

Well Name: EMERALD FEDERAL COM	Well Location: T19S / R33E / SEC 6 / LOT 7 / 32.683046 / -103.707331	County or Parish/State: LEA / NM
Well Number: 501H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0077002	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002550994	Operator: AVANT OPERATING LLC	

Notice of Intent

Sundry ID: 2798581

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 07/02/2024	Time Sundry Submitted: 03:27
Date proposed operation will begin: 07/02/2024	

Procedure Description: Avant Operating, LLC requests to move the BHL from what was originally permitted. Please see below updated footage calls, as well as updated plat & directional surveys to reflect this change. The dedicated acreage of this well will also be updated to 1302.98 total Ac. Old BHL is 100' FNL & 660' FWL. New BHL is 100' FNL & 330' FWL.

NOI Attachments

Procedure Description

Emerald_Federal_Com_501H_Sundry_Change_Attachments_20240702152636.pdf

Received by OCD: 9/26/2024 2:22:00 PM

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Well Name: EMERALD FEDERAL COM	Well Location: T19S / R33E / SEC 6 / LOT 7 / 32.683046 / -103.707331	County or Parish/State: LEA / NM
Well Number: 501H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0077002	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002550994	Operator: AVANT OPERATING LLC	

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: MEGHAN TWELE	Signed on: JUL 02, 2024 03:26 PM
Name: AVANT OPERATING LLC	
Title: Contract Regulatory Analyst	
Street Address: 1515 WYNKOOP ST SUITE 700	
City: DENVER	State: CO
Phone: (720) 339-6880	
Email address: MTWELE@OUTLOOK.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Accepted	Disposition Date: 09/12/2024
Signature: Chris Walls	

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

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.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

SUBMIT IN TRIPLICATE - Other instructions on page 2	
1. Type of Well ☐ Oil Well ☐ Gas Well ☐ Other	
2. Name of Operator	
3a. Address	3b. Phone No. (include area code)
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)	

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 recompleate 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 perfonned 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 recompletion 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 detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: LOT 7 / 350 FSL / 1190 FWL / TWSP: 19S / RANGE: 33E / SECTION: 6 / LAT: 32.683046 / LONG: -103.707331 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 4 / 0 FNL / 662 FWL / TWSP: 19S / RANGE: 33E / SECTION: 6 / LAT: 32.696607 / LONG: -103.7097 (TVD: 9700 feet, MD: 14700 feet)

BHL: LOT 1 / 100 FNL / 660 FWL / TWSP: 18S / RANGE: 33E / SECTION: 31 / LAT: 32.71086 / LONG: -103.709088 (TVD: 9700 feet, MD: 19866 feet)

CONFIDENTIAL

DISTRICT I
1825 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102

Revised August 1, 2011

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

OIL CONSERVATION DIVISION

Submit one copy to appropriate

District Office

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

1220 South St. Francis Dr.
Santa Fe, N.M. 87505

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-50994		² Pool Code 13160	³ Pool Name CORBIN; BONE SPRING, SOUTH
⁴ Property Code 335608	⁵ Property Name EMERALD FEDERAL COM		⁶ Well Number 50IH
⁷ OGRID No. 330396	⁸ Operator Name AVANT OPERATING, LLC		⁹ Elevation 3674

¹⁰ Surface Location

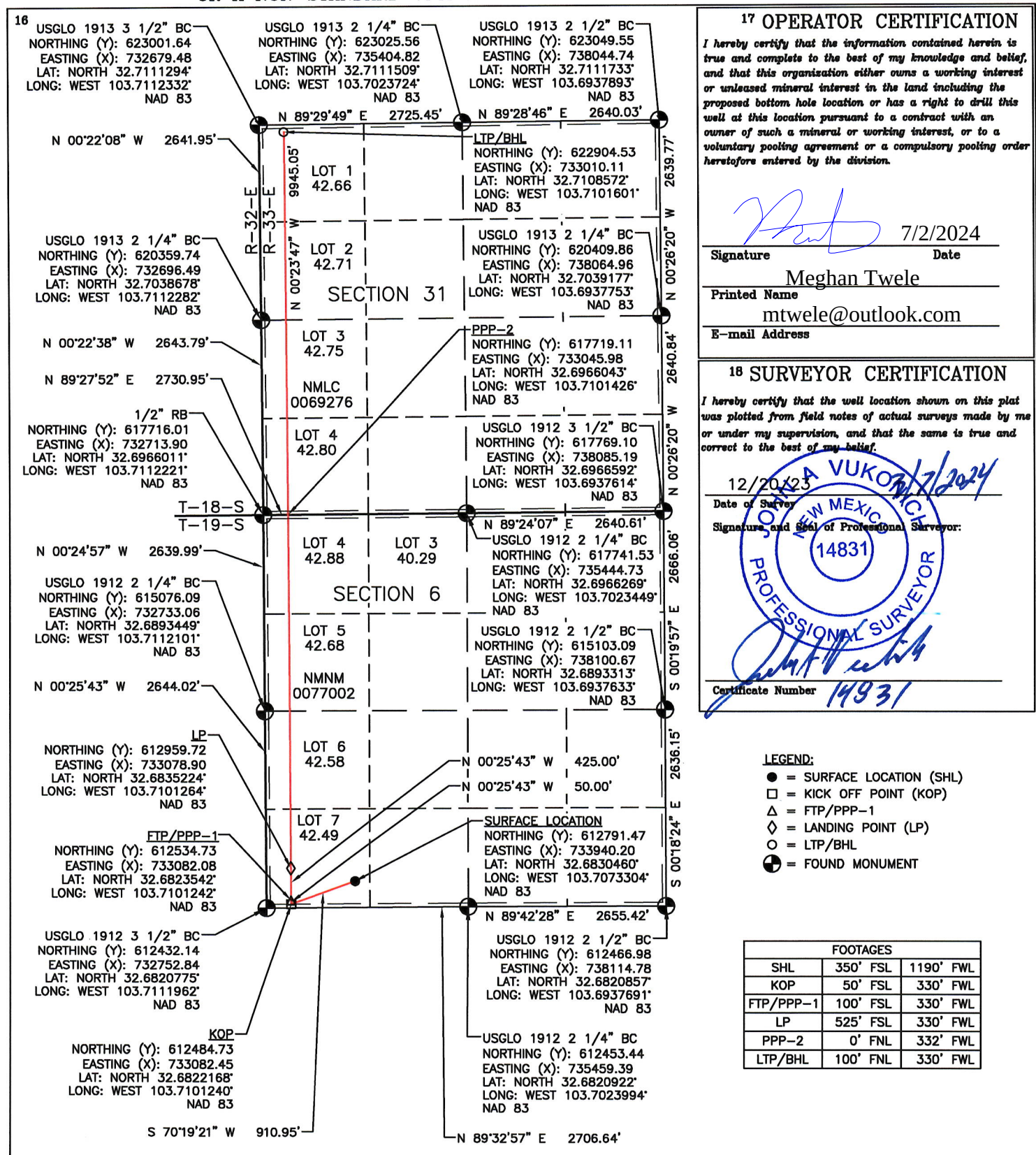
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	6	19 S	33 E	LOT 7	350	SOUTH	1190	WEST	LEA

¹¹ 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
D	31	18 S	33 E	LOT 1	100	NORTH	330	WEST	LEA

13 Dedicated Acres	15 Joint or Infill	16 Consolidation Code	18 Order No.
1302.98			

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



Equipment

A minimum 5M system will be used. The minimum blowout preventer equipment (BOPE) shown in the BOP Diagram will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer, and an annular preventer (5000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on top and drill pipe rams on bottom. All BOPE will be tested in accordance with 43 CFR 3172.

Variance Request

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line). Co-flex line will be tested in accordance with highest BOP test pressures (5000 psi) before drilling out of surface casing and (5000 psi) before drilling out of intermediate casing. Pressure tests will be charted for records. The manufacturers hydrostatic test report will be kept on location for inspection.

Testing Procedure

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on location.

Surface casing will be tested to 1500 psi for 30 minutes. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000 (high) / 250 (low) psig and the annular preventer to 3500 (high) / 250 (low) psig by an independent service company. Test charts will always be kept on location.

Intermediate casing will be tested to 1500 psi for 30 minutes. A solid steel body pack-off will be used after running and cementing the intermediate casing. After installation, pack-off and lower flange will be pressure tested to 5000 psi.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe. This pressure test will be repeated at least once every 30 days, as per 43 CFR 3172.

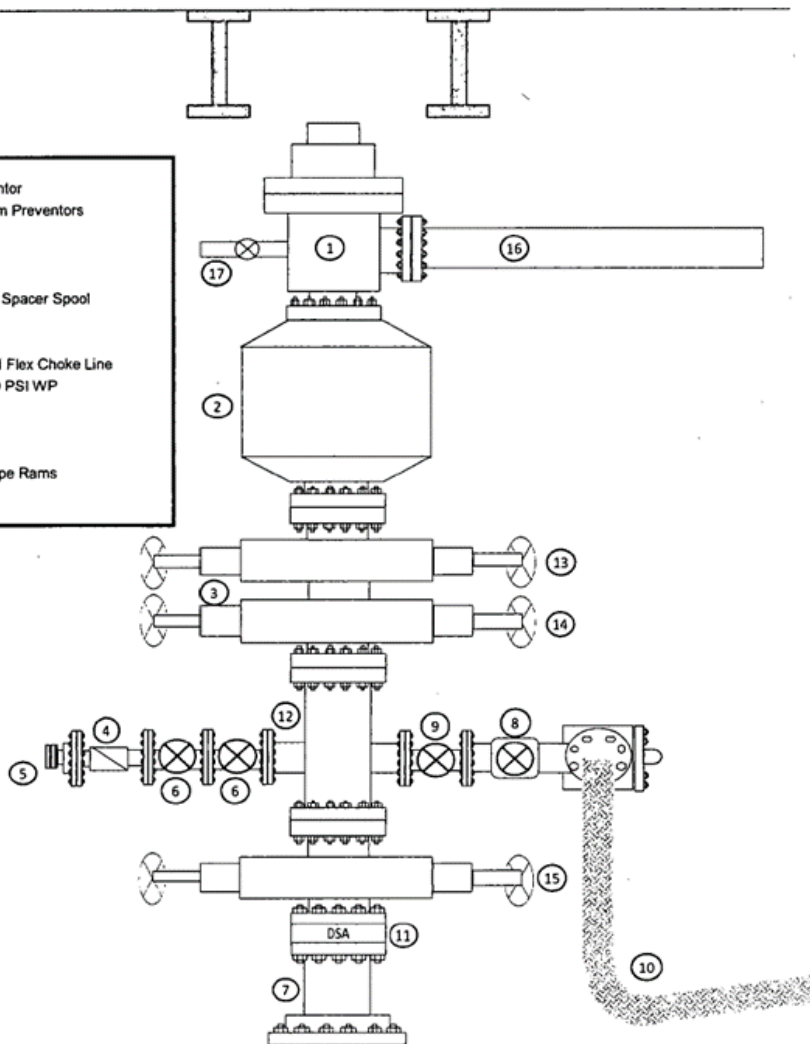
Kelly cock will always be in the drill string. Full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will always be on the rig floor.

The multi-bowl wellhead will be installed by a third-party welder while being monitored by the vendors representative.

All BOP equipment will be tested using a conventional test plug - not a cup or J-packer type. Both the surface and intermediate casing strings will be tested as per 43 CFR 3172. to at least 0.22 psi/ft or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield.

Avant Natural Resources 5M BOP Diagram

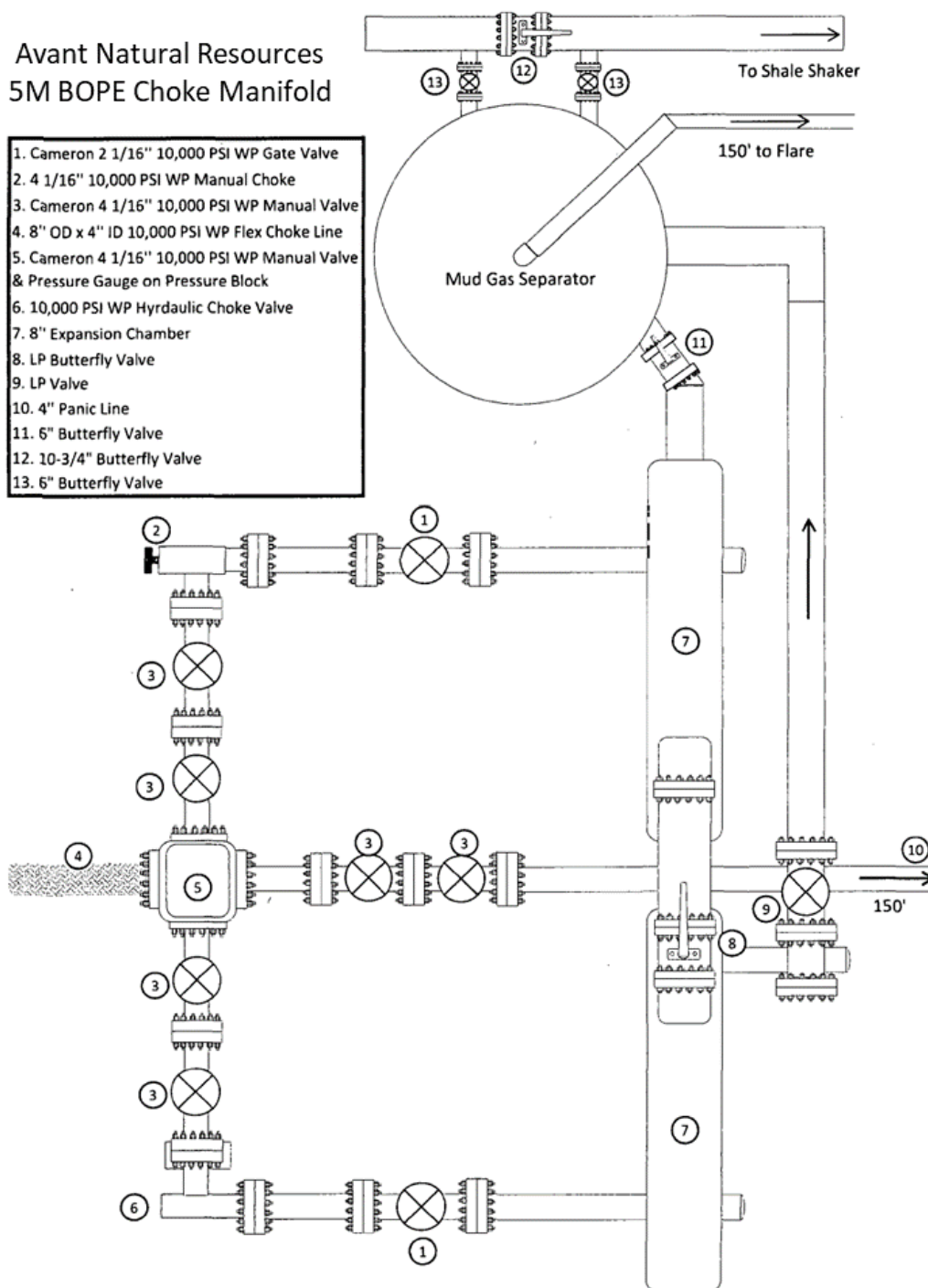
1. 13 5/8" Rotating Head
2. NOV 13 5/8" 5,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
16. Flow Line
17. 2" Fill Line



Choke Manifold Diagram

Avant Natural Resources
5M BOPE Choke Manifold

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hydraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 6" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve



AFE: 0



Emerald Federal Com 501H

API:

REGULATORY: NMOCD

PERMIT #

RIG: H&P 460

KB: 3700.5 (26.5')

GL: 3674'

CAMERON WELLHEAD
13" x 7-1/16" NOM

SHL:

Sec. 6, T-19S, R-33E; 350 FSL, 1190 FWL

Lat: 32.683046, Long: -103.7073304 (NAD83)

Bone Spring

Lea County, NM

HOLE SIZE	MD	FORMATION	TVD	MUD	CASING	CEMENT	SPECIAL INSTRUCTIONS
17 1/2 "	120	20" Conductor	120	SPUD MW	13 3/8 "	LEAD: 12.8 PPG Top of Lead: 0 50% Excess	Circ cement to surface is a NMOCD requirement Casing must be set 25' into the Rustler MUD: Fresh water only
	1,460	Rustler	1,460	8.4 ppg	54.5# J-55 LTC	TAIL: 14.8 PPG Top of Tail: 1185' 20% Excess	
	1,485	SURF CSG PT	1,485	Fresh	+/- 12 Bowsprings 1 joint shoe track		
12 1/4 "	1,754	Solado	1,754	DRLOUT MW	9 5/8 "	LEAD: 11 PPG Top of Lead: 0' 50% excess	Circ cement to surface is a NMOCD requirement
	3,464	Yates	3,453	9.5 ppg	40# J-55 LTC	TAIL: 14.8 PPG Top of Tail: 4222' 20% Excess	
	4,753	Capitan Reef	4,730	Cut Brine			
	5,178	Cherry Canyon	5,151	TD MW	+/- 9 Bowsprings 1 joint shoe track		
	5,278	INTRM CSG PT	5,251	9.5 ppg			
8 3/4 " VERTICAL	5,801	Brushy Canyon	5,768	DRLOUT MW			
	7,483	Bone Spring	7,434	9.2 ppg			
	8,228	Avalon	8,172	Cut Brine			
	8,788	1st BS Sand	8,727	KOP MW			
8 3/4 " CURVE	9,318	KOP	9,257	9.5 ppg	EOC	Float collar @ KOP	
	9,355	2nd BS Sand	9,294	Cut Brine	Lat MW	OBM	
	10,068	EOC	9,734	9.5	9.2 ppg	TD MW	
8 3/4 " LATERAL	DIRECTIONAL PLAN			WET SHOE			20,010 ' MD
	MD	INC	INC	TVD	ANNOTATION		10,156 ' VS
				12°/ 100'			9,734 ' TVD
				EOC VS = 249'			BHL: 100 FNL, 330 FWL
				Lat. Azi = VS Azi. = 359.6°			Expected Btm Hole Pressure 4672.32 psi
				Est BHST = 162°F, Est BHCT = 145°F			
				5 1/2 "			
				20# P-110 HC GBCD			
				LEAD: 10.7 PPG Top of Lead: 0 50% Excess			
				TAIL: 14.8 PPG Top of Tail: 9318 20% Excess			
				All aqueous fluids (spacer and disp) left inside or outside of pipe must have biocide & corrosion inhibitor			
				1 15' pup joints			
				2 20' Marker Jts			
				+/- 33 Bowsprings			
				+/- 27 Doublebows			
				+/- 236 Solid Bodies			

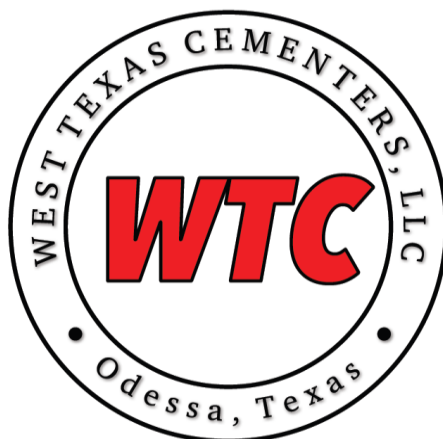
DIRECTIONS TO LOCATION:

Drilling Engineer: Ryan Harris

Emerald Federal Com 501H (H&P 460)

Date: 6/24/2024

PROPOSAL#: 240625103149-A



CEMENT PROCEDURE & PROPOSAL

PREPARED FOR:

Mr. Braden Harris

EMAIL: braden@avantnr.com

PHONE NUMBER: 406-600-3310

Avant Natural Resources

Emerald Federal Com #501H

Lea County, NM

Rig: H&P 460

Service Point

Odessa

1400 S JBS Parkway Odessa, TX 79766

432-701-8955

Technical Writer

Jonathan Smith

jonathan@wtcementers.com

432-701-3719

WTC Representative

Jon Reynolds

jon@wtcementers.com

432-257-1234

.Disclaimer Notice:

The ability of West Texas Cementers to complete this work is subject to the availability of the raw materials required to complete the job.

This information is presented in good faith, but no warranty is given by and West Texas Cementers LLC assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. The results given are estimates based on calculations produced by a computer model including various assumptions on the well, reservoir and treatment. The results depend on input data provided by the Operator and estimates as to unknown data and can be no more accurate than the model, the assumptions and such input data. The information presented is WTC LLC best estimate of the actual results that may be achieved and should be used for comparison purposes rather than absolute values. The quality of input data, and hence results, may be improved through the use of certain tests and procedures which West Texas Cementers LLC can assist in selecting. The Operator has superior knowledge of the well, the reservoir, the field and conditions affecting them. If the Operator is aware of any conditions whereby a neighboring well or wells might be affected by the treatment proposed herein it is the Operator's responsibility to notify the owner or owners of the well or wells accordingly. Prices quoted are estimates only and are good for 30 days from the date of issue. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Freedom from infringement of patents of West Texas Cementers LLC or others is not to be inferred.

PRINTED

6/25/2024 10:33

VERSION: v0.29b

Avant Natural Resources
Emerald Federal Com #501H
Lea County, NM
Rig: H&P 460

Surface



PROPOSAL#: 240625103149-A

WELL INFORMATION						
MUD	8.4# Fresh Water					
PREVIOUS PIPE	20" 94# CSG to 120					
OPEN HOLE	17.5" OH to 1485					
CASING/INJECTION	13.375" 54.5# J-55/LTC to 1485					
MD	1485					
EST BHST/BHCT	92-F / 85-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH	OD	ID	XS	FACTOR	VOLUME
	(ft)	(in.)	(in.)	(%)	(bbl/ft)	(bbl)
Lead	120	19.124	13.375		0.1815	21.8
Lead	1065	17.5	13.375	50%	0.1856	197.6
Tail	300	17.5	13.375	20%	0.1485	44.5
SHOE JOINT	40	13.375	12.615		0.1546	6.2
FLUIDS						
SPACER						
Fresh Water						
VOLUME	20-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A						
VOLUME	650-SX				Slurry Volume: 220-bbls	
DENSITY	12.8-ppg				Mix Water Required: 158-bbls	
YIELD	1.9-cf/sx					
MIX WATER	10.17-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources
Emerald Federal Com #501H
Lea County, NM
Rig: H&P 460

Surface



PROPOSAL#: 240625103149-A

Tail		
	100% Class C+1% CaCl2+0.005GPS NoFoam V1A	
VOLUME	215-SX	Slurry Volume: 50.9-bbls
DENSITY	14.8-ppg	Mix Water Required: 33-bbls
YIELD	1.33-cf/sx	
MIX WATER	6.34-gps	
TOP OF CEMENT	1185-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	223.4-bbl	

Avant Natural Resources
Emerald Federal Com #501H
Lea County, NM
Rig: H&P 460

Intermediate



PROPOSAL#: 240625103149-A

WELL INFORMATION						
MUD	9.5# Cut Brine					
PREVIOUS PIPE	13.375" 54.5# CSG to 1485					
OPEN HOLE	12.25" OH to 5278					
CASING/INJECTION	9.625" 40# J-55/LTC to 5278					
MD	5278					
TVD	5251					
EST BHST/BHCT	123-F / 107-F (0.8-F/100-FT)					
NOTES	Standby charges start after WTC has been on location for more than 4-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	1485	12.615	9.625		0.0646	95.9
Lead	2737	12.25	9.625	50%	0.0837	229.0
Tail	1056	12.25	9.625	20%	0.0669	70.7
SHOE JOINT	40	9.625	8.835		0.0758	3.0
FLUIDS						
SPACER						
Fresh Water						
VOLUME	25-bbl					
Lead						
35% B_Poz+65% Class C+6% Gel+5% SALT+0.5% R-1300+0.25PPS Pol-E-Flake+0.005GPS NoFoam V1A						
VOLUME	960-SX		Slurry Volume: 324.9-bbls			
DENSITY	12.8-ppg		Mix Water Required: 233-bbls			
YIELD	1.9-cf/sx					
MIX WATER	10.18-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources
Emerald Federal Com #501H
Lea County, NM
Rig: H&P 460

Intermediate



PROPOSAL#: 240625103149-A

Tail		
	100% Class C+5% SALT+0.005GPS NoFoam V1A	
VOLUME	305-SX	Slurry Volume: 73.9-bbbls
DENSITY	14.8-ppg	Mix Water Required: 48-bbbls
YIELD	1.36-cf/sx	
MIX WATER	6.51-gps	
TOP OF CEMENT	4222-ft	
EXCESS	20%	
DISPLACEMENT		
	Displacement	
VOLUME	397.2-bbl	

Avant Natural Resources
Emerald Federal Com #501H
Lea County, NM
Rig: H&P 460

Production



PROPOSAL#: 240625103149-A

WELL INFORMATION						
MUD	9.2# OBM					
PREVIOUS PIPE	9.625" 40# CSG to 5278					
OPEN HOLE	8.75" OH to 20010					
CASING/INJECTION	5.5" 20# P-110 HC/GBCD to 20010					
MD	20010					
TVD	9734					
EST BHST/BHCT	211-F / 194-F (1.34-F/100-FT)					
KOP	9318					
NOTES	Standby charges start after WTC has been on location for more than 8-hrs.					
VOLUMES						
FLUID NAME	LENGTH (ft)	OD (in.)	ID (in.)	XS (%)	FACTOR (bbl/ft)	VOLUME (bbl)
Lead	5278	8.835	5.5		0.0464	245.1
Lead	4040	8.75	5.5	50%	0.0675	272.6
Tail	10692	8.75	5.5	20%	0.0540	577.2
SHOE JOINT	80	5.5	4.778		0.0222	1.8
FLUIDS						
SPACER						
Wt. Spacer 38.01GPB Water+8PPB PolyScrub 4320+73.29PPB Barite+1GPB HoleScrub 4311+1PPB R-1300						
VOLUME	40-bbl					
DENSITY	9.7-ppg					
Lead						
100% ProLite+5PPS Plexcrete STE+2% SMS+0.65% R-1300+0.2% FL-24+3PPS Gilsonite+0.005GPS NoFoam V1A						
VOLUME	860-SX				Slurry Volume: 517.7-bbls	
DENSITY	10.7-ppg				Mix Water Required: 432-bbls	
YIELD	3.38-cf/sx					
MIX WATER	21.06-gps					
TOP OF CEMENT	Surface					
EXCESS	50%					

Avant Natural Resources
Emerald Federal Com #501H
Lea County, NM
Rig: H&P 460

Production



PROPOSAL#: 240625103149-A

Tail		
50% B_Poz+50% Class H+5% SALT+0.05% RCKCAS-100+0.75% FR-5+0.5% FL-24+0.005GPS NoFoam V1A		
VOLUME	2685-SX	Slurry Volume: 578.6-bbls
DENSITY	14.5-ppg	Mix Water Required: 338-bbls
YIELD	1.21-cf/sx	
MIX WATER	5.28-gps	
TOP OF CEMENT	9318-ft	
EXCESS	20%	
DISPLACEMENT		
Fresh Water+ 0.25GPT Plexicide 24L+1GPT Corplex		
VOLUME	442-bbl	
DENSITY	8.34-ppg	

CHEMICAL DESCRIPTIONS		
CHEMICAL NAME	CODE	DESCRIPTION
B_Poz	WTC228	Poz - Fly Ash, Extender
Class H	WTC101	API Cement
Class C	WTC100	API Cement
M_Poz	WTC280	Poz - Fly Ash, Extender
ProLite		Blended Based Cement
Plexcrete SFA	WTC129	Cement Strength Enhancer
Gel	WTC102	Extender
Micro Crystal	WTC212	Cement Strength Enhancer
Micro Shell	WTC209	Cement Strength Enhancer
WTC1	WTC250	Extender
GB-52	WTC008	Microspheres, Extender
Plexcrete STE	WTC127	Cement Strength Enhancer
CSE-NP	WTC236	Cement Strength Enhancer
Gypsum	WTC111	Free Water Control, Extender
CaCl2	WTC112	Accelerator
SMS	WTC115	Free Water Control, Extender
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
R-1300	WTC201	Low Temperature Retarder
CRT-201	WTC278	Lignosulfonate Retarder
FR-5	WTC258	Lignosulfonate Retarder
C-37	WTC224	Dispersant, Friction Reducer
CFL-312	WTC265	Fluid Loss and Gas Migration Control
FL-24	WTC277	Fluid Loss (polymers/copolymers - 300-F max)
FL-17	WTC130	Fluid Loss and Gas Migration Control (400-F max)
MagBond	WTC271	Expanding Agent
Gilsonite	WTC003	Premium Lost Circulation Material, Free Water Control
Pol-E-Flake	WTC106	Lost Circulation Material
Web Seal	WTC133	Premium Fiber Lost Circulation Material
Zone Seal	WTC207	Premium Lost Circulation Material
NoFoam V1A	WTC105	Liquid Defoamer
Water		Fresh Water
PolyScrub 4320	WTC232	Spacer Gelling Agent
Barite	WTC116	Weighting Agent
HoleScrub 4311	WTC281	Surfactant
HoleScrub 4305	WTC213	Surfactant
HoleScrub 4308	WTC215	Surfactant
Soda Ash	WTC164	pH Control
R-1300	WTC201	Low Temperature Retarder
RCKCAS-100	WTC276	Free Water Control, Anti-Settling Agent
Sugar	WTC119	Retarder
R-33	WTC243	Lignosulfonate Retarder
Plexcide 24L	WTC166	Biocide
Corplex	WTC134	Corrosion Inhibitor
Clay Max	WTC096	KCL Substitute
Zone Seal	WTC207	Premium Lost Circulation Material

CASING DESIGN CRITERIA & LOAD CASE ASSUMPTIONS

SURFACE CASING:

SIZE (in)	SURFACE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	JOINT STRENGTH (k-lbs)	DEPTHS
13.375"	54.5# J-55 LTC	10.05	9.894	3130	1580	629	700	0' – SCP'

Collapse: $DF_c = 1.25$

- Full internal evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of the planned cement slurries to planned depths and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

INTERMEIDATE CASING:

SIZE (in)	INTERMEDIATE CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	JOINT STRENGTH (k-lbs)	DEPTHS
9-5/8"	40# J-55 LTC	6.875	6.75	9470	7150	940	769	0' – ICP'

Collapse: $DF_c = 1.25$

- Full Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and an internal force equal to fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: Casing test per Onshore Oil and Gas Order No. 2 with an external force equal to the mud gradient in which the casing will be ran.
- Gas Kick Profile: Internal burst force at the shoe will be fracture pressure at that depth. Surface burst pressure will be fracture gradient at setting depth less a gas gradient to equivalent height of 50 bbl kick with Drill Pipe inside casing and mud gradient with which the next hole section will be ran above that. External force will be equal to the mud gradient in which the casing will be ran.

- Fracture at Shoe with 1/3 BHP at Surface: Internal burst force at the shoe will be fracture pressure at setting depth. Internal burst force at surface will be 1/3 of pore pressure at setting depth. External force will be equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

PRODUCTION CASING:

SIZE (in)	PRODUCTION CASING	ID (in)	DRIFT (in)	BURST (psi)	COLLAPSE (psi)	TENSION (k-lbs)	CONN OD (in)	JOINT TENSION (k-lbs)	DEPTHS
5-1/2"	20# HCP-110 GBCD	4.778	4.653	12,640	12,200	641	6.300	641	0' – MD'

Collapse: $DF_C = 1.25$

- Partial Internal Evacuation: Collapse force equal to the mud gradient in which the casing will be ran. Internal force equal to gas gradient over one-third of setting depth and mud gradient with which the next hole section will be ran below that.
- Cementing: Collapse force equal to the gradient of planned cement slurries to planned depths and mud gradient in which the casing will be ran above that and an internal force equal to the fluid gradient of displacement fluid.

Burst: $DF_B = 1.25$

- Pressure Test: 80% of burst casing test with an external force equal to the mud gradient in which the casing will be ran.
- Injection Down Casing: 9800 psi surface injection pressure plus an internal pressure gradient of with an external force equal to the mud gradient in which the casing will be ran.

Tension: $DF_T = 1.6$

- Overpull: A downward force of 100,000 lbs is applied at the shoe along with the weight of the casing string, without considering buoyancy.

WELL DETAILS: Emerald Fed Com 501H

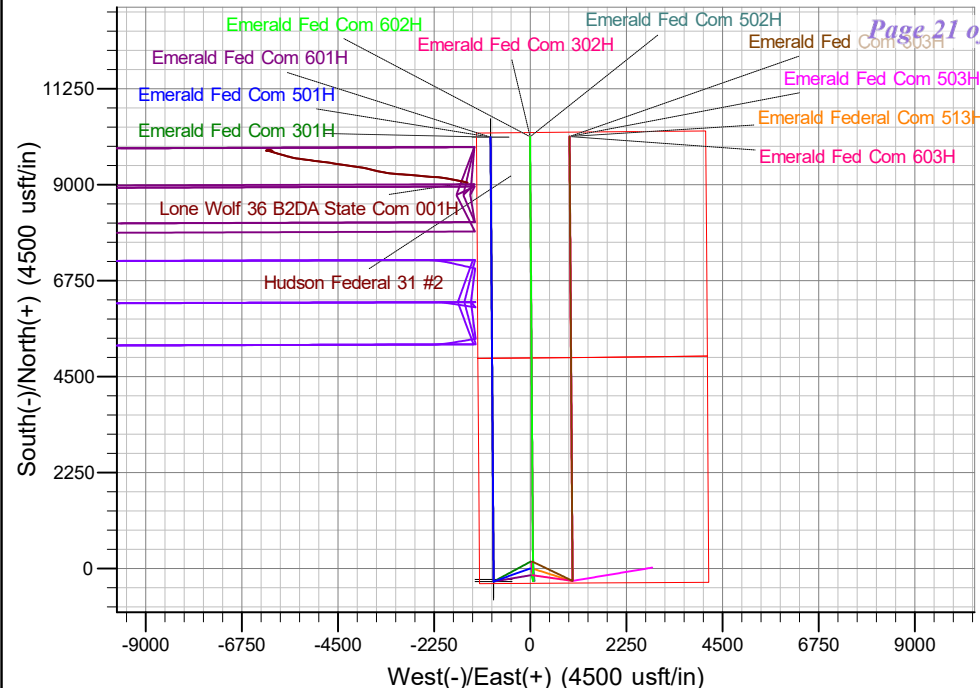
Ground Elev: 3674.0 KB: Original Well Elev

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	612791.47	733940.20	32.683046	-103.707330

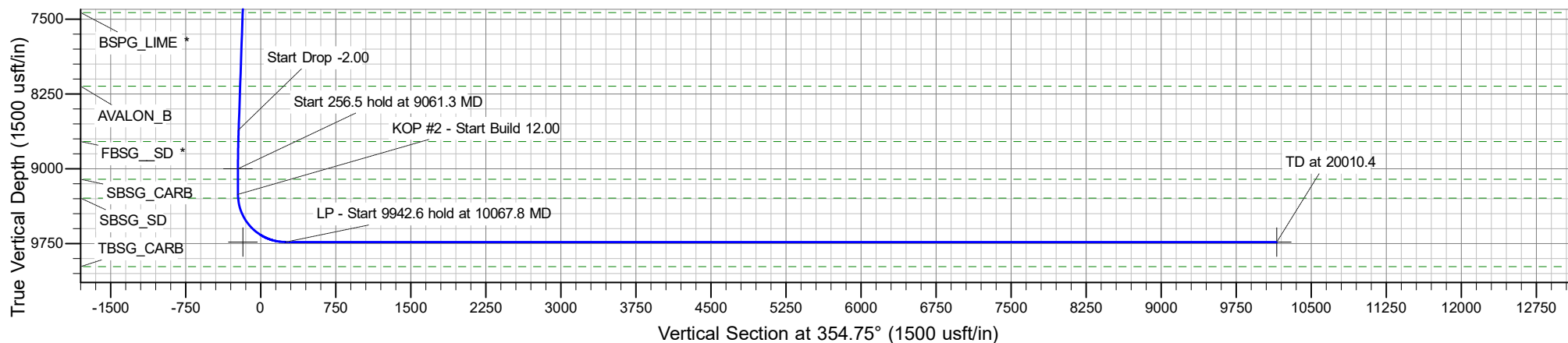
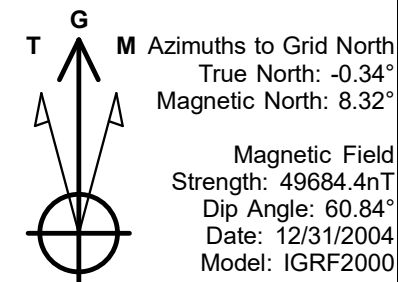
PROJECT DETAILS: Lea Co., NM (NAD 83)

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

System Datum: Mean Sea Level

**SECTION DETAILS**

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 2.00
3	2392.5	7.85	250.32	2391.3	-9.0	-25.3	2.00	250.32	-6.7	Start 6276.2 hold at 2392.5 MD
4	8668.8	7.85	250.32	8608.7	-297.7	-832.5	0.00	0.00	-220.2	Start Drop -2.00
5	9061.3	0.00	0.00	9000.0	-306.7	-857.8	2.00	180.00	-226.9	Start 256.5 hold at 9061.3 MD
6	9317.8	0.00	0.00	9256.5	-306.7	-857.8	0.00	0.00	-226.9	KOP #2 - Start Build 12.00
7	10067.8	90.00	359.60	9734.0	170.7	-861.1	12.00	359.60	248.8	LP - Start 9942.6 hold at 10067.8 MD
8	20010.4	90.00	359.60	9734.0	10113.1	-930.1	0.00	0.00	10155.7	TD at 20010.4



Avant Operating, LLC

Lea Co., NM (NAD 83)

Emerald Pad 1

Emerald Fed Com 501H

OH

Plan: Plan 0.1

Standard Planning Report

24 June, 2024

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Project	Lea Co., NM (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Emerald Pad 1			
Site Position:		Northing:	612,951.58 usft	Latitude:	32.683486
From:	Lat/Long	Easting:	733,949.09 usft	Longitude:	-103.707299
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	

Well	Emerald Fed Com 501H					
Well Position	+N/-S	0.0 usft	Northing:	612,791.47 usft	Latitude:	32.683046
	+E/-W	0.0 usft	Easting:	733,940.20 usft	Longitude:	-103.707331
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,674.0 usft
Grid Convergence:		0.34 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2000	12/31/2004	8.66	60.84	49,684.35494333

Design	Plan 0.1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	354.75	

Plan Survey Tool Program	Date	6/24/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	20,010.4 Plan 0.1 (OH)	B001Mb_MWD+HRGM		
			OWSG MWD + HRGM		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,392.5	7.85	250.32	2,391.3	-9.0	-25.3	2.00	2.00	0.00	250.32	
8,668.8	7.85	250.32	8,608.7	-297.7	-832.5	0.00	0.00	0.00	0.00	
9,061.3	0.00	0.00	9,000.0	-306.7	-857.7	2.00	-2.00	0.00	180.00	KOP - Emerald Fed C
9,317.8	0.00	0.00	9,256.5	-306.7	-857.7	0.00	0.00	0.00	0.00	
10,067.8	90.00	359.60	9,734.0	170.7	-861.1	12.00	12.00	0.00	359.60	
20,010.4	90.00	359.60	9,734.0	10,113.1	-930.1	0.00	0.00	0.00	0.00	LTP/BHL - Emerald Fi

Planning Report

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Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,460.0	0.00	0.00	1,460.0	0.0	0.0	0.0	0.00	0.00	0.00
RUSTLER									
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,754.0	0.00	0.00	1,754.0	0.0	0.0	0.0	0.00	0.00	0.00
SOLADO									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 2.00									
2,100.0	2.00	250.32	2,100.0	-0.6	-1.6	-0.4	2.00	2.00	0.00
2,200.0	4.00	250.32	2,199.8	-2.3	-6.6	-1.7	2.00	2.00	0.00
2,300.0	6.00	250.32	2,299.5	-5.3	-14.8	-3.9	2.00	2.00	0.00
2,392.5	7.85	250.32	2,391.3	-9.0	-25.3	-6.7	2.00	2.00	0.00
Start 6276.2 hold at 2392.5 MD									
2,400.0	7.85	250.32	2,398.7	-9.4	-26.2	-6.9	0.00	0.00	0.00
2,500.0	7.85	250.32	2,497.8	-14.0	-39.1	-10.3	0.00	0.00	0.00
2,600.0	7.85	250.32	2,596.8	-18.6	-52.0	-13.7	0.00	0.00	0.00
2,700.0	7.85	250.32	2,695.9	-23.2	-64.8	-17.1	0.00	0.00	0.00
2,800.0	7.85	250.32	2,795.0	-27.8	-77.7	-20.6	0.00	0.00	0.00
2,900.0	7.85	250.32	2,894.0	-32.4	-90.5	-24.0	0.00	0.00	0.00
3,000.0	7.85	250.32	2,993.1	-37.0	-103.4	-27.4	0.00	0.00	0.00
3,100.0	7.85	250.32	3,092.1	-41.6	-116.3	-30.8	0.00	0.00	0.00
3,200.0	7.85	250.32	3,191.2	-46.2	-129.1	-34.2	0.00	0.00	0.00
3,300.0	7.85	250.32	3,290.3	-50.8	-142.0	-37.6	0.00	0.00	0.00
3,400.0	7.85	250.32	3,389.3	-55.4	-154.9	-41.0	0.00	0.00	0.00
3,464.3	7.85	250.32	3,453.0	-58.3	-163.1	-43.2	0.00	0.00	0.00
YATES									
3,500.0	7.85	250.32	3,488.4	-60.0	-167.7	-44.4	0.00	0.00	0.00
3,600.0	7.85	250.32	3,587.5	-64.6	-180.6	-47.8	0.00	0.00	0.00
3,700.0	7.85	250.32	3,686.5	-69.2	-193.4	-51.2	0.00	0.00	0.00
3,800.0	7.85	250.32	3,785.6	-73.8	-206.3	-54.6	0.00	0.00	0.00
3,900.0	7.85	250.32	3,884.6	-78.4	-219.2	-58.0	0.00	0.00	0.00
4,000.0	7.85	250.32	3,983.7	-83.0	-232.0	-61.4	0.00	0.00	0.00
4,100.0	7.85	250.32	4,082.8	-87.6	-244.9	-64.8	0.00	0.00	0.00
4,200.0	7.85	250.32	4,181.8	-92.2	-257.7	-68.2	0.00	0.00	0.00
4,300.0	7.85	250.32	4,280.9	-96.8	-270.6	-71.6	0.00	0.00	0.00

Planning Report

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Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.0	7.85	250.32	4,380.0	-101.4	-283.5	-75.0	0.00	0.00	0.00
4,500.0	7.85	250.32	4,479.0	-106.0	-296.3	-78.4	0.00	0.00	0.00
4,600.0	7.85	250.32	4,578.1	-110.6	-309.2	-81.8	0.00	0.00	0.00
4,700.0	7.85	250.32	4,677.1	-115.2	-322.0	-85.2	0.00	0.00	0.00
4,753.4	7.85	250.32	4,730.0	-117.6	-328.9	-87.0	0.00	0.00	0.00
CAPITAN_REEF									
4,800.0	7.85	250.32	4,776.2	-119.8	-334.9	-88.6	0.00	0.00	0.00
4,900.0	7.85	250.32	4,875.3	-124.4	-347.8	-92.0	0.00	0.00	0.00
5,000.0	7.85	250.32	4,974.3	-129.0	-360.6	-95.4	0.00	0.00	0.00
5,100.0	7.85	250.32	5,073.4	-133.6	-373.5	-98.8	0.00	0.00	0.00
5,178.3	7.85	250.32	5,151.0	-137.2	-383.6	-101.5	0.00	0.00	0.00
CHERRY_CNYN									
5,200.0	7.85	250.32	5,172.5	-138.2	-386.4	-102.2	0.00	0.00	0.00
5,300.0	7.85	250.32	5,271.5	-142.8	-399.2	-105.6	0.00	0.00	0.00
5,400.0	7.85	250.32	5,370.6	-147.4	-412.1	-109.0	0.00	0.00	0.00
5,500.0	7.85	250.32	5,469.7	-152.0	-424.9	-112.4	0.00	0.00	0.00
5,600.0	7.85	250.32	5,568.7	-156.6	-437.8	-115.8	0.00	0.00	0.00
5,700.0	7.85	250.32	5,667.8	-161.2	-450.7	-119.2	0.00	0.00	0.00
5,800.0	7.85	250.32	5,766.8	-165.8	-463.5	-122.6	0.00	0.00	0.00
5,801.2	7.85	250.32	5,768.0	-165.8	-463.7	-122.7	0.00	0.00	0.00
BRUSHY_CANYON									
5,900.0	7.85	250.32	5,865.9	-170.4	-476.4	-126.0	0.00	0.00	0.00
6,000.0	7.85	250.32	5,965.0	-175.0	-489.2	-129.4	0.00	0.00	0.00
6,100.0	7.85	250.32	6,064.0	-179.6	-502.1	-132.8	0.00	0.00	0.00
6,200.0	7.85	250.32	6,163.1	-184.2	-515.0	-136.2	0.00	0.00	0.00
6,300.0	7.85	250.32	6,262.2	-188.8	-527.8	-139.6	0.00	0.00	0.00
6,400.0	7.85	250.32	6,361.2	-193.4	-540.7	-143.0	0.00	0.00	0.00
6,500.0	7.85	250.32	6,460.3	-198.0	-553.5	-146.4	0.00	0.00	0.00
6,600.0	7.85	250.32	6,559.3	-202.6	-566.4	-149.8	0.00	0.00	0.00
6,700.0	7.85	250.32	6,658.4	-207.2	-579.3	-153.2	0.00	0.00	0.00
6,800.0	7.85	250.32	6,757.5	-211.8	-592.1	-156.6	0.00	0.00	0.00
6,900.0	7.85	250.32	6,856.5	-216.4	-605.0	-160.0	0.00	0.00	0.00
7,000.0	7.85	250.32	6,955.6	-220.9	-617.9	-163.4	0.00	0.00	0.00
7,100.0	7.85	250.32	7,054.7	-225.5	-630.7	-166.8	0.00	0.00	0.00
7,200.0	7.85	250.32	7,153.7	-230.1	-643.6	-170.2	0.00	0.00	0.00
7,300.0	7.85	250.32	7,252.8	-234.7	-656.4	-173.6	0.00	0.00	0.00
7,400.0	7.85	250.32	7,351.8	-239.3	-669.3	-177.1	0.00	0.00	0.00
7,482.9	7.85	250.32	7,434.0	-243.2	-680.0	-179.9	0.00	0.00	0.00
BSPG_LIME *									
7,500.0	7.85	250.32	7,450.9	-243.9	-682.2	-180.5	0.00	0.00	0.00
7,600.0	7.85	250.32	7,550.0	-248.5	-695.0	-183.9	0.00	0.00	0.00
7,700.0	7.85	250.32	7,649.0	-253.1	-707.9	-187.3	0.00	0.00	0.00
7,800.0	7.85	250.32	7,748.1	-257.7	-720.7	-190.7	0.00	0.00	0.00
7,900.0	7.85	250.32	7,847.2	-262.3	-733.6	-194.1	0.00	0.00	0.00
8,000.0	7.85	250.32	7,946.2	-266.9	-746.5	-197.5	0.00	0.00	0.00
8,100.0	7.85	250.32	8,045.3	-271.5	-759.3	-200.9	0.00	0.00	0.00
8,200.0	7.85	250.32	8,144.3	-276.1	-772.2	-204.3	0.00	0.00	0.00
8,227.9	7.85	250.32	8,172.0	-277.4	-775.8	-205.2	0.00	0.00	0.00
AVALON_B									
8,300.0	7.85	250.32	8,243.4	-280.7	-785.0	-207.7	0.00	0.00	0.00
8,400.0	7.85	250.32	8,342.5	-285.3	-797.9	-211.1	0.00	0.00	0.00
8,500.0	7.85	250.32	8,441.5	-289.9	-810.8	-214.5	0.00	0.00	0.00
8,600.0	7.85	250.32	8,540.6	-294.5	-823.6	-217.9	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,668.8	7.85	250.32	8,608.7	-297.7	-832.5	-220.2	0.00	0.00	0.00
Start Drop -2.00									
8,700.0	7.23	250.32	8,639.7	-299.1	-836.3	-221.2	2.00	-2.00	0.00
8,787.9	5.47	250.32	8,727.0	-302.3	-845.5	-223.7	2.00	-2.00	0.00
FBSG_SD *									
8,800.0	5.23	250.32	8,739.1	-302.7	-846.5	-223.9	2.00	-2.00	0.00
8,900.0	3.23	250.32	8,838.8	-305.2	-853.5	-225.8	2.00	-2.00	0.00
9,000.0	1.23	250.32	8,938.7	-306.5	-857.1	-226.7	2.00	-2.00	0.00
9,061.3	0.00	0.00	9,000.0	-306.7	-857.7	-226.9	2.00	-2.00	0.00
Start 256.5 hold at 9061.3 MD - KOP - Emerald Fed Com 501H									
9,100.0	0.00	0.00	9,038.7	-306.7	-857.7	-226.9	0.00	0.00	0.00
9,165.3	0.00	0.00	9,104.0	-306.7	-857.7	-226.9	0.00	0.00	0.00
SBSG_CARB									
9,200.0	0.00	0.00	9,138.7	-306.7	-857.7	-226.9	0.00	0.00	0.00
9,300.0	0.00	0.00	9,238.7	-306.7	-857.7	-226.9	0.00	0.00	0.00
9,317.8	0.00	0.00	9,256.5	-306.7	-857.7	-226.9	0.00	0.00	0.00
KOP #2 - Start Build 12.00									
9,325.0	0.86	359.60	9,263.7	-306.7	-857.8	-226.8	12.00	12.00	0.00
9,350.0	3.86	359.60	9,288.7	-305.7	-857.8	-225.8	12.00	12.00	0.00
9,355.3	4.50	359.60	9,294.0	-305.3	-857.8	-225.4	12.00	12.00	0.00
SBSG_SD									
9,375.0	6.86	359.60	9,313.6	-303.3	-857.8	-223.5	12.00	12.00	0.00
9,400.0	9.86	359.60	9,338.3	-299.7	-857.8	-219.9	12.00	12.00	0.00
9,425.0	12.86	359.60	9,362.8	-294.8	-857.8	-215.0	12.00	12.00	0.00
9,450.0	15.86	359.60	9,387.0	-288.6	-857.9	-208.8	12.00	12.00	0.00
9,475.0	18.86	359.60	9,410.9	-281.1	-857.9	-201.4	12.00	12.00	0.00
9,500.0	21.86	359.60	9,434.3	-272.4	-858.0	-192.7	12.00	12.00	0.00
9,525.0	24.86	359.60	9,457.3	-262.5	-858.1	-182.8	12.00	12.00	0.00
9,550.0	27.86	359.60	9,479.7	-251.4	-858.1	-171.7	12.00	12.00	0.00
9,575.0	30.86	359.60	9,501.5	-239.1	-858.2	-159.5	12.00	12.00	0.00
9,600.0	33.86	359.60	9,522.6	-225.8	-858.3	-146.2	12.00	12.00	0.00
9,625.0	36.86	359.60	9,543.0	-211.3	-858.4	-131.8	12.00	12.00	0.00
9,650.0	39.86	359.60	9,562.6	-195.8	-858.5	-116.3	12.00	12.00	0.00
9,675.0	42.86	359.60	9,581.3	-179.3	-858.6	-99.9	12.00	12.00	0.00
9,700.0	45.86	359.60	9,599.2	-161.8	-858.8	-82.5	12.00	12.00	0.00
9,721.4	48.44	359.60	9,613.8	-146.1	-858.9	-66.8	12.00	12.00	0.00
FTP - Emerald Fed Com 501H									
9,725.0	48.86	359.60	9,616.1	-143.4	-858.9	-64.1	12.00	12.00	0.00
9,750.0	51.86	359.60	9,632.1	-124.1	-859.0	-44.9	12.00	12.00	0.00
9,775.0	54.86	359.60	9,647.0	-104.1	-859.2	-25.0	12.00	12.00	0.00
9,800.0	57.86	359.60	9,660.8	-83.3	-859.3	-4.2	12.00	12.00	0.00
9,825.0	60.86	359.60	9,673.6	-61.8	-859.5	17.2	12.00	12.00	0.00
9,850.0	63.86	359.60	9,685.2	-39.6	-859.6	39.3	12.00	12.00	0.00
9,875.0	66.86	359.60	9,695.6	-16.9	-859.8	61.9	12.00	12.00	0.00
9,900.0	69.86	359.60	9,704.8	6.3	-859.9	85.1	12.00	12.00	0.00
9,925.0	72.86	359.60	9,712.8	30.0	-860.1	108.7	12.00	12.00	0.00
9,950.0	75.86	359.60	9,719.5	54.1	-860.3	132.6	12.00	12.00	0.00
9,975.0	78.86	359.60	9,725.0	78.5	-860.4	157.0	12.00	12.00	0.00
10,000.0	81.86	359.60	9,729.2	103.1	-860.6	181.5	12.00	12.00	0.00
10,025.0	84.86	359.60	9,732.1	128.0	-860.8	206.2	12.00	12.00	0.00
10,050.0	87.86	359.60	9,733.7	152.9	-860.9	231.1	12.00	12.00	0.00
10,067.8	90.00	359.60	9,734.0	170.7	-861.1	248.8	12.00	12.00	0.00
LP - Start 9942.6 hold at 10067.8 MD									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.0	90.00	359.60	9,734.0	202.9	-861.3	280.9	0.00	0.00	0.00
10,200.0	90.00	359.60	9,734.0	302.9	-862.0	380.6	0.00	0.00	0.00
10,300.0	90.00	359.60	9,734.0	402.9	-862.7	480.2	0.00	0.00	0.00
10,400.0	90.00	359.60	9,734.0	502.9	-863.4	579.8	0.00	0.00	0.00
10,500.0	90.00	359.60	9,734.0	602.9	-864.1	679.5	0.00	0.00	0.00
10,600.0	90.00	359.60	9,734.0	702.9	-864.8	779.1	0.00	0.00	0.00
10,700.0	90.00	359.60	9,734.0	802.9	-865.5	878.8	0.00	0.00	0.00
10,800.0	90.00	359.60	9,734.0	902.9	-866.1	978.4	0.00	0.00	0.00
10,900.0	90.00	359.60	9,734.0	1,002.9	-866.8	1,078.1	0.00	0.00	0.00
11,000.0	90.00	359.60	9,734.0	1,102.9	-867.5	1,177.7	0.00	0.00	0.00
11,100.0	90.00	359.60	9,734.0	1,202.9	-868.2	1,277.3	0.00	0.00	0.00
11,200.0	90.00	359.60	9,734.0	1,302.9	-868.9	1,377.0	0.00	0.00	0.00
11,300.0	90.00	359.60	9,734.0	1,402.9	-869.6	1,476.6	0.00	0.00	0.00
11,400.0	90.00	359.60	9,734.0	1,502.9	-870.3	1,576.3	0.00	0.00	0.00
11,500.0	90.00	359.60	9,734.0	1,602.9	-871.0	1,675.9	0.00	0.00	0.00
11,600.0	90.00	359.60	9,734.0	1,702.9	-871.7	1,775.5	0.00	0.00	0.00
11,700.0	90.00	359.60	9,734.0	1,802.9	-872.4	1,875.2	0.00	0.00	0.00
11,800.0	90.00	359.60	9,734.0	1,902.9	-873.1	1,974.8	0.00	0.00	0.00
11,900.0	90.00	359.60	9,734.0	2,002.9	-873.8	2,074.5	0.00	0.00	0.00
12,000.0	90.00	359.60	9,734.0	2,102.9	-874.5	2,174.1	0.00	0.00	0.00
12,100.0	90.00	359.60	9,734.0	2,202.9	-875.2	2,273.7	0.00	0.00	0.00
12,200.0	90.00	359.60	9,734.0	2,302.9	-875.9	2,373.4	0.00	0.00	0.00
12,300.0	90.00	359.60	9,734.0	2,402.9	-876.6	2,473.0	0.00	0.00	0.00
12,400.0	90.00	359.60	9,734.0	2,502.8	-877.3	2,572.7	0.00	0.00	0.00
12,500.0	90.00	359.60	9,734.0	2,602.8	-877.9	2,672.3	0.00	0.00	0.00
12,600.0	90.00	359.60	9,734.0	2,702.8	-878.6	2,771.9	0.00	0.00	0.00
12,700.0	90.00	359.60	9,734.0	2,802.8	-879.3	2,871.6	0.00	0.00	0.00
12,800.0	90.00	359.60	9,734.0	2,902.8	-880.0	2,971.2	0.00	0.00	0.00
12,900.0	90.00	359.60	9,734.0	3,002.8	-880.7	3,070.9	0.00	0.00	0.00
13,000.0	90.00	359.60	9,734.0	3,102.8	-881.4	3,170.5	0.00	0.00	0.00
13,100.0	90.00	359.60	9,734.0	3,202.8	-882.1	3,270.2	0.00	0.00	0.00
13,200.0	90.00	359.60	9,734.0	3,302.8	-882.8	3,369.8	0.00	0.00	0.00
13,300.0	90.00	359.60	9,734.0	3,402.8	-883.5	3,469.4	0.00	0.00	0.00
13,400.0	90.00	359.60	9,734.0	3,502.8	-884.2	3,569.1	0.00	0.00	0.00
13,500.0	90.00	359.60	9,734.0	3,602.8	-884.9	3,668.7	0.00	0.00	0.00
13,600.0	90.00	359.60	9,734.0	3,702.8	-885.6	3,768.4	0.00	0.00	0.00
13,700.0	90.00	359.60	9,734.0	3,802.8	-886.3	3,868.0	0.00	0.00	0.00
13,800.0	90.00	359.60	9,734.0	3,902.8	-887.0	3,967.6	0.00	0.00	0.00
13,900.0	90.00	359.60	9,734.0	4,002.8	-887.7	4,067.3	0.00	0.00	0.00
14,000.0	90.00	359.60	9,734.0	4,102.8	-888.4	4,166.9	0.00	0.00	0.00
14,100.0	90.00	359.60	9,734.0	4,202.8	-889.1	4,266.6	0.00	0.00	0.00
14,200.0	90.00	359.60	9,734.0	4,302.8	-889.8	4,366.2	0.00	0.00	0.00
14,300.0	90.00	359.60	9,734.0	4,402.8	-890.4	4,465.8	0.00	0.00	0.00
14,400.0	90.00	359.60	9,734.0	4,502.8	-891.1	4,565.5	0.00	0.00	0.00
14,500.0	90.00	359.60	9,734.0	4,602.8	-891.8	4,665.1	0.00	0.00	0.00
14,600.0	90.00	359.60	9,734.0	4,702.8	-892.5	4,764.8	0.00	0.00	0.00
14,700.0	90.00	359.60	9,734.0	4,802.8	-893.2	4,864.4	0.00	0.00	0.00
14,800.0	90.00	359.60	9,734.0	4,902.8	-893.9	4,964.0	0.00	0.00	0.00
14,900.0	90.00	359.60	9,734.0	5,002.8	-894.6	5,063.7	0.00	0.00	0.00
15,000.0	90.00	359.60	9,734.0	5,102.8	-895.3	5,163.3	0.00	0.00	0.00
15,100.0	90.00	359.60	9,734.0	5,202.8	-896.0	5,263.0	0.00	0.00	0.00
15,200.0	90.00	359.60	9,734.0	5,302.8	-896.7	5,362.6	0.00	0.00	0.00
15,300.0	90.00	359.60	9,734.0	5,402.8	-897.4	5,462.3	0.00	0.00	0.00
15,400.0	90.00	359.60	9,734.0	5,502.8	-898.1	5,561.9	0.00	0.00	0.00

Planning Report

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Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,500.0	90.00	359.60	9,734.0	5,602.8	-898.8	5,661.5	0.00	0.00	0.00
15,600.0	90.00	359.60	9,734.0	5,702.8	-899.5	5,761.2	0.00	0.00	0.00
15,700.0	90.00	359.60	9,734.0	5,802.8	-900.2	5,860.8	0.00	0.00	0.00
15,800.0	90.00	359.60	9,734.0	5,902.8	-900.9	5,960.5	0.00	0.00	0.00
15,900.0	90.00	359.60	9,734.0	6,002.8	-901.6	6,060.1	0.00	0.00	0.00
16,000.0	90.00	359.60	9,734.0	6,102.8	-902.2	6,159.7	0.00	0.00	0.00
16,100.0	90.00	359.60	9,734.0	6,202.8	-902.9	6,259.4	0.00	0.00	0.00
16,200.0	90.00	359.60	9,734.0	6,302.8	-903.6	6,359.0	0.00	0.00	0.00
16,300.0	90.00	359.60	9,734.0	6,402.8	-904.3	6,458.7	0.00	0.00	0.00
16,400.0	90.00	359.60	9,734.0	6,502.8	-905.0	6,558.3	0.00	0.00	0.00
16,500.0	90.00	359.60	9,734.0	6,602.7	-905.7	6,657.9	0.00	0.00	0.00
16,600.0	90.00	359.60	9,734.0	6,702.7	-906.4	6,757.6	0.00	0.00	0.00
16,700.0	90.00	359.60	9,734.0	6,802.7	-907.1	6,857.2	0.00	0.00	0.00
16,800.0	90.00	359.60	9,734.0	6,902.7	-907.8	6,956.9	0.00	0.00	0.00
16,900.0	90.00	359.60	9,734.0	7,002.7	-908.5	7,056.5	0.00	0.00	0.00
17,000.0	90.00	359.60	9,734.0	7,102.7	-909.2	7,156.2	0.00	0.00	0.00
17,100.0	90.00	359.60	9,734.0	7,202.7	-909.9	7,255.8	0.00	0.00	0.00
17,200.0	90.00	359.60	9,734.0	7,302.7	-910.6	7,355.4	0.00	0.00	0.00
17,300.0	90.00	359.60	9,734.0	7,402.7	-911.3	7,455.1	0.00	0.00	0.00
17,400.0	90.00	359.60	9,734.0	7,502.7	-912.0	7,554.7	0.00	0.00	0.00
17,500.0	90.00	359.60	9,734.0	7,602.7	-912.7	7,654.4	0.00	0.00	0.00
17,600.0	90.00	359.60	9,734.0	7,702.7	-913.4	7,754.0	0.00	0.00	0.00
17,700.0	90.00	359.60	9,734.0	7,802.7	-914.1	7,853.6	0.00	0.00	0.00
17,800.0	90.00	359.60	9,734.0	7,902.7	-914.7	7,953.3	0.00	0.00	0.00
17,900.0	90.00	359.60	9,734.0	8,002.7	-915.4	8,052.9	0.00	0.00	0.00
18,000.0	90.00	359.60	9,734.0	8,102.7	-916.1	8,152.6	0.00	0.00	0.00
18,100.0	90.00	359.60	9,734.0	8,202.7	-916.8	8,252.2	0.00	0.00	0.00
18,200.0	90.00	359.60	9,734.0	8,302.7	-917.5	8,351.8	0.00	0.00	0.00
18,300.0	90.00	359.60	9,734.0	8,402.7	-918.2	8,451.5	0.00	0.00	0.00
18,400.0	90.00	359.60	9,734.0	8,502.7	-918.9	8,551.1	0.00	0.00	0.00
18,500.0	90.00	359.60	9,734.0	8,602.7	-919.6	8,650.8	0.00	0.00	0.00
18,600.0	90.00	359.60	9,734.0	8,702.7	-920.3	8,750.4	0.00	0.00	0.00
18,700.0	90.00	359.60	9,734.0	8,802.7	-921.0	8,850.0	0.00	0.00	0.00
18,800.0	90.00	359.60	9,734.0	8,902.7	-921.7	8,949.7	0.00	0.00	0.00
18,900.0	90.00	359.60	9,734.0	9,002.7	-922.4	9,049.3	0.00	0.00	0.00
19,000.0	90.00	359.60	9,734.0	9,102.7	-923.1	9,149.0	0.00	0.00	0.00
19,100.0	90.00	359.60	9,734.0	9,202.7	-923.8	9,248.6	0.00	0.00	0.00
19,200.0	90.00	359.60	9,734.0	9,302.7	-924.5	9,348.3	0.00	0.00	0.00
19,300.0	90.00	359.60	9,734.0	9,402.7	-925.2	9,447.9	0.00	0.00	0.00
19,400.0	90.00	359.60	9,734.0	9,502.7	-925.9	9,547.5	0.00	0.00	0.00
19,500.0	90.00	359.60	9,734.0	9,602.7	-926.5	9,647.2	0.00	0.00	0.00
19,600.0	90.00	359.60	9,734.0	9,702.7	-927.2	9,746.8	0.00	0.00	0.00
19,700.0	90.00	359.60	9,734.0	9,802.7	-927.9	9,846.5	0.00	0.00	0.00
19,800.0	90.00	359.60	9,734.0	9,902.7	-928.6	9,946.1	0.00	0.00	0.00
19,900.0	90.00	359.60	9,734.0	10,002.7	-929.3	10,045.7	0.00	0.00	0.00
20,000.0	90.00	359.60	9,734.0	10,102.7	-930.0	10,145.4	0.00	0.00	0.00
20,010.4	90.00	359.60	9,734.0	10,113.1	-930.1	10,155.7	0.00	0.00	0.00
TD at 20010.4 - LTP/BHL - Emerald Fed Com 501H									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Company:	Avant Operating, LLC	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Project:	Lea Co., NM (NAD 83)	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site:	Emerald Pad 1	North Reference:	Grid
Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 0.1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
KOP - Emerald Fed Con	0.00	0.00	9,000.0	-306.7	-857.7	612,484.73	733,082.45	32.682217	-103.710124
- plan hits target center									
- Point									
LTP/BHL - Emerald Fed	0.00	0.00	9,734.0	10,113.1	-930.1	622,904.53	733,010.11	32.710857	-103.710160
- plan hits target center									
- Point									
FTP - Emerald Fed Com	0.00	0.00	9,734.0	-256.7	-858.1	612,534.73	733,082.08	32.682354	-103.710124
- plan misses target center by 163.4usft at 9721.4usft MD (9613.8 TVD, -146.1 N, -858.9 E)									
- Point									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
20,011.3	9,734.0	20" Casing	20	24

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,460.0	1,460.0	RUSTLER			
1,754.0	1,754.0	SOLADO			
3,464.3	3,453.0	YATES			
4,753.4	4,730.0	CAPITAN_REEF			
5,178.3	5,151.0	CHERRY_CNYN			
5,801.2	5,768.0	BRUSHY_CANYON			
7,482.9	7,434.0	BSPG_LIME *			
8,227.9	8,172.0	AVALON_B			
8,787.9	8,727.0	FBSG_SD *			
9,165.3	9,104.0	SBSG_CARB			
9,355.3	9,294.0	SBSG_SD			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.0	2,000.0	0.0	0.0	KOP - Start Build 2.00
2,392.5	2,391.3	-9.0	-25.3	Start 6276.2 hold at 2392.5 MD
8,668.8	8,608.7	-297.7	-832.5	Start Drop -2.00
9,061.3	9,000.0	-306.7	-857.7	Start 256.5 hold at 9061.3 MD
9,317.8	9,256.5	-306.7	-857.7	KOP #2 - Start Build 12.00
10,067.8	9,734.0	170.7	-861.1	LP - Start 9942.6 hold at 10067.8 MD
20,010.4	9,734.0	10,113.1	-930.1	TD at 20010.4

Avant Operating, LLC

Lea Co., NM (NAD 83)

Emerald Pad 1

Emerald Fed Com 501H

OH

Plan 0.1

Anticollision Report

24 June, 2024

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Reference	Plan 0.1		
Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
Interpolation Method:	MD Interval 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 2,201.1usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	6/24/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	20,010.4	Plan 0.1 (OH)	B001Mb_MWD+HRGM	OWSG MWD + HRGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Alpha Wolf 36 FC Pad						
Alpha Wolf 36 FC 301H - OH - Plan 0.1	17,135.5	8,722.5	1,441.3	1,340.7	14.332	CC, ES
Alpha Wolf 36 FC 301H - OH - Plan 0.1	17,300.0	8,722.7	1,450.6	1,348.3	14.183	SF
Alpha Wolf 36 FC 302H - OH - Plan 0.1	16,145.6	8,650.0	1,444.9	1,354.3	15.939	CC, ES
Alpha Wolf 36 FC 302H - OH - Plan 0.1	16,400.0	8,650.0	1,467.2	1,373.1	15.602	SF
Alpha Wolf 36 FC 303H - OH - Plan 0.1	15,155.5	8,722.2	1,439.0	1,356.7	17.498	CC
Alpha Wolf 36 FC 303H - OH - Plan 0.1	15,200.0	8,722.3	1,439.7	1,356.7	17.341	ES
Alpha Wolf 36 FC 303H - OH - Plan 0.1	15,500.0	8,722.6	1,479.7	1,392.0	16.873	SF
Alpha Wolf 36 FC 501H - OH - Plan 0.1	16,964.7	9,428.7	663.2	539.1	5.343	CC, ES
Alpha Wolf 36 FC 501H - OH - Plan 0.1	17,100.0	9,450.0	676.9	549.5	5.311	SF
Alpha Wolf 36 FC 502H - OH - Plan 0.1	16,044.9	9,380.0	665.6	553.7	5.950	CC, ES
Alpha Wolf 36 FC 502H - OH - Plan 0.1	16,100.0	9,382.6	667.8	554.6	5.900	SF
Alpha Wolf 36 FC 503H - OH - Plan 0.1	15,263.0	9,431.5	666.4	561.7	6.367	CC, ES
Alpha Wolf 36 FC 503H - OH - Plan 0.1	15,300.0	9,429.8	667.4	562.0	6.332	SF
Alpha Wolf 36 FC 601H - OH - Plan 0.1	17,134.2	9,841.3	381.2	232.5	2.563	CC, ES, SF
Alpha Wolf 36 FC 602H - OH - Plan 0.1	16,144.2	9,780.3	381.7	249.1	2.879	CC, ES, SF
Alpha Wolf 36 FC 603H - OH - Plan 0.1	15,154.1	9,841.6	382.1	260.3	3.138	CC, ES
Alpha Wolf 36 FC 603H - OH - Plan 0.1	15,200.0	9,841.6	384.8	262.0	3.134	SF
Lone Wolf 36 B2DA State Com 001H - OH - OH	18,949.3	14,107.0	588.8	423.8	3.569	CC
Lone Wolf 36 B2DA State Com 001H - OH - OH	19,000.0	14,107.0	590.9	420.1	3.460	ES
Lone Wolf 36 B2DA State Com 001H - OH - OH	19,100.0	14,107.0	607.7	425.8	3.340	SF
Emerald						
Emerald Federal Com 513H - OH - Plan 0.1	2,000.0	2,000.0	39.9	26.0	2.873	CC, ES
Emerald Federal Com 513H - OH - Plan 0.1	2,100.0	2,100.0	41.5	27.0	2.848	SF
Emerald Offset Wells						
Hudson Federal 31 #2 - OH - P & A	19,096.6	9,776.5	466.3	144.3	1.448	Level 3, CC, ES, SF

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Emerald Pad 1						
Emerald Fed Com 301H - OH - Plan 0.1	8,555.7	8,582.9	42.3	-21.0	0.668	Level 1, CC, ES, SF
Emerald Fed Com 302H - OH - Plan 0.1	2,000.0	2,002.6	162.9	149.0	11.721	CC, ES
Emerald Fed Com 302H - OH - Plan 0.1	20,011.3	19,070.0	1,305.7	1,064.1	5.404	SF
Emerald Fed Com 303H - OH - Plan 0.1	2,000.9	2,003.4	167.6	153.7	12.059	CC, ES
Emerald Fed Com 303H - OH - Plan 0.1	20,011.3	19,124.2	2,065.5	1,785.3	7.372	SF
Emerald Fed Com 502H - OH - Plan 0.1	2,000.0	2,000.0	20.0	6.1	1.440	Level 3, CC, ES, SF
Emerald Fed Com 601H - OH - Plan 0.1	9,457.4	9,444.6	41.5	-27.2	0.604	Level 1, CC, ES, SF
Emerald Fed Com 602H - OH - Plan 0.1	2,375.3	2,371.8	160.8	144.3	9.746	CC
Emerald Fed Com 602H - OH - Plan 0.1	2,400.0	2,396.3	160.9	144.2	9.647	ES
Emerald Fed Com 602H - OH - Plan 0.1	20,011.3	20,748.7	1,220.5	962.6	4.733	SF
Emerald Fed Com 603H - OH - Plan 0.1	2,000.0	1,997.5	167.6	153.7	12.076	CC
Emerald Fed Com 603H - OH - Plan 0.1	2,100.0	2,095.0	168.2	153.7	11.554	ES
Emerald Fed Com 603H - OH - Plan 0.1	20,011.3	20,801.4	2,012.7	1,724.7	6.987	SF
Emerald Pad 2						
Emerald Fed Com 503H - OH - Plan 0.1	9,300.0	9,511.7	1,848.0	1,779.3	26.915	CC
Emerald Fed Com 503H - OH - Plan 0.1	20,011.3	20,212.7	1,848.0	1,544.7	6.093	ES, SF
Lone Wolf 36 Pad						
LONE WOLF 36 B2DA STATE COM 001H - OH - OH	18,949.3	14,107.0	589.5	424.1	3.564	CC
LONE WOLF 36 B2DA STATE COM 001H - OH - OH	19,000.0	14,107.0	591.7	419.9	3.445	ES
LONE WOLF 36 B2DA STATE COM 001H - OH - OH	19,100.0	14,107.0	608.4	424.5	3.307	SF
Lone Wolf 36 Fed Com 304H - OH - Plan 0.1	17,800.9	8,750.0	1,374.6	1,270.7	13.226	CC, ES
Lone Wolf 36 Fed Com 304H - OH - Plan 0.1	18,000.0	8,750.0	1,389.0	1,281.8	12.960	SF
Lone Wolf 36 Fed Com 305H - OH - Plan 0.2	18,856.8	8,685.3	1,374.9	1,262.5	12.224	CC, ES
Lone Wolf 36 Fed Com 305H - OH - Plan 0.2	19,000.0	8,685.4	1,382.4	1,268.1	12.092	SF
Lone Wolf 36 Fed Com 306H - OH - Plan 0.1	19,780.9	8,787.5	1,374.5	1,251.7	11.197	CC
Lone Wolf 36 Fed Com 306H - OH - Plan 0.1	19,800.0	8,787.5	1,374.6	1,251.6	11.179	ES
Lone Wolf 36 Fed Com 306H - OH - Plan 0.1	19,900.0	8,787.5	1,379.6	1,255.8	11.138	SF
Lone Wolf 36 Fed Com 504H - OH - Plan 0.1	18,020.3	9,425.0	648.7	514.6	4.836	CC, ES
Lone Wolf 36 Fed Com 504H - OH - Plan 0.1	18,100.0	9,425.0	653.6	517.9	4.816	SF
Lone Wolf 36 Fed Com 505H - OH - Plan 0.1	18,910.3	9,416.2	648.5	504.1	4.491	CC, ES, SF
Lone Wolf 36 Fed Com 506H - OH - Plan 0.1	19,780.4	9,489.4	648.8	492.0	4.138	CC
Lone Wolf 36 Fed Com 506H - OH - Plan 0.1	19,800.0	9,489.4	649.1	491.9	4.130	ES, SF
Lone Wolf 36 Fed Com 604H - OH - Plan 0.1	18,020.0	9,833.0	381.0	222.2	2.399	CC, ES, SF
Lone Wolf 36 Fed Com 605H - OH - Plan 0.2	18,856.0	9,792.3	380.6	210.3	2.235	CC, ES, SF
Lone Wolf 36 Fed Com 606H - OH - Plan 0.1	19,780.0	9,868.2	380.1	194.0	2.042	CC, ES
Lone Wolf 36 Fed Com 606H - OH - Plan 0.1	19,800.0	9,868.2	380.6	194.0	2.040	SF

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 301H - OH - Plan 0.1													Offset Site Error:	0.0 usft	
Survey Program: 0-B001Mb_MWD+HRGM				Reference Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
15,500.0	9,734.0	8,720.9	8,522.9	89.7	32.9	-29.85	7,233.3	-1,627.4	2,179.9	2,104.8	75.12	29.019			
15,600.0	9,734.0	8,721.0	8,522.9	91.0	32.9	-29.85	7,233.3	-1,627.5	2,106.0	2,029.7	76.24	27.623			
15,700.0	9,734.0	8,721.1	8,523.0	92.4	32.9	-29.85	7,233.3	-1,627.6	2,034.2	1,956.7	77.46	26.261			
15,800.0	9,734.0	8,721.2	8,523.0	93.7	32.9	-29.86	7,233.3	-1,627.6	1,964.9	1,886.1	78.79	24.940			
15,900.0	9,734.0	8,721.3	8,523.1	95.1	32.9	-29.86	7,233.3	-1,627.7	1,898.4	1,818.1	80.21	23.666			
16,000.0	9,734.0	8,721.4	8,523.1	96.4	32.9	-29.87	7,233.3	-1,627.8	1,834.8	1,753.1	81.74	22.447			
16,100.0	9,734.0	8,721.5	8,523.2	97.7	32.9	-29.87	7,233.3	-1,627.9	1,774.7	1,691.3	83.36	21.290			

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 301H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,200.0	9,734.0	8,721.6	8,523.2	99.1	32.9	-29.87	7,233.3	-1,628.0	1,718.3	1,633.2	85.06	20.201	
16,300.0	9,734.0	8,721.7	8,523.3	100.4	32.9	-29.88	7,233.3	-1,628.1	1,665.9	1,579.1	86.82	19.189	
16,400.0	9,734.0	8,721.8	8,523.3	101.8	32.9	-29.88	7,233.3	-1,628.1	1,618.1	1,529.5	88.63	18.258	
16,500.0	9,734.0	8,721.9	8,523.4	103.2	32.9	-29.88	7,233.3	-1,628.2	1,575.2	1,484.7	90.45	17.415	
16,600.0	9,734.0	8,722.0	8,523.4	104.5	32.9	-29.89	7,233.3	-1,628.3	1,537.5	1,445.3	92.26	16.664	
16,700.0	9,734.0	8,722.1	8,523.5	105.9	32.9	-29.89	7,233.3	-1,628.4	1,505.6	1,411.6	94.04	16.011	
16,800.0	9,734.0	8,722.2	8,523.5	107.2	32.9	-29.90	7,233.3	-1,628.5	1,479.8	1,384.1	95.74	15.457	
16,900.0	9,734.0	8,722.3	8,523.6	108.6	32.9	-29.90	7,233.3	-1,628.6	1,460.4	1,363.0	97.34	15.003	
17,000.0	9,734.0	8,722.4	8,523.6	110.0	32.9	-29.90	7,233.3	-1,628.7	1,447.6	1,348.8	98.81	14.651	
17,100.0	9,734.0	8,722.5	8,523.7	111.4	32.9	-29.91	7,233.3	-1,628.7	1,441.7	1,341.6	100.13	14.398	
17,135.5	9,734.0	8,722.5	8,523.7	111.8	32.9	-29.91	7,233.3	-1,628.8	1,441.3	1,340.7	100.56	14.332	CC, ES
17,200.0	9,734.0	8,722.6	8,523.7	112.7	32.9	-29.91	7,233.3	-1,628.8	1,442.7	1,341.4	101.29	14.243	
17,300.0	9,734.0	8,722.7	8,523.8	114.1	32.9	-29.92	7,233.3	-1,628.9	1,450.6	1,348.3	102.28	14.183	SF
17,400.0	9,734.0	8,722.8	8,523.8	115.5	32.9	-29.92	7,233.3	-1,629.0	1,465.3	1,362.2	103.08	14.215	
17,500.0	9,734.0	8,722.9	8,523.9	116.9	32.9	-29.92	7,233.3	-1,629.1	1,486.6	1,382.9	103.71	14.334	
17,600.0	9,734.0	8,723.0	8,523.9	118.2	32.9	-29.93	7,233.3	-1,629.2	1,514.3	1,410.1	104.16	14.538	
17,700.0	9,734.0	8,723.1	8,524.0	119.6	32.9	-29.93	7,233.3	-1,629.2	1,547.9	1,443.4	104.44	14.820	
17,800.0	9,734.0	8,723.2	8,524.0	121.0	32.9	-29.93	7,233.3	-1,629.3	1,587.1	1,482.5	104.56	15.178	
17,900.0	9,734.0	8,723.3	8,524.1	122.4	32.9	-29.94	7,233.3	-1,629.4	1,631.5	1,526.9	104.54	15.606	
18,000.0	9,734.0	8,723.4	8,524.1	123.8	32.9	-29.94	7,233.3	-1,629.5	1,680.6	1,576.3	104.39	16.100	
18,100.0	9,734.0	8,723.5	8,524.2	125.2	32.9	-29.95	7,233.3	-1,629.6	1,734.2	1,630.1	104.12	16.655	
18,200.0	9,734.0	8,723.6	8,524.2	126.5	32.9	-29.95	7,233.3	-1,629.7	1,791.7	1,688.0	103.77	17.266	
18,300.0	9,734.0	8,723.7	8,524.3	127.9	32.9	-29.95	7,233.3	-1,629.7	1,852.9	1,749.6	103.34	17.929	
18,400.0	9,734.0	8,723.8	8,524.3	129.3	32.9	-29.96	7,233.3	-1,629.8	1,917.3	1,814.5	102.86	18.640	
18,500.0	9,734.0	8,723.9	8,524.3	130.7	32.9	-29.96	7,233.3	-1,629.9	1,984.7	1,882.4	102.34	19.394	
18,600.0	9,734.0	8,724.0	8,524.4	132.1	32.9	-29.97	7,233.3	-1,630.0	2,054.7	1,952.9	101.78	20.188	
18,700.0	9,734.0	8,724.1	8,524.4	133.5	32.9	-29.97	7,233.3	-1,630.1	2,127.2	2,026.0	101.21	21.017	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,500.0	9,734.0	8,650.0	8,528.7	76.6	30.6	-30.71	6,243.2	-1,641.1	2,189.9	2,121.9	67.98	32.215	
14,600.0	9,734.0	8,650.0	8,528.7	77.9	30.6	-30.71	6,243.2	-1,641.1	2,115.8	2,047.1	68.74	30.779	
14,700.0	9,734.0	8,650.0	8,528.7	79.2	30.6	-30.71	6,243.2	-1,641.1	2,043.9	1,974.3	69.60	29.367	
14,800.0	9,734.0	8,650.0	8,528.7	80.5	30.6	-30.71	6,243.2	-1,641.1	1,974.4	1,903.9	70.55	27.984	
14,900.0	9,734.0	8,650.0	8,528.7	81.8	30.6	-30.71	6,243.2	-1,641.1	1,907.7	1,836.1	71.61	26.639	
15,000.0	9,734.0	8,650.0	8,528.7	83.1	30.6	-30.71	6,243.2	-1,641.1	1,844.0	1,771.2	72.78	25.337	
15,100.0	9,734.0	8,650.0	8,528.7	84.4	30.6	-30.71	6,243.2	-1,641.1	1,783.6	1,709.5	74.04	24.088	
15,200.0	9,734.0	8,650.0	8,528.7	85.7	30.6	-30.71	6,243.2	-1,641.1	1,726.8	1,651.4	75.41	22.900	
15,300.0	9,734.0	8,650.0	8,528.7	87.1	30.6	-30.71	6,243.2	-1,641.1	1,674.2	1,597.3	76.87	21.780	
15,400.0	9,734.0	8,650.0	8,528.7	88.4	30.6	-30.71	6,243.2	-1,641.1	1,626.0	1,547.5	78.41	20.738	
15,500.0	9,734.0	8,650.0	8,528.7	89.7	30.6	-30.71	6,243.2	-1,641.1	1,582.6	1,502.6	80.01	19.779	
15,600.0	9,734.0	8,650.0	8,528.7	91.0	30.6	-30.71	6,243.2	-1,641.1	1,544.5	1,462.8	81.67	18.911	
15,700.0	9,734.0	8,650.0	8,528.7	92.4	30.6	-30.71	6,243.2	-1,641.1	1,512.1	1,428.7	83.36	18.139	
15,800.0	9,734.0	8,650.0	8,528.7	93.7	30.6	-30.71	6,243.2	-1,641.1	1,485.7	1,400.6	85.06	17.467	
15,900.0	9,734.0	8,650.0	8,528.7	95.1	30.6	-30.71	6,243.2	-1,641.1	1,465.7	1,378.9	86.74	16.897	
16,000.0	9,734.0	8,650.0	8,528.7	96.4	30.6	-30.71	6,243.2	-1,641.1	1,452.2	1,363.9	88.39	16.431	
16,100.0	9,734.0	8,650.0	8,528.7	97.7	30.6	-30.71	6,243.2	-1,641.1	1,445.7	1,355.7	89.96	16.069	
16,145.6	9,734.0	8,650.0	8,528.7	98.4	30.6	-30.71	6,243.2	-1,641.1	1,444.9	1,354.3	90.65	15.939 CC, ES	
16,200.0	9,734.0	8,650.0	8,528.7	99.1	30.6	-30.71	6,243.2	-1,641.1	1,446.0	1,354.5	91.45	15.812	
16,300.0	9,734.0	8,650.0	8,528.7	100.4	30.6	-30.71	6,243.2	-1,641.1	1,453.2	1,360.3	92.81	15.657	
16,400.0	9,734.0	8,650.0	8,528.7	101.8	30.6	-30.71	6,243.2	-1,641.1	1,467.2	1,373.1	94.03	15.602 SF	
16,500.0	9,734.0	8,650.0	8,528.7	103.2	30.6	-30.71	6,243.2	-1,641.1	1,487.8	1,392.7	95.09	15.645	
16,600.0	9,734.0	8,650.0	8,528.7	104.5	30.6	-30.71	6,243.2	-1,641.1	1,514.7	1,418.7	95.97	15.782	
16,700.0	9,734.0	8,650.0	8,528.7	105.9	30.6	-30.71	6,243.2	-1,641.1	1,547.6	1,451.0	96.67	16.009	
16,800.0	9,734.0	8,650.0	8,528.7	107.2	30.6	-30.71	6,243.2	-1,641.1	1,586.2	1,489.0	97.20	16.320	
16,900.0	9,734.0	8,650.0	8,528.7	108.6	30.6	-30.71	6,243.2	-1,641.1	1,630.0	1,532.5	97.55	16.709	
17,000.0	9,734.0	8,650.0	8,528.7	110.0	30.6	-30.71	6,243.2	-1,641.1	1,678.6	1,580.9	97.75	17.173	
17,100.0	9,734.0	8,650.0	8,528.7	111.4	30.6	-30.71	6,243.2	-1,641.1	1,731.7	1,633.9	97.82	17.704	
17,200.0	9,734.0	8,650.0	8,528.7	112.7	30.6	-30.71	6,243.2	-1,641.1	1,788.8	1,691.0	97.76	18.297	
17,300.0	9,734.0	8,650.0	8,528.7	114.1	30.6	-30.71	6,243.2	-1,641.1	1,849.5	1,751.9	97.61	18.947	
17,400.0	9,734.0	8,650.0	8,528.7	115.5	30.6	-30.71	6,243.2	-1,641.1	1,913.5	1,816.1	97.38	19.649	
17,500.0	9,734.0	8,650.0	8,528.7	116.9	30.6	-30.71	6,243.2	-1,641.1	1,980.5	1,883.4	97.09	20.398	
17,600.0	9,734.0	8,650.0	8,528.7	118.2	30.6	-30.71	6,243.2	-1,641.1	2,050.2	1,953.4	96.75	21.189	
17,700.0	9,734.0	8,650.0	8,528.7	119.6	30.6	-30.71	6,243.2	-1,641.1	2,122.3	2,025.9	96.38	22.020	
17,800.0	9,734.0	8,650.0	8,528.7	121.0	30.6	-30.71	6,243.2	-1,641.1	2,196.6	2,100.6	95.98	22.885	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 303H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
13,500.0	9,734.0	8,720.6	8,522.6	64.2	32.9	-29.90	5,253.3	-1,613.8	2,193.5	2,130.9	62.53	35.080
13,600.0	9,734.0	8,720.7	8,522.6	65.4	32.9	-29.91	5,253.3	-1,613.8	2,119.0	2,056.1	62.90	33.690
13,700.0	9,734.0	8,720.8	8,522.7	66.6	32.9	-29.91	5,253.3	-1,613.9	2,046.7	1,983.4	63.35	32.307
13,800.0	9,734.0	8,720.9	8,522.7	67.8	32.9	-29.92	5,253.3	-1,614.0	1,976.9	1,913.0	63.90	30.936
13,900.0	9,734.0	8,721.0	8,522.8	69.1	32.9	-29.92	5,253.3	-1,614.1	1,909.7	1,845.1	64.55	29.583
14,000.0	9,734.0	8,721.1	8,522.8	70.3	32.9	-29.92	5,253.3	-1,614.2	1,845.5	1,780.2	65.31	28.255
14,100.0	9,734.0	8,721.2	8,522.9	71.6	32.9	-29.93	5,253.3	-1,614.3	1,784.6	1,718.4	66.19	26.959
14,200.0	9,734.0	8,721.3	8,522.9	72.8	32.9	-29.93	5,253.3	-1,614.4	1,727.3	1,660.1	67.20	25.705
14,300.0	9,734.0	8,721.4	8,523.0	74.1	32.9	-29.93	5,253.3	-1,614.4	1,674.1	1,605.7	68.33	24.500
14,400.0	9,734.0	8,721.5	8,523.0	75.4	32.9	-29.94	5,253.3	-1,614.5	1,625.2	1,555.7	69.59	23.354
14,500.0	9,734.0	8,721.6	8,523.1	76.6	32.9	-29.94	5,253.3	-1,614.6	1,581.2	1,510.3	70.98	22.277
14,600.0	9,734.0	8,721.7	8,523.1	77.9	32.9	-29.95	5,253.3	-1,614.7	1,542.5	1,470.0	72.49	21.279
14,700.0	9,734.0	8,721.8	8,523.2	79.2	32.9	-29.95	5,253.3	-1,614.8	1,509.4	1,435.2	74.11	20.366
14,800.0	9,734.0	8,721.9	8,523.2	80.5	32.9	-29.95	5,253.3	-1,614.9	1,482.2	1,406.4	75.82	19.549
14,900.0	9,734.0	8,722.0	8,523.3	81.8	32.9	-29.96	5,253.3	-1,614.9	1,461.5	1,383.9	77.60	18.833
15,000.0	9,734.0	8,722.1	8,523.3	83.1	32.9	-29.96	5,253.3	-1,615.0	1,447.4	1,367.9	79.42	18.223
15,100.0	9,734.0	8,722.2	8,523.4	84.4	32.9	-29.97	5,253.3	-1,615.1	1,440.1	1,358.8	81.24	17.725
15,155.5	9,734.0	8,722.2	8,523.4	85.2	32.9	-29.97	5,253.3	-1,615.2	1,439.0	1,356.7	82.24	17.498 CC
15,200.0	9,734.0	8,722.3	8,523.4	85.7	32.9	-29.97	5,253.3	-1,615.2	1,439.7	1,356.7	83.02	17.341 ES
15,300.0	9,734.0	8,722.4	8,523.5	87.1	32.9	-29.97	5,253.3	-1,615.3	1,446.2	1,361.5	84.71	17.072
15,400.0	9,734.0	8,722.5	8,523.5	88.4	32.9	-29.98	5,253.3	-1,615.4	1,459.6	1,373.3	86.28	16.916
15,500.0	9,734.0	8,722.6	8,523.6	89.7	32.9	-29.98	5,253.3	-1,615.4	1,479.7	1,392.0	87.70	16.873 SF
15,600.0	9,734.0	8,722.7	8,523.6	91.0	32.9	-29.98	5,253.3	-1,615.5	1,506.1	1,417.1	88.93	16.936
15,700.0	9,734.0	8,722.7	8,523.7	92.4	32.9	-29.99	5,253.3	-1,615.6	1,538.6	1,448.6	89.97	17.100
15,800.0	9,734.0	8,722.8	8,523.7	93.7	32.9	-29.99	5,253.3	-1,615.7	1,576.7	1,485.9	90.83	17.360
15,900.0	9,734.0	8,722.9	8,523.8	95.1	32.9	-30.00	5,253.3	-1,615.8	1,620.2	1,528.7	91.49	17.708
16,000.0	9,734.0	8,723.0	8,523.8	96.4	32.9	-30.00	5,253.3	-1,615.9	1,668.5	1,576.5	91.99	18.137
16,100.0	9,734.0	8,723.1	8,523.9	97.7	32.9	-30.00	5,253.3	-1,616.0	1,721.3	1,628.9	92.34	18.641
16,200.0	9,734.0	8,723.2	8,523.9	99.1	32.9	-30.01	5,253.3	-1,616.0	1,778.1	1,685.6	92.55	19.212
16,300.0	9,734.0	8,723.3	8,524.0	100.4	32.9	-30.01	5,253.3	-1,616.1	1,838.6	1,746.0	92.65	19.844
16,400.0	9,734.0	8,723.4	8,524.0	101.8	32.9	-30.02	5,253.3	-1,616.2	1,902.5	1,809.8	92.66	20.532
16,500.0	9,734.0	8,723.5	8,524.1	103.2	32.9	-30.02	5,253.3	-1,616.3	1,969.4	1,876.8	92.59	21.270
16,600.0	9,734.0	8,723.6	8,524.1	104.5	32.9	-30.02	5,253.3	-1,616.4	2,038.9	1,946.5	92.45	22.053
16,700.0	9,734.0	8,723.7	8,524.1	105.9	32.9	-30.03	5,253.3	-1,616.5	2,111.0	2,018.7	92.27	22.877
16,800.0	9,734.0	8,723.8	8,524.2	107.2	32.9	-30.03	5,253.3	-1,616.5	2,185.2	2,093.1	92.05	23.738

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 501H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,900.0	9,734.0	9,320.9	9,257.8	81.8	34.4	-41.65	7,050.4	-1,361.7	2,161.1	2,090.6	70.47	30.668	
15,000.0	9,734.0	9,324.9	9,261.3	83.1	34.4	-41.97	7,050.9	-1,363.7	2,066.4	1,995.6	70.83	29.176	
15,100.0	9,734.0	9,329.0	9,264.8	84.4	34.4	-42.29	7,051.3	-1,365.6	1,972.3	1,901.0	71.26	27.678	
15,200.0	9,734.0	9,333.2	9,268.4	85.7	34.4	-42.63	7,051.8	-1,367.7	1,878.7	1,806.9	71.77	26.175	
15,300.0	9,734.0	9,350.0	9,282.8	87.1	34.5	-43.99	7,053.7	-1,376.3	1,785.9	1,713.3	72.54	24.618	
15,400.0	9,734.0	9,350.0	9,282.8	88.4	34.5	-43.99	7,053.7	-1,376.3	1,693.7	1,620.4	73.25	23.120	
15,500.0	9,734.0	9,350.0	9,282.8	89.7	34.5	-43.99	7,053.7	-1,376.3	1,602.4	1,528.3	74.11	21.622	
15,600.0	9,734.0	9,350.0	9,282.8	91.0	34.5	-43.99	7,053.7	-1,376.3	1,512.2	1,437.1	75.14	20.125	
15,700.0	9,734.0	9,350.0	9,282.8	92.4	34.5	-43.99	7,053.7	-1,376.3	1,423.4	1,347.0	76.38	18.635	
15,800.0	9,734.0	9,350.0	9,282.8	93.7	34.5	-43.99	7,053.7	-1,376.3	1,336.1	1,258.2	77.87	17.158	
15,900.0	9,734.0	9,365.8	9,296.0	95.1	34.5	-45.29	7,055.6	-1,384.7	1,250.5	1,170.5	80.01	15.629	
16,000.0	9,734.0	9,371.0	9,300.3	96.4	34.6	-45.72	7,056.2	-1,387.5	1,167.2	1,084.9	82.33	14.177	
16,100.0	9,734.0	9,376.3	9,304.7	97.7	34.6	-46.17	7,056.9	-1,390.4	1,086.7	1,001.6	85.11	12.768	
16,200.0	9,734.0	9,381.7	9,309.1	99.1	34.6	-46.62	7,057.6	-1,393.5	1,009.6	921.2	88.41	11.420	
16,300.0	9,734.0	9,400.0	9,323.8	100.4	34.6	-48.17	7,060.0	-1,404.0	937.0	844.2	92.82	10.096	
16,400.0	9,734.0	9,400.0	9,323.8	101.8	34.6	-48.17	7,060.0	-1,404.0	869.4	772.4	97.07	8.957	
16,500.0	9,734.0	9,400.0	9,323.8	103.2	34.6	-48.17	7,060.0	-1,404.0	808.6	706.8	101.78	7.944	
16,600.0	9,734.0	9,400.0	9,323.8	104.5	34.6	-48.17	7,060.0	-1,404.0	756.1	649.3	106.78	7.080	
16,700.0	9,734.0	9,400.0	9,323.8	105.9	34.6	-48.17	7,060.0	-1,404.0	713.8	602.0	111.78	6.386	
16,800.0	9,734.0	9,417.7	9,337.8	107.2	34.7	-49.68	7,062.4	-1,414.7	683.1	565.4	117.73	5.803	
16,900.0	9,734.0	9,424.3	9,342.9	108.6	34.7	-50.25	7,063.3	-1,418.8	666.3	544.3	122.01	5.461	
16,964.7	9,734.0	9,428.7	9,346.3	109.5	34.7	-50.62	7,063.9	-1,421.6	663.2	539.1	124.11	5.343 CC, ES	
17,000.0	9,734.0	9,431.1	9,348.1	110.0	34.7	-50.83	7,064.3	-1,423.1	664.1	539.1	124.99	5.313	
17,100.0	9,734.0	9,450.0	9,362.3	111.4	34.8	-52.44	7,067.0	-1,435.2	676.9	549.5	127.45	5.311 SF	
17,200.0	9,734.0	9,450.0	9,362.3	112.7	34.8	-52.44	7,067.0	-1,435.2	703.3	576.5	126.76	5.548	
17,300.0	9,734.0	9,450.0	9,362.3	114.1	34.8	-52.44	7,067.0	-1,435.2	742.3	617.4	124.89	5.944	
17,400.0	9,734.0	9,450.0	9,362.3	115.5	34.8	-52.44	7,067.0	-1,435.2	792.1	669.9	122.26	6.479	
17,500.0	9,734.0	9,468.2	9,375.5	116.9	34.8	-53.98	7,069.7	-1,447.4	850.4	729.8	120.59	7.052	
17,600.0	9,734.0	9,476.2	9,381.3	118.2	34.8	-54.66	7,071.0	-1,452.9	915.9	798.0	117.97	7.764	
17,700.0	9,734.0	9,484.5	9,387.1	119.6	34.9	-55.35	7,072.3	-1,458.6	987.1	871.7	115.38	8.556	
17,800.0	9,734.0	9,500.0	9,397.8	121.0	34.9	-56.63	7,074.7	-1,469.6	1,062.9	949.5	113.36	9.376	
17,900.0	9,734.0	9,500.0	9,397.8	122.4	34.9	-56.63	7,074.7	-1,469.6	1,142.2	1,031.6	110.56	10.330	
18,000.0	9,734.0	9,500.0	9,397.8	123.8	34.9	-56.63	7,074.7	-1,469.6	1,224.5	1,116.4	108.03	11.335	
18,100.0	9,734.0	9,520.2	9,411.2	125.2	35.0	-58.26	7,078.1	-1,484.3	1,309.0	1,202.2	106.81	12.255	
18,200.0	9,734.0	9,529.8	9,417.4	126.5	35.0	-59.02	7,079.7	-1,491.4	1,395.5	1,290.3	105.19	13.267	
18,300.0	9,734.0	9,550.0	9,430.1	127.9	35.0	-60.59	7,083.1	-1,506.8	1,483.6	1,379.4	104.27	14.229	
18,400.0	9,734.0	9,550.0	9,430.1	129.3	35.0	-60.59	7,083.1	-1,506.8	1,573.0	1,470.5	102.50	15.346	
18,500.0	9,734.0	9,550.0	9,430.1	130.7	35.0	-60.59	7,083.1	-1,506.8	1,663.6	1,562.6	100.92	16.484	
18,600.0	9,734.0	9,570.9	9,442.6	132.1	35.1	-62.15	7,086.8	-1,523.1	1,754.9	1,654.5	100.42	17.476	
18,700.0	9,734.0	9,581.9	9,448.9	133.5	35.1	-62.94	7,088.8	-1,531.9	1,847.1	1,747.6	99.58	18.550	
18,800.0	9,734.0	9,600.0	9,458.9	134.9	35.2	-64.20	7,092.1	-1,546.6	1,940.0	1,840.9	99.14	19.569	
18,900.0	9,734.0	9,600.0	9,458.9	136.3	35.2	-64.20	7,092.1	-1,546.6	2,033.4	1,935.4	98.01	20.747	
19,000.0	9,734.0	9,616.7	9,467.7	137.7	35.2	-65.32	7,095.2	-1,560.4	2,127.4	2,029.7	97.67	21.782	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 502H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,000.0	9,734.0	9,300.0	9,279.6	70.3	32.6	-43.72	6,137.1	-1,369.5	2,146.7	2,078.7	68.06	31.543	
14,100.0	9,734.0	9,300.0	9,279.6	71.6	32.6	-43.72	6,137.1	-1,369.5	2,052.1	1,983.8	68.24	30.073	
14,200.0	9,734.0	9,300.0	9,279.6	72.8	32.6	-43.72	6,137.1	-1,369.5	1,957.9	1,889.5	68.46	28.598	
14,300.0	9,734.0	9,300.0	9,279.6	74.1	32.6	-43.72	6,137.1	-1,369.5	1,864.4	1,795.6	68.75	27.118	
14,400.0	9,734.0	9,300.0	9,279.6	75.4	32.6	-43.72	6,137.1	-1,369.5	1,771.6	1,702.5	69.11	25.633	
14,500.0	9,734.0	9,318.0	9,294.7	76.6	32.6	-45.21	6,138.6	-1,379.2	1,679.3	1,609.5	69.80	24.061	
14,600.0	9,734.0	9,321.5	9,297.6	77.9	32.6	-45.50	6,138.9	-1,381.1	1,588.2	1,517.7	70.43	22.549	
14,700.0	9,734.0	9,325.1	9,300.6	79.2	32.6	-45.80	6,139.2	-1,383.1	1,498.1	1,426.9	71.22	21.034	
14,800.0	9,734.0	9,328.7	9,303.6	80.5	32.6	-46.10	6,139.5	-1,385.1	1,409.4	1,337.2	72.20	19.520	
14,900.0	9,734.0	9,332.4	9,306.6	81.8	32.7	-46.41	6,139.8	-1,387.2	1,322.2	1,248.8	73.42	18.010	
15,000.0	9,734.0	9,350.0	9,320.8	83.1	32.7	-47.90	6,141.3	-1,397.4	1,237.2	1,162.0	75.24	16.442	
15,100.0	9,734.0	9,350.0	9,320.8	84.4	32.7	-47.90	6,141.3	-1,397.4	1,154.2	1,077.2	77.02	14.986	
15,200.0	9,734.0	9,350.0	9,320.8	85.7	32.7	-47.90	6,141.3	-1,397.4	1,074.2	995.0	79.17	13.568	
15,300.0	9,734.0	9,350.0	9,320.8	87.1	32.7	-47.90	6,141.3	-1,397.4	997.7	916.0	81.75	12.205	
15,400.0	9,734.0	9,350.0	9,320.8	88.4	32.7	-47.90	6,141.3	-1,397.4	925.8	841.0	84.80	10.917	
15,500.0	9,734.0	9,350.0	9,320.8	89.7	32.7	-47.90	6,141.3	-1,397.4	859.5	771.1	88.34	9.729	
15,600.0	9,734.0	9,350.0	9,320.8	91.0	32.7	-47.90	6,141.3	-1,397.4	800.2	707.8	92.32	8.668	
15,700.0	9,734.0	9,364.6	9,332.4	92.4	32.8	-49.15	6,142.6	-1,406.2	749.3	651.8	97.48	7.686	
15,800.0	9,734.0	9,368.9	9,335.8	93.7	32.8	-49.52	6,143.0	-1,408.9	709.0	606.8	102.22	6.936	
15,900.0	9,734.0	9,373.4	9,339.3	95.1	32.8	-49.90	6,143.5	-1,411.7	681.1	574.4	106.71	6.383	
16,000.0	9,734.0	9,378.0	9,342.8	96.4	32.8	-50.29	6,143.9	-1,414.6	667.1	556.6	110.50	6.037	
16,044.9	9,734.0	9,380.0	9,344.4	97.0	32.8	-50.47	6,144.1	-1,415.9	665.6	553.7	111.86	5.950 CC, ES	
16,100.0	9,734.0	9,382.6	9,346.3	97.7	32.8	-50.69	6,144.3	-1,417.5	667.8	554.6	113.19	5.900 SF	
16,200.0	9,734.0	9,400.0	9,359.5	99.1	32.9	-52.18	6,146.0	-1,428.8	683.6	568.0	115.53	5.917	
16,300.0	9,734.0	9,400.0	9,359.5	100.4	32.9	-52.18	6,146.0	-1,428.8	712.6	597.4	115.27	6.182	
16,400.0	9,734.0	9,400.0	9,359.5	101.8	32.9	-52.18	6,146.0	-1,428.8	754.0	640.0	114.02	6.613	
16,500.0	9,734.0	9,400.0	9,359.5	103.2	32.9	-52.18	6,146.0	-1,428.8	805.7	693.6	112.10	7.187	
16,600.0	9,734.0	9,400.0	9,359.5	104.5	32.9	-52.18	6,146.0	-1,428.8	865.9	756.0	109.84	7.883	
16,700.0	9,734.0	9,400.0	9,359.5	105.9	32.9	-52.18	6,146.0	-1,428.8	932.9	825.4	107.46	8.681	
16,800.0	9,734.0	9,417.7	9,372.5	107.2	32.9	-53.68	6,147.8	-1,440.7	1,005.1	899.1	106.04	9.478	
16,900.0	9,734.0	9,423.1	9,376.4	108.6	32.9	-54.14	6,148.4	-1,444.4	1,081.9	977.9	104.03	10.400	
17,000.0	9,734.0	9,428.6	9,380.3	110.0	33.0	-54.61	6,149.0	-1,448.2	1,162.1	1,060.0	102.16	11.376	
17,100.0	9,734.0	9,434.3	9,384.3	111.4	33.0	-55.08	6,149.5	-1,452.2	1,245.2	1,144.7	100.45	12.396	
17,200.0	9,734.0	9,450.0	9,395.2	112.7	33.0	-56.38	6,151.2	-1,463.4	1,330.6	1,231.3	99.32	13.398	
17,300.0	9,734.0	9,450.0	9,395.2	114.1	33.0	-56.38	6,151.2	-1,463.4	1,417.8	1,320.1	97.68	14.515	
17,400.0	9,734.0	9,450.0	9,395.2	115.5	33.0	-56.38	6,151.2	-1,463.4	1,506.5	1,410.3	96.20	15.659	
17,500.0	9,734.0	9,450.0	9,395.2	116.9	33.0	-56.38	6,151.2	-1,463.4	1,596.6	1,501.7	94.88	16.827	
17,600.0	9,734.0	9,464.2	9,404.8	118.2	33.1	-57.54	6,152.8	-1,473.7	1,687.7	1,593.5	94.18	17.919	
17,700.0	9,734.0	9,470.5	9,409.0	119.6	33.1	-58.06	6,153.5	-1,478.4	1,779.7	1,686.4	93.30	19.074	
17,800.0	9,734.0	9,477.0	9,413.2	121.0	33.1	-58.57	6,154.2	-1,483.3	1,872.5	1,780.0	92.52	20.239	
17,900.0	9,734.0	9,483.6	9,417.4	122.4	33.2	-59.10	6,155.0	-1,488.3	1,966.0	1,874.2	91.83	21.410	
18,000.0	9,734.0	9,500.0	9,427.8	123.8	33.2	-60.37	6,156.9	-1,500.9	2,060.1	1,968.6	91.51	22.513	
18,100.0	9,734.0	9,500.0	9,427.8	125.2	33.2	-60.37	6,156.9	-1,500.9	2,154.6	2,063.9	90.74	23.744	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 503H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
13,200.0	9,734.0	9,550.0	9,427.0	60.6	35.1	-60.22	5,348.2	-1,494.6	2,162.2	2,092.9	69.27	31.216	
13,300.0	9,734.0	9,550.0	9,427.0	61.8	35.1	-60.22	5,348.2	-1,494.6	2,067.6	1,998.1	69.47	29.763	
13,400.0	9,734.0	9,537.7	9,419.4	63.0	35.1	-59.27	5,349.8	-1,485.2	1,973.5	1,904.0	69.58	28.364	
13,500.0	9,734.0	9,531.0	9,415.0	64.2	35.1	-58.74	5,350.7	-1,480.1	1,880.0	1,810.2	69.80	26.934	
13,600.0	9,734.0	9,524.4	9,410.7	65.4	35.1	-58.21	5,351.5	-1,475.1	1,787.2	1,717.1	70.09	25.500	
13,700.0	9,734.0	9,517.9	9,406.5	66.6	35.1	-57.69	5,352.3	-1,470.3	1,695.1	1,624.7	70.45	24.062	
13,800.0	9,734.0	9,500.0	9,394.4	67.8	35.0	-56.23	5,354.5	-1,457.2	1,604.0	1,533.3	70.70	22.686	
13,900.0	9,734.0	9,500.0	9,394.4	69.1	35.0	-56.23	5,354.5	-1,457.2	1,513.9	1,442.5	71.38	21.208	
14,000.0	9,734.0	9,500.0	9,394.4	70.3	35.0	-56.23	5,354.5	-1,457.2	1,425.0	1,352.8	72.23	19.728	
14,100.0	9,734.0	9,500.0	9,394.4	71.6	35.0	-56.23	5,354.5	-1,457.2	1,337.7	1,264.4	73.29	18.252	
14,200.0	9,734.0	9,487.3	9,385.6	72.8	35.0	-55.17	5,356.0	-1,448.2	1,252.2	1,178.0	74.24	16.867	
14,300.0	9,734.0	9,481.5	9,381.5	74.1	35.0	-54.69	5,356.7	-1,444.2	1,169.0	1,093.4	75.64	15.455	
14,400.0	9,734.0	9,475.9	9,377.5	75.4	35.0	-54.22	5,357.3	-1,440.3	1,088.6	1,011.2	77.36	14.071	
14,500.0	9,734.0	9,470.3	9,373.5	76.6	35.0	-53.75	5,358.0	-1,436.5	1,011.6	932.1	79.46	12.730	
14,600.0	9,734.0	9,464.9	9,369.6	77.9	34.9	-53.29	5,358.6	-1,432.8	938.9	856.9	81.99	11.451	
14,700.0	9,734.0	9,450.0	9,358.6	79.2	34.9	-52.03	5,360.3	-1,422.8	871.6	787.1	84.47	10.318	
14,800.0	9,734.0	9,450.0	9,358.6	80.5	34.9	-52.03	5,360.3	-1,422.8	810.8	722.7	88.13	9.201	
14,900.0	9,734.0	9,450.0	9,358.6	81.8	34.9	-52.03	5,360.3	-1,422.8	758.4	666.2	92.19	8.227	
15,000.0	9,734.0	9,450.0	9,358.6	83.1	34.9	-52.03	5,360.3	-1,422.8	716.2	619.8	96.46	7.426	
15,100.0	9,734.0	9,450.0	9,358.6	84.4	34.9	-52.03	5,360.3	-1,422.8	686.1	585.5	100.61	6.820	
15,200.0	9,734.0	9,434.5	9,346.9	85.7	34.9	-50.70	5,361.9	-1,412.8	669.4	566.3	103.06	6.495	
15,263.0	9,734.0	9,431.5	9,344.6	86.6	34.9	-50.45	5,362.3	-1,410.9	666.4	561.7	104.66	6.367 CC, ES	
15,300.0	9,734.0	9,429.8	9,343.3	87.1	34.9	-50.30	5,362.4	-1,409.8	667.4	562.0	105.40	6.332 SF	
15,400.0	9,734.0	9,425.2	9,339.7	88.4	34.8	-49.90	5,362.9	-1,406.9	680.3	573.6	106.63	6.380	
15,500.0	9,734.0	9,420.6	9,336.2	89.7	34.8	-49.51	5,363.4	-1,404.1	707.1	600.3	106.76	6.623	
15,600.0	9,734.0	9,416.2	9,332.7	91.0	34.8	-49.13	5,363.9	-1,401.4	746.4	640.4	105.98	7.043	
15,700.0	9,734.0	9,400.0	9,319.9	92.4	34.8	-47.76	5,365.5	-1,391.6	796.5	692.6	103.92	7.665	
15,800.0	9,734.0	9,400.0	9,319.9	93.7	34.8	-47.76	5,365.5	-1,391.6	855.1	752.7	102.44	8.347	
15,900.0	9,734.0	9,400.0	9,319.9	95.1	34.8	-47.76	5,365.5	-1,391.6	920.9	820.1	100.77	9.138	
16,000.0	9,734.0	9,400.0	9,319.9	96.4	34.8	-47.76	5,365.5	-1,391.6	992.4	893.3	99.05	10.019	
16,100.0	9,734.0	9,400.0	9,319.9	97.7	34.8	-47.76	5,365.5	-1,391.6	1,068.4	971.1	97.37	10.973	
16,200.0	9,734.0	9,400.0	9,319.9	99.1	34.8	-47.76	5,365.5	-1,391.6	1,148.2	1,052.4	95.80	11.986	
16,300.0	9,734.0	9,400.0	9,319.9	100.4	34.8	-47.76	5,365.5	-1,391.6	1,230.9	1,136.6	94.34	13.048	
16,400.0	9,734.0	9,383.5	9,306.5	101.8	34.7	-46.36	5,367.1	-1,382.1	1,315.8	1,223.2	92.56	14.215	
16,500.0	9,734.0	9,379.7	9,303.4	103.2	34.7	-46.04	5,367.4	-1,380.0	1,402.7	1,311.4	91.30	15.364	
16,600.0	9,734.0	9,376.0	9,300.4	104.5	34.7	-45.73	5,367.8	-1,377.9	1,491.3	1,401.1	90.17	16.539	
16,700.0	9,734.0	9,372.4	9,297.4	105.9	34.7	-45.43	5,368.1	-1,375.9	1,581.2	1,492.1	89.16	17.736	
16,800.0	9,734.0	9,368.9	9,294.5	107.2	34.7	-45.14	5,368.4	-1,374.0	1,672.3	1,584.0	88.25	18.950	
16,900.0	9,734.0	9,365.4	9,291.6	108.6	34.7	-44.85	5,368.8	-1,372.1	1,764.3	1,676.9	87.43	20.179	
17,000.0	9,734.0	9,350.0	9,278.6	110.0	34.7	-43.58	5,370.1	-1,363.9	1,857.2	1,770.7	86.51	21.469	
17,100.0	9,734.0	9,350.0	9,278.6	111.4	34.7	-43.58	5,370.1	-1,363.9	1,950.7	1,864.8	85.91	22.706	
17,200.0	9,734.0	9,350.0	9,278.6	112.7	34.7	-43.58	5,370.1	-1,363.9	2,044.7	1,959.4	85.37	23.951	
17,300.0	9,734.0	9,350.0	9,278.6	114.1	34.7	-43.58	5,370.1	-1,363.9	2,139.4	2,054.5	84.88	25.204	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 601H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,000.0	9,734.0	9,841.3	9,769.0	83.1	37.3	-90.00	7,234.3	-1,291.3	2,168.0	2,095.1	72.91	29.736	
15,100.0	9,734.0	9,841.3	9,769.0	84.4	37.3	-90.00	7,234.3	-1,291.3	2,069.6	1,996.5	73.11	28.309	
15,200.0	9,734.0	9,841.3	9,769.0	85.7	37.3	-90.00	7,234.3	-1,291.3	1,971.4	1,898.1	73.35	26.877	
15,300.0	9,734.0	9,841.3	9,769.0	87.1	37.3	-90.00	7,234.3	-1,291.3	1,873.4	1,799.8	73.64	25.440	
15,400.0	9,734.0	9,841.3	9,769.0	88.4	37.3	-90.00	7,234.3	-1,291.3	1,775.6	1,701.6	73.99	23.997	
15,500.0	9,734.0	9,841.3	9,769.0	89.7	37.3	-90.00	7,234.3	-1,291.3	1,678.1	1,603.6	74.42	22.549	
15,600.0	9,734.0	9,841.3	9,769.0	91.0	37.3	-90.00	7,234.3	-1,291.3	1,580.8	1,505.9	74.95	21.093	
15,700.0	9,734.0	9,841.3	9,769.0	92.4	37.3	-90.00	7,234.3	-1,291.3	1,484.0	1,408.4	75.60	19.630	
15,800.0	9,734.0	9,841.3	9,769.0	93.7	37.3	-90.00	7,234.3	-1,291.3	1,387.6	1,311.2	76.41	18.160	
15,900.0	9,734.0	9,841.3	9,769.0	95.1	37.3	-90.00	7,234.3	-1,291.3	1,291.7	1,214.3	77.42	16.684	
16,000.0	9,734.0	9,841.3	9,769.0	96.4	37.3	-90.00	7,234.3	-1,291.3	1,196.5	1,117.8	78.71	15.203	
16,100.0	9,734.0	9,841.3	9,769.0	97.7	37.3	-90.00	7,234.3	-1,291.3	1,102.2	1,021.9	80.34	13.719	
16,200.0	9,734.0	9,841.3	9,769.0	99.1	37.3	-90.00	7,234.3	-1,291.3	1,009.0	926.5	82.44	12.240	
16,300.0	9,734.0	9,841.3	9,769.0	100.4	37.3	-90.00	7,234.3	-1,291.3	917.2	832.0	85.14	10.772	
16,400.0	9,734.0	9,841.3	9,769.0	101.8	37.3	-90.00	7,234.3	-1,291.3	827.3	738.6	88.66	9.331	
16,500.0	9,734.0	9,841.3	9,769.0	103.2	37.3	-90.00	7,234.3	-1,291.3	740.0	646.7	93.25	7.935	
16,600.0	9,734.0	9,841.3	9,769.0	104.5	37.3	-90.00	7,234.3	-1,291.3	656.3	557.0	99.22	6.614	
16,700.0	9,734.0	9,841.3	9,769.0	105.9	37.3	-90.00	7,234.3	-1,291.3	577.8	470.9	106.93	5.404	
16,800.0	9,734.0	9,841.3	9,769.0	107.2	37.3	-90.00	7,234.3	-1,291.3	507.0	390.4	116.56	4.349	
16,900.0	9,734.0	9,841.3	9,769.0	108.6	37.3	-90.00	7,234.3	-1,291.3	447.4	319.6	127.81	3.500	
17,000.0	9,734.0	9,841.3	9,769.0	110.0	37.3	-90.00	7,234.3	-1,291.3	404.1	265.0	139.10	2.905	
17,100.0	9,734.0	9,841.3	9,769.0	111.4	37.3	-90.00	7,234.3	-1,291.3	382.7	235.5	147.26	2.599	
17,134.2	9,734.0	9,841.3	9,769.0	111.8	37.3	-90.00	7,234.3	-1,291.3	381.2	232.5	148.72	2.563 CC, ES, SF	
17,200.0	9,734.0	9,841.3	9,769.0	112.7	37.3	-90.00	7,234.3	-1,291.3	386.9	237.6	149.24	2.592	
17,300.0	9,734.0	9,841.3	9,769.0	114.1	37.3	-90.00	7,234.3	-1,291.3	415.7	270.7	145.02	2.867	
17,400.0	9,734.0	9,841.3	9,769.0	115.5	37.3	-90.00	7,234.3	-1,291.3	464.7	327.3	137.39	3.383	
17,500.0	9,734.0	9,841.3	9,769.0	116.9	37.3	-90.00	7,234.3	-1,291.3	528.3	399.2	129.11	4.092	
17,600.0	9,734.0	9,841.3	9,769.0	118.2	37.3	-90.00	7,234.3	-1,291.3	601.9	480.3	121.59	4.950	
17,700.0	9,734.0	9,841.3	9,769.0	119.6	37.3	-90.00	7,234.3	-1,291.3	682.2	567.0	115.23	5.921	
17,800.0	9,734.0	9,841.3	9,769.0	121.0	37.3	-90.00	7,234.3	-1,291.3	767.2	657.2	110.02	6.974	
17,900.0	9,734.0	9,841.3	9,769.0	122.4	37.3	-90.00	7,234.3	-1,291.3	855.4	749.7	105.77	8.088	
18,000.0	9,734.0	9,841.3	9,769.0	123.8	37.3	-90.00	7,234.3	-1,291.3	946.0	843.7	102.30	9.248	
18,100.0	9,734.0	9,841.3	9,769.0	125.2	37.3	-90.00	7,234.3	-1,291.3	1,038.3	938.9	99.45	10.440	
18,200.0	9,734.0	9,841.3	9,769.0	126.5	37.3	-90.00	7,234.3	-1,291.3	1,131.9	1,034.8	97.10	11.657	
18,300.0	9,734.0	9,841.3	9,769.0	127.9	37.3	-90.00	7,234.3	-1,291.3	1,226.6	1,131.4	95.14	12.893	
18,400.0	9,734.0	9,841.3	9,769.0	129.3	37.3	-90.00	7,234.3	-1,291.3	1,322.0	1,228.5	93.49	14.141	
18,500.0	9,734.0	9,841.3	9,769.0	130.7	37.3	-90.00	7,234.3	-1,291.3	1,418.0	1,325.9	92.09	15.398	
18,600.0	9,734.0	9,841.3	9,769.0	132.1	37.3	-90.00	7,234.3	-1,291.3	1,514.6	1,423.7	90.90	16.663	
18,700.0	9,734.0	9,841.3	9,769.0	133.5	37.3	-90.00	7,234.3	-1,291.3	1,611.5	1,521.7	89.87	17.932	
18,800.0	9,734.0	9,841.3	9,769.0	134.9	37.3	-90.00	7,234.3	-1,291.3	1,708.9	1,619.9	88.99	19.204	
18,900.0	9,734.0	9,841.3	9,769.0	136.3	37.3	-90.00	7,234.3	-1,291.3	1,806.5	1,718.3	88.22	20.477	
19,000.0	9,734.0	9,841.3	9,769.0	137.7	37.3	-90.00	7,234.3	-1,291.3	1,904.4	1,816.8	87.55	21.752	
19,100.0	9,734.0	9,841.3	9,769.0	139.1	37.3	-90.00	7,234.3	-1,291.3	2,002.4	1,915.5	86.96	23.026	
19,200.0	9,734.0	9,841.3	9,769.0	140.5	37.3	-90.00	7,234.3	-1,291.3	2,100.7	2,014.2	86.45	24.300	
19,300.0	9,734.0	9,841.3	9,769.0	141.9	37.3	-90.00	7,234.3	-1,291.3	2,199.1	2,113.1	85.99	25.573	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 602H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,000.0	9,734.0	9,780.3	9,771.0	70.3	34.8	-90.00	6,244.3	-1,284.9	2,177.9	2,106.8	71.03	30.662	
14,100.0	9,734.0	9,780.3	9,771.0	71.6	34.8	-90.00	6,244.3	-1,284.9	2,079.5	2,008.4	71.13	29.233	
14,200.0	9,734.0	9,780.3	9,771.0	72.8	34.8	-90.00	6,244.3	-1,284.9	1,981.3	1,910.0	71.27	27.800	
14,300.0	9,734.0	9,780.3	9,771.0	74.1	34.8	-90.00	6,244.3	-1,284.9	1,883.2	1,811.8	71.43	26.363	
14,400.0	9,734.0	9,780.3	9,771.0	75.4	34.8	-90.00	6,244.3	-1,284.9	1,785.4	1,713.8	71.64	24.922	
14,500.0	9,734.0	9,780.3	9,771.0	76.6	34.8	-90.00	6,244.3	-1,284.9	1,687.9	1,616.0	71.90	23.475	
14,600.0	9,734.0	9,780.3	9,771.0	77.9	34.8	-90.00	6,244.3	-1,284.9	1,590.6	1,518.4	72.23	22.022	
14,700.0	9,734.0	9,780.3	9,771.0	79.2	34.8	-90.00	6,244.3	-1,284.9	1,493.8	1,421.1	72.65	20.562	
14,800.0	9,734.0	9,780.3	9,771.0	80.5	34.8	-90.00	6,244.3	-1,284.9	1,397.3	1,324.1	73.17	19.096	
14,900.0	9,734.0	9,780.3	9,771.0	81.8	34.8	-90.00	6,244.3	-1,284.9	1,301.4	1,227.5	73.85	17.622	
15,000.0	9,734.0	9,780.3	9,771.0	83.1	34.8	-90.00	6,244.3	-1,284.9	1,206.1	1,131.4	74.73	16.141	
15,100.0	9,734.0	9,780.3	9,771.0	84.4	34.8	-90.00	6,244.3	-1,284.9	1,111.7	1,035.9	75.86	14.655	
15,200.0	9,734.0	9,780.3	9,771.0	85.7	34.8	-90.00	6,244.3	-1,284.9	1,018.4	941.0	77.35	13.166	
15,300.0	9,734.0	9,780.3	9,771.0	87.1	34.8	-90.00	6,244.3	-1,284.9	926.4	847.1	79.32	11.680	
15,400.0	9,734.0	9,780.3	9,771.0	88.4	34.8	-90.00	6,244.3	-1,284.9	836.3	754.4	81.92	10.209	
15,500.0	9,734.0	9,780.3	9,771.0	89.7	34.8	-90.00	6,244.3	-1,284.9	748.7	663.4	85.39	8.769	
15,600.0	9,734.0	9,780.3	9,771.0	91.0	34.8	-90.00	6,244.3	-1,284.9	664.7	574.7	89.99	7.386	
15,700.0	9,734.0	9,780.3	9,771.0	92.4	34.8	-90.00	6,244.3	-1,284.9	585.6	489.6	96.06	6.096	
15,800.0	9,734.0	9,780.3	9,771.0	93.7	34.8	-90.00	6,244.3	-1,284.9	513.9	410.1	103.82	4.950	
15,900.0	9,734.0	9,780.3	9,771.0	95.1	34.8	-90.00	6,244.3	-1,284.9	453.1	339.9	113.13	4.005	
16,000.0	9,734.0	9,780.3	9,771.0	96.4	34.8	-90.00	6,244.3	-1,284.9	408.0	285.1	122.89	3.320	
16,100.0	9,734.0	9,780.3	9,771.0	97.7	34.8	-90.00	6,244.3	-1,284.9	384.2	253.6	130.60	2.942	
16,144.2	9,734.0	9,780.3	9,771.0	98.3	34.8	-90.00	6,244.3	-1,284.9	381.7	249.1	132.58	2.879 CC, ES, SF	
16,200.0	9,734.0	9,780.3	9,771.0	99.1	34.8	-90.00	6,244.3	-1,284.9	385.7	252.2	133.50	2.889	
16,300.0	9,734.0	9,780.3	9,771.0	100.4	34.8	-90.00	6,244.3	-1,284.9	412.2	281.2	131.08	3.145	
16,400.0	9,734.0	9,780.3	9,771.0	101.8	34.8	-90.00	6,244.3	-1,284.9	459.5	334.0	125.41	3.664	
16,500.0	9,734.0	9,780.3	9,771.0	103.2	34.8	-90.00	6,244.3	-1,284.9	521.8	402.9	118.85	4.391	
16,600.0	9,734.0	9,780.3	9,771.0	104.5	34.8	-90.00	6,244.3	-1,284.9	594.5	481.8	112.71	5.275	
16,700.0	9,734.0	9,780.3	9,771.0	105.9	34.8	-90.00	6,244.3	-1,284.9	674.2	566.8	107.45	6.275	
16,800.0	9,734.0	9,780.3	9,771.0	107.2	34.8	-90.00	6,244.3	-1,284.9	758.8	655.7	103.11	7.359	
16,900.0	9,734.0	9,780.3	9,771.0	108.6	34.8	-90.00	6,244.3	-1,284.9	846.7	747.2	99.56	8.504	
17,000.0	9,734.0	9,780.3	9,771.0	110.0	34.8	-90.00	6,244.3	-1,284.9	937.1	840.4	96.66	9.694	
17,100.0	9,734.0	9,780.3	9,771.0	111.4	34.8	-90.00	6,244.3	-1,284.9	1,029.2	934.9	94.28	10.916	
17,200.0	9,734.0	9,780.3	9,771.0	112.7	34.8	-90.00	6,244.3	-1,284.9	1,122.7	1,030.4	92.32	12.161	
17,300.0	9,734.0	9,780.3	9,771.0	114.1	34.8	-90.00	6,244.3	-1,284.9	1,217.2	1,126.5	90.67	13.424	
17,400.0	9,734.0	9,780.3	9,771.0	115.5	34.8	-90.00	6,244.3	-1,284.9	1,312.5	1,223.2	89.30	14.699	
17,500.0	9,734.0	9,780.3	9,771.0	116.9	34.8	-90.00	6,244.3	-1,284.9	1,408.5	1,320.4	88.13	15.982	
17,600.0	9,734.0	9,780.3	9,771.0	118.2	34.8	-90.00	6,244.3	-1,284.9	1,505.0	1,417.9	87.13	17.273	
17,700.0	9,734.0	9,780.3	9,771.0	119.6	34.8	-90.00	6,244.3	-1,284.9	1,602.0	1,515.7	86.28	18.567	
17,800.0	9,734.0	9,780.3	9,771.0	121.0	34.8	-90.00	6,244.3	-1,284.9	1,699.2	1,613.7	85.54	19.864	
17,900.0	9,734.0	9,780.3	9,771.0	122.4	34.8	-90.00	6,244.3	-1,284.9	1,796.8	1,711.9	84.90	21.163	
18,000.0	9,734.0	9,780.3	9,771.0	123.8	34.8	-90.00	6,244.3	-1,284.9	1,894.7	1,810.3	84.35	22.462	
18,100.0	9,734.0	9,780.3	9,771.0	125.2	34.8	-90.00	6,244.3	-1,284.9	1,992.7	1,908.9	83.86	23.762	
18,200.0	9,734.0	9,780.3	9,771.0	126.5	34.8	-90.00	6,244.3	-1,284.9	2,091.0	2,007.5	83.43	25.061	
18,300.0	9,734.0	9,780.3	9,771.0	127.9	34.8	-90.00	6,244.3	-1,284.9	2,189.3	2,106.3	83.06	26.359	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Alpha Wolf 36 FC 603H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
13,000.0	9,734.0	9,841.6	9,769.0	58.3	37.1	-90.00	5,254.3	-1,278.4	2,187.8	2,117.1	70.72	30.934	
13,100.0	9,734.0	9,841.6	9,769.0	59.4	37.1	-90.00	5,254.3	-1,278.4	2,089.4	2,018.6	70.76	29.526	
13,200.0	9,734.0	9,841.6	9,769.0	60.6	37.1	-90.00	5,254.3	-1,278.4	1,991.2	1,920.3	70.82	28.116	
13,300.0	9,734.0	9,841.6	9,769.0	61.8	37.1	-90.00	5,254.3	-1,278.4	1,893.1	1,822.2	70.90	26.703	
13,400.0	9,734.0	9,841.6	9,769.0	63.0	37.1	-90.00	5,254.3	-1,278.4	1,795.3	1,724.3	71.00	25.286	
13,500.0	9,734.0	9,841.6	9,769.0	64.2	37.1	-90.00	5,254.3	-1,278.4	1,697.7	1,626.6	71.13	23.866	
13,600.0	9,734.0	9,841.6	9,769.0	65.4	37.1	-90.00	5,254.3	-1,278.4	1,600.4	1,529.1	71.31	22.442	
13,700.0	9,734.0	9,841.6	9,769.0	66.6	37.1	-90.00	5,254.3	-1,278.4	1,503.5	1,432.0	71.55	21.013	
13,800.0	9,734.0	9,841.6	9,769.0	67.8	37.1	-90.00	5,254.3	-1,278.4	1,407.0	1,335.2	71.87	19.578	
13,900.0	9,734.0	9,841.6	9,769.0	69.1	37.1	-90.00	5,254.3	-1,278.4	1,311.1	1,238.8	72.29	18.137	
14,000.0	9,734.0	9,841.6	9,769.0	70.3	37.1	-90.00	5,254.3	-1,278.4	1,215.8	1,142.9	72.85	16.689	
14,100.0	9,734.0	9,841.6	9,769.0	71.6	37.1	-90.00	5,254.3	-1,278.4	1,121.3	1,047.7	73.60	15.235	
14,200.0	9,734.0	9,841.6	9,769.0	72.8	37.1	-90.00	5,254.3	-1,278.4	1,027.8	953.2	74.61	13.776	
14,300.0	9,734.0	9,841.6	9,769.0	74.1	37.1	-90.00	5,254.3	-1,278.4	935.7	859.7	75.99	12.314	
14,400.0	9,734.0	9,841.6	9,769.0	75.4	37.1	-90.00	5,254.3	-1,278.4	845.4	767.6	77.87	10.857	
14,500.0	9,734.0	9,841.6	9,769.0	76.6	37.1	-90.00	5,254.3	-1,278.4	757.6	677.1	80.44	9.417	
14,600.0	9,734.0	9,841.6	9,769.0	77.9	37.1	-90.00	5,254.3	-1,278.4	673.1	589.1	83.98	8.015	
14,700.0	9,734.0	9,841.6	9,769.0	79.2	37.1	-90.00	5,254.3	-1,278.4	593.5	504.7	88.77	6.685	
14,800.0	9,734.0	9,841.6	9,769.0	80.5	37.1	-90.00	5,254.3	-1,278.4	521.0	425.8	95.13	5.477	
14,900.0	9,734.0	9,841.6	9,769.0	81.8	37.1	-90.00	5,254.3	-1,278.4	458.9	355.8	103.05	4.453	
15,000.0	9,734.0	9,841.6	9,769.0	83.1	37.1	-90.00	5,254.3	-1,278.4	412.0	300.2	111.77	3.686	
15,100.0	9,734.0	9,841.6	9,769.0	84.4	37.1	-90.00	5,254.3	-1,278.4	385.9	266.7	119.22	3.237	
15,154.1	9,734.0	9,841.6	9,769.0	85.1	37.1	-90.00	5,254.3	-1,278.4	382.1	260.3	121.77	3.138 CC, ES	
15,200.0	9,734.0	9,841.6	9,769.0	85.7	37.1	-90.00	5,254.3	-1,278.4	384.8	262.0	122.80	3.134 SF	
15,300.0	9,734.0	9,841.6	9,769.0	87.1	37.1	-90.00	5,254.3	-1,278.4	409.0	287.3	121.63	3.362	
15,400.0	9,734.0	9,841.6	9,769.0	88.4	37.1	-90.00	5,254.3	-1,278.4	454.3	337.1	117.27	3.874	
15,500.0	9,734.0	9,841.6	9,769.0	89.7	37.1	-90.00	5,254.3	-1,278.4	515.4	403.5	111.85	4.608	
15,600.0	9,734.0	9,841.6	9,769.0	91.0	37.1	-90.00	5,254.3	-1,278.4	587.2	480.5	106.67	5.505	
15,700.0	9,734.0	9,841.6	9,769.0	92.4	37.1	-90.00	5,254.3	-1,278.4	666.3	564.1	102.19	6.520	
15,800.0	9,734.0	9,841.6	9,769.0	93.7	37.1	-90.00	5,254.3	-1,278.4	750.4	651.9	98.49	7.619	
15,900.0	9,734.0	9,841.6	9,769.0	95.1	37.1	-90.00	5,254.3	-1,278.4	838.0	742.6	95.47	8.778	
16,000.0	9,734.0	9,841.6	9,769.0	96.4	37.1	-90.00	5,254.3	-1,278.4	928.1	835.1	93.00	9.980	
16,100.0	9,734.0	9,841.6	9,769.0	97.7	37.1	-90.00	5,254.3	-1,278.4	1,020.1	929.1	90.98	11.212	
16,200.0	9,734.0	9,841.6	9,769.0	99.1	37.1	-90.00	5,254.3	-1,278.4	1,113.5	1,024.1	89.32	12.466	
16,300.0	9,734.0	9,841.6	9,769.0	100.4	37.1	-90.00	5,254.3	-1,278.4	1,207.9	1,119.9	87.93	13.736	
16,400.0	9,734.0	9,841.6	9,769.0	101.8	37.1	-90.00	5,254.3	-1,278.4	1,303.1	1,216.4	86.77	15.018	
16,500.0	9,734.0	9,841.6	9,769.0	103.2	37.1	-90.00	5,254.3	-1,278.4	1,399.0	1,313.2	85.79	16.308	
16,600.0	9,734.0	9,841.6	9,769.0	104.5	37.1	-90.00	5,254.3	-1,278.4	1,495.5	1,410.5	84.95	17.603	
16,700.0	9,734.0	9,841.6	9,769.0	105.9	37.1	-90.00	5,254.3	-1,278.4	1,592.4	1,508.1	84.24	18.903	
16,800.0	9,734.0	9,841.6	9,769.0	107.2	37.1	-90.00	5,254.3	-1,278.4	1,689.6	1,606.0	83.62	20.205	
16,900.0	9,734.0	9,841.6	9,769.0	108.6	37.1	-90.00	5,254.3	-1,278.4	1,787.2	1,704.1	83.09	21.509	
17,000.0	9,734.0	9,841.6	9,769.0	110.0	37.1	-90.00	5,254.3	-1,278.4	1,885.0	1,802.4	82.63	22.814	
17,100.0	9,734.0	9,841.6	9,769.0	111.4	37.1	-90.00	5,254.3	-1,278.4	1,983.0	1,900.8	82.22	24.118	
17,200.0	9,734.0	9,841.6	9,769.0	112.7	37.1	-90.00	5,254.3	-1,278.4	2,081.2	1,999.4	81.87	25.423	
17,300.0	9,734.0	9,841.6	9,769.0	114.1	37.1	-90.00	5,254.3	-1,278.4	2,179.6	2,098.0	81.55	26.726	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Alpha Wolf 36 FC Pad - Lone Wolf 36 B2DA State Com 001H - OH - OH												Offset Site Error:	0.0 usft
Survey Program: 100-MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,900.0	9,734.0	14,107.0	9,580.0	108.6	107.1	-68.85	9,048.2	-1,471.8	2,132.2	1,992.5	139.70	15.263	
17,000.0	9,734.0	14,107.0	9,580.0	110.0	107.1	-68.85	9,048.2	-1,471.8	2,036.3	1,896.3	139.97	14.547	
17,100.0	9,734.0	14,107.0	9,580.0	111.4	107.1	-68.85	9,048.2	-1,471.8	1,940.8	1,800.4	140.31	13.832	
17,200.0	9,734.0	14,107.0	9,580.0	112.7	107.1	-68.85	9,048.2	-1,471.8	1,845.7	1,705.0	140.72	13.117	
17,300.0	9,734.0	14,107.0	9,580.0	114.1	107.1	-68.85	9,048.2	-1,471.8	1,751.2	1,610.0	141.20	12.402	
17,400.0	9,734.0	14,107.0	9,580.0	115.5	107.1	-68.85	9,048.2	-1,471.8	1,657.4	1,515.6	141.78	11.689	
17,500.0	9,734.0	14,107.0	9,580.0	116.9	107.1	-68.85	9,048.2	-1,471.8	1,564.3	1,421.8	142.47	10.980	
17,600.0	9,734.0	14,107.0	9,580.0	118.2	107.1	-68.85	9,048.2	-1,471.8	1,472.2	1,328.9	143.29	10.274	
17,700.0	9,734.0	14,107.0	9,580.0	119.6	107.1	-68.85	9,048.2	-1,471.8	1,381.1	1,236.8	144.24	9.575	
17,800.0	9,734.0	14,107.0	9,580.0	121.0	107.1	-68.85	9,048.2	-1,471.8	1,291.3	1,146.0	145.34	8.885	
17,900.0	9,734.0	14,107.0	9,580.0	122.4	107.1	-68.85	9,048.2	-1,471.8	1,203.2	1,056.6	146.60	8.207	
18,000.0	9,734.0	14,107.0	9,580.0	123.8	107.1	-68.85	9,048.2	-1,471.8	1,117.0	969.0	148.02	7.547	
18,100.0	9,734.0	14,107.0	9,580.0	125.2	107.1	-68.85	9,048.2	-1,471.8	1,033.4	883.8	149.57	6.909	
18,200.0	9,734.0	14,107.0	9,580.0	126.5	107.1	-68.85	9,048.2	-1,471.8	952.9	801.7	151.19	6.303	
18,300.0	9,734.0	14,107.0	9,580.0	127.9	107.1	-68.85	9,048.2	-1,471.8	876.5	723.7	152.77	5.737	
18,400.0	9,734.0	14,107.0	9,580.0	129.3	107.1	-68.85	9,048.2	-1,471.8	805.2	651.1	154.14	5.224	
18,500.0	9,734.0	14,107.0	9,580.0	130.7	107.1	-68.85	9,048.2	-1,471.8	740.6	585.6	155.01	4.778	
18,600.0	9,734.0	14,107.0	9,580.0	132.1	107.1	-68.85	9,048.2	-1,471.8	684.6	529.5	155.12	4.413	
18,700.0	9,734.0	14,107.0	9,580.0	133.5	107.1	-68.85	9,048.2	-1,471.8	639.4	484.8	154.55	4.137	
18,800.0	9,734.0	14,107.0	9,580.0	134.9	107.1	-68.85	9,048.2	-1,471.8	607.4	452.5	154.88	3.922	
18,900.0	9,734.0	14,107.0	9,580.0	136.3	107.1	-68.85	9,048.2	-1,471.8	590.8	430.7	160.07	3.691	
18,949.3	9,734.0	14,107.0	9,580.0	137.0	107.1	-68.85	9,048.2	-1,471.8	588.8	423.8	164.95	3.569	CC
19,000.0	9,734.0	14,107.0	9,580.0	137.7	107.1	-68.85	9,048.2	-1,471.8	590.9	420.1	170.80	3.460	ES
19,100.0	9,734.0	14,107.0	9,580.0	139.1	107.1	-68.85	9,048.2	-1,471.8	607.7	425.8	181.96	3.340	SF
19,200.0	9,734.0	14,107.0	9,580.0	140.5	107.1	-68.85	9,048.2	-1,471.8	639.9	449.7	190.21	3.364	
19,300.0	9,734.0	14,107.0	9,580.0	141.9	107.1	-68.85	9,048.2	-1,471.8	685.3	490.3	194.95	3.515	
19,400.0	9,734.0	14,107.0	9,580.0	143.3	107.1	-68.85	9,048.2	-1,471.8	741.5	544.6	196.82	3.767	
19,500.0	9,734.0	14,107.0	9,580.0	144.7	107.1	-68.85	9,048.2	-1,471.8	806.2	609.5	196.72	4.098	
19,600.0	9,734.0	14,107.0	9,580.0	146.1	107.1	-68.85	9,048.2	-1,471.8	877.5	682.1	195.43	4.490	
19,700.0	9,734.0	14,107.0	9,580.0	147.5	107.1	-68.85	9,048.2	-1,471.8	954.0	760.6	193.48	4.931	
19,800.0	9,734.0	14,107.0	9,580.0	148.9	107.1	-68.85	9,048.2	-1,471.8	1,034.6	843.3	191.25	5.410	
19,900.0	9,734.0	14,107.0	9,580.0	150.3	107.1	-68.85	9,048.2	-1,471.8	1,118.2	929.3	188.94	5.919	
20,000.0	9,734.0	14,107.0	9,580.0	151.7	107.1	-68.85	9,048.2	-1,471.8	1,204.4	1,017.7	186.67	6.452	
20,011.3	9,734.0	14,107.0	9,580.0	151.9	107.1	-68.85	9,048.2	-1,471.8	1,214.3	1,026.0	188.28	6.449	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.0	0.0	0.0	0.0	89.39	0.4	39.9	39.9					
100.0	100.0	100.0	100.0	0.1	0.1	89.39	0.4	39.9	39.9	39.6	0.26	151.417		
200.0	200.0	200.0	200.0	0.5	0.5	89.39	0.4	39.9	39.9	38.9	0.98	40.692		
300.0	300.0	300.0	300.0	0.8	0.8	89.39	0.4	39.9	39.9	38.2	1.70	23.504		
400.0	400.0	400.0	400.0	1.2	1.2	89.39	0.4	39.9	39.9	37.5	2.41	16.524		
500.0	500.0	500.0	500.0	1.6	1.6	89.39	0.4	39.9	39.9	36.8	3.13	12.741		
600.0	600.0	600.0	600.0	1.9	1.9	89.39	0.4	39.9	39.9	36.0	3.85	10.367		
700.0	700.0	700.0	700.0	2.3	2.3	89.39	0.4	39.9	39.9	35.3	4.57	8.739		
800.0	800.0	800.0	800.0	2.6	2.6	89.39	0.4	39.9	39.9	34.6	5.28	7.553		
833.3	833.3	833.3	833.3	2.8	2.8	89.39	0.4	39.9	39.9	34.4	5.52	7.226		
900.0	900.0	900.0	900.0	3.0	3.0	89.39	0.4	39.9	39.9	33.9	6.00	6.650		
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	89.39	0.4	39.9	39.9	33.2	6.72	5.940		
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	89.39	0.4	39.9	39.9	32.5	7.43	5.367		
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	89.39	0.4	39.9	39.9	31.7	8.15	4.895		
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	89.39	0.4	39.9	39.9	31.0	8.87	4.499		
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	89.39	0.4	39.9	39.9	30.3	9.58	4.163		
1,500.0	1,500.0	1,500.0	1,500.0	5.2	5.2	89.39	0.4	39.9	39.9	29.6	10.30	3.873		
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	89.39	0.4	39.9	39.9	28.9	11.02	3.621		
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	89.39	0.4	39.9	39.9	28.2	11.73	3.400		
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	89.39	0.4	39.9	39.9	27.4	12.45	3.204		
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	89.39	0.4	39.9	39.9	26.7	13.17	3.030		
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	89.39	0.4	39.9	39.9	26.0	13.89	2.873 CC, ES		
2,100.0	2,100.0	2,100.0	2,100.0	7.3	7.3	-161.71	0.4	39.9	41.5	27.0	14.59	2.848 SF		
2,200.0	2,199.8	2,199.8	2,199.8	7.6	7.7	-163.70	0.4	39.9	46.5	31.3	15.28	3.045		
2,300.0	2,299.5	2,299.5	2,299.5	8.0	8.0	-166.21	0.4	39.9	55.0	39.0	15.98	3.440		
2,400.0	2,398.7	2,398.7	2,398.7	8.3	8.4	-168.65	0.4	39.9	66.9	50.2	16.67	4.010		
2,500.0	2,497.8	2,497.8	2,497.8	8.7	8.7	-170.57	0.4	39.9	80.3	62.9	17.37	4.623		
2,600.0	2,596.8	2,596.8	2,596.8	9.0	9.1	-171.94	0.4	39.9	93.8	75.7	18.06	5.193		
2,700.0	2,695.9	2,695.9	2,695.9	9.4	9.4	-172.96	0.4	39.9	107.3	88.6	18.76	5.722		
2,800.0	2,795.0	2,795.0	2,795.0	9.7	9.8	-173.75	0.4	39.9	120.9	101.5	19.46	6.213		
2,900.0	2,894.0	2,894.0	2,894.0	10.1	10.1	-174.39	0.4	39.9	134.5	114.3	20.16	6.671		
3,000.0	2,993.1	2,993.1	2,993.1	10.5	10.5	-174.90	0.4	39.9	148.1	127.2	20.86	7.098		
3,100.0	3,092.1	3,092.1	3,092.1	10.9	10.9	-175.33	0.4	39.9	161.7	140.1	21.57	7.498		
3,200.0	3,191.2	3,191.2	3,191.2	11.2	11.2	-175.70	0.4	39.9	175.3	153.1	22.27	7.871		
3,300.0	3,290.3	3,290.3	3,290.3	11.6	11.6	-176.01	0.4	39.9	189.0	166.0	22.98	8.222		
3,400.0	3,389.3	3,389.3	3,389.3	12.0	11.9	-176.28	0.4	39.9	202.6	178.9	23.69	8.552		
3,500.0	3,488.4	3,488.4	3,488.4	12.4	12.3	-176.51	0.4	39.9	216.2	191.8	24.40	8.862		
3,600.0	3,587.5	3,587.5	3,587.5	12.8	12.6	-176.72	0.4	39.9	229.8	204.7	25.11	9.155		
3,700.0	3,686.5	3,686.5	3,686.5	13.1	13.0	-176.90	0.4	39.9	243.5	217.7	25.82	9.431		
3,800.0	3,785.6	3,785.6	3,785.6	13.5	13.3	-177.07	0.4	39.9	257.1	230.6	26.53	9.693		
3,900.0	3,884.6	3,884.6	3,884.6	13.9	13.7	-177.21	0.4	39.9	270.8	243.5	27.24	9.940		
4,000.0	3,983.7	3,983.7	3,983.7	14.3	14.1	-177.35	0.4	39.9	284.4	256.5	27.95	10.175		
4,100.0	4,082.8	4,082.8	4,082.8	14.7	14.4	-177.47	0.4	39.9	298.1	269.4	28.66	10.398		
4,200.0	4,181.8	4,181.8	4,181.8	15.1	14.8	-177.58	0.4	39.9	311.7	282.3	29.38	10.610		
4,300.0	4,280.9	4,280.9	4,280.9	15.5	15.1	-177.68	0.4	39.9	325.4	295.3	30.09	10.812		
4,400.0	4,380.0	4,380.0	4,380.0	15.9	15.5	-177.78	0.4	39.9	339.0	308.2	30.81	11.004		
4,500.0	4,479.0	4,479.0	4,479.0	16.2	15.8	-177.86	0.4	39.9	352.6	321.1	31.52	11.188		
4,600.0	4,578.1	4,578.1	4,578.1	16.6	16.2	-177.94	0.4	39.9	366.3	334.1	32.24	11.363		
4,700.0	4,677.1	4,677.1	4,677.1	17.0	16.5	-178.02	0.4	39.9	379.9	347.0	32.95	11.530		
4,800.0	4,776.2	4,776.2	4,776.2	17.4	16.9	-178.08	0.4	39.9	393.6	359.9	33.67	11.691		
4,900.0	4,875.3	4,875.3	4,875.3	17.8	17.2	-178.15	0.4	39.9	407.3	372.9	34.38	11.844		
5,000.0	4,974.3	4,974.3	4,974.3	18.2	17.6	-178.21	0.4	39.9	420.9	385.8	35.10	11.991		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,073.4	5,065.3	5,065.3	18.6	17.9	-178.20	0.2	40.6	435.2	399.5	35.75	12.173	
5,200.0	5,172.5	5,152.8	5,152.8	19.0	18.2	-178.00	-0.8	43.8	452.0	415.6	36.36	12.430	
5,300.0	5,271.5	5,239.5	5,239.2	19.4	18.5	-177.63	-2.6	49.4	471.1	434.2	36.94	12.755	
5,400.0	5,370.6	5,325.1	5,324.5	19.8	18.8	-177.11	-5.1	57.5	492.8	455.3	37.49	13.144	
5,500.0	5,469.7	5,409.6	5,408.3	20.2	19.1	-176.48	-8.4	67.8	516.9	478.8	38.02	13.596	
5,600.0	5,568.7	5,492.9	5,490.5	20.6	19.4	-175.76	-12.3	80.2	543.4	504.9	38.51	14.108	
5,700.0	5,667.8	5,574.7	5,570.9	21.0	19.7	-174.97	-16.9	94.7	572.3	533.4	38.98	14.681	
5,800.0	5,766.8	5,655.1	5,649.4	21.4	19.9	-174.15	-22.1	111.0	603.7	564.3	39.43	15.313	
5,900.0	5,865.9	5,734.0	5,726.0	21.8	20.2	-173.31	-27.8	129.0	637.5	597.7	39.84	16.002	
6,000.0	5,965.0	5,811.2	5,800.4	22.2	20.5	-172.45	-34.0	148.7	673.7	633.5	40.22	16.749	
6,100.0	6,064.0	5,901.1	5,886.6	22.6	20.8	-171.49	-41.7	172.9	711.4	670.6	40.83	17.421	
6,200.0	6,163.1	5,993.0	5,974.8	23.0	21.2	-170.60	-49.5	197.7	749.3	707.8	41.49	18.060	
6,300.0	6,262.2	6,084.9	6,063.0	23.4	21.5	-169.80	-57.3	222.4	787.3	745.1	42.15	18.680	
6,400.0	6,361.2	6,176.9	6,151.2	23.8	21.9	-169.07	-65.2	247.2	825.4	782.6	42.81	19.282	
6,500.0	6,460.3	6,268.8	6,239.4	24.2	22.3	-168.40	-73.0	272.0	863.7	820.2	43.47	19.867	
6,600.0	6,559.3	6,360.8	6,327.6	24.6	22.6	-167.79	-80.9	296.8	902.0	857.9	44.14	20.434	
6,700.0	6,658.4	6,452.7	6,415.8	25.0	23.0	-167.23	-88.7	321.6	940.4	895.6	44.82	20.984	
6,800.0	6,757.5	6,544.7	6,503.9	25.4	23.4	-166.72	-96.6	346.4	978.9	933.4	45.49	21.518	
6,900.0	6,856.5	6,636.6	6,592.1	25.8	23.8	-166.24	-104.4	371.2	1,017.5	971.3	46.17	22.036	
7,000.0	6,955.6	6,728.6	6,680.3	26.2	24.2	-165.80	-112.3	395.9	1,056.1	1,009.3	46.86	22.539	
7,100.0	7,054.7	6,820.5	6,768.5	26.6	24.6	-165.38	-120.1	420.7	1,094.8	1,047.2	47.54	23.028	
7,200.0	7,153.7	6,912.5	6,856.7	27.0	24.9	-165.00	-127.9	445.5	1,133.5	1,085.3	48.23	23.502	
7,300.0	7,252.8	7,004.4	6,944.9	27.4	25.3	-164.64	-135.8	470.3	1,172.2	1,123.3	48.92	23.963	
7,400.0	7,351.8	7,096.3	7,033.1	27.8	25.8	-164.30	-143.6	495.1	1,211.0	1,161.4	49.61	24.411	
7,500.0	7,450.9	7,188.3	7,121.3	28.2	26.2	-163.99	-151.5	519.9	1,249.8	1,199.5	50.30	24.846	
7,600.0	7,550.0	7,280.2	7,209.5	28.6	26.6	-163.69	-159.3	544.7	1,288.7	1,237.7	51.00	25.269	
7,700.0	7,649.0	7,372.2	7,297.7	29.0	27.0	-163.41	-167.2	569.5	1,327.6	1,275.9	51.70	25.680	
7,800.0	7,748.1	7,464.1	7,385.9	29.4	27.4	-163.15	-175.0	594.2	1,366.5	1,314.1	52.40	26.079	
7,900.0	7,847.2	7,556.1	7,474.1	29.8	27.8	-162.90	-182.8	619.0	1,405.4	1,352.3	53.10	26.468	
8,000.0	7,946.2	7,648.0	7,562.3	30.2	28.2	-162.67	-190.7	643.8	1,444.3	1,390.5	53.80	26.846	
8,100.0	8,045.3	7,740.0	7,650.5	30.6	28.7	-162.44	-198.5	668.6	1,483.3	1,428.8	54.50	27.214	
8,200.0	8,144.3	7,831.9	7,738.7	31.0	29.1	-162.23	-206.4	693.4	1,522.3	1,467.1	55.21	27.572	
8,300.0	8,243.4	7,923.9	7,826.8	31.4	29.5	-162.03	-214.2	718.2	1,561.3	1,505.4	55.92	27.921	
8,400.0	8,342.5	8,015.8	7,915.0	31.8	30.0	-161.84	-222.1	743.0	1,600.3	1,543.7	56.63	28.260	
8,500.0	8,441.5	8,107.7	8,003.2	32.2	30.4	-161.66	-229.9	767.7	1,639.3	1,582.0	57.34	28.591	
8,600.0	8,540.6	8,199.7	8,091.4	32.6	30.8	-161.48	-237.8	792.5	1,678.4	1,620.3	58.05	28.913	
8,700.0	8,639.7	8,291.7	8,179.7	33.0	31.3	-161.40	-245.6	817.3	1,717.3	1,658.5	58.76	29.225	
8,800.0	8,739.1	8,384.6	8,268.8	33.4	31.7	-161.46	-253.5	842.4	1,753.9	1,694.4	59.47	29.489	
8,900.0	8,838.8	8,478.6	8,359.0	33.8	32.2	-161.46	-261.5	867.7	1,787.4	1,727.2	60.19	29.696	
9,000.0	8,938.7	8,568.7	8,442.4	34.1	33.1	-161.20	-276.5	891.0	1,816.1	1,754.3	61.87	29.933	
9,100.0	9,038.7	8,657.8	8,527.1	34.5	34.1	89.49	-290.6	919.4	1,844.5	1,770.7	63.84	28.736	
9,200.0	9,138.7	8,747.8	8,617.7	34.8	35.1	89.74	-298.3	948.7	1,873.0	1,798.6	65.47	28.165	
9,300.0	9,238.7	8,837.9	8,707.7	35.1	35.7	89.78	-299.6	978.9	1,901.7	1,827.1	66.54	27.736	
9,400.0	9,338.3	8,927.9	8,797.7	35.4	36.1	90.38	-299.3	1,009.9	1,930.7	1,856.5	67.20	27.464	
9,500.0	9,434.3	9,017.1	8,887.7	35.7	36.4	90.80	-284.7	1,040.8	1,959.8	1,886.0	67.82	27.219	
9,600.0	9,522.6	9,107.4	8,977.9	35.9	36.6	91.18	-247.2	1,071.7	1,989.9	1,916.7	68.35	27.008	
9,700.0	9,599.2	9,197.8	9,067.8	36.1	36.9	91.52	-186.7	1,102.6	2,019.9	1,947.2	68.81	26.831	
9,800.0	9,660.8	9,288.0	9,157.8	36.1	37.0	91.79	-105.0	1,133.5	2,049.9	1,977.4	69.21	26.679	
9,900.0	9,704.8	9,378.3	9,248.3	36.2	37.0	91.97	-5.6	1,164.4	2,079.9	1,999.9	69.57	26.546	
10,000.0	9,729.2	9,468.7	9,338.7	36.1	37.0	92.05	105.5	1,195.4	2,109.9	2,029.9	69.91	26.420	
10,100.0	9,734.0	9,558.7	9,428.7	36.1	37.0	92.05	215.3	1,225.4	2,139.9	2,059.9	70.23	26.298	
10,200.0	9,734.0	9,648.7	9,518.7	36.2	37.0	92.05	315.3	1,255.4	2,169.9	2,089.9	70.63	26.151	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	9,734.0	10,442.1	9,800.0	36.3	37.0	92.05	415.3	983.1	1,847.0	1,775.9	71.14	25.963	
10,400.0	9,734.0	10,542.1	9,800.0	36.5	37.1	92.05	515.3	982.4	1,847.0	1,775.2	71.76	25.738	
10,500.0	9,734.0	10,642.1	9,800.0	36.8	37.2	92.05	615.3	981.7	1,847.0	1,774.5	72.50	25.477	
10,600.0	9,734.0	10,742.1	9,800.0	37.2	37.5	92.05	715.3	981.1	1,847.1	1,773.7	73.34	25.185	
10,700.0	9,734.0	10,842.1	9,800.0	37.7	37.9	92.05	815.3	980.4	1,847.1	1,772.8	74.28	24.865	
10,800.0	9,734.0	10,942.1	9,800.0	38.2	38.4	92.05	915.3	979.7	1,847.1	1,771.8	75.33	24.521	
10,900.0	9,734.0	11,042.1	9,800.0	38.8	38.9	92.05	1,015.3	979.1	1,847.1	1,770.7	76.47	24.156	
11,000.0	9,734.0	11,142.1	9,800.0	39.4	39.5	92.05	1,115.3	978.4	1,847.1	1,769.4	77.70	23.773	
11,100.0	9,734.0	11,242.1	9,800.0	40.1	40.2	92.05	1,215.3	977.7	1,847.2	1,768.2	79.02	23.377	
11,200.0	9,734.0	11,342.1	9,800.0	40.8	40.9	92.05	1,315.3	977.0	1,847.2	1,766.8	80.42	22.971	
11,300.0	9,734.0	11,442.1	9,800.0	41.5	41.6	92.05	1,415.3	976.4	1,847.2	1,765.3	81.89	22.556	
11,400.0	9,734.0	11,542.1	9,800.0	42.3	42.4	92.05	1,515.3	975.7	1,847.2	1,763.8	83.45	22.137	
11,500.0	9,734.0	11,642.1	9,800.0	43.1	43.2	92.05	1,615.3	975.0	1,847.3	1,762.2	85.07	21.715	
11,600.0	9,734.0	11,742.1	9,800.0	44.0	44.0	92.05	1,715.3	974.4	1,847.3	1,760.5	86.76	21.293	
11,700.0	9,734.0	11,842.1	9,800.0	44.8	44.9	92.05	1,815.3	973.7	1,847.3	1,758.8	88.51	20.871	
11,800.0	9,734.0	11,942.1	9,800.0	45.7	45.8	92.05	1,915.3	973.0	1,847.3	1,757.0	90.32	20.453	
11,900.0	9,734.0	12,042.1	9,800.0	46.7	46.7	92.05	2,015.3	972.3	1,847.4	1,755.2	92.18	20.040	
12,000.0	9,734.0	12,142.1	9,800.0	47.6	47.7	92.05	2,115.3	971.7	1,847.4	1,753.3	94.10	19.632	
12,100.0	9,734.0	12,242.1	9,800.0	48.6	48.6	92.05	2,215.3	971.0	1,847.4	1,751.3	96.07	19.230	
12,200.0	9,734.0	12,342.1	9,800.0	49.6	49.6	92.05	2,315.3	970.3	1,847.4	1,749.3	98.08	18.836	
12,300.0	9,734.0	12,442.1	9,800.0	50.6	50.7	92.05	2,415.2	969.7	1,847.4	1,747.3	100.13	18.450	
12,400.0	9,734.0	12,542.1	9,800.0	51.7	51.7	92.05	2,515.2	969.0	1,847.5	1,745.2	102.23	18.072	
12,500.0	9,734.0	12,642.1	9,800.0	52.7	52.8	92.05	2,615.2	968.3	1,847.5	1,743.1	104.36	17.702	
12,600.0	9,734.0	12,742.1	9,800.0	53.8	53.8	92.05	2,715.2	967.6	1,847.5	1,741.0	106.53	17.342	
12,700.0	9,734.0	12,842.1	9,800.0	54.9	54.9	92.05	2,815.2	967.0	1,847.5	1,738.8	108.74	16.991	
12,800.0	9,734.0	12,942.1	9,800.0	56.0	56.0	92.05	2,915.2	966.3	1,847.6	1,736.6	110.97	16.649	
12,900.0	9,734.0	13,042.1	9,800.0	57.1	57.2	92.05	3,015.2	965.6	1,847.6	1,734.3	113.24	16.316	
13,000.0	9,734.0	13,142.1	9,800.0	58.3	58.3	92.05	3,115.2	965.0	1,847.6	1,732.1	115.53	15.992	
13,100.0	9,734.0	13,242.1	9,800.0	59.4	59.5	92.05	3,215.2	964.3	1,847.6	1,729.8	117.85	15.678	
13,200.0	9,734.0	13,342.1	9,800.0	60.6	60.6	92.05	3,315.2	963.6	1,847.6	1,727.4	120.20	15.372	
13,300.0	9,734.0	13,442.1	9,800.0	61.8	61.8	92.05	3,415.2	962.9	1,847.7	1,725.1	122.56	15.075	
13,400.0	9,734.0	13,542.1	9,800.0	63.0	63.0	92.05	3,515.2	962.3	1,847.7	1,722.7	124.95	14.787	
13,500.0	9,734.0	13,642.1	9,800.0	64.2	64.2	92.05	3,615.2	961.6	1,847.7	1,720.3	127.36	14.507	
13,600.0	9,734.0	13,742.1	9,800.0	65.4	65.4	92.05	3,715.2	960.9	1,847.7	1,717.9	129.80	14.236	
13,700.0	9,734.0	13,842.1	9,800.0	66.6	66.6	92.05	3,815.2	960.3	1,847.8	1,715.5	132.24	13.972	
13,800.0	9,734.0	13,942.1	9,800.0	67.8	67.8	92.05	3,915.2	959.6	1,847.8	1,713.1	134.71	13.717	
13,900.0	9,734.0	14,042.1	9,800.0	69.1	69.1	92.05	4,015.2	958.9	1,847.8	1,710.6	137.19	13.468	
14,000.0	9,734.0	14,142.1	9,800.0	70.3	70.3	92.05	4,115.2	958.2	1,847.8	1,708.1	139.69	13.228	
14,100.0	9,734.0	14,242.1	9,800.0	71.6	71.6	92.05	4,215.2	957.6	1,847.8	1,705.6	142.21	12.994	
14,200.0	9,734.0	14,342.1	9,800.0	72.8	72.8	92.05	4,315.2	956.9	1,847.9	1,703.1	144.74	12.767	
14,300.0	9,734.0	14,442.1	9,800.0	74.1	74.1	92.05	4,415.2	956.2	1,847.9	1,700.6	147.28	12.547	
14,400.0	9,734.0	14,542.1	9,800.0	75.4	75.4	92.05	4,515.2	955.6	1,847.9	1,698.1	149.83	12.333	
14,500.0	9,734.0	14,642.1	9,800.0	76.6	76.6	92.05	4,615.2	954.9	1,847.9	1,695.5	152.40	12.126	
14,600.0	9,734.0	14,742.1	9,800.0	77.9	77.9	92.05	4,715.2	954.2	1,848.0	1,693.0	154.98	11.924	
14,700.0	9,734.0	14,842.1	9,800.0	79.2	79.2	92.05	4,815.2	953.5	1,848.0	1,690.4	157.57	11.728	
14,800.0	9,734.0	14,942.1	9,800.0	80.5	80.5	92.05	4,915.2	952.9	1,848.0	1,687.8	160.17	11.538	
14,900.0	9,734.0	15,042.1	9,800.0	81.8	81.8	92.05	5,015.2	952.2	1,848.0	1,685.3	162.78	11.353	
15,000.0	9,734.0	15,142.1	9,800.0	83.1	83.1	92.05	5,115.2	951.5	1,848.1	1,682.7	165.40	11.173	
15,100.0	9,734.0	15,242.1	9,800.0	84.4	84.4	92.05	5,215.2	950.9	1,848.1	1,680.1	168.02	10.999	
15,200.0	9,734.0	15,342.1	9,800.0	85.7	85.7	92.05	5,315.2	950.2	1,848.1	1,677.4	170.66	10.829	
15,300.0	9,734.0	15,442.1	9,800.0	87.1	87.1	92.05	5,415.2	949.5	1,848.1	1,674.8	173.31	10.664	
15,400.0	9,734.0	15,542.1	9,800.0	88.4	88.4	92.05	5,515.2	948.8	1,848.1	1,672.2	175.96	10.503	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald - Emerald Federal Com 513H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	9,734.0	15,642.1	9,800.0	89.7	89.7	92.05	5,615.2	948.2	1,848.2	1,669.5	178.62	10.347	
15,600.0	9,734.0	15,742.1	9,800.0	91.0	91.0	92.05	5,715.2	947.5	1,848.2	1,666.9	181.29	10.195	
15,700.0	9,734.0	15,842.1	9,800.0	92.4	92.4	92.05	5,815.2	946.8	1,848.2	1,664.3	183.96	10.047	
15,800.0	9,734.0	15,942.1	9,800.0	93.7	93.7	92.05	5,915.2	946.2	1,848.2	1,661.6	186.64	9.903	
15,900.0	9,734.0	16,042.1	9,800.0	95.1	95.0	92.05	6,015.2	945.5	1,848.3	1,658.9	189.33	9.762	
16,000.0	9,734.0	16,142.1	9,800.0	96.4	96.4	92.05	6,115.2	944.8	1,848.3	1,656.3	192.02	9.625	
16,100.0	9,734.0	16,242.1	9,800.0	97.7	97.7	92.05	6,215.2	944.1	1,848.3	1,653.6	194.72	9.492	
16,200.0	9,734.0	16,342.1	9,800.0	99.1	99.1	92.05	6,315.2	943.5	1,848.3	1,650.9	197.42	9.362	
16,300.0	9,734.0	16,442.1	9,800.0	100.4	100.4	92.05	6,415.2	942.8	1,848.3	1,648.2	200.13	9.236	
16,400.0	9,734.0	16,542.1	9,800.0	101.8	101.8	92.05	6,515.2	942.1	1,848.4	1,645.5	202.85	9.112	
16,500.0	9,734.0	16,642.1	9,800.0	103.2	103.1	92.05	6,615.2	941.5	1,848.4	1,642.8	205.57	8.992	
16,600.0	9,734.0	16,742.1	9,800.0	104.5	104.5	92.05	6,715.2	940.8	1,848.4	1,640.1	208.29	8.874	
16,700.0	9,734.0	16,842.1	9,800.0	105.9	105.9	92.05	6,815.2	940.1	1,848.4	1,637.4	211.02	8.760	
16,800.0	9,734.0	16,942.1	9,800.0	107.2	107.2	92.05	6,915.1	939.4	1,848.5	1,634.7	213.75	8.648	
16,900.0	9,734.0	17,042.1	9,800.0	108.6	108.6	92.05	7,015.1	938.8	1,848.5	1,632.0	216.49	8.538	
17,000.0	9,734.0	17,142.1	9,800.0	110.0	109.9	92.05	7,115.1	938.1	1,848.5	1,629.3	219.23	8.432	
17,100.0	9,734.0	17,242.1	9,800.0	111.4	111.3	92.05	7,215.1	937.4	1,848.5	1,626.6	221.98	8.328	
17,200.0	9,734.0	17,342.1	9,800.0	112.7	112.7	92.05	7,315.1	936.8	1,848.5	1,623.8	224.73	8.226	
17,300.0	9,734.0	17,442.1	9,800.0	114.1	114.1	92.05	7,415.1	936.1	1,848.6	1,621.1	227.48	8.126	
17,400.0	9,734.0	17,542.1	9,800.0	115.5	115.4	92.05	7,515.1	935.4	1,848.6	1,618.4	230.23	8.029	
17,500.0	9,734.0	17,642.1	9,800.0	116.9	116.8	92.05	7,615.1	934.7	1,848.6	1,615.6	232.99	7.934	
17,600.0	9,734.0	17,742.1	9,800.0	118.2	118.2	92.05	7,715.1	934.1	1,848.6	1,612.9	235.75	7.841	
17,700.0	9,734.0	17,842.1	9,800.0	119.6	119.6	92.05	7,815.1	933.4	1,848.7	1,610.1	238.52	7.751	
17,800.0	9,734.0	17,942.1	9,800.0	121.0	121.0	92.05	7,915.1	932.7	1,848.7	1,607.4	241.29	7.662	
17,900.0	9,734.0	18,042.1	9,800.0	122.4	122.3	92.05	8,015.1	932.0	1,848.7	1,604.6	244.06	7.575	
18,000.0	9,734.0	18,142.1	9,800.0	123.8	123.7	92.05	8,115.1	931.4	1,848.7	1,601.9	246.83	7.490	
18,100.0	9,734.0	18,242.1	9,800.0	125.2	125.1	92.05	8,215.1	930.7	1,848.8	1,599.1	249.61	7.407	
18,200.0	9,734.0	18,342.1	9,800.0	126.5	126.5	92.05	8,315.1	930.0	1,848.8	1,596.4	252.39	7.325	
18,300.0	9,734.0	18,442.1	9,800.0	127.9	127.9	92.05	8,415.1	929.4	1,848.8	1,593.6	255.17	7.245	
18,400.0	9,734.0	18,542.1	9,800.0	129.3	129.3	92.05	8,515.1	928.7	1,848.8	1,590.9	257.96	7.167	
18,500.0	9,734.0	18,642.1	9,800.0	130.7	130.7	92.05	8,615.1	928.0	1,848.8	1,588.1	260.74	7.091	
18,600.0	9,734.0	18,742.1	9,800.0	132.1	132.1	92.05	8,715.1	927.3	1,848.9	1,585.3	263.53	7.016	
18,700.0	9,734.0	18,842.1	9,800.0	133.5	133.5	92.05	8,815.1	926.7	1,848.9	1,582.6	266.32	6.942	
18,800.0	9,734.0	18,942.1	9,800.0	134.9	134.8	92.05	8,915.1	926.0	1,848.9	1,579.8	269.12	6.870	
18,900.0	9,734.0	19,042.1	9,800.0	136.3	136.2	92.05	9,015.1	925.3	1,848.9	1,577.0	271.91	6.800	
19,000.0	9,734.0	19,142.1	9,800.0	137.7	137.6	92.05	9,115.1	924.7	1,849.0	1,574.2	274.71	6.731	
19,100.0	9,734.0	19,242.1	9,800.0	139.1	139.0	92.05	9,215.1	924.0	1,849.0	1,571.5	277.51	6.663	
19,200.0	9,734.0	19,342.1	9,800.0	140.5	140.4	92.05	9,315.1	923.3	1,849.0	1,568.7	280.31	6.596	
19,300.0	9,734.0	19,442.1	9,800.0	141.9	141.8	92.05	9,415.1	922.6	1,849.0	1,565.9	283.12	6.531	
19,400.0	9,734.0	19,542.1	9,800.0	143.3	143.2	92.05	9,515.1	922.0	1,849.0	1,563.1	285.92	6.467	
19,500.0	9,734.0	19,642.1	9,800.0	144.7	144.6	92.05	9,615.1	921.3	1,849.1	1,560.3	288.73	6.404	
19,600.0	9,734.0	19,742.1	9,800.0	146.1	146.0	92.05	9,715.1	920.6	1,849.1	1,557.6	291.54	6.343	
19,700.0	9,734.0	19,842.1	9,800.0	147.5	147.4	92.05	9,815.1	920.0	1,849.1	1,554.8	294.35	6.282	
19,800.0	9,734.0	19,942.1	9,800.0	148.9	148.9	92.05	9,915.1	919.3	1,849.1	1,552.0	297.16	6.223	
19,900.0	9,734.0	20,042.1	9,800.0	150.3	150.3	92.05	10,015.1	918.6	1,849.2	1,549.2	299.97	6.164	
20,000.0	9,734.0	20,142.1	9,800.0	151.7	151.7	92.05	10,115.1	917.9	1,849.2	1,546.4	302.79	6.107	
20,011.3	9,734.0	20,153.5	9,800.0	151.9	151.8	92.05	10,126.4	917.9	1,849.2	1,546.1	303.10	6.101	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Offset Wells - Hudson Federal 31 #2 - OH - P & A												Offset Site Error:	0.0 usft
Survey Program: 1000-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,000.0	9,734.0	9,776.5	9,776.5	110.0	183.1	90.00	9,202.6	-457.5	2,147.9	1,916.5	231.35	9.284	
17,100.0	9,734.0	9,776.5	9,776.5	111.4	183.1	90.00	9,202.6	-457.5	2,050.4	1,818.1	232.27	8.828	
17,200.0	9,734.0	9,776.5	9,776.5	112.7	183.1	90.00	9,202.6	-457.5	1,953.1	1,719.8	233.30	8.372	
17,300.0	9,734.0	9,776.5	9,776.5	114.1	183.1	90.00	9,202.6	-457.5	1,856.2	1,621.7	234.45	7.917	
17,400.0	9,734.0	9,776.5	9,776.5	115.5	183.1	90.00	9,202.6	-457.5	1,759.6	1,523.8	235.75	7.464	
17,500.0	9,734.0	9,776.5	9,776.5	116.9	183.1	90.00	9,202.6	-457.5	1,663.3	1,426.1	237.23	7.011	
17,600.0	9,734.0	9,776.5	9,776.5	118.2	183.1	90.00	9,202.6	-457.5	1,567.6	1,328.7	238.92	6.561	
17,700.0	9,734.0	9,776.5	9,776.5	119.6	183.1	90.00	9,202.6	-457.5	1,472.4	1,231.6	240.86	6.113	
17,800.0	9,734.0	9,776.5	9,776.5	121.0	183.1	90.00	9,202.6	-457.5	1,377.9	1,134.8	243.10	5.668	
17,900.0	9,734.0	9,776.5	9,776.5	122.4	183.1	90.00	9,202.6	-457.5	1,284.3	1,038.6	245.70	5.227	
18,000.0	9,734.0	9,776.5	9,776.5	123.8	183.1	90.00	9,202.6	-457.5	1,191.7	942.9	248.75	4.791	
18,100.0	9,734.0	9,776.5	9,776.5	125.2	183.1	90.00	9,202.6	-457.5	1,100.3	848.0	252.33	4.361	
18,200.0	9,734.0	9,776.5	9,776.5	126.5	183.1	90.00	9,202.6	-457.5	1,010.6	754.1	256.56	3.939	
18,300.0	9,734.0	9,776.5	9,776.5	127.9	183.1	90.00	9,202.6	-457.5	923.1	661.5	261.60	3.529	
18,400.0	9,734.0	9,776.5	9,776.5	129.3	183.1	90.00	9,202.6	-457.5	838.3	570.7	267.58	3.133	
18,500.0	9,734.0	9,776.5	9,776.5	130.7	183.1	90.00	9,202.6	-457.5	757.2	482.6	274.69	2.757	
18,600.0	9,734.0	9,776.5	9,776.5	132.1	183.1	90.00	9,202.6	-457.5	681.2	398.2	283.02	2.407	
18,700.0	9,734.0	9,776.5	9,776.5	133.5	183.1	90.00	9,202.6	-457.5	612.2	319.7	292.50	2.093	
18,800.0	9,734.0	9,776.5	9,776.5	134.9	183.1	90.00	9,202.6	-457.5	552.7	250.0	302.67	1.826	
18,900.0	9,734.0	9,776.5	9,776.5	136.3	183.1	90.00	9,202.6	-457.5	506.1	193.7	312.35	1.620	
19,000.0	9,734.0	9,776.5	9,776.5	137.7	183.1	90.00	9,202.6	-457.5	476.2	156.7	319.51	1.490	Level 3
19,096.6	9,734.0	9,776.5	9,776.5	139.0	183.1	90.00	9,202.6	-457.5	466.3	144.3	321.95	1.448	Level 3, CC, ES, SF
19,100.0	9,734.0	9,776.5	9,776.5	139.1	183.1	90.00	9,202.6	-457.5	466.3	144.4	321.94	1.448	Level 3
19,200.0	9,734.0	9,776.5	9,776.5	140.5	183.1	90.00	9,202.6	-457.5	477.6	158.9	318.70	1.499	Level 3
19,300.0	9,734.0	9,776.5	9,776.5	141.9	183.1	90.00	9,202.6	-457.5	508.7	197.8	310.93	1.636	
19,400.0	9,734.0	9,776.5	9,776.5	143.3	183.1	90.00	9,202.6	-457.5	556.3	255.4	300.91	1.849	
19,500.0	9,734.0	9,776.5	9,776.5	144.7	183.1	90.00	9,202.6	-457.5	616.5	325.9	290.60	2.122	
19,600.0	9,734.0	9,776.5	9,776.5	146.1	183.1	90.00	9,202.6	-457.5	686.1	405.0	281.12	2.441	
19,700.0	9,734.0	9,776.5	9,776.5	147.5	183.1	90.00	9,202.6	-457.5	762.5	489.7	272.88	2.794	
19,800.0	9,734.0	9,776.5	9,776.5	148.9	183.1	90.00	9,202.6	-457.5	843.9	578.0	265.92	3.173	
19,900.0	9,734.0	9,776.5	9,776.5	150.3	183.1	90.00	9,202.6	-457.5	928.9	668.8	260.10	3.571	
20,000.0	9,734.0	9,776.5	9,776.5	151.7	183.1	90.00	9,202.6	-457.5	1,016.6	761.3	255.25	3.983	
20,011.3	9,734.0	9,776.5	9,776.5	151.9	183.1	90.00	9,202.6	-457.5	1,026.7	769.4	257.34	3.990	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	2.8	2.8	0.0	0.0	3.18	160.1	8.9	160.4				
100.0	100.0	102.8	102.8	0.1	0.1	3.18	160.1	8.9	160.4	160.1	0.27	586.283	
200.0	200.0	202.8	202.8	0.5	0.5	3.18	160.1	8.9	160.4	159.4	0.99	161.902	
300.0	300.0	302.8	302.8	0.8	0.9	3.18	160.1	8.9	160.4	158.6	1.71	93.919	
400.0	400.0	402.8	402.8	1.2	1.2	3.18	160.1	8.9	160.4	157.9	2.42	66.144	
500.0	500.0	502.8	502.8	1.6	1.6	3.18	160.1	8.9	160.4	157.2	3.14	51.048	
600.0	600.0	602.8	602.8	1.9	1.9	3.18	160.1	8.9	160.4	156.5	3.86	41.562	
700.0	700.0	702.8	702.8	2.3	2.3	3.18	160.1	8.9	160.4	155.8	4.58	35.049	
800.0	800.0	802.8	802.8	2.6	2.7	3.18	160.1	8.9	160.4	155.1	5.29	30.301	
900.0	900.0	902.8	902.8	3.0	3.0	3.18	160.1	8.9	160.4	154.3	6.01	26.686	
1,000.0	1,000.0	1,002.8	1,002.8	3.4	3.4	3.18	160.1	8.9	160.4	153.6	6.73	23.841	
1,100.0	1,100.0	1,102.8	1,102.8	3.7	3.7	3.18	160.1	8.9	160.4	152.9	7.44	21.545	
1,200.0	1,200.0	1,202.8	1,202.8	4.1	4.1	3.18	160.1	8.9	160.4	152.2	8.16	19.652	
1,300.0	1,300.0	1,302.8	1,302.8	4.4	4.4	3.18	160.1	8.9	160.4	151.5	8.88	18.065	
1,400.0	1,400.0	1,402.8	1,402.8	4.8	4.8	3.18	160.1	8.9	160.4	150.8	9.59	16.715	
1,500.0	1,500.0	1,502.8	1,502.8	5.2	5.2	3.18	160.1	8.9	160.4	150.0	10.31	15.552	
1,600.0	1,600.0	1,602.8	1,602.8	5.5	5.5	3.18	160.1	8.9	160.4	149.3	11.03	14.541	
1,700.0	1,700.0	1,702.8	1,702.8	5.9	5.9	3.18	160.1	8.9	160.4	148.6	11.74	13.654	
1,800.0	1,800.0	1,802.8	1,802.8	6.2	6.2	3.18	160.1	8.9	160.4	147.9	12.46	12.868	
1,900.0	1,900.0	1,902.8	1,902.8	6.6	6.6	3.18	160.1	8.9	160.4	147.2	13.18	12.168	
2,000.0	2,000.0	2,002.9	2,002.9	6.9	7.0	3.18	160.1	8.9	160.4	146.5	13.90	11.540	
2,100.0	2,100.0	2,105.9	2,105.9	7.3	7.3	112.86	159.2	7.2	160.0	145.4	14.60	10.965	
2,200.0	2,199.8	2,208.9	2,208.7	7.6	7.7	112.92	156.5	2.2	159.2	143.9	15.27	10.426	
2,300.0	2,299.5	2,311.9	2,311.2	8.0	8.0	113.06	152.1	-6.0	157.9	141.9	15.95	9.897	
2,400.0	2,398.7	2,414.8	2,413.4	8.3	8.4	113.26	145.9	-17.5	156.0	139.3	16.63	9.379	
2,500.0	2,497.8	2,517.4	2,514.6	8.7	8.7	112.79	138.0	-32.1	152.8	135.5	17.32	8.822	
2,600.0	2,596.8	2,617.3	2,612.9	9.0	9.1	111.82	129.7	-47.6	148.9	130.9	18.03	8.256	
2,700.0	2,695.9	2,717.2	2,711.2	9.4	9.4	110.80	121.3	-63.2	145.0	126.3	18.76	7.732	
2,800.0	2,795.0	2,817.1	2,809.6	9.7	9.8	109.72	112.9	-78.7	141.2	121.7	19.49	7.245	
2,900.0	2,894.0	2,917.0	2,907.9	10.1	10.2	108.59	104.6	-94.2	137.5	117.2	20.23	6.793	
3,000.0	2,993.1	3,016.9	3,006.2	10.5	10.6	107.39	96.2	-109.7	133.7	112.8	20.98	6.374	
3,100.0	3,092.1	3,116.7	3,104.5	10.9	11.0	106.13	87.9	-125.2	130.1	108.4	21.74	5.984	
3,200.0	3,191.2	3,216.6	3,202.9	11.2	11.3	104.79	79.5	-140.8	126.5	104.0	22.51	5.622	
3,300.0	3,290.3	3,316.5	3,301.2	11.6	11.7	103.38	71.1	-156.3	123.0	99.7	23.28	5.285	
3,400.0	3,389.3	3,416.4	3,399.5	12.0	12.1	101.88	62.8	-171.8	119.6	95.5	24.05	4.972	
3,500.0	3,488.4	3,516.3	3,497.8	12.4	12.5	100.30	54.4	-187.3	116.2	91.4	24.84	4.680	
3,600.0	3,587.5	3,616.2	3,596.1	12.8	12.9	98.63	46.1	-202.8	113.0	87.4	25.63	4.409	
3,700.0	3,686.5	3,716.1	3,694.5	13.1	13.3	96.85	37.7	-218.4	109.9	83.4	26.42	4.158	
3,800.0	3,785.6	3,816.0	3,792.8	13.5	13.7	94.98	29.3	-233.9	106.8	79.6	27.22	3.925	
3,900.0	3,884.6	3,915.9	3,891.1	13.9	14.1	93.00	21.0	-249.4	103.9	75.9	28.02	3.708	
4,000.0	3,983.7	4,015.8	3,989.4	14.3	14.6	90.91	12.6	-264.9	101.1	72.3	28.83	3.508	
4,100.0	4,082.8	4,115.7	4,087.8	14.7	15.0	88.70	4.3	-280.4	98.5	68.9	29.63	3.324	
4,200.0	4,181.8	4,215.5	4,186.1	15.1	15.4	86.37	-4.1	-296.0	96.0	65.6	30.44	3.154	
4,300.0	4,280.9	4,315.4	4,284.4	15.5	15.8	83.93	-12.5	-311.5	93.7	62.4	31.24	2.999	
4,400.0	4,380.0	4,415.3	4,382.7	15.9	16.2	81.36	-20.8	-327.0	91.6	59.5	32.05	2.857	
4,500.0	4,479.0	4,515.2	4,481.1	16.2	16.6	78.68	-29.2	-342.5	89.6	56.8	32.84	2.728	
4,600.0	4,578.1	4,615.1	4,579.4	16.6	17.0	75.89	-37.5	-358.0	87.9	54.2	33.64	2.612	
4,700.0	4,677.1	4,715.0	4,677.7	17.0	17.5	72.99	-45.9	-373.6	86.3	51.9	34.42	2.508	
4,800.0	4,776.2	4,814.9	4,776.0	17.4	17.9	70.00	-54.3	-389.1	85.0	49.9	35.20	2.416	
4,900.0	4,875.3	4,914.8	4,874.4	17.8	18.3	66.92	-62.6	-404.6	84.0	48.0	35.96	2.336	
5,000.0	4,974.3	5,014.7	4,972.7	18.2	18.7	63.77	-71.0	-420.1	83.2	46.5	36.71	2.266	
5,100.0	5,073.4	5,114.6	5,071.0	18.6	19.1	60.58	-79.4	-435.6	82.6	45.2	37.45	2.207	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,172.5	5,214.5	5,169.3	19.0	19.5	57.34	-87.7	-451.2	82.3	44.2	38.17	2.157	
5,260.0	5,231.9	5,274.4	5,228.3	19.2	19.8	55.40	-92.7	-460.5	82.3	43.7	38.60	2.132	
5,300.0	5,271.5	5,314.3	5,267.6	19.4	20.0	54.10	-96.1	-466.7	82.3	43.4	38.88	2.117	
5,400.0	5,370.6	5,414.2	5,366.0	19.8	20.4	50.87	-104.4	-482.2	82.6	43.0	39.57	2.086	
5,500.0	5,469.7	5,514.1	5,464.3	20.2	20.8	47.66	-112.8	-497.7	83.1	42.8	40.26	2.063	
5,600.0	5,568.7	5,614.0	5,562.6	20.6	21.2	44.50	-121.2	-513.2	83.8	42.9	40.93	2.048	
5,700.0	5,667.8	5,713.9	5,660.9	21.0	21.7	41.41	-129.5	-528.8	84.8	43.2	41.59	2.039	
5,800.0	5,766.8	5,813.8	5,759.3	21.4	22.1	38.40	-137.9	-544.3	86.1	43.8	42.25	2.037	
5,900.0	5,865.9	5,913.7	5,857.6	21.8	22.5	35.48	-146.2	-559.8	87.5	44.6	42.90	2.041	
6,000.0	5,965.0	6,013.6	5,955.9	22.2	22.9	32.66	-154.6	-575.3	89.2	45.7	43.55	2.049	
6,100.0	6,064.0	6,113.5	6,054.2	22.6	23.4	29.96	-163.0	-590.8	91.1	47.0	44.20	2.062	
6,200.0	6,163.1	6,213.4	6,152.6	23.0	23.8	27.37	-171.3	-606.4	93.2	48.4	44.85	2.079	
6,300.0	6,262.2	6,313.3	6,250.9	23.4	24.2	24.90	-179.7	-621.9	95.5	50.0	45.50	2.100	
6,400.0	6,361.2	6,413.2	6,349.2	23.8	24.6	22.55	-188.0	-637.4	98.0	51.8	46.16	2.123	
6,500.0	6,460.3	6,513.0	6,447.5	24.2	25.1	20.32	-196.4	-652.9	100.6	53.8	46.82	2.149	
6,600.0	6,559.3	6,612.9	6,545.8	24.6	25.5	18.21	-204.8	-668.4	103.3	55.9	47.49	2.176	
6,700.0	6,658.4	6,712.8	6,644.2	25.0	25.9	16.20	-213.1	-684.0	106.2	58.1	48.16	2.206	
6,800.0	6,757.5	6,812.7	6,742.5	25.4	26.4	14.31	-221.5	-699.5	109.2	60.4	48.83	2.237	
6,900.0	6,856.5	6,912.6	6,840.8	25.8	26.8	12.52	-229.8	-715.0	112.4	62.8	49.52	2.269	
7,000.0	6,955.6	7,012.5	6,939.1	26.2	27.2	10.82	-238.2	-730.5	115.6	65.4	50.21	2.302	
7,100.0	7,054.7	7,112.4	7,037.5	26.6	27.6	9.22	-246.6	-746.0	118.9	68.0	50.90	2.336	
7,200.0	7,153.7	7,212.3	7,135.8	27.0	28.1	7.71	-254.9	-761.6	122.3	70.7	51.60	2.371	
7,300.0	7,252.8	7,312.2	7,234.1	27.4	28.5	6.28	-263.3	-777.1	125.8	73.5	52.30	2.406	
7,400.0	7,351.8	7,412.1	7,332.4	27.8	28.9	4.93	-271.6	-792.6	129.4	76.4	53.01	2.441	
7,500.0	7,450.9	7,512.0	7,430.8	28.2	29.4	3.65	-280.0	-808.1	133.0	79.3	53.72	2.476	
7,600.0	7,550.0	7,613.6	7,530.8	28.6	29.8	2.44	-288.4	-823.7	136.5	82.0	54.48	2.505	
7,700.0	7,649.0	7,718.5	7,634.6	29.0	30.2	1.47	-295.6	-837.2	137.2	81.9	55.27	2.482	
7,800.0	7,748.1	7,823.3	7,738.8	29.4	30.6	0.77	-301.1	-847.2	134.3	78.3	56.00	2.398	
7,900.0	7,847.2	7,927.8	7,843.0	29.8	31.0	0.29	-304.7	-854.0	127.8	71.1	56.67	2.255	
8,000.0	7,946.2	8,031.7	7,946.9	30.2	31.4	0.04	-306.5	-857.3	117.7	60.5	57.27	2.056	
8,100.0	8,045.3	8,133.0	8,048.1	30.6	31.7	0.00	-306.7	-857.7	104.5	46.6	57.89	1.806	
8,200.0	8,144.3	8,232.0	8,147.1	31.0	32.0	0.00	-306.7	-857.7	90.9	32.3	58.58	1.551	
8,300.0	8,243.4	8,331.1	8,246.2	31.4	32.3	0.00	-306.7	-857.7	77.2	17.9	59.28	1.303 Level 3	
8,400.0	8,342.5	8,430.5	8,345.7	31.8	32.6	0.08	-306.7	-857.8	63.5	3.6	59.94	1.060 Level 2	
8,500.0	8,441.5	8,531.1	8,445.3	32.2	32.9	14.68	-294.2	-857.8	47.3	-13.8	61.08	0.774 Level 1	
8,555.7	8,496.7	8,582.9	8,494.9	32.4	33.0	37.16	-279.7	-857.9	42.3	-21.0	63.24	0.668 Level 1, CC, ES, SF	
8,600.0	8,540.6	8,621.1	8,530.4	32.6	33.1	58.06	-265.6	-858.0	46.8	-16.8	63.60	0.736 Level 1	
8,700.0	8,639.7	8,696.9	8,597.0	33.0	33.2	87.68	-229.4	-858.3	86.0	27.7	58.31	1.475 Level 3	
8,800.0	8,739.1	8,759.4	8,647.0	33.4	33.3	99.04	-192.0	-858.5	146.3	92.7	53.60	2.730	
8,900.0	8,838.8	8,810.6	8,684.0	33.8	33.3	104.29	-156.7	-858.8	216.6	166.5	50.05	4.327	
9,000.0	8,938.7	8,850.0	8,709.8	34.1	33.4	107.57	-127.0	-859.0	293.1	246.2	46.95	6.243	
9,100.0	9,038.7	8,887.2	8,731.9	34.5	33.4	-0.40	-97.0	-859.2	374.0	329.0	45.04	8.303	
9,200.0	9,138.7	8,915.8	8,747.2	34.8	33.4	-0.40	-72.9	-859.4	458.5	415.2	43.29	10.590	
9,300.0	9,238.7	8,939.6	8,758.8	35.1	33.4	-0.40	-52.1	-859.5	545.8	503.8	41.93	13.015	
9,400.0	9,338.3	8,962.3	8,768.9	35.4	33.4	0.00	-31.8	-859.7	631.8	591.1	40.70	15.525	
9,500.0	9,434.3	8,988.7	8,779.4	35.7	33.4	0.00	-7.6	-859.8	709.0	669.7	39.31	18.034	
9,600.0	9,522.6	9,025.0	8,791.7	35.9	33.3	0.00	26.6	-860.1	775.8	737.7	38.17	20.324	
9,700.0	9,599.2	9,050.0	8,798.6	36.1	33.3	0.00	50.6	-860.2	831.0	794.3	36.66	22.666	
9,800.0	9,660.8	9,075.0	8,804.3	36.1	33.3	0.00	75.0	-860.4	873.8	838.3	35.46	24.642	
9,900.0	9,704.8	9,114.4	8,810.6	36.2	33.3	0.00	113.9	-860.7	903.4	868.5	34.91	25.882	
10,000.0	9,729.2	9,150.0	8,813.5	36.1	33.2	0.00	149.3	-860.9	919.6	884.9	34.71	26.492	
10,100.0	9,734.0	9,203.6	8,814.0	36.1	33.2	0.00	202.9	-861.3	922.8	887.8	35.00	26.365	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,200.0	9,734.0	9,303.6	8,814.0	36.2	33.1	0.00	302.9	-862.0	922.8	887.4	35.42	26.049	
10,300.0	9,734.0	9,403.6	8,814.0	36.3	33.1	0.00	402.9	-862.7	922.8	886.9	35.91	25.695	
10,400.0	9,734.0	9,503.6	8,814.0	36.5	33.2	0.00	502.9	-863.4	922.8	886.3	36.46	25.308	
10,500.0	9,734.0	9,603.6	8,814.0	36.8	33.4	0.00	602.9	-864.1	922.8	885.7	37.07	24.893	
10,600.0	9,734.0	9,703.6	8,814.0	37.2	33.7	0.00	702.9	-864.8	922.8	885.1	37.73	24.455	
10,700.0	9,734.0	9,803.6	8,814.0	37.7	34.2	0.00	802.9	-865.5	922.8	884.3	38.45	24.000	
10,800.0	9,734.0	9,903.6	8,814.0	38.2	34.7	0.00	902.9	-866.1	922.8	883.6	39.22	23.531	
10,900.0	9,734.0	10,003.6	8,814.0	38.8	35.3	0.00	1,002.9	-866.8	922.8	882.8	40.03	23.053	
11,000.0	9,734.0	10,103.6	8,814.0	39.4	35.9	0.00	1,102.9	-867.5	922.8	881.9	40.89	22.570	
11,100.0	9,734.0	10,203.6	8,814.0	40.1	36.6	0.00	1,202.9	-868.2	922.8	881.0	41.78	22.085	
11,200.0	9,734.0	10,303.6	8,814.0	40.8	37.3	0.00	1,302.9	-868.9	922.8	880.1	42.72	21.601	
11,300.0	9,734.0	10,403.6	8,814.0	41.5	38.1	0.00	1,402.9	-869.6	922.8	879.1	43.69	21.120	
11,400.0	9,734.0	10,503.6	8,814.0	42.3	38.9	0.00	1,502.9	-870.3	922.8	878.1	44.70	20.644	
11,500.0	9,734.0	10,603.6	8,814.0	43.1	39.7	0.00	1,602.9	-871.0	922.8	877.1	45.74	20.175	
11,600.0	9,734.0	10,703.6	8,814.0	44.0	40.6	0.00	1,702.9	-871.7	922.8	876.0	46.81	19.715	
11,700.0	9,734.0	10,803.6	8,814.0	44.8	41.5	0.00	1,802.9	-872.4	922.8	874.9	47.90	19.264	
11,800.0	9,734.0	10,903.6	8,814.0	45.7	42.4	0.00	1,902.9	-873.1	922.8	873.8	49.02	18.824	
11,900.0	9,734.0	11,003.6	8,814.0	46.7	43.4	0.00	2,002.9	-873.8	922.8	872.6	50.17	18.394	
12,000.0	9,734.0	11,103.6	8,814.0	47.6	44.4	0.00	2,102.9	-874.5	922.8	871.5	51.34	17.976	
12,100.0	9,734.0	11,203.6	8,814.0	48.6	45.4	0.00	2,202.9	-875.2	922.8	870.3	52.52	17.569	
12,200.0	9,734.0	11,303.6	8,814.0	49.6	46.4	0.00	2,302.9	-875.9	922.8	869.1	53.73	17.174	
12,300.0	9,734.0	11,403.6	8,814.0	50.6	47.4	0.00	2,402.9	-876.6	922.8	867.8	54.96	16.791	
12,400.0	9,734.0	11,503.6	8,814.0	51.7	48.5	0.00	2,502.8	-877.3	922.8	866.6	56.20	16.419	
12,500.0	9,734.0	11,603.6	8,814.0	52.7	49.6	0.00	2,602.8	-877.9	922.8	865.3	57.46	16.060	
12,600.0	9,734.0	11,703.6	8,814.0	53.8	50.7	0.00	2,702.8	-878.6	922.8	864.1	58.73	15.711	
12,700.0	9,734.0	11,803.6	8,814.0	54.9	51.8	0.00	2,802.8	-879.3	922.8	862.8	60.02	15.374	
12,800.0	9,734.0	11,903.6	8,814.0	56.0	53.0	0.00	2,902.8	-880.0	922.8	861.5	61.32	15.048	
12,900.0	9,734.0	12,003.6	8,814.0	57.1	54.1	0.00	3,002.8	-880.7	922.8	860.2	62.64	14.732	
13,000.0	9,734.0	12,103.6	8,814.0	58.3	55.3	0.00	3,102.8	-881.4	922.8	858.8	63.96	14.427	
13,100.0	9,734.0	12,203.6	8,814.0	59.4	56.5	0.00	3,202.8	-882.1	922.8	857.5	65.30	14.132	
13,200.0	9,734.0	12,303.6	8,814.0	60.6	57.7	0.00	3,302.8	-882.8	922.8	856.2	66.64	13.847	
13,300.0	9,734.0	12,403.6	8,814.0	61.8	58.9	0.00	3,402.8	-883.5	922.8	854.8	68.00	13.571	
13,400.0	9,734.0	12,503.6	8,814.0	63.0	60.1	0.00	3,502.8	-884.2	922.8	853.4	69.36	13.304	
13,500.0	9,734.0	12,603.6	8,814.0	64.2	61.3	0.00	3,602.8	-884.9	922.8	852.1	70.74	13.046	
13,600.0	9,734.0	12,703.6	8,814.0	65.4	62.5	0.00	3,702.8	-885.6	922.8	850.7	72.12	12.796	
13,700.0	9,734.0	12,803.6	8,814.0	66.6	63.8	0.00	3,802.8	-886.3	922.8	849.3	73.51	12.554	
13,800.0	9,734.0	12,903.6	8,814.0	67.8	65.0	0.00	3,902.8	-887.0	922.8	847.9	74.90	12.320	
13,900.0	9,734.0	13,003.6	8,814.0	69.1	66.3	0.00	4,002.8	-887.7	922.8	846.5	76.30	12.094	
14,000.0	9,734.0	13,103.6	8,814.0	70.3	67.5	0.00	4,102.8	-888.4	922.8	845.1	77.71	11.875	
14,100.0	9,734.0	13,203.6	8,814.0	71.6	68.8	0.00	4,202.8	-889.1	922.8	843.7	79.13	11.662	
14,200.0	9,734.0	13,303.6	8,814.0	72.8	70.1	0.00	4,302.8	-889.8	922.8	842.3	80.55	11.457	
14,300.0	9,734.0	13,403.6	8,814.0	74.1	71.4	0.00	4,402.8	-890.4	922.8	840.8	81.97	11.257	
14,400.0	9,734.0	13,503.6	8,814.0	75.4	72.7	0.00	4,502.8	-891.1	922.8	839.4	83.40	11.064	
14,500.0	9,734.0	13,603.6	8,814.0	76.6	74.0	0.00	4,602.8	-891.8	922.8	838.0	84.84	10.877	
14,600.0	9,734.0	13,703.6	8,814.0	77.9	75.3	0.00	4,702.8	-892.5	922.8	836.5	86.28	10.695	
14,700.0	9,734.0	13,803.6	8,814.0	79.2	76.6	0.00	4,802.8	-893.2	922.8	835.1	87.73	10.519	
14,800.0	9,734.0	13,903.6	8,814.0	80.5	77.9	0.00	4,902.8	-893.9	922.8	833.6	89.17	10.348	
14,900.0	9,734.0	14,003.6	8,814.0	81.8	79.2	0.00	5,002.8	-894.6	922.8	832.2	90.63	10.182	
15,000.0	9,734.0	14,103.6	8,814.0	83.1	80.5	0.00	5,102.8	-895.3	922.8	830.7	92.08	10.021	
15,100.0	9,734.0	14,203.6	8,814.0	84.4	81.9	0.00	5,202.8	-896.0	922.8	829.3	93.55	9.865	
15,200.0	9,734.0	14,303.6	8,814.0	85.7	83.2	0.00	5,302.8	-896.7	922.8	827.8	95.01	9.713	
15,300.0	9,734.0	14,403.6	8,814.0	87.1	84.5	0.00	5,402.8	-897.4	922.8	826.3	96.48	9.565	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 301H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program: 0-B001Mb_MWD+HRGM		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
15,400.0	9,734.0	14,503.6	8,814.0	88.4	85.9	0.00	5,502.8	-898.1	922.8	824.9	97.95	9.421		
15,500.0	9,734.0	14,603.6	8,814.0	89.7	87.2	0.00	5,602.8	-898.8	922.8	823.4	99.42	9.282		
15,600.0	9,734.0	14,703.6	8,814.0	91.0	88.6	0.00	5,702.8	-899.5	922.8	821.9	100.90	9.146		
15,700.0	9,734.0	14,803.6	8,814.0	92.4	89.9	0.00	5,802.8	-900.2	922.8	820.4	102.38	9.014		
15,800.0	9,734.0	14,903.6	8,814.0	93.7	91.2	0.00	5,902.8	-900.9	922.8	818.9	103.86	8.885		
15,900.0	9,734.0	15,003.6	8,814.0	95.1	92.6	0.00	6,002.8	-901.6	922.8	817.5	105.34	8.760		
16,000.0	9,734.0	15,103.6	8,814.0	96.4	94.0	0.00	6,102.8	-902.2	922.8	816.0	106.83	8.638		
16,100.0	9,734.0	15,203.6	8,814.0	97.7	95.3	0.00	6,202.8	-902.9	922.8	814.5	108.32	8.519		
16,200.0	9,734.0	15,303.6	8,814.0	99.1	96.7	0.00	6,302.8	-903.6	922.8	813.0	109.81	8.404		
16,300.0	9,734.0	15,403.6	8,814.0	100.4	98.0	0.00	6,402.8	-904.3	922.8	811.5	111.30	8.291		
16,400.0	9,734.0	15,503.6	8,814.0	101.8	99.4	0.00	6,502.8	-905.0	922.8	810.0	112.80	8.181		
16,500.0	9,734.0	15,603.6	8,814.0	103.2	100.8	0.00	6,602.7	-905.7	922.8	808.5	114.30	8.074		
16,600.0	9,734.0	15,703.6	8,814.0	104.5	102.1	0.00	6,702.7	-906.4	922.8	807.0	115.80	7.969		
16,700.0	9,734.0	15,803.6	8,814.0	105.9	103.5	0.00	6,802.7	-907.1	922.8	805.5	117.30	7.867		
16,800.0	9,734.0	15,903.6	8,814.0	107.2	104.9	0.00	6,902.7	-907.8	922.8	804.0	118.80	7.768		
16,900.0	9,734.0	16,003.6	8,814.0	108.6	106.3	0.00	7,002.7	-908.5	922.8	802.5	120.31	7.670		
17,000.0	9,734.0	16,103.6	8,814.0	110.0	107.7	0.00	7,102.7	-909.2	922.8	801.0	121.81	7.576		
17,100.0	9,734.0	16,203.6	8,814.0	111.4	109.0	0.00	7,202.7	-909.9	922.8	799.5	123.32	7.483		
17,200.0	9,734.0	16,303.6	8,814.0	112.7	110.4	0.00	7,302.7	-910.6	922.8	798.0	124.83	7.392		
17,300.0	9,734.0	16,403.6	8,814.0	114.1	111.8	0.00	7,402.7	-911.3	922.8	796.5	126.34	7.304		
17,400.0	9,734.0	16,503.6	8,814.0	115.5	113.2	0.00	7,502.7	-912.0	922.8	794.9	127.85	7.218		
17,500.0	9,734.0	16,603.6	8,814.0	116.9	114.6	0.00	7,602.7	-912.7	922.8	793.4	129.37	7.133		
17,600.0	9,734.0	16,703.6	8,814.0	118.2	116.0	0.00	7,702.7	-913.4	922.8	791.9	130.88	7.051		
17,700.0	9,734.0	16,803.6	8,814.0	119.6	117.3	0.00	7,802.7	-914.1	922.8	790.4	132.40	6.970		
17,800.0	9,734.0	16,903.6	8,814.0	121.0	118.7	0.00	7,902.7	-914.7	922.8	788.9	133.92	6.891		
17,900.0	9,734.0	17,003.6	8,814.0	122.4	120.1	0.00	8,002.7	-915.4	922.8	787.4	135.44	6.814		
18,000.0	9,734.0	17,103.6	8,814.0	123.8	121.5	0.00	8,102.7	-916.1	922.8	785.8	136.96	6.738		
18,100.0	9,734.0	17,203.6	8,814.0	125.2	122.9	0.00	8,202.7	-916.8	922.8	784.3	138.48	6.664		
18,200.0	9,734.0	17,303.6	8,814.0	126.5	124.3	0.00	8,302.7	-917.5	922.8	782.8	140.00	6.592		
18,300.0	9,734.0	17,403.6	8,814.0	127.9	125.7	0.00	8,402.7	-918.2	922.8	781.3	141.52	6.521		
18,400.0	9,734.0	17,503.6	8,814.0	129.3	127.1	0.00	8,502.7	-918.9	922.8	779.8	143.05	6.451		
18,500.0	9,734.0	17,603.6	8,814.0	130.7	128.5	0.00	8,602.7	-919.6	922.8	778.2	144.57	6.383		
18,600.0	9,734.0	17,703.6	8,814.0	132.1	129.9	0.00	8,702.7	-920.3	922.8	776.7	146.10	6.316		
18,700.0	9,734.0	17,803.6	8,814.0	133.5	131.3	0.00	8,802.7	-921.0	922.8	775.2	147.62	6.251		
18,800.0	9,734.0	17,903.6	8,814.0	134.9	132.7	0.00	8,902.7	-921.7	922.8	773.6	149.15	6.187		
18,900.0	9,734.0	18,003.6	8,814.0	136.3	134.1	0.00	9,002.7	-922.4	922.8	772.1	150.68	6.124		
19,000.0	9,734.0	18,103.6	8,814.0	137.7	135.5	0.00	9,102.7	-923.1	922.8	770.6	152.21	6.063		
19,100.0	9,734.0	18,203.6	8,814.0	139.1	136.9	0.00	9,202.7	-923.8	922.8	769.1	153.74	6.002		
19,200.0	9,734.0	18,303.6	8,814.0	140.5	138.3	0.00	9,302.7	-924.5	922.8	767.5	155.27	5.943		
19,300.0	9,734.0	18,403.6	8,814.0	141.9	139.7	0.00	9,402.7	-925.2	922.8	766.0	156.80	5.885		
19,400.0	9,734.0	18,503.6	8,814.0	143.3	141.2	0.00	9,502.7	-925.9	922.8	764.5	158.34	5.828		
19,500.0	9,734.0	18,603.6	8,814.0	144.7	142.6	0.00	9,602.7	-926.5	922.8	762.9	159.87	5.772		
19,600.0	9,734.0	18,703.6	8,814.0	146.1	144.0	0.00	9,702.7	-927.2	922.8	761.4	161.40	5.717		
19,700.0	9,734.0	18,803.6	8,814.0	147.5	145.4	0.00	9,802.7	-927.9	922.8	759.9	162.94	5.664		
19,800.0	9,734.0	18,903.6	8,814.0	148.9	146.8	0.00	9,902.7	-928.6	922.8	758.3	164.47	5.611		
19,900.0	9,734.0	19,003.6	8,814.0	150.3	148.2	0.00	10,002.7	-929.3	922.8	756.8	166.01	5.559		
20,000.0	9,734.0	19,103.6	8,814.0	151.7	149.6	0.00	10,102.7	-930.0	922.8	755.3	167.55	5.508		
20,001.5	9,734.0	19,105.1	8,814.0	151.7	149.6	0.00	10,104.2	-930.0	922.8	755.2	167.57	5.507		
20,011.3	9,734.0	19,114.0	8,814.0	151.9	149.8	0.00	10,113.1	-930.1	922.8	755.1	167.72	5.502		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	2.6	2.6	0.0	0.0	10.17	160.3	28.8	162.9				
100.0	100.0	102.6	102.6	0.1	0.1	10.17	160.3	28.8	162.9	162.6	0.27	596.999	
200.0	200.0	202.6	202.6	0.5	0.5	10.17	160.3	28.8	162.9	161.9	0.99	164.548	
300.0	300.0	302.6	302.6	0.8	0.9	10.17	160.3	28.8	162.9	161.2	1.71	95.425	
400.0	400.0	402.6	402.6	1.2	1.2	10.17	160.3	28.8	162.9	160.4	2.42	67.197	
500.0	500.0	502.6	502.6	1.6	1.6	10.17	160.3	28.8	162.9	159.7	3.14	51.857	
600.0	600.0	602.6	602.6	1.9	1.9	10.17	160.3	28.8	162.9	159.0	3.86	42.219	
700.0	700.0	702.6	702.6	2.3	2.3	10.17	160.3	28.8	162.9	158.3	4.57	35.602	
800.0	800.0	802.6	802.6	2.6	2.7	10.17	160.3	28.8	162.9	157.6	5.29	30.778	
900.0	900.0	902.6	902.6	3.0	3.0	10.17	160.3	28.8	162.9	156.9	6.01	27.106	
1,000.0	1,000.0	1,002.6	1,002.6	3.4	3.4	10.17	160.3	28.8	162.9	156.1	6.73	24.216	
1,100.0	1,100.0	1,102.6	1,102.6	3.7	3.7	10.17	160.3	28.8	162.9	155.4	7.44	21.883	
1,200.0	1,200.0	1,202.6	1,202.6	4.1	4.1	10.17	160.3	28.8	162.9	154.7	8.16	19.960	
1,300.0	1,300.0	1,302.6	1,302.6	4.4	4.4	10.17	160.3	28.8	162.9	154.0	8.88	18.348	
1,400.0	1,400.0	1,402.6	1,402.6	4.8	4.8	10.17	160.3	28.8	162.9	153.3	9.59	16.977	
1,500.0	1,500.0	1,502.6	1,502.6	5.2	5.2	10.17	160.3	28.8	162.9	152.5	10.31	15.796	
1,600.0	1,600.0	1,602.6	1,602.6	5.5	5.5	10.17	160.3	28.8	162.9	151.8	11.03	14.769	
1,700.0	1,700.0	1,702.6	1,702.6	5.9	5.9	10.17	160.3	28.8	162.9	151.1	11.74	13.868	
1,800.0	1,800.0	1,802.6	1,802.6	6.2	6.2	10.17	160.3	28.8	162.9	150.4	12.46	13.070	
1,900.0	1,900.0	1,902.6	1,902.6	6.6	6.6	10.17	160.3	28.8	162.9	149.7	13.18	12.359	
2,000.0	2,000.0	2,002.6	2,002.6	6.9	7.0	10.17	160.3	28.8	162.9	149.0	13.89	11.721 CC, ES	
2,100.0	2,100.0	2,102.6	2,102.6	7.3	7.3	120.36	160.3	28.8	163.7	149.1	14.60	11.215	
2,200.0	2,199.8	2,202.4	2,202.4	7.6	7.7	121.87	160.3	28.8	166.4	151.1	15.30	10.882	
2,300.0	2,299.5	2,302.1	2,302.1	8.0	8.0	124.26	160.3	28.8	171.2	155.2	15.99	10.705	
2,400.0	2,398.7	2,401.3	2,401.3	8.3	8.4	127.38	160.3	28.8	178.4	161.7	16.69	10.685	
2,500.0	2,497.8	2,500.4	2,500.4	8.7	8.7	130.69	160.3	28.8	187.0	169.6	17.39	10.752	
2,600.0	2,596.8	2,599.4	2,599.4	9.0	9.1	133.70	160.3	28.8	196.3	178.2	18.10	10.844	
2,700.0	2,695.9	2,698.5	2,698.5	9.4	9.4	136.43	160.3	28.8	206.0	187.2	18.80	10.955	
2,800.0	2,795.0	2,797.6	2,797.6	9.7	9.8	138.92	160.3	28.8	216.1	196.6	19.51	11.079	
2,900.0	2,894.0	2,896.6	2,896.6	10.1	10.2	141.18	160.3	28.8	226.6	206.4	20.21	11.212	
3,000.0	2,993.1	2,995.7	2,995.7	10.5	10.5	143.24	160.3	28.8	237.5	216.5	20.92	11.350	
3,100.0	3,092.1	3,094.7	3,094.7	10.9	10.9	145.12	160.3	28.8	248.6	226.9	21.63	11.493	
3,200.0	3,191.2	3,193.8	3,193.8	11.2	11.2	146.84	160.3	28.8	259.9	237.6	22.34	11.637	
3,300.0	3,290.3	3,292.9	3,292.9	11.6	11.6	148.41	160.3	28.8	271.5	248.5	23.05	11.781	
3,400.0	3,389.3	3,391.9	3,391.9	12.0	11.9	149.85	160.3	28.8	283.2	259.5	23.76	11.924	
3,500.0	3,488.4	3,491.0	3,491.0	12.4	12.3	151.18	160.3	28.8	295.2	270.7	24.46	12.065	
3,600.0	3,587.5	3,590.1	3,590.1	12.8	12.6	152.41	160.3	28.8	307.2	282.1	25.18	12.204	
3,700.0	3,686.5	3,689.1	3,689.1	13.1	13.0	153.54	160.3	28.8	319.4	293.5	25.89	12.340	
3,800.0	3,785.6	3,788.2	3,788.2	13.5	13.4	154.59	160.3	28.8	331.7	305.1	26.60	12.472	
3,900.0	3,884.6	3,887.2	3,887.2	13.9	13.7	155.56	160.3	28.8	344.1	316.8	27.31	12.602	
4,000.0	3,983.7	3,986.3	3,986.3	14.3	14.1	156.47	160.3	28.8	356.6	328.6	28.02	12.727	
4,100.0	4,082.8	4,085.4	4,085.4	14.7	14.4	157.31	160.3	28.8	369.2	340.5	28.73	12.850	
4,200.0	4,181.8	4,184.4	4,184.4	15.1	14.8	158.10	160.3	28.8	381.9	352.4	29.45	12.968	
4,300.0	4,280.9	4,283.5	4,283.5	15.5	15.1	158.84	160.3	28.8	394.6	364.4	30.16	13.083	
4,400.0	4,380.0	4,382.6	4,382.6	15.9	15.5	159.54	160.3	28.8	407.4	376.5	30.87	13.195	
4,500.0	4,479.0	4,481.6	4,481.6	16.2	15.8	160.19	160.3	28.8	420.2	388.6	31.59	13.303	
4,600.0	4,578.1	4,580.7	4,580.7	16.6	16.2	160.80	160.3	28.8	433.1	400.8	32.30	13.408	
4,700.0	4,677.1	4,679.7	4,679.7	17.0	16.5	161.37	160.3	28.8	446.0	413.0	33.02	13.509	
4,800.0	4,776.2	4,778.8	4,778.8	17.4	16.9	161.92	160.3	28.8	459.0	425.3	33.73	13.608	
4,900.0	4,875.3	4,877.9	4,877.9	17.8	17.3	162.43	160.3	28.8	472.0	437.6	34.45	13.703	
5,000.0	4,974.3	4,976.9	4,976.9	18.2	17.6	162.92	160.3	28.8	485.1	449.9	35.16	13.795	
5,100.0	5,073.4	5,076.0	5,076.0	18.6	18.0	163.38	160.3	28.8	498.2	462.3	35.88	13.885	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program: 0-B001Mb_MWD+HRGM				Rule Assigned:					Offset Well Error: 0.0 usft					
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Separation Factor	
5,200.0	5,172.5	5,175.1	5,175.1	19.0	18.3	163.82	160.3	28.8	511.3	474.7	36.59	13.971		
5,300.0	5,271.5	5,274.1	5,274.1	19.4	18.7	164.23	160.3	28.8	524.4	487.1	37.31	14.055		
5,400.0	5,370.6	5,380.8	5,380.8	19.8	19.0	164.76	159.2	28.9	537.1	499.0	38.05	14.113		
5,500.0	5,469.7	5,490.2	5,490.1	20.2	19.4	165.65	154.0	29.3	547.9	509.2	38.78	14.130		
5,600.0	5,568.7	5,599.4	5,598.8	20.6	19.8	166.86	144.7	30.0	557.1	517.6	39.49	14.109		
5,700.0	5,667.8	5,707.9	5,706.6	21.0	20.1	168.40	131.4	31.1	564.8	524.6	40.19	14.055		
5,800.0	5,766.8	5,815.7	5,812.9	21.4	20.5	170.25	114.2	32.5	571.2	530.3	40.88	13.973		
5,900.0	5,865.9	5,916.2	5,911.7	21.8	20.8	172.19	95.3	34.1	577.1	535.5	41.57	13.881		
6,000.0	5,965.0	6,014.2	6,007.8	22.2	21.1	174.05	76.8	35.6	583.5	541.2	42.26	13.806		
6,100.0	6,064.0	6,112.1	6,104.0	22.6	21.4	175.87	58.3	37.1	590.5	547.5	42.95	13.747		
6,200.0	6,163.1	6,210.0	6,200.1	23.0	21.8	177.65	39.8	38.6	598.1	554.5	43.65	13.701		
6,300.0	6,262.2	6,308.0	6,296.3	23.4	22.1	179.38	21.3	40.1	606.3	562.0	44.36	13.669		
6,400.0	6,361.2	6,405.9	6,392.4	23.8	22.4	-178.93	2.7	41.6	615.1	570.0	45.07	13.649		
6,500.0	6,460.3	6,503.8	6,488.6	24.2	22.8	-177.29	-15.8	43.1	624.4	578.6	45.78	13.639		
6,600.0	6,559.3	6,601.8	6,584.8	24.6	23.1	-175.70	-34.3	44.6	634.2	587.7	46.50	13.640		
6,700.0	6,658.4	6,699.7	6,680.9	25.0	23.5	-174.16	-52.8	46.1	644.5	597.2	47.22	13.649		
6,800.0	6,757.5	6,797.6	6,777.1	25.4	23.8	-172.66	-71.3	47.6	655.2	607.3	47.94	13.667		
6,900.0	6,856.5	6,895.6	6,873.2	25.8	24.2	-171.21	-89.8	49.1	666.4	617.7	48.67	13.692		
7,000.0	6,955.6	6,993.5	6,969.4	26.2	24.5	-169.81	-108.4	50.6	678.0	628.6	49.40	13.723		
7,100.0	7,054.7	7,091.5	7,065.5	26.6	24.9	-168.46	-126.9	52.2	690.0	639.9	50.14	13.761		
7,200.0	7,153.7	7,189.4	7,161.7	27.0	25.3	-167.15	-145.4	53.7	702.4	651.5	50.88	13.804		
7,300.0	7,252.8	7,287.3	7,257.9	27.4	25.6	-165.89	-163.9	55.2	715.1	663.5	51.63	13.852		
7,400.0	7,351.8	7,385.3	7,354.0	27.8	26.0	-164.67	-182.4	56.7	728.2	675.8	52.37	13.904		
7,500.0	7,450.9	7,483.2	7,450.2	28.2	26.4	-163.49	-200.9	58.2	741.6	688.5	53.12	13.960		
7,600.0	7,550.0	7,581.1	7,546.3	28.6	26.7	-162.35	-219.5	59.7	755.3	701.4	53.87	14.020		
7,700.0	7,649.0	7,679.1	7,642.5	29.0	27.1	-161.26	-238.0	61.2	769.3	714.7	54.63	14.082		
7,800.0	7,748.1	7,778.1	7,739.8	29.4	27.5	-160.22	-256.3	62.7	783.5	728.1	55.39	14.145		
7,900.0	7,847.2	7,878.9	7,839.4	29.8	27.9	-159.42	-272.0	64.0	797.7	741.5	56.16	14.204		
8,000.0	7,946.2	7,980.5	7,940.2	30.2	28.2	-158.89	-284.2	65.0	811.7	754.7	56.92	14.259		
8,100.0	8,045.3	8,082.6	8,041.9	30.6	28.6	-158.64	-292.9	65.7	825.3	767.6	57.68	14.309		
8,200.0	8,144.3	8,184.9	8,144.1	31.0	29.0	-158.64	-298.0	66.1	838.6	780.2	58.42	14.355		
8,300.0	8,243.4	8,286.8	8,246.0	31.4	29.3	-158.88	-299.5	66.2	851.5	792.3	59.14	14.397		
8,400.0	8,342.5	8,386.3	8,345.4	31.8	29.7	-159.21	-299.4	66.2	864.2	804.4	59.85	14.440		
8,500.0	8,441.5	8,486.6	8,444.9	32.2	30.0	-160.35	-287.0	66.1	876.9	816.4	60.52	14.490		
8,600.0	8,540.6	8,576.5	8,530.0	32.6	30.2	-162.45	-258.5	65.9	890.4	829.3	61.05	14.585		
8,700.0	8,639.7	8,652.4	8,596.6	33.0	30.4	-164.97	-222.4	65.7	906.4	845.0	61.40	14.762		
8,800.0	8,739.1	8,714.8	8,646.6	33.4	30.5	-167.51	-185.1	65.4	924.4	862.9	61.53	15.025		
8,900.0	8,838.8	8,766.0	8,683.7	33.8	30.6	-169.81	-149.8	65.2	945.0	883.6	61.36	15.399		
9,000.0	8,938.7	8,808.0	8,711.1	34.1	30.7	-171.83	-118.1	65.0	968.9	908.0	60.89	15.913		
9,100.0	9,038.7	8,842.7	8,731.6	34.5	30.7	76.79	-90.1	64.8	996.9	936.8	60.09	16.591		
9,200.0	9,138.7	8,875.0	8,748.8	34.8	30.8	75.18	-62.8	64.6	1,031.6	972.6	59.07	17.464		
9,300.0	9,238.7	8,900.0	8,760.9	35.1	30.8	73.92	-40.9	64.4	1,073.3	1,015.4	57.84	18.556		
9,400.0	9,338.3	8,925.0	8,771.8	35.4	30.9	68.27	-18.4	64.3	1,119.5	1,063.0	56.52	19.807		
9,500.0	9,434.3	8,950.0	8,781.4	35.7	30.9	61.81	4.7	64.1	1,164.8	1,109.6	55.17	21.114		
9,600.0	9,522.6	8,975.0	8,789.9	35.9	30.9	56.34	28.2	63.9	1,206.5	1,152.7	53.86	22.401		
9,700.0	9,599.2	9,000.0	8,797.1	36.1	31.0	52.00	52.1	63.8	1,242.7	1,190.0	52.69	23.584		
9,800.0	9,660.8	9,036.8	8,805.4	36.1	31.0	48.61	87.9	63.5	1,271.7	1,219.8	51.84	24.532		
9,900.0	9,704.8	9,075.0	8,811.1	36.2	31.1	46.38	125.7	63.3	1,292.2	1,241.0	51.25	25.215		
10,000.0	9,729.2	9,100.0	8,813.2	36.1	31.1	45.28	150.7	63.1	1,303.6	1,252.6	50.95	25.587		
10,100.0	9,734.0	9,158.7	8,814.0	36.1	31.2	45.04	209.3	62.7	1,305.7	1,254.7	51.06	25.574		
10,200.0	9,734.0	9,258.7	8,814.0	36.2	31.4	45.04	309.3	62.0	1,305.7	1,254.4	51.35	25.427		
10,300.0	9,734.0	9,358.7	8,814.0	36.3	31.6	45.04	409.3	61.3	1,305.7	1,254.0	51.75	25.232		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.0	9,734.0	9,458.7	8,814.0	36.5	31.9	45.04	509.3	60.6	1,305.7	1,253.5	52.25	24.992	
10,500.0	9,734.0	9,558.7	8,814.0	36.8	32.3	45.04	609.3	59.9	1,305.7	1,252.9	52.84	24.711	
10,600.0	9,734.0	9,658.7	8,814.0	37.2	32.8	45.04	709.3	59.2	1,305.7	1,252.2	53.53	24.393	
10,700.0	9,734.0	9,758.7	8,814.0	37.7	33.3	45.04	809.3	58.5	1,305.7	1,251.4	54.31	24.042	
10,800.0	9,734.0	9,858.7	8,814.0	38.2	33.8	45.04	909.3	57.8	1,305.7	1,250.6	55.18	23.664	
10,900.0	9,734.0	9,958.7	8,814.0	38.8	34.4	45.04	1,009.3	57.1	1,305.7	1,249.6	56.13	23.262	
11,000.0	9,734.0	10,058.7	8,814.0	39.4	35.1	45.04	1,109.3	56.4	1,305.7	1,248.6	57.16	22.843	
11,100.0	9,734.0	10,158.7	8,814.0	40.1	35.8	45.04	1,209.3	55.7	1,305.7	1,247.5	58.27	22.410	
11,200.0	9,734.0	10,258.7	8,814.0	40.8	36.5	45.04	1,309.3	55.1	1,305.7	1,246.3	59.44	21.966	
11,300.0	9,734.0	10,358.7	8,814.0	41.5	37.3	45.04	1,409.3	54.4	1,305.7	1,245.1	60.69	21.516	
11,400.0	9,734.0	10,458.7	8,814.0	42.3	38.1	45.04	1,509.3	53.7	1,305.7	1,243.8	61.99	21.063	
11,500.0	9,734.0	10,558.7	8,814.0	43.1	39.0	45.04	1,609.3	53.0	1,305.7	1,242.4	63.36	20.609	
11,600.0	9,734.0	10,658.7	8,814.0	44.0	39.9	45.04	1,709.3	52.3	1,305.7	1,241.0	64.78	20.158	
11,700.0	9,734.0	10,758.7	8,814.0	44.8	40.8	45.04	1,809.3	51.6	1,305.7	1,239.5	66.25	19.710	
11,800.0	9,734.0	10,858.7	8,814.0	45.7	41.8	45.04	1,909.3	50.9	1,305.7	1,238.0	67.77	19.268	
11,900.0	9,734.0	10,958.7	8,814.0	46.7	42.7	45.04	2,009.3	50.2	1,305.7	1,236.4	69.33	18.833	
12,000.0	9,734.0	11,058.7	8,814.0	47.6	43.8	45.04	2,109.3	49.5	1,305.7	1,234.8	70.94	18.407	
12,100.0	9,734.0	11,158.7	8,814.0	48.6	44.8	45.04	2,209.3	48.8	1,305.7	1,233.2	72.58	17.990	
12,200.0	9,734.0	11,258.7	8,814.0	49.6	45.8	45.04	2,309.3	48.1	1,305.7	1,231.5	74.27	17.582	
12,300.0	9,734.0	11,358.7	8,814.0	50.6	46.9	45.04	2,409.3	47.4	1,305.7	1,229.8	75.98	17.185	
12,400.0	9,734.0	11,458.7	8,814.0	51.7	48.0	45.04	2,509.3	46.7	1,305.7	1,228.0	77.73	16.798	
12,500.0	9,734.0	11,558.7	8,814.0	52.7	49.1	45.04	2,609.3	46.0	1,305.7	1,226.2	79.51	16.422	
12,600.0	9,734.0	11,658.7	8,814.0	53.8	50.3	45.04	2,709.3	45.3	1,305.7	1,224.4	81.32	16.058	
12,700.0	9,734.0	11,758.7	8,814.0	54.9	51.4	45.04	2,809.3	44.6	1,305.7	1,222.6	83.15	15.704	
12,800.0	9,734.0	11,858.7	8,814.0	56.0	52.6	45.04	2,909.3	43.9	1,305.7	1,220.7	85.01	15.361	
12,900.0	9,734.0	11,958.7	8,814.0	57.1	53.7	45.04	3,009.3	43.3	1,305.7	1,218.9	86.89	15.028	
13,000.0	9,734.0	12,058.7	8,814.0	58.3	54.9	45.04	3,109.2	42.6	1,305.7	1,217.0	88.79	14.707	
13,100.0	9,734.0	12,158.7	8,814.0	59.4	56.1	45.04	3,209.2	41.9	1,305.7	1,215.0	90.71	14.395	
13,200.0	9,734.0	12,258.7	8,814.0	60.6	57.3	45.04	3,309.2	41.2	1,305.7	1,213.1	92.65	14.094	
13,300.0	9,734.0	12,358.7	8,814.0	61.8	58.6	45.04	3,409.2	40.5	1,305.7	1,211.1	94.61	13.802	
13,400.0	9,734.0	12,458.7	8,814.0	63.0	59.8	45.04	3,509.2	39.8	1,305.7	1,209.2	96.58	13.520	
13,500.0	9,734.0	12,558.7	8,814.0	64.2	61.0	45.04	3,609.2	39.1	1,305.7	1,207.2	98.57	13.247	
13,600.0	9,734.0	12,658.7	8,814.0	65.4	62.3	45.04	3,709.2	38.4	1,305.7	1,205.2	100.57	12.983	
13,700.0	9,734.0	12,758.7	8,814.0	66.6	63.6	45.04	3,809.2	37.7	1,305.7	1,203.2	102.59	12.727	
13,800.0	9,734.0	12,858.7	8,814.0	67.8	64.8	45.04	3,909.2	37.0	1,305.7	1,201.1	104.62	12.480	
13,900.0	9,734.0	12,958.7	8,814.0	69.1	66.1	45.04	4,009.2	36.3	1,305.7	1,199.1	106.67	12.241	
14,000.0	9,734.0	13,058.7	8,814.0	70.3	67.4	45.04	4,109.2	35.6	1,305.7	1,197.0	108.72	12.010	
14,100.0	9,734.0	13,158.7	8,814.0	71.6	68.7	45.04	4,209.2	34.9	1,305.7	1,195.0	110.79	11.786	
14,200.0	9,734.0	13,258.7	8,814.0	72.8	70.0	45.04	4,309.2	34.2	1,305.7	1,192.9	112.87	11.569	
14,300.0	9,734.0	13,358.7	8,814.0	74.1	71.3	45.04	4,409.2	33.5	1,305.7	1,190.8	114.95	11.359	
14,400.0	9,734.0	13,458.7	8,814.0	75.4	72.6	45.04	4,509.2	32.8	1,305.7	1,188.7	117.05	11.156	
14,500.0	9,734.0	13,558.7	8,814.0	76.6	73.9	45.04	4,609.2	32.1	1,305.7	1,186.6	119.15	10.959	
14,600.0	9,734.0	13,658.7	8,814.0	77.9	75.2	45.04	4,709.2	31.4	1,305.7	1,184.5	121.26	10.768	
14,700.0	9,734.0	13,758.7	8,814.0	79.2	76.5	45.04	4,809.2	30.8	1,305.7	1,182.4	123.38	10.583	
14,800.0	9,734.0	13,858.7	8,814.0	80.5	77.8	45.04	4,909.2	30.1	1,305.7	1,180.2	125.51	10.403	
14,900.0	9,734.0	13,958.7	8,814.0	81.8	79.2	45.04	5,009.2	29.4	1,305.7	1,178.1	127.65	10.229	
15,000.0	9,734.0	14,058.7	8,814.0	83.1	80.5	45.04	5,109.2	28.7	1,305.7	1,176.0	129.79	10.061	
15,100.0	9,734.0	14,158.7	8,814.0	84.4	81.8	45.04	5,209.2	28.0	1,305.7	1,173.8	131.94	9.897	
15,200.0	9,734.0	14,258.7	8,814.0	85.7	83.2	45.04	5,309.2	27.3	1,305.7	1,171.7	134.09	9.738	
15,300.0	9,734.0	14,358.7	8,814.0	87.1	84.5	45.04	5,409.2	26.6	1,305.7	1,169.5	136.25	9.583	
15,400.0	9,734.0	14,458.7	8,814.0	88.4	85.9	45.04	5,509.2	25.9	1,305.7	1,167.3	138.42	9.433	
15,500.0	9,734.0	14,558.7	8,814.0	89.7	87.2	45.04	5,609.2	25.2	1,305.7	1,165.2	140.59	9.288	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 302H - OH - Plan 0.1													Offset Site Error: 0.0 usft		
Survey Program:		0-B001Mb_MWD+HRGM					Rule Assigned:							Offset Well Error: 0.0 usft	
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance				Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
15,600.0	9,734.0	14,658.7	8,814.0	91.0	88.6	45.04	5,709.2	24.5	1,305.7	1,163.0	142.76	9.146			
15,700.0	9,734.0	14,758.7	8,814.0	92.4	89.9	45.04	5,809.2	23.8	1,305.7	1,160.8	144.94	9.009			
15,800.0	9,734.0	14,858.7	8,814.0	93.7	91.3	45.04	5,909.2	23.1	1,305.7	1,158.6	147.13	8.875			
15,900.0	9,734.0	14,958.7	8,814.0	95.1	92.7	45.04	6,009.2	22.4	1,305.7	1,156.4	149.32	8.745			
16,000.0	9,734.0	15,058.7	8,814.0	96.4	94.0	45.04	6,109.2	21.7	1,305.7	1,154.2	151.51	8.618			
16,100.0	9,734.0	15,158.7	8,814.0	97.7	95.4	45.04	6,209.2	21.0	1,305.7	1,152.0	153.71	8.495			
16,200.0	9,734.0	15,258.7	8,814.0	99.1	96.8	45.04	6,309.2	20.3	1,305.7	1,149.8	155.91	8.375			
16,300.0	9,734.0	15,358.7	8,814.0	100.4	98.1	45.04	6,409.2	19.6	1,305.7	1,147.6	158.12	8.258			
16,400.0	9,734.0	15,458.7	8,814.0	101.8	99.5	45.04	6,509.2	19.0	1,305.7	1,145.4	160.33	8.144			
16,500.0	9,734.0	15,558.7	8,814.0	103.2	100.9	45.04	6,609.2	18.3	1,305.7	1,143.2	162.54	8.033			
16,600.0	9,734.0	15,658.7	8,814.0	104.5	102.3	45.04	6,709.2	17.6	1,305.7	1,141.0	164.76	7.925			
16,700.0	9,734.0	15,758.7	8,814.0	105.9	103.7	45.04	6,809.2	16.9	1,305.7	1,138.8	166.98	7.820			
16,800.0	9,734.0	15,858.7	8,814.0	107.2	105.0	45.04	6,909.2	16.2	1,305.7	1,136.5	169.20	7.717			
16,900.0	9,734.0	15,958.7	8,814.0	108.6	106.4	45.04	7,009.2	15.5	1,305.7	1,134.3	171.42	7.617			
17,000.0	9,734.0	16,058.7	8,814.0	110.0	107.8	45.04	7,109.2	14.8	1,305.7	1,132.1	173.65	7.519			
17,100.0	9,734.0	16,158.7	8,814.0	111.4	109.2	45.04	7,209.1	14.1	1,305.7	1,129.9	175.88	7.424			
17,200.0	9,734.0	16,258.7	8,814.0	112.7	110.6	45.04	7,309.1	13.4	1,305.7	1,127.6	178.11	7.331			
17,300.0	9,734.0	16,358.7	8,814.0	114.1	112.0	45.04	7,409.1	12.7	1,305.7	1,125.4	180.35	7.240			
17,400.0	9,734.0	16,458.7	8,814.0	115.5	113.4	45.04	7,509.1	12.0	1,305.7	1,123.2	182.59	7.151			
17,500.0	9,734.0	16,558.7	8,814.0	116.9	114.8	45.04	7,609.1	11.3	1,305.7	1,120.9	184.83	7.065			
17,600.0	9,734.0	16,658.7	8,814.0	118.2	116.1	45.04	7,709.1	10.6	1,305.7	1,118.7	187.07	6.980			
17,700.0	9,734.0	16,758.7	8,814.0	119.6	117.5	45.04	7,809.1	9.9	1,305.7	1,116.4	189.31	6.897			
17,800.0	9,734.0	16,858.7	8,814.0	121.0	118.9	45.04	7,909.1	9.2	1,305.7	1,114.2	191.56	6.816			
17,900.0	9,734.0	16,958.7	8,814.0	122.4	120.3	45.04	8,009.1	8.5	1,305.7	1,111.9	193.81	6.737			
18,000.0	9,734.0	17,058.7	8,814.0	123.8	121.7	45.04	8,109.1	7.8	1,305.7	1,109.7	196.06	6.660			
18,100.0	9,734.0	17,158.7	8,814.0	125.2	123.1	45.04	8,209.1	7.2	1,305.7	1,107.4	198.31	6.584			
18,200.0	9,734.0	17,258.7	8,814.0	126.5	124.5	45.04	8,309.1	6.5	1,305.7	1,105.2	200.57	6.510			
18,300.0	9,734.0	17,358.7	8,814.0	127.9	125.9	45.04	8,409.1	5.8	1,305.7	1,102.9	202.82	6.438			
18,400.0	9,734.0	17,458.7	8,814.0	129.3	127.3	45.04	8,509.1	5.1	1,305.7	1,100.7	205.08	6.367			
18,500.0	9,734.0	17,558.7	8,814.0	130.7	128.8	45.04	8,609.1	4.4	1,305.7	1,098.4	207.34	6.298			
18,600.0	9,734.0	17,658.7	8,814.0	132.1	130.2	45.04	8,709.1	3.7	1,305.7	1,096.1	209.60	6.230			
18,700.0	9,734.0	17,758.7	8,814.0	133.5	131.6	45.04	8,809.1	3.0	1,305.7	1,093.9	211.86	6.163			
18,800.0	9,734.0	17,858.7	8,814.0	134.9	133.0	45.04	8,909.1	2.3	1,305.7	1,091.6	214.13	6.098			
18,900.0	9,734.0	17,958.7	8,814.0	136.3	134.4	45.04	9,009.1	1.6	1,305.7	1,089.4	216.39	6.034			
19,000.0	9,734.0	18,058.7	8,814.0	137.7	135.8	45.04	9,109.1	0.9	1,305.7	1,087.1	218.66	5.972			
19,100.0	9,734.0	18,158.7	8,814.0	139.1	137.2	45.04	9,209.1	0.2	1,305.7	1,084.8	220.93	5.910			
19,200.0	9,734.0	18,258.7	8,814.0	140.5	138.6	45.04	9,309.1	-0.5	1,305.7	1,082.6	223.19	5.850			
19,300.0	9,734.0	18,358.7	8,814.0	141.9	140.0	45.04	9,409.1	-1.2	1,305.7	1,080.3	225.46	5.791			
19,400.0	9,734.0	18,458.7	8,814.0	143.3	141.4	45.04	9,509.1	-1.9	1,305.7	1,078.0	227.74	5.734			
19,500.0	9,734.0	18,558.7	8,814.0	144.7	142.8	45.04	9,609.1	-2.6	1,305.7	1,075.7	230.01	5.677			
19,600.0	9,734.0	18,658.7	8,814.0	146.1	144.3	45.04	9,709.1	-3.3	1,305.7	1,073.5	232.28	5.621			
19,700.0	9,734.0	18,758.7	8,814.0	147.5	145.7	45.04	9,809.1	-4.0	1,305.7	1,071.2	234.56	5.567			
19,800.0	9,734.0	18,858.7	8,814.0	148.9	147.1	45.04	9,909.1	-4.6	1,305.7	1,068.9	236.84	5.513			
19,900.0	9,734.0	18,958.7	8,814.0	150.3	148.5	45.04	10,009.1	-5.3	1,305.7	1,066.6	239.11	5.461			
20,000.0	9,734.0	19,058.7	8,814.0	151.7	149.9	45.04	10,109.1	-6.0	1,305.7	1,064.4	241.39	5.409			
20,011.3	9,734.0	19,070.0	8,814.0	151.9	150.1	45.04	10,120.4	-6.1	1,305.7	1,064.1	241.65	5.404 SF			

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	2.5	2.5	0.0	0.0	16.91	160.4	48.8	167.6				
100.0	100.0	102.5	102.5	0.1	0.1	16.91	160.4	48.8	167.6	167.4	0.27	615.288	
200.0	200.0	202.5	202.5	0.5	0.5	16.91	160.4	48.8	167.6	166.6	0.99	169.427	
300.0	300.0	302.5	302.5	0.8	0.9	16.91	160.4	48.8	167.6	165.9	1.71	98.239	
400.0	400.0	402.5	402.5	1.2	1.2	16.91	160.4	48.8	167.6	165.2	2.42	69.175	
500.0	500.0	502.5	502.5	1.6	1.6	16.91	160.4	48.8	167.6	164.5	3.14	53.381	
600.0	600.0	602.5	602.5	1.9	1.9	16.91	160.4	48.8	167.6	163.8	3.86	43.459	
700.0	700.0	702.5	702.5	2.3	2.3	16.91	160.4	48.8	167.6	163.1	4.57	36.647	
800.0	800.0	802.5	802.5	2.6	2.7	16.91	160.4	48.8	167.6	162.3	5.29	31.682	
900.0	900.0	902.5	902.5	3.0	3.0	16.91	160.4	48.8	167.6	161.6	6.01	27.901	
1,000.0	1,000.0	1,002.5	1,002.5	3.4	3.4	16.91	160.4	48.8	167.6	160.9	6.72	24.926	
1,100.0	1,100.0	1,102.5	1,102.5	3.7	3.7	16.91	160.4	48.8	167.6	160.2	7.44	22.525	
1,200.0	1,200.0	1,202.5	1,202.5	4.1	4.1	16.91	160.4	48.8	167.6	159.5	8.16	20.546	
1,300.0	1,300.0	1,302.5	1,302.5	4.4	4.4	16.91	160.4	48.8	167.6	158.8	8.88	18.886	
1,400.0	1,400.0	1,402.5	1,402.5	4.8	4.8	16.91	160.4	48.8	167.6	158.0	9.59	17.475	
1,500.0	1,500.0	1,502.5	1,502.5	5.2	5.2	16.91	160.4	48.8	167.6	157.3	10.31	16.259	
1,600.0	1,600.0	1,602.5	1,602.5	5.5	5.5	16.91	160.4	48.8	167.6	156.6	11.03	15.202	
1,700.0	1,700.0	1,702.5	1,702.5	5.9	5.9	16.91	160.4	48.8	167.6	155.9	11.74	14.274	
1,800.0	1,800.0	1,802.5	1,802.5	6.2	6.2	16.91	160.4	48.8	167.6	155.2	12.46	13.453	
1,900.0	1,900.0	1,902.5	1,902.5	6.6	6.6	16.91	160.4	48.8	167.6	154.5	13.18	12.721	
2,000.0	2,000.0	2,002.5	2,002.5	6.9	7.0	16.91	160.4	48.8	167.6	153.7	13.89	12.065	
2,000.9	2,000.9	2,003.4	2,003.4	6.9	7.0	126.59	160.4	48.8	167.6	153.7	13.90	12.059 CC, ES	
2,100.0	2,100.0	2,103.3	2,103.3	7.3	7.3	127.68	159.6	50.4	168.4	153.8	14.59	11.544	
2,200.0	2,199.8	2,203.5	2,203.3	7.6	7.6	130.81	157.3	55.3	171.2	155.9	15.26	11.215	
2,300.0	2,299.5	2,302.4	2,301.8	8.0	8.0	135.65	153.5	63.1	176.8	160.9	15.94	11.095	
2,400.0	2,398.7	2,399.4	2,398.1	8.3	8.3	141.73	148.3	73.8	186.8	170.2	16.61	11.244	
2,500.0	2,497.8	2,494.7	2,492.2	8.7	8.6	148.27	141.9	87.2	200.8	183.5	17.28	11.621	
2,600.0	2,596.8	2,589.4	2,585.3	9.0	9.0	154.60	134.4	102.9	218.1	200.2	17.93	12.161	
2,700.0	2,695.9	2,684.9	2,679.1	9.4	9.3	160.12	126.6	119.0	237.9	219.3	18.60	12.795	
2,800.0	2,795.0	2,780.4	2,772.9	9.7	9.7	164.80	118.8	135.2	259.7	240.4	19.26	13.482	
2,900.0	2,894.0	2,875.8	2,866.7	10.1	10.1	168.76	111.0	151.4	282.8	262.9	19.93	14.194	
3,000.0	2,993.1	2,971.3	2,960.5	10.5	10.4	172.12	103.3	167.6	307.1	286.5	20.60	14.911	
3,100.0	3,092.1	3,066.8	3,054.2	10.9	10.8	175.00	95.5	183.8	332.3	311.0	21.27	15.621	
3,200.0	3,191.2	3,162.3	3,148.0	11.2	11.2	177.47	87.7	199.9	358.2	336.2	21.95	16.316	
3,300.0	3,290.3	3,257.8	3,241.8	11.6	11.5	179.62	79.9	216.1	384.6	362.0	22.64	16.990	
3,400.0	3,389.3	3,353.3	3,335.6	12.0	11.9	-178.51	72.1	232.3	411.5	388.2	23.32	17.642	
3,500.0	3,488.4	3,448.8	3,429.4	12.4	12.3	-176.87	64.4	248.5	438.7	414.7	24.01	18.269	
3,600.0	3,587.5	3,544.3	3,523.2	12.8	12.7	-175.41	56.6	264.7	466.2	441.5	24.71	18.870	
3,700.0	3,686.5	3,639.8	3,617.0	13.1	13.1	-174.12	48.8	280.9	494.0	468.6	25.40	19.446	
3,800.0	3,785.6	3,735.3	3,710.8	13.5	13.5	-172.96	41.0	297.0	522.0	495.9	26.10	19.998	
3,900.0	3,884.6	3,830.8	3,804.6	13.9	13.9	-171.92	33.2	313.2	550.2	523.4	26.81	20.526	
4,000.0	3,983.7	3,926.3	3,898.3	14.3	14.3	-170.98	25.5	329.4	578.5	551.0	27.51	21.030	
4,100.0	4,082.8	4,021.7	3,992.1	14.7	14.7	-170.13	17.7	345.6	607.0	578.7	28.21	21.513	
4,200.0	4,181.8	4,117.2	4,085.9	15.1	15.1	-169.36	9.9	361.8	635.5	606.6	28.92	21.974	
4,300.0	4,280.9	4,212.7	4,179.7	15.5	15.5	-168.65	2.1	377.9	664.2	634.6	29.63	22.415	
4,400.0	4,380.0	4,308.2	4,273.5	15.9	15.9	-167.99	-5.6	394.1	692.9	662.6	30.34	22.838	
4,500.0	4,479.0	4,403.7	4,367.3	16.2	16.3	-167.40	-13.4	410.3	721.8	690.7	31.05	23.242	
4,600.0	4,578.1	4,499.2	4,461.1	16.6	16.7	-166.84	-21.2	426.5	750.7	718.9	31.77	23.629	
4,700.0	4,677.1	4,594.7	4,554.9	17.0	17.1	-166.33	-29.0	442.7	779.6	747.1	32.48	24.000	
4,800.0	4,776.2	4,690.2	4,648.6	17.4	17.5	-165.85	-36.8	458.9	808.6	775.4	33.20	24.356	
4,900.0	4,875.3	4,785.7	4,742.4	17.8	17.9	-165.41	-44.5	475.0	837.7	803.8	33.92	24.697	
5,000.0	4,974.3	4,881.2	4,836.2	18.2	18.3	-165.00	-52.3	491.2	866.8	832.1	34.64	25.024	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1												Offset Site Error: 0.0 usft			
Survey Program: 0-B001Mb_MWD+HRGM				Reference Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
5,100.0	5,073.4	4,976.7	4,930.0	18.6	18.7	-164.61	-60.1	507.4	895.9	860.5	35.36	25.339			
5,200.0	5,172.5	5,072.1	5,023.8	19.0	19.1	-164.25	-67.9	523.6	925.1	889.0	36.08	25.641			
5,300.0	5,271.5	5,167.6	5,117.6	19.4	19.5	-163.91	-75.7	539.8	954.3	917.5	36.80	25.932			
5,400.0	5,370.6	5,263.1	5,211.4	19.8	19.9	-163.59	-83.4	555.9	983.5	946.0	37.52	26.212			
5,500.0	5,469.7	5,358.6	5,305.2	20.2	20.4	-163.28	-91.2	572.1	1,012.8	974.5	38.25	26.481			
5,600.0	5,568.7	5,454.1	5,399.0	20.6	20.8	-163.00	-99.0	588.3	1,042.1	1,003.1	38.97	26.740			
5,700.0	5,667.8	5,549.6	5,492.7	21.0	21.2	-162.73	-106.8	604.5	1,071.4	1,031.7	39.69	26.990			
5,800.0	5,766.8	5,645.1	5,586.5	21.4	21.6	-162.47	-114.6	620.7	1,100.7	1,060.3	40.42	27.231			
5,900.0	5,865.9	5,740.6	5,680.3	21.8	22.0	-162.23	-122.3	636.9	1,130.0	1,088.9	41.15	27.464			
6,000.0	5,965.0	5,836.1	5,774.1	22.2	22.4	-162.00	-130.1	653.0	1,159.4	1,117.5	41.87	27.688			
6,100.0	6,064.0	5,931.6	5,867.9	22.6	22.8	-161.79	-137.9	669.2	1,188.8	1,146.2	42.60	27.905			
6,200.0	6,163.1	6,027.1	5,961.7	23.0	23.3	-161.58	-145.7	685.4	1,218.2	1,174.8	43.33	28.114			
6,300.0	6,262.2	6,122.6	6,055.5	23.4	23.7	-161.38	-153.4	701.6	1,247.6	1,203.5	44.06	28.317			
6,400.0	6,361.2	6,218.0	6,149.3	23.8	24.1	-161.19	-161.2	717.8	1,277.0	1,232.2	44.79	28.512			
6,500.0	6,460.3	6,313.5	6,243.0	24.2	24.5	-161.01	-169.0	733.9	1,306.4	1,260.9	45.52	28.702			
6,600.0	6,559.3	6,409.0	6,336.8	24.6	24.9	-160.84	-176.8	750.1	1,335.9	1,289.6	46.25	28.885			
6,700.0	6,658.4	6,504.5	6,430.6	25.0	25.3	-160.67	-184.6	766.3	1,365.3	1,318.3	46.98	29.063			
6,800.0	6,757.5	6,600.0	6,524.4	25.4	25.8	-160.51	-192.3	782.5	1,394.8	1,347.1	47.71	29.235			
6,900.0	6,856.5	6,695.5	6,618.2	25.8	26.2	-160.36	-200.1	798.7	1,424.3	1,375.8	48.44	29.402			
7,000.0	6,955.6	6,791.0	6,712.0	26.2	26.6	-160.22	-207.9	814.8	1,453.7	1,404.6	49.17	29.563			
7,100.0	7,054.7	6,886.5	6,805.8	26.6	27.0	-160.08	-215.7	831.0	1,483.2	1,433.3	49.91	29.720			
7,200.0	7,153.7	6,982.0	6,899.6	27.0	27.4	-159.94	-223.5	847.2	1,512.7	1,462.1	50.64	29.873			
7,300.0	7,252.8	7,077.5	6,993.4	27.4	27.8	-159.81	-231.2	863.4	1,542.2	1,490.9	51.37	30.020			
7,400.0	7,351.8	7,173.0	7,087.1	27.8	28.3	-159.69	-239.0	879.6	1,571.7	1,519.6	52.11	30.164			
7,500.0	7,450.9	7,268.5	7,180.9	28.2	28.7	-159.57	-246.8	895.8	1,601.3	1,548.4	52.84	30.303			
7,600.0	7,550.0	7,363.9	7,274.7	28.6	29.1	-159.46	-254.6	911.9	1,630.8	1,577.2	53.58	30.439			
7,700.0	7,649.0	7,459.4	7,368.5	29.0	29.5	-159.34	-262.4	928.1	1,660.3	1,606.0	54.31	30.571			
7,800.0	7,748.1	7,556.0	7,463.4	29.4	29.9	-159.24	-270.2	944.5	1,689.9	1,634.8	55.06	30.694			
7,900.0	7,847.2	7,765.6	7,670.5	29.8	30.8	-159.12	-284.0	973.0	1,716.2	1,659.6	56.58	30.334			
8,000.0	7,946.2	7,781.9	7,686.1	30.2	31.6	-159.24	-291.2	988.1	1,735.9	1,678.0	57.90	29.984			
8,100.0	8,045.3	7,873.6	7,777.8	30.6	32.1	-159.47	-292.2	990.2	1,749.6	1,690.8	58.81	29.749			
8,200.0	8,144.3	7,962.7	7,866.8	31.0	32.4	-159.63	-292.2	990.2	1,762.4	1,702.9	59.51	29.616			
8,300.0	8,243.4	8,061.7	7,965.9	31.4	32.7	-159.78	-292.2	990.2	1,775.3	1,715.1	60.21	29.487			
8,400.0	8,342.5	8,160.8	8,064.9	31.8	33.0	-159.93	-292.1	990.2	1,788.1	1,727.2	60.90	29.360			
8,500.0	8,441.5	8,259.9	8,164.0	32.2	33.3	-160.08	-279.8	990.1	1,800.9	1,739.3	61.58	29.244			
8,600.0	8,540.6	8,359.0	8,264.1	32.6	33.5	-161.50	-251.4	989.9	1,814.1	1,751.9	62.20	29.165			
8,700.0	8,639.7	8,458.1	8,363.2	33.0	33.7	-162.76	-215.4	989.7	1,828.5	1,765.7	62.75	29.141			
8,800.0	8,739.1	8,557.2	8,462.3	33.4	33.7	-164.07	-178.1	989.4	1,842.6	1,779.4	63.21	29.153			
8,900.0	8,838.8	8,656.3	8,561.4	33.8	33.8	-165.26	-142.9	989.2	1,856.5	1,792.9	63.57	29.206			
9,000.0	8,938.7	8,755.8	8,660.9	34.1	33.8	-166.32	-111.2	988.9	1,870.6	1,806.8	63.81	29.314			
9,100.0	9,038.7	8,855.0	8,763.0	34.5	33.8	83.03	-80.9	988.7	1,885.6	1,821.7	63.95	29.488			
9,200.0	9,138.7	8,955.0	8,863.0	34.8	33.8	82.38	-59.8	988.6	1,904.2	1,840.2	63.93	29.784			
9,300.0	9,238.7	8,950.0	8,858.0	35.1	33.8	81.72	-38.0	988.4	1,927.1	1,863.2	63.83	30.190			
9,400.0	9,338.3	8,975.0	8,883.0	35.4	33.8	78.83	-15.6	988.3	1,953.2	1,889.5	63.63	30.695			
9,500.0	9,434.3	9,000.0	8,908.0	35.7	33.8	75.08	7.3	988.1	1,979.5	1,916.1	63.34	31.252			
9,600.0	9,522.6	9,025.0	8,933.0	35.9	33.8	71.65	30.7	987.9	2,004.3	1,941.3	62.99	31.822			
9,700.0	9,599.2	9,059.1	8,967.1	36.1	33.8	68.59	63.3	987.7	2,026.3	1,963.6	62.67	32.334			
9,800.0	9,660.8	9,091.5	8,999.5	36.1	33.7	66.22	94.9	987.5	2,044.1	1,981.8	62.38	32.768			
9,900.0	9,704.8	9,125.0	9,033.0	36.2	33.7	64.55	128.0	987.3	2,057.0	1,994.8	62.20	33.072			
10,000.0	9,729.2	9,158.7	9,066.7	36.1	33.7	63.65	161.6	987.0	2,064.1	2,001.9	62.15	33.213			
10,100.0	9,734.0	9,212.8	9,120.8	36.1	33.6	63.47	215.7	986.7	2,065.5	2,003.2	62.30	33.155			
10,200.0	9,734.0	9,312.8	9,220.8	36.2	33.5	63.47	315.7	986.0	2,065.5	2,002.8	62.66	32.961			

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	9,734.0	9,412.8	8,814.0	36.3	33.5	63.47	415.7	985.3	2,065.5	2,002.3	63.14	32.711	
10,400.0	9,734.0	9,512.8	8,814.0	36.5	33.5	63.47	515.7	984.6	2,065.5	2,001.7	63.73	32.409	
10,500.0	9,734.0	9,612.8	8,814.0	36.8	33.6	63.47	615.7	983.9	2,065.5	2,001.0	64.43	32.060	
10,600.0	9,734.0	9,712.8	8,814.0	37.2	34.0	63.47	715.7	983.2	2,065.5	2,000.2	65.22	31.668	
10,700.0	9,734.0	9,812.8	8,814.0	37.7	34.4	63.47	815.7	982.5	2,065.5	1,999.3	66.12	31.238	
10,800.0	9,734.0	9,912.8	8,814.0	38.2	35.0	63.47	915.7	981.8	2,065.5	1,998.3	67.11	30.776	
10,900.0	9,734.0	10,012.8	8,814.0	38.8	35.5	63.47	1,015.7	981.1	2,065.5	1,997.3	68.20	30.287	
11,000.0	9,734.0	10,112.8	8,814.0	39.4	36.2	63.47	1,115.7	980.4	2,065.5	1,996.1	69.37	29.776	
11,100.0	9,734.0	10,212.8	8,814.0	40.1	36.9	63.47	1,215.7	979.7	2,065.5	1,994.8	70.62	29.248	
11,200.0	9,734.0	10,312.8	8,814.0	40.8	37.6	63.47	1,315.7	979.0	2,065.5	1,993.5	71.95	28.706	
11,300.0	9,734.0	10,412.8	8,814.0	41.5	38.3	63.47	1,415.7	978.3	2,065.5	1,992.1	73.36	28.156	
11,400.0	9,734.0	10,512.8	8,814.0	42.3	39.1	63.47	1,515.7	977.6	2,065.5	1,990.6	74.83	27.601	
11,500.0	9,734.0	10,612.8	8,814.0	43.1	40.0	63.47	1,615.7	976.9	2,065.5	1,989.1	76.37	27.044	
11,600.0	9,734.0	10,712.8	8,814.0	44.0	40.8	63.47	1,715.7	976.3	2,065.5	1,987.5	77.98	26.488	
11,700.0	9,734.0	10,812.8	8,814.0	44.8	41.7	63.47	1,815.7	975.6	2,065.5	1,985.8	79.64	25.936	
11,800.0	9,734.0	10,912.8	8,814.0	45.7	42.7	63.47	1,915.7	974.9	2,065.5	1,984.1	81.35	25.388	
11,900.0	9,734.0	11,012.8	8,814.0	46.7	43.6	63.47	2,015.7	974.2	2,065.5	1,982.3	83.12	24.849	
12,000.0	9,734.0	11,112.8	8,814.0	47.6	44.6	63.47	2,115.7	973.5	2,065.5	1,980.5	84.94	24.317	
12,100.0	9,734.0	11,212.8	8,814.0	48.6	45.6	63.47	2,215.7	972.8	2,065.5	1,978.7	86.80	23.796	
12,200.0	9,734.0	11,312.8	8,814.0	49.6	46.6	63.47	2,315.7	972.1	2,065.5	1,976.8	88.70	23.286	
12,300.0	9,734.0	11,412.8	8,814.0	50.6	47.7	63.47	2,415.7	971.4	2,065.5	1,974.8	90.64	22.787	
12,400.0	9,734.0	11,512.8	8,814.0	51.7	48.8	63.47	2,515.7	970.7	2,065.5	1,972.8	92.62	22.300	
12,500.0	9,734.0	11,612.8	8,814.0	52.7	49.8	63.47	2,615.7	970.0	2,065.5	1,970.8	94.64	21.825	
12,600.0	9,734.0	11,712.8	8,814.0	53.8	51.0	63.47	2,715.7	969.3	2,065.5	1,968.8	96.68	21.363	
12,700.0	9,734.0	11,812.8	8,814.0	54.9	52.1	63.47	2,815.7	968.6	2,065.5	1,966.7	98.76	20.914	
12,800.0	9,734.0	11,912.8	8,814.0	56.0	53.2	63.47	2,915.7	967.9	2,065.5	1,964.6	100.87	20.477	
12,900.0	9,734.0	12,012.8	8,814.0	57.1	54.4	63.47	3,015.7	967.2	2,065.5	1,962.5	103.00	20.053	
13,000.0	9,734.0	12,112.8	8,814.0	58.3	55.5	63.47	3,115.7	966.5	2,065.5	1,960.3	105.16	19.641	
13,100.0	9,734.0	12,212.8	8,814.0	59.4	56.7	63.47	3,215.7	965.8	2,065.5	1,958.1	107.34	19.242	
13,200.0	9,734.0	12,312.8	8,814.0	60.6	57.9	63.47	3,315.7	965.1	2,065.5	1,955.9	109.55	18.855	
13,300.0	9,734.0	12,412.8	8,814.0	61.8	59.1	63.47	3,415.7	964.4	2,065.5	1,953.7	111.77	18.479	
13,400.0	9,734.0	12,512.8	8,814.0	63.0	60.3	63.47	3,515.7	963.8	2,065.5	1,951.4	114.02	18.115	
13,500.0	9,734.0	12,612.8	8,814.0	64.2	61.5	63.47	3,615.7	963.1	2,065.5	1,949.2	116.28	17.763	
13,600.0	9,734.0	12,712.8	8,814.0	65.4	62.8	63.47	3,715.6	962.4	2,065.5	1,946.9	118.56	17.421	
13,700.0	9,734.0	12,812.8	8,814.0	66.6	64.0	63.47	3,815.6	961.7	2,065.5	1,944.6	120.86	17.090	
13,800.0	9,734.0	12,912.8	8,814.0	67.8	65.3	63.47	3,915.6	961.0	2,065.5	1,942.3	123.17	16.769	
13,900.0	9,734.0	13,012.8	8,814.0	69.1	66.5	63.47	4,015.6	960.3	2,065.5	1,940.0	125.50	16.458	
14,000.0	9,734.0	13,112.8	8,814.0	70.3	67.8	63.47	4,115.6	959.6	2,065.5	1,937.6	127.84	16.156	
14,100.0	9,734.0	13,212.8	8,814.0	71.6	69.1	63.47	4,215.6	958.9	2,065.5	1,935.3	130.20	15.864	
14,200.0	9,734.0	13,312.8	8,814.0	72.8	70.3	63.47	4,315.6	958.2	2,065.5	1,932.9	132.57	15.580	
14,300.0	9,734.0	13,412.8	8,814.0	74.1	71.6	63.47	4,415.6	957.5	2,065.5	1,930.5	134.95	15.306	
14,400.0	9,734.0	13,512.8	8,814.0	75.4	72.9	63.47	4,515.6	956.8	2,065.5	1,928.1	137.34	15.039	
14,500.0	9,734.0	13,612.8	8,814.0	76.6	74.2	63.47	4,615.6	956.1	2,065.5	1,925.7	139.74	14.781	
14,600.0	9,734.0	13,712.8	8,814.0	77.9	75.5	63.47	4,715.6	955.4	2,065.5	1,923.3	142.15	14.530	
14,700.0	9,734.0	13,812.8	8,814.0	79.2	76.8	63.47	4,815.6	954.7	2,065.5	1,920.9	144.57	14.286	
14,800.0	9,734.0	13,912.8	8,814.0	80.5	78.1	63.47	4,915.6	954.0	2,065.5	1,918.4	147.01	14.050	
14,900.0	9,734.0	14,012.8	8,814.0	81.8	79.4	63.47	5,015.6	953.3	2,065.5	1,916.0	149.44	13.821	
15,000.0	9,734.0	14,112.8	8,814.0	83.1	80.8	63.47	5,115.6	952.6	2,065.5	1,913.6	151.89	13.598	
15,100.0	9,734.0	14,212.8	8,814.0	84.4	82.1	63.47	5,215.6	952.0	2,065.5	1,911.1	154.35	13.382	
15,200.0	9,734.0	14,312.8	8,814.0	85.7	83.4	63.47	5,315.6	951.3	2,065.5	1,908.6	156.81	13.172	
15,300.0	9,734.0	14,412.8	8,814.0	87.1	84.7	63.47	5,415.6	950.6	2,065.5	1,906.2	159.28	12.967	
15,400.0	9,734.0	14,512.8	8,814.0	88.4	86.1	63.47	5,515.6	949.9	2,065.5	1,903.7	161.76	12.769	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 303H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.0	9,734.0	14,612.8	8,814.0	89.7	87.4	63.47	5,615.6	949.2	2,065.5	1,901.2	164.24	12.576	
15,600.0	9,734.0	14,712.8	8,814.0	91.0	88.8	63.47	5,715.6	948.5	2,065.5	1,898.7	166.73	12.388	
15,700.0	9,734.0	14,812.8	8,814.0	92.4	90.1	63.47	5,815.6	947.8	2,065.5	1,896.2	169.23	12.205	
15,800.0	9,734.0	14,912.8	8,814.0	93.7	91.5	63.47	5,915.6	947.1	2,065.5	1,893.7	171.73	12.027	
15,900.0	9,734.0	15,012.8	8,814.0	95.1	92.8	63.47	6,015.6	946.4	2,065.5	1,891.2	174.24	11.854	
16,000.0	9,734.0	15,112.8	8,814.0	96.4	94.2	63.47	6,115.6	945.7	2,065.5	1,888.7	176.75	11.686	
16,100.0	9,734.0	15,212.8	8,814.0	97.7	95.5	63.47	6,215.6	945.0	2,065.5	1,886.2	179.26	11.522	
16,200.0	9,734.0	15,312.8	8,814.0	99.1	96.9	63.47	6,315.6	944.3	2,065.5	1,883.7	181.79	11.362	
16,300.0	9,734.0	15,412.8	8,814.0	100.4	98.3	63.47	6,415.6	943.6	2,065.5	1,881.1	184.31	11.206	
16,400.0	9,734.0	15,512.8	8,814.0	101.8	99.6	63.47	6,515.6	942.9	2,065.5	1,878.6	186.84	11.054	
16,500.0	9,734.0	15,612.8	8,814.0	103.2	101.0	63.47	6,615.6	942.2	2,065.5	1,876.1	189.38	10.906	
16,600.0	9,734.0	15,712.8	8,814.0	104.5	102.4	63.47	6,715.6	941.5	2,065.5	1,873.5	191.92	10.762	
16,700.0	9,734.0	15,812.8	8,814.0	105.9	103.7	63.47	6,815.6	940.8	2,065.5	1,871.0	194.46	10.621	
16,800.0	9,734.0	15,912.8	8,814.0	107.2	105.1	63.47	6,915.6	940.2	2,065.5	1,868.4	197.01	10.484	
16,900.0	9,734.0	16,012.8	8,814.0	108.6	106.5	63.47	7,015.6	939.5	2,065.5	1,865.9	199.56	10.350	
17,000.0	9,734.0	16,112.8	8,814.0	110.0	107.9	63.47	7,115.6	938.8	2,065.5	1,863.3	202.11	10.219	
17,100.0	9,734.0	16,212.8	8,814.0	111.4	109.2	63.47	7,215.6	938.1	2,065.5	1,860.8	204.67	10.092	
17,200.0	9,734.0	16,312.8	8,814.0	112.7	110.6	63.47	7,315.6	937.4	2,065.5	1,858.2	207.23	9.967	
17,300.0	9,734.0	16,412.8	8,814.0	114.1	112.0	63.47	7,415.6	936.7	2,065.5	1,855.7	209.79	9.845	
17,400.0	9,734.0	16,512.8	8,814.0	115.5	113.4	63.47	7,515.6	936.0	2,065.5	1,853.1	212.36	9.726	
17,500.0	9,734.0	16,612.8	8,814.0	116.9	114.8	63.47	7,615.6	935.3	2,065.5	1,850.5	214.93	9.610	
17,600.0	9,734.0	16,712.8	8,814.0	118.2	116.2	63.47	7,715.6	934.6	2,065.5	1,848.0	217.50	9.496	
17,700.0	9,734.0	16,812.8	8,814.0	119.6	117.6	63.47	7,815.5	933.9	2,065.5	1,845.4	220.08	9.385	
17,800.0	9,734.0	16,912.8	8,814.0	121.0	118.9	63.47	7,915.5	933.2	2,065.5	1,842.8	222.65	9.276	
17,900.0	9,734.0	17,012.8	8,814.0	122.4	120.3	63.47	8,015.5	932.5	2,065.5	1,840.2	225.23	9.170	
18,000.0	9,734.0	17,112.8	8,814.0	123.8	121.7	63.47	8,115.5	931.8	2,065.5	1,837.6	227.82	9.066	
18,100.0	9,734.0	17,212.8	8,814.0	125.2	123.1	63.47	8,215.5	931.1	2,065.5	1,835.1	230.40	8.965	
18,200.0	9,734.0	17,312.8	8,814.0	126.5	124.5	63.47	8,315.5	930.4	2,065.5	1,832.5	232.99	8.865	
18,300.0	9,734.0	17,412.8	8,814.0	127.9	125.9	63.47	8,415.5	929.7	2,065.5	1,829.9	235.58	8.768	
18,400.0	9,734.0	17,512.8	8,814.0	129.3	127.3	63.47	8,515.5	929.0	2,065.5	1,827.3	238.17	8.672	
18,500.0	9,734.0	17,612.8	8,814.0	130.7	128.7	63.47	8,615.5	928.3	2,065.5	1,824.7	240.76	8.579	
18,600.0	9,734.0	17,712.8	8,814.0	132.1	130.1	63.47	8,715.5	927.7	2,065.5	1,822.1	243.36	8.487	
18,700.0	9,734.0	17,812.8	8,814.0	133.5	131.5	63.47	8,815.5	927.0	2,065.5	1,819.5	245.96	8.398	
18,800.0	9,734.0	17,912.8	8,814.0	134.9	132.9	63.47	8,915.5	926.3	2,065.5	1,816.9	248.55	8.310	
18,900.0	9,734.0	18,012.8	8,814.0	136.3	134.3	63.47	9,015.5	925.6	2,065.5	1,814.3	251.15	8.224	
19,000.0	9,734.0	18,112.8	8,814.0	137.7	135.7	63.47	9,115.5	924.9	2,065.5	1,811.7	253.76	8.139	
19,100.0	9,734.0	18,212.8	8,814.0	139.1	137.1	63.47	9,215.5	924.2	2,065.5	1,809.1	256.36	8.057	
19,200.0	9,734.0	18,312.8	8,814.0	140.5	138.5	63.47	9,315.5	923.5	2,065.5	1,806.5	258.97	7.976	
19,300.0	9,734.0	18,412.8	8,814.0	141.9	139.9	63.47	9,415.5	922.8	2,065.5	1,803.9	261.58	7.896	
19,400.0	9,734.0	18,512.8	8,814.0	143.3	141.3	63.47	9,515.5	922.1	2,065.5	1,801.3	264.18	7.818	
19,500.0	9,734.0	18,612.8	8,814.0	144.7	142.8	63.47	9,615.5	921.4	2,065.5	1,798.7	266.79	7.742	
19,600.0	9,734.0	18,712.8	8,814.0	146.1	144.2	63.47	9,715.5	920.7	2,065.5	1,796.0	269.41	7.667	
19,700.0	9,734.0	18,812.8	8,814.0	147.5	145.6	63.47	9,815.5	920.0	2,065.5	1,793.4	272.02	7.593	
19,800.0	9,734.0	18,912.8	8,814.0	148.9	147.0	63.47	9,915.5	919.3	2,065.5	1,790.8	274.64	7.521	
19,900.0	9,734.0	19,012.8	8,814.0	150.3	148.4	63.47	10,015.5	918.6	2,065.5	1,788.2	277.25	7.450	
20,000.0	9,734.0	19,112.8	8,814.0	151.7	149.8	63.47	10,115.5	917.9	2,065.5	1,785.6	279.87	7.380	
20,011.3	9,734.0	19,124.2	8,814.0	151.9	150.0	63.47	10,126.8	917.9	2,065.5	1,785.3	280.16	7.372 SF	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 502H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	89.40	0.2	20.0	20.0				
100.0	100.0	100.0	100.0	0.1	0.1	89.40	0.2	20.0	20.0	19.7	0.26	75.874	
200.0	200.0	200.0	200.0	0.5	0.5	89.40	0.2	20.0	20.0	19.0	0.98	20.390	
300.0	300.0	300.0	300.0	0.8	0.8	89.40	0.2	20.0	20.0	18.3	1.70	11.778	
400.0	400.0	400.0	400.0	1.2	1.2	89.40	0.2	20.0	20.0	17.6	2.41	8.280	
500.0	500.0	500.0	500.0	1.6	1.6	89.40	0.2	20.0	20.0	16.9	3.13	6.384	
600.0	600.0	600.0	600.0	1.9	1.9	89.40	0.2	20.0	20.0	16.1	3.85	5.195	
700.0	700.0	700.0	700.0	2.3	2.3	89.40	0.2	20.0	20.0	15.4	4.57	4.379	
800.0	800.0	800.0	800.0	2.6	2.6	89.40	0.2	20.0	20.0	14.7	5.28	3.785	
900.0	900.0	900.0	900.0	3.0	3.0	89.40	0.2	20.0	20.0	14.0	6.00	3.332	
1,000.0	1,000.0	1,000.0	1,000.0	3.4	3.4	89.40	0.2	20.0	20.0	13.3	6.72	2.977	
1,100.0	1,100.0	1,100.0	1,100.0	3.7	3.7	89.40	0.2	20.0	20.0	12.6	7.43	2.690	
1,200.0	1,200.0	1,200.0	1,200.0	4.1	4.1	89.40	0.2	20.0	20.0	11.8	8.15	2.453	
1,300.0	1,300.0	1,300.0	1,300.0	4.4	4.4	89.40	0.2	20.0	20.0	11.1	8.87	2.255	
1,400.0	1,400.0	1,400.0	1,400.0	4.8	4.8	89.40	0.2	20.0	20.0	10.4	9.58	2.086	
1,500.0	1,500.0	1,500.0	1,500.0	5.2	5.2	89.40	0.2	20.0	20.0	9.7	10.30	1.941	
1,600.0	1,600.0	1,600.0	1,600.0	5.5	5.5	89.40	0.2	20.0	20.0	9.0	11.02	1.814	
1,700.0	1,700.0	1,700.0	1,700.0	5.9	5.9	89.40	0.2	20.0	20.0	8.3	11.73	1.704	
1,800.0	1,800.0	1,800.0	1,800.0	6.2	6.2	89.40	0.2	20.0	20.0	7.5	12.45	1.606	
1,900.0	1,900.0	1,900.0	1,900.0	6.6	6.6	89.40	0.2	20.0	20.0	6.8	13.17	1.518	
2,000.0	2,000.0	2,000.0	2,000.0	6.9	6.9	89.40	0.2	20.0	20.0	6.1	13.89	1.440	Level 3, CC, ES, SF
2,100.0	2,100.0	2,099.8	2,099.8	7.3	7.3	-158.00	-1.5	20.4	22.1	7.5	14.57	1.515	
2,200.0	2,199.8	2,199.2	2,199.1	7.6	7.6	-151.86	-6.5	21.7	28.6	13.4	15.23	1.877	
2,300.0	2,299.5	2,298.0	2,297.5	8.0	7.9	-146.16	-14.8	23.8	39.8	23.9	15.88	2.506	
2,400.0	2,398.7	2,396.5	2,395.4	8.3	8.3	-142.69	-25.6	26.6	55.3	38.8	16.53	3.347	
2,500.0	2,497.8	2,495.1	2,493.3	8.7	8.6	-141.47	-36.6	29.4	72.2	55.0	17.20	4.199	
2,600.0	2,596.8	2,593.7	2,591.2	9.0	8.9	-140.72	-47.6	32.1	89.2	71.3	17.88	4.986	
2,700.0	2,695.9	2,692.2	2,689.1	9.4	9.3	-140.20	-58.6	34.9	106.1	87.5	18.56	5.714	
2,800.0	2,795.0	2,790.8	2,787.0	9.7	9.6	-139.83	-69.6	37.7	123.0	103.8	19.25	6.389	
2,900.0	2,894.0	2,889.3	2,884.9	10.1	10.0	-139.54	-80.6	40.5	139.9	120.0	19.95	7.015	
3,000.0	2,993.1	2,987.9	2,982.8	10.5	10.3	-139.32	-91.5	43.3	156.9	136.2	20.65	7.597	
3,100.0	3,092.1	3,086.4	3,080.7	10.9	10.7	-139.14	-102.5	46.1	173.8	152.5	21.36	8.140	
3,200.0	3,191.2	3,185.0	3,178.6	11.2	11.0	-139.00	-113.5	48.9	190.8	168.7	22.07	8.646	
3,300.0	3,290.3	3,283.5	3,276.5	11.6	11.4	-138.87	-124.5	51.7	207.7	184.9	22.78	9.119	
3,400.0	3,389.3	3,382.1	3,374.4	12.0	11.7	-138.77	-135.5	54.5	224.7	201.2	23.49	9.562	
3,500.0	3,488.4	3,480.6	3,472.3	12.4	12.1	-138.68	-146.5	57.3	241.6	217.4	24.21	9.978	
3,600.0	3,587.5	3,579.2	3,570.2	12.8	12.5	-138.60	-157.5	60.1	258.6	233.6	24.94	10.369	
3,700.0	3,686.5	3,677.7	3,668.1	13.1	12.8	-138.53	-168.5	62.9	275.5	249.8	25.66	10.736	
3,800.0	3,785.6	3,776.3	3,766.0	13.5	13.2	-138.47	-179.4	65.7	292.4	266.1	26.39	11.083	
3,900.0	3,884.6	3,874.8	3,863.9	13.9	13.6	-138.42	-190.4	68.5	309.4	282.3	27.12	11.410	
4,000.0	3,983.7	3,973.4	3,961.8	14.3	13.9	-138.37	-201.4	71.3	326.3	298.5	27.85	11.719	
4,100.0	4,082.8	4,071.9	4,059.7	14.7	14.3	-138.33	-212.4	74.1	343.3	314.7	28.58	12.012	
4,200.0	4,181.8	4,170.5	4,157.6	15.1	14.7	-138.29	-223.4	76.9	360.2	330.9	29.31	12.289	
4,300.0	4,280.9	4,269.1	4,255.5	15.5	15.0	-138.25	-234.4	79.7	377.2	347.1	30.05	12.552	
4,400.0	4,380.0	4,367.6	4,353.4	15.9	15.4	-138.22	-245.4	82.5	394.1	363.3	30.79	12.802	
4,500.0	4,479.0	4,466.2	4,451.2	16.2	15.8	-138.19	-256.4	85.2	411.1	379.6	31.53	13.039	
4,600.0	4,578.1	4,564.7	4,549.1	16.6	16.2	-138.16	-267.4	88.0	428.0	395.8	32.27	13.266	
4,700.0	4,677.1	4,663.3	4,647.0	17.0	16.5	-138.13	-278.3	90.8	445.0	412.0	33.01	13.481	
4,800.0	4,776.2	4,769.7	4,752.9	17.4	16.9	-138.23	-289.0	93.6	461.3	427.5	33.81	13.644	
4,900.0	4,875.3	4,879.0	4,862.0	17.8	17.3	-138.72	-296.2	95.4	475.5	440.9	34.61	13.738	
5,000.0	4,974.3	4,988.7	4,971.6	18.2	17.7	-139.58	-299.3	96.2	487.5	452.1	35.39	13.776	
5,100.0	5,073.4	5,090.5	5,073.4	18.6	18.1	-140.61	-299.4	96.2	498.1	462.0	36.11	13.795	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 502H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program: 0-B001Mb_MWD+HRGM		Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,200.0	5,172.5	5,189.6	5,172.5	19.0	18.4	-141.58	-299.4	96.2	508.8	472.0	36.81	13.821		
5,300.0	5,271.5	5,288.6	5,271.5	19.4	18.7	-142.52	-299.4	96.2	519.6	482.1	37.51	13.850		
5,400.0	5,370.6	5,387.7	5,370.6	19.8	19.1	-143.41	-299.4	96.2	530.5	492.3	38.22	13.881		
5,500.0	5,469.7	5,486.8	5,469.7	20.2	19.4	-144.27	-299.4	96.2	541.6	502.7	38.92	13.915		
5,600.0	5,568.7	5,585.8	5,568.7	20.6	19.7	-145.09	-299.4	96.2	552.8	513.1	39.63	13.950		
5,700.0	5,667.8	5,684.9	5,667.8	21.0	20.1	-145.89	-299.4	96.2	564.0	523.7	40.33	13.986		
5,800.0	5,766.8	5,783.9	5,766.8	21.4	20.4	-146.65	-299.4	96.2	575.4	534.4	41.03	14.023		
5,900.0	5,865.9	5,883.0	5,865.9	21.8	20.7	-147.38	-299.4	96.2	586.9	545.2	41.74	14.062		
6,000.0	5,965.0	5,982.1	5,965.0	22.2	21.1	-148.08	-299.4	96.2	598.5	556.1	42.44	14.101		
6,100.0	6,064.0	6,081.1	6,064.0	22.6	21.4	-148.76	-299.4	96.2	610.2	567.0	43.15	14.141		
6,200.0	6,163.1	6,180.2	6,163.1	23.0	21.7	-149.41	-299.4	96.2	621.9	578.1	43.85	14.181		
6,300.0	6,262.2	6,279.3	6,262.2	23.4	22.1	-150.03	-299.4	96.2	633.7	589.2	44.56	14.222		
6,400.0	6,361.2	6,378.3	6,361.2	23.8	22.4	-150.64	-299.4	96.2	645.6	600.4	45.27	14.263		
6,500.0	6,460.3	6,477.4	6,460.3	24.2	22.8	-151.22	-299.4	96.2	657.6	611.6	45.97	14.304		
6,600.0	6,559.3	6,576.5	6,559.3	24.6	23.1	-151.78	-299.4	96.2	669.6	623.0	46.68	14.345		
6,700.0	6,658.4	6,675.5	6,658.4	25.0	23.4	-152.32	-299.4	96.2	681.7	634.3	47.39	14.387		
6,800.0	6,757.5	6,774.6	6,757.5	25.4	23.8	-152.85	-299.4	96.2	693.9	645.8	48.09	14.428		
6,900.0	6,856.5	6,873.6	6,856.5	25.8	24.1	-153.35	-299.4	96.2	706.1	657.3	48.80	14.468		
7,000.0	6,955.6	6,972.7	6,955.6	26.2	24.5	-153.84	-299.4	96.2	718.3	668.8	49.51	14.509		
7,100.0	7,054.7	7,071.8	7,054.7	26.6	24.8	-154.31	-299.4	96.2	730.6	680.4	50.22	14.550		
7,200.0	7,153.7	7,170.8	7,153.7	27.0	25.2	-154.77	-299.4	96.2	743.0	692.1	50.93	14.590		
7,300.0	7,252.8	7,269.9	7,252.8	27.4	25.5	-155.21	-299.4	96.2	755.4	703.8	51.63	14.630		
7,400.0	7,351.8	7,369.0	7,351.8	27.8	25.8	-155.63	-299.4	96.2	767.8	715.5	52.34	14.669		
7,500.0	7,450.9	7,468.0	7,450.9	28.2	26.2	-156.05	-299.4	96.2	780.3	727.3	53.05	14.708		
7,600.0	7,550.0	7,567.1	7,550.0	28.6	26.5	-156.45	-299.4	96.2	792.8	739.1	53.76	14.747		
7,700.0	7,649.0	7,666.1	7,649.0	29.0	26.9	-156.84	-299.4	96.2	805.4	750.9	54.47	14.785		
7,800.0	7,748.1	7,765.2	7,748.1	29.4	27.2	-157.21	-299.4	96.2	818.0	762.8	55.18	14.823		
7,900.0	7,847.2	7,864.3	7,847.2	29.8	27.6	-157.58	-299.4	96.2	830.6	774.7	55.89	14.861		
8,000.0	7,946.2	7,963.3	7,946.2	30.2	27.9	-157.93	-299.4	96.2	843.3	786.7	56.61	14.898		
8,100.0	8,045.3	8,062.4	8,045.3	30.6	28.2	-158.27	-299.4	96.2	856.0	798.6	57.32	14.934		
8,200.0	8,144.3	8,161.5	8,144.3	31.0	28.6	-158.61	-299.4	96.2	868.7	810.7	58.03	14.970		
8,300.0	8,243.4	8,260.5	8,243.4	31.4	28.9	-158.93	-299.4	96.2	881.4	822.7	58.74	15.006		
8,400.0	8,342.5	8,359.6	8,342.5	31.8	29.3	-159.24	-299.4	96.2	894.2	834.8	59.45	15.041		
8,500.0	8,441.5	8,458.6	8,441.5	32.2	29.6	-159.55	-299.4	96.2	907.0	846.8	60.16	15.076		
8,600.0	8,540.6	8,557.7	8,540.6	32.6	30.0	-159.85	-299.4	96.2	919.8	859.0	60.88	15.110		
8,700.0	8,639.7	8,656.8	8,639.7	33.0	30.3	-160.16	-299.4	96.2	932.5	870.9	61.59	15.141		
8,800.0	8,739.1	8,756.2	8,739.1	33.4	30.7	-160.45	-299.4	96.2	942.7	880.4	62.30	15.132		
8,900.0	8,838.8	8,855.9	8,838.8	33.8	31.0	-160.64	-299.4	96.2	949.7	886.7	63.01	15.073		
9,000.0	8,938.7	8,955.8	8,938.7	34.1	31.4	-160.75	-299.4	96.2	953.3	889.6	63.71	14.964		
9,100.0	9,038.7	9,055.8	9,038.7	34.5	31.7	89.56	-299.4	96.2	954.0	889.6	64.40	14.814		
9,200.0	9,138.7	9,155.8	9,138.7	34.8	32.1	89.56	-299.4	96.2	954.0	888.9	65.08	14.659		
9,300.0	9,238.7	9,255.8	9,238.7	35.1	32.4	89.56	-299.4	96.2	954.0	888.2	65.76	14.506		
9,400.0	9,338.3	9,365.6	9,347.9	35.4	32.8	89.95	-290.6	95.7	953.5	887.1	66.47	14.345		
9,500.0	9,434.3	9,476.8	9,453.6	35.7	33.1	89.93	-256.9	93.6	951.9	884.8	67.10	14.186		
9,600.0	9,522.6	9,586.8	9,547.7	35.9	33.4	89.91	-200.5	90.1	949.1	881.5	67.63	14.034		
9,700.0	9,599.2	9,695.0	9,625.3	36.1	33.7	89.88	-125.5	85.6	945.4	877.3	68.08	13.886		
9,800.0	9,660.8	9,801.1	9,683.0	36.1	33.9	89.86	-37.0	80.1	940.8	872.4	68.48	13.739		
9,900.0	9,704.8	9,904.8	9,719.3	36.2	34.1	89.84	59.8	74.2	935.8	866.9	68.84	13.594		
10,000.0	9,729.2	10,006.2	9,733.6	36.1	34.2	89.83	159.8	68.1	930.4	861.3	69.17	13.451		
10,100.0	9,734.0	10,085.9	9,734.0	36.1	34.4	90.00	239.3	63.9	925.9	856.4	69.48	13.326		
10,200.0	9,734.0	10,161.4	9,734.0	36.2	34.6	90.00	314.9	61.9	924.0	854.1	69.86	13.227		
10,222.9	9,734.0	10,178.7	9,734.0	36.2	34.6	90.00	332.2	61.8	923.9	854.0	69.96	13.207		

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 502H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	9,734.0	10,255.8	9,734.0	36.3	34.8	90.00	409.3	61.2	923.9	853.5	70.39	13.127	
10,400.0	9,734.0	10,355.8	9,734.0	36.5	35.2	90.00	509.3	60.5	923.9	852.9	71.04	13.006	
10,500.0	9,734.0	10,455.8	9,734.0	36.8	35.6	90.00	609.3	59.8	923.9	852.1	71.81	12.867	
10,600.0	9,734.0	10,555.8	9,734.0	37.2	36.0	90.00	709.3	59.2	923.9	851.3	72.68	12.713	
10,700.0	9,734.0	10,655.8	9,734.0	37.7	36.5	90.00	809.3	58.5	923.9	850.3	73.65	12.544	
10,800.0	9,734.0	10,755.8	9,734.0	38.2	37.1	90.00	909.3	57.8	923.9	849.2	74.73	12.364	
10,900.0	9,734.0	10,855.8	9,734.0	38.8	37.7	90.00	1,009.3	57.1	923.9	848.0	75.90	12.173	
11,000.0	9,734.0	10,955.8	9,734.0	39.4	38.3	90.00	1,109.3	56.4	923.9	846.8	77.16	11.974	
11,100.0	9,734.0	11,055.8	9,734.0	40.1	39.0	90.00	1,209.3	55.7	923.9	845.4	78.51	11.768	
11,200.0	9,734.0	11,155.8	9,734.0	40.8	39.7	90.00	1,309.3	55.0	923.9	844.0	79.94	11.558	
11,300.0	9,734.0	11,255.8	9,734.0	41.5	40.5	90.00	1,409.3	54.3	923.9	842.5	81.45	11.344	
11,400.0	9,734.0	11,355.8	9,734.0	42.3	41.3	90.00	1,509.3	53.6	923.9	840.9	83.03	11.128	
11,500.0	9,734.0	11,455.8	9,734.0	43.1	42.1	90.00	1,609.3	52.9	923.9	839.3	84.68	10.911	
11,600.0	9,734.0	11,555.8	9,734.0	44.0	43.0	90.00	1,709.3	52.2	923.9	837.5	86.40	10.694	
11,700.0	9,734.0	11,655.8	9,734.0	44.8	43.9	90.00	1,809.3	51.5	923.9	835.8	88.18	10.478	
11,800.0	9,734.0	11,755.8	9,734.0	45.7	44.8	90.00	1,909.3	50.8	923.9	833.9	90.01	10.265	
11,900.0	9,734.0	11,855.8	9,734.0	46.7	45.8	90.00	2,009.3	50.1	923.9	832.0	91.90	10.053	
12,000.0	9,734.0	11,955.8	9,734.0	47.6	46.8	90.00	2,109.3	49.4	923.9	830.1	93.84	9.845	
12,100.0	9,734.0	12,055.8	9,734.0	48.6	47.8	90.00	2,209.3	48.7	923.9	828.1	95.84	9.641	
12,200.0	9,734.0	12,155.8	9,734.0	49.6	48.8	90.00	2,309.3	48.1	923.9	826.1	97.87	9.441	
12,300.0	9,734.0	12,255.8	9,734.0	50.6	49.9	90.00	2,409.3	47.4	923.9	824.0	99.95	9.244	
12,400.0	9,734.0	12,355.8	9,734.0	51.7	50.9	90.00	2,509.3	46.7	923.9	821.9	102.07	9.053	
12,500.0	9,734.0	12,455.8	9,734.0	52.7	52.0	90.00	2,609.3	46.0	923.9	819.7	104.22	8.865	
12,600.0	9,734.0	12,555.8	9,734.0	53.8	53.1	90.00	2,709.3	45.3	923.9	817.5	106.41	8.683	
12,700.0	9,734.0	12,655.8	9,734.0	54.9	54.2	90.00	2,809.2	44.6	923.9	815.3	108.63	8.505	
12,800.0	9,734.0	12,755.8	9,734.0	56.0	55.4	90.00	2,909.2	43.9	923.9	813.1	110.89	8.332	
12,900.0	9,734.0	12,855.8	9,734.0	57.1	56.5	90.00	3,009.2	43.2	924.0	810.8	113.17	8.164	
13,000.0	9,734.0	12,955.8	9,734.0	58.3	57.7	90.00	3,109.2	42.5	924.0	808.5	115.48	8.001	
13,100.0	9,734.0	13,055.8	9,734.0	59.4	58.9	90.00	3,209.2	41.8	924.0	806.1	117.82	7.842	
13,200.0	9,734.0	13,155.8	9,734.0	60.6	60.0	90.00	3,309.2	41.1	924.0	803.8	120.18	7.688	
13,300.0	9,734.0	13,255.8	9,734.0	61.8	61.2	90.00	3,409.2	40.4	924.0	801.4	122.56	7.539	
13,400.0	9,734.0	13,355.8	9,734.0	63.0	62.4	90.00	3,509.2	39.7	924.0	799.0	124.97	7.394	
13,500.0	9,734.0	13,455.8	9,734.0	64.2	63.7	90.00	3,609.2	39.0	924.0	796.6	127.39	7.253	
13,600.0	9,734.0	13,555.8	9,734.0	65.4	64.9	90.00	3,709.2	38.3	924.0	794.1	129.84	7.116	
13,700.0	9,734.0	13,655.8	9,734.0	66.6	66.1	90.00	3,809.2	37.7	924.0	791.7	132.30	6.984	
13,800.0	9,734.0	13,755.8	9,734.0	67.8	67.4	90.00	3,909.2	37.0	924.0	789.2	134.78	6.855	
13,900.0	9,734.0	13,855.8	9,734.0	69.1	68.6	90.00	4,009.2	36.3	924.0	786.7	137.28	6.731	
14,000.0	9,734.0	13,955.8	9,734.0	70.3	69.9	90.00	4,109.2	35.6	924.0	784.2	139.79	6.610	
14,100.0	9,734.0	14,055.8	9,734.0	71.6	71.2	90.00	4,209.2	34.9	924.0	781.6	142.32	6.492	
14,200.0	9,734.0	14,155.8	9,734.0	72.8	72.4	90.00	4,309.2	34.2	924.0	779.1	144.86	6.378	
14,300.0	9,734.0	14,255.8	9,734.0	74.1	73.7	90.00	4,409.2	33.5	924.0	776.6	147.41	6.268	
14,400.0	9,734.0	14,355.8	9,734.0	75.4	75.0	90.00	4,509.2	32.8	924.0	774.0	149.97	6.161	
14,500.0	9,734.0	14,455.8	9,734.0	76.6	76.3	90.00	4,609.2	32.1	924.0	771.4	152.55	6.057	
14,600.0	9,734.0	14,555.8	9,734.0	77.9	77.6	90.00	4,709.2	31.4	924.0	768.8	155.14	5.956	
14,700.0	9,734.0	14,655.8	9,734.0	79.2	78.9	90.00	4,809.2	30.7	924.0	766.2	157.74	5.858	
14,800.0	9,734.0	14,755.8	9,734.0	80.5	80.2	90.00	4,909.2	30.0	924.0	763.6	160.35	5.762	
14,900.0	9,734.0	14,855.8	9,734.0	81.8	81.5	90.00	5,009.2	29.3	924.0	761.0	162.97	5.670	
15,000.0	9,734.0	14,955.8	9,734.0	83.1	82.8	90.00	5,109.2	28.6	924.0	758.4	165.60	5.580	
15,100.0	9,734.0	15,055.8	9,734.0	84.4	84.2	90.00	5,209.2	27.9	924.0	755.7	168.23	5.492	
15,200.0	9,734.0	15,155.8	9,734.0	85.7	85.5	90.00	5,309.2	27.3	924.0	753.1	170.88	5.407	
15,300.0	9,734.0	15,255.8	9,734.0	87.1	86.8	90.00	5,409.2	26.6	924.0	750.4	173.53	5.324	
15,400.0	9,734.0	15,355.8	9,734.0	88.4	88.1	90.00	5,509.2	25.9	924.0	747.8	176.19	5.244	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 502H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Rule Assigned:							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.0	9,734.0	15,455.8	9,734.0	89.7	89.5	90.00	5,609.2	25.2	924.0	745.1	178.86	5.166	
15,600.0	9,734.0	15,555.8	9,734.0	91.0	90.8	90.00	5,709.2	24.5	924.0	742.4	181.54	5.090	
15,700.0	9,734.0	15,655.8	9,734.0	92.4	92.2	90.00	5,809.2	23.8	924.0	739.8	184.22	5.016	
15,800.0	9,734.0	15,755.8	9,734.0	93.7	93.5	90.00	5,909.2	23.1	924.0	737.1	186.91	4.943	
15,900.0	9,734.0	15,855.8	9,734.0	95.1	94.9	90.00	6,009.2	22.4	924.0	734.4	189.60	4.873	
16,000.0	9,734.0	15,955.8	9,734.0	96.4	96.2	90.00	6,109.2	21.7	924.0	731.7	192.30	4.805	
16,100.0	9,734.0	16,055.8	9,734.0	97.7	97.6	90.00	6,209.2	21.0	924.0	729.0	195.01	4.738	
16,200.0	9,734.0	16,155.8	9,734.0	99.1	98.9	90.00	6,309.2	20.3	924.0	726.3	197.72	4.673	
16,300.0	9,734.0	16,255.8	9,734.0	100.4	100.3	90.00	6,409.2	19.6	924.0	723.5	200.43	4.610	
16,400.0	9,734.0	16,355.8	9,734.0	101.8	101.7	90.00	6,509.2	18.9	924.0	720.8	203.16	4.548	
16,500.0	9,734.0	16,455.8	9,734.0	103.2	103.0	90.00	6,609.2	18.2	924.0	718.1	205.88	4.488	
16,600.0	9,734.0	16,555.8	9,734.0	104.5	104.4	90.00	6,709.2	17.5	924.0	715.4	208.61	4.429	
16,700.0	9,734.0	16,655.8	9,734.0	105.9	105.8	90.00	6,809.2	16.8	924.0	712.6	211.35	4.372	
16,800.0	9,734.0	16,755.8	9,734.0	107.2	107.1	90.00	6,909.1	16.2	924.0	709.9	214.09	4.316	
16,900.0	9,734.0	16,855.8	9,734.0	108.6	108.5	90.00	7,009.1	15.5	924.0	707.2	216.83	4.261	
17,000.0	9,734.0	16,955.8	9,734.0	110.0	109.9	90.00	7,109.1	14.8	924.0	704.4	219.58	4.208	
17,100.0	9,734.0	17,055.8	9,734.0	111.4	111.3	90.00	7,209.1	14.1	924.0	701.7	222.33	4.156	
17,200.0	9,734.0	17,155.8	9,734.0	112.7	112.6	90.00	7,309.1	13.4	924.0	698.9	225.08	4.105	
17,300.0	9,734.0	17,255.8	9,734.0	114.1	114.0	90.00	7,409.1	12.7	924.0	696.1	227.84	4.055	
17,400.0	9,734.0	17,355.8	9,734.0	115.5	115.4	90.00	7,509.1	12.0	924.0	693.4	230.60	4.007	
17,500.0	9,734.0	17,455.8	9,734.0	116.9	116.8	90.00	7,609.1	11.3	924.0	690.6	233.36	3.959	
17,600.0	9,734.0	17,555.8	9,734.0	118.2	118.2	90.00	7,709.1	10.6	924.0	687.9	236.13	3.913	
17,700.0	9,734.0	17,655.8	9,734.0	119.6	119.5	90.00	7,809.1	9.9	924.0	685.1	238.90	3.868	
17,800.0	9,734.0	17,755.8	9,734.0	121.0	120.9	90.00	7,909.1	9.2	924.0	682.3	241.68	3.823	
17,900.0	9,734.0	17,855.8	9,734.0	122.4	122.3	90.00	8,009.1	8.5	924.0	679.5	244.45	3.780	
18,000.0	9,734.0	17,955.8	9,734.0	123.8	123.7	90.00	8,109.1	7.8	924.0	676.8	247.23	3.737	
18,100.0	9,734.0	18,055.8	9,734.0	125.2	125.1	90.00	8,209.1	7.1	924.0	674.0	250.01	3.696	
18,200.0	9,734.0	18,155.8	9,734.0	126.5	126.5	90.00	8,309.1	6.4	924.0	671.2	252.80	3.655	
18,300.0	9,734.0	18,255.8	9,734.0	127.9	127.9	90.00	8,409.1	5.8	924.0	668.4	255.58	3.615	
18,400.0	9,734.0	18,355.8	9,734.0	129.3	129.3	90.00	8,509.1	5.1	924.0	665.6	258.37	3.576	
18,500.0	9,734.0	18,455.8	9,734.0	130.7	130.7	90.00	8,609.1	4.4	924.0	662.8	261.16	3.538	
18,600.0	9,734.0	18,555.8	9,734.0	132.1	132.1	90.00	8,709.1	3.7	924.0	660.0	263.96	3.501	
18,700.0	9,734.0	18,655.8	9,734.0	133.5	133.5	90.00	8,809.1	3.0	924.0	657.2	266.75	3.464	
18,800.0	9,734.0	18,755.8	9,734.0	134.9	134.9	90.00	8,909.1	2.3	924.0	654.4	269.55	3.428	
18,900.0	9,734.0	18,855.8	9,734.0	136.3	136.3	90.00	9,009.1	1.6	924.0	651.6	272.35	3.393	
19,000.0	9,734.0	18,955.8	9,734.0	137.7	137.7	90.00	9,109.1	0.9	924.0	648.8	275.15	3.358	
19,100.0	9,734.0	19,055.8	9,734.0	139.1	139.1	90.00	9,209.1	0.2	924.0	646.0	277.96	3.324	
19,200.0	9,734.0	19,155.8	9,734.0	140.5	140.5	90.00	9,309.1	-0.5	924.0	643.2	280.76	3.291	
19,300.0	9,734.0	19,255.8	9,734.0	141.9	141.9	90.00	9,409.1	-1.2	924.0	640.4	283.57	3.258	
19,400.0	9,734.0	19,355.8	9,734.0	143.3	143.3	90.00	9,509.1	-1.9	924.0	637.6	286.38	3.226	
19,500.0	9,734.0	19,455.8	9,734.0	144.7	144.7	90.00	9,609.1	-2.6	924.0	634.8	289.19	3.195	
19,600.0	9,734.0	19,555.8	9,734.0	146.1	146.1	90.00	9,709.1	-3.3	924.0	632.0	292.00	3.164	
19,700.0	9,734.0	19,655.8	9,734.0	147.5	147.5	90.00	9,809.1	-4.0	924.0	629.2	294.82	3.134	
19,800.0	9,734.0	19,755.8	9,734.0	148.9	148.9	90.00	9,909.1	-4.6	924.0	626.4	297.63	3.105	
19,900.0	9,734.0	19,855.8	9,734.0	150.3	150.4	90.00	10,009.1	-5.3	924.0	623.6	300.45	3.075	
20,000.0	9,734.0	19,955.8	9,734.0	151.7	151.6	90.00	10,109.1	-6.0	924.0	620.9	303.14	3.048	
20,011.3	9,734.0	19,967.2	9,734.0	151.9	151.8	90.00	10,120.4	-6.1	924.0	620.6	303.44	3.045	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1														Offset Site Error:	0.0 usft	
Survey Program:		0-B001Mb_MWD+HRGM						Rule Assigned:							Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)					
0.0	0.0	0.0	0.0	0.0	0.0	175.97	-159.8	11.2	160.2							
100.0	100.0	97.8	97.8	0.1	0.1	175.97	-159.8	11.2	160.2	159.9	0.26	614.653				
200.0	200.0	197.8	197.8	0.5	0.5	175.97	-159.8	11.2	160.2	159.2	0.97	164.689				
300.0	300.0	297.8	297.8	0.8	0.8	175.97	-159.8	11.2	160.2	158.5	1.69	94.802				
400.0	400.0	397.8	397.8	1.2	1.2	175.97	-159.8	11.2	160.2	157.8	2.41	66.558				
500.0	500.0	497.8	497.8	1.6	1.6	175.97	-159.8	11.2	160.2	157.0	3.12	51.280				
600.0	600.0	597.8	597.8	1.9	1.9	175.97	-159.8	11.2	160.2	156.3	3.84	41.706				
700.0	700.0	697.8	697.8	2.3	2.3	175.97	-159.8	11.2	160.2	155.6	4.56	35.145				
800.0	800.0	797.8	797.8	2.6	2.6	175.97	-159.8	11.2	160.2	154.9	5.27	30.368				
900.0	900.0	897.8	897.8	3.0	3.0	175.97	-159.8	11.2	160.2	154.2	5.99	26.734				
1,000.0	1,000.0	997.8	997.8	3.4	3.4	175.97	-159.8	11.2	160.2	153.5	6.71	23.877				
1,100.0	1,100.0	1,097.8	1,097.8	3.7	3.7	175.97	-159.8	11.2	160.2	152.7	7.43	21.571				
1,200.0	1,200.0	1,197.8	1,197.8	4.1	4.1	175.97	-159.8	11.2	160.2	152.0	8.14	19.672				
1,300.0	1,300.0	1,297.8	1,297.8	4.4	4.4	175.97	-159.8	11.2	160.2	151.3	8.86	18.080				
1,400.0	1,400.0	1,397.8	1,397.8	4.8	4.8	175.97	-159.8	11.2	160.2	150.6	9.58	16.726				
1,500.0	1,500.0	1,497.8	1,497.8	5.2	5.1	175.97	-159.8	11.2	160.2	149.9	10.29	15.561				
1,600.0	1,600.0	1,597.8	1,597.8	5.5	5.5	175.97	-159.8	11.2	160.2	149.2	11.01	14.548				
1,700.0	1,700.0	1,697.8	1,697.8	5.9	5.9	175.97	-159.8	11.2	160.2	148.4	11.73	13.658				
1,800.0	1,800.0	1,797.8	1,797.8	6.2	6.2	175.97	-159.8	11.2	160.2	147.7	12.44	12.871				
1,900.0	1,900.0	1,897.8	1,897.8	6.6	6.6	175.97	-159.8	11.2	160.2	147.0	13.16	12.170				
2,000.0	2,000.0	1,997.8	1,997.8	6.9	6.9	175.97	-159.8	11.2	160.2	146.3	13.88	11.541				
2,100.0	2,100.0	2,097.3	2,097.3	7.3	7.3	-74.37	-160.0	9.6	159.9	145.3	14.57	10.971				
2,200.0	2,199.8	2,196.7	2,196.6	7.6	7.6	-74.36	-160.9	4.6	158.9	143.7	15.25	10.425				
2,300.0	2,299.5	2,296.2	2,295.7	8.0	8.0	-74.33	-162.3	-3.8	157.4	141.5	15.93	9.883				
2,400.0	2,398.7	2,396.0	2,394.8	8.3	8.3	-74.53	-164.2	-15.0	155.2	138.6	16.62	9.339				
2,500.0	2,497.8	2,495.9	2,494.1	8.7	8.7	-75.16	-166.1	-26.4	152.7	135.4	17.33	8.812				
2,600.0	2,596.8	2,595.9	2,593.4	9.0	9.0	-75.80	-168.1	-37.8	150.2	132.1	18.04	8.324				
2,700.0	2,695.9	2,695.8	2,692.6	9.4	9.4	-76.47	-170.0	-49.2	147.6	128.9	18.76	7.872				
2,800.0	2,795.0	2,795.8	2,791.9	9.7	9.7	-77.16	-171.9	-60.6	145.2	125.7	19.48	7.451				
2,900.0	2,894.0	2,895.7	2,891.2	10.1	10.1	-77.87	-173.8	-72.0	142.7	122.5	20.21	7.060				
3,000.0	2,993.1	2,995.7	2,990.5	10.5	10.5	-78.61	-175.8	-83.4	140.2	119.3	20.95	6.695				
3,100.0	3,092.1	3,095.6	3,089.8	10.9	10.8	-79.37	-177.7	-94.8	137.8	116.1	21.69	6.355				
3,200.0	3,191.2	3,195.6	3,189.0	11.2	11.2	-80.17	-179.6	-106.2	135.4	113.0	22.43	6.037				
3,300.0	3,290.3	3,295.5	3,288.3	11.6	11.6	-80.99	-181.6	-117.6	133.0	109.9	23.18	5.740				
3,400.0	3,389.3	3,395.5	3,387.6	12.0	11.9	-81.84	-183.5	-129.0	130.7	106.8	23.93	5.462				
3,500.0	3,488.4	3,495.4	3,486.9	12.4	12.3	-82.72	-185.4	-140.4	128.4	103.7	24.68	5.201				
3,600.0	3,587.5	3,595.4	3,586.2	12.8	12.7	-83.63	-187.3	-151.8	126.1	100.7	25.44	4.957				
3,700.0	3,686.5	3,695.4	3,685.5	13.1	13.1	-84.57	-189.3	-163.2	123.9	97.7	26.20	4.721				
3,800.0	3,785.6	3,795.3	3,784.7	13.5	13.4	-85.56	-191.2	-174.6	121.6	94.7	26.96	4.511				
3,900.0	3,884.6	3,895.3	3,884.0	13.9	13.8	-86.57	-193.1	-186.0	119.5	91.7	27.73	4.309				
4,000.0	3,983.7	3,995.2	3,983.3	14.3	14.2	-87.63	-195.1	-197.4	117.3	88.8	28.49	4.118				
4,100.0	4,082.8	4,095.2	4,082.6	14.7	14.6	-88.72	-197.0	-208.8	115.2	86.0	29.26	3.938				
4,200.0	4,181.8	4,195.1	4,181.9	15.1	15.0	-89.85	-198.9	-220.2	113.2	83.1	30.03	3.769				
4,300.0	4,280.9	4,295.1	4,281.2	15.5	15.3	-91.03	-200.8	-231.6	111.2	80.4	30.79	3.610				
4,400.0	4,380.0	4,395.0	4,380.4	15.9	15.7	-92.24	-202.8	-243.0	109.2	77.6	31.56	3.460				
4,500.0	4,479.0	4,495.0	4,479.7	16.2	16.1	-93.50	-204.7	-254.4	107.3	75.0	32.33	3.319				
4,600.0	4,578.1	4,594.9	4,579.0	16.6	16.5	-94.81	-206.6	-265.8	105.4	72.3	33.10	3.186				
4,700.0	4,677.1	4,694.9	4,678.3	17.0	16.9	-96.16	-208.6	-277.2	103.6	69.8	33.87	3.060				
4,800.0	4,776.2	4,794.8	4,777.6	17.4	17.3	-97.56	-210.5	-288.6	101.9	67.3	34.64	2.942				
4,900.0	4,875.3	4,894.8	4,876.8	17.8	17.6	-99.01	-212.4	-300.0	100.2	64.8	35.40	2.831				
5,000.0	4,974.3	4,994.7	4,976.1	18.2	18.0	-100.50	-214.3	-311.4	98.6	62.5	36.17	2.727				
5,100.0	5,073.4	5,094.7	5,075.4	18.6	18.4	-102.04	-216.3	-322.8	97.1	60.2	36.93	2.629				

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.0	5,172.5	5,194.7	5,174.7	19.0	18.8	-103.63	-218.2	-334.2	95.6	57.9	37.69	2.537	
5,300.0	5,271.5	5,294.6	5,274.0	19.4	19.2	-105.27	-220.1	-345.6	94.2	55.8	38.45	2.451	
5,400.0	5,370.6	5,394.6	5,373.3	19.8	19.6	-106.96	-222.1	-357.0	92.9	53.7	39.20	2.370	
5,500.0	5,469.7	5,494.5	5,472.5	20.2	19.9	-108.69	-224.0	-368.4	91.7	51.7	39.95	2.295	
5,600.0	5,568.7	5,594.5	5,571.8	20.6	20.3	-110.47	-225.9	-379.8	90.5	49.9	40.69	2.225	
5,700.0	5,667.8	5,694.4	5,671.1	21.0	20.7	-112.30	-227.8	-391.2	89.5	48.1	41.43	2.160	
5,800.0	5,766.8	5,794.4	5,770.4	21.4	21.1	-114.16	-229.8	-402.6	88.5	46.4	42.17	2.099	
5,900.0	5,865.9	5,894.3	5,869.7	21.8	21.5	-116.06	-231.7	-414.0	87.7	44.8	42.90	2.044	
6,000.0	5,965.0	5,994.3	5,969.0	22.2	21.9	-118.00	-233.6	-425.4	86.9	43.3	43.63	1.992	
6,100.0	6,064.0	6,094.2	6,068.2	22.6	22.3	-119.97	-235.6	-436.8	86.2	41.9	44.35	1.945	
6,200.0	6,163.1	6,194.2	6,167.5	23.0	22.7	-121.97	-237.5	-448.2	85.7	40.6	45.06	1.901	
6,300.0	6,262.2	6,294.1	6,266.8	23.4	23.0	-123.99	-239.4	-459.6	85.2	39.5	45.77	1.862	
6,400.0	6,361.2	6,394.1	6,366.1	23.8	23.4	-126.04	-241.3	-471.0	84.9	38.4	46.47	1.826	
6,500.0	6,460.3	6,494.0	6,465.4	24.2	23.8	-128.09	-243.3	-482.4	84.6	37.5	47.17	1.794	
6,600.0	6,559.3	6,594.0	6,564.6	24.6	24.2	-130.16	-245.2	-493.8	84.5	36.6	47.86	1.766	
6,667.4	6,626.1	6,661.4	6,631.6	24.9	24.5	-131.55	-246.5	-501.5	84.5	36.2	48.33	1.748	
6,700.0	6,658.4	6,694.0	6,663.9	25.0	24.6	-132.23	-247.1	-505.2	84.5	35.9	48.55	1.740	
6,800.0	6,757.5	6,793.9	6,763.2	25.4	25.0	-134.29	-249.0	-516.6	84.6	35.3	49.23	1.718	
6,900.0	6,856.5	6,893.9	6,862.5	25.8	25.4	-136.35	-251.0	-528.0	84.8	34.9	49.92	1.698	
7,000.0	6,955.6	6,993.8	6,961.8	26.2	25.8	-138.40	-252.9	-539.4	85.1	34.5	50.59	1.682	
7,100.0	7,054.7	7,093.8	7,061.1	26.6	26.1	-140.43	-254.8	-550.8	85.5	34.2	51.27	1.668	
7,200.0	7,153.7	7,193.7	7,160.3	27.0	26.5	-142.44	-256.8	-562.2	86.0	34.1	51.94	1.656	
7,300.0	7,252.8	7,293.7	7,259.6	27.4	26.9	-144.42	-258.7	-573.6	86.7	34.0	52.62	1.647	
7,400.0	7,351.8	7,393.6	7,358.9	27.8	27.3	-146.37	-260.6	-585.0	87.4	34.1	53.29	1.640	
7,500.0	7,450.9	7,493.6	7,458.2	28.2	27.7	-148.28	-262.5	-596.4	88.2	34.3	53.97	1.635	
7,600.0	7,550.0	7,593.5	7,557.5	28.6	28.1	-150.16	-264.5	-607.8	89.1	34.5	54.64	1.632	
7,700.0	7,649.0	7,693.5	7,656.8	29.0	28.5	-152.00	-266.4	-619.2	90.2	34.9	55.32	1.630	
7,800.0	7,748.1	7,793.4	7,756.0	29.4	28.9	-153.79	-268.3	-630.6	91.3	35.3	56.00	1.630	
7,900.0	7,847.2	7,893.4	7,855.3	29.8	29.3	-155.54	-270.3	-642.0	92.5	35.8	56.68	1.632	
8,000.0	7,946.2	7,993.4	7,954.6	30.2	29.7	-157.25	-272.2	-653.4	93.8	36.4	57.36	1.635	
8,100.0	8,045.3	8,093.3	8,053.9	30.6	30.0	-158.90	-274.1	-664.8	95.1	37.1	58.05	1.639	
8,200.0	8,144.3	8,193.3	8,153.2	31.0	30.4	-160.51	-276.0	-676.2	96.6	37.8	58.74	1.644	
8,300.0	8,243.4	8,293.2	8,252.4	31.4	30.8	-162.07	-278.0	-687.6	98.1	38.6	59.43	1.650	
8,400.0	8,342.5	8,393.2	8,351.7	31.8	31.2	-163.58	-279.9	-699.0	99.7	39.5	60.13	1.658	
8,500.0	8,441.5	8,493.1	8,451.0	32.2	31.6	-165.05	-281.8	-710.4	101.3	40.5	60.83	1.666	
8,600.0	8,540.6	8,593.1	8,550.3	32.6	32.0	-166.46	-283.8	-721.9	103.0	41.5	61.53	1.674	
8,700.0	8,639.7	8,693.0	8,649.6	33.0	32.4	-167.81	-285.7	-733.3	104.6	42.4	62.24	1.681	
8,800.0	8,739.1	8,793.0	8,748.9	33.4	32.8	-168.84	-287.6	-744.7	103.7	40.7	62.95	1.647	
8,900.0	8,838.8	8,892.9	8,848.1	33.8	33.2	-169.51	-289.5	-756.0	99.3	35.7	63.67	1.560	
9,000.0	8,938.7	8,992.6	8,947.1	34.1	33.6	-169.87	-291.5	-767.4	91.6	27.2	64.38	1.423 Level 3	
9,100.0	9,038.7	9,092.0	9,045.9	34.5	33.9	80.40	-293.4	-778.8	80.7	15.6	65.08	1.239 Level 2	
9,200.0	9,138.7	9,191.3	9,144.5	34.8	34.3	80.40	-295.3	-790.1	69.1	3.3	65.77	1.050 Level 2	
9,300.0	9,238.7	9,290.6	9,243.2	35.1	34.7	80.40	-297.2	-801.4	57.5	-9.0	66.47	0.865 Level 1	
9,400.0	9,338.3	9,389.4	9,341.3	35.4	35.1	90.81	-299.1	-812.7	45.4	-22.0	67.38	0.674 Level 1	
9,457.4	9,394.1	9,444.6	9,396.1	35.6	35.3	110.59	-300.2	-819.0	41.5	-27.2	68.70	0.604 Level 1, CC, ES, SF	
9,500.0	9,434.3	9,484.3	9,435.5	35.7	35.5	129.22	-300.9	-823.5	44.9	-25.2	70.13	0.640 Level 1	
9,600.0	9,522.6	9,571.1	9,521.7	35.9	35.8	159.37	-302.6	-833.4	80.8	9.1	71.70	1.127 Level 2	
9,700.0	9,599.2	9,646.1	9,596.2	36.1	36.1	170.82	-304.0	-841.8	143.3	71.2	72.07	1.988	
9,800.0	9,660.8	9,706.6	9,656.5	36.1	36.3	174.96	-305.0	-847.5	222.1	149.7	72.34	3.070	
9,900.0	9,704.8	9,749.8	9,699.6	36.2	36.5	176.21	-305.6	-850.8	312.1	239.5	72.54	4.302	
10,000.0	9,729.2	9,773.6	9,723.3	36.1	36.6	174.33	-305.8	-852.4	409.1	336.4	72.64	5.632	
10,100.0	9,734.0	9,777.5	9,727.2	36.1	36.6	48.17	-305.9	-852.6	508.9	436.2	72.65	7.004	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1												Offset Site Error: 0.0 usft			
Survey Program: 0-B001Mb_MWD+HRGM				Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Reference Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,200.0	9,734.0	9,776.5	9,726.2	36.2	36.6	42.91	-305.9	-852.5	608.9	536.2	72.65	8.381			
10,300.0	9,734.0	9,775.5	9,725.2	36.3	36.6	38.56	-305.8	-852.5	708.9	636.2	72.65	9.757			
10,400.0	9,734.0	11,184.1	10,529.0	36.5	39.7	180.00	502.9	-863.4	797.2	756.2	41.03	19.428			
10,500.0	9,734.0	11,284.1	10,529.0	36.8	40.1	180.00	602.9	-864.1	797.2	755.6	41.55	19.185			
10,600.0	9,734.0	11,384.1	10,529.0	37.2	40.5	180.00	702.9	-864.8	797.2	755.1	42.13	18.925			
10,700.0	9,734.0	11,484.1	10,529.0	37.7	41.0	180.00	802.9	-865.5	797.2	754.5	42.75	18.649			
10,800.0	9,734.0	11,584.1	10,529.0	38.2	41.5	180.00	902.9	-866.1	797.2	753.8	43.42	18.361			
10,900.0	9,734.0	11,684.1	10,529.0	38.8	42.1	180.00	1,002.9	-866.8	797.2	753.1	44.13	18.063			
11,000.0	9,734.0	11,784.1	10,529.0	39.4	42.7	180.00	1,102.9	-867.5	797.2	752.3	44.89	17.758			
11,100.0	9,734.0	11,884.1	10,529.0	40.1	43.4	180.00	1,202.9	-868.2	797.2	751.5	45.69	17.447			
11,200.0	9,734.0	11,984.1	10,529.0	40.8	44.1	180.00	1,302.9	-868.9	797.2	750.7	46.53	17.132			
11,300.0	9,734.0	12,084.1	10,529.0	41.5	44.8	180.00	1,402.9	-869.6	797.2	749.8	47.41	16.815			
11,400.0	9,734.0	12,184.1	10,529.0	42.3	45.5	180.00	1,502.9	-870.3	797.2	748.9	48.32	16.498			
11,500.0	9,734.0	12,284.1	10,529.0	43.1	46.3	180.00	1,602.9	-871.0	797.2	747.9	49.27	16.181			
11,600.0	9,734.0	12,384.1	10,529.0	44.0	47.2	180.00	1,702.9	-871.7	797.2	747.0	50.24	15.867			
11,700.0	9,734.0	12,484.1	10,529.0	44.8	48.0	180.00	1,802.9	-872.4	797.2	746.0	51.25	15.556			
11,800.0	9,734.0	12,584.1	10,529.0	45.7	48.9	180.00	1,902.9	-873.1	797.2	744.9	52.28	15.248			
11,900.0	9,734.0	12,684.1	10,529.0	46.7	49.8	180.00	2,002.9	-873.8	797.2	743.9	53.34	14.945			
12,000.0	9,734.0	12,784.1	10,529.0	47.6	50.8	180.00	2,102.9	-874.5	797.2	742.8	54.43	14.648			
12,100.0	9,734.0	12,884.1	10,529.0	48.6	51.7	180.00	2,202.9	-875.2	797.2	741.7	55.53	14.355			
12,200.0	9,734.0	12,984.1	10,529.0	49.6	52.7	180.00	2,302.9	-875.9	797.2	740.5	56.66	14.069			
12,300.0	9,734.0	13,084.1	10,529.0	50.6	53.7	180.00	2,402.9	-876.6	797.2	739.4	57.81	13.790			
12,400.0	9,734.0	13,184.1	10,529.0	51.7	54.7	180.00	2,502.8	-877.3	797.2	738.2	58.98	13.516			
12,500.0	9,734.0	13,284.1	10,529.0	52.7	55.8	180.00	2,602.8	-877.9	797.2	737.0	60.17	13.250			
12,600.0	9,734.0	13,384.1	10,529.0	53.8	56.8	180.00	2,702.8	-878.6	797.2	735.8	61.37	12.990			
12,700.0	9,734.0	13,484.1	10,529.0	54.9	57.9	180.00	2,802.8	-879.3	797.2	734.6	62.59	12.736			
12,800.0	9,734.0	13,584.1	10,529.0	56.0	59.0	180.00	2,902.8	-880.0	797.2	733.4	63.83	12.490			
12,900.0	9,734.0	13,684.1	10,529.0	57.1	60.1	180.00	3,002.8	-880.7	797.2	732.1	65.08	12.250			
13,000.0	9,734.0	13,784.1	10,529.0	58.3	61.2	180.00	3,102.8	-881.4	797.2	730.9	66.34	12.017			
13,100.0	9,734.0	13,884.1	10,529.0	59.4	62.4	180.00	3,202.8	-882.1	797.2	729.6	67.62	11.790			
13,200.0	9,734.0	13,984.1	10,529.0	60.6	63.5	180.00	3,302.8	-882.8	797.2	728.3	68.91	11.569			
13,300.0	9,734.0	14,084.1	10,529.0	61.8	64.7	180.00	3,402.8	-883.5	797.2	727.0	70.21	11.355			
13,400.0	9,734.0	14,184.1	10,529.0	63.0	65.8	180.00	3,502.8	-884.2	797.2	725.7	71.52	11.147			
13,500.0	9,734.0	14,284.1	10,529.0	64.2	67.0	180.00	3,602.8	-884.9	797.2	724.4	72.84	10.945			
13,600.0	9,734.0	14,384.1	10,529.0	65.4	68.2	180.00	3,702.8	-885.6	797.2	723.0	74.17	10.749			
13,700.0	9,734.0	14,484.1	10,529.0	66.6	69.4	180.00	3,802.8	-886.3	797.2	721.7	75.51	10.558			
13,800.0	9,734.0	14,584.1	10,529.0	67.8	70.6	180.00	3,902.8	-887.0	797.2	720.3	76.86	10.373			
13,900.0	9,734.0	14,684.1	10,529.0	69.1	71.8	180.00	4,002.8	-887.7	797.2	719.0	78.21	10.193			
14,000.0	9,734.0	14,784.1	10,529.0	70.3	73.1	180.00	4,102.8	-888.4	797.2	717.6	79.58	10.018			
14,100.0	9,734.0	14,884.1	10,529.0	71.6	74.3	180.00	4,202.8	-889.1	797.2	716.3	80.95	9.848			
14,200.0	9,734.0	14,984.1	10,529.0	72.8	75.5	180.00	4,302.8	-889.8	797.2	714.9	82.33	9.683			
14,300.0	9,734.0	15,084.1	10,529.0	74.1	76.8	180.00	4,402.8	-890.4	797.2	713.5	83.71	9.523			
14,400.0	9,734.0	15,184.1	10,529.0	75.4	78.0	180.00	4,502.8	-891.1	797.2	712.1	85.10	9.367			
14,500.0	9,734.0	15,284.1	10,529.0	76.6	79.3	180.00	4,602.8	-891.8	797.2	710.7	86.50	9.216			
14,600.0	9,734.0	15,384.1	10,529.0	77.9	80.6	180.00	4,702.8	-892.5	797.2	709.3	87.91	9.069			
14,700.0	9,734.0	15,484.1	10,529.0	79.2	81.9	180.00	4,802.8	-893.2	797.2	707.9	89.32	8.926			
14,800.0	9,734.0	15,584.1	10,529.0	80.5	83.1	180.00	4,902.8	-893.9	797.2	706.5	90.73	8.786			
14,900.0	9,734.0	15,684.1	10,529.0	81.8	84.4	180.00	5,002.8	-894.6	797.2	705.0	92.15	8.651			
15,000.0	9,734.0	15,784.1	10,529.0	83.1	85.7	180.00	5,102.8	-895.3	797.2	703.6	93.57	8.519			
15,100.0	9,734.0	15,884.1	10,529.0	84.4	87.0	180.00	5,202.8	-896.0	797.2	702.2	95.00	8.391			
15,200.0	9,734.0	15,984.1	10,529.0	85.7	88.3	180.00	5,302.8	-896.7	797.2	700.8	96.44	8.267			
15,300.0	9,734.0	16,084.1	10,529.0	87.1	89.6	180.00	5,402.8	-897.4	797.2	699.3	97.87	8.145			

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 601H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.0	9,734.0	16,184.1	10,529.0	88.4	90.9	180.00	5,502.8	-898.1	797.2	697.9	99.32	8.027	
15,500.0	9,734.0	16,284.1	10,529.0	89.7	92.2	180.00	5,602.8	-898.8	797.2	696.4	100.76	7.912	
15,600.0	9,734.0	16,384.1	10,529.0	91.0	93.6	180.00	5,702.8	-899.5	797.2	695.0	102.21	7.800	
15,700.0	9,734.0	16,484.1	10,529.0	92.4	94.9	180.00	5,802.8	-900.2	797.2	693.5	103.66	7.690	
15,800.0	9,734.0	16,584.1	10,529.0	93.7	96.2	180.00	5,902.8	-900.9	797.2	692.1	105.12	7.584	
15,900.0	9,734.0	16,684.1	10,529.0	95.1	97.5	180.00	6,002.8	-901.6	797.2	690.6	106.58	7.480	
16,000.0	9,734.0	16,784.1	10,529.0	96.4	98.9	180.00	6,102.8	-902.2	797.2	689.2	108.04	7.379	
16,100.0	9,734.0	16,884.1	10,529.0	97.7	100.2	180.00	6,202.8	-902.9	797.2	687.7	109.50	7.280	
16,200.0	9,734.0	16,984.1	10,529.0	99.1	101.5	180.00	6,302.8	-903.6	797.2	686.2	110.97	7.184	
16,300.0	9,734.0	17,084.1	10,529.0	100.4	102.9	180.00	6,402.8	-904.3	797.2	684.8	112.44	7.090	
16,400.0	9,734.0	17,184.1	10,529.0	101.8	104.2	180.00	6,502.8	-905.0	797.2	683.3	113.92	6.998	
16,500.0	9,734.0	17,284.1	10,529.0	103.2	105.6	180.00	6,602.7	-905.7	797.2	681.8	115.39	6.909	
16,600.0	9,734.0	17,384.1	10,529.0	104.5	106.9	180.00	6,702.7	-906.4	797.2	680.3	116.87	6.821	
16,700.0	9,734.0	17,484.1	10,529.0	105.9	108.3	180.00	6,802.7	-907.1	797.2	678.8	118.35	6.736	
16,800.0	9,734.0	17,584.1	10,529.0	107.2	109.6	180.00	6,902.7	-907.8	797.2	677.4	119.83	6.653	
16,900.0	9,734.0	17,684.1	10,529.0	108.6	111.0	180.00	7,002.7	-908.5	797.2	675.9	121.32	6.571	
17,000.0	9,734.0	17,784.1	10,529.0	110.0	112.3	180.00	7,102.7	-909.2	797.2	674.4	122.81	6.491	
17,100.0	9,734.0	17,884.1	10,529.0	111.4	113.7	180.00	7,202.7	-909.9	797.2	672.9	124.30	6.414	
17,200.0	9,734.0	17,984.1	10,529.0	112.7	115.1	180.00	7,302.7	-910.6	797.2	671.4	125.79	6.338	
17,300.0	9,734.0	18,084.1	10,529.0	114.1	116.4	180.00	7,402.7	-911.3	797.2	669.9	127.28	6.263	
17,400.0	9,734.0	18,184.1	10,529.0	115.5	117.8	180.00	7,502.7	-912.0	797.2	668.4	128.78	6.191	
17,500.0	9,734.0	18,284.1	10,529.0	116.9	119.2	180.00	7,602.7	-912.7	797.2	666.9	130.27	6.120	
17,600.0	9,734.0	18,384.1	10,529.0	118.2	120.5	180.00	7,702.7	-913.4	797.2	665.4	131.77	6.050	
17,700.0	9,734.0	18,484.1	10,529.0	119.6	121.9	180.00	7,802.7	-914.1	797.2	663.9	133.27	5.982	
17,800.0	9,734.0	18,584.1	10,529.0	121.0	123.3	180.00	7,902.7	-914.7	797.2	662.4	134.77	5.915	
17,900.0	9,734.0	18,684.1	10,529.0	122.4	124.7	180.00	8,002.7	-915.4	797.2	660.9	136.27	5.850	
18,000.0	9,734.0	18,784.1	10,529.0	123.8	126.0	180.00	8,102.7	-916.1	797.2	659.4	137.78	5.786	
18,100.0	9,734.0	18,884.1	10,529.0	125.2	127.4	180.00	8,202.7	-916.8	797.2	657.9	139.29	5.723	
18,200.0	9,734.0	18,984.1	10,529.0	126.5	128.8	180.00	8,302.7	-917.5	797.2	656.4	140.79	5.662	
18,300.0	9,734.0	19,084.1	10,529.0	127.9	130.2	180.00	8,402.7	-918.2	797.2	654.9	142.30	5.602	
18,400.0	9,734.0	19,184.1	10,529.0	129.3	131.6	180.00	8,502.7	-918.9	797.2	653.4	143.81	5.543	
18,500.0	9,734.0	19,284.1	10,529.0	130.7	132.9	180.00	8,602.7	-919.6	797.2	651.9	145.32	5.486	
18,600.0	9,734.0	19,384.1	10,529.0	132.1	134.3	180.00	8,702.7	-920.3	797.2	650.4	146.84	5.429	
18,700.0	9,734.0	19,484.1	10,529.0	133.5	135.7	180.00	8,802.7	-921.0	797.2	648.9	148.35	5.374	
18,800.0	9,734.0	19,584.1	10,529.0	134.9	137.1	180.00	8,902.7	-921.7	797.2	647.3	149.86	5.319	
18,900.0	9,734.0	19,684.1	10,529.0	136.3	138.5	180.00	9,002.7	-922.4	797.2	645.8	151.38	5.266	
19,000.0	9,734.0	19,784.1	10,529.0	137.7	139.9	180.00	9,102.7	-923.1	797.2	644.3	152.90	5.214	
19,100.0	9,734.0	19,884.1	10,529.0	139.1	141.3	180.00	9,202.7	-923.8	797.2	642.8	154.42	5.163	
19,200.0	9,734.0	19,984.1	10,529.0	140.5	142.7	180.00	9,302.7	-924.5	797.2	641.3	155.93	5.112	
19,300.0	9,734.0	20,084.1	10,529.0	141.9	144.1	180.00	9,402.7	-925.2	797.2	639.7	157.45	5.063	
19,400.0	9,734.0	20,184.1	10,529.0	143.3	145.5	180.00	9,502.7	-925.9	797.2	638.2	158.98	5.015	
19,500.0	9,734.0	20,284.1	10,529.0	144.7	146.9	180.00	9,602.7	-926.5	797.2	636.7	160.50	4.967	
19,600.0	9,734.0	20,384.1	10,529.0	146.1	148.3	180.00	9,702.7	-927.2	797.2	635.2	162.02	4.920	
19,700.0	9,734.0	20,484.1	10,529.0	147.5	149.7	180.00	9,802.7	-927.9	797.2	633.7	163.54	4.875	
19,800.0	9,734.0	20,584.1	10,529.0	148.9	151.1	180.00	9,902.7	-928.6	797.2	632.1	165.07	4.829	
19,900.0	9,734.0	20,684.1	10,529.0	150.3	152.5	180.00	10,002.7	-929.3	797.2	630.6	166.59	4.785	
20,000.0	9,734.0	20,784.1	10,529.0	151.7	153.9	180.00	10,102.7	-930.0	797.2	629.1	168.12	4.742	
20,007.5	9,734.0	20,791.6	10,529.0	151.8	154.0	180.00	10,110.1	-930.1	797.2	629.0	168.23	4.739	
20,011.3	9,734.0	20,795.2	10,529.0	151.9	154.0	180.00	10,113.7	-930.1	797.2	628.9	168.28	4.737	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.0	0.0	0.0	0.0	0.0	0.0	168.97	-159.7	31.1	162.7				
100.0	100.0	97.6	97.6	0.1	0.1	168.97	-159.7	31.1	162.7	162.4	0.26	624.989	
200.0	200.0	197.6	197.6	0.5	0.5	168.97	-159.7	31.1	162.7	161.7	0.97	167.412	
300.0	300.0	297.6	297.6	0.8	0.8	168.97	-159.7	31.1	162.7	161.0	1.69	96.339	
400.0	400.0	397.6	397.6	1.2	1.2	168.97	-159.7	31.1	162.7	160.3	2.41	67.628	
500.0	500.0	497.6	497.6	1.6	1.6	168.97	-159.7	31.1	162.7	159.6	3.12	52.101	
600.0	600.0	597.6	597.6	1.9	1.9	168.97	-159.7	31.1	162.7	158.9	3.84	42.373	
700.0	700.0	697.6	697.6	2.3	2.3	168.97	-159.7	31.1	162.7	158.1	4.56	35.706	
800.0	800.0	797.6	797.6	2.6	2.6	168.97	-159.7	31.1	162.7	157.4	5.27	30.851	
900.0	900.0	897.6	897.6	3.0	3.0	168.97	-159.7	31.1	162.7	156.7	5.99	27.159	
1,000.0	1,000.0	997.6	997.6	3.4	3.3	168.97	-159.7	31.1	162.7	156.0	6.71	24.256	
1,100.0	1,100.0	1,097.6	1,097.6	3.7	3.7	168.97	-159.7	31.1	162.7	155.3	7.42	21.914	
1,200.0	1,200.0	1,197.6	1,197.6	4.1	4.1	168.97	-159.7	31.1	162.7	154.6	8.14	19.984	
1,300.0	1,300.0	1,297.6	1,297.6	4.4	4.4	168.97	-159.7	31.1	162.7	153.8	8.86	18.367	
1,400.0	1,400.0	1,397.6	1,397.6	4.8	4.8	168.97	-159.7	31.1	162.7	153.1	9.58	16.991	
1,500.0	1,500.0	1,497.6	1,497.6	5.2	5.1	168.97	-159.7	31.1	162.7	152.4	10.29	15.808	
1,600.0	1,600.0	1,597.6	1,597.6	5.5	5.5	168.97	-159.7	31.1	162.7	151.7	11.01	14.778	
1,700.0	1,700.0	1,697.6	1,697.6	5.9	5.9	168.97	-159.7	31.1	162.7	151.0	11.73	13.875	
1,800.0	1,800.0	1,797.6	1,797.6	6.2	6.2	168.97	-159.7	31.1	162.7	150.3	12.44	13.075	
1,900.0	1,900.0	1,897.6	1,897.6	6.6	6.6	168.97	-159.7	31.1	162.7	149.5	13.16	12.363	
2,000.0	2,000.0	1,997.6	1,997.6	6.9	6.9	168.97	-159.7	31.1	162.7	148.8	13.88	11.724	
2,100.0	2,100.0	2,097.6	2,097.6	7.3	7.3	-81.96	-159.7	31.1	162.4	147.9	14.58	11.140	
2,200.0	2,199.8	2,197.4	2,197.4	7.6	7.7	-83.81	-159.7	31.1	161.8	146.5	15.28	10.590	
2,300.0	2,299.5	2,297.1	2,297.1	8.0	8.0	-86.89	-159.7	31.1	161.1	145.1	15.98	10.083	
2,375.3	2,374.2	2,371.8	2,371.8	8.2	8.3	-90.00	-159.7	31.1	160.8	144.3	16.50	9.746 CC	
2,400.0	2,398.7	2,396.3	2,396.3	8.3	8.4	-91.20	-159.7	31.1	160.9	144.2	16.68	9.647 ES	
2,500.0	2,497.8	2,495.4	2,495.4	8.7	8.7	-96.00	-159.7	31.1	161.7	144.4	17.38	9.305	
2,600.0	2,596.8	2,594.4	2,594.4	9.0	9.1	-100.71	-159.7	31.1	163.8	145.7	18.09	9.051	
2,700.0	2,695.9	2,693.5	2,693.5	9.4	9.4	-105.29	-159.7	31.1	166.9	148.0	18.80	8.873	
2,800.0	2,795.0	2,792.6	2,792.6	9.7	9.8	-109.67	-159.7	31.1	171.0	151.5	19.52	8.761	
2,900.0	2,894.0	2,891.6	2,891.6	10.1	10.1	-113.82	-159.7	31.1	176.1	155.9	20.23	8.704	
3,000.0	2,993.1	2,990.7	2,990.7	10.5	10.5	-117.73	-159.7	31.1	182.1	161.1	20.95	8.693	
3,100.0	3,092.1	3,089.7	3,089.7	10.9	10.8	-121.38	-159.7	31.1	188.9	167.2	21.66	8.719	
3,200.0	3,191.2	3,188.8	3,188.8	11.2	11.2	-124.76	-159.7	31.1	196.4	174.0	22.38	8.776	
3,300.0	3,290.3	3,287.9	3,287.9	11.6	11.6	-127.88	-159.7	31.1	204.5	181.4	23.09	8.858	
3,400.0	3,389.3	3,386.9	3,386.9	12.0	11.9	-130.77	-159.7	31.1	213.2	189.4	23.80	8.958	
3,500.0	3,488.4	3,486.0	3,486.0	12.4	12.3	-133.42	-159.7	31.1	222.4	197.9	24.52	9.073	
3,600.0	3,587.5	3,585.1	3,585.1	12.8	12.6	-135.86	-159.7	31.1	232.1	206.9	25.23	9.198	
3,700.0	3,686.5	3,684.1	3,684.1	13.1	13.0	-138.10	-159.7	31.1	242.1	216.2	25.94	9.332	
3,800.0	3,785.6	3,783.2	3,783.2	13.5	13.3	-140.16	-159.7	31.1	252.5	225.8	26.66	9.472	
3,900.0	3,884.6	3,882.2	3,882.2	13.9	13.7	-142.06	-159.7	31.1	263.2	235.8	27.37	9.615	
4,000.0	3,983.7	3,981.3	3,981.3	14.3	14.0	-143.81	-159.7	31.1	274.1	246.0	28.08	9.760	
4,100.0	4,082.8	4,080.4	4,080.4	14.7	14.4	-145.43	-159.7	31.1	285.3	256.5	28.80	9.907	
4,200.0	4,181.8	4,179.4	4,179.4	15.1	14.8	-146.92	-159.7	31.1	296.6	267.1	29.51	10.053	
4,300.0	4,280.9	4,278.5	4,278.5	15.5	15.1	-148.30	-159.7	31.1	308.2	278.0	30.22	10.198	
4,400.0	4,380.0	4,377.6	4,377.6	15.9	15.5	-149.58	-159.7	31.1	319.9	289.0	30.94	10.342	
4,500.0	4,479.0	4,476.6	4,476.6	16.2	15.8	-150.78	-159.7	31.1	331.8	300.2	31.65	10.484	
4,600.0	4,578.1	4,575.7	4,575.7	16.6	16.2	-151.89	-159.7	31.1	343.8	311.5	32.36	10.624	
4,700.0	4,677.1	4,674.7	4,674.7	17.0	16.5	-152.92	-159.7	31.1	356.0	322.9	33.08	10.761	
4,800.0	4,776.2	4,773.8	4,773.8	17.4	16.9	-153.89	-159.7	31.1	368.2	334.4	33.79	10.895	
4,900.0	4,875.3	4,872.9	4,872.9	17.8	17.2	-154.79	-159.7	31.1	380.5	346.0	34.51	11.027	
5,000.0	4,974.3	4,971.9	4,971.9	18.2	17.6	-155.64	-159.7	31.1	393.0	357.7	35.22	11.156	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.0	5,073.4	5,071.0	5,071.0	18.6	18.0	-156.43	-159.7	31.1	405.5	369.5	35.94	11.281	
5,200.0	5,172.5	5,170.1	5,170.1	19.0	18.3	-157.18	-159.7	31.1	418.0	381.4	36.66	11.404	
5,300.0	5,271.5	5,269.1	5,269.1	19.4	18.7	-157.88	-159.7	31.1	430.7	393.3	37.37	11.523	
5,400.0	5,370.6	5,368.2	5,368.2	19.8	19.0	-158.55	-159.7	31.1	443.4	405.3	38.09	11.640	
5,500.0	5,469.7	5,467.3	5,467.3	20.2	19.4	-159.17	-159.7	31.1	456.1	417.3	38.81	11.754	
5,600.0	5,568.7	5,566.3	5,566.3	20.6	19.7	-159.77	-159.7	31.1	468.9	429.4	39.52	11.865	
5,700.0	5,667.8	5,665.4	5,665.4	21.0	20.1	-160.33	-159.7	31.1	481.8	441.5	40.24	11.972	
5,800.0	5,766.8	5,764.4	5,764.4	21.4	20.4	-160.86	-159.7	31.1	494.7	453.7	40.96	12.078	
5,900.0	5,865.9	5,863.5	5,863.5	21.8	20.8	-161.36	-159.7	31.1	507.6	465.9	41.68	12.180	
6,000.0	5,965.0	5,962.6	5,962.6	22.2	21.1	-161.84	-159.7	31.1	520.6	478.2	42.39	12.280	
6,100.0	6,064.0	6,061.6	6,061.6	22.6	21.5	-162.30	-159.7	31.1	533.6	490.5	43.11	12.377	
6,200.0	6,163.1	6,160.7	6,160.7	23.0	21.9	-162.74	-159.7	31.1	546.6	502.8	43.83	12.472	
6,300.0	6,262.2	6,259.8	6,259.8	23.4	22.2	-163.15	-159.7	31.1	559.7	515.1	44.55	12.564	
6,400.0	6,361.2	6,358.8	6,358.8	23.8	22.6	-163.55	-159.7	31.1	572.8	527.5	45.27	12.654	
6,500.0	6,460.3	6,457.9	6,457.9	24.2	22.9	-163.92	-159.7	31.1	585.9	539.9	45.99	12.741	
6,600.0	6,559.3	6,556.9	6,556.9	24.6	23.3	-164.29	-159.7	31.1	599.1	552.4	46.71	12.826	
6,700.0	6,658.4	6,656.0	6,656.0	25.0	23.6	-164.63	-159.7	31.1	612.2	564.8	47.42	12.910	
6,800.0	6,757.5	6,755.1	6,755.1	25.4	24.0	-164.96	-159.7	31.1	625.4	577.3	48.14	12.991	
6,900.0	6,856.5	6,854.1	6,854.1	25.8	24.3	-165.28	-159.7	31.1	638.6	589.8	48.86	13.070	
7,000.0	6,955.6	6,953.2	6,953.2	26.2	24.7	-165.59	-159.7	31.1	651.9	602.3	49.58	13.147	
7,100.0	7,054.7	7,052.3	7,052.3	26.6	25.1	-165.88	-159.7	31.1	665.1	614.8	50.30	13.222	
7,200.0	7,153.7	7,151.3	7,151.3	27.0	25.4	-166.16	-159.7	31.1	678.4	627.3	51.02	13.295	
7,300.0	7,252.8	7,250.4	7,250.4	27.4	25.8	-166.43	-159.7	31.1	691.6	639.9	51.74	13.367	
7,400.0	7,351.8	7,349.4	7,349.4	27.8	26.1	-166.69	-159.7	31.1	704.9	652.5	52.46	13.437	
7,500.0	7,450.9	7,448.5	7,448.5	28.2	26.5	-166.94	-159.7	31.1	718.2	665.1	53.18	13.505	
7,600.0	7,550.0	7,546.1	7,546.1	28.6	26.8	-167.15	-160.0	31.2	731.6	677.7	53.89	13.577	
7,700.0	7,649.0	7,642.1	7,642.0	29.0	27.1	-167.13	-163.1	32.0	745.3	690.8	54.56	13.660	
7,800.0	7,748.1	7,739.7	7,739.5	29.4	27.4	-166.91	-168.8	33.4	759.4	704.2	55.25	13.746	
7,900.0	7,847.2	7,838.7	7,838.3	29.8	27.8	-166.68	-174.9	34.9	773.5	717.6	55.94	13.829	
8,000.0	7,946.2	7,937.6	7,937.0	30.2	28.1	-166.45	-181.0	36.5	787.7	731.0	56.63	13.909	
8,100.0	8,045.3	8,036.6	8,035.8	30.6	28.4	-166.23	-187.1	38.0	801.8	744.5	57.32	13.988	
8,200.0	8,144.3	8,135.5	8,134.5	31.0	28.7	-166.02	-193.2	39.5	816.0	758.0	58.02	14.064	
8,300.0	8,243.4	8,234.5	8,233.2	31.4	29.1	-165.81	-199.3	41.1	830.1	771.4	58.71	14.139	
8,400.0	8,342.5	8,333.4	8,332.0	31.8	29.4	-165.61	-205.3	42.6	844.3	784.9	59.41	14.212	
8,500.0	8,441.5	8,432.4	8,430.7	32.2	29.7	-165.42	-211.4	44.1	858.5	798.4	60.11	14.283	
8,600.0	8,540.6	8,531.3	8,529.5	32.6	30.0	-165.23	-217.5	45.6	872.7	811.9	60.81	14.352	
8,700.0	8,639.7	8,630.3	8,628.3	33.0	30.4	-165.07	-223.6	47.2	886.8	825.3	61.51	14.417	
8,800.0	8,739.1	8,729.6	8,727.3	33.4	30.7	-164.91	-229.7	48.7	898.3	836.1	62.21	14.440	
8,900.0	8,838.8	8,829.1	8,826.7	33.8	31.0	-164.68	-235.8	50.2	906.4	843.5	62.90	14.410	
9,000.0	8,938.7	8,928.9	8,926.2	34.1	31.4	-164.38	-241.9	51.8	911.3	847.7	63.60	14.329	
9,100.0	9,038.7	9,028.7	9,025.8	34.5	31.7	86.32	-248.1	53.3	913.0	848.7	64.27	14.205	
9,200.0	9,138.7	9,128.5	9,125.4	34.8	32.0	86.71	-254.2	54.9	914.2	849.2	64.95	14.076	
9,300.0	9,238.7	9,228.3	9,225.0	35.1	32.4	87.09	-260.3	56.4	915.4	849.8	65.62	13.949	
9,400.0	9,338.3	9,327.2	9,323.8	35.4	32.7	88.21	-266.4	57.9	916.4	850.1	66.29	13.823	
9,500.0	9,434.3	9,421.4	9,417.8	35.7	33.0	90.03	-272.2	59.4	917.5	850.5	66.94	13.706	
9,600.0	9,522.6	9,506.6	9,502.8	35.9	33.3	92.40	-277.5	60.7	920.6	853.1	67.54	13.631	
9,700.0	9,599.2	9,579.1	9,575.2	36.1	33.5	94.51	-281.9	61.8	928.6	860.6	68.07	13.643	
9,800.0	9,660.8	9,635.8	9,631.7	36.1	33.7	95.48	-285.4	62.7	944.3	875.8	68.51	13.784	
9,900.0	9,704.8	9,674.1	9,670.0	36.2	33.9	94.53	-287.8	63.3	969.5	900.6	68.83	14.084	
10,000.0	9,729.2	9,692.5	9,688.4	36.1	33.9	91.14	-288.9	63.6	1,004.6	935.6	69.03	14.554	
10,100.0	9,734.0	9,691.2	9,687.0	36.1	33.9	87.23	-288.8	63.5	1,048.4	979.3	69.08	15.175	
10,200.0	9,734.0	9,685.0	9,680.9	36.2	33.9	86.85	-288.4	63.4	1,099.4	1,030.3	69.11	15.907	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,300.0	9,734.0	9,678.9	9,674.7	36.3	33.9	86.47	-288.0	63.4	1,156.8	1,087.6	69.14	16.731	
10,400.0	9,734.0	9,672.7	9,668.6	36.5	33.9	86.09	-287.7	63.3	1,219.7	1,150.5	69.16	17.635	
10,500.0	9,734.0	11,237.3	10,529.0	36.8	38.6	130.79	609.3	59.9	1,220.5	1,155.9	64.55	18.908	
10,600.0	9,734.0	11,337.3	10,529.0	37.2	39.0	130.79	709.3	59.2	1,220.5	1,155.1	65.36	18.674	
10,700.0	9,734.0	11,437.3	10,529.0	37.7	39.5	130.79	809.3	58.5	1,220.5	1,154.3	66.25	18.424	
10,800.0	9,734.0	11,537.3	10,529.0	38.2	40.1	130.79	909.3	57.8	1,220.5	1,153.3	67.21	18.160	
10,900.0	9,734.0	11,637.3	10,529.0	38.8	40.7	130.79	1,009.3	57.1	1,220.5	1,152.3	68.24	17.885	
11,000.0	9,734.0	11,737.3	10,529.0	39.4	41.3	130.79	1,109.3	56.4	1,220.5	1,151.2	69.34	17.601	
11,100.0	9,734.0	11,837.3	10,529.0	40.1	42.0	130.79	1,209.3	55.7	1,220.5	1,150.0	70.51	17.309	
11,200.0	9,734.0	11,937.3	10,529.0	40.8	42.7	130.79	1,309.3	55.1	1,220.5	1,148.8	71.74	17.012	
11,300.0	9,734.0	12,037.3	10,529.0	41.5	43.4	130.79	1,409.3	54.4	1,220.5	1,147.5	73.03	16.712	
11,400.0	9,734.0	12,137.3	10,529.0	42.3	44.2	130.79	1,509.3	53.7	1,220.5	1,146.1	74.38	16.409	
11,500.0	9,734.0	12,237.3	10,529.0	43.1	45.0	130.79	1,609.3	53.0	1,220.5	1,144.7	75.78	16.106	
11,600.0	9,734.0	12,337.3	10,529.0	44.0	45.9	130.79	1,709.3	52.3	1,220.5	1,143.3	77.23	15.804	
11,700.0	9,734.0	12,437.3	10,529.0	44.8	46.8	130.79	1,809.3	51.6	1,220.5	1,141.8	78.73	15.503	
11,800.0	9,734.0	12,537.3	10,529.0	45.7	47.7	130.79	1,909.3	50.9	1,220.5	1,140.2	80.27	15.205	
11,900.0	9,734.0	12,637.3	10,529.0	46.7	48.6	130.79	2,009.3	50.2	1,220.5	1,138.6	81.85	14.911	
12,000.0	9,734.0	12,737.3	10,529.0	47.6	49.5	130.79	2,109.3	49.5	1,220.5	1,137.0	83.48	14.620	
12,100.0	9,734.0	12,837.3	10,529.0	48.6	50.5	130.79	2,209.3	48.8	1,220.5	1,135.4	85.14	14.335	
12,200.0	9,734.0	12,937.3	10,529.0	49.6	51.5	130.79	2,309.3	48.1	1,220.5	1,133.7	86.84	14.055	
12,300.0	9,734.0	13,037.3	10,529.0	50.6	52.6	130.79	2,409.3	47.4	1,220.5	1,131.9	88.57	13.780	
12,400.0	9,734.0	13,137.3	10,529.0	51.7	53.6	130.79	2,509.3	46.7	1,220.5	1,130.2	90.34	13.511	
12,500.0	9,734.0	13,237.3	10,529.0	52.7	54.7	130.79	2,609.3	46.0	1,220.5	1,128.4	92.13	13.248	
12,600.0	9,734.0	13,337.3	10,529.0	53.8	55.7	130.79	2,709.3	45.3	1,220.5	1,126.6	93.95	12.991	
12,700.0	9,734.0	13,437.3	10,529.0	54.9	56.8	130.79	2,809.3	44.6	1,220.5	1,124.7	95.80	12.741	
12,800.0	9,734.0	13,537.3	10,529.0	56.0	57.9	130.79	2,909.3	43.9	1,220.5	1,122.8	97.67	12.496	
12,900.0	9,734.0	13,637.3	10,529.0	57.1	59.1	130.79	3,009.3	43.3	1,220.5	1,120.9	99.56	12.258	
13,000.0	9,734.0	13,737.3	10,529.0	58.3	60.2	130.79	3,109.2	42.6	1,220.5	1,119.0	101.48	12.027	
13,100.0	9,734.0	13,837.3	10,529.0	59.4	61.4	130.79	3,209.2	41.9	1,220.5	1,117.1	103.42	11.801	
13,200.0	9,734.0	13,937.3	10,529.0	60.6	62.5	130.79	3,309.2	41.2	1,220.5	1,115.1	105.38	11.582	
13,300.0	9,734.0	14,037.3	10,529.0	61.8	63.7	130.79	3,409.2	40.5	1,220.5	1,113.1	107.36	11.369	
13,400.0	9,734.0	14,137.3	10,529.0	63.0	64.9	130.79	3,509.2	39.8	1,220.5	1,111.1	109.35	11.161	
13,500.0	9,734.0	14,237.3	10,529.0	64.2	66.1	130.79	3,609.2	39.1	1,220.5	1,109.1	111.37	10.959	
13,600.0	9,734.0	14,337.3	10,529.0	65.4	67.3	130.79	3,709.2	38.4	1,220.5	1,107.1	113.39	10.763	
13,700.0	9,734.0	14,437.3	10,529.0	66.6	68.5	130.79	3,809.2	37.7	1,220.5	1,105.1	115.44	10.573	
13,800.0	9,734.0	14,537.3	10,529.0	67.8	69.7	130.79	3,909.2	37.0	1,220.5	1,103.0	117.49	10.388	
13,900.0	9,734.0	14,637.3	10,529.0	69.1	71.0	130.79	4,009.2	36.3	1,220.5	1,100.9	119.56	10.208	
14,000.0	9,734.0	14,737.3	10,529.0	70.3	72.2	130.79	4,109.2	35.6	1,220.5	1,098.9	121.65	10.033	
14,100.0	9,734.0	14,837.3	10,529.0	71.6	73.4	130.79	4,209.2	34.9	1,220.5	1,096.8	123.74	9.863	
14,200.0	9,734.0	14,937.3	10,529.0	72.8	74.7	130.79	4,309.2	34.2	1,220.5	1,094.7	125.85	9.698	
14,300.0	9,734.0	15,037.3	10,529.0	74.1	76.0	130.79	4,409.2	33.5	1,220.5	1,092.5	127.97	9.537	
14,400.0	9,734.0	15,137.3	10,529.0	75.4	77.2	130.79	4,509.2	32.8	1,220.5	1,090.4	130.10	9.381	
14,500.0	9,734.0	15,237.3	10,529.0	76.6	78.5	130.79	4,609.2	32.1	1,220.5	1,088.3	132.24	9.230	
14,600.0	9,734.0	15,337.3	10,529.0	77.9	79.8	130.79	4,709.2	31.4	1,220.5	1,086.1	134.39	9.082	
14,700.0	9,734.0	15,437.3	10,529.0	79.2	81.1	130.79	4,809.2	30.8	1,220.5	1,084.0	136.54	8.939	
14,800.0	9,734.0	15,537.3	10,529.0	80.5	82.4	130.79	4,909.2	30.1	1,220.5	1,081.8	138.71	8.799	
14,900.0	9,734.0	15,637.3	10,529.0	81.8	83.7	130.79	5,009.2	29.4	1,220.5	1,079.6	140.88	8.663	
15,000.0	9,734.0	15,737.3	10,529.0	83.1	85.0	130.79	5,109.2	28.7	1,220.5	1,077.4	143.06	8.531	
15,100.0	9,734.0	15,837.3	10,529.0	84.4	86.3	130.79	5,209.2	28.0	1,220.5	1,075.2	145.25	8.403	
15,200.0	9,734.0	15,937.3	10,529.0	85.7	87.6	130.79	5,309.2	27.3	1,220.5	1,073.1	147.45	8.277	
15,300.0	9,734.0	16,037.3	10,529.0	87.1	88.9	130.79	5,409.2	26.6	1,220.5	1,070.8	149.65	8.156	
15,400.0	9,734.0	16,137.3	10,529.0	88.4	90.2	130.79	5,509.2	25.9	1,220.5	1,068.6	151.86	8.037	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 602H - OH - Plan 0.1												Offset Site Error: 0.0 usft		
Survey Program: 0-B001Mb_MWD+HRGM									Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
15,500.0	9,734.0	16,237.3	10,529.0	89.7	91.5	130.79	5,609.2	25.2	1,220.5	1,066.4	154.08	7.921		
15,600.0	9,734.0	16,337.3	10,529.0	91.0	92.9	130.79	5,709.2	24.5	1,220.5	1,064.2	156.30	7.809		
15,700.0	9,734.0	16,437.3	10,529.0	92.4	94.2	130.79	5,809.2	23.8	1,220.5	1,062.0	158.53	7.699		
15,800.0	9,734.0	16,537.3	10,529.0	93.7	95.5	130.79	5,909.2	23.1	1,220.5	1,059.7	160.76	7.592		
15,900.0	9,734.0	16,637.3	10,529.0	95.1	96.9	130.79	6,009.2	22.4	1,220.5	1,057.5	163.00	7.488		
16,000.0	9,734.0	16,737.3	10,529.0	96.4	98.2	130.79	6,109.2	21.7	1,220.5	1,055.3	165.25	7.386		
16,100.0	9,734.0	16,837.3	10,529.0	97.7	99.6	130.79	6,209.2	21.0	1,220.5	1,053.0	167.49	7.287		
16,200.0	9,734.0	16,937.3	10,529.0	99.1	100.9	130.79	6,309.2	20.3	1,220.5	1,050.8	169.75	7.190		
16,300.0	9,734.0	17,037.3	10,529.0	100.4	102.2	130.79	6,409.2	19.6	1,220.5	1,048.5	172.01	7.096		
16,400.0	9,734.0	17,137.3	10,529.0	101.8	103.6	130.79	6,509.2	19.0	1,220.5	1,046.2	174.27	7.004		
16,500.0	9,734.0	17,237.3	10,529.0	103.2	105.0	130.79	6,609.2	18.3	1,220.5	1,044.0	176.53	6.914		
16,600.0	9,734.0	17,337.3	10,529.0	104.5	106.3	130.79	6,709.2	17.6	1,220.5	1,041.7	178.80	6.826		
16,700.0	9,734.0	17,437.3	10,529.0	105.9	107.7	130.79	6,809.2	16.9	1,220.5	1,039.4	181.08	6.740		
16,800.0	9,734.0	17,537.3	10,529.0	107.2	109.0	130.79	6,909.2	16.2	1,220.5	1,037.1	183.36	6.656		
16,900.0	9,734.0	17,637.3	10,529.0	108.6	110.4	130.79	7,009.2	15.5	1,220.5	1,034.9	185.64	6.575		
17,000.0	9,734.0	17,737.3	10,529.0	110.0	111.8	130.79	7,109.2	14.8	1,220.5	1,032.6	187.92	6.495		
17,100.0	9,734.0	17,837.3	10,529.0	111.4	113.1	130.79	7,209.1	14.1	1,220.5	1,030.3	190.21	6.417		
17,200.0	9,734.0	17,937.3	10,529.0	112.7	114.5	130.79	7,309.1	13.4	1,220.5	1,028.0	192.50	6.340		
17,300.0	9,734.0	18,037.3	10,529.0	114.1	115.9	130.79	7,409.1	12.7	1,220.5	1,025.7	194.80	6.266		
17,400.0	9,734.0	18,137.3	10,529.0	115.5	117.2	130.79	7,509.1	12.0	1,220.5	1,023.4	197.09	6.193		
17,500.0	9,734.0	18,237.3	10,529.0	116.9	118.6	130.79	7,609.1	11.3	1,220.5	1,021.1	199.39	6.121		
17,600.0	9,734.0	18,337.3	10,529.0	118.2	120.0	130.79	7,709.1	10.6	1,220.5	1,018.8	201.70	6.051		
17,700.0	9,734.0	18,437.3	10,529.0	119.6	121.4	130.79	7,809.1	9.9	1,220.5	1,016.5	204.00	5.983		
17,800.0	9,734.0	18,537.3	10,529.0	121.0	122.8	130.79	7,909.1	9.2	1,220.5	1,014.2	206.31	5.916		
17,900.0	9,734.0	18,637.3	10,529.0	122.4	124.1	130.79	8,009.1	8.5	1,220.5	1,011.9	208.62	5.850		
18,000.0	9,734.0	18,737.3	10,529.0	123.8	125.5	130.79	8,109.1	7.8	1,220.5	1,009.6	210.93	5.786		
18,100.0	9,734.0	18,837.3	10,529.0	125.2	126.9	130.79	8,209.1	7.2	1,220.5	1,007.3	213.25	5.723		
18,200.0	9,734.0	18,937.3	10,529.0	126.5	128.3	130.79	8,309.1	6.5	1,220.5	1,004.9	215.57	5.662		
18,300.0	9,734.0	19,037.3	10,529.0	127.9	129.7	130.79	8,409.1	5.8	1,220.5	1,002.6	217.89	5.602		
18,400.0	9,734.0	19,137.3	10,529.0	129.3	131.1	130.79	8,509.1	5.1	1,220.5	1,000.3	220.21	5.543		
18,500.0	9,734.0	19,237.3	10,529.0	130.7	132.5	130.79	8,609.1	4.4	1,220.5	998.0	222.53	5.485		
18,600.0	9,734.0	19,337.3	10,529.0	132.1	133.8	130.79	8,709.1	3.7	1,220.5	995.6	224.86	5.428		
18,700.0	9,734.0	19,437.3	10,529.0	133.5	135.2	130.79	8,809.1	3.0	1,220.5	993.3	227.19	5.372		
18,800.0	9,734.0	19,537.3	10,529.0	134.9	136.6	130.79	8,909.1	2.3	1,220.5	991.0	229.52	5.318		
18,900.0	9,734.0	19,637.3	10,529.0	136.3	138.0	130.79	9,009.1	1.6	1,220.5	988.7	231.85	5.264		
19,000.0	9,734.0	19,737.3	10,529.0	137.7	139.4	130.79	9,109.1	0.9	1,220.5	986.3	234.18	5.212		
19,100.0	9,734.0	19,837.3	10,529.0	139.1	140.8	130.79	9,209.1	0.2	1,220.5	984.0	236.52	5.160		
19,200.0	9,734.0	19,937.3	10,529.0	140.5	142.2	130.79	9,309.1	-0.5	1,220.5	981.7	238.85	5.110		
19,300.0	9,734.0	20,037.3	10,529.0	141.9	143.6	130.79	9,409.1	-1.2	1,220.5	979.3	241.19	5.060		
19,400.0	9,734.0	20,137.3	10,529.0	143.3	145.0	130.79	9,509.1	-1.9	1,220.5	977.0	243.53	5.012		
19,500.0	9,734.0	20,237.3	10,529.0	144.7	146.4	130.79	9,609.1	-2.6	1,220.5	974.6	245.87	4.964		
19,600.0	9,734.0	20,337.3	10,529.0	146.1	147.8	130.79	9,709.1	-3.3	1,220.5	972.3	248.21	4.917		
19,700.0	9,734.0	20,437.3	10,529.0	147.5	149.2	130.79	9,809.1	-4.0	1,220.5	969.9	250.56	4.871		
19,800.0	9,734.0	20,537.3	10,529.0	148.9	150.6	130.79	9,909.1	-4.6	1,220.5	967.6	252.90	4.826		
19,900.0	9,734.0	20,637.3	10,529.0	150.3	152.0	130.79	10,009.1	-5.3	1,220.5	965.3	255.25	4.782		
20,000.0	9,734.0	20,737.3	10,529.0	151.7	153.4	130.79	10,109.1	-6.0	1,220.5	962.9	257.60	4.738		
20,011.3	9,734.0	20,748.7	10,529.0	151.9	153.6	130.79	10,120.4	-6.1	1,220.5	962.6	257.86	4.733 SF		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	162.18	-159.5	51.3	167.6				
100.0	100.0	97.5	97.5	0.1	0.1	162.18	-159.5	51.3	167.6	167.3	0.26	644.043	
200.0	200.0	197.5	197.5	0.5	0.5	162.18	-159.5	51.3	167.6	166.6	0.97	172.493	
300.0	300.0	297.5	297.5	0.8	0.8	162.18	-159.5	51.3	167.6	165.9	1.69	99.247	
400.0	400.0	397.5	397.5	1.2	1.2	162.18	-159.5	51.3	167.6	165.2	2.41	69.665	
500.0	500.0	497.5	497.5	1.6	1.6	162.18	-159.5	51.3	167.6	164.4	3.12	53.669	
600.0	600.0	597.5	597.5	1.9	1.9	162.18	-159.5	51.3	167.6	163.7	3.84	43.647	
700.0	700.0	697.5	697.5	2.3	2.3	162.18	-159.5	51.3	167.6	163.0	4.56	36.779	
800.0	800.0	797.5	797.5	2.6	2.6	162.18	-159.5	51.3	167.6	162.3	5.27	31.778	
900.0	900.0	897.5	897.5	3.0	3.0	162.18	-159.5	51.3	167.6	161.6	5.99	27.975	
1,000.0	1,000.0	997.5	997.5	3.4	3.3	162.18	-159.5	51.3	167.6	160.9	6.71	24.984	
1,100.0	1,100.0	1,097.5	1,097.5	3.7	3.7	162.18	-159.5	51.3	167.6	160.1	7.42	22.571	
1,200.0	1,200.0	1,197.5	1,197.5	4.1	4.1	162.18	-159.5	51.3	167.6	159.4	8.14	20.584	
1,300.0	1,300.0	1,297.5	1,297.5	4.4	4.4	162.18	-159.5	51.3	167.6	158.7	8.86	18.918	
1,400.0	1,400.0	1,397.5	1,397.5	4.8	4.8	162.18	-159.5	51.3	167.6	158.0	9.57	17.501	
1,500.0	1,500.0	1,497.5	1,497.5	5.2	5.1	162.18	-159.5	51.3	167.6	157.3	10.29	16.282	
1,600.0	1,600.0	1,597.5	1,597.5	5.5	5.5	162.18	-159.5	51.3	167.6	156.6	11.01	15.222	
1,700.0	1,700.0	1,697.5	1,697.5	5.9	5.9	162.18	-159.5	51.3	167.6	155.8	11.73	14.291	
1,800.0	1,800.0	1,797.5	1,797.5	6.2	6.2	162.18	-159.5	51.3	167.6	155.1	12.44	13.467	
1,900.0	1,900.0	1,897.5	1,897.5	6.6	6.6	162.18	-159.5	51.3	167.6	154.4	13.16	12.734	
2,000.0	2,000.0	1,997.5	1,997.5	6.9	6.9	162.18	-159.5	51.3	167.6	153.7	13.88	12.076 CC	
2,100.0	2,100.0	2,095.0	2,095.0	7.3	7.3	-89.19	-159.8	52.8	168.2	153.7	14.56	11.554 ES	
2,200.0	2,199.8	2,191.7	2,191.6	7.6	7.6	-92.29	-160.4	57.6	170.7	155.5	15.22	11.214	
2,300.0	2,299.5	2,287.2	2,286.8	8.0	7.9	-97.14	-161.5	65.5	176.0	160.1	15.88	11.084	
2,400.0	2,398.7	2,382.0	2,380.8	8.3	8.3	-103.28	-163.1	76.3	185.4	168.9	16.52	11.221	
2,500.0	2,497.8	2,478.8	2,476.9	8.7	8.6	-109.64	-164.7	88.2	198.2	181.0	17.19	11.528	
2,600.0	2,596.8	2,575.6	2,572.9	9.0	8.9	-115.20	-166.4	100.1	213.2	195.3	17.86	11.932	
2,700.0	2,695.9	2,672.4	2,669.0	9.4	9.3	-120.02	-168.1	112.0	229.9	211.4	18.54	12.401	
2,800.0	2,795.0	2,769.2	2,765.1	9.7	9.6	-124.18	-169.8	123.8	248.1	228.8	19.22	12.909	
2,900.0	2,894.0	2,866.0	2,861.1	10.1	10.0	-127.77	-171.5	135.7	267.3	247.4	19.90	13.436	
3,000.0	2,993.1	2,962.8	2,957.2	10.5	10.4	-130.88	-173.1	147.6	287.5	266.9	20.58	13.971	
3,100.0	3,092.1	3,059.6	3,053.2	10.9	10.7	-133.59	-174.8	159.5	308.4	287.1	21.26	14.504	
3,200.0	3,191.2	3,156.4	3,149.3	11.2	11.1	-135.95	-176.5	171.4	329.9	307.9	21.95	15.029	
3,300.0	3,290.3	3,253.2	3,245.3	11.6	11.4	-138.02	-178.2	183.2	351.8	329.2	22.64	15.541	
3,400.0	3,389.3	3,350.0	3,341.4	12.0	11.8	-139.86	-179.9	195.1	374.2	350.9	23.33	16.039	
3,500.0	3,488.4	3,446.8	3,437.4	12.4	12.2	-141.48	-181.5	207.0	396.9	372.9	24.02	16.520	
3,600.0	3,587.5	3,543.6	3,533.5	12.8	12.5	-142.94	-183.2	218.9	419.8	395.1	24.72	16.984	
3,700.0	3,686.5	3,640.4	3,629.6	13.1	12.9	-144.24	-184.9	230.7	443.0	417.6	25.42	17.431	
3,800.0	3,785.6	3,737.2	3,725.6	13.5	13.3	-145.41	-186.6	242.6	466.4	440.3	26.11	17.861	
3,900.0	3,884.6	3,834.0	3,821.7	13.9	13.6	-146.48	-188.2	254.5	490.0	463.2	26.81	18.273	
4,000.0	3,983.7	3,930.8	3,917.7	14.3	14.0	-147.44	-189.9	266.4	513.7	486.2	27.51	18.669	
4,100.0	4,082.8	4,027.6	4,013.8	14.7	14.4	-148.32	-191.6	278.2	537.5	509.3	28.22	19.049	
4,200.0	4,181.8	4,124.4	4,109.8	15.1	14.7	-149.13	-193.3	290.1	561.4	532.5	28.92	19.414	
4,300.0	4,280.9	4,221.2	4,205.9	15.5	15.1	-149.87	-195.0	302.0	585.5	555.8	29.62	19.764	
4,400.0	4,380.0	4,318.0	4,301.9	15.9	15.5	-150.55	-196.6	313.9	609.6	579.3	30.33	20.099	
4,500.0	4,479.0	4,414.8	4,398.0	16.2	15.9	-151.18	-198.3	325.7	633.8	602.7	31.03	20.422	
4,600.0	4,578.1	4,511.6	4,494.0	16.6	16.2	-151.76	-200.0	337.6	658.0	626.3	31.74	20.731	
4,700.0	4,677.1	4,608.4	4,590.1	17.0	16.6	-152.31	-201.7	349.5	682.4	649.9	32.45	21.028	
4,800.0	4,776.2	4,705.2	4,686.2	17.4	17.0	-152.81	-203.3	361.4	706.7	673.6	33.16	21.314	
4,900.0	4,875.3	4,802.0	4,782.2	17.8	17.3	-153.28	-205.0	373.3	731.1	697.3	33.87	21.589	
5,000.0	4,974.3	4,898.8	4,878.3	18.2	17.7	-153.72	-206.7	385.1	755.6	721.0	34.58	21.853	
5,100.0	5,073.4	4,995.6	4,974.3	18.6	18.1	-154.14	-208.4	397.0	780.1	744.8	35.29	22.108	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.0	5,172.5	5,092.4	5,070.4	19.0	18.5	-154.53	-210.1	408.9	804.7	768.7	36.00	22.352	
5,300.0	5,271.5	5,189.2	5,166.4	19.4	18.8	-154.89	-211.7	420.8	829.2	792.5	36.71	22.588	
5,400.0	5,370.6	5,286.0	5,262.5	19.8	19.2	-155.24	-213.4	432.6	853.8	816.4	37.42	22.816	
5,500.0	5,469.7	5,382.8	5,358.5	20.2	19.6	-155.56	-215.1	444.5	878.5	840.3	38.14	23.035	
5,600.0	5,568.7	5,479.6	5,454.6	20.6	20.0	-155.87	-216.8	456.4	903.1	864.3	38.85	23.247	
5,700.0	5,667.8	5,576.4	5,550.7	21.0	20.4	-156.16	-218.4	468.3	927.8	888.3	39.56	23.451	
5,800.0	5,766.8	5,673.2	5,646.7	21.4	20.7	-156.44	-220.1	480.1	952.5	912.2	40.28	23.648	
5,900.0	5,865.9	5,770.0	5,742.8	21.8	21.1	-156.70	-221.8	492.0	977.2	936.2	40.99	23.839	
6,000.0	5,965.0	5,866.8	5,838.8	22.2	21.5	-156.95	-223.5	503.9	1,002.0	960.3	41.71	24.023	
6,100.0	6,064.0	5,963.6	5,934.9	22.6	21.9	-157.19	-225.2	515.8	1,026.7	984.3	42.42	24.202	
6,200.0	6,163.1	6,060.4	6,030.9	23.0	22.2	-157.41	-226.8	527.7	1,051.5	1,008.4	43.14	24.374	
6,300.0	6,262.2	6,157.2	6,127.0	23.4	22.6	-157.63	-228.5	539.5	1,076.3	1,032.4	43.86	24.541	
6,400.0	6,361.2	6,254.0	6,223.0	23.8	23.0	-157.84	-230.2	551.4	1,101.1	1,056.5	44.57	24.703	
6,500.0	6,460.3	6,350.8	6,319.1	24.2	23.4	-158.03	-231.9	563.3	1,125.9	1,080.6	45.29	24.859	
6,600.0	6,559.3	6,447.6	6,415.2	24.6	23.8	-158.22	-233.5	575.2	1,150.7	1,104.7	46.01	25.011	
6,700.0	6,658.4	6,544.4	6,511.2	25.0	24.1	-158.40	-235.2	587.0	1,175.6	1,128.9	46.73	25.159	
6,800.0	6,757.5	6,641.2	6,607.3	25.4	24.5	-158.57	-236.9	598.9	1,200.4	1,153.0	47.44	25.301	
6,900.0	6,856.5	6,738.0	6,703.3	25.8	24.9	-158.74	-238.6	610.8	1,225.3	1,177.1	48.16	25.440	
7,000.0	6,955.6	6,834.8	6,799.4	26.2	25.3	-158.90	-240.3	622.7	1,250.2	1,201.3	48.88	25.575	
7,100.0	7,054.7	6,931.6	6,895.4	26.6	25.7	-159.05	-241.9	634.5	1,275.0	1,225.4	49.60	25.705	
7,200.0	7,153.7	7,028.4	6,991.5	27.0	26.0	-159.20	-243.6	646.4	1,299.9	1,249.6	50.32	25.832	
7,300.0	7,252.8	7,125.2	7,087.5	27.4	26.4	-159.34	-245.3	658.3	1,324.8	1,273.8	51.04	25.956	
7,400.0	7,351.8	7,222.0	7,183.6	27.8	26.8	-159.48	-247.0	670.2	1,349.7	1,297.9	51.76	26.076	
7,500.0	7,450.9	7,318.8	7,279.6	28.2	27.2	-159.61	-248.7	682.0	1,374.6	1,322.1	52.48	26.192	
7,600.0	7,550.0	7,415.6	7,375.7	28.6	27.6	-159.74	-250.3	693.9	1,399.5	1,346.3	53.20	26.306	
7,700.0	7,649.0	7,512.4	7,471.8	29.0	27.9	-159.86	-252.0	705.8	1,424.4	1,370.5	53.92	26.416	
7,800.0	7,748.1	7,609.2	7,567.8	29.4	28.3	-159.98	-253.7	717.7	1,449.4	1,394.7	54.64	26.524	
7,900.0	7,847.2	7,706.0	7,663.9	29.8	28.7	-160.09	-255.4	729.6	1,474.3	1,418.9	55.37	26.629	
8,000.0	7,946.2	7,802.8	7,759.9	30.2	29.1	-160.20	-257.0	741.4	1,499.2	1,443.1	56.09	26.731	
8,100.0	8,045.3	7,899.6	7,856.0	30.6	29.5	-160.31	-258.7	753.3	1,524.2	1,467.4	56.81	26.830	
8,200.0	8,144.3	7,996.4	7,952.0	31.0	29.8	-160.42	-260.4	765.2	1,549.1	1,491.6	57.53	26.927	
8,300.0	8,243.4	8,093.2	8,048.1	31.4	30.2	-160.52	-262.1	777.1	1,574.1	1,515.8	58.25	27.021	
8,400.0	8,342.5	8,190.0	8,144.1	31.8	30.6	-160.61	-263.8	788.9	1,599.0	1,540.0	58.98	27.113	
8,500.0	8,441.5	8,286.8	8,240.2	32.2	31.0	-160.71	-265.4	800.8	1,624.0	1,564.3	59.70	27.203	
8,600.0	8,540.6	8,383.6	8,336.3	32.6	31.4	-160.80	-267.1	812.7	1,648.9	1,588.5	60.42	27.291	
8,700.0	8,639.7	8,480.5	8,432.4	33.0	31.7	-160.94	-268.8	824.6	1,673.8	1,612.6	61.14	27.374	
8,800.0	8,739.1	8,577.9	8,529.0	33.4	32.1	-161.14	-270.5	836.5	1,696.1	1,634.3	61.87	27.416	
8,900.0	8,838.8	8,676.1	8,626.4	33.8	32.5	-161.28	-272.2	848.6	1,715.3	1,652.7	62.59	27.407	
9,000.0	8,938.7	8,774.8	8,724.4	34.1	32.9	-161.36	-273.9	860.7	1,731.1	1,667.8	63.30	27.347	
9,100.0	9,038.7	8,873.9	8,822.8	34.5	33.3	88.97	-275.6	872.8	1,744.0	1,680.0	64.00	27.248	
9,200.0	9,138.7	8,973.2	8,921.3	34.8	33.7	89.03	-277.3	885.0	1,756.2	1,691.5	64.70	27.143	
9,300.0	9,238.7	9,072.4	9,019.7	35.1	34.1	89.10	-279.1	897.2	1,768.5	1,703.1	65.40	27.040	
9,400.0	9,338.3	9,171.1	9,117.7	35.4	34.5	88.58	-280.8	909.3	1,780.6	1,714.5	66.09	26.942	
9,500.0	9,434.3	9,265.9	9,211.7	35.7	34.8	88.03	-282.4	920.9	1,792.5	1,725.8	66.73	26.860	
9,600.0	9,522.6	9,352.6	9,297.8	35.9	35.2	87.91	-283.9	931.6	1,804.6	1,737.3	67.31	26.809	
9,700.0	9,599.2	9,427.5	9,372.0	36.1	35.5	87.88	-285.2	940.8	1,817.7	1,749.9	67.81	26.805	
9,800.0	9,660.8	9,487.2	9,431.3	36.1	35.7	87.54	-286.2	948.1	1,832.9	1,764.6	68.22	26.867	
9,900.0	9,704.8	9,529.2	9,473.0	36.2	35.9	86.52	-287.0	953.2	1,851.0	1,782.5	68.53	27.009	
10,000.0	9,729.2	9,551.6	9,495.3	36.1	36.0	84.58	-287.4	956.0	1,872.4	1,803.7	68.74	27.238	
10,100.0	9,734.0	9,554.6	9,498.2	36.1	36.0	82.67	-287.4	956.4	1,897.0	1,828.2	68.86	27.549	
10,200.0	9,734.0	9,552.8	9,496.4	36.2	36.0	82.61	-287.4	956.1	1,925.9	1,857.0	68.98	27.921	
10,300.0	9,734.0	9,550.9	9,494.6	36.3	36.0	82.56	-287.3	955.9	1,959.5	1,890.4	69.13	28.347	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1												Offset Site Error: 0.0 usft		
Survey Program: 0-B001Mb_MWD+HRGM		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,400.0	9,734.0	9,549.1	9,492.8	36.5	36.0	82.50	-287.3	955.7	1,997.6	1,928.3	69.30	28.825		
10,500.0	9,734.0	11,290.1	10,529.0	36.8	40.3	113.34	615.7	983.9	2,012.7	1,941.4	71.34	28.213		
10,600.0	9,734.0	11,390.1	10,529.0	37.2	40.7	113.34	715.7	983.2	2,012.7	1,940.6	72.17	27.890		
10,700.0	9,734.0	11,490.1	10,529.0	37.7	41.2	113.34	815.7	982.5	2,012.7	1,939.7	73.08	27.541		
10,800.0	9,734.0	11,590.1	10,529.0	38.2	41.7	113.34	915.7	981.8	2,012.7	1,938.6	74.09	27.167		
10,900.0	9,734.0	11,690.1	10,529.0	38.8	42.3	113.34	1,015.7	981.1	2,012.7	1,937.6	75.18	26.772		
11,000.0	9,734.0	11,790.1	10,529.0	39.4	42.9	113.34	1,115.7	980.4	2,012.7	1,936.4	76.35	26.361		
11,100.0	9,734.0	11,890.1	10,529.0	40.1	43.6	113.34	1,215.7	979.7	2,012.7	1,935.1	77.60	25.936		
11,200.0	9,734.0	11,990.1	10,529.0	40.8	44.3	113.34	1,315.7	979.0	2,012.7	1,933.8	78.93	25.500		
11,300.0	9,734.0	12,090.1	10,529.0	41.5	45.0	113.34	1,415.7	978.3	2,012.7	1,932.4	80.33	25.056		
11,400.0	9,734.0	12,190.1	10,529.0	42.3	45.7	113.34	1,515.7	977.6	2,012.7	1,930.9	81.79	24.608		
11,500.0	9,734.0	12,290.1	10,529.0	43.1	46.5	113.34	1,615.7	976.9	2,012.7	1,929.4	83.32	24.157		
11,600.0	9,734.0	12,390.1	10,529.0	44.0	47.4	113.34	1,715.7	976.3	2,012.7	1,927.8	84.91	23.705		
11,700.0	9,734.0	12,490.1	10,529.0	44.8	48.2	113.34	1,815.7	975.6	2,012.7	1,926.2	86.55	23.254		
11,800.0	9,734.0	12,590.1	10,529.0	45.7	49.1	113.34	1,915.7	974.9	2,012.7	1,924.5	88.25	22.807		
11,900.0	9,734.0	12,690.1	10,529.0	46.7	50.0	113.34	2,015.7	974.2	2,012.7	1,922.7	90.00	22.364		
12,000.0	9,734.0	12,790.1	10,529.0	47.6	51.0	113.34	2,115.7	973.5	2,012.7	1,920.9	91.80	21.926		
12,100.0	9,734.0	12,890.1	10,529.0	48.6	51.9	113.34	2,215.7	972.8	2,012.7	1,919.1	93.64	21.495		
12,200.0	9,734.0	12,990.1	10,529.0	49.6	52.9	113.34	2,315.7	972.1	2,012.7	1,917.2	95.52	21.070		
12,300.0	9,734.0	13,090.1	10,529.0	50.6	53.9	113.34	2,415.7	971.4	2,012.7	1,915.3	97.45	20.654		
12,400.0	9,734.0	13,190.1	10,529.0	51.7	54.9	113.34	2,515.7	970.7	2,012.7	1,913.3	99.41	20.247		
12,500.0	9,734.0	13,290.1	10,529.0	52.7	56.0	113.34	2,615.7	970.0	2,012.7	1,911.3	101.41	19.848		
12,600.0	9,734.0	13,390.1	10,529.0	53.8	57.0	113.34	2,715.7	969.3	2,012.7	1,909.3	103.44	19.458		
12,700.0	9,734.0	13,490.1	10,529.0	54.9	58.1	113.34	2,815.7	968.6	2,012.7	1,907.2	105.50	19.078		
12,800.0	9,734.0	13,590.1	10,529.0	56.0	59.2	113.34	2,915.7	967.9	2,012.7	1,905.1	107.59	18.707		
12,900.0	9,734.0	13,690.1	10,529.0	57.1	60.3	113.34	3,015.7	967.2	2,012.7	1,903.0	109.71	18.345		
13,000.0	9,734.0	13,790.1	10,529.0	58.3	61.4	113.34	3,115.7	966.5	2,012.7	1,900.9	111.86	17.993		
13,100.0	9,734.0	13,890.1	10,529.0	59.4	62.5	113.34	3,215.7	965.8	2,012.7	1,898.7	114.03	17.651		
13,200.0	9,734.0	13,990.1	10,529.0	60.6	63.7	113.34	3,315.7	965.1	2,012.7	1,896.5	116.23	17.317		
13,300.0	9,734.0	14,090.1	10,529.0	61.8	64.8	113.34	3,415.7	964.4	2,012.7	1,894.3	118.44	16.993		
13,400.0	9,734.0	14,190.1	10,529.0	63.0	66.0	113.34	3,515.7	963.8	2,012.7	1,892.1	120.68	16.678		
13,500.0	9,734.0	14,290.1	10,529.0	64.2	67.2	113.34	3,615.7	963.1	2,012.7	1,889.8	122.94	16.372		
13,600.0	9,734.0	14,390.1	10,529.0	65.4	68.4	113.34	3,715.6	962.4	2,012.7	1,887.5	125.22	16.074		
13,700.0	9,734.0	14,490.1	10,529.0	66.6	69.6	113.34	3,815.6	961.7	2,012.7	1,885.2	127.51	15.785		
13,800.0	9,734.0	14,590.1	10,529.0	67.8	70.8	113.34	3,915.6	961.0	2,012.7	1,882.9	129.82	15.504		
13,900.0	9,734.0	14,690.1	10,529.0	69.1	72.0	113.34	4,015.6	960.3	2,012.7	1,880.6	132.15	15.231		
14,000.0	9,734.0	14,790.1	10,529.0	70.3	73.2	113.34	4,115.6	959.6	2,012.7	1,878.2	134.49	14.965		
14,100.0	9,734.0	14,890.1	10,529.0	71.6	74.4	113.34	4,215.6	958.9	2,012.7	1,875.9	136.85	14.708		
14,200.0	9,734.0	14,990.1	10,529.0	72.8	75.7	113.34	4,315.6	958.2	2,012.7	1,873.5	139.22	14.457		
14,300.0	9,734.0	15,090.1	10,529.0	74.1	76.9	113.34	4,415.6	957.5	2,012.7	1,871.1	141.60	14.214		
14,400.0	9,734.0	15,190.1	10,529.0	75.4	78.2	113.34	4,515.6	956.8	2,012.7	1,868.7	144.00	13.978		
14,500.0	9,734.0	15,290.1	10,529.0	76.6	79.4	113.34	4,615.6	956.1	2,012.7	1,866.3	146.40	13.748		
14,600.0	9,734.0	15,390.1	10,529.0	77.9	80.7	113.34	4,715.6	955.4	2,012.7	1,863.9	148.82	13.524		
14,700.0	9,734.0	15,490.1	10,529.0	79.2	82.0	113.34	4,815.6	954.7	2,012.7	1,861.5	151.25	13.307		
14,800.0	9,734.0	15,590.1	10,529.0	80.5	83.3	113.34	4,915.6	954.0	2,012.7	1,859.0	153.69	13.096		
14,900.0	9,734.0	15,690.1	10,529.0	81.8	84.6	113.34	5,015.6	953.3	2,012.7	1,856.6	156.14	12.891		
15,000.0	9,734.0	15,790.1	10,529.0	83.1	85.8	113.34	5,115.6	952.6	2,012.7	1,854.1	158.60	12.691		
15,100.0	9,734.0	15,890.1	10,529.0	84.4	87.1	113.34	5,215.6	952.0	2,012.7	1,851.7	161.06	12.497		
15,200.0	9,734.0	15,990.1	10,529.0	85.7	88.4	113.34	5,315.6	951.3	2,012.7	1,849.2	163.54	12.307		
15,300.0	9,734.0	16,090.1	10,529.0	87.1	89.7	113.34	5,415.6	950.6	2,012.7	1,846.7	166.02	12.123		
15,400.0	9,734.0	16,190.1	10,529.0	88.4	91.0	113.34	5,515.6	949.9	2,012.7	1,844.2	168.51	11.944		
15,500.0	9,734.0	16,290.1	10,529.0	89.7	92.4	113.34	5,615.6	949.2	2,012.7	1,841.7	171.01	11.770		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 1 - Emerald Fed Com 603H - OH - Plan 0.1													Offset Site Error: 0.0 usft			
Survey Program: 0-B001Mb_MWD+HRGM				Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
15,600.0	9,734.0	16,390.1	10,529.0	91.0	93.7	113.34	5,715.6	948.5	2,012.7	1,839.2	173.51	11.600				
15,700.0	9,734.0	16,490.1	10,529.0	92.4	95.0	113.34	5,815.6	947.8	2,012.7	1,836.7	176.02	11.434				
15,800.0	9,734.0	16,590.1	10,529.0	93.7	96.3	113.34	5,915.6	947.1	2,012.7	1,834.2	178.54	11.273				
15,900.0	9,734.0	16,690.1	10,529.0	95.1	97.6	113.34	6,015.6	946.4	2,012.7	1,831.7	181.06	11.116				
16,000.0	9,734.0	16,790.1	10,529.0	96.4	99.0	113.34	6,115.6	945.7	2,012.7	1,829.1	183.59	10.963				
16,100.0	9,734.0	16,890.1	10,529.0	97.7	100.3	113.34	6,215.6	945.0	2,012.7	1,826.6	186.13	10.814				
16,200.0	9,734.0	16,990.1	10,529.0	99.1	101.6	113.34	6,315.6	944.3	2,012.7	1,824.1	188.67	10.668				
16,300.0	9,734.0	17,090.1	10,529.0	100.4	103.0	113.34	6,415.6	943.6	2,012.7	1,821.5	191.22	10.526				
16,400.0	9,734.0	17,190.1	10,529.0	101.8	104.3	113.34	6,515.6	942.9	2,012.7	1,819.0	193.77	10.387				
16,500.0	9,734.0	17,290.1	10,529.0	103.2	105.7	113.34	6,615.6	942.2	2,012.7	1,816.4	196.32	10.252				
16,600.0	9,734.0	17,390.1	10,529.0	104.5	107.0	113.34	6,715.6	941.5	2,012.7	1,813.9	198.88	10.120				
16,700.0	9,734.0	17,490.1	10,529.0	105.9	108.4	113.34	6,815.6	940.8	2,012.7	1,811.3	201.45	9.991				
16,800.0	9,734.0	17,590.1	10,529.0	107.2	109.7	113.34	6,915.6	940.2	2,012.7	1,808.7	204.02	9.866				
16,900.0	9,734.0	17,690.1	10,529.0	108.6	111.1	113.34	7,015.6	939.5	2,012.7	1,806.1	206.59	9.743				
17,000.0	9,734.0	17,790.1	10,529.0	110.0	112.4	113.34	7,115.6	938.8	2,012.7	1,803.6	209.17	9.623				
17,100.0	9,734.0	17,890.1	10,529.0	111.4	113.8	113.34	7,215.6	938.1	2,012.7	1,801.0	211.75	9.505				
17,200.0	9,734.0	17,990.1	10,529.0	112.7	115.2	113.34	7,315.6	937.4	2,012.7	1,798.4	214.33	9.391				
17,300.0	9,734.0	18,090.1	10,529.0	114.1	116.5	113.34	7,415.6	936.7	2,012.7	1,795.8	216.92	9.279				
17,400.0	9,734.0	18,190.1	10,529.0	115.5	117.9	113.34	7,515.6	936.0	2,012.7	1,793.2	219.51	9.169				
17,500.0	9,734.0	18,290.1	10,529.0	116.9	119.3	113.34	7,615.6	935.3	2,012.7	1,790.6	222.10	9.062				
17,600.0	9,734.0	18,390.1	10,529.0	118.2	120.6	113.34	7,715.6	934.6	2,012.7	1,788.0	224.70	8.957				
17,700.0	9,734.0	18,490.1	10,529.0	119.6	122.0	113.34	7,815.5	933.9	2,012.7	1,785.4	227.30	8.855				
17,800.0	9,734.0	18,590.1	10,529.0	121.0	123.4	113.34	7,915.5	933.2	2,012.7	1,782.8	229.91	8.755				
17,900.0	9,734.0	18,690.1	10,529.0	122.4	124.8	113.34	8,015.5	932.5	2,012.7	1,780.2	232.51	8.656				
18,000.0	9,734.0	18,790.1	10,529.0	123.8	126.1	113.34	8,115.5	931.8	2,012.7	1,777.6	235.12	8.560				
18,100.0	9,734.0	18,890.1	10,529.0	125.2	127.5	113.34	8,215.5	931.1	2,012.7	1,775.0	237.74	8.466				
18,200.0	9,734.0	18,990.1	10,529.0	126.5	128.9	113.34	8,315.5	930.4	2,012.7	1,772.4	240.35	8.374				
18,300.0	9,734.0	19,090.1	10,529.0	127.9	130.3	113.34	8,415.5	929.7	2,012.7	1,769.8	242.97	8.284				
18,400.0	9,734.0	19,190.1	10,529.0	129.3	131.7	113.34	8,515.5	929.0	2,012.7	1,767.1	245.59	8.196				
18,500.0	9,734.0	19,290.1	10,529.0	130.7	133.0	113.34	8,615.5	928.3	2,012.7	1,764.5	248.21	8.109				
18,600.0	9,734.0	19,390.1	10,529.0	132.1	134.4	113.34	8,715.5	927.7	2,012.7	1,761.9	250.83	8.024				
18,700.0	9,734.0	19,490.1	10,529.0	133.5	135.8	113.34	8,815.5	927.0	2,012.7	1,759.3	253.46	7.941				
18,800.0	9,734.0	19,590.1	10,529.0	134.9	137.2	113.34	8,915.5	926.3	2,012.7	1,756.6	256.09	7.860				
18,900.0	9,734.0	19,690.1	10,529.0	136.3	138.6	113.34	9,015.5	925.6	2,012.7	1,754.0	258.72	7.780				
19,000.0	9,734.0	19,790.1	10,529.0	137.7	140.0	113.34	9,115.5	924.9	2,012.7	1,751.4	261.35	7.701				
19,100.0	9,734.0	19,890.1	10,529.0	139.1	141.4	113.34	9,215.5	924.2	2,012.7	1,748.7	263.99	7.624				
19,200.0	9,734.0	19,990.1	10,529.0	140.5	142.8	113.34	9,315.5	923.5	2,012.7	1,746.1	266.62	7.549				
19,300.0	9,734.0	20,090.1	10,529.0	141.9	144.2	113.34	9,415.5	922.8	2,012.7	1,743.5	269.26	7.475				
19,400.0	9,734.0	20,190.1	10,529.0	143.3	145.5	113.34	9,515.5	922.1	2,012.7	1,740.8	271.90	7.402				
19,500.0	9,734.0	20,290.1	10,529.0	144.7	146.9	113.34	9,615.5	921.4	2,012.7	1,738.2	274.54	7.331				
19,600.0	9,734.0	20,390.1	10,529.0	146.1	148.3	113.34	9,715.5	920.7	2,012.7	1,735.5	277.19	7.261				
19,700.0	9,734.0	20,490.1	10,529.0	147.5	149.7	113.34	9,815.5	920.0	2,012.7	1,732.9	279.83	7.193				
19,800.0	9,734.0	20,590.1	10,529.0	148.9	151.1	113.34	9,915.5	919.3	2,012.7	1,730.3	282.48	7.125				
19,900.0	9,734.0	20,690.1	10,529.0	150.3	152.5	113.34	10,015.5	918.6	2,012.7	1,727.6	285.13	7.059				
20,000.0	9,734.0	20,790.1	10,529.0	151.7	153.9	113.34	10,115.5	917.9	2,012.7	1,725.0	287.78	6.994				
20,011.3	9,734.0	20,801.4	10,529.0	151.9	154.1	113.34	10,126.8	917.9	2,012.7	1,724.7	288.08	6.987 SF				

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
6,000.0	5,965.0	6,771.8	6,595.2	22.2	29.9	-160.60	-186.7	1,621.6	2,200.5	2,154.5	46.02	47.813	
6,100.0	6,064.0	6,870.6	6,689.8	22.6	30.4	-160.60	-191.4	1,593.7	2,184.8	2,138.0	46.80	46.688	
6,200.0	6,163.1	6,969.4	6,784.5	23.0	30.9	-160.59	-196.0	1,565.8	2,169.1	2,121.6	47.57	45.600	
6,300.0	6,262.2	7,068.1	6,879.1	23.4	31.5	-160.59	-200.7	1,537.9	2,153.5	2,105.1	48.34	44.546	
6,400.0	6,361.2	7,166.9	6,973.7	23.8	32.0	-160.59	-205.4	1,510.0	2,137.8	2,088.7	49.12	43.524	
6,500.0	6,460.3	7,265.7	7,068.4	24.2	32.5	-160.58	-210.0	1,482.1	2,122.1	2,072.2	49.89	42.534	
6,600.0	6,559.3	7,364.4	7,163.0	24.6	33.1	-160.58	-214.7	1,454.2	2,106.4	2,055.8	50.67	41.574	
6,700.0	6,658.4	7,463.2	7,257.6	25.0	33.6	-160.57	-219.3	1,426.3	2,090.8	2,039.3	51.44	40.643	
6,800.0	6,757.5	7,562.0	7,352.2	25.4	34.1	-160.57	-224.0	1,398.4	2,075.1	2,022.9	52.22	39.739	
6,900.0	6,856.5	7,660.7	7,446.9	25.8	34.7	-160.56	-228.7	1,370.5	2,059.4	2,006.4	52.99	38.861	
7,000.0	6,955.6	7,759.5	7,541.5	26.2	35.2	-160.56	-233.3	1,342.6	2,043.7	1,990.0	53.77	38.008	
7,100.0	7,054.7	7,858.2	7,636.1	26.6	35.7	-160.56	-238.0	1,314.7	2,028.1	1,973.5	54.55	37.180	
7,200.0	7,153.7	7,957.0	7,730.8	27.0	36.3	-160.55	-242.6	1,286.8	2,012.4	1,957.1	55.33	36.374	
7,300.0	7,252.8	8,055.8	7,825.4	27.4	36.8	-160.55	-247.3	1,258.9	1,996.7	1,940.6	56.10	35.590	
7,400.0	7,351.8	8,154.5	7,920.0	27.8	37.3	-160.54	-252.0	1,231.0	1,981.0	1,924.2	56.88	34.828	
7,500.0	7,450.9	8,253.3	8,014.6	28.2	37.9	-160.54	-256.6	1,203.1	1,965.4	1,907.7	57.66	34.086	
7,600.0	7,550.0	8,352.1	8,109.3	28.6	38.4	-160.53	-261.3	1,175.3	1,949.7	1,891.3	58.44	33.364	
7,700.0	7,649.0	8,450.8	8,203.9	29.0	38.9	-160.53	-265.9	1,147.4	1,934.0	1,874.8	59.22	32.661	
7,800.0	7,748.1	8,549.6	8,298.5	29.4	39.5	-160.52	-270.6	1,119.5	1,918.4	1,858.4	59.99	31.975	
7,900.0	7,847.2	8,648.4	8,370.5	29.8	39.9	-160.52	-274.1	1,098.5	1,903.1	1,842.3	60.75	31.328	
8,000.0	7,946.2	8,700.0	8,443.2	30.2	40.3	-160.53	-277.3	1,079.0	1,889.7	1,828.3	61.49	30.733	
8,100.0	8,045.3	8,744.8	8,486.7	30.6	40.5	-160.53	-279.1	1,068.4	1,878.3	1,816.1	62.16	30.217	
8,200.0	8,144.3	8,800.0	8,540.5	31.0	40.8	-160.55	-281.2	1,056.2	1,869.0	1,806.2	62.82	29.752	
8,300.0	8,243.4	8,866.1	8,605.2	31.4	41.1	-160.57	-283.4	1,042.9	1,861.8	1,798.3	63.48	29.328	
8,400.0	8,342.5	8,926.9	8,665.0	31.8	41.3	-160.60	-285.2	1,032.0	1,856.6	1,792.5	64.10	28.963	
8,500.0	8,441.5	9,000.0	8,737.2	32.2	41.6	-160.65	-287.1	1,020.6	1,853.7	1,788.9	64.75	28.628	
8,594.3	8,534.9	9,045.5	8,782.2	32.6	41.8	-160.68	-288.2	1,014.3	1,852.7	1,787.4	65.24	28.398	
8,600.0	8,540.6	9,048.9	8,785.6	32.6	41.8	-160.68	-288.2	1,013.9	1,852.7	1,787.4	65.27	28.384	
8,700.0	8,639.7	9,100.0	8,836.3	33.0	42.0	-160.73	-289.2	1,007.8	1,853.8	1,788.0	65.77	28.187	
8,800.0	8,739.1	9,170.9	8,906.9	33.4	42.3	-160.78	-290.4	1,000.9	1,854.3	1,788.0	66.33	27.956	
8,900.0	8,838.8	9,231.9	8,967.7	33.8	42.5	-160.80	-291.2	996.3	1,853.7	1,786.9	66.81	27.746	
9,000.0	8,938.7	9,300.0	9,035.7	34.1	42.7	-160.79	-291.8	992.7	1,852.0	1,784.7	67.31	27.515	
9,100.0	9,038.7	9,354.0	9,089.6	34.5	42.9	89.55	-292.1	990.9	1,849.2	1,781.6	67.67	27.328	
9,200.0	9,138.7	9,415.0	9,150.7	34.8	43.0	89.55	-292.2	990.2	1,848.0	1,780.0	68.04	27.159	
9,236.5	9,175.2	9,448.2	9,183.8	34.9	43.1	89.55	-292.2	990.2	1,848.0	1,779.7	68.25	27.076	
9,300.0	9,238.7	9,511.7	9,247.3	35.1	43.3	89.55	-292.2	990.2	1,848.0	1,779.3	68.66	26.915 CC	
9,400.0	9,338.3	9,611.2	9,346.3	35.4	43.5	89.90	-283.7	990.1	1,848.0	1,778.7	69.27	26.677	
9,500.0	9,434.3	9,710.3	9,441.1	35.7	43.8	89.85	-255.1	989.9	1,848.0	1,778.2	69.81	26.472	
9,600.0	9,522.6	9,809.2	9,527.6	35.9	43.9	89.81	-207.8	989.6	1,848.0	1,777.7	70.27	26.299	
9,700.0	9,599.2	9,907.8	9,602.4	36.1	44.0	89.77	-143.8	989.2	1,848.0	1,777.4	70.66	26.154	
9,800.0	9,660.8	10,006.1	9,662.5	36.1	44.1	89.75	-66.1	988.6	1,848.0	1,777.0	71.00	26.030	
9,900.0	9,704.8	10,104.4	9,705.3	36.2	44.1	89.73	22.1	988.0	1,848.0	1,776.7	71.30	25.919	
10,000.0	9,729.2	10,202.6	9,729.1	36.1	44.1	89.73	117.2	987.3	1,848.0	1,776.4	71.58	25.816	
10,099.5	9,736.3	10,300.8	9,734.0	36.1	44.1	89.66	215.2	986.7	1,848.0	1,776.2	71.85	25.720	
10,100.0	9,734.0	10,301.3	9,734.0	36.1	44.1	89.73	215.7	986.7	1,848.0	1,776.2	71.87	25.715	
10,200.0	9,734.0	10,401.3	9,734.0	36.2	44.1	89.73	315.7	986.0	1,848.0	1,775.8	72.24	25.582	
10,300.0	9,734.0	10,501.3	9,734.0	36.3	44.2	89.73	415.7	985.3	1,848.0	1,775.3	72.73	25.410	
10,400.0	9,734.0	10,601.3	9,734.0	36.5	44.3	89.73	515.7	984.6	1,848.0	1,774.7	73.33	25.203	
10,500.0	9,734.0	10,701.3	9,734.0	36.8	44.4	89.73	615.7	983.9	1,848.0	1,774.0	74.03	24.962	
10,600.0	9,734.0	10,801.3	9,734.0	37.2	44.6	89.73	715.7	983.2	1,848.0	1,773.2	74.84	24.692	
10,700.0	9,734.0	10,901.3	9,734.0	37.7	44.8	89.73	815.7	982.5	1,848.0	1,772.3	75.76	24.394	
10,800.0	9,734.0	11,001.3	9,734.0	38.2	45.1	89.73	915.7	981.8	1,848.0	1,771.2	76.77	24.072	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1												Offset Site Error: 0.0 usft	
Survey Program:		0-B001Mb_MWD+HRGM						Rule Assigned:				Offset Well Error: 0.0 usft	
Measured Depth	Reference	Measured Depth	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning	
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		
10,900.0	9,734.0	11,101.3	9,734.0	38.8	45.4	89.73	1,015.7	981.1	1,848.0	1,770.1	77.88	23.730	
11,000.0	9,734.0	11,201.3	9,734.0	39.4	45.8	89.73	1,115.7	980.4	1,848.0	1,768.9	79.08	23.370	
11,100.0	9,734.0	11,301.3	9,734.0	40.1	46.2	89.73	1,215.7	979.7	1,848.0	1,767.7	80.36	22.997	
11,200.0	9,734.0	11,401.3	9,734.0	40.8	46.7	89.73	1,315.7	979.0	1,848.0	1,766.3	81.73	22.613	
11,300.0	9,734.0	11,501.3	9,734.0	41.5	47.2	89.73	1,415.7	978.3	1,848.0	1,764.8	83.17	22.220	
11,400.0	9,734.0	11,601.3	9,734.0	42.3	47.8	89.73	1,515.7	977.6	1,848.0	1,763.3	84.69	21.821	
11,500.0	9,734.0	11,701.3	9,734.0	43.1	48.4	89.73	1,615.7	976.9	1,848.0	1,761.7	86.28	21.419	
11,600.0	9,734.0	11,801.3	9,734.0	44.0	49.1	89.73	1,715.7	976.3	1,848.0	1,760.1	87.93	21.016	
11,700.0	9,734.0	11,901.3	9,734.0	44.8	49.8	89.73	1,815.7	975.6	1,848.0	1,758.4	89.65	20.613	
11,800.0	9,734.0	12,001.3	9,734.0	45.7	50.6	89.73	1,915.7	974.9	1,848.0	1,756.6	91.43	20.212	
11,900.0	9,734.0	12,101.3	9,734.0	46.7	51.3	89.73	2,015.7	974.2	1,848.0	1,754.8	93.27	19.815	
12,000.0	9,734.0	12,201.3	9,734.0	47.6	52.2	89.73	2,115.7	973.5	1,848.0	1,752.9	95.15	19.422	
12,100.0	9,734.0	12,301.3	9,734.0	48.6	53.0	89.73	2,215.7	972.8	1,848.0	1,750.9	97.09	19.034	
12,200.0	9,734.0	12,401.3	9,734.0	49.6	53.9	89.73	2,315.7	972.1	1,848.0	1,748.9	99.07	18.653	
12,300.0	9,734.0	12,501.3	9,734.0	50.6	54.8	89.73	2,415.7	971.4	1,848.0	1,746.9	101.10	18.279	
12,400.0	9,734.0	12,601.3	9,734.0	51.7	55.7	89.73	2,515.7	970.7	1,848.0	1,744.8	103.17	17.913	
12,500.0	9,734.0	12,701.3	9,734.0	52.7	56.7	89.73	2,615.7	970.0	1,848.0	1,742.7	105.28	17.554	
12,600.0	9,734.0	12,801.3	9,734.0	53.8	57.7	89.73	2,715.7	969.3	1,848.0	1,740.6	107.42	17.204	
12,700.0	9,734.0	12,901.3	9,734.0	54.9	58.7	89.73	2,815.7	968.6	1,848.0	1,738.4	109.60	16.862	
12,800.0	9,734.0	13,001.3	9,734.0	56.0	59.7	89.73	2,915.7	967.9	1,848.0	1,736.2	111.81	16.528	
12,900.0	9,734.0	13,101.3	9,734.0	57.1	60.7	89.73	3,015.7	967.2	1,848.0	1,734.0	114.05	16.203	
13,000.0	9,734.0	13,201.3	9,734.0	58.3	61.8	89.73	3,115.7	966.5	1,848.0	1,731.7	116.32	15.887	
13,100.0	9,734.0	13,301.3	9,734.0	59.4	62.9	89.73	3,215.7	965.8	1,848.0	1,729.4	118.62	15.579	
13,200.0	9,734.0	13,401.3	9,734.0	60.6	64.0	89.73	3,315.7	965.1	1,848.0	1,727.1	120.94	15.280	
13,300.0	9,734.0	13,501.3	9,734.0	61.8	65.1	89.73	3,415.7	964.4	1,848.0	1,724.7	123.29	14.989	
13,400.0	9,734.0	13,601.3	9,734.0	63.0	66.2	89.73	3,515.7	963.8	1,848.0	1,722.4	125.66	14.706	
13,500.0	9,734.0	13,701.3	9,734.0	64.2	67.3	89.73	3,615.7	963.1	1,848.0	1,720.0	128.05	14.432	
13,600.0	9,734.0	13,801.3	9,734.0	65.4	68.5	89.73	3,715.6	962.4	1,848.0	1,717.6	130.47	14.165	
13,700.0	9,734.0	13,901.3	9,734.0	66.6	69.6	89.73	3,815.6	961.7	1,848.0	1,715.1	132.90	13.906	
13,800.0	9,734.0	14,001.3	9,734.0	67.8	70.8	89.73	3,915.6	961.0	1,848.0	1,712.7	135.35	13.654	
13,900.0	9,734.0	14,101.3	9,734.0	69.1	72.0	89.73	4,015.6	960.3	1,848.0	1,710.2	137.81	13.409	
14,000.0	9,734.0	14,201.3	9,734.0	70.3	73.1	89.73	4,115.6	959.6	1,848.0	1,707.7	140.30	13.172	
14,100.0	9,734.0	14,301.3	9,734.0	71.6	74.3	89.73	4,215.6	958.9	1,848.0	1,705.2	142.80	12.942	
14,200.0	9,734.0	14,401.3	9,734.0	72.8	75.5	89.73	4,315.6	958.2	1,848.0	1,702.7	145.31	12.718	
14,300.0	9,734.0	14,501.3	9,734.0	74.1	76.8	89.73	4,415.6	957.5	1,848.0	1,700.2	147.84	12.500	
14,400.0	9,734.0	14,601.3	9,734.0	75.4	78.0	89.73	4,515.6	956.8	1,848.0	1,697.6	150.38	12.289	
14,500.0	9,734.0	14,701.3	9,734.0	76.6	79.2	89.73	4,615.6	956.1	1,848.0	1,695.1	152.93	12.084	
14,600.0	9,734.0	14,801.3	9,734.0	77.9	80.4	89.73	4,715.6	955.4	1,848.0	1,692.5	155.50	11.885	
14,700.0	9,734.0	14,901.3	9,734.0	79.2	81.7	89.73	4,815.6	954.7	1,848.0	1,689.9	158.07	11.691	
14,800.0	9,734.0	15,001.3	9,734.0	80.5	82.9	89.73	4,915.6	954.0	1,848.0	1,687.4	160.66	11.503	
14,900.0	9,734.0	15,101.3	9,734.0	81.8	84.2	89.73	5,015.6	953.3	1,848.0	1,684.8	163.26	11.319	
15,000.0	9,734.0	15,201.3	9,734.0	83.1	85.5	89.73	5,115.6	952.6	1,848.0	1,682.1	165.87	11.142	
15,100.0	9,734.0	15,301.3	9,734.0	84.4	86.7	89.73	5,215.6	952.0	1,848.0	1,679.5	168.48	10.968	
15,200.0	9,734.0	15,401.3	9,734.0	85.7	88.0	89.73	5,315.6	951.3	1,848.0	1,676.9	171.11	10.800	
15,300.0	9,734.0	15,501.3	9,734.0	87.1	89.3	89.73	5,415.6	950.6	1,848.0	1,674.3	173.75	10.636	
15,400.0	9,734.0	15,601.3	9,734.0	88.4	90.6	89.73	5,515.6	949.9	1,848.0	1,671.6	176.39	10.477	
15,500.0	9,734.0	15,701.3	9,734.0	89.7	91.9	89.73	5,615.6	949.2	1,848.0	1,669.0	179.04	10.322	
15,600.0	9,734.0	15,801.3	9,734.0	91.0	93.1	89.73	5,715.6	948.5	1,848.0	1,666.3	181.70	10.171	
15,700.0	9,734.0	15,901.3	9,734.0	92.4	94.4	89.73	5,815.6	947.8	1,848.0	1,663.7	184.36	10.024	
15,800.0	9,734.0	16,001.3	9,734.0	93.7	95.7	89.73	5,915.6	947.1	1,848.0	1,661.0	187.03	9.881	
15,900.0	9,734.0	16,101.3	9,734.0	95.1	97.1	89.73	6,015.6	946.4	1,848.0	1,658.3	189.71	9.741	
16,000.0	9,734.0	16,201.3	9,734.0	96.4	98.4	89.73	6,115.6	945.7	1,848.0	1,655.6	192.40	9.605	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Emerald Pad 2 - Emerald Fed Com 503H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,100.0	9,734.0	16,301.3	9,734.0	97.7	99.7	89.73	6,215.6	945.0	1,848.0	1,652.9	195.09	9.473	
16,200.0	9,734.0	16,401.3	9,734.0	99.1	101.0	89.73	6,315.6	944.3	1,848.0	1,650.2	197.78	9.344	
16,300.0	9,734.0	16,501.3	9,734.0	100.4	102.3	89.73	6,415.6	943.6	1,848.0	1,647.5	200.49	9.218	
16,400.0	9,734.0	16,601.3	9,734.0	101.8	103.6	89.73	6,515.6	942.9	1,848.0	1,644.8	203.19	9.095	
16,500.0	9,734.0	16,701.3	9,734.0	103.2	105.0	89.73	6,615.6	942.2	1,848.0	1,642.1	205.91	8.975	
16,600.0	9,734.0	16,801.3	9,734.0	104.5	106.3	89.73	6,715.6	941.5	1,848.0	1,639.4	208.62	8.858	
16,700.0	9,734.0	16,901.3	9,734.0	105.9	107.6	89.73	6,815.6	940.8	1,848.0	1,636.7	211.35	8.744	
16,800.0	9,734.0	17,001.3	9,734.0	107.2	109.0	89.73	6,915.6	940.2	1,848.0	1,633.9	214.07	8.633	
16,900.0	9,734.0	17,101.3	9,734.0	108.6	110.3	89.73	7,015.6	939.5	1,848.0	1,631.2	216.80	8.524	
17,000.0	9,734.0	17,201.3	9,734.0	110.0	111.7	89.73	7,115.6	938.8	1,848.0	1,628.5	219.54	8.418	
17,100.0	9,734.0	17,301.3	9,734.0	111.4	113.0	89.73	7,215.6	938.1	1,848.0	1,625.7	222.28	8.314	
17,200.0	9,734.0	17,401.3	9,734.0	112.7	114.3	89.73	7,315.6	937.4	1,848.0	1,623.0	225.02	8.213	
17,300.0	9,734.0	17,501.3	9,734.0	114.1	115.7	89.73	7,415.6	936.7	1,848.0	1,620.2	227.77	8.114	
17,400.0	9,734.0	17,601.3	9,734.0	115.5	117.1	89.73	7,515.6	936.0	1,848.0	1,617.5	230.52	8.017	
17,500.0	9,734.0	17,701.3	9,734.0	116.9	118.4	89.73	7,615.6	935.3	1,848.0	1,614.7	233.27	7.922	
17,600.0	9,734.0	17,801.3	9,734.0	118.2	119.8	89.73	7,715.6	934.6	1,848.0	1,612.0	236.03	7.830	
17,700.0	9,734.0	17,901.3	9,734.0	119.6	121.1	89.73	7,815.5	933.9	1,848.0	1,609.2	238.79	7.739	
17,800.0	9,734.0	18,001.3	9,734.0	121.0	122.5	89.73	7,915.5	933.2	1,848.0	1,606.5	241.56	7.651	
17,900.0	9,734.0	18,101.3	9,734.0	122.4	123.8	89.73	8,015.5	932.5	1,848.0	1,603.7	244.32	7.564	
18,000.0	9,734.0	18,201.3	9,734.0	123.8	125.2	89.73	8,115.5	931.8	1,848.0	1,600.9	247.09	7.479	
18,100.0	9,734.0	18,301.3	9,734.0	125.2	126.6	89.73	8,215.5	931.1	1,848.0	1,598.2	249.86	7.396	
18,200.0	9,734.0	18,401.3	9,734.0	126.5	127.9	89.73	8,315.5	930.4	1,848.0	1,595.4	252.64	7.315	
18,300.0	9,734.0	18,501.3	9,734.0	127.9	129.3	89.73	8,415.5	929.7	1,848.0	1,592.6	255.42	7.235	
18,400.0	9,734.0	18,601.3	9,734.0	129.3	130.7	89.73	8,515.5	929.0	1,848.0	1,589.8	258.20	7.157	
18,500.0	9,734.0	18,701.3	9,734.0	130.7	132.1	89.73	8,615.5	928.3	1,848.0	1,587.0	260.98	7.081	
18,600.0	9,734.0	18,801.3	9,734.0	132.1	133.4	89.73	8,715.5	927.7	1,848.0	1,584.3	263.77	7.006	
18,700.0	9,734.0	18,901.3	9,734.0	133.5	134.8	89.73	8,815.5	927.0	1,848.0	1,581.5	266.55	6.933	
18,800.0	9,734.0	19,001.3	9,734.0	134.9	136.2	89.73	8,915.5	926.3	1,848.0	1,578.7	269.34	6.861	
18,900.0	9,734.0	19,101.3	9,734.0	136.3	137.6	89.73	9,015.5	925.6	1,848.0	1,575.9	272.14	6.791	
19,000.0	9,734.0	19,201.3	9,734.0	137.7	139.0	89.73	9,115.5	924.9	1,848.0	1,573.1	274.93	6.722	
19,100.0	9,734.0	19,301.3	9,734.0	139.1	140.3	89.73	9,215.5	924.2	1,848.0	1,570.3	277.73	6.654	
19,200.0	9,734.0	19,401.3	9,734.0	140.5	141.7	89.73	9,315.5	923.5	1,848.0	1,567.5	280.53	6.588	
19,300.0	9,734.0	19,501.3	9,734.0	141.9	143.1	89.73	9,415.5	922.8	1,848.0	1,564.7	283.33	6.523	
19,400.0	9,734.0	19,601.3	9,734.0	143.3	144.5	89.73	9,515.5	922.1	1,848.0	1,561.9	286.13	6.459	
19,500.0	9,734.0	19,701.3	9,734.0	144.7	145.9	89.73	9,615.5	921.4	1,848.0	1,559.1	288.93	6.396	
19,600.0	9,734.0	19,801.3	9,734.0	146.1	147.3	89.73	9,715.5	920.7	1,848.0	1,556.3	291.74	6.335	
19,700.0	9,734.0	19,901.3	9,734.0	147.5	148.7	89.73	9,815.5	920.0	1,848.0	1,553.5	294.55	6.274	
19,800.0	9,734.0	20,001.3	9,734.0	148.9	150.0	89.73	9,915.5	919.3	1,848.0	1,550.7	297.36	6.215	
19,900.0	9,734.0	20,101.3	9,734.0	150.3	151.4	89.73	10,015.5	918.6	1,848.0	1,547.9	300.17	6.157	
20,000.0	9,734.0	20,201.3	9,734.0	151.7	152.8	89.73	10,115.5	917.9	1,848.0	1,545.0	302.98	6.099	
20,011.3	9,734.0	20,212.7	9,734.0	151.9	153.0	89.73	10,126.8	917.9	1,848.0	1,544.7	303.30	6.093 ES, SF	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - LONE WOLF 36 B2DA STATE COM 001H - OH - OH												Offset Site Error:	0.0 usft
Survey Program: 100-MWD												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,900.0	9,734.0	14,107.0	9,580.0	108.6	113.4	-68.67	9,048.2	-1,471.8	2,132.4	1,987.0	145.36	14.669	
17,000.0	9,734.0	14,107.0	9,580.0	110.0	113.4	-68.67	9,048.2	-1,471.8	2,036.5	1,890.9	145.60	13.987	
17,100.0	9,734.0	14,107.0	9,580.0	111.4	113.4	-68.67	9,048.2	-1,471.8	1,941.0	1,795.1	145.89	13.304	
17,200.0	9,734.0	14,107.0	9,580.0	112.7	113.4	-68.67	9,048.2	-1,471.8	1,845.9	1,699.7	146.25	12.622	
17,300.0	9,734.0	14,107.0	9,580.0	114.1	113.4	-68.67	9,048.2	-1,471.8	1,751.5	1,604.8	146.68	11.941	
17,400.0	9,734.0	14,107.0	9,580.0	115.5	113.4	-68.67	9,048.2	-1,471.8	1,657.6	1,510.5	147.19	11.262	
17,500.0	9,734.0	14,107.0	9,580.0	116.9	113.4	-68.67	9,048.2	-1,471.8	1,564.6	1,416.8	147.80	10.586	
17,600.0	9,734.0	14,107.0	9,580.0	118.2	113.4	-68.67	9,048.2	-1,471.8	1,472.4	1,323.9	148.52	9.914	
17,700.0	9,734.0	14,107.0	9,580.0	119.6	113.4	-68.67	9,048.2	-1,471.8	1,381.4	1,232.0	149.37	9.248	
17,800.0	9,734.0	14,107.0	9,580.0	121.0	113.4	-68.67	9,048.2	-1,471.8	1,291.7	1,141.3	150.34	8.592	
17,900.0	9,734.0	14,107.0	9,580.0	122.4	113.4	-68.67	9,048.2	-1,471.8	1,203.5	1,052.1	151.44	7.947	
18,000.0	9,734.0	14,107.0	9,580.0	123.8	113.4	-68.67	9,048.2	-1,471.8	1,117.4	964.8	152.66	7.320	
18,100.0	9,734.0	14,107.0	9,580.0	125.2	113.4	-68.67	9,048.2	-1,471.8	1,033.8	879.9	153.97	6.714	
18,200.0	9,734.0	14,107.0	9,580.0	126.5	113.4	-68.67	9,048.2	-1,471.8	953.4	798.1	155.30	6.139	
18,300.0	9,734.0	14,107.0	9,580.0	127.9	113.4	-68.67	9,048.2	-1,471.8	877.0	720.5	156.51	5.603	
18,400.0	9,734.0	14,107.0	9,580.0	129.3	113.4	-68.67	9,048.2	-1,471.8	805.7	648.3	157.40	5.119	
18,500.0	9,734.0	14,107.0	9,580.0	130.7	113.4	-68.67	9,048.2	-1,471.8	741.2	583.5	157.68	4.701	
18,600.0	9,734.0	14,107.0	9,580.0	132.1	113.4	-68.67	9,048.2	-1,471.8	685.2	528.2	157.04	4.363	
18,700.0	9,734.0	14,107.0	9,580.0	133.5	113.4	-68.67	9,048.2	-1,471.8	640.0	484.4	155.59	4.114	
18,800.0	9,734.0	14,107.0	9,580.0	134.9	113.4	-68.67	9,048.2	-1,471.8	608.1	453.0	155.07	3.921	
18,900.0	9,734.0	14,107.0	9,580.0	136.3	113.4	-68.67	9,048.2	-1,471.8	591.5	431.4	160.18	3.693	
18,949.3	9,734.0	14,107.0	9,580.0	137.0	113.4	-68.67	9,048.2	-1,471.8	589.5	424.1	165.42	3.564	CC
19,000.0	9,734.0	14,107.0	9,580.0	137.7	113.4	-68.67	9,048.2	-1,471.8	591.7	419.9	171.77	3.445	ES
19,100.0	9,734.0	14,107.0	9,580.0	139.1	113.4	-68.67	9,048.2	-1,471.8	608.4	424.5	183.99	3.307	SF
19,200.0	9,734.0	14,107.0	9,580.0	140.5	113.4	-68.67	9,048.2	-1,471.8	640.6	447.4	193.18	3.316	
19,300.0	9,734.0	14,107.0	9,580.0	141.9	113.4	-68.67	9,048.2	-1,471.8	685.9	487.2	198.69	3.452	
19,400.0	9,734.0	14,107.0	9,580.0	143.3	113.4	-68.67	9,048.2	-1,471.8	742.0	540.9	201.16	3.689	
19,500.0	9,734.0	14,107.0	9,580.0	144.7	113.4	-68.67	9,048.2	-1,471.8	806.7	605.2	201.52	4.003	
19,600.0	9,734.0	14,107.0	9,580.0	146.1	113.4	-68.67	9,048.2	-1,471.8	878.0	677.5	200.56	4.378	
19,700.0	9,734.0	14,107.0	9,580.0	147.5	113.4	-68.67	9,048.2	-1,471.8	954.5	755.6	198.88	4.799	
19,800.0	9,734.0	14,107.0	9,580.0	148.9	113.4	-68.67	9,048.2	-1,471.8	1,035.0	838.1	196.84	5.258	
19,900.0	9,734.0	14,107.0	9,580.0	150.3	113.4	-68.67	9,048.2	-1,471.8	1,118.6	923.9	194.68	5.746	
20,000.0	9,734.0	14,107.0	9,580.0	151.7	113.4	-68.67	9,048.2	-1,471.8	1,204.8	1,012.2	192.53	6.258	
20,011.3	9,734.0	14,107.0	9,580.0	151.9	113.4	-68.67	9,048.2	-1,471.8	1,214.7	1,020.5	194.15	6.256	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 304H - OH - Plan 0.1													Offset Site Error: 0.0 usft	
Survey Program: 0-B001Mb_MWD+HRGM									Rule Assigned:				Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
16,100.0	9,734.0	8,750.0	8,572.3	97.7	32.4	-27.87	7,899.1	-1,557.4	2,186.9	2,114.6	72.34	30.233		
16,200.0	9,734.0	8,750.0	8,572.3	99.1	32.4	-27.87	7,899.1	-1,557.4	2,110.1	2,036.6	73.42	28.738		
16,300.0	9,734.0	8,750.0	8,572.3	100.4	32.4	-27.87	7,899.1	-1,557.4	2,035.2	1,960.6	74.62	27.273		
16,400.0	9,734.0	8,750.0	8,572.3	101.8	32.4	-27.87	7,899.1	-1,557.4	1,962.7	1,886.7	75.95	25.843		
16,500.0	9,734.0	8,750.0	8,572.3	103.2	32.4	-27.87	7,899.1	-1,557.4	1,892.6	1,815.2	77.39	24.455		
16,600.0	9,734.0	8,750.0	8,572.3	104.5	32.4	-27.87	7,899.1	-1,557.4	1,825.3	1,746.3	78.96	23.117		
16,700.0	9,734.0	8,750.0	8,572.3	105.9	32.4	-27.87	7,899.1	-1,557.4	1,761.1	1,680.4	80.66	21.835		
16,800.0	9,734.0	8,750.0	8,572.3	107.2	32.4	-27.87	7,899.1	-1,557.4	1,700.4	1,617.9	82.48	20.616		
16,900.0	9,734.0	8,750.0	8,572.3	108.6	32.4	-27.87	7,899.1	-1,557.4	1,643.5	1,559.1	84.42	19.469		
17,000.0	9,734.0	8,750.0	8,572.3	110.0	32.4	-27.87	7,899.1	-1,557.4	1,590.9	1,504.4	86.47	18.399		
17,100.0	9,734.0	8,750.0	8,572.3	111.4	32.4	-27.87	7,899.1	-1,557.4	1,543.0	1,454.4	88.61	17.413		
17,200.0	9,734.0	8,750.0	8,572.3	112.7	32.4	-27.87	7,899.1	-1,557.4	1,500.2	1,409.4	90.83	16.517		
17,300.0	9,734.0	8,750.0	8,572.3	114.1	32.4	-27.87	7,899.1	-1,557.4	1,463.0	1,369.9	93.09	15.716		
17,400.0	9,734.0	8,750.0	8,572.3	115.5	32.4	-27.87	7,899.1	-1,557.4	1,431.9	1,336.5	95.38	15.012		
17,500.0	9,734.0	8,750.0	8,572.3	116.9	32.4	-27.87	7,899.1	-1,557.4	1,407.2	1,309.5	97.65	14.410		
17,600.0	9,734.0	8,750.0	8,572.3	118.2	32.4	-27.87	7,899.1	-1,557.4	1,389.2	1,289.4	99.86	13.912		
17,700.0	9,734.0	8,750.0	8,572.3	119.6	32.4	-27.87	7,899.1	-1,557.4	1,378.3	1,276.4	101.97	13.517		
17,800.0	9,734.0	8,750.0	8,572.3	121.0	32.4	-27.87	7,899.1	-1,557.4	1,374.6	1,270.7	103.92	13.228		
17,800.9	9,734.0	8,750.0	8,572.3	121.0	32.4	-27.87	7,899.1	-1,557.4	1,374.6	1,270.7	103.94	13.226 CC, ES		
17,900.0	9,734.0	8,750.0	8,572.3	122.4	32.4	-27.87	7,899.1	-1,557.4	1,378.2	1,272.5	105.67	13.042		
18,000.0	9,734.0	8,750.0	8,572.3	123.8	32.4	-27.87	7,899.1	-1,557.4	1,389.0	1,281.8	107.18	12.960 SF		
18,100.0	9,734.0	8,750.0	8,572.3	125.2	32.4	-27.87	7,899.1	-1,557.4	1,406.8	1,298.4	108.41	12.977		
18,200.0	9,734.0	8,750.0	8,572.3	126.5	32.4	-27.87	7,899.1	-1,557.4	1,431.4	1,322.1	109.35	13.090		
18,300.0	9,734.0	8,750.0	8,572.3	127.9	32.4	-27.87	7,899.1	-1,557.4	1,462.4	1,352.4	110.00	13.295		
18,400.0	9,734.0	8,750.0	8,572.3	129.3	32.4	-27.87	7,899.1	-1,557.4	1,499.5	1,389.2	110.37	13.587		
18,500.0	9,734.0	8,750.0	8,572.3	130.7	32.4	-27.87	7,899.1	-1,557.4	1,542.2	1,431.7	110.48	13.959		
18,600.0	9,734.0	8,750.0	8,572.3	132.1	32.4	-27.87	7,899.1	-1,557.4	1,590.0	1,479.7	110.38	14.405		
18,700.0	9,734.0	8,750.0	8,572.3	133.5	32.4	-27.87	7,899.1	-1,557.4	1,642.6	1,532.5	110.09	14.920		
18,800.0	9,734.0	8,750.0	8,572.3	134.9	32.4	-27.87	7,899.1	-1,557.4	1,699.4	1,589.7	109.65	15.498		
18,900.0	9,734.0	8,750.0	8,572.3	136.3	32.4	-27.87	7,899.1	-1,557.4	1,760.0	1,650.9	109.09	16.134		
19,000.0	9,734.0	8,750.0	8,572.3	137.7	32.4	-27.87	7,899.1	-1,557.4	1,824.1	1,715.7	108.44	16.822		
19,100.0	9,734.0	8,750.0	8,572.3	139.1	32.4	-27.87	7,899.1	-1,557.4	1,891.4	1,783.7	107.72	17.558		
19,200.0	9,734.0	8,750.0	8,572.3	140.5	32.4	-27.87	7,899.1	-1,557.4	1,961.4	1,854.5	106.97	18.336		
19,300.0	9,734.0	8,750.0	8,572.3	141.9	32.4	-27.87	7,899.1	-1,557.4	2,034.0	1,927.8	106.19	19.155		
19,400.0	9,734.0	8,750.0	8,572.3	143.3	32.4	-27.87	7,899.1	-1,557.4	2,108.8	2,003.4	105.39	20.008		
19,500.0	9,734.0	8,750.0	8,572.3	144.7	32.4	-27.87	7,899.1	-1,557.4	2,185.6	2,081.0	104.60	20.894		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 305H - OH - Plan 0.2													Offset Site Error: 0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error: 0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
17,200.0	9,734.0	8,675.0	8,564.8	112.7	30.8	-27.17	8,955.1	-1,549.9	2,153.1	2,073.8	79.34	27.137	
17,300.0	9,734.0	8,675.0	8,564.8	114.1	30.8	-27.17	8,955.1	-1,549.9	2,077.2	1,996.4	80.80	25.709	
17,400.0	9,734.0	8,675.0	8,564.8	115.5	30.8	-27.17	8,955.1	-1,549.9	2,003.3	1,920.9	82.37	24.322	
17,500.0	9,734.0	8,675.0	8,564.8	116.9	30.8	-27.17	8,955.1	-1,549.9	1,931.8	1,847.7	84.06	22.981	
17,600.0	9,734.0	8,684.3	8,569.2	118.2	30.8	-27.55	8,955.1	-1,558.1	1,862.8	1,776.7	86.15	21.624	
17,700.0	9,734.0	8,684.4	8,569.2	119.6	30.8	-27.56	8,955.1	-1,558.1	1,796.9	1,708.8	88.10	20.396	
17,800.0	9,734.0	8,684.4	8,569.3	121.0	30.8	-27.56	8,955.1	-1,558.2	1,734.2	1,644.0	90.16	19.234	
17,900.0	9,734.0	8,684.5	8,569.3	122.4	30.8	-27.56	8,955.1	-1,558.3	1,675.1	1,582.8	92.32	18.144	
18,000.0	9,734.0	8,684.6	8,569.3	123.8	30.8	-27.57	8,955.1	-1,558.4	1,620.1	1,525.5	94.56	17.132	
18,100.0	9,734.0	8,684.7	8,569.4	125.2	30.8	-27.57	8,955.1	-1,558.4	1,569.5	1,472.6	96.86	16.204	
18,200.0	9,734.0	8,684.8	8,569.4	126.5	30.8	-27.57	8,955.1	-1,558.5	1,523.8	1,424.6	99.18	15.363	
18,300.0	9,734.0	8,684.8	8,569.5	127.9	30.8	-27.58	8,955.1	-1,558.6	1,483.4	1,381.9	101.50	14.615	
18,400.0	9,734.0	8,684.9	8,569.5	129.3	30.8	-27.58	8,955.1	-1,558.6	1,448.9	1,345.1	103.77	13.962	
18,500.0	9,734.0	8,685.0	8,569.5	130.7	30.8	-27.58	8,955.1	-1,558.7	1,420.5	1,314.5	105.95	13.407	
18,600.0	9,734.0	8,685.1	8,569.6	132.1	30.8	-27.59	8,955.1	-1,558.8	1,398.7	1,290.7	108.01	12.950	
18,700.0	9,734.0	8,685.2	8,569.6	133.5	30.8	-27.59	8,955.1	-1,558.8	1,383.9	1,274.0	109.91	12.591	
18,800.0	9,734.0	8,685.2	8,569.6	134.9	30.8	-27.59	8,955.1	-1,558.9	1,376.1	1,264.5	111.61	12.330	
18,856.8	9,734.0	8,685.3	8,569.7	135.7	30.8	-27.59	8,955.1	-1,558.9	1,374.9	1,262.5	112.48	12.224 CC, ES	
18,900.0	9,734.0	8,685.3	8,569.7	136.3	30.8	-27.60	8,955.1	-1,559.0	1,375.6	1,262.5	113.09	12.164	
19,000.0	9,734.0	8,685.4	8,569.7	137.7	30.8	-27.60	8,955.1	-1,559.0	1,382.4	1,268.1	114.32	12.092 SF	
19,100.0	9,734.0	8,685.5	8,569.7	139.1	30.8	-27.60	8,955.1	-1,559.1	1,396.3	1,281.0	115.29	12.111	
19,200.0	9,734.0	8,685.5	8,569.8	140.5	30.8	-27.61	8,955.1	-1,559.2	1,417.1	1,301.1	115.99	12.218	
19,300.0	9,734.0	8,685.6	8,569.8	141.9	30.8	-27.61	8,955.1	-1,559.3	1,444.6	1,328.2	116.41	12.409	
19,400.0	9,734.0	8,685.7	8,569.9	143.3	30.8	-27.61	8,955.1	-1,559.3	1,478.3	1,361.8	116.57	12.682	
19,500.0	9,734.0	8,685.8	8,569.9	144.7	30.8	-27.62	8,955.1	-1,559.4	1,517.9	1,401.4	116.49	13.031	
19,600.0	9,734.0	8,685.9	8,569.9	146.1	30.8	-27.62	8,955.1	-1,559.5	1,562.9	1,446.7	116.19	13.451	
19,700.0	9,734.0	8,685.9	8,570.0	147.5	30.8	-27.62	8,955.1	-1,559.5	1,612.9	1,497.2	115.71	13.939	
19,800.0	9,734.0	8,686.0	8,570.0	148.9	30.8	-27.63	8,955.1	-1,559.6	1,667.3	1,552.3	115.08	14.489	
19,900.0	9,734.0	8,686.1	8,570.0	150.3	30.8	-27.63	8,955.1	-1,559.7	1,725.9	1,611.5	114.33	15.096	
20,000.0	9,734.0	8,686.2	8,570.1	151.7	30.8	-27.63	8,955.1	-1,559.7	1,788.1	1,674.6	113.49	15.755	
20,011.3	9,734.0	8,686.2	8,570.1	151.9	30.8	-27.63	8,955.1	-1,559.8	1,795.4	1,682.0	113.40	15.832	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 306H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
18,100.0	9,734.0	8,786.1	8,569.1	125.2	33.8	-27.53	9,879.1	-1,563.8	2,171.3	2,084.5	86.75	25.030		
18,200.0	9,734.0	8,786.2	8,569.1	126.5	33.8	-27.53	9,879.1	-1,563.9	2,094.8	2,006.3	88.50	23.671		
18,300.0	9,734.0	8,786.3	8,569.1	127.9	33.8	-27.54	9,879.1	-1,563.9	2,020.4	1,930.0	90.37	22.356		
18,400.0	9,734.0	8,786.4	8,569.2	129.3	33.8	-27.54	9,879.1	-1,564.0	1,948.3	1,855.9	92.38	21.090		
18,500.0	9,734.0	8,786.4	8,569.2	130.7	33.8	-27.54	9,879.1	-1,564.1	1,878.8	1,784.2	94.51	19.878		
18,600.0	9,734.0	8,786.5	8,569.3	132.1	33.8	-27.55	9,879.1	-1,564.1	1,812.1	1,715.3	96.77	18.726		
18,700.0	9,734.0	8,786.6	8,569.3	133.5	33.8	-27.55	9,879.1	-1,564.2	1,748.5	1,649.4	99.13	17.639		
18,800.0	9,734.0	8,786.7	8,569.3	134.9	33.8	-27.55	9,879.1	-1,564.3	1,688.6	1,587.0	101.58	16.622		
18,900.0	9,734.0	8,786.8	8,569.4	136.3	33.8	-27.56	9,879.1	-1,564.3	1,632.5	1,528.4	104.10	15.681		
19,000.0	9,734.0	8,786.8	8,569.4	137.7	33.8	-27.56	9,879.1	-1,564.4	1,580.8	1,474.1	106.66	14.821		
19,100.0	9,734.0	8,786.9	8,569.4	139.1	33.8	-27.56	9,879.1	-1,564.5	1,533.9	1,424.6	109.21	14.044		
19,200.0	9,734.0	8,787.0	8,569.5	140.5	33.8	-27.57	9,879.1	-1,564.6	1,492.2	1,380.4	111.72	13.356		
19,300.0	9,734.0	8,787.1	8,569.5	141.9	33.8	-27.57	9,879.1	-1,564.6	1,456.1	1,342.0	114.12	12.759		
19,400.0	9,734.0	8,787.2	8,569.5	143.3	33.8	-27.57	9,879.1	-1,564.7	1,426.3	1,309.9	116.37	12.256		
19,500.0	9,734.0	8,787.2	8,569.6	144.7	33.8	-27.58	9,879.1	-1,564.8	1,402.9	1,284.4	118.42	11.846		
19,600.0	9,734.0	8,787.3	8,569.6	146.1	33.8	-27.58	9,879.1	-1,564.8	1,386.3	1,266.1	120.22	11.531		
19,700.0	9,734.0	8,787.4	8,569.7	147.5	33.8	-27.58	9,879.1	-1,564.9	1,376.8	1,255.1	121.74	11.309		
19,780.9	9,734.0	8,787.5	8,569.7	148.6	33.8	-27.59	9,879.1	-1,565.0	1,374.5	1,251.7	122.75	11.197	CC	
19,800.0	9,734.0	8,787.5	8,569.7	148.9	33.8	-27.59	9,879.1	-1,565.0	1,374.6	1,251.6	122.96	11.179	ES	
19,900.0	9,734.0	8,787.5	8,569.7	150.3	33.8	-27.59	9,879.1	-1,565.0	1,379.6	1,255.8	123.87	11.138	SF	
20,000.0	9,734.0	8,787.6	8,569.8	151.7	33.8	-27.59	9,879.1	-1,565.1	1,391.8	1,267.4	124.47	11.182		
20,011.3	9,734.0	8,787.6	8,569.8	151.9	33.8	-27.59	9,879.1	-1,565.1	1,393.7	1,269.4	124.25	11.216		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 504H - OH - Plan 0.1												Offset Site Error:	0.0 usft	
Survey Program:		0-B001Mb_MWD+HRGM		Offset			Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
16,000.0	9,734.0	9,425.0	9,363.8	96.4	34.0	-49.35	8,119.6	-1,408.5	2,121.9	2,050.3	71.61	29.633		
16,100.0	9,734.0	9,425.0	9,363.8	97.7	34.0	-49.35	8,119.6	-1,408.5	2,027.0	1,954.8	72.16	28.089		
16,200.0	9,734.0	9,425.0	9,363.8	99.1	34.0	-49.35	8,119.6	-1,408.5	1,932.5	1,859.7	72.82	26.540		
16,300.0	9,734.0	9,425.0	9,363.8	100.4	34.0	-49.35	8,119.6	-1,408.5	1,838.6	1,765.0	73.59	24.985		
16,400.0	9,734.0	9,425.0	9,363.8	101.8	34.0	-49.35	8,119.6	-1,408.5	1,745.4	1,670.9	74.50	23.427		
16,500.0	9,734.0	9,425.0	9,363.8	103.2	34.0	-49.35	8,119.6	-1,408.5	1,653.0	1,577.4	75.58	21.869		
16,600.0	9,734.0	9,425.0	9,363.8	104.5	34.0	-49.35	8,119.6	-1,408.5	1,561.5	1,484.6	76.87	20.313		
16,700.0	9,734.0	9,425.0	9,363.8	105.9	34.0	-49.35	8,119.6	-1,408.5	1,471.1	1,392.7	78.39	18.765		
16,800.0	9,734.0	9,425.0	9,363.8	107.2	34.0	-49.35	8,119.6	-1,408.5	1,382.1	1,301.9	80.21	17.231		
16,900.0	9,734.0	9,425.0	9,363.8	108.6	34.0	-49.35	8,119.6	-1,408.5	1,294.6	1,212.3	82.36	15.719		
17,000.0	9,734.0	9,425.0	9,363.8	110.0	34.0	-49.35	8,119.6	-1,408.5	1,209.1	1,124.2	84.91	14.239		
17,100.0	9,734.0	9,425.0	9,363.8	111.4	34.0	-49.35	8,119.6	-1,408.5	1,126.0	1,038.1	87.94	12.805		
17,200.0	9,734.0	9,425.0	9,363.8	112.7	34.0	-49.35	8,119.6	-1,408.5	1,045.9	954.4	91.49	11.431		
17,300.0	9,734.0	9,425.0	9,363.8	114.1	34.0	-49.35	8,119.6	-1,408.5	969.4	873.8	95.65	10.135		
17,400.0	9,734.0	9,425.0	9,363.8	115.5	34.0	-49.35	8,119.6	-1,408.5	897.6	797.1	100.45	8.936		
17,500.0	9,734.0	9,425.0	9,363.8	116.9	34.0	-49.35	8,119.6	-1,408.5	831.6	725.8	105.87	7.855		
17,600.0	9,734.0	9,425.0	9,363.8	118.2	34.0	-49.35	8,119.6	-1,408.5	773.0	661.2	111.83	6.913		
17,700.0	9,734.0	9,425.0	9,363.8	119.6	34.0	-49.35	8,119.6	-1,408.5	723.5	605.4	118.06	6.128		
17,800.0	9,734.0	9,425.0	9,363.8	121.0	34.0	-49.35	8,119.6	-1,408.5	685.1	561.0	124.16	5.518		
17,900.0	9,734.0	9,425.0	9,363.8	122.4	34.0	-49.35	8,119.6	-1,408.5	659.8	530.3	129.53	5.094		
18,000.0	9,734.0	9,425.0	9,363.8	123.8	34.0	-49.35	8,119.6	-1,408.5	649.0	515.5	133.54	4.860		
18,020.3	9,734.0	9,425.0	9,363.8	124.0	34.0	-49.35	8,119.6	-1,408.5	648.7	514.6	134.14	4.836	CC, ES	
18,100.0	9,734.0	9,425.0	9,363.8	125.2	34.0	-49.35	8,119.6	-1,408.5	653.6	517.9	135.71	4.816	SF	
18,200.0	9,734.0	9,425.0	9,363.8	126.5	34.0	-49.35	8,119.6	-1,408.5	673.1	537.2	135.94	4.952		
18,300.0	9,734.0	9,425.0	9,363.8	127.9	34.0	-49.35	8,119.6	-1,408.5	706.4	572.0	134.48	5.253		
18,400.0	9,734.0	9,425.0	9,363.8	129.3	34.0	-49.35	8,119.6	-1,408.5	751.7	619.9	131.80	5.703		
18,500.0	9,734.0	9,425.0	9,363.8	130.7	34.0	-49.35	8,119.6	-1,408.5	806.8	678.4	128.43	6.282		
18,600.0	9,734.0	9,425.0	9,363.8	132.1	34.0	-49.35	8,119.6	-1,408.5	870.0	745.2	124.78	6.972		
18,700.0	9,734.0	9,425.0	9,363.8	133.5	34.0	-49.35	8,119.6	-1,408.5	939.6	818.4	121.13	7.756		
18,800.0	9,734.0	9,425.0	9,363.8	134.9	34.0	-49.35	8,119.6	-1,408.5	1,014.3	896.6	117.66	8.620		
18,900.0	9,734.0	9,425.0	9,363.8	136.3	34.0	-49.35	8,119.6	-1,408.5	1,093.0	978.5	114.45	9.550		
19,000.0	9,734.0	9,425.0	9,363.8	137.7	34.0	-49.35	8,119.6	-1,408.5	1,175.0	1,063.4	111.53	10.535		
19,100.0	9,734.0	9,425.0	9,363.8	139.1	34.0	-49.35	8,119.6	-1,408.5	1,259.6	1,150.7	108.89	11.567		
19,200.0	9,734.0	9,425.0	9,363.8	140.5	34.0	-49.35	8,119.6	-1,408.5	1,346.3	1,239.7	106.53	12.637		
19,300.0	9,734.0	9,425.0	9,363.8	141.9	34.0	-49.35	8,119.6	-1,408.5	1,434.7	1,330.3	104.42	13.739		
19,400.0	9,734.0	9,425.0	9,363.8	143.3	34.0	-49.35	8,119.6	-1,408.5	1,524.6	1,422.0	102.54	14.868		
19,500.0	9,734.0	9,425.0	9,363.8	144.7	34.0	-49.35	8,119.6	-1,408.5	1,615.6	1,514.8	100.85	16.019		
19,600.0	9,734.0	9,425.0	9,363.8	146.1	34.0	-49.35	8,119.6	-1,408.5	1,707.7	1,608.3	99.35	17.189		
19,700.0	9,734.0	9,425.0	9,363.8	147.5	34.0	-49.35	8,119.6	-1,408.5	1,800.6	1,702.6	98.00	18.374		
19,800.0	9,734.0	9,425.0	9,363.8	148.9	34.0	-49.35	8,119.6	-1,408.5	1,894.2	1,797.4	96.78	19.572		
19,900.0	9,734.0	9,425.0	9,363.8	150.3	34.0	-49.35	8,119.6	-1,408.5	1,988.5	1,892.8	95.69	20.780		
20,000.0	9,734.0	9,425.0	9,363.8	151.7	34.0	-49.35	8,119.6	-1,408.5	2,083.2	1,988.5	94.71	21.997		
20,011.3	9,734.0	9,425.0	9,363.8	151.9	34.0	-49.35	8,119.6	-1,408.5	2,094.0	1,996.5	97.50	21.478		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 505H - OH - Plan 0.1												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,900.0	9,734.0	9,414.3	9,365.2	108.6	33.4	-49.48	9,009.6	-1,415.4	2,112.4	2,038.0	74.41	28.390	
17,000.0	9,734.0	9,414.4	9,365.3	110.0	33.4	-49.48	9,009.6	-1,415.5	2,017.4	1,942.3	75.16	26.840	
17,100.0	9,734.0	9,414.5	9,365.4	111.4	33.4	-49.49	9,009.6	-1,415.5	1,923.0	1,847.0	76.05	25.287	
17,200.0	9,734.0	9,414.6	9,365.4	112.7	33.4	-49.50	9,009.6	-1,415.6	1,829.2	1,752.1	77.07	23.732	
17,300.0	9,734.0	9,414.7	9,365.5	114.1	33.5	-49.51	9,009.6	-1,415.6	1,736.0	1,657.8	78.27	22.179	
17,400.0	9,734.0	9,414.8	9,365.6	115.5	33.5	-49.52	9,009.6	-1,415.7	1,643.7	1,564.0	79.67	20.631	
17,500.0	9,734.0	9,414.9	9,365.7	116.9	33.5	-49.53	9,009.6	-1,415.8	1,552.3	1,471.0	81.31	19.091	
17,600.0	9,734.0	9,415.0	9,365.7	118.2	33.5	-49.53	9,009.6	-1,415.8	1,462.0	1,378.8	83.23	17.566	
17,700.0	9,734.0	9,415.1	9,365.8	119.6	33.5	-49.54	9,009.6	-1,415.9	1,373.1	1,287.7	85.48	16.063	
17,800.0	9,734.0	9,415.2	9,365.9	121.0	33.5	-49.55	9,009.6	-1,415.9	1,285.9	1,197.7	88.12	14.592	
17,900.0	9,734.0	9,415.3	9,365.9	122.4	33.5	-49.56	9,009.6	-1,416.0	1,200.6	1,109.4	91.21	13.162	
18,000.0	9,734.0	9,415.4	9,366.0	123.8	33.5	-49.57	9,009.6	-1,416.1	1,117.7	1,022.9	94.83	11.787	
18,100.0	9,734.0	9,415.5	9,366.1	125.2	33.5	-49.58	9,009.6	-1,416.1	1,037.9	938.9	99.03	10.481	
18,200.0	9,734.0	9,415.5	9,366.2	126.5	33.5	-49.58	9,009.6	-1,416.2	961.8	858.0	103.87	9.260	
18,300.0	9,734.0	9,415.6	9,366.2	127.9	33.5	-49.59	9,009.6	-1,416.2	890.5	781.2	109.38	8.142	
18,400.0	9,734.0	9,415.7	9,366.3	129.3	33.5	-49.60	9,009.6	-1,416.3	825.2	709.7	115.51	7.144	
18,500.0	9,734.0	9,415.8	9,366.4	130.7	33.5	-49.61	9,009.6	-1,416.4	767.4	645.3	122.10	6.285	
18,600.0	9,734.0	9,415.9	9,366.5	132.1	33.5	-49.62	9,009.6	-1,416.4	718.9	590.1	128.84	5.580	
18,700.0	9,734.0	9,416.0	9,366.5	133.5	33.5	-49.63	9,009.6	-1,416.5	681.8	546.6	135.20	5.043	
18,800.0	9,734.0	9,416.1	9,366.6	134.9	33.5	-49.63	9,009.6	-1,416.6	657.8	517.3	140.52	4.681	
18,900.0	9,734.0	9,416.2	9,366.7	136.3	33.5	-49.64	9,009.6	-1,416.6	648.6	504.4	144.15	4.499	
18,910.3	9,734.0	9,416.2	9,366.7	136.4	33.5	-49.64	9,009.6	-1,416.6	648.5	504.1	144.41	4.491	CC, ES, SF
19,000.0	9,734.0	9,416.3	9,366.7	137.7	33.5	-49.65	9,009.6	-1,416.7	654.7	509.0	145.69	4.494	
19,100.0	9,734.0	9,416.4	9,366.8	139.1	33.5	-49.66	9,009.6	-1,416.7	675.7	530.5	145.13	4.656	
19,200.0	9,734.0	9,416.5	9,366.9	140.5	33.5	-49.67	9,009.6	-1,416.8	710.2	567.4	142.84	4.972	
19,300.0	9,734.0	9,416.6	9,367.0	141.9	33.5	-49.68	9,009.6	-1,416.9	756.6	617.2	139.39	5.427	
19,400.0	9,734.0	9,416.7	9,367.0	143.3	33.5	-49.69	9,009.6	-1,416.9	812.6	677.3	135.33	6.005	
19,500.0	9,734.0	9,416.8	9,367.1	144.7	33.5	-49.69	9,009.6	-1,417.0	876.5	745.4	131.07	6.687	
19,600.0	9,734.0	9,416.9	9,367.2	146.1	33.5	-49.70	9,009.6	-1,417.0	946.7	819.8	126.90	7.460	
19,700.0	9,734.0	9,417.0	9,367.2	147.5	33.5	-49.71	9,009.6	-1,417.1	1,021.8	898.8	122.97	8.309	
19,800.0	9,734.0	9,417.1	9,367.3	148.9	33.5	-49.72	9,009.6	-1,417.2	1,100.9	981.5	119.37	9.223	
19,900.0	9,734.0	9,417.2	9,367.4	150.3	33.5	-49.73	9,009.6	-1,417.2	1,183.2	1,067.1	116.11	10.191	
20,000.0	9,734.0	9,417.3	9,367.5	151.7	33.5	-49.74	9,009.6	-1,417.3	1,268.0	1,154.8	113.18	11.204	
20,011.3	9,734.0	9,417.3	9,367.5	151.9	33.5	-49.74	9,009.6	-1,417.3	1,277.8	1,163.4	114.36	11.174	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 506H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
17,700.0	9,734.0	9,487.4	9,365.5	119.6	36.3	-49.42	9,879.6	-1,421.2	2,179.2	2,101.8	77.40	28.155		
17,800.0	9,734.0	9,487.5	9,365.6	121.0	36.3	-49.43	9,879.6	-1,421.3	2,083.9	2,005.7	78.28	26.622		
17,900.0	9,734.0	9,487.6	9,365.7	122.4	36.3	-49.43	9,879.6	-1,421.4	1,989.1	1,909.9	79.29	25.089		
18,000.0	9,734.0	9,487.7	9,365.7	123.8	36.3	-49.44	9,879.6	-1,421.4	1,894.9	1,814.5	80.44	23.556		
18,100.0	9,734.0	9,487.8	9,365.8	125.2	36.3	-49.45	9,879.6	-1,421.5	1,801.3	1,719.5	81.78	22.026		
18,200.0	9,734.0	9,487.9	9,365.9	126.5	36.3	-49.46	9,879.6	-1,421.5	1,708.4	1,625.0	83.32	20.503		
18,300.0	9,734.0	9,488.0	9,365.9	127.9	36.3	-49.47	9,879.6	-1,421.6	1,616.3	1,531.2	85.11	18.990		
18,400.0	9,734.0	9,488.1	9,366.0	129.3	36.3	-49.48	9,879.6	-1,421.7	1,525.2	1,438.1	87.19	17.494		
18,500.0	9,734.0	9,488.2	9,366.1	130.7	36.3	-49.48	9,879.6	-1,421.7	1,435.4	1,345.8	89.60	16.020		
18,600.0	9,734.0	9,488.3	9,366.2	132.1	36.3	-49.49	9,879.6	-1,421.8	1,346.9	1,254.5	92.40	14.577		
18,700.0	9,734.0	9,488.4	9,366.2	133.5	36.3	-49.50	9,879.6	-1,421.8	1,260.2	1,164.6	95.65	13.175		
18,800.0	9,734.0	9,488.5	9,366.3	134.9	36.3	-49.51	9,879.6	-1,421.9	1,175.6	1,076.2	99.44	11.823		
18,900.0	9,734.0	9,488.6	9,366.4	136.3	36.3	-49.52	9,879.6	-1,422.0	1,093.6	989.8	103.82	10.534		
19,000.0	9,734.0	9,488.7	9,366.5	137.7	36.3	-49.53	9,879.6	-1,422.0	1,014.8	906.0	108.86	9.323		
19,100.0	9,734.0	9,488.8	9,366.5	139.1	36.3	-49.53	9,879.6	-1,422.1	940.1	825.5	114.61	8.203		
19,200.0	9,734.0	9,488.9	9,366.6	140.5	36.3	-49.54	9,879.6	-1,422.2	870.5	749.4	121.06	7.191		
19,300.0	9,734.0	9,489.0	9,366.7	141.9	36.3	-49.55	9,879.6	-1,422.2	807.3	679.2	128.12	6.301		
19,400.0	9,734.0	9,489.1	9,366.7	143.3	36.3	-49.56	9,879.6	-1,422.3	752.1	616.6	135.53	5.549		
19,500.0	9,734.0	9,489.1	9,366.8	144.7	36.3	-49.57	9,879.6	-1,422.3	706.8	564.0	142.84	4.948		
19,600.0	9,734.0	9,489.2	9,366.9	146.1	36.3	-49.58	9,879.6	-1,422.4	673.4	524.0	149.38	4.508		
19,700.0	9,734.0	9,489.3	9,367.0	147.5	36.3	-49.58	9,879.6	-1,422.5	653.8	499.4	154.37	4.235		
19,780.4	9,734.0	9,489.4	9,367.0	148.6	36.3	-49.59	9,879.6	-1,422.5	648.8	492.0	156.81	4.138 CC		
19,800.0	9,734.0	9,489.4	9,367.0	148.9	36.3	-49.59	9,879.6	-1,422.5	649.1	491.9	157.16	4.130 ES, SF		
19,900.0	9,734.0	9,489.5	9,367.1	150.3	36.3	-49.60	9,879.6	-1,422.6	659.7	502.3	157.50	4.189		
20,000.0	9,734.0	9,489.6	9,367.2	151.7	36.3	-49.61	9,879.6	-1,422.6	685.0	529.4	155.60	4.402		
20,011.3	9,734.0	9,489.6	9,367.2	151.9	36.3	-49.61	9,879.6	-1,422.6	688.7	533.6	155.13	4.440		

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 604H - OH - Plan 0.1											Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM											Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
15,900.0	9,734.0	9,833.0	9,784.7	95.1	35.1	-90.00	8,120.0	-1,297.3	2,153.9	2,081.9	72.05	29.894
16,000.0	9,734.0	9,833.0	9,784.7	96.4	35.1	-90.00	8,120.0	-1,297.3	2,055.6	1,983.3	72.33	28.421
16,100.0	9,734.0	9,833.0	9,784.7	97.7	35.1	-90.00	8,120.0	-1,297.3	1,957.4	1,884.7	72.65	26.942
16,200.0	9,734.0	9,833.0	9,784.7	99.1	35.1	-90.00	8,120.0	-1,297.3	1,859.4	1,786.4	73.04	25.456
16,300.0	9,734.0	9,833.0	9,784.7	100.4	35.1	-90.00	8,120.0	-1,297.3	1,761.7	1,688.1	73.51	23.964
16,400.0	9,734.0	9,833.0	9,784.7	101.8	35.1	-90.00	8,120.0	-1,297.3	1,664.2	1,590.1	74.08	22.464
16,500.0	9,734.0	9,833.0	9,784.7	103.2	35.1	-90.00	8,120.0	-1,297.3	1,567.0	1,492.2	74.77	20.957
16,600.0	9,734.0	9,833.0	9,784.7	104.5	35.1	-90.00	8,120.0	-1,297.3	1,470.2	1,394.6	75.62	19.443
16,700.0	9,734.0	9,833.0	9,784.7	105.9	35.1	-90.00	8,120.0	-1,297.3	1,373.8	1,297.2	76.66	17.921
16,800.0	9,734.0	9,833.0	9,784.7	107.2	35.1	-90.00	8,120.0	-1,297.3	1,278.1	1,200.1	77.96	16.395
16,900.0	9,734.0	9,833.0	9,784.7	108.6	35.1	-90.00	8,120.0	-1,297.3	1,183.0	1,103.4	79.58	14.866
17,000.0	9,734.0	9,833.0	9,784.7	110.0	35.1	-90.00	8,120.0	-1,297.3	1,088.8	1,007.2	81.62	13.339
17,100.0	9,734.0	9,833.0	9,784.7	111.4	35.1	-90.00	8,120.0	-1,297.3	995.7	911.5	84.22	11.823
17,200.0	9,734.0	9,833.0	9,784.7	112.7	35.1	-90.00	8,120.0	-1,297.3	904.2	816.6	87.54	10.329
17,300.0	9,734.0	9,833.0	9,784.7	114.1	35.1	-90.00	8,120.0	-1,297.3	814.6	722.8	91.80	8.873
17,400.0	9,734.0	9,833.0	9,784.7	115.5	35.1	-90.00	8,120.0	-1,297.3	727.7	630.4	97.31	7.478
17,500.0	9,734.0	9,833.0	9,784.7	116.9	35.1	-90.00	8,120.0	-1,297.3	644.6	540.2	104.40	6.174
17,600.0	9,734.0	9,833.0	9,784.7	118.2	35.1	-90.00	8,120.0	-1,297.3	567.0	453.6	113.44	4.998
17,700.0	9,734.0	9,833.0	9,784.7	119.6	35.1	-90.00	8,120.0	-1,297.3	497.5	372.9	124.60	3.993
17,800.0	9,734.0	9,833.0	9,784.7	121.0	35.1	-90.00	8,120.0	-1,297.3	439.9	302.6	137.35	3.203
17,900.0	9,734.0	9,833.0	9,784.7	122.4	35.1	-90.00	8,120.0	-1,297.3	399.4	249.7	149.72	2.668
18,000.0	9,734.0	9,833.0	9,784.7	123.8	35.1	-90.00	8,120.0	-1,297.3	381.5	223.5	158.01	2.415
18,020.0	9,734.0	9,833.0	9,784.7	124.0	35.1	-90.00	8,120.0	-1,297.3	381.0	222.2	158.84	2.399 CC, ES, SF
18,100.0	9,734.0	9,833.0	9,784.7	125.2	35.1	-90.00	8,120.0	-1,297.3	389.3	230.2	159.11	2.447
18,200.0	9,734.0	9,833.0	9,784.7	126.5	35.1	-90.00	8,120.0	-1,297.3	421.4	267.8	153.57	2.744
18,300.0	9,734.0	9,833.0	9,784.7	127.9	35.1	-90.00	8,120.0	-1,297.3	472.8	328.2	144.66	3.269
18,400.0	9,734.0	9,833.0	9,784.7	129.3	35.1	-90.00	8,120.0	-1,297.3	538.1	402.8	135.30	3.977
18,500.0	9,734.0	9,833.0	9,784.7	130.7	35.1	-90.00	8,120.0	-1,297.3	612.9	486.0	126.87	4.830
18,600.0	9,734.0	9,833.0	9,784.7	132.1	35.1	-90.00	8,120.0	-1,297.3	694.0	574.2	119.78	5.794
18,700.0	9,734.0	9,833.0	9,784.7	133.5	35.1	-90.00	8,120.0	-1,297.3	779.5	665.6	113.94	6.841
18,800.0	9,734.0	9,833.0	9,784.7	134.9	35.1	-90.00	8,120.0	-1,297.3	868.1	758.9	109.17	7.952
18,900.0	9,734.0	9,833.0	9,784.7	136.3	35.1	-90.00	8,120.0	-1,297.3	959.0	853.7	105.27	9.110
19,000.0	9,734.0	9,833.0	9,784.7	137.7	35.1	-90.00	8,120.0	-1,297.3	1,051.5	949.4	102.05	10.303
19,100.0	9,734.0	9,833.0	9,784.7	139.1	35.1	-90.00	8,120.0	-1,297.3	1,145.3	1,045.9	99.38	11.524
19,200.0	9,734.0	9,833.0	9,784.7	140.5	35.1	-90.00	8,120.0	-1,297.3	1,240.0	1,142.9	97.15	12.764
19,300.0	9,734.0	9,833.0	9,784.7	141.9	35.1	-90.00	8,120.0	-1,297.3	1,335.5	1,240.3	95.26	14.019
19,400.0	9,734.0	9,833.0	9,784.7	143.3	35.1	-90.00	8,120.0	-1,297.3	1,431.7	1,338.0	93.66	15.285
19,500.0	9,734.0	9,833.0	9,784.7	144.7	35.1	-90.00	8,120.0	-1,297.3	1,528.3	1,436.0	92.29	16.559
19,600.0	9,734.0	9,833.0	9,784.7	146.1	35.1	-90.00	8,120.0	-1,297.3	1,625.3	1,534.2	91.11	17.839
19,700.0	9,734.0	9,833.0	9,784.7	147.5	35.1	-90.00	8,120.0	-1,297.3	1,722.7	1,632.6	90.09	19.122
19,800.0	9,734.0	9,833.0	9,784.7	148.9	35.1	-90.00	8,120.0	-1,297.3	1,820.4	1,731.2	89.20	20.407
19,900.0	9,734.0	9,833.0	9,784.7	150.3	35.1	-90.00	8,120.0	-1,297.3	1,918.3	1,829.8	88.42	21.694
20,000.0	9,734.0	9,833.0	9,784.7	151.7	35.1	-90.00	8,120.0	-1,297.3	2,016.4	1,928.6	87.74	22.981
20,011.3	9,734.0	9,833.0	9,784.7	151.9	35.1	-90.00	8,120.0	-1,297.3	2,027.5	1,935.5	92.05	22.026

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 605H - OH - Plan 0.2												Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
16,700.0	9,734.0	9,792.3	9,785.6	105.9	34.9	-90.00	8,956.0	-1,302.6	2,189.3	2,115.7	73.58	29.755	
16,800.0	9,734.0	9,792.3	9,785.6	107.2	34.9	-90.00	8,956.0	-1,302.6	2,090.9	2,017.0	73.92	28.287	
16,900.0	9,734.0	9,792.3	9,785.6	108.6	34.9	-90.00	8,956.0	-1,302.6	1,992.6	1,918.3	74.31	26.814	
17,000.0	9,734.0	9,792.3	9,785.6	110.0	34.9	-90.00	8,956.0	-1,302.6	1,894.6	1,819.8	74.78	25.335	
17,100.0	9,734.0	9,792.3	9,785.6	111.4	34.9	-90.00	8,956.0	-1,302.6	1,796.7	1,721.4	75.34	23.849	
17,200.0	9,734.0	9,792.3	9,785.6	112.7	34.9	-90.00	8,956.0	-1,302.6	1,699.1	1,623.1	76.00	22.356	
17,300.0	9,734.0	9,792.3	9,785.6	114.1	34.9	-90.00	8,956.0	-1,302.6	1,601.8	1,525.0	76.80	20.856	
17,400.0	9,734.0	9,792.3	9,785.6	115.5	34.9	-90.00	8,956.0	-1,302.6	1,504.9	1,427.1	77.77	19.350	
17,500.0	9,734.0	9,792.3	9,785.6	116.9	34.9	-90.00	8,956.0	-1,302.6	1,408.4	1,329.4	78.95	17.839	
17,600.0	9,734.0	9,792.3	9,785.6	118.2	34.9	-90.00	8,956.0	-1,302.6	1,312.4	1,232.0	80.39	16.324	
17,700.0	9,734.0	9,792.3	9,785.6	119.6	34.9	-90.00	8,956.0	-1,302.6	1,217.0	1,134.8	82.18	14.809	
17,800.0	9,734.0	9,792.3	9,785.6	121.0	34.9	-90.00	8,956.0	-1,302.6	1,122.5	1,038.0	84.40	13.299	
17,900.0	9,734.0	9,792.3	9,785.6	122.4	34.9	-90.00	8,956.0	-1,302.6	1,028.9	941.7	87.19	11.801	
18,000.0	9,734.0	9,792.3	9,785.6	123.8	34.9	-90.00	8,956.0	-1,302.6	936.8	846.1	90.70	10.328	
18,100.0	9,734.0	9,792.3	9,785.6	125.2	34.9	-90.00	8,956.0	-1,302.6	846.4	751.2	95.17	8.893	
18,200.0	9,734.0	9,792.3	9,785.6	126.5	34.9	-90.00	8,956.0	-1,302.6	758.4	657.5	100.87	7.519	
18,300.0	9,734.0	9,792.3	9,785.6	127.9	34.9	-90.00	8,956.0	-1,302.6	673.7	565.6	108.15	6.230	
18,400.0	9,734.0	9,792.3	9,785.6	129.3	34.9	-90.00	8,956.0	-1,302.6	593.9	476.5	117.39	5.059	
18,500.0	9,734.0	9,792.3	9,785.6	130.7	34.9	-90.00	8,956.0	-1,302.6	521.1	392.2	128.86	4.044	
18,600.0	9,734.0	9,792.3	9,785.6	132.1	34.9	-90.00	8,956.0	-1,302.6	458.6	316.3	142.32	3.223	
18,700.0	9,734.0	9,792.3	9,785.6	133.5	34.9	-90.00	8,956.0	-1,302.6	411.3	255.1	156.23	2.633	
18,800.0	9,734.0	9,792.3	9,785.6	134.9	34.9	-90.00	8,956.0	-1,302.6	384.7	217.6	167.12	2.302	
18,856.0	9,734.0	9,792.3	9,785.6	135.7	34.9	-90.00	8,956.0	-1,302.6	380.6	210.3	170.30	2.235 CC, ES, SF	
18,900.0	9,734.0	9,792.3	9,785.6	136.3	34.9	-90.00	8,956.0	-1,302.6	383.1	212.2	170.95	2.241	
19,000.0	9,734.0	9,792.3	9,785.6	137.7	34.9	-90.00	8,956.0	-1,302.6	406.9	240.1	166.81	2.439	
19,100.0	9,734.0	9,792.3	9,785.6	139.1	34.9	-90.00	8,956.0	-1,302.6	452.1	294.4	157.66	2.868	
19,200.0	9,734.0	9,792.3	9,785.6	140.5	34.9	-90.00	8,956.0	-1,302.6	513.0	365.9	147.12	3.487	
19,300.0	9,734.0	9,792.3	9,785.6	141.9	34.9	-90.00	8,956.0	-1,302.6	584.8	447.5	137.27	4.260	
19,400.0	9,734.0	9,792.3	9,785.6	143.3	34.9	-90.00	8,956.0	-1,302.6	663.9	535.1	128.84	5.153	
19,500.0	9,734.0	9,792.3	9,785.6	144.7	34.9	-90.00	8,956.0	-1,302.6	748.1	626.2	121.86	6.139	
19,600.0	9,734.0	9,792.3	9,785.6	146.1	34.9	-90.00	8,956.0	-1,302.6	835.7	719.6	116.15	7.195	
19,700.0	9,734.0	9,792.3	9,785.6	147.5	34.9	-90.00	8,956.0	-1,302.6	925.9	814.4	111.48	8.306	
19,800.0	9,734.0	9,792.3	9,785.6	148.9	34.9	-90.00	8,956.0	-1,302.6	1,017.9	910.2	107.63	9.457	
19,900.0	9,734.0	9,792.3	9,785.6	150.3	34.9	-90.00	8,956.0	-1,302.6	1,111.2	1,006.8	104.44	10.640	
20,000.0	9,734.0	9,792.3	9,785.6	151.7	34.9	-90.00	8,956.0	-1,302.6	1,205.7	1,103.9	101.78	11.846	
20,011.3	9,734.0	9,792.3	9,785.6	151.9	34.9	-90.00	8,956.0	-1,302.6	1,216.5	1,111.6	104.88	11.599	

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

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Offset Design: Lone Wolf 36 Pad - Lone Wolf 36 Fed Com 606H - OH - Plan 0.1													Offset Site Error:	0.0 usft
Survey Program: 0-B001Mb_MWD+HRGM													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Semi Major Axis Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
17,700.0	9,734.0	9,868.2	9,786.7	119.6	37.8	-90.00	9,880.0	-1,308.6	2,114.4	2,038.3	76.09	27.789		
17,800.0	9,734.0	9,868.2	9,786.7	121.0	37.8	-90.00	9,880.0	-1,308.6	2,016.1	1,939.5	76.58	26.327		
17,900.0	9,734.0	9,868.2	9,786.7	122.4	37.8	-90.00	9,880.0	-1,308.6	1,918.0	1,840.9	77.16	24.859		
18,000.0	9,734.0	9,868.2	9,786.7	123.8	37.8	-90.00	9,880.0	-1,308.6	1,820.1	1,742.3	77.83	23.384		
18,100.0	9,734.0	9,868.2	9,786.7	125.2	37.8	-90.00	9,880.0	-1,308.6	1,722.4	1,643.8	78.64	21.904		
18,200.0	9,734.0	9,868.2	9,786.7	126.5	37.8	-90.00	9,880.0	-1,308.6	1,625.1	1,545.5	79.59	20.418		
18,300.0	9,734.0	9,868.2	9,786.7	127.9	37.8	-90.00	9,880.0	-1,308.6	1,528.0	1,447.3	80.73	18.927		
18,400.0	9,734.0	9,868.2	9,786.7	129.3	37.8	-90.00	9,880.0	-1,308.6	1,431.4	1,349.3	82.11	17.432		
18,500.0	9,734.0	9,868.2	9,786.7	130.7	37.8	-90.00	9,880.0	-1,308.6	1,335.2	1,251.4	83.78	15.936		
18,600.0	9,734.0	9,868.2	9,786.7	132.1	37.8	-90.00	9,880.0	-1,308.6	1,239.7	1,153.9	85.83	14.444		
18,700.0	9,734.0	9,868.2	9,786.7	133.5	37.8	-90.00	9,880.0	-1,308.6	1,144.9	1,056.6	88.35	12.959		
18,800.0	9,734.0	9,868.2	9,786.7	134.9	37.8	-90.00	9,880.0	-1,308.6	1,051.1	959.6	91.47	11.491		
18,900.0	9,734.0	9,868.2	9,786.7	136.3	37.8	-90.00	9,880.0	-1,308.6	958.6	863.2	95.37	10.051		
19,000.0	9,734.0	9,868.2	9,786.7	137.7	37.8	-90.00	9,880.0	-1,308.6	867.7	767.4	100.28	8.652		
19,100.0	9,734.0	9,868.2	9,786.7	139.1	37.8	-90.00	9,880.0	-1,308.6	779.0	672.5	106.49	7.315		
19,200.0	9,734.0	9,868.2	9,786.7	140.5	37.8	-90.00	9,880.0	-1,308.6	693.4	579.1	114.37	6.063		
19,300.0	9,734.0	9,868.2	9,786.7	141.9	37.8	-90.00	9,880.0	-1,308.6	612.3	487.9	124.34	4.924		
19,400.0	9,734.0	9,868.2	9,786.7	143.3	37.8	-90.00	9,880.0	-1,308.6	537.5	400.7	136.74	3.931		
19,500.0	9,734.0	9,868.2	9,786.7	144.7	37.8	-90.00	9,880.0	-1,308.6	472.1	320.6	151.47	3.117		
19,600.0	9,734.0	9,868.2	9,786.7	146.1	37.8	-90.00	9,880.0	-1,308.6	420.6	253.3	167.22	2.515		
19,700.0	9,734.0	9,868.2	9,786.7	147.5	37.8	-90.00	9,880.0	-1,308.6	388.4	207.9	180.52	2.152		
19,780.0	9,734.0	9,868.2	9,786.7	148.6	37.8	-90.00	9,880.0	-1,308.6	380.1	194.0	186.15	2.042 CC, ES		
19,800.0	9,734.0	9,868.2	9,786.7	148.9	37.8	-90.00	9,880.0	-1,308.6	380.6	194.0	186.62	2.040 SF		
19,900.0	9,734.0	9,868.2	9,786.7	150.3	37.8	-90.00	9,880.0	-1,308.6	398.6	215.2	183.40	2.174		
20,000.0	9,734.0	9,868.2	9,786.7	151.7	37.8	-90.00	9,880.0	-1,308.6	439.2	265.7	173.54	2.531		
20,011.3	9,734.0	9,868.2	9,786.7	151.9	37.8	-90.00	9,880.0	-1,308.6	445.0	272.2	172.77	2.576		

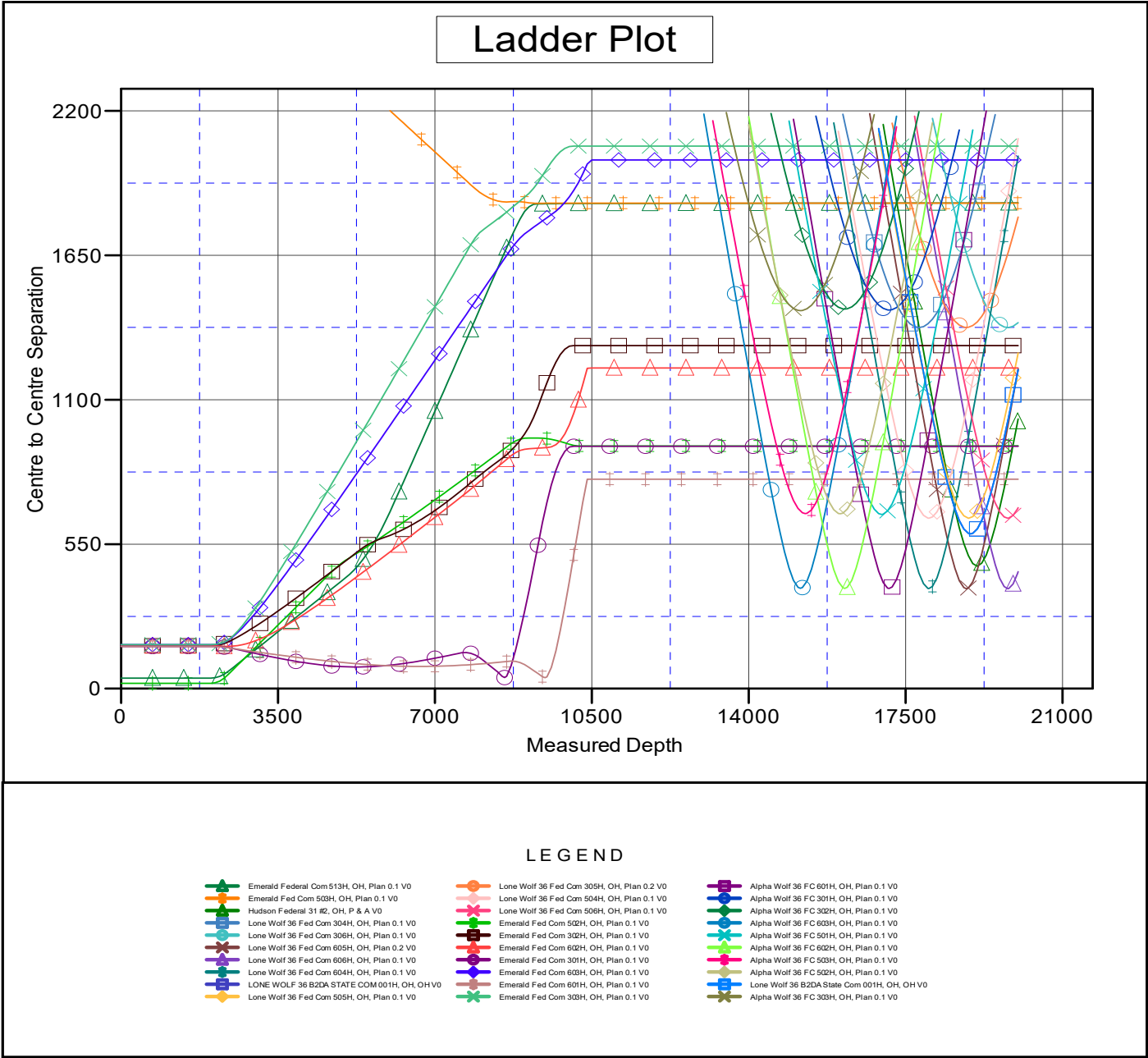
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3700.5usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Emerald Fed Com 501H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.34°



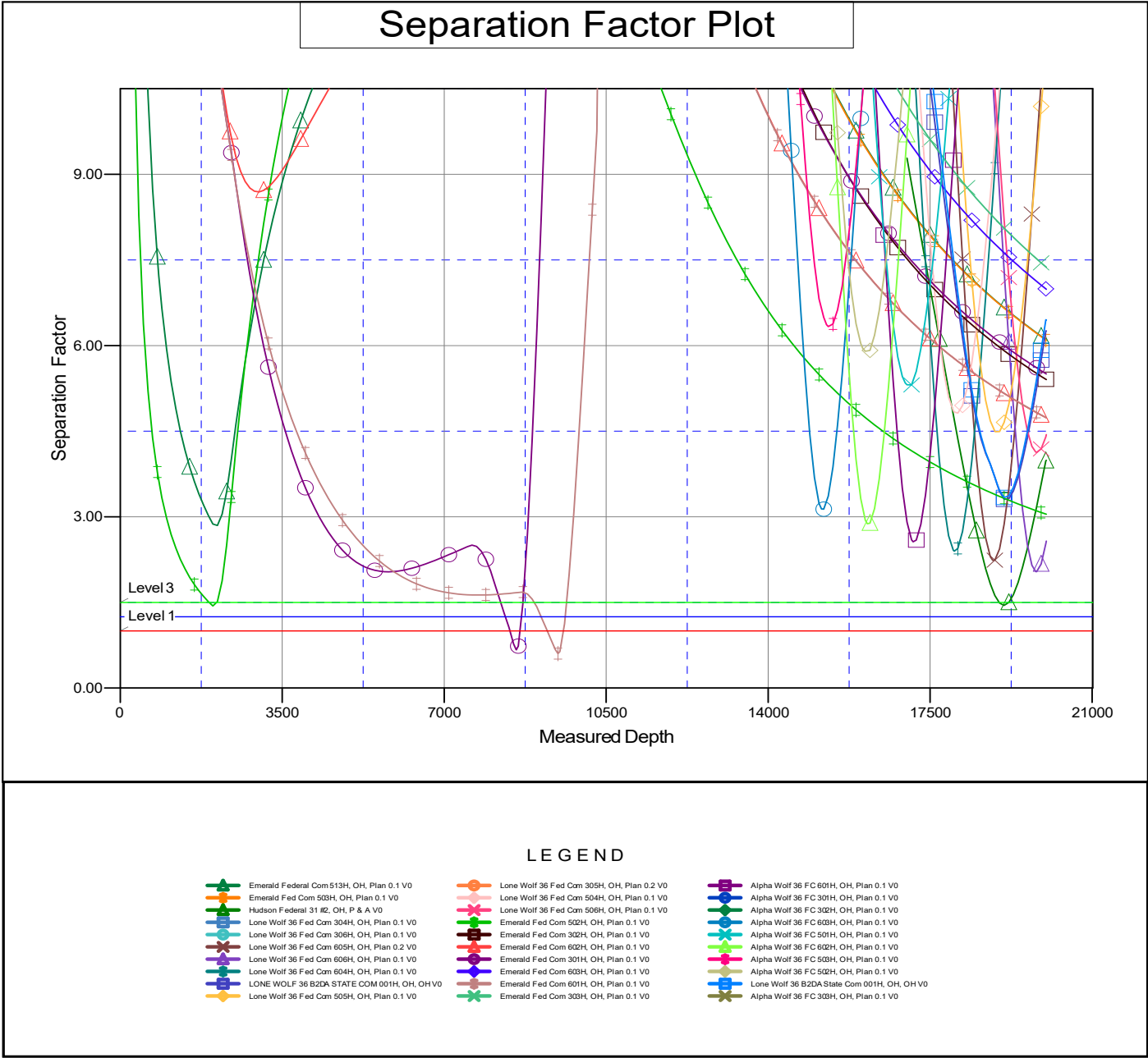
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	Avant Operating, LLC	Local Co-ordinate Reference:	Well Emerald Fed Com 501H
Project:	Lea Co., NM (NAD 83)	TVD Reference:	WELL @ 3700.5usft (Original Well Elev)
Reference Site:	Emerald Pad 1	MD Reference:	WELL @ 3700.5usft (Original Well Elev)
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Reference Well:	Emerald Fed Com 501H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.16 Single User Db
Reference Design:	Plan 0.1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3700.5usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Emerald Fed Com 501H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.34°



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

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

CONDITIONS

Action 387189

CONDITIONS

Operator: Avant Operating, LLC 1515 Wynkoop Street Denver, CO 80202	OGRID: 330396
	Action Number: 387189
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	ALL PREVIOUS COA	10/3/2024