

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APD Artesia
I & C/O Artesia

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

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.

SUBMIT IN TRIPLICATE – Other instructions on page 2.		5. Lease Serial No NM-65417
1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
2. Name of Operator Travis Hahn <i>Yates Petroleum Corp.</i>		7. If Unit of CA/Agreement, Name and/or No.
3a. Address 105 S. Fourth St Artesia, NM 88210	3b. Phone No. (include area code) 575-748-4120	8. Well Name and No. Martha AIK Federal 14H
4. Location of Well (Footage, Sec., T, R, M., or Survey Description) 430' FSL & 178' FEL, Section 11 of T22S - R31E SHL 530' FSL & 1650' FWL, Section 11 of T22S - R31E BHL		9. API Well No. 30-015-37556
		10. Field and Pool or Exploratory Area Undesignated/Livingston Ridge
		11. Country or Parish, State Eddy

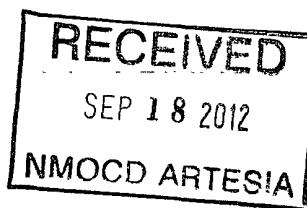
12 CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

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

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

Yates Petroleum Corporation would like to request a move of the surface hole location of the Martha AIK Federal #14H, the surface hole location was to be 530' FSL and 200' FEL we are hereby requestion a move to 430' FSL & 178' FEL in the same section township and range. Please note I have included the new plats, drilling plan, and anticollision report.

Accepted for record
NMOCD
Yes
9/19/2012



14 I hereby certify that the foregoing is true and correct Name (Printed/Typed) Travis Hahn	Title Land Regulatory Agent
Signature <i>[Signature]</i>	Date 08/23/2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

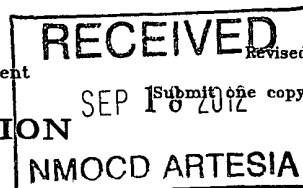
Approved by <i>[Signature]</i>	FIELD MANAGER	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office CARLSBAD FIELD 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

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505



Form C-102
Revised July 16, 2010
Submit one copy to appropriate District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
		Undesignated/Livingston Ridge
Property Code	Property Name	Well Number
	MARTHA "AIK" FEDERAL	14H
OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORP.	3488

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	11	22 S	31 E		430	SOUTH	178	EAST	EDDY

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
N	11	22 S	31 E		530	SOUTH	1650	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
120			

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

PROPOSED BOTTOM HOLE LOCATION Lat - N 32°24'00.87" Long - W 103°45'06.62" NMSPCE- N 509827.75 E 720807.45 (NAD-83)	Production Zone Project Area Penetration Point 527' FSL & 655' DEL	SURFACE LOCATION Lat - N 32°23'59.92" Long - W 103°44'26.39" NMSPCE- N 509751.01 E 724257.17 (NAD-83)	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <u>Travis Hahn</u> Date: <u>8/23/12</u> Printed Name: <u>Travis Hahn</u> Email Address: <u>thahn@yatespetroleum.com</u>
1650' 3451.3' 3490.3' 3492.1' 3484.5' 3488.9' 530' 178' 430'			SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date Surveyed: <u>August 15, 2012</u> Signature & Seal of Professional Surveyor: <u>GARY L. JONES</u> Certificate No. <u>Gary L. Jones 7977</u> BASIN SURVEYS 27199

YATES PETROLEUM CORPORATION

Martha AIK Federal #14-H
430' FSL & 178' FEL, Surface Hole
530' FSL & 1650' FWL, Bottom Hole
Section 11 -T22S-R31E
Eddy County, New Mexico

1. The estimated tops of geologic markers are as follows:

Rustler	775'	Cherry Canyon	5363' Oil
Top of Salt	1000'	Livingston Ridge	7200' Oil MD
Base of Salt	3958'	Livingston Ridge Target	7322' Oil MD
Bell Canyon	4510'	TD	10294' Oil MD

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: Approx. 0' - 775'

Oil or Gas: Oil Zones: 5363', 7200', 7322'

3. Pressure Control Equipment: 3000 PSI BOPE with a 13.625" opening will be installed on the 13.375 casing and also on the 9 5/8" casing. Pressure tests to 3000 PSI and held for 30 minutes will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report.

4. Auxiliary Equipment:

A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

1. THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: (All New)

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft</u>	<u>Grade</u>	<u>Coupling</u>	<u>Interval</u>	<u>Length</u>
17 1/2"	13 3/8"	48#	J-55	ST&C	0-800'	800'
12 1/4"	9 5/8"	40#	J-55	LT&C	0-100'	100'
12 1/4"	9 5/8"	36#	K-55	LT&C	100-3300'	3200'
12 1/4"	9 5/8"	40#	J-55	LT&C	3300-4350'	1050'
8 3/4"	5 1/2"	17#	P-110	LT&C	0-5600'	5600'
8 1/2"	5 1/2"	17#	HCP-110	LT&C	5600'-6500'	900'
8 1/2"	5 1/2"	17#	L-80	Buttress Thread	6500'-10294'	3794'

Minimum Casing Design Factors: Burst 1.0, Tensile 1.8, Collapse 1.125

B. CEMENTING PROGRAM:

Surface Casing: 425 sacks Class C Lite + 2% CaCl₂ (YLD 2.00 WT.12.50). Tail in with 210 sacks Class C + 2% CaCl₂ (WT 14.80, YLD 1.34). Designed with 100% excess. TOC-Surface.

Intermediate Casing: Lead with 1225 sacks Class C Lite + 2% CaCl₂ (YLD 2.00 WT 12.50); tail in with 210 sacks Class C + 2% CaCl₂ (YLD 1.34 WT. 14.80). Designed with 100% excess. TOC-Surface

Production Casing: Cement to be done in three stages, DV tools @ 5000'

Stage 1 from 5000'-10294'; cement with 1400 sacks Pecos Valley Lite (YLD 1.83 WT. 13.00). 30% CaCO₃, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. Designed with 35% excess. TOC-6000'

Stage 2 from 0'-5000'; Lead with 1200 sacks of Class C Lite (YLD 2.00 WT 12.50) CaCl₂ +2%. Tail with 100 sacks of Pecos Valley Lite (WT 13.00, YLD 1.41), 30%CaCO₃, 3.2% Expansion additive, 2% Antifoam, .8% Retarder, 15 Fluid loss. Designed with 35% excess.

Well will be drilled vertically depth to 6572'. Well will be kicked off at approximately 6572' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 7322' MD (7045' TVD). Hole will then be reduced to 8 1/2" and drilled to 10294' MD (7045' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 527' FSL & 655' FEL, Section 11 T22S - R31E. Deepest TVD is 7045' in the lateral. NO PILOT HOLE.

5. Mud Program and Auxiliary Equipment:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-800'	Fresh Water Gel	8.6-9.2	32-34	N/C
800'-4350'	Brine Water	10.0-10.10	28-28	N/C
4350'-7322'	Cut Brine	8.7-9.1	28-28	N/C
7322'-10294'	Cut Brine(Lateral Section)	8.7-9.1	28-28	<10-12

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM:

Samples: 10' Samples from Intermediate casing.

Logging: Platform Express through curve.

CNL/LDT/NGT – through curve to Intermediate casing

CNL/GR – through curve to surface

DLL-MSFL – through curve to surface casing

GHC Sonic-CMR – through curve to surface casing

MWD-GR – Horizontal

Coring: TBD.

DST's: TBD.

Mudlogger: TBD.

7. Abnormal Conditions, Bottom hole pressure and potential hazards:

Anticipated BHP:

From: 0	TO: 800'	Anticipated Max. BHP:	385	PSI
From: 800'	TO: 4350'	Anticipated Max. BHP:	2285	PSI
From: 4350	TO: 7045'	Anticipated Max. BHP	3330	PSI

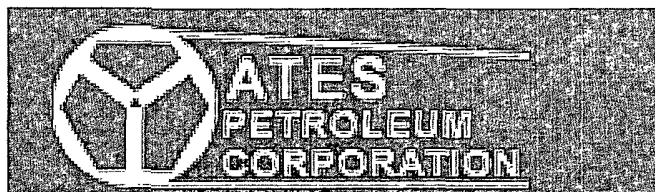
No abnormal pressures or temperatures are anticipated.

Possible water flow below 2800'

H2S may be encountered on this well.

7. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 65 days to drill the well with completion taking another 30 days.



Yates Petroleum Corp.

Eddy County (NAD 83)

Martha AIK Federal

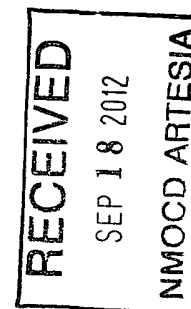
#14H

OH

Plan: Plan #1

PathfinderX & Y Report

20 August, 2012



PATHFINDER[®]
A Schlumberger Company



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Martha AIK Federal
Well: #14H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Project	Eddy County (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	Martha AIK Federal		
Site Position:		Northing:	512,888.500 usft
From:	Map	Easting:	682,912.800 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32.409163
		Longitude:	-103.874574
		Grid Convergence:	0.25 °

Well	#14H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Ground Level:

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	8/20/2012	7.52
			Dip Angle
			60.32
			Field Strength
			48,626

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			271.27

Survey Tool Program	Date	8/20/2012		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	10,293.6	Plan #1 (OH)	MWD	MWD - Standard



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Martha AIK Federal
Well: #14H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,503.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
100.0	0.00	0.00	100.0	-3,403.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
200.0	0.00	0.00	200.0	-3,303.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
300.0	0.00	0.00	300.0	-3,203.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
400.0	0.00	0.00	400.0	-3,103.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
500.0	0.00	0.00	500.0	-3,003.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
600.0	0.00	0.00	600.0	-2,903.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
700.0	0.00	0.00	700.0	-2,803.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
800.0	0.00	0.00	800.0	-2,703.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
900.0	0.00	0.00	900.0	-2,603.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,000.0	0.00	0.00	1,000.0	-2,503.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,100.0	0.00	0.00	1,100.0	-2,403.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,200.0	0.00	0.00	1,200.0	-2,303.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,300.0	0.00	0.00	1,300.0	-2,203.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,400.0	0.00	0.00	1,400.0	-2,103.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,500.0	0.00	0.00	1,500.0	-2,003.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,600.0	0.00	0.00	1,600.0	-1,903.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,700.0	0.00	0.00	1,700.0	-1,803.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,800.0	0.00	0.00	1,800.0	-1,703.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
1,900.0	0.00	0.00	1,900.0	-1,603.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,000.0	0.00	0.00	2,000.0	-1,503.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,100.0	0.00	0.00	2,100.0	-1,403.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,200.0	0.00	0.00	2,200.0	-1,303.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,300.0	0.00	0.00	2,300.0	-1,203.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,400.0	0.00	0.00	2,400.0	-1,103.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,500.0	0.00	0.00	2,500.0	-1,003.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17
2,600.0	0.00	0.00	2,600.0	-903.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Martha Alk Federal
Well: #14H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V:Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
2,700.0	0.00	0.00	2,700.0	-803.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
2,800.0	0.00	0.00	2,800.0	-703.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
2,900.0	0.00	0.00	2,900.0	-603.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,000.0	0.00	0.00	3,000.0	-503.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,100.0	0.00	0.00	3,100.0	-403.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,200.0	0.00	0.00	3,200.0	-303.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,300.0	0.00	0.00	3,300.0	-203.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,400.0	0.00	0.00	3,400.0	-103.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,500.0	0.00	0.00	3,500.0	-3.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,600.0	0.00	0.00	3,600.0	97.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,700.0	0.00	0.00	3,700.0	197.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,800.0	0.00	0.00	3,800.0	297.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
3,900.0	0.00	0.00	3,900.0	397.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,000.0	0.00	0.00	4,000.0	497.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,100.0	0.00	0.00	4,100.0	597.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,200.0	0.00	0.00	4,200.0	697.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,300.0	0.00	0.00	4,300.0	797.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,400.0	0.00	0.00	4,400.0	897.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,450.0	0.00	0.00	4,450.0	947.0	0.0	0.0	0.0	0.00	509,751.01	724,257.17	
4,500.0	1.00	0.00	4,500.0	997.0	0.4	0.0	0.0	2.00	509,751.45	724,257.17	
4,600.0	3.00	0.00	4,599.9	1,096.9	3.9	0.0	0.1	2.00	509,754.94	724,257.17	
4,700.2	5.00	0.00	4,699.9	1,196.9	10.9	0.0	0.2	2.00	509,761.93	724,257.17	
4,800.0	5.00	0.00	4,799.3	1,296.3	19.6	0.0	0.4	0.00	509,770.63	724,257.17	
4,900.0	5.00	0.00	4,898.9	1,395.9	28.3	0.0	0.6	0.00	509,779.36	724,257.17	
5,000.0	5.00	0.00	4,998.5	1,495.5	37.1	0.0	0.8	0.00	509,788.08	724,257.17	
5,100.0	5.00	0.00	5,098.2	1,595.2	45.8	0.0	1.0	0.00	509,796.80	724,257.17	
5,200.0	5.00	0.00	5,197.8	1,694.8	54.5	0.0	1.2	0.00	509,805.52	724,257.17	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Martha AIK Federal
Well: #14H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
5,300.0	5.00	0.00	5,297.4	1,794.4	63.2	0.0	1.4	0.00	509,814.24	724,257.17	
5,400.0	5.00	0.00	5,397.0	1,894.0	72.0	0.0	1.6	0.00	509,822.97	724,257.17	
5,500.0	5.00	0.00	5,496.6	1,993.6	80.7	0.0	1.8	0.00	509,831.69	724,257.17	
5,596.4	5.00	0.00	5,592.6	2,089.6	89.1	0.0	2.0	0.00	509,840.09	724,257.17	
5,600.0	4.93	0.00	5,596.3	2,093.3	89.4	0.0	2.0	2.00	509,840.41	724,257.17	
5,700.0	2.93	0.00	5,696.0	2,193.0	96.3	0.0	2.1	2.00	509,847.26	724,257.17	
5,800.0	0.93	0.00	5,796.0	2,293.0	99.6	0.0	2.2	2.00	509,850.63	724,257.17	
5,846.6	0.00	0.00	5,842.5	2,339.5	100.0	0.0	2.2	2.00	509,851.01	724,257.17	
5,900.0	0.00	0.00	5,895.9	2,392.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,000.0	0.00	0.00	5,995.9	2,492.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,100.0	0.00	0.00	6,095.9	2,592.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,200.0	0.00	0.00	6,195.9	2,692.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,300.0	0.00	0.00	6,295.9	2,792.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,400.0	0.00	0.00	6,395.9	2,892.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,500.0	0.00	0.00	6,495.9	2,992.9	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,571.6	0.00	0.00	6,567.5	3,064.5	100.0	0.0	2.2	0.00	509,851.01	724,257.17	
6,575.0	0.41	269.61	6,570.9	3,067.9	100.0	0.0	2.2	12.00	509,851.01	724,257.16	
6,600.0	3.41	269.61	6,595.9	3,092.9	100.0	-0.8	3.1	12.00	509,851.00	724,256.32	
6,625.0	6.41	269.61	6,620.8	3,117.8	100.0	-3.0	5.2	12.00	509,850.99	724,254.18	
6,650.0	9.41	269.61	6,645.6	3,142.6	100.0	-6.4	8.7	12.00	509,850.97	724,250.74	
6,675.0	12.41	269.61	6,670.1	3,167.1	99.9	-11.2	13.4	12.00	509,850.93	724,246.01	
6,700.0	15.41	269.61	6,694.4	3,191.4	99.9	-17.2	19.4	12.00	509,850.89	724,240.00	
6,725.0	18.41	269.61	6,718.3	3,215.3	99.8	-24.4	26.7	12.00	509,850.85	724,232.72	
6,750.0	21.41	269.61	6,741.8	3,238.8	99.8	-33.0	35.2	12.00	509,850.79	724,224.21	
6,775.0	24.41	269.61	6,764.8	3,261.8	99.7	-42.7	44.9	12.00	509,850.72	724,214.48	
6,800.0	27.41	269.61	6,787.3	3,284.3	99.6	-53.6	55.8	12.00	509,850.65	724,203.55	
6,825.0	30.41	269.61	6,809.2	3,306.2	99.6	-65.7	67.9	12.00	509,850.57	724,191.47	



Pathfinder PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Martha Alk Federal
Well: #14H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V.Sec (usft)	D.Leg. (°/100usft)	Northing (usft)	Easting (usft)	
6,850.0	33.41	269.61	6,830.4	3,327.4	99.5	-78.9	81.1	12.00	509,850.48	724,178.25	
6,875.0	36.41	269.61	6,850.9	3,347.9	99.4	-93.2	95.4	12.00	509,850.38	724,163.95	
6,900.0	39.41	269.61	6,870.7	3,367.7	99.3	-108.6	110.8	12.00	509,850.28	724,148.59	
6,925.0	42.41	269.61	6,889.5	3,386.5	99.2	-125.0	127.1	12.00	509,850.17	724,132.22	
6,950.0	45.41	269.61	6,907.5	3,404.5	99.0	-142.3	144.5	12.00	509,850.05	724,114.88	
6,975.0	48.41	269.61	6,924.6	3,421.6	98.9	-160.5	162.7	12.00	509,849.93	724,096.62	
7,000.0	51.41	269.61	6,940.7	3,437.7	98.8	-179.7	181.8	12.00	509,849.80	724,077.50	
7,025.0	54.41	269.61	6,955.8	3,452.8	98.7	-199.6	201.8	12.00	509,849.66	724,057.56	
7,050.0	57.41	269.61	6,969.8	3,466.8	98.5	-220.3	222.4	12.00	509,849.52	724,036.86	
7,075.0	60.41	269.61	6,982.7	3,479.7	98.4	-241.7	243.8	12.00	509,849.38	724,015.45	
7,100.0	63.41	269.61	6,994.5	3,491.5	98.2	-263.8	265.9	12.00	509,849.23	723,993.40	
7,125.0	66.41	269.61	7,005.1	3,502.1	98.1	-286.4	288.5	12.00	509,849.08	723,970.76	
7,150.0	69.41	269.61	7,014.5	3,511.5	97.9	-309.6	311.7	12.00	509,848.92	723,947.60	
7,175.0	72.41	269.61	7,022.6	3,519.6	97.8	-333.2	335.3	12.00	509,848.76	723,923.97	
7,200.0	75.41	269.61	7,029.6	3,526.6	97.6	-357.2	359.3	12.00	509,848.60	723,899.96	
7,225.0	78.41	269.61	7,035.2	3,532.2	97.4	-381.6	383.6	12.00	509,848.44	723,875.61	
7,250.0	81.41	269.61	7,039.6	3,536.6	97.3	-406.2	408.2	12.00	509,848.27	723,851.00	
7,275.0	84.41	269.61	7,042.7	3,539.7	97.1	-431.0	433.0	12.00	509,848.10	723,826.19	
7,300.0	87.41	269.61	7,044.5	3,541.5	96.9	-455.9	458.0	12.00	509,847.94	723,801.26	
7,321.5	90.00	269.61	7,045.0	3,542.0	96.8	-477.4	479.5	12.00	509,847.79	723,779.72	
7,400.0	90.00	269.61	7,045.0	3,542.0	96.3	-555.9	557.9	0.00	509,847.26	723,701.27	
7,500.0	90.00	269.61	7,045.0	3,542.0	95.6	-655.9	657.9	0.00	509,846.59	723,601.27	
7,600.0	90.00	269.61	7,045.0	3,542.0	94.9	-755.9	757.8	0.00	509,845.91	723,501.27	
7,700.0	90.00	269.61	7,045.0	3,542.0	94.2	-855.9	857.8	0.00	509,845.24	723,401.28	
7,800.0	90.00	269.61	7,045.0	3,542.0	93.6	-955.9	957.7	0.00	509,844.56	723,301.28	
7,900.0	90.00	269.61	7,045.0	3,542.0	92.9	-1,055.9	1,057.7	0.00	509,843.89	723,201.28	
8,000.0	90.00	269.61	7,045.0	3,542.0	92.2	-1,155.9	1,157.7	0.00	509,843.22	723,101.28	



Pathfinder
PathfinderX & Y Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Site: Martha AIK Federal
Well: #14H
Wellbore: OH
Design: Plan #1

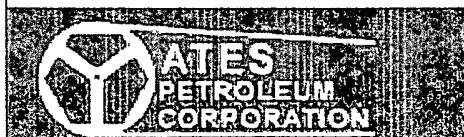
Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,100.0	90.00	269.61	7,045.0	3,542.0	91.5	-1,255.9	1,257.6	0.00	509,842.54	723,001.28
8,200.0	90.00	269.61	7,045.0	3,542.0	90.9	-1,355.9	1,357.6	0.00	509,841.87	722,901.29
8,300.0	90.00	269.61	7,045.0	3,542.0	90.2	-1,455.9	1,457.5	0.00	509,841.19	722,801.29
8,400.0	90.00	269.61	7,045.0	3,542.0	89.5	-1,555.9	1,557.5	0.00	509,840.52	722,701.29
8,500.0	90.00	269.61	7,045.0	3,542.0	88.8	-1,655.9	1,657.4	0.00	509,839.85	722,601.29
8,600.0	90.00	269.61	7,045.0	3,542.0	88.2	-1,755.9	1,757.4	0.00	509,839.17	722,501.30
8,700.0	90.00	269.61	7,045.0	3,542.0	87.5	-1,855.9	1,857.4	0.00	509,838.50	722,401.30
8,800.0	90.00	269.61	7,045.0	3,542.0	86.8	-1,955.9	1,957.3	0.00	509,837.82	722,301.30
8,900.0	90.00	269.61	7,045.0	3,542.0	86.1	-2,055.9	2,057.3	0.00	509,837.15	722,201.30
9,000.0	90.00	269.61	7,045.0	3,542.0	85.5	-2,155.9	2,157.2	0.00	509,836.47	722,101.31
9,100.0	90.00	269.61	7,045.0	3,542.0	84.8	-2,255.9	2,257.2	0.00	509,835.80	722,001.31
9,200.0	90.00	269.61	7,045.0	3,542.0	84.1	-2,355.9	2,357.1	0.00	509,835.13	721,901.31
9,300.0	90.00	269.61	7,045.0	3,542.0	83.4	-2,455.9	2,457.1	0.00	509,834.45	721,801.31
9,400.0	90.00	269.61	7,045.0	3,542.0	82.8	-2,555.9	2,557.1	0.00	509,833.78	721,701.31
9,500.0	90.00	269.61	7,045.0	3,542.0	82.1	-2,655.9	2,657.0	0.00	509,833.10	721,601.32
9,600.0	90.00	269.61	7,045.0	3,542.0	81.4	-2,755.9	2,757.0	0.00	509,832.43	721,501.32
9,700.0	90.00	269.61	7,045.0	3,542.0	80.7	-2,855.8	2,856.9	0.00	509,831.75	721,401.32
9,800.0	90.00	269.61	7,045.0	3,542.0	80.1	-2,955.8	2,956.9	0.00	509,831.08	721,301.32
9,900.0	90.00	269.61	7,045.0	3,542.0	79.4	-3,055.8	3,056.9	0.00	509,830.41	721,201.33
10,000.0	90.00	269.61	7,045.0	3,542.0	78.7	-3,155.8	3,156.8	0.00	509,829.73	721,101.33
10,100.0	90.00	269.61	7,045.0	3,542.0	78.0	-3,255.8	3,256.8	0.00	509,829.06	721,001.33
10,200.0	90.00	269.61	7,045.0	3,542.0	77.4	-3,355.8	3,356.7	0.00	509,828.38	720,901.33
10,293.9	90.00	269.61	7,045.0	3,542.0	76.7	-3,449.7	3,450.6	0.00	509,827.75	720,807.45

PBHL(Martha AIK Federal #14H)

Checked By: _____ Approved By: _____ Date: _____



Project: Eddy County (NAD 83)
Site: Martha AIK Federal
Well: #14H
Wellbore: OH
Plan: Plan #1

PROJECT DETAILS: Eddy County (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
Local North: Grid



A Schlumberger Company

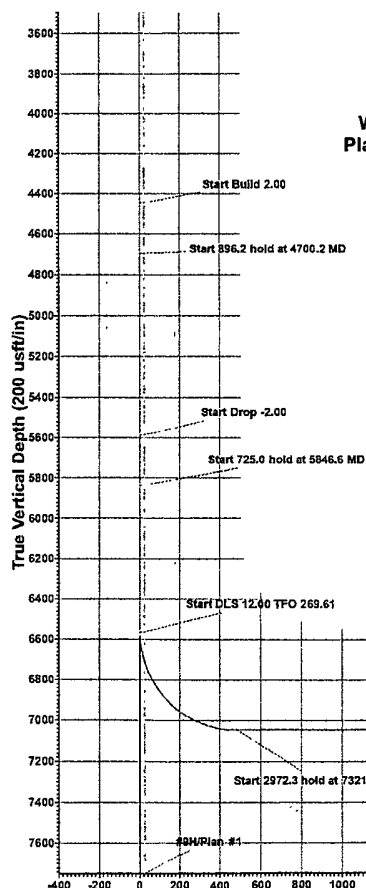
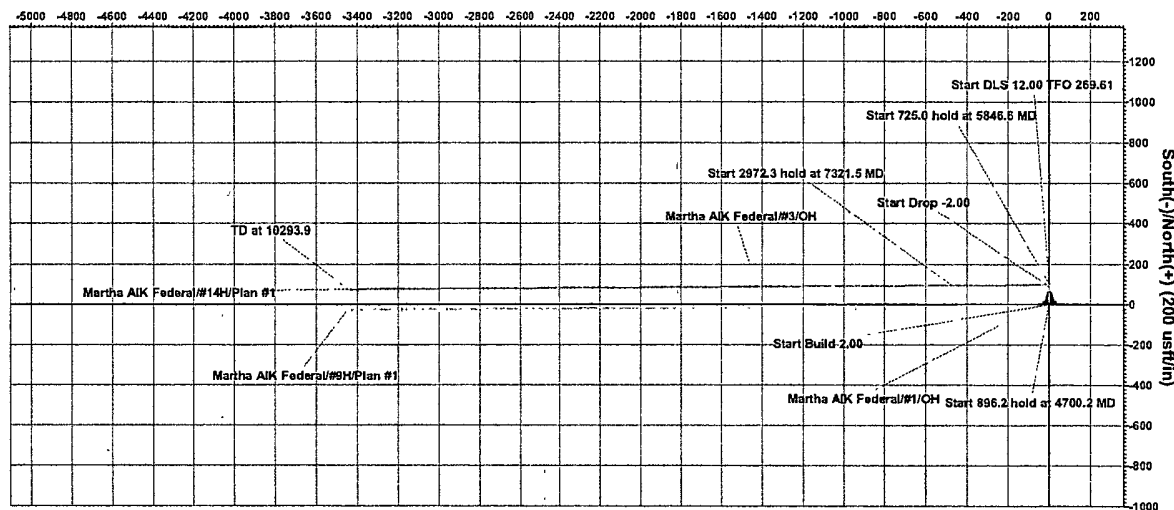
WELL DETAILS: #14H

Ground Elevation: 3488.0
RKB Elevation: KB = 15 @ 3503.0usft (Original Well Elev)
Rig Name: Original Well Elev

+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	509751.010	724257.170	32.399980	-103.740664	

Project: Eddy County (NAD 83)
Site: Martha AIK Federal
Well: #14H
Wellbore: OH
Plan: Plan #1 (#14H/OH)

West(-)/East(+) (200 usft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	4450.0	0.00	0.00	4450.0	0.0	0.0	0.00	0.00	0.0	
3	4700.2	5.00	0.00	4699.9	10.9	0.0	2.00	0.00	0.2	
4	5596.4	5.00	0.00	5592.6	89.1	0.0	0.00	0.00	2.0	
5	5846.5	0.00	0.00	5842.5	100.0	0.0	2.00	180.00	2.2	
6	6571.5	0.00	0.00	6567.5	100.0	0.0	0.00	0.00	2.2	
7	7321.5	90.00	269.61	7045.0	96.8	-477.4	12.00	269.61	479.5	
8	10293.9	90.00	269.61	7045.0	76.7	-3449.7	0.00	0.00	3450.6	PBHL(Martha AIK Federal #14H)

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
PBHL(Martha AIK Federal #14H)	7045.0	76.7	-3449.7	509827.750	720807.450	32.400243	-103.751840



Azimuths to Grid North
True North: -0.32°
Magnetic North: 7.21°

Magnetic Field
Strength: 48625.2erT
Dip Angle: 60.32°
Date: 8/20/2012
Model: IGRF200510

Vertical Section at 271.27° (200 usft/in)

Plan: Plan #1 (#14H/OH)

Created By: Sam Bille Date: 11.53, August 20 2012

Checked: _____ Date: _____

Printed By: Sam Bille
Date: 11.53, August 20 2012
Model: IGRF200510



Yates Petroleum Corp.

Eddy County (NAD 83)

Martha AIK Federal

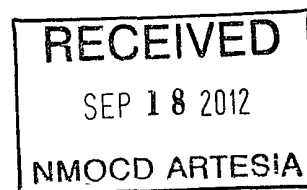
#14H

OH

Plan #1

Anticollision Report

20 August, 2012



PATHFINDER®

A Schlumberger Company



Pathfinder Anticollision Report



A Schlumberger Company

Company:	Yates Petroleum Corp	Local Co-ordinate Reference:	Well #14H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 15 @ 3503 0usft (Original Well Elev)
Reference Site:	Martha AIK Federal	MD Reference:	KB = 15 @ 3503 0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at:	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000 1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 5,000.0 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	8/20/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	10,293.6	Plan #1 (OH)	MWD	MWD - Standard	

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						
Martha AIK Federal						
#1 - OH - OH	7,084.3	7,054.5	205.1	47.4	1.300	Level 3, CC, ES, SF
#3 - OH - OH	8,308.6	7,103.5	123.4	-58.0	0.680	Level 1, CC, ES, SF
#9H - OH - Plan #1	4,450.0	4,530.0	22.0	2.1	1.104	Level 2, CC
#9H - OH - Plan #1	4,600.0	4,679.9	22.4	1.8	1.086	Level 2, ES, SF

Offset Design	Martha AIK Federal - #1 - OH - OH										Offset Site Error:	0.0 usft
Survey Program	161-INC+TREND										Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
0.0	0.0	62.9	-0.1	0.0	0.8	-113.32	-107.0	-248.1	270.1			
100.0	100.0	161.6	98.6	0.1	2.2	-113.31	-106.9	-248.1	270.1	267.8	2.27	118.978
200.0	200.0	262.6	199.6	0.3	4.9	-113.48	-107.8	-248.1	270.5	265.2	5.20	51.965
300.0	300.0	363.5	300.5	0.5	7.7	-113.48	-107.7	-248.1	270.5	262.3	8.14	33.232
400.0	400.0	464.0	400.9	0.8	10.4	-113.31	-106.9	-248.1	270.1	259.0	11.06	24.413
500.0	500.0	563.6	500.5	1.0	13.0	-113.19	-106.3	-248.1	269.9	256.1	13.79	19.573
600.0	600.0	663.4	600.3	1.2	15.7	-113.11	-105.9	-248.1	269.7	253.2	16.52	16.325
700.0	700.0	763.3	700.2	1.4	18.3	-113.05	-105.6	-248.1	269.6	250.3	19.26	14.000
800.0	800.0	863.1	800.0	1.7	20.9	-113.02	-105.4	-248.1	269.5	247.5	21.99	12.256
854.0	854.0	917.0	853.9	1.8	22.3	-113.02	-105.4	-248.1	269.5	246.1	23.47	11.485
900.0	900.0	963.0	899.9	1.9	23.5	-113.02	-105.4	-248.1	269.5	244.8	24.73	10.900
1,000.0	1,000.0	1,062.9	999.8	2.1	26.1	-113.05	-105.6	-248.1	269.6	242.1	27.46	9.817
1,100.0	1,100.0	1,162.8	1,099.6	2.3	28.7	-113.11	-105.9	-248.1	269.7	239.5	30.19	8.933
1,200.0	1,200.0	1,262.7	1,199.5	2.6	31.3	-113.20	-106.3	-248.1	269.9	237.0	32.92	8.198
1,300.0	1,300.0	1,363.5	1,300.2	2.8	33.9	-113.31	-106.9	-248.1	270.1	234.4	35.67	7.573
1,400.0	1,400.0	1,463.5	1,400.1	3.0	36.4	-113.27	-106.7	-248.1	270.0	231.7	38.31	7.049
1,500.0	1,500.0	1,563.4	1,500.0	3.2	38.9	-113.26	-106.6	-248.1	270.0	229.0	40.95	6.593
1,539.7	1,539.7	1,603.0	1,539.6	3.3	39.8	-113.25	-106.6	-248.1	270.0	228.0	42.00	6.429
1,600.0	1,600.0	1,663.3	1,599.9	3.5	41.3	-113.26	-106.6	-248.1	270.0	226.4	43.59	6.194
1,700.0	1,700.0	1,763.2	1,699.9	3.7	43.8	-113.28	-106.7	-248.1	270.0	223.8	46.23	5.841
1,800.0	1,800.0	1,863.4	1,800.0	3.9	46.2	-113.31	-106.9	-248.1	270.1	221.3	48.83	5.532
1,900.0	1,900.0	1,963.4	1,900.0	4.1	48.4	-113.31	-106.9	-248.1	270.1	218.9	51.20	5.276
2,000.0	2,000.0	2,063.4	2,000.0	4.4	50.6	-113.31	-106.9	-248.1	270.1	216.5	53.57	5.042

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



Pathfinder Anticollision Report



A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design Martha AIK Federal - #1 - OH - OH													Offset Site Error
Survey Program 161:INC+TREND													0.0 usft
Reference Offset Semi Major Axis Distance													Offset Well Error
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,100.0	2,100.0	2,163.4	2,100.0	4.6	52.7	-113.31	-106.9	-248.1	270.1	214.2	55.94	4.828	
2,200.0	2,200.0	2,263.4	2,200.0	4.8	55.0	-113.31	-106.9	-248.1	270.1	211.8	58.35	4.629	
2,300.0	2,300.0	2,363.4	2,300.0	5.0	57.3	-113.31	-106.9	-248.1	270.1	209.2	60.86	4.438	
2,400.0	2,400.0	2,463.4	2,400.0	5.3	59.6	-113.31	-106.9	-248.1	270.1	206.7	63.37	4.262	
2,500.0	2,500.0	2,563.4	2,500.0	5.5	61.9	-113.31	-106.9	-248.1	270.1	204.2	65.88	4.100	
2,600.0	2,600.0	2,663.4	2,600.0	5.7	64.2	-113.31	-106.9	-248.1	270.1	201.7	68.39	3.950	
2,700.0	2,700.0	2,763.5	2,700.0	5.9	66.5	-113.31	-106.9	-248.1	270.1	199.2	70.86	3.812	
2,800.0	2,800.0	2,863.5	2,800.0	6.2	68.8	-113.31	-106.9	-248.1	270.1	196.8	73.31	3.685	
2,900.0	2,900.0	2,963.5	2,900.0	6.4	71.0	-113.31	-106.9	-248.1	270.1	194.4	75.75	3.566	
3,000.0	3,000.0	3,063.5	3,000.0	6.6	73.3	-113.31	-106.9	-248.1	270.1	191.9	78.19	3.455	
3,100.0	3,100.0	3,163.5	3,100.0	6.8	75.5	-113.31	-106.9	-248.1	270.1	189.5	80.62	3.350	
3,200.0	3,200.0	3,262.7	3,199.2	7.1	78.3	-113.48	-107.8	-248.1	270.5	187.0	83.49	3.240	
3,300.0	3,300.0	3,363.8	3,300.3	7.3	81.2	-113.53	-108.0	-248.1	270.6	184.0	86.53	3.127	
3,400.0	3,400.0	3,464.7	3,401.2	7.5	84.2	-113.39	-107.3	-248.1	270.3	180.7	89.60	3.016	
3,431.5	3,431.5	3,495.0	3,431.4	7.6	85.1	-113.31	-106.9	-248.1	270.1	179.6	90.53	2.984	
3,500.0	3,500.0	3,563.8	3,500.1	7.7	87.9	-113.37	-107.2	-248.1	270.2	176.9	93.29	2.897	
3,588.1	3,588.1	3,651.9	3,588.1	7.9	91.6	-113.29	-106.8	-248.1	270.1	173.1	96.95	2.786	
3,600.0	3,600.0	3,663.7	3,599.8	8.0	92.1	-113.30	-106.8	-248.1	270.1	172.6	97.46	2.771	
3,700.0	3,700.0	3,763.8	3,699.8	8.2	95.9	-113.32	-106.9	-248.1	270.1	169.0	101.18	2.670	
3,800.0	3,800.0	3,864.3	3,800.2	8.4	99.6	-113.36	-107.2	-248.1	270.2	165.4	104.85	2.577	
3,884.1	3,884.1	3,948.1	3,883.9	8.6	103.4	-113.30	-106.8	-248.1	270.1	161.4	108.65	2.486	
3,900.0	3,900.0	3,964.1	3,899.8	8.6	104.2	-113.31	-106.9	-248.1	270.1	160.7	109.40	2.469	
3,991.1	3,991.1	4,055.5	3,991.1	8.8	108.6	-113.27	-106.7	-248.1	270.0	156.4	113.68	2.375	
4,000.0	4,000.0	4,064.1	3,999.7	8.9	109.0	-113.28	-106.7	-248.1	270.0	156.0	114.07	2.367	
4,100.0	4,100.0	4,164.8	4,100.1	9.1	113.5	-113.30	-106.8	-248.1	270.1	151.7	118.41	2.281	
4,114.7	4,114.7	4,179.4	4,114.7	9.1	114.1	-113.30	-106.8	-248.1	270.1	151.0	119.07	2.268	
4,200.0	4,200.0	4,264.8	4,200.0	9.3	118.1	-113.32	-106.9	-248.1	270.1	147.2	122.90	2.198	
4,300.0	4,300.0	4,365.8	4,300.8	9.5	122.6	-113.24	-106.5	-248.1	270.0	142.6	127.33	2.120	
4,344.8	4,344.8	4,409.8	4,344.8	9.6	124.4	-113.21	-106.4	-248.1	269.9	140.8	129.12	2.090	
4,400.0	4,400.0	4,464.1	4,399.0	9.8	126.6	-113.26	-106.6	-248.1	270.0	138.7	131.28	2.057	
4,450.0	4,450.0	4,515.2	4,450.0	9.9	128.4	-113.31	-106.9	-248.1	270.1	137.0	133.12	2.029	
4,500.0	4,500.0	4,565.2	4,500.0	10.0	130.1	-113.39	-106.9	-248.1	270.3	135.5	134.78	2.005	
4,600.0	4,599.9	4,665.1	4,599.9	10.2	133.4	-114.07	-106.9	-248.1	271.7	133.8	137.87	1.971	
4,700.2	4,699.9	4,765.1	4,699.9	10.4	136.8	-115.40	-106.9	-248.1	274.6	134.0	140.61	1.953	
4,800.0	4,799.3	4,864.5	4,799.3	10.7	140.1	-117.02	-106.9	-248.1	278.5	135.4	143.10	1.946	
4,900.0	4,898.9	4,964.2	4,898.9	10.9	143.4	-118.59	-106.9	-248.1	282.5	137.0	145.53	1.941	
5,000.0	4,998.5	5,064.2	4,998.7	11.1	146.7	-120.10	-106.7	-248.1	286.7	138.9	147.84	1.939	
5,100.0	5,098.2	5,163.7	5,098.2	11.3	149.9	-121.56	-106.6	-248.1	291.1	141.1	150.07	1.940	
5,200.0	5,197.8	5,263.2	5,197.7	11.6	153.1	-123.00	-106.6	-248.1	295.8	143.5	152.24	1.943	
5,300.0	5,297.4	5,362.8	5,297.2	11.8	156.3	-124.40	-106.6	-248.1	300.7	146.3	154.36	1.948	
5,400.0	5,397.0	5,462.3	5,396.7	12.0	159.6	-125.77	-106.6	-248.1	305.8	149.3	156.42	1.955	
5,500.0	5,496.6	5,562.4	5,496.6	12.3	162.7	-127.09	-106.9	-248.1	311.0	152.6	158.41	1.963	
5,596.4	5,592.6	5,658.4	5,592.6	12.5	165.7	-128.31	-106.9	-248.1	316.1	155.8	160.27	1.972	
5,600.0	5,596.3	5,662.0	5,596.3	12.5	165.8	-128.35	-106.9	-248.1	316.3	156.0	160.34	1.973	
5,700.0	5,696.0	5,761.8	5,696.0	12.7	168.9	-129.31	-106.9	-248.1	320.6	158.2	162.41	1.974	
5,800.0	5,796.0	5,861.7	5,796.0	12.9	172.0	-129.77	-106.9	-248.1	322.8	157.9	164.87	1.958	
5,846.6	5,842.5	5,908.3	5,842.5	12.9	173.5	-129.83	-106.9	-248.1	323.0	167.0	155.99	2.071	
5,900.0	5,895.9	5,961.8	5,895.9	13.1	175.2	-129.83	-106.9	-248.1	323.0	165.6	157.44	2.052	
6,000.0	5,995.9	6,061.9	5,995.9	13.3	178.3	-129.83	-106.9	-248.1	323.0	162.8	160.20	2.016	
6,100.0	6,095.9	6,161.9	6,095.9	13.5	181.5	-129.83	-106.9	-248.1	323.0	160.0	162.98	1.982	
6,200.0	6,195.9	6,262.0	6,195.9	13.7	184.6	-129.83	-106.9	-248.1	323.0	157.2	165.76	1.949	
6,300.0	6,295.9	6,362.0	6,295.9	13.9	187.8	-129.83	-106.9	-248.1	323.0	154.5	168.54	1.916	

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



Pathfinder
Anticollision Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design : Martha AIK Federal - #1 - OH - OH												Offset Site Error:	0.0 usft
Survey Program: 161-INC+TREND												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	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)			
6,400.0	6,395.9	6,462.0	6,395.9	14.2	190.9	-129.83	-106.9	-248.1	323.0	151.7	171.32	1.885	
6,500.0	6,495.9	6,562.5	6,496.3	14.4	194.0	-129.81	-106.7	-248.1	322.9	148.9	174.02	1.856	
6,571.6	6,567.5	6,633.9	6,567.7	14.5	196.1	-129.80	-106.6	-248.1	322.9	146.9	175.91	1.835	
6,575.0	6,570.9	6,637.4	6,571.2	14.6	196.2	-129.80	-106.6	-248.1	322.8	135.2	187.65	1.720	
6,600.0	6,595.9	6,662.3	6,596.1	14.6	197.0	-129.89	-106.6	-248.1	322.2	134.3	187.89	1.715	
6,625.0	6,620.8	6,687.2	6,621.0	14.7	197.7	-130.13	-106.6	-248.1	320.5	133.0	187.51	1.709	
6,650.0	6,645.6	6,711.9	6,645.7	14.7	198.4	-130.52	-106.6	-248.1	317.9	131.4	186.52	1.704	
6,675.0	6,670.1	6,736.4	6,670.2	14.8	199.2	-131.08	-106.6	-248.1	314.3	129.3	184.93	1.699	
6,700.0	6,694.4	6,760.6	6,694.4	14.8	199.9	-131.80	-106.6	-248.1	309.7	127.0	182.78	1.695	
6,725.0	6,718.3	6,784.5	6,718.3	14.9	200.6	-132.71	-106.6	-248.1	304.3	124.2	180.11	1.690	
6,750.0	6,741.8	6,808.0	6,741.7	14.9	201.3	-133.81	-106.6	-248.1	298.1	121.1	176.99	1.684	
6,775.0	6,764.8	6,831.0	6,764.7	15.0	202.0	-135.13	-106.6	-248.1	291.1	117.6	173.53	1.678	
6,800.0	6,787.3	6,853.4	6,787.2	15.0	202.7	-136.69	-106.6	-248.1	283.5	113.6	169.85	1.669	
6,825.0	6,809.2	6,875.3	6,809.0	15.1	203.3	-138.51	-106.6	-248.1	275.3	109.1	166.14	1.657	
6,850.0	6,830.4	6,896.5	6,830.2	15.2	204.0	-140.63	-106.6	-248.1	266.6	104.0	162.60	1.640	
6,875.0	6,850.9	6,916.9	6,850.7	15.3	204.6	-143.08	-106.7	-248.1	257.7	98.3	159.46	1.616	
6,900.0	6,870.7	6,936.6	6,870.4	15.3	205.2	-145.89	-106.7	-248.1	248.7	91.8	156.94	1.585	
6,925.0	6,889.5	6,955.5	6,889.2	15.4	205.7	-149.12	-106.7	-248.1	239.9	84.7	155.20	1.546	
6,950.0	6,907.5	6,973.5	6,907.2	15.6	206.3	-152.80	-106.8	-248.1	231.4	77.1	154.31	1.499 Level 3	
6,975.0	6,924.6	6,990.5	6,924.3	15.7	206.8	-156.95	-106.8	-248.1	223.5	69.3	154.22	1.449 Level 3	
7,000.0	6,940.7	7,006.6	6,940.3	15.8	207.3	-161.60	-106.8	-248.1	216.7	61.9	154.74	1.400 Level 3	
7,025.0	6,955.8	7,021.7	6,955.4	16.0	207.7	-166.73	-106.8	-248.1	211.1	55.5	155.61	1.357 Level 3	
7,050.0	6,969.8	7,037.1	6,970.7	16.2	208.1	-172.30	-106.8	-248.1	207.2	50.6	156.64	1.323 Level 3	
7,075.0	6,982.7	7,049.9	6,983.5	16.4	208.5	-178.23	-106.8	-248.1	205.3	47.8	157.48	1.303 Level 3	
7,084.3	6,987.2	7,054.5	6,988.0	16.4	208.6	-179.49	-106.8	-248.1	205.1	47.4	157.74	1.300 Level 3, CC, ES, SF	
7,100.0	6,994.5	7,061.7	6,995.3	16.6	208.8	-175.62	-106.7	-248.1	205.6	47.5	158.10	1.300 Level 3	
7,125.0	7,005.1	7,072.2	7,005.8	16.8	209.1	-169.39	-106.7	-248.1	208.3	49.8	158.49	1.315 Level 3	
7,150.0	7,014.5	7,081.6	7,015.2	17.1	209.3	-163.27	-106.7	-248.1	213.6	54.9	158.72	1.346 Level 3	
7,175.0	7,022.6	7,089.7	7,023.3	17.4	209.5	-157.39	-106.6	-248.1	221.4	62.5	158.91	1.393 Level 3	
7,200.0	7,029.6	7,096.6	7,030.2	17.7	209.7	-151.88	-106.6	-248.1	231.6	72.4	159.17	1.455 Level 3	
7,225.0	7,035.2	7,102.3	7,035.9	18.0	209.9	-146.80	-106.6	-248.1	243.8	84.2	159.60	1.528	
7,250.0	7,039.6	7,106.6	7,040.2	18.4	210.0	-142.20	-106.6	-248.1	258.0	97.8	160.20	1.610	
7,275.0	7,042.7	7,109.7	7,043.3	18.7	210.1	-138.07	-106.6	-248.1	273.8	112.8	160.92	1.701	
7,300.0	7,044.5	7,111.5	7,045.1	19.1	210.1	-134.39	-106.6	-248.1	290.9	129.3	161.59	1.800	
7,321.5	7,045.0	7,112.0	7,045.5	19.5	210.1	-131.56	-106.6	-248.1	306.5	144.6	161.94	1.893	
7,400.0	7,045.0	7,112.0	7,045.5	20.8	210.1	-123.38	-106.6	-248.1	368.7	205.4	163.28	2.258	
7,500.0	7,045.0	7,112.0	7,045.5	22.7	210.1	-116.37	-106.6	-248.1	455.2	290.0	165.17	2.756	
7,600.0	7,045.0	7,112.0	7,045.5	24.7	210.1	-111.64	-106.6	-248.1	546.3	379.1	167.23	3.267	
7,700.0	7,045.0	7,112.0	7,045.5	26.9	210.1	-108.28	-106.6	-248.1	640.1	470.7	169.41	3.779	
7,800.0	7,045.0	7,112.0	7,045.5	29.2	210.1	-105.79	-106.6	-248.1	735.6	563.9	171.68	4.284	
7,900.0	7,045.0	7,112.0	7,045.5	31.5	210.1	-103.87	-106.6	-248.1	832.1	658.0	174.04	4.781	
8,000.0	7,045.0	7,112.0	7,045.5	34.0	210.1	-102.35	-106.6	-248.1	929.3	752.9	176.45	5.267	
8,100.0	7,045.0	7,112.0	7,045.5	36.4	210.1	-101.12	-106.6	-248.1	1,027.1	848.2	178.91	5.741	
8,200.0	7,045.0	7,112.0	7,045.5	38.9	210.1	-100.11	-106.6	-248.1	1,125.3	943.9	181.42	6.203	
8,300.0	7,045.0	7,112.0	7,045.5	41.5	210.1	-99.25	-106.6	-248.1	1,223.7	1,039.8	183.95	6.653	
8,400.0	7,045.0	7,112.0	7,045.5	44.0	210.1	-98.53	-106.6	-248.1	1,322.4	1,135.9	186.51	7.090	
8,500.0	7,045.0	7,112.0	7,045.5	46.6	210.1	-97.90	-106.6	-248.1	1,421.3	1,232.2	189.09	7.517	
8,600.0	7,045.0	7,112.0	7,045.5	49.2	210.1	-97.36	-106.6	-248.1	1,520.3	1,328.6	191.69	7.931	
8,700.0	7,045.0	7,112.0	7,045.5	51.8	210.1	-96.88	-106.6	-248.1	1,619.5	1,425.2	194.31	8.335	
8,800.0	7,045.0	7,112.0	7,045.5	54.4	210.1	-96.46	-106.6	-248.1	1,718.7	1,521.8	196.94	8.727	
8,900.0	7,045.0	7,112.0	7,045.5	57.1	210.1	-96.08	-106.6	-248.1	1,818.0	1,618.5	199.58	9.109	
9,000.0	7,045.0	7,112.0	7,045.5	59.7	210.1	-95.75	-106.6	-248.1	1,917.4	1,715.2	202.23	9.482	

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



Pathfinder
Anticollision Report

PATHFINDER®
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design Martha AIK Federal - #1 - OH - OH														Offset Site Error:
Survey Program 161-INC-TREND														Offset Well Error
Reference		Offset		Semi Major Axis		Azimuth from North (°)	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)				
9,100.0	7,045.0	7,112.0	7,045.5	62.4	210.1	95.44	-106.6	-248.1	2,016.9	1,812.0	204.89	9.844		
9,200.0	7,045.0	7,111.9	7,045.5	65.1	210.1	95.17	-106.6	-248.1	2,116.4	1,908.8	207.56	10.197		
9,300.0	7,045.0	7,111.9	7,045.5	67.7	210.1	94.92	-106.6	-248.1	2,216.0	2,005.7	210.23	10.541		
9,400.0	7,045.0	7,111.9	7,045.5	70.4	210.1	94.69	-106.6	-248.1	2,315.5	2,102.6	212.91	10.876		
9,500.0	7,045.0	7,111.9	7,045.5	73.1	210.1	94.48	-106.6	-248.1	2,415.2	2,199.6	215.60	11.202		
9,600.0	7,045.0	7,111.9	7,045.5	75.8	210.1	94.29	-106.6	-248.1	2,514.8	2,296.5	218.29	11.521		
9,700.0	7,045.0	7,111.9	7,045.5	78.5	210.1	94.11	-106.6	-248.1	2,614.5	2,393.5	220.98	11.831		
9,800.0	7,045.0	7,111.9	7,045.5	81.2	210.1	93.94	-106.6	-248.1	2,714.2	2,490.5	223.68	12.134		
9,900.0	7,045.0	7,111.9	7,045.5	83.9	210.1	93.79	-106.6	-248.1	2,813.9	2,587.5	226.39	12.430		
10,000.0	7,045.0	7,111.9	7,045.5	86.6	210.1	93.65	-106.6	-248.1	2,913.7	2,684.6	229.09	12.718		
10,100.0	7,045.0	7,111.9	7,045.5	89.3	210.1	93.51	-106.6	-248.1	3,013.4	2,781.6	231.80	13.000		
10,200.0	7,045.0	7,111.9	7,045.5	92.0	210.1	93.39	-106.6	-248.1	3,113.2	2,878.7	234.51	13.275		
10,293.9	7,045.0	7,111.9	7,045.5	94.6	210.1	93.28	-106.6	-248.1	3,206.9	2,969.8	237.06	13.528		



Pathfinder
Anticollision Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503 Ousft (Original Well Elev)
MD Reference: KB = 15 @ 3503 Ousft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design Martha AIK Federal - #3 - OH - OH												Offset Site Error:	0.0 usft
Survey Program 472-INC+TREND												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	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	58.4	1.4	0.0	0.9	-81.73	213.0	-1,465.3	1,480.7				
100.0	100.0	157.6	100.6	0.1	2.4	-81.75	212.6	-1,465.3	1,480.6	1,478.2	2.45	604.080	
179.0	179.0	236.0	179.0	0.3	3.5	-81.75	212.5	-1,465.3	1,480.6	1,476.8	3.80	389.667	
200.0	200.0	256.8	199.8	0.3	3.8	-81.75	212.5	-1,465.3	1,480.6	1,476.5	4.16	356.064	
300.0	300.0	356.0	299.0	0.5	5.3	-81.74	212.7	-1,465.3	1,480.7	1,474.8	5.87	252.442	
400.0	400.0	455.2	398.2	0.8	6.8	-81.72	213.3	-1,465.3	1,480.7	1,473.2	7.57	195.553	
500.0	500.0	557.0	500.0	1.0	9.3	-81.71	213.5	-1,465.3	1,480.8	1,470.5	10.24	144.601	
600.0	600.0	657.0	600.0	1.2	11.9	-81.71	213.5	-1,465.3	1,480.8	1,467.7	13.04	113.516	
700.0	700.0	757.0	700.0	1.4	14.4	-81.71	213.5	-1,465.3	1,480.8	1,464.9	15.85	93.431	
800.0	800.0	857.1	800.0	1.7	17.0	-81.71	213.5	-1,465.3	1,480.8	1,462.1	18.65	79.400	
900.0	900.0	957.1	900.0	1.9	19.5	-81.71	213.5	-1,465.3	1,480.8	1,459.4	21.39	69.226	
1,000.0	1,000.0	1,057.1	1,000.0	2.1	22.1	-81.71	213.5	-1,465.3	1,480.8	1,456.6	24.13	61.363	
1,100.0	1,100.0	1,157.1	1,100.0	2.3	24.6	-81.71	213.5	-1,465.3	1,480.8	1,453.9	26.87	55.104	
1,200.0	1,200.0	1,257.1	1,200.0	2.6	27.1	-81.71	213.5	-1,465.3	1,480.8	1,451.2	29.61	50.004	
1,300.0	1,300.0	1,356.4	1,299.2	2.8	29.5	-81.71	213.6	-1,465.3	1,480.8	1,448.6	32.20	45.990	
1,400.0	1,400.0	1,456.8	1,399.6	3.0	31.6	-81.69	213.9	-1,465.3	1,480.8	1,446.3	34.54	42.876	
1,500.0	1,500.0	1,557.2	1,500.0	3.2	33.7	-81.69	214.0	-1,465.3	1,480.8	1,444.0	36.88	40.156	
1,600.0	1,600.0	1,657.6	1,600.4	3.5	35.8	-81.69	213.9	-1,465.3	1,480.8	1,441.6	39.22	37.760	
1,700.0	1,700.0	1,758.0	1,700.8	3.7	38.0	-81.71	213.6	-1,465.3	1,480.8	1,439.2	41.56	35.632	
1,800.0	1,800.0	1,857.5	1,800.3	3.9	40.1	-81.72	213.4	-1,465.3	1,480.7	1,436.9	43.66	33.757	
1,900.0	1,900.0	1,957.3	1,900.1	4.1	42.1	-81.72	213.2	-1,465.3	1,480.7	1,434.6	46.17	32.071	
1,973.8	1,973.8	2,031.0	1,973.8	4.3	43.7	-81.72	213.2	-1,465.3	1,480.7	1,432.9	47.87	30.930	
2,000.0	2,000.0	2,057.2	2,000.0	4.4	44.2	-81.72	213.2	-1,465.3	1,480.7	1,432.3	48.48	30.545	
2,100.0	2,100.0	2,157.0	2,099.8	4.6	46.3	-81.72	213.3	-1,465.3	1,480.7	1,430.0	50.78	29.158	
2,200.0	2,200.0	2,256.8	2,199.6	4.8	48.4	-81.71	213.5	-1,465.3	1,480.8	1,427.7	53.09	27.892	
2,300.0	2,300.0	2,357.5	2,300.3	5.0	50.8	-81.72	213.3	-1,465.3	1,480.7	1,425.1	55.68	26.592	
2,400.0	2,400.0	2,457.3	2,400.1	5.3	53.2	-81.72	213.2	-1,465.3	1,480.7	1,422.4	58.30	25.399	
2,435.3	2,435.3	2,492.5	2,435.3	5.3	54.0	-81.72	213.2	-1,465.3	1,480.7	1,421.5	59.22	25.003	
2,500.0	2,500.0	2,557.1	2,499.9	5.5	55.6	-81.72	213.3	-1,465.3	1,480.7	1,419.8	60.92	24.308	
2,600.0	2,600.0	2,656.9	2,599.6	5.7	58.0	-81.71	213.4	-1,465.3	1,480.8	1,417.2	63.53	23.307	
2,700.0	2,700.0	2,756.1	2,700.8	5.9	60.5	-81.72	213.3	-1,465.3	1,480.7	1,414.4	66.30	22.334	
2,800.0	2,800.0	2,857.8	2,800.5	6.2	63.2	-81.73	213.0	-1,465.3	1,480.7	1,411.5	69.18	21.404	
2,900.0	2,900.0	2,957.5	2,900.2	6.4	65.8	-81.73	212.9	-1,465.3	1,480.7	1,408.6	72.06	20.548	
2,954.7	2,954.7	3,012.0	2,954.7	6.5	67.3	-81.74	212.8	-1,465.3	1,480.7	1,407.0	73.63	20.108	
3,000.0	3,000.0	3,057.2	2,999.9	6.6	68.5	-81.74	212.8	-1,465.3	1,480.7	1,405.7	74.94	19.758	
3,100.0	3,100.0	3,156.8	3,099.5	6.8	71.2	-81.73	213.0	-1,465.3	1,480.7	1,402.9	77.82	19.027	
3,200.0	3,200.0	3,256.5	3,199.2	7.1	73.8	-81.72	213.3	-1,465.3	1,480.7	1,400.0	80.70	18.349	
3,300.0	3,300.0	3,357.2	3,299.8	7.3	76.6	-81.71	213.5	-1,465.3	1,480.8	1,397.1	83.68	17.696	
3,400.0	3,400.0	3,457.2	3,399.7	7.5	79.5	-81.71	213.6	-1,465.3	1,480.8	1,394.1	86.73	17.073	
3,500.0	3,500.0	3,557.4	3,499.9	7.7	82.3	-81.70	213.7	-1,465.3	1,480.8	1,391.0	89.79	16.491	
3,600.0	3,600.0	3,657.7	3,600.2	8.0	85.2	-81.70	213.7	-1,465.3	1,480.8	1,387.9	92.86	15.947	
3,700.0	3,700.0	3,757.9	3,700.4	8.2	88.0	-81.71	213.5	-1,465.3	1,480.8	1,384.9	95.92	15.437	
3,800.0	3,800.0	3,858.5	3,800.9	8.4	91.0	-81.72	213.1	-1,465.3	1,480.7	1,381.6	99.16	14.933	
3,900.0	3,900.0	3,957.8	3,900.1	8.6	94.1	-81.73	212.9	-1,465.3	1,480.7	1,378.3	102.42	14.457	
3,914.3	3,914.3	3,972.0	3,914.3	8.7	94.5	-81.73	212.9	-1,465.3	1,480.7	1,377.8	102.89	14.391	
4,000.0	4,000.0	4,057.0	3,999.3	8.9	97.2	-81.73	213.0	-1,465.3	1,480.7	1,375.0	105.69	14.010	
4,100.0	4,100.0	4,154.0	4,096.2	9.1	100.2	-81.71	213.5	-1,465.3	1,480.8	1,371.9	108.88	13.599	
4,200.0	4,200.0	4,256.8	4,198.9	9.3	103.3	-81.68	214.2	-1,465.3	1,480.9	1,368.7	112.19	13.200	
4,300.0	4,300.0	4,357.6	4,299.7	9.5	106.3	-81.67	214.5	-1,465.3	1,480.9	1,365.5	115.44	12.828	
4,400.0	4,400.0	4,458.5	4,400.6	9.8	109.4	-81.68	214.4	-1,465.3	1,480.9	1,362.2	118.69	12.477	
4,450.0	4,450.0	4,508.9	4,451.0	9.9	110.9	-81.68	214.2	-1,465.3	1,480.9	1,360.6	120.32	12.308	
4,500.0	4,500.0	4,559.4	4,501.5	10.0	112.4	-81.71	213.9	-1,465.3	1,480.8	1,358.8	121.95	12.143	

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



Pathfinder Anticollision Report



A Schlumberger Company

Company: Yates Petroleum Corp
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference:
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Offset Design: Martha AIK Federal - #3 - OH - OH												Offset Site Error:	0.0 usft
Survey Program: 472-INC+TREND												Offset Well Error	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,600.0	4,599.9	4,658.0	4,599.9	10.2	115.2	-81.86	213.5	-1,465.3	1,480.2	1,355.2	124.97	11.844	
4,700.2	4,699.9	4,757.9	4,699.9	10.4	117.8	-82.13	213.5	-1,465.3	1,479.2	1,351.4	127.83	11.572	
4,800.0	4,799.3	4,857.4	4,799.3	10.7	120.4	-82.46	213.5	-1,465.3	1,478.1	1,347.4	130.67	11.311	
4,900.0	4,898.9	4,957.0	4,898.9	10.9	123.0	-82.80	213.5	-1,465.3	1,476.9	1,343.4	133.53	11.061	
5,000.0	4,998.5	5,056.6	4,998.5	11.1	125.6	-83.13	213.5	-1,465.3	1,475.9	1,339.5	136.39	10.821	
5,100.0	5,098.2	5,154.0	5,098.2	11.3	128.2	-83.47	213.5	-1,465.3	1,474.9	1,335.7	139.19	10.596	
5,200.0	5,197.8	5,255.8	5,197.6	11.6	130.7	-83.80	213.7	-1,465.3	1,473.9	1,331.9	142.00	10.380	
5,300.0	5,297.4	5,355.5	5,297.4	11.8	133.2	-84.14	213.7	-1,465.3	1,473.0	1,328.2	144.77	10.175	
5,400.0	5,397.0	5,455.3	5,397.1	12.0	135.7	-84.48	213.7	-1,465.3	1,472.1	1,324.6	147.53	9.978	
5,500.0	5,496.6	5,555.1	5,496.9	12.3	138.2	-84.82	213.5	-1,465.3	1,471.3	1,321.0	150.30	9.789	
5,596.4	5,592.6	5,650.9	5,592.6	12.5	140.6	-85.15	213.5	-1,465.3	1,470.6	1,317.7	152.69	9.618	
5,600.0	5,596.3	5,654.5	5,596.3	12.5	140.7	-85.16	213.5	-1,465.3	1,470.5	1,317.6	152.99	9.612	
5,700.0	5,696.0	5,754.3	5,696.0	12.7	143.1	-85.43	213.5	-1,465.3	1,470.0	1,314.4	155.59	9.447	
5,800.0	5,796.0	5,854.2	5,796.0	12.9	145.5	-85.66	213.5	-1,465.3	1,469.7	1,311.5	158.19	9.291	
5,846.6	5,842.5	5,900.8	5,842.5	12.9	146.6	-85.57	213.5	-1,465.3	1,469.7	1,341.4	128.32	11.453	
5,900.0	5,895.9	5,954.2	5,895.9	13.1	147.9	-85.57	213.5	-1,465.3	1,469.7	1,340.2	129.49	11.350	
6,000.0	5,995.9	6,054.2	5,995.9	13.3	150.3	-85.57	213.5	-1,465.3	1,469.7	1,338.0	131.71	11.159	
6,100.0	6,095.9	6,154.3	6,095.9	13.5	152.7	-85.57	213.5	-1,465.3	1,469.7	1,335.7	133.96	10.971	
6,200.0	6,195.9	6,254.3	6,195.9	13.7	155.2	-85.57	213.5	-1,465.3	1,469.7	1,333.5	136.22	10.789	
6,300.0	6,295.9	6,354.3	6,295.9	13.9	157.7	-85.57	213.5	-1,465.3	1,469.7	1,331.2	138.49	10.612	
6,400.0	6,395.9	6,454.3	6,395.9	14.2	160.1	-85.57	213.5	-1,465.3	1,469.7	1,328.9	140.76	10.441	
6,500.0	6,495.9	6,554.5	6,496.1	14.4	162.6	-85.58	213.4	-1,465.3	1,469.7	1,326.6	143.03	10.275	
6,571.6	6,567.5	6,626.0	6,567.6	14.5	164.5	-85.58	213.3	-1,465.3	1,469.7	1,325.0	144.66	10.160	
6,575.0	6,570.9	6,629.5	6,571.1	14.6	164.5	-85.58	213.3	-1,465.3	1,469.7	1,290.7	178.91	8.214	
6,600.0	6,595.9	6,654.4	6,596.0	14.6	165.2	-85.58	213.2	-1,465.3	1,468.8	1,289.5	179.30	8.192	
6,625.0	6,620.8	6,679.3	6,620.9	14.7	165.8	-85.57	213.2	-1,465.3	1,466.7	1,287.5	179.21	8.184	
6,650.0	6,645.6	6,704.0	6,645.6	14.7	166.5	-85.56	213.2	-1,465.3	1,463.3	1,284.6	178.62	8.192	
6,675.0	6,670.1	6,728.6	6,670.2	14.8	167.1	-85.55	213.2	-1,465.3	1,458.5	1,281.0	177.53	8.216	
6,700.0	6,694.4	6,752.8	6,694.4	14.8	167.7	-85.53	213.2	-1,465.3	1,452.6	1,276.6	175.95	8.255	
6,725.0	6,718.3	6,776.7	6,718.3	14.9	168.3	-85.50	213.2	-1,465.3	1,445.3	1,271.4	173.88	8.312	
6,750.0	6,741.8	6,800.2	6,741.8	14.9	168.9	-85.47	213.2	-1,465.3	1,436.8	1,265.5	171.32	8.387	
6,775.0	6,764.8	6,823.2	6,764.8	15.0	169.5	-85.44	213.2	-1,465.3	1,427.1	1,258.9	168.26	8.481	
6,800.0	6,787.3	6,845.6	6,787.2	15.0	170.1	-85.40	213.3	-1,465.3	1,416.2	1,251.5	164.74	8.597	
6,825.0	6,809.2	6,867.5	6,809.1	15.1	170.6	-85.35	213.3	-1,465.3	1,404.2	1,243.5	160.74	8.736	
6,850.0	6,830.4	6,888.7	6,830.3	15.2	171.2	-85.31	213.3	-1,465.3	1,391.0	1,234.8	156.28	8.901	
6,875.0	6,850.9	6,909.2	6,850.8	15.3	171.7	-85.25	213.3	-1,465.3	1,376.8	1,225.4	151.39	9.094	
6,900.0	6,870.7	6,928.9	6,870.5	15.3	172.2	-85.19	213.4	-1,465.3	1,361.5	1,215.4	146.08	9.320	
6,925.0	6,889.5	6,947.7	6,889.3	15.4	172.7	-85.13	213.4	-1,465.3	1,345.2	1,204.8	140.38	9.583	
6,950.0	6,907.5	6,965.7	6,907.3	15.6	173.2	-85.06	213.4	-1,465.3	1,327.9	1,193.6	134.31	9.887	
6,975.0	6,924.6	6,982.8	6,924.4	15.7	173.6	-84.98	213.5	-1,465.3	1,309.8	1,181.8	127.93	10.238	
7,000.0	6,940.7	6,999.2	6,940.7	15.8	174.0	-84.90	213.5	-1,465.3	1,290.7	1,169.4	121.29	10.642	
7,025.0	6,955.8	7,014.3	6,955.8	16.0	174.4	-84.82	213.5	-1,465.3	1,270.9	1,156.4	114.45	11.104	
7,050.0	6,969.8	7,028.3	6,969.8	16.2	174.8	-84.72	213.5	-1,465.3	1,250.3	1,142.8	107.52	11.628	
7,075.0	6,982.7	7,041.2	6,982.7	16.4	175.1	-84.63	213.5	-1,465.3	1,229.0	1,128.3	100.66	12.209	
7,100.0	6,994.5	7,053.0	6,994.5	16.6	175.5	-84.52	213.5	-1,465.3	1,207.0	1,112.9	94.09	12.828	
7,125.0	7,005.1	7,063.6	7,005.1	16.8	175.7	-84.41	213.5	-1,465.3	1,184.5	1,096.3	88.20	13.430	
7,150.0	7,014.5	7,073.0	7,014.5	17.1	176.0	-84.29	213.5	-1,465.3	1,161.5	1,077.9	83.60	13.894	
7,175.0	7,022.6	7,081.1	7,022.6	17.4	176.2	-84.16	213.5	-1,465.3	1,138.0	1,058.8	81.25	14.007	
7,200.0	7,029.6	7,088.1	7,029.6	17.7	176.4	-84.03	213.5	-1,465.3	1,114.1	1,031.5	82.59	13.490	
7,225.0	7,035.2	7,093.7	7,035.2	18.0	176.5	-83.89	213.5	-1,465.3	1,089.9	1,000.4	89.50	12.179	
7,250.0	7,039.6	7,098.1	7,039.6	18.4	176.7	-83.74	213.5	-1,465.3	1,065.5	961.6	103.85	10.260	
7,275.0	7,042.7	7,101.2	7,042.7	18.7	176.7	-83.58	213.5	-1,465.3	1,040.8	914.7	126.11	8.253	

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



Pathfinder
Anticollision Report



A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #14H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 15 @ 3503.0usft (Original Well Elev)
Reference Site:	Martha AIK Federal	MD Reference:	KB = 15 @ 3503.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Reference Datum

Offset Design Martha AIK Federal - #3 - OH - OH														Offset Site Error: 0.0 usft	
Survey Program 472-INC+TREND														Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance		Minimum		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)	Factor			
7,300.0	7,044.5	7,103.0	7,044.5	19.1	176.8	-83.41	213.5	-1,465.3	1,016.1	865.8	150.25	6.763			
7,321.5	7,045.0	7,103.5	7,045.0	19.5	176.8	-83.26	213.5	-1,465.3	994.7	835.6	159.08	6.253			
7,400.0	7,045.0	7,103.5	7,045.0	20.8	176.8	-82.65	213.5	-1,465.3	916.9	756.5	160.43	5.716			
7,500.0	7,045.0	7,103.5	7,045.0	22.7	176.8	-81.71	213.5	-1,465.3	817.9	655.6	162.32	5.039			
7,600.0	7,045.0	7,103.5	7,045.0	24.7	176.8	-80.51	213.5	-1,465.3	719.2	554.9	164.37	4.376			
7,700.0	7,045.0	7,103.5	7,045.0	26.9	176.8	-78.93	213.5	-1,465.3	621.0	454.4	166.56	3.728			
7,800.0	7,045.0	7,103.5	7,045.0	29.2	176.8	-76.75	213.5	-1,465.3	523.3	354.5	168.83	3.100			
7,900.0	7,045.0	7,103.5	7,045.0	31.5	176.8	-73.59	213.5	-1,465.3	426.8	255.6	171.19	2.493			
8,000.0	7,045.0	7,103.5	7,045.0	34.0	176.8	-68.60	213.5	-1,465.3	332.3	158.7	173.60	1.914			
8,100.0	7,045.0	7,103.5	7,045.0	36.4	176.8	-59.79	213.5	-1,465.3	242.3	66.3	176.06	1.376 Level 3			
8,200.0	7,045.0	7,103.5	7,045.0	38.9	176.8	-41.74	213.5	-1,465.3	164.3	-14.2	178.56	0.920 Level 1			
8,300.0	7,045.0	7,103.5	7,045.0	41.5	176.8	-4.37	213.5	-1,465.3	123.7	-57.4	181.10	0.683 Level 1			
8,308.6	7,045.0	7,103.5	7,045.0	41.7	176.8	-0.39	213.5	-1,465.3	123.4	-58.0	181.32	0.680 Level 1, CC, ES, SF			
8,400.0	7,045.0	7,103.5	7,045.0	44.0	176.8	36.15	213.5	-1,465.3	153.5	-30.1	183.66	0.836 Level 1			
8,500.0	7,045.0	7,103.5	7,045.0	46.6	176.8	56.81	213.5	-1,465.3	227.7	41.5	186.24	1.223 Level 2			
8,600.0	7,045.0	7,103.5	7,045.0	49.2	176.8	66.67	213.5	-1,465.3	316.5	127.6	188.84	1.676			
8,700.0	7,045.0	7,103.5	7,045.0	51.8	176.8	72.12	213.5	-1,465.3	410.4	218.9	191.45	2.144			
8,800.0	7,045.0	7,103.5	7,045.0	54.4	176.8	75.52	213.5	-1,465.3	506.7	312.6	194.08	2.611			
8,900.0	7,045.0	7,103.5	7,045.0	57.1	176.8	77.83	213.5	-1,465.3	604.1	407.4	196.73	3.071			
9,000.0	7,045.0	7,103.5	7,045.0	59.7	176.8	79.50	213.5	-1,465.3	702.3	503.0	199.38	3.523			
9,100.0	7,045.0	7,103.5	7,045.0	62.4	176.8	80.75	213.5	-1,465.3	801.0	598.9	202.04	3.964			
9,200.0	7,045.0	7,103.5	7,045.0	65.1	176.8	81.73	213.5	-1,465.3	899.9	695.2	204.71	4.396			
9,300.0	7,045.0	7,103.5	7,045.0	67.7	176.8	82.52	213.5	-1,465.3	999.1	791.7	207.38	4.818			
9,400.0	7,045.0	7,103.5	7,045.0	70.4	176.8	83.17	213.5	-1,465.3	1,098.4	888.3	210.06	5.229			
9,500.0	7,045.0	7,103.5	7,045.0	73.1	176.8	83.70	213.5	-1,465.3	1,197.8	985.0	212.75	5.630			
9,600.0	7,045.0	7,103.5	7,045.0	75.8	176.8	84.16	213.5	-1,465.3	1,297.3	1,081.9	215.44	6.022			
9,700.0	7,045.0	7,103.5	7,045.0	78.5	176.8	84.55	213.5	-1,465.3	1,396.9	1,178.7	218.13	6.404			
9,800.0	7,045.0	7,103.5	7,045.0	81.2	176.8	84.89	213.5	-1,465.3	1,496.5	1,275.7	220.83	6.777			
9,900.0	7,045.0	7,103.5	7,045.0	83.9	176.8	85.18	213.5	-1,465.3	1,596.2	1,372.7	223.54	7.141			
10,000.0	7,045.0	7,103.5	7,045.0	86.6	176.8	85.44	213.5	-1,465.3	1,695.9	1,469.7	226.24	7.496			
10,100.0	7,045.0	7,103.5	7,045.0	89.3	176.8	85.67	213.5	-1,465.3	1,795.7	1,566.7	228.95	7.843			
10,200.0	7,045.0	7,103.5	7,045.0	92.0	176.8	85.88	213.5	-1,465.3	1,895.4	1,663.8	231.66	8.182			
10,293.9	7,045.0	7,103.5	7,045.0	94.6	176.8	86.06	213.5	-1,465.3	1,989.1	1,754.9	234.21	8.493			



Pathfinder Anticollision Report

PATHFINDER
A Schlumberger Company

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well #14H
Project:	Eddy County (NAD 83)	TVD Reference:	KB = 15 @ 3503 0usft (Original Well Elev)
Reference Site:	Martha AIK Federal	MD Reference:	KB = 15 @ 3503 0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	#14H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore:	OH	Database:	EDM 5000.1 Single User Db
Reference Design:	Plan #1	Offset-TVD Reference:	Reference Datum

Offset Design Martha AIK Federal - #9H - OH - Plan #1												Offset Site Error:	0.0 usft
Survey Program 0-MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	80.0	0.0	0.0	0.1	-90.36	-0.1	-22.0	22.0				
100.0	100.0	180.0	100.0	0.1	0.3	-90.36	-0.1	-22.0	22.0	21.6	0.37	59.319	
200.0	200.0	280.0	200.0	0.3	0.5	-90.36	-0.1	-22.0	22.0	21.2	0.82	26.816	
300.0	300.0	380.0	300.0	0.5	0.7	-90.36	-0.1	-22.0	22.0	20.7	1.27	17.323	
400.0	400.0	480.0	400.0	0.8	0.9	-90.36	-0.1	-22.0	22.0	20.3	1.72	12.794	
500.0	500.0	580.0	500.0	1.0	1.2	-90.36	-0.1	-22.0	22.0	19.8	2.17	10.143	
600.0	600.0	680.0	600.0	1.2	1.4	-90.36	-0.1	-22.0	22.0	19.4	2.62	8.401	
700.0	700.0	780.0	700.0	1.4	1.6	-90.36	-0.1	-22.0	22.0	18.9	3.07	7.170	
800.0	800.0	880.0	800.0	1.7	1.8	-90.36	-0.1	-22.0	22.0	18.5	3.52	6.254	
900.0	900.0	980.0	900.0	1.9	2.1	-90.36	-0.1	-22.0	22.0	18.0	3.97	5.545	
1,000.0	1,000.0	1,080.0	1,000.0	2.1	2.3	-90.36	-0.1	-22.0	22.0	17.6	4.42	4.981	
1,100.0	1,100.0	1,180.0	1,100.0	2.3	2.5	-90.36	-0.1	-22.0	22.0	17.1	4.87	4.521	
1,200.0	1,200.0	1,280.0	1,200.0	2.6	2.7	-90.36	-0.1	-22.0	22.0	16.7	5.32	4.139	
1,300.0	1,300.0	1,380.0	1,300.0	2.8	3.0	-90.36	-0.1	-22.0	22.0	16.2	5.77	3.816	
1,400.0	1,400.0	1,480.0	1,400.0	3.0	3.2	-90.36	-0.1	-22.0	22.0	15.8	6.21	3.540	
1,500.0	1,500.0	1,580.0	1,500.0	3.2	3.4	-90.36	-0.1	-22.0	22.0	15.3	6.66	3.301	
1,600.0	1,600.0	1,680.0	1,600.0	3.5	3.6	-90.36	-0.1	-22.0	22.0	14.9	7.11	3.092	
1,700.0	1,700.0	1,780.0	1,700.0	3.7	3.9	-90.36	-0.1	-22.0	22.0	14.4	7.56	2.909	
1,800.0	1,800.0	1,880.0	1,800.0	3.9	4.1	-90.36	-0.1	-22.0	22.0	14.0	8.01	2.745	
1,900.0	1,900.0	1,980.0	1,900.0	4.1	4.3	-90.36	-0.1	-22.0	22.0	13.5	8.46	2.600	
2,000.0	2,000.0	2,080.0	2,000.0	4.4	4.5	-90.36	-0.1	-22.0	22.0	13.1	8.91	2.469	
2,100.0	2,100.0	2,180.0	2,100.0	4.6	4.8	-90.36	-0.1	-22.0	22.0	12.6	9.36	2.350	
2,200.0	2,200.0	2,280.0	2,200.0	4.8	5.0	-90.36	-0.1	-22.0	22.0	12.2	9.81	2.242	
2,300.0	2,300.0	2,380.0	2,300.0	5.0	5.2	-90.36	-0.1	-22.0	22.0	11.7	10.26	2.144	
2,400.0	2,400.0	2,480.0	2,400.0	5.3	5.4	-90.36	-0.1	-22.0	22.0	11.3	10.71	2.054	
2,500.0	2,500.0	2,580.0	2,500.0	5.5	5.7	-90.36	-0.1	-22.0	22.0	10.8	11.16	1.971	
2,600.0	2,600.0	2,680.0	2,600.0	5.7	5.9	-90.36	-0.1	-22.0	22.0	10.4	11.61	1.895	
2,700.0	2,700.0	2,780.0	2,700.0	5.9	6.1	-90.36	-0.1	-22.0	22.0	9.9	12.06	1.824	
2,800.0	2,800.0	2,880.0	2,800.0	6.2	6.3	-90.36	-0.1	-22.0	22.0	9.5	12.51	1.759	
2,900.0	2,900.0	2,980.0	2,900.0	6.4	6.6	-90.36	-0.1	-22.0	22.0	9.0	12.96	1.698	
3,000.0	3,000.0	3,080.0	3,000.0	6.6	6.8	-90.36	-0.1	-22.0	22.0	8.6	13.41	1.641	
3,100.0	3,100.0	3,180.0	3,100.0	6.8	7.0	-90.36	-0.1	-22.0	22.0	8.1	13.86	1.588	
3,200.0	3,200.0	3,280.0	3,200.0	7.1	7.2	-90.36	-0.1	-22.0	22.0	7.7	14.31	1.538	
3,300.0	3,300.0	3,380.0	3,300.0	7.3	7.5	-90.36	-0.1	-22.0	22.0	7.2	14.76	1.491 Level 3	
3,400.0	3,400.0	3,480.0	3,400.0	7.5	7.7	-90.36	-0.1	-22.0	22.0	6.8	15.21	1.447 Level 3	
3,500.0	3,500.0	3,580.0	3,500.0	7.7	7.9	-90.36	-0.1	-22.0	22.0	6.3	15.65	1.405 Level 3	
3,600.0	3,600.0	3,680.0	3,600.0	8.0	8.1	-90.36	-0.1	-22.0	22.0	5.9	16.10	1.366 Level 3	
3,700.0	3,700.0	3,780.0	3,700.0	8.2	8.4	-90.36	-0.1	-22.0	22.0	5.4	16.55	1.329 Level 3	
3,800.0	3,800.0	3,880.0	3,800.0	8.4	8.6	-90.36	-0.1	-22.0	22.0	5.0	17.00	1.294 Level 3	
3,900.0	3,900.0	3,980.0	3,900.0	8.6	8.8	-90.36	-0.1	-22.0	22.0	4.5	17.45	1.260 Level 3	
4,000.0	4,000.0	4,080.0	4,000.0	8.9	9.0	-90.36	-0.1	-22.0	22.0	4.1	17.90	1.229 Level 2	
4,100.0	4,100.0	4,180.0	4,100.0	9.1	9.3	-90.36	-0.1	-22.0	22.0	3.6	18.35	1.199 Level 2	
4,200.0	4,200.0	4,280.0	4,200.0	9.3	9.5	-90.36	-0.1	-22.0	22.0	3.2	18.80	1.170 Level 2	
4,300.0	4,300.0	4,380.0	4,300.0	9.5	9.7	-90.36	-0.1	-22.0	22.0	2.7	19.25	1.143 Level 2	
4,400.0	4,400.0	4,480.0	4,400.0	9.8	9.9	-90.36	-0.1	-22.0	22.0	2.3	19.70	1.117 Level 2	
4,450.0	4,450.0	4,530.0	4,450.0	9.9	10.1	-90.36	-0.1	-22.0	22.0	2.1	19.93	1.104 Level 2, CC	
4,450.6	4,450.6	4,530.6	4,450.6	9.9	10.1	-90.36	-0.1	-22.0	22.0	2.1	19.93	1.104 Level 2	
4,500.0	4,500.0	4,580.0	4,500.0	10.0	10.2	-91.50	-0.1	-22.0	22.0	1.9	20.15	1.092 Level 2	
4,600.0	4,599.9	4,679.9	4,599.9	10.2	10.4	-100.47	-0.1	-22.0	22.4	1.8	20.60	1.086 Level 2, ES, SF	
4,700.2	4,699.9	4,779.9	4,699.9	10.4	10.6	-116.68	-0.1	-22.0	24.6	3.6	21.03	1.171 Level 2	
4,800.0	4,799.3	4,879.3	4,799.3	10.7	10.8	-131.93	-0.1	-22.0	29.6	8.1	21.46	1.378 Level 3	
4,900.0	4,898.9	4,978.9	4,898.9	10.9	11.1	-142.32	-0.1	-22.0	36.0	14.1	21.90	1.643	

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



Pathfinder

Anticollision Report



A Schlumberger Company

Company: Yates Petroleum Corp
 Project: Eddy County (NAD 83)
 Reference Site: Martha AIK Federal
 Site Error: 0.0 usft
 Reference Well: #14H
 Well Error: 0.0 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Output errors are at
 Database:
 Offset TVD Reference:

Well #14H
 KB = 15 @ 3503 0usft (Original Well Elev)
 KB = 15 @ 3503 0usft (Original Well Elev)
 Grid
 Minimum Curvature
 2 00 sigma
 EDM 5000.1 Single User Db
 Reference Datum

Offset Design													Offset Site Error:		0 0 usft
Survey Program 0-MWD													Offset Well Error:		0 0 usft
Reference		Offset		Semi Major Axis		Azimuth from North (°)	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)					
5,000 0	4,998 5	5,078 5	4,998 5	11 1	11 3	-149 40	-0 1	-22 0	43 2	20 9	22 34	1 934			
5,100 0	5,098 2	5,178 2	5,098 2	11 3	11 5	-154 41	-0 1	-22 0	50 9	28 1	22 79	2 235			
5,200 0	5,197 8	5,277 8	5,197 8	11 6	11 7	-158 07	-0 1	-22 0	58 9	35 7	23 24	2 535			
5,300 0	5,297 4	5,377 4	5,297 4	11 8	12 0	-160 86	-0 1	-22 0	67 1	43 4	23 68	2 832			
5,400 0	5,397 0	5,477 0	5,397 0	12 0	12 2	-163 03	-0 1	-22 0	75 4	51 2	24 13	3 123			
5,500 0	5,496 6	5,576 6	5,496 6	12 3	12 4	-164 77	-0 1	-22 0	83 8	59 2	24 58	3 407			
5,596 4	5,592 6	5,672 6	5,592 6	12 5	12 6	-166 15	-0 1	-22 0	91 9	66 9	25 02	3 673			
5,600 0	5,596 3	5,676 3	5,596 3	12 5	12 6	-166 20	-0 1	-22 0	92 2	67 2	25 03	3 683			
5,700 0	5,696 0	5,776 0	5,696 0	12 7	12 9	-167 14	-0 1	-22 0	98 9	73 4	25 47	3 882			
5,800 0	5,796 0	5,876 0	5,796 0	12 9	13 1	-167 56	-0 1	-22 0	102 2	76 3	25 88	3 948			
5,846 6	5,842 5	5,922 5	5,842 5	12 9	13 2	-167 61	-0 1	-22 0	102 5	76 4	26 12	3 925			
5,900 0	5,895 9	5,975 9	5,895 9	13 1	13 3	-167 61	-0 1	-22 0	102 5	76 2	26 35	3 891			
6,000 0	5,995 9	6,075 9	5,995 9	13 3	13 5	-167 61	-0 1	-22 0	102 5	75 7	26 80	3 826			
6,100 0	6,095 9	6,175 9	6,095 9	13 5	13 8	-167 61	-0 1	-22 0	102 5	75 3	27 24	3 763			
6,200 0	6,195 9	6,275 9	6,195 9	13 7	14 0	-167 61	-0 1	-22 0	102 5	74 8	27 69	3 703			
6,300 0	6,295 9	6,375 9	6,295 9	13 9	14 2	-167 61	-0 1	-22 0	102 5	74 4	28 14	3 644			
6,400 0	6,395 9	6,475 9	6,395 9	14 2	14 4	-167 61	-0 1	-22 0	102 5	73 9	28 59	3 587			
6,500 0	6,495 9	6,575 9	6,495 9	14 4	14 7	-167 61	-0 1	-22 0	102 5	73 5	29 03	3 531			
6,571 6	6,567 5	6,647 5	6,567 5	14 5	14 8	-167 61	-0 1	-22 0	102 5	73 2	29 35	3 493			
6,575 0	6,570 9	6,650 9	6,570 9	14 6	14 8	-167 62	-0 1	-22 0	102 5	73 2	29 32	3 497			
6,600 0	6,595 9	6,675 9	6,595 9	14 6	14 9	-168 07	-0 1	-22 0	102 3	72 9	29 42	3 479			
6,625 0	6,620 8	6,700 8	6,620 8	14 7	14 9	-169 25	-0 1	-22 0	101 9	72 4	29 52	3 452			
6,650 0	6,645 6	6,725 6	6,645 6	14 7	15 0	-171 16	-0 1	-22 0	101 3	71 7	29 62	3 419			
6,675 0	6,670 1	6,750 1	6,670 1	14 8	15 0	-173 82	-0 1	-22 0	100 6	70 9	29 73	3 385			
6,700 0	6,694 4	6,774 4	6,694 4	14 8	15 1	-177 24	-0 1	-22 0	100 1	70 3	29 84	3 355			
6,719 3	6,712 9	6,792 9	6,712 9	14 9	15 1	179 61	-0 1	-22 0	100 0	70 1	29 93	3 341			
6,725 0	6,718 3	6,798 3	6,718 3	14 9	15 2	178 60	-0 1	-22 0	100 0	70 0	29 95	3 339			
6,750 0	6,741 8	6,821 8	6,741 8	14 9	15 2	173 74	-0 1	-22 0	100 5	70 5	30 05	3 345			
6,775 0	6,764 8	6,844 8	6,764 8	15 0	15 3	168 29	-0 1	-22 0	102 0	71 9	30 11	3 386			
6,800 0	6,787 3	6,867 3	6,787 3	15 0	15 3	162 42	-0 1	-22 0	104 7	74 6	30 11	3 476			
6,825 0	6,809 2	6,889 2	6,809 2	15 1	15 4	156 33	-0 1	-22 0	108 9	78 8	30 04	3 624			
6,850 0	6,830 4	6,910 4	6,830 4	15 2	15 4	150 26	-0 1	-22 0	114 7	84 9	29 87	3 841			
6,875 0	6,850 9	6,930 9	6,850 9	15 3	15 4	144 41	-0 1	-22 0	122 4	92 8	29 61	4 133			
6,900 0	6,870 7	6,950 7	6,870 7	15 3	15 5	138 94	-0 1	-22 0	131 8	102 6	29 27	4 504			
6,925 0	6,889 5	6,969 5	6,889 5	15 4	15 5	133 96	-0 1	-22 0	143 0	114 2	28 87	4 955			
6,950 0	6,907 5	6,987 5	6,907 5	15 6	15 6	129 51	-0 1	-22 0	155 9	127 5	28 42	5 485			
6,975 0	6,924 6	7,004 6	6,924 6	15 7	15 6	125 56	-0 1	-22 0	170 3	142 4	27 96	6 091			
7,000 0	6,940 7	7,020 7	6,940 7	15 8	15 7	122 11	-0 1	-22 0	186 1	158 6	27 51	6 767			
7,025 0	6,955 8	7,035 8	6,955 8	16 0	15 7	119 08	-0 1	-22 0	203 2	176 2	27 09	7 503			
7,050 0	6,969 8	7,049 8	6,969 8	16 2	15 7	116 45	-0 1	-22 0	221 5	194 8	26 73	8 287			
7,075 0	6,982 7	7,062 7	6,982 7	16 4	15 7	114 15	-0 1	-22 0	240 8	214 3	26 46	9 100			
7,100 0	6,994 5	7,074 5	6,994 5	16 6	15 8	112 14	-0 1	-22 0	261 0	234 7	26 32	9 916			
7,125 0	7,005 1	7,085 1	7,005 1	16 8	15 8	110 38	-0 1	-22 0	282 1	255 7	26 36	10 702			
7,150 0	7,014 5	7,094 5	7,014 5	17 1	15 8	108 83	-0 1	-22 0	303 8	277 2	26 61	11 420			
7,175 0	7,022 6	7,102 6	7,022 6	17 4	15 8	107 46	-0 1	-22 0	326 2	299 1	27 13	12 025			
7,200 0	7,029 6	7,109 6	7,029 6	17 7	15 9	106 25	-0 1	-22 0	349 2	321 2	27 99	12 475			
7,225 0	7,035 2	7,115 2	7,035 2	18 0	15 9	105 18	-0 1	-22 0	372 6	343 3	29 23	12 745			
7,250 0	7,039 6	7,119 6	7,039 6	18 4	15 9	104 23	-0 1	-22 0	396 3	365 5	30 87	12 840			
7,275 0	7,042 7	7,122 7	7,042 7	18 7	15 9	103 37	-0 1	-22 0	420 4	387 6	32 76	12 832			
7,300 0	7,044 5	7,124 5	7,044 5	19 1	15 9	102 61	-0 1	-22 0	444 6	410 1	34 50	12 887			
7,321 5	7,045 0	7,125 0	7,045 0	19 5	15 9	102 01	-0 1	-22 0	465 6	430 3	35 31	13 188			
7,400 0	7,045 0	7,125 0	7,045 0	20 8	15 9	100 23	-0 1	-22 0	542 5	505 9	36 65	14 803			

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



Pathfinder
Anticollision Report

PATHFINDER
A Schlumberger Company

Company: Yates Petroleum Corp
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset, TVD Reference: Reference Datum

Offset Design													Martha AIK Federal - #9H - OH - Plan #1		Offset Site Error		0.0 usft	
Survey Program: 0-MWD													Offset Well Error		0.0 usft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Azimuth from North (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
7,500.0	7,045.0	7,125.0	7,045.0	22.7	15.9	98.59	-0.1	-22.0	641.1	602.5	38.54	16.633						
7,600.0	7,045.0	7,125.0	7,045.0	24.7	15.9	97.38	-0.1	-22.0	740.0	699.4	40.60	18.228						
7,700.0	7,045.0	7,125.0	7,045.0	26.9	15.9	96.46	-0.1	-22.0	839.2	796.4	42.78	19.617						
7,800.0	7,045.0	7,125.0	7,045.0	29.2	15.9	95.73	-0.1	-22.0	938.6	893.5	45.06	20.831						
7,900.0	7,045.0	7,125.0	7,045.0	31.5	15.9	95.14	-0.1	-22.0	1,038.1	990.7	47.41	21.895						
8,000.0	7,045.0	7,125.0	7,045.0	34.0	15.9	94.66	-0.1	-22.0	1,137.6	1,087.8	49.83	22.833						
8,100.0	7,045.0	7,125.0	7,045.0	36.4	15.9	94.25	-0.1	-22.0	1,237.3	1,185.0	52.29	23.663						
8,200.0	7,045.0	7,125.0	7,045.0	38.9	15.9	93.90	-0.1	-22.0	1,337.0	1,282.2	54.79	24.403						
8,300.0	7,045.0	7,125.0	7,045.0	41.5	15.9	93.60	-0.1	-22.0	1,436.7	1,379.4	57.32	25.064						
8,400.0	7,045.0	9,901.3	8,493.0	44.0	44.8	179.60	-10.5	-1,555.2	1,451.4	1,422.8	28.64	50.677						
8,500.0	7,045.0	10,001.3	8,493.0	46.6	47.3	179.60	-11.1	-1,655.2	1,451.4	1,421.6	29.82	48.668						
8,600.0	7,045.0	10,101.3	8,493.0	49.2	49.8	179.60	-11.8	-1,755.2	1,451.4	1,420.4	31.03	46.769						
8,700.0	7,045.0	10,201.3	8,493.0	51.8	52.4	179.60	-12.5	-1,855.2	1,451.4	1,419.2	32.27	44.978						
8,800.0	7,045.0	10,301.3	8,493.0	54.4	55.0	179.60	-13.2	-1,955.2	1,451.4	1,417.9	33.53	43.291						
8,900.0	7,045.0	10,401.3	8,493.0	57.1	57.6	179.60	-13.8	-2,055.2	1,451.4	1,416.6	34.81	41.701						
9,000.0	7,045.0	10,501.3	8,493.0	59.7	60.2	179.60	-14.5	-2,155.2	1,451.4	1,415.3	36.10	40.204						
9,100.0	7,045.0	10,601.3	8,493.0	62.4	62.8	179.60	-15.2	-2,255.2	1,451.4	1,414.0	37.41	38.793						
9,200.0	7,045.0	10,701.3	8,493.0	65.1	65.4	179.60	-15.9	-2,355.2	1,451.4	1,412.7	38.74	37.465						
9,300.0	7,045.0	10,801.3	8,493.0	67.7	68.0	179.60	-16.5	-2,455.2	1,451.4	1,411.4	40.08	36.212						
9,400.0	7,045.0	10,901.3	8,493.0	70.4	70.7	179.60	-17.2	-2,555.2	1,451.4	1,410.0	41.43	35.031						
9,500.0	7,045.0	11,001.3	8,493.0	73.1	73.3	179.60	-17.9	-2,655.2	1,451.4	1,408.7	42.80	33.916						
9,600.0	7,045.0	11,101.3	8,493.0	75.8	76.0	179.60	-18.6	-2,755.2	1,451.4	1,407.3	44.17	32.862						
9,700.0	7,045.0	11,201.3	8,493.0	78.5	78.7	179.60	-19.2	-2,855.2	1,451.4	1,405.9	45.55	31.866						
9,800.0	7,045.0	11,301.3	8,493.0	81.2	81.3	179.60	-19.9	-2,955.2	1,451.4	1,404.5	46.94	30.923						
9,900.0	7,045.0	11,401.3	8,493.0	83.9	84.0	179.60	-20.6	-3,055.2	1,451.4	1,403.1	48.33	30.029						
10,000.0	7,045.0	11,501.3	8,493.0	86.6	86.7	179.60	-21.2	-3,155.2	1,451.4	1,401.7	49.74	29.182						
10,100.0	7,045.0	11,601.3	8,493.0	89.3	89.4	179.60	-21.9	-3,255.1	1,451.4	1,400.3	51.15	28.378						
10,200.0	7,045.0	11,701.3	8,493.0	92.0	92.1	179.60	-22.6	-3,355.1	1,451.4	1,398.9	52.56	27.614						
10,293.9	7,045.0	11,795.1	8,493.0	94.6	94.6	179.60	-23.2	-3,449.0	1,451.4	1,397.6	53.90	26.930						

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



Pathfinder Anticollision Report

PATHFINDER
A Schlumberger Company

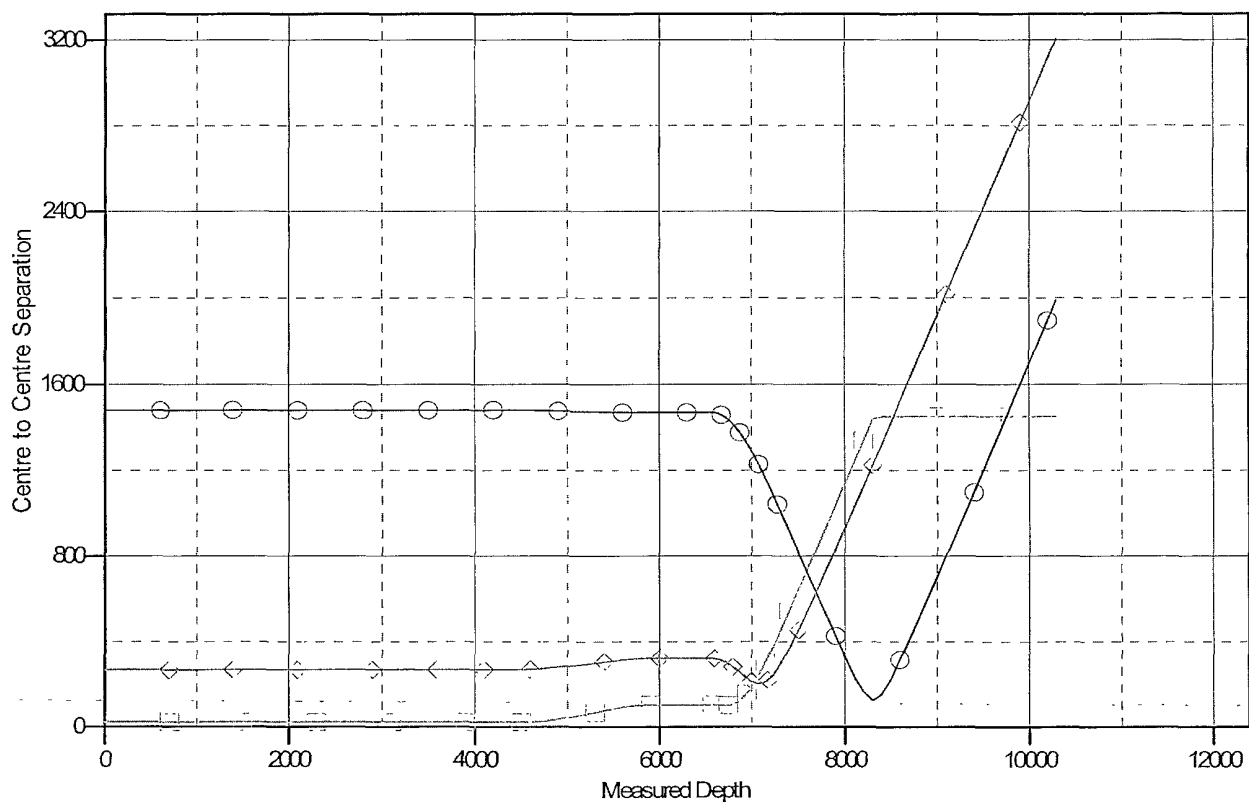
Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Reference Depths are relative to KB = 15 @ 3503.0usft (Original Well E
Offset Depths are relative to Offset Datum
Central Meridian is -104 333334

Coordinates are relative to: #14H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.32°

Ladder Plot



LEGEND

—○— #9H, OH, Plan #1 V0 —○— #3, OH, OHV0 —○— #1, OH, OHV0



Pathfinder Anticollision Report

PATHFINDER

A Schlumberger Company

Company: Yates Petroleum Corp.
Project: Eddy County (NAD 83)
Reference Site: Martha AIK Federal
Site Error: 0.0 usft
Reference Well: #14H
Well Error: 0.0 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well #14H
TVD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
MD Reference: KB = 15 @ 3503.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at: 2.00 sigma
Database: EDM 5000.1 Single User Db
Offset TVD Reference: Reference Datum

Reference Depths are relative to KB = 15 @ 3503.0usft (Original Well E

Offset Depths are relative to Offset Datum

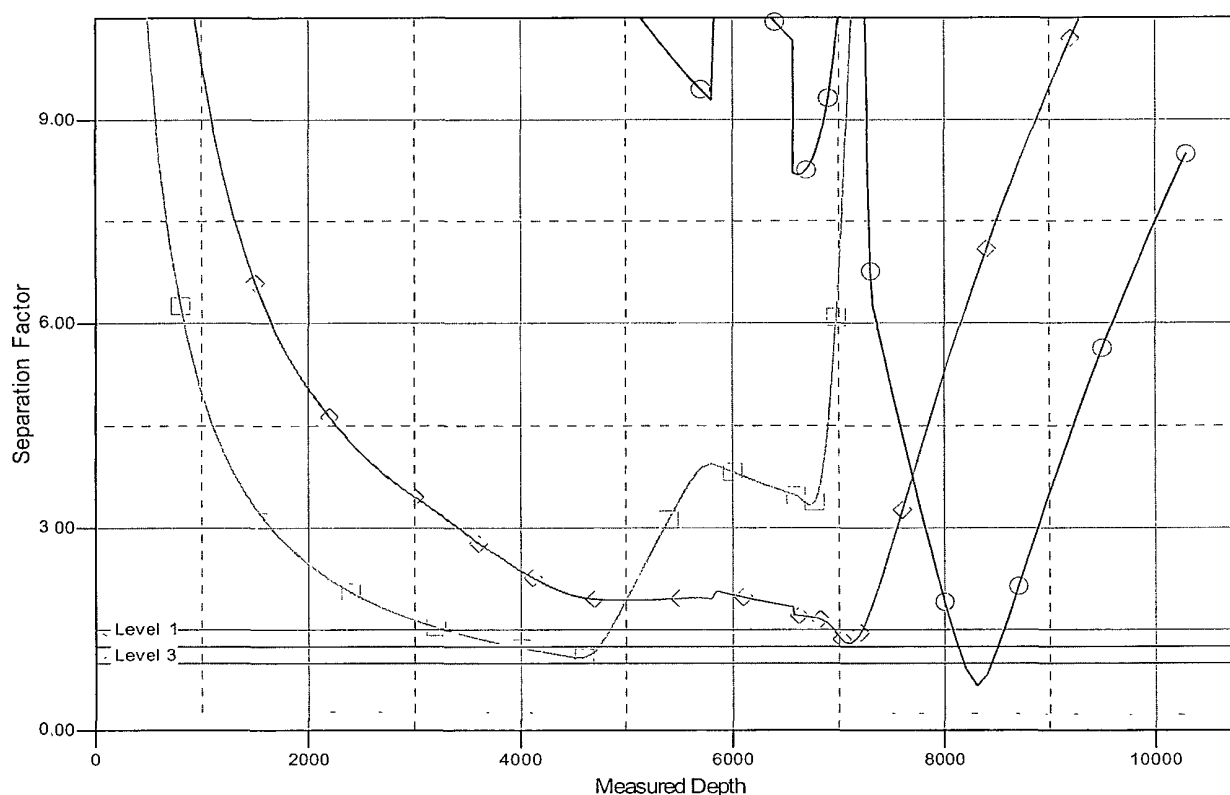
Central Meridian is -104.333334

Coordinates are relative to: #14H

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

Grid Convergence at Surface is: 0.32°

Separation Factor Plot



LEGEND

■ #9H, OH, Plan #1 V0 ● #3, OH, OHV0 ◆ #1, OH, OHV0

