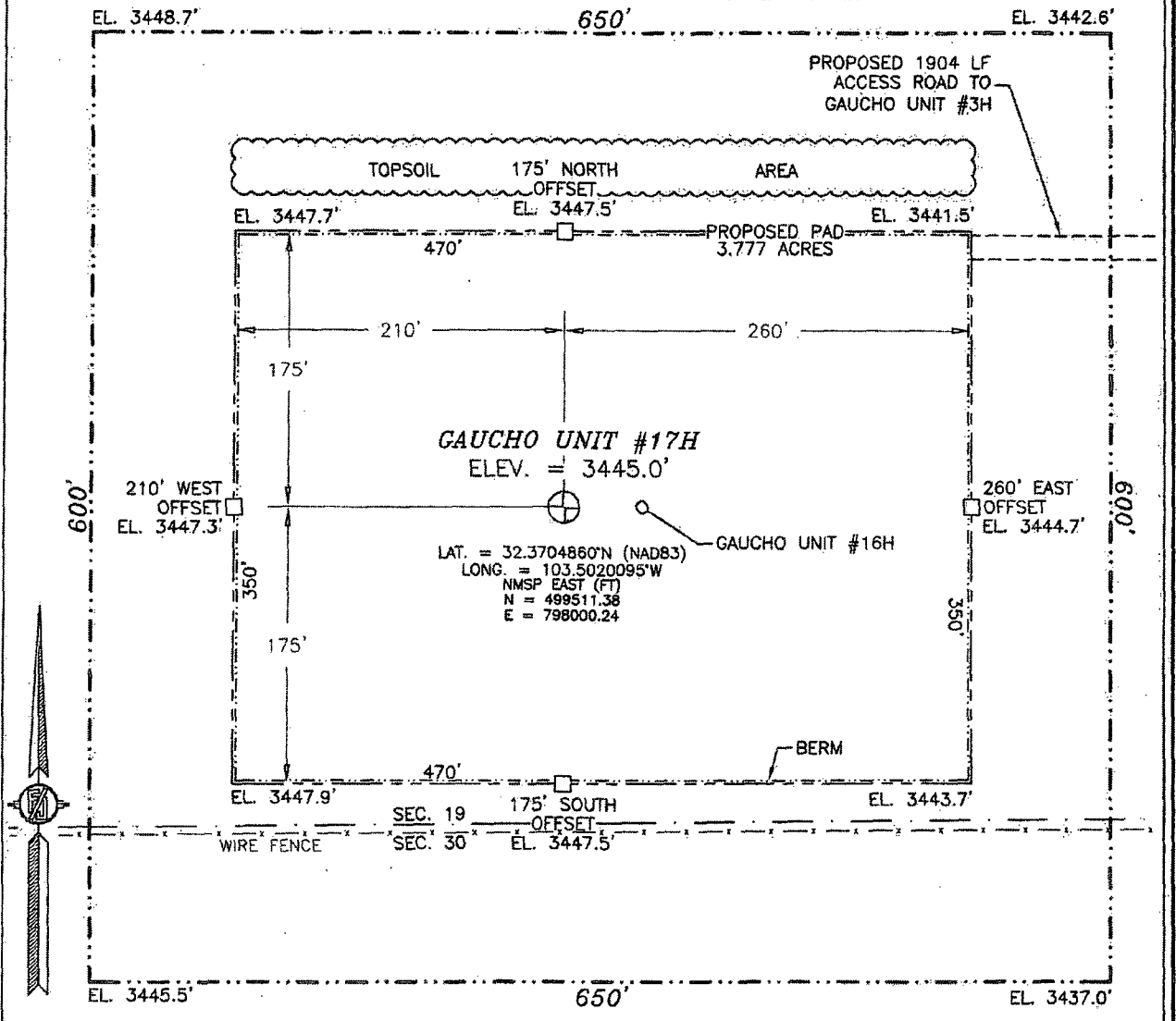
SECTION 19, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF SR 128 AND DELAWARE BASIN ROAD GO NORTH THEN EAST ON DELAWARE BASIN ROAD APPROX. 9.5 MILES TO A CALICHE LEASE ROAD ON LEFT, GO NORTH ABOUT 3.4 MILES TO AN EXISTING PAD ON LEFT (WEST) FOR GAUCHO UNIT #3. FROM ABOUT IN THE MIDDLE OF PAD ON SOUTH FOLLOW FLAGS WEST ABOUT 1900' TO NORTHEAST CORNER OF PROPOSED PAD.

DEVON ENERGY PRODUCTION COMPANY, L.P.

GAUCHO UNIT #17H

LOCATED 200 FT. FROM THE SOUTH LINE AND 420 FT. FROM THE EAST LINE OF SECTION 19, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

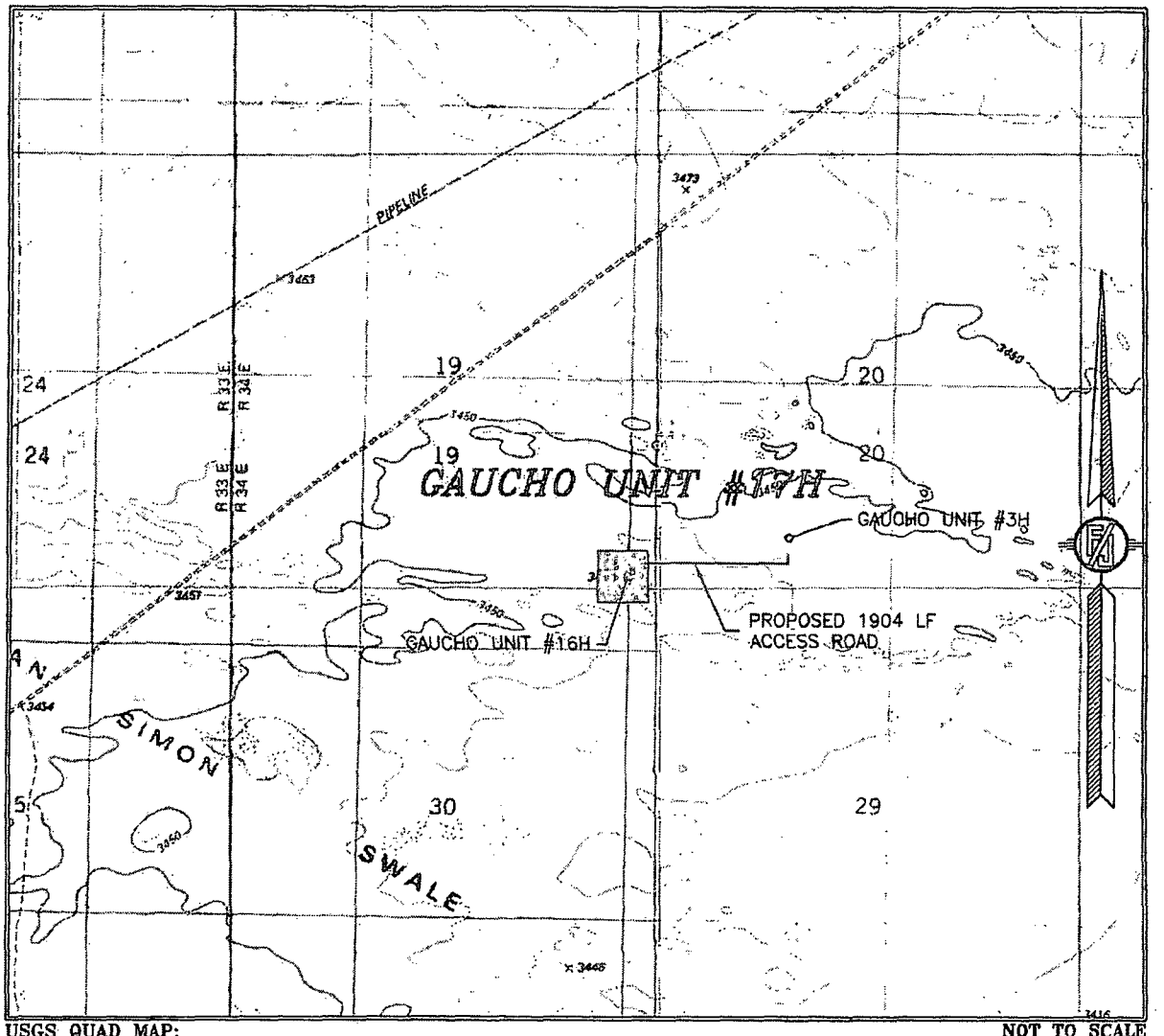
NOVEMBER 16, 2013

SURVEY NO. 2132A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SECTION 19, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
TIP TOP WELLS

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
GAUCHO UNIT #17H
LOCATED 200 FT. FROM THE SOUTH LINE
AND 420 FT. FROM THE EAST LINE OF
SECTION 19, TOWNSHIP 22 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

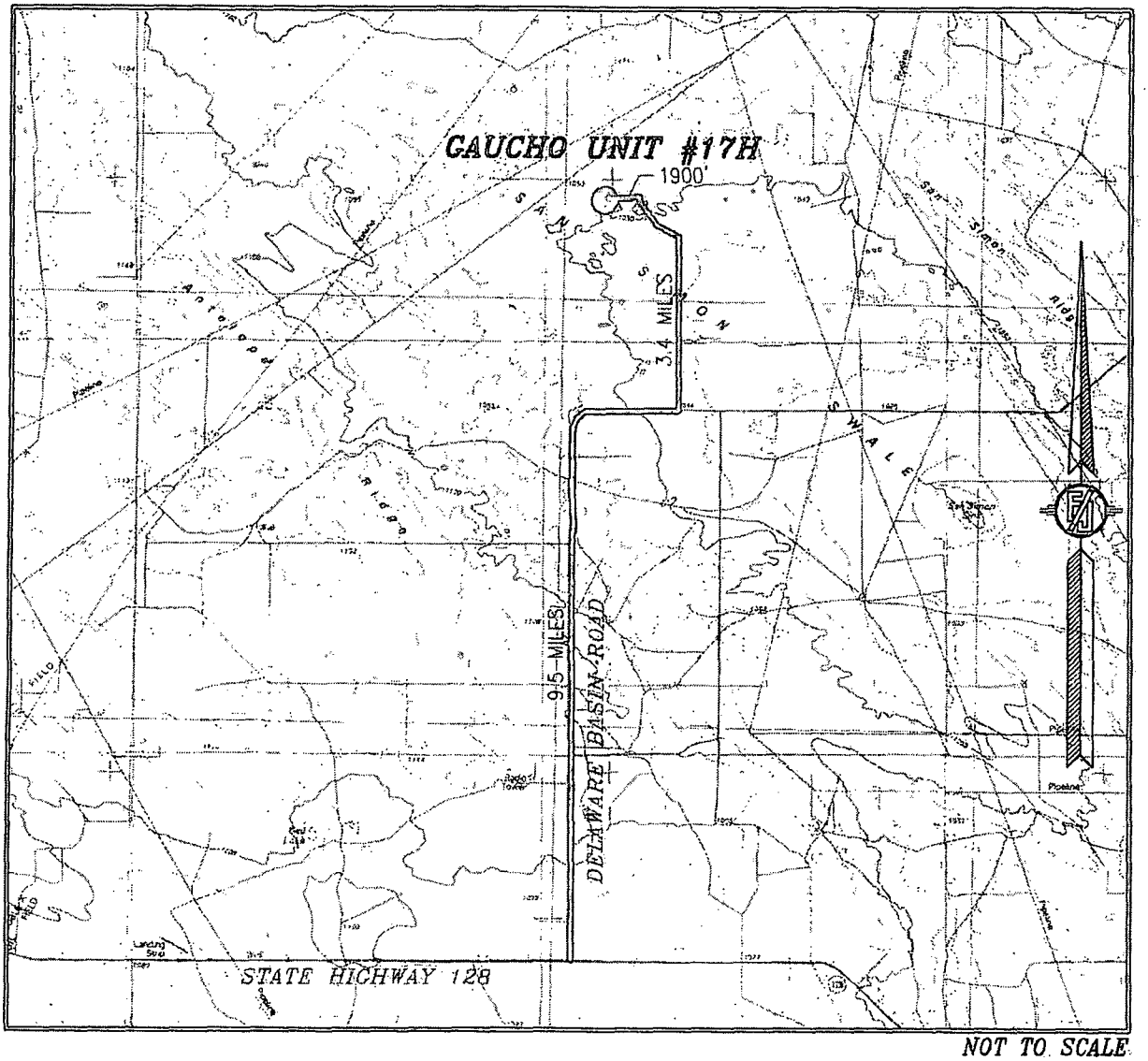
NOVEMBER 16, 2013

SURVEY NO. 2132A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 19, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

VICINITY MAP



NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
GAUCHO UNIT #17H
LOCATED 200 FT. FROM THE SOUTH LINE
AND 420 FT. FROM THE EAST LINE OF
SECTION 19, TOWNSHIP 22 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

NOVEMBER 16, 2013

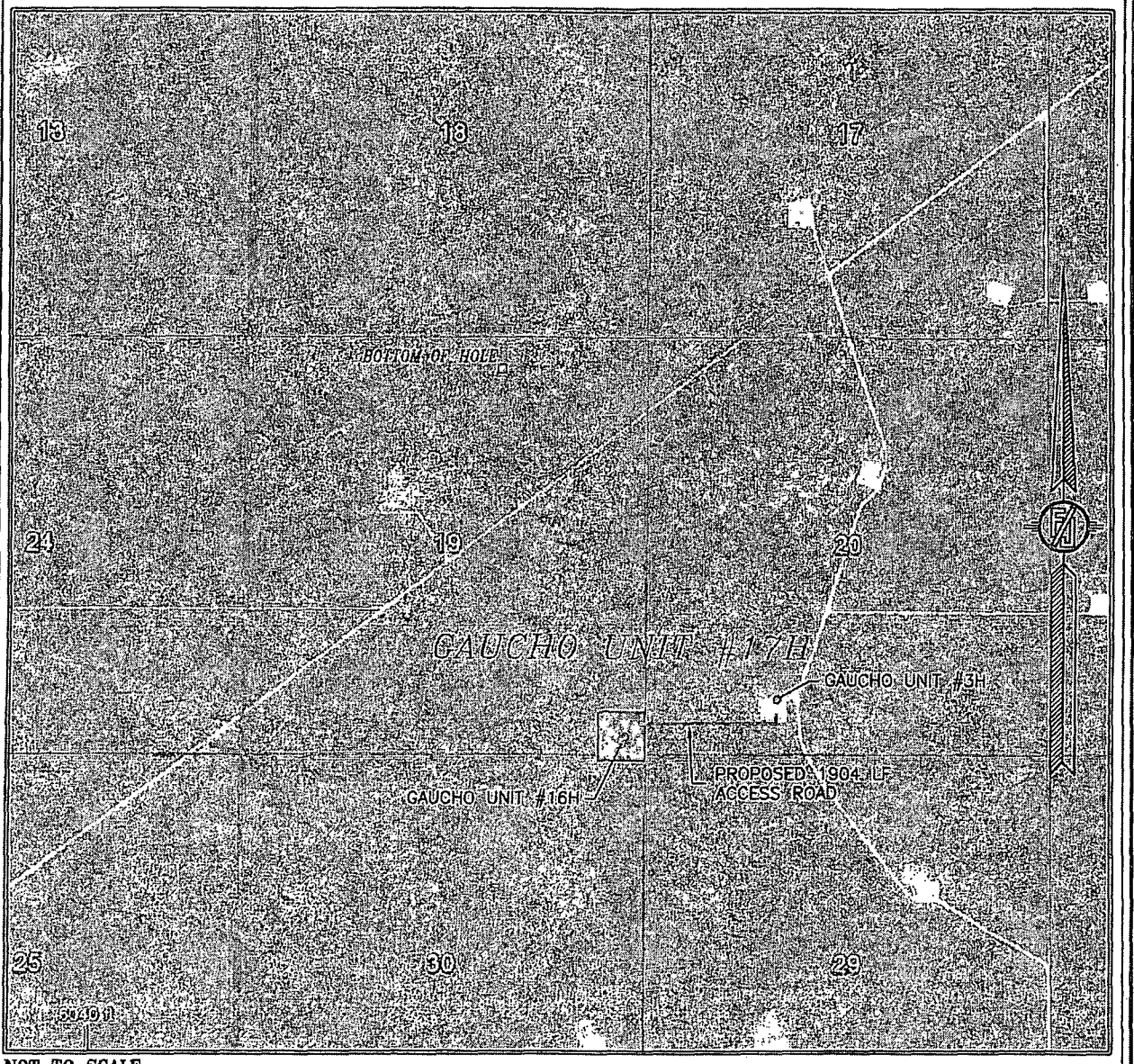
DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF SR 128 AND DELAWARE BASIN ROAD GO NORTH THEN EAST ON DELAWARE BASIN ROAD APPROX. 9.5 MILES TO A CALICHE LEASE ROAD ON LEFT, GO NORTH ABOUT 3.4 MILES TO AN EXISTING PAD ON LEFT (WEST) FOR GAUCHO UNIT #3. FROM ABOUT IN THE MIDDLE OF PAD ON SOUTH FOLLOW FLAGS WEST ABOUT 1900' TO NORTHEAST CORNER OF PROPOSED PAD.

SURVEY NO. 2132A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 19, TOWNSHIP 22 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
MARCH 2012

DEVON ENERGY PRODUCTION COMPANY, L.P.

GAUCHO UNIT #17H

LOCATED 200 FT. FROM THE SOUTH LINE
AND 420 FT. FROM THE EAST LINE OF
SECTION 19, TOWNSHIP 22 SOUTH,
RANGE 34 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

NOVEMBER 16, 2013

SURVEY NO. 2132A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

3. **Pressure Control Equipment:**

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be tested per BLM Onshore Oil and Gas Order 2.

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the intermediate casing shoe. The BOP system used to drill the production hole will be tested per BLM Onshore Oil and Gas Order 2.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns and will be secured with anchors and/or safety clamps as per the manufacturer's requirements. (See attached spec sheets).

Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.
b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

4. **Casing Program:**

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17-1/2"	0 – 1,700'	13-3/8"	0 - 1,700'	54.5	STC	J-55	1.49	3.71	5.55
12-1/4"	1,700-4,000'	9-5/8"	0 – 4,000'	36	BTC	HCK-55	1.40	2.03	5.76
8-3/4"	4,000-15,326'	5-1/2"	0 - 15,326'	17	BTC	HCP-110	1.16	1.59	2.18

Casing Notes:

- All casing is new and API approved

Maximum Lateral TVD: 10,533'

5. **Proposed mud Circulations System:**

Depth	Mud Weight	Viscosity (cp)	Fluid Loss	Type System
0-1,700'	8.4-8.6	1 - 3	N/C	FW
1,700-4,000'	10.0-10.2	1 - 3	N/C	Brine
4,000-15,326'	8.8-9.2	1 - 3	NC-12	FW/Cut Brine

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

6. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume g/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
13-3/8" Surface	970	13.5	9.07	1.72	Lead	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 4% bwoc Bentonite + 70.8% Fresh Water
	560	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
9-5/8" Intermediate	740	12.9	9.81	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water
	430	14.8	6.32	1.33	Tail	Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.5% Fresh Water
5-1/2" Production	620	11.9	12.89	2.26	Lead	(50:50) Class H Cement: Poz (Fly Ash) + 10% BWOC Bentonite + 1 lb/sk of Kol-Seal + 0.3% BWOC HR-601 + 0.5lb/sk D-Air 5000 + 76.4% Fresh Water
	330	12.5	10.86	1.96	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	1320	14.5	5.31	1.2	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.1% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water

TOC for all Strings:

13-3/8" Surface	0ft
9-5/8" Intermediate	0ft
5-1/2" Production	3500ft

Notes:

- Cement volumes Surface 100%, Intermediate 75% and Production based on at least 25% excess
- Actual cement volumes will be adjusted based on fluid caliper and caliper log data

7. Logging, Coring, and Testing Program:

a. Drill stem tests will be based on geological sample shows.
b. If a drill stem test is anticipated, a procedure, equipment to be used, and safety measures will be provided via sundry notice to the BLM.
c. Resistivity and porosity logs are planned below the intermediate casing point. Stated logs run will be named in the Completion Report and submitted to the BLM.
d. No coring program is planned

e. Additional Testing will be initiated subsequent to setting the production casing. Specific intervals will be targeted based on log evaluation, geological sample shows, and drill stem tests.

8. Potential Hazards:

a. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area, and none is anticipated to be encountered. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation being used to drill this well. Estimated BHP: 4740 psi, and estimated BHT: 166 degrees.
b. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

9. Anticipated Starting Date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 20 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

Gaucho Unit 17H

Field Name
Lea Co, NM Nad 83 NMEZ

Map Units : US ft
Company Name : Devon Energy
Vertical Reference Datum (VRD) : Mean Sea Level
Projected Coordinate System : NAD83 / New Mexico East (ftUS)
Comment :

Site Name
Gaucho Unit 16,17H Fed Pad

Units : US ft
North Reference : Grid
Convergence Angle : 0.45

Position
Northing : 499511.79 US ft
Latitude : 32° 22' 13.75"
Easting : 798050.23 US ft
Longitude : -103° 30' 6.65"

Elevation above Mean Sea Level:6888.00 US ft
Comment :

Slot Name
Gaucho Unit 17H

Position (Offsets relative to Site Centre)
+N / -S : -0.41 US ft
Northing :499511.38 US ft
Latitude : 32°22'13.75"
+E / -W : -49.99 US ft
Easting :798000.24 US ft
Longitude : -103°30'7.23"

Slot TVD Reference : Ground Elevation
Elevation above Mean Sea Level : 3445.00 US ft
Comment :

Well Name
Gaucho Unit 17H

Type : Main well
UWI :
Plan : P1:V2
Rig Height *Kelly Bushing* : 25.00 US ft
Comment :
Relative to Mean Sea Level: 3470.00 US ft
Closure Distance : 4994.46 US ft
Closure Azimuth : 341.432°
Vertical Section (Position of Origin Relative to Slot)
+N / -S : 0.00 US ft
+E / -W : 0.00 US ft
Az :356.46°
Magnetic Parameters
Model : BGGM
Field Strength : 48390.3nT
Dec : 7.34°
Dip : 60.25°
Date : 31/Jul/2014

Target Set

Name : Gaucho Unit 17H
Number of Targets : 1

Comment :

Target Name:
PBHL 17H

Position (Relative to Slot centre)
+N / -S : 4734.49US ft
Northing : 504245.87 US ft
Latitude : 32°23'0.72"
+E / -W : -1590.36 US ft
Easting : 796409.88US ft
Longitude : -103°30'25.35"

Shape:
Cuboid

TVD (Kelly Bushing) : 10533.00 US ft

Orientation **Azimuth :** 356.46°
Inclination : -0.64°
Dimensions **Length :** 8926.00 US ft
Breadth : 50.00 US ft
Height : 20.00 US ft

Well path created using minimum curvature

5D Plan Report

Salient Points (Relative to Slot centre, TVD relative to Kelly Bushing)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	VS (US ft)	T.Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2850.00	0.00	0.00	2850.00	0.00	0.00	0.00	0.00	0.00	Nudge
3350.00	10.00	261.20	3347.47	-6.66	-43.01	2.00	-3.99	261.20	Hold
10110.35	10.00	261.20	10005.11	-186.25	-1203.11	0.00	-111.61	0.00	KOP
10862.69	89.36	356.46	10483.00	279.87	-1315.05	12.00	360.53	95.29	LP
15326.09	89.36	356.46	10533.00	4734.49	-1590.36	0.00	4823.65	0.00	PBHL 17H

Interpolated Points (Relative to Slot centre, TVD relative to Kelly Bushing)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	0.00	499511.38	798000.24	
2850.00	0.00	0.00	2850.00	0.00	0.00	0.00	0.00	499511.38	798000.24	Nudge
2900.00	1.00	261.20	2900.00	-0.07	-0.43	-0.04	2.00	499511.31	797999.81	
3000.00	3.00	261.20	2999.93	-0.60	-3.88	-0.36	2.00	499510.78	797996.36	
3100.00	5.00	261.20	3099.68	-1.67	-10.77	-1.00	2.00	499509.71	797989.47	
3200.00	7.00	261.20	3199.13	-3.27	-21.10	-1.96	2.00	499508.11	797979.14	
3300.00	9.00	261.20	3298.15	-5.40	-34.86	-3.23	2.00	499505.98	797965.38	
3350.00	10.00	261.20	3347.47	-6.66	-43.01	-3.99	2.00	499504.72	797957.23	Hold
3400.00	10.00	261.20	3396.71	-7.99	-51.59	-4.79	0.00	499503.39	797948.65	
3500.00	10.00	261.20	3495.19	-10.64	-68.75	-6.38	0.00	499500.74	797931.49	
3600.00	10.00	261.20	3593.67	-13.30	-85.91	-7.97	0.00	499498.08	797914.33	
3700.00	10.00	261.20	3692.15	-15.96	-103.07	-9.56	0.00	499495.42	797897.17	
3800.00	10.00	261.20	3790.63	-18.61	-120.23	-11.15	0.00	499492.77	797880.01	
3900.00	10.00	261.20	3889.11	-21.27	-137.39	-12.75	0.00	499490.11	797862.85	
4000.00	10.00	261.20	3987.59	-23.93	-154.55	-14.34	0.00	499487.45	797845.69	
4100.00	10.00	261.20	4086.07	-26.58	-171.71	-15.93	0.00	499484.80	797828.53	
4200.00	10.00	261.20	4184.55	-29.24	-188.87	-17.52	0.00	499482.14	797811.37	
4300.00	10.00	261.20	4283.03	-31.90	-206.03	-19.11	0.00	499479.48	797794.21	
4400.00	10.00	261.20	4381.51	-34.55	-223.19	-20.71	0.00	499476.83	797777.05	
4500.00	10.00	261.20	4479.99	-37.21	-240.35	-22.30	0.00	499474.17	797759.89	
4600.00	10.00	261.20	4578.48	-39.87	-257.52	-23.89	0.00	499471.51	797742.72	
4700.00	10.00	261.20	4676.96	-42.52	-274.68	-25.48	0.00	499468.86	797725.56	
4800.00	10.00	261.20	4775.44	-45.18	-291.84	-27.07	0.00	499466.20	797708.40	
4900.00	10.00	261.20	4873.92	-47.84	-309.00	-28.66	0.00	499463.54	797691.24	
5000.00	10.00	261.20	4972.40	-50.49	-326.16	-30.26	0.00	499460.89	797674.08	
5100.00	10.00	261.20	5070.88	-53.15	-343.32	-31.85	0.00	499458.23	797656.92	
5200.00	10.00	261.20	5169.36	-55.80	-360.48	-33.44	0.00	499455.58	797639.76	
5300.00	10.00	261.20	5267.84	-58.46	-377.64	-35.03	0.00	499452.92	797622.60	
5400.00	10.00	261.20	5366.32	-61.12	-394.80	-36.62	0.00	499450.26	797605.44	
5500.00	10.00	261.20	5464.80	-63.77	-411.96	-38.22	0.00	499447.61	797588.28	
5600.00	10.00	261.20	5563.28	-66.43	-429.12	-39.81	0.00	499444.95	797571.12	
5700.00	10.00	261.20	5661.76	-69.09	-446.28	-41.40	0.00	499442.29	797553.96	
5800.00	10.00	261.20	5760.24	-71.74	-463.44	-42.99	0.00	499439.64	797536.80	
5900.00	10.00	261.20	5858.73	-74.40	-480.60	-44.58	0.00	499436.98	797519.64	
6000.00	10.00	261.20	5957.21	-77.06	-497.76	-46.18	0.00	499434.32	797502.48	
6100.00	10.00	261.20	6055.69	-79.71	-514.92	-47.77	0.00	499431.67	797485.32	
6200.00	10.00	261.20	6154.17	-82.37	-532.08	-49.36	0.00	499429.01	797468.16	
6300.00	10.00	261.20	6252.65	-85.03	-549.24	-50.95	0.00	499426.35	797451.00	
6400.00	10.00	261.20	6351.13	-87.68	-566.40	-52.54	0.00	499423.70	797433.84	
6500.00	10.00	261.20	6449.61	-90.34	-583.56	-54.14	0.00	499421.04	797416.68	
6600.00	10.00	261.20	6548.09	-93.00	-600.72	-55.73	0.00	499418.38	797399.52	
6700.00	10.00	261.20	6646.57	-95.65	-617.88	-57.32	0.00	499415.73	797382.36	
6800.00	10.00	261.20	6745.05	-98.31	-635.04	-58.91	0.00	499413.07	797365.20	
6900.00	10.00	261.20	6843.53	-100.97	-652.20	-60.50	0.00	499410.41	797348.04	
7000.00	10.00	261.20	6942.01	-103.62	-669.37	-62.10	0.00	499407.76	797330.87	
7100.00	10.00	261.20	7040.49	-106.28	-686.53	-63.69	0.00	499405.10	797313.71	
7200.00	10.00	261.20	7138.98	-108.94	-703.69	-65.28	0.00	499402.44	797296.55	
7300.00	10.00	261.20	7237.46	-111.59	-720.85	-66.87	0.00	499399.79	797279.39	
7400.00	10.00	261.20	7335.94	-114.25	-738.01	-68.46	0.00	499397.13	797262.23	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Kelly Bushing)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
7500.00	10.00	261.20	7434.42	-116.91	-755.17	-70.05	0.00	499394.47	797245.07	
7600.00	10.00	261.20	7532.90	-119.56	-772.33	-71.65	0.00	499391.82	797227.91	
7700.00	10.00	261.20	7631.38	-122.22	-789.49	-73.24	0.00	499389.16	797210.75	
7800.00	10.00	261.20	7729.86	-124.88	-806.65	-74.83	0.00	499386.50	797193.59	
7900.00	10.00	261.20	7828.34	-127.53	-823.81	-76.42	0.00	499383.85	797176.43	
8000.00	10.00	261.20	7926.82	-130.19	-840.97	-78.01	0.00	499381.19	797159.27	
8100.00	10.00	261.20	8025.30	-132.85	-858.13	-79.61	0.00	499378.53	797142.11	
8200.00	10.00	261.20	8123.78	-135.50	-875.29	-81.20	0.00	499375.88	797124.95	
8300.00	10.00	261.20	8222.26	-138.16	-892.45	-82.79	0.00	499373.22	797107.79	
8400.00	10.00	261.20	8320.74	-140.82	-909.61	-84.38	0.00	499370.56	797090.63	
8500.00	10.00	261.20	8419.23	-143.47	-926.77	-85.97	0.00	499367.91	797073.47	
8600.00	10.00	261.20	8517.71	-146.13	-943.93	-87.57	0.00	499365.25	797056.31	
8700.00	10.00	261.20	8616.19	-148.78	-961.09	-89.16	0.00	499362.60	797039.15	
8800.00	10.00	261.20	8714.67	-151.44	-978.25	-90.75	0.00	499359.94	797021.99	
8900.00	10.00	261.20	8813.15	-154.10	-995.41	-92.34	0.00	499357.28	797004.83	
9000.00	10.00	261.20	8911.63	-156.75	-1012.57	-93.93	0.00	499354.63	796987.67	
9100.00	10.00	261.20	9010.11	-159.41	-1029.73	-95.53	0.00	499351.97	796970.51	
9200.00	10.00	261.20	9108.59	-162.07	-1046.89	-97.12	0.00	499349.31	796953.35	
9300.00	10.00	261.20	9207.07	-164.72	-1064.05	-98.71	0.00	499346.66	796936.19	
9400.00	10.00	261.20	9305.55	-167.38	-1081.21	-100.30	0.00	499344.00	796919.03	
9500.00	10.00	261.20	9404.03	-170.04	-1098.38	-101.89	0.00	499341.34	796901.86	
9600.00	10.00	261.20	9502.51	-172.69	-1115.54	-103.49	0.00	499338.69	796884.70	
9700.00	10.00	261.20	9600.99	-175.35	-1132.70	-105.08	0.00	499336.03	796867.54	
9800.00	10.00	261.20	9699.48	-178.01	-1149.86	-106.67	0.00	499333.37	796850.38	
9900.00	10.00	261.20	9797.96	-180.66	-1167.02	-108.26	0.00	499330.72	796833.22	
10000.00	10.00	261.20	9896.44	-183.32	-1184.18	-109.85	0.00	499328.06	796816.06	
10100.00	10.00	261.20	9994.92	-185.98	-1201.34	-111.45	0.00	499325.40	796798.90	
10110.35	10.00	261.20	10005.11	-186.25	-1203.11	-111.61	0.00	499325.13	796797.13	KOP
10200.00	13.95	311.62	10093.02	-180.25	-1218.93	-104.64	12.00	499331.13	796781.31	
10300.00	23.89	333.22	10187.60	-154.06	-1237.13	-77.38	12.00	499357.32	796763.11	
10400.00	35.09	342.11	10274.55	-108.47	-1255.15	-30.76	12.00	499402.91	796745.09	
10500.00	46.66	347.04	10350.05	-45.44	-1272.20	33.20	12.00	499465.94	796728.04	
10600.00	58.37	350.37	10410.82	32.25	-1287.54	111.69	12.00	499543.63	796712.70	
10700.00	70.14	352.94	10454.18	121.22	-1300.49	201.29	12.00	499632.60	796699.75	
10800.00	81.95	355.15	10478.26	217.57	-1310.48	298.07	12.00	499728.95	796689.76	
10862.69	89.36	356.46	10483.00	279.87	-1315.05	360.53	12.00	499791.25	796685.19	LP
10900.00	89.36	356.46	10483.42	317.11	-1317.35	397.84	0.00	499828.49	796682.89	
11000.00	89.36	356.46	10484.54	416.91	-1323.52	497.83	0.00	499928.29	796676.72	
11100.00	89.36	356.46	10485.66	516.71	-1329.68	597.83	0.00	500028.09	796670.56	
11200.00	89.36	356.46	10486.78	616.52	-1335.85	697.82	0.00	500127.90	796664.39	
11300.00	89.36	356.46	10487.90	716.32	-1342.02	797.82	0.00	500227.70	796658.22	
11400.00	89.36	356.46	10489.02	816.12	-1348.19	897.81	0.00	500327.50	796652.05	
11500.00	89.36	356.46	10490.14	915.93	-1354.36	997.80	0.00	500427.31	796645.88	
11600.00	89.36	356.46	10491.26	1015.73	-1360.53	1097.80	0.00	500527.11	796639.71	
11700.00	89.36	356.46	10492.38	1115.53	-1366.69	1197.79	0.00	500626.91	796633.55	
11800.00	89.36	356.46	10493.50	1215.34	-1372.86	1297.78	0.00	500726.72	796627.38	
11900.00	89.36	356.46	10494.62	1315.14	-1379.03	1397.78	0.00	500826.52	796621.21	
12000.00	89.36	356.46	10495.74	1414.94	-1385.20	1497.77	0.00	500926.32	796615.04	
12100.00	89.36	356.46	10496.86	1514.75	-1391.37	1597.77	0.00	501026.13	796608.87	
12200.00	89.36	356.46	10497.98	1614.55	-1397.54	1697.76	0.00	501125.93	796602.70	
12300.00	89.36	356.46	10499.10	1714.35	-1403.70	1797.75	0.00	501225.73	796596.54	
12400.00	89.36	356.46	10500.22	1814.16	-1409.87	1897.75	0.00	501325.54	796590.37	
12500.00	89.36	356.46	10501.34	1913.96	-1416.04	1997.74	0.00	501425.34	796584.20	
12600.00	89.36	356.46	10502.46	2013.76	-1422.21	2097.73	0.00	501525.14	796578.03	
12700.00	89.36	356.46	10503.58	2113.56	-1428.38	2197.73	0.00	501624.94	796571.86	
12800.00	89.36	356.46	10504.70	2213.37	-1434.54	2297.72	0.00	501724.75	796565.70	
12900.00	89.36	356.46	10505.82	2313.17	-1440.71	2397.72	0.00	501824.55	796559.53	
13000.00	89.36	356.46	10506.94	2412.97	-1446.88	2497.71	0.00	501924.35	796553.36	
13100.00	89.36	356.46	10508.06	2512.78	-1453.05	2597.70	0.00	502024.16	796547.19	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Kelly Bushing)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N Offset (US ft)	E Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
13200.00	89.36	356.46	10509.18	2612.58	-1459.22	2697.70	0.00	502123.96	796541.02	
13300.00	89.36	356.46	10510.31	2712.38	-1465.39	2797.69	0.00	502223.76	796534.85	
13400.00	89.36	356.46	10511.43	2812.19	-1471.55	2897.68	0.00	502323.57	796528.69	
13500.00	89.36	356.46	10512.55	2911.99	-1477.72	2997.68	0.00	502423.37	796522.52	
13600.00	89.36	356.46	10513.67	3011.79	-1483.89	3097.67	0.00	502523.17	796516.35	
13700.00	89.36	356.46	10514.79	3111.60	-1490.06	3197.66	0.00	502622.98	796510.18	
13800.00	89.36	356.46	10515.91	3211.40	-1496.23	3297.66	0.00	502722.78	796504.01	
13900.00	89.36	356.46	10517.03	3311.20	-1502.40	3397.65	0.00	502822.58	796497.84	
14000.00	89.36	356.46	10518.15	3411.01	-1508.56	3497.65	0.00	502922.39	796491.68	
14100.00	89.36	356.46	10519.27	3510.81	-1514.73	3597.64	0.00	503022.19	796485.51	
14200.00	89.36	356.46	10520.39	3610.61	-1520.90	3697.63	0.00	503121.99	796479.34	
14300.00	89.36	356.46	10521.51	3710.42	-1527.07	3797.63	0.00	503221.80	796473.17	
14400.00	89.36	356.46	10522.63	3810.22	-1533.24	3897.62	0.00	503321.60	796467.00	
14500.00	89.36	356.46	10523.75	3910.02	-1539.40	3997.61	0.00	503421.40	796460.84	
14600.00	89.36	356.46	10524.87	4009.83	-1545.57	4097.61	0.00	503521.21	796454.67	
14700.00	89.36	356.46	10525.99	4109.63	-1551.74	4197.60	0.00	503621.01	796448.50	
14800.00	89.36	356.46	10527.11	4209.43	-1557.91	4297.60	0.00	503720.81	796442.33	
14900.00	89.36	356.46	10528.23	4309.24	-1564.08	4397.59	0.00	503820.62	796436.16	
15000.00	89.36	356.46	10529.35	4409.04	-1570.25	4497.58	0.00	503920.42	796429.99	
15100.00	89.36	356.46	10530.47	4508.84	-1576.41	4597.58	0.00	504020.22	796423.83	
15200.00	89.36	356.46	10531.59	4608.65	-1582.58	4697.57	0.00	504120.03	796417.66	
15300.00	89.36	356.46	10532.71	4708.45	-1588.75	4797.56	0.00	504219.83	796411.49	
15326.09	89.36	356.46	10533.00	4734.49	-1590.36	4823.65	0.00	504245.87	796409.88	PBHL 17H

5D Anti-Collision Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Gaucho Unit 16,17H Fed Pad*
Well Name: *Gaucho Unit 17H*

29 May 2014

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Gaucho Unit 17H

Field Name
Lea Co, NM Nad 83 NMEZ

Map Units : US ft
Company Name : Devon Energy
Vertical Reference Datum (VRD) : Mean Sea Level
Projected Coordinate System : NAD83 / New Mexico East (ftUS)
Comment :

Site Name
Gaucho Unit 16,17H Fed Pad

Units : US ft
North Reference : Grid
Convergence Angle : 0.45

Position
Northing : 499511.79 US ft
Latitude : 32° 22' 13.75"
Easting : 798050.23 US ft
Longitude : -103° 30' 6.65"

Elevation above Mean Sea Level: 6888.00 US ft
Comment :

Slot Name
Gaucho Unit 17H

Position (Offsets relative to Site Centre)
+N / -S : -0.41 US ft
Northing : 499511.38 US ft
Latitude : 32°22'13.75"
+E / -W : -49.99 US ft
Easting : 798000.24 US ft
Longitude : -103°30'7.23"

Slot TVD Reference : Ground Elevation
Elevation above Mean Sea Level : 3445.00 US ft
Comment :

Well Name
Gaucho Unit 17H

Type : Main well
UWI :
Plan : Working Plan
Rig Height *Kelly Bushing* : 25.00 US ft
Comment :
Relative to Mean Sea Level: 3470.00 US ft
Closure Distance : 4994.46 US ft
Closure Azimuth : 341.432°
Vertical Section (Position of Origin Relative to Slot)
+N / -S : 0.00 US ft
+E / -W : 0.00 US ft
Az : 356.46°
Magnetic Parameters
Model : BGGM
Field Strength : 48390.3nT
Dec : 7.34°
Dip : 60.25°
Date : 31/Jul/2014

Collision / Uncertainty Analysis

Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Gaucho Unit 17H (p)	0.00	15326.09	100.00	2

Secondary Well Names

Gaucho Unit 16H Pilot (p)
Gaucho Unit 16H Lat (p)

Anti Collision Report Terminology

S.Minor, S.Major :Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.
PHI :Angle between high-side vector and semi-minor axis
TVD Spread :Total TVD range of the ellipsoid of uncertainty at the current location
ES :Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr
T.Face to Sec :Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells

Separation factors calculated using Pedal Curve (Independent Uncertainty). Well path created using minimum curvature.

5D Anti-Collision Report

Anti Collision Proximity Summary (TVD relative to)

SF

Secondary Well Name	Pri MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
Gaucho Unit 16H Pilot (p)	2895.70	2894.70	2895.70	50.35	36.88	3.74	
Gaucho Unit 16H Lat (p)	15271.09	15036.87	10532.38	1318.33	1135.59	7.21	

Secondary Well : Gaucho Unit 16H Pilot (p) (TVD Relative to Kelly Bushing (Primary) ; All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T.Face to Sec (°)	S.Major (US ft)	S.Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
0.00	1.00	0.00	89.53	0.00	0.00	50.00	49.29	70.18	
100.00	100.00	99.00	89.53	0.11	0.11	49.99	49.05	53.24	
200.00	200.00	199.00	89.53	0.34	0.34	49.99	48.60	36.02	
300.00	300.00	299.00	89.53	0.56	0.56	49.99	48.15	27.21	
400.00	400.00	399.00	89.53	0.79	0.79	49.99	47.71	21.86	
500.00	500.00	499.00	89.53	1.01	1.01	49.99	47.26	18.27	
600.00	600.00	599.00	89.53	1.24	1.24	49.99	46.81	15.69	
700.00	700.00	699.00	89.53	1.46	1.46	49.99	46.36	13.75	
800.00	800.00	799.00	89.53	1.69	1.69	49.99	45.91	12.24	
900.00	900.00	899.00	89.53	1.91	1.91	49.99	45.46	11.03	
1000.00	1000.00	999.00	89.53	2.14	2.14	49.99	45.01	10.03	
1100.00	1100.00	1099.00	89.53	2.36	2.36	49.99	44.56	9.20	
1200.00	1200.00	1199.00	89.53	2.59	2.59	49.99	44.11	8.50	
1300.00	1300.00	1299.00	89.53	2.81	2.81	49.99	43.66	7.89	
1400.00	1400.00	1399.00	89.53	3.04	3.04	49.99	43.21	7.37	
1500.00	1500.00	1499.00	89.53	3.26	3.26	49.99	42.76	6.91	
1600.00	1600.00	1599.00	89.53	3.49	3.49	49.99	42.31	6.51	
1700.00	1700.00	1699.00	89.53	3.71	3.71	49.99	41.86	6.15	
1800.00	1800.00	1799.00	89.53	3.93	3.93	49.99	41.41	5.83	
1900.00	1900.00	1899.00	89.53	4.16	4.16	49.99	40.96	5.54	
2000.00	2000.00	1999.00	89.53	4.38	4.38	49.99	40.51	5.27	
2100.00	2100.00	2099.00	89.53	4.61	4.61	49.99	40.06	5.04	
2200.00	2200.00	2199.00	89.53	4.83	4.83	49.99	39.61	4.82	
2300.00	2300.00	2299.00	89.53	5.06	5.06	49.99	39.16	4.62	
2400.00	2400.00	2399.00	89.53	5.28	5.28	49.99	38.71	4.43	
2500.00	2500.00	2499.00	89.53	5.51	5.51	49.99	38.27	4.26	
2600.00	2600.00	2599.00	89.53	5.73	5.73	49.99	37.82	4.11	
2700.00	2700.00	2699.00	89.53	5.96	5.96	49.99	37.37	3.96	
2800.00	2800.00	2799.00	89.53	6.18	6.18	49.99	36.92	3.82	
2900.00	2900.00	2899.00	188.26	6.41	6.41	50.42	36.93	3.74	
3000.00	2999.93	2998.93	187.74	6.63	6.63	53.88	39.98	3.88	
3100.00	3099.68	3098.68	186.87	6.86	6.86	60.80	46.46	4.24	
3200.00	3199.13	3198.13	185.88	7.08	7.08	71.19	56.43	4.82	
3300.00	3298.15	3297.15	184.95	7.30	7.30	85.04	69.87	5.60	
3400.00	3396.71	3395.71	184.14	7.52	7.52	101.93	86.34	6.54	
3500.00	3495.19	3494.19	183.54	7.75	7.75	119.25	103.24	7.45	
3600.00	3593.67	3592.67	183.09	7.97	7.97	136.59	120.15	8.31	
3700.00	3692.15	3691.15	182.74	8.19	8.19	153.93	137.06	9.12	
3800.00	3790.63	3789.63	182.46	8.41	8.41	171.28	153.97	9.90	
3900.00	3889.11	3888.11	182.23	8.63	8.63	188.63	170.89	10.63	
4000.00	3987.59	3986.59	182.05	8.85	8.85	205.99	187.80	11.33	
4100.00	4086.07	4085.07	181.89	9.07	9.07	223.34	204.72	11.99	
4200.00	4184.55	4183.55	181.75	9.29	9.29	240.70	221.63	12.63	
4300.00	4283.03	4282.03	181.63	9.52	9.52	258.05	238.55	13.23	
4400.00	4381.51	4380.51	181.53	9.74	9.74	275.41	255.46	13.81	
4500.00	4479.99	4478.99	181.44	9.96	9.96	292.77	272.38	14.36	
4600.00	4578.48	4577.48	181.36	10.18	10.18	310.13	289.29	14.88	
4700.00	4676.96	4675.96	181.29	10.40	10.40	327.49	306.20	15.38	
4800.00	4775.44	4774.44	181.22	10.62	10.62	344.85	323.12	15.86	
4900.00	4873.92	4872.92	181.16	10.84	10.84	362.21	340.03	16.33	
5000.00	4972.40	4971.40	181.11	11.07	11.07	379.58	356.94	16.77	

Secondary Well : Gaucho Unit 16H Pilot (pj) (TVD Relative to Kelly Bushing (Primary) ; All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
5100.00	5070.88	5069.88	181.06	11.29	11.29	396.94	373.85	17.19	
5200.00	5169.36	5168.36	181.02	11.51	11.51	414.30	390.76	17.60	
5300.00	5267.84	5266.84	180.98	11.73	11.73	431.66	407.66	17.99	
5400.00	5366.32	5365.32	180.94	11.95	11.95	449.02	424.57	18.36	
5500.00	5464.80	5463.80	180.90	12.17	12.17	466.39	441.48	18.72	
5600.00	5563.28	5562.28	180.87	12.39	12.39	483.75	458.38	19.07	
5700.00	5661.76	5660.76	180.84	12.62	12.62	501.11	475.29	19.41	
5800.00	5760.24	5759.24	180.81	12.84	12.84	518.48	492.20	19.73	
5900.00	5858.73	5857.73	180.79	13.06	13.06	535.84	509.10	20.04	
6000.00	5957.21	5956.21	180.76	13.28	13.28	553.20	526.01	20.34	
6100.00	6055.69	6054.69	180.74	13.50	13.50	570.57	542.91	20.63	
6200.00	6154.17	6153.17	180.72	13.72	13.72	587.93	559.81	20.91	
6300.00	6252.65	6251.65	180.70	13.94	13.94	605.29	576.72	21.18	
6400.00	6351.13	6350.13	180.68	14.16	14.16	622.66	593.62	21.44	
6500.00	6449.61	6448.61	180.66	14.39	14.39	640.02	610.52	21.70	
6600.00	6548.09	6547.09	180.64	14.61	14.61	657.38	627.42	21.94	
6700.00	6646.57	6645.57	180.62	14.83	14.83	674.75	644.32	22.18	
6800.00	6745.05	6744.05	180.61	15.05	15.05	692.11	661.22	22.41	
6900.00	6843.53	6842.53	180.59	15.27	15.27	709.47	678.13	22.63	
7000.00	6942.01	6941.01	180.58	15.49	15.49	726.84	695.03	22.85	
7100.00	7040.49	7039.49	180.57	15.71	15.71	744.20	711.93	23.06	
7200.00	7138.98	7137.98	180.55	15.94	15.94	761.57	728.83	23.26	
7300.00	7237.46	7236.46	180.54	16.16	16.16	778.93	745.72	23.46	
7400.00	7335.94	7334.94	180.53	16.38	16.38	796.29	762.62	23.65	
7500.00	7434.42	7433.42	180.52	16.60	16.60	813.66	779.52	23.84	
7600.00	7532.90	7531.90	180.51	16.82	16.82	831.02	796.42	24.02	
7700.00	7631.38	7630.38	180.50	17.04	17.04	848.39	813.32	24.19	
7800.00	7729.86	7728.86	180.49	17.26	17.26	865.75	830.22	24.36	
7900.00	7828.34	7827.34	180.48	17.49	17.49	883.12	847.12	24.53	
8000.00	7926.82	7925.82	180.47	17.71	17.71	900.48	864.01	24.69	
8100.00	8025.30	8024.30	180.46	17.93	17.93	917.84	880.91	24.85	
8200.00	8123.78	8122.78	180.45	18.15	18.15	935.21	897.81	25.01	
8300.00	8222.26	8221.26	180.44	18.37	18.37	952.57	914.70	25.16	
8400.00	8320.74	8319.74	180.43	18.59	18.59	969.94	931.60	25.30	
8500.00	8419.23	8418.23	180.43	18.81	18.81	987.30	948.50	25.44	
8600.00	8517.71	8516.71	180.42	19.04	19.04	1004.67	965.39	25.58	
8700.00	8616.19	8615.19	180.41	19.26	19.26	1022.03	982.29	25.72	
8800.00	8714.67	8713.67	180.41	19.48	19.48	1039.39	999.19	25.85	
8900.00	8813.15	8812.15	180.40	19.70	19.70	1056.76	1016.08	25.98	
9000.00	8911.63	8910.63	180.39	19.92	19.92	1074.12	1032.98	26.11	
9100.00	9010.11	9009.11	180.39	20.14	20.14	1091.49	1049.87	26.23	
9200.00	9108.59	9107.59	180.38	20.36	20.36	1108.85	1066.77	26.35	
9300.00	9207.07	9206.07	180.37	20.58	20.58	1126.22	1083.66	26.47	
9400.00	9305.55	9304.55	180.37	20.81	20.81	1143.58	1100.56	26.58	
9500.00	9404.03	9403.03	180.36	21.03	21.03	1160.95	1117.45	26.69	
9600.00	9502.51	9501.51	180.36	21.25	21.25	1178.31	1134.35	26.80	
9700.00	9600.99	9599.99	180.35	21.47	21.47	1195.67	1151.24	26.91	
9800.00	9699.48	9698.48	180.35	21.69	21.69	1213.04	1168.14	27.02	
9900.00	9797.96	9796.96	180.34	21.91	21.91	1230.40	1185.03	27.12	
10000.00	9896.44	9895.44	180.34	22.13	22.13	1247.77	1201.93	27.22	
10100.00	9994.92	9993.92	180.33	22.36	22.36	1265.13	1218.82	27.32	
10200.00	10093.02	10092.02	129.43	22.58	22.58	1281.72	1234.96	27.41	
10300.00	10187.60	10186.60	108.34	22.79	22.79	1296.36	1249.19	27.48	
10400.00	10274.55	10273.55	100.80	22.98	22.98	1309.68	1262.15	27.56	
10500.00	10350.05	10349.05	97.58	23.15	23.15	1322.99	1275.02	27.58	
10600.00	10410.82	10409.82	95.82	23.29	23.29	1337.91	1289.58	27.68	
10700.00	10454.18	10453.18	94.19	23.39	23.39	1355.87	1307.30	27.92	
10800.00	10478.26	10477.26	91.99	23.44	23.44	1377.70	1328.78	28.16	

Secondary Well : Gaucho Unit 1GH Pilot (pj) (TVD Relative to Kelly Bushing (Primary)) : All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
10900.00	10483.42	10482.42	90.19	23.45	23.45	1403.53	1354.45	28.59	
11000.00	10484.54	10483.54	90.24	23.46	23.46	1435.27	1386.01	29.14	
11100.00	10485.66	10484.66	90.29	23.46	23.46	1473.12	1423.67	29.79	
11200.00	10486.78	10485.78	90.33	23.46	23.46	1516.62	1467.09	30.62	
11300.00	10487.90	10486.90	90.38	23.46	23.46	1565.32	1515.64	31.51	
11400.00	10489.02	10488.02	90.43	23.47	23.47	1618.73	1568.92	32.50	
11500.00	10490.14	10489.14	90.48	23.47	23.47	1676.41	1626.54	33.62	
11600.00	10491.26	10490.26	90.52	23.47	23.47	1737.94	1687.96	34.77	
11700.00	10492.38	10491.38	90.57	23.47	23.47	1802.91	1752.75	35.94	
11800.00	10493.50	10492.50	90.62	23.48	23.48	1870.98	1820.69	37.21	
11900.00	10494.62	10493.62	90.67	23.48	23.48	1941.81	1891.45	38.56	
12000.00	10495.74	10494.74	90.72	23.48	23.48	2015.11	1964.72	39.99	
12100.00	10496.86	10495.86	90.76	23.48	23.48	2090.63	2040.14	41.41	
12200.00	10497.98	10496.98	90.81	23.49	23.49	2168.13	2117.54	42.86	
12300.00	10499.10	10498.10	90.86	23.49	23.49	2247.40	2196.76	44.38	
12400.00	10500.22	10499.22	90.91	23.49	23.49	2328.28	2277.60	45.95	
12500.00	10501.34	10500.34	90.95	23.49	23.49	2410.58	2359.88	47.54	
12600.00	10502.46	10501.46	91.00	23.50	23.50	2494.18	2443.41	49.12	
12700.00	10503.58	10502.58	91.05	23.50	23.50	2578.95	2528.13	50.75	
12800.00	10504.70	10503.70	91.10	23.50	23.50	2664.78	2613.88	52.36	
12900.00	10505.82	10504.82	91.15	23.50	23.50	2751.56	2700.67	54.07	
13000.00	10506.94	10505.94	91.19	23.51	23.51	2839.21	2788.17	55.64	
13100.00	10508.06	10507.06	91.24	23.51	23.51	2927.65	2876.62	57.38	
13200.00	10509.18	10508.18	91.29	23.51	23.51	3016.81	2965.79	59.13	
13300.00	10510.31	10509.31	91.34	23.51	23.51	3106.63	3055.48	60.74	
13400.00	10511.43	10510.43	91.38	23.52	23.52	3197.06	3145.84	62.42	
13500.00	10512.55	10511.55	91.43	23.52	23.52	3288.04	3236.89	64.29	
13600.00	10513.67	10512.67	91.48	23.52	23.52	3379.53	3328.25	65.91	
13700.00	10514.79	10513.79	91.53	23.52	23.52	3471.49	3420.20	67.69	
13800.00	10515.91	10514.91	91.57	23.53	23.53	3563.88	3512.62	69.52	
13900.00	10517.03	10516.03	91.62	23.53	23.53	3656.67	3605.41	71.33	
14000.00	10518.15	10517.15	91.67	23.53	23.53	3749.84	3698.49	73.03	
14100.00	10519.27	10518.27	91.72	23.53	23.53	3843.34	3791.92	74.74	
14200.00	10520.39	10519.39	91.76	23.54	23.54	3937.17	3885.67	76.46	
14300.00	10521.51	10520.51	91.81	23.54	23.54	4031.29	3979.73	78.19	
14400.00	10522.63	10521.63	91.86	23.54	23.54	4125.68	4074.07	79.93	
14500.00	10523.75	10522.75	91.91	23.54	23.54	4220.34	4168.67	81.68	
14600.00	10524.87	10523.87	91.96	23.55	23.55	4315.23	4263.51	83.43	
14700.00	10525.99	10524.99	92.00	23.55	23.55	4410.36	4358.58	85.19	
14800.00	10527.11	10526.11	92.05	23.55	23.55	4505.69	4453.87	86.95	
14900.00	10528.23	10527.23	92.10	23.55	23.55	4601.22	4549.35	88.70	
15000.00	10529.35	10528.35	92.15	23.56	23.56	4696.93	4645.01	90.46	
15100.00	10530.47	10529.47	92.19	23.56	23.56	4792.82	4740.86	92.22	
15200.00	10531.59	10530.59	92.24	23.56	23.56	4888.88	4836.86	93.99	
15300.00	10532.71	10531.71	92.29	23.56	23.56	4985.09	4933.03	95.75	
15326.09	10533.00	10532.00	92.30	23.57	23.57	5010.22	4958.14	96.21	

Secondary Well : Gaucho Unit 1GH Lat (pj) (TVD Relative to Kelly Bushing (Primary)) : All Azimuth Relative to GRID NORTH)									
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
0.00	10006.57	10005.57	89.53	22.38	22.38	10006.69	9990.81	630.04	
100.00	10006.57	10005.57	89.53	22.38	22.38	9906.70	9888.52	544.91	
200.00	10006.57	10005.57	89.53	22.38	22.38	9806.70	9788.51	539.12	
300.00	10006.57	10005.57	89.53	22.38	22.38	9706.70	9688.49	533.15	
400.00	10006.57	10005.57	89.53	22.38	22.38	9606.70	9588.47	527.03	
500.00	10006.57	10005.57	89.53	22.38	22.38	9506.70	9488.45	520.76	
600.00	10006.57	10005.57	89.53	22.38	22.38	9406.70	9388.41	514.37	
700.00	10006.57	10005.57	89.53	22.38	22.38	9306.70	9288.38	507.86	
800.00	10006.57	10005.57	89.53	22.38	22.38	9206.71	9188.34	501.26	

Secondary Well : Gaucho Unit 1GH Lat (p) (TVD Relative to Kelly Bushing (Primary)) : All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
900.00	10006.57	10005.57	89.53	22.38	22.38	9106.71	9088.29	494.57	
1000.00	10006.57	10005.57	89.53	22.38	22.38	9006.71	8988.25	487.81	
1100.00	10006.57	10005.57	89.53	22.38	22.38	8906.71	8888.19	481.00	
1200.00	10006.57	10005.57	89.53	22.38	22.38	8806.71	8788.14	474.14	
1300.00	10006.57	10005.57	89.53	22.38	22.38	8706.71	8688.08	467.25	
1400.00	10006.57	10005.57	89.53	22.38	22.38	8606.72	8588.02	460.34	
1500.00	10006.57	10005.57	89.53	22.38	22.38	8506.72	8487.96	453.41	
1600.00	10006.57	10005.57	89.53	22.38	22.38	8406.72	8387.89	446.47	
1700.00	10006.57	10005.57	89.53	22.38	22.38	8306.72	8287.82	439.53	
1800.00	10006.57	10005.57	89.53	22.38	22.38	8206.72	8187.75	432.60	
1900.00	10006.57	10005.57	89.53	22.38	22.38	8106.72	8087.68	425.67	
2000.00	10006.57	10005.57	89.53	22.38	22.38	8006.73	7987.61	418.76	
2100.00	10006.57	10005.57	89.53	22.38	22.38	7906.73	7887.53	411.87	
2200.00	10006.57	10005.57	89.53	22.38	22.38	7806.73	7787.45	405.00	
2300.00	10006.57	10005.57	89.53	22.38	22.38	7706.73	7687.38	398.16	
2400.00	10006.57	10005.57	89.53	22.38	22.38	7606.73	7587.30	391.34	
2500.00	10006.57	10005.57	89.53	22.38	22.38	7506.74	7487.22	384.55	
2600.00	10006.57	10005.57	89.53	22.38	22.38	7406.74	7387.13	377.79	
2700.00	10006.57	10005.57	89.53	22.38	22.38	7306.74	7287.05	371.07	
2800.00	10006.57	10005.57	89.53	22.38	22.38	7206.74	7186.97	364.38	
2900.00	10006.57	10005.57	182.38	22.38	22.38	7106.75	7086.89	357.73	
3000.00	10006.57	10005.57	180.99	22.38	22.38	7006.85	6986.89	351.14	
3100.00	10006.57	10005.57	180.63	22.38	22.38	6907.15	6887.11	344.62	
3200.00	10006.57	10005.57	180.46	22.38	22.38	6807.81	6787.68	338.18	
3300.00	10006.57	10005.57	180.37	22.38	22.38	6708.96	6688.74	331.82	
3400.00	10006.57	10005.57	180.33	22.38	22.38	6610.65	6590.34	325.54	
3500.00	10006.57	10005.57	180.33	22.38	22.38	6512.48	6492.07	319.20	
3600.00	10006.57	10005.57	180.33	22.38	22.38	6414.36	6393.86	312.92	
3700.00	10006.57	10005.57	180.33	22.38	22.38	6316.30	6295.70	306.68	
3800.00	10006.57	10005.57	180.33	22.38	22.38	6218.30	6197.61	300.50	
3900.00	10006.57	10005.57	180.33	22.38	22.38	6120.37	6099.58	294.36	
4000.00	10006.57	10005.57	180.33	22.38	22.38	6022.50	6001.60	288.10	
4100.00	10006.57	10005.57	180.33	22.38	22.38	5924.71	5903.69	281.89	
4200.00	10006.57	10005.57	180.33	22.38	22.38	5826.99	5805.86	275.74	
4300.00	10006.57	10005.57	180.33	22.38	22.38	5729.35	5708.10	269.64	
4400.00	10006.57	10005.57	180.33	22.38	22.38	5631.79	5610.43	263.60	
4500.00	10006.57	10005.57	180.33	22.38	22.38	5534.33	5512.84	257.61	
4600.00	10006.57	10005.57	180.33	22.38	22.38	5436.95	5415.34	251.68	
4700.00	10006.57	10005.57	180.33	22.38	22.38	5339.67	5317.93	245.71	
4800.00	10006.57	10005.57	180.33	22.38	22.38	5242.49	5220.62	239.70	
4900.00	10006.57	10005.57	180.33	22.38	22.38	5145.42	5123.41	233.75	
5000.00	10006.57	10005.57	180.33	22.38	22.38	5048.46	5026.31	227.86	
5100.00	10006.57	10005.57	180.33	22.38	22.38	4951.63	4929.33	222.04	
5200.00	10006.57	10005.57	180.33	22.38	22.38	4854.92	4832.46	216.18	
5300.00	10006.57	10005.57	180.33	22.38	22.38	4758.35	4735.73	210.33	
5400.00	10006.57	10005.57	180.33	22.38	22.38	4661.92	4639.13	204.55	
5500.00	10006.57	10005.57	180.33	22.38	22.38	4565.65	4542.69	198.84	
5600.00	10006.57	10005.57	180.33	22.38	22.38	4469.54	4446.41	193.19	
5700.00	10006.57	10005.57	180.33	22.38	22.38	4373.61	4350.30	187.61	
5800.00	10006.57	10005.57	180.33	22.38	22.38	4277.86	4254.37	182.10	
5900.00	10006.57	10005.57	180.33	22.38	22.38	4182.31	4158.64	176.66	
6000.00	10006.57	10005.57	180.33	22.38	22.38	4086.98	4063.12	171.30	
6100.00	10006.57	10005.57	180.33	22.38	22.38	3991.87	3967.82	166.00	
6200.00	10006.57	10005.57	180.33	22.38	22.38	3897.01	3872.77	160.78	
6300.00	10006.57	10005.57	180.33	22.38	22.38	3802.41	3777.98	155.64	
6400.00	10006.57	10005.57	180.33	22.38	22.38	3708.09	3683.45	150.50	
6500.00	10006.57	10005.57	180.33	22.38	22.38	3614.08	3589.22	145.37	
6600.00	10006.57	10005.57	180.33	22.38	22.38	3520.40	3495.28	140.14	

Secondary Well : Gaucho Unit 16H Lat (pl) (TVD Relative to Kelly Bushing (Primary)) : All Azimuth Relative to GRID NORTH)

Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	CC (US ft)	ES (US ft)	SF	Risk
6700.00	10006.57	10005.57	180.33	22.38	22.38	3427.08	3401.69	134.97	
6800.00	10006.57	10005.57	180.33	22.38	22.38	3334.14	3308.48	129.89	
6900.00	10006.57	10005.57	180.33	22.38	22.38	3241.63	3215.68	124.91	
7000.00	10006.57	10005.57	180.33	22.38	22.38	3149.57	3123.33	120.02	
7100.00	10006.57	10005.57	180.33	22.38	22.38	3058.01	3031.47	115.23	
7200.00	10006.57	10005.57	180.33	22.38	22.38	2967.00	2940.16	110.55	
7300.00	10006.57	10005.57	180.33	22.38	22.38	2876.58	2849.44	105.97	
7400.00	10006.57	10005.57	180.33	22.38	22.38	2786.82	2759.33	101.39	
7500.00	10006.57	10005.57	180.33	22.38	22.38	2697.78	2669.93	96.88	
7600.00	10006.57	10005.57	180.33	22.38	22.38	2609.53	2581.25	92.28	
7700.00	10006.57	10005.57	180.33	22.38	22.38	2522.16	2493.44	87.81	
7800.00	10006.57	10005.57	180.33	22.38	22.38	2435.76	2406.58	83.47	
7900.00	10006.57	10005.57	180.33	22.38	22.38	2350.44	2320.79	79.28	
8000.00	10006.57	10005.57	180.33	22.38	22.38	2266.32	2236.20	75.24	
8100.00	10006.57	10005.57	180.33	22.38	22.38	2183.54	2152.91	71.29	
8200.00	10006.57	10005.57	180.33	22.38	22.38	2102.26	2071.01	67.27	
8300.00	10006.57	10005.57	180.33	22.38	22.38	2022.66	1990.74	63.37	
8400.00	10006.57	10005.57	180.33	22.38	22.38	1944.94	1912.34	59.66	
8500.00	10006.57	10005.57	180.33	22.38	22.38	1869.34	1836.05	56.15	
8600.00	10006.57	10005.57	180.33	22.38	22.38	1796.13	1762.15	52.86	
8700.00	10006.57	10005.57	180.33	22.38	22.38	1725.60	1690.73	49.48	
8800.00	10006.57	10005.57	180.33	22.38	22.38	1658.12	1622.32	46.32	
8900.00	10006.57	10005.57	180.33	22.38	22.38	1594.05	1557.34	43.42	
9000.00	10006.57	10005.57	180.33	22.38	22.38	1533.83	1496.22	40.78	
9100.00	10006.57	10005.57	180.33	22.38	22.38	1477.93	1439.26	38.22	
9200.00	10006.57	10005.57	180.33	22.38	22.38	1426.86	1387.11	35.90	
9300.00	10006.57	10005.57	180.33	22.38	22.38	1381.15	1340.40	33.89	
9400.00	10006.57	10005.57	180.33	22.38	22.38	1341.34	1299.57	32.11	
9500.00	10006.57	10005.57	180.33	22.38	22.38	1307.99	1265.20	30.56	
9600.00	10006.57	10005.57	180.33	22.38	22.38	1281.60	1237.89	29.32	
9700.00	10006.57	10005.57	180.33	22.38	22.38	1262.59	1218.06	28.35	
9800.00	10006.57	10005.57	180.33	22.38	22.38	1251.31	1206.12	27.69	
9900.00	10006.57	10005.57	180.33	22.38	22.38	1247.96	1202.20	27.27	
10000.00	10006.57	10005.57	180.33	22.38	22.38	1252.62	1206.46	27.14	
10100.00	10006.57	10005.57	180.33	22.38	22.38	1265.19	1218.82	27.29	
10200.00	10077.89	10077.15	129.06	22.54	22.35	1282.21	1235.53	27.46	
10300.00	10157.10	10158.72	106.82	22.71	22.07	1298.21	1251.17	27.60	
10400.00	10232.75	10241.19	97.69	22.87	21.47	1312.48	1265.02	27.65	
10500.00	10302.80	10325.13	92.99	23.04	20.56	1324.47	1276.66	27.71	
10600.00	10365.05	10411.07	90.44	23.26	19.43	1333.74	1285.41	27.60	
10700.00	10417.03	10499.56	89.27	23.57	18.24	1339.97	1290.98	27.35	
10800.00	10456.00	10591.13	89.15	23.95	17.15	1342.97	1293.24	27.00	
10900.00	10479.05	10686.55	89.81	24.42	16.48	1342.92	1292.12	26.44	
11000.00	10484.42	10786.15	89.99	25.00	16.42	1342.34	1290.36	25.82	
11100.00	10485.59	10886.15	89.99	25.71	16.57	1341.78	1288.34	25.11	
11200.00	10486.76	10986.14	90.00	26.52	16.76	1341.21	1286.11	24.34	
11300.00	10487.92	11086.14	90.00	27.44	16.97	1340.65	1283.71	23.55	
11400.00	10489.09	11186.14	90.00	28.44	17.20	1340.08	1281.12	22.73	
11500.00	10490.26	11286.14	90.00	29.53	17.47	1339.51	1278.36	21.90	
11600.00	10491.42	11386.14	90.00	30.69	17.76	1338.95	1275.57	21.13	
11700.00	10492.59	11486.14	90.01	31.92	18.08	1338.38	1272.46	20.30	
11800.00	10493.75	11586.13	90.01	33.20	18.41	1337.82	1269.33	19.53	
11900.00	10494.92	11686.13	90.01	34.54	18.77	1337.25	1266.18	18.82	
12000.00	10496.09	11786.13	90.01	35.92	19.15	1336.68	1262.85	18.10	
12100.00	10497.25	11886.13	90.01	37.34	19.54	1336.12	1259.39	17.41	
12200.00	10498.42	11986.13	90.02	38.80	19.94	1335.55	1255.91	16.77	
12300.00	10499.59	12086.13	90.02	40.29	20.37	1334.99	1252.40	16.17	
12400.00	10500.75	12186.12	90.02	41.81	20.86	1334.42	1248.87	15.60	

5D Anti-Collision Report

Secondary Well : Gaucho Unit 16H Lat (pt) (TVD Relative to Kelly Bushing (Primary) ; All Azimuth Relative to GRID NORTH)								
Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	T Face to Sec (°)	S Major (US ft)	S Minor (US ft)	Ctr (US ft)	ES (US ft)	SF	Risk
12500.00	10501.92	12286.12	90.02	43.36	21.36	1333.85	1245.30	15.06	
12600.00	10503.08	12386.12	90.02	44.93	21.86	1333.29	1241.54	14.53	
12700.00	10504.25	12486.12	90.03	46.52	22.29	1332.72	1237.75	14.03	
12800.00	10505.42	12586.12	90.03	48.13	22.87	1332.16	1233.94	13.56	
12900.00	10506.58	12686.12	90.03	49.75	23.37	1331.59	1230.11	13.12	
13000.00	10507.75	12786.11	90.03	51.39	23.93	1331.02	1226.27	12.71	
13100.00	10508.92	12886.11	90.03	53.05	24.42	1330.46	1222.43	12.32	
13200.00	10510.08	12986.11	90.04	54.72	25.02	1329.89	1218.62	11.95	
13300.00	10511.25	13086.11	90.04	56.39	25.55	1329.33	1214.68	11.60	
13400.00	10512.41	13186.11	90.04	58.08	26.17	1328.76	1210.67	11.25	
13500.00	10513.58	13286.11	90.04	59.78	26.75	1328.20	1206.68	10.93	
13600.00	10514.75	13386.11	90.04	61.49	27.32	1327.63	1202.71	10.63	
13700.00	10515.91	13486.10	90.05	63.21	27.89	1327.06	1198.73	10.34	
13800.00	10517.08	13586.10	90.05	64.93	28.47	1326.50	1194.74	10.07	
13900.00	10518.25	13686.10	90.05	66.66	29.05	1325.93	1190.75	9.81	
14000.00	10519.41	13786.10	90.05	68.40	29.66	1325.37	1186.75	9.56	
14100.00	10520.58	13886.10	90.05	70.15	30.29	1324.80	1182.74	9.33	
14200.00	10521.74	13986.10	90.06	71.90	30.93	1324.23	1178.71	9.10	
14300.00	10522.91	14086.09	90.06	73.65	31.56	1323.67	1174.68	8.88	
14400.00	10524.08	14186.09	90.06	75.41	32.20	1323.10	1170.64	8.68	
14500.00	10525.24	14286.09	90.06	77.17	32.85	1322.54	1166.59	8.48	
14600.00	10526.41	14386.09	90.06	78.94	33.49	1321.97	1162.49	8.29	
14700.00	10527.58	14486.09	90.07	80.71	34.14	1321.40	1158.37	8.10	
14800.00	10528.74	14586.09	90.07	82.48	34.80	1320.84	1154.24	7.93	
14900.00	10529.91	14686.08	90.07	84.26	35.45	1320.27	1150.11	7.76	
15000.00	10531.08	14786.08	90.07	86.04	36.11	1319.71	1145.98	7.60	
15100.00	10532.24	14886.08	90.07	87.83	36.77	1319.14	1141.84	7.44	
15200.00	10533.41	14986.08	90.08	89.61	37.43	1318.57	1137.69	7.29	
15300.00	10534.00	15036.87	90.08	90.52	37.77	1318.93	1136.19	7.22	
15326.09	10534.00	15036.87	90.08	90.52	37.77	1320.01	1137.36	7.23	

Weatherford

Weatherford Drilling Services

GeoDec v5.03

Report Date:	May 29, 2014
Job Number:	
Customer:	Devon Energy
Well Name:	Caucho Unit 17H
API Number:	
Rig Name:	
Location:	Lea County, NM
Block:	
Engineer:	RWJ

US State Plane 1983	Geodetic Latitude / Longitude
System: New Mexico Eastern Zone	System: Latitude / Longitude
Projection: Transverse Mercator/Gauss Kruger	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 499511.380 USFT	Latitude 32.3704859 DEG
East/West 798000.240 USFT	Longitude -103.5020095 DEG
Grid Convergence: .45°	
Total Correction: +6.89°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.37049° N	32° 22 min 13.749 sec
Longitude =	103.50201° W	103° 30 min 7.234 sec

Magnetic Declination =	7.34°	[True North Offset]	
Local Gravity =	.9988 g	CheckSum =	6668
Local Field Strength =	48391 nT	Magnetic Vector X =	23815 nT
Magnetic Dip =	60.25°	Magnetic Vector Y =	3067 nT
Magnetic Model =	bggm2014	Magnetic Vector Z =	42013 nT
Spud Date =	Jul 31, 2014	Magnetic Vector H =	24011 nT

Signed:_____ Date:_____

devon

Gaucho Unit 17H Fed
Lea Co, NM

Weatherford

Plan Data for Gaucho Unit 17H

Plan Point Information:

DogLeg Severity Unit: °/100.00ft — Position offsets from Slot centre

MD (USft)	Inc (°)	Az (°)	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	VSec (USft)	DLS (DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	499511.38	798000.24	0.00	0.00
2850.00	0.00	0.00	2850.00	0.00	0.00	499511.38	798000.24	0.00	0.00
3350.00	10.00	261.20	3347.47	-6.66	-43.01	499504.72	797957.23	-4.00	2.00
10110.35	10.00	261.20	10005.11	-186.25	-1203.11	499325.13	796797.13	-111.82	0.00
10862.69	89.36	356.46	10483.00	279.87	-1315.05	499791.25	796685.19	360.30	12.00
15326.09	89.36	356.46	10533.00	4734.49	-1590.36	504245.87	796409.88	4823.43	0.00

Plan Data for Gaucho Unit 17H

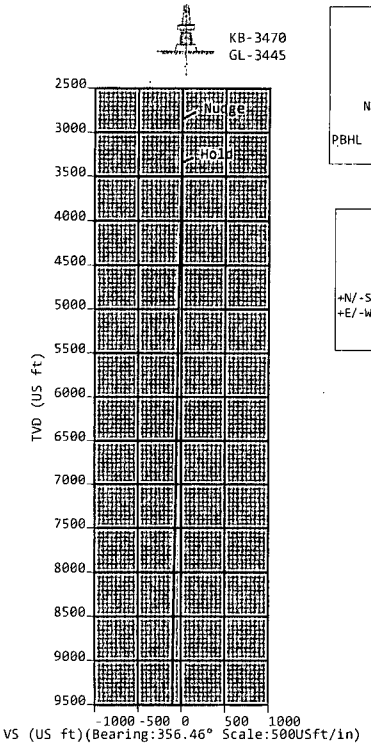
Target Set Information:
Name: Gaucho Unit 17H
Position offsets from Slot centre

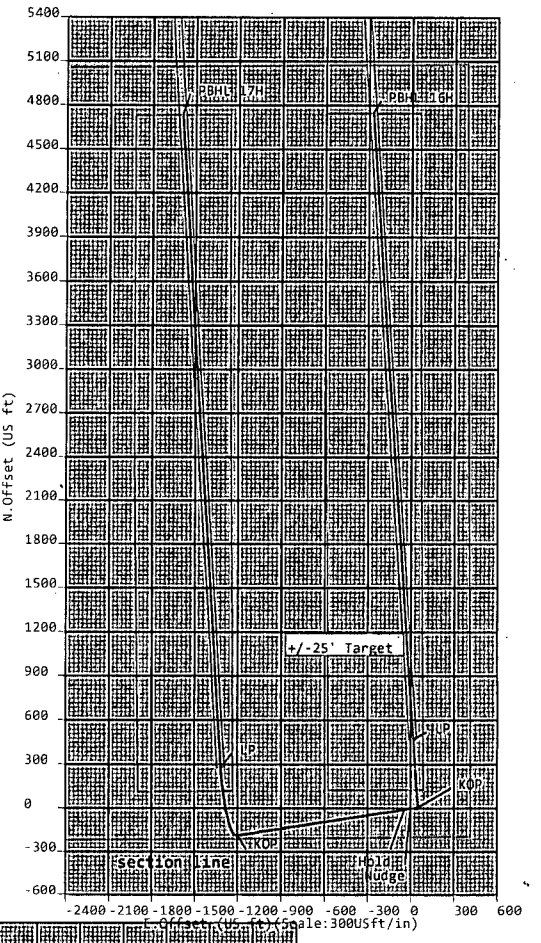
Name	TVD (USft)	+N/-S (USft)	+E/-W (USft)	Northing (USft)	Easting (USft)	Shape	Comment
PBHL 17H	10533.00	4734.49	-1590.36	504245.87	796409.88	Cuboid	

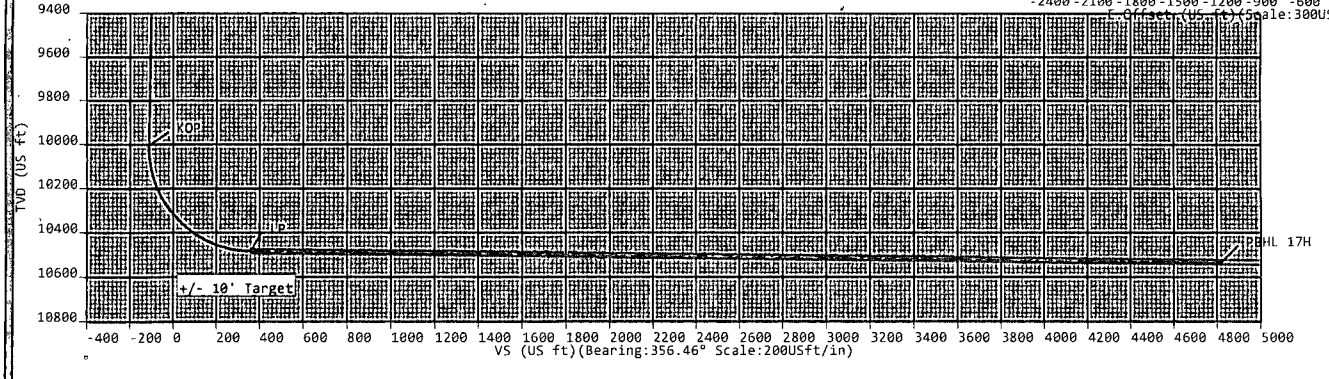
Plan Data for Gaucho Unit 17H

Slot: Gaucho Unit 17H
Position:
Offset is from Site centre
+N/-S: -0.41USft Northing: 499511.38USft Latitude: 32°22'13.7"
+E/-W: -49.99USft Easting: 798000.24USft Longitude: -103°30'7.2"
Elevation Above VRD: 3445.00USft

Gaucho Unit 17H
Gaucho Unit 16H Pilot
Gaucho Unit 16H Lat







Sign Off: Russell Joyner

5D Plan Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Gaucho Unit 16,17H Fed Pad*
Well Name: *Gaucho Unit 17H*
Plan: *P1:V2*

29 May 2014

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	NM966272
WELL NAME & NO.:	17H Gaucho Unit
SURFACE HOLE FOOTAGE:	200' FSL & 420' FEL
BOTTOM HOLE FOOTAGE	330' FNL &1980' FEL
LOCATION:	Section19, T. 22 S., R 34 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Commercial Well Determination
The proposed well is not within a participating area. A commercial well determination must be submitted to the BLM Carlsbad Office.

Unit Wells
The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

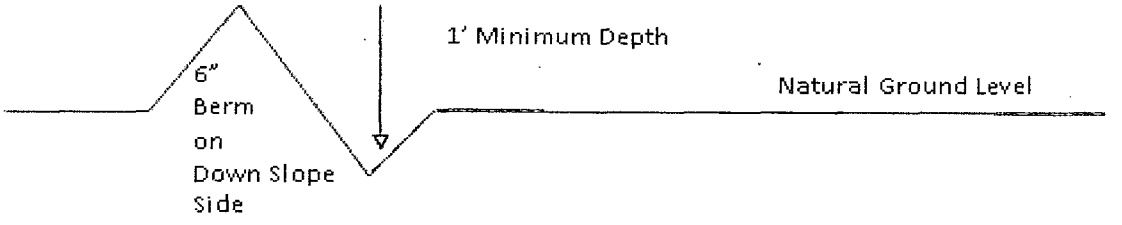
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations
Appropriately sized culverts shall be installed at deep waterway channel flow crossings through the road.

Cattleguards
An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings.

Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

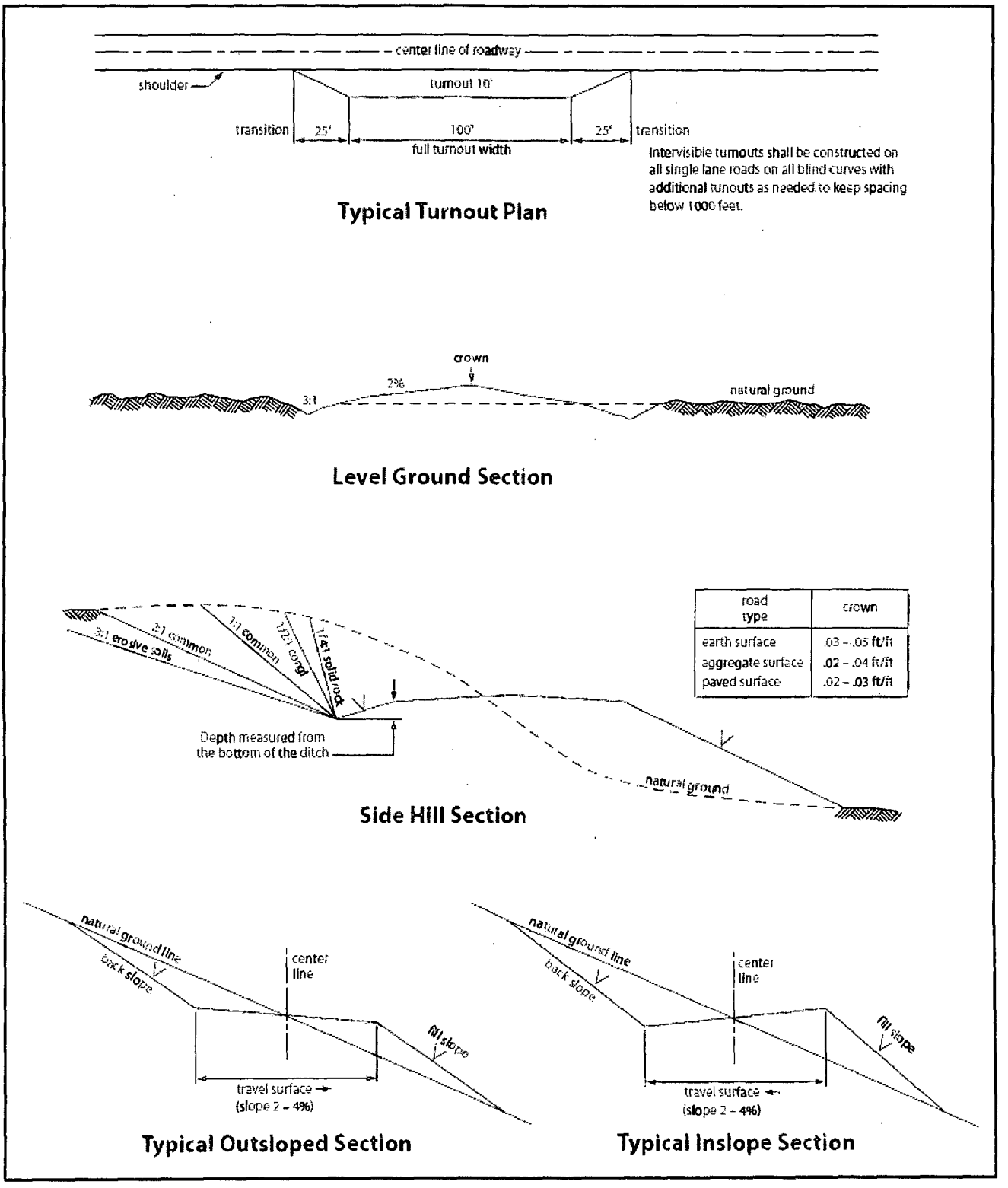


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. 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

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. 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.).

The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. 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. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

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

Possible lost circulation in the Capitan Reef and Delaware formations.
Possible water flows in the Salado, Castile and Delaware formations.

1. The **13-3/8** inch surface casing shall be set at approximately **1830** feet (in a competent bed below the Magenta Dolomite, 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.

Special Capitan Reef requirements:

If any lost circulation occurs below the Base of the Salt, the operator shall do the following:

- **Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.**

- **Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.**

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is: **(Ensure casing is set in the base of the Capitan Reef at approximately 5000')**

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

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

Option #1 (Single Stage):

☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 4025'). Operator shall provide method of verification. **Additional cement may be required – excess calculates to 17%.**

Option #2:

Operator has proposed DV tool at depth of 6000'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 4025'). Operator shall provide method of verification. **Additional cement may be required – excess calculates to negative 20%.**

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. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed