

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101

August 1, 2011

Permit 303127

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address MARSHALL & WINSTON INC P.O. Box 50880 Midland, TX 79710		2. OGRID Number 14187
		3. API Number 30-025-49507
4. Property Code 39736	5. Property Name LOCO DINERO 36 STATE COM	6. Well No. 008H

7. Surface Location

UL - Lot B	Section 36	Township 21S	Range 33E	Lot Idn B	Feet From 200	N/S Line N	Feet From 1520	E/W Line E	County Lea
---------------	---------------	-----------------	--------------	--------------	------------------	---------------	-------------------	---------------	---------------

8. Proposed Bottom Hole Location

UL - Lot P	Section 36	Township 21S	Range 33E	Lot Idn P	Feet From 20	N/S Line S	Feet From 330	E/W Line E	County Lea
---------------	---------------	-----------------	--------------	--------------	-----------------	---------------	------------------	---------------	---------------

9. Pool Information

WC-025 G-06 S213326D;BONE SPRING	97929
----------------------------------	-------

Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3643
16. Multiple N	17. Proposed Depth 16633	18. Formation Bone Spring	19. Contractor	20. Spud Date 2/5/2022
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1805	1550	0
Int1	12.25	9.625	40	5305	1300	0
Prod	8.75	5.5	20	16633	2510	0

Casing/Cement Program: Additional Comments

Fresh water (8.4 ppg) on surface hole Brine water (10.0 ppg) on intermediate hole to casing depth Cut Brine (9.6 ppg) on intermediate hole from casing depth to KOP (10706') Oil based mud from KOP (10706') to TD of 16663'
--

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	5000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Sherry Roberts	Approved By: Paul F Kautz	
Title: Operations Secretary	Title: Geologist	
Email Address: sroberts@mar-win.com	Approved Date: 11/3/2021	Expiration Date: 11/3/2023
Date: 11/1/2021	Phone: 432-684-6373	Conditions of Approval Attached

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Comments

Permit 303127

PERMIT COMMENTS

Operator Name and Address: MARSHALL & WINSTON INC [14187] P.O. Box 50880 Midland, TX 79710		API Number: 30-025-49507
		Well: LOCO DINERO 36 STATE COM #008H
Created By	Comment	Comment Date
pkautz	Hold for NGMP	11/2/2021

District I

1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Conditions

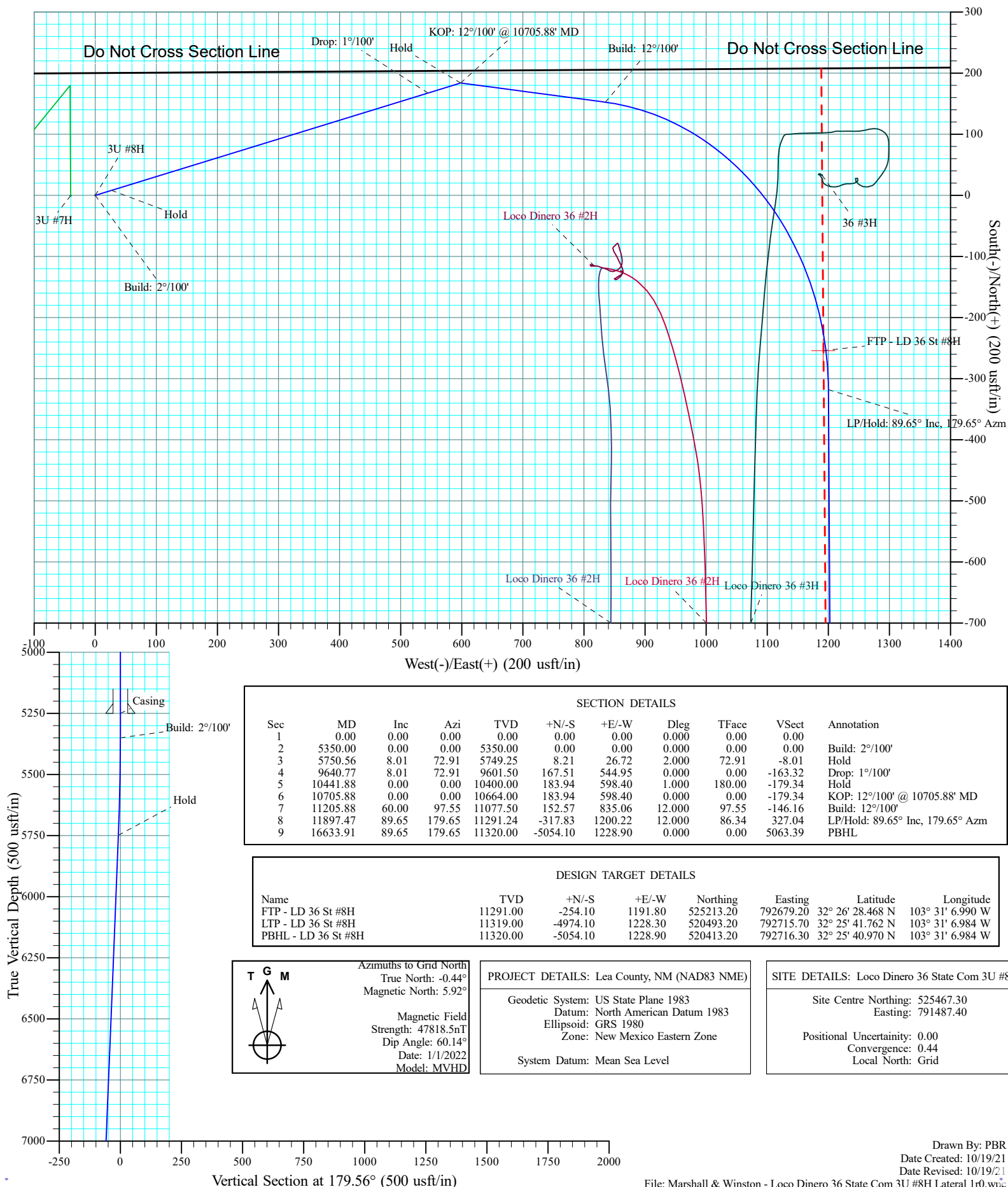
Permit 303127

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: MARSHALL & WINSTON INC [14187] P.O. Box 50880 Midland, TX 79710	API Number: 30-025-49507
	Well: LOCO DINERO 36 STATE COM #008H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

Loco Dinero 36 State Com 3U #8H
Lea County, NM (NAD83 NME)
Job No. WT-22-***
Lateral 1r0



Loco Dinero 36 State Com 3U #8H
Lea County, NM (NAD83 NME)
Job No. WT-22-***
Lateral 1r0

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	
2	5350.00	0.00	0.00	5350.00	0.00	0.00	0.000	0.00	0.00	
3	5750.56	8.01	72.91	5749.25	8.21	26.72	2.000	72.91	-8.01	
4	9640.77	8.01	72.91	9601.50	167.51	544.95	0.000	0.00	-163.32	
5	10441.88	0.00	0.00	10400.00	183.94	598.40	1.000	180.00	-179.34	
6	10705.88	0.00	0.00	10664.00	183.94	598.40	0.000	0.00	-179.34	
7	11205.88	60.00	97.55	11077.50	152.57	835.06	12.000	97.55	-146.16	
8	11897.47	89.65	179.65	11291.24	-317.83	1200.22	12.000	86.34	327.04	
9	16633.91	89.65	179.65	11320.00	-5054.10	1228.90	0.000	0.00	5063.39	PBHL - LD 36 St #8H

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP - LD 36 St #8H	11291.00	-254.10	1191.80	525213.20	792679.20	32° 26' 28.468 N	103° 31' 6.990 W
LTP - LD 36 St #8H	11319.00	-4974.10	1228.30	520493.20	792715.70	32° 25' 41.762 N	103° 31' 6.984 W
PBHL - LD 36 St #8H	11320.00	-5054.10	1228.90	520413.20	792716.30	32° 25' 40.970 N	103° 31' 6.984 W

PROJECT DETAILS: Lea County, NM (NAD83 NME)

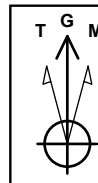
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

SITE DETAILS: Loco Dinero 36 State Com 3U #8H

Site Centre Northing: 525467.30
Easting: 791487.40

Positional Uncertainty: 0.00
Convergence: 0.44
Local North: Grid



Azimuths to Grid North
True North: -0.44°
Magnetic North: 5.92°

Magnetic Field
Strength: 47818.5nT
Dip Angle: 60.14°
Date: 1/1/2022
Model: MVHD

Drop: 1°/100'

Hold

KOP: 12°/100' @ 10705.88' MD

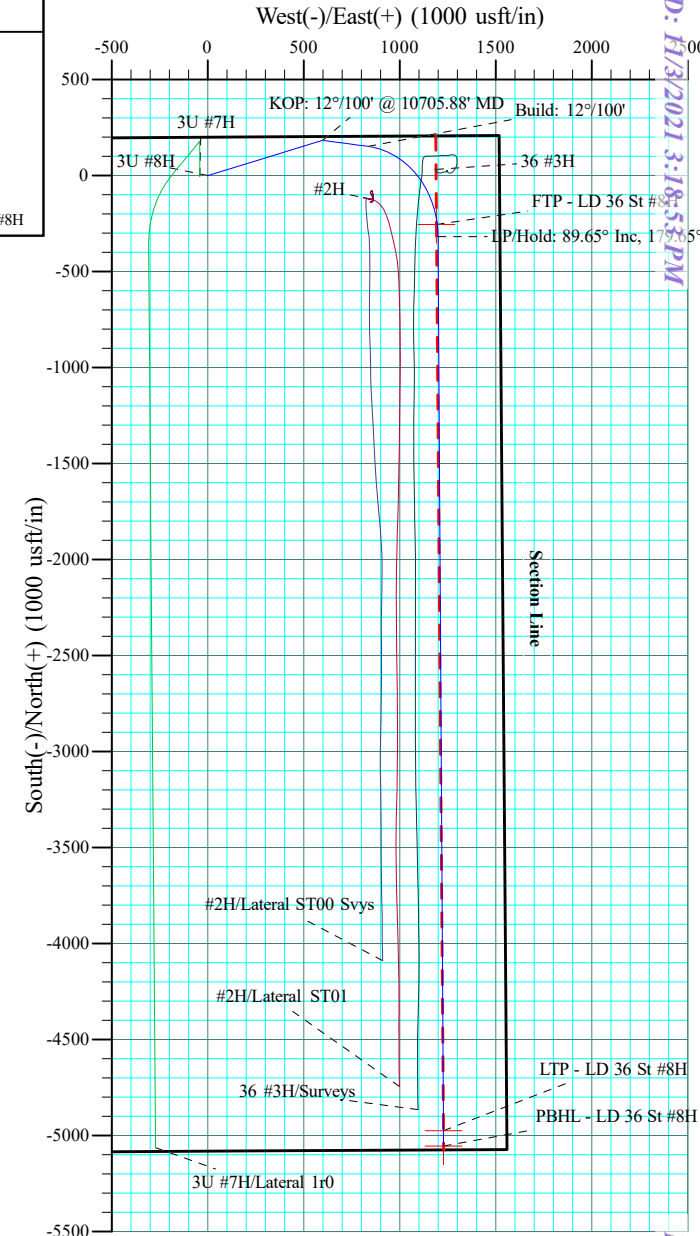
Build: 12°/100'

FTP - LD 36 St #8H

LP/Hold: 89.65° Inc, 179.65° Azm

PBHL - LD 36 St #8H

LTP - LD 36 St #8H



Vertical Section at 179.56° (1000 usft/in)

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Project	Lea County, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Loco Dinero 36 State Com 3U #8H		
Site Position:		Northing:	525,467.30 usft
From:	Map	Easting:	791,487.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 26' 31.072 N
		Longitude:	103° 31' 20.874 W
		Grid Convergence:	0.44 °

Well	3U #8H		
Well Position	+N/-S	0.00 usft	Northing: 525,467.30 usft
	+E/-W	0.00 usft	Easting: 791,487.40 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 26' 31.072 N
		Longitude:	103° 31' 20.874 W
		Ground Level:	3,643.00 usft

Wellbore	Planning				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	1/1/2022	6.36	60.14	47,818.511

Design	Lateral 1r0				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.56	

Survey Tool Program	Date	10/26/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	16,633.91	Lateral 1r0 (Planning)	MWD+HDGM	OWSG MWD + HDGM	

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.000	0.000	0.000	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.000	0.000	0.000	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.000	0.000	0.000	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.000	0.000	0.000	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.000	0.000	0.000	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.000	0.000	0.000	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.000	0.000	0.000	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.000	0.000	0.000	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.000	0.000	0.000	

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.000	0.000	0.000	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.000	0.000	0.000	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.000	0.000	0.000	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.000	0.000	0.000	
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.000	0.000	0.000	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.000	0.000	0.000	
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.000	0.000	0.000	
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.000	0.000	0.000	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.000	0.000	0.000	

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,350.00	0.00	0.00	5,350.00	0.00	0.00	0.00	0.000	0.000	0.000
Build: 2°/100'									
5,400.00	1.00	72.91	5,400.00	0.13	0.42	-0.12	2.000	2.000	0.000
5,500.00	3.00	72.91	5,499.93	1.15	3.75	-1.12	2.000	2.000	0.000
5,600.00	5.00	72.91	5,599.68	3.20	10.42	-3.12	2.000	2.000	0.000
5,700.00	7.00	72.91	5,699.13	6.27	20.41	-6.12	2.000	2.000	0.000
5,750.56	8.01	72.91	5,749.26	8.21	26.72	-8.01	2.000	2.000	0.000
Hold									
5,800.00	8.01	72.91	5,798.21	10.24	33.31	-9.98	0.000	0.000	0.000
5,900.00	8.01	72.91	5,897.24	14.33	46.63	-13.98	0.000	0.000	0.000
6,000.00	8.01	72.91	5,996.26	18.43	59.95	-17.97	0.000	0.000	0.000
6,100.00	8.01	72.91	6,095.29	22.52	73.27	-21.96	0.000	0.000	0.000
6,200.00	8.01	72.91	6,194.31	26.62	86.60	-25.95	0.000	0.000	0.000
6,300.00	8.01	72.91	6,293.33	30.71	99.92	-29.94	0.000	0.000	0.000
6,400.00	8.01	72.91	6,392.36	34.81	113.24	-33.94	0.000	0.000	0.000
6,500.00	8.01	72.91	6,491.38	38.90	126.56	-37.93	0.000	0.000	0.000
6,600.00	8.01	72.91	6,590.41	43.00	139.88	-41.92	0.000	0.000	0.000
6,700.00	8.01	72.91	6,689.43	47.09	153.20	-45.91	0.000	0.000	0.000
6,800.00	8.01	72.91	6,788.45	51.19	166.52	-49.91	0.000	0.000	0.000
6,900.00	8.01	72.91	6,887.48	55.28	179.85	-53.90	0.000	0.000	0.000
7,000.00	8.01	72.91	6,986.50	59.38	193.17	-57.89	0.000	0.000	0.000
7,100.00	8.01	72.91	7,085.53	63.47	206.49	-61.88	0.000	0.000	0.000
7,200.00	8.01	72.91	7,184.55	67.57	219.81	-65.88	0.000	0.000	0.000
7,300.00	8.01	72.91	7,283.58	71.66	233.13	-69.87	0.000	0.000	0.000
7,400.00	8.01	72.91	7,382.60	75.76	246.45	-73.86	0.000	0.000	0.000
7,500.00	8.01	72.91	7,481.62	79.85	259.77	-77.85	0.000	0.000	0.000
7,600.00	8.01	72.91	7,580.65	83.95	273.10	-81.85	0.000	0.000	0.000
7,700.00	8.01	72.91	7,679.67	88.04	286.42	-85.84	0.000	0.000	0.000
7,800.00	8.01	72.91	7,778.70	92.14	299.74	-89.83	0.000	0.000	0.000
7,900.00	8.01	72.91	7,877.72	96.23	313.06	-93.82	0.000	0.000	0.000
8,000.00	8.01	72.91	7,976.74	100.32	326.38	-97.82	0.000	0.000	0.000
8,100.00	8.01	72.91	8,075.77	104.42	339.70	-101.81	0.000	0.000	0.000
8,200.00	8.01	72.91	8,174.79	108.51	353.02	-105.80	0.000	0.000	0.000
8,300.00	8.01	72.91	8,273.82	112.61	366.34	-109.79	0.000	0.000	0.000
8,400.00	8.01	72.91	8,372.84	116.70	379.67	-113.79	0.000	0.000	0.000
8,500.00	8.01	72.91	8,471.86	120.80	392.99	-117.78	0.000	0.000	0.000
8,600.00	8.01	72.91	8,570.89	124.89	406.31	-121.77	0.000	0.000	0.000
8,700.00	8.01	72.91	8,669.91	128.99	419.63	-125.76	0.000	0.000	0.000
8,800.00	8.01	72.91	8,768.94	133.08	432.95	-129.75	0.000	0.000	0.000
8,900.00	8.01	72.91	8,867.96	137.18	446.27	-133.75	0.000	0.000	0.000
9,000.00	8.01	72.91	8,966.99	141.27	459.59	-137.74	0.000	0.000	0.000
9,100.00	8.01	72.91	9,066.01	145.37	472.92	-141.73	0.000	0.000	0.000
9,200.00	8.01	72.91	9,165.03	149.46	486.24	-145.72	0.000	0.000	0.000

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,300.00	8.01	72.91	9,264.06	153.56	499.56	-149.72	0.000	0.000	0.000
9,400.00	8.01	72.91	9,363.08	157.65	512.88	-153.71	0.000	0.000	0.000
9,500.00	8.01	72.91	9,462.11	161.75	526.20	-157.70	0.000	0.000	0.000
9,600.00	8.01	72.91	9,561.13	165.84	539.52	-161.69	0.000	0.000	0.000
9,640.77	8.01	72.91	9,601.50	167.51	544.95	-163.32	0.000	0.000	0.000
Drop: 1°/100'									
9,700.00	7.42	72.91	9,660.20	169.85	552.55	-165.60	1.000	-1.000	0.000
9,800.00	6.42	72.91	9,759.47	173.39	564.07	-169.05	1.000	-1.000	0.000
9,900.00	5.42	72.91	9,858.93	176.42	573.93	-172.00	1.000	-1.000	0.000
10,000.00	4.42	72.91	9,958.56	178.94	582.12	-174.46	1.000	-1.000	0.000
10,100.00	3.42	72.91	10,058.33	180.94	588.65	-176.42	1.000	-1.000	0.000
10,200.00	2.42	72.91	10,158.20	182.44	593.52	-177.88	1.000	-1.000	0.000
10,300.00	1.42	72.91	10,258.14	183.42	596.72	-178.84	1.000	-1.000	0.000
10,400.00	0.42	72.91	10,358.12	183.90	598.25	-179.30	1.000	-1.000	0.000
10,441.88	0.00	0.00	10,400.00	183.94	598.40	-179.34	1.000	-1.000	0.000
Hold									
10,500.00	0.00	0.00	10,458.12	183.94	598.40	-179.34	0.000	0.000	0.000
10,600.00	0.00	0.00	10,558.12	183.94	598.40	-179.34	0.000	0.000	0.000
10,705.88	0.00	0.00	10,664.00	183.94	598.40	-179.34	0.000	0.000	0.000
KOP: 12°/100' @ 10705.88' MD									
10,725.00	2.29	97.55	10,683.12	183.89	598.78	-179.29	12.002	12.002	0.000
10,750.00	5.29	97.55	10,708.06	183.67	600.42	-179.06	12.000	12.000	0.000
10,775.00	8.29	97.55	10,732.88	183.28	603.35	-178.64	12.000	12.000	0.000
10,800.00	11.29	97.55	10,757.52	182.72	607.57	-178.05	12.000	12.000	0.000
10,825.00	14.29	97.55	10,781.89	182.00	613.06	-177.28	12.000	12.000	0.000
10,850.00	17.29	97.55	10,805.95	181.10	619.80	-176.34	12.000	12.000	0.000
10,875.00	20.29	97.55	10,829.61	180.05	627.78	-175.22	12.000	12.000	0.000
10,900.00	23.29	97.55	10,852.82	178.83	636.98	-173.93	12.000	12.000	0.000
10,925.00	26.29	97.55	10,875.51	177.45	647.38	-172.47	12.000	12.000	0.000
10,950.00	29.29	97.55	10,897.63	175.92	658.93	-170.85	12.000	12.000	0.000
10,975.00	32.29	97.55	10,919.10	174.24	671.62	-169.07	12.000	12.000	0.000
11,000.00	35.29	97.55	10,939.87	172.41	685.40	-167.14	12.000	12.000	0.000
11,025.00	38.29	97.55	10,959.89	170.44	700.24	-165.06	12.000	12.000	0.000
11,050.00	41.29	97.55	10,979.10	168.34	716.11	-162.84	12.000	12.000	0.000
11,075.00	44.29	97.55	10,997.44	166.11	732.94	-160.47	12.000	12.000	0.000
11,100.00	47.29	97.55	11,014.87	163.75	750.70	-157.98	12.000	12.000	0.000
11,125.00	50.29	97.55	11,031.33	161.28	769.35	-155.37	12.000	12.000	0.000
11,150.00	53.29	97.55	11,046.79	158.70	788.82	-152.64	12.000	12.000	0.000
11,175.00	56.29	97.55	11,061.21	156.02	809.07	-149.80	12.000	12.000	0.000
11,200.00	59.29	97.55	11,074.53	153.24	830.04	-146.86	12.000	12.000	0.000
11,205.88	60.00	97.55	11,077.50	152.57	835.07	-146.15	11.990	11.990	0.000
Build: 12°/100'									
11,225.00	60.17	100.19	11,087.03	150.02	851.44	-143.47	12.003	0.905	13.809
11,250.00	60.48	103.63	11,099.41	145.53	872.69	-138.83	12.000	1.220	13.740

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,275.00	60.87	107.04	11,111.66	139.77	893.70	-132.90	12.000	1.571	13.646
11,300.00	61.35	110.42	11,123.74	132.74	914.43	-125.72	12.000	1.913	13.531
11,325.00	61.91	113.77	11,135.62	124.47	934.81	-117.29	12.000	2.246	13.398
11,350.00	62.55	117.08	11,147.27	114.97	954.78	-107.64	12.000	2.568	13.248
11,375.00	63.27	120.35	11,158.66	104.28	974.29	-96.79	12.000	2.877	13.086
11,400.00	64.07	123.58	11,169.75	92.42	993.30	-84.79	12.000	3.173	12.913
11,425.00	64.93	126.76	11,180.52	79.42	1,011.74	-71.65	12.000	3.456	12.733
11,450.00	65.86	129.90	11,190.93	65.32	1,029.56	-57.42	12.000	3.723	12.548
11,475.00	66.85	132.99	11,200.96	50.17	1,046.72	-42.13	12.000	3.976	12.360
11,500.00	67.91	136.03	11,210.57	33.99	1,063.18	-25.82	12.000	4.213	12.173
11,525.00	69.02	139.03	11,219.75	16.84	1,078.87	-8.55	12.000	4.435	11.988
11,550.00	70.18	141.98	11,228.47	-1.25	1,093.77	9.64	12.000	4.641	11.807
11,575.00	71.38	144.89	11,236.70	-20.20	1,107.83	28.71	12.000	4.833	11.633
11,600.00	72.64	147.76	11,244.43	-39.99	1,121.01	48.60	12.000	5.009	11.466
11,625.00	73.93	150.58	11,251.62	-60.55	1,133.28	69.25	12.000	5.170	11.308
11,650.00	75.26	153.37	11,258.26	-81.82	1,144.60	90.61	12.000	5.316	11.160
11,675.00	76.62	156.13	11,264.34	-103.76	1,154.94	112.62	12.000	5.448	11.023
11,700.00	78.01	158.85	11,269.83	-126.29	1,164.27	135.22	12.000	5.566	10.897
11,725.00	79.43	161.55	11,274.72	-149.35	1,172.57	158.35	12.000	5.670	10.784
11,750.00	80.87	164.22	11,279.00	-172.89	1,179.82	181.94	12.000	5.761	10.684
11,775.00	82.33	166.87	11,282.65	-196.84	1,185.99	205.94	12.000	5.838	10.598
11,800.00	83.80	169.50	11,285.67	-221.12	1,191.07	230.26	12.000	5.903	10.525
11,825.00	85.29	172.12	11,288.04	-245.69	1,195.04	254.86	12.000	5.954	10.466
11,850.00	86.79	174.72	11,289.77	-270.46	1,197.90	279.65	12.000	5.993	10.421
11,875.00	88.30	177.32	11,290.84	-295.38	1,199.63	304.58	12.000	6.020	10.391
11,897.47	89.65	179.65	11,291.24	-317.83	1,200.22	327.04	11.999	6.033	10.374
LP/Hold: 89.65° Inc, 179.65° Azm									
11,900.00	89.65	179.65	11,291.26	-320.36	1,200.24	329.57	0.000	0.000	0.000
12,000.00	89.65	179.65	11,291.86	-420.36	1,200.84	429.57	0.000	0.000	0.000
12,100.00	89.65	179.65	11,292.47	-520.36	1,201.45	529.57	0.000	0.000	0.000
12,200.00	89.65	179.65	11,293.08	-620.35	1,202.06	629.56	0.000	0.000	0.000
12,300.00	89.65	179.65	11,293.69	-720.35	1,202.66	729.56	0.000	0.000	0.000
12,400.00	89.65	179.65	11,294.29	-820.34	1,203.27	829.56	0.000	0.000	0.000
12,500.00	89.65	179.65	11,294.90	-920.34	1,203.87	929.56	0.000	0.000	0.000
12,600.00	89.65	179.65	11,295.51	-1,020.34	1,204.48	1,029.56	0.000	0.000	0.000
12,700.00	89.65	179.65	11,296.11	-1,120.33	1,205.08	1,129.56	0.000	0.000	0.000
12,800.00	89.65	179.65	11,296.72	-1,220.33	1,205.69	1,229.55	0.000	0.000	0.000
12,900.00	89.65	179.65	11,297.33	-1,320.33	1,206.29	1,329.55	0.000	0.000	0.000
13,000.00	89.65	179.65	11,297.94	-1,420.32	1,206.90	1,429.55	0.000	0.000	0.000
13,100.00	89.65	179.65	11,298.54	-1,520.32	1,207.50	1,529.55	0.000	0.000	0.000
13,200.00	89.65	179.65	11,299.15	-1,620.32	1,208.11	1,629.55	0.000	0.000	0.000
13,300.00	89.65	179.65	11,299.76	-1,720.31	1,208.72	1,729.54	0.000	0.000	0.000
13,400.00	89.65	179.65	11,300.36	-1,820.31	1,209.32	1,829.54	0.000	0.000	0.000
13,500.00	89.65	179.65	11,300.97	-1,920.30	1,209.93	1,929.54	0.000	0.000	0.000

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,600.00	89.65	179.65	11,301.58	-2,020.30	1,210.53	2,029.54	0.000	0.000	0.000
13,700.00	89.65	179.65	11,302.19	-2,120.30	1,211.14	2,129.54	0.000	0.000	0.000
13,800.00	89.65	179.65	11,302.79	-2,220.29	1,211.74	2,229.53	0.000	0.000	0.000
13,900.00	89.65	179.65	11,303.40	-2,320.29	1,212.35	2,329.53	0.000	0.000	0.000
14,000.00	89.65	179.65	11,304.01	-2,420.29	1,212.95	2,429.53	0.000	0.000	0.000
14,100.00	89.65	179.65	11,304.61	-2,520.28	1,213.56	2,529.53	0.000	0.000	0.000
14,200.00	89.65	179.65	11,305.22	-2,620.28	1,214.16	2,629.53	0.000	0.000	0.000
14,300.00	89.65	179.65	11,305.83	-2,720.28	1,214.77	2,729.52	0.000	0.000	0.000
14,400.00	89.65	179.65	11,306.44	-2,820.27	1,215.37	2,829.52	0.000	0.000	0.000
14,500.00	89.65	179.65	11,307.04	-2,920.27	1,215.98	2,929.52	0.000	0.000	0.000
14,600.00	89.65	179.65	11,307.65	-3,020.26	1,216.59	3,029.52	0.000	0.000	0.000
14,700.00	89.65	179.65	11,308.26	-3,120.26	1,217.19	3,129.52	0.000	0.000	0.000
14,800.00	89.65	179.65	11,308.86	-3,220.26	1,217.80	3,229.51	0.000	0.000	0.000
14,900.00	89.65	179.65	11,309.47	-3,320.25	1,218.40	3,329.51	0.000	0.000	0.000
15,000.00	89.65	179.65	11,310.08	-3,420.25	1,219.01	3,429.51	0.000	0.000	0.000
15,100.00	89.65	179.65	11,310.69	-3,520.25	1,219.61	3,529.51	0.000	0.000	0.000
15,200.00	89.65	179.65	11,311.29	-3,620.24	1,220.22	3,629.51	0.000	0.000	0.000
15,300.00	89.65	179.65	11,311.90	-3,720.24	1,220.82	3,729.50	0.000	0.000	0.000
15,400.00	89.65	179.65	11,312.51	-3,820.23	1,221.43	3,829.50	0.000	0.000	0.000
15,500.00	89.65	179.65	11,313.12	-3,920.23	1,222.03	3,929.50	0.000	0.000	0.000
15,600.00	89.65	179.65	11,313.72	-4,020.23	1,222.64	4,029.50	0.000	0.000	0.000
15,700.00	89.65	179.65	11,314.33	-4,120.22	1,223.25	4,129.50	0.000	0.000	0.000
15,800.00	89.65	179.65	11,314.94	-4,220.22	1,223.85	4,229.49	0.000	0.000	0.000
15,900.00	89.65	179.65	11,315.54	-4,320.22	1,224.46	4,329.49	0.000	0.000	0.000
16,000.00	89.65	179.65	11,316.15	-4,420.21	1,225.06	4,429.49	0.000	0.000	0.000
16,100.00	89.65	179.65	11,316.76	-4,520.21	1,225.67	4,529.49	0.000	0.000	0.000
16,200.00	89.65	179.65	11,317.37	-4,620.21	1,226.27	4,629.49	0.000	0.000	0.000
16,300.00	89.65	179.65	11,317.97	-4,720.20	1,226.88	4,729.48	0.000	0.000	0.000
16,400.00	89.65	179.65	11,318.58	-4,820.20	1,227.48	4,829.48	0.000	0.000	0.000
16,500.00	89.65	179.65	11,319.19	-4,920.19	1,228.09	4,929.48	0.000	0.000	0.000
16,600.00	89.65	179.65	11,319.79	-5,020.19	1,228.69	5,029.48	0.000	0.000	0.000
16,633.91	89.65	179.65	11,320.00	-5,054.10	1,228.90	5,063.39	0.000	0.000	0.000
PBHL									

Aim Directional Services, LLC

Survey Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Well:	3U #8H	North Reference:	Grid
Wellbore:	Planning	Survey Calculation Method:	Minimum Curvature
Design:	Lateral 1r0	Database:	EDMRESTORED

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP - LD 36 St #8H - plan misses target center by 4.90usft at 11833.17usft MD (11288.68 TVD, -253.77 N, 1196.10 E) - Point	0.00	0.00	11,291.00	-254.10	1,191.80	525,213.20	792,679.20	32° 26' 28.468 N	103° 31' 6.990 W
LTP - LD 36 St #8H - plan misses target center by 0.53usft at 16553.90usft MD (11319.51 TVD, -4974.10 N, 1228.42 E) - Point	0.00	0.00	11,319.00	-4,974.10	1,228.30	520,493.20	792,715.70	32° 25' 41.762 N	103° 31' 6.984 W
PBHL - LD 36 St #8H - plan hits target center - Point	0.00	0.00	11,320.00	-5,054.10	1,228.90	520,413.20	792,716.30	32° 25' 40.970 N	103° 31' 6.984 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,800.00	1,800.00	Casing	13-3/8	17-1/2
5,250.00	5,250.00	Casing	9-5/8	12-1/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5350	5350	0	0	Build: 2°/100'
5751	5749	8	27	Hold
9641	9602	168	545	Drop: 1°/100'
10,442	10,400	184	598	Hold
10,706	10,664	184	598	KOP: 12°/100' @ 10705.88' MD
11,206	11,077	153	835	Build: 12°/100'
11,897	11,291	-318	1200	LP/Hold: 89.65° Inc, 179.65° Azm
16,634	11,320	-5054	1229	PBHL

Checked By: _____ Approved By: _____ Date: _____

Marshall & Winston, Inc.

Lea County, NM (NAD83 NME)

Loco Dinero 36 State Com 3U #8H

3U #8H

Planning

Lateral 1r0

Anticollision Report

26 October, 2021

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Reference	Lateral 1r0
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD + Stations Interval 100.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 100,000.00usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	10/26/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	16,633.91	Lateral 1r0 (Planning)	MWD+HDGM	OWSG MWD + HDGM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Loco Dinero 36 #2H						
#2H - Lateral ST00 - Lateral ST00 Svys	10,326.16	10,277.40	380.99	327.13	7.074	CC, ES
#2H - Lateral ST00 - Lateral ST00 Svys	15,663.85	14,588.00	508.18	409.29	5.139	SF
#2H - Lateral ST01 - Lateral ST01	10,247.85	10,197.07	384.25	330.73	7.180	CC, ES
#2H - Lateral ST01 - Lateral ST01	16,320.29	15,307.00	452.66	349.67	4.395	SF
#2H - Pilot - Pilot Svys	11,263.41	11,100.27	267.89	206.66	4.375	CC
#2H - Pilot - Pilot Svys	11,275.00	11,105.96	267.94	206.65	4.372	ES, SF
Loco Dinero 36 #3H						
36 #3H - Drilling - Surveys	9,353.52	9,293.00	638.29	582.23	11.385	CC, ES
36 #3H - Drilling - Surveys	9,400.00	9,318.82	639.27	583.10	11.381	SF
Loco Dinero 36 State Com 3U #7H						
3U #7H - Planning - Lateral 1r0	5,307.64	5,309.64	40.00	2.39	1.064	Level 3, CC
3U #7H - Planning - Lateral 1r0	5,350.00	5,352.00	40.00	2.08	1.055	Level 3, ES, SF

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST00 - Lateral ST00 Svys													Offset Site Error: 0.00 usft	
Survey Program:		100-Gyroscope, 5633-MWD+HDGM, 10225-MWD+HDGM							Rule Assigned:				Offset Well Error: 0.00 usft	
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	98.21	-124.26	861.00	869.94					
100.00	100.00	87.44	87.44	0.13	0.04	98.20	-124.18	861.34	870.27	870.10	0.17	5,024.678		
200.00	200.00	185.32	185.32	0.49	0.09	98.20	-124.27	862.23	871.19	870.61	0.58	1,498.889		
300.00	300.00	290.67	290.66	0.85	0.14	98.24	-124.93	862.93	871.93	870.94	0.99	876.740		
400.00	400.00	391.62	391.61	1.21	0.20	98.28	-125.64	863.14	872.24	870.83	1.41	620.327		
500.00	500.00	496.70	496.68	1.57	0.25	98.34	-126.47	863.02	872.24	870.42	1.82	479.261		
600.00	600.00	595.62	595.60	1.93	0.30	98.40	-127.41	862.62	871.98	869.75	2.23	390.866		
700.00	700.00	694.88	694.85	2.29	0.36	98.47	-128.49	862.32	871.84	869.20	2.64	329.985		
800.00	800.00	795.66	795.63	2.64	0.41	98.55	-129.55	862.02	871.71	868.65	3.05	285.424		
900.00	900.00	897.13	897.09	3.00	0.46	98.62	-130.63	861.59	871.44	867.97	3.47	251.385		
1,000.00	1,000.00	1,000.88	1,000.83	3.36	0.52	98.71	-131.81	860.81	870.87	866.99	3.88	224.427		
1,100.00	1,100.00	1,101.57	1,101.51	3.72	0.57	98.79	-132.91	859.81	870.05	865.76	4.29	202.691		
1,200.00	1,200.00	1,203.80	1,203.73	4.08	0.63	98.84	-133.59	858.66	869.04	864.34	4.70	184.720		
1,300.00	1,300.00	1,300.00	1,299.92	4.44	0.68	98.90	-134.30	857.78	868.25	863.13	5.11	169.763		
1,400.00	1,400.00	1,402.03	1,401.94	4.79	0.73	98.98	-135.35	856.90	867.56	862.03	5.53	156.959		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST00 - Lateral ST00 Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10225-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
1,500.00	1,500.00	1,502.14	1,502.05	5.15	0.79	99.04	-136.13	855.84	866.64	860.70	5.94	145.933	
1,600.00	1,600.00	1,603.80	1,603.69	5.51	0.84	99.09	-136.79	854.68	865.61	859.26	6.35	136.298	
1,700.00	1,700.00	1,704.80	1,704.69	5.87	0.89	99.15	-137.46	853.36	864.42	857.66	6.76	127.821	
1,800.00	1,800.00	1,801.25	1,801.13	6.23	0.95	99.19	-137.96	852.27	863.39	856.22	7.17	120.381	
1,900.00	1,900.00	1,900.00	1,899.87	6.59	1.00	99.20	-137.95	851.53	862.66	855.07	7.58	113.785	
2,000.00	2,000.00	1,996.89	1,996.76	6.95	1.05	99.18	-137.54	851.13	862.17	854.18	7.99	107.907	
2,077.42	2,077.42	2,071.55	2,071.42	7.22	1.09	99.16	-137.29	851.05	862.05	853.74	8.31	103.785	
2,100.00	2,100.00	2,093.32	2,093.19	7.30	1.10	99.16	-137.23	851.07	862.06	853.66	8.40	102.647	
2,200.00	2,200.00	2,192.81	2,192.68	7.66	1.15	99.14	-136.99	851.24	862.19	853.39	8.81	97.885	
2,300.00	2,300.00	2,298.01	2,297.88	8.02	1.20	99.13	-136.78	851.14	862.07	852.85	9.22	93.486	
2,400.00	2,400.00	2,396.75	2,396.62	8.38	1.25	99.12	-136.57	850.79	861.68	852.05	9.63	89.469	
2,500.00	2,500.00	2,499.18	2,499.05	8.74	1.31	99.12	-136.50	850.35	861.25	851.20	10.04	85.755	
2,600.00	2,600.00	2,595.02	2,594.89	9.10	1.36	99.13	-136.57	850.00	860.90	850.45	10.45	82.370	
2,655.99	2,655.99	2,650.12	2,649.99	9.30	1.39	99.13	-136.56	849.97	860.87	850.19	10.68	80.599	
2,700.00	2,700.00	2,693.55	2,693.42	9.45	1.41	99.12	-136.51	850.00	860.89	850.03	10.86	79.262	
2,800.00	2,800.00	2,792.78	2,792.65	9.81	1.46	99.12	-136.50	850.11	861.00	849.73	11.27	76.386	
2,900.00	2,900.00	2,890.50	2,890.37	10.17	1.51	99.13	-136.60	850.38	861.28	849.60	11.68	73.734	
3,000.00	3,000.00	2,988.07	2,987.93	10.53	1.56	99.09	-136.20	851.00	861.85	849.76	12.09	71.289	
3,100.00	3,100.00	3,083.48	3,083.33	10.89	1.61	99.02	-135.19	852.08	862.80	850.31	12.50	69.044	
3,200.00	3,200.00	3,176.77	3,176.60	11.25	1.66	98.92	-133.97	853.79	864.41	851.51	12.90	67.001	
3,300.00	3,300.00	3,274.40	3,274.19	11.61	1.71	98.81	-132.69	856.18	866.63	853.32	13.31	65.113	
3,400.00	3,400.00	3,375.93	3,375.68	11.96	1.76	98.70	-131.37	858.67	868.86	855.14	13.72	63.324	
3,500.00	3,500.00	3,481.19	3,480.91	12.32	1.81	98.57	-129.70	860.89	870.70	856.57	14.14	61.599	
3,600.00	3,600.00	3,579.05	3,578.73	12.68	1.86	98.44	-127.98	862.67	872.25	857.70	14.54	59.973	
3,700.00	3,700.00	3,693.02	3,692.67	13.04	1.92	98.30	-126.02	864.28	873.42	858.46	14.96	58.369	
3,800.00	3,800.00	3,800.68	3,800.32	13.40	1.98	98.18	-124.23	864.19	873.10	857.72	15.38	56.775	
3,900.00	3,900.00	3,900.57	3,900.19	13.76	2.03	98.07	-122.44	863.73	872.38	856.59	15.79	55.252	
4,000.00	4,000.00	4,002.34	4,001.94	14.11	2.09	97.94	-120.40	863.18	871.57	855.37	16.20	53.797	
4,100.00	4,100.00	4,102.81	4,102.38	14.47	2.14	97.81	-118.30	862.52	870.63	854.02	16.61	52.409	
4,200.00	4,200.00	4,203.90	4,203.45	14.83	2.19	97.68	-116.14	861.78	869.63	852.60	17.02	51.082	
4,300.00	4,300.00	4,311.55	4,311.06	15.19	2.25	97.51	-113.47	860.44	868.05	850.61	17.44	49.778	
4,400.00	4,400.00	4,411.78	4,411.24	15.55	2.30	97.34	-110.56	858.80	866.06	848.21	17.85	48.518	
4,500.00	4,500.00	4,509.88	4,509.27	15.91	2.36	97.14	-107.47	857.34	864.19	845.93	18.26	47.321	
4,600.00	4,600.00	4,609.50	4,608.83	16.27	2.41	96.95	-104.38	855.98	862.45	843.78	18.67	46.183	
4,700.00	4,700.00	4,710.12	4,709.40	16.62	2.47	96.76	-101.35	854.55	860.67	841.59	19.09	45.091	
4,800.00	4,800.00	4,807.32	4,806.56	16.98	2.52	96.61	-98.81	853.29	859.08	839.59	19.50	44.057	
4,900.00	4,900.00	4,912.48	4,911.68	17.34	2.58	96.45	-96.30	851.64	857.25	837.34	19.91	43.050	
5,000.00	5,000.00	5,008.39	5,007.55	17.70	2.63	96.31	-94.05	850.13	855.43	835.10	20.32	42.088	
5,100.00	5,100.00	5,103.42	5,102.55	18.06	2.68	96.18	-91.94	849.13	854.14	833.40	20.74	41.192	
5,200.00	5,200.00	5,201.51	5,200.62	18.42	2.73	96.05	-89.97	848.47	853.25	832.10	21.15	40.348	
5,300.00	5,300.00	5,300.00	5,299.09	18.77	2.79	95.94	-88.27	847.95	852.55	830.99	21.56	39.546	
5,350.00	5,350.00	5,349.41	5,348.49	18.95	2.81	95.89	-87.52	847.74	852.26	830.50	21.76	39.159	
5,400.00	5,400.00	5,398.54	5,397.62	19.13	2.84	22.95	-86.82	847.58	851.62	829.65	21.97	38.769	
5,500.00	5,499.93	5,492.66	5,491.73	19.48	2.87	22.99	-85.70	847.69	848.40	826.06	22.34	37.979	
5,600.00	5,599.68	5,588.85	5,587.92	19.82	2.88	23.14	-84.68	848.25	842.45	819.75	22.70	37.120	
5,700.00	5,699.13	5,686.24	5,685.29	20.17	2.93	23.41	-83.73	849.19	833.69	810.60	23.09	36.113	
5,750.56	5,749.25	5,735.94	5,734.99	20.35	2.96	23.60	-83.29	849.72	828.11	804.81	23.30	35.545	
5,800.00	5,798.21	5,784.51	5,783.56	20.52	3.00	23.76	-82.89	850.27	822.29	798.79	23.50	34.985	
5,900.00	5,897.24	5,886.45	5,885.48	20.88	3.13	24.09	-81.92	851.28	810.41	786.43	23.98	33.799	
6,000.00	5,996.26	5,985.28	5,984.31	21.23	3.30	24.42	-80.90	852.13	798.41	773.91	24.49	32.598	
6,100.00	6,095.29	6,084.08	6,083.10	21.59	3.48	24.77	-80.02	853.01	786.47	761.46	25.02	31.440	
6,200.00	6,194.31	6,182.73	6,181.74	21.95	3.70	25.12	-79.17	853.94	774.63	749.05	25.58	30.282	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST00 - Lateral ST00 Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10225-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
6,300.00	6,293.33	6,281.46	6,280.46	22.31	3.92	25.49	-78.31	854.93	762.88	736.73	26.15	29.171	
6,400.00	6,392.36	6,381.50	6,380.50	22.67	4.16	25.97	-78.71	855.78	751.19	724.45	26.74	28.087	
6,500.00	6,491.38	6,482.01	6,481.00	23.03	4.42	26.54	-79.87	856.17	739.23	711.88	27.35	27.030	
6,600.00	6,590.41	6,580.52	6,579.49	23.39	4.68	27.12	-81.18	856.73	727.54	699.58	27.96	26.020	
6,700.00	6,689.43	6,681.51	6,680.48	23.76	4.96	27.72	-82.33	856.95	715.56	686.96	28.59	25.027	
6,800.00	6,788.45	6,779.32	6,778.28	24.13	5.24	28.34	-83.60	857.25	703.76	674.54	29.23	24.080	
6,900.00	6,887.48	6,878.25	6,877.20	24.49	5.53	28.98	-84.84	857.61	692.11	662.24	29.87	23.169	
7,000.00	6,986.50	6,977.24	6,976.19	24.86	5.83	29.64	-86.00	858.00	680.55	650.03	30.53	22.294	
7,100.00	7,085.53	7,076.27	7,075.21	25.23	6.14	30.31	-87.14	858.39	669.09	637.90	31.19	21.453	
7,200.00	7,184.55	7,174.55	7,173.48	25.61	6.45	31.01	-88.35	858.80	657.75	625.90	31.85	20.649	
7,300.00	7,283.58	7,272.41	7,271.33	25.98	6.76	31.76	-89.87	859.29	646.69	614.16	32.52	19.883	
7,400.00	7,382.60	7,371.40	7,370.30	26.35	7.08	32.57	-91.68	859.84	635.86	602.65	33.20	19.150	
7,500.00	7,481.62	7,470.81	7,469.69	26.73	7.40	33.41	-93.52	860.32	625.10	591.21	33.89	18.446	
7,600.00	7,580.65	7,570.81	7,569.67	27.10	7.73	34.28	-95.34	860.71	614.37	579.80	34.58	17.768	
7,700.00	7,679.67	7,670.92	7,669.77	27.48	8.06	35.17	-96.99	860.95	603.61	568.34	35.27	17.113	
7,800.00	7,778.70	7,768.39	7,767.23	27.86	8.38	36.07	-98.57	861.22	593.01	557.05	35.96	16.489	
7,900.00	7,877.72	7,867.00	7,865.82	28.23	8.71	37.01	-100.28	861.75	582.85	546.19	36.66	15.899	
8,000.00	7,976.74	7,966.50	7,965.31	28.61	9.05	38.00	-102.06	862.25	572.84	535.48	37.36	15.332	
8,100.00	8,075.77	8,067.08	8,065.86	28.99	9.39	39.05	-103.82	862.44	562.70	524.63	38.07	14.780	
8,200.00	8,174.79	8,166.04	8,164.81	29.37	9.73	40.10	-105.44	862.54	552.63	513.85	38.78	14.250	
8,300.00	8,273.82	8,265.24	8,264.00	29.75	10.06	41.18	-106.87	862.71	542.73	503.24	39.49	13.743	
8,400.00	8,372.84	8,365.28	8,364.04	30.14	10.40	42.31	-108.25	862.75	532.90	492.70	40.21	13.254	
8,500.00	8,471.86	8,464.82	8,463.57	30.52	10.74	43.48	-109.63	862.59	523.10	482.17	40.92	12.782	
8,600.00	8,570.89	8,563.32	8,562.05	30.90	11.08	44.69	-111.06	862.42	513.53	471.89	41.64	12.333	
8,700.00	8,669.91	8,662.64	8,661.36	31.29	11.42	45.96	-112.60	862.25	504.27	461.90	42.36	11.904	
8,800.00	8,768.94	8,763.21	8,761.92	31.67	11.77	47.32	-114.16	861.79	495.00	451.91	43.09	11.488	
8,900.00	8,867.96	8,863.21	8,861.91	32.05	12.11	48.74	-115.69	860.97	485.72	441.90	43.82	11.085	
9,000.00	8,966.99	8,962.69	8,961.37	32.44	12.45	50.21	-117.22	859.97	476.57	432.03	44.54	10.699	
9,100.00	9,066.01	9,062.95	9,061.61	32.83	12.79	51.77	-118.72	858.76	467.57	422.29	45.28	10.327	
9,200.00	9,165.03	9,163.65	9,162.28	33.21	13.14	53.41	-120.09	857.15	458.52	412.51	46.01	9.965	
9,300.00	9,264.06	9,262.92	9,261.53	33.60	13.48	55.10	-121.35	855.23	449.54	402.80	46.75	9.617	
9,400.00	9,363.08	9,361.64	9,360.22	33.99	13.81	56.88	-122.72	853.20	440.95	393.46	47.48	9.286	
9,500.00	9,462.11	9,463.63	9,462.17	34.37	14.16	58.79	-124.00	850.79	432.48	384.26	48.23	8.968	
9,600.00	9,561.13	9,566.25	9,564.75	34.76	14.51	60.78	-124.56	847.73	423.58	374.60	48.97	8.650	
9,640.77	9,601.50	9,606.45	9,604.93	34.92	14.64	61.57	-124.58	846.45	419.89	370.61	49.27	8.522	
9,700.00	9,660.20	9,664.83	9,663.29	35.15	14.84	62.63	-124.42	844.78	414.82	365.11	49.71	8.345	
9,800.00	9,759.47	9,763.89	9,762.32	35.53	15.17	64.21	-123.65	842.50	407.22	356.78	50.44	8.073	
9,900.00	9,858.93	9,864.84	9,863.23	35.91	15.51	65.61	-122.47	840.24	400.45	349.29	51.17	7.827	
10,000.00	9,958.56	9,965.37	9,963.71	36.28	15.85	66.86	-121.14	837.55	394.22	342.34	51.89	7.598	
10,100.00	10,058.33	10,063.75	10,062.05	36.65	16.18	67.92	-120.00	834.82	388.92	336.32	52.60	7.394	
10,200.00	10,158.20	10,162.58	10,160.84	37.01	16.47	68.81	-119.18	832.14	384.69	331.43	53.27	7.222	
10,300.00	10,258.14	10,257.00	10,255.22	37.36	16.58	69.46	-118.51	829.62	381.34	327.58	53.75	7.094	
10,326.16	10,284.29	10,277.40	10,275.61	37.45	16.58	69.62	-118.80	829.03	380.99	327.13	53.86	7.074 CC, ES	
10,400.00	10,358.12	10,325.29	10,323.28	37.71	16.58	70.33	-122.69	827.04	383.62	329.55	54.07	7.094	
10,441.88	10,400.00	10,350.00	10,347.66	37.86	16.59	143.77	-126.52	825.85	387.64	333.54	54.11	7.164	
10,500.00	10,458.12	10,382.00	10,378.94	38.06	16.60	144.50	-133.15	824.61	396.33	342.30	54.03	7.336	
10,600.00	10,558.12	10,437.78	10,432.32	38.40	16.62	145.91	-149.20	823.90	419.74	366.09	53.65	7.823	
10,700.00	10,658.12	10,494.60	10,485.12	38.75	16.65	147.36	-170.11	825.19	452.41	399.29	53.12	8.516	
10,705.88	10,664.00	10,497.62	10,487.88	38.77	16.65	147.44	-171.35	825.30	454.59	401.51	53.08	8.564	
10,725.00	10,683.12	10,507.37	10,496.70	38.84	16.65	49.47	-175.47	825.63	461.68	408.74	52.94	8.721	
10,750.00	10,708.06	10,523.00	10,510.70	38.93	16.66	49.12	-182.41	826.19	470.75	417.93	52.82	8.912	
10,775.00	10,732.88	10,534.46	10,520.84	39.02	16.67	48.74	-187.71	826.60	479.51	426.92	52.59	9.118	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST00 - Lateral ST00 Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10225-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor		
10,800.00	10,757.52	10,549.49	10,534.04	39.12	16.69	48.59	-194.88	827.10	487.93	435.48	52.45	9.304	
10,825.00	10,781.89	10,571.00	10,552.72	39.22	16.70	48.89	-205.55	827.75	496.08	443.60	52.48	9.452	
10,850.00	10,805.95	10,571.00	10,552.72	39.32	16.70	48.15	-205.55	827.75	503.85	451.94	51.91	9.706	
10,875.00	10,829.61	10,588.33	10,567.52	39.43	16.72	48.40	-214.54	828.31	511.36	459.52	51.84	9.864	
10,900.00	10,852.82	10,599.29	10,576.75	39.54	16.73	48.35	-220.44	828.74	518.77	467.19	51.58	10.057	
10,925.00	10,875.51	10,618.00	10,592.24	39.66	16.75	48.85	-230.90	829.59	526.15	474.58	51.57	10.204	
10,950.00	10,897.63	10,618.00	10,592.24	39.78	16.75	48.19	-230.90	829.59	533.16	482.18	50.98	10.458	
10,975.00	10,919.10	10,633.59	10,604.94	39.90	16.77	48.59	-239.89	830.41	540.07	489.17	50.90	10.611	
11,000.00	10,939.87	10,645.94	10,614.92	40.03	16.79	48.81	-247.14	831.10	546.79	496.07	50.73	10.779	
11,025.00	10,959.89	10,666.00	10,630.94	40.16	16.82	49.64	-259.15	832.32	553.43	502.60	50.82	10.889	
11,050.00	10,979.10	10,666.00	10,630.94	40.30	16.82	49.04	-259.15	832.32	559.75	509.45	50.30	11.129	
11,075.00	10,997.44	10,680.19	10,642.14	40.45	16.84	49.51	-267.80	833.31	566.00	515.74	50.26	11.262	
11,100.00	11,014.87	10,690.74	10,650.39	40.60	16.86	49.73	-274.33	834.14	572.17	522.04	50.13	11.413	
11,125.00	11,031.33	10,700.99	10,658.35	40.75	16.88	49.95	-280.73	835.04	578.25	528.22	50.03	11.558	
11,150.00	11,046.79	10,712.00	10,666.82	40.91	16.90	50.25	-287.68	836.10	584.25	534.26	49.99	11.688	
11,175.00	11,061.21	10,722.12	10,674.55	41.09	16.92	50.49	-294.12	837.09	590.18	540.22	49.96	11.813	
11,200.00	11,074.53	10,732.77	10,682.67	41.26	16.94	50.80	-300.96	838.09	596.03	546.04	50.00	11.922	
11,205.88	11,077.50	10,735.17	10,684.48	41.31	16.94	50.87	-302.50	838.30	597.40	547.39	50.01	11.947	
11,225.00	11,087.03	10,743.01	10,690.42	41.45	16.96	50.50	-307.57	838.99	601.76	551.72	50.05	12.024	
11,250.00	11,099.41	10,753.58	10,698.41	41.64	16.98	50.01	-314.45	839.88	607.20	557.10	50.10	12.119	
11,275.00	11,111.66	10,760.00	10,703.24	41.83	16.99	49.18	-318.65	840.39	612.32	562.31	50.01	12.243	
11,300.00	11,123.74	10,760.00	10,703.24	42.03	16.99	47.87	-318.65	840.39	617.29	567.59	49.70	12.420	
11,325.00	11,135.62	10,778.33	10,716.84	42.23	17.03	47.90	-330.87	841.69	621.60	571.60	50.01	12.430	
11,350.00	11,147.27	10,786.25	10,722.61	42.42	17.05	47.17	-336.27	842.17	625.76	575.81	49.95	12.527	
11,375.00	11,158.66	10,805.00	10,736.01	42.62	17.09	47.17	-349.35	843.12	629.74	579.48	50.26	12.529	
11,400.00	11,169.75	10,805.00	10,736.01	42.81	17.09	45.92	-349.35	843.12	632.98	583.06	49.93	12.679	
11,425.00	11,180.52	10,805.00	10,736.01	43.00	17.09	44.72	-349.35	843.12	636.05	586.47	49.58	12.829	
11,450.00	11,190.93	10,820.06	10,746.50	43.19	17.14	44.50	-360.14	843.72	638.57	588.82	49.75	12.836	
11,475.00	11,200.96	10,829.12	10,752.69	43.37	17.16	43.92	-366.75	844.02	640.71	591.00	49.70	12.890	
11,500.00	11,210.57	10,838.37	10,758.91	43.55	17.19	43.38	-373.58	844.29	642.37	592.71	49.66	12.936	
11,525.00	11,219.75	10,854.00	10,769.20	43.72	17.23	43.22	-385.34	844.64	643.61	593.78	49.83	12.917	
11,550.00	11,228.47	10,854.00	10,769.20	43.89	17.23	42.22	-385.34	844.64	644.24	594.79	49.45	13.027	
11,575.00	11,236.70	10,865.50	10,776.57	44.05	17.27	41.89	-394.17	844.82	644.41	594.94	49.47	13.027	
11,600.00	11,244.43	10,874.21	10,782.00	44.20	17.29	41.43	-400.98	844.93	644.10	594.72	49.38	13.043	
11,625.00	11,251.62	10,888.00	10,790.34	44.34	17.34	41.25	-411.96	845.03	643.32	593.85	49.46	13.006	
11,650.00	11,258.26	10,888.00	10,790.34	44.48	17.34	40.45	-411.96	845.03	641.95	592.88	49.07	13.083	
11,675.00	11,264.34	10,901.55	10,798.23	44.61	17.39	40.32	-422.98	845.04	640.03	590.90	49.13	13.028	
11,700.00	11,269.83	10,917.00	10,806.85	44.73	17.44	40.29	-435.80	844.96	637.64	588.39	49.25	12.948	
11,725.00	11,274.72	10,917.00	10,806.85	44.84	17.44	39.62	-435.80	844.96	634.59	585.75	48.84	12.994	
11,750.00	11,279.00	10,931.16	10,814.40	44.94	17.50	39.59	-447.77	844.79	630.96	582.06	48.90	12.903	
11,775.00	11,282.65	10,949.00	10,823.47	45.04	17.57	39.71	-463.13	844.43	626.85	577.78	49.07	12.773	
11,800.00	11,285.67	10,949.00	10,823.47	45.12	17.57	39.17	-463.13	844.43	621.96	573.31	48.65	12.783	
11,825.00	11,288.04	10,963.47	10,830.41	45.20	17.63	39.20	-475.82	844.12	616.50	567.80	48.71	12.658	
11,850.00	11,289.77	10,974.92	10,835.60	45.27	17.68	39.13	-486.02	843.94	610.41	561.77	48.65	12.548	
11,875.00	11,290.84	10,996.00	10,844.47	45.33	17.77	39.32	-505.15	843.75	603.81	554.93	48.88	12.354	
11,897.47	11,291.24	10,996.00	10,844.47	45.37	17.77	38.98	-505.15	843.75	597.03	548.54	48.49	12.313	
11,900.00	11,291.26	10,996.00	10,844.47	45.38	17.77	38.98	-505.15	843.75	596.26	547.82	48.44	12.308	
12,000.00	11,291.86	11,043.00	10,861.00	45.59	18.00	40.05	-549.12	843.87	569.67	521.48	48.19	11.821	
12,100.00	11,292.47	11,095.00	10,873.88	45.83	18.29	40.88	-599.47	844.39	551.34	503.18	48.16	11.447	
12,200.00	11,293.08	11,143.00	10,880.47	46.09	18.58	41.32	-646.99	844.60	542.04	493.87	48.17	11.252	
12,276.55	11,293.54	11,197.61	10,883.32	46.32	18.95	41.55	-701.52	844.27	540.15	491.63	48.51	11.134	
12,300.00	11,293.69	11,213.00	10,883.50	46.40	19.05	41.58	-716.91	844.09	540.32	491.72	48.60	11.119	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST00 - Lateral ST00 Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10225-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
12,400.00	11,294.29	11,319.16	10,882.01	46.73	19.83	41.48	-823.04	844.03	542.33	492.94	49.39	10.980	
12,500.00	11,294.90	11,417.10	10,880.19	47.11	20.63	41.14	-920.93	846.83	542.70	492.61	50.09	10.835	
12,600.00	11,295.51	11,505.32	10,877.08	47.52	21.41	40.75	-1,009.05	849.16	544.49	493.78	50.72	10.736	
12,700.00	11,296.11	11,625.41	10,873.83	47.96	22.54	40.29	-1,129.05	852.25	545.76	493.93	51.83	10.530	
12,800.00	11,296.72	11,727.01	10,871.32	48.45	23.57	39.67	-1,230.46	857.89	544.94	492.25	52.69	10.342	
12,900.00	11,297.33	11,828.90	10,870.03	48.97	24.65	39.18	-1,332.21	863.02	543.57	489.90	53.67	10.128	
13,000.00	11,297.94	11,929.37	10,868.45	49.53	25.76	38.68	-1,432.54	867.89	542.60	487.93	54.67	9.925	
13,100.00	11,298.54	12,040.46	10,867.88	50.13	27.03	38.08	-1,543.42	874.78	539.98	484.11	55.87	9.665	
13,200.00	11,299.15	12,138.75	10,868.07	50.77	28.19	37.53	-1,641.47	881.62	536.41	479.51	56.90	9.428	
13,300.00	11,299.76	12,242.41	10,866.25	51.44	29.45	36.66	-1,744.72	890.57	533.46	475.56	57.89	9.214	
13,400.00	11,300.36	12,356.73	10,867.51	52.14	30.87	35.92	-1,858.63	900.16	528.44	469.25	59.20	8.927	
13,500.00	11,300.97	12,453.13	10,871.52	52.88	32.09	35.65	-1,954.74	906.29	522.20	461.78	60.42	8.643	
13,600.00	11,301.58	12,546.82	10,876.74	53.65	33.27	35.78	-2,048.25	908.68	517.03	455.20	61.84	8.361	
13,700.00	11,302.19	12,628.48	10,880.84	54.45	34.29	36.10	-2,129.80	908.30	514.11	450.98	63.14	8.143	
13,728.65	11,302.36	12,652.00	10,881.60	54.68	34.59	36.20	-2,153.30	907.78	513.98	450.46	63.52	8.091	
13,800.00	11,302.79	12,714.26	10,882.55	55.27	35.37	36.40	-2,215.54	906.36	514.66	450.12	64.54	7.975	
13,900.00	11,303.40	12,803.86	10,881.35	56.13	36.51	36.45	-2,305.11	904.98	517.49	451.59	65.90	7.852	
14,000.00	11,304.01	12,919.47	10,878.13	57.01	38.01	36.27	-2,420.67	904.85	520.79	453.08	67.71	7.691	
14,100.00	11,304.61	13,022.76	10,878.33	57.92	39.36	36.21	-2,523.95	905.87	520.89	451.52	69.37	7.509	
14,200.00	11,305.22	13,116.44	10,879.08	58.85	40.59	36.34	-2,617.62	905.08	521.60	450.64	70.96	7.351	
14,300.00	11,305.83	13,223.85	10,879.60	59.80	42.01	36.44	-2,725.02	904.52	522.37	449.51	72.86	7.169	
14,400.00	11,306.44	13,330.61	10,882.87	60.77	43.43	36.82	-2,831.71	902.77	521.74	446.76	74.98	6.958	
14,500.00	11,307.04	13,438.98	10,889.26	61.76	44.87	37.50	-2,939.86	900.04	519.39	441.99	77.40	6.710	
14,600.00	11,307.65	13,538.00	10,894.51	62.78	46.20	37.92	-3,038.73	899.39	516.45	436.98	79.47	6.499	
14,700.00	11,308.26	13,631.18	10,897.21	63.81	47.47	38.02	-3,131.87	900.57	514.24	433.07	81.18	6.335	
14,769.03	11,308.68	13,693.00	10,897.37	64.53	48.32	37.92	-3,193.67	901.90	513.77	431.60	82.17	6.252	
14,800.00	11,308.86	13,719.68	10,897.07	64.85	48.68	37.85	-3,220.33	902.48	513.90	431.33	82.57	6.224	
14,900.00	11,309.47	13,814.56	10,895.09	65.92	49.98	37.66	-3,315.19	903.27	515.86	431.76	84.10	6.134	
15,000.00	11,310.08	13,925.31	10,896.35	67.00	51.50	37.79	-3,425.92	902.85	515.97	429.66	86.31	5.978	
15,027.95	11,310.25	13,951.98	10,896.70	67.30	51.86	37.82	-3,452.59	902.83	515.94	429.12	86.82	5.943	
15,100.00	11,310.69	14,021.43	10,896.89	68.09	52.82	37.81	-3,522.04	903.23	516.14	428.06	88.08	5.860	
15,200.00	11,311.29	14,128.81	10,896.16	69.20	54.31	37.60	-3,629.49	905.19	516.45	426.51	89.94	5.742	
15,300.00	11,311.90	14,232.66	10,898.04	70.32	55.76	37.57	-3,733.21	907.11	514.72	422.84	91.88	5.602	
15,400.00	11,312.51	14,331.07	10,899.58	71.45	57.13	37.53	-3,831.60	908.88	513.23	419.53	93.69	5.478	
15,500.00	11,313.12	14,434.90	10,902.34	72.60	58.58	37.67	-3,935.39	909.51	511.60	415.78	95.82	5.339	
15,600.00	11,313.72	14,534.98	10,905.76	73.75	59.97	37.87	-4,035.40	910.07	509.42	411.49	97.93	5.202	
15,663.85	11,314.11	14,588.00	10,906.97	74.50	60.72	37.87	-4,088.40	911.08	508.18	409.29	98.89	5.139 SF	
15,700.00	11,314.33	14,588.00	10,906.97	74.92	60.72	37.87	-4,088.40	911.08	509.46	410.97	98.49	5.172	
15,800.00	11,314.94	14,588.00	10,906.97	76.10	60.72	37.87	-4,088.40	911.08	526.10	429.94	96.17	5.471	
15,900.00	11,315.54	14,588.00	10,906.97	77.29	60.72	37.87	-4,088.40	911.08	560.37	467.79	92.58	6.053	
16,000.00	11,316.15	14,588.00	10,906.97	78.48	60.72	37.87	-4,088.40	911.08	609.30	520.72	88.57	6.879	
16,100.00	11,316.76	14,588.00	10,906.97	79.69	60.72	37.87	-4,088.40	911.08	669.68	584.94	84.75	7.902	
16,200.00	11,317.37	14,588.00	10,906.97	80.90	60.72	37.87	-4,088.40	911.08	738.72	657.33	81.39	9.077	
16,300.00	11,317.97	14,588.00	10,906.97	82.12	60.72	37.87	-4,088.40	911.08	814.21	735.64	78.57	10.363	
16,400.00	11,318.58	14,588.00	10,906.97	83.35	60.72	37.87	-4,088.40	911.08	894.52	818.26	76.26	11.730	
16,500.00	11,319.19	14,588.00	10,906.97	84.59	60.72	37.87	-4,088.40	911.08	978.47	904.08	74.38	13.154	
16,600.00	11,319.79	14,588.00	10,906.97	85.84	60.72	37.87	-4,088.40	911.08	1,065.19	992.32	72.87	14.619	
16,633.91	11,320.00	14,588.00	10,906.97	86.26	60.72	37.87	-4,088.40	911.08	1,095.11	1,022.69	72.42	15.122	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST01 - Lateral ST01													Offset Site Error: 0.00 usft
Survey Program: 100-GyroScope, 5633-MWD+HDGM, 10234-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	98.21	-124.26	861.00	869.94				
100.00	100.00	87.44	87.44	0.13	0.04	98.20	-124.18	861.34	870.27	870.10			0.17 5,024.678
200.00	200.00	185.32	185.32	0.49	0.09	98.20	-124.27	862.23	871.19	870.61			0.58 1,498.889
300.00	300.00	290.67	290.66	0.85	0.14	98.24	-124.93	862.93	871.93	870.94			0.99 876.740
400.00	400.00	391.62	391.61	1.21	0.20	98.28	-125.64	863.14	872.24	870.83			1.41 620.327
500.00	500.00	496.70	496.68	1.57	0.25	98.34	-126.47	863.02	872.24	870.42			1.82 479.261
600.00	600.00	595.62	595.60	1.93	0.30	98.40	-127.41	862.62	871.98	869.75			2.23 390.866
700.00	700.00	694.88	694.85	2.29	0.36	98.47	-128.49	862.32	871.84	869.20			2.64 329.985
800.00	800.00	795.66	795.63	2.64	0.41	98.55	-129.55	862.02	871.71	868.65			3.05 285.424
900.00	900.00	897.13	897.09	3.00	0.46	98.62	-130.63	861.59	871.44	867.97			3.47 251.385
1,000.00	1,000.00	1,000.88	1,000.83	3.36	0.52	98.71	-131.81	860.81	870.87	866.99			3.88 224.427
1,100.00	1,100.00	1,101.57	1,101.51	3.72	0.57	98.79	-132.91	859.81	870.05	865.76			4.29 202.691
1,200.00	1,200.00	1,203.80	1,203.73	4.08	0.63	98.84	-133.59	858.66	869.04	864.34			4.70 184.720
1,300.00	1,300.00	1,300.00	1,299.92	4.44	0.68	98.90	-134.30	857.78	868.25	863.13			5.11 169.763
1,400.00	1,400.00	1,402.03	1,401.94	4.79	0.73	98.98	-135.35	856.90	867.56	862.03			5.53 156.959
1,500.00	1,500.00	1,502.14	1,502.05	5.15	0.79	99.04	-136.13	855.84	866.64	860.70			5.94 145.933
1,600.00	1,600.00	1,603.80	1,603.69	5.51	0.84	99.09	-136.79	854.68	865.61	859.26			6.35 136.298
1,700.00	1,700.00	1,704.80	1,704.69	5.87	0.89	99.15	-137.46	853.36	864.42	857.66			6.76 127.821
1,800.00	1,800.00	1,801.25	1,801.13	6.23	0.95	99.19	-137.96	852.27	863.39	856.22			7.17 120.381
1,900.00	1,900.00	1,900.00	1,899.87	6.59	1.00	99.20	-137.95	851.53	862.66	855.07			7.58 113.785
2,000.00	2,000.00	1,996.89	1,996.76	6.95	1.05	99.18	-137.54	851.13	862.17	854.18			7.99 107.907
2,077.42	2,077.42	2,071.55	2,071.42	7.22	1.09	99.16	-137.29	851.05	862.05	853.74			8.31 103.785
2,100.00	2,100.00	2,093.32	2,093.19	7.30	1.10	99.16	-137.23	851.07	862.06	853.66			8.40 102.647
2,200.00	2,200.00	2,192.81	2,192.68	7.66	1.15	99.14	-136.99	851.24	862.19	853.39			8.81 97.885
2,300.00	2,300.00	2,298.01	2,297.88	8.02	1.20	99.13	-136.78	851.14	862.07	852.85			9.22 93.486
2,400.00	2,400.00	2,396.75	2,396.62	8.38	1.25	99.12	-136.57	850.79	861.68	852.05			9.63 89.469
2,500.00	2,500.00	2,499.18	2,499.05	8.74	1.31	99.12	-136.50	850.35	861.25	851.20			10.04 85.755
2,600.00	2,600.00	2,595.02	2,594.89	9.10	1.36	99.13	-136.57	850.00	860.90	850.45			10.45 82.370
2,655.99	2,655.99	2,650.12	2,649.99	9.30	1.39	99.13	-136.56	849.97	860.87	850.19			10.68 80.599
2,700.00	2,700.00	2,693.55	2,693.42	9.45	1.41	99.12	-136.51	850.00	860.89	850.03			10.86 79.262
2,800.00	2,800.00	2,792.78	2,792.65	9.81	1.46	99.12	-136.50	850.11	861.00	849.73			11.27 76.386
2,900.00	2,900.00	2,890.50	2,890.37	10.17	1.51	99.13	-136.60	850.38	861.28	849.60			11.68 73.734
3,000.00	3,000.00	2,988.07	2,987.93	10.53	1.56	99.09	-136.20	851.00	861.85	849.76			12.09 71.289
3,100.00	3,100.00	3,083.48	3,083.33	10.89	1.61	99.02	-135.19	852.08	862.80	850.31			12.50 69.044
3,200.00	3,200.00	3,176.77	3,176.60	11.25	1.66	98.92	-133.97	853.79	864.41	851.51			12.90 67.001
3,300.00	3,300.00	3,274.40	3,274.19	11.61	1.71	98.81	-132.69	856.18	866.63	853.32			13.31 65.113
3,400.00	3,400.00	3,375.93	3,375.68	11.96	1.76	98.70	-131.37	858.67	868.86	855.14			13.72 63.324
3,500.00	3,500.00	3,481.19	3,480.91	12.32	1.81	98.57	-129.70	860.89	870.70	856.57			14.14 61.599
3,600.00	3,600.00	3,579.05	3,578.73	12.68	1.86	98.44	-127.98	862.67	872.25	857.70			14.54 59.973
3,700.00	3,700.00	3,693.02	3,692.67	13.04	1.92	98.30	-126.02	864.28	873.42	858.46			14.96 58.369
3,800.00	3,800.00	3,800.68	3,800.32	13.40	1.98	98.18	-124.23	864.19	873.10	857.72			15.38 56.775
3,900.00	3,900.00	3,900.57	3,900.19	13.76	2.03	98.07	-122.44	863.73	872.38	856.59			15.79 55.252
4,000.00	4,000.00	4,002.34	4,001.94	14.11	2.09	97.94	-120.40	863.18	871.57	855.37			16.20 53.797
4,100.00	4,100.00	4,102.81	4,102.38	14.47	2.14	97.81	-118.30	862.52	870.63	854.02			16.61 52.409
4,200.00	4,200.00	4,203.90	4,203.45	14.83	2.19	97.68	-116.14	861.78	869.63	852.60			17.02 51.082
4,300.00	4,300.00	4,311.55	4,311.06	15.19	2.25	97.51	-113.47	860.44	868.05	850.61			17.44 49.778
4,400.00	4,400.00	4,411.78	4,411.24	15.55	2.30	97.34	-110.56	858.80	866.06	848.21			17.85 48.518
4,500.00	4,500.00	4,509.88	4,509.27	15.91	2.36	97.14	-107.47	857.34	864.19	845.93			18.26 47.321
4,600.00	4,600.00	4,609.50	4,608.83	16.27	2.41	96.95	-104.38	855.98	862.45	843.78			18.67 46.183
4,700.00	4,700.00	4,710.12	4,709.40	16.62	2.47	96.76	-101.35	854.55	860.67	841.59			19.09 45.091
4,800.00	4,800.00	4,807.32	4,806.56	16.98	2.52	96.61	-98.81	853.29	859.08	839.59			19.50 44.057
4,900.00	4,900.00	4,912.48	4,911.68	17.34	2.58	96.45	-96.30	851.64	857.25	837.34			19.91 43.050

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST01 - Lateral ST01													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10234-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
5,000.00	5,000.00	5,008.39	5,007.55	17.70	2.63	96.31	-94.05	850.13	855.43	835.10	20.32	42.088	
5,100.00	5,100.00	5,103.42	5,102.55	18.06	2.68	96.18	-91.94	849.13	854.14	833.40	20.74	41.192	
5,200.00	5,200.00	5,201.51	5,200.62	18.42	2.73	96.05	-89.97	848.47	853.25	832.10	21.15	40.348	
5,300.00	5,300.00	5,300.00	5,299.09	18.77	2.79	95.94	-88.27	847.95	852.55	830.99	21.56	39.546	
5,350.00	5,350.00	5,349.41	5,348.49	18.95	2.81	95.89	-87.52	847.74	852.26	830.50	21.76	39.159	
5,400.00	5,400.00	5,398.54	5,397.62	19.13	2.84	22.95	-86.82	847.58	851.62	829.65	21.97	38.769	
5,500.00	5,499.93	5,492.66	5,491.73	19.48	2.87	22.99	-85.70	847.69	848.40	826.06	22.34	37.979	
5,600.00	5,599.68	5,588.85	5,587.92	19.82	2.88	23.14	-84.68	848.25	842.45	819.75	22.70	37.120	
5,700.00	5,699.13	5,686.24	5,685.29	20.17	2.93	23.41	-83.73	849.19	833.69	810.60	23.09	36.113	
5,750.56	5,749.25	5,735.94	5,734.99	20.35	2.96	23.60	-83.29	849.72	828.11	804.81	23.30	35.545	
5,800.00	5,798.21	5,784.51	5,783.56	20.52	3.00	23.76	-82.89	850.27	822.29	798.79	23.50	34.985	
5,900.00	5,897.24	5,886.45	5,885.48	20.88	3.13	24.09	-81.92	851.28	810.41	786.43	23.98	33.799	
6,000.00	5,996.26	5,985.28	5,984.31	21.23	3.30	24.42	-80.90	852.13	798.41	773.91	24.49	32.598	
6,100.00	6,095.29	6,084.08	6,083.10	21.59	3.48	24.77	-80.02	853.01	786.47	761.46	25.02	31.440	
6,200.00	6,194.31	6,182.73	6,181.74	21.95	3.70	25.12	-79.17	853.94	774.63	749.05	25.58	30.282	
6,300.00	6,293.33	6,281.46	6,280.46	22.31	3.92	25.49	-78.31	854.93	762.88	736.73	26.15	29.171	
6,400.00	6,392.36	6,381.50	6,380.50	22.67	4.16	25.97	-78.71	855.78	751.19	724.45	26.74	28.087	
6,500.00	6,491.38	6,482.01	6,481.00	23.03	4.42	26.54	-79.87	856.17	739.23	711.88	27.35	27.030	
6,600.00	6,590.41	6,580.52	6,579.49	23.39	4.68	27.12	-81.18	856.73	727.54	699.58	27.96	26.020	
6,700.00	6,689.43	6,681.51	6,680.48	23.76	4.96	27.72	-82.33	856.95	715.56	686.96	28.59	25.027	
6,800.00	6,788.45	6,779.32	6,778.28	24.13	5.24	28.34	-83.60	857.25	703.76	674.54	29.23	24.080	
6,900.00	6,887.48	6,878.25	6,877.20	24.49	5.53	28.98	-84.84	857.61	692.11	662.24	29.87	23.169	
7,000.00	6,986.50	6,977.24	6,976.19	24.86	5.83	29.64	-86.00	858.00	680.55	650.03	30.53	22.294	
7,100.00	7,085.53	7,076.27	7,075.21	25.23	6.14	30.31	-87.14	858.39	669.09	637.90	31.19	21.453	
7,200.00	7,184.55	7,174.55	7,173.48	25.61	6.45	31.01	-88.35	858.80	657.75	625.90	31.85	20.649	
7,300.00	7,283.58	7,272.41	7,271.33	25.98	6.76	31.76	-89.87	859.29	646.69	614.16	32.52	19.883	
7,400.00	7,382.60	7,371.40	7,370.30	26.35	7.08	32.57	-91.68	859.84	635.86	602.65	33.20	19.150	
7,500.00	7,481.62	7,470.81	7,469.69	26.73	7.40	33.41	-93.52	860.32	625.10	591.21	33.89	18.446	
7,600.00	7,580.65	7,570.81	7,569.67	27.10	7.73	34.28	-95.34	860.71	614.37	579.80	34.58	17.768	
7,700.00	7,679.67	7,670.92	7,669.77	27.48	8.06	35.17	-96.99	860.95	603.61	568.34	35.27	17.113	
7,800.00	7,778.70	7,768.39	7,767.23	27.86	8.38	36.07	-98.57	861.22	593.01	557.05	35.96	16.489	
7,900.00	7,877.72	7,867.00	7,865.82	28.23	8.71	37.01	-100.28	861.75	582.85	546.19	36.66	15.899	
8,000.00	7,976.74	7,966.50	7,965.31	28.61	9.05	38.00	-102.06	862.25	572.84	535.48	37.36	15.332	
8,100.00	8,075.77	8,067.08	8,065.86	28.99	9.39	39.05	-103.82	862.44	562.70	524.63	38.07	14.780	
8,200.00	8,174.79	8,166.04	8,164.81	29.37	9.73	40.10	-105.44	862.54	552.63	513.85	38.78	14.250	
8,300.00	8,273.82	8,265.24	8,264.00	29.75	10.06	41.18	-106.87	862.71	542.73	503.24	39.49	13.743	
8,400.00	8,372.84	8,365.28	8,364.04	30.14	10.40	42.31	-108.25	862.75	532.90	492.70	40.21	13.254	
8,500.00	8,471.86	8,464.82	8,463.57	30.52	10.74	43.48	-109.63	862.59	523.10	482.17	40.92	12.782	
8,600.00	8,570.89	8,563.32	8,562.05	30.90	11.08	44.69	-111.06	862.42	513.53	471.89	41.64	12.333	
8,700.00	8,669.91	8,662.64	8,661.36	31.29	11.42	45.96	-112.60	862.25	504.27	461.90	42.36	11.904	
8,800.00	8,768.94	8,763.21	8,761.92	31.67	11.77	47.32	-114.16	861.79	495.00	451.91	43.09	11.488	
8,900.00	8,867.96	8,863.21	8,861.91	32.05	12.11	48.74	-115.69	860.97	485.72	441.90	43.82	11.085	
9,000.00	8,966.99	8,962.69	8,961.37	32.44	12.45	50.21	-117.22	859.97	476.57	432.03	44.54	10.699	
9,100.00	9,066.01	9,062.95	9,061.61	32.83	12.79	51.77	-118.72	858.76	467.57	422.29	45.28	10.327	
9,200.00	9,165.03	9,163.65	9,162.28	33.21	13.14	53.41	-120.09	857.15	458.52	412.51	46.01	9.965	
9,300.00	9,264.06	9,262.92	9,261.53	33.60	13.48	55.10	-121.35	855.23	449.54	402.80	46.75	9.617	
9,400.00	9,363.08	9,361.64	9,360.22	33.99	13.81	56.88	-122.72	853.20	440.95	393.46	47.48	9.286	
9,500.00	9,462.11	9,463.63	9,462.17	34.37	14.16	58.79	-124.00	850.79	432.48	384.26	48.23	8.968	
9,600.00	9,561.13	9,566.25	9,564.75	34.76	14.51	60.78	-124.56	847.73	423.58	374.60	48.97	8.650	
9,640.77	9,601.50	9,606.45	9,604.93	34.92	14.64	61.57	-124.58	846.45	419.89	370.61	49.27	8.522	
9,700.00	9,660.20	9,664.83	9,663.29	35.15	14.84	62.63	-124.42	844.78	414.82	365.11	49.71	8.345	
9,800.00	9,759.47	9,763.89	9,762.32	35.53	15.17	64.21	-123.65	842.50	407.22	356.78	50.44	8.073	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST01 - Lateral ST01													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10234-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	Rule Assigned:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,900.00	9,858.93	9,864.84	9,863.23	35.91	15.51	65.61	-122.47	840.24	400.45	349.29	51.17	7.827	
10,000.00	9,958.56	9,965.37	9,963.71	36.28	15.85	66.86	-121.14	837.55	394.22	342.34	51.89	7.598	
10,100.00	10,058.33	10,063.75	10,062.05	36.65	16.18	67.92	-120.00	834.82	388.92	336.32	52.60	7.394	
10,200.00	10,158.20	10,157.81	10,156.08	37.01	16.46	68.75	-119.24	832.46	384.86	331.59	53.27	7.225	
10,247.85	10,206.01	10,197.07	10,195.33	37.18	16.53	68.92	-119.14	832.66	384.25	330.73	53.52	7.180 CC, ES	
10,300.00	10,258.14	10,239.75	10,237.98	37.36	16.59	68.92	-119.22	834.23	384.97	331.21	53.76	7.161	
10,400.00	10,358.12	10,304.51	10,302.37	37.71	16.60	68.43	-119.94	840.90	392.00	338.10	53.91	7.272	
10,441.88	10,400.00	10,329.00	10,326.43	37.86	16.60	141.01	-121.04	845.25	398.14	344.28	53.86	7.392	
10,500.00	10,458.12	10,360.00	10,356.57	38.06	16.61	140.40	-122.97	852.25	409.59	355.93	53.66	7.633	
10,600.00	10,558.12	10,423.00	10,416.58	38.40	16.63	139.09	-129.60	870.13	436.48	383.14	53.34	8.183	
10,700.00	10,658.12	10,484.00	10,473.32	38.75	16.65	138.29	-141.86	888.82	471.66	418.74	52.92	8.912	
10,705.88	10,664.00	10,484.00	10,473.32	38.77	16.65	138.29	-141.86	888.82	473.92	421.11	52.81	8.974	
10,725.00	10,683.12	10,498.32	10,486.48	38.84	16.66	40.06	-145.53	893.09	481.12	428.33	52.79	9.113	
10,750.00	10,708.06	10,514.81	10,501.57	38.93	16.67	39.36	-150.17	897.87	490.02	437.31	52.71	9.296	
10,775.00	10,732.88	10,534.00	10,519.01	39.02	16.68	38.89	-156.09	903.24	498.31	445.62	52.70	9.457	
10,800.00	10,757.52	10,548.79	10,532.37	39.12	16.69	38.53	-161.03	907.21	505.95	453.38	52.57	9.625	
10,825.00	10,781.89	10,566.29	10,548.08	39.22	16.71	38.38	-167.29	911.69	512.92	460.41	52.51	9.769	
10,850.00	10,805.95	10,578.00	10,558.54	39.32	16.72	38.22	-171.73	914.56	519.28	466.99	52.29	9.931	
10,875.00	10,829.61	10,598.29	10,576.48	39.43	16.74	38.45	-179.92	919.29	525.00	472.69	52.30	10.038	
10,900.00	10,852.82	10,613.18	10,589.50	39.54	16.75	38.64	-186.35	922.58	530.22	478.05	52.17	10.163	
10,925.00	10,875.51	10,628.00	10,602.32	39.66	16.77	38.94	-193.11	925.70	534.95	482.91	52.04	10.279	
10,950.00	10,897.63	10,643.64	10,615.71	39.78	16.79	39.38	-200.56	928.83	539.17	487.24	51.94	10.381	
10,975.00	10,919.10	10,659.17	10,628.89	39.90	16.81	39.92	-208.22	931.78	542.89	491.05	51.84	10.473	
11,000.00	10,939.87	10,673.00	10,640.53	40.03	16.83	40.45	-215.27	934.28	546.15	494.46	51.70	10.564	
11,025.00	10,959.89	10,685.49	10,650.93	40.16	16.85	40.97	-221.83	936.48	549.06	497.53	51.53	10.655	
11,050.00	10,979.10	10,696.71	10,660.16	40.30	16.87	41.48	-227.88	938.47	551.69	500.36	51.34	10.747	
11,075.00	10,997.44	10,707.50	10,668.94	40.45	16.89	42.00	-233.86	940.38	554.08	502.94	51.14	10.834	
11,100.00	11,014.87	10,723.00	10,681.38	40.60	16.91	42.91	-242.69	943.14	556.30	505.18	51.12	10.882	
11,125.00	11,031.33	10,723.00	10,681.38	40.75	16.91	42.75	-242.69	943.14	558.30	507.68	50.62	11.029	
11,150.00	11,046.79	10,738.56	10,693.66	40.91	16.94	43.75	-251.83	945.88	560.09	509.43	50.66	11.056	
11,175.00	11,061.21	10,748.34	10,701.29	41.09	16.96	44.36	-257.71	947.57	561.79	511.25	50.54	11.115	
11,200.00	11,074.53	10,757.57	10,708.42	41.26	16.98	44.96	-263.35	949.14	563.39	512.95	50.44	11.169	
11,205.88	11,077.50	10,767.00	10,715.64	41.31	16.99	45.70	-269.22	950.73	563.84	513.16	50.68	11.126	
11,225.00	11,087.03	10,767.00	10,715.64	41.45	16.99	44.47	-269.22	950.73	564.91	514.53	50.38	11.213	
11,250.00	11,099.41	10,775.48	10,722.06	41.64	17.01	43.54	-274.56	952.14	566.30	516.03	50.27	11.264	
11,275.00	11,111.66	10,784.79	10,729.05	41.83	17.03	42.67	-280.52	953.70	567.52	517.33	50.19	11.307	
11,300.00	11,123.74	10,801.00	10,741.02	42.03	17.07	42.30	-291.10	956.44	568.62	518.26	50.35	11.293	
11,325.00	11,135.62	10,801.00	10,741.02	42.23	17.07	40.77	-291.10	956.44	569.36	519.45	49.91	11.408	
11,350.00	11,147.27	10,814.58	10,750.87	42.42	17.10	40.20	-300.16	958.72	569.88	519.92	49.96	11.407	
11,375.00	11,158.66	10,825.01	10,758.33	42.62	17.13	39.43	-307.26	960.44	570.14	520.25	49.88	11.429	
11,400.00	11,169.75	10,833.00	10,763.96	42.81	17.15	38.52	-312.77	961.74	570.09	520.38	49.71	11.469	
11,425.00	11,180.52	10,844.60	10,772.02	43.00	17.18	37.85	-320.91	963.59	569.72	520.07	49.66	11.473	
11,450.00	11,190.93	10,853.00	10,777.74	43.19	17.21	37.01	-326.91	964.90	569.06	519.59	49.47	11.503	
11,475.00	11,200.96	10,864.20	10,785.22	43.37	17.24	36.36	-335.06	966.64	568.06	518.68	49.39	11.502	
11,500.00	11,210.57	10,874.52	10,791.96	43.55	17.27	35.67	-342.71	968.26	566.71	517.45	49.26	11.505	
11,525.00	11,219.75	10,888.00	10,800.54	43.72	17.31	35.17	-352.89	970.40	564.99	515.75	49.24	11.474	
11,550.00	11,228.47	10,888.00	10,800.54	43.89	17.31	34.00	-352.89	970.40	562.94	514.27	48.67	11.566	
11,575.00	11,236.70	10,906.04	10,811.57	44.05	17.38	33.75	-366.85	973.31	560.29	511.47	48.82	11.477	
11,600.00	11,244.43	10,919.00	10,819.17	44.20	17.42	33.25	-377.13	975.46	557.34	508.59	48.75	11.434	
11,625.00	11,251.62	10,927.91	10,824.23	44.34	17.46	32.59	-384.31	976.94	553.92	505.42	48.50	11.421	
11,650.00	11,258.26	10,939.22	10,830.49	44.48	17.50	32.05	-393.55	978.78	550.05	501.72	48.33	11.380	
11,675.00	11,264.34	10,948.00	10,835.22	44.61	17.53	31.43	-400.82	980.19	545.72	497.66	48.06	11.356	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST01 - Lateral ST01													Offset Site Error:	0.00 usft
Survey Program:		100-Gyroscope, 5633-MWD+HDGM, 10234-MWD+HDGM					Rule Assigned:			Offset Well Error:		0.00 usft		
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Minimum		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor		
11,700.00	11,269.83	10,959.91	10,841.40	44.73	17.58	30.94	-410.83	982.05	540.94	493.05	47.89	11.295		
11,725.00	11,274.72	10,969.72	10,846.25	44.84	17.63	30.40	-419.22	983.52	535.77	488.14	47.63	11.249		
11,750.00	11,279.00	10,982.00	10,852.03	44.94	17.68	29.93	-429.91	985.31	530.19	482.74	47.45	11.173		
11,775.00	11,282.65	10,982.00	10,852.03	45.04	17.68	29.17	-429.91	985.31	524.30	477.53	46.78	11.209		
11,800.00	11,285.67	10,999.96	10,859.93	45.12	17.76	28.86	-445.86	987.68	517.74	470.94	46.80	11.064		
11,825.00	11,288.04	11,014.00	10,865.66	45.20	17.83	28.45	-458.58	989.28	510.92	464.27	46.65	10.952		
11,850.00	11,289.77	11,014.00	10,865.66	45.27	17.83	27.80	-458.58	989.28	503.71	457.76	45.95	10.962		
11,875.00	11,290.84	11,032.00	10,872.44	45.33	17.91	27.45	-475.16	991.03	495.89	449.96	45.93	10.797		
11,897.47	11,291.24	11,043.00	10,876.28	45.37	17.97	27.04	-485.42	991.95	488.58	442.88	45.70	10.690		
11,900.00	11,291.26	11,043.00	10,876.28	45.38	17.97	27.04	-485.42	991.95	487.74	442.10	45.63	10.688		
12,000.00	11,291.86	11,098.72	10,893.18	45.59	18.26	27.65	-538.39	995.44	458.61	413.71	44.90	10.213		
12,100.00	11,292.47	11,149.37	10,903.92	45.83	18.55	28.06	-587.80	997.73	438.63	394.43	44.20	9.924		
12,200.00	11,293.08	11,200.00	10,908.36	46.09	18.86	28.18	-638.18	999.18	430.00	386.15	43.85	9.806		
12,300.00	11,293.69	11,290.81	10,909.64	46.40	19.47	28.06	-728.96	1,001.16	428.48	384.23	44.25	9.683		
12,400.00	11,294.29	11,389.00	10,910.67	46.73	20.21	27.95	-827.13	1,002.89	427.55	382.73	44.82	9.539		
12,438.16	11,294.52	11,423.89	10,910.96	46.87	20.49	27.95	-862.01	1,003.19	427.42	382.37	45.05	9.489		
12,500.00	11,294.90	11,483.00	10,911.16	47.11	20.97	27.99	-921.12	1,003.13	427.77	382.31	45.46	9.410		
12,600.00	11,295.51	11,585.41	10,911.64	47.52	21.87	28.09	-1,023.53	1,002.80	428.33	382.04	46.29	9.253		
12,700.00	11,296.11	11,683.39	10,912.39	47.96	22.79	28.20	-1,121.51	1,002.59	428.58	381.44	47.14	9.091		
12,800.00	11,296.72	11,777.40	10,912.55	48.45	23.71	28.39	-1,215.51	1,001.27	429.91	381.87	48.04	8.949		
12,900.00	11,297.33	11,877.61	10,912.25	48.97	24.73	28.59	-1,315.71	999.72	431.74	382.65	49.08	8.796		
13,000.00	11,297.94	11,974.21	10,911.14	49.53	25.75	28.68	-1,412.29	998.54	434.15	384.05	50.10	8.666		
13,100.00	11,298.54	12,075.97	10,910.17	50.13	26.87	28.83	-1,514.03	997.02	436.53	385.26	51.27	8.515		
13,200.00	11,299.15	12,173.84	10,909.57	50.77	27.97	29.07	-1,611.87	994.85	438.96	386.50	52.47	8.366		
13,300.00	11,299.76	12,270.72	10,908.28	51.44	29.08	29.29	-1,708.72	992.46	442.14	388.44	53.70	8.234		
13,400.00	11,300.36	12,370.10	10,906.74	52.14	30.25	29.53	-1,808.05	989.74	445.67	390.65	55.02	8.100		
13,500.00	11,300.97	12,474.05	10,905.46	52.88	31.49	29.83	-1,911.95	986.59	449.08	392.57	56.51	7.947		
13,600.00	11,301.58	12,579.55	10,905.73	53.65	32.77	30.17	-2,017.41	983.93	450.93	392.82	58.11	7.760		
13,700.00	11,302.19	12,686.00	10,906.37	54.45	34.09	30.38	-2,123.84	982.60	451.88	392.17	59.72	7.567		
13,800.00	11,302.79	12,790.23	10,907.78	55.27	35.41	30.45	-2,228.07	983.04	451.32	390.07	61.25	7.368		
13,900.00	11,303.40	12,891.56	10,909.52	56.13	36.72	30.50	-2,329.38	983.88	450.26	387.50	62.76	7.174		
14,000.00	11,304.01	12,987.17	10,911.15	57.01	37.96	30.61	-2,424.98	984.11	449.49	385.29	64.21	7.001		
14,100.00	11,304.61	13,088.21	10,912.04	57.92	39.28	30.62	-2,526.00	984.77	449.24	383.49	65.74	6.833		
14,200.00	11,305.22	13,194.57	10,913.46	58.85	40.68	30.54	-2,632.34	986.57	448.06	380.69	67.36	6.651		
14,300.00	11,305.83	13,293.59	10,915.37	59.80	42.01	30.44	-2,731.31	988.90	446.04	377.20	68.83	6.480		
14,346.66	11,306.11	13,332.92	10,915.79	60.25	42.53	30.41	-2,770.63	989.47	445.65	376.26	69.39	6.423		
14,400.00	11,306.44	13,378.27	10,915.67	60.77	43.14	30.41	-2,815.98	989.57	446.15	376.11	70.04	6.370		
14,500.00	11,307.04	13,474.30	10,914.65	61.76	44.42	30.47	-2,912.00	988.61	448.41	376.82	71.58	6.264		
14,600.00	11,307.65	13,574.93	10,913.22	62.78	45.77	30.53	-3,012.62	987.53	451.00	377.77	73.24	6.158		
14,700.00	11,308.26	13,674.35	10,911.54	63.81	47.10	30.49	-3,112.03	987.14	453.49	378.67	74.82	6.061		
14,800.00	11,308.86	13,773.22	10,909.68	64.85	48.44	30.56	-3,210.86	985.61	456.72	380.24	76.49	5.971		
14,900.00	11,309.47	13,886.98	10,910.75	65.92	49.98	30.83	-3,324.60	984.06	457.34	378.67	78.67	5.813		
14,915.25	11,309.56	13,901.69	10,911.00	66.08	50.18	30.86	-3,339.31	983.91	457.33	378.39	78.95	5.793		
15,000.00	11,310.08	13,985.97	10,912.19	67.00	51.33	31.06	-3,423.58	982.97	457.49	376.97	80.52	5.682		
15,100.00	11,310.69	14,087.80	10,914.13	68.09	52.72	31.36	-3,525.38	981.63	457.37	374.87	82.51	5.544		
15,200.00	11,311.29	14,189.43	10,915.69	69.20	54.12	31.49	-3,627.00	981.60	456.92	372.54	84.38	5.415		
15,300.00	11,311.90	14,301.00	10,917.47	70.32	55.67	31.39	-3,738.53	983.83	455.39	369.09	86.30	5.277		
15,400.00	11,312.51	14,396.70	10,919.68	71.45	57.01	31.17	-3,834.13	987.46	452.30	364.54	87.76	5.154		
15,500.00	11,313.12	14,489.93	10,920.32	72.60	58.32	30.91	-3,927.31	990.51	450.85	361.72	89.13	5.058		
15,600.00	11,313.72	14,586.73	10,919.95	73.75	59.69	30.61	-4,024.07	993.28	450.54	360.00	90.54	4.976		
15,603.97	11,313.75	14,590.61	10,919.92	73.80	59.74	30.59	-4,027.94	993.39	450.54	359.94	90.59	4.973		
15,700.00	11,314.33	14,685.92	10,919.54	74.92	61.08	30.37	-4,123.22	995.41	450.64	358.58	92.07	4.895		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Lateral ST01 - Lateral ST01													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM, 10234-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
15,800.00	11,314.94	14,785.91	10,920.09	76.10	62.48	30.40	-4,223.21	995.77	450.81	356.96	93.85	4.803	
15,900.00	11,315.54	14,881.08	10,920.41	77.29	63.81	30.47	-4,318.38	995.53	451.48	355.90	95.58	4.724	
16,000.00	11,316.15	14,979.77	10,919.68	78.48	65.19	30.43	-4,417.07	995.66	452.88	355.59	97.29	4.655	
16,100.00	11,316.76	15,081.40	10,918.71	79.69	66.62	30.34	-4,518.69	996.19	454.27	355.24	99.04	4.587	
16,200.00	11,317.37	15,190.05	10,919.02	80.90	68.15	30.31	-4,627.34	996.95	454.51	353.50	101.01	4.500	
16,300.00	11,317.97	15,294.95	10,920.67	82.12	69.64	30.21	-4,732.20	999.05	452.96	350.12	102.83	4.405	
16,320.29	11,318.10	15,307.00	10,920.88	82.37	69.81	30.20	-4,744.25	999.32	452.66	349.67	102.99	4.395 SF	
16,400.00	11,318.58	15,307.00	10,920.88	83.35	69.81	30.20	-4,744.25	999.32	459.63	358.00	101.63	4.523	
16,500.00	11,319.19	15,307.00	10,920.88	84.59	69.81	30.20	-4,744.25	999.32	487.03	389.06	97.97	4.971	
16,600.00	11,319.79	15,307.00	10,920.88	85.84	69.81	30.20	-4,744.25	999.32	532.11	438.82	93.29	5.704	
16,633.91	11,320.00	15,307.00	10,920.88	86.26	69.81	30.20	-4,744.25	999.32	550.69	459.02	91.67	6.008	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Pilot - Pilot Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Between	Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	
0.00	0.00	0.00	0.00	0.00	0.00	98.21	-124.26	861.00	869.94				
100.00	100.00	87.44	87.44	0.13	0.04	98.20	-124.18	861.34	870.27	870.10	0.17	5,024.678	
200.00	200.00	185.32	185.32	0.49	0.09	98.20	-124.27	862.23	871.19	870.61	0.58	1,498.889	
300.00	300.00	290.67	290.66	0.85	0.14	98.24	-124.93	862.93	871.93	870.94	0.99	876.740	
400.00	400.00	391.62	391.61	1.21	0.20	98.28	-125.64	863.14	872.24	870.83	1.41	620.327	
500.00	500.00	496.70	496.68	1.57	0.25	98.34	-126.47	863.02	872.24	870.42	1.82	479.261	
600.00	600.00	595.62	595.60	1.93	0.30	98.40	-127.41	862.62	871.98	869.75	2.23	390.866	
700.00	700.00	694.88	694.85	2.29	0.36	98.47	-128.49	862.32	871.84	869.20	2.64	329.985	
800.00	800.00	795.66	795.63	2.64	0.41	98.55	-129.55	862.02	871.71	868.65	3.05	285.424	
900.00	900.00	897.13	897.09	3.00	0.46	98.62	-130.63	861.59	871.44	867.97	3.47	251.385	
1,000.00	1,000.00	1,000.88	1,000.83	3.36	0.52	98.71	-131.81	860.81	870.87	866.99	3.88	224.427	
1,100.00	1,100.00	1,101.57	1,101.51	3.72	0.57	98.79	-132.91	859.81	870.05	865.76	4.29	202.691	
1,200.00	1,200.00	1,203.80	1,203.73	4.08	0.63	98.84	-133.59	858.66	869.04	864.34	4.70	184.720	
1,300.00	1,300.00	1,300.00	1,299.92	4.44	0.68	98.90	-134.30	857.78	868.25	863.13	5.11	169.763	
1,400.00	1,400.00	1,402.03	1,401.94	4.79	0.73	98.98	-135.35	856.90	867.56	862.03	5.53	156.959	
1,500.00	1,500.00	1,502.14	1,502.05	5.15	0.79	99.04	-136.13	855.84	866.64	860.70	5.94	145.933	
1,600.00	1,600.00	1,603.80	1,603.69	5.51	0.84	99.09	-136.79	854.68	865.61	859.26	6.35	136.298	
1,700.00	1,700.00	1,704.80	1,704.69	5.87	0.89	99.15	-137.46	853.36	864.42	857.66	6.76	127.821	
1,800.00	1,800.00	1,801.25	1,801.13	6.23	0.95	99.19	-137.96	852.27	863.39	856.22	7.17	120.381	
1,900.00	1,900.00	1,900.00	1,899.87	6.59	1.00	99.20	-137.95	851.53	862.66	855.07	7.58	113.785	
2,000.00	2,000.00	1,996.89	1,996.76	6.95	1.05	99.18	-137.54	851.13	862.17	854.18	7.99	107.907	
2,077.42	2,077.42	2,071.55	2,071.42	7.22	1.09	99.16	-137.29	851.05	862.05	853.74	8.31	103.785	
2,100.00	2,100.00	2,093.32	2,093.19	7.30	1.10	99.16	-137.23	851.07	862.06	853.66	8.40	102.647	
2,200.00	2,200.00	2,192.81	2,192.68	7.66	1.15	99.14	-136.99	851.24	862.19	853.39	8.81	97.885	
2,300.00	2,300.00	2,298.01	2,297.88	8.02	1.20	99.13	-136.78	851.14	862.07	852.85	9.22	93.486	
2,400.00	2,400.00	2,396.75	2,396.62	8.38	1.25	99.12	-136.57	850.79	861.68	852.05	9.63	89.469	
2,500.00	2,500.00	2,499.18	2,499.05	8.74	1.31	99.12	-136.50	850.35	861.25	851.20	10.04	85.755	
2,600.00	2,600.00	2,595.02	2,594.89	9.10	1.36	99.13	-136.57	850.00	860.90	850.45	10.45	82.370	
2,655.99	2,655.99	2,650.12	2,649.99	9.30	1.39	99.13	-136.56	849.97	860.87	850.19	10.68	80.599	
2,700.00	2,700.00	2,693.55	2,693.42	9.45	1.41	99.12	-136.51	850.00	860.89	850.03	10.86	79.262	
2,800.00	2,800.00	2,792.78	2,792.65	9.81	1.46	99.12	-136.50	850.11	861.00	849.73	11.27	76.386	
2,900.00	2,900.00	2,890.50	2,890.37	10.17	1.51	99.13	-136.60	850.38	861.28	849.60	11.68	73.734	
3,000.00	3,000.00	2,988.07	2,987.93	10.53	1.56	99.09	-136.20	851.00	861.85	849.76	12.09	71.289	
3,100.00	3,100.00	3,083.48	3,083.33	10.89	1.61	99.02	-135.19	852.08	862.80	850.31	12.50	69.044	
3,200.00	3,200.00	3,176.77	3,176.60	11.25	1.66	98.92	-133.97	853.79	864.41	851.51	12.90	67.001	
3,300.00	3,300.00	3,274.40	3,274.19	11.61	1.71	98.81	-132.69	856.18	866.63	853.32	13.31	65.113	
3,400.00	3,400.00	3,375.93	3,375.68	11.96	1.76	98.70	-131.37	858.67	868.86	855.14	13.72	63.324	
3,500.00	3,500.00	3,481.19	3,480.91	12.32	1.81	98.57	-129.70	860.89	870.70	856.57	14.14	61.599	
3,600.00	3,600.00	3,579.05	3,578.73	12.68	1.86	98.44	-127.98	862.67	872.25	857.70	14.54	59.973	
3,700.00	3,700.00	3,693.02	3,692.67	13.04	1.92	98.30	-126.02	864.28	873.42	858.46	14.96	58.369	
3,800.00	3,800.00	3,800.68	3,800.32	13.40	1.98	98.18	-124.23	864.19	873.10	857.72	15.38	56.775	
3,900.00	3,900.00	3,900.57	3,900.19	13.76	2.03	98.07	-122.44	863.73	872.38	856.59	15.79	55.252	
4,000.00	4,000.00	4,002.34	4,001.94	14.11	2.09	97.94	-120.40	863.18	871.57	855.37	16.20	53.797	
4,100.00	4,100.00	4,102.81	4,102.38	14.47	2.14	97.81	-118.30	862.52	870.63	854.02	16.61	52.409	
4,200.00	4,200.00	4,203.90	4,203.45	14.83	2.19	97.68	-116.14	861.78	869.63	852.60	17.02	51.082	
4,300.00	4,300.00	4,311.55	4,311.06	15.19	2.25	97.51	-113.47	860.44	868.05	850.61	17.44	49.778	
4,400.00	4,400.00	4,411.78	4,411.24	15.55	2.30	97.34	-110.56	858.80	866.06	848.21	17.85	48.518	
4,500.00	4,500.00	4,509.88	4,509.27	15.91	2.36	97.14	-107.47	857.34	864.19	845.93	18.26	47.321	
4,600.00	4,600.00	4,609.50	4,608.83	16.27	2.41	96.95	-104.38	855.98	862.45	843.78	18.67	46.183	
4,700.00	4,700.00	4,710.12	4,709.40	16.62	2.47	96.76	-101.35	854.55	860.67	841.59	19.09	45.091	
4,800.00	4,800.00	4,807.32	4,806.56	16.98	2.52	96.61	-98.81	853.29	859.08	839.59	19.50	44.057	
4,900.00	4,900.00	4,912.48	4,911.68	17.34	2.58	96.45	-96.30	851.64	857.25	837.34	19.91	43.050	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Pilot - Pilot Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
5,000.00	5,000.00	5,008.39	5,007.55	17.70	2.63	96.31	-94.05	850.13	855.43	835.10	20.32	42.088	
5,100.00	5,100.00	5,103.42	5,102.55	18.06	2.68	96.18	-91.94	849.13	854.14	833.40	20.74	41.192	
5,200.00	5,200.00	5,201.51	5,200.62	18.42	2.73	96.05	-89.97	848.47	853.25	832.10	21.15	40.348	
5,300.00	5,300.00	5,300.00	5,299.09	18.77	2.79	95.94	-88.27	847.95	852.55	830.99	21.56	39.546	
5,350.00	5,350.00	5,349.41	5,348.49	18.95	2.81	95.89	-87.52	847.74	852.26	830.50	21.76	39.159	
5,400.00	5,400.00	5,398.54	5,397.62	19.13	2.84	22.95	-86.82	847.58	851.62	829.65	21.97	38.769	
5,500.00	5,499.93	5,492.66	5,491.73	19.48	2.87	22.99	-85.70	847.69	848.40	826.06	22.34	37.979	
5,600.00	5,599.68	5,588.85	5,587.92	19.82	2.88	23.14	-84.68	848.25	842.45	819.75	22.70	37.120	
5,700.00	5,699.13	5,686.24	5,685.29	20.17	2.93	23.41	-83.73	849.19	833.69	810.60	23.09	36.113	
5,750.56	5,749.25	5,735.94	5,734.99	20.35	2.96	23.60	-83.29	849.72	828.11	804.81	23.30	35.545	
5,800.00	5,798.21	5,784.51	5,783.56	20.52	3.00	23.76	-82.89	850.27	822.29	798.79	23.50	34.985	
5,900.00	5,897.24	5,886.45	5,885.48	20.88	3.13	24.09	-81.92	851.28	810.41	786.43	23.98	33.799	
6,000.00	5,996.26	5,985.28	5,984.31	21.23	3.30	24.42	-80.90	852.13	798.41	773.91	24.49	32.598	
6,100.00	6,095.29	6,084.08	6,083.10	21.59	3.48	24.77	-80.02	853.01	786.47	761.46	25.02	31.440	
6,200.00	6,194.31	6,182.73	6,181.74	21.95	3.70	25.12	-79.17	853.94	774.63	749.05	25.58	30.282	
6,300.00	6,293.33	6,281.46	6,280.46	22.31	3.92	25.49	-78.31	854.93	762.88	736.73	26.15	29.171	
6,400.00	6,392.36	6,381.50	6,380.50	22.67	4.16	25.97	-78.71	855.78	751.19	724.45	26.74	28.087	
6,500.00	6,491.38	6,482.01	6,481.00	23.03	4.42	26.54	-79.87	856.17	739.23	711.88	27.35	27.030	
6,600.00	6,590.41	6,580.52	6,579.49	23.39	4.68	27.12	-81.18	856.73	727.54	699.58	27.96	26.020	
6,700.00	6,689.43	6,681.51	6,680.48	23.76	4.96	27.72	-82.33	856.95	715.56	686.96	28.59	25.027	
6,800.00	6,788.45	6,779.32	6,778.28	24.13	5.24	28.34	-83.60	857.25	703.76	674.54	29.23	24.080	
6,900.00	6,887.48	6,878.25	6,877.20	24.49	5.53	28.98	-84.84	857.61	692.11	662.24	29.87	23.169	
7,000.00	6,986.50	6,977.24	6,976.19	24.86	5.83	29.64	-86.00	858.00	680.55	650.03	30.53	22.294	
7,100.00	7,085.53	7,076.27	7,075.21	25.23	6.14	30.31	-87.14	858.39	669.09	637.90	31.19	21.453	
7,200.00	7,184.55	7,174.55	7,173.48	25.61	6.45	31.01	-88.35	858.80	657.75	625.90	31.85	20.649	
7,300.00	7,283.58	7,272.41	7,271.33	25.98	6.76	31.76	-89.87	859.29	646.69	614.16	32.52	19.883	
7,400.00	7,382.60	7,371.40	7,370.30	26.35	7.08	32.57	-91.68	859.84	635.86	602.65	33.20	19.150	
7,500.00	7,481.62	7,470.81	7,469.69	26.73	7.40	33.41	-93.52	860.32	625.10	591.21	33.89	18.446	
7,600.00	7,580.65	7,570.81	7,569.67	27.10	7.73	34.28	-95.34	860.71	614.37	579.80	34.58	17.768	
7,700.00	7,679.67	7,670.92	7,669.77	27.48	8.06	35.17	-96.99	860.95	603.61	568.34	35.27	17.113	
7,800.00	7,778.70	7,768.39	7,767.23	27.86	8.38	36.07	-98.57	861.22	593.01	557.05	35.96	16.489	
7,900.00	7,877.72	7,867.00	7,865.82	28.23	8.71	37.01	-100.28	861.75	582.85	546.19	36.66	15.899	
8,000.00	7,976.74	7,966.50	7,965.31	28.61	9.05	38.00	-102.06	862.25	572.84	535.48	37.36	15.332	
8,100.00	8,075.77	8,067.08	8,065.86	28.99	9.39	39.05	-103.82	862.44	562.70	524.63	38.07	14.780	
8,200.00	8,174.79	8,166.04	8,164.81	29.37	9.73	40.10	-105.44	862.54	552.63	513.85	38.78	14.250	
8,300.00	8,273.82	8,265.24	8,264.00	29.75	10.06	41.18	-106.87	862.71	542.73	503.24	39.49	13.743	
8,400.00	8,372.84	8,365.28	8,364.04	30.14	10.40	42.31	-108.25	862.75	532.90	492.70	40.21	13.254	
8,500.00	8,471.86	8,464.82	8,463.57	30.52	10.74	43.48	-109.63	862.59	523.10	482.17	40.92	12.782	
8,600.00	8,570.89	8,563.32	8,562.05	30.90	11.08	44.69	-111.06	862.42	513.53	471.89	41.64	12.333	
8,700.00	8,669.91	8,662.64	8,661.36	31.29	11.42	45.96	-112.60	862.25	504.27	461.90	42.36	11.904	
8,800.00	8,768.94	8,763.21	8,761.92	31.67	11.77	47.32	-114.16	861.79	495.00	451.91	43.09	11.488	
8,900.00	8,867.96	8,863.21	8,861.91	32.05	12.11	48.74	-115.69	860.97	485.72	441.90	43.82	11.085	
9,000.00	8,966.99	8,962.69	8,961.37	32.44	12.45	50.21	-117.22	859.97	476.57	432.03	44.54	10.699	
9,100.00	9,066.01	9,062.95	9,061.61	32.83	12.79	51.77	-118.72	858.76	467.57	422.29	45.28	10.327	
9,200.00	9,165.03	9,163.65	9,162.28	33.21	13.14	53.41	-120.09	857.15	458.52	412.51	46.01	9.965	
9,300.00	9,264.06	9,262.92	9,261.53	33.60	13.48	55.10	-121.35	855.23	449.54	402.80	46.75	9.617	
9,400.00	9,363.08	9,361.64	9,360.22	33.99	13.81	56.88	-122.72	853.20	440.95	393.46	47.48	9.286	
9,500.00	9,462.11	9,463.63	9,462.17	34.37	14.16	58.79	-124.00	850.79	432.48	384.26	48.23	8.968	
9,600.00	9,561.13	9,566.25	9,564.75	34.76	14.51	60.78	-124.56	847.73	423.58	374.60	48.97	8.650	
9,640.77	9,601.50	9,606.45	9,604.93	34.92	14.64	61.57	-124.58	846.45	419.89	370.61	49.27	8.522	
9,700.00	9,660.20	9,664.83	9,663.29	35.15	14.84	62.63	-124.42	844.78	414.82	365.11	49.71	8.345	
9,800.00	9,759.47	9,763.89	9,762.32	35.53	15.17	64.21	-123.65	842.50	407.22	356.78	50.44	8.073	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Pilot - Pilot Svys													Offset Site Error:	0.00 usft
Survey Program:		100-Gyroscope, 5633-MWD+HDGM						Rule Assigned:				Offset Well Error:	0.00 usft	
Reference	Offset	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Minimum Separation (usft)	
9,900.00	9,858.93	9,864.84	9,863.23	35.91	15.51	65.61	-122.47	840.24	400.45	349.29	51.17	7.827		
10,000.00	9,958.56	9,965.37	9,963.71	36.28	15.85	66.86	-121.14	837.55	394.22	342.34	51.89	7.598		
10,100.00	10,058.33	10,063.75	10,062.05	36.65	16.18	67.92	-120.00	834.82	388.92	336.32	52.60	7.394		
10,200.00	10,158.20	10,163.03	10,161.29	37.01	16.51	68.81	-119.16	832.12	384.68	331.37	53.31	7.216		
10,300.00	10,258.14	10,264.48	10,262.69	37.36	16.86	69.51	-118.17	829.17	380.92	326.90	54.01	7.052		
10,400.00	10,358.12	10,363.72	10,361.88	37.71	17.19	69.96	-116.94	826.10	377.51	322.80	54.71	6.900		
10,441.88	10,400.00	10,403.90	10,402.04	37.86	17.33	142.97	-116.54	825.06	376.47	321.47	55.00	6.845		
10,500.00	10,458.12	10,459.69	10,457.82	38.06	17.52	143.08	-116.14	823.90	375.41	320.01	55.40	6.776		
10,600.00	10,558.12	10,557.62	10,555.74	38.40	17.86	143.21	-115.81	822.55	374.31	318.22	56.09	6.673		
10,700.00	10,658.12	10,658.06	10,656.17	38.75	18.20	143.36	-115.56	821.17	373.29	316.50	56.78	6.574		
10,705.88	10,664.00	10,663.96	10,662.07	38.77	18.22	143.37	-115.54	821.09	373.22	316.40	56.82	6.568		
10,725.00	10,683.12	10,683.16	10,681.26	38.84	18.29	45.93	-115.49	820.80	372.75	315.79	56.96	6.544		
10,750.00	10,708.06	10,708.22	10,706.32	38.93	18.37	46.28	-115.43	820.42	371.32	314.18	57.14	6.499		
10,775.00	10,732.88	10,733.26	10,731.36	39.02	18.46	46.87	-115.36	820.00	368.98	311.66	57.32	6.437		
10,800.00	10,757.52	10,758.07	10,756.17	39.12	18.55	47.69	-115.31	819.54	365.76	308.26	57.50	6.361		
10,825.00	10,781.89	10,782.59	10,780.68	39.22	18.63	48.77	-115.26	819.06	361.70	304.00	57.69	6.269		
10,850.00	10,805.95	10,806.73	10,804.81	39.32	18.72	50.09	-115.23	818.54	356.83	298.95	57.89	6.164		
10,875.00	10,829.61	10,830.43	10,828.50	39.43	18.80	51.68	-115.19	817.99	351.24	293.15	58.08	6.047		
10,900.00	10,852.82	10,853.61	10,851.68	39.54	18.88	53.54	-115.17	817.42	344.98	286.70	58.28	5.919		
10,925.00	10,875.51	10,876.20	10,874.26	39.66	18.95	55.66	-115.15	816.83	338.16	279.67	58.49	5.782		
10,950.00	10,897.63	10,897.91	10,895.97	39.78	19.03	58.02	-115.14	816.23	330.87	272.18	58.69	5.637		
10,975.00	10,919.10	10,918.41	10,916.45	39.90	19.10	60.58	-115.14	815.71	323.28	264.38	58.90	5.488		
11,000.00	10,939.87	10,938.27	10,936.31	40.03	19.17	63.35	-115.16	815.25	315.54	256.42	59.12	5.338		
11,025.00	10,959.89	10,957.46	10,955.49	40.16	19.24	66.31	-115.19	814.86	307.78	248.44	59.33	5.187		
11,050.00	10,979.10	10,975.92	10,973.95	40.30	19.30	69.41	-115.24	814.53	300.17	240.62	59.55	5.041		
11,075.00	10,997.44	10,993.60	10,991.63	40.45	19.36	72.61	-115.29	814.26	292.91	233.14	59.77	4.901		
11,100.00	11,014.87	11,010.46	11,008.49	40.60	19.42	75.83	-115.35	814.05	286.20	226.21	59.99	4.771		
11,125.00	11,031.33	11,026.45	11,024.48	40.75	19.48	79.02	-115.42	813.88	280.26	220.05	60.21	4.654		
11,150.00	11,046.79	11,041.53	11,039.56	40.91	19.53	82.09	-115.49	813.75	275.33	214.90	60.43	4.556		
11,175.00	11,061.21	11,055.65	11,053.68	41.09	19.58	84.98	-115.57	813.66	271.63	210.99	60.64	4.479		
11,200.00	11,074.53	11,068.77	11,066.80	41.26	19.63	87.61	-115.65	813.60	269.39	208.56	60.83	4.428		
11,205.88	11,077.50	11,071.70	11,069.73	41.31	19.64	88.19	-115.67	813.59	269.10	208.23	60.88	4.421		
11,225.00	11,087.03	11,081.16	11,079.19	41.45	19.67	88.62	-115.73	813.56	268.44	207.43	61.01	4.400		
11,250.00	11,099.41	11,093.64	11,091.67	41.64	19.71	89.25	-115.81	813.53	267.96	206.80	61.16	4.381		
11,263.41	11,106.00	11,100.27	11,098.30	41.74	19.74	89.58	-115.85	813.51	267.89	206.66	61.23	4.375 CC		
11,275.00	11,111.66	11,105.96	11,103.99	41.83	19.76	89.87	-115.88	813.49	267.94	206.65	61.29	4.372 ES, SF		
11,300.00	11,123.74	11,118.09	11,116.11	42.03	19.80	90.50	-115.94	813.44	268.41	207.02	61.39	4.372		
11,325.00	11,135.62	11,129.98	11,128.00	42.23	19.84	91.12	-115.99	813.39	269.38	207.92	61.46	4.383		
11,350.00	11,147.27	11,141.60	11,139.63	42.42	19.88	91.72	-116.04	813.32	270.88	209.38	61.51	4.404		
11,375.00	11,158.66	11,152.93	11,150.95	42.62	19.92	92.30	-116.08	813.25	272.93	211.41	61.52	4.436		
11,400.00	11,169.75	11,163.93	11,161.95	42.81	19.96	92.84	-116.11	813.18	275.55	214.04	61.51	4.480		
11,425.00	11,180.52	11,174.57	11,172.59	43.00	20.00	93.34	-116.13	813.10	278.75	217.27	61.48	4.534		
11,450.00	11,190.93	11,184.82	11,182.85	43.19	20.03	93.79	-116.15	813.02	282.54	221.12	61.42	4.600		
11,475.00	11,200.96	11,194.67	11,192.70	43.37	20.07	94.18	-116.16	812.93	286.93	225.59	61.34	4.678		
11,500.00	11,210.57	11,204.08	11,202.11	43.55	20.10	94.51	-116.16	812.84	291.92	230.67	61.25	4.766		
11,525.00	11,219.75	11,213.03	11,211.06	43.72	20.13	94.76	-116.17	812.75	297.51	236.37	61.15	4.865		
11,550.00	11,228.47	11,221.50	11,219.52	43.89	20.16	94.94	-116.16	812.67	303.70	242.66	61.04	4.975		
11,575.00	11,236.70	11,229.47	11,227.49	44.05	20.19	95.03	-116.16	812.58	310.47	249.53	60.93	5.095		
11,600.00	11,244.43	11,236.91	11,234.93	44.20	20.21	95.03	-116.15	812.49	317.80	256.97	60.82	5.225		
11,625.00	11,251.62	11,243.82	11,241.84	44.34	20.24	94.95	-116.14	812.41	325.67	264.94	60.72	5.363		
11,650.00	11,258.26	11,250.17	11,248.19	44.48	20.26	94.79	-116.13	812.34	334.05	273.42	60.63	5.510		
11,675.00	11,264.34	11,255.96	11,253.98	44.61	20.28	94.53	-116.12	812.26	342.93	282.38	60.54	5.664		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Pilot - Pilot Svys												Offset Site Error:	0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
11,700.00	11,269.83	11,261.16	11,259.19	44.73	20.30	94.19	-116.10	812.19	352.25	291.78	60.47	5.825	
11,725.00	11,274.72	11,265.78	11,263.80	44.84	20.31	93.78	-116.09	812.13	362.00	301.59	60.41	5.992	
11,750.00	11,279.00	11,270.00	11,268.02	44.94	20.33	93.32	-116.08	812.08	372.14	311.76	60.37	6.164	
11,775.00	11,282.65	11,273.40	11,271.42	45.04	20.34	92.76	-116.07	812.03	382.62	322.27	60.34	6.341	
11,800.00	11,285.67	11,276.37	11,274.39	45.12	20.35	92.16	-116.06	811.99	393.40	333.07	60.33	6.521	
11,825.00	11,288.04	11,278.69	11,276.71	45.20	20.36	91.51	-116.05	811.96	404.46	344.12	60.33	6.704	
11,850.00	11,289.77	11,280.36	11,278.38	45.27	20.36	90.81	-116.05	811.94	415.74	355.39	60.35	6.889	
11,875.00	11,290.84	11,281.36	11,279.38	45.33	20.37	90.06	-116.05	811.93	427.20	366.83	60.38	7.076	
11,897.47	11,291.24	11,281.70	11,279.72	45.37	20.37	89.37	-116.05	811.92	437.64	377.22	60.41	7.244	
11,900.00	11,291.26	11,281.71	11,279.72	45.38	20.37	89.37	-116.05	811.92	438.82	378.41	60.42	7.263	
12,000.00	11,291.86	11,282.00	11,280.02	45.59	20.37	89.41	-116.04	811.92	493.87	433.16	60.71	8.135	
12,100.00	11,292.47	11,282.30	11,280.32	45.83	20.37	89.45	-116.04	811.92	561.47	500.40	61.06	9.195	
12,200.00	11,293.08	11,282.59	11,280.61	46.09	20.37	89.50	-116.04	811.91	637.64	576.23	61.40	10.384	
12,300.00	11,293.69	11,282.88	11,280.90	46.40	20.37	89.54	-116.04	811.91	719.67	657.97	61.69	11.665	
12,400.00	11,294.29	11,283.17	11,281.19	46.73	20.37	89.58	-116.04	811.90	805.77	743.83	61.94	13.010	
12,500.00	11,294.90	11,283.47	11,281.48	47.11	20.37	89.63	-116.04	811.90	894.76	832.62	62.14	14.400	
12,600.00	11,295.51	11,283.76	11,281.77	47.52	20.38	89.67	-116.04	811.90	985.87	923.57	62.30	15.824	
12,700.00	11,296.11	11,284.04	11,282.06	47.96	20.38	89.71	-116.04	811.89	1,078.55	1,016.11	62.44	17.273	
12,800.00	11,296.72	11,284.33	11,282.35	48.45	20.38	89.76	-116.04	811.89	1,172.44	1,109.88	62.56	18.741	
12,900.00	11,297.33	11,284.62	11,282.64	48.97	20.38	89.80	-116.04	811.89	1,267.26	1,204.60	62.66	20.223	
13,000.00	11,297.94	11,284.91	11,282.92	49.53	20.38	89.84	-116.04	811.88	1,362.82	1,300.07	62.76	21.716	
13,100.00	11,298.54	11,285.19	11,283.21	50.13	20.38	89.88	-116.03	811.88	1,458.98	1,396.14	62.84	23.218	
13,200.00	11,299.15	11,285.47	11,283.49	50.77	20.38	89.92	-116.03	811.88	1,555.62	1,492.71	62.91	24.728	
13,300.00	11,299.76	11,285.76	11,283.78	51.44	20.38	89.97	-116.03	811.87	1,652.66	1,589.69	62.98	26.242	
13,400.00	11,300.36	11,286.04	11,284.06	52.14	20.38	90.01	-116.03	811.87	1,750.04	1,687.00	63.04	27.761	
13,500.00	11,300.97	11,286.32	11,284.34	52.88	20.38	90.05	-116.03	811.87	1,847.69	1,784.59	63.10	29.283	
13,600.00	11,301.58	11,286.60	11,284.62	53.65	20.39	90.09	-116.03	811.86	1,945.59	1,882.43	63.15	30.808	
13,700.00	11,302.19	11,286.88	11,284.90	54.45	20.39	90.13	-116.03	811.86	2,043.68	1,980.48	63.21	32.334	
13,800.00	11,302.79	11,287.16	11,285.18	55.27	20.39	90.17	-116.03	811.86	2,141.96	2,078.70	63.26	33.862	
13,900.00	11,303.40	11,287.44	11,285.46	56.13	20.39	90.22	-116.03	811.85	2,240.38	2,177.08	63.30	35.391	
14,000.00	11,304.01	11,287.71	11,285.73	57.01	20.39	90.26	-116.03	811.85	2,338.94	2,275.59	63.35	36.920	
14,100.00	11,304.61	11,287.99	11,286.01	57.92	20.39	90.30	-116.03	811.85	2,437.62	2,374.22	63.40	38.449	
14,200.00	11,305.22	11,288.27	11,286.28	58.85	20.39	90.34	-116.02	811.84	2,536.40	2,472.95	63.44	39.979	
14,300.00	11,305.83	11,288.54	11,286.56	59.80	20.39	90.38	-116.02	811.84	2,635.27	2,571.78	63.49	41.508	
14,400.00	11,306.44	11,288.81	11,286.83	60.77	20.39	90.42	-116.02	811.84	2,734.23	2,670.69	63.53	43.036	
14,500.00	11,307.04	11,289.09	11,287.10	61.76	20.39	90.46	-116.02	811.83	2,833.25	2,769.68	63.58	44.563	
14,600.00	11,307.65	11,289.36	11,287.38	62.78	20.39	90.50	-116.02	811.83	2,932.35	2,868.72	63.62	46.090	
14,700.00	11,308.26	11,289.63	11,287.65	63.81	20.40	90.54	-116.02	811.83	3,031.50	2,967.83	63.67	47.615	
14,800.00	11,308.86	11,289.90	11,287.92	64.85	20.40	90.58	-116.02	811.82	3,130.71	3,067.00	63.71	49.139	
14,900.00	11,309.47	11,290.17	11,288.18	65.92	20.40	90.62	-116.02	811.82	3,229.96	3,166.21	63.76	50.661	
15,000.00	11,310.08	11,290.43	11,288.45	67.00	20.40	90.66	-116.02	811.82	3,329.26	3,265.46	63.80	52.182	
15,100.00	11,310.69	11,290.70	11,288.72	68.09	20.40	90.70	-116.02	811.81	3,428.60	3,364.76	63.85	53.701	
15,200.00	11,311.29	11,290.97	11,288.99	69.20	20.40	90.74	-116.02	811.81	3,527.98	3,464.09	63.89	55.218	
15,300.00	11,311.90	11,291.23	11,289.25	70.32	20.40	90.78	-116.01	811.81	3,627.40	3,563.46	63.94	56.733	
15,400.00	11,312.51	11,291.50	11,289.52	71.45	20.40	90.82	-116.01	811.80	3,726.84	3,662.85	63.98	58.246	
15,500.00	11,313.12	11,291.76	11,289.78	72.60	20.40	90.85	-116.01	811.80	3,826.31	3,762.28	64.03	59.757	
15,600.00	11,313.72	11,292.02	11,290.04	73.75	20.40	90.89	-116.01	811.80	3,925.81	3,861.73	64.08	61.265	
15,700.00	11,314.33	11,292.29	11,290.30	74.92	20.40	90.93	-116.01	811.79	4,025.34	3,961.21	64.13	62.771	
15,800.00	11,314.94	11,292.55	11,290.56	76.10	20.41	90.97	-116.01	811.79	4,124.88	4,060.71	64.18	64.275	
15,900.00	11,315.54	11,292.81	11,290.83	77.29	20.41	91.01	-116.01	811.79	4,224.45	4,160.23	64.23	65.776	
16,000.00	11,316.15	11,293.07	11,291.08	78.48	20.41	91.05	-116.01	811.79	4,324.04	4,259.77	64.28	67.274	
16,100.00	11,316.76	11,293.33	11,291.34	79.69	20.41	91.09	-116.01	811.78	4,423.65	4,359.32	64.33	68.769	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #2H - #2H - Pilot - Pilot Svys													Offset Site Error: 0.00 usft
Survey Program: 100-Gyroscope, 5633-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Rule Assigned:										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Distance Between Centres		Minimum Separation	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	(usft)		
16,200.00	11,317.37	11,293.58	11,291.60	80.90	20.41	91.12	-116.01	811.78	4,523.27	4,458.90	64.38	70.262	
16,300.00	11,317.97	11,293.84	11,291.86	82.12	20.41	91.16	-116.01	811.78	4,622.91	4,558.48	64.43	71.752	
16,400.00	11,318.58	11,294.10	11,292.11	83.35	20.41	91.20	-116.01	811.77	4,722.57	4,658.09	64.48	73.239	
16,500.00	11,319.19	11,294.35	11,292.37	84.59	20.41	91.24	-116.00	811.77	4,822.24	4,757.70	64.54	74.723	
16,600.00	11,319.79	11,294.61	11,292.62	85.84	20.41	91.28	-116.00	811.77	4,921.92	4,857.33	64.59	76.204	
16,633.91	11,320.00	11,294.69	11,292.71	86.26	20.41	91.29	-116.00	811.77	4,955.73	4,891.12	64.61	76.705	

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #3H - 36 #3H - Drilling - Surveys													Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS-CT, 4756-MWD+HDGM		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	5.87	5.87	0.00	0.01	88.42	32.90	1,189.80	1,190.26					
100.00	100.00	104.30	104.30	0.13	0.15	88.40	33.32	1,189.89	1,190.36	1,190.08	0.28	4,223.559		
200.00	200.00	216.20	216.20	0.49	0.54	88.38	33.67	1,189.39	1,189.91	1,188.88	1.03	1,153.621		
300.00	300.00	315.45	315.44	0.85	0.89	88.38	33.60	1,188.59	1,189.10	1,187.36	1.74	684.717		
400.00	400.00	414.61	414.60	1.21	1.23	88.38	33.57	1,187.77	1,188.27	1,185.83	2.44	486.568		
480.17	480.17	486.18	486.17	1.50	1.48	88.40	33.25	1,187.52	1,187.98	1,185.00	2.98	398.704		
500.00	500.00	504.42	504.41	1.57	1.55	88.40	33.09	1,187.54	1,188.00	1,184.88	3.11	381.451		
600.00	600.00	605.87	605.86	1.93	1.90	88.41	32.92	1,187.61	1,188.06	1,184.24	3.83	310.478		
700.00	700.00	704.17	704.15	2.29	2.24	88.39	33.42	1,187.69	1,188.16	1,183.63	4.53	262.406		
800.00	800.00	810.03	810.02	2.64	2.61	88.37	33.76	1,187.54	1,188.02	1,182.77	5.26	226.023		
888.23	888.23	894.25	894.23	2.96	2.91	88.36	33.99	1,187.39	1,187.87	1,182.01	5.87	202.477		
900.00	900.00	905.62	905.61	3.00	2.95	88.36	34.03	1,187.39	1,187.88	1,181.93	5.95	199.690		
1,000.00	1,000.00	1,003.84	1,003.82	3.36	3.29	88.34	34.51	1,187.49	1,187.99	1,181.34	6.65	178.654		
1,100.00	1,100.00	1,108.40	1,108.38	3.72	3.66	88.33	34.72	1,187.45	1,187.96	1,180.59	7.37	161.116		
1,200.00	1,200.00	1,206.94	1,206.92	4.08	4.00	88.32	34.80	1,187.31	1,187.82	1,179.75	8.08	147.078		
1,255.72	1,255.72	1,261.74	1,261.72	4.28	4.19	88.32	34.81	1,187.29	1,187.80	1,179.34	8.47	140.283		
1,300.00	1,300.00	1,305.56	1,305.54	4.44	4.35	88.33	34.69	1,187.31	1,187.82	1,179.04	8.78	135.304		
1,400.00	1,400.00	1,408.40	1,408.38	4.79	4.70	88.32	34.81	1,187.20	1,187.71	1,178.22	9.50	125.070		
1,465.54	1,465.54	1,471.56	1,471.54	5.03	4.92	88.31	35.07	1,187.13	1,187.65	1,177.69	9.95	119.340		
1,500.00	1,500.00	1,505.41	1,505.39	5.15	5.04	88.30	35.18	1,187.14	1,187.66	1,177.47	10.19	116.512		
1,600.00	1,600.00	1,613.61	1,613.59	5.51	5.42	88.29	35.46	1,186.77	1,187.32	1,176.39	10.93	108.632		
1,700.00	1,700.00	1,714.28	1,714.25	5.87	5.77	88.28	35.59	1,186.10	1,186.66	1,175.02	11.64	101.944		
1,800.00	1,800.00	1,816.71	1,816.68	6.23	6.13	88.29	35.37	1,185.31	1,185.88	1,173.53	12.36	95.968		
1,900.00	1,900.00	1,918.57	1,918.54	6.59	6.49	88.32	34.81	1,184.22	1,184.80	1,171.72	13.07	90.637		
2,000.00	2,000.00	2,007.67	2,007.63	6.95	6.80	88.34	34.24	1,183.69	1,184.19	1,170.45	13.74	86.170		
2,012.15	2,012.15	2,018.19	2,018.15	6.99	6.84	88.35	34.18	1,183.69	1,184.18	1,170.36	13.82	85.669		
2,100.00	2,100.00	2,100.00	2,099.96	7.30	7.12	88.36	33.82	1,184.13	1,184.63	1,170.21	14.42	82.138		
2,200.00	2,200.00	2,191.64	2,191.59	7.66	7.44	88.37	33.63	1,185.19	1,185.75	1,170.65	15.10	78.534		
2,300.00	2,300.00	2,297.49	2,297.43	8.02	7.81	88.40	33.09	1,186.26	1,186.75	1,170.92	15.83	74.985		
2,400.00	2,400.00	2,396.85	2,396.79	8.38	8.15	88.46	31.94	1,187.03	1,187.49	1,170.96	16.53	71.830		
2,500.00	2,500.00	2,495.80	2,495.72	8.74	8.50	88.53	30.56	1,187.87	1,188.31	1,171.07	17.24	68.943		
2,600.00	2,600.00	2,586.50	2,586.41	9.10	8.82	88.59	29.36	1,189.03	1,189.55	1,171.64	17.91	66.418		
2,700.00	2,700.00	2,714.20	2,714.08	9.45	9.27	88.70	27.04	1,189.94	1,190.27	1,171.55	18.72	63.591		
2,733.44	2,733.44	2,739.57	2,739.44	9.57	9.35	88.73	26.45	1,189.95	1,190.24	1,171.32	18.93	62.886		
2,800.00	2,800.00	2,800.00	2,799.86	9.81	9.57	88.79	25.04	1,190.15	1,190.43	1,171.05	19.38	61.433		
2,900.00	2,900.00	2,896.16	2,895.98	10.17	9.91	88.92	22.54	1,190.88	1,191.14	1,171.06	20.07	59.336		
3,000.00	3,000.00	2,980.10	2,979.87	10.53	10.20	89.03	20.08	1,192.18	1,192.63	1,171.91	20.73	57.544		
3,100.00	3,100.00	3,062.58	3,062.28	10.89	10.50	89.14	17.84	1,194.61	1,195.55	1,174.18	21.37	55.955		
3,200.00	3,200.00	3,149.84	3,149.45	11.25	10.81	89.23	16.02	1,198.39	1,199.83	1,177.81	22.02	54.482		
3,300.00	3,300.00	3,242.64	3,242.12	11.61	11.14	89.31	14.55	1,203.08	1,204.87	1,182.17	22.70	53.080		
3,400.00	3,400.00	3,336.02	3,335.34	11.96	11.47	89.34	14.00	1,208.27	1,210.41	1,187.04	23.38	51.778		
3,500.00	3,500.00	3,432.26	3,431.41	12.32	11.82	89.33	14.14	1,214.15	1,216.52	1,192.46	24.07	50.548		
3,600.00	3,600.00	3,535.08	3,534.02	12.68	12.19	89.24	16.20	1,220.21	1,222.44	1,197.65	24.79	49.320		
3,700.00	3,700.00	3,629.78	3,628.53	13.04	12.53	89.14	18.34	1,225.91	1,228.49	1,203.02	25.47	48.234		
3,800.00	3,800.00	3,724.56	3,723.09	13.40	12.87	89.10	19.29	1,232.18	1,235.11	1,208.96	26.15	47.228		
3,900.00	3,900.00	3,831.50	3,829.81	13.76	13.27	89.12	19.09	1,239.04	1,241.53	1,214.64	26.89	46.170		
4,000.00	4,000.00	3,941.60	3,939.70	14.11	13.67	89.02	21.40	1,245.41	1,247.36	1,219.72	27.64	45.123		
4,100.00	4,100.00	4,151.28	4,149.09	14.47	14.41	88.67	28.86	1,245.91	1,246.99	1,218.25	28.75	43.381		
4,200.00	4,200.00	4,200.00	4,197.77	14.83	14.58	88.73	27.69	1,244.58	1,244.91	1,215.62	29.30	42.495		
4,229.08	4,229.08	4,237.36	4,235.08	14.94	14.71	88.81	25.92	1,244.22	1,244.49	1,214.95	29.53	42.139		
4,231.04	4,231.04	4,238.51	4,236.23	14.94	14.72	88.81	25.87	1,244.22	1,244.49	1,214.94	29.54	42.123		
4,300.00	4,300.00	4,278.79	4,276.45	15.19	14.86	88.90	23.82	1,244.75	1,245.33	1,215.40	29.93	41.606		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #3H - 36 #3H - Drilling - Surveys													Offset Site Error:	0.00 usft	
Survey Program: Reference		100-GYRO-NS-CT, 4756-MWD+HDGM					Rule Assigned:							Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
4,400.00	4,400.00	4,348.86	4,346.37	15.55	15.11	89.08	20.12	1,247.49	1,249.07	1,218.55	30.52	40.924			
4,500.00	4,500.00	4,427.44	4,424.74	15.91	15.40	89.25	16.47	1,252.01	1,254.75	1,223.61	31.14	40.298			
4,600.00	4,600.00	4,511.24	4,508.29	16.27	15.71	89.35	14.17	1,258.04	1,261.91	1,230.14	31.77	39.723			
4,700.00	4,700.00	4,606.63	4,603.36	16.62	16.07	89.37	14.01	1,265.62	1,269.85	1,237.40	32.45	39.131			
4,800.00	4,800.00	4,722.11	4,718.45	16.98	16.46	89.21	17.54	1,274.47	1,277.59	1,244.40	33.20	38.486			
4,900.00	4,900.00	4,836.48	4,832.35	17.34	16.53	88.87	25.35	1,281.10	1,283.46	1,249.82	33.64	38.156			
5,000.00	5,000.00	4,944.19	4,939.63	17.70	16.55	88.53	33.13	1,286.80	1,288.94	1,254.92	34.02	37.890			
5,100.00	5,100.00	5,051.05	5,046.10	18.06	16.57	88.20	40.65	1,291.89	1,293.92	1,259.51	34.41	37.605			
5,200.00	5,200.00	5,173.93	5,168.59	18.42	16.61	87.82	49.42	1,296.17	1,297.65	1,262.83	34.82	37.264			
5,300.00	5,300.00	5,291.24	5,285.52	18.77	16.65	87.41	58.66	1,298.26	1,299.74	1,264.51	35.24	36.886			
5,350.00	5,350.00	5,347.05	5,341.14	18.95	16.68	87.21	63.31	1,298.82	1,300.44	1,265.00	35.45	36.689			
5,400.00	5,400.00	5,404.97	5,398.88	19.13	16.71	14.11	67.76	1,299.08	1,300.44	1,264.79	35.65	36.476			
5,500.00	5,499.93	5,509.25	5,502.87	19.48	16.77	13.81	75.58	1,299.05	1,297.44	1,261.38	36.06	35.979			
5,600.00	5,599.68	5,606.97	5,600.31	19.82	16.83	13.59	83.01	1,298.82	1,290.88	1,254.41	36.47	35.393			
5,700.00	5,699.13	5,729.24	5,722.15	20.17	16.92	13.32	93.07	1,298.20	1,280.84	1,243.94	36.91	34.705			
5,750.56	5,749.25	5,808.18	5,800.86	20.35	16.98	13.20	98.57	1,295.88	1,273.18	1,236.06	37.13	34.294			
5,800.00	5,798.21	5,880.14	5,872.60	20.52	17.04	13.10	102.91	1,292.26	1,264.21	1,226.88	37.33	33.866			
5,900.00	5,897.24	5,997.26	5,989.36	20.88	17.15	13.02	107.68	1,284.50	1,244.36	1,206.62	37.75	32.967			
6,000.00	5,996.26	6,102.96	6,094.76	21.23	17.25	13.08	109.21	1,276.70	1,223.63	1,185.46	38.17	32.056			
6,100.00	6,095.29	6,195.14	6,186.68	21.59	17.34	13.22	108.81	1,269.80	1,202.67	1,164.05	38.62	31.144			
6,200.00	6,194.31	6,283.01	6,274.35	21.95	17.43	13.39	107.72	1,264.00	1,182.52	1,143.45	39.07	30.266			
6,300.00	6,293.33	6,379.01	6,370.17	22.31	17.54	13.59	106.32	1,258.28	1,162.99	1,123.47	39.52	29.425			
6,400.00	6,392.36	6,474.69	6,465.68	22.67	17.66	13.78	105.42	1,252.53	1,143.46	1,103.47	39.99	28.597			
6,500.00	6,491.38	6,573.76	6,564.58	23.03	17.78	13.96	105.00	1,246.74	1,124.14	1,083.69	40.45	27.789			
6,600.00	6,590.41	6,666.16	6,656.82	23.39	17.90	14.11	104.86	1,241.36	1,104.87	1,063.93	40.93	26.993			
6,700.00	6,689.43	6,766.34	6,756.85	23.76	18.04	14.27	105.00	1,235.89	1,085.98	1,044.56	41.41	26.223			
6,800.00	6,788.45	6,857.46	6,847.83	24.13	18.18	14.42	105.07	1,230.94	1,067.11	1,025.20	41.91	25.464			
6,900.00	6,887.48	6,954.52	6,944.78	24.49	18.32	14.60	104.98	1,226.21	1,048.80	1,006.40	42.40	24.735			
7,000.00	6,986.50	7,050.74	7,040.89	24.86	18.47	14.79	104.84	1,221.58	1,030.55	987.65	42.90	24.020			
7,100.00	7,085.53	7,148.93	7,138.97	25.23	18.63	14.96	105.11	1,216.97	1,012.45	969.04	43.41	23.321			
7,200.00	7,184.55	7,259.64	7,249.52	25.61	18.82	15.21	104.61	1,211.03	993.67	949.75	43.92	22.625			
7,300.00	7,283.58	7,358.64	7,348.33	25.98	18.99	15.51	103.13	1,205.22	974.37	929.94	44.44	21.927			
7,400.00	7,382.60	7,459.17	7,448.66	26.35	19.17	15.75	102.75	1,198.89	954.71	909.75	44.96	21.235			
7,500.00	7,481.62	7,552.55	7,541.87	26.73	19.34	15.97	102.50	1,193.31	935.38	889.89	45.49	20.560			
7,600.00	7,580.65	7,649.12	7,638.28	27.10	19.53	16.21	102.29	1,187.76	916.31	870.27	46.03	19.906			
7,700.00	7,679.67	7,745.70	7,734.71	27.48	19.72	16.47	102.00	1,182.45	897.49	850.91	46.58	19.269			
7,800.00	7,778.70	7,843.91	7,832.78	27.86	19.91	16.72	102.05	1,177.06	878.70	831.58	47.12	18.647			
7,900.00	7,877.72	7,938.34	7,927.07	28.23	20.10	16.99	101.86	1,172.02	860.07	812.39	47.68	18.039			
8,000.00	7,976.74	8,035.80	8,024.42	28.61	20.31	17.26	101.79	1,167.31	841.96	793.72	48.24	17.455			
8,100.00	8,075.77	8,135.95	8,124.44	28.99	20.52	17.56	101.79	1,162.18	823.59	774.79	48.80	16.878			
8,200.00	8,174.79	8,232.58	8,220.94	29.37	20.73	17.87	101.49	1,157.23	805.24	755.87	49.36	16.312			
8,300.00	8,273.82	8,329.23	8,317.47	29.75	20.94	18.19	101.33	1,152.52	787.16	737.22	49.94	15.763			
8,400.00	8,372.84	8,424.94	8,413.08	30.14	21.15	18.53	101.08	1,148.07	769.33	718.82	50.51	15.230			
8,500.00	8,471.86	8,525.30	8,513.34	30.52	21.38	18.91	100.75	1,143.53	751.65	700.55	51.09	14.712			
8,600.00	8,570.89	8,619.66	8,607.60	30.90	21.60	19.29	100.32	1,139.26	734.01	682.33	51.68	14.203			
8,700.00	8,669.91	8,717.99	8,705.85	31.29	21.83	19.69	100.10	1,135.17	716.75	664.48	52.27	13.713			
8,800.00	8,768.94	8,817.27	8,805.03	31.67	22.06	20.12	99.70	1,130.95	699.44	646.58	52.86	13.232			
8,900.00	8,867.96	8,921.48	8,908.95	32.05	22.31	20.96	95.09	1,125.96	681.88	628.44	53.45	12.758			
9,000.00	8,966.99	9,009.03	8,994.43	32.44	22.51	22.90	77.50	1,120.07	663.89	609.83	54.06	12.280			
9,100.00	9,066.01	9,067.23	9,049.80	32.83	22.64	24.75	59.74	1,118.12	651.24	596.61	54.63	11.922			
9,200.00	9,165.03	9,147.93	9,124.73	33.21	22.80	27.77	29.88	1,117.69	644.34	589.17	55.16	11.680			
9,300.00	9,264.06	9,253.02	9,217.05	33.60	23.02	32.78	-19.88	1,112.53	639.24	583.42	55.82	11.452			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #3H - 36 #3H - Drilling - Surveys													Offset Site Error: 0.00 usft
Survey Program: 100-GYRO-NS-CT, 4756-MWD+HDMG													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,353.52	9,317.06	9,293.00	9,250.18	33.81	23.10	34.99	-42.00	1,109.19	638.29	582.23	56.06	11.385	CC, ES
9,400.00	9,363.08	9,318.82	9,271.03	33.99	23.16	36.49	-57.07	1,106.97	639.27	583.10	56.17	11.381	SF
9,500.00	9,462.11	9,374.48	9,314.73	34.37	23.28	39.81	-91.26	1,102.68	647.96	591.75	56.22	11.526	
9,600.00	9,561.13	9,420.34	9,348.88	34.76	23.39	42.67	-121.66	1,099.22	666.00	610.12	55.88	11.919	
9,640.77	9,601.50	9,432.00	9,357.21	34.92	23.42	43.41	-129.77	1,098.38	676.24	620.70	55.54	12.175	
9,700.00	9,660.20	9,456.07	9,373.87	35.15	23.48	45.10	-147.06	1,096.74	694.28	639.17	55.11	12.598	
9,800.00	9,759.47	9,478.00	9,388.35	35.53	23.54	46.83	-163.48	1,095.39	733.48	679.60	53.89	13.611	
9,900.00	9,858.93	9,524.00	9,416.18	35.91	23.68	50.26	-199.96	1,092.44	782.23	729.15	53.09	14.735	
10,000.00	9,958.56	9,540.83	9,425.50	36.28	23.73	51.91	-213.92	1,091.25	839.13	787.39	51.73	16.220	
10,100.00	10,058.33	9,570.00	9,440.73	36.65	23.82	54.46	-238.70	1,089.10	903.00	852.26	50.74	17.796	
10,200.00	10,158.20	9,584.30	9,447.76	37.01	23.87	56.16	-251.12	1,088.05	972.53	922.92	49.61	19.604	
10,300.00	10,258.14	9,615.00	9,461.75	37.36	23.97	58.99	-278.36	1,085.99	1,047.12	998.17	48.95	21.392	
10,400.00	10,358.12	9,615.00	9,461.75	37.71	23.97	60.06	-278.36	1,085.99	1,125.10	1,077.19	47.91	23.485	
10,441.88	10,400.00	9,615.00	9,461.75	37.86	23.97	133.47	-278.36	1,085.99	1,158.91	1,111.39	47.53	24.384	
10,500.00	10,458.12	9,615.00	9,461.75	38.06	23.97	133.47	-278.36	1,085.99	1,206.74	1,159.69	47.05	25.647	
10,600.00	10,558.12	9,639.65	9,471.82	38.40	24.06	134.92	-300.81	1,084.58	1,290.15	1,243.43	46.72	27.616	
10,700.00	10,658.12	9,663.00	9,480.30	38.75	24.15	136.24	-322.53	1,083.46	1,375.95	1,329.49	46.46	29.618	
10,705.88	10,664.00	9,663.00	9,480.30	38.77	24.15	136.24	-322.53	1,083.46	1,381.01	1,334.58	46.43	29.747	
10,725.00	10,683.12	9,663.00	9,480.30	38.84	24.15	36.38	-322.53	1,083.46	1,397.36	1,351.04	46.32	30.167	
10,750.00	10,708.06	9,663.00	9,480.30	38.93	24.15	33.72	-322.53	1,083.46	1,418.36	1,372.18	46.18	30.715	
10,775.00	10,732.88	9,663.00	9,480.30	39.02	24.15	31.39	-322.53	1,083.46	1,438.88	1,392.85	46.03	31.260	
10,800.00	10,757.52	9,663.00	9,480.30	39.12	24.15	29.37	-322.53	1,083.46	1,458.91	1,413.03	45.88	31.800	
10,825.00	10,781.89	9,663.00	9,480.30	39.22	24.15	27.59	-322.53	1,083.46	1,478.39	1,432.67	45.72	32.334	
10,850.00	10,805.95	9,663.00	9,480.30	39.32	24.15	26.02	-322.53	1,083.46	1,497.30	1,451.74	45.57	32.860	
10,875.00	10,829.61	9,663.00	9,480.30	39.43	24.15	24.64	-322.53	1,083.46	1,515.62	1,470.21	45.41	33.379	
10,900.00	10,852.82	9,663.00	9,480.30	39.54	24.15	23.42	-322.53	1,083.46	1,533.30	1,488.06	45.25	33.889	
10,925.00	10,875.51	9,663.00	9,480.30	39.66	24.15	22.33	-322.53	1,083.46	1,550.34	1,505.26	45.08	34.389	
10,950.00	10,897.63	9,663.00	9,480.30	39.78	24.15	21.36	-322.53	1,083.46	1,566.70	1,521.78	44.92	34.877	
10,975.00	10,919.10	9,663.00	9,480.30	39.90	24.15	20.50	-322.53	1,083.46	1,582.35	1,537.59	44.76	35.353	
11,000.00	10,939.87	9,663.00	9,480.30	40.03	24.15	19.73	-322.53	1,083.46	1,597.29	1,552.69	44.60	35.816	
11,025.00	10,959.89	9,663.00	9,480.30	40.16	24.15	19.05	-322.53	1,083.46	1,611.48	1,567.04	44.44	36.264	
11,050.00	10,979.10	9,663.00	9,480.30	40.30	24.15	18.43	-322.53	1,083.46	1,624.91	1,580.63	44.28	36.697	
11,075.00	10,997.44	9,663.00	9,480.30	40.45	24.15	17.89	-322.53	1,083.46	1,637.56	1,593.43	44.12	37.113	
11,100.00	11,014.87	9,663.00	9,480.30	40.60	24.15	17.40	-322.53	1,083.46	1,649.41	1,605.44	43.97	37.511	
11,125.00	11,031.33	9,663.00	9,480.30	40.75	24.15	16.96	-322.53	1,083.46	1,660.45	1,616.63	43.82	37.889	
11,150.00	11,046.79	9,682.44	9,486.51	40.91	24.23	17.27	-340.94	1,082.69	1,670.11	1,626.21	43.90	38.047	
11,175.00	11,061.21	9,683.67	9,486.87	41.09	24.23	16.96	-342.11	1,082.65	1,679.42	1,635.64	43.77	38.368	
11,200.00	11,074.53	9,684.83	9,487.21	41.26	24.24	16.69	-343.22	1,082.60	1,687.87	1,644.22	43.65	38.666	
11,205.88	11,077.50	9,685.09	9,487.29	41.31	24.24	16.63	-343.47	1,082.60	1,689.74	1,646.11	43.62	38.734	
11,225.00	11,087.03	9,686.02	9,487.56	41.45	24.24	16.05	-344.36	1,082.56	1,695.70	1,652.16	43.54	38.947	
11,250.00	11,099.41	9,687.43	9,487.96	41.64	24.25	15.30	-345.71	1,082.52	1,703.38	1,659.95	43.43	39.224	
11,275.00	11,111.66	9,689.07	9,488.43	41.83	24.25	14.56	-347.28	1,082.46	1,710.92	1,667.60	43.32	39.497	
11,300.00	11,123.74	9,709.00	9,493.62	42.03	24.33	14.40	-366.51	1,081.88	1,718.78	1,675.37	43.41	39.594	
11,325.00	11,135.62	9,709.00	9,493.62	42.23	24.33	13.62	-366.51	1,081.88	1,725.87	1,682.59	43.28	39.878	
11,350.00	11,147.27	9,709.00	9,493.62	42.42	24.33	12.85	-366.51	1,081.88	1,732.76	1,689.61	43.15	40.159	
11,375.00	11,158.66	9,709.00	9,493.62	42.62	24.33	12.10	-366.51	1,081.88	1,739.43	1,696.41	43.02	40.438	
11,400.00	11,169.75	9,709.00	9,493.62	42.81	24.33	11.38	-366.51	1,081.88	1,745.87	1,702.98	42.88	40.712	
11,425.00	11,180.52	9,709.00	9,493.62	43.00	24.33	10.69	-366.51	1,081.88	1,752.05	1,709.30	42.75	40.981	
11,450.00	11,190.93	9,709.00	9,493.62	43.19	24.33	10.03	-366.51	1,081.88	1,757.98	1,715.36	42.62	41.243	
11,475.00	11,200.96	9,709.00	9,493.62	43.37	24.33	9.39	-366.51	1,081.88	1,763.63	1,721.13	42.50	41.499	
11,500.00	11,210.57	9,709.00	9,493.62	43.55	24.33	8.80	-366.51	1,081.88	1,768.99	1,726.62	42.37	41.746	
11,525.00	11,219.75	9,709.00	9,493.62	43.72	24.33	8.23	-366.51	1,081.88	1,774.05	1,731.80	42.26	41.984	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #3H - 36 #3H - Drilling - Surveys														Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS-CT, 4756-MWD+HDMG														Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning		
							+N-S (usft)	+E-W (usft)							
11,550.00	11,228.47	9,727.28	9,497.76	43.89	24.40	8.07	-384.31	1,081.41	1,778.50	1,736.20	42.31	42.037			
11,575.00	11,236.70	9,733.50	9,499.07	44.05	24.43	7.66	-390.38	1,081.25	1,782.69	1,740.44	42.25	42.195			
11,600.00	11,244.43	9,755.00	9,503.26	44.20	24.52	7.54	-411.47	1,080.70	1,786.67	1,744.34	42.33	42.210			
11,625.00	11,251.62	9,755.00	9,503.26	44.34	24.52	7.05	-411.47	1,080.70	1,789.88	1,747.67	42.21	42.401			
11,650.00	11,258.26	9,755.00	9,503.26	44.48	24.52	6.60	-411.47	1,080.70	1,792.72	1,750.62	42.10	42.578			
11,675.00	11,264.34	9,755.00	9,503.26	44.61	24.52	6.18	-411.47	1,080.70	1,795.20	1,753.20	42.00	42.740			
11,700.00	11,269.83	9,755.00	9,503.26	44.73	24.52	5.79	-411.47	1,080.70	1,797.30	1,755.39	41.91	42.886			
11,725.00	11,274.72	9,755.00	9,503.26	44.84	24.52	5.44	-411.47	1,080.70	1,799.02	1,757.20	41.83	43.013			
11,750.00	11,279.00	9,777.55	9,506.97	44.94	24.62	5.32	-433.70	1,080.07	1,799.82	1,757.91	41.90	42.950			
11,775.00	11,282.65	9,783.78	9,507.85	45.04	24.64	5.05	-439.86	1,079.89	1,800.43	1,758.56	41.87	43.000			
11,800.00	11,285.67	9,801.00	9,509.98	45.12	24.72	4.87	-456.94	1,079.33	1,800.70	1,758.78	41.91	42.963			
11,825.00	11,288.04	9,801.00	9,509.98	45.20	24.72	4.58	-456.94	1,079.33	1,800.25	1,758.40	41.85	43.018			
11,850.00	11,289.77	9,801.00	9,509.98	45.27	24.72	4.31	-456.94	1,079.33	1,799.41	1,757.61	41.80	43.051			
11,875.00	11,290.84	9,801.00	9,509.98	45.33	24.72	4.08	-456.94	1,079.33	1,798.18	1,756.42	41.76	43.062			
11,897.47	11,291.24	9,801.00	9,509.98	45.37	24.72	3.89	-456.94	1,079.33	1,796.74	1,755.00	41.73	43.052			
11,900.00	11,291.26	9,816.93	9,511.55	45.38	24.79	3.92	-472.79	1,078.84	1,796.31	1,754.51	41.81	42.969			
12,000.00	11,291.86	9,845.00	9,513.42	45.59	24.92	3.95	-500.79	1,078.15	1,790.46	1,748.56	41.90	42.727			
12,100.00	11,292.47	9,904.24	9,515.38	45.83	25.21	4.00	-559.98	1,076.86	1,787.87	1,745.66	42.22	42.351			
12,200.00	11,293.08	9,978.48	9,516.76	46.09	25.61	4.08	-634.18	1,074.99	1,786.90	1,744.26	42.63	41.915			
12,206.71	11,293.12	9,982.96	9,516.80	46.11	25.63	4.09	-638.66	1,074.87	1,786.89	1,744.23	42.66	41.886			
12,300.00	11,293.69	10,057.98	9,516.80	46.40	26.07	4.17	-713.65	1,072.79	1,787.62	1,744.51	43.11	41.467			
12,400.00	11,294.29	10,165.88	9,516.83	46.73	26.76	4.19	-821.55	1,072.58	1,788.24	1,744.56	43.68	40.938			
12,500.00	11,294.90	10,302.70	9,517.51	47.11	27.73	4.12	-958.32	1,075.60	1,788.40	1,744.03	44.38	40.299			
12,600.00	11,295.51	10,399.65	9,519.47	47.52	28.49	4.12	-1,055.24	1,076.46	1,786.97	1,741.93	45.04	39.677			
12,700.00	11,296.11	10,499.62	9,521.54	47.96	29.33	4.18	-1,155.19	1,075.20	1,785.65	1,739.89	45.75	39.027			
12,800.00	11,296.72	10,593.75	9,523.27	48.45	30.15	4.23	-1,249.29	1,074.11	1,784.55	1,738.05	46.49	38.382			
12,900.00	11,297.33	10,702.15	9,525.26	48.97	31.16	4.27	-1,357.67	1,073.80	1,783.39	1,736.07	47.32	37.687			
13,000.00	11,297.94	10,826.17	9,528.54	49.53	32.36	4.28	-1,481.65	1,074.29	1,781.40	1,733.15	48.25	36.921			
13,100.00	11,298.54	10,922.57	9,531.93	50.13	33.33	4.27	-1,577.99	1,075.45	1,778.46	1,729.35	49.12	36.210			
13,200.00	11,299.15	11,000.41	9,533.95	50.77	34.14	4.25	-1,655.78	1,076.56	1,776.43	1,726.48	49.95	35.567			
13,300.00	11,299.76	11,079.76	9,534.90	51.44	34.98	4.23	-1,735.12	1,077.87	1,775.74	1,724.93	50.82	34.944			
13,323.97	11,299.90	11,100.46	9,535.03	51.60	35.20	4.22	-1,755.82	1,078.23	1,775.72	1,724.68	51.04	34.792			
13,400.00	11,300.36	11,161.77	9,535.14	52.14	35.87	4.20	-1,817.12	1,079.35	1,775.99	1,724.26	51.73	34.332			
13,500.00	11,300.97	11,238.00	9,534.30	52.88	36.71	4.16	-1,893.33	1,080.82	1,777.57	1,724.91	52.65	33.759			
13,600.00	11,301.58	11,300.34	9,532.55	53.65	37.41	4.14	-1,955.63	1,081.84	1,780.86	1,727.28	53.57	33.241			
13,700.00	11,302.19	11,382.16	9,528.89	54.45	38.34	4.12	-2,037.37	1,082.50	1,785.87	1,731.30	54.57	32.726			
13,800.00	11,302.79	11,529.72	9,523.59	55.27	40.04	4.14	-2,184.82	1,082.37	1,790.23	1,734.46	55.77	32.102			
13,900.00	11,303.40	11,626.65	9,521.38	56.13	41.19	4.16	-2,281.73	1,082.03	1,793.18	1,736.32	56.86	31.539			
14,000.00	11,304.01	11,763.38	9,520.37	57.01	42.82	4.19	-2,418.45	1,081.91	1,794.43	1,736.33	58.10	30.884			
14,100.00	11,304.61	11,860.43	9,520.25	57.92	44.00	4.20	-2,515.50	1,081.98	1,795.20	1,735.96	59.24	30.305			
14,200.00	11,305.22	11,993.62	9,521.05	58.85	45.64	4.23	-2,648.68	1,082.06	1,795.26	1,734.73	60.53	29.658			
14,294.11	11,305.79	12,071.00	9,521.94	59.74	46.61	4.24	-2,726.06	1,082.08	1,794.80	1,733.22	61.58	29.144			
14,300.00	11,305.83	12,071.00	9,521.94	59.80	46.61	4.24	-2,726.06	1,082.08	1,794.81	1,733.18	61.63	29.122			
14,400.00	11,306.44	12,143.58	9,521.78	60.77	47.52	4.26	-2,798.63	1,081.92	1,795.76	1,733.03	62.73	28.627			
14,500.00	11,307.04	12,271.81	9,520.73	61.76	49.14	4.28	-2,926.86	1,081.91	1,797.33	1,733.28	64.05	28.060			
14,600.00	11,307.65	12,397.48	9,521.93	62.78	50.75	4.28	-3,052.52	1,082.57	1,797.01	1,731.62	65.39	27.480			
14,700.00	11,308.26	12,502.75	9,524.10	63.81	52.11	4.26	-3,157.76	1,084.16	1,795.48	1,728.82	66.67	26.933			
14,800.00	11,308.86	12,599.34	9,525.85	64.85	53.37	4.22	-3,254.31	1,086.09	1,794.18	1,726.27	67.91	26.418			
14,900.00	11,309.47	12,694.96	9,527.42	65.92	54.62	4.17	-3,349.90	1,088.18	1,793.03	1,723.86	69.17	25.922			
15,000.00	11,310.08	12,778.34	9,528.36	67.00	55.72	4.13	-3,433.25	1,090.04	1,792.41	1,722.03	70.39	25.464			
15,006.77	11,310.12	12,783.74	9,528.39	67.07	55.79	4.13	-3,438.65	1,090.15	1,792.41	1,721.94	70.47	25.435			
15,100.00	11,310.69	12,878.21	9,528.70	68.09	57.04	4.08	-3,533.10	1,092.08	1,792.57	1,720.89	71.68	25.006			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 #3H - 36 #3H - Drilling - Surveys												Offset Site Error:	0.00 usft
Survey Program: 100-GYRO-NS-CT, 4756-MWD+HDGM												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis	Reference	Offset	Highside	Offset Wellbore Centre	Distance	Rule Assigned:	Between	Between	Minimum	Separation	Warning
Measured	Vertical	Measured	Vertical	Reference	Offset	Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor	
Depth	Depth	Depth	Depth	Reference	Offset	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
15,146.02	11,310.97	12,923.02	9,528.99	68.60	57.64	4.06	-3,577.89	1,093.03	1,792.51	1,720.23	72.28	24.799	
15,200.00	11,311.29	12,967.61	9,529.10	69.20	58.23	4.04	-3,622.48	1,093.96	1,792.65	1,719.70	72.95	24.574	
15,300.00	11,311.90	13,102.62	9,530.10	70.32	60.04	3.97	-3,757.44	1,096.83	1,792.48	1,718.07	74.41	24.090	
15,400.00	11,312.51	13,190.14	9,531.53	71.45	61.22	3.94	-3,844.94	1,098.50	1,791.37	1,715.68	75.69	23.669	
15,463.91	11,312.90	13,240.94	9,532.00	72.18	61.90	3.93	-3,895.73	1,099.20	1,791.13	1,714.65	76.49	23.418	
15,500.00	11,313.12	13,273.00	9,532.11	72.60	62.33	3.92	-3,927.79	1,099.54	1,791.21	1,714.26	76.95	23.277	
15,600.00	11,313.72	13,340.65	9,531.66	73.75	63.24	3.91	-3,995.44	1,100.20	1,792.42	1,714.26	78.16	22.931	
15,700.00	11,314.33	13,430.33	9,529.93	74.92	64.45	3.90	-4,085.10	1,100.87	1,794.92	1,715.45	79.47	22.585	
15,800.00	11,314.94	13,585.25	9,529.59	76.10	66.55	3.97	-4,239.99	1,099.61	1,795.76	1,714.69	81.07	22.150	
15,876.46	11,315.40	13,653.58	9,530.33	77.01	67.47	4.03	-4,308.31	1,098.27	1,795.54	1,713.44	82.09	21.872	
15,900.00	11,315.54	13,671.33	9,530.45	77.29	67.71	4.04	-4,326.05	1,097.84	1,795.57	1,713.18	82.40	21.792	
16,000.00	11,316.15	13,753.72	9,530.33	78.48	68.82	4.14	-4,408.41	1,095.35	1,796.55	1,712.84	83.71	21.462	
16,100.00	11,316.76	13,871.58	9,530.27	79.69	70.42	4.22	-4,526.24	1,093.44	1,797.37	1,712.19	85.18	21.100	
16,200.00	11,317.37	13,970.00	9,530.77	80.90	71.77	4.23	-4,624.66	1,093.56	1,797.50	1,710.93	86.57	20.763	
16,300.00	11,317.97	14,052.50	9,530.58	82.12	72.90	4.24	-4,707.16	1,093.97	1,798.36	1,710.47	87.89	20.461	
16,400.00	11,318.58	14,130.37	9,529.53	83.35	73.97	4.23	-4,785.02	1,094.61	1,800.31	1,711.11	89.20	20.184	
16,500.00	11,319.19	14,210.00	9,527.74	84.59	75.07	4.22	-4,864.63	1,095.22	1,803.21	1,712.70	90.51	19.923	
16,600.00	11,319.79	14,210.00	9,527.74	85.84	75.07	4.22	-4,864.63	1,095.22	1,809.70	1,718.33	91.38	19.804	
16,633.91	11,320.00	14,210.00	9,527.74	86.26	75.07	4.22	-4,864.63	1,095.22	1,813.15	1,721.50	91.65	19.784	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 State Com 3U #7H - 3U #7H - Planning - Lateral 1r0													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Rule Assigned: Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.00	2.00	0.00	0.00	-90.29	-0.20	-40.00	40.00				
100.00	100.00	102.00	102.00	0.13	0.14	-90.29	-0.20	-40.00	40.00	39.72	0.28	144.917	
200.00	200.00	202.00	202.00	0.49	0.50	-90.29	-0.20	-40.00	40.00	39.01	0.99	40.284	
300.00	300.00	302.00	302.00	0.85	0.86	-90.29	-0.20	-40.00	40.00	38.29	1.71	23.393	
400.00	400.00	402.00	402.00	1.21	1.22	-90.29	-0.20	-40.00	40.00	37.57	2.43	16.482	
500.00	500.00	502.00	502.00	1.57	1.58	-90.29	-0.20	-40.00	40.00	36.86	3.14	12.724	
600.00	600.00	602.00	602.00	1.93	1.93	-90.29	-0.20	-40.00	40.00	36.14	3.86	10.361	
700.00	700.00	702.00	702.00	2.29	2.29	-90.29	-0.20	-40.00	40.00	35.42	4.58	8.738	
800.00	800.00	802.00	802.00	2.64	2.65	-90.29	-0.20	-40.00	40.00	34.71	5.29	7.555	
900.00	900.00	902.00	902.00	3.00	3.01	-90.29	-0.20	-40.00	40.00	33.99	6.01	6.654	
1,000.00	1,000.00	1,002.00	1,002.00	3.36	3.37	-90.29	-0.20	-40.00	40.00	33.27	6.73	5.945	
1,100.00	1,100.00	1,102.00	1,102.00	3.72	3.73	-90.29	-0.20	-40.00	40.00	32.56	7.45	5.372	
1,200.00	1,200.00	1,202.00	1,202.00	4.08	4.08	-90.29	-0.20	-40.00	40.00	31.84	8.16	4.901	
1,300.00	1,300.00	1,302.00	1,302.00	4.44	4.44	-90.29	-0.20	-40.00	40.00	31.12	8.88	4.505	
1,400.00	1,400.00	1,402.00	1,402.00	4.79	4.80	-90.29	-0.20	-40.00	40.00	30.40	9.60	4.168	
1,500.00	1,500.00	1,502.00	1,502.00	5.15	5.16	-90.29	-0.20	-40.00	40.00	29.69	10.31	3.879	
1,600.00	1,600.00	1,602.00	1,602.00	5.51	5.52	-90.29	-0.20	-40.00	40.00	28.97	11.03	3.626	
1,700.00	1,700.00	1,702.00	1,702.00	5.87	5.88	-90.29	-0.20	-40.00	40.00	28.25	11.75	3.405	
1,800.00	1,800.00	1,802.00	1,802.00	6.23	6.24	-90.29	-0.20	-40.00	40.00	27.54	12.46	3.209	
1,900.00	1,900.00	1,902.00	1,902.00	6.59	6.59	-90.29	-0.20	-40.00	40.00	26.82	13.18	3.035	
2,000.00	2,000.00	2,002.00	2,002.00	6.95	6.95	-90.29	-0.20	-40.00	40.00	26.10	13.90	2.878	
2,100.00	2,100.00	2,102.00	2,102.00	7.30	7.31	-90.29	-0.20	-40.00	40.00	25.39	14.61	2.737	
2,200.00	2,200.00	2,202.00	2,202.00	7.66	7.67	-90.29	-0.20	-40.00	40.00	24.67	15.33	2.609	
2,300.00	2,300.00	2,302.00	2,302.00	8.02	8.03	-90.29	-0.20	-40.00	40.00	23.95	16.05	2.492	
2,400.00	2,400.00	2,402.00	2,402.00	8.38	8.39	-90.29	-0.20	-40.00	40.00	23.23	16.77	2.386	
2,500.00	2,500.00	2,502.00	2,502.00	8.74	8.74	-90.29	-0.20	-40.00	40.00	22.52	17.48	2.288	
2,600.00	2,600.00	2,602.00	2,602.00	9.10	9.10	-90.29	-0.20	-40.00	40.00	21.80	18.20	2.198	
2,700.00	2,700.00	2,702.00	2,702.00	9.45	9.46	-90.29	-0.20	-40.00	40.00	21.08	18.92	2.115	
2,800.00	2,800.00	2,802.00	2,802.00	9.81	9.82	-90.29	-0.20	-40.00	40.00	20.37	19.63	2.037	
2,900.00	2,900.00	2,902.00	2,902.00	10.17	10.18	-90.29	-0.20	-40.00	40.00	19.65	20.35	1.966	
3,000.00	3,000.00	3,002.00	3,002.00	10.53	10.54	-90.29	-0.20	-40.00	40.00	18.93	21.07	1.899	
3,100.00	3,100.00	3,102.00	3,102.00	10.89	10.90	-90.29	-0.20	-40.00	40.00	18.22	21.78	1.836	
3,200.00	3,200.00	3,202.00	3,202.00	11.25	11.25	-90.29	-0.20	-40.00	40.00	17.50	22.50	1.778	
3,300.00	3,300.00	3,302.00	3,302.00	11.61	11.61	-90.29	-0.20	-40.00	40.00	16.78	23.22	1.723	
3,400.00	3,400.00	3,402.00	3,402.00	11.96	11.97	-90.29	-0.20	-40.00	40.00	16.07	23.94	1.671	
3,500.00	3,500.00	3,502.00	3,502.00	12.32	12.33	-90.29	-0.20	-40.00	40.00	15.35	24.65	1.623	
3,600.00	3,600.00	3,602.00	3,602.00	12.68	12.69	-90.29	-0.20	-40.00	40.00	14.63	25.37	1.577	
3,700.00	3,700.00	3,702.00	3,702.00	13.04	13.05	-90.29	-0.20	-40.00	40.00	13.91	26.09	1.533	
3,800.00	3,800.00	3,802.00	3,802.00	13.40	13.41	-90.29	-0.20	-40.00	40.00	13.20	26.80	1.492 Level 3	
3,900.00	3,900.00	3,902.00	3,902.00	13.76	13.76	-90.29	-0.20	-40.00	40.00	12.48	27.52	1.454 Level 3	
4,000.00	4,000.00	4,002.00	4,002.00	14.11	14.12	-90.29	-0.20	-40.00	40.00	11.76	28.24	1.417 Level 3	
4,100.00	4,100.00	4,102.00	4,102.00	14.47	14.48	-90.29	-0.20	-40.00	40.00	11.05	28.95	1.382 Level 3	
4,200.00	4,200.00	4,202.00	4,202.00	14.83	14.84	-90.29	-0.20	-40.00	40.00	10.33	29.67	1.348 Level 3	
4,300.00	4,300.00	4,302.00	4,302.00	15.19	15.20	-90.29	-0.20	-40.00	40.00	9.61	30.39	1.316 Level 3	
4,400.00	4,400.00	4,402.00	4,402.00	15.55	15.56	-90.29	-0.20	-40.00	40.00	8.90	31.10	1.286 Level 3	
4,500.00	4,500.00	4,502.00	4,502.00	15.91	15.91	-90.29	-0.20	-40.00	40.00	8.18	31.82	1.257 Level 3	
4,600.00	4,600.00	4,602.00	4,602.00	16.27	16.27	-90.29	-0.20	-40.00	40.00	7.46	32.54	1.229 Level 3	
4,700.00	4,700.00	4,702.00	4,702.00	16.62	16.63	-90.29	-0.20	-40.00	40.00	6.75	33.26	1.203 Level 3	
4,800.00	4,800.00	4,802.00	4,802.00	16.98	16.99	-90.29	-0.20	-40.00	40.00	6.03	33.97	1.177 Level 3	
4,900.00	4,900.00	4,902.00	4,902.00	17.34	17.35	-90.29	-0.20	-40.00	40.00	5.31	34.69	1.153 Level 3	
5,000.00	5,000.00	5,002.00	5,002.00	17.70	17.71	-90.29	-0.20	-40.00	40.00	4.59	35.41	1.130 Level 3	
5,100.00	5,100.00	5,102.00	5,102.00	18.06	18.07	-90.29	-0.20	-40.00	40.00	3.88	36.12	1.107 Level 3	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 State Com 3U #7H - 3U #7H - Planning - Lateral 1r0													Offset Site Error:	0.00 usft	
Survey Program:		0-MWD+HDGM		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:			Offset Well Error:	0.00 usft
Reference	Offset	Reference	Offset	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	(usft)	(usft)										
5,200.00	5,200.00	5,202.00	5,202.00	18.42	18.42	-90.29	-0.20	-40.00	40.00	3.16	36.84	1.086	Level 3		
5,300.00	5,300.00	5,302.00	5,302.00	18.77	18.78	-90.29	-0.20	-40.00	40.00	2.44	37.56	1.065	Level 3		
5,307.64	5,307.64	5,309.64	5,309.64	18.80	18.81	-90.29	-0.20	-40.00	40.00	2.39	37.61	1.064	Level 3, CC		
5,350.00	5,350.00	5,352.00	5,352.00	18.95	18.96	-90.29	-0.20	-40.00	40.00	2.08	37.92	1.055	Level 3, ES, SF		
5,400.00	5,400.00	5,401.99	5,401.99	19.13	19.14	-162.71	0.27	-40.00	40.42	2.15	38.27	1.056	Level 3		
5,500.00	5,499.93	5,501.90	5,501.84	19.48	19.50	-159.97	3.39	-40.02	43.83	4.86	38.97	1.125	Level 3		
5,600.00	5,599.68	5,601.65	5,601.54	19.82	19.86	-158.62	6.93	-40.05	50.60	10.93	39.67	1.276	Level 3		
5,700.00	5,699.13	5,701.15	5,700.97	20.17	20.21	-158.81	10.46	-40.07	60.63	20.25	40.37	1.502			
5,750.56	5,749.25	5,751.30	5,751.09	20.35	20.39	-159.28	12.24	-40.08	66.93	26.20	40.73	1.643			
5,800.00	5,798.21	5,800.30	5,800.06	20.52	20.57	-159.81	13.97	-40.09	73.50	32.43	41.07	1.790			
5,900.00	5,897.24	5,899.41	5,899.11	20.88	20.92	-160.65	17.49	-40.12	86.81	45.04	41.77	2.078			
6,000.00	5,996.26	5,998.51	5,998.15	21.23	21.28	-161.26	21.01	-40.14	100.13	57.66	42.47	2.358			
6,100.00	6,095.29	6,097.62	6,097.19	21.59	21.63	-161.73	24.52	-40.16	113.46	70.29	43.17	2.628			
6,200.00	6,194.31	6,196.72	6,196.23	21.95	21.99	-162.11	28.04	-40.19	126.79	82.93	43.87	2.890			
6,300.00	6,293.33	6,295.82	6,295.27	22.31	22.34	-162.41	31.56	-40.21	140.13	95.56	44.57	3.144			
6,400.00	6,392.36	6,394.93	6,394.31	22.67	22.70	-162.65	35.07	-40.23	153.47	108.20	45.27	3.390			
6,500.00	6,491.38	6,494.03	6,493.35	23.03	23.05	-162.86	38.59	-40.26	166.82	120.85	45.97	3.629			
6,600.00	6,590.41	6,593.14	6,592.40	23.39	23.41	-163.04	42.10	-40.28	180.16	133.49	46.67	3.860			
6,700.00	6,689.43	6,692.24	6,691.44	23.76	23.76	-163.19	45.62	-40.30	193.51	146.13	47.38	4.084			
6,800.00	6,788.45	6,791.34	6,790.48	24.13	24.12	-163.33	49.14	-40.33	206.86	158.78	48.08	4.302			
6,900.00	6,887.48	6,890.45	6,889.52	24.49	24.47	-163.44	52.65	-40.35	220.21	171.42	48.79	4.514			
7,000.00	6,986.50	6,989.55	6,988.56	24.86	24.83	-163.55	56.17	-40.37	233.56	184.07	49.49	4.719			
7,100.00	7,085.53	7,088.66	7,087.60	25.23	25.18	-163.64	59.69	-40.40	246.91	196.71	50.20	4.918			
7,200.00	7,184.55	7,187.76	7,186.65	25.61	25.54	-163.72	63.20	-40.42	260.27	209.36	50.91	5.112			
7,300.00	7,283.58	7,286.86	7,285.69	25.98	25.90	-163.80	66.72	-40.44	273.62	222.00	51.62	5.301			
7,400.00	7,382.60	7,385.97	7,384.73	26.35	26.25	-163.87	70.23	-40.47	286.97	234.65	52.33	5.484			
7,500.00	7,481.62	7,485.07	7,483.77	26.73	26.61	-163.93	73.75	-40.49	300.32	247.29	53.04	5.663			
7,600.00	7,580.65	7,584.18	7,582.81	27.10	26.96	-163.99	77.27	-40.51	313.68	259.93	53.74	5.836			
7,700.00	7,679.67	7,683.28	7,681.85	27.48	27.32	-164.04	80.78	-40.54	327.03	272.58	54.46	6.006			
7,800.00	7,778.70	7,782.38	7,780.89	27.86	27.67	-164.09	84.30	-40.56	340.39	285.22	55.17	6.170			
7,900.00	7,877.72	7,881.49	7,879.94	28.23	28.03	-164.13	87.82	-40.58	353.74	297.86	55.88	6.331			
8,000.00	7,976.74	7,980.59	7,978.98	28.61	28.38	-164.17	91.33	-40.61	367.10	310.51	56.59	6.487			
8,100.00	8,075.77	8,079.69	8,078.02	28.99	28.74	-164.21	94.85	-40.63	380.45	323.15	57.30	6.639			
8,200.00	8,174.79	8,178.80	8,177.06	29.37	29.09	-164.25	98.36	-40.65	393.81	335.79	58.01	6.788			
8,300.00	8,273.82	8,277.90	8,276.10	29.75	29.45	-164.28	101.88	-40.68	407.16	348.43	58.73	6.933			
8,400.00	8,372.84	8,377.01	8,375.14	30.14	29.81	-164.31	105.40	-40.70	420.52	361.08	59.44	7.075			
8,500.00	8,471.86	8,476.11	8,474.18	30.52	30.16	-164.34	108.91	-40.72	433.87	373.72	60.15	7.213			
8,600.00	8,570.89	8,575.21	8,573.23	30.90	30.52	-164.37	112.43	-40.74	447.23	386.36	60.87	7.347			
8,700.00	8,669.91	8,674.32	8,672.27	31.29	30.87	-164.39	115.95	-40.77	460.58	399.00	61.58	7.479			
8,800.00	8,768.94	8,773.42	8,771.31	31.67	31.23	-164.42	119.46	-40.79	473.94	411.64	62.30	7.608			
8,900.00	8,867.96	8,872.53	8,870.35	32.05	31.58	-164.44	122.98	-40.81	487.29	424.28	63.01	7.733			
9,000.00	8,966.99	8,971.63	8,969.39	32.44	31.94	-164.46	126.50	-40.84	500.65	436.92	63.73	7.856			
9,100.00	9,066.01	9,070.73	9,068.43	32.83	32.30	-164.48	130.01	-40.86	514.01	449.56	64.44	7.976			
9,200.00	9,165.03	9,169.84	9,167.48	33.21	32.65	-164.50	133.53	-40.88	527.36	462.20	65.16	8.093			
9,300.00	9,264.06	9,268.94	9,266.52	33.60	33.01	-164.52	137.04	-40.91	540.72	474.84	65.88	8.208			
9,400.00	9,363.08	9,368.05	9,365.56	33.99	33.36	-164.54	140.56	-40.93	554.07	487.48	66.59	8.320			
9,500.00	9,462.11	9,467.15	9,464.60	34.37	33.72	-164.56	144.08	-40.95	567.43	500.12	67.31	8.430			
9,600.00	9,561.13	9,566.25	9,563.64	34.76	34.08	-164.57	147.59	-40.98	580.79	512.76	68.03	8.537			
9,640.77	9,601.50	9,606.65	9,604.02	34.92	34.22	-164.58	149.03	-40.99	586.23	517.91	68.32	8.581			
9,700.00	9,660.20	9,665.40	9,662.72	35.15	34.43	-164.60	151.11	-41.00	593.85	525.10	68.75	8.638			
9,800.00	9,759.47	9,764.73	9,761.99	35.53	34.79	-164.60	154.64	-41.02	605.38	535.92	69.46	8.715			
9,900.00	9,858.93	9,864.24	9,861.44	35.91	35.15	-164.55	158.17	-41.05	615.24	545.06	70.18	8.766			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 State Com 3U #7H - 3U #7H - Planning - Lateral 1r0													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
10,000.00	9,958.56	9,963.89	9,961.03	36.28	35.51	-164.45	161.70	-41.07	623.43	552.53	70.90	8.793	
10,100.00	10,058.33	10,063.66	10,060.74	36.65	35.86	-164.32	165.24	-41.09	629.94	558.33	71.62	8.796	
10,200.00	10,158.20	10,163.52	10,160.53	37.01	36.22	-164.13	168.78	-41.12	634.79	562.45	72.33	8.776	
10,300.00	10,258.14	10,263.43	10,260.38	37.36	36.58	-163.91	172.33	-41.14	637.96	564.91	73.05	8.733	
10,400.00	10,358.12	10,363.37	10,360.26	37.71	36.94	-163.63	175.88	-41.16	639.47	565.71	73.76	8.669	
10,441.88	10,400.00	10,405.21	10,402.07	37.86	37.09	-90.60	177.25	-41.17	639.61	565.55	74.06	8.636	
10,500.00	10,458.12	10,463.30	10,460.14	38.06	37.30	-90.47	178.67	-41.18	639.60	565.13	74.47	8.588	
10,595.22	10,553.35	10,558.51	10,555.35	38.39	37.64	-90.38	179.71	-41.19	639.60	564.45	75.15	8.511	
10,600.00	10,558.12	10,563.29	10,560.12	38.40	37.66	-90.38	179.72	-41.19	639.60	564.42	75.18	8.507	
10,700.00	10,658.12	10,663.29	10,660.12	38.75	38.02	-90.38	179.73	-41.19	639.60	563.71	75.89	8.428	
10,705.88	10,664.00	10,669.16	10,666.00	38.77	38.04	-90.38	179.73	-41.19	639.60	563.67	75.94	8.423	
10,725.00	10,683.12	10,688.28	10,685.12	38.84	38.11	172.07	179.73	-41.19	639.98	563.91	76.07	8.413	
10,750.00	10,708.06	10,713.22	10,710.06	38.93	38.20	172.06	179.73	-41.19	641.62	565.37	76.25	8.415	
10,775.00	10,732.88	10,738.04	10,734.88	39.02	38.28	172.05	179.73	-41.19	644.55	568.12	76.43	8.434	
10,800.00	10,757.52	10,762.68	10,759.52	39.12	38.37	172.03	179.73	-41.19	648.76	572.16	76.60	8.469	
10,825.00	10,781.89	10,786.82	10,777.66	39.22	38.44	171.98	179.69	-41.22	654.31	577.57	76.74	8.526	
10,850.00	10,805.95	10,793.59	10,790.42	39.32	38.48	171.88	179.41	-41.45	661.49	584.65	76.83	8.609	
10,875.00	10,829.61	10,806.00	10,802.81	39.43	38.52	171.72	178.88	-41.88	670.29	593.38	76.91	8.715	
10,900.00	10,852.82	10,817.98	10,814.75	39.54	38.56	171.51	178.14	-42.49	680.66	603.68	76.97	8.843	
10,925.00	10,875.51	10,825.00	10,821.74	39.66	38.58	171.26	177.59	-42.93	692.56	615.59	76.97	8.998	
10,950.00	10,897.63	10,840.42	10,837.04	39.78	38.63	170.93	176.12	-44.14	705.85	628.80	77.05	9.161	
10,975.00	10,919.10	10,850.00	10,846.51	39.90	38.66	170.54	175.01	-45.04	720.53	643.47	77.06	9.350	
11,000.00	10,939.87	10,860.53	10,856.89	40.03	38.69	170.08	173.63	-46.18	736.50	659.41	77.08	9.554	
11,025.00	10,959.89	10,875.00	10,871.08	40.16	38.74	169.52	171.43	-47.97	753.70	676.54	77.16	9.768	
11,050.00	10,979.10	10,875.00	10,871.08	40.30	38.74	168.92	171.43	-47.97	771.96	694.92	77.04	10.020	
11,075.00	10,997.44	10,885.81	10,881.62	40.45	38.77	168.14	169.58	-49.48	791.25	714.18	77.08	10.266	
11,100.00	11,014.87	10,892.88	10,888.48	40.60	38.79	167.23	168.26	-50.56	811.50	734.43	77.07	10.530	
11,125.00	11,031.33	10,900.00	10,895.37	40.75	38.81	166.12	166.86	-51.70	832.58	755.52	77.06	10.804	
11,150.00	11,046.79	10,900.00	10,895.37	40.91	38.81	164.76	166.86	-51.70	854.45	777.49	76.96	11.102	
11,175.00	11,061.21	10,910.00	10,904.99	41.09	38.84	163.05	164.76	-53.42	876.93	799.90	77.03	11.385	
11,200.00	11,074.53	10,914.37	10,909.18	41.26	38.86	160.85	163.79	-54.21	900.01	822.99	77.01	11.686	
11,205.88	11,077.50	10,915.31	10,910.08	41.31	38.86	160.24	163.58	-54.39	905.51	828.49	77.01	11.758	
11,225.00	11,087.03	10,925.00	10,919.32	41.45	38.89	153.37	161.31	-56.24	923.48	846.37	77.10	11.977	
11,250.00	11,099.41	10,925.00	10,919.32	41.64	38.89	144.78	161.31	-56.24	946.74	869.70	77.03	12.290	
11,275.00	11,111.66	10,925.00	10,919.32	41.83	38.89	136.90	161.31	-56.24	969.86	892.89	76.97	12.601	
11,300.00	11,123.74	10,925.00	10,919.32	42.03	38.89	129.79	161.31	-56.24	992.78	915.88	76.90	12.909	
11,325.00	11,135.62	10,933.95	10,927.79	42.23	38.91	124.08	159.09	-58.05	1,015.38	938.40	76.98	13.191	
11,350.00	11,147.27	10,937.89	10,931.51	42.42	38.93	118.72	158.07	-58.88	1,037.69	960.71	76.97	13.481	
11,375.00	11,158.66	10,941.83	10,935.22	42.62	38.94	113.96	157.03	-59.74	1,059.63	982.66	76.98	13.766	
11,400.00	11,169.75	10,950.00	10,942.86	42.81	38.96	110.01	154.80	-61.56	1,081.21	1,004.16	77.04	14.034	
11,425.00	11,180.52	10,950.00	10,942.86	43.00	38.96	105.95	154.80	-61.56	1,102.31	1,025.31	77.00	14.317	
11,450.00	11,190.93	10,950.00	10,942.86	43.19	38.96	102.30	154.80	-61.56	1,122.98	1,046.03	76.95	14.593	
11,475.00	11,200.96	10,957.76	10,950.07	43.37	38.98	99.50	152.58	-63.37	1,143.13	1,066.11	77.02	14.842	
11,500.00	11,210.57	10,961.78	10,953.79	43.55	39.00	96.75	151.40	-64.34	1,162.77	1,085.73	77.04	15.093	
11,525.00	11,219.75	10,965.83	10,957.52	43.72	39.01	94.27	150.19	-65.33	1,181.86	1,104.80	77.06	15.336	
11,550.00	11,228.47	10,975.00	10,965.92	43.89	39.03	92.32	147.34	-67.65	1,200.40	1,123.25	77.16	15.558	
11,575.00	11,236.70	10,975.00	10,965.92	44.05	39.03	90.07	147.34	-67.65	1,218.29	1,141.16	77.13	15.795	
11,600.00	11,244.43	10,975.00	10,965.92	44.20	39.03	88.03	147.34	-67.65	1,235.59	1,158.48	77.11	16.024	
11,625.00	11,251.62	10,975.00	10,965.92	44.34	39.03	86.18	147.34	-67.65	1,252.29	1,175.19	77.09	16.244	
11,650.00	11,258.26	10,986.46	10,976.32	44.48	39.07	85.09	143.61	-70.70	1,268.22	1,191.00	77.23	16.422	
11,675.00	11,264.34	10,990.68	10,980.12	44.61	39.08	83.77	142.19	-71.86	1,283.53	1,206.26	77.27	16.611	
11,700.00	11,269.83	11,000.00	10,988.46	44.73	39.10	82.85	138.96	-74.50	1,298.16	1,220.78	77.37	16.778	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 State Com 3U #7H - 3U #7H - Planning - Lateral 1r0													Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Minimum	Separation	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor	
11,725.00	11,274.72	11,000.00	10,988.46	44.84	39.10	81.62	138.96	-74.50	1,312.03	1,234.66	77.37	16.958	
11,750.00	11,279.00	11,000.00	10,988.46	44.94	39.10	80.54	138.96	-74.50	1,325.20	1,247.83	77.36	17.129	
11,775.00	11,282.65	11,007.95	10,995.50	45.04	39.13	79.93	136.10	-76.84	1,337.60	1,260.15	77.46	17.269	
11,800.00	11,285.67	11,012.39	10,999.40	45.12	39.14	79.28	134.47	-78.17	1,349.26	1,271.75	77.51	17.408	
11,825.00	11,288.04	11,016.87	11,003.32	45.20	39.15	78.76	132.79	-79.54	1,360.15	1,282.59	77.56	17.536	
11,850.00	11,289.77	11,025.00	11,010.39	45.27	39.17	78.49	129.67	-82.09	1,370.27	1,292.61	77.66	17.645	
11,875.00	11,290.84	11,025.00	11,010.39	45.33	39.17	78.00	129.67	-82.09	1,379.58	1,301.92	77.67	17.763	
11,897.47	11,291.24	11,025.00	11,010.39	45.37	39.17	77.65	129.67	-82.09	1,387.29	1,309.62	77.67	17.860	
11,900.00	11,291.26	11,025.00	11,010.39	45.38	39.17	77.65	129.67	-82.09	1,388.13	1,310.46	77.67	17.871	
12,000.00	11,291.86	11,050.00	11,031.67	45.59	39.24	78.64	119.51	-90.39	1,423.90	1,345.91	77.99	18.258	
12,100.00	11,292.47	11,075.00	11,052.23	45.83	39.31	79.59	108.50	-99.38	1,465.03	1,386.74	78.29	18.713	
12,200.00	11,293.08	11,945.27	11,293.16	46.09	41.37	89.93	-631.88	-304.95	1,507.05	1,424.43	82.62	18.240	
12,300.00	11,293.69	12,045.27	11,293.76	46.40	41.67	89.93	-731.87	-304.19	1,506.89	1,423.57	83.32	18.086	
12,400.00	11,294.29	12,145.27	11,294.37	46.73	42.02	89.93	-831.87	-303.42	1,506.73	1,422.63	84.11	17.915	
12,500.00	11,294.90	12,245.27	11,294.98	47.11	42.42	89.93	-931.86	-302.66	1,506.58	1,421.59	84.99	17.727	
12,600.00	11,295.51	12,345.27	11,295.58	47.52	42.86	89.93	-1,031.86	-301.89	1,506.42	1,420.46	85.96	17.525	
12,700.00	11,296.11	12,445.27	11,296.19	47.96	43.35	89.93	-1,131.85	-301.13	1,506.26	1,419.24	87.02	17.310	
12,800.00	11,296.72	12,545.27	11,296.79	48.45	43.89	89.93	-1,231.85	-300.37	1,506.10	1,417.94	88.16	17.084	
12,900.00	11,297.33	12,645.27	11,297.40	48.97	44.47	89.93	-1,331.84	-299.60	1,505.94	1,416.56	89.38	16.849	
13,000.00	11,297.94	12,745.27	11,298.00	49.53	45.08	89.93	-1,431.84	-298.84	1,505.78	1,415.11	90.67	16.606	
13,100.00	11,298.54	12,845.27	11,298.61	50.13	45.74	89.93	-1,531.83	-298.07	1,505.62	1,413.58	92.05	16.357	
13,200.00	11,299.15	12,945.27	11,299.22	50.77	46.43	89.93	-1,631.83	-297.31	1,505.47	1,411.98	93.49	16.103	
13,300.00	11,299.76	13,045.27	11,299.82	51.44	47.16	89.93	-1,731.82	-296.55	1,505.31	1,410.31	95.00	15.846	
13,400.00	11,300.36	13,145.27	11,300.43	52.14	47.93	89.93	-1,831.82	-295.78	1,505.15	1,408.58	96.57	15.586	
13,500.00	11,300.97	13,245.27	11,301.03	52.88	48.72	89.93	-1,931.81	-295.02	1,504.99	1,406.79	98.20	15.326	
13,600.00	11,301.58	13,345.27	11,301.64	53.65	49.55	89.93	-2,031.81	-294.25	1,504.83	1,404.94	99.89	15.065	
13,700.00	11,302.19	13,445.27	11,302.24	54.45	50.40	89.93	-2,131.80	-293.49	1,504.67	1,403.03	101.64	14.804	
13,800.00	11,302.79	13,545.27	11,302.85	55.27	51.28	89.93	-2,231.80	-292.73	1,504.51	1,401.08	103.44	14.545	
13,900.00	11,303.40	13,645.27	11,303.46	56.13	52.19	89.93	-2,331.79	-291.96	1,504.36	1,399.07	105.29	14.288	
14,000.00	11,304.01	13,745.27	11,304.06	57.01	53.12	89.93	-2,431.79	-291.20	1,504.20	1,397.02	107.18	14.034	
14,100.00	11,304.61	13,845.27	11,304.67	57.92	54.07	89.93	-2,531.78	-290.44	1,504.04	1,394.92	109.12	13.783	
14,200.00	11,305.22	13,945.27	11,305.27	58.85	55.05	89.93	-2,631.78	-289.67	1,503.88	1,392.78	111.10	13.536	
14,300.00	11,305.83	14,045.27	11,305.88	59.80	56.05	89.93	-2,731.77	-288.91	1,503.72	1,390.60	113.12	13.293	
14,400.00	11,306.44	14,145.27	11,306.49	60.77	57.06	89.93	-2,831.77	-288.14	1,503.56	1,388.38	115.18	13.054	
14,500.00	11,307.04	14,245.27	11,307.09	61.76	58.10	89.93	-2,931.76	-287.38	1,503.40	1,386.13	117.28	12.819	
14,600.00	11,307.65	14,345.27	11,307.70	62.78	59.15	89.92	-3,031.76	-286.62	1,503.25	1,383.84	119.41	12.589	
14,700.00	11,308.26	14,445.27	11,308.30	63.81	60.22	89.92	-3,131.76	-285.85	1,503.09	1,381.52	121.57	12.364	
14,800.00	11,308.86	14,545.27	11,308.91	64.85	61.31	89.92	-3,231.75	-285.09	1,502.93	1,379.17	123.76	12.143	
14,900.00	11,309.47	14,645.27	11,309.51	65.92	62.41	89.92	-3,331.75	-284.32	1,502.77	1,376.79	125.99	11.928	
15,000.00	11,310.08	14,745.27	11,310.12	67.00	63.53	89.92	-3,431.74	-283.56	1,502.61	1,374.38	128.23	11.718	
15,100.00	11,310.69	14,845.27	11,310.73	68.09	64.66	89.92	-3,531.74	-282.80	1,502.45	1,371.94	130.51	11.512	
15,200.00	11,311.29	14,945.27	11,311.33	69.20	65.80	89.92	-3,631.73	-282.03	1,502.30	1,369.49	132.81	11.312	
15,300.00	11,311.90	15,045.27	11,311.94	70.32	66.95	89.92	-3,731.73	-281.27	1,502.14	1,367.00	135.13	11.116	
15,400.00	11,312.51	15,145.27	11,312.54	71.45	68.12	89.92	-3,831.72	-280.50	1,501.98	1,364.50	137.48	10.925	
15,500.00	11,313.12	15,245.27	11,313.15	72.60	69.29	89.92	-3,931.72	-279.74	1,501.82	1,361.98	139.84	10.739	
15,600.00	11,313.72	15,345.27	11,313.75	73.75	70.48	89.92	-4,031.71	-278.98	1,501.66	1,359.43	142.23	10.558	
15,700.00	11,314.33	15,445.27	11,314.36	74.92	71.68	89.92	-4,131.71	-278.21	1,501.50	1,356.87	144.64	10.381	
15,800.00	11,314.94	15,545.27	11,314.97	76.10	72.88	89.92	-4,231.70	-277.45	1,501.34	1,354.28	147.06	10.209	
15,900.00	11,315.54	15,645.27	11,315.57	77.29	74.10	89.92	-4,331.70	-276.68	1,501.19	1,351.69	149.50	10.041	
16,000.00	11,316.15	15,745.27	11,316.18	78.48	75.32	89.92	-4,431.69	-275.92	1,501.03	1,349.07	151.96	9.878	
16,100.00	11,316.76	15,845.27	11,316.78	79.69	76.55	89.92	-4,531.69	-275.16	1,500.87	1,346.44	154.43	9.719	
16,200.00	11,317.37	15,945.27	11,317.39	80.90	77.79	89.92	-4,631.68	-274.39	1,500.71	1,343.79	156.92	9.564	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Offset Design: Loco Dinero 36 State Com 3U #7H - 3U #7H - Planning - Lateral 1r0													Offset Site Error: 0.00 usft
Survey Program:	0-MWD+HDGM												Offset Well Error: 0.00 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N-S (usft)	+E-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
16,300.00	11,317.97	16,045.27	11,318.00	82.12	79.04	89.92	-4,731.68	-273.63	1,500.55	1,341.13	159.42	9.413	
16,400.00	11,318.58	16,145.27	11,318.60	83.35	80.29	89.92	-4,831.67	-272.86	1,500.39	1,338.46	161.94	9.265	
16,500.00	11,319.19	16,245.27	11,319.21	84.59	81.55	89.92	-4,931.67	-272.10	1,500.23	1,335.77	164.47	9.122	
16,600.00	11,319.79	16,345.27	11,319.81	85.84	82.82	89.92	-5,031.66	-271.34	1,500.08	1,333.07	167.01	8.982	
16,633.31	11,320.00	16,376.20	11,320.00	86.25	83.21	89.92	-5,062.60	-271.10	1,500.03	1,332.22	167.81	8.939	
16,633.91	11,320.00	16,376.20	11,320.00	86.26	83.21	89.92	-5,062.60	-271.10	1,500.03	1,332.22	167.81	8.939	

Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Updated @ 3668.00usft (25'KB)

Offset Depths are relative to Offset Datum

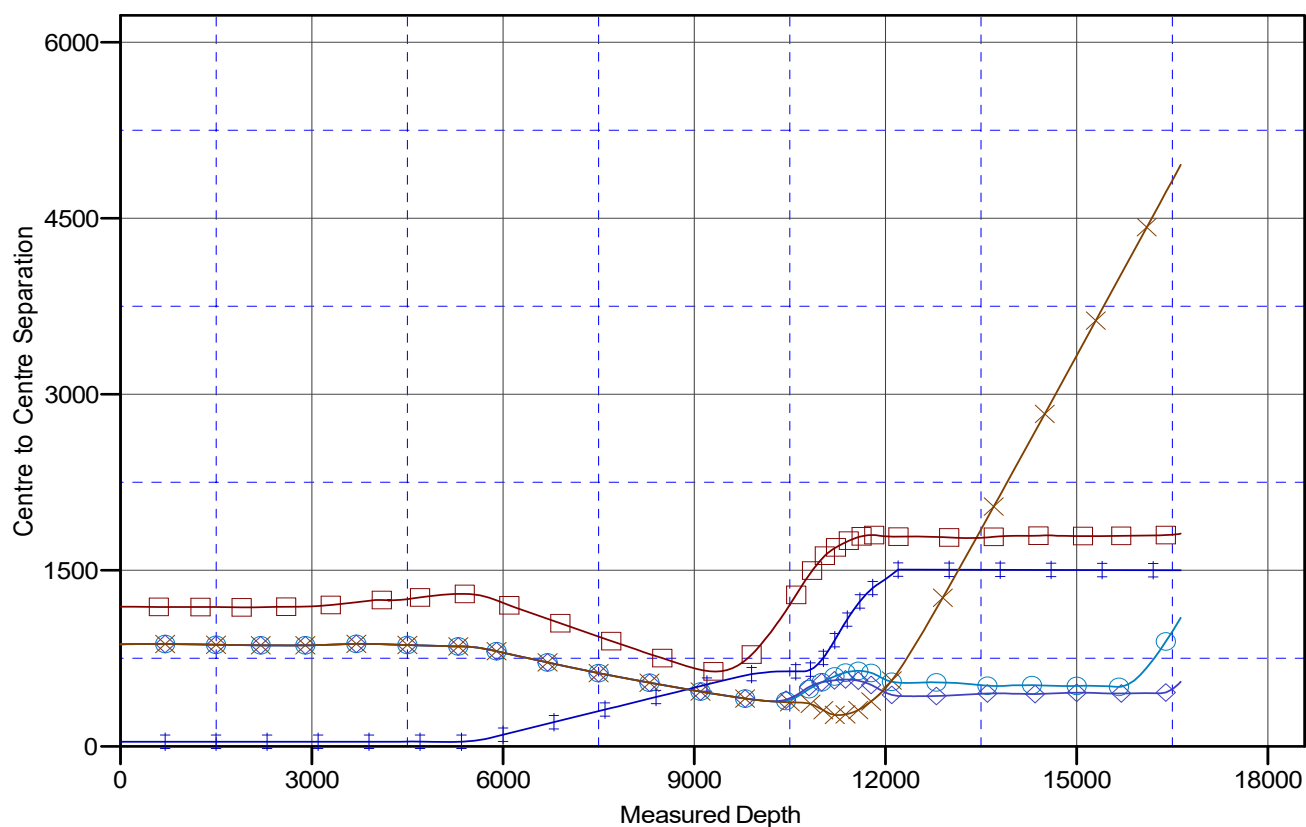
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 3U #8H

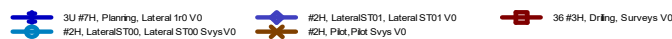
Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.44°

Ladder Plot



LEGEND



Aim Directional Services, LLC

Anticollision Report

Company:	Marshall & Winston, Inc.	Local Co-ordinate Reference:	Well 3U #8H
Project:	Lea County, NM (NAD83 NME)	TVD Reference:	Updated @ 3668.00usft (25'KB)
Reference Site:	Loco Dinero 36 State Com 3U #8H	MD Reference:	Updated @ 3668.00usft (25'KB)
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	3U #8H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	Planning	Database:	EDMRESTORED
Reference Design:	Lateral 1r0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Updated @ 3668.00usft (25'KB)

Offset Depths are relative to Offset Datum

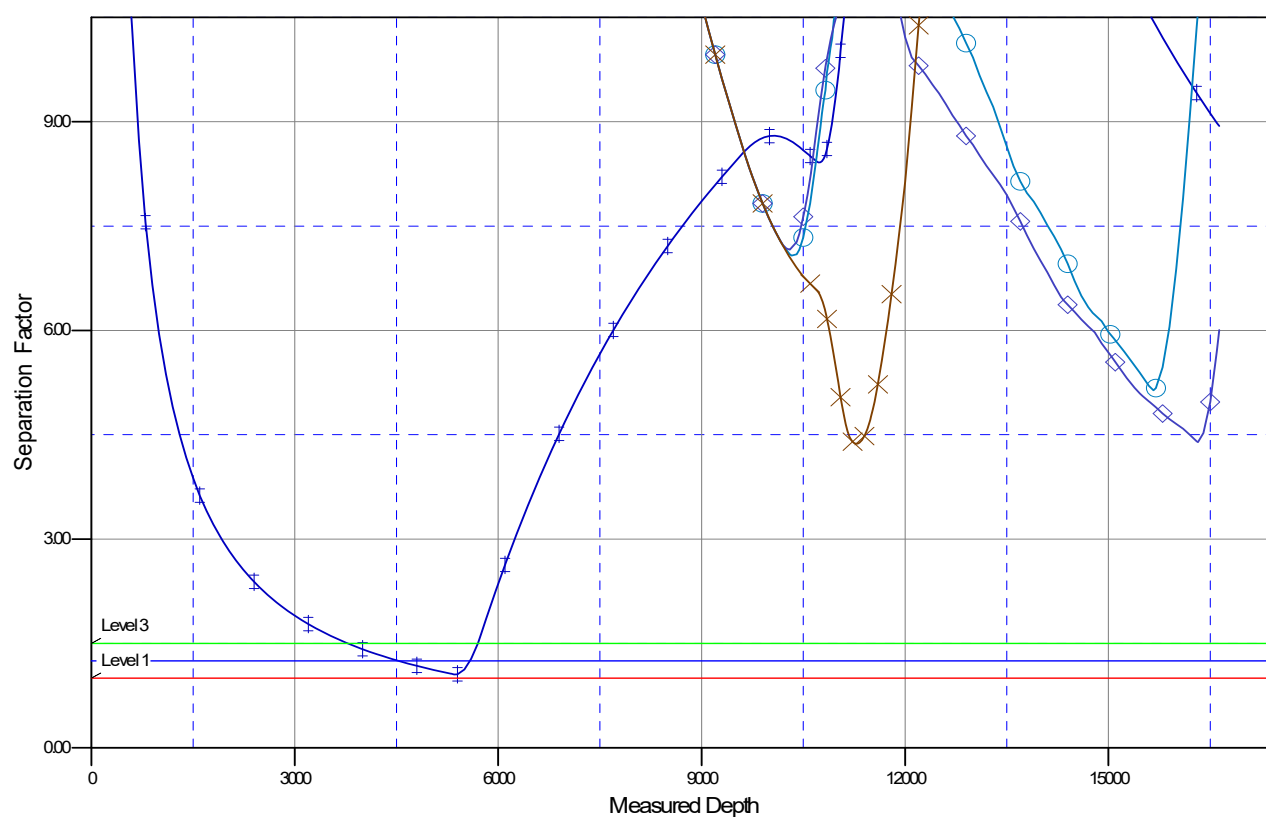
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: 3U #8H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.44°

Separation Factor Plot



LEGEND

3U #7H, Planning, Lateral 1r0 V0
 3U #8H, Lateral ST00, Lateral ST00 Svys V0
 36 #3H, Drilling, Surveys V0

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Marshall & Winston, Inc. **OGRID:** 14187 **Date:** 11 / 2 / 2021

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Loco Dinero 36 State Com 8H		UL:B, Sec 36, T21S, R33E	200' FNL 1520' FEL	800	950	500

IV. Central Delivery Point Name: Loco Dinero CTB [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Loco Dinero 36 State Com 8H		2/25/21	3/20/21	5/25/21	6/10/21	6/10/21 Estimated

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

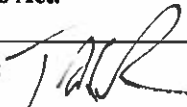
2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

Marshall & Winston, Inc.

Natural Gas Management Plan ~ Attachment

- VI. Marshall & Winston, Inc. (M&W) engineering staff will utilize separation equipment based on capacities suggested by the manufacturer in conjunction with anticipated daily production rates. Engineered design of the VRU system along with pipe sizing will be verified by COMM Engineering Services to ensure maximum efficiency for anticipated volumes.
- VII. M&W will take the following actions to comply with the regulations listed in 19.15.28.8:
- A. M&W plans to efficiently recover natural gas by minimizing waste gas as defined in 19.15.2 NMAC. M&W will ensure each new well drilled and completed is connected to a natural gas gathering system before the well is on line. If the natural gas gathering infrastructure is not in place the well will be delayed or shut in until the gathering system is available.
 - B. Drilling operations are equipped with a flare located at least 100 ft from the wellbore. The flare will be used to combust any gas the is circulated to surface during drilling operations. Estimated volumes will be reported appropriately.
 - C. During completion operations and natural gas brought to surface will be flared. Following completion operations all fluids and gases flowed/pumped from the well will be directed to designed separation equipment at the central tank battery. All natural gas will be sent directly to the sales line. If the initial gas production does not meet gathering sales line specifications it will be flared for no more than 60 days. Gas analysis will be ran twice a week and once gas meets sales specifications the gas will be sent to the sales line. Flared volumes will be reported accordingly.
 - D. M&W will not flare natural gas unless it follows the provisions and exceptions list in 19.15.27.8. If the gas gathering system is unavailable each well(s) will be shut in the gathering system is back in service.
 - E. M&W will comply with required standards listed in 19.5.27.8 A-F.
 - F. The volume of natural gas that is vented or flared as a result of a malfunction or emergency during operations will be estimated and reported accordingly. The volume of natural gas that is vented, flared or used beneficially during production operations will measured or estimated. M&W will install meters to measure the volume of natural gas flared from the facility. Measuring devices will conform to industry stands as well as NMOCD regulations.
- VIII. During maintenance operations that involve separation equipment venting will controlled by shutting in well(s). During VRU maintenance operations natural gas will be diverted to the flare to avoid venting the natural gas.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	Todd Passmore
Title:	Operations Manager
E-mail Address:	tpassmore@mar-win.com
Date:	11/3/2021
Phone:	432-894-0165

OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval: