.8	1.9	1.7	1.01	-0.16	109.36
400.0	0.44	33.95	400.0	2.0	2.1	1.9	0.70	-0.28	-78.12
425.0	0.44	39.89	425.0	2.1	2.2	2.0	0.18	0.00	23.76
450.0	0.23	39.98	450.0	2.2	2.3	2.1	0.84	-0.84	0.36
475.0	0.27	27.14	475.0	2.3	2.3	2.2	0.27	0.16	-51.36
500.0	0.22	8.88	500.0	2.4	2.4	2.3	0.37	-0.20	-73.04
525.0	0.17	342.18	525.0	2.5	2.4	2.4	0.41	-0.20	-106.80
550.0	0.18	344.09	550.0	2.6	2.3	2.5	0.05	0.04	7.64
575.0	0.17	9.92	575.0	2.6	2.3	2.6	0.32	-0.04	103.32
600.0	0.17	325.96	600.0	2.7	2.3	2.6	0.51	0.00	-175.84
625.0	0.22	286.50	625.0	2.8	2.3	2.7	0.56	0.20	-157.84
650.0	0.13	272.85	650.0	2.8	2.2	2.7	0.39	-0.36	-54.60
675.0	0.18	274.48	675.0	2.8	2.1	2.7	0.20	0.20	6.52
700.0	0.19	267.52	700.0	2.8	2.0	2.7	0.10	0.04	-27.84
725.0	0.14	280.35	725.0	2.8	2.0	2.7	0.25	-0.20	51.32
750.0	0.18	268.30	750.0	2.8	1.9	2.7	0.21	0.16	-48.20
775.0	0.25	247.63	775.0	2.8	1.8	2.7	0.41	0.28	-82.68
800.0	0.15	226.26	800.0	2.7	1.7	2.7	0.49	-0.40	-85.48
825.0	0.19	282.56	825.0	2.7	1.7	2.6	0.66	0.16	225.20
850.0	0.25	255.79	850.0	2.7	1.6	2.6	0.47	0.24	-107.08
875.0	0.20	270.59	875.0	2.7	1.5	2.6	0.31	-0.20	59.20
900.0	0.19	264.14	900.0	2.7	1.4	2.6	0.10	-0.04	-25.80
925.0	0.27	244.68	925.0	2.7	1.3	2.6	0.44	0.32	-77.84
950.0	0.21	252.15	950.0	2.6	1.2	2.6	0.27	-0.24	29.88
975.0	0.25	246.45	975.0	2.6	1.1	2.5	0.18	0.16	-22.80
1,000.0	0.25	243.17	1,000.0	2.5	1.0	2.5	0.06	0.00	-13.12
1,025.0	0.15	266.88	1,025.0	2.5	0.9	2.5	0.51	-0.40	94.84
1,050.0	0.24	235.65	1,050.0	2.5	0.8	2.4	0.54	0.36	-124.92
1,075.0	0.24	230.51	1,075.0	2.4	0.8	2.4	0.09	0.00	-20.56
1,100.0	0.26	189.66	1,100.0	2.3	0.7	2.3	0.70	0.08	-163.40
1,125.0	0.33	181.55	1,125.0	2.2	0.7	2.2	0.33	0.28	-32.44
1,150.0	0.23	184.26	1,150.0	2.1	0.7	2.0	0.40	-0.40	10.84
1,175.0	0.14	208.02	1,175.0	2.0	0.7	2.0	0.47	-0.36	95.04
1,200.0	0.09	228.01	1,200.0	2.0	0.6	1.9	0.25	-0.20	79.96
1,225.0	0.08	171.15	1,225.0	1.9	0.6	1.9	0.33	-0.04	-227.44
1,250.0	0.02	91.61	1,250.0	1.9	0.6	1.9	0.32	-0.24	-318.16
1,275.0	0.16	140.89	1,275.0	1.9	0.7	1.9	0.59	0.56	187.12
1,300.0	0.08	141.55	1,300.0	1.8	0.7	1.8	0.32	-0.32	2.64



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1,325.0	0.10	72.75	1,325.0	1.8	0.7	1.8	0.41	0.08	-275.20
1,350.0	0.18	133.00	1,350.0	1.8	0.8	1.8	0.63	0.32	241.00
1,375.0	0.10	146.42	1,375.0	1.8	0.8	1.7	0.34	-0.32	53.68
1,400.0	0.12	120.58	1,400.0	1.7	0.9	1.7	0.21	0.08	-103.36
1,425.0	0.06	125.50	1,425.0	1.7	0.9	1.7	0.24	-0.24	19.68
1,450.0	0.07	63.69	1,450.0	1.7	0.9	1.7	0.27	0.04	-247.24
1,475.0	0.04	142.98	1,475.0	1.7	0.9	1.7	0.30	-0.12	317.16
1,500.0	0.13	344.49	1,500.0	1.7	0.9	1.7	0.67	0.36	-633.96
1,525.0	0.06	84.46	1,525.0	1.8	0.9	1.7	0.61	-0.28	399.88
1,550.0	0.02	197.00	1,550.0	1.8	1.0	1.7	0.28	-0.16	450.16
1,575.0	0.09	62.86	1,575.0	1.8	1.0	1.7	0.42	0.28	-536.56
1,600.0	0.10	146.22	1,600.0	1.8	1.0	1.7	0.51	0.04	333.44
1,625.0	0.13	6.11	1,625.0	1.8	1.0	1.7	0.87	0.12	-560.44
1,650.0	0.02	164.34	1,650.0	1.8	1.0	1.8	0.60	-0.44	632.92
1,675.0	0.05	88.65	1,675.0	1.8	1.0	1.7	0.20	0.12	-302.76
1,700.0	0.10	63.33	1,700.0	1.8	1.1	1.8	0.24	0.20	-101.28
1,725.0	0.04	120.64	1,725.0	1.8	1.1	1.8	0.34	-0.24	229.24
1,750.0	0.14	357.47	1,750.0	1.8	1.1	1.8	0.66	0.40	-492.68
1,775.0	0.11	108.83	1,775.0	1.8	1.1	1.8	0.83	-0.12	445.44
1,800.0	0.10	348.81	1,800.0	1.9	1.1	1.8	0.73	-0.04	-480.08
1,825.0	0.06	72.83	1,825.0	1.9	1.1	1.8	0.44	-0.16	336.08
1,850.0	0.14	33.54	1,850.0	1.9	1.2	1.9	0.40	0.32	-157.16
1,875.0	0.27	55.40	1,875.0	2.0	1.2	1.9	0.60	0.52	87.44
1,900.0	0.22	80.41	1,900.0	2.0	1.3	2.0	0.47	-0.20	100.04
1,925.0	0.37	93.63	1,925.0	2.0	1.5	2.0	0.66	0.60	52.88
1,950.0	0.48	86.54	1,950.0	2.0	1.6	2.0	0.49	0.44	-28.36
1,975.0	0.57	102.44	1,975.0	2.0	1.9	1.9	0.68	0.36	63.60
2,000.0	0.70	88.46	2,000.0	2.0	2.1	1.9	0.81	0.52	-55.92
2,025.0	0.71	85.76	2,025.0	2.0	2.5	1.9	0.14	0.04	-10.80
2,050.0	0.78	80.92	2,050.0	2.0	2.8	1.9	0.38	0.28	-19.36
2,075.0	0.86	93.05	2,075.0	2.0	3.1	1.9	0.76	0.32	48.52
2,100.0	0.82	86.87	2,100.0	2.0	3.5	1.9	0.40	-0.16	-24.72
2,125.0	0.82	77.90	2,125.0	2.1	3.8	2.0	0.51	0.00	-35.88
2,150.0	0.99	86.33	2,150.0	2.1	4.2	2.0	0.86	0.68	33.72
2,175.0	0.93	85.34	2,175.0	2.2	4.7	2.0	0.25	-0.24	-3.96
2,200.0	1.00	85.33	2,200.0	2.2	5.1	2.0	0.28	0.28	-0.04
2,225.0	1.08	81.26	2,225.0	2.3	5.5	2.1	0.44	0.32	-16.28
2,250.0	1.04	81.77	2,249.9	2.3	6.0	2.1	0.16	-0.16	2.04
2,275.0	1.10	83.03	2,274.9	2.4	6.4	2.2	0.26	0.24	5.04
2,300.0	1.15	79.93	2,299.9	2.5	6.9	2.2	0.32	0.20	-12.40
2,325.0	1.23	80.40	2,324.9	2.6	7.4	2.3	0.32	0.32	1.88
2,350.0	1.25	80.05	2,349.9	2.6	8.0	2.4	0.09	0.08	-1.40



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2,375.0	1.33	80.78	2,374.9	2.7	8.5	2.5	0.33	0.32	2.92
2,400.0	1.32	79.06	2,399.9	2.8	9.1	2.5	0.16	-0.04	-6.88
2,425.0	1.36	78.12	2,424.9	3.0	9.7	2.6	0.18	0.16	-3.76
2,450.0	1.46	79.63	2,449.9	3.1	10.3	2.7	0.43	0.40	6.04
2,475.0	1.66	75.96	2,474.9	3.2	10.9	2.9	0.89	0.80	-14.68
2,500.0	1.62	76.54	2,499.9	3.4	11.6	3.0	0.17	-0.16	2.32
2,525.0	1.70	76.44	2,524.9	3.6	12.3	3.2	0.32	0.32	-0.40
2,550.0	1.71	75.89	2,549.9	3.7	13.1	3.3	0.08	0.04	-2.20
2,575.0	1.93	72.69	2,574.8	4.0	13.8	3.5	0.97	0.88	-12.80
2,600.0	2.09	75.27	2,599.8	4.2	14.7	3.7	0.74	0.64	10.32
2,625.0	2.13	74.80	2,624.8	4.4	15.6	3.9	0.17	0.16	-1.88
2,650.0	2.12	73.63	2,649.8	4.7	16.5	4.1	0.18	-0.04	-4.68
2,675.0	2.08	73.07	2,674.8	4.9	17.3	4.4	0.18	-0.16	-2.24
2,700.0	2.08	75.14	2,699.8	5.2	18.2	4.6	0.30	0.00	8.28
2,725.0	1.94	71.97	2,724.7	5.4	19.0	4.8	0.71	-0.56	-12.68
2,750.0	1.53	64.40	2,749.7	5.7	19.7	5.1	1.88	-1.64	-30.28
2,775.0	1.10	58.91	2,774.7	6.0	20.3	5.3	1.79	-1.72	-21.96
2,800.0	0.87	48.90	2,799.7	6.2	20.6	5.6	1.15	-0.92	-40.04
2,825.0	0.87	35.88	2,824.7	6.5	20.9	5.8	0.79	0.00	-52.08
2,850.0	0.85	30.39	2,849.7	6.8	21.1	6.1	0.34	-0.08	-21.96
2,875.0	0.70	37.25	2,874.7	7.1	21.2	6.4	0.70	-0.60	27.44
2,900.0	0.72	31.33	2,899.7	7.4	21.4	6.7	0.30	0.08	-23.68
2,925.0	0.62	31.17	2,924.7	7.6	21.6	6.9	0.40	-0.40	-0.64
2,950.0	0.47	286.21	2,949.7	7.8	21.5	7.0	3.48	-0.60	-419.84
2,975.0	0.72	268.29	2,974.7	7.8	21.3	7.1	1.24	1.00	-71.68
3,000.0	0.78	261.69	2,999.7	7.8	21.0	7.1	0.42	0.24	-26.40
3,025.0	0.86	258.76	3,024.7	7.7	20.6	7.0	0.36	0.32	-11.72
3,050.0	0.80	258.81	3,049.7	7.6	20.3	7.0	0.24	-0.24	0.20
3,075.0	0.82	262.21	3,074.7	7.6	19.9	6.9	0.21	0.08	13.60
3,100.0	0.68	255.11	3,099.7	7.5	19.6	6.9	0.67	-0.56	-28.40
3,125.0	0.59	255.83	3,124.7	7.4	19.3	6.8	0.36	-0.36	2.88
3,150.0	0.38	238.88	3,149.7	7.4	19.1	6.7	1.01	-0.84	-67.80
3,175.0	0.35	234.77	3,174.7	7.3	19.0	6.6	0.16	-0.12	-16.44
3,200.0	0.20	189.77	3,199.7	7.2	18.9	6.6	1.01	-0.60	-180.00
3,225.0	0.10	149.87	3,224.7	7.1	18.9	6.5	0.56	-0.40	-159.60
3,250.0	0.18	89.71	3,249.7	7.1	19.0	6.5	0.63	0.32	-240.64
3,275.0	0.31	105.82	3,274.7	7.1	19.1	6.5	0.58	0.52	64.44
3,300.0	0.37	98.94	3,299.7	7.1	19.2	6.4	0.29	0.24	-27.52
3,325.0	0.45	80.84	3,324.7	7.1	19.4	6.4	0.61	0.32	-72.40
3,350.0	0.52	67.89	3,349.7	7.1	19.6	6.5	0.52	0.28	-51.80
3,375.0	0.53	70.79	3,374.7	7.2	19.8	6.5	0.11	0.04	11.60
3,400.0	0.56	61.32	3,399.7	7.3	20.0	6.6	0.38	0.12	-37.88



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3,425.0	0.80	33.64	3,424.7	7.5	20.2	6.8	1.60	0.96	-110.72
3,450.0	1.05	18.00	3,449.7	7.9	20.4	7.2	1.41	1.00	-62.56
3,475.0	1.09	20.06	3,474.7	8.3	20.6	7.6	0.22	0.16	8.24
3,500.0	1.05	18.17	3,499.7	8.7	20.7	8.1	0.21	-0.16	-7.56
3,525.0	1.15	22.45	3,524.7	9.2	20.9	8.5	0.52	0.40	17.12
3,550.0	1.20	27.67	3,549.7	9.7	21.1	9.0	0.47	0.20	20.88
3,575.0	1.25	27.64	3,574.7	10.1	21.3	9.4	0.20	0.20	-0.12
3,600.0	1.10	34.01	3,599.7	10.6	21.6	9.9	0.79	-0.60	25.48
3,625.0	0.99	37.25	3,624.7	10.9	21.9	10.2	0.50	-0.44	12.96
3,650.0	1.02	44.54	3,649.6	11.3	22.2	10.5	0.52	0.12	29.16
3,675.0	0.98	51.19	3,674.6	11.6	22.5	10.8	0.49	-0.16	26.60
3,700.0	0.98	50.27	3,699.6	11.8	22.8	11.1	0.06	0.00	-3.68
3,725.0	1.04	56.34	3,724.6	12.1	23.2	11.3	0.49	0.24	24.28
3,750.0	1.16	54.30	3,749.6	12.4	23.6	11.6	0.50	0.48	-8.16
3,775.0	1.29	57.94	3,774.6	12.7	24.0	11.9	0.61	0.52	14.56
3,800.0	1.37	59.50	3,799.6	13.0	24.5	12.2	0.35	0.32	6.24
3,825.0	1.46	59.77	3,824.6	13.3	25.0	12.4	0.36	0.36	1.08
3,850.0	1.64	61.20	3,849.6	13.6	25.6	12.8	0.74	0.72	5.72
3,875.0	1.77	59.99	3,874.6	14.0	26.3	13.1	0.54	0.52	-4.84
3,900.0	1.94	61.02	3,899.6	14.4	27.0	13.5	0.69	0.68	4.12
3,925.0	1.86	60.48	3,924.6	14.8	27.7	13.9	0.33	-0.32	-2.16
3,950.0	1.94	60.52	3,949.6	15.2	28.4	14.2	0.32	0.32	0.16
3,975.0	1.88	58.66	3,974.5	15.6	29.1	14.6	0.35	-0.24	-7.44
4,000.0	1.62	52.06	3,999.5	16.0	29.8	15.1	1.31	-1.04	-26.40
4,025.0	1.24	37.73	4,024.5	16.5	30.2	15.5	2.08	-1.52	-57.32
4,050.0	0.81	16.56	4,049.5	16.9	30.4	15.8	2.26	-1.72	-84.68
4,075.0	0.66	350.94	4,074.5	17.2	30.4	16.2	1.43	-0.60	-102.48
4,100.0	0.49	326.65	4,099.5	17.4	30.4	16.4	1.17	-0.68	-97.16
4,125.0	0.56	309.97	4,124.5	17.6	30.2	16.6	0.67	0.28	-66.72
4,150.0	0.55	304.70	4,149.5	17.7	30.0	16.7	0.21	-0.04	-21.08
4,175.0	0.68	296.45	4,174.5	17.8	29.8	16.9	0.63	0.52	-33.00
4,200.0	0.67	297.92	4,199.5	18.0	29.5	17.0	0.08	-0.04	5.88
4,225.0	0.75	294.91	4,224.5	18.1	29.3	17.1	0.35	0.32	-12.04
4,250.0	0.72	294.16	4,249.5	18.3	29.0	17.3	0.13	-0.12	-3.00
4,275.0	0.79	295.13	4,274.5	18.4	28.7	17.4	0.28	0.28	3.88
4,300.0	0.75	289.10	4,299.5	18.5	28.3	17.6	0.36	-0.16	-24.12
4,325.0	0.77	288.27	4,324.5	18.6	28.0	17.7	0.09	0.08	-3.32
4,350.0	0.85	289.29	4,349.5	18.7	27.7	17.8	0.33	0.32	4.08
4,375.0	0.91	289.35	4,374.5	18.9	27.3	18.0	0.24	0.24	0.24
4,400.0	0.86	291.86	4,399.5	19.0	27.0	18.1	0.25	-0.20	10.04
4,425.0	0.88	297.91	4,424.5	19.2	26.6	18.3	0.38	0.08	24.20
4,450.0	0.84	295.82	4,449.5	19.3	26.3	18.5	0.20	-0.16	-8.36



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
Well: LITTLE BEAR FED COM #2H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
4,475.0	1.02	301.13	4,474.5	19.5	25.9	18.7	0.80	0.72	21.24
4,500.0	1.07	308.24	4,499.5	19.8	25.6	18.9	0.56	0.20	28.44
4,525.0	1.06	307.10	4,524.5	20.1	25.2	19.2	0.09	-0.04	-4.56
4,550.0	1.12	312.57	4,549.5	20.4	24.8	19.5	0.48	0.24	21.88
4,575.0	0.95	305.57	4,574.5	20.7	24.5	19.8	0.85	-0.68	-28.00
4,600.0	1.06	313.33	4,599.5	20.9	24.2	20.1	0.70	0.44	31.04
4,625.0	1.13	313.63	4,624.5	21.3	23.8	20.5	0.28	0.28	1.20
4,650.0	1.17	314.86	4,649.4	21.6	23.4	20.8	0.19	0.16	4.92
4,675.0	1.14	324.66	4,674.4	22.0	23.1	21.2	0.80	-0.12	39.20
4,700.0	1.18	313.39	4,699.4	22.4	22.8	21.6	0.92	0.16	-45.08
4,725.0	1.13	314.98	4,724.4	22.7	22.4	22.0	0.24	-0.20	6.36
4,750.0	1.14	316.05	4,749.4	23.1	22.1	22.3	0.09	0.04	4.28
4,775.0	1.32	315.30	4,774.4	23.5	21.7	22.7	0.72	0.72	-3.00
4,800.0	1.24	319.44	4,799.4	23.9	21.3	23.2	0.49	-0.32	16.56
4,825.0	1.20	315.80	4,824.4	24.3	21.0	23.6	0.35	-0.16	-14.56
4,850.0	1.31	314.38	4,849.4	24.7	20.6	24.0	0.46	0.44	-5.68
4,875.0	1.33	313.75	4,874.4	25.1	20.2	24.4	0.10	0.08	-2.52
4,900.0	1.38	318.02	4,899.4	25.5	19.8	24.8	0.45	0.20	17.08
4,925.0	1.43	319.42	4,924.4	25.9	19.4	25.3	0.24	0.20	5.60
4,950.0	1.54	318.28	4,949.4	26.4	18.9	25.8	0.46	0.44	-4.56
4,975.0	1.64	320.72	4,974.4	27.0	18.5	26.3	0.48	0.40	9.76
5,000.0	1.73	319.06	4,999.4	27.5	18.0	26.9	0.41	0.36	-6.64
5,025.0	1.77	318.46	5,024.3	28.1	17.5	27.5	0.18	0.16	-2.40
5,050.0	1.85	319.56	5,049.3	28.7	17.0	28.1	0.35	0.32	4.40
5,075.0	1.91	320.29	5,074.3	29.3	16.5	28.8	0.26	0.24	2.92
5,100.0	2.02	320.84	5,099.3	30.0	15.9	29.4	0.45	0.44	2.20
5,125.0	1.97	320.64	5,124.3	30.7	15.4	30.1	0.20	-0.20	-0.80
5,150.0	1.97	318.36	5,149.3	31.3	14.8	30.8	0.31	0.00	-9.12
5,175.0	2.03	317.26	5,174.3	32.0	14.2	31.5	0.28	0.24	-4.40
5,200.0	1.90	310.01	5,199.2	32.5	13.6	32.1	1.12	-0.52	-29.00
5,225.0	1.81	306.77	5,224.2	33.0	13.0	32.6	0.55	-0.36	-12.96
5,250.0	1.72	294.97	5,249.2	33.4	12.3	33.0	1.49	-0.36	-47.20
5,275.0	1.81	280.92	5,274.2	33.7	11.6	33.3	1.76	0.36	-56.20
5,300.0	2.07	267.95	5,299.2	33.7	10.7	33.4	2.03	1.04	-51.88
5,325.0	2.42	258.67	5,324.2	33.6	9.8	33.3	2.01	1.40	-37.12
5,350.0	2.75	254.24	5,349.1	33.3	8.7	33.0	1.54	1.32	-17.72
5,375.0	2.86	254.51	5,374.1	33.0	7.5	32.8	0.44	0.44	1.08
5,400.0	3.06	248.71	5,399.1	32.6	6.3	32.4	1.44	0.80	-23.20
5,425.0	3.04	251.21	5,424.0	32.2	5.0	32.0	0.54	-0.08	10.00
5,450.0	3.02	252.22	5,449.0	31.7	3.8	31.6	0.23	-0.08	4.04
5,475.0	2.92	249.22	5,474.0	31.3	2.5	31.2	0.74	-0.40	-12.00
5,500.0	2.61	242.19	5,499.0	30.8	1.5	30.8	1.84	-1.24	-28.12



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
Well: LITTLE BEAR FED COM #2H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
5,525.0	2.42	240.22	5,523.9	30.3	0.5	30.3	0.83	-0.76	-7.88
5,550.0	2.40	238.51	5,548.9	29.8	-0.4	29.8	0.30	-0.08	-6.84
5,575.0	2.45	239.72	5,573.9	29.2	-1.3	29.2	0.29	0.20	4.84
5,600.0	2.47	238.41	5,598.9	28.7	-2.2	28.7	0.24	0.08	-5.24
5,625.0	2.55	238.89	5,623.8	28.1	-3.2	28.2	0.33	0.32	1.92
5,650.0	2.47	239.07	5,648.8	27.5	-4.1	27.7	0.32	-0.32	0.72
5,675.0	2.53	236.74	5,673.8	27.0	-5.0	27.1	0.47	0.24	-9.32
5,700.0	2.53	238.18	5,698.8	26.4	-6.0	26.5	0.25	0.00	5.76
5,725.0	2.49	240.21	5,723.7	25.8	-6.9	26.0	0.39	-0.16	8.12
5,750.0	2.51	239.16	5,748.7	25.2	-7.9	25.5	0.20	0.08	-4.20
5,775.0	2.56	239.65	5,773.7	24.7	-8.8	25.0	0.22	0.20	1.96
5,800.0	2.56	240.50	5,798.7	24.1	-9.8	24.4	0.15	0.00	3.40
5,825.0	2.56	238.90	5,823.6	23.6	-10.7	23.9	0.29	0.00	-6.40
5,850.0	2.58	240.02	5,848.6	23.0	-11.7	23.4	0.22	0.08	4.48
5,875.0	2.64	240.11	5,873.6	22.4	-12.7	22.8	0.24	0.24	0.36
5,900.0	2.71	238.04	5,898.6	21.8	-13.7	22.3	0.48	0.28	-8.28
5,925.0	3.28	235.36	5,923.5	21.1	-14.8	21.6	2.35	2.28	-10.72
5,950.0	3.51	234.29	5,948.5	20.3	-16.0	20.8	0.95	0.92	-4.28
5,975.0	3.53	234.84	5,973.4	19.4	-17.2	19.9	0.16	0.08	2.20
6,000.0	3.41	235.27	5,998.4	18.5	-18.5	19.1	0.49	-0.48	1.72
6,025.0	3.58	233.19	6,023.3	17.6	-19.7	18.2	0.85	0.68	-8.32
6,050.0	3.52	232.67	6,048.3	16.7	-21.0	17.4	0.27	-0.24	-2.08
6,075.0	3.47	233.91	6,073.3	15.8	-22.2	16.5	0.36	-0.20	4.96
6,100.0	3.44	234.00	6,098.2	14.9	-23.4	15.6	0.12	-0.12	0.36
6,125.0	3.57	233.87	6,123.2	14.0	-24.6	14.8	0.52	0.52	-0.52
6,150.0	3.50	233.87	6,148.1	13.1	-25.9	13.9	0.28	-0.28	0.00
6,175.0	3.66	234.44	6,173.1	12.2	-27.1	13.0	0.66	0.64	2.28
6,200.0	3.57	234.74	6,198.0	11.2	-28.4	12.2	0.37	-0.36	1.20
6,225.0	3.59	234.96	6,223.0	10.3	-29.7	11.3	0.10	0.08	0.88
6,250.0	3.58	234.93	6,247.9	9.4	-31.0	10.5	0.04	-0.04	-0.12
6,275.0	3.63	234.85	6,272.9	8.5	-32.3	9.6	0.20	0.20	-0.32
6,300.0	3.67	234.37	6,297.8	7.6	-33.6	8.7	0.20	0.16	-1.92
6,325.0	3.56	234.71	6,322.8	6.7	-34.8	7.8	0.45	-0.44	1.36
6,350.0	3.70	232.94	6,347.7	5.8	-36.1	7.0	0.72	0.56	-7.08
6,375.0	3.73	228.99	6,372.7	4.7	-37.4	6.0	1.03	0.12	-15.80
6,400.0	3.82	225.04	6,397.6	3.6	-38.6	4.9	1.10	0.36	-15.80
6,425.0	3.85	223.81	6,422.6	2.4	-39.8	3.7	0.35	0.12	-4.92
6,450.0	3.81	225.19	6,447.5	1.2	-40.9	2.6	0.40	-0.16	5.52
6,475.0	3.94	223.92	6,472.4	0.0	-42.1	1.4	0.62	0.52	-5.08
6,500.0	3.88	223.95	6,497.4	-1.2	-43.3	0.2	0.24	-0.24	0.12
6,525.0	3.87	223.83	6,522.3	-2.4	-44.5	-0.9	0.05	-0.04	-0.48
6,550.0	3.96	224.13	6,547.3	-3.6	-45.6	-2.1	0.37	0.36	1.20



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM

Site: ZEUS

Well: LITTLE BEAR FED COM #2H

Wellbore: OWB

Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
6,575.0	3.99	223.84	6,572.2	-4.9	-46.9	-3.3	0.14	0.12	-1.16
6,600.0	3.99	224.94	6,597.1	-6.1	-48.1	-4.5	0.31	0.00	4.40
6,625.0	3.85	224.02	6,622.1	-7.3	-49.3	-5.7	0.61	-0.56	-3.68
6,650.0	3.93	224.49	6,647.0	-8.6	-50.4	-6.9	0.34	0.32	1.88
6,675.0	3.90	225.13	6,672.0	-9.8	-51.7	-8.1	0.21	-0.12	2.56
6,700.0	3.93	225.07	6,696.9	-11.0	-52.9	-9.2	0.12	0.12	-0.24
6,725.0	3.97	225.50	6,721.9	-12.2	-54.1	-10.4	0.20	0.16	1.72
6,750.0	3.90	225.10	6,746.8	-13.4	-55.3	-11.6	0.30	-0.28	-1.60
6,775.0	3.85	225.01	6,771.7	-14.6	-56.5	-12.7	0.20	-0.20	-0.36
6,800.0	3.82	225.53	6,796.7	-15.8	-57.7	-13.9	0.18	-0.12	2.08
6,825.0	4.00	225.56	6,821.6	-17.0	-58.9	-15.0	0.72	0.72	0.12
6,850.0	3.90	226.57	6,846.6	-18.2	-60.1	-16.2	0.49	-0.40	4.04
6,875.0	3.92	225.45	6,871.5	-19.3	-61.4	-17.3	0.32	0.08	-4.48
6,900.0	3.88	225.58	6,896.4	-20.5	-62.6	-18.5	0.16	-0.16	0.52
6,925.0	4.01	224.91	6,921.4	-21.7	-63.8	-19.6	0.55	0.52	-2.68
6,950.0	3.90	225.78	6,946.3	-23.0	-65.0	-20.8	0.50	-0.44	3.48
6,975.0	4.05	225.64	6,971.3	-24.2	-66.3	-22.0	0.60	0.60	-0.56
7,000.0	4.00	225.84	6,996.2	-25.4	-67.5	-23.2	0.21	-0.20	0.80
7,025.0	3.94	225.66	7,021.1	-26.6	-68.8	-24.3	0.25	-0.24	-0.72
7,050.0	3.95	225.72	7,046.1	-27.8	-70.0	-25.5	0.04	0.04	0.24
7,075.0	3.86	226.82	7,071.0	-29.0	-71.2	-26.6	0.47	-0.36	4.40
7,100.0	3.94	225.96	7,096.0	-30.1	-72.5	-27.7	0.40	0.32	-3.44
7,125.0	3.95	225.80	7,120.9	-31.3	-73.7	-28.9	0.06	0.04	-0.64
7,150.0	3.94	226.18	7,145.9	-32.5	-74.9	-30.1	0.11	-0.04	1.52
7,175.0	3.80	226.74	7,170.8	-33.7	-76.2	-31.2	0.58	-0.56	2.24
7,200.0	3.87	225.79	7,195.7	-34.9	-77.4	-32.3	0.38	0.28	-3.80
7,225.0	3.90	225.66	7,220.7	-36.0	-78.6	-33.4	0.13	0.12	-0.52
7,250.0	3.94	226.17	7,245.6	-37.2	-79.8	-34.6	0.21	0.16	2.04
7,275.0	3.88	228.02	7,270.6	-38.4	-81.1	-35.7	0.56	-0.24	7.40
7,300.0	3.88	226.41	7,295.5	-39.5	-82.3	-36.8	0.44	0.00	-6.44
7,325.0	3.98	226.73	7,320.4	-40.7	-83.5	-37.9	0.41	0.40	1.28
7,350.0	3.94	227.42	7,345.4	-41.9	-84.8	-39.1	0.25	-0.16	2.76
7,375.0	3.88	227.97	7,370.3	-43.0	-86.1	-40.2	0.28	-0.24	2.20
7,400.0	3.83	228.04	7,395.3	-44.2	-87.3	-41.3	0.20	-0.20	0.28
7,425.0	3.89	229.93	7,420.2	-45.3	-88.6	-42.3	0.56	0.24	7.56
7,450.0	3.85	230.51	7,445.2	-46.3	-89.9	-43.4	0.22	-0.16	2.32
7,475.0	3.94	231.39	7,470.1	-47.4	-91.2	-44.4	0.43	0.36	3.52
7,500.0	3.83	232.77	7,495.0	-48.5	-92.5	-45.4	0.58	-0.44	5.52
7,525.0	3.86	231.65	7,520.0	-49.5	-93.9	-46.4	0.32	0.12	-4.48
7,550.0	4.00	230.94	7,544.9	-50.6	-95.2	-47.4	0.59	0.56	-2.84
7,575.0	4.00	231.11	7,569.9	-51.7	-96.6	-48.5	0.05	0.00	0.68
7,600.0	3.93	230.04	7,594.8	-52.8	-97.9	-49.5	0.41	-0.28	-4.28



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
Well: LITTLE BEAR FED COM #2H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
7,625.0	3.91	231.33	7,619.8	-53.8	-99.2	-50.5	0.36	-0.08	5.16
7,650.0	3.94	231.00	7,644.7	-54.9	-100.5	-51.6	0.15	0.12	-1.32
7,675.0	3.95	230.72	7,669.6	-56.0	-101.9	-52.6	0.09	0.04	-1.12
7,700.0	3.85	225.23	7,694.6	-57.1	-103.1	-53.7	1.55	-0.40	-21.96
7,725.0	3.75	218.37	7,719.5	-58.4	-104.2	-54.9	1.86	-0.40	-27.44
7,750.0	3.70	215.04	7,744.5	-59.7	-105.2	-56.2	0.89	-0.20	-13.32
7,775.0	3.81	216.61	7,769.4	-61.0	-106.2	-57.5	0.60	0.44	6.28
7,800.0	3.82	216.23	7,794.4	-62.3	-107.2	-58.8	0.11	0.04	-1.52
7,825.0	3.85	216.04	7,819.3	-63.7	-108.1	-60.1	0.13	0.12	-0.76
7,850.0	3.82	216.74	7,844.2	-65.0	-109.1	-61.4	0.22	-0.12	2.80
7,875.0	3.67	216.05	7,869.2	-66.3	-110.1	-62.7	0.63	-0.60	-2.76
7,900.0	3.79	218.26	7,894.1	-67.6	-111.1	-63.9	0.75	0.48	8.84
7,925.0	3.69	216.42	7,919.1	-68.9	-112.1	-65.2	0.62	-0.40	-7.36
7,950.0	3.68	216.12	7,944.0	-70.2	-113.0	-66.5	0.09	-0.04	-1.20
7,975.0	3.55	217.92	7,969.0	-71.5	-114.0	-67.7	0.69	-0.52	7.20
8,000.0	3.62	216.65	7,993.9	-72.7	-114.9	-68.9	0.42	0.28	-5.08
8,025.0	3.73	216.99	8,018.9	-74.0	-115.9	-70.2	0.45	0.44	1.36
8,050.0	3.53	217.20	8,043.8	-75.3	-116.8	-71.4	0.80	-0.80	0.84
8,075.0	3.62	217.43	8,068.8	-76.5	-117.8	-72.6	0.36	0.36	0.92
8,100.0	3.61	217.50	8,093.7	-77.8	-118.7	-73.8	0.04	-0.04	0.28
8,125.0	3.54	218.39	8,118.7	-79.0	-119.7	-75.0	0.36	-0.28	3.56
8,150.0	3.57	218.70	8,143.6	-80.2	-120.7	-76.2	0.14	0.12	1.24
8,175.0	3.54	217.71	8,168.6	-81.4	-121.6	-77.4	0.27	-0.12	-3.96
8,200.0	3.59	218.29	8,193.5	-82.7	-122.6	-78.6	0.25	0.20	2.32
8,225.0	3.50	218.57	8,218.5	-83.9	-123.5	-79.8	0.37	-0.36	1.12
8,250.0	3.47	218.68	8,243.4	-85.0	-124.5	-80.9	0.12	-0.12	0.44
8,275.0	3.50	220.02	8,268.4	-86.2	-125.5	-82.1	0.35	0.12	5.36
8,300.0	3.46	219.68	8,293.4	-87.4	-126.4	-83.2	0.18	-0.16	-1.36
8,325.0	3.52	219.94	8,318.3	-88.6	-127.4	-84.3	0.25	0.24	1.04
8,350.0	3.50	220.35	8,343.3	-89.7	-128.4	-85.5	0.13	-0.08	1.64
8,375.0	3.51	221.23	8,368.2	-90.9	-129.4	-86.6	0.22	0.04	3.52
8,400.0	3.56	220.62	8,393.2	-92.1	-130.4	-87.7	0.25	0.20	-2.44
8,425.0	3.44	221.69	8,418.1	-93.2	-131.4	-88.8	0.55	-0.48	4.28
8,450.0	3.46	222.14	8,443.1	-94.3	-132.4	-89.9	0.13	0.08	1.80
8,475.0	3.50	221.97	8,468.0	-95.4	-133.4	-91.0	0.17	0.16	-0.68
8,500.0	3.50	221.12	8,493.0	-96.6	-134.4	-92.1	0.21	0.00	-3.40
8,525.0	3.44	222.41	8,517.9	-97.7	-135.4	-93.2	0.39	-0.24	5.16
8,550.0	3.51	223.04	8,542.9	-98.8	-136.5	-94.3	0.32	0.28	2.52
8,575.0	3.44	221.91	8,567.8	-99.9	-137.5	-95.4	0.39	-0.28	-4.52
8,600.0	3.49	221.77	8,592.8	-101.1	-138.5	-96.5	0.20	0.20	-0.56
8,625.0	3.38	217.01	8,617.8	-102.2	-139.5	-97.6	1.22	-0.44	-19.04
8,650.0	3.49	207.63	8,642.7	-103.5	-140.2	-98.8	2.29	0.44	-37.52



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
Well: LITTLE BEAR FED COM #2H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
8,675.0	3.77	203.33	8,667.7	-104.9	-140.9	-100.2	1.56	1.12	-17.20
8,700.0	3.65	200.30	8,692.6	-106.4	-141.5	-101.7	0.92	-0.48	-12.12
8,725.0	3.60	200.69	8,717.6	-107.9	-142.1	-103.2	0.22	-0.20	1.56
8,750.0	3.73	202.02	8,742.5	-109.4	-142.7	-104.6	0.62	0.52	5.32
8,775.0	3.70	201.42	8,767.5	-110.9	-143.3	-106.1	0.20	-0.12	-2.40
8,800.0	3.63	201.21	8,792.4	-112.4	-143.8	-107.6	0.29	-0.28	-0.84
8,825.0	3.70	201.59	8,817.4	-113.9	-144.4	-109.1	0.30	0.28	1.52
8,850.0	3.75	200.54	8,842.3	-115.4	-145.0	-110.6	0.34	0.20	-4.20
8,875.0	3.77	201.58	8,867.2	-116.9	-145.6	-112.1	0.28	0.08	4.16
8,900.0	3.78	202.74	8,892.2	-118.4	-146.2	-113.6	0.31	0.04	4.64
8,925.0	3.69	203.55	8,917.1	-119.9	-146.9	-115.0	0.42	-0.36	3.24
8,950.0	3.62	204.29	8,942.1	-121.4	-147.5	-116.5	0.34	-0.28	2.96
8,975.0	3.30	205.63	8,967.0	-122.8	-148.1	-117.8	1.32	-1.28	5.36
9,000.0	3.21	206.90	8,992.0	-124.0	-148.8	-119.1	0.46	-0.36	5.08
9,025.0	2.98	207.50	9,017.0	-125.2	-149.4	-120.3	0.93	-0.92	2.40
9,050.0	2.72	208.69	9,041.9	-126.3	-150.0	-121.3	1.07	-1.04	4.76
9,075.0	2.75	211.33	9,066.9	-127.4	-150.6	-122.3	0.52	0.12	10.56
9,100.0	2.52	209.86	9,091.9	-128.4	-151.2	-123.3	0.96	-0.92	-5.88
9,125.0	2.48	209.79	9,116.9	-129.3	-151.7	-124.2	0.16	-0.16	-0.28
9,150.0	2.33	210.91	9,141.8	-130.2	-152.2	-125.1	0.63	-0.60	4.48
9,175.0	2.31	212.26	9,166.8	-131.1	-152.8	-126.0	0.23	-0.08	5.40
9,200.0	2.21	211.51	9,191.8	-131.9	-153.3	-126.8	0.42	-0.40	-3.00
9,225.0	2.17	212.78	9,216.8	-132.7	-153.8	-127.6	0.25	-0.16	5.08
9,250.0	2.13	212.98	9,241.8	-133.5	-154.3	-128.4	0.16	-0.16	0.80
9,275.0	1.96	212.38	9,266.7	-134.3	-154.8	-129.1	0.69	-0.68	-2.40
9,300.0	1.88	215.12	9,291.7	-135.0	-155.2	-129.8	0.49	-0.32	10.96
9,325.0	1.74	212.65	9,316.7	-135.6	-155.7	-130.4	0.64	-0.56	-9.88
9,350.0	1.48	212.70	9,341.7	-136.2	-156.1	-131.0	1.04	-1.04	0.20
9,375.0	1.36	211.08	9,366.7	-136.7	-156.4	-131.5	0.51	-0.48	-6.48
9,400.0	1.23	211.25	9,391.7	-137.2	-156.7	-132.0	0.52	-0.52	0.68
9,425.0	1.21	210.90	9,416.7	-137.7	-157.0	-132.4	0.09	-0.08	-1.40
9,450.0	1.20	211.88	9,441.7	-138.1	-157.2	-132.9	0.09	-0.04	3.92
9,475.0	1.28	212.46	9,466.7	-138.6	-157.5	-133.3	0.32	0.32	2.32
9,500.0	1.22	210.69	9,491.7	-139.0	-157.8	-133.8	0.29	-0.24	-7.08
9,525.0	1.27	211.26	9,516.7	-139.5	-158.1	-134.2	0.21	0.20	2.28
9,550.0	1.30	208.06	9,541.7	-140.0	-158.4	-134.7	0.31	0.12	-12.80
9,575.0	1.73	195.28	9,566.6	-140.6	-158.6	-135.3	2.18	1.72	-51.12
9,600.0	2.36	185.75	9,591.6	-141.5	-158.7	-136.2	2.86	2.52	-38.12
9,625.0	2.40	184.50	9,616.6	-142.5	-158.8	-137.2	0.26	0.16	-5.00
9,650.0	2.28	181.07	9,641.6	-143.5	-158.9	-138.2	0.74	-0.48	-13.72
9,675.0	2.20	178.57	9,666.6	-144.5	-158.9	-139.2	0.51	-0.32	-10.00
9,700.0	2.21	178.49	9,691.6	-145.5	-158.9	-140.2	0.04	0.04	-0.32



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
Well: LITTLE BEAR FED COM #2H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
9,725.0	2.10	176.92	9,716.5	-146.4	-158.8	-141.1	0.50	-0.44	-6.28
9,750.0	2.15	174.60	9,741.5	-147.3	-158.8	-142.0	0.40	0.20	-9.28
9,775.0	2.10	172.72	9,766.5	-148.3	-158.7	-143.0	0.34	-0.20	-7.52
9,800.0	2.08	170.73	9,791.5	-149.2	-158.5	-143.9	0.30	-0.08	-7.96
9,825.0	2.04	172.39	9,816.5	-150.0	-158.4	-144.8	0.29	-0.16	6.64
9,850.0	2.37	176.00	9,841.4	-151.0	-158.3	-145.7	1.43	1.32	14.44
9,875.0	3.04	183.79	9,866.4	-152.2	-158.3	-146.9	3.05	2.68	31.16
9,900.0	3.29	183.50	9,891.4	-153.6	-158.4	-148.3	1.00	1.00	-1.16
9,925.0	3.36	183.15	9,916.3	-155.0	-158.5	-149.7	0.29	0.28	-1.40
9,950.0	3.33	183.17	9,941.3	-156.5	-158.6	-151.2	0.12	-0.12	0.08
9,975.0	3.41	184.82	9,966.3	-157.9	-158.7	-152.6	0.50	0.32	6.60
10,000.0	3.35	185.36	9,991.2	-159.4	-158.8	-154.1	0.27	-0.24	2.16
10,025.0	3.28	184.55	10,016.2	-160.8	-158.9	-155.5	0.34	-0.28	-3.24
10,050.0	3.24	184.51	10,041.1	-162.2	-159.0	-156.9	0.16	-0.16	-0.16
10,075.0	3.19	183.68	10,066.1	-163.6	-159.1	-158.3	0.27	-0.20	-3.32
10,100.0	3.10	184.66	10,091.1	-165.0	-159.2	-159.7	0.42	-0.36	3.92
10,125.0	3.03	183.79	10,116.0	-166.3	-159.3	-161.0	0.34	-0.28	-3.48
10,150.0	2.97	183.47	10,141.0	-167.7	-159.4	-162.3	0.25	-0.24	-1.28
10,175.0	2.97	184.53	10,165.9	-168.9	-159.5	-163.6	0.22	0.00	4.24
10,200.0	2.96	184.02	10,190.9	-170.2	-159.6	-164.9	0.11	-0.04	-2.04
10,225.0	2.88	184.05	10,215.9	-171.5	-159.7	-166.2	0.32	-0.32	0.12
10,250.0	2.93	184.25	10,240.9	-172.8	-159.8	-167.4	0.20	0.20	0.80
10,275.0	2.91	184.08	10,265.8	-174.0	-159.9	-168.7	0.09	-0.08	-0.68
10,300.0	2.74	184.18	10,290.8	-175.3	-160.0	-169.9	0.68	-0.68	0.40
10,325.0	2.58	184.51	10,315.8	-176.4	-160.0	-171.1	0.64	-0.64	1.32
10,350.0	2.41	184.20	10,340.7	-177.5	-160.1	-172.1	0.68	-0.68	-1.24
10,375.0	2.38	184.21	10,365.7	-178.6	-160.2	-173.2	0.12	-0.12	0.04
10,400.0	2.37	185.82	10,390.7	-179.6	-160.3	-174.2	0.24	-0.04	5.64
10,425.0	2.32	186.28	10,415.7	-180.6	-160.4	-175.2	0.23	-0.20	2.64
10,450.0	2.28	187.61	10,440.7	-181.6	-160.5	-176.2	0.27	-0.16	5.32
10,475.0	2.32	185.43	10,465.6	-182.6	-160.6	-177.2	0.38	0.16	-8.72
10,500.0	2.42	186.38	10,490.6	-183.6	-160.7	-178.2	0.43	0.40	3.80
10,525.0	2.31	186.09	10,515.6	-184.6	-160.8	-179.3	0.44	-0.44	-1.16
10,550.0	2.21	184.37	10,540.6	-185.6	-160.9	-180.2	0.48	-0.40	-6.88
10,575.0	2.18	184.47	10,565.6	-186.6	-161.0	-181.2	0.12	-0.12	0.40
10,600.0	2.14	186.34	10,590.5	-187.5	-161.1	-182.1	0.32	-0.16	7.48
10,625.0	2.11	186.31	10,615.5	-188.4	-161.2	-183.0	0.12	-0.12	-0.12
10,650.0	2.04	187.03	10,640.5	-189.3	-161.3	-183.9	0.30	-0.28	2.88
10,675.0	2.06	188.87	10,665.5	-190.2	-161.4	-184.8	0.28	0.08	7.36
10,700.0	2.05	187.07	10,690.5	-191.1	-161.6	-185.7	0.26	-0.04	-7.20
10,725.0	2.11	185.95	10,715.5	-192.0	-161.7	-186.6	0.29	0.24	-4.48
10,750.0	2.23	183.11	10,740.4	-193.0	-161.7	-187.5	0.64	0.48	-11.36



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
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Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
10,775.0	2.41	185.63	10,765.4	-194.0	-161.8	-188.5	0.83	0.72	10.08
10,800.0	2.54	185.48	10,790.4	-195.0	-161.9	-189.6	0.52	0.52	-0.60
10,825.0	2.65	191.32	10,815.4	-196.2	-162.1	-190.7	1.14	0.44	23.36
10,850.0	2.68	190.48	10,840.3	-197.3	-162.3	-191.9	0.20	0.12	-3.36
10,870.0	2.83	192.33	10,860.3	-198.2	-162.5	-192.8	0.87	0.75	9.25
10,890.0	2.84	196.26	10,880.3	-199.2	-162.7	-193.7	0.97	0.05	19.65
10,953.0	2.24	205.63	10,943.2	-201.8	-163.7	-196.3	1.16	-0.95	14.87
11,000.0	3.96	349.91	10,990.2	-201.0	-164.4	-195.5	12.61	3.66	306.98
11,046.0	9.78	357.89	11,035.8	-195.6	-164.8	-190.0	12.79	12.65	17.35
11,093.0	15.62	2.28	11,081.7	-185.2	-164.7	-179.7	12.59	12.43	9.34
11,140.0	21.53	3.31	11,126.2	-170.3	-164.0	-164.8	12.59	12.57	2.19
11,187.0	26.71	2.53	11,169.1	-151.1	-163.0	-145.7	11.04	11.02	-1.66
11,233.0	31.46	1.01	11,209.3	-128.8	-162.3	-123.4	10.45	10.33	-3.30
11,327.0	40.99	0.35	11,285.0	-73.3	-161.7	-67.9	10.15	10.14	-0.70
11,389.0	47.77	0.34	11,329.3	-30.0	-161.4	-24.6	10.94	10.94	-0.02
11,420.0	50.80	0.49	11,349.5	-6.5	-161.3	-1.2	9.78	9.77	0.48
11,467.0	57.44	0.85	11,377.1	31.6	-160.8	36.9	14.14	14.13	0.77
11,513.0	64.99	359.42	11,399.2	71.9	-160.7	77.1	16.64	16.41	-3.11
11,607.0	81.89	356.93	11,425.9	161.6	-163.7	166.9	18.16	17.98	-2.65
11,634.0	86.68	356.74	11,428.6	188.4	-165.2	193.7	17.75	17.74	-0.70
11,728.0	90.13	355.97	11,431.2	282.2	-171.1	287.6	3.76	3.67	-0.82
11,821.0	90.99	358.43	11,430.3	375.0	-175.7	380.6	2.80	0.92	2.65
11,914.0	91.53	359.20	11,428.2	468.0	-177.6	473.6	1.01	0.58	0.83
12,009.0	91.89	359.11	11,425.4	562.9	-179.0	568.5	0.39	0.38	-0.09
12,102.0	92.40	359.03	11,421.9	655.9	-180.5	661.4	0.56	0.55	-0.09
12,195.0	92.90	359.02	11,417.6	748.8	-182.1	754.3	0.54	0.54	-0.01
12,289.0	93.12	358.71	11,412.7	842.6	-184.0	848.2	0.40	0.23	-0.33
12,382.0	93.35	358.67	11,407.4	935.4	-186.1	941.0	0.25	0.25	-0.04
12,474.0	91.08	358.51	11,403.9	1,027.3	-188.3	1,033.0	2.47	-2.47	-0.17
12,568.0	91.39	358.58	11,401.9	1,121.3	-190.7	1,126.9	0.34	0.33	0.07
12,661.0	91.70	359.13	11,399.4	1,214.2	-192.6	1,219.9	0.68	0.33	0.59
12,756.0	91.33	357.68	11,396.8	1,309.2	-195.2	1,314.9	1.57	-0.39	-1.53
12,850.0	92.20	359.90	11,393.9	1,403.1	-197.2	1,408.8	2.54	0.93	2.36
12,943.0	92.65	0.02	11,390.0	1,496.0	-197.3	1,501.7	0.50	0.48	0.13
13,037.0	90.97	0.33	11,387.0	1,589.9	-197.0	1,595.6	1.82	-1.79	0.33
13,130.0	91.86	0.78	11,384.7	1,682.9	-196.1	1,688.4	1.07	0.96	0.48
13,224.0	90.43	0.20	11,382.9	1,776.9	-195.3	1,782.3	1.64	-1.52	-0.62
13,317.0	90.83	0.23	11,381.8	1,869.9	-194.9	1,875.3	0.43	0.43	0.03
13,411.0	87.94	358.21	11,382.9	1,963.9	-196.2	1,969.2	3.75	-3.07	-2.15
13,505.0	88.02	358.31	11,386.2	2,057.7	-199.1	2,063.2	0.14	0.09	0.11
13,598.0	88.14	358.91	11,389.3	2,150.7	-201.3	2,156.1	0.66	0.13	0.65
13,686.0	88.42	358.95	11,391.9	2,238.6	-203.0	2,244.1	0.32	0.32	0.05



Survey Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Site: ZEUS
 Well: LITTLE BEAR FED COM #2H
 Wellbore: OWB
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
 TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
 MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
 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)
13,786.0	88.53	359.12	11,394.6	2,338.6	-204.7	2,344.0	0.20	0.11	0.17
13,880.0	88.44	359.17	11,397.1	2,432.5	-206.1	2,438.0	0.11	-0.10	0.05
13,972.0	88.47	0.33	11,399.6	2,524.5	-206.5	2,529.9	1.26	0.03	1.26
14,066.0	89.96	359.84	11,400.8	2,618.5	-206.3	2,623.8	1.67	1.59	-0.52
14,159.0	92.09	0.40	11,399.2	2,711.5	-206.1	2,716.8	2.37	2.29	0.60
14,253.0	93.97	1.50	11,394.2	2,805.3	-204.6	2,810.5	2.32	2.00	1.17
14,346.0	94.16	1.28	11,387.6	2,898.0	-202.3	2,903.1	0.31	0.20	-0.24
14,440.0	93.43	0.44	11,381.4	2,991.8	-200.9	2,996.8	1.18	-0.78	-0.89
14,534.0	93.82	0.41	11,375.5	3,085.6	-200.2	3,090.5	0.42	0.41	-0.03
14,627.0	93.88	0.31	11,369.2	3,178.4	-199.6	3,183.3	0.13	0.06	-0.11
14,721.0	94.22	0.36	11,362.6	3,272.2	-199.1	3,277.0	0.37	0.36	0.05
14,814.0	94.41	0.45	11,355.6	3,364.9	-198.4	3,369.6	0.23	0.20	0.10
14,907.0	94.81	0.57	11,348.1	3,457.6	-197.6	3,462.2	0.45	0.43	0.13
15,001.0	95.20	0.52	11,339.9	3,551.3	-196.7	3,555.8	0.42	0.41	-0.05
15,094.0	93.91	359.19	11,332.5	3,644.0	-196.9	3,648.5	1.99	-1.39	-1.43
15,188.0	94.25	359.25	11,325.8	3,737.7	-198.2	3,742.2	0.37	0.36	0.06
15,282.0	92.11	358.44	11,320.6	3,831.5	-200.1	3,836.0	2.43	-2.28	-0.86
15,376.0	92.20	358.29	11,317.1	3,925.4	-202.8	3,930.0	0.19	0.10	-0.16
15,470.0	91.50	358.19	11,314.0	4,019.3	-205.7	4,023.9	0.75	-0.74	-0.11
15,563.0	89.87	358.59	11,312.9	4,112.3	-208.3	4,116.9	1.80	-1.75	0.43
15,657.0	90.01	358.73	11,313.0	4,206.3	-210.5	4,210.9	0.21	0.15	0.15
15,751.0	90.41	358.84	11,312.7	4,300.2	-212.5	4,304.9	0.44	0.43	0.12
15,845.0	90.80	359.26	11,311.7	4,394.2	-214.0	4,398.9	0.61	0.41	0.45
15,940.0	91.27	359.82	11,310.0	4,489.2	-214.8	4,493.8	0.77	0.49	0.59
16,033.0	91.50	0.31	11,307.7	4,582.2	-214.7	4,586.8	0.58	0.25	0.53
16,126.0	91.92	0.52	11,304.9	4,675.1	-214.0	4,679.6	0.50	0.45	0.23
16,220.0	92.06	0.71	11,301.7	4,769.1	-213.0	4,773.5	0.25	0.15	0.20
16,314.0	92.37	0.78	11,298.1	4,863.0	-211.8	4,867.3	0.34	0.33	0.07
16,407.0	92.45	1.14	11,294.1	4,955.9	-210.2	4,960.1	0.40	0.09	0.39
16,499.0	92.23	1.20	11,290.4	5,047.8	-208.4	5,051.9	0.25	-0.24	0.07
16,592.0	90.99	0.32	11,287.8	5,140.8	-207.1	5,144.8	1.63	-1.33	-0.95
16,686.0	91.67	359.13	11,285.6	5,234.7	-207.6	5,238.7	1.46	0.72	-1.27
16,779.0	92.34	359.91	11,282.3	5,327.7	-208.4	5,331.6	1.11	0.72	0.84
16,872.0	90.52	359.36	11,280.0	5,420.6	-209.0	5,424.6	2.04	-1.96	-0.59
16,965.0	90.83	359.89	11,278.9	5,513.6	-209.6	5,517.5	0.66	0.33	0.57
17,059.0	90.15	359.14	11,278.1	5,607.6	-210.4	5,611.5	1.08	-0.72	-0.80
17,153.0	90.38	359.32	11,277.7	5,701.6	-211.6	5,705.5	0.31	0.24	0.19
17,246.0	90.52	359.47	11,276.9	5,794.6	-212.6	5,798.5	0.22	0.15	0.16
17,340.0	90.77	359.71	11,275.9	5,888.6	-213.3	5,892.4	0.37	0.27	0.26
17,434.0	89.82	358.89	11,275.4	5,982.6	-214.4	5,986.4	1.34	-1.01	-0.87
17,527.0	89.99	359.21	11,275.6	6,075.6	-216.0	6,079.4	0.39	0.18	0.34
17,621.0	90.24	359.28	11,275.4	6,169.6	-217.2	6,173.4	0.28	0.27	0.07



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: ZEUS
Well: LITTLE BEAR FED COM #2H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well LITTLE BEAR FED COM #2H
TVD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
MD Reference: RKB=3815+27 @ 3842.0usft (SCANDRILL FREEDOM)
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)
17,715.0	90.57	359.23	11,274.7	6,263.5	-218.4	6,267.3	0.36	0.35	-0.05
17,808.0	90.85	359.58	11,273.6	6,356.5	-219.4	6,360.3	0.48	0.30	0.38
17,902.0	91.11	359.52	11,271.9	6,450.5	-220.1	6,454.3	0.28	0.28	-0.06
17,996.0	89.57	359.45	11,271.4	6,544.5	-221.0	6,548.2	1.64	-1.64	-0.07
18,089.0	89.62	359.54	11,272.0	6,637.5	-221.8	6,641.2	0.11	0.05	0.10
18,182.0	89.68	359.57	11,272.6	6,730.5	-222.5	6,734.2	0.07	0.06	0.03
18,276.0	89.73	359.70	11,273.1	6,824.5	-223.1	6,828.1	0.15	0.05	0.14
18,369.0	90.07	0.08	11,273.3	6,917.5	-223.3	6,921.1	0.55	0.37	0.41
18,462.0	90.77	0.39	11,272.6	7,010.5	-222.9	7,014.0	0.82	0.75	0.33
18,556.0	91.08	0.57	11,271.1	7,104.5	-222.1	7,107.9	0.38	0.33	0.19
18,650.0	91.27	0.57	11,269.1	7,198.4	-221.2	7,201.8	0.20	0.20	0.00
18,686.0	91.36	0.65	11,268.3	7,234.4	-220.8	7,237.8	0.33	0.25	0.22
18,742.0	91.36	0.65	11,267.0	7,290.4	-220.2	7,293.7	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
	18,625	22	5	18,406	86	5	18,248	25	5	18,050	25	5	17,847	31	5
	18,603	22	5	18,398	8	5	18,223	24	5	18,026	20	5	17,828	24	5
	18,581	22	4	18,390	19	4	18,199	25	4	18,006	30	4	17,804	25	4
	18,559	23	4	18,371	24	4	18,174	25	4	17,976	24	4	17,779	25	4
	18,536	22	3	18,347	25	3	18,149		3	17,952	25	3	17,754	24	3
	18,514	22	3	18,322	25	3	18,124	24	3	17,927	25	3	17,730	25	3
	18,492		3	18,297	24	3	18,100	25	3	17,902	24	3	17,705	25	3
			3	18,273		3	18,075		3	17,878		3	17,680		3
	Plug to Plug	91	30	Plug to Plug	47	30	Plug to Plug	86	30	Plug to Plug	64	30	Plug to Plug	58	30
Frac Plug		18,650	Total Shots	Frac Plug	18,418	Total Shots	Frac Plug	18,260	Total Shots	Frac Plug	18,040	Total Shots	Frac Plug	17,837	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
	17,650	30	5	17,458	28	5	17,261	24	5	17,063	25	5	16,862	28	5
	17,631	25	5	17,433	24	5	17,236	25	5	17,039	25	5	16,841	25	5
	17,606	22	4	17,409	25	4	17,211	24	4	17,014	20	4	16,816	24	4
	17,584	27	4	17,384	25	4	17,187	25	4	16,994	29	4	16,792	25	4
	17,557	25	3	17,359	24	3	17,162	25	3	16,985	25	3	16,767	23	3
	17,532	25	3	17,335	25	3	17,137	24	3	16,940	25	3	16,744	26	3
	17,507	21	3	17,310	25	3	17,113	25	3	16,915	25	3	16,718	25	3
	17,486		3	17,285		3	17,088		3	16,890		3	16,693		3
	Plug to Plug	81	30	Plug to Plug	82	30	Plug to Plug	86	30	Plug to Plug	86	30	Plug to Plug	84	30
Frac Plug		17,665	Total Shots	Frac Plug	17,466	Total Shots	Frac Plug	17,273	Total Shots	Frac Plug	17,080	Total Shots	Frac Plug	16,876	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
	16,664	29	5	16,471	25	5	16,273	25	5	16,076	25	5	15,876	27	5
	16,644	25	5	16,446	24	5	16,249	25	5	16,051	24	5	15,854	25	5
	16,619	25	4	16,422	21	4	16,224	25	4	16,027	25	4	15,829	24	4
	16,594	22	4	16,401	29	4	16,199	24	4	16,002	25	4	15,805	25	4
	16,572	27	3	16,372	24	3	16,175	25	3	15,977	24	3	15,780	25	3
	16,545	25	3	16,348	25	3	16,150	25	3	15,953	25	3	15,755	24	3
	16,520	24	3	16,323	25	3	16,125	24	3	15,928	25	3	15,731	25	3
	16,496		3	16,298		3	16,101		3	15,903		3	15,706		3
	Plug to Plug	84	30	Plug to Plug	72	30	Plug to Plug	87	30	Plug to Plug	86	30	Plug to Plug	85	30
Frac Plug		16,678	Total Shots	Frac Plug	16,473	Total Shots	Frac Plug	16,286	Total Shots	Frac Plug	16,088	Total Shots	Frac Plug	15,890	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
	15,681	25	5	15,484	24	5	15,281	30	5	15,086	28	5	14,886	32	5
	15,656	24	5	15,459	25	5	15,262	25	5	15,064	25	5	14,867	25	5
	15,632	25	4	15,434	24	4	15,237	25	4	15,039	24	4	14,842	25	4
	15,607	25	4	15,410	25	4	15,212	24	4	15,015	25	4	14,817	24	4
	15,582	24	3	15,385	25	3	15,188	25	3	14,990	25	3	14,793	21	3
	15,558	25	3	15,360	24	3	15,163	25	3	14,965	24	3	14,772	29	3
	15,533	25	3	15,336	25	3	15,138	24	3	14,941	23	3	14,743	24	3
	15,508		3	15,311		3	15,114		3	14,918		3	14,719		3
	Plug to Plug	87	30	Plug to Plug	86	30	Plug to Plug	84	30	Plug to Plug	85	30	Plug to Plug	83	30
Frac Plug		15,694	Total Shots	Frac Plug	15,496	Total Shots	Frac Plug	15,296	Total Shots	Frac Plug	15,100	Total Shots	Frac Plug	14,900	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
	14,694	25	5	14,490	31	5	14,299	25	5	14,096	30	5	13,900	29	5
	14,669	24	5	14,468	21	5	14,274	24	5	14,077	25	5	13,880	25	5
	14,645	25	4	14,447	25	4	14,250	25	4	14,052	24	4	13,855	25	4
	14,620	25	4	14,422	24	4	14,225	25	4	14,028	25	4	13,830	25	4
	14,595	24	3	14,398	25	3	14,200	28	3	14,003	25	3	13,805	24	3
	14,571	25	3	14,373	25	3	14,172	21	3	13,978	24	3	13,781	25	3
	14,546	25	3	14,348	24	3	14,151	25	3	13,954	25	3	13,756	25	3
	14,521		3	14,324		3	14,126		3	13,929		3	13,731		3
	Plug to Plug	86	30	Plug to Plug	80	30	Plug to Plug	86	30	Plug to Plug	82	30	Plug to Plug	87	30
Frac Plug		14,706	Total Shots	Frac Plug	14,502	Total Shots	Frac Plug	14,311	Total Shots	Frac Plug	14,110	Total Shots	Frac Plug	13,917	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
	13,702	29	5	13,509	29	5	13,312	25	5	13,110	29	5	12,914	28	5
	13,682	22	5	13,485	25	5	13,284	21	5	13,090	25	5	12,892	22	5
	13,660	27	4	13,460	25	4	13,263	25	4	13,065	25	4	12,870	27	4
	13,633	25	4	13,435	19	4	13,238	25	4	13,040	24	4	12,843	25	4
	13,608	25	3	13,416	30	3	13,213	25	3	13,016	26	3	12,818	24	3
	13,583	24	3	13,386	25	3	13,188	24	3	12,990	24	3	12,794	25	3
	13,559	21	3	13,361	24	3	13,164	25	3	12,966	24	3	12,769	25	3
	13,538		3	13,337		3	13,139		3	12,942		3	12,744		3
	Plug to Plug	83	30	Plug to Plug	87	30	Plug to Plug	86	30	Plug to Plug	84	30	Plug to Plug	83	30
Frac Plug		13,716	Total Shots	Frac Plug	13,522	Total Shots	Frac Plug	13,324	Total Shots	Frac Plug	13,124	Total Shots	Frac Plug	12,926	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
	12,714	30	5	12,522	25	5	12,325	24	5	12,117	35	5	11,924	30	5
	12,694	24	5	12,497	24	5	12,300	25	5	12,095	17	5	11,905	25	5
	12,670	24	4	12,473	25	4	12,275	24	4	12,078	25	4	11,880	24	4
	12,648	25	4	12,448	25	4	12,251	27	4	12,053	24	4	11,858	25	4
	12,621	25	3	12,423	26	3	12,224	23	3	12,029	25	3	11,831	25	3
	12,596	25	3	12,397	23	3	12,201	24	3	12,004	25	3	11,806	24	3
	12,571	24	3	12,374	25	3	12,177	25	3	11,979	25	3	11,782	25	3
	12,547		3	12,349		3	12,152		3	11,954		3	11,757		3
	Plug to Plug	84	30	Plug to Plug	86	30	Plug to Plug	86	30	Plug to Plug	77	30	Plug to Plug	84	30
	Frac Plug	12,730	Total Shots	Frac Plug	12,534	Total Shots	Frac Plug	12,337	Total Shots	Frac Plug	12,130	Total Shots	Frac Plug	11,940	Total Shots

From Bottom to Top		Distance Between Perfs	Shots	Stage 37	Distance Between Perfs	Shots	Stage 38	Distance Between Perfs	Shots	Stage 39	Distance Between Perfs	Shots	Stage 40	Distance Between Perfs	Shots
	11,732	25	5		11560			0			0			0	
	11,708	25	5												
	11,683	25	4												
	11,658	24	4												
	11,634	25	3												
	11,609	25	3												
	11,584	24	3												
	11,560		3												
	Plug to Plug	87	30	Plug to Plug	0	0	Plug to Plug	0	0	Plug to Plug	0	0	Plug to Plug	0	0
	Frac Plug	11,745	Total Shots	Frac Plug		Total Shots	Frac Plug		Total Shots	Frac Plug		Total Shots	Frac Plug		Total Shots

Little Bear Federal Com #2H

<u>Perfs</u>	<u>7 1/2% Acid (Gal)</u>	<u>Sand (#)</u>	<u>Fluid (Gal)</u>
1	1512	401740	355110
2	3024	386350	359016
3	3024	387300	358680
4	3024	400920	363300
5	3024	408990	348852
6	3024	400640	346836
7	3024	399680	345618
8	3024	400270	352842
9	3024	399710	446250
10	3024	399810	427854
11	3024	400230	360150
12	3024	399180	354858
13	3024	399240	357882
14	3024	401100	361746
15	3024	405250	357546
16	3024	399150	335202
17	3024	401900	341964
18	3024	400150	345996
19	3024	400630	352674
20	3024	400260	345030
21	3066	400730	329532
22	3024	400420	319998
23	3024	399390	338604
24	3024	399710	350952
25	3024	400090	358008
26	3024	399510	337470
27	3024	399880	360780
28	3024	400210	342594
29	3024	400500	397236
30	3024	400810	313740
31	3024	400221	291270
32	3024	399380	289548
33	3024	400550	286104
34	3024	399660	324240
35	3024	406550	317226
36	7392	378269	329490
Totals	111,762	14,378,380	12,504,198

