

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 15, 2009

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-38421	² Pool Code 55510	³ Pool Name Scorpion Draw PARKWAY; BONE SPRING
⁴ Property Code 38430	⁵ Property Name EMERALD PWU "20"	
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	
		⁶ Well Number 2H
		⁹ Elevation 3337.8

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	20	19 S	29 E		1800	NORTH	330	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

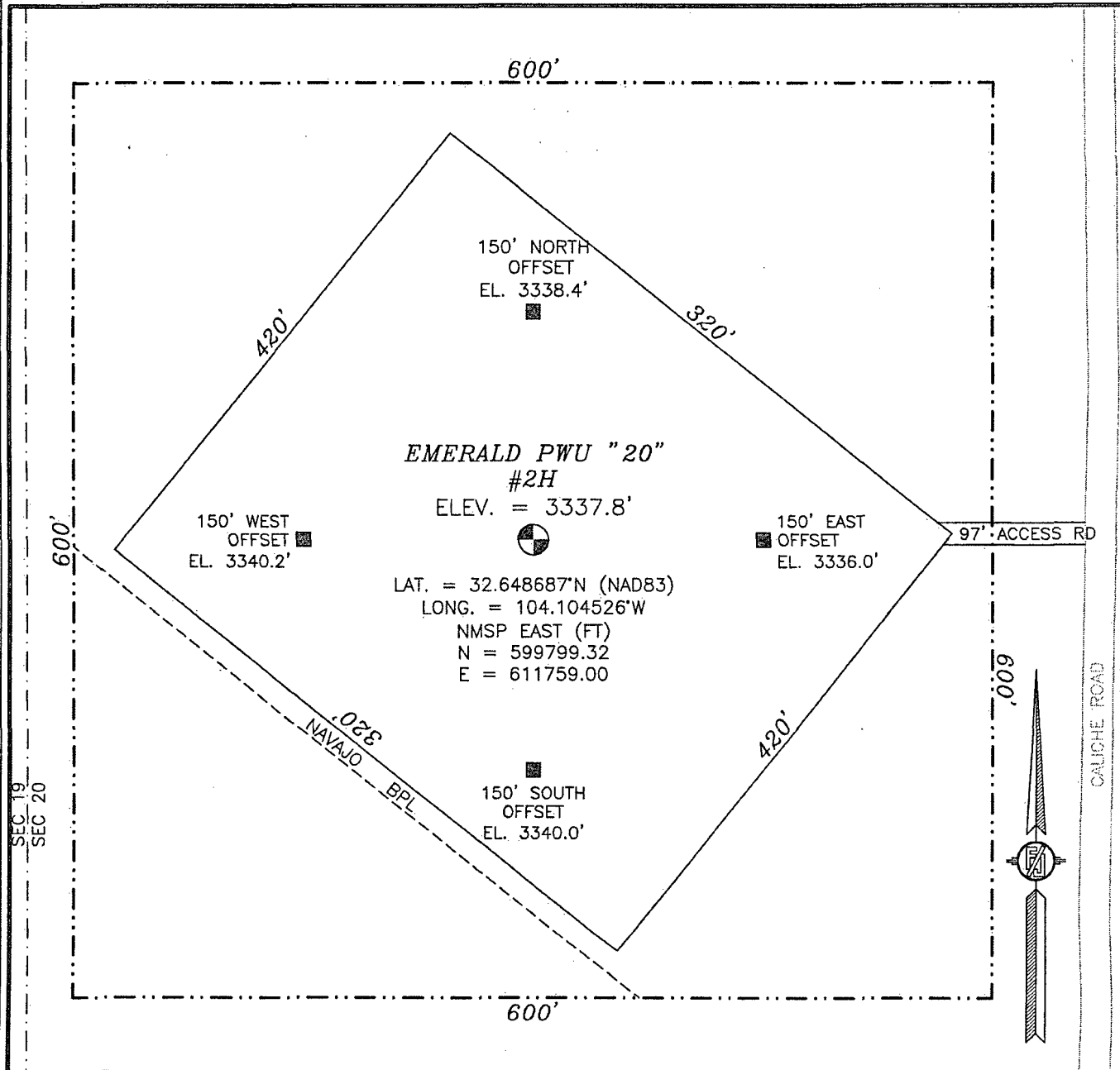
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	20	19 S	29 E		1800	NORTH	330	EAST	EDDY

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

NW CORNER SEC. 20 LAT. = 32.653638°N (NAD 83) LONG. = 104.105599°W NMSP EAST (FT) N = 601600.27 E = 611424.89 1800' SURFACE LOCATION 330' EMERALD PWU "20" #2H ELEV. = 3337.8' LAT. = 32.648687°N (NAD83) LONG. = 104.104526°W NMSP EAST (FT) N = 599799.32 E = 611759.00		NE CORNER SEC. 20 LAT. = 32.653592°N (NAD 83) LONG. = 104.088366°W NMSP EAST (FT) N = 601587.40 E = 616730.14 1800' BOTTOM OF HOLE 330' BOTTOM OF HOLE LAT. = 32.648654°N (NAD83) LONG. = 104.089475°W NMSP EAST (FT) N = 599795.02 E = 616397.84		17 OPERATOR CERTIFICATION I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>[Signature]</i> Date: <i>1/11/2011</i> Printed Name: STEPHANIE A. YSASAGA
PENETRATION POINT: 1800' FNL & 575' FWL ☐ PRODUCING AREA SW CORNER SEC. 20 LAT. = 32.639129°N (NAD 83) LONG. = 104.105600°W NMSP EAST (FT) N = 596320.20 E = 611436.01		☐ PROJECT AREA SE CORNER SEC. 20 LAT. = 32.639070°N (NAD 83) LONG. = 104.088393°W NMSP (FT) N = 596310.66 E = 616734.00		18 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. DECEMBER 15, 2010 Date of Survey Signature and Seal of Professional Surveyor: <i>[Signature]</i> Certificate Number: ED LARU FILMON F. PARAMILLO, PLS 12797 SURVEY NO. 346

SECTION 20, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM CR 235 (CURRY COMB) & CR 210 (OLD LOCO), GO WEST ON
235 1.3 MILES, TURN LEFT AND GO SOUTH ON LEASE ROAD 0.6
MILES AND LOCATION IS ON THE RIGHT (WEST) 370'.

DEVON ENERGY PRODUCTION COMPANY, L.P.
EMERALD PWU "20" #2H

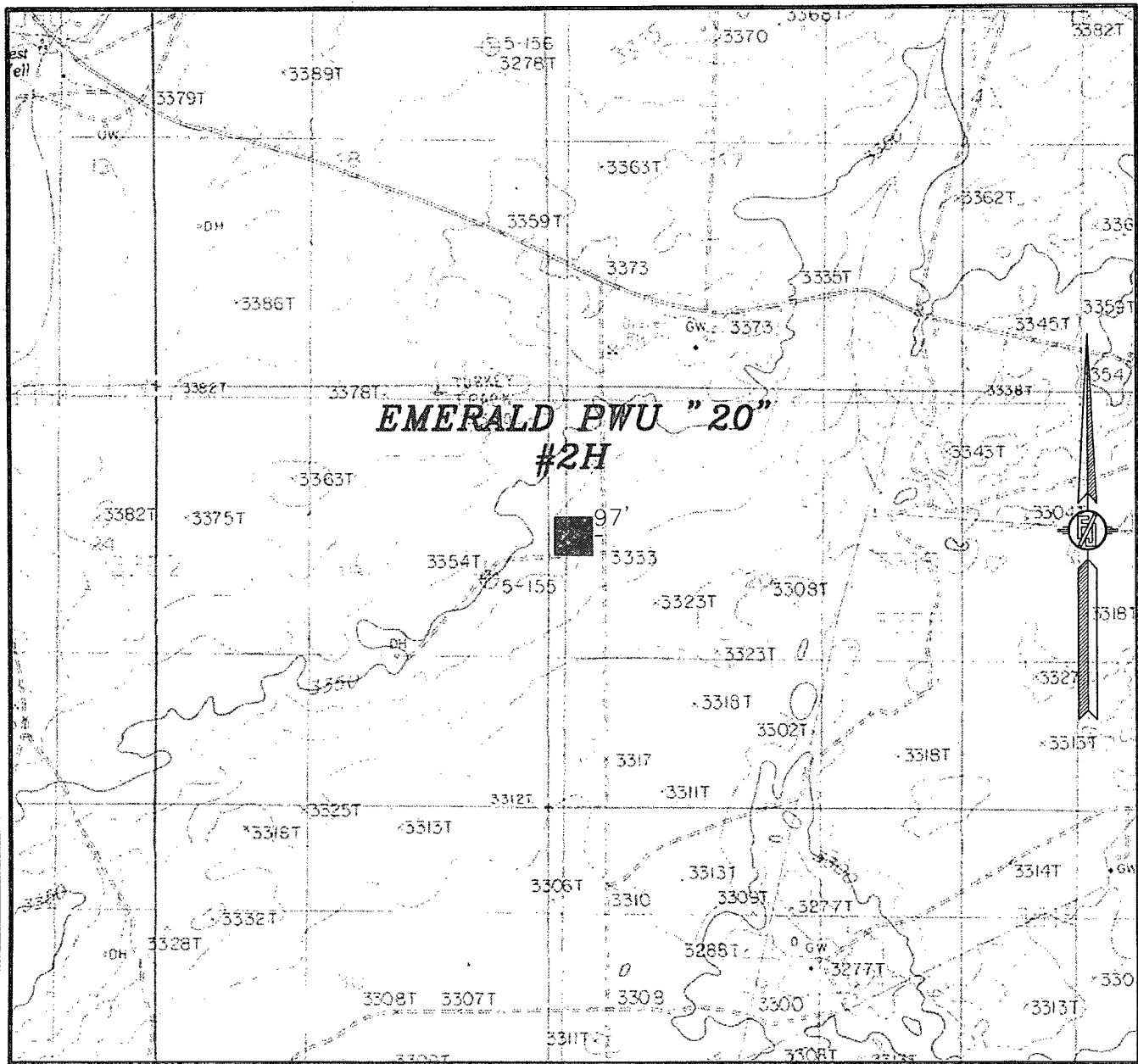
**LOCATED 1800 FT. FROM THE NORTH LINE
AND 330 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 19 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**

DECEMBER 15, 2010

SURVEY NO. 346

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 687-5830 CARLSBAD, NEW MEXICO

LOCATION VERIFICATION MAP



CONTOUR INTERVAL
ILLINOIS CAMP NE

NOT TO SCALE

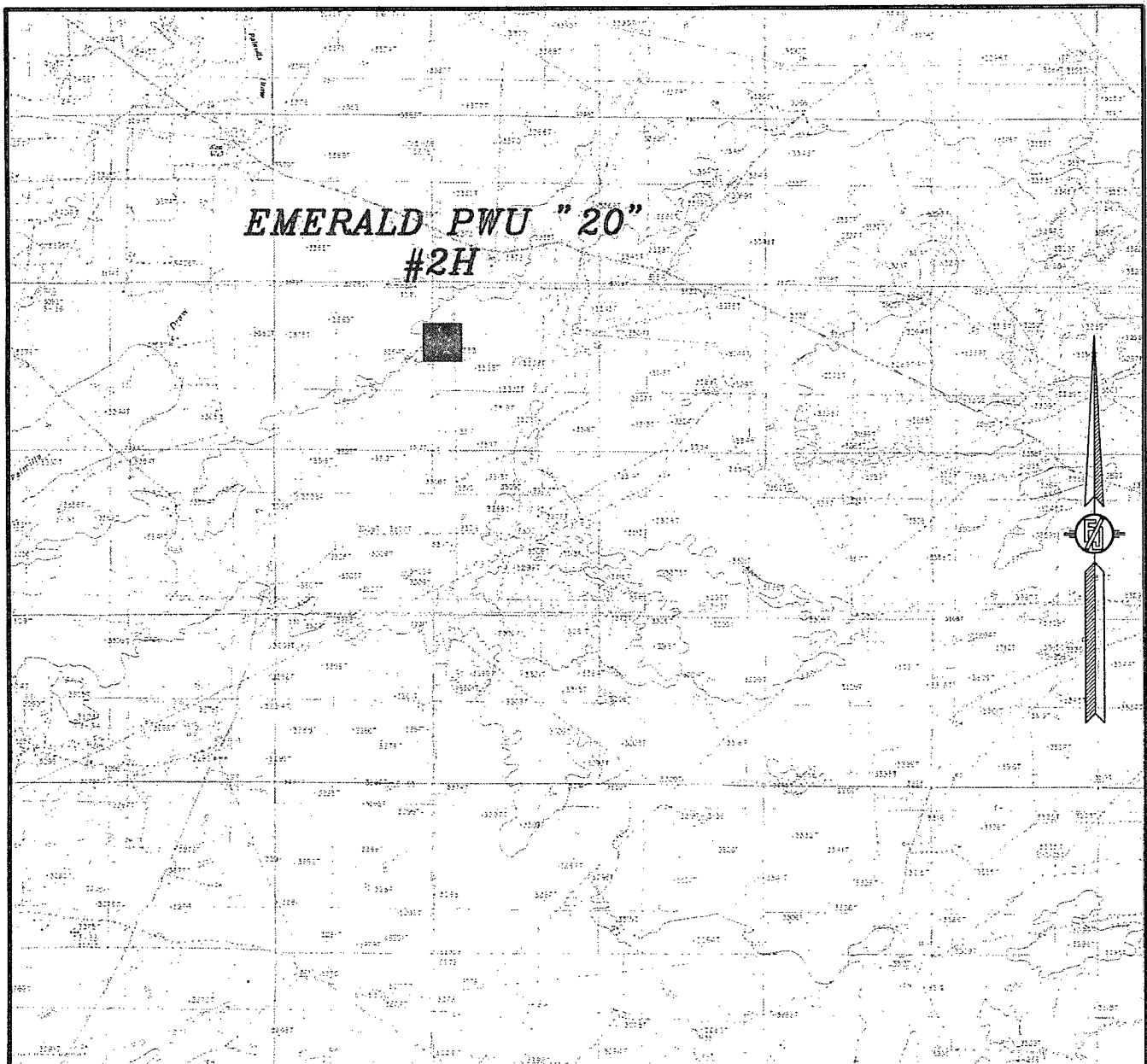
DEVON ENERGY PRODUCTION COMPANY, L.P.
EMERALD PWU "20" #2H
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 SECTION 20, TOWNSHIP 19 SOUTH,
 RANGE 29 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 15, 2010

SURVEY NO. 346

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 887-5830

SECTION 20, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.
EMERALD PWU "20" #2H
LOCATED 1800 FT. FROM THE NORTH LINE
AND 330 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 19 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOT TO SCALE

DECEMBER 15, 2010

SURVEY NO. 346

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 887-5830 CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 19 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
USDA - AUG, 2009

DEVON ENERGY PRODUCTION COMPANY, L.P.
EMERALD PWU "20" #2H
LOCATED 1800 FT. FROM THE NORTH LINE
AND 330 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 19 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

DECEMBER 15, 2010

SURVEY NO. 346

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 887-5830

SECTION LAND PLAT

County Eddy State New Mexico

Section 20 Township 19 S Range 29 E

Emerald PWU 20 2 H

SHL: 1800' FNL, 330' FWL / BHL: 1800' FNL, 330' FEL

SHL State NM K0 3702	State NM K0 3153	BHL State NM K0 4251	



Weatherford[®]

Drilling Services

Proposal



devon

EMERALD PWU 20 #2H

EDDY COUNTY, NM

WELL FILE: **PLAN 1**

JANUARY 12, 2011

Weatherford International, Ltd.

P.O. Box 61028

Midland, TX 79711 USA

+1.432.561.8892 Main

+1.432.561.8895 Fax

www.weatherford.com



Emerald PWU 20 #2H
Eddy Co, NM

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	90.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	7332.62	0.00	90.05	7332.62	0.00	0.00	0.00	0.00	0.00	0.00
3	8073.57	88.91	90.05	7810.00	-0.43	468.42	12.00	90.05	468.42	Tgt
4	10446.03	88.91	90.05	7855.00	-2.63	2842.45	3.00	0.00	2842.45	Tgt
5	12244.49	90.50	90.05	7855.27	-2.68	2838.37	3.00	0.00	2838.37	Pbhl
6	12244.49	90.50	90.05	7840.00	-4.30	4638.84	0.00	0.00	4638.84	Pbhl

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
PWU 20 #2H	0.00	0.00	599799.32	611759.00	32°38'55.263N	104°06'16.334W	N/A

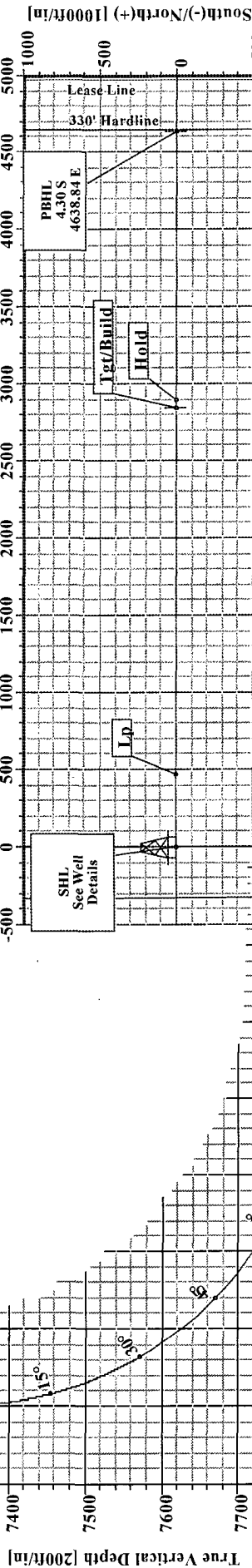
KB ELEV: 3363
GL ELEV: 3338

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Pbhl	7840.00	-4.30	4638.84	599795.02	616397.84	Point
Tgt	7855.00	-2.63	2842.45	599796.69	614601.45	Point

0° 7333 MD Start Build 12.00

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

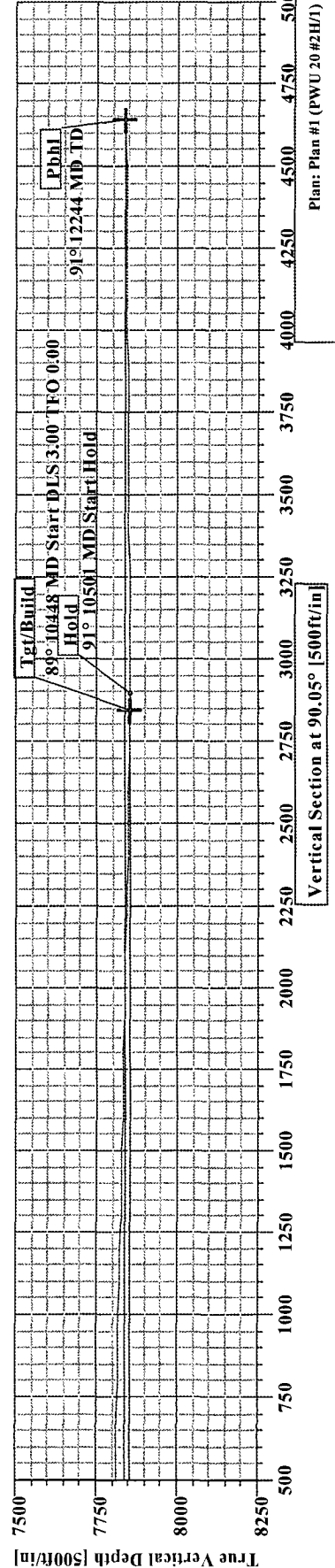


Weatherford®

Azimuths to Grid North
True North: -0.12°
Magnetic North: 7.75°
Magnetic Field
Strength: 4884 nT
Dip Angle: 60.49°
Date: 5/15/2011
Model: IGRF2010

Total Correction to Grid North: 7.75°

Vertical Section at 90.05° [200ft/in]



FIELD DETAILS

Eddy Co, NM (NAD 83)
Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: Grid North

SITE DETAILS

Emerald PWU 20 #2H
Site Centre Northing: 599799.32
Easting: 611759.00
Ground Level: 3338.00
Positional Uncertainty: 0.00
Convergence: 0.12

Vertical Section at 90.05° [500ft/in]

Plan: Plan #1 (PWU 20 #2H/1)

Created By: R Joyner

Date: 1/12/2011



Weatherford International, Inc.

DIRECTIONAL PLAN REPORT

**Weatherford**

Company: Devon Energy	Date: 1/12/2011	Time: 08:27:59	Page: 1
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: PWU 20 #2H, Grid North		
Site: Emerald PWU 20 #2H	Vertical (TVD) Reference: SITE 3363.0		
Well: PWU 20 #2H	Section (VS) Reference: Well (0.00N,0.00E,90.05Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Plan: Plan #1	Date Composed: 1/11/2011
Principal: Yes	Version: 1
	Tied-to: From Surface

Field: Eddy Co., NM (NAD 83)

Map System: US State Plane Coordinate System 1983	Map Zone: New Mexico, Eastern Zone
Geo Datum: GRS 1980	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Emerald PWU 20 #2H

Site Position:	Northing: 599799.32 ft	Latitude: 32 38 55.263 N
From: Map	Easting: 611759.00 ft	Longitude: 104 6 16.334 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 3338.00 ft		Grid Convergence: 0.12 deg

Well: PWU 20 #2H	Slot Name:	
Well Position: +N/-S 0.00 ft	Northing: 599799.32 ft	Latitude: 32 38 55.263 N
+E/-W 0.00 ft	Easting: 611759.00 ft	Longitude: 104 6 16.334 W
Position Uncertainty: 0.00 ft		

Wellpath: 1	Drilled From: Surface		
Current Datum: SITE	Tie-on Depth: 0.00 ft		
Magnetic Data: 5/15/2011	Above System Datum: Mean Sea Level		
Field Strength: 48847 nT	Declination: 7.87 deg		
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.49 deg		
ft	+N/-S ft	+E/-W ft	Direction deg
0.00	0.00	0.00	90.05

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	90.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7332.62	0.00	90.05	7332.62	0.00	0.00	0.00	0.00	0.00	0.00	
8073.57	88.91	90.05	7810.00	-0.43	468.42	12.00	12.00	0.00	90.05	
10448.03	88.91	90.05	7855.00	-2.63	2842.45	0.00	0.00	0.00	0.00	Tgt
10500.96	90.50	90.05	7855.27	-2.68	2895.37	3.00	3.00	0.00	0.00	
12244.49	90.50	90.05	7840.00	-4.30	4638.84	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
7300.00	0.00	90.05	7300.00	0.00	0.00	0.00	0.00	599799.32	611759.00	
7332.62	0.00	90.05	7332.62	0.00	0.00	0.00	0.00	599799.32	611759.00	Kop
7400.00	8.09	90.05	7399.78	0.00	4.75	4.75	12.00	599799.32	611763.75	
7500.00	20.09	90.05	7496.59	-0.03	29.04	29.04	12.00	599799.29	611788.04	
7600.00	32.09	90.05	7586.24	-0.07	72.93	72.93	12.00	599799.25	611831.93	
7700.00	44.09	90.05	7664.81	-0.12	134.50	134.50	12.00	599799.20	611893.50	
7800.00	56.09	90.05	7728.86	-0.20	211.06	211.06	12.00	599799.12	611970.06	
7900.00	68.09	90.05	7775.59	-0.28	299.26	299.26	12.00	599799.04	612058.26	
8000.00	80.09	90.05	7802.96	-0.37	395.25	395.25	12.00	599798.95	612154.25	
8073.57	88.91	90.05	7810.00	-0.43	468.42	468.42	12.00	599798.89	612227.42	Lp
8100.00	88.91	90.05	7810.50	-0.46	494.84	494.84	0.00	599798.86	612253.84	
8200.00	88.91	90.05	7812.40	-0.55	594.82	594.82	0.00	599798.77	612353.82	
8300.00	88.91	90.05	7814.29	-0.64	694.80	694.80	0.00	599798.68	612453.80	
8400.00	88.91	90.05	7816.19	-0.74	794.78	794.79	0.00	599798.58	612553.78	
8500.00	88.91	90.05	7818.08	-0.83	894.77	894.77	0.00	599798.49	612653.77	



Weatherford International, Inc.

DIRECTIONAL PLAN REPORT

**Weatherford**

Company: Devon Energy
Field: Eddy Co. NM (NAD 83)
Site: Emerald PWU 20 #2H
Well: PWU 20 #2H
Wellpath: 1

Date: 1/12/2011 Time: 08:27:59 Page: 2
Co-ordinate(NE) Reference: Well: PWU 20 #2H, Grid North
Vertical (TVD) Reference: SITE 3363.0
Section (VS) Reference: Well (0.00N,0.00E,90.05Azi)
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
8600.00	88.91	90.05	7819.98	-0.92	994.75	994.75	0.00	599798.40	612753.75	
8700.00	88.91	90.05	7821.87	-1.01	1094.73	1094.73	0.00	599798.31	612853.73	
8800.00	88.91	90.05	7823.77	-1.11	1194.71	1194.71	0.00	599798.21	612953.71	
8900.00	88.91	90.05	7825.66	-1.20	1294.69	1294.70	0.00	599798.12	613053.69	
9000.00	88.91	90.05	7827.56	-1.29	1394.68	1394.68	0.00	599798.03	613153.68	
9100.00	88.91	90.05	7829.45	-1.39	1494.66	1494.66	0.00	599797.93	613253.66	
9200.00	88.91	90.05	7831.35	-1.48	1594.64	1594.64	0.00	599797.84	613353.64	
9300.00	88.91	90.05	7833.24	-1.57	1694.62	1694.62	0.00	599797.75	613453.62	
9400.00	88.91	90.05	7835.14	-1.66	1794.60	1794.61	0.00	599797.66	613553.60	
9500.00	88.91	90.05	7837.03	-1.76	1894.59	1894.59	0.00	599797.56	613653.59	
9600.00	88.91	90.05	7838.93	-1.85	1994.57	1994.57	0.00	599797.47	613753.57	
9700.00	88.91	90.05	7840.82	-1.94	2094.55	2094.55	0.00	599797.38	613853.55	
9800.00	88.91	90.05	7842.72	-2.03	2194.53	2194.53	0.00	599797.29	613953.53	
9900.00	88.91	90.05	7844.61	-2.13	2294.51	2294.52	0.00	599797.19	614053.51	
10000.00	88.91	90.05	7846.51	-2.22	2394.50	2394.50	0.00	599797.10	614153.50	
10100.00	88.91	90.05	7848.40	-2.31	2494.48	2494.48	0.00	599797.01	614253.48	
10200.00	88.91	90.05	7850.30	-2.40	2594.46	2594.46	0.00	599796.92	614353.46	
10300.00	88.91	90.05	7852.19	-2.50	2694.44	2694.44	0.00	599796.82	614453.44	
10400.00	88.91	90.05	7854.09	-2.59	2794.42	2794.43	0.00	599796.73	614553.42	
10448.03	88.91	90.05	7855.00	-2.63	2842.45	2842.45	0.00	599796.69	614601.45	Tgt
10500.00	90.47	90.05	7855.28	-2.68	2894.41	2894.42	3.00	599796.64	614653.41	
10500.96	90.50	90.05	7855.27	-2.68	2895.37	2895.37	2.99	599796.64	614654.37	Hold
10600.00	90.50	90.05	7854.40	-2.78	2994.41	2994.41	0.00	599796.54	614753.41	
10700.00	90.50	90.05	7853.53	-2.87	3094.41	3094.41	0.00	599796.45	614853.41	
10800.00	90.50	90.05	7852.65	-2.96	3194.40	3194.40	0.00	599796.36	614953.40	
10900.00	90.50	90.05	7851.77	-3.05	3294.40	3294.40	0.00	599796.27	615053.40	
11000.00	90.50	90.05	7850.90	-3.15	3394.39	3394.40	0.00	599796.17	615153.39	
11100.00	90.50	90.05	7850.02	-3.24	3494.39	3494.39	0.00	599796.08	615253.39	
11200.00	90.50	90.05	7849.15	-3.33	3594.39	3594.39	0.00	599795.99	615353.39	
11300.00	90.50	90.05	7848.27	-3.42	3694.38	3694.38	0.00	599795.90	615453.38	
11400.00	90.50	90.05	7847.40	-3.52	3794.38	3794.38	0.00	599795.80	615553.38	
11500.00	90.50	90.05	7846.52	-3.61	3894.38	3894.38	0.00	599795.71	615653.38	
11600.00	90.50	90.05	7845.64	-3.70	3994.37	3994.37	0.00	599795.62	615753.37	
11700.00	90.50	90.05	7844.77	-3.80	4094.37	4094.37	0.00	599795.52	615853.37	
11800.00	90.50	90.05	7843.89	-3.89	4194.36	4194.37	0.00	599795.43	615953.36	
11900.00	90.50	90.05	7843.02	-3.98	4294.36	4294.36	0.00	599795.34	616053.36	
12000.00	90.50	90.05	7842.14	-4.07	4394.36	4394.36	0.00	599795.25	616153.36	
12100.00	90.50	90.05	7841.27	-4.17	4494.35	4494.35	0.00	599795.15	616253.35	
12200.00	90.50	90.05	7840.39	-4.26	4594.35	4594.35	0.00	599795.06	616353.35	
12244.49	90.50	90.05	7840.00	-4.30	4638.84	4638.84	0.00	599795.02	616397.84	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			7840.00	-4.30	4638.84	599795.02	616397.84	32	38	55.119 N	104	5	22.077 W
Tgt			7855.00	-2.63	2842.45	599796.69	614601.45	32	38	55.175 N	104	5	43.088 W



Weatherford International, Inc.

DIRECTIONAL PLAN REPORT



Weatherford

Company: Devon Energy
Field: Eddy Co. NM (NAD 83)
Site: Emerald PWU 20 #2H
Well: PWU 20 #2H
Wellpath: 1

Date: 1/12/2011 Time: 08:27:59 Page: 3
Co-ordinate(NE) Reference: Well: PWU 20 #2H, Grid: North
Vertical (TVD) Reference: SITE 3363.0
Section (VS) Reference: Well (0.00N,0.00E,90.05Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
7332.62	7332.62	Kop
8073.57	7810.00	Lp
10448.03	7855.00	Tgt/Build
10500.96	7855.27	Hold
12244.49	7840.00	Pbhl

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

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

GeoDec v5.1.000

Report Date: January 12, 2011
Job Number: _____
Customer: Devon Energy
Well Name: Emerald PWU 20 #2H
API Number: _____
Rig Name: _____
Location: Eddy Co., NM (NAD 83)
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 599799.320 USFT	Latitude 32.6486875 DEG
East/West 611759.000 USFT	Longitude -104.1045332 DEG
Grid Convergence: .12344468°	
Total Correction: +7.7517°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude = 32.64869° N	32° 38 min 55.275 sec	
Longitude = 104.10453° W	104° 6 min 16.320 sec	

Magnetic Declination =	7.8750°	[True North Offset]	
Local Gravity =	.9988 g		
Local Field Strength =	48843 nT	Magnetic Vector X =	23832 nT
Magnetic Dip =	60.4900°	Magnetic Vector Y =	3296 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	42506 nT
Spud Date =	May 15, 2011	Magnetic Vector H =	24059 nT

Signed: _____

Date: _____