ATS-15-741

Form 3160-3
(March 2012)

OCD Hobbs
HOBBS OCD
JUN 28 2016
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMLC057210

6. If Indian, Allotee or Tribe Name: N/A (0)

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: MCA Unit 549 (31422)

2. Name of Operator: ConocoPhillips Company (217817)

9. API Well No.: 30-025- 43324

3a. Address: 600 N. Dairy Ashford Rd.; P10-3096, Houston, TX 77079-1175

3b. Phone No. *(include area code)*: 281-206-5281

10. Field and Pool, or Exploratory: Maljamar; Grayburg, San Andres (43329)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: 847' FNL and 135' FWL; UL D, Sec. 27, T17S, R32E

At proposed prod. zone: 733' FNL and 107' FWL; UL D, Sec. 27, T17S, R32E

UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area: Sec. 27, T17S, R32E

14. Distance in miles and direction from nearest town or post office*: Approximately 3.5 miles south east of Maljamar; New Mexico

12. County or Parish: Lea County

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 135' to UL line at surface

16. No. of acres in lease: 1200.00

17. Spacing Unit dedicated to this well: 40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: approx. 400' at surface

19. Proposed Depth: 4538' MD/4535' TVD

20. BLM/BIA Bond No. on file: ES0085

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 4021' GL

22. Approximate date work will start*: 01/01/2016

23. Estimated duration: 7 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature: Susan B. Maunder — Name *(Printed/Typed)*: Susan B. Maunder — Date: 6/5/15

Title: Senior Regulatory Specialist

Approved by *(Signature)*: James A. Amos — Name *(Printed/Typed)*: — Date: JUN 20 2016

Title: FIELD MANAGER — Office: CARLSBAD FIELD OFFICE

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. S
States any false, fictitious or fraudulent stateme

See attached NMOCD Conditions of Approval

fully to make to any department or agency of the United

(Continued on page 2)

*(Instructions on page 2)

KZ 06/29/16 KZ

Roswell Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

1. Geologic Formations

TVD of target	4535'	Pilot hole depth	NA
MD at TD:	4538'	Deepest expected fresh water:	870'

Permian Basin

Formation	TVD (ft)
Rustler	870
Salado	1055
Tansill	2040
Yates	2185
Seven Rivers	2520
Queen	3150
Grayburg	3510
San Andres	3900
TD	4535

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
12.25"	0	~~905~~ 940	8.625"	24	J55	STC	3.42	7.37	11.2
7.875"	0	4528	5.5"	17	J55	LTC	2.09	2.26	3.21
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

See COA

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	YES
Does casing meet API specifications? If no, attach casing specification sheet.	YES
Is premium or uncommon casing planned? If yes attach casing specification sheet.	NO
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	YES
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N/A
Is well located within Capitan Reef?	NO
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	NO
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	NO
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	NO
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	NO
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	350	13.5	1.75	9.17	15.75	Lead: Class C + 4% Bentonite + 2% CACl2 + 0.25% Cello Flake (LCM)
	250	14.8	1.34	6.36	8	Tail: Class C + 2% CaCl2
DV Tool-Contingency	450	11.5	3.22	19.06	29	Lead:Class C+3%MPA-5 (strength enhancement)+10% extender+.005lbs/sx Static Free+.005gps defoamer+.125lb/sx Cello Flake+3lbs/sx LCM+2%extender+1% bonding improver+6% Bentonite
	320	14.0	1.37	6.17	5.5	Tail: (35:65) Poz:Class C+1% Extender+1.5% Fluid Loss Add.+ .125 lbs/sx Cello Flake + 3lbs/sx LCM
	250	14.8	1.34	6.36	8	Stage 2:Class C +2%CACl2

Prod.	450	11.5	3.21	19.34	29	Lead: Class C +10% Gas Migration Add.+2% Extender+3% MPA-5 (strength enhancement) +1% BA-10A (Bonding improver)+6% Bentonite
	320	14.0	1.37	6.48	5.5	Tail: (35:65) Poz:Class C+1% Extender+1.5% Fluid Loss Add.

Lab reports with recipe and the 500 psi compressive strength time for the cement will be onsite for review.

DV tool to be run and two stage cement job to be performed as contingency in the event of flows or severe losses while drilling and running casing. DV tool depth will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe.

Casing String	TOC	% Excess
Surface	0'	157% lead, 107% tail
Production	0'	262% lead, 81% tail

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
7-7/8"	11"	3M	Annular	x	70% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y /N | Are anchors required by manufacturer?
	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss	PH
From	To					
0	Surf. shoe	FW Gel	8.5-9.0	28-40	N/C	N.C.
Surf. Shoe	TD	Saturated Brine	10.0	29	N/C	10-11

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
NO	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
NO	Drill stem test? If yes, explain
NO	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	
	Density, GR, BHC	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	1858 psi
Abnormal Temperature	No

- Mitigation measure for abnormal conditions - Loss of circulation is a possibility in the horizons below the Top of Grayburg. We expect that normal Loss of Circulation Material will be successful in healing any such loss of circulation events.

Gas detection equipment and pit level flow monitoring equipment will be on location. A flow paddle will be installed in the flow line to monitor relative amount of mud flowing in the non-pressurized return line. Mud probes will be installed in the individual tanks to monitor pit volumes of the drilling fluid with a pit volume totalizer. Gas detecting equipment and H2S monitor alarm will be installed in the mud return system and will be monitored. A mud gas separator will be installed and operable before drilling out from the Surface Casing. The gases shall be piped into the flare system. Drilling mud containing H2S shall be degassed in accordance with API RP-49, item 5.14. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.
A 10' rathole is planned between TD and production casing set depth.

Attachments
__X_ Directional Plan
__X_ Other, describe: Two Stage contingency cementing diagram; Drill Plan Attachment

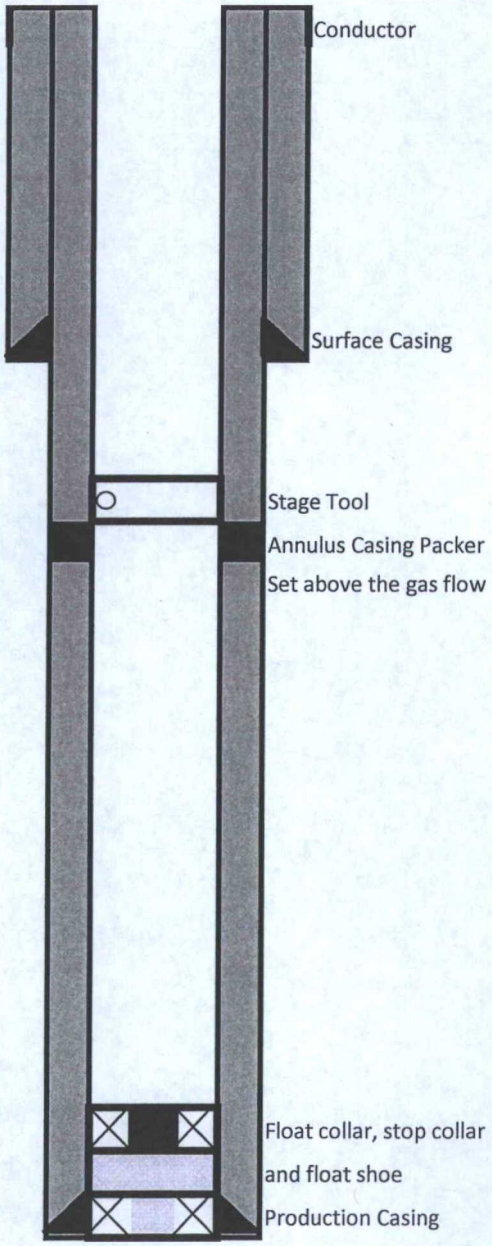
Drill Plan Attachment

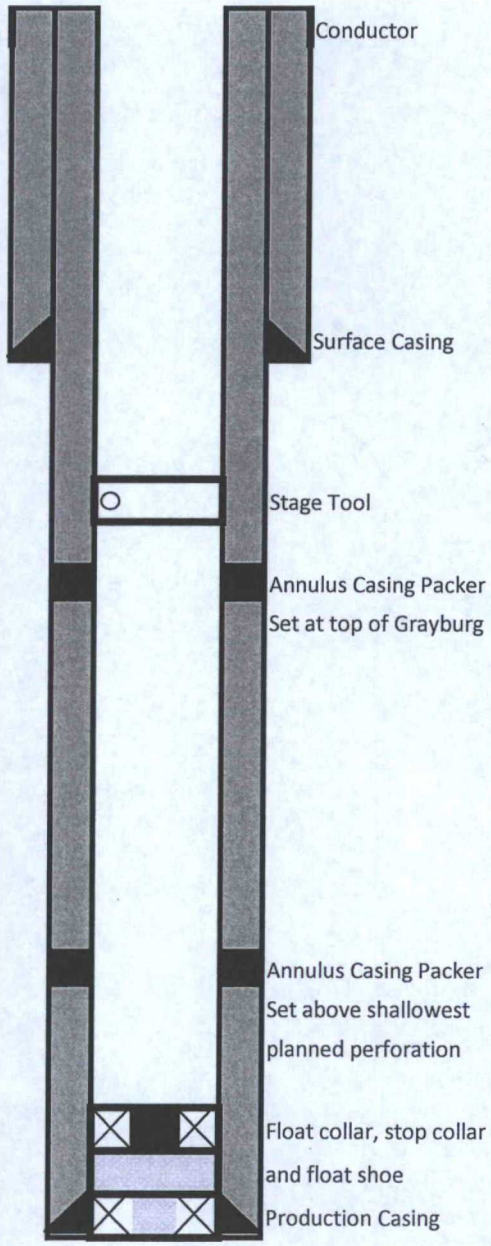
Two-Stage Cementing (Alternative for Shallow Gas)

Provide contingency plan for using two-stage cementing for the production casing cement job if gas flow occurs during the drilling operations. See APD Drill Plan Section 3.

Two-Stage Cementing (Alternative for Oil/Water/Gas & Water Flow)

Provide contingency plan for using two-stage cementing for the production casing cement job if oil or water flow occurs during drilling operations. See APD Drill Plan Section 3.





ConocoPhillips

Company: ConocoPhillips
Site: MCA Unit
Well: 549
Project: Lea County, New Mexico (NAD 27)
Rig Name: Precision 194

MS Energy Services.
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ANNOTATIONS

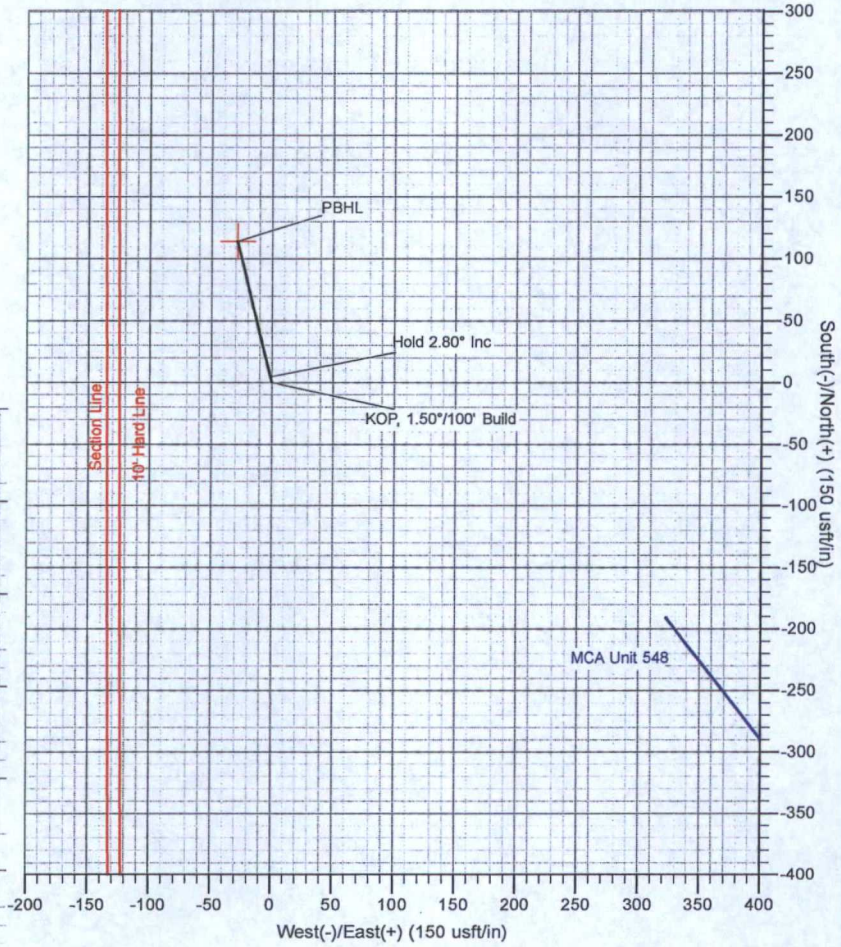
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
2040.00	0.00	0.00	2040.00	0.00	0.00	0.00	0.00	KOP, 1.50°/100' Build
2226.81	2.80	345.84	2226.74	4.43	-1.12	4.57	4.57	Hold 2.80° Inc
4537.84	2.80	345.84	4535.00	113.98	-28.75	117.55	117.55	PBHL

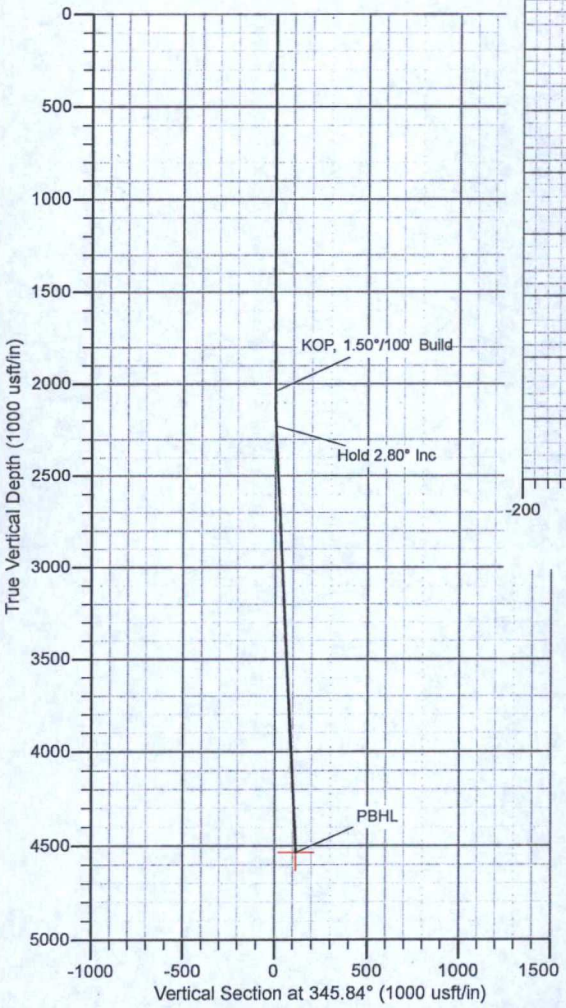
Azimuths to Grid North
True North: -0.31°
Magnetic North: 7.08°

Magnetic Field
Strength: 48558.7snT
Dip Angle: 60.65°
Date: 05/12/2015
Model: BGGM2015

US State Plane 1927 (Exact solution)
New Mexico East 3001

Created By: HLH
Date: 16:31, May 14 2015
Plan: Design #2





ConocoPhillips

ConocoPhillips

Lea County, New Mexico (NAD 27)
MCA Unit
549

Wellbore #1

Plan: Design #2

Standard Planning Report

14 May, 2015

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Database:	EDM 5000.1 Conroe DB	**Local Co-ordinate Reference:**	Well 549
Company:	ConocoPhillips	**TVD Reference:**	WELL @ 4035.00usft (Precision 194)
Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 4035.00usft (Precision 194)
Site:	MCA Unit	**North Reference:**	Grid
Well:	549	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Project	Lea County, New Mexico (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Well	549				
Well Position	**+N/-S**	659,012.10 usft	**Northing:**	659,012.10 usft	**Latitude:**	32° 48' 37.471 N
	+E/-W	675,571.05 usft	**Easting:**	675,571.05 usft	**Longitude:**	103° 45' 42.790 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	4,021.00 usft

Wellbore	Wellbore #1

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	BGGM2015	05/12/15	7.39	60.65	48,559

Design	Design #2				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	345.84

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	
2,040.00	0.00	0.00	2,040.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,226.81	2.80	345.84	2,226.74	4.43	-1.12	1.50	1.50	-7.58	345.84	
4,537.84	2.80	345.84	4,535.00	113.98	-28.75	0.00	0.00	0.00	0.00	PBHL v2 - MCA Un

Database:	EDM 5000.1 Conroe DB	**Local Co-ordinate Reference:**	Well 549
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Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 4035.00usft (Precision 194)
Site:	MCA Unit	**North Reference:**	Grid
Well:	549	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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
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
1,200.00	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
2,040.00	0.00	0.00	2,040.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 1.50°/100' Build									
2,100.00	0.90	345.84	2,100.00	0.46	-0.12	0.47	1.50	1.50	0.00
2,200.00	2.40	345.84	2,199.95	3.25	-0.82	3.35	1.50	1.50	0.00
2,226.81	2.80	345.84	2,226.74	4.43	-1.12	4.57	1.50	1.50	0.00
Hold 2.80° Inc									
2,300.00	2.80	345.84	2,299.84	7.90	-1.99	8.15	0.00	0.00	0.00
2,400.00	2.80	345.84	2,399.72	12.64	-3.19	13.03	0.00	0.00	0.00
2,500.00	2.80	345.84	2,499.60	17.38	-4.38	17.92	0.00	0.00	0.00
2,600.00	2.80	345.84	2,599.48	22.12	-5.58	22.81	0.00	0.00	0.00
2,700.00	2.80	345.84	2,699.36	26.86	-6.77	27.70	0.00	0.00	0.00
2,800.00	2.80	345.84	2,799.24	31.60	-7.97	32.59	0.00	0.00	0.00
2,900.00	2.80	345.84	2,899.12	36.34	-9.17	37.48	0.00	0.00	0.00
3,000.00	2.80	345.84	2,999.00	41.08	-10.36	42.37	0.00	0.00	0.00
3,100.00	2.80	345.84	3,098.88	45.82	-11.56	47.26	0.00	0.00	0.00
3,200.00	2.80	345.84	3,198.76	50.56	-12.75	52.15	0.00	0.00	0.00
3,300.00	2.80	345.84	3,298.64	55.30	-13.95	57.03	0.00	0.00	0.00
3,400.00	2.80	345.84	3,398.52	60.04	-15.14	61.92	0.00	0.00	0.00
3,500.00	2.80	345.84	3,498.40	64.78	-16.34	66.81	0.00	0.00	0.00
3,600.00	2.80	345.84	3,598.28	69.52	-17.54	71.70	0.00	0.00	0.00
3,700.00	2.80	345.84	3,698.16	74.26	-18.73	76.59	0.00	0.00	0.00
3,800.00	2.80	345.84	3,798.04	79.00	-19.93	81.48	0.00	0.00	0.00
3,900.00	2.80	345.84	3,897.92	83.74	-21.12	86.37	0.00	0.00	0.00
4,000.00	2.80	345.84	3,997.81	88.48	-22.32	91.26	0.00	0.00	0.00
4,100.00	2.80	345.84	4,097.69	93.22	-23.51	96.14	0.00	0.00	0.00
4,200.00	2.80	345.84	4,197.57	97.97	-24.71	101.03	0.00	0.00	0.00
4,300.00	2.80	345.84	4,297.45	102.71	-25.91	105.92	0.00	0.00	0.00
4,400.00	2.80	345.84	4,397.33	107.45	-27.10	110.81	0.00	0.00	0.00
4,500.00	2.80	345.84	4,497.21	112.19	-28.30	115.70	0.00	0.00	0.00
4,537.84	2.80	345.84	4,535.00	113.98	-28.75	117.55	0.00	0.00	0.00
PBHL									

Database:	EDM 5000.1 Conroe DB	**Local Co-ordinate Reference:**	Well 549
Company:	ConocoPhillips	**TVD Reference:**	WELL @ 4035.00usft (Precision 194)
Project:	Lea County, New Mexico (NAD 27)	**MD Reference:**	WELL @ 4035.00usft (Precision 194)
Site:	MCA Unit	**North Reference:**	Grid
Well:	549	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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 v2 - MCA Unit 5 - plan hits target center - Point	0.00	0.00	4,535.00	113.98	-28.75	659,126.08	675,542.30	32° 48' 38.600 N	103° 45' 43.120 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
4,537.84	4,535.00	5 1/2"	5-1/2	6

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,040.00	2,040.00	0.00	0.00	KOP, 1.50°/100' Build
2,226.81	2,226.74	4.43	-1.12	Hold 2.80° Inc
4,537.84	4,535.00	113.98	-28.75	PBHL