

HOBBS OCD

OCT 30 2017

RECEIVED

Nadel & Gussman HEYCO, LLC

Lea County, NM

Sec 30, T19S, R33E

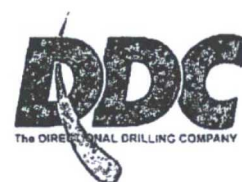
Federal 30 #3H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

22 January, 2013



DDC Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Site Sec 30, T19S, R33E
Company:	Nadel & Gussman HEYCO, LLC	TVD Reference:	WELL @ 3600.00ft (Patriot)
Project:	Lea County, NM	MD Reference:	WELL @ 3600.00ft (Patriot)
Site:	Sec 30, T19S, R33E	North Reference:	Grid
Well:	Federal 30 #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project:	Lea County, NM		
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		

Site:	Sec 30, T19S, R33E		
Site Position:		Northing:	596,223.8000 ft
From:	Map	Easting:	696,288.9000 ft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	32° 38' 14.997 N
		Longitude:	103° 41' 44.489 W
		Grid Convergence:	0.34 °

Well:	Federal 30 #3H					
Well Position	+N/-S	0.00 ft	Northing:	596,223.8000 ft	Latitude:	32° 38' 14.997 N
	+E/-W	0.00 ft	Easting:	696,288.9000 ft	Longitude:	103° 41' 44.489 W
Position Uncertainty	0.00 ft	Wellhead Elevation:		Ground Level:	3,600.00 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/16/2013	7.48	60.51	48,692

Design:	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	177.281

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
0.00	0.00	0.000	0.00	0.00	0.00	0.000	0.000	0.000	0.00	
9,482.54	0.00	0.000	9,482.54	0.00	0.00	0.000	0.000	0.000	0.00	
10,232.54	90.00	177.281	9,960.01	-476.93	22.65	12.000	12.000	23.637	177.28	
14,377.19	90.00	177.281	9,960.00	-4,616.91	219.27	0.000	0.000	0.000	0.00	PBHL Federal 30 #

DDC

Well Planning Report



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Site:	Sec 30, T19S, R33E	North Reference:	Grid
Well:	Federal 30 #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #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)
Build 12° / 100'									
9,482.54	0.00	0.000	9,482.54	0.00	0.00	0.00	0.000	0.000	0.000
9,500.00	2.10	177.281	9,500.00	-0.32	0.02	0.32	12.000	12.000	0.000
9,525.00	5.10	177.281	9,524.94	-1.88	0.09	1.89	12.000	12.000	0.000
9,550.00	8.10	177.281	9,549.78	-4.75	0.23	4.76	12.000	12.000	0.000
9,575.00	11.10	177.281	9,574.42	-8.91	0.42	8.92	12.000	12.000	0.000
9,600.00	14.10	177.281	9,598.82	-14.36	0.68	14.38	12.000	12.000	0.000
9,625.00	17.10	177.281	9,622.90	-21.07	1.00	21.10	12.000	12.000	0.000
9,650.00	20.10	177.281	9,646.59	-29.03	1.38	29.07	12.000	12.000	0.000
9,675.00	23.10	177.281	9,669.83	-38.22	1.82	38.27	12.000	12.000	0.000
9,700.00	26.10	177.281	9,692.56	-48.62	2.31	48.67	12.000	12.000	0.000
9,725.00	29.10	177.281	9,714.71	-60.18	2.86	60.25	12.000	12.000	0.000
9,750.00	32.10	177.281	9,736.23	-72.89	3.46	72.97	12.000	12.000	0.000
9,775.00	35.10	177.281	9,757.05	-86.71	4.12	86.80	12.000	12.000	0.000
9,800.00	38.10	177.281	9,777.12	-101.59	4.82	101.71	12.000	12.000	0.000
9,825.00	41.10	177.281	9,796.38	-117.51	5.58	117.64	12.000	12.000	0.000
9,850.00	44.10	177.281	9,814.79	-134.41	6.38	134.56	12.000	12.000	0.000
9,875.00	47.10	177.281	9,832.28	-152.24	7.23	152.42	12.000	12.000	0.000
9,900.00	50.10	177.281	9,848.81	-170.97	8.12	171.16	12.000	12.000	0.000
9,925.00	53.10	177.281	9,864.34	-190.54	9.05	190.75	12.000	12.000	0.000
9,950.00	56.10	177.281	9,878.82	-210.89	10.02	211.13	12.000	12.000	0.000
9,975.00	59.10	177.281	9,892.22	-231.97	11.02	232.23	12.000	12.000	0.000
10,000.00	62.10	177.281	9,904.49	-253.72	12.05	254.01	12.000	12.000	0.000
10,025.00	65.10	177.281	9,915.60	-276.09	13.11	276.40	12.000	12.000	0.000
10,050.00	68.10	177.281	9,925.53	-299.00	14.20	299.34	12.000	12.000	0.000
10,075.00	71.10	177.281	9,934.25	-322.40	15.31	322.77	12.000	12.000	0.000
10,100.00	74.10	177.281	9,941.73	-346.23	16.44	346.62	12.000	12.000	0.000
10,125.00	77.10	177.281	9,947.95	-370.41	17.59	370.83	12.000	12.000	0.000
10,150.00	80.10	177.281	9,952.89	-394.89	18.75	395.34	12.000	12.000	0.000
10,175.00	83.10	177.281	9,956.54	-419.59	19.93	420.06	12.000	12.000	0.000
10,200.00	86.10	177.281	9,958.90	-444.45	21.11	444.95	12.000	12.000	0.000
10,225.00	89.10	177.281	9,959.95	-469.40	22.29	469.93	12.000	12.000	0.000
EOB @ 90° Inc / 177.281° Azm / 9960' TVD									
10,232.54	90.00	177.281	9,960.01	-476.93	22.65	477.47	12.000	12.000	0.000
10,300.00	90.00	177.281	9,960.00	-544.31	25.85	544.92	0.000	0.000	0.000
10,400.00	90.00	177.281	9,960.00	-644.20	30.59	644.92	0.000	0.000	0.000
10,500.00	90.00	177.281	9,960.00	-744.09	35.34	744.92	0.000	0.000	0.000
10,600.00	90.00	177.281	9,960.00	-843.97	40.08	844.92	0.000	0.000	0.000
10,700.00	90.00	177.281	9,960.00	-943.86	44.83	944.92	0.000	0.000	0.000
10,800.00	90.00	177.281	9,960.00	-1,043.75	49.57	1,044.92	0.000	0.000	0.000
10,900.00	90.00	177.281	9,960.00	-1,143.64	54.31	1,144.92	0.000	0.000	0.000
11,000.00	90.00	177.281	9,960.00	-1,243.52	59.06	1,244.92	0.000	0.000	0.000
11,100.00	90.00	177.281	9,960.00	-1,343.41	63.80	1,344.92	0.000	0.000	0.000
11,200.00	90.00	177.281	9,960.00	-1,443.30	68.55	1,444.92	0.000	0.000	0.000
11,300.00	90.00	177.281	9,960.00	-1,543.19	73.29	1,544.92	0.000	0.000	0.000
11,400.00	90.00	177.281	9,960.00	-1,643.07	78.03	1,644.92	0.000	0.000	0.000
11,500.00	90.00	177.281	9,960.00	-1,742.96	82.78	1,744.92	0.000	0.000	0.000
11,600.00	90.00	177.281	9,960.00	-1,842.85	87.52	1,844.92	0.000	0.000	0.000
11,700.00	90.00	177.281	9,960.00	-1,942.74	92.27	1,944.92	0.000	0.000	0.000
11,800.00	90.00	177.281	9,960.00	-2,042.62	97.01	2,044.92	0.000	0.000	0.000
11,900.00	90.00	177.281	9,960.00	-2,142.51	101.75	2,144.92	0.000	0.000	0.000
12,000.00	90.00	177.281	9,960.00	-2,242.40	106.50	2,244.92	0.000	0.000	0.000
12,100.00	90.00	177.281	9,960.00	-2,342.28	111.24	2,344.92	0.000	0.000	0.000
12,200.00	90.00	177.281	9,960.00	-2,442.17	115.99	2,444.92	0.000	0.000	0.000

DDC Well Planning Report



Database: EDM 5000.1 Single User Db
Company: Nadel & Gussman HEYCO, LLC
Project: Lea County, NM
Site: Sec 30, T19S, R33E
Well: Federal 30 #3H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference: Site Sec 30, T19S, R33E
TVD Reference: WELL @ 3600.00ft (Patriot)
MD Reference: WELL @ 3600.00ft (Patriot)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
12,300.00	90.00	177.281	9,960.00	-2,542.06	120.73	2,544.92	0.000	0.000	0.000
12,400.00	90.00	177.281	9,960.00	-2,641.95	125.47	2,644.92	0.000	0.000	0.000
12,500.00	90.00	177.281	9,960.00	-2,741.83	130.22	2,744.92	0.000	0.000	0.000
12,600.00	90.00	177.281	9,960.00	-2,841.72	134.96	2,844.92	0.000	0.000	0.000
12,700.00	90.00	177.281	9,960.00	-2,941.61	139.71	2,944.92	0.000	0.000	0.000
12,800.00	90.00	177.281	9,960.00	-3,041.50	144.45	3,044.92	0.000	0.000	0.000
12,900.00	90.00	177.281	9,960.00	-3,141.38	149.19	3,144.92	0.000	0.000	0.000
13,000.00	90.00	177.281	9,960.00	-3,241.27	153.94	3,244.92	0.000	0.000	0.000
13,100.00	90.00	177.281	9,960.00	-3,341.16	158.68	3,344.92	0.000	0.000	0.000
13,200.00	90.00	177.281	9,960.00	-3,441.05	163.42	3,444.92	0.000	0.000	0.000
13,300.00	90.00	177.281	9,960.00	-3,540.93	168.17	3,544.92	0.000	0.000	0.000
13,400.00	90.00	177.281	9,960.00	-3,640.82	172.91	3,644.92	0.000	0.000	0.000
13,500.00	90.00	177.281	9,960.00	-3,740.71	177.66	3,744.92	0.000	0.000	0.000
13,600.00	90.00	177.281	9,960.00	-3,840.60	182.40	3,844.92	0.000	0.000	0.000
13,700.00	90.00	177.281	9,960.00	-3,940.48	187.14	3,944.92	0.000	0.000	0.000
13,800.00	90.00	177.281	9,960.00	-4,040.37	191.89	4,044.92	0.000	0.000	0.000
13,900.00	90.00	177.281	9,960.00	-4,140.26	196.63	4,144.92	0.000	0.000	0.000
14,000.00	90.00	177.281	9,960.00	-4,240.15	201.38	4,244.92	0.000	0.000	0.000
14,100.00	90.00	177.281	9,960.00	-4,340.03	206.12	4,344.92	0.000	0.000	0.000
14,200.00	90.00	177.281	9,960.00	-4,439.92	210.86	4,444.92	0.000	0.000	0.000
14,300.00	90.00	177.281	9,960.00	-4,539.81	215.61	4,544.92	0.000	0.000	0.000
TD @ 14377' MD / 9960' TVD									
14,377.19	90.00	177.281	9,960.00	-4,616.91	219.27	4,622.12	0.000	0.000	0.000

Design Targets

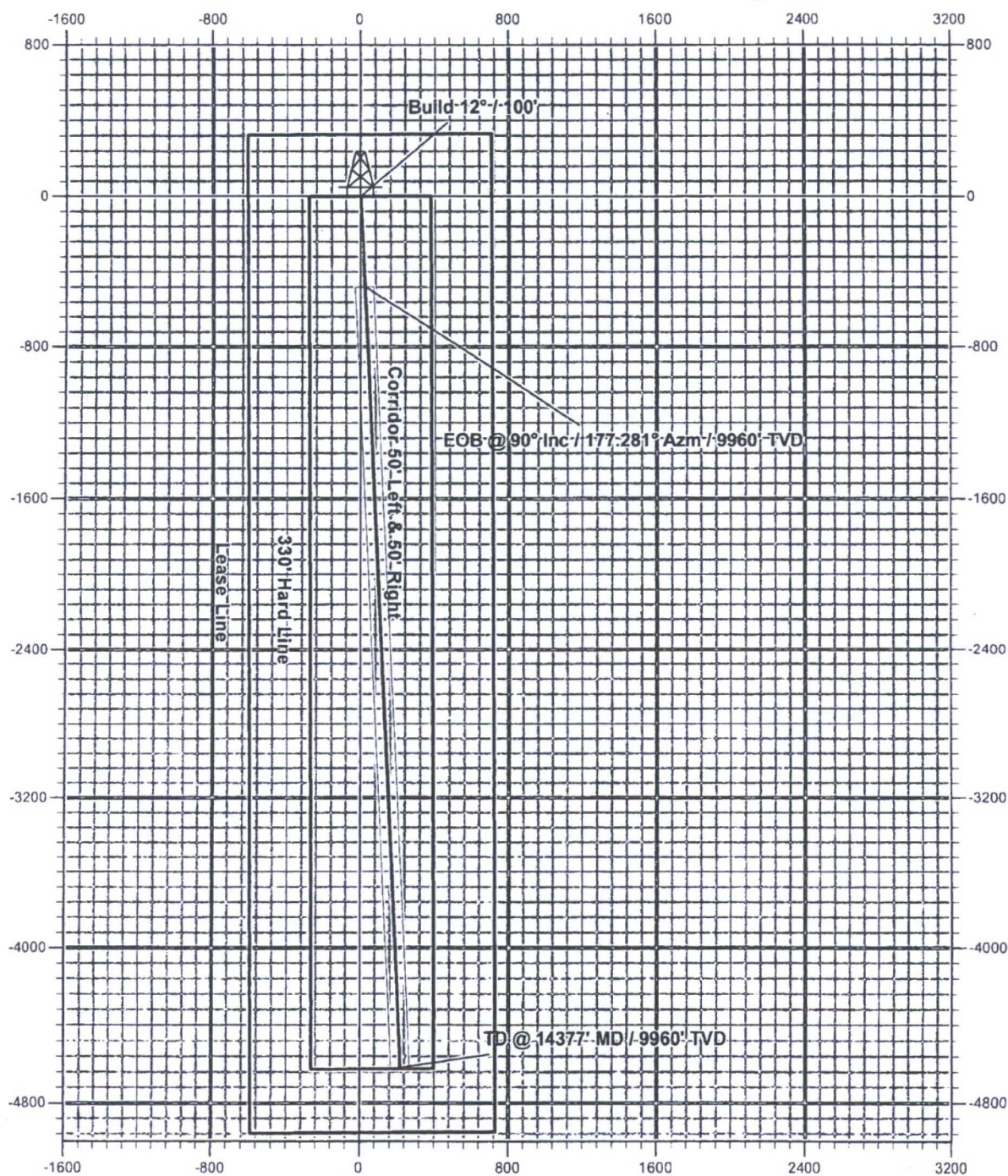
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL Federal 30 #3H	90.00	177.281	9,960.00	-4,616.91	219.27	591,606.8877	696,508.1700	32° 37' 29.299 N	103° 41' 42.249 W
- plan hits target center									
- Rectangle (sides W100.00 H0.00 D4,144.65)									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
9,482.54	9,482.54	0.00	0.00	Build 12° / 100'
10,232.54	9,960.01	-476.93	22.65	EOB @ 90° Inc / 177.281° Azm / 9960' TVD
14,377.19	9,960.00	-4,616.91	219.27	TD @ 14377' MD / 9960' TVD

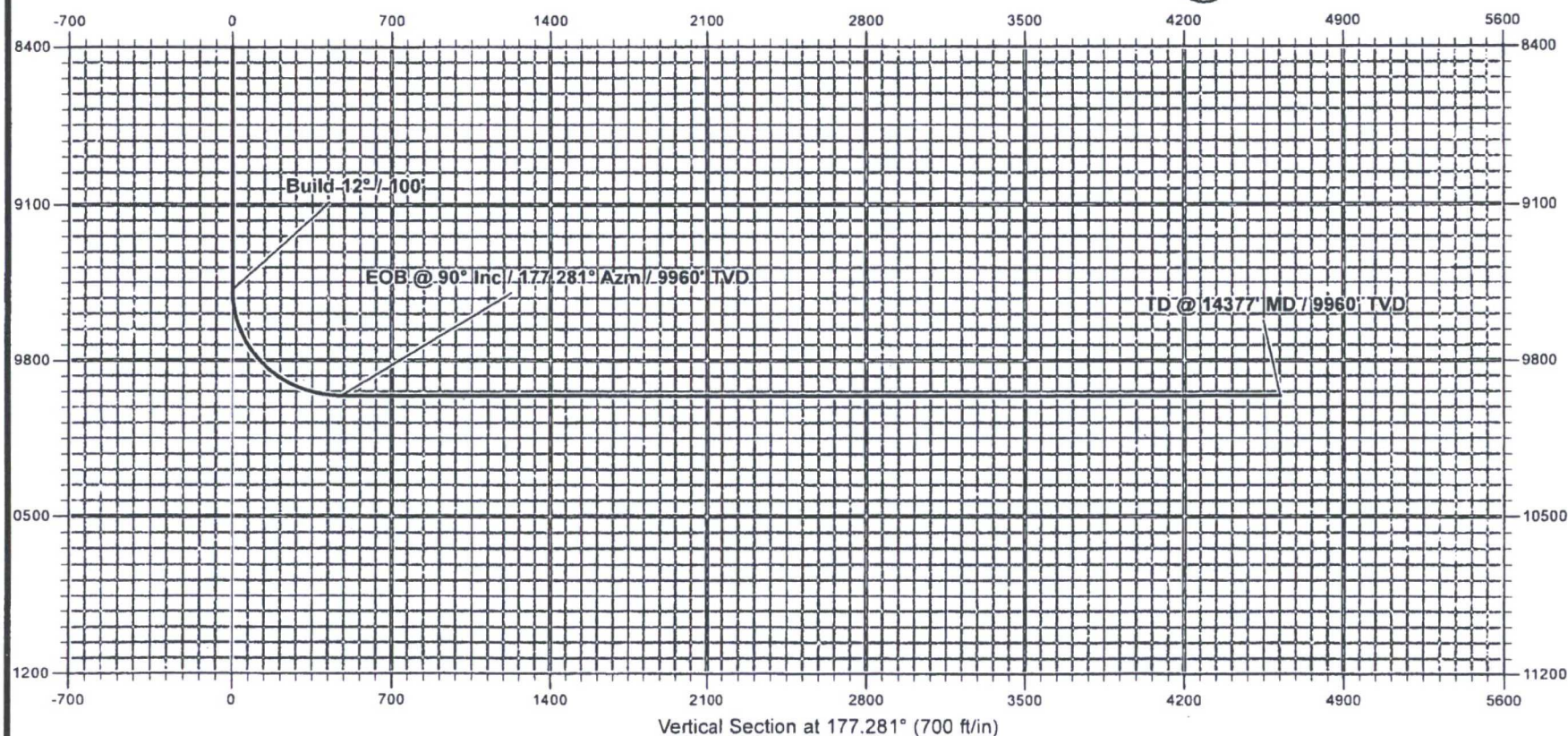
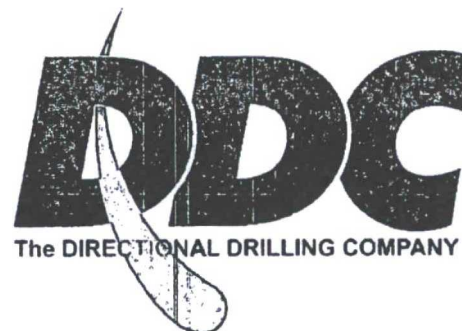
Nadel and Gussman HEYCO, LLC

Lea County, NM
Federal 30 #3H
Quote 130062
Design #1



Nadel and Gussman HEYCO, LLC

Lea County, NM
Federal 30 #3H
Quote 130062
Design #1



Matador Production Company
Federal 30#124H
SHL: 228' FNL 698' FEL sec 30 T19S R33E
BHL: 240' FSL 660' FEL sec 30 T19S R33E
Lea County, NM

DRILL PLAN PAGE 1

Drilling Program

1. ESTIMATED TOPS

Formation Name	Est Top	Bearing
Rustler	1195	N/A
Salt	1400	N/A
BX (Base of Salt)	2745	N/A
Yates	2940	N/A
Seven Rivers	3255	N/A
Bowers	3685	N/A
Capitan Reef	3740	Water
Base Capitan Reef	4900	Hydrocarbons
Grayburg	5285	Hydrocarbons
Delaware	5300	Hydrocarbons
Bone Spring LS	7835	Hydrocarbons
1st Bone Spring Sand	9000	Hydrocarbons
Bone Spring "B" Carbonate	9275	Hydrocarbons
2nd Bone Spring Sand	9535	Hydrocarbons
3rd Bone Spring Sand	10585	Hydrocarbons
Wolfcamp	11025	Hydrocarbons

OSE Groundwater Estimated Depth: 118'

2. NOTABLE ZONES

Closest water well (L 07023) is 9,517.13 to the southeast. Depth of well is 262 feet and depth to water is 185 feet.

3. PRESSURE CONTROL

See Exhibit E-1. A BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram and 1 annular preventer will be installed. The BOP will be used below intermediate 1 casing to TD. See attachments for BOP and choke manifold diagrams.

An accumulator that meets the requirements of Onshore Order 2 for the pressure rating of the BOP stack will be present. Rotating head will be installed as needed.

Matador Production Company**DRILL PLAN PAGE 2****Federal 30#124H****SHL: 228' FNL 698' FEL sec 30 T19S R33E****BHL: 240' FSL 660' FEL sec 30 T19S R33E****Lea County, NM**

Pressure tests will be conducted before drilling out from under all casing strings. BOP will be inspected and operated as recommended in Onshore Order 2. Kelly cock and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position.

A third party company will test the BOPs. Test pressures will be as follows. : On the intermediate 1 casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate 2 casing, pressure tests will be made to 250 psi low and 3000 psi high. The annular preventer will be tested to 250 psi low and 2500 psi high on the intermediate 1 casing, and 250 psi low and 2500 psi high on the intermediate 2 casing. In the case of running a speed head with landing mandrel for 9-5/8" casing the initial intermediate 1 casing test pressures will be 250 psi low and 3000 psi high with wellhead seals tested to 5000 psi once the 9-5/8" casing has been landed and cemented.

Matador requests a variance for a 2M annular to be installed after running 20" casing.

Matador Resources requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (see Exhibit E-2). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

4. CASING & CEMENT

Name	Hole Size	Casing Size	Wt/Grade	Thread Collar	Setting Depth	Top Cement
Surface	26"	20" (new)	133# K-55	BTC	1300	Surface
Intermediate 1	17-1/2"	13-3/8" (new)	68# J-55	BTC	3400	Surface
Intermediate 2	12-1/4"	9-5/8" (new)	40# J-55	BTC	5000	Surface
Production	8-3/4"	5-1/2" (new)	20# P-110	DWC/C	14377	3690

Minimum Safety Factors: Burst 1.125 Collapse: 1.125 Tension: 1.8

Cementing Program:

Name	Type	Sacks	Yield	Weight	Blend
Surface	Lead	1720	1.75	13.5	Class C + 3% NaCl + LCM
	Tail	654	1.38	14.8	Class C + 5% NaCl + LCM

Matador Production Company**Federal 30#124H****SHL: 228' FNL 698' FEL sec 30 T19S R33E****BHL: 240' FSL 660' FEL sec 30 T19S R33E****Lea County, NM****DRILL PLAN PAGE 3**

TOC = 0'		100% Excess			Centralizers per Onshore Order 2.III.B.1f
Intermediate 1	Lead	1578	2.09	12.6	Class C + Bentonite + 1% CaCL ₂ + 8% NaCl + LCM
	Tail	684	1.38	14.8	Class C + 5% NaCl + LCM
TOC = 0'		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to surface
Intermediate 2	Lead	648	2.48	11.9	Class C + Bentonite + 2% CaCL ₂ + 3% NaCl + LCM
	Tail	497	1.26	14.4	Class C + 5% NaCl + LCM
TOC = 0'		100% Excess			2 on btm jt, 1 on 2nd jt, 1 every 4th jt to surface
Production	Lead	679	2.25	11.5	TXI + Fluid Loss + Dispersant + Retarder + LCM
	Tail	1456	1.38	13.2	TXI + Fluid Loss + Dispersant + Retarder + LCM
TOC = 3690'		35% Excess			2 on btm jt, 1 on 2nd jt, 1 every 5th jt to top of tail cement (1000' above TOC)

5. MUD PROGRAM

An electronic Pason mud monitoring system satisfying the requirements of Onshore Order 1 will be used. All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Name	Hole Size	Mud Weight	Visc	Fluid Loss	Type Mud
Surface	20"	8.40	28	NC	FW Spud Mud
Intermediate 1	17-1/2"	10.00	30-32	NC	Brine Water
Intermediate 2	12-1/4"	8.4-8.6	28-30	NC	FW
Production	8-3/4"	9.00	30-32	NC	FW/Cut Brine

6. CORES, TESTS, & LOGS

No core or drill stem test is planned.

A 2-person mud-logging program will be used from 3400' to TD.

Matador Production Company
Federal 30#124H
SHL: 228' FNL 698' FEL sec 30 T19S R33E
BHL: 240' FSL 660' FEL sec 30 T19S R33E
Lea County, NM

DRILL PLAN PAGE 4

No electric logs are planned. GR will be collected through the MWD tools from intermediate 2 casing to TD. CBL with CCL will be run as far as gravity will let it fall to TOC.

7. DOWN HOLE CONDITIONS

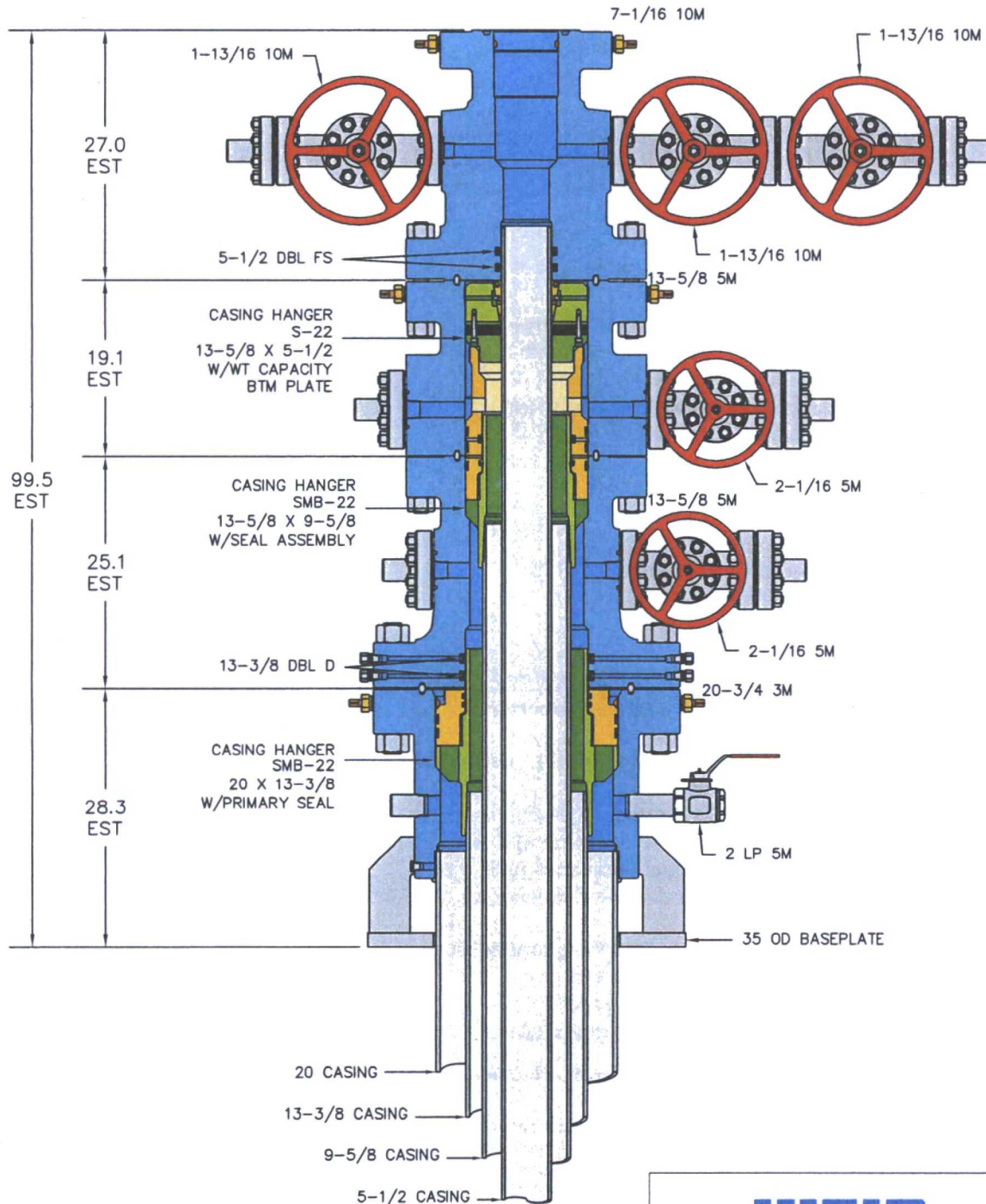
No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈ 4980 psi. Expected bottom hole temperature is $\approx 150^{\circ}$ F.

In accordance with Onshore Order 6, Matador does not anticipate that there will be enough H_2S from the surface to the Bone Spring to meet the BLM's minimum requirements for the submission of an " H_2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since Matador has an H_2S safety package on all wells, attached is an " H_2S Drilling Operations Plan". Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take ≈ 3 months to drill and complete the well.

MATADOR PROD. CO.



NOTE:
DIMENSIONS SHOWN ON THIS DRAWING ARE ESTIMATES ONLY AND CAN VARY SIGNIFICANTLY DEPENDING ON RAW MATERIAL LENGTHS. NO GUARANTEE OF STACKUP HEIGHT IS IMPLIED. DIMENSIONS SHOWN SHOULD BE CONSIDERED.

RESTRICTED CONFIDENTIAL DOCUMENT

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WEIR

10,000 PSI WELLHEAD ASSEMBLY
20 X 13-3/8 X 9-5/8 X 5-1/2

DESIGNED BY:	RPL	SCALE:	1:14	DATE:	09JAN17	REV:
CHECKED:		DRAWING NO:				

Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
DWC/C-IS PLUS Casing standard	5-1/2 in	20.00 lb/ft (0.361 in)	VST P110 EC

VST P110 EC	Material
125,000	Grade
135,000	Minimum Yield Strength (psi)
	Minimum Ultimate Strength (psi)

	Pipe Dimensions
5.500	Nominal Pipe Body O.D. (in)
4.778	Nominal Pipe Body I.D.(in)
0.361	Nominal Wall Thickness (in)
20.00	Nominal Weight (lbs/ft)
19.83	Plain End Weight (lbs/ft)
5.828	Nominal Pipe Body Area (sq in)

	Pipe Body Performance Properties
729,000	Minimum Pipe Body Yield Strength (lbs)
12,090	Minimum Collapse Pressure (psi)
14,360	Minimum Internal Yield Pressure (psi)
13,100	Hydrostatic Test Pressure (psi)

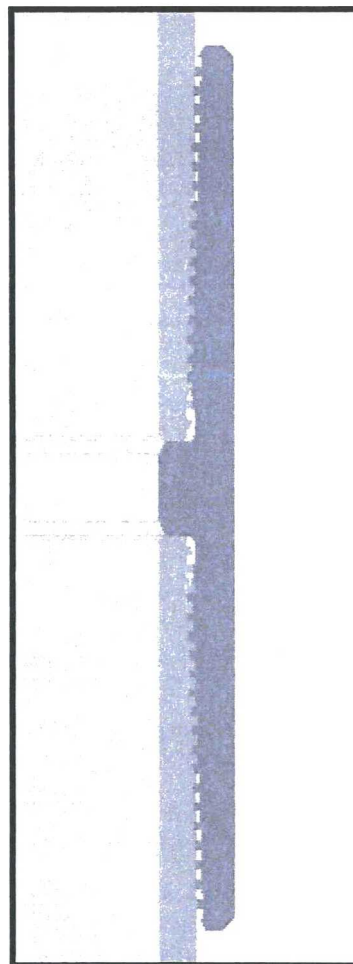
	Connection Dimensions
6.300	Connection O.D. (in)
4.778	Connection I.D. (in)
4.653	Connection Drift Diameter (in)
4.13	Make-up Loss (in)
5.828	Critical Area (sq in)
100.0	Joint Efficiency (%)

	Connection Performance Properties
729,000	Joint Strength (lbs)
26,040	Reference String Length (ft) 1.4 Design Factor
728,000	API Joint Strength (lbs)
729,000	Compression Rating (lbs)
12,090	API Collapse Pressure Rating (psi)
14,360	API Internal Pressure Resistance (psi)
104.2	Maximum Uniaxial Bend Rating [degrees/100 ft]

	Appoximated Field End Torque Values
16,600	Minimum Final Torque (ft-lbs)
19,100	Maximum Final Torque (ft-lbs)
21,600	Connection Yield Torque (ft-lbs)



VAM USA
4424 W. Sam Houston Pkwy. Suite 150
Houston, TX 77041
Phone: 713-479-3200
Fax: 713-479-3234
E-mail: VAMUSAsales@vam-usa.com



For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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