

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

JUL 21 2017

COPY

SUBMIT IN TRIPLICATE - Other instructions on page 2

RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM13276
2. Name of Operator LEGACY RESERVES OPERATING LP Contact: MATT DICKSON E-Mail: mdickson@legacylp.com		6. If Indian, Allottee or Tribe Name
3a. Address 303 W WALL ST STE 1800 MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432-689-5200 Ext: 5204	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 18 T20S R34E NWNW 320FNL 1145FWL		8. Well Name and No. HAMON FED COM A 12H
		9. API Well No. 30-025-43253
		10. Field and Pool or Exploratory Area TEAS; BONE SPRING, EAST
		11. County or Parish, State LEA CO COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Legacy Reserves Operating respectfully request to shift the proposed BHL of the subject well. The SHL will remain the same as originally permitted. Please see the attached C-102 and directional plan that reflect the revised plan.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #381725 verified by the BLM Well Information System For LEGACY RESERVES OPERATING LP, sent to the Hobbs	
Name (Printed/Typed) MATT DICKSON	Title DRILLING ENGINEER
Signature (Electronic Submission)	
THIS SPACE FOR FE	
Approved By _____ Conditions of approval, if any, are attached. Approval of this notice does not warrant that the applicant holds legal or equitable title to those rights in the subject land which would entitle the applicant to conduct operations thereon. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person to make any false, fictitious or fraudulent statements or representations as to any matter. (Instructions on page 2)	

Denied
SEE CIRCLED ITEMS ON ATTACHED C-102
BY NMOCD
paul.kautz@state.nm.us
575-393-6161 ext. 104
See items circled on form.
Please attach denied copy to your re-submittal

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Frances Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name HAMON FED COM A	Well Number 12H
OGRID No.	Operator Name LEGACY RESERVES OPERATING LP	Elevation 3610'

Surface Location

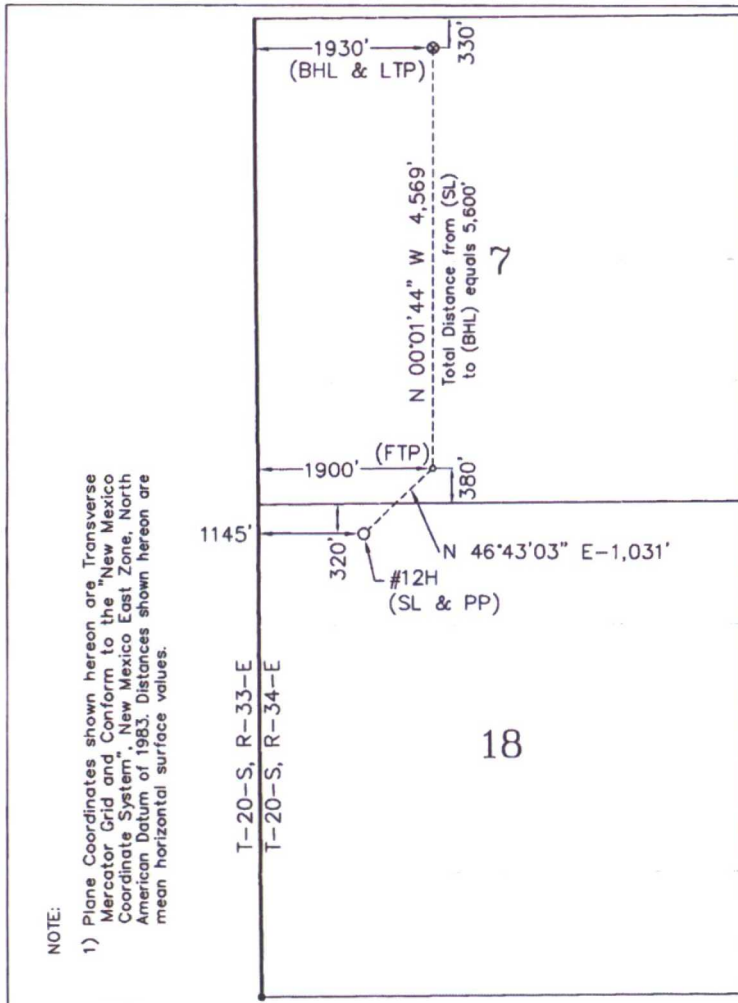
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	18	20 S	34 E		320	NORTH	1145	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	7	20 S	34 E		330	NORTH	1930	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



LAST TAKE POINT
& BOTTOM HOLE
LOCATION
Plane Coordinate
X = 766,593.28
Y = 580,595.71
Geodetic (D.D.)
LAT:32.59398149
LON:103.60192772

FIRST TAKE POINT
Plane Coordinate
X = 766,595.59
Y = 576,026.90
Geodetic (D.D.)
LAT:32.58142398
LON:103.60202222

SURFACE LOCATION &
PENETRATION POINT
Plane Coordinate
X = 765,845.41
Y = 575,320.40
Geodetic (D.D.)
LAT:32.57949630
LON:103.60447326

Scale
1" = 2000'

OPERATOR CERTIFICATION

I hereby certify the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature

Date

Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.

June 29, 2015

Date of Survey

Signature & Seal of Professional Surveyor

W.C. Num. 2015-0844
Certificate No. LINDSAY GYGAX 23263

Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Plan: Plan#3 (Hamon Fed Com A #12H/Wellbore #1)

WELL DETAILS: Hamon Fed Com A #12H

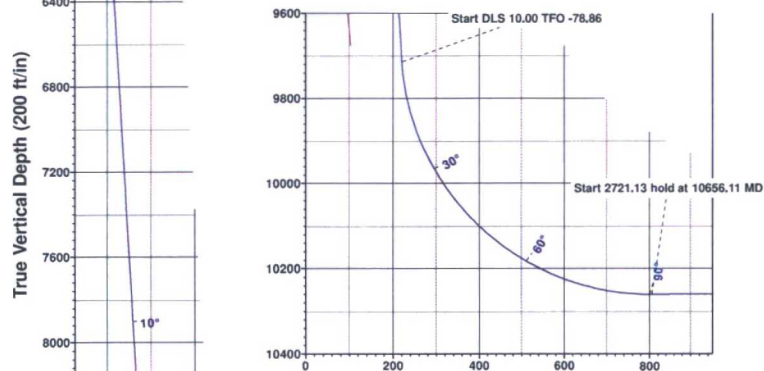
Ground Elevation:: 3610.00
RKB Elevation: KB=18 @ 3628.00ft
Rig Name:

Northing 575257.9000 Easting 724664.7000 Latitude 32.5800288 Longitude -103.7381598

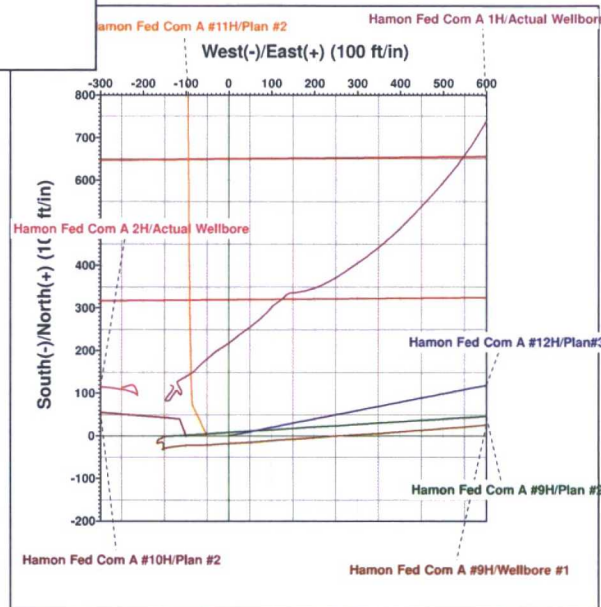
Planned Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5600.00	0.00	0.00	5600.00	0.00	0.00	0.00	0.00	0.00
3	6090.44	9.81	78.79	6088.05	8.14	41.08	2.00	78.79	13.84
4	9770.16	9.81	78.79	9713.98	130.00	656.00	0.00	0.00	221.06
5	10656.11	90.50	0.01	10260.00	707.56	749.49	10.00	-78.86	806.04
6	13377.24	90.50	0.01	10236.25	3428.59	749.79	0.00	0.00	3500.01
7	13427.24	89.50	0.01	10236.25	3478.59	749.80	2.00	180.00	3549.51
8	15222.72	89.50	0.01	10251.92	5274.00	750.00	0.00	0.00	5327.06

Start 3679.72 hold at 6090.44 MD

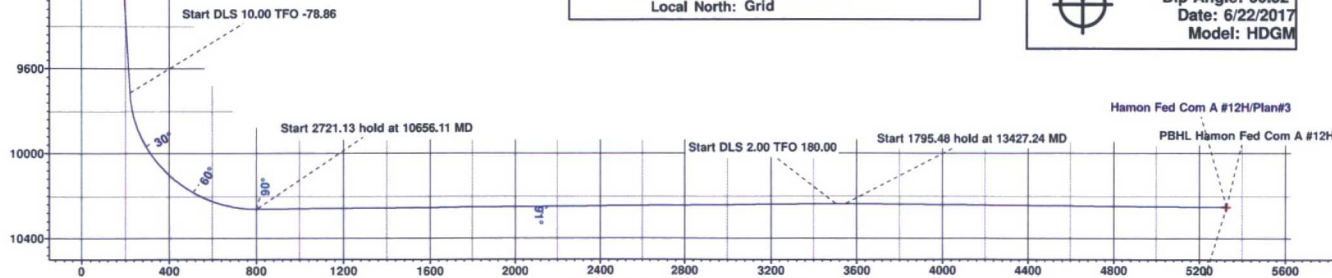


Vertical Section at 8.09° (100 ft/in)

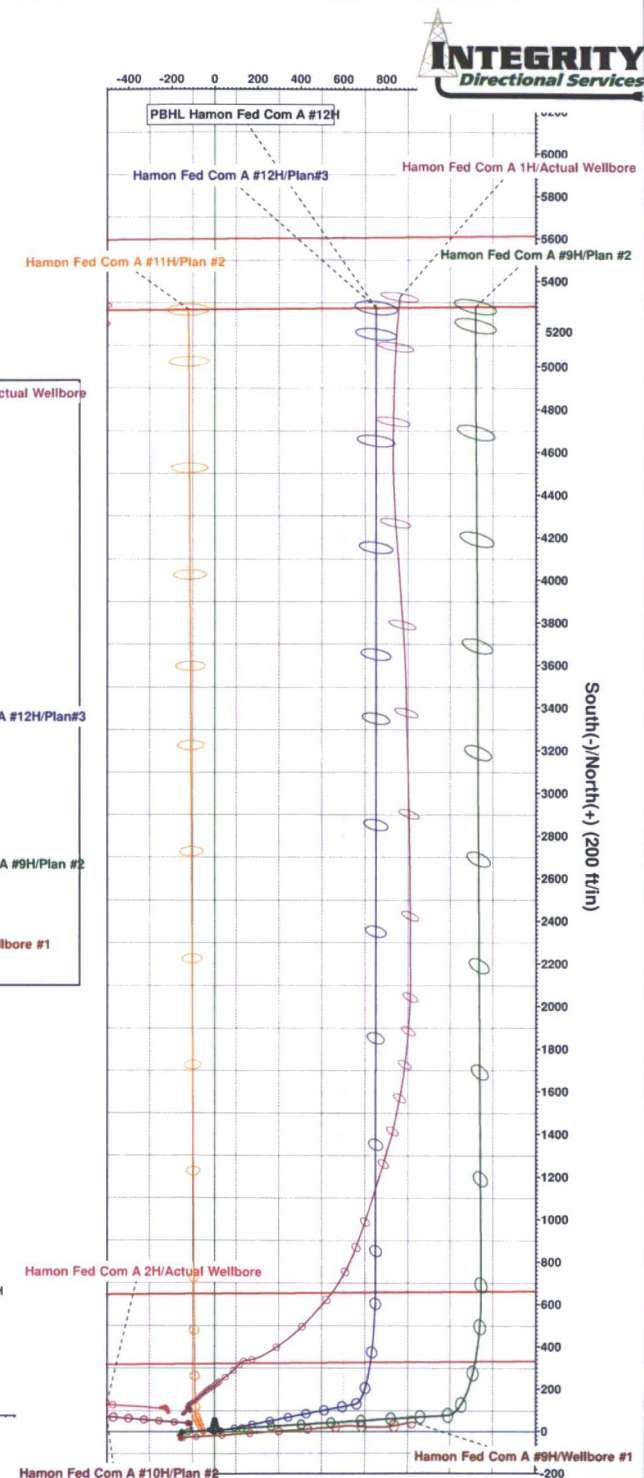


PROJECT DETAILS: Lea County, NM
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid

True North: -0.32°
Magnetic North: 6.78°
Magnetic Field
Strength: 48406.3snT
Dip Angle: 60.52°
Date: 6/22/2017
Model: HDGM



Vertical Section at 8.09° (200 ft/in)





Legacy Reserves Operating

Lea County, NM

Hamon Fed Pad

Hamon Fed Com A #12H

Wellbore #1

Plan: Plan#3

Standard Survey Report

13 July, 2017





Integrity Directional Services, LLC

Survey Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

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

Site	Hamon Fed Pad				
Site Position:		Northing:	580,846.2000 usft	Latitude:	32.5954069
From:	Map	Easting:	723,480.4000 usft	Longitude:	-103.7419035
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	Hamon Fed Com A #12H					
Well Position	+N/-S	0.00 ft	Northing:	575,257.9000 usf	Latitude:	32.5800288
	+E/-W	0.00 ft	Easting:	724,664.7000 usf	Longitude:	-103.7381597
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,610.00 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/22/2017	7.10	60.52	48,406

Design	Plan#3
Audit Notes:	
Version:	Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	10,250.55	0.00	0.00	8.09

Survey Tool Program		Date	7/13/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	15,222.72	Plan#3 (Wellbore #1)	MWD	MWD - Standard	

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



Integrity Directional Services, LLC

Survey Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Planned Survey

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



Integrity Directional Services, LLC

Survey Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
5,700.00	2.00	78.79	5,699.98	0.34	1.71	0.58	2.00	2.00	0.00
5,800.00	4.00	78.79	5,799.84	1.36	6.85	2.31	2.00	2.00	0.00
5,900.00	6.00	78.79	5,899.45	3.05	15.39	5.19	2.00	2.00	0.00
6,000.00	8.00	78.79	5,998.70	5.42	27.35	9.22	2.00	2.00	0.00
6,090.44	9.81	78.79	6,088.05	8.14	41.08	13.84	2.00	2.00	0.00
Start 3679.72 hold at 6090.44 MD									
6,100.00	9.81	78.79	6,097.47	8.46	42.68	14.38	0.00	0.00	0.00
6,200.00	9.81	78.79	6,196.01	11.77	59.39	20.01	0.00	0.00	0.00
6,300.00	9.81	78.79	6,294.54	15.08	76.10	25.64	0.00	0.00	0.00
6,400.00	9.81	78.79	6,393.08	18.39	92.81	31.28	0.00	0.00	0.00
6,500.00	9.81	78.79	6,491.62	21.70	109.52	36.91	0.00	0.00	0.00
6,600.00	9.81	78.79	6,590.16	25.02	126.23	42.54	0.00	0.00	0.00
6,700.00	9.81	78.79	6,688.70	28.33	142.94	48.17	0.00	0.00	0.00
6,800.00	9.81	78.79	6,787.24	31.64	159.65	53.80	0.00	0.00	0.00
6,900.00	9.81	78.79	6,885.77	34.95	176.37	59.43	0.00	0.00	0.00
7,000.00	9.81	78.79	6,984.31	38.26	193.08	65.06	0.00	0.00	0.00
7,100.00	9.81	78.79	7,082.85	41.57	209.79	70.70	0.00	0.00	0.00
7,200.00	9.81	78.79	7,181.39	44.89	226.50	76.33	0.00	0.00	0.00
7,300.00	9.81	78.79	7,279.93	48.20	243.21	81.96	0.00	0.00	0.00
7,400.00	9.81	78.79	7,378.46	51.51	259.92	87.59	0.00	0.00	0.00
7,500.00	9.81	78.79	7,477.00	54.82	276.63	93.22	0.00	0.00	0.00
7,600.00	9.81	78.79	7,575.54	58.13	293.34	98.85	0.00	0.00	0.00
7,700.00	9.81	78.79	7,674.08	61.44	310.05	104.48	0.00	0.00	0.00
7,800.00	9.81	78.79	7,772.62	64.76	326.76	110.12	0.00	0.00	0.00
7,900.00	9.81	78.79	7,871.16	68.07	343.48	115.75	0.00	0.00	0.00
8,000.00	9.81	78.79	7,969.69	71.38	360.19	121.38	0.00	0.00	0.00
8,100.00	9.81	78.79	8,068.23	74.69	376.90	127.01	0.00	0.00	0.00
8,200.00	9.81	78.79	8,166.77	78.00	393.61	132.64	0.00	0.00	0.00
8,300.00	9.81	78.79	8,265.31	81.31	410.32	138.27	0.00	0.00	0.00
8,400.00	9.81	78.79	8,363.85	84.63	427.03	143.90	0.00	0.00	0.00
8,500.00	9.81	78.79	8,462.38	87.94	443.74	149.54	0.00	0.00	0.00
8,600.00	9.81	78.79	8,560.92	91.25	460.45	155.17	0.00	0.00	0.00
8,700.00	9.81	78.79	8,659.46	94.56	477.16	160.80	0.00	0.00	0.00
8,800.00	9.81	78.79	8,758.00	97.87	493.88	166.43	0.00	0.00	0.00
8,900.00	9.81	78.79	8,856.54	101.18	510.59	172.06	0.00	0.00	0.00
9,000.00	9.81	78.79	8,955.08	104.49	527.30	177.69	0.00	0.00	0.00
9,100.00	9.81	78.79	9,053.61	107.81	544.01	183.32	0.00	0.00	0.00
9,200.00	9.81	78.79	9,152.15	111.12	560.72	188.96	0.00	0.00	0.00
9,300.00	9.81	78.79	9,250.69	114.43	577.43	194.59	0.00	0.00	0.00



Integrity Directional Services, LLC

Survey Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.00	9.81	78.79	9,349.23	117.74	594.14	200.22	0.00	0.00	0.00
9,500.00	9.81	78.79	9,447.77	121.05	610.85	205.85	0.00	0.00	0.00
9,600.00	9.81	78.79	9,546.30	124.36	627.56	211.48	0.00	0.00	0.00
9,700.00	9.81	78.79	9,644.84	127.68	644.28	217.11	0.00	0.00	0.00
9,770.16	9.81	78.79	9,713.98	130.00	656.00	221.06	0.00	0.00	0.00
Start DLS 10.00 TFO -78.86									
9,800.00	10.79	62.95	9,743.34	131.76	660.98	223.51	10.00	3.28	-53.08
9,900.00	17.67	32.23	9,840.35	148.90	677.45	242.80	10.00	6.89	-30.72
10,000.00	26.58	19.90	9,932.94	182.87	693.20	278.64	10.00	8.91	-12.34
10,100.00	36.04	13.57	10,018.30	232.62	707.76	329.95	10.00	9.46	-6.33
10,200.00	45.70	9.61	10,093.84	296.66	720.67	395.17	10.00	9.66	-3.95
10,300.00	55.46	6.79	10,157.27	373.04	731.54	472.32	10.00	9.76	-2.82
10,400.00	65.27	4.57	10,206.66	459.43	740.05	559.04	10.00	9.81	-2.22
10,500.00	75.11	2.67	10,240.51	553.21	745.94	652.72	10.00	9.84	-1.89
10,600.00	84.97	0.95	10,257.78	651.53	749.02	750.49	10.00	9.85	-1.73
10,656.11	90.50	0.01	10,260.00	707.56	749.49	806.04	10.00	9.86	-1.68
Start 2721.13 hold at 10656.11 MD									
10,700.00	90.50	0.01	10,259.62	751.46	749.49	849.49	0.00	0.00	0.00
10,800.00	90.50	0.01	10,258.74	851.45	749.51	948.49	0.00	0.00	0.00
10,900.00	90.50	0.01	10,257.87	951.45	749.52	1,047.50	0.00	0.00	0.00
11,000.00	90.50	0.01	10,257.00	1,051.44	749.53	1,146.50	0.00	0.00	0.00
11,100.00	90.50	0.01	10,256.12	1,151.44	749.54	1,245.50	0.00	0.00	0.00
11,200.00	90.50	0.01	10,255.25	1,251.44	749.55	1,344.50	0.00	0.00	0.00
11,300.00	90.50	0.01	10,254.38	1,351.43	749.56	1,443.50	0.00	0.00	0.00
11,400.00	90.50	0.01	10,253.51	1,451.43	749.57	1,542.50	0.00	0.00	0.00
11,500.00	90.50	0.01	10,252.63	1,551.42	749.58	1,641.51	0.00	0.00	0.00
11,600.00	90.50	0.01	10,251.76	1,651.42	749.59	1,740.51	0.00	0.00	0.00
11,700.00	90.50	0.01	10,250.89	1,751.42	749.61	1,839.51	0.00	0.00	0.00
11,800.00	90.50	0.01	10,250.02	1,851.41	749.62	1,938.51	0.00	0.00	0.00
11,900.00	90.50	0.01	10,249.14	1,951.41	749.63	2,037.51	0.00	0.00	0.00
12,000.00	90.50	0.01	10,248.27	2,051.41	749.64	2,136.51	0.00	0.00	0.00
12,100.00	90.50	0.01	10,247.40	2,151.40	749.65	2,235.52	0.00	0.00	0.00
12,200.00	90.50	0.01	10,246.53	2,251.40	749.66	2,334.52	0.00	0.00	0.00
12,300.00	90.50	0.01	10,245.65	2,351.39	749.67	2,433.52	0.00	0.00	0.00
12,400.00	90.50	0.01	10,244.78	2,451.39	749.68	2,532.52	0.00	0.00	0.00
12,500.00	90.50	0.01	10,243.91	2,551.39	749.70	2,631.52	0.00	0.00	0.00
12,600.00	90.50	0.01	10,243.04	2,651.38	749.71	2,730.53	0.00	0.00	0.00
12,700.00	90.50	0.01	10,242.16	2,751.38	749.72	2,829.53	0.00	0.00	0.00
12,800.00	90.50	0.01	10,241.29	2,851.38	749.73	2,928.53	0.00	0.00	0.00
12,900.00	90.50	0.01	10,240.42	2,951.37	749.74	3,027.53	0.00	0.00	0.00
13,000.00	90.50	0.01	10,239.54	3,051.37	749.75	3,126.53	0.00	0.00	0.00
13,100.00	90.50	0.01	10,238.67	3,151.36	749.76	3,225.53	0.00	0.00	0.00
13,200.00	90.50	0.01	10,237.80	3,251.36	749.77	3,324.54	0.00	0.00	0.00
13,300.00	90.50	0.01	10,236.93	3,351.36	749.78	3,423.54	0.00	0.00	0.00



Integrity Directional Services, LLC

Survey Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,377.24	90.50	0.01	10,236.25	3,428.59	749.79	3,500.01	0.00	0.00	0.00
Start DLS 2.00 TFO 180.00									
13,400.00	90.04	0.01	10,236.14	3,451.35	749.80	3,522.54	2.00	-2.00	0.00
13,427.24	89.50	0.01	10,236.25	3,478.59	749.80	3,549.51	2.00	-2.00	0.00
Start 1795.48 hold at 13427.24 MD									
13,500.00	89.50	0.01	10,236.89	3,551.35	749.81	3,621.54	0.00	0.00	0.00
13,600.00	89.50	0.01	10,237.76	3,651.35	749.82	3,720.54	0.00	0.00	0.00
13,700.00	89.50	0.01	10,238.63	3,751.34	749.83	3,819.55	0.00	0.00	0.00
13,800.00	89.50	0.01	10,239.51	3,851.34	749.84	3,918.55	0.00	0.00	0.00
13,900.00	89.50	0.01	10,240.38	3,951.33	749.85	4,017.55	0.00	0.00	0.00
14,000.00	89.50	0.01	10,241.25	4,051.33	749.86	4,116.55	0.00	0.00	0.00
14,100.00	89.50	0.01	10,242.12	4,151.33	749.87	4,215.55	0.00	0.00	0.00
14,200.00	89.50	0.01	10,243.00	4,251.32	749.89	4,314.55	0.00	0.00	0.00
14,300.00	89.50	0.01	10,243.87	4,351.32	749.90	4,413.56	0.00	0.00	0.00
14,400.00	89.50	0.01	10,244.74	4,451.32	749.91	4,512.56	0.00	0.00	0.00
14,500.00	89.50	0.01	10,245.61	4,551.31	749.92	4,611.56	0.00	0.00	0.00
14,600.00	89.50	0.01	10,246.49	4,651.31	749.93	4,710.56	0.00	0.00	0.00
14,700.00	89.50	0.01	10,247.36	4,751.30	749.94	4,809.56	0.00	0.00	0.00
14,800.00	89.50	0.01	10,248.23	4,851.30	749.95	4,908.56	0.00	0.00	0.00
14,900.00	89.50	0.01	10,249.10	4,951.30	749.96	5,007.57	0.00	0.00	0.00
15,000.00	89.50	0.01	10,249.98	5,051.29	749.98	5,106.57	0.00	0.00	0.00
15,100.00	89.50	0.01	10,250.85	5,151.29	749.99	5,205.57	0.00	0.00	0.00
15,200.00	89.50	0.01	10,251.72	5,251.29	750.00	5,304.57	0.00	0.00	0.00
15,222.70	89.50	0.01	10,251.92	5,273.99	750.00	5,327.05	0.00	0.00	0.00
PBHL Hamon Fed Com A #12H									
15,222.72	89.50	0.01	10,251.92	5,274.00	750.00	5,327.06	0.01	0.00	0.00
TD at 15222.72									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N-S (ft)	+E-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL Hamon Fed Co	0.00	0.00	10,250.55	5,274.00	750.00	580,531.8894	725,414.6985	32.5945133	-103.7356288
- plan misses target center by 1.37ft at 15222.70ft MD (10251.92 TVD, 5273.99 N, 750.00 E)									
- Point									



Integrity Directional Services, LLC

Survey Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Hamon Fed Pad
Well: Hamon Fed Com A #12H
Wellbore: Wellbore #1
Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Multi User Db

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5600	5600	0	0	Start Build 2.00
6090	6088	8	41	Start 3679.72 hold at 6090.44 MD
9770	9714	130	656	Start DLS 10.00 TFO -78.86
10,656	10,260	708	749	Start 2721.13 hold at 10656.11 MD
13,377	10,236	3429	750	Start DLS 2.00 TFO 180.00
13,427	10,236	3479	750	Start 1795.48 hold at 13427.24 MD
15,223	10,252	5274	750	TD at 15222.72

Checked By: _____ Approved By: _____ Date: _____



Legacy Reserves Operating

Lea County, NM

Hamon Fed Pad

Hamon Fed Com A #12H

Wellbore #1

Plan#3

Anticollision Report

13 July, 2017





Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference	Plan#3		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date 7/13/2017		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	15,222.72	Plan#3 (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Hamon Fed Pad						
Hamon Fed Com A #10H - Wellbore #1 - Plan #2	1,633.71	1,633.71	100.01	92.93	14.127	CC
Hamon Fed Com A #10H - Wellbore #1 - Plan #2	1,700.00	1,699.42	100.15	92.77	13.579	ES
Hamon Fed Com A #10H - Wellbore #1 - Plan #2	5,600.00	5,600.00	121.68	96.84	4.898	SF
Hamon Fed Com A #11H - Wellbore #1 - Plan #2	5,600.00	5,600.00	50.10	25.19	2.011	CC, ES, SF
Hamon Fed Com A #9H - Wellbore #1 - Plan #2	7,482.79	7,515.90	29.29	-6.01	0.830	Level 1, CC
Hamon Fed Com A #9H - Wellbore #1 - Plan #2	7,500.00	7,533.00	29.36	-6.13	0.827	Level 1, ES, SF
Hamon Fed Com A #9H - Wellbore #1 - Wellbore #1	7,502.11	7,536.64	54.54	20.22	1.589	CC, ES, SF
Hamon Fed Com A 1H - Wellbore #1 - Actual Wellbore	3,966.14	3,973.11	148.04	131.83	9.137	CC, ES
Hamon Fed Com A 1H - Wellbore #1 - Actual Wellbore	5,800.00	5,809.72	173.88	150.78	7.529	SF
Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore	4,902.33	4,908.13	232.81	212.55	11.494	CC
Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore	5,200.00	5,204.70	233.25	211.92	10.936	ES
Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore	15,223.43	15,934.00	1,464.74	1,290.82	8.422	SF

Offset Design												
Hamon Fed Pad - Hamon Fed Com A #10H - Wellbore #1 - Plan #2												
Survey Program: 0-MWD												
Reference												
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor
				Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)		Warning
0.00	0.00	0.00	0.00	0.00	0.00	-90.57	-1.00	-100.00	100.01			
100.00	100.00	100.00	100.00	0.09	0.09	-90.57	-1.00	-100.00	100.01	99.82	0.18	542.597
200.00	200.00	200.00	200.00	0.32	0.32	-90.57	-1.00	-100.00	100.01	99.37	0.63	157.777
300.00	300.00	300.00	300.00	0.54	0.54	-90.57	-1.00	-100.00	100.01	98.92	1.08	92.309
400.00	400.00	400.00	400.00	0.77	0.77	-90.57	-1.00	-100.00	100.01	98.47	1.53	65.239
500.00	500.00	500.00	500.00	0.99	0.99	-90.57	-1.00	-100.00	100.01	98.02	1.98	50.446
600.00	600.00	600.00	600.00	1.22	1.22	-90.57	-1.00	-100.00	100.01	97.57	2.43	41.121
700.00	700.00	700.00	700.00	1.44	1.44	-90.57	-1.00	-100.00	100.01	97.12	2.88	34.706
800.00	800.00	800.00	800.00	1.67	1.67	-90.57	-1.00	-100.00	100.01	96.67	3.33	30.022
900.00	900.00	900.00	900.00	1.89	1.89	-90.57	-1.00	-100.00	100.01	96.22	3.78	26.452
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.57	-1.00	-100.00	100.01	95.78	4.23	23.641
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.57	-1.00	-100.00	100.01	95.33	4.68	21.370
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-90.57	-1.00	-100.00	100.01	94.88	5.13	19.497
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.57	-1.00	-100.00	100.01	94.43	5.58	17.926
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-90.57	-1.00	-100.00	100.01	93.98	6.03	16.589
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	-90.57	-1.00	-100.00	100.01	93.53	6.48	15.438

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
 Project: Lea County, NM
 Reference Site: Hamon Fed Pad
 Site Error: 0.00 ft
 Reference Well: Hamon Fed Com A #12H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
 TVD Reference: KB=18 @ 3628.00ft
 MD Reference: KB=18 @ 3628.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #10H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-90.57	-1.00	-100.00	100.01	93.08	6.93	14.436		
1,633.71	1,633.71	1,633.71	1,633.71	3.54	3.54	-90.57	-1.00	-100.00	100.01	92.93	7.08	14.127	CC	
1,700.00	1,700.00	1,699.42	1,699.42	3.69	3.69	-90.34	-0.60	-100.15	100.15	92.77	7.38	13.579	ES	
1,800.00	1,800.00	1,798.77	1,798.72	3.91	3.91	-88.73	2.24	-101.18	101.21	93.39	7.82	12.939		
1,900.00	1,900.00	1,898.71	1,898.60	4.14	4.13	-86.92	5.52	-102.37	102.53	94.26	8.27	12.396		
2,000.00	2,000.00	1,998.65	1,998.47	4.36	4.36	-85.15	8.79	-103.57	103.95	95.23	8.72	11.921		
2,100.00	2,100.00	2,098.59	2,098.35	4.59	4.58	-83.43	12.07	-104.76	105.46	96.29	9.17	11.502		
2,200.00	2,200.00	2,198.52	2,198.23	4.81	4.81	-81.76	15.35	-105.95	107.07	97.45	9.62	11.131		
2,300.00	2,300.00	2,298.46	2,298.11	5.04	5.03	-80.14	18.63	-107.14	108.77	98.70	10.07	10.802		
2,400.00	2,400.00	2,398.40	2,397.99	5.26	5.26	-78.57	21.90	-108.34	110.55	100.03	10.52	10.508		
2,500.00	2,500.00	2,498.34	2,497.87	5.49	5.49	-77.05	25.18	-109.53	112.41	101.44	10.97	10.246		
2,600.00	2,600.00	2,598.28	2,597.74	5.71	5.71	-75.59	28.46	-110.72	114.34	102.92	11.42	10.010		
2,700.00	2,700.00	2,698.22	2,697.62	5.94	5.94	-74.17	31.74	-111.92	116.35	104.48	11.87	9.799		
2,800.00	2,800.00	2,798.16	2,797.50	6.16	6.17	-72.80	35.01	-113.11	118.43	106.10	12.33	9.608		
2,900.00	2,900.00	2,898.10	2,897.38	6.39	6.40	-71.48	38.29	-114.30	120.57	107.79	12.78	9.435		
3,000.00	3,000.00	3,000.74	3,000.00	6.61	6.60	-70.81	39.99	-114.92	121.68	108.47	13.21	9.214		
3,100.00	3,100.00	3,100.74	3,100.00	6.84	6.80	-70.81	39.99	-114.92	121.68	108.05	13.63	8.929		
3,200.00	3,200.00	3,200.74	3,200.00	7.06	7.02	-70.81	39.99	-114.92	121.68	107.61	14.08	8.645		
3,300.00	3,300.00	3,300.74	3,300.00	7.28	7.24	-70.81	39.99	-114.92	121.68	107.16	14.52	8.378		
3,400.00	3,400.00	3,400.74	3,400.00	7.51	7.47	-70.81	39.99	-114.92	121.68	106.71	14.97	8.127		
3,500.00	3,500.00	3,500.74	3,500.00	7.73	7.69	-70.81	39.99	-114.92	121.68	106.26	15.42	7.891		
3,600.00	3,600.00	3,600.74	3,600.00	7.96	7.91	-70.81	39.99	-114.92	121.68	105.81	15.87	7.668		
3,700.00	3,700.00	3,700.74	3,700.00	8.18	8.14	-70.81	39.99	-114.92	121.68	105.36	16.32	7.457		
3,800.00	3,800.00	3,800.74	3,800.00	8.41	8.36	-70.81	39.99	-114.92	121.68	104.91	16.77	7.257		
3,900.00	3,900.00	3,900.74	3,900.00	8.63	8.58	-70.81	39.99	-114.92	121.68	104.47	17.22	7.068		
4,000.00	4,000.00	4,000.74	4,000.00	8.86	8.81	-70.81	39.99	-114.92	121.68	104.02	17.66	6.889		
4,100.00	4,100.00	4,100.74	4,100.00	9.08	9.03	-70.81	39.99	-114.92	121.68	103.57	18.11	6.718		
4,200.00	4,200.00	4,200.74	4,200.00	9.31	9.26	-70.81	39.99	-114.92	121.68	103.12	18.56	6.556		
4,300.00	4,300.00	4,300.74	4,300.00	9.53	9.48	-70.81	39.99	-114.92	121.68	102.67	19.01	6.401		
4,400.00	4,400.00	4,400.74	4,400.00	9.76	9.70	-70.81	39.99	-114.92	121.68	102.22	19.46	6.253		
4,500.00	4,500.00	4,500.74	4,500.00	9.98	9.93	-70.81	39.99	-114.92	121.68	101.77	19.91	6.112		
4,600.00	4,600.00	4,600.74	4,600.00	10.21	10.15	-70.81	39.99	-114.92	121.68	101.32	20.36	5.977		
4,700.00	4,700.00	4,700.74	4,700.00	10.43	10.38	-70.81	39.99	-114.92	121.68	100.88	20.81	5.848		
4,800.00	4,800.00	4,800.74	4,800.00	10.66	10.60	-70.81	39.99	-114.92	121.68	100.43	21.25	5.725		
4,900.00	4,900.00	4,900.74	4,900.00	10.88	10.82	-70.81	39.99	-114.92	121.68	99.98	21.70	5.606		
5,000.00	5,000.00	5,000.74	5,000.00	11.11	11.05	-70.81	39.99	-114.92	121.68	99.53	22.15	5.493		
5,100.00	5,100.00	5,100.74	5,100.00	11.33	11.27	-70.81	39.99	-114.92	121.68	99.08	22.60	5.384		
5,200.00	5,200.00	5,200.74	5,200.00	11.56	11.50	-70.81	39.99	-114.92	121.68	98.63	23.05	5.279		
5,300.00	5,300.00	5,300.74	5,300.00	11.78	11.72	-70.81	39.99	-114.92	121.68	98.18	23.50	5.178		
5,400.00	5,400.00	5,400.74	5,400.00	12.00	11.94	-70.81	39.99	-114.92	121.68	97.73	23.95	5.081		
5,500.00	5,500.00	5,500.74	5,500.00	12.23	12.17	-70.81	39.99	-114.92	121.68	97.28	24.40	4.987		
5,566.42	5,566.42	5,567.16	5,566.42	12.38	12.32	-70.81	39.99	-114.92	121.68	96.98	24.70	4.927		
5,600.00	5,600.00	5,600.00	5,599.26	12.45	12.39	-70.81	39.99	-114.92	121.68	96.84	24.85	4.898	SF	
5,700.00	5,699.98	5,696.65	5,695.89	12.67	12.60	-150.15	40.13	-116.55	124.84	99.60	25.24	4.947		
5,800.00	5,799.84	5,791.94	5,791.05	12.87	12.80	-151.62	40.52	-121.33	134.31	108.71	25.60	5.247		
5,900.00	5,899.45	5,885.93	5,884.72	13.08	12.99	-153.63	41.15	-129.13	150.19	124.26	25.92	5.793		
6,000.00	5,998.70	5,978.04	5,976.20	13.29	13.20	-155.80	42.02	-139.75	172.53	146.31	26.22	6.580		
6,090.44	6,088.05	6,062.82	6,060.15	13.49	13.39	-157.72	42.98	-151.57	197.76	171.29	26.46	7.473		
6,100.00	6,097.47	6,071.92	6,069.16	13.52	13.41	-157.93	43.08	-152.86	200.59	174.09	26.50	7.570		
6,200.00	6,196.01	6,167.14	6,163.42	13.74	13.62	-159.87	44.18	-166.31	230.33	203.45	26.89	8.567		
6,300.00	6,294.54	6,262.36	6,257.68	13.98	13.85	-161.36	45.27	-179.77	260.26	232.99	27.28	9.542		
6,400.00	6,393.08	6,357.58	6,351.94	14.22	14.07	-162.54	46.37	-193.22	290.32	262.65	27.67	10.492		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
 Project: Lea County, NM
 Reference Site: Hamon Fed Pad
 Site Error: 0.00 ft
 Reference Well: Hamon Fed Com A #12H
 Well Error: 0.00 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
 TVD Reference: KB=18 @ 3628.00ft
 MD Reference: KB=18 @ 3628.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM 5000.1 Multi User Db
 Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #10H - Wellbore #1 - Plan #2													Offset Site Error: 0.00 ft
Survey Program: 0-MWD													Offset Well Error: 0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
6,500.00	6,491.62	6,452.80	6,446.19	14.47	14.30	-163.51	47.46	-206.67	320.48	292.41	28.07	11.417	
6,600.00	6,590.16	6,548.02	6,540.45	14.73	14.54	-164.31	48.56	-220.12	350.70	322.22	28.47	12.317	
6,700.00	6,688.70	6,643.25	6,634.71	14.99	14.78	-164.98	49.65	-233.58	380.97	352.09	28.88	13.192	
6,800.00	6,787.24	6,738.47	6,728.97	15.25	15.02	-165.55	50.75	-247.03	411.28	381.99	29.29	14.043	
6,900.00	6,885.77	6,833.69	6,823.23	15.52	15.26	-166.04	51.85	-260.48	441.63	411.93	29.70	14.871	
7,000.00	6,984.31	6,928.91	6,917.49	15.80	15.51	-166.47	52.94	-273.94	472.00	441.88	30.11	15.675	
7,100.00	7,082.85	7,024.13	7,011.75	16.08	15.76	-166.85	54.04	-287.39	502.39	471.86	30.53	16.457	
7,200.00	7,181.39	7,119.35	7,106.01	16.36	16.01	-167.19	55.13	-300.84	532.80	501.85	30.94	17.218	
7,300.00	7,279.93	7,214.57	7,200.27	16.65	16.27	-167.49	56.23	-314.29	563.22	531.86	31.36	17.957	
7,400.00	7,378.46	7,309.79	7,294.52	16.94	16.52	-167.75	57.32	-327.75	593.66	561.87	31.79	18.676	
7,500.00	7,477.00	7,405.01	7,388.78	17.24	16.78	-168.00	58.42	-341.20	624.11	591.90	32.21	19.376	
7,600.00	7,575.54	7,500.23	7,483.04	17.53	17.05	-168.22	59.51	-354.65	654.56	621.93	32.64	20.056	
7,700.00	7,674.08	7,595.45	7,577.30	17.84	17.31	-168.42	60.61	-368.10	685.03	651.97	33.06	20.718	
7,800.00	7,772.62	7,690.67	7,671.56	18.14	17.58	-168.60	61.70	-381.56	715.50	682.01	33.49	21.362	
7,900.00	7,871.16	7,785.89	7,765.82	18.45	17.85	-168.77	62.80	-395.01	745.98	712.05	33.92	21.989	
8,000.00	7,969.69	7,881.11	7,860.08	18.76	18.12	-168.92	63.89	-408.46	776.46	742.11	34.36	22.600	
8,100.00	8,068.23	7,976.33	7,954.34	19.07	18.39	-169.07	64.99	-421.92	806.95	772.16	34.79	23.194	
8,200.00	8,166.77	8,071.55	8,048.60	19.39	18.67	-169.20	66.08	-435.37	837.44	802.22	35.23	23.773	
8,300.00	8,265.31	8,166.77	8,142.85	19.71	18.94	-169.32	67.18	-448.82	867.94	832.28	35.66	24.337	
8,400.00	8,363.85	8,261.99	8,237.11	20.03	19.22	-169.44	68.28	-462.27	898.44	862.34	36.10	24.887	
8,500.00	8,462.38	8,357.21	8,331.37	20.35	19.50	-169.55	69.37	-475.73	928.94	892.40	36.54	25.422	
8,600.00	8,560.92	8,452.43	8,425.63	20.67	19.78	-169.65	70.47	-489.18	959.45	922.46	36.98	25.944	
8,700.00	8,659.46	8,547.65	8,519.89	21.00	20.06	-169.74	71.56	-502.63	989.95	952.53	37.42	26.452	
8,800.00	8,758.00	8,642.87	8,614.15	21.33	20.34	-169.83	72.66	-516.08	1,020.46	982.60	37.87	26.949	
8,900.00	8,856.54	8,738.09	8,708.41	21.66	20.63	-169.91	73.75	-529.54	1,050.98	1,012.67	38.31	27.432	
9,000.00	8,955.08	8,833.31	8,802.67	21.99	20.91	-169.99	74.85	-542.99	1,081.49	1,042.73	38.76	27.904	
9,100.00	9,053.61	8,928.53	8,896.93	22.33	21.20	-170.07	75.94	-556.44	1,112.01	1,072.80	39.20	28.365	
9,200.00	9,152.15	9,023.75	8,991.19	22.66	21.49	-170.14	77.04	-569.90	1,142.52	1,102.87	39.65	28.814	
9,300.00	9,250.69	9,118.98	9,085.44	23.00	21.78	-170.21	78.13	-583.35	1,173.04	1,132.94	40.10	29.253	
9,400.00	9,349.23	9,214.20	9,179.70	23.34	22.07	-170.27	79.23	-596.80	1,203.56	1,163.01	40.55	29.681	
9,500.00	9,447.77	9,309.42	9,273.96	23.68	22.36	-170.33	80.32	-610.25	1,234.09	1,193.09	41.00	30.099	
9,600.00	9,546.30	9,404.64	9,368.22	24.02	22.65	-170.39	81.42	-623.71	1,264.61	1,223.16	41.45	30.507	
9,700.00	9,644.84	9,499.86	9,462.48	24.36	22.95	-170.44	82.51	-637.16	1,295.13	1,253.23	41.91	30.906	
9,770.16	9,713.98	9,566.67	9,528.61	24.60	23.15	-170.48	83.28	-646.60	1,316.55	1,274.33	42.22	31.180	
9,800.00	9,743.34	9,595.05	9,556.71	24.70	23.24	-153.99	83.61	-650.61	1,325.68	1,283.31	42.36	31.294	
9,850.00	9,792.21	9,642.33	9,603.51	24.87	23.39	-133.94	84.15	-657.29	1,341.01	1,298.38	42.63	31.460	
9,900.00	9,840.35	9,688.94	9,649.66	25.05	23.53	-121.55	84.69	-663.87	1,356.33	1,313.42	42.92	31.603	
9,950.00	9,887.37	9,734.54	9,694.79	25.23	23.67	-113.59	85.21	-670.31	1,371.63	1,328.40	43.23	31.726	
10,000.00	9,932.94	9,786.37	9,746.03	25.41	23.83	-108.22	87.74	-677.63	1,386.79	1,343.21	43.58	31.823	
10,050.00	9,976.69	9,841.07	9,799.61	25.60	24.00	-104.30	95.43	-685.30	1,401.58	1,357.63	43.95	31.892	
10,100.00	10,018.30	9,898.14	9,854.48	25.79	24.18	-101.31	108.93	-693.16	1,415.88	1,371.54	44.34	31.934	
10,150.00	10,057.45	9,957.85	9,910.16	25.99	24.37	-98.96	128.87	-701.15	1,429.54	1,384.79	44.75	31.946	
10,200.00	10,093.84	10,020.40	9,965.95	26.20	24.58	-97.08	155.91	-709.18	1,442.44	1,397.25	45.18	31.925	
10,250.00	10,127.20	10,085.97	10,020.94	26.41	24.80	-95.55	190.68	-717.11	1,454.42	1,408.77	45.65	31.863	
10,300.00	10,157.27	10,154.64	10,073.91	26.64	25.05	-94.30	233.63	-724.77	1,465.34	1,419.19	46.15	31.750	
10,350.00	10,183.83	10,226.36	10,123.39	26.88	25.32	-93.27	284.99	-731.95	1,475.06	1,428.34	46.72	31.573	
10,400.00	10,206.66	10,300.92	10,167.67	27.13	25.64	-92.41	344.57	-738.42	1,483.44	1,436.08	47.36	31.325	
10,450.00	10,225.60	10,377.91	10,204.96	27.41	26.01	-91.70	411.63	-743.90	1,490.34	1,442.25	48.09	30.991	
10,500.00	10,240.51	10,456.72	10,233.57	27.70	26.44	-91.11	484.87	-748.16	1,495.68	1,446.76	48.92	30.575	
10,550.00	10,251.26	10,536.54	10,252.13	28.01	26.93	-90.61	562.39	-750.99	1,499.36	1,449.51	49.85	30.078	
10,600.00	10,257.78	10,616.49	10,259.86	28.34	27.49	-90.19	641.88	-752.29	1,501.35	1,450.48	50.87	29.516	
10,650.00	10,260.02	10,676.18	10,259.41	28.70	27.95	-89.98	701.57	-752.37	1,501.85	1,450.07	51.78	29.003	

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #10H - Wellbore #1 - Plan #2														Offset Site Error:	0.00 ft
Survey Program: 0-MWD														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)										
10,656.11	10,260.00	10,682.29	10,259.31	28.74	28.00	-89.97	707.67	-752.37	1,501.86	1,449.97	51.89	28.945			
10,700.00	10,259.62	10,726.18	10,258.54	29.07	28.36	-89.96	751.56	-752.36	1,501.86	1,449.18	52.67	28.512			
10,800.00	10,258.74	10,826.17	10,256.80	29.89	29.25	-89.93	851.54	-752.36	1,501.86	1,447.28	54.59	27.513			
10,900.00	10,257.87	10,926.17	10,255.05	30.81	30.23	-89.89	951.52	-752.35	1,501.87	1,445.20	56.67	26.501			
11,000.00	10,257.00	11,026.17	10,253.31	31.80	31.29	-89.86	1,051.50	-752.34	1,501.87	1,442.96	58.91	25.494			
11,100.00	10,256.12	11,126.16	10,251.56	32.88	32.43	-89.83	1,151.48	-752.33	1,501.88	1,440.59	61.29	24.506			
11,200.00	10,255.25	11,226.16	10,249.81	34.02	33.62	-89.79	1,251.46	-752.32	1,501.88	1,438.10	63.78	23.547			
11,300.00	10,254.38	11,326.16	10,248.07	35.22	34.87	-89.76	1,351.44	-752.32	1,501.89	1,435.50	66.39	22.623			
11,400.00	10,253.51	11,426.15	10,246.32	36.47	36.17	-89.73	1,451.42	-752.31	1,501.90	1,432.81	69.09	21.738			
11,500.00	10,252.63	11,526.15	10,244.58	37.77	37.52	-89.69	1,551.41	-752.30	1,501.91	1,430.03	71.88	20.896			
11,600.00	10,251.76	11,626.14	10,242.83	39.12	38.91	-89.66	1,651.39	-752.29	1,501.91	1,427.18	74.74	20.096			
11,700.00	10,250.89	11,726.14	10,241.09	40.51	40.33	-89.63	1,751.37	-752.28	1,501.92	1,424.26	77.67	19.338			
11,800.00	10,250.02	11,826.14	10,239.34	41.93	41.78	-89.59	1,851.35	-752.28	1,501.93	1,421.28	80.65	18.622			
11,900.00	10,249.14	11,926.13	10,237.60	43.38	43.27	-89.56	1,951.33	-752.27	1,501.94	1,418.24	83.70	17.945			
12,000.00	10,248.27	12,026.13	10,235.85	44.86	44.77	-89.53	2,051.31	-752.26	1,501.95	1,415.16	86.79	17.306			
12,100.00	10,247.40	12,126.12	10,234.11	46.36	46.31	-89.49	2,151.29	-752.25	1,501.96	1,412.04	89.92	16.704			
12,200.00	10,246.53	12,226.12	10,232.36	47.89	47.86	-89.46	2,251.27	-752.24	1,501.97	1,408.88	93.09	16.135			
12,300.00	10,245.65	12,326.12	10,230.62	49.44	49.43	-89.43	2,351.25	-752.24	1,501.98	1,405.69	96.30	15.598			
12,400.00	10,244.78	12,426.11	10,228.87	51.00	51.02	-89.39	2,451.23	-752.23	1,502.00	1,402.46	99.53	15.091			
12,500.00	10,243.91	12,526.11	10,227.13	52.59	52.62	-89.36	2,551.21	-752.22	1,502.01	1,399.21	102.80	14.611			
12,600.00	10,243.04	12,626.11	10,225.38	54.19	54.24	-89.33	2,651.20	-752.21	1,502.02	1,395.93	106.09	14.158			
12,700.00	10,242.16	12,726.10	10,223.64	55.80	55.87	-89.29	2,751.18	-752.20	1,502.04	1,392.63	109.40	13.729			
12,800.00	10,241.29	12,826.10	10,221.89	57.43	57.52	-89.26	2,851.16	-752.20	1,502.05	1,389.31	112.74	13.323			
12,900.00	10,240.42	12,926.09	10,220.15	59.07	59.17	-89.23	2,951.14	-752.19	1,502.06	1,385.97	116.09	12.938			
13,000.00	10,239.54	13,026.09	10,218.40	60.72	60.84	-89.19	3,051.12	-752.18	1,502.08	1,382.61	119.47	12.573			
13,100.00	10,238.67	13,126.09	10,216.66	62.38	62.51	-89.16	3,151.10	-752.17	1,502.10	1,379.24	122.86	12.226			
13,200.00	10,237.80	13,226.08	10,214.91	64.05	64.19	-89.13	3,251.08	-752.16	1,502.11	1,375.85	126.26	11.897			
13,300.00	10,236.93	13,326.08	10,213.17	65.73	65.88	-89.09	3,351.06	-752.16	1,502.13	1,372.45	129.68	11.583			
13,377.24	10,236.25	13,403.32	10,211.82	67.03	67.20	-89.07	3,428.29	-752.15	1,502.14	1,369.81	132.33	11.352			
13,400.00	10,236.14	13,426.07	10,211.42	67.37	67.58	-89.06	3,451.04	-752.15	1,502.15	1,369.08	133.07	11.288			
13,427.24	10,236.25	13,453.31	10,210.95	67.75	68.05	-89.03	3,478.27	-752.15	1,502.16	1,368.24	133.92	11.217			
13,500.00	10,236.89	13,526.04	10,209.68	68.86	69.29	-88.96	3,551.00	-752.14	1,502.19	1,365.90	136.30	11.021			
13,600.00	10,237.76	13,626.01	10,207.93	70.56	71.00	-88.86	3,650.95	-752.13	1,502.25	1,362.50	139.75	10.750			
13,700.00	10,238.63	13,725.97	10,206.19	72.27	72.71	-88.76	3,750.90	-752.12	1,502.30	1,359.10	143.20	10.491			
13,800.00	10,239.51	13,825.94	10,204.44	73.98	74.43	-88.66	3,850.85	-752.12	1,502.37	1,355.69	146.67	10.243			
13,900.00	10,240.38	13,925.93	10,202.70	75.69	76.16	-88.56	3,950.82	-752.11	1,502.43	1,352.29	150.14	10.007			
14,000.00	10,241.25	14,026.56	10,202.30	77.42	77.77	-88.51	4,051.45	-752.10	1,502.47	1,348.96	153.51	9.787			
14,100.00	10,242.12	14,126.56	10,202.30	79.14	79.51	-88.48	4,151.45	-752.09	1,502.49	1,345.49	157.01	9.570			
14,200.00	10,243.00	14,226.55	10,202.30	80.87	81.25	-88.45	4,251.44	-752.08	1,502.52	1,342.01	160.51	9.361			
14,300.00	10,243.87	14,326.55	10,202.30	82.61	82.99	-88.41	4,351.44	-752.07	1,502.55	1,338.53	164.01	9.161			
14,400.00	10,244.74	14,426.55	10,202.30	84.35	84.74	-88.38	4,451.44	-752.07	1,502.57	1,335.05	167.53	8.969			
14,500.00	10,245.61	14,526.54	10,202.30	86.09	86.49	-88.35	4,551.43	-752.06	1,502.60	1,331.55	171.05	8.785			
14,600.00	10,246.49	14,626.54	10,202.30	87.84	88.24	-88.31	4,651.43	-752.05	1,502.63	1,328.06	174.57	8.607			
14,700.00	10,247.36	14,726.54	10,202.30	89.59	90.00	-88.28	4,751.43	-752.04	1,502.66	1,324.55	178.11	8.437			
14,800.00	10,248.23	14,826.53	10,202.30	91.34	91.76	-88.25	4,851.42	-752.03	1,502.69	1,321.05	181.64	8.273			
14,900.00	10,249.10	14,926.53	10,202.30	93.10	93.52	-88.22	4,951.42	-752.03	1,502.72	1,317.54	185.18	8.115			
15,000.00	10,249.98	15,026.52	10,202.30	94.86	95.28	-88.18	5,051.41	-752.02	1,502.75	1,314.02	188.73	7.963			
15,100.00	10,250.85	15,126.52	10,202.30	96.62	97.05	-88.15	5,151.41	-752.01	1,502.78	1,310.51	192.27	7.816			
15,200.00	10,251.72	15,226.52	10,202.30	98.38	98.82	-88.12	5,251.41	-752.00	1,502.81	1,306.99	195.83	7.674			
15,222.72	10,251.92	15,237.22	10,202.30	98.79	99.01	-88.11	5,262.11	-752.00	1,502.87	1,306.45	196.42	7.651			
15,223.43	10,251.93	15,237.22	10,202.30	98.85	99.01	-88.11	5,262.11	-752.00	1,502.87	1,306.44	196.43	7.651			

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #11H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.57	-0.50	-50.10	50.10					
100.00	100.00	100.00	100.00	0.09	0.09	-90.57	-0.50	-50.10	50.10	49.92	0.18	271.841		
200.00	200.00	200.00	200.00	0.32	0.32	-90.57	-0.50	-50.10	50.10	49.47	0.63	79.046		
300.00	300.00	300.00	300.00	0.54	0.54	-90.57	-0.50	-50.10	50.10	49.02	1.08	46.247		
400.00	400.00	400.00	400.00	0.77	0.77	-90.57	-0.50	-50.10	50.10	48.57	1.53	32.685		
500.00	500.00	500.00	500.00	0.99	0.99	-90.57	-0.50	-50.10	50.10	48.12	1.98	25.273		
600.00	600.00	600.00	600.00	1.22	1.22	-90.57	-0.50	-50.10	50.10	47.67	2.43	20.602		
700.00	700.00	700.00	700.00	1.44	1.44	-90.57	-0.50	-50.10	50.10	47.22	2.88	17.388		
800.00	800.00	800.00	800.00	1.67	1.67	-90.57	-0.50	-50.10	50.10	46.77	3.33	15.041		
900.00	900.00	900.00	900.00	1.89	1.89	-90.57	-0.50	-50.10	50.10	46.32	3.78	13.253		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.57	-0.50	-50.10	50.10	45.87	4.23	11.844		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.57	-0.50	-50.10	50.10	45.42	4.68	10.707		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-90.57	-0.50	-50.10	50.10	44.97	5.13	9.768		
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.57	-0.50	-50.10	50.10	44.52	5.58	8.981		
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-90.57	-0.50	-50.10	50.10	44.07	6.03	8.311		
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	-90.57	-0.50	-50.10	50.10	43.62	6.48	7.735		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-90.57	-0.50	-50.10	50.10	43.18	6.93	7.233		
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	-90.57	-0.50	-50.10	50.10	42.73	7.38	6.792		
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-90.57	-0.50	-50.10	50.10	42.28	7.83	6.402		
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	-90.57	-0.50	-50.10	50.10	41.83	8.28	6.054		
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-90.57	-0.50	-50.10	50.10	41.38	8.73	5.742		
2,100.00	2,100.00	2,100.00	2,100.00	4.59	4.59	-90.57	-0.50	-50.10	50.10	40.93	9.17	5.461		
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-90.57	-0.50	-50.10	50.10	40.48	9.62	5.206		
2,300.00	2,300.00	2,300.00	2,300.00	5.04	5.04	-90.57	-0.50	-50.10	50.10	40.03	10.07	4.973		
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-90.57	-0.50	-50.10	50.10	39.58	10.52	4.761		
2,500.00	2,500.00	2,500.00	2,500.00	5.49	5.49	-90.57	-0.50	-50.10	50.10	39.13	10.97	4.566		
2,600.00	2,600.00	2,600.00	2,600.00	5.71	5.71	-90.57	-0.50	-50.10	50.10	38.68	11.42	4.386		
2,700.00	2,700.00	2,700.00	2,700.00	5.94	5.94	-90.57	-0.50	-50.10	50.10	38.23	11.87	4.220		
2,800.00	2,800.00	2,800.00	2,800.00	6.16	6.16	-90.57	-0.50	-50.10	50.10	37.78	12.32	4.066		
2,900.00	2,900.00	2,900.00	2,900.00	6.39	6.39	-90.57	-0.50	-50.10	50.10	37.33	12.77	3.923		
3,000.00	3,000.00	3,000.00	3,000.00	6.61	6.61	-90.57	-0.50	-50.10	50.10	36.88	13.22	3.790		
3,100.00	3,100.00	3,100.00	3,100.00	6.84	6.84	-90.57	-0.50	-50.10	50.10	36.43	13.67	3.665		
3,200.00	3,200.00	3,200.00	3,200.00	7.06	7.06	-90.57	-0.50	-50.10	50.10	35.98	14.12	3.548		
3,300.00	3,300.00	3,300.00	3,300.00	7.28	7.28	-90.57	-0.50	-50.10	50.10	35.53	14.57	3.439		
3,400.00	3,400.00	3,400.00	3,400.00	7.51	7.51	-90.57	-0.50	-50.10	50.10	35.08	15.02	3.336		
3,500.00	3,500.00	3,500.00	3,500.00	7.73	7.73	-90.57	-0.50	-50.10	50.10	34.63	15.47	3.239		
3,600.00	3,600.00	3,600.00	3,600.00	7.96	7.96	-90.57	-0.50	-50.10	50.10	34.18	15.92	3.148		
3,700.00	3,700.00	3,700.00	3,700.00	8.18	8.18	-90.57	-0.50	-50.10	50.10	33.74	16.37	3.061		
3,800.00	3,800.00	3,800.00	3,800.00	8.41	8.41	-90.57	-0.50	-50.10	50.10	33.29	16.82	2.979		
3,900.00	3,900.00	3,900.00	3,900.00	8.63	8.63	-90.57	-0.50	-50.10	50.10	32.84	17.27	2.902		
4,000.00	4,000.00	4,000.00	4,000.00	8.86	8.86	-90.57	-0.50	-50.10	50.10	32.39	17.72	2.828		
4,100.00	4,100.00	4,100.00	4,100.00	9.08	9.08	-90.57	-0.50	-50.10	50.10	31.94	18.17	2.758		
4,200.00	4,200.00	4,200.00	4,200.00	9.31	9.31	-90.57	-0.50	-50.10	50.10	31.49	18.62	2.691		
4,300.00	4,300.00	4,300.00	4,300.00	9.53	9.53	-90.57	-0.50	-50.10	50.10	31.04	19.06	2.628		
4,400.00	4,400.00	4,400.00	4,400.00	9.76	9.76	-90.57	-0.50	-50.10	50.10	30.59	19.51	2.567		
4,500.00	4,500.00	4,500.00	4,500.00	9.98	9.98	-90.57	-0.50	-50.10	50.10	30.14	19.96	2.510		
4,600.00	4,600.00	4,600.00	4,600.00	10.21	10.21	-90.57	-0.50	-50.10	50.10	29.69	20.41	2.454		
4,700.00	4,700.00	4,700.00	4,700.00	10.43	10.43	-90.57	-0.50	-50.10	50.10	29.24	20.86	2.402		
4,800.00	4,800.00	4,800.00	4,800.00	10.66	10.66	-90.57	-0.50	-50.10	50.10	28.79	21.31	2.351		
4,900.00	4,900.00	4,900.00	4,900.00	10.88	10.88	-90.57	-0.50	-50.10	50.10	28.34	21.76	2.302		
5,000.00	5,000.00	5,000.00	5,000.00	11.11	11.11	-90.57	-0.50	-50.10	50.10	27.89	22.21	2.256		
5,100.00	5,100.00	5,100.00	5,100.00	11.33	11.33	-90.57	-0.50	-50.10	50.10	27.44	22.66	2.211		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #11H - Wellbore #1 - Plan #2														Offset Site Error:	0.00 ft
Survey Program: 0-MWD														Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,200.00	5,200.00	5,200.00	5,200.00	11.56	11.56	-90.57	-0.50	-50.10	50.10	26.99	23.11	2.168			
5,300.00	5,300.00	5,300.00	5,300.00	11.78	11.78	-90.57	-0.50	-50.10	50.10	26.54	23.56	2.127			
5,400.00	5,400.00	5,400.00	5,400.00	12.00	12.00	-90.57	-0.50	-50.10	50.10	26.09	24.01	2.087			
5,500.00	5,500.00	5,500.00	5,500.00	12.23	12.23	-90.57	-0.50	-50.10	50.10	25.64	24.46	2.048			
5,600.00	5,600.00	5,600.00	5,600.00	12.45	12.45	-90.57	-0.50	-50.10	50.10	25.19	24.91	2.011 CC, ES, SF			
5,700.00	5,699.98	5,699.41	5,699.40	12.67	12.68	-168.11	0.95	-50.78	52.50	27.17	25.33	2.073			
5,800.00	5,799.84	5,799.21	5,799.16	12.87	12.90	-166.90	3.25	-51.87	58.75	33.04	25.71	2.285			
5,900.00	5,899.45	5,898.73	5,898.65	13.08	13.12	-166.61	5.55	-52.94	68.39	42.33	26.06	2.624			
6,000.00	5,998.70	5,997.88	5,997.76	13.29	13.34	-166.95	7.83	-54.02	81.41	55.03	26.38	3.086			
6,090.44	6,088.05	6,087.11	6,086.96	13.49	13.54	-167.55	9.89	-54.99	96.09	69.45	26.64	3.607			
6,100.00	6,097.47	6,096.51	6,096.37	13.52	13.56	-167.63	10.11	-55.09	97.79	71.11	26.68	3.665			
6,200.00	6,196.01	6,194.92	6,194.74	13.74	13.78	-168.30	12.37	-56.16	115.55	88.46	27.10	4.264			
6,300.00	6,294.54	6,293.32	6,293.11	13.98	14.00	-168.80	14.64	-57.23	133.33	105.81	27.52	4.845			
6,400.00	6,393.08	6,391.72	6,391.48	14.22	14.22	-169.18	16.91	-58.29	151.12	123.18	27.94	5.408			
6,500.00	6,491.62	6,490.12	6,489.85	14.47	14.44	-169.48	19.18	-59.36	168.91	140.54	28.37	5.954			
6,600.00	6,590.16	6,588.52	6,588.22	14.73	14.66	-169.72	21.45	-60.43	186.70	157.91	28.79	6.484			
6,700.00	6,688.70	6,686.92	6,686.59	14.99	14.88	-169.92	23.72	-61.50	204.50	175.28	29.22	6.998			
6,800.00	6,787.24	6,785.32	6,784.95	15.25	15.10	-170.09	25.99	-62.56	222.30	192.65	29.65	7.496			
6,900.00	6,885.77	6,883.72	6,883.32	15.52	15.32	-170.23	28.25	-63.63	240.10	210.02	30.09	7.980			
7,000.00	6,984.31	6,982.13	6,981.69	15.80	15.54	-170.36	30.52	-64.70	257.90	227.38	30.52	8.450			
7,100.00	7,082.85	7,080.53	7,080.06	16.08	15.76	-170.46	32.79	-65.77	275.71	244.75	30.96	8.906			
7,200.00	7,181.39	7,178.93	7,178.43	16.36	15.98	-170.56	35.06	-66.83	293.51	262.12	31.39	9.350			
7,300.00	7,279.93	7,277.33	7,276.80	16.65	16.20	-170.64	37.33	-67.90	311.32	279.49	31.83	9.780			
7,400.00	7,378.46	7,375.73	7,375.17	16.94	16.42	-170.72	39.60	-68.97	329.12	296.85	32.27	10.199			
7,500.00	7,477.00	7,474.13	7,473.54	17.24	16.64	-170.78	41.87	-70.04	346.93	314.22	32.71	10.606			
7,600.00	7,575.54	7,572.53	7,571.91	17.53	16.86	-170.84	44.13	-71.10	364.73	331.58	33.15	11.002			
7,700.00	7,674.08	7,670.93	7,670.28	17.84	17.08	-170.90	46.40	-72.17	382.54	348.95	33.59	11.387			
7,800.00	7,772.62	7,769.34	7,768.65	18.14	17.30	-170.95	48.67	-73.24	400.35	366.31	34.04	11.762			
7,900.00	7,871.16	7,867.74	7,867.02	18.45	17.52	-170.99	50.94	-74.31	418.15	383.67	34.48	12.126			
8,000.00	7,969.69	7,966.14	7,965.39	18.76	17.75	-171.04	53.21	-75.37	435.96	401.03	34.93	12.482			
8,100.00	8,068.23	8,064.54	8,063.76	19.07	17.97	-171.07	55.48	-76.44	453.77	418.39	35.38	12.827			
8,200.00	8,166.77	8,162.94	8,162.12	19.39	18.19	-171.11	57.74	-77.51	471.58	435.75	35.82	13.164			
8,300.00	8,265.31	8,261.34	8,260.49	19.71	18.41	-171.14	60.01	-78.58	489.38	453.11	36.27	13.492			
8,400.00	8,363.85	8,359.74	8,358.86	20.03	18.63	-171.17	62.28	-79.64	507.19	470.47	36.72	13.812			
8,500.00	8,462.38	8,458.14	8,457.23	20.35	18.85	-171.20	64.55	-80.71	525.00	487.83	37.17	14.124			
8,600.00	8,560.92	8,556.55	8,555.60	20.67	19.07	-171.23	66.82	-81.78	542.81	505.19	37.62	14.428			
8,700.00	8,659.46	8,654.95	8,653.97	21.00	19.30	-171.25	69.09	-82.85	560.62	522.54	38.07	14.725			
8,800.00	8,758.00	8,753.35	8,752.34	21.33	19.52	-171.28	71.36	-83.91	578.42	539.90	38.53	15.014			
8,900.00	8,856.54	8,852.63	8,851.57	21.66	19.74	-171.26	74.04	-84.99	596.22	557.24	38.98	15.295			
9,000.00	8,955.08	8,953.67	8,951.37	21.99	19.98	-170.09	88.94	-86.15	613.66	574.19	39.46	15.551			
9,100.00	9,053.61	9,047.91	9,040.76	22.33	20.21	-167.61	118.42	-87.28	631.51	591.55	39.96	15.802			
9,200.00	9,152.15	9,131.61	9,115.16	22.66	20.44	-164.42	156.59	-88.31	651.67	611.18	40.49	16.095			
9,300.00	9,250.69	9,200.00	9,171.31	23.00	20.65	-161.22	195.55	-89.14	676.17	635.15	41.01	16.488			
9,400.00	9,349.23	9,264.13	9,219.40	23.34	20.88	-157.84	237.93	-89.91	706.56	664.99	41.57	16.996			
9,500.00	9,447.77	9,314.87	9,253.90	23.68	21.09	-154.96	275.10	-90.50	743.78	701.67	42.11	17.663			
9,600.00	9,546.30	9,350.00	9,275.81	24.02	21.24	-152.89	302.56	-90.90	788.10	745.53	42.58	18.510			
9,700.00	9,644.84	9,400.00	9,303.99	24.36	21.49	-149.87	343.84	-91.44	839.16	795.99	43.17	19.439			
9,770.16	9,713.98	9,414.72	9,311.59	24.60	21.57	-148.96	356.45	-91.60	878.70	835.24	43.46	20.219			
9,800.00	9,743.34	9,423.58	9,316.00	24.70	21.62	-130.84	364.13	-91.69	896.18	852.41	43.77	20.476			
9,850.00	9,792.21	9,450.00	9,328.46	24.87	21.77	-107.49	387.42	-91.97	925.57	881.22	44.35	20.871			
9,900.00	9,840.35	9,450.00	9,328.46	25.05	21.77	-93.19	387.42	-91.97	954.42	909.75	44.68	21.363			
9,950.00	9,887.37	9,471.96	9,337.99	25.23	21.90	-82.43	407.19	-92.19	982.73	937.72	45.01	21.834			

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #11H - Wellbore #1 - Plan #2														Offset Site Error: 0.00 ft	
Survey Program: 0-MWD														Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
10,000.00	9,932.94	9,500.00	9,349.04	25.41	22.07	-74.24	432.96	-92.46	1,010.32	965.15	45.17	22.368			
10,050.00	9,976.69	9,500.00	9,349.04	25.60	22.07	-68.69	432.96	-92.46	1,036.61	991.61	45.00	23.038			
10,100.00	10,018.30	9,525.01	9,357.83	25.79	22.24	-63.58	456.38	-92.69	1,061.60	1,016.90	44.70	23.747			
10,150.00	10,057.45	9,550.00	9,365.58	25.99	22.40	-59.43	480.13	-92.91	1,085.21	1,041.01	44.19	24.557			
10,200.00	10,093.84	9,550.00	9,365.58	26.20	22.40	-56.43	480.13	-92.91	1,107.22	1,063.79	43.43	25.494			
10,250.00	10,127.20	9,581.14	9,373.77	26.41	22.63	-53.46	510.17	-93.18	1,127.19	1,084.60	42.59	26.463			
10,300.00	10,157.27	9,600.00	9,377.94	26.64	22.77	-51.16	528.56	-93.34	1,145.41	1,103.80	41.62	27.523			
10,350.00	10,183.83	9,619.71	9,381.65	26.88	22.92	-49.26	547.92	-93.49	1,161.62	1,121.04	40.58	28.624			
10,400.00	10,206.66	9,650.00	9,386.03	27.13	23.16	-47.62	577.88	-93.72	1,175.85	1,136.28	39.57	29.716			
10,450.00	10,225.60	9,650.00	9,386.03	27.41	23.16	-46.52	577.88	-93.72	1,187.75	1,149.24	38.52	30.838			
10,500.00	10,240.51	9,678.68	9,388.73	27.70	23.39	-45.50	606.43	-93.91	1,197.38	1,159.71	37.67	31.789			
10,550.00	10,251.26	9,700.00	9,389.80	28.01	23.57	-44.79	627.73	-94.05	1,204.81	1,167.85	36.95	32.604			
10,600.00	10,257.78	9,718.43	9,390.09	28.34	23.73	-44.34	646.15	-94.16	1,209.91	1,173.47	36.44	33.202			
10,650.00	10,260.02	9,753.69	9,389.56	28.70	24.05	-44.11	681.40	-94.37	1,212.52	1,176.23	36.29	33.412			
10,656.11	10,260.00	9,759.79	9,389.45	28.74	24.10	-44.10	687.51	-94.40	1,212.61	1,176.30	36.31	33.400			
10,700.00	10,259.62	9,803.68	9,388.68	29.07	24.51	-44.10	731.39	-94.66	1,213.06	1,176.20	36.86	32.913			
10,800.00	10,258.74	9,903.68	9,386.94	29.89	25.51	-44.09	831.37	-95.23	1,214.10	1,175.86	38.23	31.757			
10,900.00	10,257.87	10,003.67	9,385.19	30.81	26.60	-44.08	931.35	-95.81	1,215.13	1,175.38	39.75	30.571			
11,000.00	10,257.00	10,103.67	9,383.45	31.80	27.77	-44.07	1,031.32	-96.38	1,216.17	1,174.77	41.39	29.381			
11,100.00	10,256.12	10,203.66	9,381.70	32.88	29.01	-44.07	1,131.30	-96.96	1,217.20	1,174.05	43.15	28.209			
11,200.00	10,255.25	10,303.66	9,379.96	34.02	30.31	-44.06	1,231.28	-97.54	1,218.24	1,173.23	45.01	27.068			
11,300.00	10,254.38	10,403.65	9,378.21	35.22	31.66	-44.05	1,331.26	-98.11	1,219.27	1,172.32	46.95	25.969			
11,400.00	10,253.51	10,503.64	9,376.47	36.47	33.06	-44.04	1,431.23	-98.69	1,220.31	1,171.34	48.97	24.919			
11,500.00	10,252.63	10,603.64	9,374.72	37.77	34.50	-44.03	1,531.21	-99.26	1,221.34	1,170.28	51.06	23.920			
11,600.00	10,251.76	10,703.63	9,372.98	39.12	35.97	-44.02	1,631.19	-99.84	1,222.38	1,169.17	53.21	22.974			
11,700.00	10,250.89	10,803.63	9,371.23	40.51	37.48	-44.01	1,731.17	-100.41	1,223.41	1,168.01	55.41	22.080			
11,800.00	10,250.02	10,903.62	9,369.49	41.93	39.01	-44.01	1,831.14	-100.99	1,224.45	1,166.79	57.66	21.237			
11,900.00	10,249.14	11,003.62	9,367.74	43.38	40.57	-44.00	1,931.12	-101.57	1,225.49	1,165.54	59.94	20.444			
12,000.00	10,248.27	11,103.61	9,366.00	44.86	42.15	-43.99	2,031.10	-102.14	1,226.52	1,164.25	62.27	19.697			
12,100.00	10,247.40	11,203.61	9,364.25	46.36	43.75	-43.98	2,131.08	-102.72	1,227.56	1,162.93	64.63	18.995			
12,200.00	10,246.53	11,303.60	9,362.51	47.89	45.37	-43.97	2,231.05	-103.29	1,228.59	1,161.58	67.01	18.334			
12,300.00	10,245.65	11,403.59	9,360.76	49.44	47.00	-43.96	2,331.03	-103.87	1,229.63	1,160.20	69.43	17.711			
12,400.00	10,244.78	11,503.59	9,359.02	51.00	48.65	-43.95	2,431.01	-104.45	1,230.66	1,158.80	71.86	17.125			
12,500.00	10,243.91	11,603.58	9,357.27	52.59	50.31	-43.95	2,530.99	-105.02	1,231.70	1,157.38	74.32	16.573			
12,600.00	10,243.04	11,703.58	9,355.53	54.19	51.98	-43.94	2,630.96	-105.60	1,232.73	1,155.94	76.79	16.052			
12,700.00	10,242.16	11,803.57	9,353.78	55.80	53.67	-43.93	2,730.94	-106.17	1,233.77	1,154.48	79.29	15.561			
12,800.00	10,241.29	11,903.57	9,352.04	57.43	55.36	-43.92	2,830.92	-106.75	1,234.81	1,153.01	81.80	15.096			
12,900.00	10,240.42	12,003.56	9,350.29	59.07	57.06	-43.91	2,930.90	-107.32	1,235.84	1,151.52	84.32	14.657			
13,000.00	10,239.54	12,103.56	9,348.55	60.72	58.77	-43.90	3,030.88	-107.90	1,236.88	1,150.02	86.85	14.241			
13,100.00	10,238.67	12,203.55	9,346.80	62.38	60.48	-43.89	3,130.85	-108.48	1,237.91	1,148.51	89.40	13.847			
13,200.00	10,237.80	12,303.54	9,345.05	64.05	62.20	-43.89	3,230.83	-109.05	1,238.95	1,146.99	91.96	13.473			
13,300.00	10,236.93	12,403.54	9,343.31	65.73	63.93	-43.88	3,330.81	-109.63	1,239.99	1,145.46	94.53	13.118			
13,377.24	10,236.25	12,480.78	9,341.96	67.03	65.27	-43.87	3,408.03	-110.07	1,240.79	1,144.27	96.51	12.856			
13,400.00	10,236.14	12,503.53	9,341.56	67.37	65.67	-43.87	3,430.78	-110.20	1,241.09	1,143.95	97.14	12.776			
13,427.24	10,236.25	12,530.77	9,341.09	67.75	66.14	-43.86	3,458.01	-110.36	1,241.62	1,143.77	97.85	12.689			
13,500.00	10,236.89	12,617.97	9,339.94	68.86	67.55	-43.82	3,545.20	-110.86	1,243.10	1,143.38	99.72	12.466			
13,600.00	10,237.76	12,734.81	9,341.47	70.56	69.36	-43.86	3,662.03	-111.54	1,243.13	1,140.68	102.45	12.134			
13,700.00	10,238.63	12,834.80	9,343.22	72.27	71.11	-43.91	3,762.01	-112.11	1,242.91	1,137.78	105.13	11.823			
13,800.00	10,239.51	12,934.80	9,344.96	73.98	72.86	-43.95	3,861.99	-112.69	1,242.69	1,134.87	107.82	11.526			
13,900.00	10,240.38	13,034.79	9,346.71	75.69	74.62	-44.00	3,961.96	-113.26	1,242.47	1,131.95	110.51	11.243			
14,000.00	10,241.25	13,134.78	9,348.45	77.42	76.38	-44.05	4,061.94	-113.84	1,242.25	1,129.03	113.22	10.972			
14,100.00	10,242.12	13,234.78	9,350.20	79.14	78.14	-44.10	4,161.92	-114.42	1,242.03	1,126.09	115.94	10.713			

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #11H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	10,243.00	13,334.77	9,351.94	80.87	79.90	-44.14	4,261.90	-114.99	1,241.81	1,123.15	118.66	10.465		
14,300.00	10,243.87	13,434.77	9,353.69	82.61	81.67	-44.19	4,361.87	-115.57	1,241.59	1,120.20	121.39	10.228		
14,400.00	10,244.74	13,534.76	9,355.44	84.35	83.45	-44.24	4,461.85	-116.14	1,241.38	1,117.25	124.13	10.001		
14,500.00	10,245.61	13,634.76	9,357.18	86.09	85.22	-44.29	4,561.83	-116.72	1,241.16	1,114.29	126.88	9.782		
14,600.00	10,246.49	13,734.75	9,358.93	87.84	87.00	-44.33	4,661.81	-117.29	1,240.95	1,111.32	129.63	9.573		
14,700.00	10,247.36	13,834.75	9,360.67	89.59	88.78	-44.38	4,761.78	-117.87	1,240.74	1,108.34	132.39	9.372		
14,800.00	10,248.23	13,934.74	9,362.42	91.34	90.56	-44.43	4,861.76	-118.45	1,240.52	1,105.36	135.16	9.178		
14,900.00	10,249.10	14,034.74	9,364.16	93.10	92.34	-44.48	4,961.74	-119.02	1,240.31	1,102.37	137.94	8.992		
15,000.00	10,249.98	14,134.73	9,365.91	94.86	94.12	-44.52	5,061.72	-119.60	1,240.10	1,099.38	140.72	8.813		
15,100.00	10,250.85	14,234.72	9,367.65	96.62	95.91	-44.57	5,161.69	-120.17	1,239.89	1,096.38	143.50	8.640		
15,200.00	10,251.72	14,334.72	9,369.40	98.38	97.70	-44.62	5,261.67	-120.75	1,239.68	1,093.38	146.30	8.474		
15,209.02	10,251.80	14,341.15	9,369.51	98.54	97.81	-44.62	5,268.10	-120.79	1,239.66	1,093.15	146.51	8.461		
15,222.72	10,251.92	14,341.15	9,369.51	98.79	97.81	-44.62	5,268.10	-120.79	1,239.74	1,093.05	146.69	8.451		
15,223.43	10,251.93	14,341.15	9,369.51	98.85	97.81	-44.62	5,268.10	-120.79	1,239.75	1,093.05	146.70	8.451		



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-1.40	-150.00	150.01					
100.00	100.00	100.00	100.00	0.09	0.09	-90.53	-1.40	-150.00	150.01	149.82	0.18	813.890		
200.00	200.00	200.00	200.00	0.32	0.32	-90.53	-1.40	-150.00	150.01	149.37	0.63	236.663		
300.00	300.00	300.00	300.00	0.54	0.54	-90.53	-1.40	-150.00	150.01	148.92	1.08	138.463		
400.00	400.00	400.00	400.00	0.77	0.77	-90.53	-1.40	-150.00	150.01	148.47	1.53	97.858		
500.00	500.00	500.00	500.00	0.99	0.99	-90.53	-1.40	-150.00	150.01	148.02	1.98	75.668		
600.00	600.00	600.00	600.00	1.22	1.22	-90.53	-1.40	-150.00	150.01	147.57	2.43	61.681		
700.00	700.00	700.00	700.00	1.44	1.44	-90.53	-1.40	-150.00	150.01	147.13	2.88	52.059		
800.00	800.00	800.00	800.00	1.67	1.67	-90.53	-1.40	-150.00	150.01	146.68	3.33	45.033		
900.00	900.00	900.00	900.00	1.89	1.89	-90.53	-1.40	-150.00	150.01	146.23	3.78	39.678		
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	-90.53	-1.40	-150.00	150.01	145.78	4.23	35.462		
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-90.53	-1.40	-150.00	150.01	145.33	4.68	32.055		
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-90.53	-1.40	-150.00	150.01	144.88	5.13	29.246		
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	-90.53	-1.40	-150.00	150.01	144.43	5.58	26.889		
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-90.53	-1.40	-150.00	150.01	143.98	6.03	24.884		
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	-90.53	-1.40	-150.00	150.01	143.53	6.48	23.157		
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-90.53	-1.40	-150.00	150.01	143.08	6.93	21.654		
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	-90.53	-1.40	-150.00	150.01	142.63	7.38	20.335		
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-90.53	-1.40	-150.00	150.01	142.18	7.83	19.167		
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	-90.53	-1.40	-150.00	150.01	141.73	8.28	18.126		
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-90.53	-1.40	-150.00	150.01	141.28	8.73	17.192		
2,100.00	2,100.00	2,100.00	2,100.00	4.59	4.59	-90.53	-1.40	-150.00	150.01	140.83	9.17	16.350		
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-90.53	-1.40	-150.00	150.01	140.38	9.62	15.586		
2,300.00	2,300.00	2,300.00	2,300.00	5.04	5.04	-90.53	-1.40	-150.00	150.01	139.93	10.07	14.890		
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-90.53	-1.40	-150.00	150.01	139.48	10.52	14.254		
2,500.00	2,500.00	2,500.00	2,500.00	5.49	5.49	-90.53	-1.40	-150.00	150.01	139.03	10.97	13.670		
2,600.00	2,600.00	2,600.00	2,600.00	5.71	5.71	-90.53	-1.40	-150.00	150.01	138.58	11.42	13.132		
2,700.00	2,700.00	2,700.00	2,700.00	5.94	5.94	-90.53	-1.40	-150.00	150.01	138.13	11.87	12.635		
2,800.00	2,800.00	2,800.00	2,800.00	6.16	6.16	-90.53	-1.40	-150.00	150.01	137.69	12.32	12.174		
2,900.00	2,900.00	2,900.00	2,900.00	6.39	6.39	-90.53	-1.40	-150.00	150.01	137.24	12.77	11.746		
3,000.00	3,000.00	3,000.00	3,000.00	6.61	6.61	-90.53	-1.40	-150.00	150.01	136.79	13.22	11.346		
3,100.00	3,100.00	3,100.00	3,100.00	6.84	6.84	-90.53	-1.40	-150.00	150.01	136.34	13.67	10.973		
3,200.00	3,200.00	3,200.00	3,200.00	7.06	7.06	-90.53	-1.40	-150.00	150.01	135.89	14.12	10.624		
3,300.00	3,300.00	3,300.00	3,300.00	7.28	7.28	-90.53	-1.40	-150.00	150.01	135.44	14.57	10.296		
3,400.00	3,400.00	3,400.00	3,400.00	7.51	7.51	-90.53	-1.40	-150.00	150.01	134.99	15.02	9.988		
3,500.00	3,500.00	3,500.00	3,500.00	7.73	7.73	-90.53	-1.40	-150.00	150.01	134.54	15.47	9.698		
3,600.00	3,600.00	3,600.00	3,600.00	7.96	7.96	-90.53	-1.40	-150.00	150.01	134.09	15.92	9.424		
3,700.00	3,700.00	3,700.00	3,700.00	8.18	8.18	-90.53	-1.40	-150.00	150.01	133.64	16.37	9.165		
3,800.00	3,800.00	3,800.00	3,800.00	8.41	8.41	-90.53	-1.40	-150.00	150.01	133.19	16.82	8.920		
3,900.00	3,900.00	3,900.00	3,900.00	8.63	8.63	-90.53	-1.40	-150.00	150.01	132.74	17.27	8.688		
4,000.00	4,000.00	4,000.00	4,000.00	8.86	8.86	-90.53	-1.40	-150.00	150.01	132.29	17.72	8.467		
4,100.00	4,100.00	4,100.00	4,100.00	9.08	9.08	-90.53	-1.40	-150.00	150.01	131.84	18.17	8.258		
4,200.00	4,200.00	4,200.00	4,200.00	9.31	9.31	-90.53	-1.40	-150.00	150.01	131.39	18.62	8.058		
4,300.00	4,300.00	4,300.00	4,300.00	9.53	9.53	-90.53	-1.40	-150.00	150.01	130.94	19.06	7.868		
4,400.00	4,400.00	4,400.00	4,400.00	9.76	9.76	-90.53	-1.40	-150.00	150.01	130.49	19.51	7.687		
4,500.00	4,500.00	4,500.00	4,500.00	9.98	9.98	-90.53	-1.40	-150.00	150.01	130.04	19.96	7.514		
4,600.00	4,600.00	4,600.00	4,600.00	10.21	10.21	-90.53	-1.40	-150.00	150.01	129.59	20.41	7.349		
4,700.00	4,700.00	4,700.00	4,700.00	10.43	10.43	-90.53	-1.40	-150.00	150.01	129.14	20.86	7.190		
4,800.00	4,800.00	4,800.00	4,800.00	10.66	10.66	-90.53	-1.40	-150.00	150.01	128.69	21.31	7.039		
4,900.00	4,900.00	4,900.00	4,900.00	10.88	10.88	-90.53	-1.40	-150.00	150.01	128.24	21.76	6.893		
5,000.00	5,000.00	5,000.00	5,000.00	11.11	11.11	-90.53	-1.40	-150.00	150.01	127.80	22.21	6.754		
5,100.00	5,100.00	5,100.00	5,100.00	11.33	11.33	-90.53	-1.40	-150.00	150.01	127.35	22.66	6.620		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.00	5,200.00	5,200.00	5,200.00	11.56	11.56	-90.53	-1.40	-150.00	150.01	126.90	23.11	6.491		
5,300.00	5,300.00	5,300.00	5,300.00	11.78	11.78	-90.53	-1.40	-150.00	150.01	126.45	23.56	6.367		
5,400.00	5,400.00	5,400.00	5,400.00	12.00	12.00	-90.53	-1.40	-150.00	150.01	126.00	24.01	6.248		
5,500.00	5,500.00	5,500.00	5,500.00	12.23	12.23	-90.53	-1.40	-150.00	150.01	125.55	24.46	6.133		
5,600.00	5,600.00	5,600.00	5,600.00	12.45	12.45	-90.53	-1.40	-150.00	150.01	125.10	24.91	6.022		
5,700.00	5,699.98	5,705.52	5,705.49	12.67	12.68	-169.42	-1.28	-148.06	149.88	124.55	25.33	5.917		
5,800.00	5,799.84	5,811.02	5,810.83	12.87	12.89	-169.69	-0.91	-142.25	149.51	123.82	25.70	5.819		
5,900.00	5,899.45	5,916.50	5,915.86	13.08	13.11	-170.15	-0.29	-132.57	148.91	122.87	26.03	5.720		
6,000.00	5,998.70	6,021.95	6,020.42	13.29	13.33	-170.79	0.56	-119.05	148.08	121.73	26.34	5.621		
6,090.44	6,088.05	6,117.27	6,114.47	13.49	13.54	-171.54	1.55	-103.52	147.14	120.54	26.60	5.532		
6,100.00	6,097.47	6,127.35	6,124.37	13.52	13.56	-171.63	1.66	-101.70	147.02	120.38	26.64	5.519		
6,200.00	6,196.01	6,232.62	6,227.49	13.74	13.81	-172.55	3.00	-80.57	143.73	116.67	27.05	5.313		
6,300.00	6,294.54	6,337.49	6,329.37	13.98	14.08	-173.54	4.58	-55.79	136.81	109.34	27.47	4.980		
6,400.00	6,393.08	6,440.13	6,428.19	14.22	14.36	-174.67	6.33	-28.13	126.51	98.62	27.89	4.536		
6,500.00	6,491.62	6,539.48	6,523.64	14.47	14.65	-175.98	8.08	-0.60	115.48	87.17	28.31	4.079		
6,600.00	6,590.16	6,638.83	6,619.08	14.73	14.96	-177.57	9.82	26.94	104.53	75.80	28.73	3.638		
6,700.00	6,688.70	6,738.18	6,714.53	14.99	15.29	-179.53	11.57	54.48	93.67	64.51	29.17	3.212		
6,800.00	6,787.24	6,837.54	6,809.97	15.25	15.63	178.00	13.32	82.01	82.95	53.34	29.61	2.801		
6,900.00	6,885.77	6,936.89	6,905.41	15.52	15.98	174.81	15.06	109.55	72.43	42.35	30.08	2.408		
7,000.00	6,984.31	7,036.24	7,000.86	15.80	16.34	170.55	16.81	137.08	62.20	31.62	30.59	2.034		
7,100.00	7,082.85	7,135.59	7,096.30	16.08	16.71	164.68	18.56	164.62	52.45	21.28	31.17	1.683		
7,200.00	7,181.39	7,234.94	7,191.75	16.36	17.10	156.27	20.30	192.15	43.49	11.59	31.89	1.363 Level 3		
7,300.00	7,279.93	7,334.30	7,287.19	16.65	17.50	143.97	22.05	219.69	35.91	3.02	32.89	1.092 Level 2		
7,400.00	7,378.46	7,433.65	7,382.63	16.94	17.90	126.50	23.80	247.23	30.77	-3.44	34.21	0.899 Level 1		
7,482.79	7,460.04	7,515.90	7,461.65	17.18	18.24	108.80	25.24	270.02	29.29	-6.01	35.30	0.830 Level 1, CC		
7,500.00	7,477.00	7,533.00	7,478.08	17.24	18.31	105.00	25.54	274.76	29.36	-6.13	35.48	0.827 Level 1, ES, SF		
7,600.00	7,575.54	7,632.35	7,573.52	17.53	18.74	84.48	27.29	302.30	32.18	-3.95	36.13	0.891 Level 1		
7,700.00	7,674.08	7,731.70	7,668.97	17.84	19.16	68.86	29.04	329.83	38.31	2.02	36.29	1.056 Level 2		
7,800.00	7,772.62	7,831.06	7,764.41	18.14	19.60	58.07	30.78	357.37	46.45	10.10	36.36	1.278 Level 3		
7,900.00	7,871.16	7,930.41	7,859.85	18.45	20.04	50.67	32.53	384.90	55.74	19.24	36.50	1.527		
8,000.00	7,969.69	8,029.76	7,955.30	18.76	20.49	45.43	34.28	412.44	65.68	28.95	36.73	1.788		
8,100.00	8,068.23	8,129.11	8,050.74	19.07	20.95	41.59	36.02	439.97	76.02	38.99	37.03	2.053		
8,200.00	8,166.77	8,228.46	8,146.19	19.39	21.41	38.68	37.77	467.51	86.62	49.24	37.38	2.317		
8,300.00	8,265.31	8,327.82	8,241.63	19.71	21.87	36.41	39.52	495.05	97.40	59.63	37.77	2.579		
8,400.00	8,363.85	8,427.17	8,337.07	20.03	22.34	34.59	41.26	522.58	108.29	70.11	38.18	2.837		
8,500.00	8,462.38	8,526.52	8,432.52	20.35	22.82	33.11	43.01	550.12	119.27	80.67	38.61	3.089		
8,600.00	8,560.92	8,625.87	8,527.96	20.67	23.30	31.87	44.76	577.65	130.32	91.27	39.05	3.337		
8,700.00	8,659.46	8,725.22	8,623.41	21.00	23.78	30.83	46.50	605.19	141.42	101.91	39.51	3.579		
8,800.00	8,758.00	8,824.58	8,718.85	21.33	24.27	29.94	48.25	632.72	152.56	112.58	39.98	3.816		
8,900.00	8,856.54	8,923.93	8,814.29	21.66	24.76	29.17	50.00	660.26	163.73	123.28	40.45	4.048		
9,000.00	8,955.08	9,023.28	8,909.74	21.99	25.25	28.50	51.74	687.79	174.92	133.99	40.93	4.274		
9,100.00	9,053.61	9,122.63	9,005.18	22.33	25.75	27.91	53.49	715.33	186.14	144.72	41.42	4.494		
9,200.00	9,152.15	9,221.98	9,100.63	22.66	26.25	27.39	55.24	742.87	197.37	155.46	41.91	4.710		
9,300.00	9,250.69	9,321.33	9,196.07	23.00	26.75	26.92	56.98	770.40	208.62	166.21	42.40	4.920		
9,400.00	9,349.23	9,420.69	9,291.51	23.34	27.25	26.51	58.73	797.94	219.88	176.97	42.90	5.125		
9,500.00	9,447.77	9,520.04	9,386.96	23.68	27.76	26.13	60.48	825.47	231.15	187.74	43.41	5.325		
9,600.00	9,546.30	9,619.39	9,482.40	24.02	28.27	25.78	62.22	853.01	242.43	198.51	43.91	5.521		
9,700.00	9,644.84	9,718.74	9,577.85	24.36	28.78	25.47	63.97	880.54	253.71	209.29	44.42	5.711		
9,770.16	9,713.98	9,788.45	9,644.81	24.60	29.14	25.27	65.20	899.86	261.64	216.86	44.78	5.843		
9,800.00	9,743.34	9,818.07	9,673.27	24.70	29.29	40.59	65.72	908.07	265.19	220.25	44.94	5.901		
9,850.00	9,792.21	9,867.43	9,720.68	24.87	29.55	59.43	66.58	921.75	272.01	226.73	45.27	6.008		
9,900.00	9,840.35	9,916.12	9,767.46	25.05	29.80	71.50	67.44	935.25	280.01	234.34	45.67	6.132		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance				Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)		Minimum Separation (ft)	Separation Factor	
9,950.00	9,887.37	9,963.78	9,813.24	25.23	30.05	79.83	68.28	948.46	289.48	243.38	46.10	6.279		
10,000.00	9,932.94	10,010.03	9,857.68	25.41	30.29	86.15	69.09	961.28	300.78	254.25	46.53	6.464		
10,050.00	9,976.69	10,054.54	9,900.43	25.60	30.53	91.24	69.87	973.61	314.34	267.44	46.90	6.702		
10,100.00	10,018.30	10,096.95	9,941.17	25.79	30.75	95.44	70.62	985.36	330.55	283.38	47.17	7.008		
10,150.00	10,057.45	10,136.95	9,979.60	25.99	30.96	98.87	71.32	996.45	349.74	302.45	47.29	7.396		
10,200.00	10,093.84	10,174.23	10,015.41	26.20	31.15	101.53	71.98	1,006.78	372.15	324.88	47.27	7.873		
10,250.00	10,127.20	10,208.50	10,048.34	26.41	31.33	103.40	72.58	1,016.28	397.89	350.74	47.14	8.440		
10,300.00	10,157.27	10,239.52	10,078.14	26.64	31.50	104.42	73.13	1,024.88	426.91	379.94	46.98	9.088		
10,350.00	10,183.83	10,267.03	10,104.57	26.88	31.64	104.48	73.61	1,032.50	459.10	412.23	46.87	9.795		
10,400.00	10,206.66	10,290.84	10,127.44	27.13	31.77	103.47	74.03	1,039.10	494.21	447.27	46.94	10.529		
10,450.00	10,225.60	10,310.76	10,146.57	27.41	31.87	101.23	74.38	1,044.62	531.92	484.67	47.26	11.256		
10,500.00	10,240.51	10,326.63	10,161.83	27.70	31.95	97.56	74.66	1,049.02	571.89	524.04	47.85	11.951		
10,550.00	10,251.26	10,338.35	10,173.08	28.01	32.02	92.23	74.86	1,052.27	613.71	565.10	48.61	12.625		
10,600.00	10,257.78	10,345.81	10,180.25	28.34	32.06	85.08	74.99	1,054.34	656.97	607.76	49.21	13.349		
10,650.00	10,260.02	10,348.97	10,183.28	28.70	32.07	76.16	75.05	1,055.21	701.25	652.07	49.18	14.260		
10,656.11	10,260.00	10,349.06	10,183.37	28.74	32.07	74.96	75.05	1,055.24	706.70	657.60	49.10	14.393		
10,700.00	10,259.62	10,349.46	10,183.75	29.07	32.07	75.04	75.06	1,055.35	746.20	696.71	49.49	15.077		
10,800.00	10,258.74	11,573.90	10,836.44	29.89	37.89	139.50	864.39	1,243.06	759.94	722.74	37.20	20.431		
10,900.00	10,257.87	11,673.89	10,834.70	30.81	38.55	139.49	964.37	1,242.48	758.89	720.40	38.49	19.718		
11,000.00	10,257.00	11,773.89	10,832.95	31.80	39.28	139.48	1,064.35	1,241.91	757.84	717.93	39.91	18.989		
11,100.00	10,256.12	11,873.88	10,831.21	32.88	40.08	139.47	1,164.33	1,241.33	756.80	715.35	41.45	18.257		
11,200.00	10,255.25	11,973.88	10,829.46	34.02	40.96	139.46	1,264.30	1,240.75	755.75	712.65	43.10	17.535		
11,300.00	10,254.38	12,073.87	10,827.72	35.22	41.90	139.45	1,364.28	1,240.17	754.70	709.86	44.84	16.830		
11,400.00	10,253.51	12,173.86	10,825.97	36.47	42.90	139.44	1,464.26	1,239.59	753.66	706.99	46.67	16.149		
11,500.00	10,252.63	12,273.86	10,824.23	37.77	43.96	139.43	1,564.24	1,239.01	752.61	704.04	48.57	15.496		
11,600.00	10,251.76	12,373.85	10,822.48	39.12	45.08	139.42	1,664.21	1,238.43	751.56	701.03	50.54	14.872		
11,700.00	10,250.89	12,473.85	10,820.74	40.51	46.25	139.41	1,764.19	1,237.85	750.52	697.96	52.56	14.279		
11,800.00	10,250.02	12,573.84	10,818.99	41.93	47.46	139.41	1,864.17	1,237.27	749.47	694.83	54.64	13.717		
11,900.00	10,249.14	12,673.84	10,817.25	43.38	48.72	139.40	1,964.15	1,236.70	748.42	691.66	56.77	13.184		
12,000.00	10,248.27	12,773.83	10,815.50	44.86	50.01	139.39	2,064.12	1,236.12	747.38	688.44	58.93	12.682		
12,100.00	10,247.40	12,873.83	10,813.76	46.36	51.34	139.38	2,164.10	1,235.54	746.33	685.19	61.14	12.207		
12,200.00	10,246.53	12,973.82	10,812.01	47.89	52.71	139.37	2,264.08	1,234.96	745.28	681.91	63.38	11.760		
12,300.00	10,245.65	13,073.81	10,810.27	49.44	54.10	139.36	2,364.06	1,234.38	744.24	678.59	65.64	11.337		
12,400.00	10,244.78	13,173.81	10,808.52	51.00	55.52	139.35	2,464.03	1,233.80	743.19	675.25	67.94	10.939		
12,500.00	10,243.91	13,273.80	10,806.78	52.59	56.97	139.34	2,564.01	1,233.22	742.14	671.88	70.26	10.563		
12,600.00	10,243.04	13,373.80	10,805.03	54.19	58.44	139.33	2,663.99	1,232.64	741.10	668.49	72.61	10.207		
12,700.00	10,242.16	13,473.79	10,803.29	55.80	59.93	139.32	2,763.97	1,232.06	740.05	665.08	74.97	9.871		
12,800.00	10,241.29	13,573.79	10,801.54	57.43	61.44	139.31	2,863.94	1,231.49	739.01	661.65	77.35	9.554		
12,900.00	10,240.42	13,673.78	10,799.80	59.07	62.97	139.30	2,963.92	1,230.91	737.96	658.21	79.75	9.253		
13,000.00	10,239.54	13,773.78	10,798.05	60.72	64.52	139.29	3,063.90	1,230.33	736.91	654.75	82.17	8.968		
13,100.00	10,238.67	13,873.77	10,796.30	62.38	66.08	139.28	3,163.88	1,229.75	735.87	651.27	84.60	8.699		
13,200.00	10,237.80	13,973.76	10,794.56	64.05	67.65	139.27	3,263.85	1,229.17	734.82	647.78	87.04	8.442		
13,300.00	10,236.93	14,073.76	10,792.81	65.73	69.24	139.27	3,363.83	1,228.59	733.77	644.28	89.49	8.199		
13,377.24	10,236.25	14,151.00	10,791.47	67.03	70.48	139.26	3,441.05	1,228.14	732.97	641.57	91.40	8.019		
13,400.00	10,236.14	14,173.75	10,791.07	67.37	70.84	139.25	3,463.81	1,228.01	732.66	640.53	92.13	7.952		
13,427.24	10,236.25	14,200.99	10,790.59	67.75	71.28	139.22	3,491.04	1,227.86	732.11	639.11	93.00	7.872		
13,500.00	10,236.89	14,273.72	10,789.32	68.86	72.46	139.15	3,563.76	1,227.43	730.39	635.57	94.82	7.703		
13,600.00	10,237.76	14,373.68	10,787.58	70.56	74.08	139.05	3,663.71	1,226.86	728.02	630.58	97.44	7.472		
13,700.00	10,238.63	14,473.65	10,785.84	72.27	75.71	138.95	3,763.65	1,226.28	725.66	625.59	100.07	7.251		
13,800.00	10,239.51	14,573.61	10,784.09	73.98	77.35	138.85	3,863.60	1,225.70	723.30	620.58	102.72	7.041		
13,900.00	10,240.38	14,673.58	10,782.35	75.69	79.00	138.74	3,963.55	1,225.12	720.94	615.55	105.39	6.841		
14,000.00	10,241.25	14,773.54	10,780.60	77.42	80.66	138.64	4,063.49	1,224.54	718.59	610.52	108.07	6.649		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Plan #2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	10,242.12	14,873.50	10,778.86	79.14	82.33	138.54	4,163.44	1,223.96	716.23	605.47	110.76	6.466		
14,200.00	10,243.00	14,973.47	10,777.11	80.87	84.00	138.44	4,263.39	1,223.38	713.88	600.41	113.47	6.291		
14,300.00	10,243.87	15,073.43	10,775.37	82.61	85.68	138.33	4,363.34	1,222.81	711.53	595.34	116.19	6.124		
14,400.00	10,244.74	15,173.40	10,773.62	84.35	87.37	138.23	4,463.28	1,222.23	709.19	590.26	118.93	5.963		
14,500.00	10,245.61	15,273.36	10,771.88	86.09	89.06	138.12	4,563.23	1,221.65	706.84	585.16	121.68	5.809		
14,600.00	10,246.49	15,373.32	10,770.13	87.84	90.76	138.01	4,663.18	1,221.07	704.50	580.06	124.44	5.661		
14,700.00	10,247.36	15,473.29	10,768.39	89.59	92.46	137.91	4,763.12	1,220.49	702.16	574.95	127.21	5.520		
14,800.00	10,248.23	15,573.25	10,766.64	91.34	94.17	137.80	4,863.07	1,219.91	699.82	569.82	130.00	5.383		
14,900.00	10,249.10	15,673.22	10,764.90	93.10	95.88	137.69	4,963.02	1,219.33	697.49	564.69	132.80	5.252		
15,000.00	10,249.98	15,773.18	10,763.16	94.86	97.60	137.58	5,062.96	1,218.75	695.16	559.54	135.61	5.126		
15,100.00	10,250.85	15,873.14	10,761.41	96.62	99.32	137.47	5,162.91	1,218.18	692.83	554.39	138.44	5.005		
15,200.00	10,251.72	15,973.11	10,759.67	98.38	101.05	137.36	5,262.86	1,217.60	690.50	549.23	141.27	4.888		
15,222.72	10,251.92	15,989.46	10,759.38	98.79	101.33	137.34	5,279.21	1,217.50	690.00	548.18	141.82	4.865		
15,223.43	10,251.93	15,989.46	10,759.38	98.85	101.33	137.34	5,279.21	1,217.50	689.99	548.16	141.83	4.865		



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 197-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-1.40	-150.00	150.01					
100.00	100.00	99.12	99.12	0.09	0.10	-90.50	-1.31	-150.29	150.30	150.11	0.19	775.368		
200.00	200.00	198.24	198.23	0.32	0.21	-90.40	-1.05	-151.17	151.18	150.66	0.52	289.717		
300.00	300.00	298.09	298.08	0.54	0.43	-90.25	-0.67	-152.43	152.44	151.47	0.97	157.211		
400.00	400.00	399.24	399.22	0.77	0.63	-90.13	-0.36	-153.31	153.32	151.92	1.40	109.850		
500.00	500.00	500.04	500.02	0.99	0.83	-90.16	-0.42	-153.50	153.50	151.68	1.82	84.408		
590.92	590.92	590.94	590.92	1.20	1.02	-90.30	-0.81	-153.46	153.46	151.25	2.21	69.395		
600.00	600.00	599.98	599.96	1.22	1.03	-90.32	-0.85	-153.46	153.47	151.21	2.25	68.181		
700.00	700.00	699.78	699.76	1.44	1.24	-90.44	-1.19	-153.58	153.59	150.90	2.68	57.214		
800.00	800.00	799.79	799.77	1.67	1.45	-90.56	-1.50	-153.74	153.74	150.62	3.12	49.301		
900.00	900.00	899.95	899.93	1.89	1.67	-90.70	-1.87	-153.85	153.86	150.30	3.56	43.269		
1,000.00	1,000.00	999.62	999.60	2.12	1.88	-90.92	-2.47	-153.94	153.96	149.97	3.99	38.556		
1,100.00	1,100.00	1,099.11	1,099.09	2.34	2.09	-91.22	-3.29	-154.35	154.39	149.96	4.43	34.869		
1,200.00	1,200.00	1,198.28	1,198.25	2.56	2.30	-91.57	-4.24	-155.17	155.24	150.38	4.86	31.926		
1,300.00	1,300.00	1,296.73	1,296.67	2.79	2.51	-91.92	-5.24	-156.75	156.87	151.57	5.30	29.614		
1,400.00	1,400.00	1,396.00	1,395.91	3.01	2.73	-92.29	-6.35	-159.05	159.23	153.50	5.74	27.758		
1,500.00	1,500.00	1,495.72	1,495.60	3.24	2.94	-92.70	-7.63	-161.65	161.89	155.71	6.18	26.203		
1,600.00	1,600.00	1,596.22	1,596.05	3.46	3.16	-92.99	-8.58	-164.32	164.59	157.97	6.61	24.883		
1,700.00	1,700.00	1,698.36	1,698.16	3.69	3.37	-93.55	-10.28	-165.85	166.18	159.13	7.05	23.570		
1,800.00	1,800.00	1,798.86	1,798.63	3.91	3.58	-94.30	-12.53	-166.68	167.15	159.67	7.48	22.333		
1,900.00	1,900.00	1,899.13	1,898.88	4.14	3.79	-95.03	-14.70	-167.19	167.84	159.92	7.92	21.204		
2,000.00	2,000.00	1,999.51	1,999.24	4.36	3.99	-95.52	-16.20	-167.69	168.47	160.13	8.34	20.189		
2,100.00	2,100.00	2,100.18	2,099.92	4.59	4.20	-95.80	-17.06	-167.82	168.69	159.91	8.78	19.222		
2,200.00	2,200.00	2,200.30	2,200.04	4.81	4.40	-95.91	-17.38	-167.76	168.66	159.45	9.21	18.318		
2,300.00	2,300.00	2,300.39	2,300.12	5.04	4.61	-95.91	-17.37	-167.74	168.64	158.99	9.64	17.491		
2,400.00	2,400.00	2,400.67	2,400.40	5.26	4.82	-95.90	-17.31	-167.60	168.49	158.42	10.07	16.724		
2,500.00	2,500.00	2,500.60	2,500.33	5.49	5.03	-95.94	-17.42	-167.34	168.25	157.74	10.51	16.011		
2,600.00	2,600.00	2,601.82	2,601.55	5.71	5.24	-95.95	-17.38	-166.86	167.77	156.82	10.94	15.330		
2,700.00	2,700.00	2,702.80	2,702.52	5.94	5.45	-95.92	-17.16	-165.62	166.52	155.15	11.38	14.636		
2,800.00	2,800.00	2,803.07	2,802.78	6.16	5.66	-95.80	-16.66	-164.04	164.91	153.10	11.81	13.961		
2,900.00	2,900.00	2,903.38	2,903.07	6.39	5.87	-95.66	-16.08	-162.30	163.12	150.88	12.25	13.320		
3,000.00	3,000.00	3,003.35	3,003.03	6.61	6.07	-95.52	-15.50	-160.47	161.25	148.56	12.68	12.716		
3,100.00	3,100.00	3,103.39	3,103.05	6.84	6.28	-95.42	-15.05	-158.61	159.35	146.23	13.11	12.151		
3,200.00	3,200.00	3,203.11	3,202.75	7.06	6.49	-95.36	-14.71	-156.74	157.45	143.91	13.55	11.623		
3,300.00	3,300.00	3,302.00	3,301.63	7.28	6.70	-95.48	-14.92	-155.40	156.12	142.14	13.98	11.169		
3,400.00	3,400.00	3,401.63	3,401.25	7.51	6.90	-95.77	-15.59	-154.39	155.18	140.77	14.41	10.770		
3,500.00	3,500.00	3,501.15	3,500.76	7.73	7.11	-96.20	-16.69	-153.64	154.55	139.71	14.84	10.413		
3,600.00	3,600.00	3,600.74	3,600.34	7.96	7.32	-96.71	-18.03	-153.13	154.19	138.91	15.28	10.093		
3,663.63	3,663.63	3,664.04	3,663.63	8.10	7.46	-97.16	-19.21	-152.91	154.11	138.56	15.55	9.909		
3,700.00	3,700.00	3,700.12	3,699.70	8.18	7.53	-97.45	-19.99	-152.85	154.15	138.44	15.71	9.812		
3,800.00	3,800.00	3,799.80	3,799.35	8.41	7.74	-98.31	-22.33	-152.92	154.54	138.39	16.14	9.572		
3,900.00	3,900.00	3,899.83	3,899.37	8.63	7.95	-99.05	-24.36	-152.99	154.92	138.34	16.58	9.344		
4,000.00	4,000.00	4,000.40	3,999.92	8.86	8.16	-99.59	-25.86	-153.08	155.25	138.23	17.01	9.125		
4,080.10	4,080.10	4,080.57	4,080.08	9.04	8.33	-100.10	-27.21	-152.78	155.18	137.82	17.36	8.938		
4,100.00	4,100.00	4,100.34	4,099.84	9.08	8.37	-100.23	-27.57	-152.73	155.19	137.75	17.45	8.895		
4,200.00	4,200.00	4,199.86	4,199.35	9.31	8.59	-100.91	-29.42	-152.67	155.48	137.60	17.88	8.695		
4,300.00	4,300.00	4,299.44	4,298.91	9.53	8.80	-101.49	-31.09	-152.90	156.03	137.72	18.32	8.519		
4,400.00	4,400.00	4,400.14	4,399.61	9.76	9.01	-101.85	-32.15	-153.25	156.59	137.83	18.75	8.350		
4,500.00	4,500.00	4,499.56	4,499.03	9.98	9.22	-101.85	-32.22	-153.60	156.95	137.76	19.19	8.180		
4,600.00	4,600.00	4,599.72	4,599.18	10.21	9.43	-101.74	-32.05	-154.25	157.55	137.93	19.62	8.029		
4,700.00	4,700.00	4,699.63	4,699.09	10.43	9.64	-101.58	-31.73	-154.87	158.09	138.03	20.06	7.882		
4,800.00	4,800.00	4,800.09	4,799.55	10.66	9.85	-101.43	-31.40	-155.37	158.51	138.02	20.49	7.736		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 197-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,900.00	4,900.16	4,899.62	10.88	10.05	-101.31	-31.15	-155.70	158.78	137.86	20.92	7.589		
5,000.00	5,000.00	5,000.54	5,000.00	11.11	10.26	-101.28	-31.08	-155.81	158.88	137.53	21.36	7.439		
5,100.00	5,100.00	5,100.60	5,100.05	11.33	10.47	-101.28	-31.09	-155.81	158.88	137.09	21.79	7.291		
5,200.00	5,200.00	5,200.77	5,200.23	11.56	10.68	-101.31	-31.13	-155.69	158.77	136.55	22.22	7.144		
5,300.00	5,300.00	5,300.77	5,300.22	11.78	10.89	-101.34	-31.20	-155.53	158.63	135.97	22.66	7.001		
5,400.00	5,400.00	5,400.91	5,400.37	12.00	11.10	-101.36	-31.20	-155.36	158.47	135.37	23.09	6.862		
5,500.00	5,500.00	5,501.91	5,501.37	12.23	11.31	-101.20	-30.72	-155.08	158.10	134.57	23.53	6.719		
5,600.00	5,600.00	5,605.98	5,605.41	12.45	11.53	-101.07	-29.93	-152.99	155.99	132.01	23.97	6.507		
5,700.00	5,699.98	5,710.43	5,709.73	12.67	11.74	-179.91	-29.06	-147.92	152.80	128.41	24.40	6.263		
5,800.00	5,799.84	5,815.10	5,814.07	12.87	11.97	-179.91	-27.47	-139.82	150.15	125.38	24.77	6.061		
5,900.00	5,899.45	5,918.58	5,916.94	13.08	12.19	179.93	-25.69	-128.75	148.02	122.90	25.12	5.892		
6,000.00	5,998.70	6,022.45	6,019.92	13.29	12.41	179.71	-23.63	-115.41	147.23	121.78	25.44	5.787		
6,031.74	6,030.11	6,055.09	6,052.20	13.36	12.49	179.59	-22.98	-110.60	147.11	121.57	25.54	5.760		
6,090.44	6,088.05	6,113.05	6,109.52	13.49	12.62	179.21	-22.28	-102.01	147.85	122.15	25.70	5.753		
6,100.00	6,097.47	6,122.49	6,118.85	13.52	12.64	179.13	-22.23	-100.62	148.10	122.36	25.74	5.754		
6,200.00	6,196.01	6,225.68	6,220.77	13.74	12.87	177.92	-22.30	-84.51	149.93	123.77	26.17	5.730		
6,300.00	6,294.54	6,332.14	6,325.28	13.98	13.13	176.49	-21.98	-64.22	148.35	121.75	26.61	5.576		
6,400.00	6,393.08	6,439.00	6,429.12	14.22	13.42	174.88	-20.62	-39.08	142.18	115.13	27.06	5.255		
6,500.00	6,491.62	6,542.92	6,528.82	14.47	13.72	172.73	-18.81	-9.90	131.48	103.96	27.51	4.779		
6,600.00	6,590.16	6,641.00	6,622.71	14.73	14.01	170.13	-17.24	18.44	120.27	92.30	27.96	4.301		
6,700.00	6,688.70	6,739.53	6,717.38	14.99	14.31	167.31	-15.57	45.71	110.47	82.04	28.43	3.886		
6,800.00	6,787.24	6,839.01	6,812.99	15.25	14.62	164.30	-13.22	73.07	100.85	71.93	28.92	3.487		
6,900.00	6,885.77	6,937.75	6,908.04	15.52	14.95	160.93	-10.79	99.68	92.03	62.59	29.44	3.126		
7,000.00	6,984.31	7,037.26	7,003.97	15.80	15.28	156.87	-8.61	126.04	84.13	54.14	30.00	2.805		
7,100.00	7,082.85	7,137.99	7,100.61	16.08	15.65	150.47	-7.45	154.45	76.03	45.36	30.67	2.479		
7,200.00	7,181.39	7,237.55	7,195.67	16.36	16.03	142.38	-5.31	183.96	67.33	35.87	31.46	2.140		
7,300.00	7,279.93	7,336.30	7,290.22	16.65	16.41	133.12	-2.96	212.35	60.62	28.28	32.34	1.874		
7,400.00	7,378.46	7,435.57	7,385.42	16.94	16.80	122.30	-0.82	240.42	56.27	22.95	33.32	1.689		
7,500.00	7,477.00	7,534.54	7,480.13	17.24	17.20	109.45	0.89	269.08	54.54	20.24	34.31	1.590		
7,502.11	7,479.09	7,536.64	7,482.14	17.24	17.21	109.19	0.93	269.67	54.54	20.22	34.33	1.589 CC, ES, SF		
7,600.00	7,575.54	7,633.77	7,575.38	17.53	17.60	97.47	2.39	296.85	55.86	20.74	35.12	1.590		
7,700.00	7,674.08	7,733.14	7,670.70	17.84	18.02	86.23	4.01	324.88	59.42	23.68	35.74	1.663		
7,800.00	7,772.62	7,832.81	7,766.21	18.14	18.44	76.19	5.93	353.28	64.84	28.67	36.17	1.793		
7,900.00	7,871.16	7,932.50	7,862.23	18.45	18.86	69.08	7.74	380.07	71.12	34.58	36.54	1.946		
8,000.00	7,969.69	8,031.77	7,957.64	18.76	19.29	62.58	10.18	407.33	78.18	41.33	36.86	2.121		
8,100.00	8,068.23	8,129.35	8,050.86	19.07	19.73	56.29	12.67	436.06	87.45	50.34	37.11	2.357		
8,200.00	8,166.77	8,229.41	8,146.45	19.39	20.19	51.37	14.63	465.55	98.00	60.61	37.39	2.621		
8,300.00	8,265.31	8,330.07	8,243.17	19.71	20.65	48.03	16.57	493.37	107.61	69.86	37.75	2.851		
8,400.00	8,363.85	8,428.77	8,337.90	20.03	21.09	45.15	18.59	521.01	117.75	79.64	38.11	3.090		
8,500.00	8,462.38	8,530.89	8,436.36	20.35	21.55	43.03	20.72	548.03	126.77	88.24	38.53	3.290		
8,600.00	8,560.92	8,631.36	8,533.53	20.67	21.98	41.39	23.06	573.43	134.78	95.81	38.97	3.459		
8,700.00	8,659.46	8,731.09	8,630.16	21.00	22.41	40.04	25.50	598.01	142.24	102.82	39.42	3.608		
8,800.00	8,758.00	8,828.84	8,724.74	21.33	22.84	38.97	27.24	622.63	150.57	110.69	39.88	3.775		
8,900.00	8,856.54	8,926.35	8,819.01	21.66	23.27	38.63	26.86	647.55	160.28	119.88	40.41	3.967		
9,000.00	8,955.08	9,022.72	8,911.98	21.99	23.71	38.68	24.97	672.84	171.35	130.39	40.97	4.183		
9,100.00	9,053.61	9,119.91	9,005.19	22.33	24.18	38.49	22.83	700.27	184.34	142.83	41.51	4.441		
9,200.00	9,152.15	9,216.75	9,097.84	22.66	24.66	38.10	21.15	728.41	197.90	155.86	42.04	4.708		
9,300.00	9,250.69	9,313.70	9,189.95	23.00	25.17	37.27	20.41	758.65	213.00	170.48	42.52	5.009		
9,400.00	9,349.23	9,410.38	9,281.28	23.34	25.70	35.89	21.80	790.29	228.68	185.73	42.95	5.324		
9,500.00	9,447.77	9,512.85	9,377.53	23.68	26.29	33.93	25.73	825.22	244.89	201.57	43.33	5.652		
9,600.00	9,546.30	9,619.08	9,478.10	24.02	26.86	32.00	31.67	858.91	258.39	214.68	43.71	5.912		
9,700.00	9,644.84	9,722.94	9,577.11	24.36	27.40	30.33	38.19	889.58	269.76	225.66	44.10	6.117		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 197-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,770.16	9,713.98	9,795.73	9,646.84	24.60	27.77	29.34	42.68	910.02	276.87	232.48	44.39	6.237		
9,800.00	9,743.34	9,826.77	9,676.64	24.70	27.92	44.42	44.53	918.45	279.91	235.37	44.53	6.285		
9,850.00	9,792.21	9,826.00	9,675.91	24.87	27.92	62.06	44.49	918.24	290.33	245.76	44.57	6.515		
9,900.00	9,840.35	9,826.00	9,675.91	25.05	27.92	71.23	44.49	918.24	309.71	265.24	44.47	6.964		
9,950.00	9,887.37	9,826.00	9,675.91	25.23	27.92	75.07	44.49	918.24	336.38	292.09	44.29	7.594		
10,000.00	9,932.94	9,826.00	9,675.91	25.41	27.92	75.45	44.49	918.24	368.59	324.50	44.09	8.360		
10,050.00	9,976.69	9,826.00	9,675.91	25.60	27.92	73.36	44.49	918.24	404.79	360.89	43.90	9.222		
10,100.00	10,018.30	9,826.00	9,675.91	25.79	27.92	69.41	44.49	918.24	443.77	400.09	43.69	10.158		
10,150.00	10,057.45	9,826.00	9,675.91	25.99	27.92	64.09	44.49	918.24	484.61	441.25	43.36	11.177		
10,200.00	10,093.84	9,826.00	9,675.91	26.20	27.92	57.92	44.49	918.24	526.60	483.86	42.73	12.323		
10,250.00	10,127.20	9,826.00	9,675.91	26.41	27.92	51.41	44.49	918.24	569.19	527.54	41.65	13.667		
10,300.00	10,157.27	9,826.00	9,675.91	26.64	27.92	45.02	44.49	918.24	611.98	571.96	40.02	15.290		
10,350.00	10,183.83	9,826.00	9,675.91	26.88	27.92	39.08	44.49	918.24	654.63	616.71	37.92	17.265		
10,400.00	10,206.66	9,826.00	9,675.91	27.13	27.92	33.77	44.49	918.24	696.87	661.41	35.46	19.651		
10,450.00	10,225.60	9,826.00	9,675.91	27.41	27.92	29.14	44.49	918.24	738.48	705.63	32.85	22.477		
10,500.00	10,240.51	9,826.00	9,675.91	27.70	27.92	25.15	44.49	918.24	779.27	748.97	30.30	25.717		
10,550.00	10,251.26	9,826.00	9,675.91	28.01	27.92	21.73	44.49	918.24	819.07	791.06	28.01	29.239		
10,600.00	10,257.78	9,826.00	9,675.91	28.34	27.92	18.79	44.49	918.24	857.74	831.53	26.20	32.737		
10,650.00	10,260.02	9,826.00	9,675.91	28.70	27.92	16.26	44.49	918.24	895.14	870.08	25.06	35.718		
10,656.11	10,260.00	9,826.00	9,675.91	28.74	27.92	15.97	44.49	918.24	899.62	874.64	24.98	36.019		
10,700.00	10,259.62	9,826.00	9,675.91	29.07	27.92	15.97	44.49	918.24	932.20	907.04	25.16	37.046		
10,800.00	10,258.74	9,826.00	9,675.91	29.89	27.92	15.97	44.49	918.24	1,009.64	984.02	25.62	39.409		
10,900.00	10,257.87	9,826.00	9,675.91	30.81	27.92	15.97	44.49	918.24	1,090.75	1,064.64	26.11	41.770		
11,000.00	10,257.00	9,826.00	9,675.91	31.80	27.92	15.97	44.49	918.24	1,174.78	1,148.14	26.64	44.098		
11,100.00	10,256.12	9,826.00	9,675.91	32.88	27.92	15.97	44.49	918.24	1,261.14	1,233.94	27.20	46.369		
11,200.00	10,255.25	9,826.00	9,675.91	34.02	27.92	15.97	44.49	918.24	1,349.38	1,321.60	27.78	48.569		
11,300.00	10,254.38	9,826.00	9,675.91	35.22	27.92	15.97	44.49	918.24	1,439.17	1,410.77	28.39	50.690		
11,400.00	10,253.51	9,826.00	9,675.91	36.47	27.92	15.97	44.49	918.24	1,530.22	1,501.19	29.02	52.725		
11,500.00	10,252.63	9,826.00	9,675.91	37.77	27.92	15.97	44.49	918.24	1,622.32	1,592.65	29.67	54.673		
11,600.00	10,251.76	9,826.00	9,675.91	39.12	27.92	15.97	44.49	918.24	1,715.31	1,684.97	30.34	56.534		
11,700.00	10,250.89	9,826.00	9,675.91	40.51	27.92	15.97	44.49	918.24	1,809.05	1,778.02	31.02	58.310		
11,800.00	10,250.02	9,826.00	9,675.91	41.93	27.92	15.97	44.49	918.24	1,903.42	1,871.70	31.72	60.002		
11,900.00	10,249.14	9,826.00	9,675.91	43.38	27.92	15.97	44.49	918.24	1,998.35	1,965.91	32.43	61.614		
12,000.00	10,248.27	9,826.00	9,675.91	44.86	27.92	15.97	44.49	918.24	2,093.74	2,060.59	33.16	63.150		
12,100.00	10,247.40	9,826.00	9,675.91	46.36	27.92	15.97	44.49	918.24	2,189.55	2,155.66	33.89	64.612		
12,200.00	10,246.53	9,826.00	9,675.91	47.89	27.92	15.97	44.49	918.24	2,285.71	2,251.09	34.63	66.006		
12,300.00	10,245.65	9,826.00	9,675.91	49.44	27.92	15.97	44.49	918.24	2,382.20	2,346.82	35.38	67.333		
12,400.00	10,244.78	9,826.00	9,675.91	51.00	27.92	15.97	44.49	918.24	2,478.96	2,442.82	36.14	68.599		
12,500.00	10,243.91	9,826.00	9,675.91	52.59	27.92	15.97	44.49	918.24	2,575.96	2,539.06	36.90	69.806		
12,600.00	10,243.04	9,826.00	9,675.91	54.19	27.92	15.97	44.49	918.24	2,673.19	2,635.52	37.67	70.958		
12,700.00	10,242.16	9,826.00	9,675.91	55.80	27.92	15.97	44.49	918.24	2,770.62	2,732.17	38.45	72.058		
12,800.00	10,241.29	9,826.00	9,675.91	57.43	27.92	15.97	44.49	918.24	2,868.22	2,828.99	39.23	73.108		
12,900.00	10,240.42	9,826.00	9,675.91	59.07	27.92	15.97	44.49	918.24	2,965.98	2,925.96	40.02	74.113		
13,000.00	10,239.54	9,826.00	9,675.91	60.72	27.92	15.97	44.49	918.24	3,063.89	3,023.08	40.81	75.074		
13,100.00	10,238.67	9,826.00	9,675.91	62.38	27.92	15.97	44.49	918.24	3,161.93	3,120.32	41.61	75.994		
13,200.00	10,237.80	9,826.00	9,675.91	64.05	27.92	15.97	44.49	918.24	3,260.08	3,217.68	42.41	76.876		
13,300.00	10,236.93	9,826.00	9,675.91	65.73	27.92	15.97	44.49	918.24	3,358.35	3,315.14	43.21	77.721		
13,377.24	10,236.25	9,826.00	9,675.91	67.03	27.92	15.97	44.49	918.24	3,434.32	3,390.49	43.83	78.350		
13,400.00	10,236.14	9,826.00	9,675.91	67.37	27.92	16.70	44.49	918.24	3,456.73	3,412.18	44.55	77.585		
13,427.24	10,236.25	9,826.00	9,675.91	67.75	27.92	17.66	44.49	918.24	3,483.60	3,438.09	45.51	76.550		
13,500.00	10,236.89	9,826.00	9,675.91	68.86	27.92	17.66	44.49	918.24	3,555.44	3,509.35	46.09	77.136		
13,600.00	10,237.76	9,826.00	9,675.91	70.56	27.92	17.66	44.49	918.24	3,654.24	3,607.31	46.93	77.865		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A #9H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 197-MWD													Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,700.00	10,238.63	9,826.00	9,675.91	72.27	27.92	17.66	44.49	918.24	3,753.11	3,705.34	47.77	78.566		
13,800.00	10,239.51	9,826.00	9,675.91	73.98	27.92	17.66	44.49	918.24	3,852.03	3,803.42	48.61	79.240		
13,900.00	10,240.38	9,826.00	9,675.91	75.69	27.92	17.66	44.49	918.24	3,951.01	3,901.55	49.46	79.888		
14,000.00	10,241.25	9,826.00	9,675.91	77.42	27.92	17.66	44.49	918.24	4,050.03	3,999.73	50.30	80.512		
14,100.00	10,242.12	9,826.00	9,675.91	79.14	27.92	17.66	44.49	918.24	4,149.11	4,097.96	51.15	81.112		
14,200.00	10,243.00	9,826.00	9,675.91	80.87	27.92	17.66	44.49	918.24	4,248.23	4,196.22	52.00	81.691		
14,300.00	10,243.87	9,826.00	9,675.91	82.61	27.92	17.66	44.49	918.24	4,347.38	4,294.53	52.86	82.250		
14,400.00	10,244.74	9,826.00	9,675.91	84.35	27.92	17.66	44.49	918.24	4,446.58	4,392.87	53.71	82.788		
14,500.00	10,245.61	9,826.00	9,675.91	86.09	27.92	17.66	44.49	918.24	4,545.81	4,491.24	54.57	83.308		
14,600.00	10,246.49	9,826.00	9,675.91	87.84	27.92	17.66	44.49	918.24	4,645.07	4,589.65	55.42	83.811		
14,700.00	10,247.36	9,826.00	9,675.91	89.59	27.92	17.66	44.49	918.24	4,744.37	4,688.09	56.28	84.296		
14,800.00	10,248.23	9,826.00	9,675.91	91.34	27.92	17.66	44.49	918.24	4,843.69	4,786.55	57.14	84.765		
14,900.00	10,249.10	9,826.00	9,675.91	93.10	27.92	17.66	44.49	918.24	4,943.04	4,885.04	58.00	85.220		
15,000.00	10,249.98	9,826.00	9,675.91	94.86	27.92	17.66	44.49	918.24	5,042.42	4,983.55	58.87	85.659		
15,100.00	10,250.85	9,826.00	9,675.91	96.62	27.92	17.66	44.49	918.24	5,141.82	5,082.09	59.73	86.085		
15,200.00	10,251.72	9,826.00	9,675.91	98.38	27.92	17.66	44.49	918.24	5,241.24	5,180.65	60.59	86.497		
15,222.72	10,251.92	9,826.00	9,675.91	98.79	27.92	17.66	44.49	918.24	5,263.83	5,203.04	60.79	86.589		
15,223.43	10,251.93	9,826.00	9,675.91	98.85	27.92	17.66	44.49	918.24	5,264.54	5,203.75	60.79	86.595		



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 1H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 7362-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	5.91	5.91	0.00	0.01	-48.82	118.90	-135.90	180.57					
100.00	100.00	104.42	104.42	0.09	0.11	-48.80	119.25	-136.24	181.06	180.85	0.21	878.926		
200.00	200.00	209.82	209.81	0.32	0.30	-48.64	119.42	-135.64	180.76	180.15	0.61	295.442		
300.00	300.00	311.28	311.22	0.54	0.46	-48.29	118.43	-132.89	178.09	177.08	1.01	177.140		
400.00	400.00	409.72	409.63	0.77	0.68	-48.12	117.35	-130.86	175.80	174.35	1.45	121.148		
500.00	500.00	508.72	508.63	0.99	0.92	-48.18	116.02	-129.65	174.00	172.10	1.91	91.256		
600.00	600.00	607.83	607.71	1.22	1.14	-48.49	114.32	-129.18	172.51	170.16	2.35	73.327		
700.00	700.00	707.90	707.76	1.44	1.34	-49.04	112.47	-129.55	171.57	168.79	2.78	61.634		
800.00	800.00	807.59	807.43	1.67	1.55	-49.80	110.29	-130.49	170.86	167.65	3.22	53.120		
900.00	900.00	907.58	907.38	1.89	1.76	-50.66	108.02	-131.78	170.40	166.74	3.65	46.624		
1,000.00	1,000.00	1,006.59	1,006.36	2.12	1.99	-51.53	105.80	-133.16	170.07	165.97	4.10	41.466		
1,100.00	1,100.00	1,106.39	1,106.12	2.34	2.22	-52.44	103.58	-134.71	169.93	165.38	4.55	37.311		
1,107.94	1,107.94	1,114.21	1,113.94	2.36	2.23	-52.51	103.42	-134.83	169.93	165.34	4.59	37.019		
1,200.00	1,200.00	1,206.39	1,206.08	2.56	2.45	-53.36	101.48	-136.43	170.03	165.02	5.01	33.933		
1,211.95	1,211.95	1,218.25	1,217.94	2.59	2.48	-53.47	101.22	-136.62	170.03	164.96	5.07	33.563		
1,300.00	1,300.00	1,306.20	1,305.86	2.79	2.69	-54.29	99.27	-138.10	170.08	164.60	5.47	31.066		
1,400.00	1,400.00	1,406.21	1,405.82	3.01	2.93	-55.25	97.01	-139.86	170.21	164.27	5.94	28.639		
1,500.00	1,500.00	1,506.40	1,505.97	3.24	3.18	-56.21	94.74	-141.58	170.36	163.94	6.42	26.552		
1,600.00	1,600.00	1,605.74	1,605.27	3.46	3.43	-57.20	92.36	-143.32	170.50	163.61	6.89	24.745		
1,700.00	1,700.00	1,705.81	1,705.29	3.69	3.69	-58.21	89.91	-145.09	170.69	163.33	7.37	23.166		
1,800.00	1,800.00	1,806.37	1,805.82	3.91	3.94	-59.07	87.79	-146.52	170.81	162.96	7.85	21.758		
1,878.84	1,878.84	1,885.41	1,884.84	4.09	4.15	-59.68	86.22	-147.44	170.79	162.56	8.23	20.747		
1,900.00	1,900.00	1,906.42	1,905.84	4.14	4.20	-59.84	85.82	-147.69	170.81	162.48	8.33	20.496		
2,000.00	2,000.00	2,008.14	2,007.54	4.36	4.47	-60.44	84.01	-148.15	170.32	161.50	8.82	19.308		
2,100.00	2,100.00	2,109.20	2,108.60	4.59	4.68	-60.65	82.86	-147.35	169.07	159.81	9.26	18.265		
2,200.00	2,200.00	2,210.51	2,209.89	4.81	4.82	-60.46	82.39	-145.37	167.14	157.52	9.62	17.374		
2,300.00	2,300.00	2,310.31	2,309.65	5.04	4.93	-60.00	82.45	-142.78	164.92	154.96	9.96	16.558		
2,400.00	2,400.00	2,409.68	2,408.98	5.26	5.03	-59.25	83.23	-139.88	162.80	152.51	10.28	15.830		
2,500.00	2,500.00	2,506.93	2,506.15	5.49	5.10	-58.06	85.40	-136.98	161.42	150.84	10.58	15.255		
2,527.54	2,527.54	2,534.33	2,533.54	5.55	5.11	-57.67	86.30	-136.37	161.39	150.73	10.66	15.142		
2,600.00	2,600.00	2,606.64	2,605.77	5.71	5.16	-56.57	88.96	-134.74	161.46	150.59	10.86	14.861		
2,700.00	2,700.00	2,706.80	2,705.85	5.94	5.23	-55.07	92.50	-132.44	161.54	150.38	11.16	14.473		
2,794.07	2,794.07	2,801.10	2,800.07	6.15	5.31	-53.76	95.47	-130.24	161.48	150.03	11.46	14.097		
2,800.00	2,800.00	2,806.94	2,805.91	6.16	5.31	-53.69	95.63	-130.13	161.49	150.01	11.47	14.074		
2,900.00	2,900.00	2,906.96	2,905.88	6.39	5.41	-52.50	98.41	-128.26	161.66	149.87	11.80	13.704		
3,000.00	3,000.00	3,006.22	3,005.09	6.61	5.52	-51.47	100.88	-126.68	161.94	149.81	12.13	13.353		
3,100.00	3,100.00	3,106.36	3,105.19	6.84	5.63	-50.45	103.40	-125.20	162.38	149.91	12.47	13.024		
3,200.00	3,200.00	3,206.84	3,205.62	7.06	5.76	-49.46	105.79	-123.67	162.75	149.93	12.82	12.695		
3,300.00	3,300.00	3,309.56	3,308.32	7.28	5.92	-48.70	107.13	-121.95	162.34	149.14	13.21	12.293		
3,400.00	3,400.00	3,410.73	3,409.47	7.51	6.14	-48.51	106.41	-120.30	160.65	147.00	13.65	11.771		
3,500.00	3,500.00	3,510.73	3,509.45	7.73	6.37	-48.58	104.79	-118.79	158.44	144.34	14.10	11.237		
3,600.00	3,600.00	3,611.13	3,609.82	7.96	6.60	-48.82	102.69	-117.39	156.01	141.45	14.56	10.717		
3,700.00	3,700.00	3,711.38	3,710.03	8.18	6.83	-49.19	100.32	-116.19	153.56	138.54	15.02	10.226		
3,800.00	3,800.00	3,811.13	3,809.75	8.41	7.07	-49.44	98.21	-114.74	151.08	135.60	15.48	9.761		
3,900.00	3,900.00	3,910.24	3,908.83	8.63	7.30	-49.36	96.88	-112.87	148.78	132.84	15.93	9.338		
3,966.14	3,966.14	3,973.11	3,971.69	8.78	7.42	-49.01	97.10	-111.74	148.04	131.83	16.20	9.137 CC, ES		
4,000.00	4,000.00	4,006.46	4,005.03	8.86	7.46	-48.68	97.86	-111.31	148.21	131.89	16.32	9.080		
4,100.00	4,100.00	4,106.21	4,104.74	9.08	7.60	-47.63	100.33	-109.98	148.88	132.20	16.68	8.925		
4,200.00	4,200.00	4,205.00	4,203.50	9.31	7.71	-46.82	102.91	-109.66	150.41	133.39	17.02	8.837		
4,300.00	4,300.00	4,303.89	4,302.35	9.53	7.82	-46.26	105.38	-110.10	152.45	135.09	17.35	8.784		
4,400.00	4,400.00	4,404.22	4,402.65	9.76	7.93	-45.94	107.53	-111.12	154.66	136.98	17.69	8.744		
4,500.00	4,500.00	4,503.76	4,502.17	9.98	8.05	-45.70	109.62	-112.34	157.01	138.98	18.03	8.710		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 1H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 7362-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,600.00	4,600.00	4,603.76	4,602.13	10.21	8.17	-45.51	111.59	-113.61	159.29	140.92	18.37	8.670		
4,700.00	4,700.00	4,703.92	4,702.26	10.43	8.29	-45.31	113.68	-114.91	161.68	142.96	18.72	8.635		
4,800.00	4,800.00	4,803.53	4,801.84	10.66	8.43	-45.08	115.97	-116.30	164.29	145.21	19.08	8.610		
4,900.00	4,900.00	4,903.39	4,901.66	10.88	8.57	-44.84	118.29	-117.64	166.89	147.44	19.45	8.581		
5,000.00	5,000.00	5,004.02	5,002.26	11.11	8.72	-44.52	120.68	-118.69	169.31	149.49	19.82	8.541		
5,100.00	5,100.00	5,103.96	5,102.16	11.33	8.87	-44.18	123.13	-119.63	171.72	151.52	20.20	8.500		
5,200.00	5,200.00	5,203.92	5,202.09	11.56	9.04	-43.74	125.66	-120.25	173.97	153.38	20.59	8.450		
5,300.00	5,300.00	5,305.93	5,304.07	11.78	9.21	-43.29	127.85	-120.45	175.66	154.67	20.99	8.369		
5,400.00	5,400.00	5,410.07	5,408.14	12.00	9.41	-42.08	129.68	-117.08	174.72	153.31	21.42	8.158		
5,500.00	5,500.00	5,508.85	5,506.80	12.23	9.61	-40.54	132.03	-112.94	173.75	151.91	21.84	7.956		
5,600.00	5,600.00	5,610.44	5,608.14	12.45	9.82	-38.23	135.61	-106.81	172.64	150.37	22.27	7.753		
5,662.90	5,662.90	5,673.04	5,670.53	12.59	9.95	-115.54	138.18	-102.36	172.27	149.73	22.53	7.645		
5,700.00	5,699.98	5,710.04	5,707.40	12.67	10.02	-114.81	139.75	-99.66	172.38	149.69	22.69	7.597		
5,800.00	5,799.84	5,809.72	5,806.68	12.87	10.23	-113.44	144.33	-92.10	173.88	150.78	23.10	7.529 SF		
5,900.00	5,899.45	5,908.08	5,904.62	13.08	10.44	-112.96	149.41	-84.46	177.18	153.67	23.50	7.539		
6,000.00	5,998.70	6,005.21	6,001.25	13.29	10.65	-113.23	155.83	-77.11	183.16	159.25	23.90	7.662		
6,090.44	6,088.05	6,094.84	6,090.39	13.49	10.84	-114.16	162.56	-70.51	190.55	166.28	24.27	7.851		
6,100.00	6,097.47	6,104.34	6,099.83	13.52	10.86	-114.30	163.29	-69.82	191.42	167.10	24.31	7.874		
6,200.00	6,196.01	6,205.47	6,200.39	13.74	11.08	-115.76	170.86	-62.13	200.20	175.45	24.75	8.090		
6,300.00	6,294.54	6,305.50	6,299.82	13.98	11.31	-117.01	177.96	-53.90	208.40	183.21	25.19	8.273		
6,400.00	6,393.08	6,405.08	6,398.79	14.22	11.53	-118.11	185.10	-45.52	216.63	190.99	25.64	8.449		
6,500.00	6,491.62	6,504.54	6,497.69	14.47	11.76	-119.26	191.90	-37.55	224.94	198.84	26.09	8.620		
6,600.00	6,590.16	6,604.61	6,597.37	14.73	11.99	-120.75	197.57	-30.71	233.25	206.70	26.55	8.785		
6,700.00	6,688.70	6,706.18	6,698.58	14.99	12.22	-122.30	202.55	-23.85	241.23	214.21	27.02	8.929		
6,800.00	6,787.24	6,806.57	6,798.64	15.25	12.45	-123.77	206.90	-16.80	248.76	221.27	27.48	9.051		
6,900.00	6,885.77	6,905.05	6,896.72	15.52	12.68	-124.98	211.64	-9.38	256.41	228.46	27.95	9.173		
7,000.00	6,984.31	7,004.34	6,995.54	15.80	12.92	-125.96	217.14	-1.52	264.37	235.95	28.43	9.300		
7,100.00	7,082.85	7,102.93	7,093.66	16.08	13.15	-126.84	222.82	6.23	272.59	243.69	28.90	9.431		
7,200.00	7,181.39	7,202.17	7,192.44	16.36	13.39	-127.69	228.73	13.75	281.23	251.84	29.39	9.570		
7,300.00	7,279.93	7,301.85	7,291.66	16.65	13.63	-128.51	234.64	21.22	289.95	260.08	29.87	9.707		
7,400.00	7,378.46	7,402.57	7,391.89	16.94	13.73	-129.23	240.69	29.12	298.52	268.29	30.23	9.876		
7,500.00	7,477.00	7,503.01	7,491.73	17.24	13.74	-129.72	247.20	37.95	306.68	276.19	30.49	10.059		
7,600.00	7,575.54	7,602.36	7,590.49	17.53	13.75	-130.21	253.55	46.62	314.86	284.11	30.75	10.238		
7,700.00	7,674.08	7,701.13	7,688.72	17.84	13.77	-130.71	259.73	54.97	323.20	292.18	31.03	10.417		
7,800.00	7,772.62	7,799.67	7,786.77	18.14	13.79	-131.28	265.74	62.73	331.92	300.62	31.31	10.603		
7,900.00	7,871.16	7,898.05	7,884.60	18.45	13.82	-131.69	272.44	70.67	340.95	309.36	31.59	10.792		
8,000.00	7,969.69	7,996.53	7,982.46	18.76	13.85	-131.97	279.94	78.74	350.36	318.47	31.89	10.987		
8,100.00	8,068.23	8,094.32	8,079.68	19.07	13.89	-132.29	287.31	86.30	360.12	327.93	32.19	11.186		
8,200.00	8,166.77	8,191.89	8,176.76	19.39	13.93	-132.71	294.35	92.95	370.43	337.94	32.50	11.399		
8,300.00	8,265.31	8,292.02	8,276.44	19.71	13.98	-133.18	301.40	99.35	381.01	348.21	32.81	11.614		
8,400.00	8,363.85	8,396.98	8,380.88	20.03	14.04	-133.59	308.57	106.92	390.82	357.70	33.12	11.800		
8,500.00	8,462.38	8,499.01	8,482.42	20.35	14.09	-134.04	314.48	115.03	399.47	366.03	33.44	11.946		
8,600.00	8,560.92	8,596.14	8,579.10	20.67	14.15	-134.49	319.88	122.57	408.15	374.39	33.76	12.090		
8,700.00	8,659.46	8,689.23	8,671.88	21.00	14.21	-135.05	324.75	128.37	417.95	383.88	34.07	12.266		
8,800.00	8,758.00	8,787.06	8,769.48	21.33	14.27	-135.76	329.51	133.05	428.81	394.43	34.39	12.470		
8,900.00	8,856.54	8,904.05	8,886.09	21.66	14.36	-136.48	334.43	141.01	437.66	402.94	34.71	12.608		
9,000.00	8,955.08	9,009.67	9,075.85	21.99	14.59	-135.62	341.84	183.79	433.02	397.79	35.24	12.289		
9,100.00	9,053.61	9,202.37	9,165.73	22.33	14.87	-131.55	360.21	229.61	416.91	380.96	35.95	11.596		
9,200.00	9,152.15	9,288.82	9,234.40	22.66	15.24	-125.95	387.36	274.35	405.13	368.27	36.86	10.990		
9,299.22	9,249.92	9,366.70	9,288.16	23.00	15.70	-119.20	419.82	320.31	400.45	362.50	37.95	10.552		
9,300.00	9,250.69	9,367.17	9,288.47	23.00	15.70	-119.16	420.03	320.61	400.45	362.49	37.96	10.550		
9,400.00	9,349.23	9,421.94	9,322.15	23.34	16.11	-113.81	446.46	354.74	408.00	369.08	38.92	10.483		

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Integrity Directional Services, LLC

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Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 1H - Wellbore #1 - Actual Wellbore													Offset Site Error: 0.00 ft	
Survey Program: 100-NS-GYRO-MS, 7362-MWD													Offset Well Error: 0.00 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,500.00	9,447.77	9,458.00	9,342.01	23.68	16.42	-110.09	466.03	377.59	431.17	391.48	39.69	10.864		
9,600.00	9,546.30	9,505.00	9,364.28	24.02	16.87	-105.12	494.39	407.69	469.70	429.10	40.60	11.570		
9,700.00	9,644.84	9,525.04	9,372.42	24.36	17.08	-103.00	507.40	420.56	521.31	480.14	41.17	12.662		
9,770.16	9,713.98	9,553.00	9,382.41	24.60	17.38	-100.10	526.35	438.53	564.22	522.50	41.71	13.526		
9,800.00	9,743.34	9,553.00	9,382.41	24.70	17.38	-83.66	526.35	438.53	582.94	541.12	41.82	13.938		
9,850.00	9,792.21	9,553.00	9,382.41	24.87	17.38	-63.67	526.35	438.53	613.85	572.04	41.81	14.682		
9,900.00	9,840.35	9,572.67	9,388.45	25.05	17.61	-49.69	540.13	451.20	643.36	601.66	41.71	15.426		
9,950.00	9,887.37	9,587.00	9,392.29	25.23	17.78	-40.78	550.33	460.50	671.61	630.34	41.27	16.273		
10,000.00	9,932.94	9,599.17	9,395.23	25.41	17.93	-34.64	559.08	468.42	698.35	657.79	40.56	17.219		
10,050.00	9,976.69	9,618.00	9,399.24	25.60	18.16	-29.68	572.76	480.73	723.47	683.85	39.61	18.263		
10,100.00	10,018.30	9,630.98	9,401.72	25.79	18.33	-26.16	582.28	489.20	746.75	708.35	38.40	19.448		
10,150.00	10,057.45	9,648.00	9,404.76	25.99	18.55	-23.14	594.90	500.21	768.08	731.11	36.97	20.777		
10,200.00	10,093.84	9,670.40	9,408.47	26.20	18.84	-20.41	611.77	514.46	787.28	751.95	35.34	22.279		
10,250.00	10,127.20	9,691.13	9,411.66	26.41	19.11	-18.22	627.71	527.33	804.26	770.74	33.52	23.993		
10,300.00	10,157.27	9,714.00	9,414.93	26.64	19.41	-16.30	645.73	541.02	818.95	787.39	31.56	25.949		
10,350.00	10,183.83	9,733.38	9,417.44	26.88	19.67	-14.80	661.31	552.27	831.26	801.75	29.50	28.174		
10,400.00	10,206.66	9,754.19	9,419.79	27.13	19.95	-13.47	678.31	564.03	841.15	813.75	27.41	30.691		
10,450.00	10,225.60	9,777.00	9,422.03	27.41	20.25	-12.26	697.46	576.23	848.62	823.27	25.34	33.485		
10,500.00	10,240.51	9,823.34	9,426.76	27.70	20.84	-10.47	737.24	599.51	852.82	829.45	23.37	36.499		
10,550.00	10,251.26	9,856.93	9,430.35	28.01	21.27	-9.28	766.66	615.33	853.50	831.82	21.67	39.378		
10,600.00	10,257.78	9,885.61	9,433.19	28.34	21.64	-8.37	792.30	627.85	851.11	830.71	20.40	41.730		
10,650.00	10,260.02	9,911.79	9,435.37	28.70	21.98	-7.62	816.12	638.50	845.84	826.17	19.67	43.010		
10,656.11	10,260.00	9,914.86	9,435.59	28.74	22.02	-7.54	818.93	639.71	845.00	825.38	19.62	43.068		
10,700.00	10,259.62	9,936.00	9,436.92	29.07	22.29	-7.00	838.42	647.78	839.44	819.66	19.78	42.441		
10,800.00	10,258.74	10,002.75	9,439.39	29.89	23.15	-5.46	901.08	670.63	830.60	810.33	20.27	40.986		
10,900.00	10,257.87	10,101.15	9,441.10	30.81	24.41	-3.31	994.35	701.89	825.26	804.24	21.01	39.270		
11,000.00	10,257.00	10,195.03	9,444.53	31.80	25.59	-1.36	1,083.83	730.11	819.34	797.41	21.94	37.351		
11,100.00	10,256.12	10,271.80	9,446.14	32.88	26.64	0.25	1,157.06	753.09	816.01	793.11	22.90	35.629		
11,142.47	10,255.75	10,302.97	9,446.21	33.36	27.07	0.91	1,186.79	762.45	815.68	792.34	23.34	34.941		
11,200.00	10,255.25	10,342.29	9,445.73	34.02	27.63	1.74	1,224.28	774.30	816.35	792.41	23.95	34.090		
11,300.00	10,254.38	10,491.83	9,448.16	35.22	29.64	4.68	1,367.81	816.03	815.10	789.18	25.92	31.448		
11,400.00	10,253.51	10,603.00	9,453.10	36.47	31.17	6.50	1,475.91	841.46	811.99	784.34	27.66	29.359		
11,500.00	10,252.63	10,679.74	9,455.88	37.77	32.25	7.59	1,551.09	856.52	809.85	780.77	29.08	27.853		
11,600.00	10,251.76	10,788.56	9,458.96	39.12	33.76	8.90	1,658.34	874.67	808.56	777.68	30.88	26.182		
11,700.00	10,250.89	10,889.98	9,461.13	40.51	35.17	9.89	1,758.80	888.33	807.80	775.19	32.61	24.774		
11,800.00	10,250.02	10,982.50	9,463.63	41.93	36.44	10.61	1,850.78	898.07	806.18	771.96	34.22	23.561		
11,822.83	10,249.82	10,999.11	9,463.83	42.26	36.67	10.72	1,867.32	899.56	806.08	771.55	34.53	23.342		
11,900.00	10,249.14	11,055.95	9,463.49	43.38	37.48	11.05	1,923.96	904.20	807.07	771.47	35.60	22.672		
12,000.00	10,248.27	11,149.59	9,460.12	44.86	38.78	11.39	2,017.37	909.74	810.84	773.74	37.11	21.853		
12,100.00	10,247.40	11,269.06	9,457.50	46.36	40.40	11.51	2,136.78	911.74	812.37	773.68	38.68	21.000		
12,200.00	10,246.53	11,359.85	9,455.25	47.89	41.66	11.47	2,227.54	911.42	813.87	773.88	39.99	20.353		
12,300.00	10,245.65	11,453.78	9,451.95	49.44	42.99	11.39	2,321.41	910.81	816.33	775.03	41.30	19.764		
12,400.00	10,244.78	11,570.36	9,448.75	51.00	44.60	11.29	2,437.94	909.81	817.97	775.19	42.77	19.123		
12,500.00	10,243.91	11,660.59	9,446.39	52.59	45.86	11.22	2,528.13	909.18	819.53	775.44	44.09	18.589		
12,600.00	10,243.04	11,783.22	9,444.91	54.19	47.57	11.15	2,650.74	908.19	819.59	773.96	45.63	17.960		
12,700.00	10,242.16	11,879.65	9,444.53	55.80	48.95	11.10	2,747.17	907.39	818.96	771.94	47.02	17.418		
12,743.97	10,241.78	11,920.80	9,444.13	56.52	49.56	11.06	2,788.31	906.80	818.89	771.28	47.61	17.200		
12,800.00	10,241.29	11,971.86	9,443.34	57.43	50.33	10.98	2,839.36	905.77	819.04	770.71	48.34	16.945		
12,900.00	10,240.42	12,068.23	9,440.88	59.07	51.80	10.78	2,935.65	903.06	820.15	770.53	49.62	16.529		
13,000.00	10,239.54	12,177.60	9,438.98	60.72	53.40	10.60	3,044.98	900.64	820.58	769.57	51.02	16.085		
13,068.55	10,238.95	12,245.51	9,438.25	61.86	54.40	10.48	3,112.86	898.92	820.40	768.48	51.93	15.800		
13,100.00	10,238.67	12,271.89	9,437.79	62.38	54.80	10.42	3,139.23	898.13	820.50	768.19	52.31	15.687		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 1H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 7362-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
13,200.00	10,237.80	12,358.49	9,435.14	64.05	56.13	10.19	3,225.74	895.18	822.03	768.53	53.50	15.364		
13,300.00	10,236.93	12,462.68	9,431.09	65.73	57.70	9.97	3,329.82	892.55	824.57	769.74	54.83	15.038		
13,377.24	10,236.25	12,546.64	9,429.32	67.03	58.96	9.86	3,413.74	891.16	825.26	769.33	55.93	14.755		
13,400.00	10,236.14	12,567.07	9,428.85	67.37	59.28	9.83	3,434.16	890.73	825.60	769.43	56.16	14.700		
13,427.24	10,236.25	12,591.50	9,428.19	67.75	59.66	9.78	3,458.58	890.15	826.32	769.89	56.43	14.643		
13,500.00	10,236.89	12,658.38	9,425.93	68.86	60.74	9.61	3,525.38	888.05	828.98	771.66	57.32	14.463		
13,600.00	10,237.76	12,750.41	9,421.91	70.56	62.23	9.28	3,617.24	884.03	833.44	774.96	58.48	14.252		
13,700.00	10,238.63	12,857.10	9,416.59	72.27	63.93	8.84	3,723.66	878.56	838.45	778.79	59.66	14.054		
13,800.00	10,239.51	12,958.49	9,412.49	73.98	65.52	8.30	3,824.70	871.33	842.25	781.53	60.72	13.870		
13,900.00	10,240.38	13,076.47	9,408.07	75.69	67.33	7.70	3,942.31	863.13	845.98	784.11	61.87	13.674		
14,000.00	10,241.25	13,183.27	9,407.13	77.42	68.99	7.22	4,048.89	856.33	846.85	783.82	63.03	13.436		
14,100.00	10,242.12	13,275.65	9,405.64	79.14	70.49	6.78	4,141.03	850.02	848.48	784.36	64.12	13.234		
14,200.00	10,243.00	13,368.36	9,403.28	80.87	71.99	6.28	4,233.45	842.91	851.00	785.83	65.17	13.058		
14,300.00	10,243.87	13,470.99	9,400.37	82.61	73.60	5.81	4,335.82	836.36	854.03	787.70	66.33	12.876		
14,400.00	10,244.74	13,606.94	9,400.32	84.35	75.72	5.43	4,471.63	830.78	854.50	786.71	67.79	12.606		
14,476.73	10,245.41	13,670.78	9,401.22	85.69	76.74	5.34	4,535.45	829.37	853.92	785.18	68.74	12.422		
14,500.00	10,245.61	13,688.00	9,401.32	86.09	77.01	5.32	4,552.67	829.13	853.98	784.95	69.03	12.372		
14,600.00	10,246.49	13,783.00	9,401.32	87.84	78.54	5.32	4,647.67	829.21	854.86	784.43	70.43	12.137		
14,700.00	10,247.36	13,878.00	9,400.74	89.59	80.10	5.41	4,742.66	830.62	856.48	784.57	71.90	11.912		
14,800.00	10,248.23	13,974.00	9,399.73	91.34	81.68	5.53	4,838.63	832.63	858.58	785.18	73.40	11.697		
14,900.00	10,249.10	14,075.16	9,398.35	93.10	83.37	5.69	4,939.74	835.38	861.08	786.10	74.98	11.484		
15,000.00	10,249.98	14,291.17	9,407.22	94.86	86.88	6.47	5,155.08	846.31	860.49	782.61	77.88	11.049		
15,100.00	10,250.85	14,453.09	9,436.99	96.62	89.50	7.57	5,313.67	859.13	842.88	762.15	80.73	10.440		
15,200.00	10,251.72	14,466.00	9,439.63	98.38	89.72	7.67	5,326.26	860.23	828.88	747.22	81.66	10.150		
15,222.72	10,251.92	14,466.00	9,439.63	98.79	89.72	7.67	5,326.26	860.23	827.33	745.50	81.83	10.110		
15,223.43	10,251.93	14,466.00	9,439.63	98.85	89.72	7.67	5,326.26	860.23	827.29	745.46	81.83	10.110		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 5522-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.00	0.00	4.97	4.97	0.00	0.01	-63.41	118.10	-235.90	263.81					
100.00	100.00	104.53	104.53	0.09	0.11	-63.46	117.91	-236.12	263.93	263.72	0.21	1,277.684		
200.00	200.00	203.58	203.57	0.32	0.36	-63.53	117.79	-236.55	264.26	263.58	0.68	388.255		
300.00	300.00	303.59	303.58	0.54	0.62	-63.62	117.66	-237.24	264.82	263.65	1.17	227.036		
400.00	400.00	403.71	403.70	0.77	0.89	-63.70	117.58	-237.86	265.34	263.68	1.65	160.395		
500.00	500.00	503.66	503.65	0.99	1.12	-63.78	117.35	-238.29	265.62	263.51	2.11	125.786		
600.00	600.00	603.97	603.96	1.22	1.38	-63.83	117.30	-238.73	265.99	263.40	2.59	102.508		
700.00	700.00	703.90	703.89	1.44	1.63	-63.95	116.91	-239.22	266.26	263.19	3.07	86.652		
800.00	800.00	803.21	803.19	1.67	1.89	-64.08	116.60	-239.95	266.78	263.22	3.56	74.968		
900.00	900.00	903.47	903.46	1.89	2.14	-64.15	116.61	-240.67	267.44	263.40	4.03	66.287		
1,000.00	1,000.00	1,004.02	1,004.00	2.12	2.41	-64.22	116.51	-241.26	267.92	263.40	4.52	59.228		
1,100.00	1,100.00	1,104.31	1,104.29	2.34	2.67	-64.30	116.31	-241.67	268.21	263.20	5.01	53.523		
1,200.00	1,200.00	1,204.47	1,204.45	2.56	2.92	-64.38	116.03	-241.98	268.36	262.88	5.48	48.961		
1,300.00	1,300.00	1,304.39	1,304.37	2.79	3.17	-64.49	115.66	-242.40	268.58	262.62	5.96	45.052		
1,400.00	1,400.00	1,404.00	1,403.98	3.01	3.43	-64.63	115.21	-242.92	268.86	262.42	6.44	41.737		
1,500.00	1,500.00	1,502.30	1,502.27	3.24	3.68	-64.78	114.83	-243.79	269.49	262.57	6.92	38.930		
1,600.00	1,600.00	1,603.01	1,602.97	3.46	3.93	-64.86	114.91	-244.85	270.48	263.09	7.40	36.562		
1,700.00	1,700.00	1,704.24	1,704.20	3.69	4.17	-64.91	114.80	-245.15	270.70	262.85	7.85	34.470		
1,800.00	1,800.00	1,803.69	1,803.65	3.91	4.42	-64.98	114.63	-245.62	271.05	262.71	8.34	32.517		
1,900.00	1,900.00	1,903.57	1,903.53	4.14	4.68	-65.05	114.58	-246.31	271.66	262.84	8.81	30.819		
2,000.00	2,000.00	2,004.22	2,004.18	4.36	4.92	-65.06	114.68	-246.64	272.00	262.72	9.28	29.317		
2,100.00	2,100.00	2,104.28	2,104.24	4.59	5.17	-65.09	114.67	-246.93	272.25	262.49	9.76	27.892		
2,200.00	2,200.00	2,204.30	2,204.26	4.81	5.43	-65.17	114.45	-247.37	272.56	262.32	10.24	26.609		
2,300.00	2,300.00	2,304.24	2,304.20	5.04	5.69	-65.23	114.38	-247.84	272.96	262.24	10.73	25.447		
2,400.00	2,400.00	2,404.28	2,404.23	5.26	5.94	-65.28	114.20	-248.09	273.12	261.92	11.20	24.392		
2,500.00	2,500.00	2,505.99	2,505.95	5.49	6.15	-65.37	113.87	-248.40	273.26	261.63	11.63	23.490		
2,600.00	2,600.00	2,609.12	2,609.07	5.71	6.20	-65.30	113.95	-247.74	272.72	260.82	11.91	22.906		
2,700.00	2,700.00	2,711.39	2,711.30	5.94	6.19	-64.91	114.72	-244.98	270.58	258.46	12.12	22.320		
2,800.00	2,800.00	2,812.35	2,812.21	6.16	6.19	-64.42	115.71	-241.78	268.14	255.79	12.35	21.710		
2,900.00	2,900.00	2,912.18	2,911.97	6.39	6.20	-63.88	116.85	-238.31	265.51	252.92	12.59	21.088		
3,000.00	3,000.00	3,012.26	3,011.97	6.61	6.23	-63.31	118.06	-234.82	262.92	250.08	12.84	20.475		
3,100.00	3,100.00	3,112.44	3,112.09	6.84	6.27	-62.75	119.05	-231.16	260.11	247.01	13.10	19.850		
3,200.00	3,200.00	3,212.37	3,211.95	7.06	6.32	-62.22	119.98	-227.75	257.52	244.14	13.38	19.251		
3,300.00	3,300.00	3,312.42	3,311.95	7.28	6.39	-61.92	119.86	-224.65	254.72	241.05	13.67	18.634		
3,400.00	3,400.00	3,411.89	3,411.39	7.51	6.49	-61.93	118.64	-222.43	252.17	238.17	14.00	18.016		
3,500.00	3,500.00	3,510.98	3,510.45	7.73	6.62	-62.12	116.81	-220.77	249.82	235.47	14.36	17.401		
3,600.00	3,600.00	3,611.11	3,610.54	7.96	6.78	-62.41	114.58	-219.23	247.43	232.70	14.74	16.790		
3,700.00	3,700.00	3,711.34	3,710.73	8.18	6.95	-62.77	112.12	-217.90	245.12	229.99	15.13	16.199		
3,800.00	3,800.00	3,811.30	3,810.66	8.41	7.13	-63.19	109.49	-216.63	242.79	227.25	15.54	15.627		
3,900.00	3,900.00	3,910.88	3,910.19	8.63	7.31	-63.63	106.84	-215.47	240.56	224.61	15.95	15.084		
4,000.00	4,000.00	4,009.77	4,009.04	8.86	7.51	-64.10	104.30	-214.75	238.77	222.40	16.37	14.584		
4,100.00	4,100.00	4,108.62	4,107.87	9.08	7.72	-64.54	102.02	-214.26	237.33	220.53	16.80	14.123		
4,200.00	4,200.00	4,207.49	4,206.72	9.31	7.94	-64.92	100.18	-214.03	236.32	219.08	17.24	13.705		
4,300.00	4,300.00	4,306.81	4,306.03	9.53	8.16	-65.25	98.70	-214.09	235.75	218.05	17.69	13.323		
4,400.00	4,400.00	4,407.04	4,406.25	9.76	8.40	-65.55	97.41	-214.25	235.36	217.20	18.15	12.965		
4,500.00	4,500.00	4,507.59	4,506.80	9.98	8.62	-65.78	96.35	-214.22	234.89	216.29	18.61	12.625		
4,600.00	4,600.00	4,607.76	4,606.96	10.21	8.82	-65.91	95.58	-213.75	234.15	215.12	19.03	12.305		
4,700.00	4,700.00	4,707.34	4,706.53	10.43	9.01	-65.99	94.94	-213.18	233.37	213.93	19.44	12.004		
4,800.00	4,800.00	4,806.14	4,805.34	10.66	9.20	-66.04	94.61	-212.90	232.98	213.12	19.86	11.733		
4,900.00	4,900.00	4,905.84	4,905.03	10.88	9.36	-66.04	94.54	-212.75	232.81	212.56	20.25	11.499		
4,902.33	4,902.33	4,908.13	4,907.33	10.89	9.37	-66.04	94.54	-212.75	232.81	212.55	20.26	11.494 CC		
5,000.00	5,000.00	5,005.51	5,004.70	11.11	9.53	-66.05	94.55	-212.85	232.90	212.26	20.64	11.285		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 5522-MWD													Offset Well Error:	0.00 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,100.00	5,100.00	5,105.42	5,104.61	11.33	9.66	-66.02	94.74	-212.94	233.07	212.08	20.99	11.102		
5,200.00	5,200.00	5,204.70	5,203.89	11.56	9.77	-65.98	94.93	-213.06	233.25	211.92	21.33	10.936 ES		
5,300.00	5,300.00	5,304.42	5,303.61	11.78	9.89	-65.89	95.44	-213.30	233.68	212.01	21.67	10.786		
5,400.00	5,400.00	5,404.09	5,403.28	12.00	10.00	-65.75	96.26	-213.64	234.33	212.33	22.00	10.650		
5,500.00	5,500.00	5,503.69	5,502.87	12.23	10.11	-65.61	97.08	-214.16	235.15	212.82	22.34	10.528		
5,600.00	5,600.00	5,603.29	5,602.46	12.45	10.22	-65.50	97.90	-214.87	236.14	213.47	22.67	10.416		
5,700.00	5,699.98	5,702.85	5,702.02	12.67	10.34	-144.42	98.71	-215.77	238.72	215.75	22.97	10.394		
5,800.00	5,799.84	5,802.24	5,801.40	12.87	10.45	-145.00	99.51	-216.86	244.31	221.07	23.25	10.510		
5,900.00	5,899.45	5,901.33	5,900.48	13.08	10.56	-145.98	100.29	-218.12	252.99	229.48	23.51	10.762		
6,000.00	5,998.70	5,999.97	5,999.10	13.29	10.67	-147.29	101.07	-219.57	264.84	241.09	23.74	11.154		
6,090.44	6,088.05	6,088.67	6,087.79	13.49	10.77	-148.67	101.75	-221.03	278.38	254.44	23.94	11.628		
6,100.00	6,097.47	6,098.02	6,097.14	13.52	10.78	-148.84	101.82	-221.19	279.95	255.98	23.97	11.680		
6,200.00	6,196.01	6,195.76	6,194.86	13.74	10.90	-150.51	102.57	-222.99	296.68	272.42	24.27	12.225		
6,300.00	6,294.54	6,293.43	6,292.51	13.98	11.01	-152.01	103.30	-224.97	313.81	289.24	24.57	12.771		
6,400.00	6,393.08	6,391.03	6,390.08	14.22	11.12	-153.36	104.03	-227.13	331.30	306.42	24.88	13.317		
6,500.00	6,491.62	6,488.56	6,487.58	14.47	11.23	-154.59	104.74	-229.47	349.13	323.94	25.19	13.862		
6,600.00	6,590.16	6,586.01	6,585.00	14.73	11.34	-155.71	105.45	-231.98	367.27	341.78	25.50	14.405		
6,700.00	6,688.70	6,683.40	6,682.35	14.99	11.45	-156.73	106.14	-234.68	385.72	359.91	25.81	14.946		
6,800.00	6,787.24	6,780.71	6,779.61	15.25	11.56	-157.66	106.83	-237.55	404.45	378.33	26.12	15.483		
6,900.00	6,885.77	6,877.96	6,876.81	15.52	11.67	-158.52	107.50	-240.60	423.46	397.02	26.44	16.017		
7,000.00	6,984.31	6,975.12	6,973.92	15.80	11.78	-159.30	108.17	-243.82	442.73	415.97	26.75	16.548		
7,100.00	7,082.85	7,072.22	7,070.95	16.08	11.89	-160.03	108.82	-247.23	462.25	435.17	27.07	17.074		
7,200.00	7,181.39	7,169.24	7,167.90	16.36	12.00	-160.70	109.46	-250.81	482.01	454.62	27.39	17.597		
7,300.00	7,279.93	7,266.18	7,264.77	16.65	12.11	-161.32	110.10	-254.56	502.01	474.30	27.71	18.115		
7,400.00	7,378.46	7,363.05	7,361.56	16.94	12.22	-161.90	110.72	-258.49	522.24	494.21	28.03	18.629		
7,500.00	7,477.00	7,459.84	7,458.26	17.24	12.33	-162.44	111.34	-262.60	542.70	514.35	28.36	19.138		
7,600.00	7,575.54	7,556.56	7,554.88	17.53	12.44	-162.94	111.94	-266.88	563.38	534.70	28.68	19.643		
7,700.00	7,674.08	7,653.19	7,651.41	17.84	12.55	-163.41	112.54	-271.33	584.28	555.28	29.01	20.144		
7,800.00	7,772.62	7,749.75	7,747.86	18.14	12.66	-163.85	113.12	-275.96	605.39	576.06	29.33	20.640		
7,900.00	7,871.16	7,846.24	7,844.22	18.45	12.77	-164.26	113.70	-280.76	626.71	597.06	29.66	21.132		
8,000.00	7,969.69	7,942.64	7,940.49	18.76	12.88	-164.64	114.26	-285.73	648.24	618.26	29.98	21.619		
8,100.00	8,068.23	8,038.96	8,036.68	19.07	12.98	-165.00	114.81	-290.87	669.97	639.66	30.31	22.102		
8,200.00	8,166.77	8,135.20	8,132.77	19.39	13.09	-165.35	115.36	-296.19	691.91	661.27	30.64	22.581		
8,300.00	8,265.31	8,231.37	8,228.77	19.71	13.20	-165.67	115.89	-301.68	714.04	683.07	30.97	23.056		
8,400.00	8,363.85	8,327.45	8,324.69	20.03	13.31	-165.97	116.42	-307.33	736.38	705.08	31.30	23.526		
8,500.00	8,462.38	8,423.45	8,420.51	20.35	13.42	-166.26	116.94	-313.16	758.91	727.28	31.63	23.992		
8,600.00	8,560.92	8,519.36	8,516.23	20.67	13.53	-166.53	117.44	-319.16	781.63	749.67	31.96	24.455		
8,700.00	8,659.46	8,615.20	8,611.87	21.00	13.64	-166.79	117.94	-325.32	804.55	772.25	32.29	24.913		
8,800.00	8,758.00	8,710.95	8,707.41	21.33	13.75	-167.03	118.42	-331.66	827.66	795.03	32.63	25.367		
8,900.00	8,856.54	8,806.61	8,802.85	21.66	13.85	-167.27	118.90	-338.16	850.96	818.00	32.96	25.818		
9,000.00	8,955.08	8,902.20	8,898.20	21.99	13.96	-167.49	119.37	-344.83	874.45	841.15	33.29	26.265		
9,100.00	9,053.61	8,997.69	8,993.45	22.33	14.07	-167.70	119.82	-351.67	898.12	864.50	33.63	26.708		
9,200.00	9,152.15	9,093.11	9,088.60	22.66	14.18	-167.90	120.27	-358.67	921.99	888.02	33.96	27.148		
9,300.00	9,250.69	9,188.43	9,183.66	23.00	14.29	-168.09	120.71	-365.84	946.04	911.74	34.30	27.584		
9,400.00	9,349.23	9,283.67	9,278.62	23.34	14.40	-168.27	121.14	-373.17	970.27	935.64	34.63	28.016		
9,500.00	9,447.77	9,378.82	9,373.47	23.68	14.50	-168.44	121.56	-380.67	994.69	959.72	34.97	28.446		
9,600.00	9,546.30	9,473.89	9,468.23	24.02	14.61	-168.61	121.96	-388.34	1,019.30	983.99	35.30	28.872		
9,700.00	9,644.84	9,568.86	9,562.88	24.36	14.72	-168.76	122.36	-396.16	1,044.08	1,008.44	35.64	29.294		
9,770.16	9,713.98	9,635.45	9,629.23	24.60	14.79	-168.87	122.64	-401.75	1,061.58	1,025.70	35.88	29.589		
9,800.00	9,743.34	9,663.72	9,657.40	24.70	14.83	-152.60	122.75	-404.15	1,069.05	1,033.05	36.00	29.700		
9,850.00	9,792.21	9,710.76	9,704.27	24.87	14.88	-132.97	122.94	-408.18	1,081.56	1,045.36	36.21	29.873		
9,900.00	9,840.35	9,757.09	9,750.42	25.05	14.93	-121.01	123.13	-412.18	1,094.07	1,057.64	36.43	30.035		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 5522-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,950.00	9,887.37	9,802.35	9,795.51	25.23	14.98	-113.52	123.31	-416.13	1,106.58	1,069.92	36.65	30.189		
10,000.00	9,932.94	9,846.20	9,839.19	25.41	15.03	-108.56	123.48	-420.00	1,119.15	1,082.26	36.89	30.340		
10,050.00	9,976.69	9,888.31	9,881.12	25.60	15.08	-105.10	123.64	-423.74	1,131.88	1,094.76	37.13	30.488		
10,100.00	10,018.30	9,928.35	9,921.00	25.79	15.13	-102.59	123.79	-427.34	1,144.88	1,107.51	37.37	30.635		
10,150.00	10,057.45	9,966.02	9,958.52	25.99	15.17	-100.67	123.94	-430.75	1,158.27	1,120.64	37.63	30.783		
10,200.00	10,093.84	10,001.05	9,993.41	26.20	15.21	-99.12	124.07	-433.94	1,172.19	1,134.29	37.90	30.931		
10,250.00	10,127.20	10,062.00	10,054.10	26.41	15.28	-98.87	124.29	-439.55	1,187.11	1,148.96	38.15	31.114		
10,300.00	10,157.27	10,062.00	10,054.10	26.64	15.28	-96.52	124.29	-439.55	1,202.10	1,163.60	38.49	31.229		
10,350.00	10,183.83	10,085.31	10,077.30	26.88	15.30	-95.16	124.31	-441.72	1,218.32	1,179.50	38.82	31.385		
10,400.00	10,206.66	10,107.22	10,099.11	27.13	15.33	-93.82	124.25	-443.78	1,235.51	1,196.35	39.15	31.555		
10,450.00	10,225.60	10,126.57	10,118.38	27.41	15.35	-92.40	124.24	-445.61	1,253.63	1,214.14	39.49	31.743		
10,500.00	10,240.51	10,142.05	10,133.80	27.70	15.37	-90.80	124.29	-447.07	1,272.69	1,232.86	39.82	31.959		
10,550.00	10,251.26	10,153.46	10,145.15	28.01	15.38	-89.01	124.34	-448.15	1,292.63	1,252.51	40.12	32.218		
10,600.00	10,257.78	10,160.61	10,152.27	28.34	15.39	-87.01	124.39	-448.83	1,313.37	1,273.01	40.36	32.538		
10,650.00	10,260.02	10,163.35	10,154.99	28.70	15.39	-84.80	124.41	-449.09	1,334.79	1,294.27	40.53	32.937		
10,656.11	10,260.00	10,163.37	10,155.02	28.74	15.39	-84.52	124.41	-449.09	1,337.45	1,296.91	40.54	32.991		
10,700.00	10,259.62	10,163.31	10,154.95	29.07	15.39	-84.51	124.41	-449.09	1,357.13	1,316.22	40.92	33.169		
10,800.00	10,258.74	10,163.15	10,154.80	29.89	15.39	-84.51	124.41	-449.07	1,406.08	1,364.24	41.84	33.605		
10,900.00	10,257.87	10,162.99	10,154.64	30.81	15.39	-84.50	124.40	-449.06	1,460.24	1,417.38	42.85	34.074		
11,000.00	10,257.00	10,162.82	10,154.47	31.80	15.39	-84.49	124.40	-449.04	1,519.06	1,475.11	43.95	34.566		
11,100.00	10,256.12	10,162.65	10,154.30	32.88	15.39	-84.48	124.40	-449.02	1,582.02	1,536.91	45.11	35.071		
11,200.00	10,255.25	12,003.38	10,861.97	34.02	29.32	-111.53	1,358.73	-777.94	1,645.24	1,588.69	56.55	29.095		
11,300.00	10,254.38	12,094.64	10,861.75	35.22	30.47	-111.63	1,449.77	-771.73	1,639.16	1,580.24	58.92	27.821		
11,400.00	10,253.51	12,212.65	10,861.11	36.47	32.01	-111.74	1,567.53	-764.08	1,633.33	1,571.64	61.69	26.476		
11,500.00	10,252.63	12,292.84	10,859.43	37.77	33.09	-111.77	1,647.54	-758.99	1,627.02	1,562.95	64.07	25.396		
11,600.00	10,251.76	12,376.23	10,858.91	39.12	34.20	-111.84	1,730.80	-754.43	1,622.03	1,555.54	66.49	24.394		
11,700.00	10,250.89	12,477.11	10,859.65	40.51	35.59	-111.97	1,831.53	-748.98	1,617.62	1,548.42	69.19	23.378		
11,800.00	10,250.02	12,580.53	10,859.23	41.93	37.09	-112.06	1,934.80	-743.43	1,612.83	1,540.79	72.03	22.390		
11,900.00	10,249.14	12,681.45	10,858.03	43.38	38.59	-112.11	2,035.58	-738.26	1,607.97	1,533.07	74.90	21.468		
12,000.00	10,248.27	12,775.82	10,855.81	44.86	40.01	-112.13	2,129.83	-733.96	1,603.21	1,525.48	77.73	20.626		
12,100.00	10,247.40	12,884.05	10,851.88	46.36	41.69	-112.08	2,237.90	-729.64	1,598.49	1,517.66	80.83	19.776		
12,200.00	10,246.53	12,980.59	10,848.14	47.89	43.15	-112.04	2,334.28	-725.61	1,593.50	1,509.75	83.75	19.026		
12,300.00	10,245.65	13,080.27	10,844.66	49.44	44.67	-112.01	2,433.81	-721.43	1,588.65	1,501.91	86.74	18.316		
12,400.00	10,244.78	13,201.02	10,841.21	51.00	46.53	-112.01	2,554.35	-715.21	1,583.13	1,493.08	90.05	17.581		
12,500.00	10,243.91	13,282.59	10,839.32	52.59	47.78	-112.04	2,635.77	-710.49	1,577.29	1,484.51	92.78	17.001		
12,600.00	10,243.04	13,354.98	10,839.95	54.19	48.87	-112.13	2,708.05	-706.91	1,573.31	1,477.99	95.32	16.506		
12,700.00	10,242.16	13,473.14	10,842.26	55.80	50.76	-112.33	2,826.03	-700.89	1,569.71	1,471.13	98.58	15.923		
12,800.00	10,241.29	13,571.91	10,843.25	57.43	52.33	-112.47	2,924.63	-695.20	1,565.11	1,463.53	101.57	15.409		
12,900.00	10,240.42	13,675.33	10,847.37	59.07	53.96	-112.74	3,027.71	-688.00	1,560.54	1,455.99	104.55	14.926		
13,000.00	10,239.54	13,767.78	10,849.75	60.72	55.45	-112.93	3,119.94	-682.05	1,555.97	1,448.54	107.43	14.484		
13,100.00	10,238.67	13,844.00	10,852.54	62.38	56.65	-113.11	3,196.00	-678.02	1,552.83	1,442.80	110.04	14.112		
13,200.00	10,237.80	13,925.07	10,857.07	64.05	57.92	-113.34	3,276.84	-674.05	1,550.89	1,438.21	112.68	13.764		
13,300.00	10,236.93	14,017.88	10,863.52	65.73	59.42	-113.65	3,369.34	-669.91	1,549.92	1,434.44	115.48	13.422		
13,377.24	10,236.25	14,097.76	10,868.25	67.03	60.75	-113.88	3,449.01	-666.84	1,549.32	1,431.51	117.80	13.152		
13,400.00	10,236.14	14,126.62	10,869.72	67.37	61.23	-113.94	3,477.81	-665.71	1,549.02	1,430.49	118.53	13.068		
13,427.24	10,236.25	14,155.20	10,871.01	67.75	61.71	-113.99	3,506.34	-664.58	1,548.50	1,429.20	119.29	12.981		
13,500.00	10,236.89	14,232.96	10,874.00	68.86	63.00	-114.12	3,583.98	-661.46	1,546.71	1,425.24	121.46	12.734		
13,600.00	10,237.76	14,337.55	10,877.90	70.56	64.75	-114.28	3,688.41	-657.15	1,544.13	1,419.56	124.57	12.395		
13,700.00	10,238.63	14,453.26	10,880.44	72.27	66.70	-114.41	3,804.00	-652.44	1,540.99	1,413.08	127.91	12.047		
13,800.00	10,239.51	14,565.01	10,881.20	73.98	68.57	-114.48	3,915.62	-647.28	1,536.70	1,405.50	131.21	11.712		
13,900.00	10,240.38	14,663.36	10,882.81	75.69	70.17	-114.59	4,013.81	-642.00	1,532.15	1,397.93	134.22	11.415		
14,000.00	10,241.25	14,752.56	10,883.85	77.42	71.64	-114.66	4,102.91	-637.79	1,528.00	1,390.85	137.15	11.141		

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



Integrity Directional Services, LLC

Anticollision Report



Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Offset Design Hamon Fed Pad - Hamon Fed Com A 2H - Wellbore #1 - Actual Wellbore													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS, 5522-MWD													Offset Well Error:	0.00 ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	10,242.12	14,842.35	10,884.41	79.14	73.13	-114.70	4,192.64	-634.61	1,524.68	1,384.57	140.11	10.882		
14,200.00	10,243.00	14,941.44	10,885.89	80.87	74.75	-114.78	4,291.65	-631.09	1,521.72	1,378.54	143.18	10.628		
14,300.00	10,243.87	15,052.96	10,886.29	82.61	76.62	-114.82	4,403.11	-627.30	1,518.44	1,371.95	146.49	10.365		
14,400.00	10,244.74	15,169.49	10,886.56	84.35	78.55	-114.88	4,519.52	-622.08	1,514.12	1,364.25	149.86	10.103		
14,500.00	10,245.61	15,290.75	10,887.30	86.09	80.55	-114.98	4,640.56	-614.76	1,508.53	1,355.29	153.25	9.844		
14,600.00	10,246.49	15,398.05	10,887.54	87.84	82.33	-115.08	4,747.59	-607.19	1,501.87	1,345.43	156.44	9.600		
14,700.00	10,247.36	15,491.72	10,888.68	89.59	83.87	-115.21	4,841.00	-600.27	1,495.33	1,335.96	159.37	9.383		
14,800.00	10,248.23	15,588.50	10,889.98	91.34	85.46	-115.33	4,937.52	-593.34	1,489.07	1,326.73	162.34	9.172		
14,900.00	10,249.10	15,690.67	10,893.14	93.10	87.14	-115.55	5,039.32	-585.38	1,482.99	1,317.68	165.31	8.971		
15,000.00	10,249.98	15,793.82	10,895.99	94.86	88.86	-115.76	5,142.08	-576.82	1,476.32	1,308.02	168.30	8.772		
15,100.00	10,250.85	15,885.37	10,897.47	96.62	90.41	-115.89	5,233.38	-570.25	1,470.18	1,298.98	171.20	8.587		
15,200.00	10,251.72	15,934.00	10,897.90	98.38	91.24	-115.95	5,281.90	-567.03	1,465.13	1,291.59	173.54	8.443		
15,222.72	10,251.92	15,934.00	10,897.90	98.79	91.24	-115.95	5,281.90	-567.03	1,464.74	1,290.83	173.91	8.422		
15,223.43	10,251.93	15,934.00	10,897.90	98.85	91.24	-115.95	5,281.90	-567.03	1,464.74	1,290.82	173.92	8.422 SF		



Integrity Directional Services, LLC

Anticollision Report



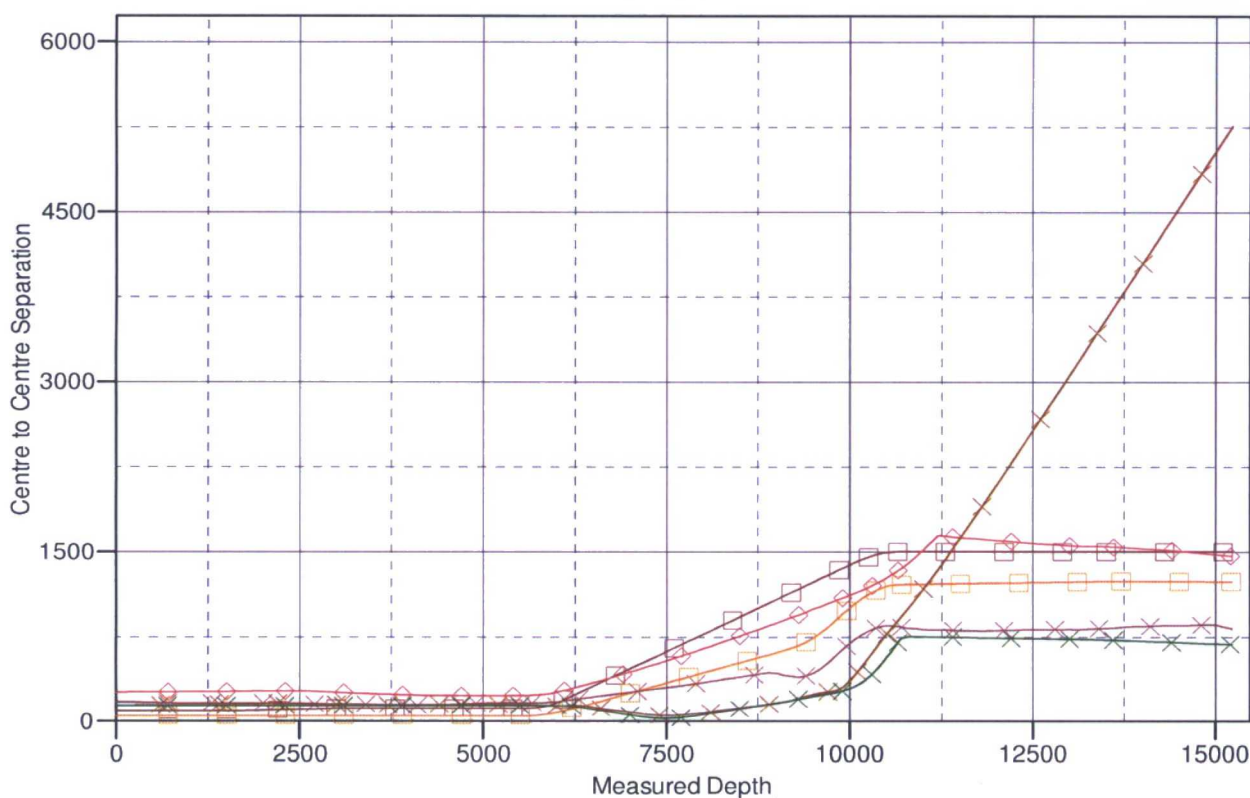
Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB=18 @ 3628.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333333

Coordinates are relative to: Hamon Fed Com A #12H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.32°

Ladder Plot



LEGEND

ed Com A #10H, Wellbore #1, Plan #2 V0
ed Com A #11H, Wellbore #1, Plan #2 V0

—♦— Hamon Fed Com A #12H, Wellbore #1, Actual Wellbore V0 —♦— Hamon Fed Com A #9H, Wellbore #1, W
—x— Hamon Fed Com A #1H, Wellbore #1, Actual Wellbore V0 —x— Hamon Fed Com A #9H, Wellbore #1, Pl



Integrity Directional Services, LLC

Anticollision Report



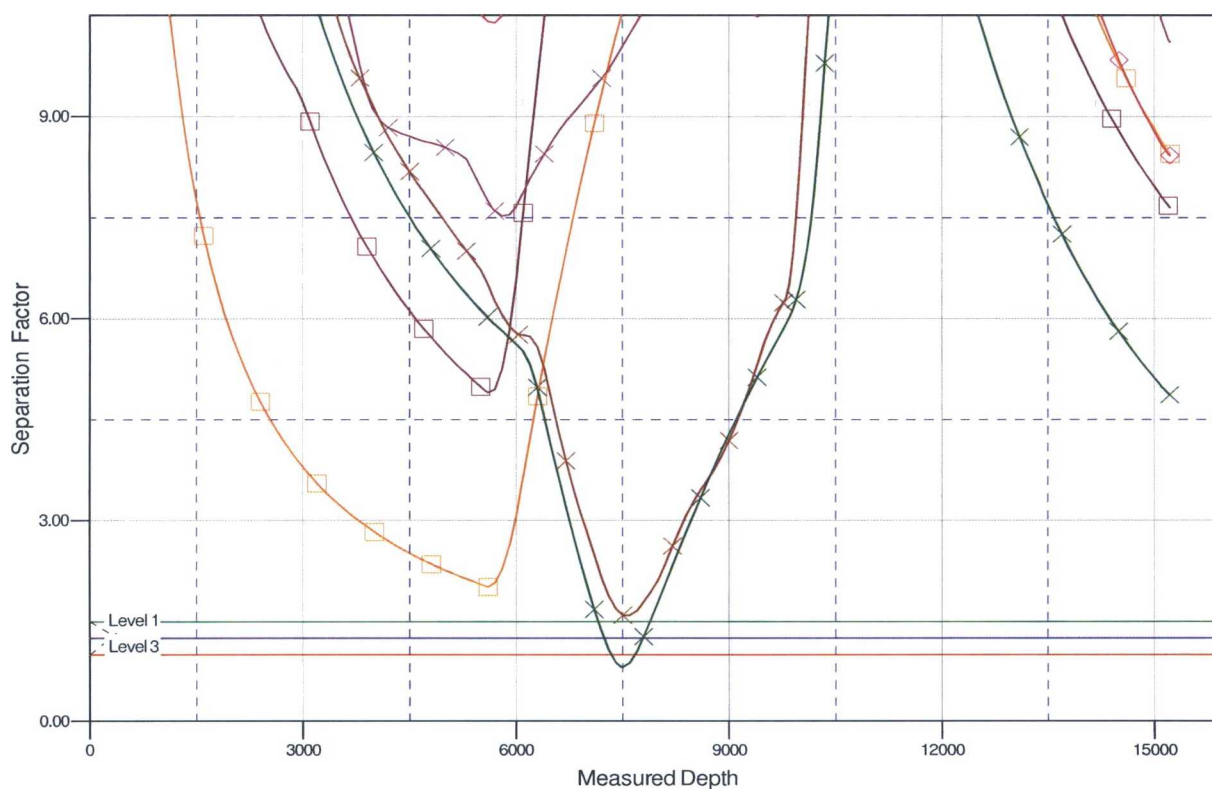
Company: Legacy Reserves Operating
Project: Lea County, NM
Reference Site: Hamon Fed Pad
Site Error: 0.00 ft
Reference Well: Hamon Fed Com A #12H
Well Error: 0.00 ft
Reference Wellbore: Wellbore #1
Reference Design: Plan#3

Local Co-ordinate Reference: Well Hamon Fed Com A #12H
TVD Reference: KB=18 @ 3628.00ft
MD Reference: KB=18 @ 3628.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Multi User Db
Offset TVD Reference: Offset Datum

Reference Depths are relative to KB=18 @ 3628.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.3333333

Coordinates are relative to: Hamon Fed Com A #12H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.32°

Separation Factor Plot



LEGEND

ed Com A #10H, Wellbore #1, Plan #2 V0
ed Com A #11H, Wellbore #1, Plan #2 V0

◆ Hamon Fed Com A2H, Wellbore #1, Actual Wellbore V0
✕ Hamon Fed Com A1H, Wellbore #1, Actual Wellbore V0
✕ Hamon Fed Com A #9H, Wellbore #1, W
✕ Hamon Fed Com A #9H, Wellbore #1, Pl