

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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 August 1, 2011
to appropriate
District Office

NOV 20 2014 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APL Number 30-215-4280		Pool Code 3713		Pool Name Avalon; Bone Spring, East	
Property Code B07209		Property Name BURTON FLAT DEEP UNIT			Well Number 64H
OGRID No. 6137		Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.			Elevation 3229.8

10 Surface Location

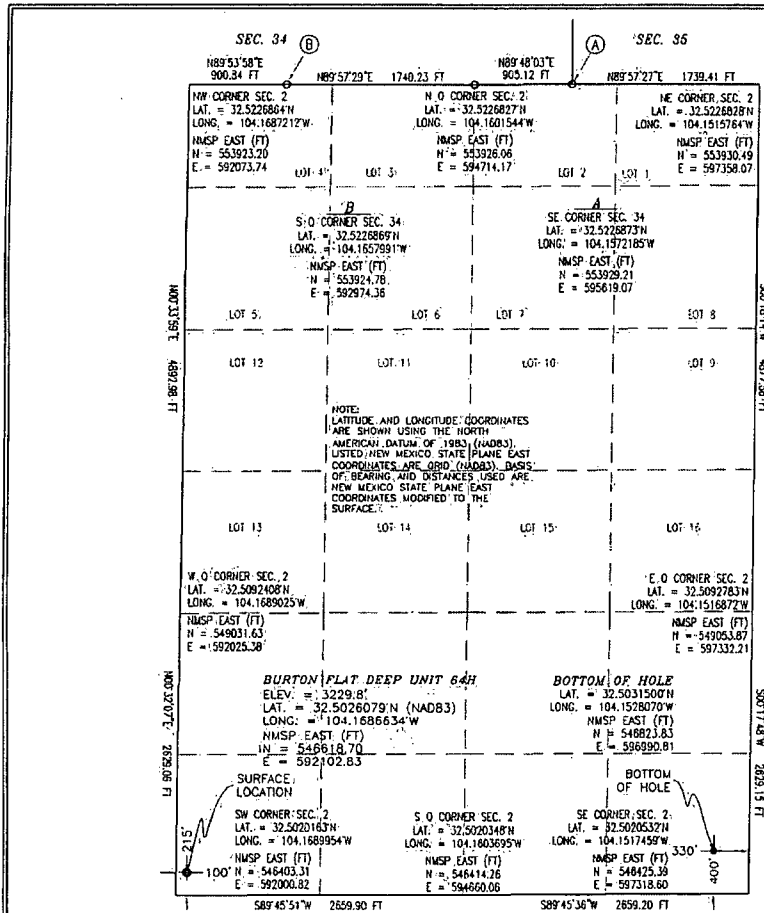
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	2	21 S	27 E		215	SOUTH	100	WEST	EDDY

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
P	2	21 S	27 E		400	SOUTH	330	EAST	EDDY

12 Dedicated Acres 160.00	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.



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 a division

Signature: *Linda Good* Date: **11/19/2014**

Printed Name: **Linda Good**

E-mail Address: **linda.good@dm.com**

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.

NOVEMBER 2014 12797

Date of Survey

Signature and Seal of Professional Surveyor

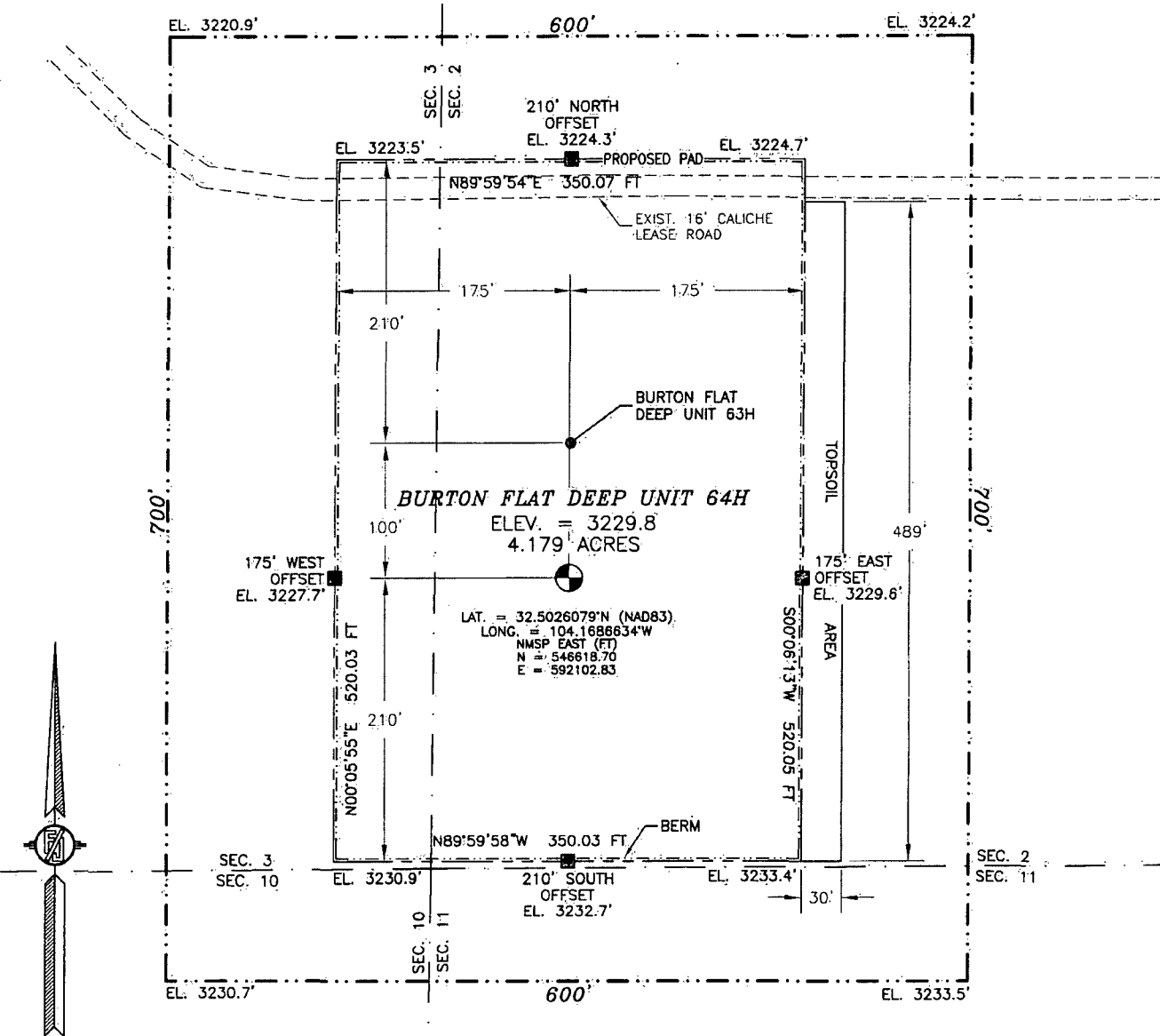
Certificate Number: **FILIMON P. JARAMILLO, PLS 12797**

SURVEY NO. 2152C

SECTION 2, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY 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



0 12 60 120 240

SCALE 1" = 120'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR 206 (ILLINOIS CAMP ROAD) AND CR 600 (RAINS ROAD) GO EAST ON CR 600 2.25 MILES TO CALICHE ROAD INTERSECTION PAST RAMBO BOOSTER STA., PAST CATTLE GUARD, GO EAST ON CALICHE ROAD, ROAD BENDS NORTHEAST GO 1.25 MILES TO FORK IN ROAD, TAKE RIGHT GO EAST 0.45 MILES TO CALICHE ROAD ON RIGHT. GO SOUTHEAST 0.55 MILES TO ROAD INTERSECTION, TURN RIGHT ON CALICHE LEASE ROAD TOWARDS BURTON FLAT DEEP UNIT 43. GO SOUTHWEST 0.35 MILES TO NORTHEAST CORNER OF PROPOSED PAD.

DEVON ENERGY PRODUCTION COMPANY, L.P.

BURTON FLAT DEEP UNIT 64H

LOCATED 215 FT. FROM THE SOUTH LINE
AND 100 FT. FROM THE WEST LINE OF

SECTION 2, TOWNSHIP 21 SOUTH,

RANGE 27 EAST, N.M.P.M.

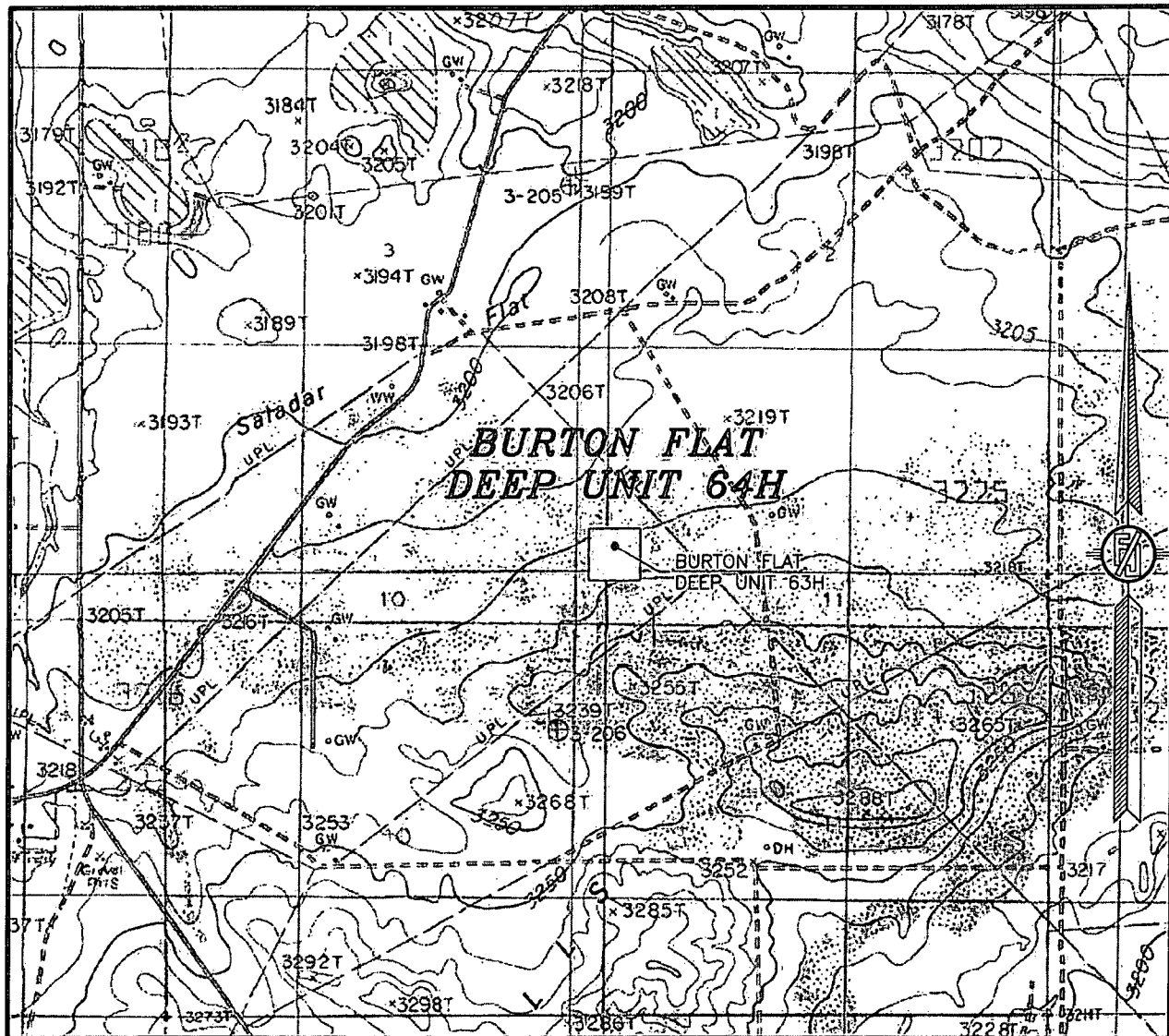
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 4, 2014

SURVEY NO. 2152C

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

SECTION 2, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



USGS QUAD MAP:
 ANGEL DRAW

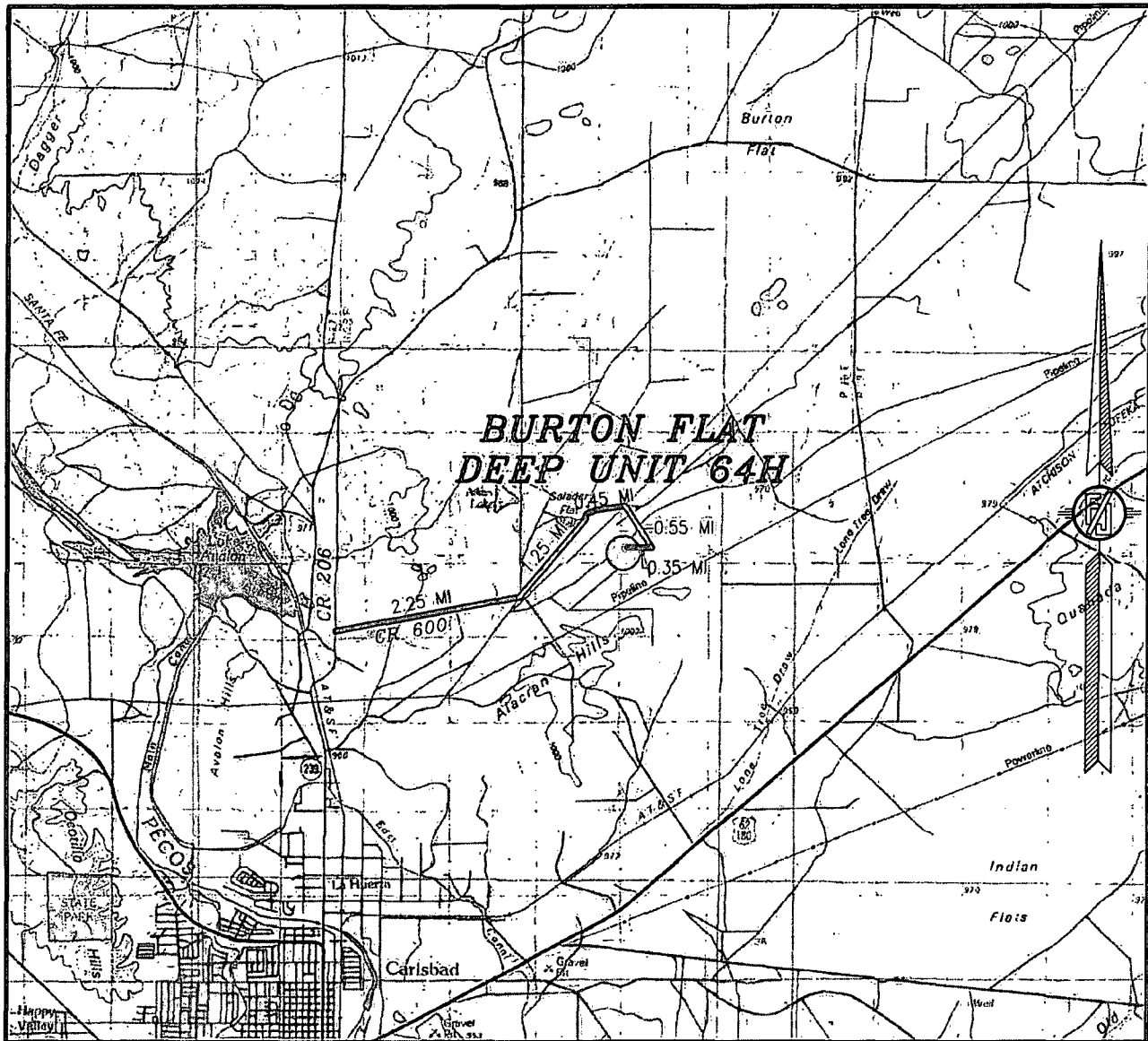
NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
BURTON FLAT DEEP UNIT 64H
 LOCATED 215 FT. FROM THE SOUTH LINE
 AND 100 FT. FROM THE WEST LINE OF
 SECTION 2, TOWNSHIP 21 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 4, 2014

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO SURVEY NO. 2152C

SECTION 2, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

BURTON FLAT DEEP UNIT 64H

LOCATED 215 FT. FROM THE SOUTH LINE

AND 100 FT. FROM THE WEST LINE OF

SECTION 2, TOWNSHIP 21 SOUTH,

RANGE 27 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR 206 (ILLINOIS CAMP ROAD) AND CR 600 (RAINS ROAD) GO EAST ON CR 600 2.25 MILES TO CALICHE ROAD INTERSECTION. PAST RAMBO BOOSTER STA., PAST CATTLE GUARD, GO EAST ON CALICHE ROAD, ROAD BENDS NORTHEAST GO 1.25 MILES TO FORK IN ROAD, TAKE RIGHT GO EAST 0.45 MILES TO CALICHE ROAD ON RIGHT. GO SOUTHEAST 0.55 MILES TO ROAD INTERSECTION, TURN RIGHT ON CALICHE LEASE ROAD TOWARDS BURTON FLAT DEEP UNIT 43. GO SOUTHWEST 0.35 MILES TO NORTHEAST CORNER OF PROPOSED PAD.

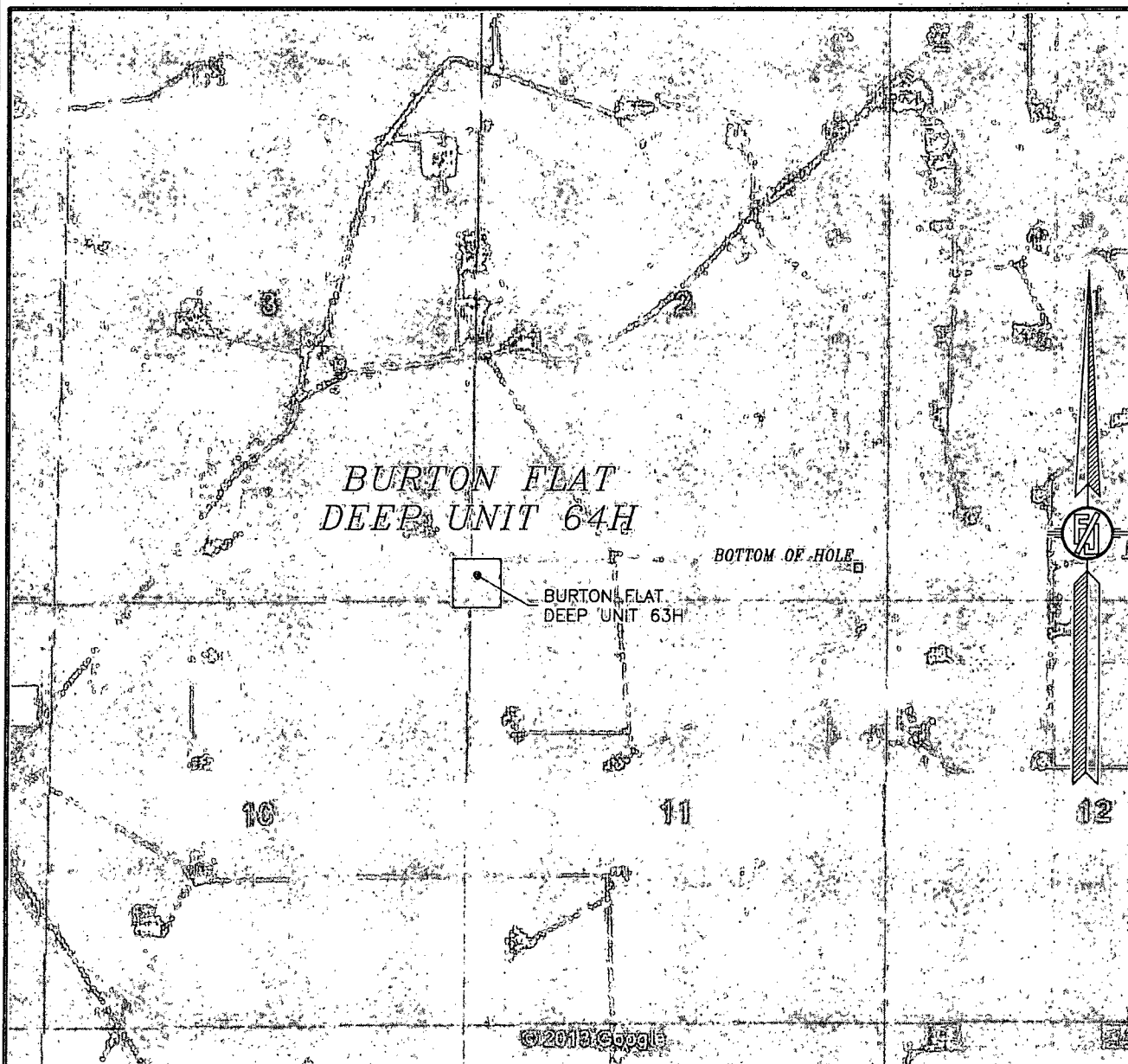
NOVEMBER 4, 2014

SURVEY NO. 2152C

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

CARLSBAD, NEW MEXICO

SECTION 2, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
APRIL 2013

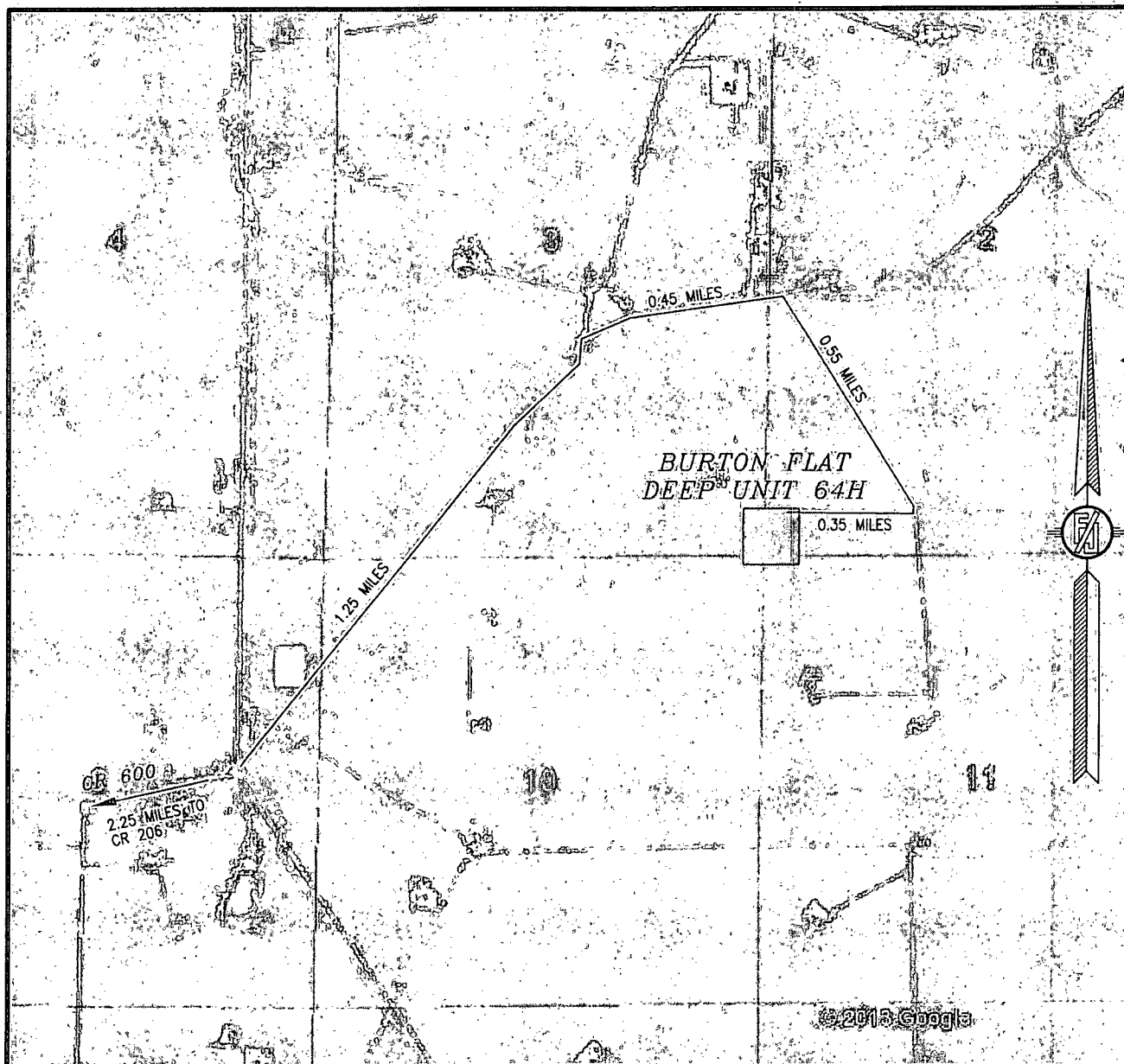
DEVON ENERGY PRODUCTION COMPANY, L.P.
BURTON FLAT DEEP UNIT 64H
LOCATED 215 FT. FROM THE SOUTH LINE
AND 100 FT. FROM THE WEST LINE OF
SECTION 2, TOWNSHIP 21 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 4, 2014

SURVEY NO. 2152C

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

SECTION 2, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 ACCESS AERIAL ROUTE MAP



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 APRIL 2013

DEVON ENERGY PRODUCTION COMPANY, L.P.
BURTON FLAT DEEP UNIT 64H
 LOCATED 215 FT. FROM THE SOUTH LINE
 AND 100 FT. FROM THE WEST LINE OF
 SECTION 2, TOWNSHIP 21 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 4, 2014

SURVEY NO. 2152C

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

Devon Energy, Burton Flat Deep Unit 64H

1. Geologic Formations

TVD of target	7,673'	Pilot hole depth	N/A
MD at TD:	12,338'	Deepest expected fresh water:	

Reef

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	45	Barren	
Salado	232	Barren	
Base of Salt	412	Barren	
Tansil	467	Barren	
Yates	577	Barren	
Capitan	817	Barren	
Capitan Base	2,602	Barren	
Delaware	2,827	Oil	
Lower Brushy Canyon	5,005	Oil	
1 st Bone Spring Lime	5,253	Oil	
1 st Bone Spring Sand	6,495	Oil	
2 nd Bone Spring Lime	6,722	Oil	
2 nd Bone Spring Sand	7,208	Oil	

*H₂S, water flows, loss of circulation, abnormal pressures, etc.

Devon Energy, Burton Flat Deep Unit 64H

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn	SF Collapse	SF Burst	SF Tension
	From	To							
26"	0	180'	20"	94	J-55	BTC	6.46	26.21	82.86
17.5"	0	800'	13.375"	48	H-40	STC	2.152	4.84	14.09
12.25"	0	2,800'	9.625"	40	HCK-55	BTC	1.15	1.08	3.02
8.75"	0	12,338'	5.5"	17	P-110	BTC	1.27	1.58	2.71
8.75"									
BLM Minimum Safety Factor							1.125	1.00	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Devon Energy, Burton Flat Deep Unit 64H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	H ₂ O gal/s k	Yld ft ³ / sack	500# Comp. Strength (hours)	Slurry Description
20" Surf.	470	14.8	6.32	1.33	7	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
13-3/8" 1 st Inter.	740	14.8	6.32	1.33	7	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" 2 nd Inter. Single Stage Option	520	12.9	9.81	1.85	17	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	330	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" 2 nd Inter. Two Stage Option	430	12.9	9.81	1.85	17	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	220	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
	DV/ECP Tool 850'					
	230	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod. Single Stage	660	10.4	3.17	16.95	16	Lead: Tuned Light ® + 0.125 lbs/sack Poly-E-Flake
	1390	14.5	5.31	1.2	25	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
5-1/2" Prod. Two Stage Option	330	12.5	10.86	1.96	30	1 st Lead: (65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake
	1390	14.5	5.31	1.2	25	1 st Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
	DV/ECP Tool 5000'					
	500	11.9	12.89	2.26	22	2 nd Stage 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
	120	14.8	6.32	1.33	6	2 nd stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Devon Energy, Burton Flat Deep Unit 64H

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	75%
Intermediate – 2 Stage Option	1 st Stage = 500' / 2 nd Stage = 0'	75%
Production	600'	25%
Production – 2 Stage Option	1 st Stage = 5000' / 2 nd Stage = 600'	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	x	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Devon Energy, Burton Flat Deep Unit 64H

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly (FMC Uni-head). This assembly will only be tested when installed on the surface casing. 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. - Wellhead will be installed by FMC's representatives. - If the welding is performed by a third party, the FMC's representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. - FMC representative will install the test plug for the initial BOP test. - FMC will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. - If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. - Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. - Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the FMC Uni-head wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the FMC Uni-head.

Devon Energy, Burton Flat Deep Unit 64H

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

See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	180'	FW Gel	8.6-8.8	28-34	N/C
180'	800'	Saturated Brine	8.8-9.2	28-34	N/C
800'	2800'	FW	9.4-10.0	28-34	N/C
2,800'	12,338'	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?

PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.

x	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

Devon Energy, Burton Flat Deep Unit 64H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3453 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other facets of operation

Is this a walking operation? No.

Will be pre-setting casing? No.

Attachments

☒ Directional Plan

☐ Other, describe

devon

Burton Flat Deep Unit 64H
Eddy Co, NM



Plan Data for Burton Flat Deep Unit 64H

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	546618.70	592102.83	0.00	0.00
7014.57	0.00	0.00	7014.57	0.00	0.00	546618.70	592102.83	0.00	0.00
7252.87	23.83	30.04	7246.06	42.28	24.45	546660.98	592127.28	24.45	10.00
8036.20	90.00	90.00	7673.00	205.49	585.59	546824.19	592688.42	585.59	10.00
12338.59	90.00	90.00	7673.00	205.13	4887.98	546823.83	596990.81	4887.98	0.00

Plan Data for Burton Flat Deep Unit 64H

Slot: Burton Flat Deep Unit 64H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 546618.70USft Latitude: 32°30'9.4"
+E/-W: 0.00USft Easting: 592102.83USft Longitude: -104°10'7.2"
Elevation Above VRD: 3230.00USft

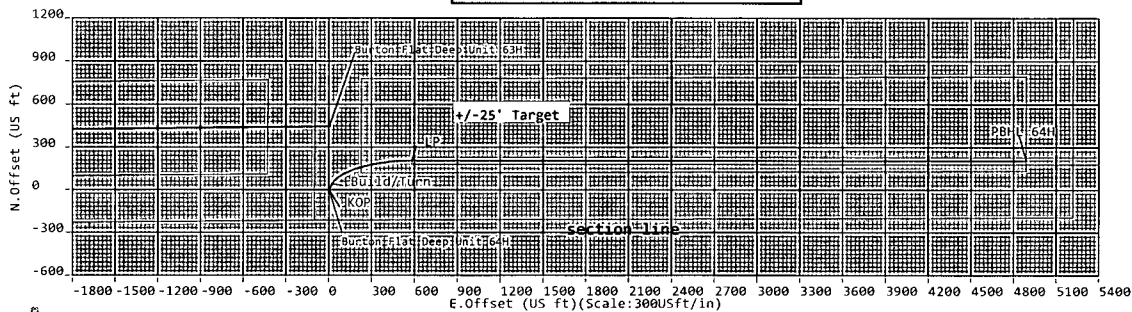
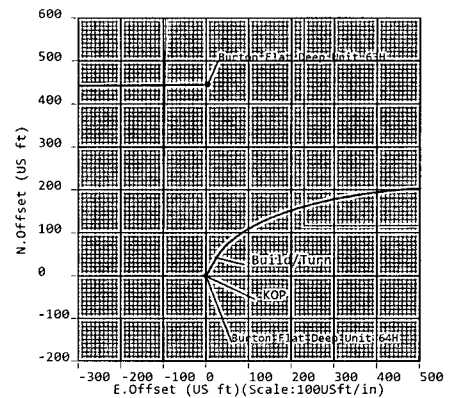
Plan Data for Burton Flat Deep Unit 64H

Target Set Information:
Name: Burton Flat Deep Unit 64H
Position offsets from Slot centre
Name TVD +N/-S +E/-W Northing Easting Shape Comment
(USft) (USft) (USft) (USft) (USft)
PBHL 64H 7673.00 205.13 4887.98 546823.83 596990.81 Cuboid

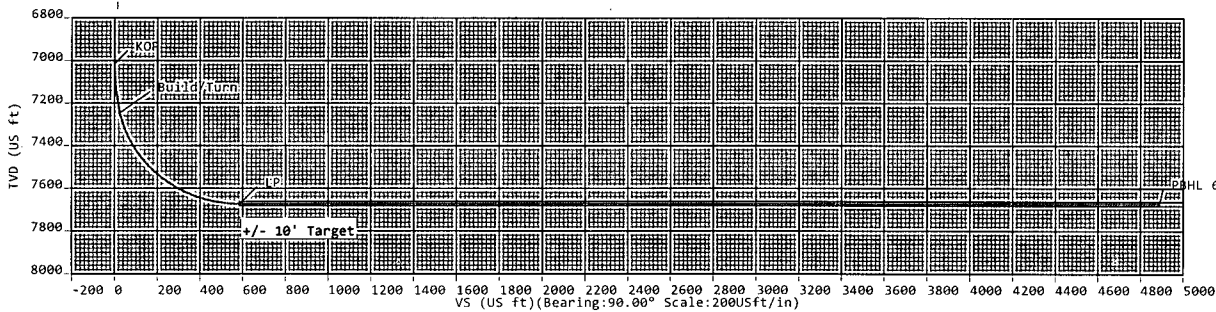
Plan Data for Burton Flat Deep Unit 64H

Well: Burton Flat Deep Unit 64H
Type: Main-Well
File Number:
Plan Folder: P1 Plan: P1-V2
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 90.00°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
BGM 48351(n) 7.64° 60.25° 2014-11-15

Burton Flat Deep Unit 64H
Burton Flat Deep Unit 63H



KB-3255
GL-3230



Sign Off: Russell Joyner

5D Plan Report

Devon Energy**Field Name:** *Eddy Co, NM (Nad 83 NME)***Site Name:** *Burton Flat Deep Unit 64H***Well Name:** *Burton Flat Deep Unit 64H***Plan:** *P1:V2*

05 November 2014



Burton Flat Deep Unit 64H

Field Name Eddy Co, NM (Nad 83 NME)	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 Burton Flat Deep Unit 64H	Units : US ft	North Reference : Grid	Convergence Angle : 0.09	
	Position	Northing : 546618.70 US ft	Latitude : 32° 30' 9.39"	
		Easting : 592102.83 US ft	Longitude : -104° 10' 7.19"	
Elevation above Mean Sea Level: 3230.00 US ft				
	Comment :			
Slot Name Burton Flat Deep Unit 64H	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing : 546618.70 US ft	Latitude : 32°30'9.39"	
	+E / -W : 0.00 US ft	Easting : 592102.83 US ft	Longitude : -104°10'7.19"	
	Elevation above Mean Sea Level : 3230.00 US ft			
	Comment :			
Well Name Burton Flat Deep Unit 64H	Type : Main well		UWI :	Plan : P1:V2
	Rig Height Well TVD Reference : 25.00 US ft		Comment :	
	Relative to Mean Sea Level: 3255.00 US ft			
	Closure Distance : 4892.28 US ft		Closure Azimuth : 87.5969°	
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az : 90.00°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 48351.8nT	Dec : 7.64°	Dip : 60.25° Date : 15/Nov/2014

Target Set

Name : Burton Flat Deep **Number of Targets :** 1

Unit 64H

Comment :

Target Name: PBHL 64H Shape: Cuboid	Position (Relative to Slot centre)			
	+N / -S : 205.13US ft	Northing : 546823.83 US ft	Latitude : 32°30'11.34"	
	+E / -W : 4887.98 US ft	Easting : 596990.81US ft	Longitude : -104°9'10.11"	
	TVD (Well TVD Reference) : 7673.00 US ft			
	Orientation	Azimuth : 90.00°	Inclination : 0.00°	
	Dimensions	Length : 8604.00 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 Well TVD Reference)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (%/100 US ft)	B. Rate (%/100 US ft)	T. Rate (%/100 US ft)	T. Face (°)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7014.57	0.00	0.00	7014.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP
7252.87	23.83	30.04	7246.06	42.28	24.45	24.45	10.00	10.00	0.00	30.04	Build/Turn
8036.20	90.00	90.00	7673.00	205.49	585.59	585.59	10.00	8.45	7.66	62.13	LP
12338.59	90.00	90.00	7673.00	205.13	4887.98	4887.98	0.00	0.00	0.00	0.00	PBHL 64H

Interpolated Points (Relative to Slot centre, TVD relative to Well TVD Reference)											
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
7000.00	0.00	0.00	7000.00	0.00	0.00	0.00	0.00	546618.70	592102.83		
7014.57	0.00	0.00	7014.57	0.00	0.00	0.00	0.00	546618.70	592102.83		KOP
7100.00	8.54	30.04	7099.68	5.50	3.18	3.18	10.00	546624.20	592106.01		
7200.00	18.54	30.04	7196.78	25.75	14.89	14.89	10.00	546644.45	592117.72		
7252.87	23.83	30.04	7246.06	42.28	24.45	24.45	10.00	546660.98	592127.28		Build/Turn
7300.00	26.35	39.46	7288.76	58.61	35.87	35.87	10.00	546677.31	592138.70		
7400.00	33.20	54.25	7375.62	91.82	72.28	72.28	10.00	546710.52	592175.11		
7500.00	41.24	64.14	7455.26	122.27	124.29	124.29	10.00	546740.97	592227.12		
7600.00	49.88	71.21	7525.26	149.03	190.31	190.31	10.00	546767.73	592293.14		
7700.00	58.86	76.65	7583.49	171.29	268.35	268.35	10.00	546789.99	592371.18		
7800.00	68.02	81.13	7628.17	188.36	356.02	356.02	10.00	546807.06	592458.85		
7900.00	77.29	85.06	7657.95	199.75	450.67	450.67	10.00	546818.45	592553.50		
8000.00	86.62	88.71	7671.94	205.08	549.41	549.41	10.00	546823.78	592652.24		
8036.20	90.00	90.00	7673.00	205.49	585.59	585.59	10.00	546824.19	592688.42		LP
8100.00	90.00	90.00	7673.00	205.48	649.39	649.39	0.00	546824.18	592752.22		
8200.00	90.00	90.00	7673.00	205.47	749.39	749.39	0.00	546824.17	592852.22		
8300.00	90.00	90.00	7673.00	205.47	849.39	849.39	0.00	546824.17	592952.22		
8400.00	90.00	90.00	7673.00	205.46	949.39	949.39	0.00	546824.16	593052.22		
8500.00	90.00	90.00	7673.00	205.45	1049.39	1049.39	0.00	546824.15	593152.22		
8600.00	90.00	90.00	7673.00	205.44	1149.39	1149.39	0.00	546824.14	593252.22		
8700.00	90.00	90.00	7673.00	205.43	1249.39	1249.39	0.00	546824.13	593352.22		
8800.00	90.00	90.00	7673.00	205.42	1349.39	1349.39	0.00	546824.12	593452.22		
8900.00	90.00	90.00	7673.00	205.42	1449.39	1449.39	0.00	546824.12	593552.22		
9000.00	90.00	90.00	7673.00	205.41	1549.39	1549.39	0.00	546824.11	593652.22		
9100.00	90.00	90.00	7673.00	205.40	1649.39	1649.39	0.00	546824.10	593752.22		
9200.00	90.00	90.00	7673.00	205.39	1749.39	1749.39	0.00	546824.09	593852.22		
9300.00	90.00	90.00	7673.00	205.38	1849.39	1849.39	0.00	546824.08	593952.22		
9400.00	90.00	90.00	7673.00	205.37	1949.39	1949.39	0.00	546824.07	594052.22		
9500.00	90.00	90.00	7673.00	205.37	2049.39	2049.39	0.00	546824.07	594152.22		
9600.00	90.00	90.00	7673.00	205.36	2149.39	2149.39	0.00	546824.06	594252.22		
9700.00	90.00	90.00	7673.00	205.35	2249.39	2249.39	0.00	546824.05	594352.22		
9800.00	90.00	90.00	7673.00	205.34	2349.39	2349.39	0.00	546824.04	594452.22		
9900.00	90.00	90.00	7673.00	205.33	2449.39	2449.39	0.00	546824.03	594552.22		
10000.00	90.00	90.00	7673.00	205.32	2549.39	2549.39	0.00	546824.02	594652.22		
10100.00	90.00	90.00	7673.00	205.32	2649.39	2649.39	0.00	546824.02	594752.22		
10200.00	90.00	90.00	7673.00	205.31	2749.39	2749.39	0.00	546824.01	594852.22		
10300.00	90.00	90.00	7673.00	205.30	2849.39	2849.39	0.00	546824.00	594952.22		
10400.00	90.00	90.00	7673.00	205.29	2949.39	2949.39	0.00	546823.99	595052.22		
10500.00	90.00	90.00	7673.00	205.28	3049.39	3049.39	0.00	546823.98	595152.22		
10600.00	90.00	90.00	7673.00	205.27	3149.39	3149.39	0.00	546823.97	595252.22		
10700.00	90.00	90.00	7673.00	205.27	3249.39	3249.39	0.00	546823.97	595352.22		
10800.00	90.00	90.00	7673.00	205.26	3349.39	3349.39	0.00	546823.96	595452.22		
10900.00	90.00	90.00	7673.00	205.25	3449.39	3449.39	0.00	546823.95	595552.22		
11000.00	90.00	90.00	7673.00	205.24	3549.39	3549.39	0.00	546823.94	595652.22		
11100.00	90.00	90.00	7673.00	205.23	3649.39	3649.39	0.00	546823.93	595752.22		
11200.00	90.00	90.00	7673.00	205.22	3749.39	3749.39	0.00	546823.92	595852.22		
11300.00	90.00	90.00	7673.00	205.22	3849.39	3849.39	0.00	546823.92	595952.22		
11400.00	90.00	90.00	7673.00	205.21	3949.39	3949.39	0.00	546823.91	596052.22		
11500.00	90.00	90.00	7673.00	205.20	4049.39	4049.39	0.00	546823.90	596152.22		
11600.00	90.00	90.00	7673.00	205.19	4149.39	4149.39	0.00	546823.89	596252.22		

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Well TVD Reference)										
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
11700.00	90.00	90.00	7673.00	205.18	4249.39	4249.39	0.00	546823.88	596352.22	
11800.00	90.00	90.00	7673.00	205.17	4349.39	4349.39	0.00	546823.87	596452.22	
11900.00	90.00	90.00	7673.00	205.17	4449.39	4449.39	0.00	546823.87	596552.22	
12000.00	90.00	90.00	7673.00	205.16	4549.39	4549.39	0.00	546823.86	596652.22	
12100.00	90.00	90.00	7673.00	205.15	4649.39	4649.39	0.00	546823.85	596752.22	
12200.00	90.00	90.00	7673.00	205.14	4749.39	4749.39	0.00	546823.84	596852.22	
12300.00	90.00	90.00	7673.00	205.13	4849.39	4849.39	0.00	546823.83	596952.22	
12338.59	90.00	90.00	7673.00	205.13	4887.98	4887.98	0.00	546823.83	596990.81	PBHL 64H

5D Anti-Collision Report**Devon Energy****Field Name:** *Eddy Co, NM (Nad 83 NME)***Site Name:** *Burton Flat Deep Unit 64H***Well Name:** *Burton Flat Deep Unit 64H*

05 November 2014





Weatherford

Burton Flat Deep Unit 64H

Field Name Eddy Co, NM (Nad 83 NME)	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 Burton Flat Deep Unit 64H	Units : US ft	North Reference : Grid	Convergence Angle : 0.09	
	Position	Northing : 546618.70 US ft	Latitude : 32° 30' 9.39"	
		Easting : 592102.83 US ft	Longitude : -104° 10' 7.19"	
	Elevation above Mean Sea Level: 3230.00 US ft			
Slot Name Burton Flat Deep Unit 64H	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing : 546618.70 US ft	Latitude : 32° 30' 9.39"	
	+E / -W : 0.00 US ft	Easting : 592102.83 US ft	Longitude : -104° 10' 7.19"	
	Elevation above Mean Sea Level : 3230.00 US ft			
Well Name Burton Flat Deep Unit 64H	Type : Main well		UWI :	Plan : Working Plan
	Rig Height : Well TVD Reference : 25.00 US ft		Comment :	
	Relative to Mean Sea Level: 3255.00 US ft			
	Closure Distance : 4892.28 US ft		Closure Azimuth : 87.5969°	
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az : 90.00°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 48351.8nT	Dec : 7.64°	Dip : 60.25°
			Date : 15/Nov/2014	

Collision / Uncertainty Analysis				
Primary Well	Start MD (US ft)	End MD (US ft)	Collision Risk Interval	No. of Std Deviations in Error Computation
Burton Flat Deep Unit 64H (p)	0.00	12338.59	100.00	2

Secondary Well Names
Burton Flat Deep Unit 63H (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

AC Filter Info: The following filter(s) have been applied: Separation Factor.

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)

Secondary Well Name	Pri MD (US ft)	Sec MD (US ft)	TVD (US ft)	CC (US ft)	ES (US ft)	SF	Risk
Burton Flat Deep Unit 63H (p)	7393.16	7306.18	7369.89	384.77	351.76	11.66	

**Weatherford**

Weatherford Drilling Services

GeoDec4 v2.0.0.3

Report Date: October 07, 2014
Job Number: _____
Customer: Devon Energy
Well Name: Burton Flat Deep Unit 64H
API Number: _____
Rig Name: _____
Location: Eddy 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: 546618.70 US Survey Foot	Latitude: 32.502608 Degree
East: 592102.83 US Survey Foot	Longitude: -104.168663 Degree
Convergence: 0.09°	
Declination: 7.64°	
Total Correction: 7.55°	
Datum Transformation: none	

Geodetic Location WGS84

MSL Elevation = 0 m
Latitude = 32° 30' 09.39" N
Longitude = 104° 10' 07.19" W

Magnetic Declination = 7.64 deg	[True North Offset]
Local Gravity = .9988 g	Checksum = 6597
Local Field Strength = 48352 nT	Magnetic Vector X = 23781 nT
Magnetic Dip = 60.25 deg	Magnetic Vector Y = 3189 nT
Magnetic Model = bggm2014.dat	Magnetic Vector Z = 41978 nT
Run Date = November 15, 2014	Magnetic Vector H = 23994 nT

Signed: _____ Date: _____

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