

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

FORM APPROVED
OMB NO. 1004-0135
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.*5. Lease Serial No.
NNMN110835

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side:

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

YATES PETROLEUM CORPORATION

Contact: NAOMI G SAIZ

E-Mail: NSAIZ@YATESPETROLEUM.COM

3a. Address

105 SOUTH FOURTH STREET
ARTESIA, NM 88210

3b. Phone No. (include area code)

Ph: 575-748-4211

8. Well Name and No.
RESOLUTE BTO FEDERAL COM 2H

9. API Well No.

30-025-41452-00-X1

10. Field and Pool, or Exploratory
WC-025 G08 S253235G

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 24 T25S R32E SWNE 2590FNL 2200FEL
32.065832 N Lat, 103.373724 W Lon

11. County or Parish, and State

LEA COUNTY, NM

12. CHECK 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	Change to Original APD
	☐ 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 recomple 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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall 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 respectfully requests to make changes to the original APD as per the attached paperwork.

Thank you.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**



14. I hereby certify that the foregoing is true and correct.

Electronic Submission #319098 verified by the BLM Well Information System
For YATES PETROLEUM CORPORATION, sent to the Hobbs
Committed to AFMSS for processing by ED FERNANDEZ on 10/08/2015 (16EF0002SE)

Name (Printed/Typed) NAOMI G SAIZ

Title WELL PLANNING TECH

Signature (Electronic Submission)

Date 10/07/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By EDWARD FERNANDEZ

Title PETROLEUM ENGINEER

Date 10/08/2015

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 Hobbs

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

OCT 20 2015

Resolute BTO Federal Com #2H

Yates Petroleum Corporation respectfully requests to make the following changes to the approved APD:

Yates Petroleum Corporation also requests the use of Multi-Bowl Wellhead. Running procedure has been sent in via email to Ed Fernandez 10/7/15.

Yates Petroleum Corporation respectfully requests to remove the pilot hole from the drilling program.

Production: Target TVD's are shown below. A new directional plan and WM are attached.

Well will be kicked off at approx. 8783' and directionally drilled at 12 degrees per 100' with an 8 ¾" hole to approx. 9535' MD (9260' TVD). Lateral will then be drilled with an 8 ½" hole to approx. 16598' MD (9220' TVD). Casing weight and grade will remain the same.

Primary Production Cement:

It is requested to cement the production string in a single stage as follows:

Lead w/ 440sx LiteCrete (YLD 2.85, WT 9.5, 12 gal/sk)

Tail w/1480sx PVL (YLD 1.83, WT 13, 9.3 gal/sk)

TOC approx. 4340'. Excess calculated at 35%.

See COA

Yates Petroleum Corporation requests the approval of a contingency casing design if hole conditions warrant:

2nd Intermediate: Drilled with an 8 ¾" hole.

7" casing will be set at approx. 8500' if hole conditions warrant. Cement will be brought to surface.

0 ft to 7,900 ft				Make up Torque ft-lbs			Total ft
O.D.	Weight	Grade	Threads	opt.	min.	mx.	7,900
7 inches	26 #/Ft	J-55	LT&C	3670	2750	4590	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
4,320 psi	4,980 psi	367 ,000 #		415 ,000 #		6.151	

See COA

7,900 ft to 8,500 ft				Make up Torque ft-lbs			Total ft
O.D.	Weight	Grade	Threads	opt.	min.	mx.	600
7 inches	26 #/Ft	L-80	LT&C	5110	3830	6390	
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift	
5,410 psi	7,240 psi	511 ,000 #		604 ,000 #		6.151	

Cemented as shown below:

Lead w/ 510sx LiteCrete (YLD 2.85, WT 9.5, 12 gal/sk)

Tail w/205sx Class C (YLD 1.34, WT 14.2, 6.2 gal/sk)

TOC =0'. Excess calculated at 35%.

Production: Drilled with a 6 1/8" hole.

See COA

8,400 ft to 16,598 ft		Make up Torque ft-lbs			Total ft = 8,198	
O.D.	Weight	Grade	Threads	opt.	min.	mx.
4.5 inches	11.6 #/Ft	P-110	BT&C	3020	2270	3780
Collapse Resistance	Internal Yield	Joint Strength		Body Yield		Drift
7,580 psi	10,690 psi	385,000 #		367,000 #		3.875

At TD 4 1/2" casing will be ran with a liner hanger will be set at approx. 8400' and cemented to the top of the liner hanger.

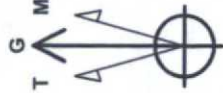
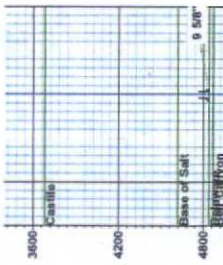
Cemented w/570sx PVL (YLD 1.83, WT 13, 9.3 gal/sk) TOC approx. 8400'. 35% excess



Yates Petroleum Corp.
 Project: Lea County, NM (NAD-83 2015)
 Site: Resolute BTO Federal Com #2H
 Well: Resolute BTO Federal Com #2H
 Wellbore: Lateral #1
 Plan: Design #1

WELL DETAILS: Resolute BTO Federal Com #2H
 Ground Elevation: 3458.00
 RKB Elevation: KB @ 3479.50usft (Nomac 22)
 Rig Name: Nomac 22

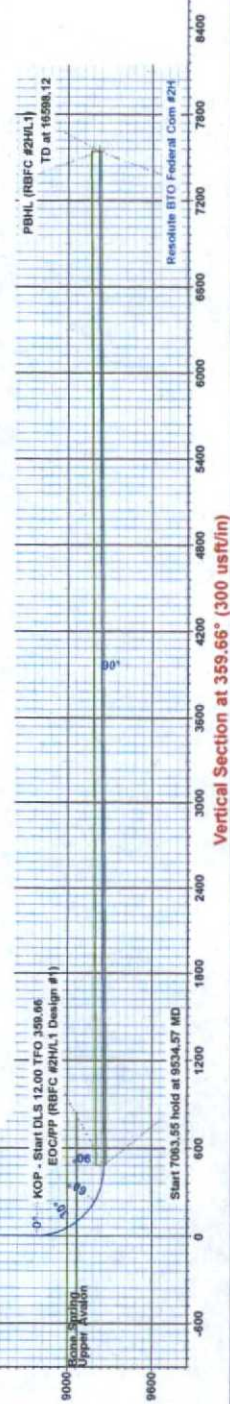
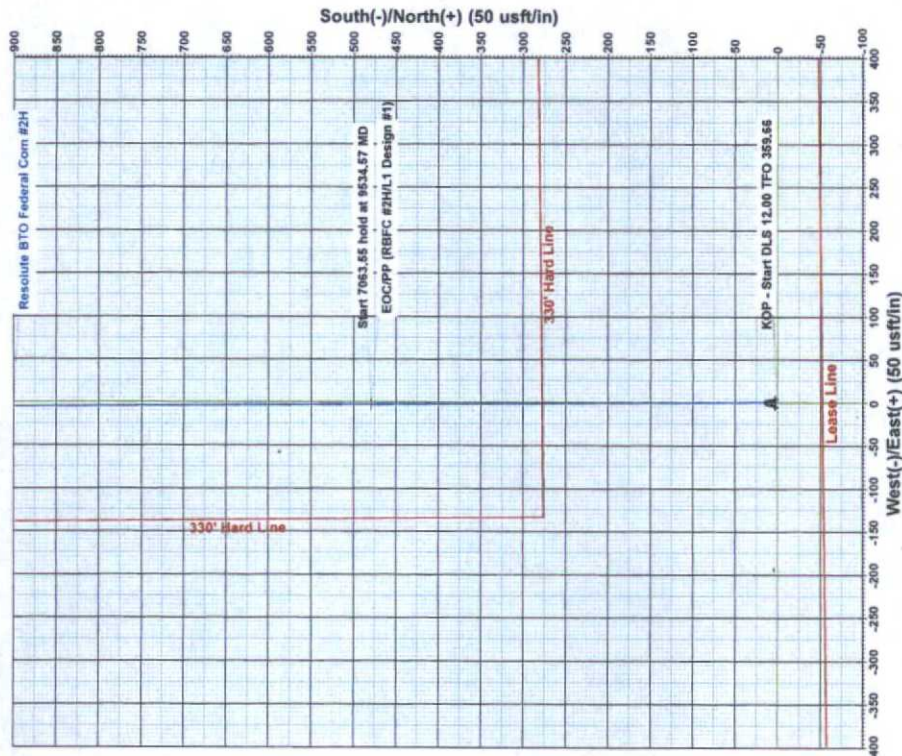
Northing 406726.10 Easting 760014.79
 Latitude 32° 6' 58.317" N Longitude 103° 37' 37.240" W



M Azimuths to Grid North
 True North: -0.38°
 Magnetic North: 6.78°
 Magnetic Field
 Strength: 48044.3snT
 Dip Angle: 59.98°
 Date: 9/28/2015
 Model: IGRF2015

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	8782.54	0.00	0.00	8782.54	0.00	0.00	0.00	0.00	0.00	
3	9535.24	90.32	359.66	9260.00	480.16	-2.82	12.00	359.66	480.17	PBHL (RBFC #2H/L1)
4	16598.17	90.32	359.66	9220.00	7542.85	-44.23	0.00	7542.98		



Vertical Section at 359.66° (300 usft/in)

PROJECT DETAILS: Lea County, NM (NAD-83 2015)
 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



Terra Directional Services LLC
 3705 S CR 1210, Midland, TX 79706
 Phone: (432) 618-1210



Yates Petroleum Corp.

Lea County, NM (NAD-83 2015)

Resolute BTO Federal Com #2H

Resolute BTO Federal Com #2H

Lateral #1

Plan: Design #1

Standard Planning Report

01 October, 2015





TDS
Planning Report



Database: EDM 5000.1 Single User Db
Company: Yates Petroleum Corp.
Project: Lea County, NM (NAD-83 2015)
Site: Resolute BTO Federal Com #2H
Well: Resolute BTO Federal Com #2H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Well Resolute BTO Federal Com #2H
TVD Reference: KB @ 3479.50usft (Nomac 22)
MD Reference: KB @ 3479.50usft (Nomac 22)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project Lea County, NM (NAD-83 2015)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

Site Resolute BTO Federal Com #2H

Site Position: Northing: 406,726.10 usft Latitude: 32° 6' 58.317 N
From: Map Easting: 760,014.79 usft Longitude: 103° 37' 37.240 W
Position Uncertainty: 0.00 usft Slot Radius: 13-3/16 " Grid Convergence: 0.38 °

Well Resolute BTO Federal Com #2H

Well Position +N/-S 0.00 usft Northing: 406,726.10 usft Latitude: 32° 6' 58.317 N
+E/-W 0.00 usft Easting: 760,014.79 usft Longitude: 103° 37' 37.240 W
Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 3,458.00 usft

Wellbore Lateral #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/28/2015	7.16	59.98	48,044

Design Design #1

Audit Notes:

Version: Phase: PLAN Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.66

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,782.54	0.00	0.00	8,782.54	0.00	0.00	0.00	0.00	0.00	0.00	
9,535.24	90.32	359.66	9,260.00	480.16	-2.82	12.00	12.00	-0.04	359.66	
16,598.17	90.32	359.66	9,220.00	7,542.85	-44.23	0.00	0.00	0.00	0.00	PBHL (RBFC #2H/L1)



TDS
Planning Report



Database: EDM 5000.1 Single User Db
Company: Yates Petroleum Corp.
Project: Lea County, NM (NAD-83 2015)
Site: Resolute BTO Federal Com #2H
Well: Resolute BTO Federal Com #2H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Resolute BTO Federal Com #2H
KB @ 3479.50usft (Nomac 22)
KB @ 3479.50usft (Nomac 22)
Grid
Minimum Curvature

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
810.00	0.00	0.00	810.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,130.00	0.00	0.00	1,130.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,680.00	0.00	0.00	3,680.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00



TDS
Planning Report



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Company: Yates Petroleum Corp.
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Well: Resolute BTO Federal Com #2H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Well Resolute BTO Federal Com #2H
TVD Reference: KB @ 3479.50usft (Nomac 22)
MD Reference: KB @ 3479.50usft (Nomac 22)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
4,620.00	0.00	0.00	4,620.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,840.00	0.00	0.00	4,840.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,870.00	0.00	0.00	4,870.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,760.00	0.00	0.00	7,760.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,782.54	0.00	0.00	8,782.54	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Start DLS 12.00 TFO 359.66									
8,800.00	2.10	359.66	8,800.00	0.32	0.00	0.32	12.00	12.00	0.00



TDS
Planning Report



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Project: Lea County, NM (NAD-83 2015)
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Well: Resolute BTO Federal Com #2H
Wellbore: Lateral #1
Design: Design #1

Local Co-ordinate Reference: Well Resolute BTO Federal Com #2H
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MD Reference: KB @ 3479.50usft (Nomac 22)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
8,825.00	5.10	359.66	8,824.94	1.89	-0.01	1.89	12.00	12.00	0.00
8,850.00	8.10	359.66	8,849.78	4.76	-0.03	4.76	12.00	12.00	0.00
8,875.00	11.10	359.66	8,874.42	8.92	-0.05	8.92	12.00	12.00	0.00
8,900.00	14.10	359.66	8,898.82	14.38	-0.08	14.38	12.00	12.00	0.00
8,925.00	17.10	359.66	8,922.90	21.10	-0.12	21.10	12.00	12.00	0.00
8,950.00	20.10	359.66	8,946.59	29.07	-0.17	29.07	12.00	12.00	0.00
8,975.00	23.10	359.66	8,969.83	38.27	-0.22	38.27	12.00	12.00	0.00
9,000.00	26.10	359.66	8,992.56	48.67	-0.29	48.67	12.00	12.00	0.00
9,008.32	27.09	359.66	9,000.00	52.39	-0.31	52.40	12.00	12.00	0.00
Bone Spring									
9,025.00	29.10	359.66	9,014.71	60.25	-0.35	60.25	12.00	12.00	0.00
9,050.00	32.10	359.66	9,036.23	72.97	-0.43	72.97	12.00	12.00	0.00
9,075.00	35.10	359.66	9,057.05	86.80	-0.51	86.80	12.00	12.00	0.00
9,091.02	37.02	359.66	9,070.00	96.23	-0.56	96.23	12.00	12.00	0.00
Upper Avalon									
9,100.00	38.10	359.66	9,077.12	101.70	-0.60	101.71	12.00	12.00	0.00
9,125.00	41.10	359.66	9,096.38	117.64	-0.69	117.64	12.00	12.00	0.00
9,150.00	44.10	359.66	9,114.79	134.55	-0.79	134.56	12.00	12.00	0.00
9,175.00	47.10	359.66	9,132.28	152.41	-0.89	152.42	12.00	12.00	0.00
9,200.00	50.10	359.66	9,148.81	171.16	-1.00	171.16	12.00	12.00	0.00
9,225.00	53.10	359.66	9,164.34	190.75	-1.12	190.75	12.00	12.00	0.00
9,250.00	56.10	359.66	9,178.82	211.12	-1.24	211.13	12.00	12.00	0.00
9,275.00	59.10	359.66	9,192.22	232.23	-1.36	232.23	12.00	12.00	0.00
9,300.00	62.10	359.66	9,204.49	254.01	-1.49	254.01	12.00	12.00	0.00
9,325.00	65.10	359.66	9,215.60	276.39	-1.62	276.40	12.00	12.00	0.00
9,350.00	68.10	359.66	9,225.53	299.33	-1.76	299.34	12.00	12.00	0.00
9,375.00	71.10	359.66	9,234.25	322.76	-1.89	322.77	12.00	12.00	0.00
9,400.00	74.10	359.66	9,241.73	346.61	-2.03	346.62	12.00	12.00	0.00
9,425.00	77.10	359.66	9,247.95	370.83	-2.17	370.83	12.00	12.00	0.00
9,450.00	80.10	359.66	9,252.89	395.33	-2.32	395.34	12.00	12.00	0.00
9,475.00	83.10	359.66	9,256.54	420.06	-2.46	420.06	12.00	12.00	0.00
9,500.00	86.10	359.66	9,258.90	444.94	-2.61	444.95	12.00	12.00	0.00
9,525.00	89.10	359.66	9,259.95	469.92	-2.76	469.93	12.00	12.00	0.00
9,534.57	90.24	359.66	9,260.00	479.48	-2.81	479.49	12.00	12.00	0.00
EOC - Start 7063.55 hold at 9534.57 MD									
9,535.24	90.32	359.66	9,260.00	480.16	-2.82	480.17	12.00	12.00	0.00
9,600.00	90.32	359.66	9,259.63	544.91	-3.20	544.92	0.00	0.00	0.00
9,700.00	90.32	359.66	9,259.06	644.91	-3.78	644.92	0.00	0.00	0.00
9,800.00	90.32	359.66	9,258.50	744.91	-4.37	744.92	0.00	0.00	0.00
9,900.00	90.32	359.66	9,257.93	844.90	-4.95	844.92	0.00	0.00	0.00
10,000.00	90.32	359.66	9,257.37	944.90	-5.54	944.92	0.00	0.00	0.00
10,100.00	90.32	359.66	9,256.80	1,044.90	-6.13	1,044.92	0.00	0.00	0.00
10,200.00	90.32	359.66	9,256.23	1,144.89	-6.71	1,144.91	0.00	0.00	0.00
10,300.00	90.32	359.66	9,255.67	1,244.89	-7.30	1,244.91	0.00	0.00	0.00
10,400.00	90.32	359.66	9,255.10	1,344.89	-7.89	1,344.91	0.00	0.00	0.00
10,500.00	90.32	359.66	9,254.53	1,444.88	-8.47	1,444.91	0.00	0.00	0.00
10,600.00	90.32	359.66	9,253.97	1,544.88	-9.06	1,544.91	0.00	0.00	0.00
10,700.00	90.32	359.66	9,253.40	1,644.88	-9.64	1,644.91	0.00	0.00	0.00
10,800.00	90.32	359.66	9,252.84	1,744.87	-10.23	1,744.90	0.00	0.00	0.00
10,900.00	90.32	359.66	9,252.27	1,844.87	-10.82	1,844.90	0.00	0.00	0.00
11,000.00	90.32	359.66	9,251.70	1,944.87	-11.40	1,944.90	0.00	0.00	0.00
11,100.00	90.32	359.66	9,251.14	2,044.86	-11.99	2,044.90	0.00	0.00	0.00
11,200.00	90.32	359.66	9,250.57	2,144.86	-12.58	2,144.90	0.00	0.00	0.00



TDS
Planning Report



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North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
11,300.00	90.32	359.66	9,250.00	2,244.86	-13.16	2,244.90	0.00	0.00	0.00
11,400.00	90.32	359.66	9,249.44	2,344.85	-13.75	2,344.89	0.00	0.00	0.00
11,500.00	90.32	359.66	9,248.87	2,444.85	-14.34	2,444.89	0.00	0.00	0.00
11,600.00	90.32	359.66	9,248.30	2,544.85	-14.92	2,544.89	0.00	0.00	0.00
11,700.00	90.32	359.66	9,247.74	2,644.84	-15.51	2,644.89	0.00	0.00	0.00
11,800.00	90.32	359.66	9,247.17	2,744.84	-16.09	2,744.89	0.00	0.00	0.00
11,900.00	90.32	359.66	9,246.61	2,844.84	-16.68	2,844.89	0.00	0.00	0.00
12,000.00	90.32	359.66	9,246.04	2,944.83	-17.27	2,944.89	0.00	0.00	0.00
12,100.00	90.32	359.66	9,245.47	3,044.83	-17.85	3,044.88	0.00	0.00	0.00
12,200.00	90.32	359.66	9,244.91	3,144.83	-18.44	3,144.88	0.00	0.00	0.00
12,300.00	90.32	359.66	9,244.34	3,244.82	-19.03	3,244.88	0.00	0.00	0.00
12,400.00	90.32	359.66	9,243.77	3,344.82	-19.61	3,344.88	0.00	0.00	0.00
12,500.00	90.32	359.66	9,243.21	3,444.82	-20.20	3,444.88	0.00	0.00	0.00
12,600.00	90.32	359.66	9,242.64	3,544.81	-20.79	3,544.88	0.00	0.00	0.00
12,700.00	90.32	359.66	9,242.08	3,644.81	-21.37	3,644.87	0.00	0.00	0.00
12,800.00	90.32	359.66	9,241.51	3,744.81	-21.96	3,744.87	0.00	0.00	0.00
12,900.00	90.32	359.66	9,240.94	3,844.80	-22.54	3,844.87	0.00	0.00	0.00
13,000.00	90.32	359.66	9,240.38	3,944.80	-23.13	3,944.87	0.00	0.00	0.00
13,100.00	90.32	359.66	9,239.81	4,044.80	-23.72	4,044.87	0.00	0.00	0.00
13,200.00	90.32	359.66	9,239.24	4,144.79	-24.30	4,144.87	0.00	0.00	0.00
13,300.00	90.32	359.66	9,238.68	4,244.79	-24.89	4,244.86	0.00	0.00	0.00
13,400.00	90.32	359.66	9,238.11	4,344.79	-25.48	4,344.86	0.00	0.00	0.00
13,500.00	90.32	359.66	9,237.55	4,444.78	-26.06	4,444.86	0.00	0.00	0.00
13,600.00	90.32	359.66	9,236.98	4,544.78	-26.65	4,544.86	0.00	0.00	0.00
13,700.00	90.32	359.66	9,236.41	4,644.78	-27.23	4,644.86	0.00	0.00	0.00
13,800.00	90.32	359.66	9,235.85	4,744.77	-27.82	4,744.86	0.00	0.00	0.00
13,900.00	90.32	359.66	9,235.28	4,844.77	-28.41	4,844.85	0.00	0.00	0.00
14,000.00	90.32	359.66	9,234.71	4,944.77	-28.99	4,944.85	0.00	0.00	0.00
14,100.00	90.32	359.66	9,234.15	5,044.77	-29.58	5,044.85	0.00	0.00	0.00
14,200.00	90.32	359.66	9,233.58	5,144.76	-30.17	5,144.85	0.00	0.00	0.00
14,300.00	90.32	359.66	9,233.01	5,244.76	-30.75	5,244.85	0.00	0.00	0.00
14,400.00	90.32	359.66	9,232.45	5,344.76	-31.34	5,344.85	0.00	0.00	0.00
14,500.00	90.32	359.66	9,231.88	5,444.75	-31.93	5,444.85	0.00	0.00	0.00
14,600.00	90.32	359.66	9,231.32	5,544.75	-32.51	5,544.84	0.00	0.00	0.00
14,700.00	90.32	359.66	9,230.75	5,644.75	-33.10	5,644.84	0.00	0.00	0.00
14,800.00	90.32	359.66	9,230.18	5,744.74	-33.68	5,744.84	0.00	0.00	0.00
14,900.00	90.32	359.66	9,229.62	5,844.74	-34.27	5,844.84	0.00	0.00	0.00
15,000.00	90.32	359.66	9,229.05	5,944.74	-34.86	5,944.84	0.00	0.00	0.00
15,100.00	90.32	359.66	9,228.48	6,044.73	-35.44	6,044.84	0.00	0.00	0.00
15,200.00	90.32	359.66	9,227.92	6,144.73	-36.03	6,144.83	0.00	0.00	0.00
15,300.00	90.32	359.66	9,227.35	6,244.73	-36.62	6,244.83	0.00	0.00	0.00
15,400.00	90.32	359.66	9,226.79	6,344.72	-37.20	6,344.83	0.00	0.00	0.00
15,500.00	90.32	359.66	9,226.22	6,444.72	-37.79	6,444.83	0.00	0.00	0.00
15,600.00	90.32	359.66	9,225.65	6,544.72	-38.38	6,544.83	0.00	0.00	0.00
15,700.00	90.32	359.66	9,225.09	6,644.71	-38.96	6,644.83	0.00	0.00	0.00
15,800.00	90.32	359.66	9,224.52	6,744.71	-39.55	6,744.82	0.00	0.00	0.00
15,900.00	90.32	359.66	9,223.95	6,844.71	-40.13	6,844.82	0.00	0.00	0.00
16,000.00	90.32	359.66	9,223.39	6,944.70	-40.72	6,944.82	0.00	0.00	0.00
16,100.00	90.32	359.66	9,222.82	7,044.70	-41.31	7,044.82	0.00	0.00	0.00
16,200.00	90.32	359.66	9,222.26	7,144.70	-41.89	7,144.82	0.00	0.00	0.00
16,300.00	90.32	359.66	9,221.69	7,244.69	-42.48	7,244.82	0.00	0.00	0.00
16,400.00	90.32	359.66	9,221.12	7,344.69	-43.07	7,344.81	0.00	0.00	0.00
16,500.00	90.32	359.66	9,220.56	7,444.69	-43.65	7,444.81	0.00	0.00	0.00
16,598.12	90.32	359.66	9,220.00	7,542.80	-44.23	7,542.93	0.00	0.00	0.00



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MD Reference: KB @ 3479.50usft (Nomac 22)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
TD at 16598.12 16,598.17	90.32	359.66	9,220.00	7,542.85	-44.23	7,542.98	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (RBFC #2H/L1) - plan hits target center - Point	0.00	0.00	9,220.00	7,542.85	-44.23	414,268.95	759,970.56	32° 8' 12.960 N	103° 37' 37.179 W
Target Window (RBFC # - plan hits target center - Rectangle (sides W0.00 H7,062.81 D70.00)	-0.32	359.66	9,220.00	7,542.85	-44.22	414,268.95	759,970.57	32° 8' 12.960 N	103° 37' 37.179 W
EOC/PP (RBFC #2H/L1 - plan hits target center - Point	0.00	0.00	9,260.00	479.49	-2.81	407,205.59	760,011.98	32° 7' 3.062 N	103° 37' 37.236 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
4,840.00	4,840.00	9 5/8"	9-5/8	12-1/4

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")
810.00	810.00	Rustler		0.00	
1,130.00	1,130.00	Salado		0.00	
3,680.00	3,680.00	Castile		0.00	
4,620.00	4,620.00	Base of Salt		0.00	
4,840.00	4,840.00	Delaware		0.00	
4,870.00	4,870.00	Bell Canyon		0.00	
5,900.00	5,900.00	Cherry Canyon		0.00	
7,760.00	7,760.00	Brushy Canyon		0.00	
9,008.32	9,000.00	Bone Spring		0.00	
9,091.02	9,070.00	Upper Avalon		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
8,782.54	8,782.54	0.00	0.00	KOP - Start DLS 12.00 TFO 359.66
9,534.57	9,260.00	479.48	-2.81	EOC - Start 7063.55 hold at 9534.57 MD
16,598.12	9,220.00	7,542.80	-44.23	TD at 16598.12

CONDITIONS OF APPROVAL

Sundry dated 10/07/2015

OPERATOR'S NAME:	Yates Petroleum Corporation
LEASE NO.:	NMNM-110835
WELL NAME & NO.:	Resolute BTO Federal Com 2H
SURFACE HOLE FOOTAGE:	2590' FNL & 2200' FEL
BOTTOM HOLE FOOTAGE:	0330' FNL & 2200' FEL Sec. 13, T. 25 S., R 32 E.
LOCATION:	Section 24, T. 25 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

Original COA still applies with the following changes and updates.

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water and brine flows in the Salado, Castile, Delaware, and Bone Spring Formations.

Possibility of lost circulation in the Triassic Red Beds, Dewey Lake, Delaware, and Bone Spring Formations.

1. The 13-3/8 inch surface casing shall be set at approximately 910 feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing, which shall be set at approximately 4840 feet, is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

☒ Cement should tie-back at least 500 feet into previous casing string (Single Stage). Operator shall provide method of verification.

OPTION 2 –Contingency Casing if hole conditions warrant:

4. The minimum required fill of cement behind the 7 inch Second intermediate casing, which shall be set at approximately **8500** feet, is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

5. The minimum required fill of cement behind the 4-1/2 inch Production Liner casing is:

☒ Cement and Liner should tie-back at least 100 feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

EGF 100815