

District I

1625 N French Dr. Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720

District II

811 S First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720

District III

1000 Rio Brazos Rd. Aztec NM 87410
Phone (505) 334-6178 Fax (505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3470 Fax (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 143510

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1 Operator Name and Address OXY USA INC PO Box 4294 Houston, TX 77210		2 OGRID Number 16696
		3 API Number 30-015-39857
4 Property Code 39046	5 Property Name CEDAR CANYON 15	6 Well No 001H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
M	15	24S	29E	M	660	S	660	W	EDDY

8. Pool Information

CEDAR CANYON:DELAWARE	11540
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Additional Well Information

9 Work Type New Well	10 Well Type OIL	11 Cable/Rotary	12 Lease Type Private	13 Ground Level Elevation 2927
14 Multiple N	15 Proposed Depth 10444	16 Formation Delaware	17 Contractor	18 Spud Date 3/1/2012
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

19. Proposed Casing and Cement Program

Type	Hole Size	Casing Type	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48	583	725	0
Intl	12.25	9.625	40	3013	1110	0
Prod	8.75	5.5	17	10444	1565	2500

Casing/Cement Program: Additional Comments

Additional Information will be sent with the C-144 CLEZ

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
DoubleRam	5000	5000	

I hereby certify that the information given above is true and complete to the best of my knowledge and belief I further certify that the drilling pit will be constructed according to NMOCD guidelines, a general permit, or an (attached) alternative OCD-approved plan. submitted: Printed Name: DAVID STEWART Title: Email Address: Date:	OIL CONSERVATION DIVISION	
	Approved By: T.C. Shaloud	
	Title: Geologist	
	Approved Date: 3/29/2012	Expiration Date: 3/29/2014
	Conditions of Approval Attached	

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1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Numl 30-015-	Pool Code 11540	Pool Name Cedar Canyon Delaware
Property Code 39046	Property Name CEDAR CANYON 15	Well Number 1H
OGRID No. 16696	Operator Name OXY U.S.A. INC.	Elevation 2927'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	15	24-S	29-E		660	SOUTH	660	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	15	24-S	29-E		380	NORTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160	Y		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>David Stewart</i> 1/25/11 Signature Date David Stewart Reg. Adv. Printed Name david.stewart@oxy.com E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. AUGUST 17, 2011 Date of Survey Signature & Seal of Professional Surveyor: GARY G. EIDSON Certificate Number 12641 State of New Mexico 3239 LVDSS WSC W.O.: 11.13.2162
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28637
33822

Permit Conditions of Approval

Operator: OXY USA INC , 16696

Well: CEDAR CANYON 15 #001H

API: 30-015-39851

OCD Reviewer	Condition
CSHAPARD	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

Permit Comments

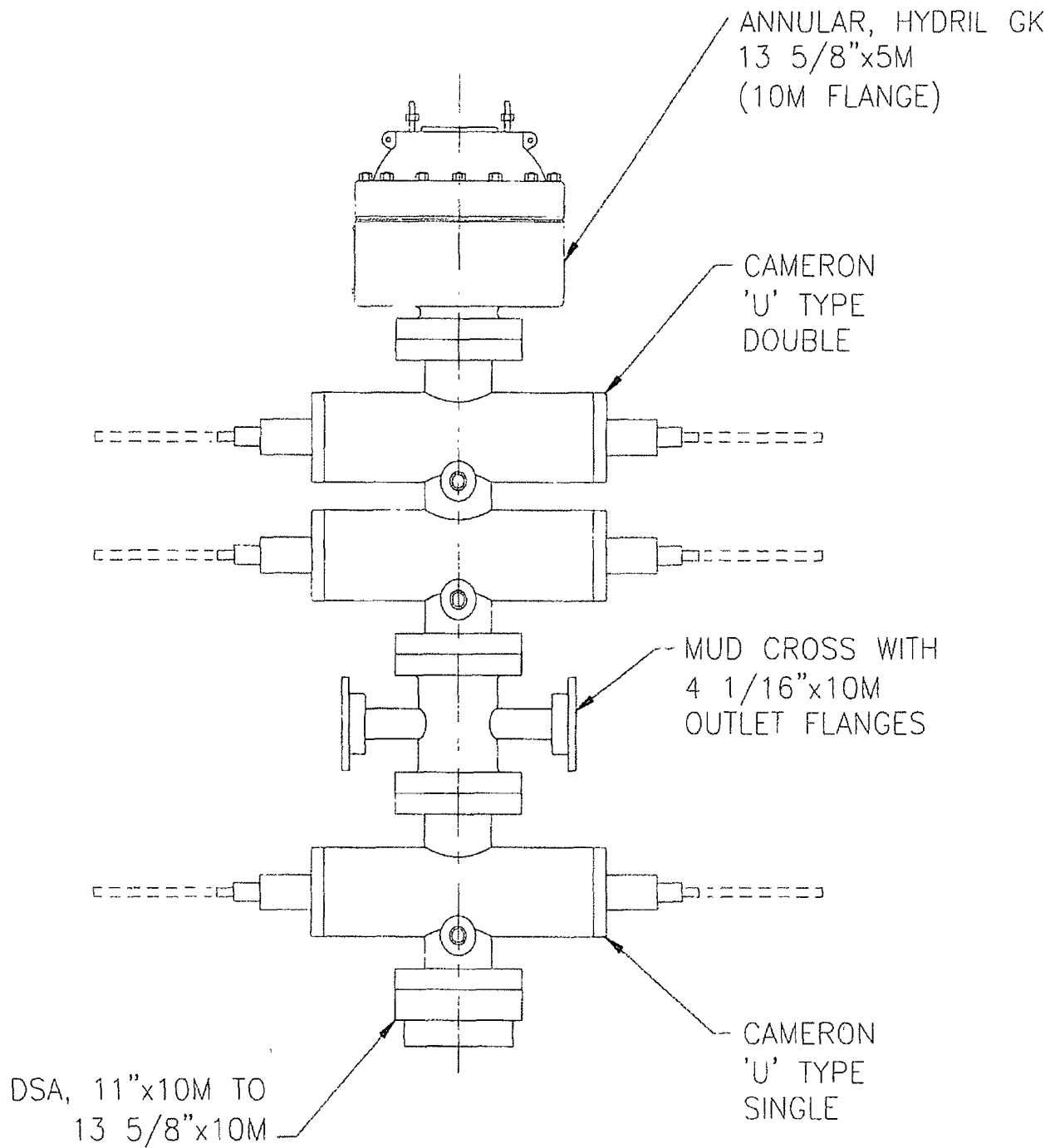
Operator: OXY USA INC , 16696

Well: CEDAR CANYON 15 #001H

API:

Created By	Comment	Comment Date
CSHAPARD	Land p/P	1/27/2012
RDADE	On-line APD will be printed and worked hard copy due to Spacing overlap. Online copy will be rejected	3/29/2012

BOP Diagram



BOP STACK

30-015-39857

Operator Name/Number: OXY USA Inc. 16696
 Lease Name/Number: Cedar Canyon 15 #1H
 Pool Name/Number: Cedar Canyon Delaware 11540
 Surface Location: 660 FSL 660 FWL M Sec 15 T24S R29E
 Bottom Hole Location: 380 FNL 660 FWL D Sec 15 T24S R29E

C-102 Plats: 8/17/11 10/26/11 1/24/11 Elevation: 2927' GL

Proposed TD: 6411' TVD 10444' TMD
 SL - Lat: 32.211971 Long: 103.978253 X=441015.8 Y=609819.5 NAD - 1927
 BH - Lat: Long: X=445286.8 Y=609790.7 NAD - 1927

Casing Program:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Condition	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17-1/2"	583'	13-3/8"	48	ST&C	H-40	New	1.98	4.62	2.38
				Hole filled with 8.4# Mud			770#	1730#	
12-1/4"	3013'	9-5/8"	40	LT&C	J-55	New	1.16	1.21	2.12
				Hole filled with 10.0# Mud			2570#	3950#	
8-3/4"	10444'	5-1/2"	17	LT&C	N-80	New	1.6	2.69	1.89
				Hole filled with 9.2# Mud			6280#	7740#	

Collapse and burst loads calculated using Stress Check with anticipated loads

Cement Program:

- a. 13-3/8" Surface Circulate cement to surface w/ 725sx PP cmt w/ 2% CaCl₂, 14.8ppg 1.35 yield 2500# 24hr CS 150% Excess
- b. 9-5/8" Intermediate Circulate cement to surface w/ 910sx HES light PP cmt w/ 5% Salt + 3#/sx Kol-Seal + .5% Halad-344 + 1% CaCl₂ + .125#/sx Poly-E-Flake, 12.9ppg 1.88 yield 840# 24hr CS 125% Excess followed by 200sx PP cmt w/ .5% WellLife-734, 14.8ppg 1.33 yield 1343# 24hr CS 150% Excess
- c. 5-1/2" Production Cement w/ 845sx IFH cmt w/ 3#/sx Kol-Seal + .5% Halad R-322 + .3% HR-601, 11.9ppg 2.47 yield 416# 24hr CS 70% Excess followed by 720sx Super H cmt w/ 0.5 Halad 344 + 0.4% CFR 3 + 3#/sx Kol Seal + .3% HR-601 + 1#/sx Salt, 13.2ppg 1.63 yield 1817# 24hr CS 50% Excess

Proposed Mud Circulation System:

Depth	Mud Wt. ppg	Visc sec	Fluid Loss	Type System
0 - 583'	8.4-8.9	32-34	NC	Fresh Water/Spud Mud
583 - 3013'	9.8-10.0	28-29	NC	Brine Water
3013 - TD	9.0-9.2	50-50	15-Aug	LSND

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

BOP Program:

Surface None
 Intermediate/Production 13-5/8" 10M two ram stack w/ 5M annular preventer, 10M Choke Manifold

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

Geological Marker	Depth	Type	Source
a. Rustler	591'	Formation	Drilling
b. Bottom Salt	2851'	Formation	Drilling
c. Delaware-Bell Canyon	3016'	Oil/Gas	Drilling
d. Delaware-Cherry Canyon	3571'	Oil/Gas	Drilling
e. Delaware-Brushy Canyon	5106'	Oil/Gas	Drilling



Occidental Permian Ltd.

Cedar Canyon 15 #1H
Eddy Co, New Mexico

KB ELEV: 2948
GL ELEV: 2924

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	356.47	0.00	0.00	0.00	0.00	0.00	0.00	
2	5838.04	0.00	356.47	5838.04	0.00	0.00	0.00	0.00	0.00	
3	6738.04	90.00	356.47	6411.00	571.87	-35.25	10.00	356.47	572.96	
4	10444.34	90.00	356.47	6411.00	4271.15	-263.26	0.00	0.00	4279.25	PBHL

WELL DETAILS

Name+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot	
1H	0.00	0.00	441015.80	609819.50	32°12'43.095N	103°58'41.709W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	6411.00	4271.15	-263.26	445286.95	609556.24	Point

SITE DETAILS

Cedar Canyon 15 #1H
Site Centre Northing: 441015.80
Easting: 609819.50
Ground Level: 2924.00
Positional Uncertainty: 0.00
Convergence: 0.19

FIELD DETAILS

Eddy Co, NM (Nad 27)
Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

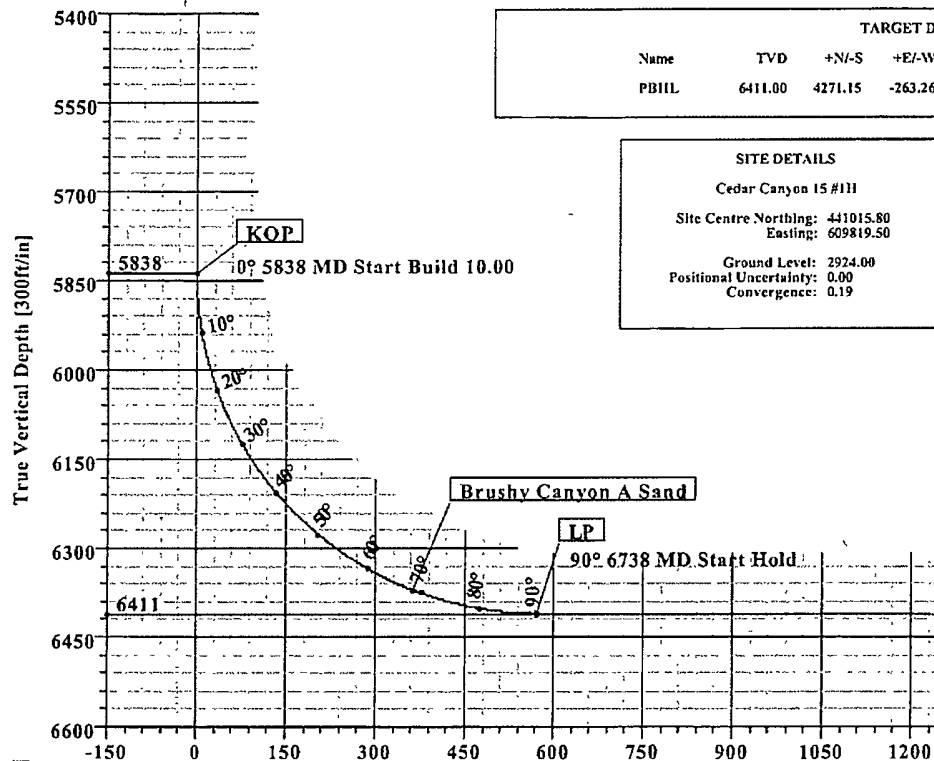


Azimuths to Grid North
True North: -0.19°
Magnetic North: 7.49°
Magnetic Field
Strength: 48510nT
Dip Angle: 60.09°
Date: 3/1/2012
Model: IGRF2010

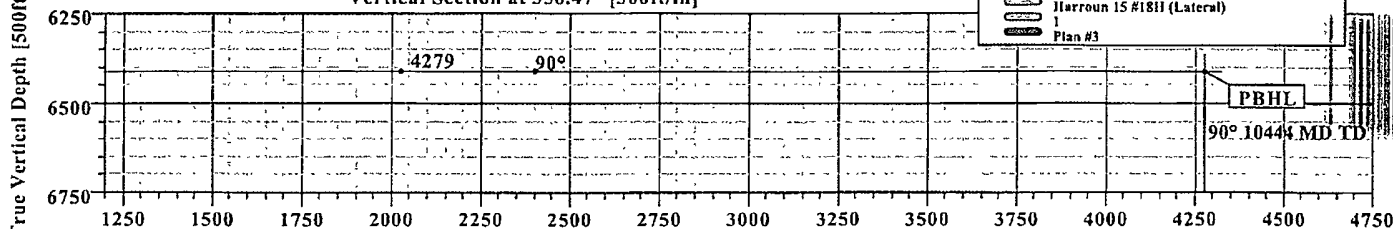
Total Correction to Grid North: 7.49°

LEGEND

- Exist POGO Harroun 15-12 (1)
- Exist. II Buck Sate 10 (1)
- Exist. II Buck Sate 411 (1)
- Exist. II Buck Sate 5 (1)
- Exist. II Buck Sate 3H (1)
- Harroun 15 #16A (1)
- Harroun 15 #2 (1)
- Harroun 15 #15 (1)
- Pogo Harroun 15-14 (1)
- 15 #15 (1)
- 15 #16 (1)
- 15 #17 (1)
- Harroun 15 #18II (Lateral)
- Plan #3

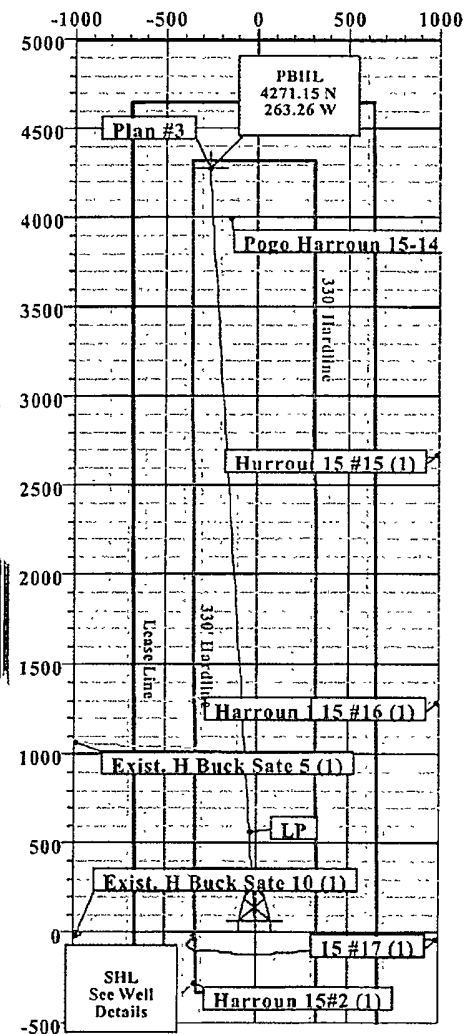


Vertical Section at 356.47° [300ft/in]



Vertical Section at 356.47° [500ft/in]

West(-)/East(+) [1000ft/in]

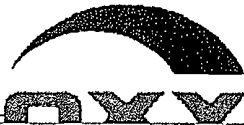


Weatherford

Plan: Plan #3 (1H/1)

Created By: Patrick Rudolph

Date: 12/28/2011



Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: Occidental Permian Ltd. Field: Eddy Co, NM (Nad 27) Site: Cedar Canyon 15 #1H Well: 1H Wellpath: 1		Date: 12/28/2011 Co-ordinate(NE) Reference: Well: 1H, Grid North Vertical (TVD) Reference: SITE 2948.0 Section (VS) Reference: Well (0.00N,0.00E,356.47Azi) Survey Calculation Method: Minimum Curvature		Time: 12:42:51 Page: 1						
Plan: Plan #3 Principal: Yes		Date Composed: 12/28/2011 Version: 1 Tied-to: From Surface								
Field: Eddy Co, NM (Nad 27)										
Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level		Map Zone: New Mexico, Eastern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010								
Site: Cedar Canyon 15 #1H										
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 2924.00 ft		Northing: 441015.80 ft Easting: 609819.50 ft Latitude: 32 12 43.095 N Longitude: 103 58 41.709 W North Reference: Grid Grid Convergence: 0.19 deg								
Well: 1H		Slot Name:								
Well Position: +N/-S 0.00 ft Position Uncertainty: +E/-W 0.00 ft Ground Level: 0.00 ft		Northing: 441015.80 ft Easting: 609819.50 ft Latitude: 32 12 43.095 N Longitude: 103 58 41.709 W								
Wellpath: 1		Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 7.68 deg Mag Dip Angle: 60.09 deg +E/-W: Direction deg								
Current Datum: SITE Magnetic Data: 4/1/2012 Field Strength: 48510 nT Vertical Section: Depth From (TVD) ft		Height: 2948.00 ft +N/-S: ft +E/-W: ft Direction: deg								
0.00		0.00								
0.00		356.47								
Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	356.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5838.04	0.00	356.47	5838.04	0.00	0.00	0.00	0.00	0.00	0.00	
6738.04	90.00	356.47	6411.00	571.87	-35.25	10.00	10.00	0.00	356.47	
10444.34	90.00	356.47	6411.00	4271.15	-263.26	0.00	0.00	0.00	0.00	PBHL
Survey										
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
5800.00	0.00	356.47	5800.00	0.00	0.00	0.00	0.00	441015.80	609819.50	
5838.04	0.00	356.47	5838.04	0.00	0.00	0.00	0.00	441015.80	609819.50	KOP
5850.00	1.20	356.47	5850.00	0.12	-0.01	0.12	10.00	441015.92	609819.49	
5900.00	6.20	356.47	5899.88	3.34	-0.21	3.35	10.00	441019.14	609819.29	
5950.00	11.20	356.47	5949.29	10.88	-0.67	10.90	10.00	441026.68	609818.83	
6000.00	16.20	356.47	5997.85	22.70	-1.40	22.74	10.00	441038.50	609818.10	
6050.00	21.20	356.47	6045.20	38.69	-2.38	38.76	10.00	441054.49	609817.12	
6100.00	26.20	356.47	6090.97	58.74	-3.62	58.85	10.00	441074.54	609815.88	
6150.00	31.20	356.47	6134.81	82.69	-5.10	82.85	10.00	441098.49	609814.40	
6200.00	36.20	356.47	6176.40	110.37	-6.80	110.58	10.00	441126.17	609812.70	
6250.00	41.20	356.47	6215.41	141.56	-8.73	141.83	10.00	441157.36	609810.77	
6300.00	46.20	356.47	6251.55	176.02	-10.85	176.36	10.00	441191.82	609808.65	
6350.00	51.20	356.47	6284.54	213.50	-13.16	213.91	10.00	441229.30	609806.34	
6400.00	56.20	356.47	6314.14	253.71	-15.64	254.19	10.00	441269.51	609803.86	
6450.00	61.20	356.47	6340.11	296.33	-18.27	296.90	10.00	441312.13	609801.23	
6500.00	66.20	356.47	6362.26	341.06	-21.02	341.70	10.00	441356.86	609798.48	
6522.68	68.46	356.47	6371.00	361.95	-22.31	362.63	10.00	441377.75	609797.19	Brushy Canyon A Sa



Weatherford International Ltd.

WFT Plan Report - X & Y's



Weatherford

Company: Occidental Permian Ltd.
Field: Eddy Co, NM (Nad 27)
Site: Cedar Canyon 15 #1H
Well: 1H
Wellpath: 1

Date: 12/28/2011 Time: 12:42:51 Page: 2
Co-ordinate(NE) Reference: Well: 1H, Grid North
Vertical (TVD) Reference: SITE 2948.0
Section (VS) Reference: Well (0.00N,0.00E,356.47Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
6550.00	71.20	356.47	6380.42	387.54	-23.89	388.27	10.00	441403.34	609795.61	
6600.00	76.20	356.47	6394.45	435.42	-26.84	436.25	10.00	441451.22	609792.66	
6650.00	81.20	356.47	6404.25	484.34	-29.85	485.26	10.00	441500.14	609789.65	
6700.00	86.20	356.47	6409.74	533.93	-32.91	534.94	10.00	441549.73	609786.59	
6738.04	90.00	356.47	6411.00	571.87	-35.25	572.96	10.00	441587.67	609784.25	LP
6800.00	90.00	356.47	6411.00	633.71	-39.06	634.92	0.00	441649.51	609780.44	
6900.00	90.00	356.47	6411.00	733.52	-45.21	734.92	0.00	441749.32	609774.29	
7000.00	90.00	356.47	6411.00	833.33	-51.36	834.92	0.00	441849.13	609768.14	
7100.00	90.00	356.47	6411.00	933.14	-57.52	934.92	0.00	441948.94	609761.98	
7200.00	90.00	356.47	6411.00	1032.96	-63.67	1034.92	0.00	442048.76	609755.83	
7300.00	90.00	356.47	6411.00	1132.77	-69.82	1134.92	0.00	442148.57	609749.68	
7400.00	90.00	356.47	6411.00	1232.58	-75.97	1234.92	0.00	442248.38	609743.53	
7500.00	90.00	356.47	6411.00	1332.39	-82.12	1334.92	0.00	442348.19	609737.38	
7600.00	90.00	356.47	6411.00	1432.20	-88.28	1434.92	0.00	442448.00	609731.22	
7700.00	90.00	356.47	6411.00	1532.01	-94.43	1534.92	0.00	442547.81	609725.07	
7800.00	90.00	356.47	6411.00	1631.82	-100.58	1634.92	0.00	442647.62	609718.92	
7900.00	90.00	356.47	6411.00	1731.63	-106.73	1734.92	0.00	442747.43	609712.77	
8000.00	90.00	356.47	6411.00	1831.44	-112.88	1834.92	0.00	442847.24	609706.62	
8100.00	90.00	356.47	6411.00	1931.25	-119.04	1934.92	0.00	442947.05	609700.46	
8200.00	90.00	356.47	6411.00	2031.06	-125.19	2034.92	0.00	443046.86	609694.31	
8300.00	90.00	356.47	6411.00	2130.87	-131.34	2134.92	0.00	443146.67	609688.16	
8400.00	90.00	356.47	6411.00	2230.68	-137.49	2234.92	0.00	443246.48	609682.01	
8500.00	90.00	356.47	6411.00	2330.49	-143.64	2334.92	0.00	443346.29	609675.86	
8600.00	90.00	356.47	6411.00	2430.30	-149.80	2434.92	0.00	443446.10	609669.70	
8700.00	90.00	356.47	6411.00	2530.11	-155.95	2534.92	0.00	443545.91	609663.55	
8800.00	90.00	356.47	6411.00	2629.92	-162.10	2634.92	0.00	443645.72	609657.40	
8900.00	90.00	356.47	6411.00	2729.74	-168.25	2734.92	0.00	443745.54	609651.25	
9000.00	90.00	356.47	6411.00	2829.55	-174.41	2834.92	0.00	443845.35	609645.09	
9100.00	90.00	356.47	6411.00	2929.36	-180.56	2934.92	0.00	443945.16	609638.94	
9200.00	90.00	356.47	6411.00	3029.17	-186.71	3034.92	0.00	444044.97	609632.79	
9300.00	90.00	356.47	6411.00	3128.98	-192.86	3134.92	0.00	444144.78	609626.64	
9400.00	90.00	356.47	6411.00	3228.79	-199.01	3234.92	0.00	444244.59	609620.49	
9500.00	90.00	356.47	6411.00	3328.60	-205.17	3334.92	0.00	444344.40	609614.33	
9600.00	90.00	356.47	6411.00	3428.41	-211.32	3434.92	0.00	444444.21	609608.18	
9700.00	90.00	356.47	6411.00	3528.22	-217.47	3534.92	0.00	444544.02	609602.03	
9800.00	90.00	356.47	6411.00	3628.03	-223.62	3634.92	0.00	444643.83	609595.88	
9900.00	90.00	356.47	6411.00	3727.84	-229.77	3734.92	0.00	444743.64	609589.73	
10000.00	90.00	356.47	6411.00	3827.65	-235.93	3834.92	0.00	444843.45	609583.57	
10100.00	90.00	356.47	6411.00	3927.46	-242.08	3934.92	0.00	444943.26	609577.42	
10200.00	90.00	356.47	6411.00	4027.27	-248.23	4034.92	0.00	445043.07	609571.27	
10300.00	90.00	356.47	6411.00	4127.08	-254.38	4134.92	0.00	445142.88	609565.12	
10400.00	90.00	356.47	6411.00	4226.89	-260.53	4234.92	0.00	445242.69	609558.97	
10444.34	90.00	356.47	6411.00	4271.15	-263.26	4279.25	0.00	445286.95	609556.24	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec	← Longitude → Deg Min Sec
PBHL			6411.00	4271.15	-263.26	445286.95	609556.24	32 13 25.372 N	103 58 44.609 W



Weatherford International Ltd.
WFT Plan Report - X & Y's



Weatherford

Company: Occidental Permian Ltd.
Field: Eddy Co, NM (Nad 27)
Site: Cedar Canyon 15 #1H
Well: 1H
Wellpath: 1

Date: 12/28/2011 Time: 12:42:51 Page: 3
Co-ordinate(NE) Reference: Well: 1H, Grid North
Vertical (TVD) Reference: SITE 2948.0
Section (VS) Reference: Well (0.00N,0.00E,356.47Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
500.00	500.00	0.000	0.000	Csg 1
3000.00	3000.00	0.000	0.000	Csg 2

Annotation

MD ft	TVD ft	
5838.04	5838.04	KOP
6738.04	6411.00	LP
10444.33	6411.00	PBHL

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6522.68	6371.00	Brushy Canyon A Sand		0.00	0.00