

30.015-37955

OCCIDENTAL PERMIAN LTD.

Lost Tank Delaware, West

Eddy County, NM

Lost Tank 4 Federal #12

DH - Job #32D1110878

Survey: Actual

SDI Standard Survey Report

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

Richard

Notorized this date 17th of December, 2010.

Carrin Reed

Notary Signature
County of Midland
State of Texas





Project: Lost Tank Delaware, West
 Site: Eddy County, NM
 Well: Lost Tank 4 Federal #12
 Wellbore: DH - Job #32D1110878
 Design: DH - Job #32D1110878



Azimuths to Grid North
 True North: -0.29°
 Magnetic North: 7.53°
 Magnetic Field
 Strength: 48833.5nT
 Dip Angle: 60.35°
 Date: 11/9/2010
 Model: BGGM2010

WELL DETAILS: Lost Tank 4 Federal #12

WELL @ 0.0usft (Original Well Elev)

Ground Level: 0.0

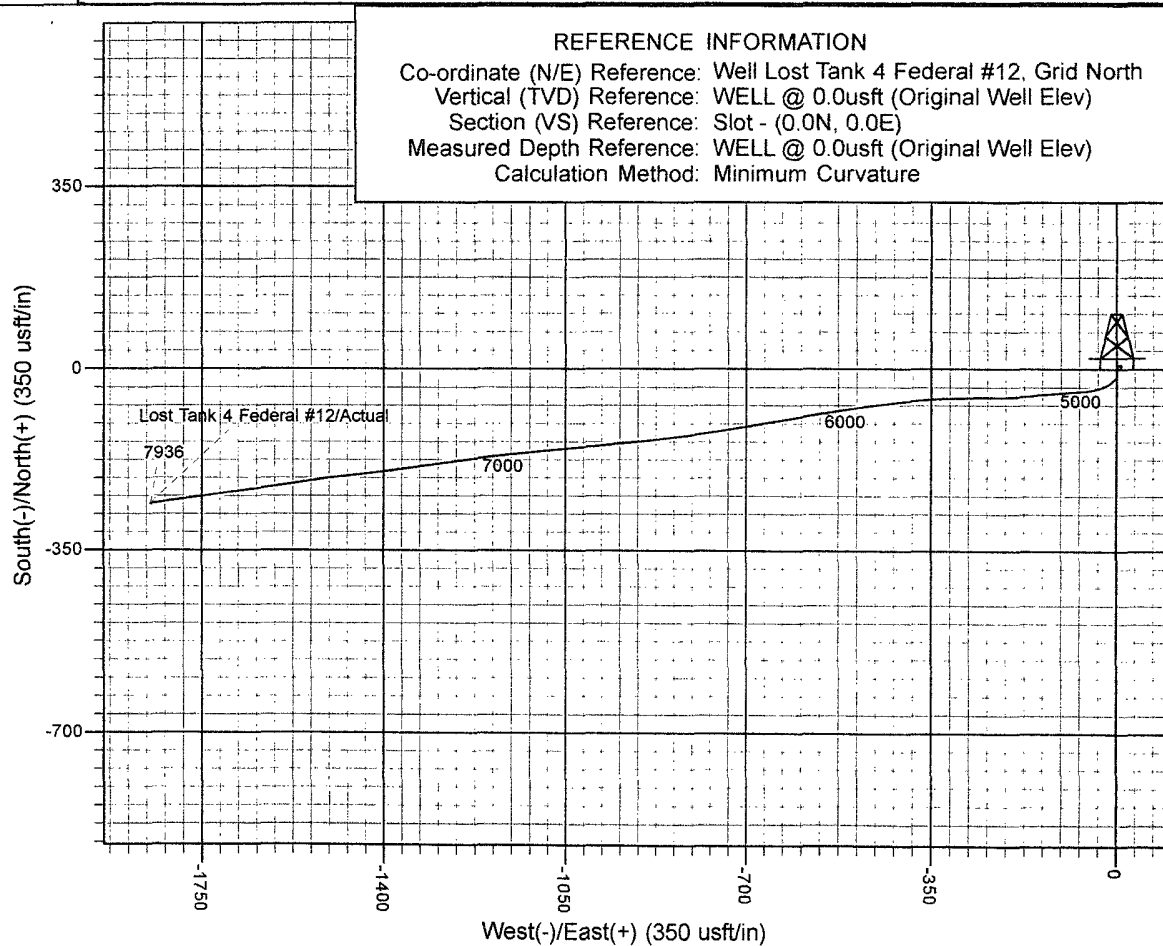
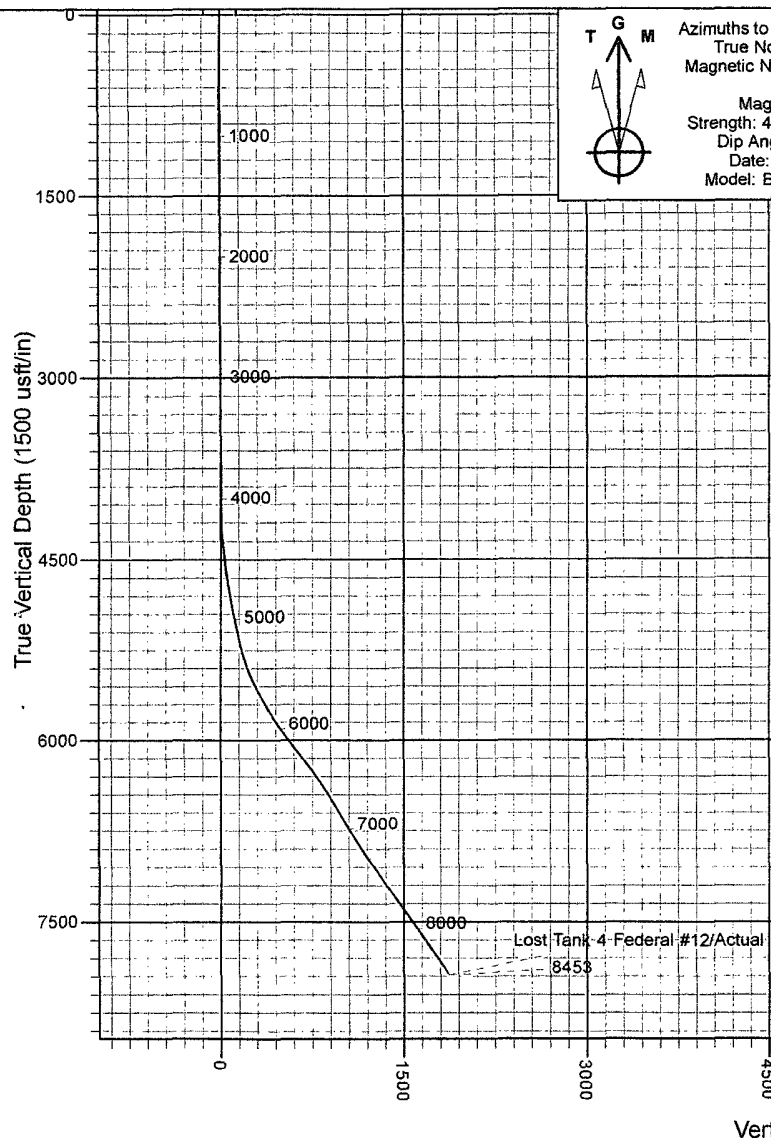
+N/-S +E/-W Northing
 0.0 0.0 516669.66

Easting
 669637.29

Latitude
 32° 25' 9.261 N

Longitude
 103° 47' 0.940 W

Slot



REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Lost Tank 4 Federal #12, Grid North

Vertical (TVD) Reference: WELL @ 0.0usft (Original Well Elev)

Section (VS) Reference: Slot - (0.0N, 0.0E)

Measured Depth Reference: WELL @ 0.0usft (Original Well Elev)

Calculation Method: Minimum Curvature

COMPANY DETAILS: OCCIDENTAL PERMIAN LTD.

Calculation Method: Minimum Curvature

Error System: Systematic Ellipse

Scan Method: Closest Approach 3D

Error Surface: Elliptical Conic

Warning Method: Error Ratio

PROJECT DETAILS: Lost Tank Delaware, West

Geodetic System: NAD 83 State Plane 1927 (Exact solution)

Datum: NAD 1927 (NADCON CONUS)

Ellipsoid: Clarke 1866

Zone: New Mexico East 3001

System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM

Site Centre Latitude: 32° 24' 54.705 N

Longitude: 103° 45' 46.737 W

Positional Uncertainty: 0.0

Convergence: 0.31

Local North: Grid

Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	OCCIDENTAL PERMIAN LTD	Local Co-ordinate Reference:	Well Lost Tank 4 Federal #12
Project:	Lost Tank Delaware, West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lost Tank 4 Federal #12	North Reference:	Grid
Wellbore:	VH - Job #32K1110871	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1110871	Database:	EDM-Regulatory

Project	Lost Tank Delaware, West		
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	Eddy County, NM				
Site Position:		Northing:	515,232.05 usft	Latitude:	32° 24' 54.705 N
From:	Lat/Long	Easting:	676,005.63 usft	Longitude:	103° 45' 46.737 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.31 °

Well	Lost Tank 4 Federal #12, Directional					
Well Position	+N-S	0.0 usft	Northing:	516,669.66 usft	Latitude:	32° 25' 9.261 N
	+E-W	0.0 usft	Easting:	669,637.29 usft	Longitude:	103° 47' 0.940 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K1110871				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	BGGM2010	11/8/2010	7.83	60.35	48,834

Design	VH - Job #32K1110871				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	261.90	

Survey Program	Date	12/17/2010			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
112.9	669.0	Actual (VH - Job #32K1110871)	Keeper	Keeper Surface Readout	

Survey									
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance		
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0		
112.9	0.99	80.31	112.9	0.2	1.0	80.31	1.0		
207.8	1.01	79.78	207.8	0.5	2.6	80.14	2.6		
296.0	0.33	15.25	296.0	0.8	3.4	76.32	3.5		
387.1	0.79	68.05	387.1	1.3	4.1	72.04	4.3		
476.0	1.05	97.10	476.0	1.4	5.5	75.11	5.6		
564.9	0.57	28.07	564.9	1.7	6.5	74.95	6.7		
653.9	0.61	18.06	653.8	2.6	6.8	69.29	7.3		
669.0	0.62	14.17	668.9	2.7	6.9	68.28	7.4		

Scientific Drilling International, Inc.

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Project:	Lost Tank Delaware, West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lost Tank 4 Federal #12	North Reference:	Grid
Wellbore:	DH - Job #32D1110878	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D1110878	Database:	EDM-Regulatory

Project	Lost Tank Delaware, West		
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	Eddy County, NM		
Site Position:		Northing:	515,232.05 usft
From:	Lat/Long	Easting:	676,005.63 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 24' 54.705 N
		Longitude:	103° 45' 46.737 W
		Grid Convergence:	0.31 °

Well	Lost Tank 4 Federal #12, Directional		
Well Position	+N/-S	0.0 usft	Northing: 516,669.66 usft
	+E/-W	0.0 usft	Easting: 669,637.29 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 25' 9.261 N
		Longitude:	103° 47' 0.940 W
		Ground Level:	0.0 usft

Wellbore	DH - Job #32D1110878		
Magnetics	Model Name	Sample Date	Declination
	BGGM2010	11/9/2010	(°)
			7.83
			60.35
			48,833

Design	DH - Job #32D1110878		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	669.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
		Direction	
		(°)	261.90

Survey Program	Date 12/17/2010		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
112.9	669.0	Actual (VH - Job #32K1110871)	Keeper
719.0	8,453.0	Actual (DH - Job #32D1110878)	MWD
			Keeper Surface Readout
			MWD

Survey			
Measured Depth	Inclination	Azimuth	True Vertical
(usft)	(°)	(°)	Depth
669.0	0.62	14.17	668.9
719.0	0.78	34.35	718.9
807.0	0.99	41.82	806.9
897.0	0.99	26.35	896.9
987.0	0.77	349.84	986.9
1,077.0	0.71	309.92	1,076.9
1,167.0	0.88	282.25	1,166.9
1,257.0	0.78	248.50	1,256.9
1,347.0	0.78	233.63	1,346.9
1,437.0	0.56	233.16	1,436.9
1,527.0	0.55	199.34	1,526.9
			North/South
			(usft)
			2.7
			3.3
			4.3
			5.6
			6.9
			7.9
			8.4
			8.3
			7.7
			7.1
			6.4
			East/West
			(usft)
			6.9
			7.1
			8.0
			8.8
			9.1
			8.5
			7.4
			6.2
			5.1
			4.3
			3.8
			Closure Azimuth
			(°)
			68.28
			65.29
			61.44
			57.56
			52.72
			47.37
			41.64
			36.76
			33.66
			31.20
			30.61
			Closure Distance
			(usft)
			7.4
			7.8
			9.1
			10.5
			11.4
			11.6
			11.2
			10.3
			9.3
			8.3
			7.4

Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Lost Tank 4 Federal #12
Project:	Lost Tank Delaware West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lost Tank 4 Federal #12	North Reference:	Grid
Wellbore:	DH - Job #32D1110878	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D1110878	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,617.0	0.45	200.37	1,616.9	5.7	3.5	31.88	6.7
1,707.0	0.50	188.46	1,706.9	4.9	3.3	34.05	6.0
1,797.0	0.48	170.01	1,796.9	4.2	3.3	38.68	5.4
1,932.0	0.54	131.65	1,931.9	3.2	3.9	50.76	5.1
2,067.0	0.45	87.26	2,066.8	2.8	4.9	60.33	5.7
2,202.0	0.36	350.41	2,201.8	3.3	5.4	58.89	6.3
2,337.0	0.27	16.95	2,336.8	4.0	5.4	53.70	6.7
2,472.0	0.52	305.32	2,471.8	4.6	5.0	47.20	6.8
2,607.0	0.60	317.65	2,606.8	5.5	4.0	36.16	6.8
2,742.0	0.43	321.41	2,741.8	6.4	3.2	26.71	7.2
2,877.0	0.36	325.43	2,876.8	7.2	2.7	20.47	7.7
3,012.0	0.34	287.04	3,011.8	7.6	2.1	15.04	7.9
3,147.0	0.48	185.39	3,146.8	7.2	1.6	12.67	7.4
3,282.0	1.07	185.93	3,281.8	5.4	1.4	14.93	5.6
3,417.0	1.41	190.44	3,416.8	2.5	1.0	21.94	2.7
3,552.0	1.64	190.92	3,551.7	-1.0	0.3	162.17	1.1
3,687.0	1.82	174.76	3,686.7	-5.1	0.2	178.14	5.1
3,777.0	1.45	181.85	3,776.6	-7.6	0.3	178.06	7.6
3,841.0	1.38	187.94	3,840.6	-9.2	0.1	179.22	9.2
3,941.0	1.21	183.90	3,940.6	-11.5	-0.1	180.56	11.5
4,031.0	1.15	175.31	4,030.6	-13.3	-0.1	180.44	13.3
4,076.0	1.29	181.10	4,075.6	-14.3	-0.1	180.30	14.3
4,121.0	1.49	217.48	4,120.5	-15.2	-0.4	181.66	15.2
4,166.0	2.19	219.50	4,165.5	-16.4	-1.3	184.70	16.4
4,211.0	2.98	216.13	4,210.5	-18.0	-2.6	188.18	18.1
4,256.0	3.78	225.84	4,255.4	-19.9	-4.3	192.26	20.4
4,301.0	4.27	228.11	4,300.3	-22.1	-6.6	196.74	23.1
4,346.0	4.63	232.17	4,345.1	-24.3	-9.3	200.98	26.1
4,436.0	6.37	239.41	4,434.7	-29.1	-16.5	209.55	33.4
4,481.0	6.93	242.25	4,479.4	-31.6	-21.0	213.64	38.0
4,526.0	7.32	247.26	4,524.1	-34.0	-26.1	217.50	42.9
4,616.0	8.34	254.97	4,613.2	-37.9	-37.7	224.83	53.5
4,661.0	8.87	257.73	4,657.7	-39.5	-44.2	228.23	59.3
4,706.0	8.80	261.00	4,702.2	-40.8	-51.0	231.37	65.3
4,751.0	9.67	262.64	4,746.6	-41.8	-58.2	234.30	71.6
4,796.0	10.35	264.90	4,790.9	-42.6	-65.9	237.11	78.5
4,842.0	10.97	266.38	4,836.1	-43.3	-74.4	239.82	86.1
4,887.0	10.85	265.68	4,880.3	-43.9	-82.9	242.12	93.8
4,932.0	11.30	266.47	4,924.5	-44.5	-91.5	244.09	101.8
4,977.0	11.91	265.69	4,968.6	-45.1	-100.6	245.86	110.2
5,021.0	12.11	265.14	5,011.6	-45.8	-109.7	247.33	118.9
5,067.0	11.94	264.38	5,056.6	-46.7	-119.2	248.62	128.1
5,112.0	12.63	264.62	5,100.6	-47.6	-128.8	249.71	137.3
5,157.0	13.10	265.82	5,144.4	-48.4	-138.8	250.76	147.0

Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Lost Tank 4 Federal #12
Project:	Lost Tank Delaware, West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lost Tank 4 Federal #12	North Reference:	Grid
Wellbore:	DH - Job #32D1110878	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D1110878	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
5,202.0	13.96	264.15	5,188.2	-49.4	-149.2	251.70	157.2	
5,247.0	15.66	263.99	5,231.7	-50.6	-160.7	252.54	168.5	
5,292.0	16.85	264.39	5,274.9	-51.8	-173.2	253.34	180.8	
5,337.0	17.99	265.53	5,317.8	-53.0	-186.6	254.15	194.0	
5,382.0	19.58	268.00	5,360.4	-53.8	-201.1	255.02	208.2	
5,427.0	20.94	268.46	5,402.6	-54.3	-216.7	255.93	223.4	
5,472.0	22.14	270.45	5,444.5	-54.4	-233.2	256.86	239.5	
5,517.0	23.74	270.17	5,485.9	-54.3	-250.7	257.77	256.6	
5,562.0	24.81	267.92	5,527.0	-54.7	-269.2	258.52	274.7	
5,607.0	26.09	267.83	5,567.6	-55.4	-288.6	259.14	293.8	
5,652.0	27.39	268.14	5,607.8	-56.1	-308.8	259.70	313.8	
5,697.0	28.79	268.19	5,647.5	-56.8	-330.0	260.24	334.8	
5,742.0	29.51	266.57	5,686.8	-57.8	-351.9	260.68	356.6	
5,787.0	29.84	264.32	5,725.9	-59.5	-374.1	260.96	378.8	
5,832.0	30.73	264.05	5,764.7	-61.8	-396.6	261.14	401.4	
5,877.0	31.41	262.57	5,803.3	-64.6	-419.7	261.26	424.6	
5,922.0	32.29	262.11	5,841.5	-67.7	-443.2	261.31	448.4	
5,967.0	33.35	262.05	5,879.3	-71.1	-467.4	261.35	472.8	
6,012.0	34.74	261.46	5,916.6	-74.7	-492.3	261.37	498.0	
6,102.0	36.33	260.33	5,989.8	-83.0	-544.0	261.33	550.3	
6,192.0	37.53	260.11	6,061.8	-92.2	-597.3	261.23	604.3	
6,282.0	37.17	260.22	6,133.3	-101.5	-651.1	261.14	658.9	
6,372.0	36.60	260.74	6,205.3	-110.4	-704.3	261.09	712.9	
6,462.0	35.33	260.56	6,278.2	-119.0	-756.5	261.06	765.8	
6,552.0	33.71	262.34	6,352.3	-126.6	-806.9	261.08	816.8	
6,642.0	32.57	263.30	6,427.7	-132.8	-855.7	261.18	866.0	
6,732.0	31.50	263.93	6,504.0	-138.1	-903.2	261.31	913.7	
6,821.0	30.49	264.47	6,580.3	-142.7	-948.8	261.45	959.4	
6,911.0	30.10	264.08	6,658.0	-147.2	-993.9	261.57	1,004.8	
7,001.0	30.48	265.11	6,735.7	-151.5	-1,039.1	261.70	1,050.1	
7,046.0	30.74	264.42	6,774.4	-153.6	-1,061.9	261.77	1,073.0	
7,091.0	32.00	263.86	6,812.8	-156.0	-1,085.2	261.82	1,096.4	
7,136.0	32.98	263.93	6,850.8	-158.6	-1,109.3	261.86	1,120.6	
7,181.0	33.71	264.32	6,888.4	-161.1	-1,133.9	261.91	1,145.3	
7,226.0	34.58	263.65	6,925.6	-163.8	-1,159.0	261.96	1,170.5	
7,271.0	34.48	263.27	6,962.7	-166.7	-1,184.3	261.99	1,196.0	
7,361.0	34.47	262.17	7,036.9	-173.1	-1,234.9	262.02	1,247.0	
7,450.0	33.82	261.39	7,110.6	-180.3	-1,284.3	262.01	1,296.9	
7,495.0	33.75	261.54	7,148.0	-184.0	-1,309.1	262.00	1,321.9	
7,540.0	34.80	261.59	7,185.1	-187.7	-1,334.1	261.99	1,347.3	
7,630.0	35.24	262.45	7,258.8	-194.9	-1,385.3	261.99	1,398.9	
7,720.0	36.36	263.63	7,331.8	-201.2	-1,437.5	262.03	1,451.5	
7,809.0	36.03	262.80	7,403.7	-207.4	-1,489.7	262.07	1,504.1	
7,899.0	34.02	260.89	7,477.4	-214.7	-1,540.8	262.07	1,555.7	
7,989.0	34.48	261.68	7,551.8	-222.4	-1,590.9	262.04	1,606.4	

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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Lost Tank 4 Federal #12	North Reference:	Grid
Wellbore:	DH - Job #32D1110878	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D1110878	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
8,078.0	35.72	262.43	7,624.6	-229.5	-1,641.6	262.04	1,657.6
8,168.0	35.22	262.22	7,697.9	-236.5	-1,693.4	262.05	1,709.8
8,258.0	34.02	261.32	7,771.9	-243.8	-1,744.0	262.04	1,760.9
8,348.0	33.05	261.81	7,846.9	-251.1	-1,793.1	262.03	1,810.6
8,453.0	30.02	261.84	7,936.4	-258.9	-1,847.5	262.02	1,865.5