

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

HOBBS OCD

SEP 06 2011

ATS-11-771

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No NMLC068281B	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator CONOCOPHILLIPS COMPANY		7. If Unit or CA Agreement, Name and No	
Contact BRIAN MAIORINO E-Mail brian.d.maiorino@conocophillips.com		8. Lease Name and Well No. BUCKFEDERAL 471H <38802>	
3a. Address 3300 N "A" ST BLDG 6 MIDLAND, TX 79705		9. API Well No 30-025-40281	
3b. Phone No. (include area code) Ph: 432-688-6913		10. Field and Pool, or Exploratory RED HILLS; BONE SPRING Wildcat <97838>	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 330FSL 400FEL Unit P At proposed prod. zone 330FNL 400FEL Unit A		11. Sec., T., R., M., or Blk. and Survey or Area Sec 17 T26S R32E Mer	
14. Distance in miles and direction from nearest town or post office* 30 MILES SOUTH WEST OF JAL, NM		12. County or Parish LEA	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330' FROM SOUTH LEASE LINE		13. State NM	
16. No. of Acres in Lease 640.00		17. Spacing Unit dedicated to this well 40.00	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. NONE		20. BLM/BIA Bond No. on file ES 0085	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3156 GL		22. Approximate date work will start 11/17/2011	
23. Estimated duration 12/21/2011			

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) BRIAN MAIORINO Ph: 432-688-6913	Date 07/27/2011
Title REGULATORY SPECIALIST		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date AUG 31 2011
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

Electronic Submission #113995 verified by the BLM Well Information System
For CONOCOPHILLIPS COMPANY, sent to the Hobbs

Carlsbad Controlled Water Basin

HOBBS FIELD OFFICE
RECEIVEDSEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

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

SEP 14 2011

SEP 06 2011

RECEIVED

OPERATORS NAME:

ConocoPhillips Company

LEASE NAME AND WELL NO.:

Buck Federal 17# 1H

SURFACE LOCATION:

330 FSL & 400 FEL (SESE) of 17-26S-32E

BHL:

330 FNL & 400 FEL (NENE) of 17-26S-32E

FIELD NAME:

Red Hills

POOL NAME:

Bone Spring

COUNTY:

Lea County, New Mexico

Federal Lease No: NMLC068281B

The following information is to supplement the Application for Permit to Drill.

DRILLING PLAN

1. Name and estimated tops of all geologic groups, formations, members, or zones.

Quaternary	Surface	Water
Rustler	765 TVD	Salt
Delaware Top	4407 TVD	water
Bone Spring	8254 TVD	Oil/gas/water
Bone Spring 1 st carbonate top	8488 TVD	Oil/gas/water
Bone Spring 1 st carbonate base	8545 TVD	Oil/gas/water
KOP	8697 TVD	
Avalon A shale Top	8750 TVD	Oil/gas/water
Avalon A shale base	8980 TVD	Oil/gas/water
Avalon B zone top	8980 TVD	Oil/gas/water
Avalon B zone base	9104 TVD	Oil/gas/water
Avalon C shale top	9267 TVD	Oil/gas/water
Avalon C Shale horizontal	9290 TVD	Oil/gas/water
Target		
Avalon C Shale Base	9375 TVD	Oil/gas/water

2. Estimated depths and thickness of formations, members or zones potentially containing usable water, oil, gas, or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator's plans for protecting such resources.

Tmm
26 Aug 2011

Quanternary
Rustler

Surface (water)
4407 TVD (Salt)

All of the water bearing and salt formations identified above will be protected by the intermediate setting of the 9-5/8" casing and circulating of cement to surface

Bone Spring

8488 TVD-13650 MD (gas & gas/oil)

The geologic tops identified above from the Bone Spring/Avalon are part of the target formation.

3. The operator's minimum specifications for blowout prevention equipment and diverter systems to be used, including size, pressure rating, configuration, and the testing procedure and frequency.

A 5000# system will be installed, used, maintained, and tested accordingly. After nipping up, and every 30 days thereafter, preventors will be pressure tested. BOP will be inspected and operated at least daily to insure good working order. All pressure and operating tests will be recorded on the daily drilling reports. Ram Type preventors will be tested to rated working pressure or ~~70% of the minimum internal yield of the casing~~ ^{See COA}. Annular type preventer(s) shall be tested to 50% of the approved BOP stack working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer. BOP will comply with all provisions of Onshore Order 2 as specified. **See Attached BOPE Schematic.**

4. The proposed casing program including size, grade, weights, type of thread and coupling, and the setting depth of each string and its condition (new or ~~acceptably reconditioned~~). For exploratory wells, or for wells as otherwise specified by the authorized officer, the operator shall include the minimum design factors for tensions, burst, and collapse that are incorporated into the casing design. In cases where tapered casing strings are utilized, the operator shall also include and/or setting depths of each portion.

See COA NEW CASING:

Surface: 17 1/2" hole, 13 3/8" 54.5# J55 STC csg, set @ ⁹⁴⁰ 850'. Drill out with 12 1/4" bit and perform shoe test to 11.0 ppg MWE.

Burst: 4.39/Collapse: 1.88/Tension: 5.98/9.13

Intermediate 1: 12 1/4" hole, 9 5/8" 40# L80 BTC csg, set @ 4200' ✓

Burst: 2.43/Collapse: 1.4/Tension: 5.45/6.44

Intermediate 2: 8 3/4" hole, 7" 29# P110 LTC csg set @ 9695 MD/9292 TVD'

Burst: 2.29/Collapse: 1.74/Tension: 2.81/3.31

TMM
2 26 Aug 2011

see COA

Production Liner (Uncemented): 6 1/8" hole, 4 1/2" 18.8# T-95 TB csg set @ 8500'-13,650' MD Burst: 3.25/Collapse: 3.36/Tension: 5.78/6.80 (Spec sheet for T95 casing is attached).

The plan is to set casing and drill open hole in a northern direction to a proposed bottomhole location of 330 FNL & 400 FEL (NENE) of Section 17-26S-32E.

5. The amount and type(s) of cement, including anticipated additives to be used in setting each casing string, shall be described. If stage cementing techniques are to be employed, the setting depth of the stage collars and amount and type of cement, including additives, and preflush amounts to be used in each stage, shall be given. The expected linear fill-up of each cemented string, or each stage when utilizing stage-cementing techniques, shall also be given.

- a. 13 3/8" csg: Lead w/580 sxs Class C cement + HalCem-C (Yield: 1.33 cft) Tail w/230 sacks Class C cement + 1 lbm/sk EconoCem-HRLTRRC (Yield: 1.85 cft/sk). Circulate to surface. Based on 17 1/2" OH with 100% excess
- b. 9 5/8" csg: Lead w/1370 sxs 50/50 Class C Poz + 2.5 gal/bbl WG-19 + 1 lbm/sk EconoCem-C (Yield: 2.48 cft/sk) Tail w/300 sxs 'H' + HalCem C (Yield: 1.33 cft/sk) Circulate cement to surface. Based on 12 1/4" hole w/200% excess
- c. 7" csg: Lead w/420 sxs 50/50 Class C Poz + 2.5 gal/bbl WG-19 + 1 lbm/sk EconoCem-C (Yield: 2.00 cft/sk) Tail w/79 sxs 'H' + HalCem C (Yield: 1.2 cft/sk) Circulate cement 500' into 9 5/8" casing. Based on 8 3/4" hole w/200% excess
- d. 4 1/2" liner: No cement is to be pumped

6. The anticipated type and characteristics of the proposed circulating medium or mediums proposed for the drilling of each wellbore section, the quantities and types of mud and weighting material to be maintained, and the monitoring equipment to be used on the circulating system.

Mud Program:

0-850	Aquagel-Spud Mud	8.9#	Vis: 32-36	WL: NC
850-4200	Brine	10.1#	Vis: 28-30	WL: 5-8
4200-9695	Cut Brine	10#	Vis: 28-36	WL: 5-8
9695-13650	Cut Brine	10#	Vis: 30-40	WL: <=5

Gas detection equipment and pit level flow monitoring equipment will be on location. ConocoPhillips Company will maintain sufficient mud and weighted material on location at all times.

7. The anticipated testing, logging, and coring procedures to be used, including drill stem testing procedures, equipment, and safety measures.

- a. DST Program: None
- b. Core: Run : None
- c. Mud Logging: Two-Man - 2800'-TD' Vertical and Horizontal Sections

Logs to be run: Open Hole, TC-S-SS-FMI 9300-4200'
GR-MWD, 13,650-2800'

8. List the expected bottom-hole pressure and any anticipated abnormal pressures, temperatures or potential hazards that are expected to be encountered, such as lost circulation zones and hydrogen sulfide. The operator's plans for mitigating such hazards shall be discussed. Should the potential to encounter hydrogen sulfide exist, the mitigation procedures shall comply with the provisions of the BLM.

The expected pressure gradient is 0.433 psi/ft or 8.3 ppg equivalent

The average anticipated bottom hole pressure ranges on average 4360 psi.

// No hydrogen sulfide is expected.

Any other facets of the proposed operation which the operator wishes to be considered in reviewing the application.

Anticipated start date of August 30, 2011. Construction of well pad and road will begin as soon as all agency approvals are obtained.

9. Address the proposed directional design, plan view, and vertical section in true vertical and measured depth for directional, horizontal, or coil tubing operations.

The proposed directional/horizontal documents are attached.

TMM
26 Aug 2011

DRILLING PLAN

PROSPECT/FIELD		Bonespring/Red Hills		DRILLING PLAN		COUNTY/STATE		Lea County, NM	
OWNERS		BURLINGTON RESOURCES		LEASE					
WELL NO.		Buck Federal 17 #1H		FNL		FSL		FEL	
LOCATION		Surface Location:		330		400		FWL	
		Bottom Hole Location		330		400			
EST. T.D.		Leg #1 13,650' MD		GROUND ELEV.				3,177' (est)	
PROGNOSIS:				Based on 3,199' KB(est)					
MARKER		S.S. DEPTH		TVD		LOGS:			
Quaternary				Surface		Open Hole: TC-S-SS-FMI * 9,300' - 4,200'			
Rustler		2,412		765		GR-MWD 13,650' - 2,800'			
Delaware Top		1230		4,407					
Bone Spring		5077		8,254		DEVIATION:			
Bone Spring 1st Carbonate Top		5311		8,488		Surf 3" max., svy every 500'			
Bone Spring 1st Carbonate Base		5368		8,545		Int1/2" 3" max., svy every 90'			
KOP		5520		8,697		DST'S:			
Avalon A Shale Top		5573		8,750					
Avalon A Shale Base		5803		8,980					
Avalon B Zone Top		5803		8,980					
Avalon B Zone Base		5927		9,104					
Avalon C Shale Top		6090		9,267					
Avalon C Shale Horizontal Target		6113		9,290					
Avalon C Shale Base		6198		9,375					
Total Depth						CORES:			
						No core.			
						SAMPLES:			
						Mudlogging: Start End			
						Two-Man: 2,800' TD Vertical and Horizontal sections			
						BOP:			
						COP Category 3 Well Control Requirements			
						Nabors Rig M-09 BOPE: 13-5/8"-5Mpsi Annular (Hydnl GK)			
						(With Rotating Head) 13-5/8"-5Mpsi Blind Ram (Cameron U)			
						13-5/8"-5Mpsi Cross / Choke & Kill Lines			
						13-5/8"-5M psi Pipe Ram (Cameron U)			
						13-5/8"-5Mpsi Spacer Spool			
Dip Rate.		(See inclination prediction)				Surface Formation:			
Max. Anticipated BHP:		0.65 psi/ft				Max. MW Vis WL Remarks			
MUD:		Interval		Type					
Surface		0'-850'		Aqualag - Spud Mud		8.9 32-36 NC			
Intermediate 1'		850'-4200'		Brine		10.1 28-30 5-8			
Intermediate 2'		4200'-9695'		Cut Brine		10 28-36 5-8			
Production Lat		9695'-13650'		Cut Brine		10 30-40 <=5			
CASING:		Size		Wt ppf		Hole		Depth	
Surface		13-3/8"		54.5		17-1/2"		850'	
Intermediate 1'		9-5/8"		40		12-1/4"		4,200'	
Intermediate 2'		7"		26		8-3/4"		9,695'	
Production Lat #1		4-1/2"		18.8		6-1/8"		13,650'	
								Cement	
								To Surface	
								12 hrs	
								To Surface	
								24 hrs	
								500' into 9-5/8"	
								24 hrs	
								Long String	
								No Cement Liner Top @ KOP +/- 8500'	
DIRECTIONAL PLAN		MD		TVD		AZ			
Surface		N/A		N/A		N/A		Directional Company DDC	
Vertical KOP		8,585'		8,585'		0.0		Vertical Build Rate: 8.1 '100'	
End Build/ 7"Casing (90° curve)		9,695'		9,292'		0.0		Tan Leg Turn Rate 0.0 '100'	
Tangent:		N/A		N/A		N/A			
Turn:		N/A		N/A		N/A			
TD:		13,650'		9,268'		0.0			
								Land curve at 90° inc and 0Az	
								Climb +/-23' to TD	
Comments:									
Surveys will be taken at 90° interval below surface casing while drilling with PDC / Motor / MWD									
Prep By:		Luis Serrano		Date:		7/25/11		Doc: REV.0	

Tom
26 Aug 2011

August 09 2011



Size: 4.500 in.
Grade: API T95

Wall: 0.430 in.
Weight: 18.900 lbs/ft
Connection: Blue™

PIPE BODY DATA

GEOMETRY

Nominal OD	4.500 in.	Nominal Weight	18.90 lbs/ft	Standard Drift Diameter	3.515 in.
Nominal ID	3.640 in.	Wall Thickness	0.430 in.	Special Drift Diameter	N/A
Plain End Weight	18.71 lbs/ft				

PERFORMANCE

Body Yield Strength	522 x 1000 lbs	Internal Yield	15890 psi	Collapse	16410 psi
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BLUE™ CONNECTION DATA

GEOMETRY

Regular OD	5.189 in.	Special Clearance OD	5.051 in.	Connection ID	3.740 in.
Critical Section Area	5.768 sq. in.	Critical Section Area (Special Clearance)	4.659 sq. in.	Make-Up Loss	4.012 in.
Threads per in.	5.00	Coupling Length	9.213 in.		

PERFORMANCE

Regular OD	100 %	Joint Yield Strength	522 x 1000 lbs	Internal Yield	15890 psi
Tension Efficiency	100 %	Compression Rating	522 x 1000 lbs	Collapse	16410 psi
Special Clearance	85.0 %	Bending	97 °/100 ft		

MAKE-UP TORQUES

Minimum	8630 ft-lbs	Target	9590 ft-lbs	Maximum	10550 ft-lbs
Yield Torque	15750 ft-lbs				

BLANKING DIMENSIONS

Blanking Dimensions

Thar
26 Aug 2011

Buck Federal 17 #1H

Surface Location:

330

400

Bottom Hole Location

0

400

SAP Network: TBA
 Inv. Handler ID: TBA
 Drilling: TBA
 Completion/Facility: \$0
 Total: #VALUE!

Permit:
 NDIC #: TBA
 API #: TBA
 Fed #: TBA
 AFE# TBA

Directional:

	MD	TVD	FWL/FSL	FEL/FWL	S-T-R	Azi
Vertical KOP :	8585	8585	0	0	0	0
End Build/ 7" Casing (90° curve):	9,695'	9,292'	0	0	0	0
Tangent	N/A	N/A	0	0	0	N/A
Turn	N/A	N/A	0	0	0	N/A
TD	13,650'	9,265'	0	0	0	0

Formation

TVD

Surface

CASING

Drill Fluids

Cement

Analysis

Quaternary
 Rustler
 Delaware Top
 KOP
 Bone Spring
 Bone Spring 1st Carbonate Top
 Bone Spring 1st Carbonate Base
 KOP
 Avalon A Shale Top
 Avalon A Shale Base
 Avalon B Zone Top
 Avalon B Zone Base
 Avalon C Shale Top
 Avalon C Shale Horizontal Target
 Avalon C Shale Base

Surface
 (765)
 (4,407)
 (8,697)
 (8,254)
 (8,488)
 (8,545)
 (8,697)
 (8,750)
 (8,980)
 (8,980)
 (9,104)
 (9,267)
 (9,290)
 (9,375)

850' 13-3/8" 54 # J-55 STC

Intermediate 1

4,200' 9-5/8" 40# L-80 BTC

4 1/2" Liner Top @ 8500'

KOP (8 1/4" 100')

8,585

Intermediate 2

9,695' MD 7" 28# P-110 BTC
9,322' TVD

Surf. Hole:

FW gel mud
 8 SS
 w/ high vis sweeps

Interm 1

Brine
 10 1#
 40-50 Vis
 5-8 WL

Data. These numbers are only estimates.

Surface

230 Sx Lead
 580 Sx Tail

Based on 17 -1/2" OH,
 with 100% excess

Interm 2

Cut Brine
 10#
 28-36 Vis
 5-8 WL

Intermediate 1

1,370 Sx Lead
 300 Sx Tail

Based on 12.25 in Hole
 with 200% excess

Prod Hole:

Cut Brine
 10#
 28-36 Vis
 <=5 WL

high vis sweeps
 as required

Intermediate 2

420 Sx Lead
 79 Sx Tail

Based on 8.75 in. Hole
 with 200% excess

Shurry Top

Surface
 600' from Bottom

Shurry Top

500' into 9-5/8"

600' from Bottom

Open Hole:

*Triple Combo/Sonic/Sonic Scanner/FMI
 9,300' - 4,200'
 GR-MWD
 13,650' - 2,800'

Cased Hole Logs:
 None

Notes for Well:

- 1.) Refer to the drilling program for detailed casing, drilling fluids, bit etc.
- 2.) Mud logger (two-man) to be on at surface casing depth of 2,800'
- 3.) The curve will be drilled with - 8"/100' build rate and 0° Azimuth
- 4.) Begin LWD GR service after drilling out surface shoes at 850'
- 5.) Run 9-5/8" 40# L-80 BTC from surface to Intermediate 1 Section TD @ 4200'
- 6.) Drill 8-3/4" hole to KOP at 8585'
- 7.) Kick off and drill curve to 9695' MD/ 9292' TVD as per the directional plan POOH.
- 8.) Run 7" casing (Intermediate 2) through the curve into the Avalon C
- 9.) Drill out 7" cement and float equipment and climb 24' from the EOC to the EOL keeping 0A2 to TD as per the directional plan.
- 10.) If required, ream 6-1/8" lateral in preparation for running 4 1/2" liner.
- 11.) 4 1/2" liner to be run in 6-1/8" lateral within 100' above KOP
- 12.) Pressure up and test liner top to 4500 psi (positive test) Hold for 30 mins
- 13.) Displace wellbore to ± 10# treated brine. Observe well for 30 mins to ensure no flow (negative test)
- 14.) POOH laying down pipe
- 15.) NO BOPE. Install 10M tubing head. Test connection
- 16.) Release drilling rig

Production:

Liner: 4 1/2" 18 # T-95 Tenaris Blue:
 13,650' MD MD

Max. Anticipated BHP

0.65 psi/ft

TD @ 13,650' MD
 9,265' TVD

Vick Harvey
 Geologist

Date

Luis Serrano
 Drilling Engineer

Date

Turn
 12/13/2011

Bonespring/Red Hills
BURLINGTON RESOURCES
Buck Federal 17 #1H

0

Surface Casing:

Surface Casing Depth (Ft)	850
Surface Casing O.D. (In.)	13.375
Surface Casing ID (In)	12.715
Hole O.D. (In)	17.5
Excess (%)	100%
Volume Tail (Sx)	230
Yield Tail (Cu. Ft./Sx)	1.85
Yield Lead (Cu. Ft./Sx)	1.33
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	35.3
Tail feet of cement	300
Calculated Total Volume (Cu. Ft.)	1,216
Calc. Tail Volume (Cu. Ft.)	417
Calc. Lead Volume (Cu. Ft.)	764
Calc. Lead Volume (Sx)	580

Intermediate1 Casing (Lead):

Intermediate Casing O.D. (In.)	9.625
Intermediate Casing ID (In)	8.835
Hole O.D. (In)	12.25
Excess (%)	200%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	3,600'
Yield Lead (Cu. Ft./Sx)	2.48
Calculated Total Lead (Cu. Ft.)	3,383
Calc. Lead Volume (Sx)	1370

Intermediate2 Casing (Lead):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O.D. (In)	8.75
Excess (%)	100%
cap 7" - 8-3/4" bls/ft	0.0268
cap 7 - 9-5/8" bls/ft	0.02823
Calculated fill: (500' into 9-5/8")	5,400'
Yield Lead (Cu. Ft./Sx)	2.0
Calculated Total Lead (Cu. Ft.)	828
Calc. Lead Volume (Sx)	420

Intermediate1 Casing (Tail):

Intermediate Casing O.D. (In.)	9-5/8"
Production Casing ID (In)	8.835
Hole O.D. (In)	12.25
Excess (%)	200%
cap 12-1/4 - 9-5/8"	0.0558
Calculated fill:	600'
Yield Tail (Cu. Ft./Sx)	1.33
Shoe Joint (Ft)	40
Shoe Volume (Cu. Ft)	17.0
Calc. Tail Volume (Cu. Ft.)	393
Required Tail Volume (Sx)	300

5480

Intermediate2 Casing (Tail):

Intermediate Casing O.D. (In.)	7.000
Intermediate Casing ID (In)	6.184
Hole O.D. (In)	8.75
Excess (%)	100%
cap 7" - 8-3/4" bls/ft	0.0268
cap 7 - 9-5/8" bls/ft	0.02823
Calculated fill:	600'
Yield Lead (Cu. Ft./Sx)	1.2
Calculated Total Tail (Cu. Ft.)	95
Required Tail Volume (Sx)	79

26 Aug 2011
Tuan

ConocoPhillips MCBU

Permian Hz Bonespring/Avalon

Buck Federal 17

Buck Federal 17 #1H

Buck Federal 17 #1H

Plan: Plan #1 Rev.1

Standard Planning Report

25 July, 2011

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Buck Federal 17 #1H
Company:	ConocoPhillips MCBU	TVD Reference:	WELL @ 3206.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	MD Reference:	WELL @ 3206.0ft (Original Well Elev)
Site:	Buck Federal 17	North Reference:	True
Well:	Buck Federal 17 #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Buck Federal 17 #1H		
Design:	Plan #1 Rev.1		

Project:	Permian Hz Bonespring/Avalon		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Texas South Central 4204		

Site:	Buck Federal 17		
Site Position:		Northing:	m
From:	None	Easting:	m
Position Uncertainty:	0.0 ft	Slot Radius:	in
		Latitude:	
		Longitude:	
		Grid Convergence:	0.00 °

Well:	Buck Federal 17 #1H		
Well Position	+N-S	0.0 ft	Northing: 0.00 m
	+E-W	0.0 ft	Easting: 0.00 m
Position Uncertainty		0.0 ft	Wellhead Elevation: ft
			Ground Level: 3,184.0 ft
			Latitude: 27° 41' 16.664 N
			Longitude: 105° 10' 51.259 W

Wellbore:	Buck Federal 17 #1H				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	User Defined	6/21/2011	0.00	0.00	0

Design:	Plan #1 Rev.1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	0.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
8,585.0	0.00	0.00	8,585.0	0.0	0.0	0.00	0.00	0.00	0.00	
9,695.6	90.00	0.00	9,292.0	707.0	0.0	8.10	8.10	0.00	0.00	
13,650.0	90.75	0.00	9,266.1	4,661.3	0.0	0.02	0.02	0.00	0.00	

ConocoPhillips or its affiliates
Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Buck Federal 17 #1H
Company:	ConocoPhillips MCBU	TVD Reference:	WELL @ 3206.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	MD Reference:	WELL @ 3206.0ft (Original Well Elev)
Site:	Buck Federal 17	North Reference:	True
Well:	Buck Federal 17 #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Buck Federal 17 #1H		
Design:	Plan #1 Rev.1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
13-3/8" Surface @ 850'									
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9-5/8" Intermediate @ 4400'									
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Buck Federal 17 #1H
Company:	ConocoPhillips MCBU	TVD Reference:	WELL @ 3206 0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	MD Reference:	WELL @ 3206 0ft (Original Well Elev)
Site:	Buck Federal 17	North Reference:	True
Well:	Buck Federal 17 #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Buck Federal 17 #1H		
Design:	Plan #1 Rev.1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,585.0	0.00	0.00	8,585.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	1.22	0.00	8,600.0	0.2	0.0	0.2	8.09	8.09	0.00
8,700.0	9.32	0.00	8,699.5	9.3	0.0	9.3	8.10	8.10	0.00
8,800.0	17.42	0.00	8,796.7	32.4	0.0	32.4	8.10	8.10	0.00
8,900.0	25.53	0.00	8,889.7	69.0	0.0	69.0	8.10	8.10	0.00
9,000.0	33.63	0.00	8,976.6	118.4	0.0	118.4	8.10	8.10	0.00
9,100.0	41.74	0.00	9,055.7	179.4	0.0	179.4	8.10	8.10	0.00
9,200.0	49.84	0.00	9,125.3	251.1	0.0	251.1	8.10	8.10	0.00
9,300.0	57.94	0.00	9,184.2	331.8	0.0	331.8	8.10	8.10	0.00
9,400.0	66.05	0.00	9,231.1	420.0	0.0	420.0	8.10	8.10	0.00
9,500.0	74.15	0.00	9,265.1	513.9	0.0	513.9	8.10	8.10	0.00
9,600.0	82.26	0.00	9,285.6	611.8	0.0	611.8	8.10	8.10	0.00
9,695.6	90.00	0.00	9,292.0	707.0	0.0	707.0	8.11	8.11	0.00
9,700.0	90.00	0.00	9,292.0	711.5	0.0	711.5	0.02	0.02	0.00
9,800.0	90.02	0.00	9,292.0	811.5	0.0	811.5	0.02	0.02	0.00
9,855.0	90.03	0.00	9,292.0	866.4	0.0	866.4	0.02	0.02	0.00

7" Intermediate 2 @ 9855'

ConocoPhillips or its affiliates

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Buck Federal 17 #1H
Company:	ConocoPhillips MCBU	TVD Reference:	WELL @ 3206.0ft (Original Well Elev)
Project:	Permian Hz Bonesprng/Avalon	MD Reference:	WELL @ 3206.0ft (Original Well Elev)
Site:	Buck Federal 17	North Reference:	True
Well:	Buck Federal 17 #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Buck Federal 17 #1H		
Design:	Plan #1 Rev 1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,900.0	90.04	0.00	9,291.9	911.5	0.0	911.5	0.02	0.02	0.00	
10,000.0	90.06	0.00	9,291.8	1,011.5	0.0	1,011.5	0.02	0.02	0.00	
10,100.0	90.08	0.00	9,291.7	1,111.5	0.0	1,111.5	0.02	0.02	0.00	
10,200.0	90.10	0.00	9,291.6	1,211.5	0.0	1,211.5	0.02	0.02	0.00	
10,300.0	90.11	0.00	9,291.4	1,311.5	0.0	1,311.5	0.02	0.02	0.00	
10,400.0	90.13	0.00	9,291.2	1,411.5	0.0	1,411.5	0.02	0.02	0.00	
10,500.0	90.15	0.00	9,290.9	1,511.5	0.0	1,511.5	0.02	0.02	0.00	
10,600.0	90.17	0.00	9,290.6	1,611.5	0.0	1,611.5	0.02	0.02	0.00	
10,700.0	90.19	0.00	9,290.3	1,711.5	0.0	1,711.5	0.02	0.02	0.00	
10,800.0	90.21	0.00	9,290.0	1,811.5	0.0	1,811.5	0.02	0.02	0.00	
10,900.0	90.23	0.00	9,289.6	1,911.5	0.0	1,911.5	0.02	0.02	0.00	
11,000.0	90.25	0.00	9,289.2	2,011.5	0.0	2,011.5	0.02	0.02	0.00	
11,100.0	90.27	0.00	9,288.7	2,111.5	0.0	2,111.5	0.02	0.02	0.00	
11,200.0	90.29	0.00	9,288.3	2,211.5	0.0	2,211.5	0.02	0.02	0.00	
11,300.0	90.30	0.00	9,287.7	2,311.5	0.0	2,311.5	0.02	0.02	0.00	
11,400.0	90.32	0.00	9,287.2	2,411.5	0.0	2,411.5	0.02	0.02	0.00	
11,500.0	90.34	0.00	9,286.6	2,511.5	0.0	2,511.5	0.02	0.02	0.00	
11,600.0	90.36	0.00	9,286.0	2,611.5	0.0	2,611.5	0.02	0.02	0.00	
11,700.0	90.38	0.00	9,285.4	2,711.5	0.0	2,711.5	0.02	0.02	0.00	
11,800.0	90.40	0.00	9,284.7	2,811.5	0.0	2,811.5	0.02	0.02	0.00	
11,900.0	90.42	0.00	9,284.0	2,911.5	0.0	2,911.5	0.02	0.02	0.00	
12,000.0	90.44	0.00	9,283.2	3,011.4	0.0	3,011.4	0.02	0.02	0.00	
12,100.0	90.46	0.00	9,282.4	3,111.4	0.0	3,111.4	0.02	0.02	0.00	
12,200.0	90.47	0.00	9,281.6	3,211.4	0.0	3,211.4	0.02	0.02	0.00	
12,300.0	90.49	0.00	9,280.8	3,311.4	0.0	3,311.4	0.02	0.02	0.00	
12,400.0	90.51	0.00	9,279.9	3,411.4	0.0	3,411.4	0.02	0.02	0.00	
12,500.0	90.53	0.00	9,279.0	3,511.4	0.0	3,511.4	0.02	0.02	0.00	
12,600.0	90.55	0.00	9,278.0	3,611.4	0.0	3,611.4	0.02	0.02	0.00	
12,700.0	90.57	0.00	9,277.1	3,711.4	0.0	3,711.4	0.02	0.02	0.00	
12,800.0	90.59	0.00	9,276.0	3,811.4	0.0	3,811.4	0.02	0.02	0.00	
12,900.0	90.61	0.00	9,275.0	3,911.4	0.0	3,911.4	0.02	0.02	0.00	
13,000.0	90.63	0.00	9,273.9	4,011.4	0.0	4,011.4	0.02	0.02	0.00	
13,100.0	90.65	0.00	9,272.8	4,111.4	0.0	4,111.4	0.02	0.02	0.00	
13,200.0	90.66	0.00	9,271.7	4,211.4	0.0	4,211.4	0.02	0.02	0.00	
13,300.0	90.68	0.00	9,270.5	4,311.4	0.0	4,311.4	0.02	0.02	0.00	
13,400.0	90.70	0.00	9,269.3	4,411.4	0.0	4,411.4	0.02	0.02	0.00	
13,500.0	90.72	0.00	9,268.0	4,511.4	0.0	4,511.4	0.02	0.02	0.00	
13,600.0	90.74	0.00	9,266.8	4,611.4	0.0	4,611.4	0.02	0.02	0.00	
13,650.0	90.75	0.00	9,266.1	4,661.3	0.0	4,661.3	0.02	0.02	0.00	
4-1/2" Liner @ 13650'										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
9,855.0	9,292.0	7" Intermediate 2 @ 9855'	7.000	8.750	
4,400.0	4,400.0	9-5/8" Intermediate @ 4400'	9.625	12.252	
850.0	850.0	13-3/8" Surface @ 850'	13.375	17.520	
13,650.0	9,266.1	4-1/2" Liner @ 13650'	4.500	6.125	

ConocoPhillips or its affiliates

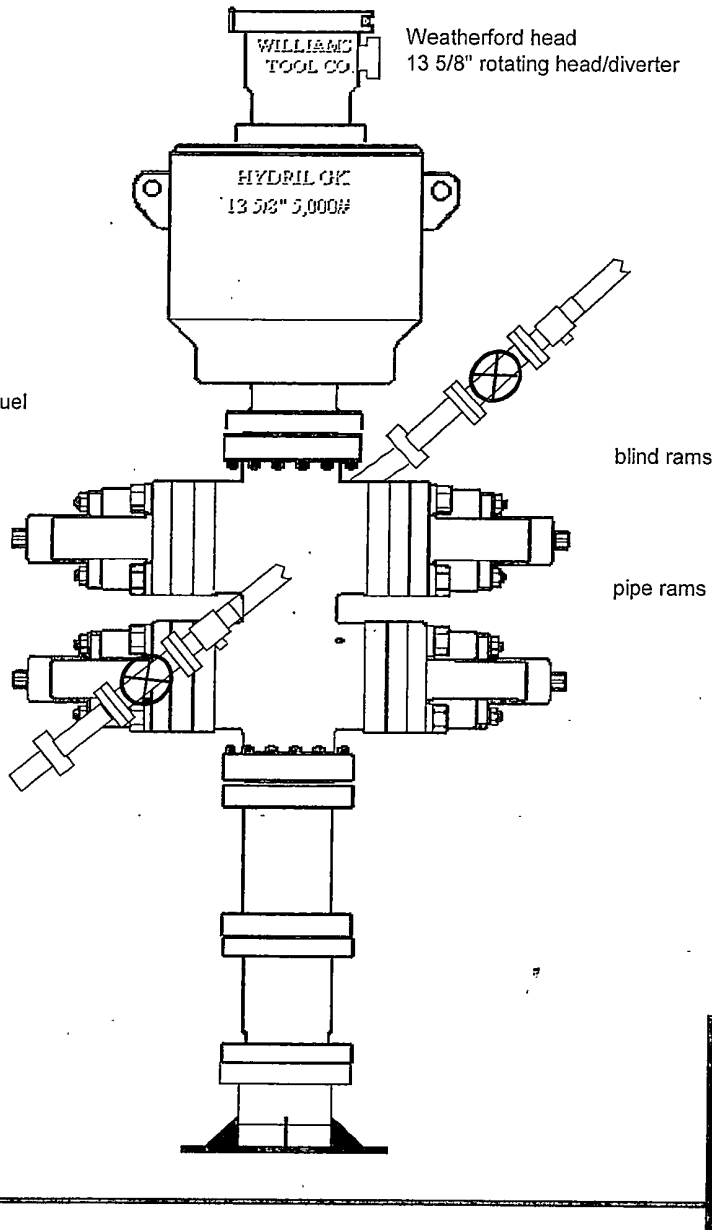
Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Buck Federal 17 #1H
Company:	ConocoPhillips MCBU	TVD Reference:	WELL @ 3206.0ft (Original Well Elev)
Project:	Permian Hz Bonespring/Avalon	MD Reference:	WELL @ 3206 0ft (Original Well Elev)
Site:	Buck Federal 17	North Reference:	True
Well:	Buck Federal 17 #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Buck Federal 17 #1H		
Design:	Plan #1 Rev.1		

Nabors M09

see COA

3" hydraulic valve w/ manuel
on v-door side on blinds
2" valves on w/ check
valve on other side of
blinds. Pumps below
blinds.



13 5/8" 5M Hydril

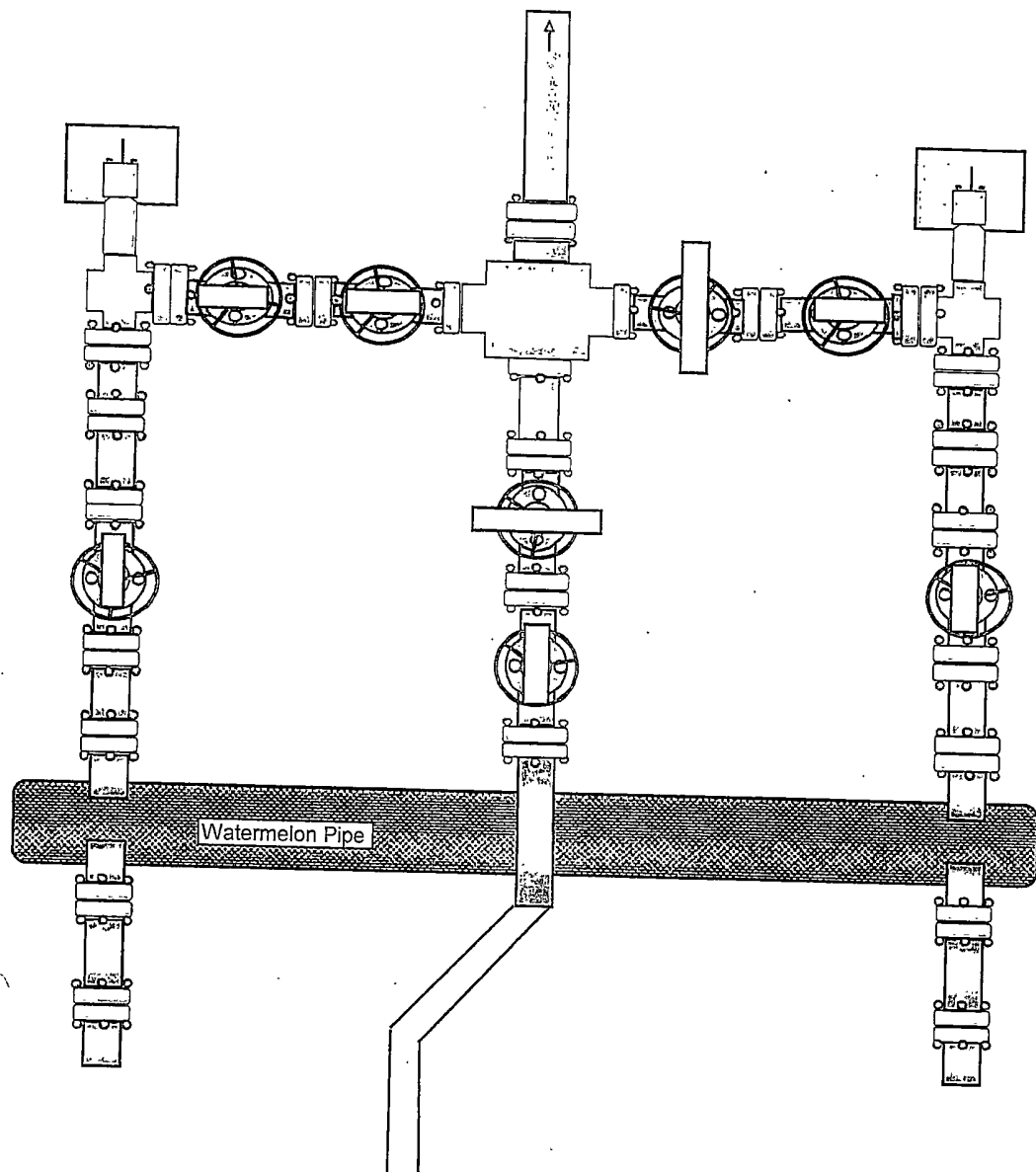
13 5/8" 5M
Blind rams
3" Manuel w/ 3" Hydr
valve on V-door side
2-2" manual valve w/
2" check valve.

13 5/8" 5M
5 1/2" Pipe Rams

13 5/8" 5M spool

13 5/8" 5M spool

TW
26 Aug 2011



Turn
26 Aug 2011

