

CONCHO

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

SQUARE BILL FED COM #23H

ST01

Design: ST01 - ACTUAL WELLPATH

HOBBS OCD
OCT 29 2018
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Survey Report - Geographic

15 January, 2018

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

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

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

Well	SQUARE BILL FED COM #23H		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	3.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 4' 48.279 N
		Longitude:	103° 24' 3.186 W
		Ground Level:	3,274.3 usft

Wellbore	ST01		
Magnetics	Model Name	Sample Date	Declination
			(°)
	WMM2015	12/26/2017	6.83
			Dip Angle
			(°)
			Field Strength
			(nT)
			47,804.53610113

Design	ST01 - ACTUAL WELLPATH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	11,707.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			354.78

Survey Program	Date 1/12/2018		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.0	11,707.0	GYRO (OWB (PH))	Standard Keeper 104
11,866.0	20,110.0	MWD - CURVE/LATERAL (ST01)	MWD+IFR1+MS
			Description
			Standard Wireline Keeper ver 1.0.4
			OWSG MWD + IFR1 + Multi-Station Correction

Survey										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Map	Map			
Depth	(°)	(°)	Depth	(usft)	(usft)	North	Easting	Latitude	Longitude	
(usft)			(usft)			(usft)	(usft)			
0.0	0.00	0.00	0.0	0.0	0.0	394,104.50	788,808.10	32° 4' 48.279 N	103° 24' 3.186 W	
100.0	1.13	323.50	100.0	0.8	-0.6	394,105.29	788,807.51	32° 4' 48.287 N	103° 24' 3.193 W	
125.0	1.16	318.04	125.0	1.2	-0.9	394,105.68	788,807.20	32° 4' 48.291 N	103° 24' 3.197 W	
150.0	1.23	317.13	150.0	1.6	-1.3	394,106.06	788,806.84	32° 4' 48.295 N	103° 24' 3.201 W	
175.0	1.24	324.80	175.0	2.0	-1.6	394,106.48	788,806.51	32° 4' 48.299 N	103° 24' 3.205 W	
200.0	1.24	323.03	200.0	2.4	-1.9	394,106.92	788,806.19	32° 4' 48.304 N	103° 24' 3.208 W	
225.0	1.26	321.67	225.0	2.9	-2.2	394,107.35	788,805.85	32° 4' 48.308 N	103° 24' 3.212 W	
250.0	1.23	325.02	250.0	3.3	-2.6	394,107.78	788,805.53	32° 4' 48.312 N	103° 24' 3.216 W	
275.0	1.27	321.84	275.0	3.7	-2.9	394,108.22	788,805.20	32° 4' 48.317 N	103° 24' 3.220 W	
300.0	1.32	320.17	299.9	4.2	-3.3	394,108.66	788,804.85	32° 4' 48.321 N	103° 24' 3.224 W	
325.0	1.31	322.14	324.9	4.6	-3.6	394,109.11	788,804.49	32° 4' 48.325 N	103° 24' 3.228 W	

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
350.0	1.27	324.72	349.9	5.1	-3.9	394,109.56	788,804.15	32° 4' 48.330 N	103° 24' 3.232 W	
375.0	1.24	322.56	374.9	5.5	-4.3	394,110.00	788,803.83	32° 4' 48.334 N	103° 24' 3.235 W	
400.0	1.15	328.91	399.9	5.9	-4.6	394,110.43	788,803.53	32° 4' 48.339 N	103° 24' 3.239 W	
425.0	1.14	328.89	424.9	6.4	-4.8	394,110.86	788,803.28	32° 4' 48.343 N	103° 24' 3.242 W	
450.0	1.12	325.31	449.9	6.8	-5.1	394,111.27	788,803.01	32° 4' 48.347 N	103° 24' 3.245 W	
475.0	1.17	328.58	474.9	7.2	-5.4	394,111.69	788,802.74	32° 4' 48.351 N	103° 24' 3.248 W	
500.0	1.18	329.04	499.9	7.6	-5.6	394,112.13	788,802.47	32° 4' 48.355 N	103° 24' 3.251 W	
525.0	1.24	328.38	524.9	8.1	-5.9	394,112.58	788,802.20	32° 4' 48.360 N	103° 24' 3.254 W	
550.0	1.11	329.40	549.9	8.5	-6.2	394,113.02	788,801.93	32° 4' 48.364 N	103° 24' 3.257 W	
575.0	1.04	329.95	574.9	8.9	-6.4	394,113.42	788,801.69	32° 4' 48.368 N	103° 24' 3.260 W	
600.0	1.05	328.08	599.9	9.3	-6.6	394,113.81	788,801.46	32° 4' 48.372 N	103° 24' 3.263 W	
625.0	1.04	330.27	624.9	9.7	-6.9	394,114.21	788,801.23	32° 4' 48.376 N	103° 24' 3.265 W	
650.0	0.93	333.07	649.9	10.1	-7.1	394,114.58	788,801.02	32° 4' 48.380 N	103° 24' 3.268 W	
675.0	0.99	329.02	674.9	10.5	-7.3	394,114.95	788,800.82	32° 4' 48.384 N	103° 24' 3.270 W	
700.0	1.02	332.29	699.9	10.8	-7.5	394,115.33	788,800.60	32° 4' 48.387 N	103° 24' 3.272 W	
725.0	1.00	336.33	724.9	11.2	-7.7	394,115.73	788,800.41	32° 4' 48.391 N	103° 24' 3.275 W	
750.0	0.98	337.80	749.9	11.6	-7.9	394,116.13	788,800.24	32° 4' 48.395 N	103° 24' 3.276 W	
775.0	1.02	335.41	774.9	12.0	-8.0	394,116.53	788,800.07	32° 4' 48.399 N	103° 24' 3.278 W	
800.0	0.97	333.57	799.9	12.4	-8.2	394,116.92	788,799.88	32° 4' 48.403 N	103° 24' 3.281 W	
825.0	0.94	341.82	824.8	12.8	-8.4	394,117.30	788,799.73	32° 4' 48.407 N	103° 24' 3.282 W	
850.0	0.86	344.32	849.8	13.2	-8.5	394,117.68	788,799.61	32° 4' 48.411 N	103° 24' 3.284 W	
875.0	0.77	335.03	874.8	13.5	-8.6	394,118.01	788,799.49	32° 4' 48.414 N	103° 24' 3.285 W	
900.0	0.70	335.61	899.8	13.8	-8.7	394,118.30	788,799.36	32° 4' 48.417 N	103° 24' 3.287 W	
925.0	0.61	340.49	924.8	14.1	-8.8	394,118.57	788,799.25	32° 4' 48.419 N	103° 24' 3.288 W	
950.0	0.53	328.42	949.8	14.3	-9.0	394,118.79	788,799.14	32° 4' 48.422 N	103° 24' 3.289 W	
975.0	0.44	329.43	974.8	14.5	-9.1	394,118.97	788,799.03	32° 4' 48.423 N	103° 24' 3.290 W	
1,000.0	0.40	355.05	999.8	14.6	-9.1	394,119.14	788,798.98	32° 4' 48.425 N	103° 24' 3.291 W	
1,025.0	0.34	323.03	1,024.8	14.8	-9.2	394,119.29	788,798.92	32° 4' 48.427 N	103° 24' 3.291 W	
1,050.0	0.31	326.64	1,049.8	14.9	-9.3	394,119.40	788,798.84	32° 4' 48.428 N	103° 24' 3.292 W	
1,075.0	0.27	333.36	1,074.8	15.0	-9.3	394,119.51	788,798.78	32° 4' 48.429 N	103° 24' 3.293 W	
1,100.0	0.30	307.38	1,099.8	15.1	-9.4	394,119.60	788,798.70	32° 4' 48.430 N	103° 24' 3.294 W	
1,125.0	0.34	303.91	1,124.8	15.2	-9.5	394,119.69	788,798.59	32° 4' 48.431 N	103° 24' 3.295 W	
1,150.0	0.31	322.14	1,149.8	15.3	-9.6	394,119.78	788,798.48	32° 4' 48.432 N	103° 24' 3.297 W	
1,175.0	0.34	320.14	1,174.8	15.4	-9.7	394,119.89	788,798.40	32° 4' 48.433 N	103° 24' 3.298 W	
1,200.0	0.36	309.59	1,199.8	15.5	-9.8	394,120.00	788,798.29	32° 4' 48.434 N	103° 24' 3.299 W	
1,225.0	0.40	307.84	1,224.8	15.6	-9.9	394,120.10	788,798.16	32° 4' 48.435 N	103° 24' 3.300 W	
1,250.0	0.45	314.03	1,249.8	15.7	-10.1	394,120.22	788,798.02	32° 4' 48.436 N	103° 24' 3.302 W	
1,275.0	0.46	324.96	1,274.8	15.9	-10.2	394,120.37	788,797.89	32° 4' 48.437 N	103° 24' 3.303 W	
1,300.0	0.31	320.58	1,299.8	16.0	-10.3	394,120.51	788,797.79	32° 4' 48.439 N	103° 24' 3.305 W	
1,325.0	0.33	339.17	1,324.8	16.1	-10.4	394,120.63	788,797.72	32° 4' 48.440 N	103° 24' 3.305 W	
1,350.0	0.26	331.88	1,349.8	16.2	-10.4	394,120.74	788,797.67	32° 4' 48.441 N	103° 24' 3.306 W	
1,375.0	0.21	329.54	1,374.8	16.3	-10.5	394,120.83	788,797.62	32° 4' 48.442 N	103° 24' 3.307 W	
1,400.0	0.24	303.53	1,399.8	16.4	-10.5	394,120.90	788,797.55	32° 4' 48.443 N	103° 24' 3.307 W	
1,425.0	0.13	337.04	1,424.8	16.5	-10.6	394,120.96	788,797.50	32° 4' 48.443 N	103° 24' 3.308 W	
1,450.0	0.11	309.64	1,449.8	16.5	-10.6	394,121.00	788,797.47	32° 4' 48.444 N	103° 24' 3.308 W	
1,475.0	0.05	341.71	1,474.8	16.5	-10.7	394,121.02	788,797.45	32° 4' 48.444 N	103° 24' 3.308 W	
1,500.0	0.11	277.19	1,499.8	16.5	-10.7	394,121.04	788,797.42	32° 4' 48.444 N	103° 24' 3.309 W	
1,525.0	0.07	249.16	1,524.8	16.5	-10.7	394,121.04	788,797.38	32° 4' 48.444 N	103° 24' 3.309 W	
1,550.0	0.20	248.47	1,549.8	16.5	-10.8	394,121.01	788,797.33	32° 4' 48.444 N	103° 24' 3.310 W	
1,575.0	0.27	248.99	1,574.8	16.5	-10.9	394,120.98	788,797.23	32° 4' 48.443 N	103° 24' 3.311 W	
1,600.0	0.34	256.30	1,599.8	16.4	-11.0	394,120.94	788,797.10	32° 4' 48.443 N	103° 24' 3.312 W	
1,625.0	0.27	267.04	1,624.8	16.4	-11.1	394,120.92	788,796.97	32° 4' 48.443 N	103° 24' 3.314 W	
1,650.0	0.27	266.23	1,649.8	16.4	-11.2	394,120.91	788,796.85	32° 4' 48.443 N	103° 24' 3.315 W	
1,675.0	0.19	270.40	1,674.8	16.4	-11.3	394,120.91	788,796.75	32° 4' 48.443 N	103° 24' 3.317 W	
1,700.0	0.13	265.71	1,699.8	16.4	-11.4	394,120.91	788,796.68	32° 4' 48.443 N	103° 24' 3.317 W	

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Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,725.0	0.22	231.60	1,724.8	16.4	-11.5	394,120.87	788,796.62	32° 4' 48.443 N	103° 24' 3.318 W
1,750.0	0.13	222.66	1,749.8	16.3	-11.5	394,120.82	788,796.56	32° 4' 48.442 N	103° 24' 3.319 W
1,775.0	0.26	223.56	1,774.8	16.3	-11.6	394,120.76	788,796.50	32° 4' 48.441 N	103° 24' 3.319 W
1,800.0	0.29	227.25	1,799.8	16.2	-11.7	394,120.68	788,796.42	32° 4' 48.441 N	103° 24' 3.320 W
1,825.0	0.36	245.46	1,824.8	16.1	-11.8	394,120.60	788,796.30	32° 4' 48.440 N	103° 24' 3.322 W
1,850.0	0.18	257.14	1,849.8	16.1	-11.9	394,120.56	788,796.19	32° 4' 48.439 N	103° 24' 3.323 W
1,875.0	0.21	252.30	1,874.8	16.0	-12.0	394,120.54	788,796.11	32° 4' 48.439 N	103° 24' 3.324 W
1,900.0	0.23	230.34	1,899.8	16.0	-12.1	394,120.49	788,796.03	32° 4' 48.439 N	103° 24' 3.325 W
1,925.0	0.35	229.41	1,924.8	15.9	-12.2	394,120.41	788,795.93	32° 4' 48.438 N	103° 24' 3.326 W
1,950.0	0.27	246.58	1,949.8	15.8	-12.3	394,120.34	788,795.82	32° 4' 48.437 N	103° 24' 3.327 W
1,975.0	0.22	248.53	1,974.8	15.8	-12.4	394,120.30	788,795.72	32° 4' 48.437 N	103° 24' 3.329 W
2,000.0	0.16	287.00	1,999.8	15.8	-12.5	394,120.29	788,795.64	32° 4' 48.437 N	103° 24' 3.330 W
2,025.0	0.11	260.27	2,024.8	15.8	-12.5	394,120.29	788,795.58	32° 4' 48.437 N	103° 24' 3.330 W
2,050.0	0.15	225.67	2,049.8	15.8	-12.6	394,120.27	788,795.54	32° 4' 48.437 N	103° 24' 3.331 W
2,075.0	0.11	205.36	2,074.8	15.7	-12.6	394,120.22	788,795.50	32° 4' 48.436 N	103° 24' 3.331 W
2,100.0	0.15	250.72	2,099.8	15.7	-12.6	394,120.19	788,795.46	32° 4' 48.436 N	103° 24' 3.332 W
2,125.0	0.10	317.75	2,124.8	15.7	-12.7	394,120.20	788,795.42	32° 4' 48.436 N	103° 24' 3.332 W
2,150.0	0.06	343.60	2,149.8	15.7	-12.7	394,120.22	788,795.40	32° 4' 48.436 N	103° 24' 3.332 W
2,175.0	0.01	221.81	2,174.8	15.7	-12.7	394,120.24	788,795.39	32° 4' 48.436 N	103° 24' 3.332 W
2,200.0	0.07	201.30	2,199.8	15.7	-12.7	394,120.22	788,795.39	32° 4' 48.436 N	103° 24' 3.333 W
2,225.0	0.11	281.60	2,224.8	15.7	-12.7	394,120.21	788,795.36	32° 4' 48.436 N	103° 24' 3.333 W
2,250.0	0.10	337.59	2,249.8	15.7	-12.8	394,120.24	788,795.32	32° 4' 48.436 N	103° 24' 3.333 W
2,275.0	0.07	19.18	2,274.8	15.8	-12.8	394,120.27	788,795.32	32° 4' 48.437 N	103° 24' 3.333 W
2,300.0	0.18	45.47	2,299.8	15.8	-12.7	394,120.31	788,795.35	32° 4' 48.437 N	103° 24' 3.333 W
2,325.0	0.19	47.45	2,324.8	15.9	-12.7	394,120.37	788,795.41	32° 4' 48.438 N	103° 24' 3.332 W
2,350.0	0.24	70.58	2,349.8	15.9	-12.6	394,120.41	788,795.49	32° 4' 48.438 N	103° 24' 3.331 W
2,375.0	0.15	55.13	2,374.8	16.0	-12.5	394,120.45	788,795.57	32° 4' 48.438 N	103° 24' 3.330 W
2,400.0	0.23	59.28	2,399.8	16.0	-12.5	394,120.49	788,795.64	32° 4' 48.439 N	103° 24' 3.330 W
2,425.0	0.24	64.53	2,424.8	16.0	-12.4	394,120.54	788,795.73	32° 4' 48.439 N	103° 24' 3.328 W
2,450.0	0.31	74.73	2,449.8	16.1	-12.3	394,120.58	788,795.84	32° 4' 48.440 N	103° 24' 3.327 W
2,475.0	0.31	73.78	2,474.8	16.1	-12.1	394,120.62	788,795.97	32° 4' 48.440 N	103° 24' 3.326 W
2,500.0	0.31	80.49	2,499.8	16.1	-12.0	394,120.65	788,796.10	32° 4' 48.440 N	103° 24' 3.324 W
2,525.0	0.36	67.00	2,524.8	16.2	-11.9	394,120.69	788,796.24	32° 4' 48.441 N	103° 24' 3.323 W
2,550.0	0.48	67.46	2,549.8	16.3	-11.7	394,120.76	788,796.41	32° 4' 48.441 N	103° 24' 3.321 W
2,575.0	0.59	57.94	2,574.8	16.4	-11.5	394,120.87	788,796.62	32° 4' 48.442 N	103° 24' 3.318 W
2,600.0	0.68	60.19	2,599.8	16.5	-11.2	394,121.01	788,796.86	32° 4' 48.444 N	103° 24' 3.315 W
2,625.0	0.67	61.13	2,624.8	16.7	-11.0	394,121.16	788,797.11	32° 4' 48.445 N	103° 24' 3.312 W
2,650.0	0.81	64.58	2,649.8	16.8	-10.7	394,121.30	788,797.40	32° 4' 48.447 N	103° 24' 3.309 W
2,675.0	1.00	72.87	2,674.8	16.9	-10.3	394,121.44	788,797.77	32° 4' 48.448 N	103° 24' 3.305 W
2,700.0	1.05	80.49	2,699.8	17.0	-9.9	394,121.54	788,798.20	32° 4' 48.449 N	103° 24' 3.300 W
2,725.0	1.14	78.40	2,724.8	17.1	-9.4	394,121.63	788,798.67	32° 4' 48.450 N	103° 24' 3.294 W
2,750.0	1.32	75.19	2,749.8	17.3	-8.9	394,121.76	788,799.19	32° 4' 48.451 N	103° 24' 3.288 W
2,775.0	1.56	79.65	2,774.8	17.4	-8.3	394,121.89	788,799.81	32° 4' 48.452 N	103° 24' 3.281 W
2,800.0	1.49	82.04	2,799.8	17.5	-7.6	394,122.00	788,800.46	32° 4' 48.453 N	103° 24' 3.273 W
2,825.0	1.42	78.25	2,824.8	17.6	-7.0	394,122.11	788,801.09	32° 4' 48.454 N	103° 24' 3.266 W
2,850.0	1.54	78.81	2,849.8	17.7	-6.4	394,122.23	788,801.72	32° 4' 48.456 N	103° 24' 3.259 W
2,875.0	1.55	80.91	2,874.8	17.9	-5.7	394,122.35	788,802.39	32° 4' 48.457 N	103° 24' 3.251 W
2,900.0	1.32	81.11	2,899.7	18.0	-5.1	394,122.45	788,803.00	32° 4' 48.458 N	103° 24' 3.244 W
2,925.0	0.83	72.16	2,924.7	18.1	-4.6	394,122.55	788,803.46	32° 4' 48.459 N	103° 24' 3.238 W
2,950.0	0.73	76.28	2,949.7	18.1	-4.3	394,122.64	788,803.79	32° 4' 48.459 N	103° 24' 3.235 W
2,975.0	0.55	76.83	2,974.7	18.2	-4.0	394,122.71	788,804.06	32° 4' 48.460 N	103° 24' 3.231 W
3,000.0	0.79	65.22	2,999.7	18.3	-3.8	394,122.81	788,804.33	32° 4' 48.461 N	103° 24' 3.228 W
3,025.0	0.75	72.07	3,024.7	18.4	-3.5	394,122.93	788,804.64	32° 4' 48.462 N	103° 24' 3.225 W
3,050.0	0.73	77.68	3,049.7	18.5	-3.1	394,123.01	788,804.96	32° 4' 48.463 N	103° 24' 3.221 W
3,075.0	0.77	67.05	3,074.7	18.6	-2.8	394,123.11	788,805.27	32° 4' 48.464 N	103° 24' 3.217 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED.COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED.COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,100.0	0.84	71.67	3,099.7	18.7	-2.5	394,123.24	788,805.59	32° 4' 48.465 N	103° 24' 3.214 W
3,125.0	0.90	76.53	3,124.7	18.8	-2.1	394,123.34	788,805.96	32° 4' 48.466 N	103° 24' 3.209 W
3,150.0	0.89	74.36	3,149.7	18.9	-1.8	394,123.44	788,806.34	32° 4' 48.467 N	103° 24' 3.205 W
3,175.0	1.05	79.77	3,174.7	19.0	-1.3	394,123.53	788,806.75	32° 4' 48.468 N	103° 24' 3.200 W
3,200.0	1.20	85.05	3,199.7	19.1	-0.9	394,123.60	788,807.24	32° 4' 48.469 N	103° 24' 3.194 W
3,225.0	1.01	87.20	3,224.7	19.1	-0.4	394,123.63	788,807.72	32° 4' 48.469 N	103° 24' 3.189 W
3,250.0	1.13	84.99	3,249.7	19.2	0.1	394,123.66	788,808.18	32° 4' 48.469 N	103° 24' 3.183 W
3,275.0	1.15	96.79	3,274.7	19.2	0.6	394,123.65	788,808.68	32° 4' 48.469 N	103° 24' 3.178 W
3,300.0	0.90	115.26	3,299.7	19.0	1.0	394,123.54	788,809.10	32° 4' 48.468 N	103° 24' 3.173 W
3,325.0	0.83	123.69	3,324.7	18.9	1.3	394,123.35	788,809.43	32° 4' 48.466 N	103° 24' 3.169 W
3,350.0	0.97	127.11	3,349.7	18.6	1.7	394,123.13	788,809.75	32° 4' 48.464 N	103° 24' 3.165 W
3,375.0	0.87	131.98	3,374.7	18.4	2.0	394,122.87	788,810.06	32° 4' 48.461 N	103° 24' 3.162 W
3,400.0	1.00	119.47	3,399.7	18.1	2.3	394,122.64	788,810.39	32° 4' 48.459 N	103° 24' 3.158 W
3,425.0	1.15	120.64	3,424.7	17.9	2.7	394,122.40	788,810.80	32° 4' 48.456 N	103° 24' 3.153 W
3,450.0	1.11	120.21	3,449.7	17.7	3.1	394,122.15	788,811.22	32° 4' 48.454 N	103° 24' 3.148 W
3,475.0	1.19	114.35	3,474.7	17.4	3.6	394,121.92	788,811.67	32° 4' 48.452 N	103° 24' 3.143 W
3,500.0	1.17	117.31	3,499.7	17.2	4.0	394,121.70	788,812.13	32° 4' 48.449 N	103° 24' 3.138 W
3,525.0	1.06	118.29	3,524.7	17.0	4.5	394,121.47	788,812.56	32° 4' 48.447 N	103° 24' 3.133 W
3,550.0	1.17	109.77	3,549.7	16.8	4.9	394,121.28	788,813.01	32° 4' 48.445 N	103° 24' 3.128 W
3,575.0	1.13	113.14	3,574.7	16.6	5.4	394,121.09	788,813.47	32° 4' 48.443 N	103° 24' 3.122 W
3,600.0	1.09	107.98	3,599.6	16.4	5.8	394,120.92	788,813.93	32° 4' 48.442 N	103° 24' 3.117 W
3,625.0	1.18	108.56	3,624.6	16.3	6.3	394,120.77	788,814.40	32° 4' 48.440 N	103° 24' 3.112 W
3,650.0	1.06	113.07	3,649.6	16.1	6.8	394,120.60	788,814.85	32° 4' 48.438 N	103° 24' 3.106 W
3,675.0	0.88	106.41	3,674.6	16.0	7.2	394,120.45	788,815.25	32° 4' 48.437 N	103° 24' 3.102 W
3,700.0	0.70	107.81	3,699.6	15.9	7.5	394,120.35	788,815.58	32° 4' 48.436 N	103° 24' 3.098 W
3,725.0	0.56	110.61	3,724.6	15.8	7.7	394,120.26	788,815.84	32° 4' 48.435 N	103° 24' 3.095 W
3,750.0	0.62	106.22	3,749.6	15.7	8.0	394,120.18	788,816.08	32° 4' 48.434 N	103° 24' 3.092 W
3,775.0	0.51	117.49	3,774.6	15.6	8.2	394,120.09	788,816.31	32° 4' 48.433 N	103° 24' 3.089 W
3,800.0	0.50	104.34	3,799.6	15.5	8.4	394,120.01	788,816.52	32° 4' 48.432 N	103° 24' 3.087 W
3,825.0	0.62	94.59	3,824.6	15.5	8.7	394,119.97	788,816.76	32° 4' 48.432 N	103° 24' 3.084 W
3,850.0	0.46	107.86	3,849.6	15.4	8.9	394,119.93	788,816.99	32° 4' 48.431 N	103° 24' 3.082 W
3,875.0	0.50	91.45	3,874.6	15.4	9.1	394,119.90	788,817.19	32° 4' 48.431 N	103° 24' 3.079 W
3,900.0	0.50	101.20	3,899.6	15.4	9.3	394,119.88	788,817.41	32° 4' 48.431 N	103° 24' 3.077 W
3,925.0	0.41	88.08	3,924.6	15.4	9.5	394,119.86	788,817.60	32° 4' 48.431 N	103° 24' 3.074 W
3,950.0	0.35	88.54	3,949.6	15.4	9.7	394,119.86	788,817.77	32° 4' 48.431 N	103° 24' 3.072 W
3,975.0	0.05	114.65	3,974.6	15.4	9.8	394,119.86	788,817.86	32° 4' 48.431 N	103° 24' 3.071 W
4,000.0	0.17	42.00	3,999.6	15.4	9.8	394,119.88	788,817.89	32° 4' 48.431 N	103° 24' 3.071 W
4,025.0	0.15	51.84	4,024.6	15.4	9.8	394,119.93	788,817.94	32° 4' 48.431 N	103° 24' 3.070 W
4,050.0	0.10	348.42	4,049.6	15.5	9.9	394,119.97	788,817.96	32° 4' 48.432 N	103° 24' 3.070 W
4,075.0	0.26	42.49	4,074.6	15.5	9.9	394,120.04	788,818.00	32° 4' 48.432 N	103° 24' 3.070 W
4,100.0	0.21	58.97	4,099.6	15.6	10.0	394,120.10	788,818.07	32° 4' 48.433 N	103° 24' 3.069 W
4,125.0	0.15	8.31	4,124.6	15.7	10.0	394,120.16	788,818.12	32° 4' 48.434 N	103° 24' 3.068 W
4,150.0	0.28	36.04	4,149.6	15.7	10.1	394,120.24	788,818.16	32° 4' 48.434 N	103° 24' 3.068 W
4,175.0	0.23	50.52	4,174.6	15.8	10.1	394,120.32	788,818.23	32° 4' 48.435 N	103° 24' 3.067 W
4,200.0	0.28	14.62	4,199.6	15.9	10.2	394,120.41	788,818.29	32° 4' 48.436 N	103° 24' 3.066 W
4,225.0	0.43	35.78	4,224.6	16.0	10.3	394,120.55	788,818.36	32° 4' 48.437 N	103° 24' 3.066 W
4,250.0	0.36	41.72	4,249.6	16.2	10.4	394,120.68	788,818.47	32° 4' 48.439 N	103° 24' 3.064 W
4,275.0	0.41	22.94	4,274.6	16.3	10.5	394,120.82	788,818.55	32° 4' 48.440 N	103° 24' 3.063 W
4,300.0	0.54	26.71	4,299.6	16.5	10.5	394,121.01	788,818.64	32° 4' 48.442 N	103° 24' 3.062 W
4,325.0	0.41	17.21	4,324.6	16.7	10.6	394,121.20	788,818.72	32° 4' 48.444 N	103° 24' 3.061 W
4,350.0	0.41	0.86	4,349.6	16.9	10.7	394,121.37	788,818.75	32° 4' 48.446 N	103° 24' 3.061 W
4,375.0	0.50	4.04	4,374.6	17.1	10.7	394,121.57	788,818.76	32° 4' 48.448 N	103° 24' 3.061 W
4,400.0	0.43	8.70	4,399.6	17.3	10.7	394,121.77	788,818.78	32° 4' 48.450 N	103° 24' 3.061 W
4,425.0	0.51	12.41	4,424.6	17.5	10.7	394,121.98	788,818.82	32° 4' 48.452 N	103° 24' 3.060 W
4,450.0	0.64	18.13	4,449.6	17.7	10.8	394,122.22	788,818.88	32° 4' 48.454 N	103° 24' 3.059 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,475.0	0.55	30.85	4,474.6	18.0	10.9	394,122.45	788,818.99	32° 4' 48.456 N	103° 24' 3.058 W
4,500.0	0.72	40.40	4,499.6	18.2	11.1	394,122.68	788,819.15	32° 4' 48.458 N	103° 24' 3.056 W
4,525.0	0.87	60.62	4,524.6	18.4	11.3	394,122.89	788,819.42	32° 4' 48.460 N	103° 24' 3.053 W
4,550.0	0.99	73.66	4,549.6	18.5	11.7	394,123.04	788,819.79	32° 4' 48.462 N	103° 24' 3.049 W
4,575.0	1.20	70.35	4,574.6	18.7	12.1	394,123.19	788,820.25	32° 4' 48.463 N	103° 24' 3.043 W
4,600.0	1.21	76.77	4,599.6	18.8	12.7	394,123.34	788,820.75	32° 4' 48.465 N	103° 24' 3.037 W
4,625.0	1.21	72.90	4,624.6	19.0	13.2	394,123.48	788,821.26	32° 4' 48.466 N	103° 24' 3.032 W
4,650.0	1.24	73.59	4,649.6	19.1	13.7	394,123.63	788,821.77	32° 4' 48.468 N	103° 24' 3.026 W
4,675.0	1.10	64.22	4,674.6	19.3	14.1	394,123.81	788,822.25	32° 4' 48.469 N	103° 24' 3.020 W
4,700.0	1.31	63.54	4,699.6	19.5	14.6	394,124.04	788,822.72	32° 4' 48.472 N	103° 24' 3.014 W
4,725.0	1.26	61.72	4,724.6	19.8	15.1	394,124.30	788,823.22	32° 4' 48.474 N	103° 24' 3.009 W
4,750.0	1.32	62.58	4,749.6	20.1	15.6	394,124.56	788,823.71	32° 4' 48.477 N	103° 24' 3.003 W
4,775.0	1.25	63.28	4,774.6	20.3	16.1	394,124.82	788,824.21	32° 4' 48.479 N	103° 24' 2.997 W
4,800.0	1.26	63.33	4,799.5	20.6	16.6	394,125.07	788,824.70	32° 4' 48.482 N	103° 24' 2.991 W
4,825.0	0.73	94.30	4,824.5	20.7	17.0	394,125.18	788,825.11	32° 4' 48.483 N	103° 24' 2.987 W
4,850.0	0.64	117.73	4,849.5	20.6	17.3	394,125.10	788,825.39	32° 4' 48.482 N	103° 24' 2.983 W
4,875.0	0.78	155.52	4,874.5	20.4	17.5	394,124.88	788,825.58	32° 4' 48.480 N	103° 24' 2.981 W
4,900.0	0.79	136.20	4,899.5	20.1	17.7	394,124.60	788,825.77	32° 4' 48.477 N	103° 24' 2.979 W
4,925.0	1.04	138.02	4,924.5	19.8	17.9	394,124.31	788,826.04	32° 4' 48.474 N	103° 24' 2.976 W
4,950.0	1.12	148.41	4,949.5	19.4	18.2	394,123.93	788,826.32	32° 4' 48.470 N	103° 24' 2.973 W
4,975.0	1.24	142.14	4,974.5	19.0	18.5	394,123.51	788,826.62	32° 4' 48.466 N	103° 24' 2.969 W
5,000.0	1.22	138.93	4,999.5	18.6	18.9	394,123.10	788,826.96	32° 4' 48.462 N	103° 24' 2.965 W
5,025.0	1.25	179.10	5,024.5	18.1	19.0	394,122.62	788,827.14	32° 4' 48.457 N	103° 24' 2.963 W
5,050.0	1.79	203.75	5,049.5	17.5	18.9	394,121.99	788,826.98	32° 4' 48.451 N	103° 24' 2.965 W
5,075.0	2.09	211.71	5,074.5	16.7	18.5	394,121.25	788,826.59	32° 4' 48.444 N	103° 24' 2.970 W
5,100.0	2.75	221.49	5,099.5	15.9	17.9	394,120.41	788,825.95	32° 4' 48.435 N	103° 24' 2.977 W
5,125.0	3.67	228.51	5,124.4	14.9	16.9	394,119.43	788,824.95	32° 4' 48.426 N	103° 24' 2.989 W
5,150.0	4.39	231.89	5,149.4	13.8	15.5	394,118.31	788,823.60	32° 4' 48.415 N	103° 24' 3.005 W
5,175.0	4.39	233.69	5,174.3	12.7	14.0	394,117.15	788,822.08	32° 4' 48.404 N	103° 24' 3.023 W
5,200.0	4.57	233.24	5,199.2	11.5	12.4	394,115.99	788,820.51	32° 4' 48.392 N	103° 24' 3.041 W
5,225.0	4.64	234.63	5,224.1	10.3	10.8	394,114.81	788,818.89	32° 4' 48.381 N	103° 24' 3.060 W
5,250.0	4.61	237.37	5,249.1	9.2	9.1	394,113.68	788,817.22	32° 4' 48.370 N	103° 24' 3.079 W
5,275.0	4.72	238.95	5,274.0	8.1	7.4	394,112.61	788,815.49	32° 4' 48.359 N	103° 24' 3.100 W
5,300.0	4.99	247.79	5,298.9	7.2	5.5	394,111.67	788,813.60	32° 4' 48.350 N	103° 24' 3.122 W
5,325.0	5.42	258.42	5,323.8	6.5	3.3	394,111.02	788,811.44	32° 4' 48.344 N	103° 24' 3.147 W
5,350.0	5.54	260.86	5,348.7	6.1	1.0	394,110.59	788,809.09	32° 4' 48.340 N	103° 24' 3.174 W
5,375.0	5.42	263.20	5,373.6	5.8	-1.4	394,110.26	788,806.73	32° 4' 48.337 N	103° 24' 3.202 W
5,400.0	5.31	262.95	5,398.4	5.5	-3.7	394,109.98	788,804.40	32° 4' 48.334 N	103° 24' 3.229 W
5,425.0	5.33	263.26	5,423.3	5.2	-6.0	394,109.70	788,802.10	32° 4' 48.331 N	103° 24' 3.256 W
5,450.0	5.22	264.27	5,448.2	5.0	-8.3	394,109.45	788,799.82	32° 4' 48.329 N	103° 24' 3.282 W
5,475.0	5.19	263.69	5,473.1	4.7	-10.5	394,109.21	788,797.56	32° 4' 48.327 N	103° 24' 3.308 W
5,500.0	5.15	264.01	5,498.0	4.5	-12.8	394,108.97	788,795.32	32° 4' 48.325 N	103° 24' 3.334 W
5,525.0	5.18	264.36	5,522.9	4.2	-15.0	394,108.74	788,793.08	32° 4' 48.323 N	103° 24' 3.360 W
5,550.0	5.21	263.31	5,547.8	4.0	-17.3	394,108.50	788,790.83	32° 4' 48.321 N	103° 24' 3.387 W
5,575.0	5.32	263.64	5,572.7	3.7	-19.5	394,108.24	788,788.56	32° 4' 48.318 N	103° 24' 3.413 W
5,600.0	6.40	258.79	5,597.6	3.3	-22.1	394,107.84	788,786.04	32° 4' 48.314 N	103° 24' 3.442 W
5,625.0	6.93	255.71	5,622.4	2.7	-24.9	394,107.20	788,783.21	32° 4' 48.308 N	103° 24' 3.475 W
5,650.0	7.06	255.12	5,647.2	1.9	-27.8	394,106.43	788,780.26	32° 4' 48.301 N	103° 24' 3.510 W
5,675.0	7.10	254.84	5,672.0	1.1	-30.8	394,105.63	788,777.29	32° 4' 48.293 N	103° 24' 3.544 W
5,700.0	7.07	254.87	5,696.8	0.3	-33.8	394,104.83	788,774.31	32° 4' 48.286 N	103° 24' 3.579 W
5,725.0	7.00	255.35	5,721.7	-0.5	-36.7	394,104.04	788,771.35	32° 4' 48.278 N	103° 24' 3.613 W
5,750.0	6.95	254.82	5,746.5	-1.2	-39.7	394,103.26	788,768.42	32° 4' 48.271 N	103° 24' 3.648 W
5,775.0	6.96	255.33	5,771.3	-2.0	-42.6	394,102.48	788,765.49	32° 4' 48.263 N	103° 24' 3.682 W
5,800.0	6.78	255.35	5,796.1	-2.8	-45.5	394,101.72	788,762.60	32° 4' 48.256 N	103° 24' 3.715 W
5,825.0	6.72	254.56	5,820.9	-3.5	-48.3	394,100.96	788,759.76	32° 4' 48.249 N	103° 24' 3.748 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY.8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY.8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELL PATH	Database:	EDM Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,850.0	6.60	254.48	5,845.8	-4.3	-51.1	394,100.18	788,756.97	32° 4' 48.241 N	103° 24' 3.781 W
5,875.0	6.31	255.08	5,870.6	-5.1	-53.8	394,099.45	788,754.25	32° 4' 48.234 N	103° 24' 3.813 W
5,900.0	6.22	254.79	5,895.5	-5.8	-56.5	394,098.74	788,751.62	32° 4' 48.227 N	103° 24' 3.843 W
5,925.0	6.03	254.91	5,920.3	-6.5	-59.1	394,098.04	788,749.05	32° 4' 48.221 N	103° 24' 3.873 W
5,950.0	6.02	254.22	5,945.2	-7.2	-61.6	394,097.34	788,746.52	32° 4' 48.214 N	103° 24' 3.903 W
5,975.0	6.07	254.88	5,970.0	-7.9	-64.1	394,096.64	788,743.98	32° 4' 48.207 N	103° 24' 3.932 W
6,000.0	6.04	254.32	5,994.9	-8.6	-66.7	394,095.94	788,741.44	32° 4' 48.201 N	103° 24' 3.962 W
6,025.0	6.22	254.30	6,019.8	-9.3	-69.2	394,095.22	788,738.87	32° 4' 48.194 N	103° 24' 3.992 W
6,050.0	6.17	254.25	6,044.6	-10.0	-71.8	394,094.49	788,736.27	32° 4' 48.187 N	103° 24' 4.022 W
6,075.0	6.21	254.39	6,069.5	-10.7	-74.4	394,093.76	788,733.67	32° 4' 48.180 N	103° 24' 4.052 W
6,100.0	6.12	254.91	6,094.3	-11.5	-77.0	394,093.05	788,731.08	32° 4' 48.173 N	103° 24' 4.083 W
6,125.0	6.26	254.62	6,119.2	-12.2	-79.6	394,092.34	788,728.48	32° 4' 48.166 N	103° 24' 4.113 W
6,150.0	6.21	253.54	6,144.0	-12.9	-82.2	394,091.59	788,725.87	32° 4' 48.159 N	103° 24' 4.143 W
6,175.0	6.44	252.50	6,168.9	-13.7	-84.9	394,090.79	788,723.24	32° 4' 48.151 N	103° 24' 4.174 W
6,200.0	6.42	250.57	6,193.7	-14.6	-87.5	394,089.90	788,720.58	32° 4' 48.143 N	103° 24' 4.205 W
6,225.0	6.38	250.83	6,218.6	-15.5	-90.1	394,088.98	788,717.95	32° 4' 48.134 N	103° 24' 4.236 W
6,250.0	6.42	250.73	6,243.4	-16.4	-92.8	394,088.06	788,715.32	32° 4' 48.125 N	103° 24' 4.266 W
6,275.0	6.26	249.72	6,268.3	-17.4	-95.4	394,087.13	788,712.72	32° 4' 48.116 N	103° 24' 4.297 W
6,300.0	6.05	248.88	6,293.1	-18.3	-97.9	394,086.18	788,710.22	32° 4' 48.107 N	103° 24' 4.326 W
6,325.0	5.81	248.82	6,318.0	-19.2	-100.3	394,085.25	788,707.81	32° 4' 48.098 N	103° 24' 4.354 W
6,350.0	5.69	249.78	6,342.8	-20.1	-102.6	394,084.37	788,705.47	32° 4' 48.089 N	103° 24' 4.381 W
6,375.0	5.64	250.86	6,367.7	-21.0	-105.0	394,083.54	788,703.14	32° 4' 48.081 N	103° 24' 4.408 W
6,400.0	5.76	249.70	6,392.6	-21.8	-107.3	394,082.70	788,700.80	32° 4' 48.073 N	103° 24' 4.435 W
6,425.0	5.70	250.07	6,417.5	-22.7	-109.6	394,081.84	788,698.46	32° 4' 48.065 N	103° 24' 4.463 W
6,450.0	6.27	255.05	6,442.3	-23.4	-112.1	394,081.06	788,695.97	32° 4' 48.057 N	103° 24' 4.492 W
6,475.0	6.69	257.07	6,467.2	-24.1	-114.9	394,080.39	788,693.24	32° 4' 48.051 N	103° 24' 4.524 W
6,500.0	6.88	258.00	6,492.0	-24.8	-117.7	394,079.75	788,690.35	32° 4' 48.045 N	103° 24' 4.557 W
6,525.0	6.96	258.05	6,516.8	-25.4	-120.7	394,079.12	788,687.41	32° 4' 48.039 N	103° 24' 4.592 W
6,550.0	6.75	257.83	6,541.6	-26.0	-123.6	394,078.50	788,684.49	32° 4' 48.033 N	103° 24' 4.626 W
6,575.0	6.83	258.72	6,566.5	-26.6	-126.5	394,077.90	788,681.59	32° 4' 48.027 N	103° 24' 4.659 W
6,600.0	6.81	258.30	6,591.3	-27.2	-129.4	394,077.31	788,678.68	32° 4' 48.021 N	103° 24' 4.693 W
6,625.0	6.65	257.82	6,616.1	-27.8	-132.3	394,076.70	788,675.82	32° 4' 48.016 N	103° 24' 4.726 W
6,650.0	6.58	256.86	6,641.0	-28.4	-135.1	394,076.07	788,673.01	32° 4' 48.010 N	103° 24' 4.759 W
6,675.0	6.41	255.63	6,665.8	-29.1	-137.8	394,075.40	788,670.26	32° 4' 48.003 N	103° 24' 4.791 W
6,700.0	6.56	255.50	6,690.6	-29.8	-140.6	394,074.70	788,667.53	32° 4' 47.997 N	103° 24' 4.823 W
6,725.0	6.50	256.07	6,715.5	-30.5	-143.3	394,074.00	788,664.77	32° 4' 47.990 N	103° 24' 4.855 W
6,750.0	6.36	255.16	6,740.3	-31.2	-146.0	394,073.30	788,662.06	32° 4' 47.983 N	103° 24' 4.887 W
6,775.0	6.24	254.15	6,765.2	-31.9	-148.7	394,072.58	788,659.41	32° 4' 47.976 N	103° 24' 4.918 W
6,800.0	6.28	255.16	6,790.0	-32.6	-151.3	394,071.85	788,656.79	32° 4' 47.969 N	103° 24' 4.948 W
6,825.0	6.21	255.45	6,814.9	-33.3	-153.9	394,071.16	788,654.15	32° 4' 47.963 N	103° 24' 4.979 W
6,850.0	6.27	254.73	6,839.7	-34.0	-156.6	394,070.47	788,651.53	32° 4' 47.956 N	103° 24' 5.009 W
6,875.0	6.28	254.75	6,864.6	-34.8	-159.2	394,069.75	788,648.89	32° 4' 47.949 N	103° 24' 5.040 W
6,900.0	6.32	254.97	6,889.4	-35.5	-161.9	394,069.03	788,646.24	32° 4' 47.942 N	103° 24' 5.071 W
6,925.0	6.72	256.05	6,914.3	-36.2	-164.6	394,068.32	788,643.50	32° 4' 47.936 N	103° 24' 5.103 W
6,950.0	7.08	256.75	6,939.1	-36.9	-167.5	394,067.61	788,640.58	32° 4' 47.929 N	103° 24' 5.137 W
6,975.0	7.11	256.81	6,963.9	-37.6	-170.5	394,066.91	788,637.57	32° 4' 47.922 N	103° 24' 5.172 W
7,000.0	7.17	256.39	6,988.7	-38.3	-173.5	394,066.19	788,634.55	32° 4' 47.915 N	103° 24' 5.207 W
7,025.0	7.15	256.74	7,013.5	-39.0	-176.6	394,065.46	788,631.52	32° 4' 47.908 N	103° 24' 5.242 W
7,050.0	7.04	256.58	7,038.3	-39.7	-179.6	394,064.75	788,628.51	32° 4' 47.902 N	103° 24' 5.277 W
7,075.0	6.78	256.45	7,063.1	-40.4	-182.5	394,064.05	788,625.59	32° 4' 47.895 N	103° 24' 5.311 W
7,100.0	6.69	256.09	7,087.9	-41.1	-185.4	394,063.35	788,622.74	32° 4' 47.888 N	103° 24' 5.345 W
7,125.0	6.64	256.05	7,112.8	-41.8	-188.2	394,062.66	788,619.92	32° 4' 47.882 N	103° 24' 5.377 W
7,150.0	6.64	255.87	7,137.6	-42.5	-191.0	394,061.95	788,617.12	32° 4' 47.875 N	103° 24' 5.410 W
7,175.0	6.53	255.81	7,162.4	-43.2	-193.8	394,061.25	788,614.34	32° 4' 47.868 N	103° 24' 5.443 W
7,200.0	6.21	256.89	7,187.3	-43.9	-196.5	394,060.60	788,611.64	32° 4' 47.862 N	103° 24' 5.474 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well: SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
7,225.0	5.93	256.90	7,212.2	-44.5	-199.0	394,060.00	788,609.07	32° 4' 47.856 N	103° 24' 5.504 W	
7,250.0	5.77	257.17	7,237.0	-45.1	-201.5	394,059.43	788,606.59	32° 4' 47.851 N	103° 24' 5.533 W	
7,275.0	5.60	257.39	7,261.9	-45.6	-203.9	394,058.88	788,604.17	32° 4' 47.846 N	103° 24' 5.561 W	
7,300.0	5.63	255.55	7,286.8	-46.2	-206.3	394,058.31	788,601.79	32° 4' 47.840 N	103° 24' 5.589 W	
7,325.0	5.47	256.13	7,311.7	-46.8	-208.6	394,057.72	788,599.45	32° 4' 47.834 N	103° 24' 5.616 W	
7,350.0	5.41	255.36	7,336.6	-47.4	-210.9	394,057.13	788,597.15	32° 4' 47.829 N	103° 24' 5.643 W	
7,375.0	5.47	254.80	7,361.4	-48.0	-213.2	394,056.52	788,594.86	32° 4' 47.823 N	103° 24' 5.669 W	
7,400.0	5.36	253.26	7,386.3	-48.6	-215.5	394,055.88	788,592.59	32° 4' 47.817 N	103° 24' 5.696 W	
7,425.0	5.42	252.73	7,411.2	-49.3	-217.8	394,055.19	788,590.35	32° 4' 47.810 N	103° 24' 5.722 W	
7,450.0	5.49	252.65	7,436.1	-50.0	-220.0	394,054.48	788,588.08	32° 4' 47.803 N	103° 24' 5.748 W	
7,475.0	5.50	251.71	7,461.0	-50.8	-222.3	394,053.75	788,585.80	32° 4' 47.796 N	103° 24' 5.775 W	
7,500.0	5.33	251.29	7,485.9	-51.5	-224.5	394,053.00	788,583.56	32° 4' 47.789 N	103° 24' 5.801 W	
7,525.0	5.33	251.40	7,510.8	-52.2	-226.7	394,052.26	788,581.36	32° 4' 47.782 N	103° 24' 5.827 W	
7,550.0	5.27	251.83	7,535.7	-53.0	-228.9	394,051.53	788,579.17	32° 4' 47.775 N	103° 24' 5.852 W	
7,575.0	5.32	251.75	7,560.6	-53.7	-231.1	394,050.81	788,576.98	32° 4' 47.768 N	103° 24' 5.878 W	
7,600.0	5.35	251.90	7,585.4	-54.4	-233.3	394,050.08	788,574.77	32° 4' 47.761 N	103° 24' 5.903 W	
7,625.0	5.56	251.60	7,610.3	-55.2	-235.6	394,049.34	788,572.51	32° 4' 47.754 N	103° 24' 5.930 W	
7,650.0	5.43	253.33	7,635.2	-55.9	-237.9	394,048.62	788,570.23	32° 4' 47.747 N	103° 24' 5.956 W	
7,675.0	5.37	251.88	7,660.1	-56.6	-240.1	394,047.91	788,567.99	32° 4' 47.740 N	103° 24' 5.983 W	
7,700.0	5.61	252.23	7,685.0	-57.3	-242.4	394,047.18	788,565.71	32° 4' 47.733 N	103° 24' 6.009 W	
7,725.0	5.59	253.03	7,709.9	-58.0	-244.7	394,046.45	788,563.38	32° 4' 47.726 N	103° 24' 6.036 W	
7,750.0	5.57	253.33	7,734.8	-58.8	-247.0	394,045.75	788,561.06	32° 4' 47.719 N	103° 24' 6.063 W	
7,775.0	5.59	251.99	7,759.6	-59.5	-249.4	394,045.02	788,558.74	32° 4' 47.712 N	103° 24' 6.090 W	
7,800.0	5.61	253.24	7,784.5	-60.2	-251.7	394,044.29	788,556.41	32° 4' 47.705 N	103° 24' 6.117 W	
7,825.0	5.48	254.51	7,809.4	-60.9	-254.0	394,043.62	788,554.09	32° 4' 47.699 N	103° 24' 6.145 W	
7,850.0	5.46	254.39	7,834.3	-61.5	-256.3	394,042.98	788,551.79	32° 4' 47.693 N	103° 24' 6.171 W	
7,875.0	5.43	253.38	7,859.2	-62.2	-258.6	394,042.32	788,549.51	32° 4' 47.686 N	103° 24' 6.198 W	
7,900.0	5.24	254.67	7,884.1	-62.8	-260.8	394,041.68	788,547.28	32° 4' 47.680 N	103° 24' 6.224 W	
7,925.0	4.93	254.05	7,909.0	-63.4	-263.0	394,041.09	788,545.14	32° 4' 47.674 N	103° 24' 6.249 W	
7,950.0	4.78	254.27	7,933.9	-64.0	-265.0	394,040.51	788,543.11	32° 4' 47.669 N	103° 24' 6.272 W	
7,975.0	4.50	254.36	7,958.8	-64.5	-266.9	394,039.96	788,541.16	32° 4' 47.664 N	103° 24' 6.295 W	
8,000.0	4.22	253.95	7,983.7	-65.1	-268.8	394,039.44	788,539.33	32° 4' 47.659 N	103° 24' 6.316 W	
8,025.0	3.91	253.48	8,008.7	-65.6	-270.5	394,038.95	788,537.63	32° 4' 47.654 N	103° 24' 6.336 W	
8,050.0	3.92	252.63	8,033.6	-66.0	-272.1	394,038.45	788,536.00	32° 4' 47.649 N	103° 24' 6.355 W	
8,075.0	4.35	251.51	8,058.5	-66.6	-273.8	394,037.89	788,534.28	32° 4' 47.644 N	103° 24' 6.375 W	
8,100.0	4.77	251.72	8,083.5	-67.2	-275.7	394,037.27	788,532.40	32° 4' 47.638 N	103° 24' 6.397 W	
8,125.0	4.70	252.33	8,108.4	-67.9	-277.7	394,036.63	788,530.43	32° 4' 47.632 N	103° 24' 6.420 W	
8,150.0	4.70	251.57	8,133.3	-68.5	-279.6	394,036.00	788,528.49	32° 4' 47.626 N	103° 24' 6.443 W	
8,175.0	4.56	252.55	8,158.2	-69.1	-281.5	394,035.37	788,526.57	32° 4' 47.620 N	103° 24' 6.465 W	
8,200.0	4.47	252.69	8,183.1	-69.7	-283.4	394,034.79	788,524.69	32° 4' 47.614 N	103° 24' 6.487 W	
8,225.0	4.33	253.87	8,208.1	-70.3	-285.2	394,034.23	788,522.85	32° 4' 47.609 N	103° 24' 6.508 W	
8,250.0	4.37	254.35	8,233.0	-70.8	-287.1	394,033.71	788,521.03	32° 4' 47.604 N	103° 24' 6.530 W	
8,275.0	4.64	254.55	8,257.9	-71.3	-289.0	394,033.19	788,519.14	32° 4' 47.599 N	103° 24' 6.552 W	
8,300.0	4.61	254.38	8,282.8	-71.9	-290.9	394,032.65	788,517.19	32° 4' 47.593 N	103° 24' 6.574 W	
8,325.0	4.69	255.54	8,307.7	-72.4	-292.9	394,032.12	788,515.24	32° 4' 47.588 N	103° 24' 6.597 W	
8,350.0	4.60	253.39	8,332.7	-72.9	-294.8	394,031.58	788,513.29	32° 4' 47.583 N	103° 24' 6.620 W	
8,375.0	4.63	255.59	8,357.6	-73.5	-296.7	394,031.04	788,511.35	32° 4' 47.578 N	103° 24' 6.642 W	
8,400.0	4.61	254.21	8,382.5	-74.0	-298.7	394,030.52	788,509.41	32° 4' 47.573 N	103° 24' 6.665 W	
8,425.0	4.76	255.03	8,407.4	-74.5	-300.7	394,029.98	788,507.44	32° 4' 47.568 N	103° 24' 6.688 W	
8,450.0	4.80	254.83	8,432.3	-75.1	-302.7	394,029.44	788,505.42	32° 4' 47.563 N	103° 24' 6.711 W	
8,475.0	5.11	253.16	8,457.2	-75.7	-304.7	394,028.84	788,503.35	32° 4' 47.557 N	103° 24' 6.736 W	
8,500.0	5.19	252.43	8,482.1	-76.3	-306.9	394,028.18	788,501.21	32° 4' 47.550 N	103° 24' 6.761 W	
8,525.0	5.23	252.46	8,507.0	-77.0	-309.1	394,027.49	788,499.04	32° 4' 47.544 N	103° 24' 6.786 W	
8,550.0	5.67	251.79	8,531.9	-77.7	-311.3	394,026.76	788,496.78	32° 4' 47.537 N	103° 24' 6.812 W	
8,575.0	5.91	250.83	8,556.8	-78.5	-313.7	394,025.95	788,494.39	32° 4' 47.529 N	103° 24' 6.840 W	

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY-8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY-8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	*N/S (usft)	*E/W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,600.0	5.98	250.91	8,581.7	-79.4	-316.2	394,025.10	788,491.95	32° 4' 47.521 N	103° 24' 6.869 W
8,625.0	5.95	250.80	8,606.5	-80.2	-318.6	394,024.25	788,489.49	32° 4' 47.513 N	103° 24' 6.897 W
8,650.0	6.02	250.71	8,631.4	-81.1	-321.1	394,023.39	788,487.03	32° 4' 47.504 N	103° 24' 6.926 W
8,675.0	6.01	250.79	8,656.2	-82.0	-323.5	394,022.53	788,484.56	32° 4' 47.496 N	103° 24' 6.955 W
8,700.0	6.06	250.73	8,681.1	-82.8	-326.0	394,021.66	788,482.08	32° 4' 47.488 N	103° 24' 6.984 W
8,725.0	6.18	251.37	8,706.0	-83.7	-328.5	394,020.80	788,479.56	32° 4' 47.479 N	103° 24' 7.013 W
8,750.0	6.63	253.42	8,730.8	-84.5	-331.2	394,019.96	788,476.90	32° 4' 47.471 N	103° 24' 7.044 W
8,775.0	6.76	253.64	8,755.6	-85.4	-334.0	394,019.13	788,474.10	32° 4' 47.463 N	103° 24' 7.077 W
8,800.0	6.76	253.35	8,780.5	-86.2	-336.8	394,018.29	788,471.28	32° 4' 47.455 N	103° 24' 7.109 W
8,825.0	6.65	253.31	8,805.3	-87.0	-339.6	394,017.46	788,468.48	32° 4' 47.447 N	103° 24' 7.142 W
8,850.0	6.59	253.67	8,830.1	-87.9	-342.4	394,016.64	788,465.72	32° 4' 47.439 N	103° 24' 7.174 W
8,875.0	6.35	253.26	8,855.0	-88.7	-345.1	394,015.84	788,463.02	32° 4' 47.432 N	103° 24' 7.206 W
8,900.0	6.20	253.71	8,879.8	-89.4	-347.7	394,015.06	788,460.40	32° 4' 47.424 N	103° 24' 7.236 W
8,925.0	6.02	253.04	8,904.7	-90.2	-350.2	394,014.30	788,457.85	32° 4' 47.417 N	103° 24' 7.266 W
8,950.0	5.91	253.32	8,929.5	-91.0	-352.7	394,013.55	788,455.36	32° 4' 47.410 N	103° 24' 7.295 W
8,975.0	5.84	253.63	8,954.4	-91.7	-355.2	394,012.82	788,452.91	32° 4' 47.403 N	103° 24' 7.323 W
9,000.0	5.83	252.97	8,979.3	-92.4	-357.6	394,012.09	788,450.48	32° 4' 47.396 N	103° 24' 7.352 W
9,025.0	5.83	253.23	9,004.1	-93.1	-360.1	394,011.35	788,448.05	32° 4' 47.389 N	103° 24' 7.380 W
9,050.0	5.90	253.65	9,029.0	-93.9	-362.5	394,010.62	788,445.60	32° 4' 47.382 N	103° 24' 7.409 W
9,075.0	6.04	253.51	9,053.9	-94.6	-365.0	394,009.89	788,443.10	32° 4' 47.374 N	103° 24' 7.438 W
9,100.0	5.99	253.35	9,078.7	-95.4	-367.5	394,009.14	788,440.59	32° 4' 47.367 N	103° 24' 7.467 W
9,125.0	6.00	253.28	9,103.6	-96.1	-370.0	394,008.39	788,438.09	32° 4' 47.360 N	103° 24' 7.496 W
9,150.0	6.03	253.34	9,128.5	-96.9	-372.5	394,007.64	788,435.58	32° 4' 47.353 N	103° 24' 7.525 W
9,175.0	6.12	253.32	9,153.3	-97.6	-375.0	394,006.88	788,433.05	32° 4' 47.346 N	103° 24' 7.555 W
9,200.0	6.12	253.41	9,178.2	-98.4	-377.6	394,006.12	788,430.49	32° 4' 47.338 N	103° 24' 7.585 W
9,225.0	6.67	253.32	9,203.0	-99.2	-380.3	394,005.32	788,427.83	32° 4' 47.331 N	103° 24' 7.616 W
9,250.0	6.84	253.32	9,227.9	-100.0	-383.1	394,004.47	788,425.01	32° 4' 47.322 N	103° 24' 7.649 W
9,275.0	6.97	253.94	9,252.7	-100.9	-386.0	394,003.63	788,422.13	32° 4' 47.314 N	103° 24' 7.682 W
9,300.0	6.78	253.36	9,277.5	-101.7	-388.8	394,002.78	788,419.25	32° 4' 47.306 N	103° 24' 7.716 W
9,325.0	6.52	253.76	9,302.3	-102.5	-391.6	394,001.97	788,416.48	32° 4' 47.298 N	103° 24' 7.748 W
9,350.0	6.37	254.60	9,327.2	-103.3	-394.3	394,001.20	788,413.78	32° 4' 47.291 N	103° 24' 7.779 W
9,375.0	6.17	254.49	9,352.0	-104.0	-397.0	394,000.47	788,411.15	32° 4' 47.284 N	103° 24' 7.810 W
9,400.0	5.98	254.38	9,376.9	-104.7	-399.5	393,999.76	788,408.60	32° 4' 47.277 N	103° 24' 7.840 W
9,425.0	5.76	253.96	9,401.8	-105.4	-402.0	393,999.07	788,406.14	32° 4' 47.271 N	103° 24' 7.868 W
9,450.0	5.61	253.80	9,426.6	-106.1	-404.3	393,998.38	788,403.76	32° 4' 47.264 N	103° 24' 7.896 W
9,475.0	5.42	253.47	9,451.5	-106.8	-406.6	393,997.70	788,401.45	32° 4' 47.257 N	103° 24' 7.923 W
9,500.0	5.26	252.43	9,476.4	-107.5	-408.9	393,997.02	788,399.23	32° 4' 47.251 N	103° 24' 7.949 W
9,525.0	5.11	251.65	9,501.3	-108.2	-411.0	393,996.32	788,397.08	32° 4' 47.244 N	103° 24' 7.974 W
9,550.0	5.00	250.97	9,526.2	-108.9	-413.1	393,995.62	788,394.99	32° 4' 47.237 N	103° 24' 7.998 W
9,575.0	5.18	250.85	9,551.1	-109.6	-415.2	393,994.89	788,392.90	32° 4' 47.230 N	103° 24' 8.023 W
9,600.0	5.84	252.08	9,576.0	-110.4	-417.5	393,994.13	788,390.62	32° 4' 47.223 N	103° 24' 8.049 W
9,625.0	6.35	252.34	9,600.8	-111.2	-420.0	393,993.32	788,388.09	32° 4' 47.215 N	103° 24' 8.079 W
9,650.0	6.32	252.62	9,625.7	-112.0	-422.6	393,992.49	788,385.46	32° 4' 47.207 N	103° 24' 8.109 W
9,675.0	6.31	252.38	9,650.5	-112.8	-425.3	393,991.66	788,382.84	32° 4' 47.199 N	103° 24' 8.140 W
9,700.0	6.38	252.34	9,675.4	-113.7	-427.9	393,990.82	788,380.21	32° 4' 47.191 N	103° 24' 8.171 W
9,725.0	6.44	252.73	9,700.2	-114.5	-430.6	393,989.99	788,377.54	32° 4' 47.183 N	103° 24' 8.202 W
9,750.0	6.40	253.05	9,725.1	-115.3	-433.2	393,989.16	788,374.87	32° 4' 47.175 N	103° 24' 8.233 W
9,775.0	6.20	252.46	9,749.9	-116.1	-435.8	393,988.35	788,372.25	32° 4' 47.167 N	103° 24' 8.263 W
9,800.0	6.20	253.07	9,774.8	-116.9	-438.4	393,987.55	788,369.67	32° 4' 47.160 N	103° 24' 8.293 W
9,825.0	6.14	253.64	9,799.6	-117.7	-441.0	393,986.78	788,367.10	32° 4' 47.152 N	103° 24' 8.323 W
9,850.0	6.10	254.26	9,824.5	-118.5	-443.6	393,986.04	788,364.54	32° 4' 47.145 N	103° 24' 8.353 W
9,875.0	6.13	254.18	9,849.4	-119.2	-446.1	393,985.32	788,361.98	32° 4' 47.138 N	103° 24' 8.383 W
9,900.0	5.97	254.77	9,874.2	-119.9	-448.7	393,984.62	788,359.44	32° 4' 47.132 N	103° 24' 8.413 W
9,925.0	5.91	254.91	9,899.1	-120.6	-451.2	393,983.94	788,356.94	32° 4' 47.125 N	103° 24' 8.442 W
9,950.0	5.87	254.84	9,923.9	-121.2	-453.6	393,983.27	788,354.46	32° 4' 47.119 N	103° 24' 8.471 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED.COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED.COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,975.0	5.78	255.04	9,948.8	-121.9	-456.1	393,982.61	788,352.01	32° 4' 47.112 N	103° 24' 8.499 W
10,000.0	5.68	255.59	9,973.7	-122.5	-458.5	393,981.98	788,349.60	32° 4' 47.106 N	103° 24' 8.527 W
10,025.0	5.65	255.83	9,998.6	-123.1	-460.9	393,981.37	788,347.21	32° 4' 47.100 N	103° 24' 8.555 W
10,050.0	5.52	255.82	10,023.5	-123.7	-463.2	393,980.77	788,344.85	32° 4' 47.095 N	103° 24' 8.583 W
10,075.0	5.43	255.54	10,048.3	-124.3	-465.6	393,980.18	788,342.54	32° 4' 47.089 N	103° 24' 8.609 W
10,100.0	5.32	255.70	10,073.2	-124.9	-467.8	393,979.60	788,340.27	32° 4' 47.084 N	103° 24' 8.636 W
10,125.0	5.22	255.43	10,098.1	-125.5	-470.1	393,979.03	788,338.05	32° 4' 47.078 N	103° 24' 8.662 W
10,150.0	5.13	255.51	10,123.0	-126.0	-472.2	393,978.46	788,335.86	32° 4' 47.073 N	103° 24' 8.687 W
10,175.0	4.94	255.38	10,147.9	-126.6	-474.4	393,977.91	788,333.74	32° 4' 47.067 N	103° 24' 8.712 W
10,200.0	4.83	256.82	10,172.8	-127.1	-476.4	393,977.40	788,331.67	32° 4' 47.063 N	103° 24' 8.736 W
10,225.0	4.68	257.42	10,197.7	-127.6	-478.4	393,976.94	788,329.65	32° 4' 47.058 N	103° 24' 8.759 W
10,250.0	4.70	259.22	10,222.7	-128.0	-480.4	393,976.52	788,327.65	32° 4' 47.054 N	103° 24' 8.783 W
10,275.0	4.67	258.81	10,247.6	-128.4	-482.5	393,976.13	788,325.65	32° 4' 47.051 N	103° 24' 8.806 W
10,300.0	4.42	258.76	10,272.5	-128.7	-484.4	393,975.75	788,323.70	32° 4' 47.047 N	103° 24' 8.829 W
10,325.0	4.14	260.31	10,297.4	-129.1	-486.2	393,975.41	788,321.87	32° 4' 47.044 N	103° 24' 8.850 W
10,350.0	4.27	260.64	10,322.4	-129.4	-488.0	393,975.11	788,320.06	32° 4' 47.041 N	103° 24' 8.871 W
10,375.0	3.87	261.06	10,347.3	-129.7	-489.8	393,974.82	788,318.31	32° 4' 47.038 N	103° 24' 8.892 W
10,400.0	3.78	263.25	10,372.2	-129.9	-491.4	393,974.60	788,316.66	32° 4' 47.036 N	103° 24' 8.911 W
10,425.0	3.71	261.28	10,397.2	-130.1	-493.1	393,974.38	788,315.04	32° 4' 47.034 N	103° 24' 8.930 W
10,450.0	3.55	261.73	10,422.1	-130.4	-494.6	393,974.14	788,313.47	32° 4' 47.032 N	103° 24' 8.948 W
10,475.0	3.48	263.47	10,447.1	-130.6	-496.1	393,973.94	788,311.95	32° 4' 47.030 N	103° 24' 8.965 W
10,500.0	3.26	261.61	10,472.0	-130.7	-497.6	393,973.75	788,310.50	32° 4' 47.028 N	103° 24' 8.982 W
10,525.0	3.32	262.67	10,497.0	-130.9	-499.0	393,973.56	788,309.08	32° 4' 47.026 N	103° 24' 8.999 W
10,550.0	3.16	261.97	10,522.0	-131.1	-500.4	393,973.37	788,307.68	32° 4' 47.025 N	103° 24' 9.015 W
10,575.0	3.16	262.21	10,546.9	-131.3	-501.8	393,973.18	788,306.31	32° 4' 47.023 N	103° 24' 9.031 W
10,600.0	3.13	264.43	10,571.9	-131.5	-503.1	393,973.02	788,304.95	32° 4' 47.021 N	103° 24' 9.047 W
10,625.0	3.19	261.29	10,596.9	-131.6	-504.5	393,972.85	788,303.58	32° 4' 47.020 N	103° 24' 9.063 W
10,650.0	4.07	255.01	10,621.8	-132.0	-506.1	393,972.51	788,302.04	32° 4' 47.017 N	103° 24' 9.081 W
10,675.0	5.47	248.13	10,646.7	-132.7	-508.0	393,971.84	788,300.07	32° 4' 47.010 N	103° 24' 9.104 W
10,700.0	5.75	247.75	10,671.6	-133.6	-510.3	393,970.92	788,297.81	32° 4' 47.001 N	103° 24' 9.130 W
10,725.0	5.85	247.86	10,696.5	-134.5	-512.6	393,969.97	788,295.47	32° 4' 46.992 N	103° 24' 9.157 W
10,750.0	5.82	247.66	10,721.3	-135.5	-515.0	393,969.01	788,293.12	32° 4' 46.983 N	103° 24' 9.185 W
10,775.0	5.81	247.96	10,746.2	-136.4	-517.3	393,968.05	788,290.77	32° 4' 46.974 N	103° 24' 9.212 W
10,800.0	5.82	248.51	10,771.1	-137.4	-519.7	393,967.11	788,288.42	32° 4' 46.964 N	103° 24' 9.240 W
10,825.0	6.04	247.86	10,795.9	-138.3	-522.1	393,966.15	788,286.02	32° 4' 46.955 N	103° 24' 9.268 W
10,850.0	6.77	249.11	10,820.8	-139.4	-524.7	393,965.13	788,283.43	32° 4' 46.945 N	103° 24' 9.298 W
10,875.0	7.00	249.50	10,845.6	-140.4	-527.5	393,964.07	788,280.62	32° 4' 46.935 N	103° 24' 9.331 W
10,900.0	7.08	249.69	10,870.4	-141.5	-530.3	393,963.00	788,277.75	32° 4' 46.925 N	103° 24' 9.364 W
10,925.0	6.97	249.60	10,895.2	-142.6	-533.2	393,961.94	788,274.89	32° 4' 46.914 N	103° 24' 9.397 W
10,950.0	6.68	249.65	10,920.1	-143.6	-536.0	393,960.90	788,272.10	32° 4' 46.904 N	103° 24' 9.430 W
10,975.0	6.62	249.26	10,944.9	-144.6	-538.7	393,959.89	788,269.39	32° 4' 46.895 N	103° 24' 9.462 W
11,000.0	6.53	250.11	10,969.7	-145.6	-541.4	393,958.89	788,266.70	32° 4' 46.885 N	103° 24' 9.493 W
11,025.0	6.42	249.87	10,994.6	-146.6	-544.0	393,957.93	788,264.06	32° 4' 46.876 N	103° 24' 9.524 W
11,050.0	6.30	251.04	11,019.4	-147.5	-546.7	393,957.00	788,261.45	32° 4' 46.867 N	103° 24' 9.554 W
11,075.0	6.17	252.78	11,044.3	-148.3	-549.2	393,956.16	788,258.87	32° 4' 46.859 N	103° 24' 9.584 W
11,100.0	5.98	252.64	11,069.1	-149.1	-551.8	393,955.37	788,256.34	32° 4' 46.851 N	103° 24' 9.614 W
11,125.0	5.72	253.37	11,094.0	-149.9	-554.2	393,954.63	788,253.90	32° 4' 46.844 N	103° 24' 9.642 W
11,150.0	5.46	255.57	11,118.9	-150.5	-556.5	393,953.98	788,251.56	32° 4' 46.838 N	103° 24' 9.669 W
11,175.0	5.39	254.56	11,143.8	-151.1	-558.8	393,953.37	788,249.27	32° 4' 46.832 N	103° 24' 9.696 W
11,200.0	5.33	255.08	11,168.7	-151.7	-561.1	393,952.76	788,247.02	32° 4' 46.826 N	103° 24' 9.722 W
11,225.0	5.43	255.21	11,193.5	-152.3	-563.3	393,952.15	788,244.75	32° 4' 46.820 N	103° 24' 9.749 W
11,250.0	5.52	255.23	11,218.4	-153.0	-565.7	393,951.55	788,242.45	32° 4' 46.814 N	103° 24' 9.776 W
11,275.0	5.62	254.90	11,243.3	-153.6	-568.0	393,950.92	788,240.10	32° 4' 46.808 N	103° 24' 9.803 W
11,300.0	5.89	254.34	11,268.2	-154.2	-570.4	393,950.26	788,237.69	32° 4' 46.802 N	103° 24' 9.831 W
11,325.0	6.05	252.34	11,293.1	-155.0	-572.9	393,949.51	788,235.20	32° 4' 46.795 N	103° 24' 9.860 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
11,350.0	6.25	250.67	11,317.9	-155.8	-575.4	393,948.66	788,232.66	32° 4' 46.787 N	103° 24' 9.890 W	
11,375.0	6.40	250.12	11,342.8	-156.8	-578.0	393,947.73	788,230.06	32° 4' 46.778 N	103° 24' 9.920 W	
11,400.0	6.49	249.56	11,367.6	-157.7	-580.7	393,946.77	788,227.43	32° 4' 46.768 N	103° 24' 9.951 W	
11,425.0	6.48	250.19	11,392.4	-158.7	-583.3	393,945.80	788,224.78	32° 4' 46.759 N	103° 24' 9.981 W	
11,450.0	6.37	250.15	11,417.3	-159.7	-586.0	393,944.85	788,222.14	32° 4' 46.750 N	103° 24' 10.012 W	
11,475.0	6.30	250.69	11,442.1	-160.6	-588.6	393,943.92	788,219.55	32° 4' 46.741 N	103° 24' 10.042 W	
11,500.0	6.21	252.17	11,467.0	-161.4	-591.1	393,943.05	788,216.96	32° 4' 46.732 N	103° 24' 10.073 W	
11,525.0	6.15	253.19	11,491.8	-162.2	-593.7	393,942.25	788,214.39	32° 4' 46.725 N	103° 24' 10.102 W	
11,550.0	6.14	252.00	11,516.7	-163.0	-596.3	393,941.45	788,211.84	32° 4' 46.717 N	103° 24' 10.132 W	
11,575.0	5.74	250.73	11,541.6	-163.9	-598.7	393,940.63	788,209.39	32° 4' 46.709 N	103° 24' 10.161 W	
11,600.0	5.47	251.78	11,566.4	-164.7	-601.0	393,939.84	788,207.08	32° 4' 46.702 N	103° 24' 10.188 W	
11,625.0	5.49	251.07	11,591.3	-165.4	-603.3	393,939.08	788,204.81	32° 4' 46.694 N	103° 24' 10.214 W	
11,650.0	5.55	249.06	11,616.2	-166.2	-605.5	393,938.26	788,202.55	32° 4' 46.686 N	103° 24' 10.240 W	
11,675.0	5.52	249.95	11,641.1	-167.1	-607.8	393,937.42	788,200.30	32° 4' 46.678 N	103° 24' 10.267 W	
11,700.0	5.36	249.20	11,666.0	-167.9	-610.0	393,936.59	788,198.07	32° 4' 46.670 N	103° 24' 10.293 W	
11,707.0	5.32	248.99	11,672.9	-168.1	-610.6	393,936.36	788,197.47	32° 4' 46.668 N	103° 24' 10.300 W	
11,866.0	4.71	253.80	11,831.3	-172.6	-623.8	393,931.89	788,184.32	32° 4' 46.625 N	103° 24' 10.453 W	
11,960.0	3.29	268.89	11,925.1	-173.7	-630.2	393,930.77	788,177.91	32° 4' 46.614 N	103° 24' 10.528 W	
11,992.0	3.00	277.24	11,957.1	-173.6	-631.9	393,930.85	788,176.16	32° 4' 46.615 N	103° 24' 10.548 W	
12,023.0	3.18	286.72	11,988.0	-173.3	-633.6	393,931.20	788,174.54	32° 4' 46.619 N	103° 24' 10.567 W	
12,055.0	3.29	290.49	12,020.0	-172.7	-635.3	393,931.78	788,172.83	32° 4' 46.625 N	103° 24' 10.587 W	
12,086.0	3.24	291.57	12,050.9	-172.1	-636.9	393,932.41	788,171.18	32° 4' 46.631 N	103° 24' 10.606 W	
12,118.0	3.37	291.17	12,082.9	-171.4	-638.6	393,933.08	788,169.46	32° 4' 46.638 N	103° 24' 10.626 W	
12,149.0	3.20	291.62	12,113.8	-170.8	-640.3	393,933.73	788,167.81	32° 4' 46.644 N	103° 24' 10.645 W	
12,177.0	11.40	312.10	12,141.6	-168.6	-643.1	393,935.88	788,165.02	32° 4' 46.666 N	103° 24' 10.677 W	
12,208.0	15.38	316.96	12,171.7	-163.6	-648.2	393,940.94	788,159.94	32° 4' 46.716 N	103° 24' 10.735 W	
12,240.0	18.25	319.82	12,202.3	-156.6	-654.3	393,947.87	788,153.81	32° 4' 46.786 N	103° 24' 10.806 W	
12,271.0	22.98	326.35	12,231.4	-147.9	-660.8	393,956.62	788,147.32	32° 4' 46.873 N	103° 24' 10.881 W	
12,302.0	27.10	330.94	12,259.4	-136.7	-667.6	393,967.84	788,140.53	32° 4' 46.984 N	103° 24' 10.958 W	
12,334.0	31.03	336.09	12,287.4	-122.7	-674.5	393,981.76	788,133.65	32° 4' 47.123 N	103° 24' 11.037 W	
12,365.0	32.89	342.69	12,313.7	-107.4	-680.2	393,997.10	788,127.90	32° 4' 47.275 N	103° 24' 11.102 W	
12,396.0	34.82	347.92	12,339.5	-90.7	-684.6	394,013.80	788,123.54	32° 4' 47.440 N	103° 24' 11.151 W	
12,428.0	36.80	350.71	12,365.4	-72.3	-688.0	394,032.19	788,120.08	32° 4' 47.623 N	103° 24' 11.189 W	
12,459.0	38.35	352.51	12,390.0	-53.6	-690.8	394,050.89	788,117.33	32° 4' 47.808 N	103° 24' 11.220 W	
12,491.0	38.69	355.75	12,415.0	-33.8	-692.8	394,070.71	788,115.30	32° 4' 48.004 N	103° 24' 11.241 W	
12,522.0	39.72	0.88	12,439.1	-14.2	-693.4	394,090.29	788,114.73	32° 4' 48.198 N	103° 24' 11.246 W	
12,554.0	41.05	4.98	12,463.4	6.5	-692.3	394,110.98	788,115.80	32° 4' 48.403 N	103° 24' 11.231 W	
12,585.0	42.47	7.60	12,486.6	27.0	-690.0	394,131.50	788,118.07	32° 4' 48.606 N	103° 24' 11.203 W	
12,617.0	45.44	7.25	12,509.6	49.0	-687.2	394,153.52	788,120.93	32° 4' 48.823 N	103° 24' 11.167 W	
12,648.0	48.44	7.25	12,530.8	71.5	-684.3	394,175.99	788,123.79	32° 4' 49.045 N	103° 24' 11.132 W	
12,679.0	53.48	7.84	12,550.3	95.3	-681.1	394,199.85	788,126.96	32° 4' 49.281 N	103° 24' 11.093 W	
12,711.0	56.16	8.17	12,568.7	121.2	-677.5	394,225.75	788,130.60	32° 4' 49.537 N	103° 24' 11.048 W	
12,742.0	60.85	9.59	12,584.9	147.4	-673.4	394,251.85	788,134.69	32° 4' 49.795 N	103° 24' 10.998 W	
12,773.0	63.68	9.78	12,599.3	174.4	-668.8	394,278.90	788,139.30	32° 4' 50.062 N	103° 24' 10.941 W	
12,805.0	67.83	9.39	12,612.5	203.2	-663.9	394,307.66	788,144.16	32° 4' 50.347 N	103° 24' 10.882 W	
12,836.0	70.96	7.44	12,623.4	231.9	-659.7	394,336.36	788,148.40	32° 4' 50.630 N	103° 24' 10.830 W	
12,868.0	73.55	5.05	12,633.1	262.2	-656.4	394,366.65	788,151.71	32° 4' 50.930 N	103° 24' 10.788 W	
12,899.0	77.68	3.60	12,640.8	292.1	-654.1	394,396.59	788,153.97	32° 4' 51.226 N	103° 24' 10.759 W	
12,931.0	80.39	4.32	12,646.9	323.4	-652.0	394,427.93	788,156.14	32° 4' 51.536 N	103° 24' 10.731 W	
12,962.0	82.76	4.64	12,651.5	354.0	-649.6	394,458.50	788,158.54	32° 4' 51.838 N	103° 24' 10.700 W	
12,993.0	84.39	4.42	12,654.9	384.7	-647.1	394,489.20	788,160.97	32° 4' 52.142 N	103° 24' 10.669 W	
13,088.0	89.39	3.80	12,660.1	479.3	-640.3	394,583.79	788,167.76	32° 4' 53.077 N	103° 24' 10.580 W	
13,182.0	91.23	3.54	12,659.6	573.1	-634.3	394,677.59	788,173.78	32° 4' 54.005 N	103° 24' 10.501 W	
13,277.0	87.62	356.95	12,660.5	668.0	-633.9	394,772.52	788,174.19	32° 4' 54.944 N	103° 24' 10.486 W	
13,371.0	90.45	359.25	12,662.1	761.9	-637.0	394,866.44	788,171.07	32° 4' 55.874 N	103° 24' 10.513 W	

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,467.0	88.60	356.49	12,662.9	857.9	-640.6	394,962.35	788,167.51	32° 4' 56.823 N	103° 24' 10.545 W
13,562.0	90.48	357.98	12,663.7	952.7	-645.2	395,057.23	788,162.93	32° 4' 57.762 N	103° 24' 10.589 W
13,657.0	90.92	359.81	12,662.5	1,047.7	-647.0	395,152.20	788,161.09	32° 4' 58.702 N	103° 24' 10.601 W
13,751.0	88.74	358.62	12,662.8	1,141.7	-648.3	395,246.19	788,159.81	32° 4' 59.632 N	103° 24' 10.606 W
13,846.0	91.17	1.22	12,662.9	1,236.7	-648.4	395,341.17	788,159.67	32° 5' 0.572 N	103° 24' 10.598 W
13,941.0	93.39	2.10	12,659.1	1,331.6	-645.7	395,436.05	788,162.42	32° 5' 1.511 N	103° 24' 10.557 W
14,037.0	94.23	2.67	12,652.7	1,427.3	-641.7	395,531.75	788,166.41	32° 5' 2.457 N	103° 24' 10.501 W
14,133.0	93.55	3.14	12,646.2	1,522.9	-636.8	395,627.41	788,171.26	32° 5' 3.404 N	103° 24' 10.435 W
14,229.0	91.51	0.22	12,641.9	1,618.8	-634.0	395,723.26	788,174.07	32° 5' 4.352 N	103° 24' 10.393 W
14,324.0	88.71	356.93	12,641.8	1,713.7	-636.4	395,818.21	788,171.71	32° 5' 5.292 N	103° 24' 10.410 W
14,420.0	94.20	3.06	12,639.3	1,809.6	-636.4	395,914.09	788,171.69	32° 5' 6.240 N	103° 24' 10.401 W
14,515.0	86.70	356.83	12,638.6	1,904.5	-636.5	396,008.98	788,171.60	32° 5' 7.179 N	103° 24' 10.393 W
14,611.0	86.11	355.81	12,644.6	2,000.1	-642.6	396,104.59	788,165.45	32° 5' 8.126 N	103° 24' 10.454 W
14,707.0	84.68	356.35	12,652.3	2,095.6	-649.2	396,200.05	788,158.91	32° 5' 9.071 N	103° 24' 10.521 W
14,803.0	85.12	359.13	12,660.8	2,191.1	-653.0	396,295.59	788,155.14	32° 5' 10.017 N	103° 24' 10.555 W
14,898.0	86.55	359.63	12,667.7	2,285.8	-654.0	396,390.33	788,154.12	32° 5' 10.954 N	103° 24' 10.558 W
14,994.0	90.11	359.93	12,670.5	2,381.8	-654.4	396,486.27	788,153.75	32° 5' 11.904 N	103° 24' 10.552 W
15,090.0	92.04	358.10	12,668.7	2,477.7	-656.0	396,582.23	788,152.10	32° 5' 12.853 N	103° 24' 10.562 W
15,186.0	92.27	355.46	12,665.1	2,573.5	-661.4	396,678.00	788,146.71	32° 5' 13.802 N	103° 24' 10.615 W
15,282.0	92.29	351.82	12,661.3	2,668.8	-672.0	396,773.32	788,136.09	32° 5' 14.746 N	103° 24' 10.729 W
15,378.0	92.32	351.62	12,657.4	2,763.7	-685.8	396,868.24	788,122.27	32° 5' 15.686 N	103° 24' 10.880 W
15,475.0	90.76	351.88	12,654.8	2,859.7	-699.7	396,964.20	788,108.36	32° 5' 16.637 N	103° 24' 11.032 W
15,571.0	93.45	357.17	12,651.3	2,955.2	-708.9	397,059.66	788,099.21	32° 5' 17.582 N	103° 24' 11.129 W
15,667.0	91.74	353.98	12,647.0	3,050.8	-716.3	397,155.26	788,091.81	32° 5' 18.529 N	103° 24' 11.205 W
15,692.0	91.77	351.66	12,646.2	3,075.5	-719.4	397,180.05	788,088.68	32° 5' 18.774 N	103° 24' 11.239 W
15,788.0	89.89	356.40	12,644.8	3,171.0	-729.4	397,275.48	788,078.70	32° 5' 19.720 N	103° 24' 11.345 W
15,883.0	90.19	357.93	12,644.7	3,265.9	-734.1	397,370.36	788,074.01	32° 5' 20.659 N	103° 24' 11.390 W
15,979.0	91.43	3.14	12,643.4	3,361.8	-733.2	397,466.32	788,074.90	32° 5' 21.608 N	103° 24' 11.370 W
16,074.0	90.28	1.97	12,642.0	3,456.7	-729.0	397,561.21	788,079.13	32° 5' 22.547 N	103° 24' 11.312 W
16,170.0	90.67	359.45	12,641.2	3,552.7	-727.8	397,657.19	788,080.32	32° 5' 23.497 N	103° 24' 11.288 W
16,266.0	87.68	358.85	12,642.5	3,648.7	-729.2	397,753.16	788,078.90	32° 5' 24.446 N	103° 24' 11.295 W
16,362.0	90.14	2.35	12,644.4	3,744.6	-728.2	397,849.11	788,079.91	32° 5' 25.396 N	103° 24' 11.274 W
16,457.0	91.37	4.03	12,643.1	3,839.5	-722.9	397,943.95	788,085.19	32° 5' 26.334 N	103° 24' 11.203 W
16,553.0	92.86	5.13	12,639.6	3,935.1	-715.2	398,039.58	788,092.85	32° 5' 27.279 N	103° 24' 11.104 W
16,648.0	89.83	3.85	12,637.3	4,029.7	-707.8	398,134.25	788,100.29	32° 5' 28.215 N	103° 24' 11.008 W
16,744.0	91.71	4.13	12,636.1	4,125.5	-701.1	398,230.00	788,106.96	32° 5' 29.162 N	103° 24' 10.921 W
16,840.0	91.20	1.59	12,633.6	4,221.3	-696.3	398,325.84	788,111.75	32° 5' 30.110 N	103° 24' 10.856 W
16,936.0	92.52	2.07	12,630.5	4,317.2	-693.3	398,421.74	788,114.82	32° 5' 31.059 N	103° 24' 10.811 W
17,031.0	90.84	0.82	12,627.7	4,412.2	-690.9	398,516.66	788,117.21	32° 5' 31.998 N	103° 24' 10.773 W
17,127.0	90.81	3.00	12,626.3	4,508.1	-687.7	398,612.59	788,120.41	32° 5' 32.947 N	103° 24' 10.727 W
17,223.0	89.55	0.50	12,626.0	4,604.0	-684.8	398,708.54	788,123.34	32° 5' 33.896 N	103° 24' 10.683 W
17,318.0	90.92	1.31	12,625.6	4,699.0	-683.3	398,803.52	788,124.84	32° 5' 34.836 N	103° 24' 10.656 W
17,414.0	89.80	359.28	12,625.0	4,795.0	-682.8	398,899.51	788,125.33	32° 5' 35.786 N	103° 24' 10.640 W
17,510.0	91.59	0.01	12,623.9	4,891.0	-683.4	398,995.50	788,124.74	32° 5' 36.736 N	103° 24' 10.638 W
17,606.0	90.06	0.02	12,622.5	4,987.0	-683.3	399,091.49	788,124.76	32° 5' 37.686 N	103° 24' 10.628 W
17,701.0	87.90	359.96	12,624.2	5,082.0	-683.3	399,186.47	788,124.75	32° 5' 38.625 N	103° 24' 10.619 W
17,797.0	88.96	357.97	12,626.8	5,177.9	-685.1	399,282.41	788,123.01	32° 5' 39.575 N	103° 24' 10.629 W
17,893.0	89.05	355.96	12,628.5	5,273.8	-690.2	399,378.25	788,117.93	32° 5' 40.524 N	103° 24' 10.679 W
17,989.0	88.49	355.82	12,630.5	5,369.5	-697.0	399,473.99	788,111.05	32° 5' 41.472 N	103° 24' 10.749 W
18,084.0	90.06	357.14	12,631.7	5,464.3	-702.9	399,568.79	788,105.22	32° 5' 42.410 N	103° 24' 10.807 W
18,180.0	90.84	358.99	12,631.0	5,560.2	-706.1	399,664.73	788,101.98	32° 5' 43.360 N	103° 24' 10.835 W
18,276.0	89.02	358.29	12,631.1	5,656.2	-708.4	399,760.70	788,099.70	32° 5' 44.310 N	103° 24' 10.852 W
18,372.0	87.65	0.22	12,633.9	5,752.1	-709.6	399,856.64	788,098.45	32° 5' 45.259 N	103° 24' 10.857 W
18,467.0	89.05	0.60	12,636.6	5,847.1	-709.0	399,951.60	788,099.13	32° 5' 46.199 N	103° 24' 10.840 W
18,563.0	90.39	359.36	12,637.1	5,943.1	-709.0	400,047.59	788,099.10	32° 5' 47.149 N	103° 24' 10.830 W

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SQUARE BILL FED COM #23H
Project:	LEA COUNTY, NM	TVD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Site:	BULLDOG	MD Reference:	RKB=3274.3+26 @ 3300.3usft (MCVAY 8)
Well:	SQUARE BILL FED COM #23H	North Reference:	Grid
Wellbore:	ST01	Survey Calculation Method:	Minimum Curvature
Design:	ST01 - ACTUAL WELLPATH	Database:	EDM_Users

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
18,659.0	89.30	358.85	12,637.4	6,039.1	-710.5	400,143.58	788,097.60	32° 5' 48.099 N	103° 24' 10.838 W
18,755.0	89.86	1.32	12,638.1	6,135.1	-710.4	400,239.57	788,097.74	32° 5' 49.048 N	103° 24' 10.827 W
18,850.0	86.70	357.44	12,640.9	6,230.0	-711.4	400,334.49	788,096.72	32° 5' 49.988 N	103° 24' 10.829 W
19,035.0	87.84	2.54	12,649.7	6,414.7	-711.4	400,519.22	788,096.69	32° 5' 51.816 N	103° 24' 10.811 W
19,131.0	88.69	1.35	12,652.6	6,510.6	-708.2	400,615.11	788,099.95	32° 5' 52.764 N	103° 24' 10.764 W
19,227.0	89.44	358.17	12,654.2	6,606.6	-708.6	400,711.09	788,099.54	32° 5' 53.714 N	103° 24' 10.759 W
19,323.0	93.05	359.02	12,652.1	6,702.5	-710.9	400,807.02	788,097.19	32° 5' 54.664 N	103° 24' 10.776 W
19,419.0	95.24	0.43	12,645.2	6,798.3	-711.4	400,902.76	788,096.73	32° 5' 55.611 N	103° 24' 10.772 W
19,514.0	96.65	3.66	12,635.3	6,892.7	-708.0	400,997.17	788,100.10	32° 5' 56.545 N	103° 24' 10.723 W
19,610.0	96.43	5.96	12,624.4	6,987.7	-700.0	401,092.21	788,108.10	32° 5' 57.485 N	103° 24' 10.621 W
19,705.0	95.66	9.13	12,614.4	7,081.3	-687.6	401,185.85	788,120.50	32° 5' 58.410 N	103° 24' 10.467 W
19,801.0	89.52	4.94	12,610.1	7,176.5	-675.9	401,280.96	788,132.23	32° 5' 59.350 N	103° 24' 10.321 W
19,897.0	91.34	358.47	12,609.3	7,272.4	-673.0	401,376.86	788,135.08	32° 6' 0.299 N	103° 24' 10.279 W
19,993.0	91.99	357.66	12,606.6	7,368.3	-676.3	401,472.76	788,131.84	32° 6' 1.248 N	103° 24' 10.307 W
20,056.0	91.15	355.80	12,604.8	7,431.1	-679.8	401,535.63	788,128.25	32° 6' 1.871 N	103° 24' 10.342 W
20,110.0	91.15	355.80	12,603.7	7,485.0	-683.8	401,589.48	788,124.30	32° 6' 2.404 N	103° 24' 10.383 W

Checked By: _____	Approved By: _____	Date: _____
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COG

SURVEY REPORT

SQUARE BILL FEDERAL COM #23H

MC VAY #8

11/15/2017

This survey is correct to the best of my knowledge and is supported by actual field data.

Kolton Cotton

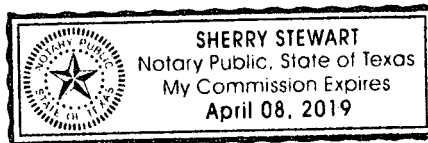
Notarized this date 9 of February, 2018.

Sherry Stewart

Notary Signature

County of Midland

State of Texas



The Ultimate Partner In Wellbore Placement

SURVEY REPORT

SQUARE BILL FEDERAL COM #23H

COMPUTED KEEPER GYRO WIRELINE SURVEY

CUSTOMER
PROJECT
FIELD

COG
Square Bill Federal Com #23H
Square Bill Federal Com #23H

SDI JOB NO.
SDI DISTRICT
SDI KIT/UNIT

OP.005791
Midland

SITE INFORMATION

Site Name
Lat/Long
Northing
Easting

Square Bill Federal Com #23H
32.080204° N, 103.401348° W
394,162.2 ft
829,995.5 ft

Section
Township
Range

MAP INFORMATION

North Reference
Grid Correction
System
Datum
Map Zone

Grid North
-0.50 deg
US State Plane 1983
North American Datum 1983 (GRS 1980)
New Mexico East: 3001

**WELL INFORMATION**

Lat/Long
Northing
Easting
UWI

32.080204° N, 103.401348° W
394,162.2 ft
829,995.5 ft
30-025-4404800

DEPTH AND ELEVATION REFERENCE

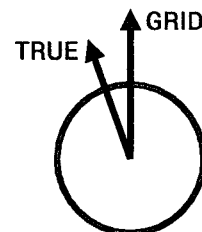
Ground Level
Level
Reference Datum
Reference Height
Reference Elevation

3274.3 ft above Mean Sea
Level
RKB
26 ft above G.L.
3300.3 ft

VERTICAL SECTION REFERENCE

+N/-S
+E/-W
Proposal Direction
Calculation Method

0 ft
0 ft
354.67°
Minimum Curvature

**LOCAL GRAVITY REFERENCE INFORMATION**

Local Gravity
True to Grid

998.501 mG [computed]
subtract 0.5°

WELL NOTES

Keeper Gyro Wireline Survey in 4 1/2 IF

OPERATORS

Nathan Yerby

SDI Operator Name (Printed)

SIGNATURE

DATE

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	1.13	323.50	99.99	0.84	0.79	-0.59	1.13	0.99	323.50
125.00	1.16	318.04	124.99	1.26	1.18	-0.90	0.45	1.48	322.57
150.00	1.23	317.13	149.98	1.67	1.56	-1.25	0.29	2.00	321.27
175.00	1.24	324.80	174.98	2.12	1.98	-1.59	0.66	2.54	321.21
200.00	1.24	323.03	199.97	2.59	2.42	-1.91	0.15	3.08	321.69
225.00	1.26	321.67	224.97	3.05	2.85	-2.24	0.15	3.63	321.79
250.00	1.23	325.02	249.96	3.51	3.29	-2.57	0.32	4.17	321.99
275.00	1.27	321.64	274.95	3.98	3.72	-2.89	0.34	4.72	322.14
300.00	1.32	320.17	299.95	4.45	4.16	-3.25	0.22	5.28	322.00
325.00	1.31	322.14	324.94	4.92	4.61	-3.61	0.18	5.85	321.92
350.00	1.27	324.72	349.93	5.40	5.06	-3.95	0.30	6.42	322.05
375.00	1.24	322.56	374.93	5.87	5.50	-4.27	0.23	6.96	322.18
400.00	1.15	328.91	399.92	6.33	5.93	-4.56	0.63	7.48	322.42
425.00	1.14	328.89	424.92	6.78	6.36	-4.82	0.04	7.98	322.82
450.00	1.12	325.31	449.91	7.21	6.77	-5.09	0.30	8.47	323.07
475.00	1.17	328.58	474.91	7.65	7.19	-5.36	0.34	8.97	323.29
500.00	1.18	329.04	499.90	8.12	7.63	-5.62	0.04	9.48	323.59
525.00	1.24	328.38	524.90	8.59	8.08	-5.90	0.26	10.00	323.86
550.00	1.11	329.40	549.89	9.05	8.51	-6.16	0.53	10.51	324.10
575.00	1.04	329.95	574.89	9.48	8.92	-6.40	0.26	10.98	324.34
600.00	1.05	328.08	599.88	9.89	9.31	-6.64	0.14	11.43	324.52
625.00	1.04	330.27	624.88	10.30	9.70	-6.87	0.17	11.89	324.70
650.00	0.93	333.07	649.88	10.70	10.08	-7.07	0.47	12.32	324.94
675.00	0.99	329.02	674.87	11.08	10.45	-7.28	0.36	12.73	325.14
700.00	1.02	332.29	699.87	11.48	10.83	-7.49	0.25	13.17	325.32
725.00	1.00	336.33	724.86	11.89	11.23	-7.68	0.30	13.60	325.61
750.00	0.98	337.80	749.86	12.30	11.62	-7.85	0.12	14.03	325.96
775.00	1.02	335.41	774.86	12.72	12.02	-8.03	0.24	14.46	326.28
800.00	0.97	333.57	799.85	13.13	12.42	-8.21	0.25	14.89	326.52
825.00	0.94	341.82	824.85	13.52	12.80	-8.37	0.56	15.30	326.82
850.00	0.86	344.32	849.85	13.91	13.18	-8.49	0.38	15.67	327.22

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
875.00	0.77	335.03	874.84	14.25	13.51	-8.61	0.64	16.02	327.50
900.00	0.70	335.61	899.84	14.55	13.80	-8.74	0.30	16.34	327.65
925.00	0.61	340.49	924.84	14.82	14.06	-8.85	0.42	16.62	327.83
950.00	0.53	328.42	949.84	15.06	14.29	-8.95	0.57	16.86	327.93
975.00	0.44	329.43	974.84	15.25	14.47	-9.06	0.36	17.07	327.94
1000.00	0.40	355.05	999.84	15.42	14.64	-9.12	0.76	17.24	328.08
1025.00	0.34	323.03	1024.84	15.57	14.78	-9.17	0.84	17.39	328.19
1050.00	0.31	326.64	1049.84	15.69	14.90	-9.25	0.14	17.53	328.16
1075.00	0.27	333.36	1074.84	15.80	15.00	-9.31	0.21	17.66	328.17
1100.00	0.30	307.38	1099.84	15.90	15.10	-9.39	0.52	17.78	328.12
1125.00	0.34	303.91	1124.84	15.99	15.18	-9.50	0.18	17.91	327.94
1150.00	0.31	322.14	1149.84	16.10	15.27	-9.61	0.43	18.04	327.83
1175.00	0.34	320.14	1174.83	16.21	15.38	-9.70	0.14	18.18	327.77
1200.00	0.36	309.59	1199.83	16.33	15.49	-9.80	0.27	18.33	327.67
1225.00	0.40	307.84	1224.83	16.45	15.59	-9.93	0.17	18.49	327.50
1250.00	0.45	314.03	1249.83	16.58	15.71	-10.07	0.26	18.66	327.34
1275.00	0.46	324.96	1274.83	16.74	15.86	-10.20	0.35	18.86	327.26
1300.00	0.31	320.58	1299.83	16.88	16.00	-10.30	0.64	19.02	327.22
1325.00	0.33	339.17	1324.83	17.01	16.11	-10.37	0.42	19.16	327.25
1350.00	0.26	331.88	1349.83	17.13	16.23	-10.42	0.29	19.29	327.30
1375.00	0.21	329.54	1374.83	17.22	16.32	-10.47	0.23	19.39	327.32
1400.00	0.24	303.53	1399.83	17.30	16.39	-10.54	0.41	19.48	327.27
1425.00	0.13	337.04	1424.83	17.36	16.44	-10.59	0.58	19.56	327.22
1450.00	0.11	309.64	1449.83	17.40	16.49	-10.62	0.24	19.61	327.21
1475.00	0.05	341.71	1474.83	17.43	16.51	-10.64	0.29	19.64	327.20
1500.00	0.11	277.19	1499.83	17.45	16.53	-10.67	0.41	19.67	327.15
1525.00	0.07	249.16	1524.83	17.45	16.52	-10.71	0.24	19.69	327.05
1550.00	0.20	248.47	1549.83	17.43	16.50	-10.77	0.52	19.70	326.88
1575.00	0.27	248.99	1574.83	17.40	16.46	-10.86	0.25	19.73	326.59
1600.00	0.34	256.30	1599.83	17.38	16.43	-10.99	0.35	19.76	326.22
1625.00	0.27	267.04	1624.83	17.37	16.41	-11.12	0.37	19.82	325.86
1650.00	0.27	266.23	1649.83	17.37	16.40	-11.24	0.02	19.88	325.57

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
1675.00	0.19	270.40	1674.83	17.38	16.39	-11.34	0.34	19.93	325.33
1700.00	0.13	265.71	1699.83	17.38	16.39	-11.41	0.25	19.97	325.17
1725.00	0.22	231.60	1724.83	17.36	16.36	-11.47	0.56	19.98	324.96
1750.00	0.13	222.66	1749.83	17.31	16.31	-11.53	0.39	19.97	324.74
1775.00	0.26	223.56	1774.83	17.25	16.25	-11.59	0.52	19.96	324.50
1800.00	0.29	227.25	1799.83	17.18	16.16	-11.67	0.13	19.94	324.16
1825.00	0.36	245.46	1824.83	17.11	16.09	-11.79	0.49	19.95	323.76
1850.00	0.18	257.14	1849.83	17.08	16.05	-11.90	0.75	19.98	323.44
1875.00	0.21	252.30	1874.83	17.07	16.02	-11.98	0.16	20.01	323.21
1900.00	0.23	230.34	1899.83	17.03	15.98	-12.06	0.34	20.02	322.95
1925.00	0.35	229.41	1924.83	16.96	15.90	-12.16	0.51	20.01	322.59
1950.00	0.27	246.58	1949.83	16.90	15.82	-12.27	0.50	20.03	322.20
1975.00	0.22	248.53	1974.83	16.86	15.78	-12.37	0.20	20.05	321.91
2000.00	0.16	287.00	1999.83	16.86	15.78	-12.45	0.55	20.10	321.72
2025.00	0.11	260.27	2024.83	16.88	15.78	-12.51	0.32	20.14	321.60
2050.00	0.15	225.67	2049.83	16.85	15.75	-12.56	0.35	20.15	321.44
2075.00	0.11	205.36	2074.83	16.81	15.71	-12.59	0.25	20.13	321.29
2100.00	0.15	250.72	2099.83	16.78	15.68	-12.63	0.43	20.13	321.14
2125.00	0.10	317.75	2124.83	16.79	15.68	-12.68	0.58	20.17	321.05
2150.00	0.06	343.60	2149.83	16.82	15.71	-12.70	0.21	20.20	321.06
2175.00	0.01	221.81	2174.83	16.84	15.72	-12.70	0.28	20.21	321.07
2200.00	0.07	201.30	2199.83	16.82	15.71	-12.71	0.26	20.21	321.02
2225.00	0.11	281.60	2224.83	16.81	15.70	-12.74	0.47	20.22	320.94
2250.00	0.10	337.59	2249.83	16.84	15.72	-12.77	0.38	20.25	320.92
2275.00	0.07	19.18	2274.83	16.87	15.76	-12.77	0.26	20.28	320.97
2300.00	0.18	45.47	2299.83	16.91	15.80	-12.74	0.51	20.29	321.12
2325.00	0.19	47.45	2324.83	16.96	15.85	-12.68	0.04	20.30	321.35
2350.00	0.24	70.58	2349.83	17.00	15.90	-12.60	0.41	20.29	321.61
2375.00	0.15	55.13	2374.83	17.03	15.94	-12.52	0.44	20.27	321.84
2400.00	0.23	59.28	2399.83	17.07	15.98	-12.45	0.32	20.26	322.07
2425.00	0.24	64.53	2424.82	17.11	16.03	-12.36	0.10	20.24	322.36
2450.00	0.31	74.73	2449.82	17.14	16.07	-12.25	0.35	20.20	322.68

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
2475.00	0.31	73.78	2474.82	17.16	16.11	-12.12	0.02	20.15	323.04
2500.00	0.31	80.49	2499.82	17.18	16.14	-11.98	0.15	20.10	323.40
2525.00	0.36	67.00	2524.82	17.21	16.18	-11.85	0.37	20.05	323.79
2550.00	0.48	67.46	2549.82	17.26	16.25	-11.68	0.47	20.01	324.30
2575.00	0.59	57.94	2574.82	17.35	16.36	-11.47	0.55	19.98	324.96
2600.00	0.68	60.19	2599.82	17.47	16.50	-11.23	0.40	19.96	325.75
2625.00	0.67	61.13	2624.82	17.59	16.64	-10.98	0.07	19.94	326.60
2650.00	0.81	64.58	2649.82	17.71	16.79	-10.69	0.59	19.90	327.52
2675.00	1.00	72.87	2674.81	17.82	16.93	-10.32	0.93	19.83	328.64
2700.00	1.05	80.49	2699.81	17.88	17.03	-9.88	0.57	19.69	329.87
2725.00	1.14	78.40	2724.80	17.92	17.12	-9.41	0.41	19.54	331.19
2750.00	1.32	75.19	2749.80	18.00	17.24	-8.89	0.75	19.40	332.72
2775.00	1.56	79.65	2774.79	18.07	17.38	-8.28	1.06	19.25	334.52
2800.00	1.49	82.04	2799.78	18.12	17.48	-7.63	0.38	19.08	336.43
2825.00	1.42	78.25	2824.77	18.17	17.59	-7.00	0.48	18.93	338.29
2850.00	1.54	78.81	2849.77	18.24	17.72	-6.37	0.52	18.83	340.23
2875.00	1.55	80.91	2874.76	18.29	17.84	-5.70	0.23	18.73	342.27
2900.00	1.32	81.11	2899.75	18.33	17.94	-5.09	0.95	18.64	344.17
2925.00	0.83	72.16	2924.74	18.39	18.04	-4.63	2.04	18.62	345.61
2950.00	0.73	76.28	2949.74	18.45	18.13	-4.30	0.47	18.63	346.66
2975.00	0.55	76.83	2974.74	18.49	18.20	-4.03	0.71	18.64	347.52
3000.00	0.79	65.22	2999.74	18.57	18.30	-3.75	1.09	18.68	348.41
3025.00	0.75	72.07	3024.74	18.66	18.42	-3.44	0.40	18.74	349.42
3050.00	0.73	77.68	3049.73	18.71	18.50	-3.13	0.31	18.77	350.40
3075.00	0.77	67.05	3074.73	18.79	18.60	-2.82	0.58	18.82	351.39
3100.00	0.84	71.67	3099.73	18.88	18.73	-2.49	0.38	18.89	352.43
3125.00	0.90	76.53	3124.73	18.95	18.83	-2.12	0.37	18.95	353.57
3150.00	0.89	74.36	3149.72	19.01	18.93	-1.74	0.14	19.01	354.74
3175.00	1.05	79.77	3174.72	19.06	19.02	-1.33	0.73	19.07	356.00
3200.00	1.20	85.05	3199.72	19.08	19.09	-0.84	0.72	19.10	357.47
3225.00	1.01	87.20	3224.71	19.07	19.12	-0.36	0.77	19.12	358.91
3250.00	1.13	84.99	3249.71	19.06	19.15	0.10	0.52	19.15	0.31

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
3275.00	1.15	96.79	3274.70	19.00	19.14	0.60	0.94	19.15	1.79
3300.00	0.90	115.26	3299.70	18.85	19.03	1.03	1.65	19.06	3.09
3325.00	0.83	123.69	3324.69	18.64	18.84	1.36	0.57	18.89	4.11
3350.00	0.97	127.11	3349.69	18.38	18.62	1.68	0.56	18.69	5.14
3375.00	0.87	131.98	3374.69	18.10	18.36	1.98	0.50	18.47	6.16
3400.00	1.00	119.47	3399.68	17.84	18.13	2.31	0.97	18.28	7.27
3425.00	1.15	120.64	3424.68	17.57	17.90	2.72	0.61	18.10	8.64
3450.00	1.11	120.21	3449.68	17.28	17.65	3.14	0.17	17.92	10.10
3475.00	1.19	114.35	3474.67	17.01	17.42	3.59	0.57	17.78	11.64
3500.00	1.17	117.31	3499.67	16.74	17.19	4.05	0.25	17.66	13.26
3525.00	1.06	118.29	3524.66	16.48	16.97	4.48	0.44	17.55	14.80
3550.00	1.17	109.77	3549.66	16.24	16.77	4.93	0.78	17.48	16.38
3575.00	1.13	113.14	3574.65	16.01	16.59	5.39	0.30	17.44	18.02
3600.00	1.09	107.98	3599.65	15.80	16.42	5.85	0.43	17.43	19.61
3625.00	1.18	108.56	3624.64	15.60	16.26	6.32	0.34	17.44	21.24
3650.00	1.06	113.07	3649.64	15.39	16.09	6.77	0.60	17.46	22.83
3675.00	0.88	106.41	3674.63	15.21	15.94	7.17	0.85	17.48	24.21
3700.00	0.70	107.81	3699.63	15.08	15.84	7.50	0.71	17.53	25.32
3725.00	0.56	110.61	3724.63	14.97	15.75	7.76	0.58	17.56	26.21
3750.00	0.62	106.22	3749.63	14.86	15.67	8.00	0.31	17.60	27.04
3775.00	0.51	117.49	3774.63	14.75	15.58	8.23	0.63	17.62	27.83
3800.00	0.50	104.34	3799.63	14.66	15.51	8.43	0.46	17.65	28.53
3825.00	0.62	94.59	3824.62	14.60	15.47	8.67	0.59	17.73	29.27
3850.00	0.46	107.86	3849.62	14.53	15.43	8.90	0.80	17.81	29.98
3875.00	0.50	91.45	3874.62	14.48	15.39	9.11	0.58	17.89	30.61
3900.00	0.50	101.20	3899.62	14.44	15.37	9.32	0.34	17.98	31.24
3925.00	0.41	88.08	3924.62	14.40	15.35	9.52	0.57	18.06	31.81
3950.00	0.35	88.54	3949.62	14.39	15.36	9.69	0.22	18.16	32.24
3975.00	0.05	114.65	3974.62	14.38	15.35	9.77	1.24	18.20	32.47
4000.00	0.17	42.00	3999.62	14.40	15.38	9.81	0.66	18.24	32.52
4025.00	0.15	51.84	4024.62	14.44	15.43	9.86	0.13	18.31	32.58
4050.00	0.10	348.42	4049.62	14.48	15.47	9.88	0.56	18.35	32.57

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
4075.00	0.26	42.49	4074.62	14.54	15.53	9.91	0.89	18.43	32.55
4100.00	0.21	58.97	4099.62	14.60	15.60	9.99	0.35	18.52	32.65
4125.00	0.15	8.31	4124.62	14.65	15.65	10.04	0.65	18.59	32.67
4150.00	0.28	36.04	4149.62	14.73	15.73	10.08	0.64	18.68	32.64
4175.00	0.23	50.52	4174.62	14.80	15.82	10.15	0.32	18.79	32.69
4200.00	0.28	14.62	4199.62	14.89	15.91	10.20	0.65	18.90	32.68
4225.00	0.43	35.78	4224.62	15.02	16.04	10.28	0.80	19.05	32.64
4250.00	0.36	41.72	4249.62	15.14	16.18	10.38	0.31	19.22	32.69
4275.00	0.41	22.94	4274.62	15.28	16.32	10.47	0.54	19.39	32.69
4300.00	0.54	26.71	4299.62	15.46	16.51	10.56	0.53	19.60	32.61
4325.00	0.41	17.21	4324.62	15.64	16.70	10.64	0.61	19.80	32.50
4350.00	0.41	0.86	4349.61	15.81	16.87	10.67	0.46	19.96	32.30
4375.00	0.50	4.04	4374.61	16.00	17.07	10.68	0.40	20.13	32.02
4400.00	0.43	8.70	4399.61	16.20	17.27	10.70	0.34	20.32	31.77
4425.00	0.51	12.41	4424.61	16.40	17.47	10.74	0.36	20.51	31.57
4450.00	0.64	18.13	4449.61	16.64	17.72	10.80	0.57	20.75	31.38
4475.00	0.55	30.85	4474.61	16.86	17.95	10.91	0.65	21.01	31.28
4500.00	0.72	40.40	4499.61	17.07	18.18	11.07	0.80	21.28	31.35
4525.00	0.87	60.62	4524.61	17.26	18.39	11.34	1.27	21.60	31.66
4550.00	0.99	73.66	4549.60	17.38	18.54	11.71	0.97	21.93	32.28
4575.00	1.20	70.35	4574.60	17.48	18.69	12.17	0.87	22.30	33.06
4600.00	1.21	76.77	4599.59	17.58	18.84	12.67	0.54	22.71	33.92
4625.00	1.21	72.90	4624.59	17.67	18.98	13.18	0.33	23.11	34.78
4650.00	1.24	73.59	4649.58	17.78	19.13	13.69	0.14	23.53	35.59
4675.00	1.10	64.22	4674.58	17.91	19.31	14.17	0.94	23.95	36.26
4700.00	1.31	63.54	4699.57	18.10	19.55	14.64	0.82	24.42	36.84
4725.00	1.26	61.72	4724.56	18.31	19.80	15.14	0.26	24.93	37.40
4750.00	1.32	62.58	4749.56	18.53	20.07	15.63	0.24	25.44	37.93
4775.00	1.25	63.28	4774.55	18.73	20.32	16.13	0.29	25.95	38.45
4800.00	1.26	63.33	4799.55	18.93	20.57	16.62	0.06	26.44	38.94
4825.00	0.73	94.30	4824.54	19.01	20.68	17.02	2.95	26.78	39.47
4850.00	0.64	117.73	4849.54	18.90	20.60	17.31	1.16	26.90	40.04

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
4875.00	0.78	155.52	4874.54	18.67	20.38	17.50	1.92	26.86	40.66
4900.00	0.79	136.20	4899.54	18.37	20.10	17.69	1.06	26.78	41.35
4925.00	1.04	138.02	4924.53	18.05	19.81	17.96	1.01	26.74	42.21
4950.00	1.12	148.41	4949.53	17.65	19.43	18.24	0.85	26.65	43.20
4975.00	1.24	142.14	4974.52	17.20	19.00	18.54	0.70	26.55	44.29
5000.00	1.22	138.93	4999.52	16.76	18.59	18.88	0.29	26.50	45.44
5025.00	1.25	179.10	5024.51	16.27	18.12	19.06	3.40	26.30	46.45
5050.00	1.79	203.75	5049.50	15.65	17.48	18.91	3.35	25.75	47.24
5075.00	2.09	211.71	5074.49	14.95	16.74	18.51	1.59	24.96	47.87
5100.00	2.75	221.49	5099.47	14.18	15.90	17.87	3.11	23.93	48.34
5125.00	3.67	228.51	5124.43	13.29	14.93	16.88	3.99	22.53	48.51
5150.00	4.39	231.89	5149.37	12.30	13.81	15.53	3.04	20.78	48.36
5175.00	4.39	233.69	5174.29	11.29	12.65	14.00	0.55	18.87	47.91
5200.00	4.57	233.24	5199.22	10.28	11.49	12.44	0.74	16.93	47.27
5225.00	4.64	234.63	5224.14	9.26	10.31	10.81	0.52	14.94	46.38
5250.00	4.61	237.37	5249.05	8.29	9.18	9.15	0.89	12.96	44.89
5275.00	4.72	238.95	5273.97	7.38	8.11	7.42	0.69	10.99	42.45
5300.00	4.99	247.79	5298.88	6.62	7.17	5.53	3.18	9.05	37.65
5325.00	5.42	258.42	5323.78	6.18	6.52	3.37	4.21	7.34	27.31
5350.00	5.54	260.86	5348.66	5.97	6.09	1.02	1.06	6.17	9.48
5375.00	5.42	263.20	5373.55	5.86	5.76	-1.35	1.03	5.91	346.83
5400.00	5.31	262.95	5398.44	5.79	5.48	-3.67	0.44	6.59	326.18
5425.00	5.33	263.26	5423.33	5.73	5.20	-5.97	0.13	7.92	311.05
5450.00	5.22	264.27	5448.23	5.69	4.95	-8.25	0.57	9.62	300.95
5475.00	5.19	263.69	5473.12	5.67	4.71	-10.51	0.24	11.52	294.15
5500.00	5.15	264.01	5498.02	5.63	4.47	-12.75	0.19	13.51	289.32
5525.00	5.18	264.36	5522.92	5.62	4.24	-14.99	0.18	15.58	285.80
5550.00	5.21	263.31	5547.82	5.58	4.00	-17.24	0.40	17.70	283.06
5575.00	5.32	263.64	5572.71	5.53	3.74	-19.52	0.45	19.87	280.84
5600.00	6.40	258.79	5597.58	5.37	3.34	-22.04	4.73	22.29	278.61
5625.00	6.93	255.71	5622.41	4.99	2.70	-24.87	2.57	25.01	276.19
5650.00	7.06	255.12	5647.23	4.50	1.93	-27.81	0.59	27.88	273.97

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
5675.00	7.10	254.84	5672.04	3.98	1.13	-30.79	0.19	30.81	272.10
5700.00	7.07	254.87	5696.85	3.46	0.32	-33.77	0.10	33.77	270.55
5725.00	7.00	255.35	5721.66	2.95	-0.46	-36.72	0.38	36.73	269.28
5750.00	6.95	254.82	5746.47	2.44	-1.24	-39.66	0.33	39.68	268.20
5775.00	6.96	255.33	5771.29	1.94	-2.02	-42.58	0.25	42.63	267.28
5800.00	6.78	255.35	5796.11	1.46	-2.78	-45.47	0.72	45.56	266.50
5825.00	6.72	254.56	5820.94	0.96	-3.54	-48.31	0.43	48.44	265.81
5850.00	6.60	254.48	5845.77	0.45	-4.32	-51.11	0.47	51.29	265.17
5875.00	6.31	255.08	5870.61	-0.03	-5.06	-53.82	1.23	54.06	264.63
5900.00	6.22	254.79	5895.46	-0.50	-5.76	-56.45	0.37	56.75	264.17
5925.00	6.03	254.91	5920.32	-0.95	-6.46	-59.03	0.77	59.38	263.75
5950.00	6.02	254.22	5945.18	-1.41	-7.16	-61.55	0.29	61.97	263.37
5975.00	6.07	254.88	5970.04	-1.87	-7.86	-64.09	0.33	64.57	263.01
6000.00	6.04	254.32	5994.90	-2.33	-8.56	-66.63	0.26	67.18	262.68
6025.00	6.22	254.30	6019.76	-2.81	-9.28	-69.20	0.72	69.82	262.36
6050.00	6.17	254.25	6044.61	-3.30	-10.01	-71.80	0.21	72.50	262.06
6075.00	6.21	254.39	6069.47	-3.78	-10.74	-74.40	0.16	75.17	261.78
6100.00	6.12	254.91	6094.32	-4.25	-11.45	-76.98	0.41	77.83	261.54
6125.00	6.26	254.62	6119.18	-4.72	-12.16	-79.58	0.55	80.51	261.31
6150.00	6.21	253.54	6144.03	-5.21	-12.91	-82.19	0.51	83.20	261.08
6175.00	6.44	252.50	6168.88	-5.77	-13.71	-84.83	1.01	85.93	260.82
6200.00	6.42	250.57	6193.72	-6.41	-14.60	-87.48	0.87	88.69	260.58
6225.00	6.38	250.83	6218.56	-7.08	-15.52	-90.11	0.18	91.44	260.23
6250.00	6.42	250.73	6243.41	-7.75	-16.43	-92.74	0.15	94.19	259.95
6275.00	6.26	249.72	6268.25	-8.44	-17.37	-95.34	0.76	96.91	259.68
6300.00	6.05	248.88	6293.11	-9.15	-18.31	-97.85	0.92	99.54	259.40
6325.00	5.81	248.82	6317.98	-9.85	-19.25	-100.25	0.93	102.09	259.13
6350.00	5.69	249.78	6342.85	-10.51	-20.13	-102.60	0.63	104.56	258.90
6375.00	5.64	250.86	6367.73	-11.13	-20.96	-104.92	0.48	107.00	258.70
6400.00	5.76	249.70	6392.60	-11.74	-21.80	-107.26	0.67	109.45	258.51
6425.00	5.70	250.07	6417.48	-12.38	-22.66	-109.60	0.26	111.92	258.32
6450.00	6.27	255.05	6442.34	-12.92	-23.43	-112.09	3.06	114.51	258.19

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
6475.00	6.69	257.07	6467.18	-13.34	-24.11	-114.82	1.92	117.33	258.14
6500.00	6.88	258.00	6492.01	-13.71	-24.75	-117.71	0.88	120.28	258.13
6525.00	6.96	258.05	6516.83	-14.06	-25.37	-120.65	0.34	123.29	258.12
6550.00	6.75	257.83	6541.65	-14.41	-26.00	-123.57	0.85	126.28	258.12
6575.00	6.83	258.72	6566.47	-14.74	-26.60	-126.47	0.52	129.23	258.12
6600.00	6.81	258.30	6591.30	-15.05	-27.19	-129.38	0.21	132.20	258.13
6625.00	6.65	257.82	6616.12	-15.39	-27.80	-132.24	0.67	135.13	258.13
6650.00	6.58	256.86	6640.96	-15.76	-28.43	-135.05	0.52	138.01	258.11
6675.00	6.41	255.63	6665.80	-16.17	-29.10	-137.80	0.90	140.84	258.08
6700.00	6.56	255.50	6690.64	-16.62	-29.80	-140.53	0.62	143.66	258.03
6725.00	6.50	256.07	6715.47	-17.06	-30.50	-143.29	0.34	146.50	257.98
6750.00	6.36	255.16	6740.32	-17.50	-31.20	-146.00	0.71	149.30	257.94
6775.00	6.24	254.15	6765.17	-17.97	-31.92	-148.64	0.66	152.03	257.88
6800.00	6.28	255.16	6790.02	-18.45	-32.64	-151.27	0.48	154.75	257.82
6825.00	6.21	255.45	6814.87	-18.89	-33.33	-153.90	0.32	157.47	257.78
6850.00	6.27	254.73	6839.72	-19.34	-34.03	-156.53	0.39	160.18	257.73
6875.00	6.28	254.75	6864.57	-19.82	-34.75	-159.16	0.07	162.91	257.68
6900.00	6.32	254.97	6889.42	-20.28	-35.47	-161.81	0.18	165.65	257.64
6925.00	6.72	256.05	6914.26	-20.73	-36.18	-164.56	1.66	168.49	257.60
6950.00	7.08	256.75	6939.08	-21.17	-36.88	-167.48	1.49	171.49	257.58
6975.00	7.11	256.81	6963.89	-21.59	-37.59	-170.49	0.13	174.58	257.57
7000.00	7.17	256.39	6988.69	-22.03	-38.31	-173.51	0.30	177.69	257.55
7025.00	7.15	256.74	7013.50	-22.47	-39.03	-176.54	0.19	180.81	257.53
7050.00	7.04	256.58	7038.31	-22.90	-39.75	-179.55	0.44	183.89	257.52
7075.00	6.78	256.45	7063.12	-23.32	-40.45	-182.47	1.08	186.90	257.50
7100.00	6.69	256.09	7087.95	-23.75	-41.14	-185.32	0.37	189.83	257.48
7125.00	6.64	256.05	7112.78	-24.18	-41.84	-188.14	0.20	192.73	257.46
7150.00	6.64	255.87	7137.61	-24.62	-42.54	-190.94	0.08	195.63	257.44
7175.00	6.53	255.81	7162.45	-25.06	-43.25	-193.72	0.45	198.49	257.42
7200.00	6.21	256.89	7187.30	-25.47	-43.90	-196.42	1.35	201.26	257.40
7225.00	5.93	256.90	7212.15	-25.82	-44.50	-198.99	1.13	203.91	257.39
7250.00	5.77	257.17	7237.02	-26.16	-45.07	-201.48	0.66	206.46	257.39

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
7275.00	5.60	257.39	7261.90	-26.48	-45.62	-203.89	0.69	208.93	257.39
7300.00	5.63	255.55	7286.78	-26.83	-46.19	-206.27	0.73	211.38	257.38
7325.00	5.47	256.13	7311.67	-27.20	-46.78	-208.61	0.66	213.79	257.36
7350.00	5.41	255.36	7336.55	-27.57	-47.36	-210.91	0.37	216.16	257.34
7375.00	5.47	254.80	7361.44	-27.96	-47.97	-213.20	0.32	218.53	257.32
7400.00	5.36	253.26	7386.33	-28.40	-48.62	-215.47	0.72	220.89	257.28
7425.00	5.42	252.73	7411.22	-28.87	-49.31	-217.71	0.30	223.23	257.24
7450.00	5.49	252.65	7436.10	-29.37	-50.02	-219.98	0.29	225.60	257.19
7475.00	5.50	251.71	7460.99	-29.88	-50.75	-222.26	0.36	227.98	257.14
7500.00	5.33	251.29	7485.88	-30.42	-51.50	-224.50	0.72	230.33	257.08
7525.00	5.33	251.40	7510.77	-30.96	-52.24	-226.70	0.04	232.64	257.02
7550.00	5.27	251.83	7535.66	-31.48	-52.97	-228.89	0.29	234.94	256.97
7575.00	5.32	251.75	7560.56	-31.99	-53.69	-231.08	0.21	237.24	256.92
7600.00	5.35	251.90	7585.45	-32.51	-54.42	-233.29	0.11	239.56	256.87
7625.00	5.56	251.60	7610.33	-33.04	-55.16	-235.55	0.87	241.92	256.82
7650.00	5.43	253.33	7635.22	-33.55	-55.88	-237.83	0.84	244.31	256.78
7675.00	5.37	251.88	7660.11	-34.04	-56.59	-240.08	0.60	246.66	256.74
7700.00	5.61	252.23	7684.99	-34.56	-57.32	-242.35	0.97	249.04	256.69
7725.00	5.59	253.03	7709.87	-35.07	-58.05	-244.68	0.32	251.47	256.65
7750.00	5.57	253.33	7734.76	-35.55	-58.75	-247.01	0.16	253.90	256.62
7775.00	5.59	251.99	7759.64	-36.06	-59.48	-249.33	0.53	256.32	256.58
7800.00	5.61	253.24	7784.52	-36.57	-60.21	-251.65	0.50	258.76	256.55
7825.00	5.48	254.51	7809.40	-37.02	-60.88	-253.98	0.73	261.17	256.52
7850.00	5.46	254.39	7834.29	-37.45	-61.52	-256.27	0.07	263.55	256.50
7875.00	5.43	253.38	7859.17	-37.89	-62.18	-258.55	0.40	265.92	256.48
7900.00	5.24	254.67	7884.07	-38.32	-62.82	-260.79	0.91	268.25	256.46
7925.00	4.93	254.05	7908.97	-38.72	-63.41	-262.92	1.24	270.46	256.44
7950.00	4.78	254.27	7933.88	-39.10	-63.99	-264.96	0.64	272.57	256.42
7975.00	4.50	254.36	7958.80	-39.46	-64.54	-266.90	1.12	274.59	256.41
8000.00	4.22	253.95	7983.72	-39.81	-65.05	-268.73	1.10	276.49	256.39
8025.00	3.91	253.48	8008.66	-40.15	-65.55	-270.43	1.24	278.26	256.37
8050.00	3.92	252.63	8033.60	-40.49	-66.05	-272.07	0.23	279.97	256.35

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
8075.00	4.35	251.51	8058.54	-40.89	-66.61	-273.78	1.76	281.77	256.33
8100.00	4.77	251.72	8083.46	-41.33	-67.23	-275.67	1.66	283.75	256.29
8125.00	4.70	252.33	8108.37	-41.79	-67.87	-277.63	0.35	285.80	256.26
8150.00	4.70	251.57	8133.29	-42.24	-68.50	-279.58	0.25	287.85	256.23
8175.00	4.56	252.55	8158.21	-42.68	-69.12	-281.49	0.63	289.86	256.20
8200.00	4.47	252.69	8183.13	-43.09	-69.71	-283.37	0.35	291.82	256.18
8225.00	4.33	253.87	8208.06	-43.47	-70.26	-285.21	0.67	293.74	256.16
8250.00	4.37	254.35	8232.98	-43.82	-70.78	-287.03	0.23	295.63	256.15
8275.00	4.64	254.55	8257.91	-44.16	-71.31	-288.93	1.05	297.60	256.14
8300.00	4.61	254.38	8282.83	-44.52	-71.85	-290.87	0.14	299.61	256.12
8325.00	4.69	255.54	8307.74	-44.86	-72.38	-292.82	0.52	301.64	256.12
8350.00	4.60	253.39	8332.66	-45.22	-72.92	-294.78	0.79	303.66	256.11
8375.00	4.63	255.59	8357.58	-45.58	-73.46	-296.71	0.72	305.67	256.10
8400.00	4.61	254.21	8382.50	-45.92	-73.98	-298.66	0.45	307.68	256.09
8425.00	4.76	255.03	8407.42	-46.27	-74.52	-300.62	0.65	309.72	256.08
8450.00	4.80	254.83	8432.33	-46.63	-75.06	-302.63	0.20	311.80	256.07
8475.00	5.11	253.16	8457.24	-47.03	-75.66	-304.71	1.37	313.96	256.06
8500.00	5.19	252.43	8482.13	-47.49	-76.32	-306.86	0.40	316.20	256.03
8525.00	5.23	252.46	8507.03	-47.97	-77.01	-309.02	0.17	318.47	256.01
8550.00	5.67	251.79	8531.92	-48.49	-77.74	-311.28	1.77	320.84	255.98
8575.00	5.91	250.83	8556.79	-49.07	-78.55	-313.67	1.02	323.35	255.94
8600.00	5.98	250.91	8581.66	-49.69	-79.39	-316.11	0.30	325.93	255.90
8625.00	5.95	250.80	8606.52	-50.31	-80.25	-318.57	0.12	328.52	255.86
8650.00	6.02	250.71	8631.38	-50.93	-81.11	-321.03	0.28	331.12	255.82
8675.00	6.01	250.79	8656.25	-51.57	-81.97	-323.51	0.07	333.73	255.78
8700.00	6.06	250.73	8681.11	-52.20	-82.84	-325.99	0.19	336.35	255.74
8725.00	6.18	251.37	8705.97	-52.82	-83.70	-328.51	0.57	339.00	255.71
8750.00	6.63	253.42	8730.81	-53.42	-84.54	-331.17	2.03	341.79	255.68
8775.00	6.76	253.64	8755.64	-53.98	-85.37	-333.96	0.52	344.70	255.66
8800.00	6.76	253.35	8780.47	-54.55	-86.21	-336.78	0.14	347.64	255.64
8825.00	6.65	253.31	8805.29	-55.12	-87.04	-339.58	0.42	350.56	255.62
8850.00	6.59	253.67	8830.13	-55.68	-87.86	-342.34	0.31	353.44	255.61

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
8875.00	6.35	253.26	8854.97	-56.23	-88.66	-345.04	0.96	356.25	255.59
8900.00	6.20	253.71	8879.82	-56.76	-89.44	-347.66	0.65	358.98	255.57
8925.00	6.02	253.04	8904.68	-57.28	-90.20	-350.21	0.77	361.64	255.56
8950.00	5.91	253.32	8929.54	-57.80	-90.95	-352.70	0.43	364.24	255.54
8975.00	5.84	253.63	8954.41	-58.29	-91.68	-355.15	0.31	366.79	255.53
9000.00	5.83	252.97	8979.28	-58.80	-92.41	-357.59	0.27	369.33	255.51
9025.00	5.83	253.23	9004.15	-59.30	-93.15	-360.02	0.11	371.87	255.49
9050.00	5.90	253.65	9029.02	-59.80	-93.88	-362.47	0.32	374.43	255.48
9075.00	6.04	253.51	9053.88	-60.30	-94.61	-364.96	0.54	377.03	255.47
9100.00	5.99	253.35	9078.75	-60.81	-95.36	-367.47	0.19	379.64	255.45
9125.00	6.00	253.28	9103.61	-61.33	-96.11	-369.97	0.04	382.25	255.44
9150.00	6.03	253.34	9128.47	-61.84	-96.86	-372.48	0.12	384.87	255.42
9175.00	6.12	253.32	9153.33	-62.36	-97.62	-375.02	0.37	387.52	255.41
9200.00	6.12	253.41	9178.19	-62.89	-98.39	-377.57	0.04	390.18	255.39
9225.00	6.67	253.32	9203.03	-63.43	-99.18	-380.24	2.20	392.96	255.38
9250.00	6.84	253.32	9227.86	-64.01	-100.03	-383.06	0.69	395.90	255.37
9275.00	6.97	253.94	9252.68	-64.59	-100.87	-385.94	0.58	398.91	255.35
9300.00	6.78	253.36	9277.50	-65.16	-101.72	-388.81	0.81	401.90	255.34
9325.00	6.52	253.76	9302.33	-65.72	-102.53	-391.59	1.05	404.79	255.33
9350.00	6.37	254.60	9327.17	-66.23	-103.30	-394.29	0.70	407.60	255.32
9375.00	6.17	254.49	9352.02	-66.71	-104.03	-396.92	0.80	410.33	255.31
9400.00	5.98	254.38	9376.88	-67.18	-104.74	-399.47	0.78	412.97	255.31
9425.00	5.76	253.96	9401.75	-67.64	-105.43	-401.93	0.89	415.52	255.30
9450.00	5.61	253.80	9426.63	-68.11	-106.12	-404.30	0.59	418.00	255.29
9475.00	5.42	253.47	9451.51	-68.57	-106.80	-406.61	0.77	420.40	255.28
9500.00	5.26	252.43	9476.40	-69.04	-107.48	-408.84	0.76	422.73	255.27
9525.00	5.11	251.65	9501.30	-69.53	-108.18	-410.99	0.65	424.98	255.25
9550.00	5.00	250.97	9526.20	-70.04	-108.88	-413.07	0.52	427.18	255.23
9575.00	5.18	250.85	9551.11	-70.57	-109.61	-415.17	0.74	429.39	255.21
9600.00	5.84	252.08	9575.99	-71.12	-110.37	-417.45	2.66	431.79	255.19
9625.00	6.35	252.34	9600.85	-71.69	-111.18	-419.97	2.04	434.44	255.17
9650.00	6.32	252.62	9625.70	-72.27	-112.01	-422.60	0.18	437.19	255.16

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft	deg
9675.00	6.31	252.38	9650.55	-72.85	-112.84	-425.22	0.11	439.94	255.14
9700.00	6.38	252.34	9675.39	-73.44	-113.68	-427.86	0.29	442.70	255.12
9725.00	6.44	252.73	9700.24	-74.03	-114.51	-430.52	0.28	445.49	255.10
9750.00	6.40	253.05	9725.08	-74.60	-115.33	-433.19	0.22	448.28	255.09
9775.00	6.20	252.46	9749.93	-75.16	-116.15	-435.81	0.81	451.02	255.08
9800.00	6.20	253.07	9774.78	-75.72	-116.95	-438.39	0.26	453.72	255.06
9825.00	6.14	253.64	9799.64	-76.25	-117.72	-440.96	0.35	456.40	255.05
9850.00	6.10	254.26	9824.49	-76.74	-118.45	-443.52	0.29	459.07	255.05
9875.00	6.13	254.18	9849.35	-77.22	-119.18	-446.08	0.09	461.73	255.04
9900.00	5.97	254.77	9874.21	-77.69	-119.88	-448.62	0.67	464.36	255.04
9925.00	5.91	254.91	9899.08	-78.13	-120.56	-451.12	0.24	466.95	255.04
9950.00	5.87	254.84	9923.95	-78.57	-121.23	-453.60	0.15	469.52	255.04
9975.00	5.78	255.04	9948.82	-79.00	-121.89	-456.05	0.37	472.06	255.04
10000.00	5.68	255.59	9973.69	-79.40	-122.52	-458.46	0.47	474.55	255.04
10025.00	5.65	255.83	9998.57	-79.79	-123.13	-460.85	0.15	477.02	255.04
10050.00	5.52	255.82	10023.45	-80.16	-123.73	-463.21	0.52	479.45	255.05
10075.00	5.43	255.54	10048.34	-80.54	-124.32	-465.52	0.39	481.84	255.05
10100.00	5.32	255.70	10073.23	-80.90	-124.90	-467.79	0.41	484.18	255.05
10125.00	5.22	255.43	10098.12	-81.27	-125.47	-470.02	0.44	486.48	255.05
10150.00	5.13	255.51	10123.02	-81.63	-126.04	-472.20	0.35	488.73	255.06
10175.00	4.94	255.38	10147.92	-81.98	-126.59	-474.32	0.74	490.92	255.06
10200.00	4.83	256.82	10172.83	-82.30	-127.10	-476.39	0.68	493.05	255.06
10225.00	4.68	257.42	10197.75	-82.57	-127.56	-478.41	0.60	495.12	255.07
10250.00	4.70	259.22	10222.66	-82.80	-127.98	-480.41	0.59	497.16	255.08
10275.00	4.67	258.81	10247.58	-83.00	-128.36	-482.41	0.16	499.20	255.10
10300.00	4.42	258.76	10272.50	-83.20	-128.75	-484.36	1.00	501.18	255.11
10325.00	4.14	260.31	10297.43	-83.37	-129.09	-486.19	1.24	503.04	255.13
10350.00	4.27	260.64	10322.36	-83.50	-129.39	-488.00	0.56	504.86	255.15
10375.00	3.87	261.06	10347.30	-83.62	-129.68	-489.75	1.61	506.63	255.17
10400.00	3.78	263.25	10372.25	-83.69	-129.90	-491.41	0.69	508.29	255.19
10425.00	3.71	261.28	10397.19	-83.76	-130.12	-493.02	0.59	509.91	255.22
10450.00	3.55	261.73	10422.14	-83.85	-130.36	-494.59	0.66	511.48	255.23

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
10475.00	3.48	263.47	10447.10	-83.91	-130.55	-496.11	0.51	513.00	255.26
10500.00	3.26	261.61	10472.05	-83.96	-130.74	-497.56	0.97	514.45	255.28
10525.00	3.32	262.67	10497.01	-84.02	-130.94	-498.98	0.33	515.88	255.30
10550.00	3.16	261.97	10521.97	-84.08	-131.13	-500.38	0.65	517.28	255.32
10575.00	3.16	262.21	10546.93	-84.14	-131.32	-501.75	0.05	518.65	255.33
10600.00	3.13	264.43	10571.90	-84.17	-131.48	-503.11	0.50	520.00	255.35
10625.00	3.19	261.29	10596.86	-84.22	-131.65	-504.48	0.74	521.37	255.37
10650.00	4.07	255.01	10621.81	-84.41	-131.98	-506.02	3.86	522.95	255.38
10675.00	5.47	248.13	10646.72	-84.90	-132.66	-507.99	6.02	525.02	255.36
10700.00	5.75	247.75	10671.60	-85.60	-133.58	-510.25	1.12	527.44	255.33
10725.00	5.85	247.86	10696.47	-86.33	-134.53	-512.59	0.40	529.95	255.29
10750.00	5.82	247.66	10721.34	-87.07	-135.49	-514.94	0.13	532.47	255.26
10775.00	5.81	247.96	10746.21	-87.81	-136.45	-517.28	0.14	534.98	255.22
10800.00	5.82	248.51	10771.09	-88.52	-137.39	-519.64	0.23	537.49	255.19
10825.00	6.04	247.86	10795.95	-89.25	-138.35	-522.03	0.94	540.05	255.16
10850.00	6.77	249.11	10820.80	-90.03	-139.37	-524.63	2.97	542.83	255.12
10875.00	7.00	249.50	10845.62	-90.82	-140.43	-527.44	0.94	545.81	255.09
10900.00	7.08	249.69	10870.43	-91.62	-141.50	-530.31	0.33	548.86	255.06
10925.00	6.97	249.60	10895.24	-92.41	-142.56	-533.18	0.47	551.91	255.03
10950.00	6.68	249.65	10920.06	-93.19	-143.59	-535.96	1.13	554.86	255.00
10975.00	6.62	249.26	10944.89	-93.95	-144.61	-538.67	0.33	557.74	254.97
11000.00	6.53	250.11	10969.73	-94.69	-145.60	-541.36	0.52	560.59	254.95
11025.00	6.42	249.87	10994.57	-95.40	-146.57	-544.00	0.46	563.40	254.92
11050.00	6.30	251.04	11019.42	-96.08	-147.49	-546.61	0.69	566.16	254.90
11075.00	6.17	252.78	11044.27	-96.68	-148.34	-549.19	0.93	568.87	254.89
11100.00	5.98	252.64	11069.13	-97.23	-149.12	-551.72	0.77	571.52	254.88
11125.00	5.72	253.37	11094.00	-97.74	-149.87	-554.16	1.05	574.06	254.87
11150.00	5.46	255.57	11118.88	-98.18	-150.52	-556.50	1.37	576.50	254.86
11175.00	5.39	254.56	11143.77	-98.57	-151.13	-558.78	0.47	578.86	254.87
11200.00	5.33	255.08	11168.66	-98.97	-151.74	-561.04	0.29	581.20	254.87
11225.00	5.43	255.21	11193.55	-99.36	-152.34	-563.31	0.39	583.54	254.87
11250.00	5.52	255.23	11218.43	-99.75	-152.95	-565.61	0.34	585.93	254.87

MD	INC	AZIM	TVD	VS	+N/-S	+E/-W	DLS	CLOSURE DIST	CLOSURE DIR
ft	deg	deg	ft	ft	ft	ft	%/100ft	ft	deg
11275.00	5.62	254.90	11243.31	-100.15	-153.58	-567.96	0.42	588.35	254.87
11300.00	5.89	254.34	11268.19	-100.59	-154.24	-570.37	1.11	590.86	254.87
11325.00	6.05	252.34	11293.05	-101.10	-154.99	-572.86	1.06	593.46	254.86
11350.00	6.25	250.67	11317.91	-101.71	-155.84	-575.40	1.07	596.13	254.85
11375.00	6.40	250.12	11342.76	-102.39	-156.76	-578.00	0.65	598.88	254.83
11400.00	6.49	249.56	11367.60	-103.11	-157.73	-580.63	0.44	601.67	254.80
11425.00	6.48	250.19	11392.44	-103.83	-158.70	-583.28	0.29	604.49	254.78
11450.00	6.37	250.15	11417.28	-104.53	-159.65	-585.91	0.40	607.27	254.76
11475.00	6.30	250.69	11442.13	-105.21	-160.57	-588.51	0.38	610.03	254.74
11500.00	6.21	252.17	11466.98	-105.84	-161.44	-591.09	0.74	612.74	254.72
11525.00	6.15	253.19	11491.84	-106.39	-162.24	-593.66	0.50	615.43	254.71
11550.00	6.14	252.00	11516.69	-106.95	-163.04	-596.22	0.51	618.11	254.71
11575.00	5.74	250.73	11541.56	-107.55	-163.87	-598.67	1.69	620.69	254.69
11600.00	5.47	251.78	11566.44	-108.12	-164.66	-600.98	1.15	623.13	254.68
11625.00	5.49	251.07	11591.32	-108.66	-165.42	-603.25	0.29	625.52	254.67
11650.00	5.55	249.06	11616.21	-109.27	-166.24	-605.51	0.80	627.91	254.65
11675.00	5.52	249.95	11641.09	-109.90	-167.08	-607.77	0.37	630.31	254.63
11700.00	5.36	249.20	11665.98	-110.52	-167.91	-609.99	0.67	632.67	254.61
11707.00	5.32	248.99	11672.95	-110.69	-168.14	-610.60	0.67	633.32	254.60