



CONCHO

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

COONSKIN FEE #603H

OWB

Design: ACTUAL WELLPATH

Standard Survey Report

19 November, 2018

HOBBS OCD
JUL 19 2019
RECEIVED



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

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

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

Well	COONSKIN FEE #603H					
Well Position	+N/-S	0.0 usft	Northing:	436,151.40 usft	Latitude:	32° 11' 43.773 N
	+E/-W	0.0 usft	Easting:	795,361.10 usft	Longitude:	103° 22' 42.698 W
Position Uncertainty	3.0 usft		Wellhead Elevation:	usft	Ground Level:	3,306.9 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	WMM2015	6/23/2018	6.78	60.04	47,823.39399575

Design	ACTUAL WELLPATH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	179.51	

Survey Program	Date 11/19/2018				
From	To	Survey (Wellbore)	Tool Name	Description	
100.0	11,388.2	GYRO-INTERMEDIATE (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,565.0	19,681.0	MWD-CURVE/LATERAL (OWB)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

Survey									
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.13	187.16	100.0	-0.1	0.0	0.1	0.13	0.13	0.00
125.0	0.26	195.39	125.0	-0.2	0.0	0.2	0.53	0.52	32.92
150.0	0.41	222.36	150.0	-0.3	-0.1	0.3	0.85	0.60	107.88
175.0	0.27	195.11	175.0	-0.4	-0.2	0.4	0.84	-0.56	-109.00
200.0	0.25	176.76	200.0	-0.6	-0.2	0.5	0.34	-0.08	-73.40
225.0	0.22	186.01	225.0	-0.7	-0.2	0.7	0.19	-0.12	37.00
250.0	0.18	187.76	250.0	-0.7	-0.2	0.7	0.16	-0.16	7.00



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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)
275.0	0.19	218.72	275.0	-0.8	-0.2	0.8	0.40	0.04	123.84
300.0	0.20	213.08	300.0	-0.9	-0.3	0.9	0.09	0.04	-22.56
325.0	0.27	233.53	325.0	-1.0	-0.4	0.9	0.43	0.28	81.80
350.0	0.24	233.33	350.0	-1.0	-0.4	1.0	0.12	-0.12	-0.80
375.0	0.32	213.25	375.0	-1.1	-0.5	1.1	0.50	0.32	-80.32
400.0	0.40	212.88	400.0	-1.2	-0.6	1.2	0.32	0.32	-1.48
425.0	0.29	205.60	425.0	-1.4	-0.7	1.4	0.47	-0.44	-29.12
450.0	0.30	210.08	450.0	-1.5	-0.8	1.5	0.10	0.04	17.92
475.0	0.26	215.52	475.0	-1.6	-0.8	1.6	0.19	-0.16	21.76
500.0	0.33	222.89	500.0	-1.7	-0.9	1.7	0.32	0.28	29.48
525.0	0.47	234.94	525.0	-1.8	-1.0	1.8	0.65	0.56	48.20
550.0	0.42	222.37	550.0	-1.9	-1.2	1.9	0.44	-0.20	-50.28
575.0	0.43	226.50	575.0	-2.1	-1.3	2.0	0.13	0.04	16.52
600.0	0.50	232.32	600.0	-2.2	-1.5	2.2	0.34	0.28	23.28
625.0	0.43	208.94	625.0	-2.3	-1.6	2.3	0.80	-0.28	-93.52
650.0	0.35	218.19	650.0	-2.5	-1.7	2.5	0.41	-0.32	37.00
675.0	0.43	207.56	675.0	-2.6	-1.8	2.6	0.43	0.32	-42.52
700.0	0.43	214.28	700.0	-2.8	-1.9	2.8	0.20	0.00	26.88
725.0	0.39	199.64	725.0	-2.9	-2.0	2.9	0.45	-0.16	-58.56
750.0	0.41	214.30	750.0	-3.1	-2.0	3.1	0.42	0.08	58.64
775.0	0.44	219.77	775.0	-3.2	-2.1	3.2	0.20	0.12	21.88
800.0	0.45	219.62	800.0	-3.4	-2.3	3.4	0.04	0.04	-0.60
825.0	0.54	228.91	825.0	-3.5	-2.4	3.5	0.48	0.36	37.16
850.0	0.57	221.10	850.0	-3.7	-2.6	3.7	0.33	0.12	-31.24
875.0	0.64	219.20	875.0	-3.9	-2.8	3.9	0.29	0.28	-7.60
900.0	0.59	223.80	900.0	-4.1	-2.9	4.1	0.28	-0.20	18.40
925.0	0.60	217.54	925.0	-4.3	-3.1	4.3	0.26	0.04	-25.04
950.0	0.60	221.04	950.0	-4.5	-3.3	4.5	0.15	0.00	14.00
975.0	0.42	224.53	975.0	-4.7	-3.4	4.7	0.73	-0.72	13.96
1,000.0	0.13	181.14	1,000.0	-4.8	-3.5	4.7	1.35	-1.16	-173.56
1,025.0	0.11	125.79	1,025.0	-4.8	-3.5	4.8	0.45	-0.08	-221.40
1,050.0	0.06	93.73	1,050.0	-4.8	-3.4	4.8	0.27	-0.20	-128.24
1,075.0	0.09	98.83	1,075.0	-4.8	-3.4	4.8	0.12	0.12	20.40
1,100.0	0.03	61.82	1,100.0	-4.8	-3.4	4.8	0.27	-0.24	-148.04
1,125.0	0.10	57.53	1,125.0	-4.8	-3.4	4.8	0.28	0.28	-17.16
1,150.0	0.05	58.49	1,150.0	-4.8	-3.3	4.8	0.20	-0.20	3.84
1,175.0	0.06	61.00	1,175.0	-4.8	-3.3	4.8	0.04	0.04	10.04
1,200.0	0.04	90.37	1,200.0	-4.8	-3.3	4.8	0.13	-0.08	117.48
1,225.0	0.13	60.95	1,225.0	-4.8	-3.3	4.7	0.39	0.36	-117.68
1,250.0	0.10	53.62	1,250.0	-4.7	-3.2	4.7	0.13	-0.12	-29.32
1,275.0	0.08	37.13	1,275.0	-4.7	-3.2	4.7	0.13	-0.08	-65.96
1,300.0	0.07	77.31	1,300.0	-4.7	-3.2	4.7	0.21	-0.04	160.72



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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)
1,325.0	0.05	24.97	1,325.0	-4.7	-3.1	4.7	0.22	-0.08	-209.36
1,350.0	0.10	353.57	1,350.0	-4.7	-3.1	4.6	0.25	0.20	-125.60
1,375.0	0.06	342.51	1,375.0	-4.6	-3.1	4.6	0.17	-0.16	-44.24
1,400.0	0.08	353.45	1,400.0	-4.6	-3.1	4.6	0.10	0.08	43.76
1,425.0	0.05	79.39	1,425.0	-4.6	-3.1	4.5	0.37	-0.12	343.76
1,450.0	0.04	57.79	1,450.0	-4.6	-3.1	4.5	0.08	-0.04	-86.40
1,475.0	0.07	26.94	1,475.0	-4.5	-3.1	4.5	0.16	0.12	-123.40
1,500.0	0.05	332.18	1,500.0	-4.5	-3.1	4.5	0.23	-0.08	-219.04
1,525.0	0.11	294.41	1,525.0	-4.5	-3.1	4.5	0.31	0.24	-151.08
1,550.0	0.06	303.43	1,550.0	-4.5	-3.2	4.5	0.21	-0.20	36.08
1,575.0	0.08	281.47	1,575.0	-4.5	-3.2	4.4	0.13	0.08	-87.84
1,600.0	0.11	260.87	1,600.0	-4.5	-3.2	4.4	0.18	0.12	-82.40
1,625.0	0.07	203.23	1,625.0	-4.5	-3.3	4.5	0.37	-0.16	-230.56
1,650.0	0.06	229.43	1,650.0	-4.5	-3.3	4.5	0.12	-0.04	104.80
1,675.0	0.05	165.41	1,675.0	-4.5	-3.3	4.5	0.24	-0.04	-256.08
1,700.0	0.03	137.54	1,700.0	-4.6	-3.3	4.5	0.11	-0.08	-111.48
1,725.0	0.05	90.49	1,725.0	-4.6	-3.3	4.5	0.15	0.08	-188.20
1,750.0	0.14	70.28	1,750.0	-4.5	-3.2	4.5	0.38	0.36	-80.84
1,775.0	0.04	27.71	1,775.0	-4.5	-3.2	4.5	0.46	-0.40	-170.28
1,800.0	0.05	346.32	1,800.0	-4.5	-3.2	4.5	0.13	0.04	-165.56
1,825.0	0.10	311.11	1,825.0	-4.5	-3.2	4.5	0.26	0.20	-140.84
1,850.0	0.09	341.01	1,850.0	-4.5	-3.2	4.4	0.20	-0.04	119.60
1,875.0	0.05	248.26	1,875.0	-4.4	-3.2	4.4	0.42	-0.16	-371.00
1,900.0	0.05	258.01	1,900.0	-4.4	-3.3	4.4	0.03	0.00	39.00
1,925.0	0.06	210.71	1,925.0	-4.5	-3.3	4.4	0.18	0.04	-189.20
1,950.0	0.12	168.34	1,950.0	-4.5	-3.3	4.5	0.34	0.24	-169.48
1,975.0	0.10	180.07	1,975.0	-4.5	-3.3	4.5	0.12	-0.08	46.92
2,000.0	0.03	198.81	2,000.0	-4.6	-3.3	4.5	0.29	-0.28	74.96
2,025.0	0.12	132.32	2,025.0	-4.6	-3.3	4.6	0.45	0.36	-265.96
2,050.0	0.13	156.54	2,050.0	-4.6	-3.2	4.6	0.21	0.04	96.88
2,075.0	0.09	150.39	2,075.0	-4.7	-3.2	4.7	0.17	-0.16	-24.60
2,100.0	0.06	87.28	2,100.0	-4.7	-3.2	4.7	0.33	-0.12	-252.44
2,125.0	0.10	120.81	2,125.0	-4.7	-3.2	4.7	0.24	0.16	134.12
2,150.0	0.10	153.68	2,150.0	-4.7	-3.1	4.7	0.23	0.00	131.48
2,175.0	0.12	121.04	2,175.0	-4.8	-3.1	4.7	0.26	0.08	-130.56
2,200.0	0.11	119.48	2,200.0	-4.8	-3.1	4.8	0.04	-0.04	-6.24
2,225.0	0.10	130.97	2,225.0	-4.8	-3.0	4.8	0.09	-0.04	45.96
2,250.0	0.09	111.48	2,250.0	-4.8	-3.0	4.8	0.13	-0.04	-77.96
2,275.0	0.12	90.14	2,275.0	-4.9	-2.9	4.8	0.20	0.12	-85.36
2,300.0	0.06	90.06	2,300.0	-4.9	-2.9	4.8	0.24	-0.24	-0.32
2,325.0	0.06	73.30	2,325.0	-4.8	-2.9	4.8	0.07	0.00	-67.04
2,350.0	0.11	64.24	2,350.0	-4.8	-2.8	4.8	0.21	0.20	-36.24



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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)
2,375.0	0.09	78.79	2,375.0	-4.8	-2.8	4.8	0.13	-0.08	58.20
2,400.0	0.13	74.28	2,400.0	-4.8	-2.8	4.8	0.16	0.16	-18.04
2,425.0	0.08	71.17	2,425.0	-4.8	-2.7	4.8	0.20	-0.20	-12.44
2,450.0	0.08	68.78	2,450.0	-4.8	-2.7	4.8	0.01	0.00	-9.56
2,475.0	0.09	44.61	2,475.0	-4.8	-2.6	4.7	0.15	0.04	-96.68
2,500.0	0.08	36.86	2,500.0	-4.7	-2.6	4.7	0.06	-0.04	-31.00
2,525.0	0.10	48.95	2,525.0	-4.7	-2.6	4.7	0.11	0.08	48.36
2,550.0	0.08	38.36	2,550.0	-4.7	-2.6	4.7	0.10	-0.08	-42.36
2,575.0	0.08	331.39	2,575.0	-4.6	-2.6	4.6	0.35	0.00	-267.88
2,600.0	0.07	306.13	2,600.0	-4.6	-2.6	4.6	0.14	-0.04	-101.04
2,625.0	0.04	329.68	2,625.0	-4.6	-2.6	4.6	0.15	-0.12	94.20
2,650.0	0.04	216.01	2,650.0	-4.6	-2.6	4.6	0.27	0.00	-454.68
2,675.0	0.04	125.43	2,675.0	-4.6	-2.6	4.6	0.23	0.00	-362.32
2,700.0	0.05	231.14	2,700.0	-4.6	-2.6	4.6	0.29	0.04	422.84
2,725.0	0.05	138.89	2,725.0	-4.6	-2.6	4.6	0.29	0.00	-369.00
2,750.0	0.10	120.54	2,750.0	-4.7	-2.6	4.6	0.22	0.20	-73.40
2,775.0	0.09	113.20	2,775.0	-4.7	-2.6	4.7	0.06	-0.04	-29.36
2,800.0	0.04	106.05	2,800.0	-4.7	-2.5	4.7	0.20	-0.20	-28.60
2,825.0	0.09	80.00	2,825.0	-4.7	-2.5	4.7	0.23	0.20	-104.20
2,850.0	0.14	95.36	2,850.0	-4.7	-2.4	4.7	0.23	0.20	61.44
2,875.0	0.13	79.01	2,875.0	-4.7	-2.4	4.7	0.16	-0.04	-65.40
2,900.0	0.04	13.39	2,900.0	-4.7	-2.4	4.7	0.48	-0.36	-282.48
2,925.0	0.03	356.96	2,925.0	-4.7	-2.4	4.6	0.08	-0.04	-65.72
2,950.0	0.06	19.79	2,950.0	-4.6	-2.4	4.6	0.14	0.12	91.32
2,975.0	0.03	12.48	2,975.0	-4.6	-2.3	4.6	0.12	-0.12	-29.24
3,000.0	0.04	312.45	3,000.0	-4.6	-2.4	4.6	0.14	0.04	-240.12
3,025.0	0.04	283.58	3,025.0	-4.6	-2.4	4.6	0.08	0.00	-115.48
3,050.0	0.05	205.78	3,050.0	-4.6	-2.4	4.6	0.23	0.04	-311.20
3,075.0	0.10	132.78	3,075.0	-4.6	-2.4	4.6	0.39	0.20	-292.00
3,100.0	0.12	130.40	3,100.0	-4.7	-2.3	4.6	0.08	0.08	-9.52
3,125.0	0.08	82.70	3,125.0	-4.7	-2.3	4.7	0.36	-0.16	-190.80
3,150.0	0.14	81.50	3,150.0	-4.7	-2.2	4.7	0.24	0.24	-4.80
3,175.0	0.07	105.83	3,175.0	-4.7	-2.2	4.7	0.33	-0.28	97.32
3,200.0	0.12	72.15	3,200.0	-4.7	-2.2	4.7	0.29	0.20	-134.72
3,225.0	0.15	71.49	3,225.0	-4.7	-2.1	4.6	0.12	0.12	-2.64
3,250.0	0.15	75.41	3,250.0	-4.6	-2.0	4.6	0.04	0.00	15.68
3,275.0	0.09	21.90	3,275.0	-4.6	-2.0	4.6	0.48	-0.24	-214.04
3,300.0	0.11	23.49	3,300.0	-4.6	-2.0	4.6	0.08	0.08	6.36
3,325.0	0.13	14.89	3,325.0	-4.5	-2.0	4.5	0.11	0.08	-34.40
3,350.0	0.15	351.83	3,350.0	-4.5	-2.0	4.4	0.24	0.08	-92.24
3,375.0	0.16	343.04	3,375.0	-4.4	-2.0	4.4	0.10	0.04	-35.16
3,400.0	0.11	346.41	3,400.0	-4.3	-2.0	4.3	0.20	-0.20	13.48



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,425.0	0.17	332.45	3,425.0	-4.3	-2.0	4.3	0.27	0.24	-55.84
3,450.0	0.11	337.48	3,450.0	-4.2	-2.0	4.2	0.24	-0.24	20.12
3,475.0	0.10	252.84	3,475.0	-4.2	-2.1	4.2	0.57	-0.04	-338.56
3,500.0	0.11	238.40	3,500.0	-4.2	-2.1	4.2	0.11	0.04	-57.76
3,525.0	0.22	185.10	3,525.0	-4.3	-2.1	4.3	0.71	0.44	-213.20
3,550.0	0.11	202.76	3,550.0	-4.4	-2.2	4.3	0.48	-0.44	70.64
3,575.0	0.12	121.79	3,575.0	-4.4	-2.1	4.4	0.60	0.04	-323.88
3,600.0	0.24	70.41	3,600.0	-4.4	-2.1	4.4	0.76	0.48	-205.52
3,625.0	0.28	50.56	3,625.0	-4.3	-2.0	4.3	0.39	0.16	-79.40
3,650.0	0.25	45.71	3,650.0	-4.3	-1.9	4.2	0.15	-0.12	-19.40
3,675.0	0.25	23.35	3,675.0	-4.2	-1.8	4.2	0.39	0.00	-89.44
3,700.0	0.27	50.37	3,700.0	-4.1	-1.8	4.1	0.49	0.08	108.08
3,725.0	0.30	109.68	3,725.0	-4.1	-1.7	4.1	1.13	0.12	237.24
3,750.0	0.56	138.76	3,750.0	-4.2	-1.5	4.2	1.33	1.04	116.32
3,775.0	0.77	135.20	3,775.0	-4.4	-1.3	4.4	0.86	0.84	-14.24
3,800.0	1.07	132.76	3,800.0	-4.7	-1.0	4.7	1.21	1.20	-9.76
3,825.0	1.13	128.46	3,825.0	-5.0	-0.7	5.0	0.41	0.24	-17.20
3,850.0	1.20	129.04	3,850.0	-5.3	-0.3	5.3	0.28	0.28	2.32
3,875.0	1.24	124.64	3,875.0	-5.6	0.2	5.6	0.41	0.16	-17.60
3,900.0	1.25	122.77	3,899.9	-5.9	0.6	5.9	0.17	0.04	-7.48
3,925.0	1.43	120.17	3,924.9	-6.2	1.1	6.2	0.76	0.72	-10.40
3,950.0	1.42	118.74	3,949.9	-6.5	1.7	6.5	0.15	-0.04	-5.72
3,975.0	1.47	104.96	3,974.9	-6.8	2.2	6.8	1.40	0.20	-55.12
4,000.0	0.84	104.54	3,999.9	-6.9	2.7	6.9	2.52	-2.52	-1.68
4,025.0	0.74	93.25	4,024.9	-6.9	3.1	7.0	0.74	-0.40	-45.16
4,050.0	0.36	35.95	4,049.9	-6.9	3.3	6.9	2.50	-1.52	-229.20
4,075.0	0.31	357.94	4,074.9	-6.8	3.3	6.8	0.89	-0.20	-152.04
4,100.0	0.29	347.92	4,099.9	-6.6	3.3	6.7	0.22	-0.08	-40.08
4,125.0	0.26	342.07	4,124.9	-6.5	3.3	6.5	0.16	-0.12	-23.40
4,150.0	0.28	340.17	4,149.9	-6.4	3.2	6.4	0.09	0.08	-7.60
4,175.0	0.27	359.15	4,174.9	-6.3	3.2	6.3	0.36	-0.04	75.92
4,200.0	0.41	352.75	4,199.9	-6.1	3.2	6.2	0.58	0.56	-25.60
4,225.0	0.50	346.47	4,224.9	-5.9	3.2	6.0	0.41	0.36	-25.12
4,250.0	0.50	349.19	4,249.9	-5.7	3.1	5.8	0.09	0.00	10.88
4,275.0	0.48	346.83	4,274.9	-5.5	3.1	5.5	0.11	-0.08	-9.44
4,300.0	0.47	4.21	4,299.9	-5.3	3.0	5.3	0.58	-0.04	69.52
4,325.0	0.58	22.98	4,324.9	-5.1	3.1	5.1	0.81	0.44	75.08
4,350.0	0.83	34.61	4,349.9	-4.8	3.3	4.9	1.15	1.00	46.52
4,375.0	0.90	36.07	4,374.9	-4.5	3.5	4.6	0.29	0.28	5.84
4,400.0	0.95	35.36	4,399.9	-4.2	3.7	4.2	0.21	0.20	-2.84
4,425.0	0.95	37.90	4,424.9	-3.9	4.0	3.9	0.17	0.00	10.16
4,450.0	0.94	39.91	4,449.9	-3.5	4.2	3.6	0.14	-0.04	8.04



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM_Users

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,475.0	0.95	37.77	4,474.9	-3.2	4.5	3.3	0.15	0.04	-8.56
4,500.0	0.86	36.10	4,499.9	-2.9	4.7	2.9	0.38	-0.36	-6.68
4,525.0	0.88	40.22	4,524.9	-2.6	4.9	2.7	0.26	0.08	16.48
4,550.0	0.92	45.71	4,549.9	-2.3	5.2	2.4	0.38	0.16	21.96
4,575.0	0.98	45.27	4,574.9	-2.0	5.5	2.1	0.24	0.24	-1.76
4,600.0	1.21	51.38	4,599.9	-1.7	5.9	1.8	1.03	0.92	24.44
4,625.0	1.66	58.81	4,624.9	-1.4	6.4	1.4	1.94	1.80	29.72
4,650.0	2.67	59.99	4,649.8	-0.9	7.2	0.9	4.04	4.04	4.72
4,675.0	3.57	62.65	4,674.8	-0.2	8.4	0.3	3.65	3.60	10.64
4,700.0	4.46	64.19	4,699.7	0.5	10.0	-0.5	3.59	3.56	6.16
4,725.0	4.93	64.06	4,724.7	1.4	11.8	-1.3	1.88	1.88	-0.52
4,750.0	5.19	64.35	4,749.6	2.4	13.8	-2.3	1.05	1.04	1.16
4,775.0	5.86	66.45	4,774.5	3.4	16.0	-3.3	2.80	2.68	8.40
4,800.0	6.35	68.45	4,799.3	4.4	18.4	-4.3	2.14	1.96	8.00
4,825.0	6.55	69.39	4,824.2	5.4	21.1	-5.2	0.90	0.80	3.76
4,850.0	6.54	69.32	4,849.0	6.4	23.7	-6.2	0.05	-0.04	-0.28
4,875.0	6.54	69.63	4,873.8	7.4	26.4	-7.2	0.14	0.00	1.24
4,900.0	6.63	68.97	4,898.7	8.4	29.1	-8.2	0.47	0.36	-2.64
4,925.0	6.34	67.28	4,923.5	9.5	31.7	-9.2	1.39	-1.16	-6.76
4,950.0	5.92	66.21	4,948.4	10.5	34.1	-10.3	1.74	-1.68	-4.28
4,975.0	5.19	62.43	4,973.2	11.6	36.3	-11.3	3.26	-2.92	-15.12
5,000.0	4.53	60.73	4,998.1	12.6	38.2	-12.3	2.70	-2.64	-6.80
5,025.0	3.97	56.58	5,023.1	13.6	39.8	-13.2	2.55	-2.24	-16.60
5,050.0	3.51	53.03	5,048.0	14.5	41.1	-14.1	2.06	-1.84	-14.20
5,075.0	3.32	48.49	5,073.0	15.4	42.3	-15.1	1.32	-0.76	-18.16
5,100.0	3.10	43.07	5,097.9	16.4	43.3	-16.0	1.50	-0.88	-21.68
5,125.0	2.80	38.30	5,122.9	17.4	44.1	-17.0	1.55	-1.20	-19.08
5,150.0	2.50	31.84	5,147.9	18.3	44.8	-17.9	1.69	-1.20	-25.84
5,175.0	2.25	28.64	5,172.9	19.2	45.3	-18.8	1.13	-1.00	-12.80
5,200.0	2.27	30.57	5,197.8	20.1	45.8	-19.7	0.31	0.08	7.72
5,225.0	2.24	28.62	5,222.8	20.9	46.3	-20.5	0.33	-0.12	-7.80
5,250.0	2.03	23.81	5,247.8	21.8	46.7	-21.4	1.10	-0.84	-19.24
5,275.0	1.75	20.46	5,272.8	22.5	47.0	-22.1	1.20	-1.12	-13.40
5,300.0	1.54	16.04	5,297.8	23.2	47.2	-22.8	0.98	-0.84	-17.68
5,325.0	1.35	5.58	5,322.8	23.8	47.3	-23.4	1.30	-0.76	-41.84
5,350.0	1.18	0.06	5,347.8	24.4	47.4	-24.0	0.84	-0.68	-22.08
5,375.0	1.15	343.78	5,372.8	24.9	47.3	-24.5	1.32	-0.12	-65.12
5,400.0	1.20	335.24	5,397.8	25.3	47.1	-24.9	0.73	0.20	-34.16
5,425.0	1.32	319.12	5,422.8	25.8	46.8	-25.4	1.49	0.48	-64.48
5,450.0	1.44	304.84	5,447.7	26.2	46.4	-25.8	1.45	0.48	-57.12
5,475.0	1.67	299.32	5,472.7	26.6	45.8	-26.2	1.10	0.92	-22.08
5,500.0	2.00	294.14	5,497.7	26.9	45.1	-26.5	1.48	1.32	-20.72



Survey Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Site: BULLDOG
 Well: COONSKIN FEE #603H
 Wellbore: OWB
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
 TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
 MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
 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	2.30	288.10	5,522.7	27.2	44.2	-26.9	1.50	1.20	-24.16
5,550.0	2.32	286.46	5,547.7	27.5	43.2	-27.2	0.28	0.08	-6.56
5,575.0	2.75	283.62	5,572.7	27.8	42.2	-27.5	1.79	1.72	-11.36
5,600.0	2.77	284.52	5,597.6	28.1	41.0	-27.8	0.19	0.08	3.60
5,625.0	3.12	279.89	5,622.6	28.4	39.8	-28.1	1.69	1.40	-18.52
5,650.0	3.48	276.77	5,647.6	28.6	38.3	-28.3	1.61	1.44	-12.48
5,675.0	3.60	275.66	5,672.5	28.8	36.8	-28.5	0.55	0.48	-4.44
5,700.0	3.59	276.72	5,697.5	28.9	35.2	-28.6	0.27	-0.04	4.24
5,725.0	3.56	276.40	5,722.4	29.1	33.7	-28.8	0.14	-0.12	-1.28
5,750.0	3.49	274.71	5,747.4	29.3	32.2	-29.0	0.50	-0.28	-6.76
5,775.0	3.57	275.29	5,772.3	29.4	30.6	-29.1	0.35	0.32	2.32
5,800.0	3.47	273.98	5,797.3	29.5	29.1	-29.3	0.51	-0.40	-5.24
5,825.0	3.51	272.17	5,822.2	29.6	27.6	-29.4	0.47	0.16	-7.24
5,850.0	3.67	269.86	5,847.2	29.6	26.0	-29.4	0.86	0.64	-9.24
5,875.0	3.48	268.24	5,872.1	29.6	24.5	-29.4	0.86	-0.76	-6.48
5,900.0	3.41	268.81	5,897.1	29.6	23.0	-29.4	0.31	-0.28	2.28
5,925.0	3.57	267.11	5,922.0	29.5	21.4	-29.3	0.76	0.64	-6.80
5,950.0	3.42	262.98	5,947.0	29.4	19.9	-29.2	1.17	-0.60	-16.52
5,975.0	3.43	262.49	5,971.9	29.2	18.4	-29.0	0.12	0.04	-1.96
6,000.0	3.36	260.98	5,996.9	29.0	17.0	-28.8	0.45	-0.28	-6.04
6,025.0	3.33	257.77	6,021.9	28.7	15.5	-28.6	0.76	-0.12	-12.84
6,050.0	3.29	254.12	6,046.8	28.4	14.1	-28.2	0.86	-0.16	-14.60
6,075.0	3.26	255.18	6,071.8	28.0	12.8	-27.9	0.27	-0.12	4.24
6,100.0	3.15	255.63	6,096.7	27.6	11.4	-27.5	0.45	-0.44	1.80
6,125.0	3.23	252.57	6,121.7	27.2	10.1	-27.2	0.75	0.32	-12.24
6,150.0	3.16	249.04	6,146.7	26.8	8.8	-26.7	0.84	-0.28	-14.12
6,175.0	3.10	245.69	6,171.6	26.3	7.5	-26.2	0.77	-0.24	-13.40
6,200.0	2.99	243.47	6,196.6	25.7	6.3	-25.6	0.64	-0.44	-8.88
6,225.0	2.98	239.63	6,221.6	25.1	5.1	-25.0	0.80	-0.04	-15.36
6,250.0	2.99	234.98	6,246.5	24.4	4.1	-24.3	0.97	0.04	-18.60
6,275.0	2.96	230.46	6,271.5	23.6	3.0	-23.6	0.95	-0.12	-18.08
6,300.0	3.01	226.05	6,296.4	22.7	2.1	-22.7	0.94	0.20	-17.64
6,325.0	2.94	223.30	6,321.4	21.8	1.1	-21.8	0.64	-0.28	-11.00
6,350.0	2.85	220.95	6,346.4	20.9	0.3	-20.9	0.60	-0.36	-9.40
6,375.0	3.01	218.49	6,371.4	19.9	-0.5	-19.9	0.81	0.64	-9.84
6,400.0	3.11	211.58	6,396.3	18.8	-1.3	-18.8	1.53	0.40	-27.64
6,425.0	3.06	209.42	6,421.3	17.6	-2.0	-17.6	0.51	-0.20	-8.64
6,450.0	3.08	209.08	6,446.2	16.5	-2.6	-16.5	0.11	0.08	-1.36
6,475.0	3.17	204.82	6,471.2	15.2	-3.2	-15.3	1.00	0.36	-17.04
6,500.0	3.24	203.16	6,496.2	14.0	-3.8	-14.0	0.46	0.28	-6.64
6,525.0	3.15	200.40	6,521.1	12.7	-4.3	-12.7	0.71	-0.36	-11.04
6,550.0	3.16	199.29	6,546.1	11.4	-4.8	-11.4	0.25	0.04	-4.44



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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	3.23	196.60	6,571.1	10.1	-5.2	-10.1	0.66	0.28	-10.76
6,600.0	3.25	191.87	6,596.0	8.7	-5.6	-8.7	1.07	0.08	-18.92
6,625.0	3.27	190.31	6,621.0	7.3	-5.8	-7.3	0.36	0.08	-6.24
6,650.0	3.32	190.03	6,645.9	5.9	-6.1	-5.9	0.21	0.20	-1.12
6,675.0	3.23	189.96	6,670.9	4.5	-6.3	-4.5	0.36	-0.36	-0.28
6,700.0	2.98	188.23	6,695.9	3.1	-6.6	-3.2	1.07	-1.00	-6.92
6,725.0	2.60	186.52	6,720.8	1.9	-6.7	-2.0	1.56	-1.52	-6.84
6,750.0	2.35	187.56	6,745.8	0.9	-6.8	-0.9	1.02	-1.00	4.16
6,775.0	1.91	188.72	6,770.8	-0.1	-7.0	0.0	1.77	-1.76	4.64
6,800.0	1.47	186.17	6,795.8	-0.8	-7.1	0.7	1.79	-1.76	-10.20
6,825.0	1.25	187.75	6,820.8	-1.4	-7.1	1.3	0.89	-0.88	6.32
6,850.0	0.84	185.58	6,845.8	-1.8	-7.2	1.8	1.65	-1.64	-8.68
6,875.0	0.52	180.48	6,870.8	-2.1	-7.2	2.1	1.30	-1.28	-20.40
6,900.0	0.26	169.68	6,895.8	-2.3	-7.2	2.2	1.08	-1.04	-43.20
6,925.0	0.09	195.96	6,920.8	-2.4	-7.2	2.3	0.73	-0.68	105.12
6,950.0	0.06	195.92	6,945.8	-2.4	-7.2	2.3	0.12	-0.12	-0.16
6,975.0	0.10	136.19	6,970.8	-2.4	-7.2	2.4	0.35	0.16	-238.92
7,000.0	0.01	51.33	6,995.8	-2.4	-7.2	2.4	0.40	-0.36	-339.44
7,025.0	0.05	95.43	7,020.8	-2.4	-7.2	2.4	0.17	0.16	176.40
7,050.0	0.07	310.13	7,045.8	-2.4	-7.2	2.4	0.46	0.08	-581.20
7,075.0	0.08	229.96	7,070.8	-2.4	-7.2	2.4	0.39	0.04	-320.68
7,100.0	0.05	190.56	7,095.8	-2.5	-7.2	2.4	0.21	-0.12	-157.60
7,125.0	0.04	294.70	7,120.8	-2.5	-7.2	2.4	0.29	-0.04	416.56
7,150.0	0.09	254.69	7,145.8	-2.5	-7.3	2.4	0.26	0.20	-160.04
7,175.0	0.10	142.94	7,170.8	-2.5	-7.3	2.4	0.63	0.04	-447.00
7,200.0	0.10	78.88	7,195.8	-2.5	-7.2	2.4	0.42	0.00	-256.24
7,225.0	0.09	347.36	7,220.8	-2.5	-7.2	2.4	0.55	-0.04	-366.08
7,250.0	0.08	230.76	7,245.8	-2.5	-7.2	2.4	0.58	-0.04	-466.40
7,275.0	0.13	121.67	7,270.8	-2.5	-7.2	2.4	0.69	0.20	-436.36
7,300.0	0.06	98.88	7,295.8	-2.5	-7.2	2.5	0.31	-0.28	-91.16
7,325.0	0.01	292.74	7,320.8	-2.5	-7.2	2.5	0.28	-0.20	-664.56
7,350.0	0.12	170.69	7,345.8	-2.5	-7.2	2.5	0.50	0.44	-488.20
7,375.0	0.12	102.25	7,370.8	-2.6	-7.1	2.5	0.54	0.00	-273.76
7,400.0	0.04	329.18	7,395.8	-2.6	-7.1	2.5	0.60	-0.32	-532.28
7,425.0	0.06	273.34	7,420.8	-2.6	-7.1	2.5	0.20	0.08	-223.36
7,450.0	0.04	168.61	7,445.8	-2.6	-7.1	2.5	0.32	-0.08	-418.92
7,475.0	0.08	65.70	7,470.8	-2.6	-7.1	2.5	0.39	0.16	-411.64
7,500.0	0.07	107.85	7,495.8	-2.6	-7.1	2.5	0.22	-0.04	168.60
7,525.0	0.03	29.12	7,520.8	-2.6	-7.1	2.5	0.28	-0.16	-314.92
7,550.0	0.09	165.36	7,545.8	-2.6	-7.1	2.5	0.45	0.24	544.96
7,575.0	0.07	115.98	7,570.8	-2.6	-7.1	2.5	0.28	-0.08	-197.52
7,600.0	0.09	75.53	7,595.8	-2.6	-7.0	2.6	0.23	0.08	-161.80



Survey Report

Company: NORTHERN DELAWARE BASIN
 Project: LEA COUNTY, NM
 Site: BULLDOG
 Well: COONSKIN FEE #603H
 Wellbore: OWB
 Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
 TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
 MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
 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	0.04	25.07	7,620.8	-2.6	-7.0	2.5	0.29	-0.20	-201.84
7,650.0	0.10	235.26	7,645.8	-2.6	-7.0	2.5	0.54	0.24	-599.24
7,675.0	0.07	191.49	7,670.8	-2.6	-7.0	2.6	0.28	-0.12	-175.08
7,700.0	0.08	117.11	7,695.8	-2.7	-7.0	2.6	0.36	0.04	-297.52
7,725.0	0.03	23.95	7,720.8	-2.7	-7.0	2.6	0.35	-0.20	-372.64
7,750.0	0.07	352.32	7,745.8	-2.6	-7.0	2.6	0.19	0.16	-126.52
7,775.0	0.03	248.88	7,770.8	-2.6	-7.0	2.6	0.33	-0.16	-413.76
7,800.0	0.08	140.42	7,795.8	-2.6	-7.0	2.6	0.38	0.20	-433.84
7,825.0	0.19	104.08	7,820.8	-2.7	-7.0	2.6	0.54	0.44	-145.36
7,850.0	0.26	95.50	7,845.8	-2.7	-6.9	2.6	0.31	0.28	-34.32
7,875.0	0.15	92.05	7,870.8	-2.7	-6.8	2.6	0.44	-0.44	-13.80
7,900.0	0.03	13.52	7,895.8	-2.7	-6.7	2.6	0.59	-0.48	-314.12
7,925.0	0.01	218.03	7,920.8	-2.7	-6.7	2.6	0.16	-0.08	-621.96
7,950.0	0.15	107.91	7,945.8	-2.7	-6.7	2.6	0.61	0.56	-440.48
7,975.0	0.11	107.21	7,970.8	-2.7	-6.6	2.6	0.16	-0.16	-2.80
8,000.0	0.12	95.70	7,995.8	-2.7	-6.6	2.7	0.10	0.04	-46.04
8,025.0	0.13	42.50	8,020.8	-2.7	-6.6	2.6	0.45	0.04	-212.80
8,050.0	0.14	12.35	8,045.8	-2.6	-6.5	2.6	0.28	0.04	-120.60
8,075.0	0.04	28.61	8,070.8	-2.6	-6.5	2.5	0.41	-0.40	65.04
8,100.0	0.14	58.74	8,095.8	-2.6	-6.5	2.5	0.43	0.40	120.52
8,125.0	0.17	28.20	8,120.8	-2.5	-6.4	2.5	0.35	0.12	-122.16
8,150.0	0.09	36.38	8,145.8	-2.5	-6.4	2.4	0.33	-0.32	32.72
8,175.0	0.10	73.57	8,170.8	-2.5	-6.4	2.4	0.25	0.04	148.76
8,200.0	0.10	48.48	8,195.8	-2.4	-6.3	2.4	0.17	0.00	-100.36
8,225.0	0.09	31.81	8,220.8	-2.4	-6.3	2.4	0.12	-0.04	-66.68
8,250.0	0.01	276.40	8,245.8	-2.4	-6.3	2.3	0.38	-0.32	-461.64
8,275.0	0.14	58.24	8,270.8	-2.4	-6.3	2.3	0.59	0.52	567.36
8,300.0	0.11	36.80	8,295.8	-2.3	-6.2	2.3	0.22	-0.12	-85.76
8,325.0	0.15	1.72	8,320.8	-2.3	-6.2	2.2	0.35	0.16	-140.32
8,350.0	0.07	15.00	8,345.8	-2.2	-6.2	2.2	0.33	-0.32	53.12
8,375.0	0.14	67.37	8,370.8	-2.2	-6.2	2.2	0.45	0.28	209.48
8,400.0	0.14	20.73	8,395.8	-2.2	-6.2	2.1	0.44	0.00	-186.56
8,425.0	0.09	51.22	8,420.8	-2.1	-6.1	2.1	0.31	-0.20	121.96
8,450.0	0.16	105.22	8,445.8	-2.1	-6.1	2.1	0.52	0.28	216.00
8,475.0	0.12	41.73	8,470.8	-2.1	-6.0	2.1	0.60	-0.16	-253.96
8,500.0	0.05	44.88	8,495.8	-2.1	-6.0	2.0	0.28	-0.28	12.60
8,525.0	0.04	219.20	8,520.8	-2.1	-6.0	2.0	0.36	-0.04	697.28
8,550.0	0.12	123.66	8,545.8	-2.1	-6.0	2.1	0.52	0.32	-382.16
8,575.0	0.07	83.39	8,570.8	-2.1	-5.9	2.1	0.32	-0.20	-161.08
8,600.0	0.04	325.64	8,595.8	-2.1	-5.9	2.1	0.38	-0.12	-471.00
8,625.0	0.05	152.07	8,620.8	-2.1	-5.9	2.1	0.36	0.04	-694.28
8,650.0	0.07	80.77	8,645.8	-2.1	-5.9	2.1	0.29	0.08	-285.20



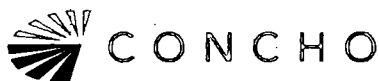
Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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)
8,675.0	0.14	56.50	8,670.8	-2.1	-5.9	2.1	0.33	0.28	-97.08
8,700.0	0.06	357.18	8,695.8	-2.1	-5.8	2.0	0.48	-0.32	-237.28
8,725.0	0.01	351.42	8,720.8	-2.1	-5.9	2.0	0.20	-0.20	-23.04
8,750.0	0.09	88.95	8,745.8	-2.1	-5.8	2.0	0.37	0.32	390.12
8,775.0	0.09	54.03	8,770.8	-2.0	-5.8	2.0	0.22	0.00	-139.68
8,800.0	0.11	324.91	8,795.8	-2.0	-5.8	2.0	0.56	0.08	-356.48
8,825.0	0.08	171.18	8,820.8	-2.0	-5.8	2.0	0.74	-0.12	-614.92
8,850.0	0.11	82.24	8,845.8	-2.0	-5.8	2.0	0.54	0.12	-355.76
8,875.0	0.14	59.20	8,870.8	-2.0	-5.7	2.0	0.23	0.12	-92.16
8,900.0	0.17	50.97	8,895.8	-2.0	-5.7	1.9	0.15	0.12	-32.92
8,925.0	0.24	104.68	8,920.8	-2.0	-5.6	1.9	0.78	0.28	214.84
8,950.0	0.30	70.42	8,945.8	-2.0	-5.5	1.9	0.68	0.24	-137.04
8,975.0	0.24	62.67	8,970.8	-1.9	-5.4	1.9	0.28	-0.24	-31.00
9,000.0	0.21	76.52	8,995.8	-1.9	-5.3	1.8	0.25	-0.12	55.40
9,025.0	0.23	98.82	9,020.8	-1.9	-5.2	1.8	0.35	0.08	89.20
9,050.0	0.31	102.72	9,045.8	-1.9	-5.1	1.8	0.33	0.32	15.60
9,075.0	0.22	70.71	9,070.8	-1.9	-5.0	1.8	0.68	-0.36	-128.04
9,100.0	0.19	78.87	9,095.8	-1.9	-4.9	1.8	0.17	-0.12	32.64
9,125.0	0.28	119.65	9,120.8	-1.9	-4.8	1.8	0.74	0.36	163.12
9,150.0	0.30	97.93	9,145.8	-1.9	-4.7	1.9	0.44	0.08	-86.88
9,175.0	0.29	71.49	9,170.8	-1.9	-4.5	1.9	0.54	-0.04	-105.76
9,200.0	0.20	93.34	9,195.8	-1.9	-4.4	1.9	0.51	-0.36	87.40
9,225.0	0.34	119.22	9,220.8	-1.9	-4.3	1.9	0.73	0.56	103.52
9,250.0	0.34	119.44	9,245.8	-2.0	-4.2	2.0	0.01	0.00	0.88
9,275.0	0.31	121.68	9,270.8	-2.1	-4.1	2.0	0.13	-0.12	8.96
9,300.0	0.36	133.79	9,295.8	-2.2	-4.0	2.1	0.35	0.20	48.44
9,325.0	0.35	132.41	9,320.8	-2.3	-3.8	2.2	0.05	-0.04	-5.52
9,350.0	0.36	130.91	9,345.7	-2.4	-3.7	2.4	0.05	0.04	-6.00
9,375.0	0.38	120.18	9,370.7	-2.5	-3.6	2.4	0.29	0.08	-42.92
9,400.0	0.38	118.68	9,395.7	-2.6	-3.5	2.5	0.04	0.00	-6.00
9,425.0	0.46	114.78	9,420.7	-2.6	-3.3	2.6	0.34	0.32	-15.60
9,450.0	0.40	104.38	9,445.7	-2.7	-3.1	2.7	0.39	-0.24	-41.60
9,475.0	0.37	114.80	9,470.7	-2.8	-3.0	2.7	0.30	-0.12	41.68
9,500.0	0.32	109.19	9,495.7	-2.8	-2.8	2.8	0.24	-0.20	-22.44
9,525.0	0.24	119.21	9,520.7	-2.9	-2.7	2.8	0.37	-0.32	40.08
9,550.0	0.43	132.33	9,545.7	-3.0	-2.6	2.9	0.81	0.76	52.48
9,575.0	0.41	113.03	9,570.7	-3.1	-2.4	3.0	0.57	-0.08	-77.20
9,600.0	0.37	118.51	9,595.7	-3.1	-2.3	3.1	0.22	-0.16	21.92
9,625.0	0.33	102.57	9,620.7	-3.2	-2.1	3.2	0.42	-0.16	-63.76
9,650.0	0.34	112.35	9,645.7	-3.2	-2.0	3.2	0.23	0.04	39.12
9,675.0	0.21	123.34	9,670.7	-3.3	-1.9	3.3	0.56	-0.52	43.96
9,700.0	0.19	107.83	9,695.7	-3.3	-1.8	3.3	0.23	-0.08	-62.04



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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	0.11	120.28	9,720.7	-3.3	-1.8	3.3	0.34	-0.32	49.80
9,750.0	0.14	88.51	9,745.7	-3.3	-1.7	3.3	0.30	0.12	-127.08
9,775.0	0.14	72.26	9,770.7	-3.3	-1.7	3.3	0.16	0.00	-65.00
9,800.0	0.08	74.59	9,795.7	-3.3	-1.6	3.3	0.24	-0.24	9.32
9,825.0	0.14	78.02	9,820.7	-3.3	-1.6	3.3	0.24	0.24	13.72
9,850.0	0.12	30.17	9,845.7	-3.3	-1.5	3.3	0.43	-0.08	-191.40
9,875.0	0.13	341.27	9,870.7	-3.2	-1.5	3.2	0.42	0.04	-195.60
9,900.0	0.15	340.23	9,895.7	-3.2	-1.5	3.2	0.08	0.08	-4.16
9,925.0	0.18	321.38	9,920.7	-3.1	-1.6	3.1	0.25	0.12	-75.40
9,950.0	0.15	315.46	9,945.7	-3.1	-1.6	3.0	0.14	-0.12	-23.68
9,975.0	0.08	309.59	9,970.7	-3.0	-1.7	3.0	0.28	-0.28	-23.48
10,000.0	0.10	342.37	9,995.7	-3.0	-1.7	3.0	0.22	0.08	131.12
10,025.0	0.19	276.13	10,020.7	-3.0	-1.7	3.0	0.70	0.36	-264.96
10,050.0	0.20	288.16	10,045.7	-3.0	-1.8	2.9	0.17	0.04	48.12
10,075.0	0.26	284.91	10,070.7	-2.9	-1.9	2.9	0.25	0.24	-13.00
10,100.0	0.29	258.38	10,095.7	-2.9	-2.0	2.9	0.52	0.12	-106.12
10,125.0	0.34	245.59	10,120.7	-3.0	-2.1	2.9	0.34	0.20	-51.16
10,150.0	0.39	212.36	10,145.7	-3.1	-2.3	3.0	0.86	0.20	-132.92
10,175.0	0.58	214.69	10,170.7	-3.2	-2.4	3.2	0.76	0.76	9.32
10,200.0	0.57	196.09	10,195.7	-3.5	-2.5	3.4	0.74	-0.04	-74.40
10,225.0	0.69	180.12	10,220.7	-3.7	-2.5	3.7	0.85	0.48	-63.88
10,250.0	0.76	168.70	10,245.7	-4.1	-2.5	4.0	0.64	0.28	-45.68
10,275.0	0.94	166.45	10,270.7	-4.4	-2.4	4.4	0.73	0.72	-9.00
10,300.0	0.89	157.98	10,295.7	-4.8	-2.3	4.8	0.58	-0.20	-33.88
10,325.0	0.96	163.60	10,320.7	-5.2	-2.2	5.2	0.46	0.28	22.48
10,350.0	0.99	156.48	10,345.7	-5.6	-2.0	5.6	0.50	0.12	-28.48
10,375.0	1.06	165.93	10,370.7	-6.0	-1.9	6.0	0.73	0.28	37.80
10,400.0	1.08	161.91	10,395.7	-6.4	-1.7	6.4	0.31	0.08	-16.08
10,425.0	1.11	151.87	10,420.7	-6.9	-1.5	6.9	0.78	0.12	-40.16
10,450.0	1.13	159.50	10,445.7	-7.3	-1.3	7.3	0.60	0.08	30.52
10,475.0	1.07	163.21	10,470.7	-7.8	-1.2	7.8	0.37	-0.24	14.84
10,500.0	1.02	158.85	10,495.7	-8.2	-1.0	8.2	0.38	-0.20	-17.44
10,525.0	0.96	159.00	10,520.7	-8.6	-0.9	8.6	0.24	-0.24	0.60
10,550.0	0.80	152.08	10,545.7	-9.0	-0.7	9.0	0.77	-0.64	-27.68
10,575.0	0.70	161.69	10,570.7	-9.3	-0.6	9.3	0.64	-0.40	38.44
10,600.0	0.59	163.20	10,595.7	-9.5	-0.5	9.5	0.45	-0.44	6.04
10,625.0	0.50	167.66	10,620.7	-9.8	-0.5	9.8	0.40	-0.36	17.84
10,650.0	0.47	167.82	10,645.7	-10.0	-0.4	10.0	0.12	-0.12	0.64
10,675.0	0.51	180.95	10,670.7	-10.2	-0.4	10.2	0.48	0.16	52.52
10,700.0	0.36	184.48	10,695.7	-10.4	-0.4	10.4	0.61	-0.60	14.12
10,725.0	0.54	182.05	10,720.7	-10.6	-0.4	10.6	0.72	0.72	-9.72
10,750.0	0.53	175.51	10,745.7	-10.8	-0.4	10.8	0.25	-0.04	-26.16



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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	0.60	171.62	10,770.7	-11.0	-0.4	11.0	0.32	0.28	-15.56
10,800.0	0.50	173.01	10,795.7	-11.3	-0.3	11.3	0.40	-0.40	5.56
10,825.0	0.31	166.93	10,820.7	-11.5	-0.3	11.5	0.78	-0.76	-24.32
10,850.0	0.26	143.30	10,845.7	-11.6	-0.3	11.6	0.51	-0.20	-94.52
10,875.0	0.25	93.50	10,870.7	-11.6	-0.2	11.6	0.86	-0.04	-199.20
10,900.0	0.27	90.93	10,895.7	-11.6	-0.1	11.6	0.09	0.08	-10.28
10,925.0	0.25	93.48	10,920.7	-11.6	0.0	11.6	0.09	-0.08	10.20
10,950.0	0.34	54.22	10,945.7	-11.6	0.2	11.6	0.86	0.36	-157.04
10,975.0	0.30	54.94	10,970.7	-11.5	0.3	11.5	0.16	-0.16	2.88
11,000.0	0.22	67.33	10,995.7	-11.4	0.4	11.4	0.39	-0.32	49.56
11,025.0	0.37	21.81	11,020.7	-11.4	0.4	11.4	1.07	0.60	-182.08
11,050.0	0.65	4.14	11,045.7	-11.1	0.5	11.1	1.27	1.12	-70.68
11,075.0	0.84	352.19	11,070.7	-10.8	0.5	10.8	0.98	0.76	-47.80
11,100.0	1.13	344.01	11,095.7	-10.4	0.4	10.4	1.29	1.16	-32.72
11,125.0	1.33	343.94	11,120.7	-9.9	0.2	9.9	0.80	0.80	-0.28
11,150.0	1.54	342.99	11,145.7	-9.3	0.1	9.3	0.85	0.84	-3.80
11,175.0	1.86	345.23	11,170.6	-8.6	-0.1	8.6	1.31	1.28	8.96
11,200.0	2.13	343.56	11,195.6	-7.7	-0.4	7.7	1.10	1.08	-6.68
11,225.0	2.42	343.24	11,220.6	-6.8	-0.7	6.8	1.16	1.16	-1.28
11,250.0	2.52	345.59	11,245.6	-5.7	-1.0	5.7	0.57	0.40	9.40
11,275.0	2.51	344.95	11,270.6	-4.7	-1.2	4.7	0.12	-0.04	-2.56
11,300.0	2.64	346.40	11,295.5	-3.6	-1.5	3.6	0.58	0.52	5.80
11,325.0	2.54	351.08	11,320.5	-2.5	-1.7	2.5	0.94	-0.40	18.72
11,350.0	2.07	359.88	11,345.5	-1.5	-1.8	1.5	2.35	-1.88	35.12
11,375.0	1.40	18.86	11,370.5	-0.7	-1.7	0.7	3.50	-2.68	76.00
11,388.2	1.23	27.53	11,383.7	-0.5	-1.6	0.5	1.98	-1.29	65.73
11,565.0	1.30	31.09	11,560.4	2.9	0.3	-2.9	0.06	0.04	2.01
11,660.0	1.19	35.45	11,655.4	4.7	1.4	-4.6	0.15	-0.12	4.59
11,691.0	1.63	152.87	11,686.4	4.5	1.8	-4.5	7.81	1.42	378.77
11,722.0	7.03	169.53	11,717.3	2.3	2.4	-2.3	17.70	17.42	53.74
11,754.0	11.51	177.35	11,748.9	-2.8	2.9	2.9	14.51	14.00	24.44
11,785.0	16.05	179.70	11,779.0	-10.2	3.0	10.2	14.75	14.65	7.58
11,817.0	19.47	179.49	11,809.5	-20.0	3.1	20.0	10.69	10.69	-0.66
11,848.0	21.79	178.68	11,838.5	-30.9	3.3	30.9	7.54	7.48	-2.61
11,880.0	23.26	178.61	11,868.0	-43.2	3.6	43.2	4.59	4.59	-0.22
11,911.0	25.76	172.35	11,896.2	-56.0	4.6	56.0	11.62	8.06	-20.19
11,942.0	28.89	181.78	11,923.8	-70.1	5.3	70.2	17.20	10.10	30.42
11,974.0	34.35	183.28	11,951.0	-86.9	4.5	86.9	17.24	17.06	4.69
12,005.0	36.36	180.27	11,976.3	-104.8	4.0	104.8	8.58	6.48	-9.71
12,037.0	36.44	180.17	12,002.1	-123.8	3.9	123.8	0.31	0.25	-0.31
12,068.0	38.13	177.71	12,026.7	-142.6	4.3	142.6	7.27	5.45	-7.94
12,100.0	40.12	176.56	12,051.5	-162.7	5.3	162.8	6.62	6.22	-3.59



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM

Site: BULLDOG

Well: COONSKIN FEE #603H

Wellbore: OWB

Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)

MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)

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)
12,131.0	41.88	175.84	12,074.9	-183.0	6.6	183.1	5.88	5.68	-2.32
12,162.0	44.69	175.18	12,097.5	-204.2	8.3	204.3	9.18	9.06	-2.13
12,194.0	49.90	176.92	12,119.2	-227.7	9.9	227.7	16.76	16.28	5.44
12,225.0	53.81	179.05	12,138.3	-252.0	10.7	252.1	13.72	12.61	6.87
12,257.0	58.12	179.07	12,156.3	-278.5	11.2	278.6	13.47	13.47	0.06
12,288.0	61.17	178.38	12,171.9	-305.3	11.8	305.4	10.02	9.84	-2.23
12,319.0	63.45	177.96	12,186.3	-332.7	12.7	332.8	7.45	7.35	-1.35
12,350.0	65.65	177.67	12,199.6	-360.7	13.7	360.8	7.15	7.10	-0.94
12,382.0	67.89	179.60	12,212.3	-390.1	14.4	390.2	8.93	7.00	6.03
12,413.0	70.46	179.89	12,223.3	-419.0	14.6	419.1	8.34	8.29	0.94
12,445.0	73.28	181.42	12,233.2	-449.4	14.2	449.5	9.91	8.81	4.78
12,476.0	75.54	182.03	12,241.6	-479.3	13.3	479.4	7.53	7.29	1.97
12,508.0	77.35	181.93	12,249.1	-510.4	12.2	510.5	5.66	5.66	-0.31
12,539.0	81.00	182.79	12,254.9	-540.8	11.0	540.9	12.09	11.77	2.77
12,602.0	88.19	182.45	12,260.8	-603.4	8.1	603.5	11.43	11.41	-0.54
12,698.0	88.27	182.32	12,263.8	-699.3	4.1	699.3	0.16	0.08	-0.14
12,793.0	88.68	182.07	12,266.3	-794.2	0.5	794.1	0.51	0.43	-0.26
12,887.0	91.07	184.25	12,266.5	-888.0	-4.7	887.9	3.44	2.54	2.32
12,982.0	89.02	181.37	12,266.4	-982.9	-9.4	982.8	3.72	-2.16	-3.03
13,077.0	88.58	178.22	12,268.4	-1,077.9	-9.0	1,077.7	3.35	-0.46	-3.32
13,171.0	89.70	179.70	12,269.9	-1,171.8	-7.3	1,171.7	1.97	1.19	1.57
13,265.0	89.24	179.08	12,270.7	-1,265.8	-6.3	1,265.7	0.82	-0.49	-0.66
13,359.0	89.78	178.64	12,271.5	-1,359.8	-4.4	1,359.7	0.74	0.57	-0.47
13,454.0	87.91	177.33	12,273.4	-1,454.7	-1.1	1,454.6	2.40	-1.97	-1.38
13,548.0	86.23	176.38	12,278.2	-1,548.4	4.0	1,548.4	2.05	-1.79	-1.01
13,642.0	85.85	176.55	12,284.7	-1,642.0	9.8	1,642.1	0.44	-0.40	0.18
13,737.0	86.91	177.19	12,290.7	-1,736.7	15.0	1,736.8	1.30	1.12	0.67
13,831.0	87.65	180.14	12,295.2	-1,830.6	17.2	1,830.6	3.23	0.79	3.14
13,925.0	88.59	177.01	12,298.3	-1,924.5	19.5	1,924.6	3.47	1.00	-3.33
14,020.0	89.13	179.93	12,300.2	-2,019.4	22.1	2,019.5	3.13	0.57	3.07
14,116.0	86.82	178.77	12,303.6	-2,115.3	23.1	2,115.5	2.69	-2.41	-1.21
14,210.0	87.54	179.26	12,308.2	-2,209.2	24.8	2,209.3	0.93	0.77	0.52
14,303.0	90.61	179.68	12,309.7	-2,302.2	25.6	2,302.3	3.33	3.30	0.45
14,397.0	88.44	180.61	12,310.5	-2,396.2	25.4	2,396.3	2.51	-2.31	0.99
14,492.0	89.42	180.18	12,312.2	-2,491.1	24.7	2,491.3	1.13	1.03	-0.45
14,586.0	91.15	178.84	12,311.8	-2,585.1	25.5	2,585.3	2.33	1.84	-1.43
14,680.0	87.73	180.14	12,312.7	-2,679.1	26.4	2,679.2	3.89	-3.64	1.38
14,774.0	88.22	178.99	12,316.0	-2,773.0	27.1	2,773.2	1.33	0.52	-1.22
14,869.0	89.24	179.38	12,318.1	-2,868.0	28.4	2,868.1	1.15	1.07	0.41
14,963.0	89.85	179.12	12,318.9	-2,962.0	29.7	2,962.1	0.71	0.65	-0.28
15,058.0	89.82	176.94	12,319.1	-3,056.9	32.9	3,057.1	2.29	-0.03	-2.29
15,153.0	89.14	178.72	12,320.0	-3,151.9	36.5	3,152.1	2.01	-0.72	1.87



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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)
15,247.0	89.59	181.79	12,321.0	-3,245.8	36.1	3,246.0	3.30	0.48	3.27
15,342.0	88.41	181.58	12,322.7	-3,340.8	33.3	3,340.9	1.26	-1.24	-0.22
15,436.0	90.96	183.07	12,323.2	-3,434.7	29.5	3,434.8	3.14	2.71	1.59
15,530.0	85.85	180.12	12,325.8	-3,528.6	26.9	3,528.7	6.28	-5.44	-3.14
15,624.0	84.73	179.32	12,333.6	-3,622.3	27.3	3,622.4	1.46	-1.19	-0.85
15,719.0	88.88	178.87	12,338.8	-3,717.1	28.8	3,717.2	4.39	4.37	-0.47
15,813.0	89.51	182.16	12,340.2	-3,811.1	28.0	3,811.2	3.56	0.67	3.50
15,908.0	86.76	181.13	12,343.3	-3,906.0	25.3	3,906.0	3.09	-2.89	-1.08
16,002.0	87.65	178.25	12,347.8	-3,999.8	25.8	3,999.9	3.20	0.95	-3.06
16,097.0	88.28	174.39	12,351.2	-4,094.6	31.9	4,094.7	4.11	0.66	-4.06
16,191.0	89.33	174.07	12,353.2	-4,188.1	41.3	4,188.3	1.17	1.12	-0.34
16,286.0	89.92	176.20	12,353.8	-4,282.7	49.4	4,283.0	2.33	0.62	2.24
16,381.0	88.88	177.78	12,354.8	-4,377.6	54.4	4,377.9	1.99	-1.09	1.66
16,475.0	87.60	182.89	12,357.7	-4,471.5	53.8	4,471.8	5.60	-1.36	5.44
16,569.0	89.36	184.67	12,360.2	-4,565.2	47.6	4,565.5	2.66	1.87	1.89
16,664.0	88.96	185.64	12,361.6	-4,659.8	39.1	4,660.0	1.10	-0.42	1.02
16,758.0	86.56	184.15	12,365.2	-4,753.4	31.1	4,753.5	3.00	-2.55	-1.59
16,853.0	86.03	181.19	12,371.4	-4,848.1	26.7	4,848.2	3.16	-0.56	-3.12
16,948.0	85.75	181.10	12,378.2	-4,942.8	24.8	4,942.9	0.31	-0.29	-0.09
17,043.0	88.65	182.23	12,382.8	-5,037.7	22.0	5,037.7	3.28	3.05	1.19
17,137.0	88.91	181.63	12,384.8	-5,131.6	18.8	5,131.6	0.70	0.28	-0.64
17,232.0	89.84	180.11	12,385.9	-5,226.6	17.4	5,226.5	1.88	0.98	-1.60
17,326.0	88.96	179.04	12,386.9	-5,320.6	18.1	5,320.5	1.47	-0.94	-1.14
17,420.0	91.27	179.05	12,386.7	-5,414.6	19.7	5,414.5	2.46	2.46	0.01
17,515.0	90.13	178.04	12,385.5	-5,509.5	22.1	5,509.5	1.60	-1.20	-1.06
17,609.0	88.94	177.80	12,386.3	-5,603.5	25.5	5,603.5	1.29	-1.27	-0.26
17,704.0	89.59	178.46	12,387.5	-5,698.4	28.6	5,698.4	0.98	0.68	0.69
17,798.0	92.40	178.83	12,385.9	-5,792.3	30.8	5,792.4	3.02	2.99	0.39
17,893.0	86.23	176.71	12,387.0	-5,887.2	34.5	5,887.3	6.87	-6.49	-2.23
17,987.0	88.53	179.13	12,391.3	-5,981.0	37.9	5,981.1	3.55	2.45	2.57
18,082.0	87.93	179.66	12,394.2	-6,076.0	38.9	6,076.1	0.84	-0.63	0.56
18,177.0	90.04	180.25	12,395.9	-6,171.0	39.0	6,171.1	2.31	2.22	0.62
18,271.0	87.42	179.00	12,398.0	-6,264.9	39.6	6,265.0	3.09	-2.79	-1.33
18,366.0	84.67	178.14	12,404.5	-6,359.7	42.0	6,359.8	3.03	-2.89	-0.91
18,461.0	85.13	177.78	12,413.0	-6,454.2	45.3	6,454.4	0.61	0.48	-0.38
18,556.0	83.79	178.26	12,422.2	-6,548.7	48.6	6,548.9	1.50	-1.41	0.51
18,651.0	83.35	177.84	12,432.8	-6,643.1	51.8	6,643.3	0.64	-0.46	-0.44
18,745.0	83.31	177.67	12,443.7	-6,736.4	55.5	6,736.6	0.18	-0.04	-0.18
18,840.0	86.34	177.01	12,452.3	-6,830.9	59.9	6,831.1	3.26	3.19	-0.69
18,934.0	88.64	178.63	12,456.4	-6,924.7	63.4	6,925.0	2.99	2.45	1.72
19,028.0	89.01	180.14	12,458.3	-7,018.7	64.4	7,019.0	1.65	0.39	1.61
19,123.0	90.32	182.43	12,458.9	-7,113.6	62.3	7,113.9	2.78	1.38	2.41



Survey Report

Company: NORTHERN DELAWARE BASIN
Project: LEA COUNTY, NM
Site: BULLDOG
Well: COONSKIN FEE #603H
Wellbore: OWB
Design: ACTUAL WELLPATH

Local Co-ordinate Reference: Well COONSKIN FEE #603H
TVD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
MD Reference: RKB=3306.9+30 @ 3336.9usft (SCANDRILL QUEST)
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)
19,217.0	88.47	182.27	12,459.9	-7,207.5	58.5	7,207.8	1.98	-1.97	-0.17
19,312.0	87.60	180.77	12,463.1	-7,302.5	55.9	7,302.7	1.82	-0.92	-1.58
19,407.0	89.44	182.77	12,465.6	-7,397.4	53.0	7,397.6	2.86	1.94	2.11
19,501.0	87.94	183.22	12,467.7	-7,491.2	48.1	7,491.3	1.67	-1.60	0.48
19,596.0	90.64	184.26	12,468.9	-7,586.0	41.9	7,586.1	3.05	2.84	1.09
19,634.0	90.89	184.02	12,468.4	-7,623.9	39.2	7,623.9	0.91	0.66	-0.63
19,681.0	90.89	184.02	12,467.7	-7,670.8	35.9	7,670.8	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____