

DRILLING PROGRAM

Devon Energy Production Company, LP
Gaucha Unit 13H

Surface Location: 225 FNL & 575 FEL, Unit A, Sec 20 T22S R34E, Lea, NM
Bottom Hole Location: 330 FNL & 660 FEL, Unit A, Sec 17 T22S R34E, Lea, NM

1. Geologic Name of Surface Formation

a. Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

a. Fresh Water	300'	
b. Rustler	1,640'	
c. Top of Salt	1,925'	
d. Base of Salt	3,700'	
e. Yates	3,930'	
f. Queen	4,100'	Oil/Gas
g. Grayburg	4,710'	Oil/Gas
h. Delaware	5,256'	Oil/Gas
i. Cherry Canyon	6,016'	Oil/Gas
j. Lower Brushy Canyon	8,264'	Oil/Gas
k. Bone Spring Lime	8,443'	Oil/Gas
l. 1 st Bone Spring Sand	9,497'	Oil/Gas
m. 2 nd Bone Spring Sand	10,046'	Oil/Gas

Total Depth 16,230' MD 11,330' TVD

3. Casing Program: (All casing is new and API approved.)

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17-1/2"	0 – 1,750	13-3/8"	0 – 1,750	54.5#	STC	J-55
12-1/4"	1,750 – 5,150	9-5/8"	0 – 5,150	40#	BTC	HCK-55
8-3/4"	5,150 – 9,750	5-1/2"	0 – 9,750	17#	LTC	HCP-110
8-3/4"	9,750 – 16,230	5-1/2"	9,750 – 16,230	17#	BTC	HCP-110

MAXIMUM LATERAL TVD 11,330'

Design Parameter Factors:

<u>Casing Size</u>	<u>Collapse Design Factor</u>	<u>Burst Design Factor</u>	<u>Tension Design Factor</u>
13-3/8" 54.5# J-55 STC	1.38	3.33	9.53
9-5/8" 40# HCK-55 BTC	1.58	1.47	4.50
5-1/2" 17# HCP-110 LTC	1.41	2.01	1.88
5-1/2" 17# HCP-110 BTC	1.88	2.33	1.82

DEC 11 2010

4. Cement Program:

String	Slurry	Amount and Type of Cement
Surface	Lead	1000 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.125 lbs/sk Poly-E-Flake + 4% bwoc Bentonite + 70.1% Fresh Water, 13.5 ppg, 1.75 cf/sk
	Tail	550 sacks Class C Cement + 1% bwoc Calcium Chloride + 0.125 lbs/sack Poly-E-Flake + 63.1% Fresh Water, 14.8 ppg, 1.34 cf/sk
9-5/8" Intermediate	Lead	1060 sacks (65:35) Class H Cement:Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 70.9 % Fresh Water, 12.9 ppg, 1.85 cf/sk
	Tail	430 sacks Class C Cement + 0.125 lbs/sack Poly-E-Flake + 63.9% Fresh Water, 14.8 ppg, 1.33 cf/sk
Production	Lead # 1	390 sacks (50:50) Class H Cement:Poz (Fly Ash) + 10% BWOC Bentonite + 0.15% SA-1015 + 0.1% BWOC HR-601 + 0.25 lb/sk D-Air 5000 + 80.01 % Fresh Water, 11.5 ppg, 2.57 cf/sk
	Lead # 2	330 sacks (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, 12.5 ppg, 1.96 cf/sk
	Tail	1410 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg, 1.21 cf/sk
	Contingency Plan For loss of Circulation	
	1st STAGE	
	Lead	480 sacks (50:50) Class H Cement:Poz (Fly Ash) + 10% BWOC Bentonite + 0.15% SA-1015 + 0.1% BWOC HR-601 + 0.25 lb/sk D-Air 5000 + 80.01 % Fresh Water, 11.5 ppg, 2.57 cf/sk
	Tail	1410 sacks (50:50) Class H Cement:Poz (Fly Ash) + 1 lb/sk Sodium Chloride + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water, 14.5 ppg, 1.21 cf/sk
	2nd STAGE (DV tool and ECP at 6000 ft)	
	Lead	130 sacks (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, 12.5 ppg, 1.96 cf/sk
	Tail	120 sacks Class C Cement + 63.9% Fresh Water, 14.8 ppg, 1.33 cf/sk

- The above cement volumes based on at least Surface 100% excess, Intermediate 75% excess and Production is 25% excess. Actual cement volumes to be adjusted based on fluid caliper and/or caliper log data.
- If lost circulation is encountered while drilling the production wellbore, a DV tool and ECP will be installed a minimum of 50' below the previous casing shoe and a maximum of 200' above the current shoe. If the DV tool has to be moved, the cement volumes will be adjusted proportionately.

String	TOC
13-3/8" Intermediate	Surface
9-5/8" Intermediate	Surface
5-1/2" Production	4,650' (~500 ft inside of 9-5/8" Casing Shoe)

5. Pressure Control Equipment

The BOP system used to drill the 12-1/4" and 8-3/4" holes will consist of a 13-5/8" 3M Double Ram and Annular preventer. The BOP system will be tested as per BLM Onshore Oil and Gas Order 2. A 3M system will be installed and tested prior to drilling out the casing shoes.

The pipe rams will be operated and checked as per Onshore Order 2. 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); **if an H&P rig drills this well. Otherwise no flex line is needed.** The line will be kept as straight as possible with minimal turns.

6. Proposed Mud Circulation System:

Depth Range	Mud Weight	Viscosity	Fluid Loss	Type System
0 – 1,750'	8.5 – 8.9	35 – 45	NC	Fresh Water
1,750' – 5,150'	9.8 – 10	29 – 36	NC	Brine
5,150' – 9,855'	8.4 – 8.8	29 – 36	<100	Cut Brine
9,855' – 16,230'	8.6 – 9.0	29 – 36	<100	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.

7. 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.
- c. 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.

8. 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. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

- a. No abnormal pressures or temperatures are expected. There is no known presence of H₂S in this area. 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 of equipment being used to drill this well. Estimated BHP 5099 psi and Estimated BHT 175°. No H₂S is anticipated to be encountered.

10. 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.

devon

Gaucha Unit 13H
Lea Co, NM

Plan Data for Gaucha Unit 13H

Plan Point Information:									
Dogleg Severity Unit: °/100.00ft				Position offsets from Slot centre					
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	504404.74	803087.68	0.00	0.00
10727.05	0.00	0.00	10727.05	0.00	0.00	504404.74	803087.68	0.00	0.00
11623.32	89.63	358.69	11300.00	569.08	-13.03	504973.82	803074.65	569.23	10.00
16230.95	89.63	358.69	11330.00	5175.40	-118.52	509580.14	802969.16	5176.76	0.00

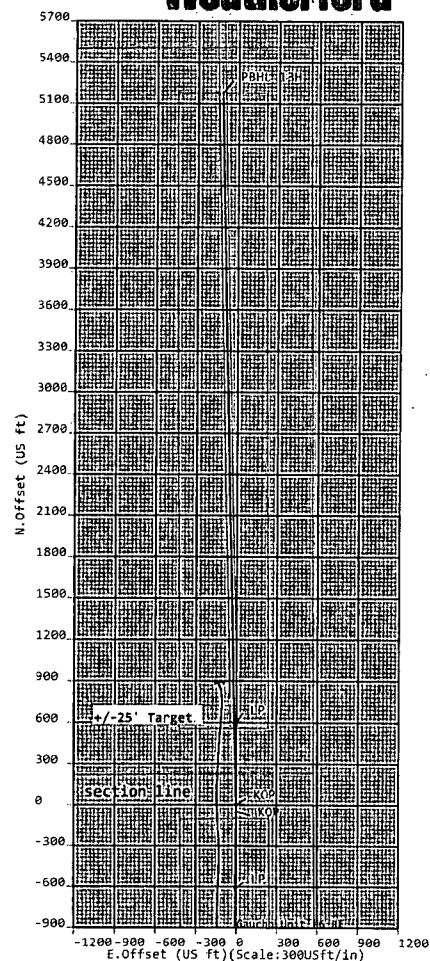
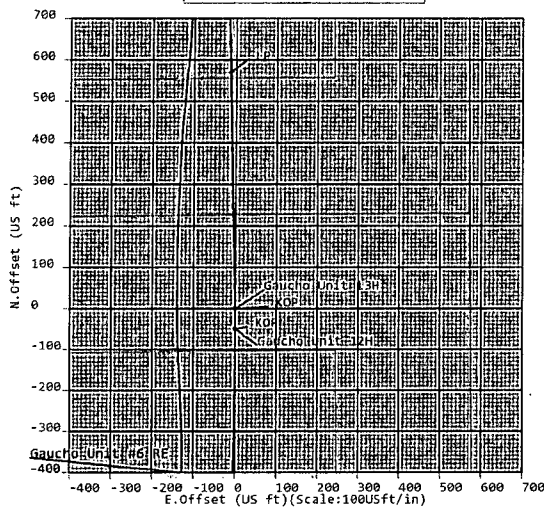
Plan Data for Gaucha Unit 13H

Target Set Information:									
Name: Gaucha Unit 13H									
Position offsets from Slot centre									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape	Comment		
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)				
P8HL 13H	11330.00	5175.40	-118.52	509580.14	802969.16	Cuboid			

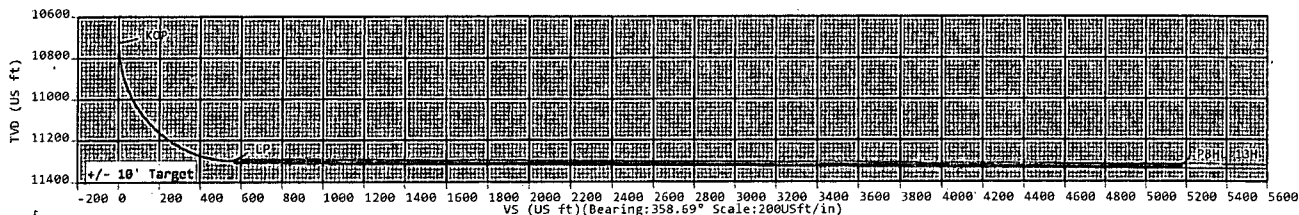
Plan Data for Gaucha Unit 13H

Slot: Gaucha Unit 13H									
Position:									
Offset is from Site centre									
+N/-S:	49.98USft	Northing:	504404.74USft	Latitude:	32°23'1.8"				
+E/-W:	-0.32USft	Easting:	803087.68USft	Longitude:	-103°29'7.5"				
						Elevation Above VRD: 3465.00USft			

Gaucha Unit 13H	_____
Gaucha Unit #6 RE	_____
Gaucha Unit 12H	_____



KB-3490
GL-3465



Sign Off: Russell Joyner

5D Plan Report**Devon Energy**

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Gaucha Unit 12, 13H Pad*
Well Name: *Gaucha Unit 13H*
Plan: *P1:V2*

03 June 2014

**Weatherford®**

Gaucho Unit 13H

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 12, 13H'Pad	Units : US ft	North Reference : Grid	Convergence Angle : 0.45	
	Position	Northing : 504354.76 US ft	Latitude : 32° 23' 1.28"	
		Easting : 803088.00 US ft	Longitude : -103° 29' 7.47"	
	Elevation above Mean Sea Level: 3465.00 US ft			
Comment :				
Slot Name Gaucho Unit 13H	Position (Offsets relative to Site Centre)			
	+N / -S : 49.98 US ft	Northing : 504404.74 US ft	Latitude : 32° 23' 1.77"	
	+E / -W : 0.32 US ft	Easting : 803087.68 US ft	Longitude : -103° 29' 7.47"	
	Slot TVD Reference : Ground Elevation			
Elevation above Mean Sea Level : 3465.00 US ft				
Comment :				
Well Name Gaucho Unit 13H	Type : Main well	UWI :	Plan : P1:V2	
	Rig Height Kelly Bushing : 25.00 US ft	Comment :		
	Relative to Mean Sea Level: 3490.00 US ft			
	Closure Distance : 5176.76 US ft	Closure Azimuth : 358.688°		
Vertical Section (Position of Origin Relative to Slot)				
+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az : 358.69°	
Magnetic Parameters				
Model : BGGM	Field Strength : 48384.7nT	Dec : 7.32°	Dip : 60.26°	Date : 15/Sep/2014

Target Set

Name : Gaucho Unit 13H **Number of Targets :** 1

Comment :

Target Name: PBHL 13H Shape: Cuboid	Position (Relative to Slot centre)		
	+N / -S : 5175.40US.ft	Northing : 509580.14 US.ft	Latitude : 32°23'52.99"
	+E / -W : -118.52 US.ft	Easting : 802969.16US.ft	Longitude : -103°29'8.37"
	TVD (Kelly Bushing) : 11330.00 US.ft		
	Orientation Azimuth : 358.69°	Inclination : -0.24°	
	Dimensions Length : 9402.00 US.ft	Breadth : 50.00 US.ft	Height : 20.00 US.ft

Well path created using minimum curvature

SD 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	
10727.05	0.00	0.00	10727.05	0.00	0.00	0.00	0.00	0.00	KOP
11623.32	89.63	358.69	11300.00	569.08	-13.03	10.00	569.23	358.69	LP
16230.95	89.63	358.69	11330.00	5175.40	-118.52	0.00	5176.76	0.00	PBHL 13H

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	
10700.00	0.00	0.00	10700.00	0.00	0.00	0.00	0.00	504404.74	803087.68		
10727.05	0.00	0.00	10727.05	0.00	0.00	0.00	0.00	504404.74	803087.68	KOP	
10800.00	7.29	358.69	10799.80	4.64	-0.11	4.64	10.00	504409.38	803087.57		
10900.00	17.29	358.69	10897.39	25.90	-0.59	25.91	10.00	504430.64	803087.09		
11000.00	27.30	358.69	10989.79	63.78	-1.46	63.79	10.00	504468.52	803086.22		
11100.00	37.29	358.69	11074.22	117.12	-2.68	117.15	10.00	504521.86	803085.00		
11200.00	47.29	358.69	11148.09	184.32	-4.22	184.36	10.00	504589.06	803083.46		
11300.00	57.29	358.69	11209.17	263.31	-6.03	263.38	10.00	504668.05	803081.65		
11400.00	67.29	358.69	11255.61	351.71	-8.05	351.80	10.00	504756.45	803079.63		
11500.00	77.29	358.69	11285.98	446.83	-10.23	446.95	10.00	504851.57	803077.45		
11600.00	87.29	358.69	11299.37	545.77	-12.50	545.92	10.00	504950.51	803075.18		
11623.32	89.63	358.69	11300.00	569.08	-13.03	569.23	10.00	504973.82	803074.65	LP	
11700.00	89.63	358.69	11300.49	645.74	-14.79	645.91	0.00	505050.48	803072.89		
11800.00	89.63	358.69	11301.15	745.71	-17.08	745.90	0.00	505150.45	803070.60		
11900.00	89.63	358.69	11301.80	845.68	-19.37	845.90	0.00	505250.42	803068.31		
12000.00	89.63	358.69	11302.45	945.65	-21.66	945.90	0.00	505350.39	803066.02		
12100.00	89.63	358.69	11303.10	1045.62	-23.95	1045.90	0.00	505450.36	803063.73		
12200.00	89.63	358.69	11303.75	1145.60	-26.23	1145.90	0.00	505550.34	803061.45		
12300.00	89.63	358.69	11304.40	1245.57	-28.52	1245.89	0.00	505650.31	803059.16		
12400.00	89.63	358.69	11305.05	1345.54	-30.81	1345.89	0.00	505750.28	803056.87		
12500.00	89.63	358.69	11305.70	1445.51	-33.10	1445.89	0.00	505850.25	803054.58		
12600.00	89.63	358.69	11306.36	1545.48	-35.39	1545.89	0.00	505950.22	803052.29		
12700.00	89.63	358.69	11307.01	1645.45	-37.68	1645.88	0.00	506050.19	803050.00		
12800.00	89.63	358.69	11307.66	1745.43	-39.97	1745.88	0.00	506150.17	803047.71		
12900.00	89.63	358.69	11308.31	1845.40	-42.26	1845.88	0.00	506250.14	803045.42		
13000.00	89.63	358.69	11308.96	1945.37	-44.55	1945.88	0.00	506350.11	803043.13		
13100.00	89.63	358.69	11309.61	2045.34	-46.84	2045.88	0.00	506450.08	803040.84		
13200.00	89.63	358.69	11310.26	2145.31	-49.13	2145.87	0.00	506550.05	803038.55		
13300.00	89.63	358.69	11310.91	2245.28	-51.42	2245.87	0.00	506650.02	803036.26		
13400.00	89.63	358.69	11311.57	2345.26	-53.71	2345.87	0.00	506750.00	803033.97		
13500.00	89.63	358.69	11312.22	2445.23	-56.00	2445.87	0.00	506849.97	803031.68		
13600.00	89.63	358.69	11312.87	2545.20	-58.29	2545.87	0.00	506949.94	803029.39		
13700.00	89.63	358.69	11313.52	2645.17	-60.58	2645.86	0.00	507049.91	803027.10		
13800.00	89.63	358.69	11314.17	2745.14	-62.87	2745.86	0.00	507149.88	803024.81		
13900.00	89.63	358.69	11314.82	2845.11	-65.15	2845.86	0.00	507249.85	803022.53		
14000.00	89.63	358.69	11315.47	2945.09	-67.44	2945.86	0.00	507349.83	803020.24		
14100.00	89.63	358.69	11316.12	3045.06	-69.73	3045.86	0.00	507449.80	803017.95		
14200.00	89.63	358.69	11316.77	3145.03	-72.02	3145.85	0.00	507549.77	803015.66		
14300.00	89.63	358.69	11317.43	3245.00	-74.31	3245.85	0.00	507649.74	803013.37		
14400.00	89.63	358.69	11318.08	3344.97	-76.60	3345.85	0.00	507749.71	803011.08		
14500.00	89.63	358.69	11318.73	3444.94	-78.89	3445.85	0.00	507849.68	803008.79		
14600.00	89.63	358.69	11319.38	3544.92	-81.18	3545.84	0.00	507949.66	803006.50		
14700.00	89.63	358.69	11320.03	3644.89	-83.47	3645.84	0.00	508049.63	803004.21		
14800.00	89.63	358.69	11320.68	3744.86	-85.76	3745.84	0.00	508149.60	803001.92		
14900.00	89.63	358.69	11321.33	3844.83	-88.05	3845.84	0.00	508249.57	802999.63		
15000.00	89.63	358.69	11321.98	3944.80	-90.34	3945.84	0.00	508349.54	802997.34		
15100.00	89.63	358.69	11322.64	4044.77	-92.63	4045.83	0.00	508449.51	802995.05		
15200.00	89.63	358.69	11323.29	4144.75	-94.92	4145.83	0.00	508549.49	802992.76		
15300.00	89.63	358.69	11323.94	4244.72	-97.21	4245.83	0.00	508649.46	802990.47		
15400.00	89.63	358.69	11324.59	4344.69	-99.50	4345.83	0.00	508749.43	802988.18		
15500.00	89.63	358.69	11325.24	4444.66	-101.79	4445.83	0.00	508849.40	802985.89		

SD 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
15600.00	89.63	358.69	11325.89	4544.63	-104.08	4545.82	0.00	508949.37	802983.60	
15700.00	89.63	358.69	11326.54	4644.60	-106.36	4645.82	0.00	509049.34	802981.32	
15800.00	89.63	358.69	11327.19	4744.58	-108.65	4745.82	0.00	509149.32	802979.03	
15900.00	89.63	358.69	11327.84	4844.55	-110.94	4845.82	0.00	509249.29	802976.74	
16000.00	89.63	358.69	11328.50	4944.52	-113.23	4945.82	0.00	509349.26	802974.45	
16100.00	89.63	358.69	11329.15	5044.49	-115.52	5045.81	0.00	509449.23	802972.16	
16200.00	89.63	358.69	11329.80	5144.46	-117.81	5145.81	0.00	509549.20	802969.87	
16230.95	89.63	358.69	11330.00	5175.40	-118.52	5176.76	0.00	509580.14	802969.16	PBHL 13H

5D Anti-Collision Report**Devon Energy****Field Name:** *Lea Co, NM Nad 83 NMEZ***Site Name:** *Gaucha Unit 12, 13H Pad***Well Name:** *Gaucha Unit 13H*

03 June 2014





Weatherford®

Gaucha Unit 13H

Field Name Lea Co, NM Nad 83 NMEZ	Map Units : US ft Vertical Reference Datum (VRD) : Mean Sea Level Projected Coordinate System : NAD83 / New Mexico East (ftUS) Comment :	Company Name : Devon Energy
Site Name Gaucha Unit 12, 13H Pad	Units : US ft North Reference : Grid Position Northing: 504354.76 US ft Easting: 803088.00 US ft Elevation above Mean Sea Level: 3465.00 US ft Comment :	Convergence Angle : 0.45 Latitude: 32° 23' 1.28" Longitude: -103° 29' 7.47"
Slot Name Gaucha Unit 13H	Position (Offsets relative to Site Centre) +N / -S: 49.98 US ft Northing: 504404.74 US ft Latitude: 32° 23' 1.77" +E / -W: -0.32 US ft Easting: 803087.68 US ft Longitude: -103° 29' 7.47" Slot TVD Reference : Ground Elevation Elevation above Mean Sea Level : 3465.00 US ft Comment :	
Well Name Gaucha Unit 13H	Type : Main well Rig Height Kelly Bushing : 25.00 US ft Relative to Mean Sea Level: 3490.00 US ft Closure Distance : 5176.76 US ft Vertical Section (Position of Origin Relative to Slot) +N / -S: 0.00 US ft Magnetic Parameters Model: BGGM Field Strength: 48384.7nT UWI : Comment : Closure Azimuth : 358.688° Az : 358.69° Dec : 7.32° Dip : 60.26° Date : 15/Sep/2014 Plan : Working Plan	

Collision / Uncertainty Analysis				
Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Gaucha Unit 13H (p)	0.00	16230.95	100.00	2

Secondary Well Names
Gaucha Unit #6 RE (s)
Gaucha Unit 12H (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.

SD Anti-Collision Report

Anti-Collision Proximity Summary (TVD relative to):

Secondary Well Name	Pri MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
Gaucha Unit 12H (p)	9850.00	9850.00	9850.00	49.98	5.21	1.12	SF (Med)
Gaucha Unit #6 RE (s)	11602.15	11437.01	11299.47	106.51	58.95	2.24	

Secondary Well: Gaucha Unit #6 RE (s) (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	-0.38	9.62	354.15	0.04	0.04	888.44	887.69	1182.08	
100.00	95.75	105.75	354.15	0.16	0.16	888.70	887.71	901.42	
200.00	191.04	201.04	354.13	0.40	0.40	889.44	887.99	613.76	
300.00	286.01	296.02	354.10	0.65	0.65	890.73	888.81	462.80	
400.00	385.30	395.34	354.02	0.91	0.91	892.35	889.94	370.65	
500.00	485.85	495.91	353.90	1.17	1.17	893.97	891.08	309.51	
600.00	588.18	598.29	353.72	1.42	1.42	895.42	892.06	265.87	
700.00	691.48	701.66	353.50	1.67	1.67	896.56	892.72	233.39	
800.00	793.79	804.03	353.27	1.92	1.92	897.38	893.06	208.15	
900.00	894.48	904.79	353.05	2.17	2.17	898.03	893.24	187.50	
1000.00	997.04	1007.41	352.82	2.42	2.42	898.50	893.24	170.76	
1100.00	1098.04	1108.47	352.60	2.67	2.67	898.77	893.03	156.66	
1200.00	1198.44	1208.92	352.39	2.92	2.91	898.97	892.75	144.64	
1300.00	1299.04	1309.58	352.18	3.17	3.16	899.11	892.42	134.34	
1400.00	1400.91	1411.50	351.97	3.43	3.42	899.11	891.94	125.40	
1500.00	1502.48	1513.12	351.77	3.68	3.67	898.92	891.28	117.64	
1600.00	1603.32	1614.01	351.56	3.93	3.92	898.59	890.48	110.78	
1700.00	1703.74	1714.48	351.37	4.18	4.17	898.21	889.62	104.55	
1800.00	1804.78	1815.56	351.19	4.43	4.41	897.72	888.65	98.98	
1900.00	1905.09	1915.91	351.02	4.68	4.66	897.19	887.64	94.00	
2000.00	2006.66	2017.51	350.85	4.93	4.91	896.51	886.49	89.47	
2100.00	2106.01	2116.90	350.69	5.17	5.15	895.79	885.31	85.41	
2200.00	2203.42	2214.34	350.54	5.42	5.40	895.24	884.29	81.72	
2300.00	2298.69	2309.63	350.41	5.66	5.64	895.17	883.75	78.35	
2400.00	2402.62	2413.58	350.28	5.93	5.91	895.06	883.15	75.10	
2500.00	2502.22	2513.20	350.16	6.19	6.17	894.80	882.40	72.18	
2600.00	2602.36	2613.36	350.04	6.44	6.42	894.53	881.65	69.46	
2700.00	2700.12	2711.13	349.98	6.70	6.68	894.39	881.03	66.98	
2800.00	2798.55	2809.55	349.94	6.94	6.92	894.49	880.66	64.70	
2900.00	2900.97	2911.97	349.92	7.09	7.07	894.46	880.26	63.01	
3000.00	2995.13	3006.14	349.92	7.20	7.18	894.69	880.16	61.58	
3100.00	3092.78	3103.79	349.92	7.34	7.32	895.36	880.46	60.07	
3200.00	3191.87	3202.88	349.95	7.44	7.42	896.22	880.99	58.85	
3300.00	3291.18	3302.20	350.00	7.52	7.49	897.17	881.63	57.76	
3400.00	3390.56	3401.59	350.06	7.59	7.57	898.18	882.35	56.74	
3500.00	3490.64	3501.69	350.14	7.66	7.64	899.23	883.10	55.76	
3600.00	3591.05	3602.11	350.22	7.74	7.72	900.24	883.82	54.81	
3700.00	3689.79	3700.86	350.30	7.83	7.81	901.31	884.58	53.87	
3800.00	3793.27	3804.35	350.38	7.92	7.90	902.24	885.20	52.95	
3900.00	3893.57	3904.66	350.47	8.00	7.99	902.97	885.63	52.08	
4000.00	3993.85	4004.96	350.56	8.09	8.07	903.67	886.01	51.18	
4100.00	4095.59	4106.71	350.67	8.18	8.16	904.25	886.27	50.30	
4200.00	4195.02	4206.16	350.77	8.27	8.25	904.77	886.48	49.45	
4300.00	4296.66	4307.81	350.87	8.36	8.35	905.23	886.60	48.61	
4400.00	4396.62	4407.78	350.97	8.46	8.45	905.59	886.64	47.79	
4500.00	4495.84	4507.02	351.08	8.57	8.55	906.01	886.73	46.99	
4600.00	4596.05	4607.25	351.20	8.68	8.67	906.46	886.84	46.21	
4700.00	4696.51	4707.72	351.32	8.80	8.79	906.87	886.91	45.43	
4800.00	4796.02	4807.26	351.43	8.93	8.92	907.28	886.98	44.68	
4900.00	4896.63	4907.88	351.55	9.06	9.05	907.69	887.03	43.94	
5000.00	4996.94	5008.21	351.66	9.19	9.18	908.04	887.03	43.21	

5D Anti-Collision Report

Secondary Well: Gaucho Unit #6 RE (S) (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	5097.55	5108.84	351.78	9.33	9.32	908.35	886.98	42.50	
5200.00	5198.64	5209.95	351.89	9.48	9.47	908.57	886.84	41.80	
5300.00	5302.06	5313.38	352.00	9.62	9.61	908.51	886.41	41.10	
5400.00	5402.69	5414.02	352.09	9.76	9.75	908.24	885.77	40.42	
5500.00	5501.82	5513.16	352.17	9.90	9.89	908.00	885.17	39.76	
5600.00	5602.52	5613.86	352.25	10.04	10.04	907.76	884.55	39.11	
5700.00	5703.11	5714.46	352.32	10.19	10.19	907.47	883.89	38.47	
5800.00	5806.37	5817.72	352.40	10.34	10.34	906.92	882.95	37.84	
5900.00	5905.86	5917.23	352.48	10.49	10.49	906.22	881.89	37.24	
6000.00	6002.89	6014.27	352.54	10.64	10.64	905.72	881.02	36.66	
6100.00	6098.05	6109.42	352.58	10.80	10.80	905.70	880.60	36.09	
6200.00	6198.40	6209.78	352.64	10.99	10.99	905.89	880.39	35.52	
6300.00	6298.17	6309.56	352.71	11.18	11.18	906.07	880.16	34.97	
6400.00	6396.73	6408.13	352.77	11.38	11.37	906.37	880.04	34.43	
6500.00	6497.95	6509.35	352.81	11.58	11.58	906.65	879.90	33.89	
6600.00	6597.63	6609.03	352.84	11.79	11.78	906.90	879.72	33.37	
6700.00	6697.41	6708.81	352.87	11.99	11.99	907.17	879.55	32.85	
6800.00	6796.40	6807.80	352.91	12.20	12.20	907.52	879.48	32.36	
6900.00	6898.33	6909.73	352.95	12.42	12.42	907.80	879.31	31.87	
7000.00	6997.80	7009.20	352.98	12.64	12.63	908.02	879.10	31.40	
7100.00	7098.53	7109.94	353.01	12.85	12.85	908.21	878.86	30.95	
7200.00	7198.52	7209.93	353.03	13.07	13.07	908.39	878.61	30.50	
7300.00	7301.77	7313.17	353.04	13.27	13.27	908.36	878.16	30.08	
7400.00	7402.78	7414.19	353.04	13.41	13.41	908.10	877.53	29.70	
7500.00	7502.68	7514.09	353.04	13.53	13.53	907.80	876.87	29.34	
7600.00	7602.27	7613.68	353.04	13.67	13.67	907.53	876.22	28.99	
7700.00	7701.54	7712.95	353.04	13.80	13.80	907.31	875.64	28.65	
7800.00	7799.34	7810.75	353.03	13.94	13.93	907.27	875.24	28.32	
7900.00	7899.53	7910.94	353.01	14.08	14.08	907.34	874.93	28.00	
8000.00	8000.07	8011.49	352.99	14.23	14.23	907.36	874.59	27.69	
8100.00	8100.81	8112.22	352.96	14.37	14.37	907.31	874.17	27.38	
8200.00	8201.59	8213.00	352.92	14.52	14.51	907.17	873.67	27.08	
8300.00	8301.36	8312.78	352.88	14.66	14.66	907.01	873.14	26.78	
8400.00	8401.02	8412.44	352.82	14.81	14.81	906.87	872.63	26.49	
8500.00	8498.69	8510.12	352.76	14.96	14.96	906.88	872.27	26.20	
8600.00	8595.58	8607.01	352.69	15.13	15.12	907.20	872.22	25.93	
8700.00	8695.52	8706.96	352.61	15.30	15.30	907.70	872.29	25.63	
8800.00	8795.94	8807.38	352.55	15.48	15.48	908.18	872.35	25.35	
8900.00	8898.94	8910.40	352.48	15.67	15.66	908.46	872.22	25.06	
9000.00	9002.38	9013.84	352.40	15.84	15.84	908.35	871.70	24.79	
9100.00	9100.38	9111.85	352.32	16.01	16.00	908.20	871.16	24.52	
9200.00	9199.42	9210.90	352.25	16.18	16.18	908.25	870.81	24.26	
9300.00	9304.10	9315.58	352.19	16.36	16.36	908.03	870.19	24.00	
9400.00	9405.38	9416.86	352.15	16.52	16.52	907.48	869.26	23.75	
9500.00	9503.49	9514.98	352.13	16.68	16.67	906.99	868.40	23.50	
9600.00	9602.29	9613.78	352.10	16.84	16.84	906.70	867.73	23.26	
9700.00	9705.59	9717.08	352.07	17.01	17.01	906.26	866.91	23.03	
9800.00	9807.63	9819.12	352.05	17.18	17.17	905.50	865.78	22.80	
9900.00	9906.43	9917.93	352.04	17.33	17.33	904.72	864.59	22.55	
10000.00	10004.94	10016.44	352.01	17.50	17.50	904.10	863.57	22.31	
10100.00	10104.26	10115.76	351.97	17.68	17.67	903.59	862.64	22.07	
10200.00	10203.69	10215.20	351.92	17.86	17.85	903.18	861.82	21.84	
10300.00	10306.54	10318.05	351.87	18.04	18.04	902.60	860.83	21.61	
10400.00	10408.87	10420.39	351.84	18.22	18.22	901.75	859.57	21.38	
10500.00	11338.92	12016.50	260.88	25.04	18.97	850.64	814.29	23.40	
10600.00	11338.97	12014.38	261.74	25.02	18.97	752.20	715.54	20.52	
10700.00	11339.03	12012.18	262.63	25.00	18.96	654.22	617.13	17.64	
10800.00	11339.19	12005.62	239.75	24.93	18.95	557.24	519.62	14.81	

5D Anti-Collision Report

Secondary Well : Gaucho Unit #6 RE (s) (TVD Relative to Kelly Bushing (Primary)); All Azimuth Relative to GRID NORTH)									
Pri ID (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	11339.83	11983.22	224.25	24.70	18.92	463.94	425.78	12.16	
11000.00	11341.17	11943.47	219.16	24.31	18.86	377.78	338.89	9.71	
11100.00	11343.51	11886.75	219.08	23.73	18.77	302.11	262.44	7.61	
11200.00	11343.44	11797.57	224.96	22.83	18.30	236.82	196.15	5.82	
11300.00	11337.39	11714.58	232.73	22.11	18.00	182.42	140.00	4.30	
11400.00	11329.03	11627.64	243.50	21.40	17.81	144.09	99.33	3.22	
11500.00	11313.93	11527.65	258.68	20.69	17.24	119.31	72.52	2.55	
11600.00	11281.34	11438.85	279.81	20.20	16.81	106.54	58.98	2.24	
11700.00	11241.10	11357.94	301.37	19.82	16.76	117.10	71.77	2.58	
11800.00	11199.30	11282.64	317.94	19.59	16.74	151.56	108.77	3.54	
11900.00	11162.34	11223.12	327.71	19.36	16.78	202.93	161.15	4.86	
12000.00	11129.86	11176.28	333.04	19.30	17.00	267.48	225.61	6.39	
12100.00	11100.54	11137.55	336.37	19.24	17.19	340.76	298.55	8.07	
12200.00	11072.22	11102.30	338.82	19.20	17.37	419.71	377.19	9.87	
12300.00	11053.09	11079.43	340.08	19.13	17.50	502.84	459.89	11.71	
12400.00	11036.00	11059.66	340.93	19.13	17.68	589.43	546.06	13.59	
12500.00	11019.89	11041.38	341.55	19.14	17.78	678.37	634.68	15.53	
12600.00	11002.93	11022.42	342.07	19.12	17.85	769.01	725.11	17.52	
12700.00	10986.74	11004.51	342.47	19.11	17.90	860.84	816.73	19.52	
12800.00	10968.91	10984.94	342.85	19.09	17.93	953.56	909.24	21.51	
12900.00	10954.66	10969.39	343.11	19.09	18.04	1046.98	1002.48	23.53	
13000.00	10945.63	10959.64	343.29	19.09	18.16	1141.16	1096.51	25.56	
13100.00	10937.56	10951.02	343.46	19.10	18.26	1236.02	1191.30	27.64	
13200.00	10930.32	10943.37	343.63	19.10	18.33	1331.44	1286.62	29.71	
13300.00	10925.38	10938.16	343.75	19.10	18.34	1427.35	1382.34	31.71	
13400.00	10921.29	10933.89	343.85	19.10	18.45	1523.71	1478.69	33.84	
13500.00	10917.61	10930.07	343.95	19.09	18.48	1620.45	1575.38	35.96	
13600.00	10914.28	10926.62	344.03	19.09	18.50	1717.51	1672.23	37.93	
13700.00	10911.26	10923.50	344.11	19.09	18.58	1814.84	1769.44	39.97	
13800.00	10908.50	10920.66	344.19	19.09	18.63	1912.42	1866.94	42.05	
13900.00	10905.98	10918.08	344.26	19.09	18.66	2010.21	1964.73	44.20	
14000.00	10903.67	10915.71	344.32	19.08	18.67	2108.18	2062.60	46.25	
14100.00	10901.53	10913.53	344.38	19.08	18.66	2206.31	2160.69	48.36	
14200.00	10899.56	10911.52	344.44	19.08	18.70	2304.59	2258.95	50.49	
14300.00	10897.74	10909.66	344.49	19.08	18.75	2402.99	2357.23	52.51	
14400.00	10896.04	10907.93	344.54	19.08	18.78	2501.51	2455.65	54.54	
14500.00	10894.46	10906.33	344.59	19.08	18.81	2600.13	2554.19	56.60	
14600.00	10892.99	10904.83	344.63	19.07	18.83	2698.85	2652.84	58.66	
14700.00	10891.61	10903.43	344.68	19.07	18.85	2797.64	2751.58	60.74	
14800.00	10890.31	10902.12	344.71	19.07	18.86	2896.52	2850.40	62.81	
14900.00	10889.10	10900.89	344.75	19.07	18.88	2995.46	2949.30	64.89	
15000.00	10887.96	10899.74	344.79	19.07	18.88	3094.46	3048.26	66.97	
15100.00	10886.88	10898.65	344.82	19.07	18.89	3193.52	3147.27	69.05	
15200.00	10885.86	10897.62	344.85	19.07	18.90	3292.64	3246.35	71.13	
15300.00	10884.90	10896.65	344.88	19.07	18.90	3391.80	3345.47	73.20	
15400.00	10883.99	10895.73	344.91	19.07	18.90	3491.01	3444.63	75.28	
15500.00	10883.13	10894.86	344.93	19.06	18.91	3590.26	3543.84	77.35	
15600.00	10882.31	10894.03	344.96	19.06	18.91	3689.54	3643.08	79.42	
15700.00	10881.53	10893.25	344.98	19.06	18.91	3788.86	3742.36	81.48	
15800.00	10880.78	10892.50	345.01	19.06	18.91	3888.22	3841.67	83.54	
15900.00	10880.08	10891.79	345.03	19.06	18.91	3987.60	3941.02	85.60	
16000.00	10879.40	10891.11	345.05	19.06	18.91	4087.01	4040.39	87.65	
16100.00	10878.76	10890.46	345.07	19.06	18.91	4186.45	4139.78	89.70	
16200.00	10878.14	10889.84	345.09	19.06	18.91	4285.91	4239.18	91.71	
16230.95	10877.96	10889.65	345.10	19.06	18.91	4316.70	4269.95	92.33	

5D Anti-Collision Report

Secondary Well: Gaúcho Unit 12H (p) (TVD Relative to Kelly Bushing (Primary)) - All Azimuth Relative to GRID NORTH									
Ref 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	0.00	0.00	179.63	0.00	0.00	49.98	49.27	70.15	
100.00	100.00	100.00	179.63	0.12	0.12	49.98	49.04	52.98	
200.00	200.00	200.00	179.63	0.34	0.34	49.98	48.59	35.94	
300.00	300.00	300.00	179.63	0.57	0.57	49.98	48.14	27.17	
400.00	400.00	400.00	179.63	0.79	0.79	49.98	47.69	21.83	
500.00	500.00	500.00	179.63	1.02	1.02	49.98	47.24	18.25	
600.00	600.00	600.00	179.63	1.24	1.24	49.98	46.79	15.68	
700.00	700.00	700.00	179.63	1.46	1.46	49.98	46.34	13.74	
800.00	800.00	800.00	179.63	1.69	1.69	49.98	45.89	12.23	
900.00	900.00	900.00	179.63	1.91	1.91	49.98	45.44	11.02	
1000.00	1000.00	1000.00	179.63	2.14	2.14	49.98	45.00	10.02	
1100.00	1100.00	1100.00	179.63	2.36	2.36	49.98	44.55	9.20	
1200.00	1200.00	1200.00	179.63	2.59	2.59	49.98	44.10	8.49	
1300.00	1300.00	1300.00	179.63	2.81	2.81	49.98	43.65	7.89	
1400.00	1400.00	1400.00	179.63	3.04	3.04	49.98	43.20	7.37	
1500.00	1500.00	1500.00	179.63	3.26	3.26	49.98	42.75	6.91	
1600.00	1600.00	1600.00	179.63	3.49	3.49	49.98	42.30	6.51	
1700.00	1700.00	1700.00	179.63	3.71	3.71	49.98	41.85	6.15	
1800.00	1800.00	1800.00	179.63	3.94	3.94	49.98	41.40	5.82	
1900.00	1900.00	1900.00	179.63	4.16	4.16	49.98	40.95	5.53	
2000.00	2000.00	2000.00	179.63	4.39	4.39	49.98	40.50	5.27	
2100.00	2100.00	2100.00	179.63	4.61	4.61	49.98	40.05	5.03	
2200.00	2200.00	2200.00	179.63	4.84	4.84	49.98	39.60	4.82	
2300.00	2300.00	2300.00	179.63	5.06	5.06	49.98	39.15	4.62	
2400.00	2400.00	2400.00	179.63	5.29	5.29	49.98	38.70	4.43	
2500.00	2500.00	2500.00	179.63	5.51	5.51	49.98	38.25	4.26	
2600.00	2600.00	2600.00	179.63	5.73	5.73	49.98	37.80	4.10	
2700.00	2700.00	2700.00	179.63	5.96	5.96	49.98	37.35	3.96	
2800.00	2800.00	2800.00	179.63	6.18	6.18	49.98	36.90	3.82	
2900.00	2900.00	2900.00	179.63	6.41	6.41	49.98	36.45	3.70	
3000.00	3000.00	3000.00	179.63	6.63	6.63	49.98	36.01	3.58	
3100.00	3100.00	3100.00	179.63	6.86	6.86	49.98	35.56	3.46	
3200.00	3200.00	3200.00	179.63	7.08	7.08	49.98	35.11	3.36	
3300.00	3300.00	3300.00	179.63	7.31	7.31	49.98	34.66	3.26	
3400.00	3400.00	3400.00	179.63	7.53	7.53	49.98	34.21	3.17	
3500.00	3500.00	3500.00	179.63	7.76	7.76	49.98	33.76	3.08	
3600.00	3600.00	3600.00	179.63	7.98	7.98	49.98	33.31	3.00	
3700.00	3700.00	3700.00	179.63	8.21	8.21	49.98	32.86	2.92	
3800.00	3800.00	3800.00	179.63	8.43	8.43	49.98	32.41	2.84	
3900.00	3900.00	3900.00	179.63	8.66	8.66	49.98	31.96	2.77	
4000.00	4000.00	4000.00	179.63	8.88	8.88	49.98	31.51	2.71	
4100.00	4100.00	4100.00	179.63	9.11	9.11	49.98	31.06	2.64	
4200.00	4200.00	4200.00	179.63	9.33	9.33	49.98	30.61	2.58	
4300.00	4300.00	4300.00	179.63	9.56	9.56	49.98	30.16	2.52	
4400.00	4400.00	4400.00	179.63	9.78	9.78	49.98	29.71	2.47	
4500.00	4500.00	4500.00	179.63	10.01	10.01	49.98	29.26	2.41	
4600.00	4600.00	4600.00	179.63	10.23	10.23	49.98	28.81	2.36	
4700.00	4700.00	4700.00	179.63	10.45	10.45	49.98	28.36	2.31	
4800.00	4800.00	4800.00	179.63	10.68	10.68	49.98	27.91	2.26	
4900.00	4900.00	4900.00	179.63	10.90	10.90	49.98	27.46	2.22	
5000.00	5000.00	5000.00	179.63	11.13	11.13	49.98	27.02	2.18	
5100.00	5100.00	5100.00	179.63	11.35	11.35	49.98	26.57	2.13	
5200.00	5200.00	5200.00	179.63	11.58	11.58	49.98	26.12	2.09	
5300.00	5300.00	5300.00	179.63	11.80	11.80	49.98	25.67	2.06	
5400.00	5400.00	5400.00	179.63	12.03	12.03	49.98	25.22	2.02	
5500.00	5500.00	5500.00	179.63	12.25	12.25	49.98	24.77	1.98	SF (Lo)
5600.00	5600.00	5600.00	179.63	12.48	12.48	49.98	24.32	1.95	SF (Lo)
5700.00	5700.00	5700.00	179.63	12.70	12.70	49.98	23.87	1.91	SF (Lo)

5D Anti-Collision Report

Secondary Well: Gaucha Unit 12H (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
5800.00	5800.00	5800.00	179.63	12.93	12.93	49.98	23.42	1.88	SF (Lo)
5900.00	5900.00	5900.00	179.63	13.15	13.15	49.98	22.97	1.85	SF (Lo)
6000.00	6000.00	6000.00	179.63	13.38	13.38	49.98	22.52	1.82	SF (Lo)
6100.00	6100.00	6100.00	179.63	13.60	13.60	49.98	22.07	1.79	SF (Lo)
6200.00	6200.00	6200.00	179.63	13.83	13.83	49.98	21.62	1.76	SF (Lo)
6300.00	6300.00	6300.00	179.63	14.05	14.05	49.98	21.17	1.73	SF (Lo)
6400.00	6400.00	6400.00	179.63	14.28	14.28	49.98	20.72	1.71	SF (Lo)
6500.00	6500.00	6500.00	179.63	14.50	14.50	49.98	20.27	1.68	SF (Lo)
6600.00	6600.00	6600.00	179.63	14.73	14.73	49.98	19.82	1.66	SF (Lo)
6700.00	6700.00	6700.00	179.63	14.95	14.95	49.98	19.37	1.63	SF (Lo)
6800.00	6800.00	6800.00	179.63	15.17	15.17	49.98	18.92	1.61	SF (Lo)
6900.00	6900.00	6900.00	179.63	15.40	15.40	49.98	18.47	1.59	SF (Lo)
7000.00	7000.00	7000.00	179.63	15.62	15.62	49.98	18.02	1.56	SF (Lo)
7100.00	7100.00	7100.00	179.63	15.85	15.85	49.98	17.57	1.54	SF (Lo)
7200.00	7200.00	7200.00	179.63	16.07	16.07	49.98	17.13	1.52	SF (Lo)
7300.00	7300.00	7300.00	179.63	16.30	16.30	49.98	16.68	1.50	SF (Lo)
7400.00	7400.00	7400.00	179.63	16.52	16.52	49.98	16.23	1.48	SF (Med)
7500.00	7500.00	7500.00	179.63	16.75	16.75	49.98	15.78	1.46	SF (Med)
7600.00	7600.00	7600.00	179.63	16.97	16.97	49.98	15.33	1.44	SF (Med)
7700.00	7700.00	7700.00	179.63	17.20	17.20	49.98	14.88	1.42	SF (Med)
7800.00	7800.00	7800.00	179.63	17.42	17.42	49.98	14.43	1.41	SF (Med)
7900.00	7900.00	7900.00	179.63	17.65	17.65	49.98	13.98	1.39	SF (Med)
8000.00	8000.00	8000.00	179.63	17.87	17.87	49.98	13.53	1.37	SF (Med)
8100.00	8100.00	8100.00	179.63	18.10	18.10	49.98	13.08	1.35	SF (Med)
8200.00	8200.00	8200.00	179.63	18.32	18.32	49.98	12.63	1.34	SF (Med)
8300.00	8300.00	8300.00	179.63	18.55	18.55	49.98	12.18	1.32	SF (Med)
8400.00	8400.00	8400.00	179.63	18.77	18.77	49.98	11.73	1.31	SF (Med)
8500.00	8500.00	8500.00	179.63	19.00	19.00	49.98	11.28	1.29	SF (Med)
8600.00	8600.00	8600.00	179.63	19.22	19.22	49.98	10.83	1.28	SF (Med)
8700.00	8700.00	8700.00	179.63	19.45	19.45	49.98	10.38	1.26	SF (Med)
8800.00	8800.00	8800.00	179.63	19.67	19.67	49.98	9.93	1.25	SF (Med)
8900.00	8900.00	8900.00	179.63	19.90	19.90	49.98	9.48	1.23	SF (Med)
9000.00	9000.00	9000.00	179.63	20.12	20.12	49.98	9.03	1.22	SF (Med)
9100.00	9100.00	9100.00	179.63	20.35	20.35	49.98	8.58	1.21	SF (Med)
9200.00	9200.00	9200.00	179.63	20.57	20.57	49.98	8.13	1.19	SF (Med)
9300.00	9300.00	9300.00	179.63	20.79	20.79	49.98	7.68	1.18	SF (Med)
9400.00	9400.00	9400.00	179.63	21.02	21.02	49.98	7.23	1.17	SF (Med)
9500.00	9500.00	9500.00	179.63	21.24	21.24	49.98	6.78	1.16	SF (Med)
9600.00	9600.00	9600.00	179.63	21.47	21.47	49.98	6.34	1.15	SF (Med)
9700.00	9700.00	9700.00	179.63	21.69	21.69	49.98	5.89	1.13	SF (Med)
9800.00	9800.00	9800.00	179.63	21.92	21.92	49.98	5.44	1.12	SF (Med)
9900.00	9896.49	9896.52	179.85	22.12	22.07	51.45	6.63	1.15	SF (Med)
10000.00	9985.29	9986.39	181.45	22.27	21.97	66.07	21.35	1.48	SF (Med)
10100.00	10065.37	10070.25	183.18	22.41	21.52	95.50	51.61	2.18	
10200.00	10133.52	10145.57	184.37	22.52	21.07	137.91	94.85	3.20	
10300.00	10189.23	10211.40	185.12	22.63	20.45	191.16	149.22	4.56	
10400.00	10233.65	10268.00	185.59	22.76	19.91	253.15	212.09	6.17	
10500.00	10268.67	10316.31	185.91	22.87	19.35	322.04	281.95	8.03	
10600.00	10296.20	10357.46	186.12	22.99	18.94	396.38	356.90	10.04	
10700.00	10317.93	10392.59	186.28	23.11	18.52	474.99	436.16	12.23	
10800.00	10334.08	10420.74	189.45	23.20	18.22	559.37	520.88	14.53	
10900.00	10343.33	10437.82	194.87	23.26	18.07	652.84	614.42	16.99	
11000.00	10347.20	10445.22	222.01	23.29	17.99	751.27	712.78	19.52	
11100.00	10346.91	10444.66	334.17	23.29	18.00	850.97	812.26	21.98	
11200.00	10343.27	10437.71	350.28	23.26	18.07	948.97	909.94	24.32	
11300.00	10336.80	10425.67	354.44	23.22	18.18	1042.88	1003.49	26.48	
11400.00	10327.82	10409.59	356.28	23.17	18.31	1130.75	1090.95	28.41	
11500.00	10316.58	10390.32	357.31	23.10	18.55	1211.01	1170.65	30.01	

5D Anti-Collision Report

Secondary Well	Gaucho Unit 12H (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
11600.00	10303.24	10368.54	357.95	23.03	18.82	1282.36	1241.34	31.26	
11700.00	10288.59	10345.74	358.20	22.95	19.07	1347.70	1306.05	32.36	
11800.00	10274.24	10324.37	358.37	22.89	19.28	1415.60	1373.41	33.55	
11900.00	10260.31	10304.41	358.51	22.83	19.46	1486.15	1443.47	34.83	
12000.00	10246.87	10285.78	358.64	22.78	19.71	1559.06	1515.83	36.06	
12100.00	10233.94	10268.39	358.76	22.76	19.91	1634.10	1590.35	37.35	
12200.00	10221.55	10252.14	358.86	22.74	20.08	1711.06	1666.84	38.69	
12300.00	10209.70	10236.94	358.95	22.71	20.22	1789.76	1745.08	40.06	
12400.00	10198.40	10222.73	359.03	22.67	20.35	1870.01	1824.98	41.52	
12500.00	10187.61	10209.42	359.11	22.63	20.46	1951.68	1906.37	43.07	
12600.00	10177.34	10196.94	359.17	22.63	20.54	2034.63	1989.03	44.62	
12700.00	10167.57	10185.23	359.23	22.59	20.68	2118.74	2072.82	46.14	
12800.00	10158.26	10174.22	359.28	22.58	20.79	2203.91	2157.63	47.63	
12900.00	10149.41	10163.87	359.33	22.56	20.90	2290.03	2243.42	49.13	
13000.00	10140.98	10154.12	359.37	22.54	20.99	2377.03	2330.21	50.77	
13100.00	10132.96	10144.93	359.41	22.52	21.07	2464.83	2417.77	52.37	
13200.00	10125.33	10136.25	359.45	22.51	21.14	2553.36	2506.10	54.03	
13300.00	10118.05	10128.05	359.48	22.50	21.20	2642.57	2595.03	55.59	
13400.00	10111.12	10120.29	359.51	22.49	21.26	2732.39	2684.72	57.31	
13500.00	10104.51	10112.94	359.54	22.48	21.30	2822.79	2774.96	59.02	
13600.00	10098.21	10105.97	359.56	22.47	21.35	2913.70	2865.63	60.62	
13700.00	10092.19	10099.35	359.58	22.46	21.38	3005.10	2956.86	62.28	
13800.00	10086.44	10093.06	359.61	22.45	21.42	3096.95	3048.56	64.00	
13900.00	10080.94	10087.07	359.62	22.44	21.45	3189.22	3140.77	65.83	
14000.00	10075.68	10081.38	359.64	22.43	21.47	3281.87	3233.21	67.45	
14100.00	10070.65	10075.94	359.66	22.42	21.49	3374.88	3326.11	69.21	
14200.00	10065.84	10070.76	359.67	22.41	21.51	3468.22	3419.39	71.03	
14300.00	10061.22	10065.81	359.69	22.40	21.55	3561.87	3512.92	72.76	
14400.00	10056.79	10061.08	359.70	22.39	21.59	3655.82	3606.70	74.44	
14500.00	10052.55	10056.56	359.71	22.38	21.62	3750.03	3700.78	76.14	
14600.00	10048.47	10052.22	359.73	22.37	21.65	3844.50	3795.12	77.85	
14700.00	10044.55	10048.07	359.74	22.37	21.68	3939.21	3889.71	79.59	
14800.00	10040.78	10044.09	359.75	22.36	21.71	4034.14	3984.53	81.33	
14900.00	10037.16	10040.27	359.76	22.35	21.73	4129.28	4079.57	83.07	
15000.00	10033.67	10036.60	359.76	22.35	21.76	4224.62	4174.81	84.82	
15100.00	10030.31	10033.07	359.77	22.34	21.78	4320.14	4270.24	86.56	
15200.00	10027.07	10029.68	359.78	22.34	21.80	4415.84	4365.84	88.31	
15300.00	10023.95	10026.41	359.79	22.33	21.81	4511.71	4461.61	90.06	
15400.00	10020.94	10023.26	359.79	22.33	21.83	4607.73	4557.54	91.81	
15500.00	10018.03	10020.23	359.80	22.33	21.85	4703.90	4653.62	93.56	
15600.00	10015.23	10017.31	359.81	22.32	21.86	4800.21	4749.84	95.32	
15700.00	10012.52	10014.49	359.81	22.32	21.87	4896.65	4846.20	97.07	
15800.00	10009.89	10011.77	359.82	22.31	21.88	4993.21	4942.68	98.82	
15900.00	10007.36	10009.14	359.82	22.31	21.90	5089.90	5039.29	100.57	
16000.00	10004.90	10006.60	359.83	22.30	21.91	5186.70	5136.01	102.32	
16100.00	10002.53	10004.14	359.83	22.30	21.92	5283.60	5232.83	104.07	
16200.00	10000.23	10001.76	359.84	22.30	21.92	5380.61	5329.76	105.82	
16230.95	9999.53	10001.04	359.84	22.30	21.93	5410.65	5359.78	106.36	

**Weatherford****Weatherford Drilling Services**

GeoDec4 v2.0.0.3

Report Date: June 03, 2014
Job Number: _____
Customer: Devon Energy
Well Name: Gaucho Unit 13H
API Number: _____
Rig Name: _____
Location: Lea Co, NM Nad83 NME
Block: _____
Engineer: RWJ

NAD83 / New Mexico East (ftUS)	NAD83 (1986)
Projected Coordinate System	Geodetic Coordinate System
Datum: North American Datum 1983 (1986)	Datum: North American Datum 1983 (1986)
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
EPSG: 2257	EPSG: 4269
North: 504404.74 US Survey Foot	Latitude: 32.383826 Degree
East: 803087.68 US Survey Foot	Longitude: -103.485407 Degree
Convergence: 0.45°	
Declination: 7.32°	
Total Correction: 6.87°	
Datum Transformation: none	

Geodetic Location WGS84

MSL Elevation = 0 m
Latitude = 32° 23' 01.77" N
Longitude = 103° 29' 07.47" W

Magnetic Declination = 7.32 deg	[True North Offset]
Local Gravity = .9988 g	Checksum = 6680
Local Field Strength = 48385 nT	Magnetic Vector X = 23804 nT
Magnetic Dip = 60.26 deg	Magnetic Vector Y = 3058 nT
Magnetic Model = bggm2014.dat	Magnetic Vector Z = 42013 nT
Run Date = September 15, 2014	Magnetic Vector H = 24000 nT

Signed: _____ Date: _____

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