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MAR 16 2015

Farmington Field Office
Bureau of Land Management

OIL CONS. DIV DIST. 3

MAR 23 2015

Form 3160-5
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *– Other instructions on page 2.*

1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other	5. Lease Serial No. NMNM-023044 6. If Indian, Allottee or Tribe Name 7. If Unit of CA/Agreement, Name and/or No. 8. Well Name and No. Schalk 32 #1B
2. Name of Operator WPX Energy Production, LLC	9. API Well No. 30-039-31109
3a. Address PO Box 640 Aztec, NM 87410 3b. Phone No. *(include area code)* 505-333-1816	10. Field and Pool or Exploratory Area Basin Fruitland
4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SHL: 831' FNL & 997' FEL SEC 32 31N 4W BHL: 700' FNL & 700' FWL SEC 32 31N 4W	11. Country or Parish, State Rio Arriba, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other_____
	☒ **Change Plans**	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

WPX Energy requests to change plans on the following well per the attached Directional Plan, Operational Plan and C102. All other aspects of the well will remain as is approved.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

14. I hereby certify that the foregoing is true and correct.
Name *(Printed/Typed)* Lacey Granillo Title Permitting Tech III

Signature Date 3/16/15

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by William Tambekou Title Petroleum Engineer Date 3-17-15

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Office FFO

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

NMOCD

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, 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 Drive, 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 Drive
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

RECEIVED

MAR 16 2015

Farmington Field Office
Bureau of Land Management

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-31109	71629	BASIN FRUITLAND COAL

[4] Property Code	[5] Property Name	[6] Well Number
301345	SCHALK 32	1B

[7] OGRID No.	[8] Operator Name	[9] Elevation
120782	WPX ENERGY PRODUCTION, LLC	6618'

[10] Surface Location

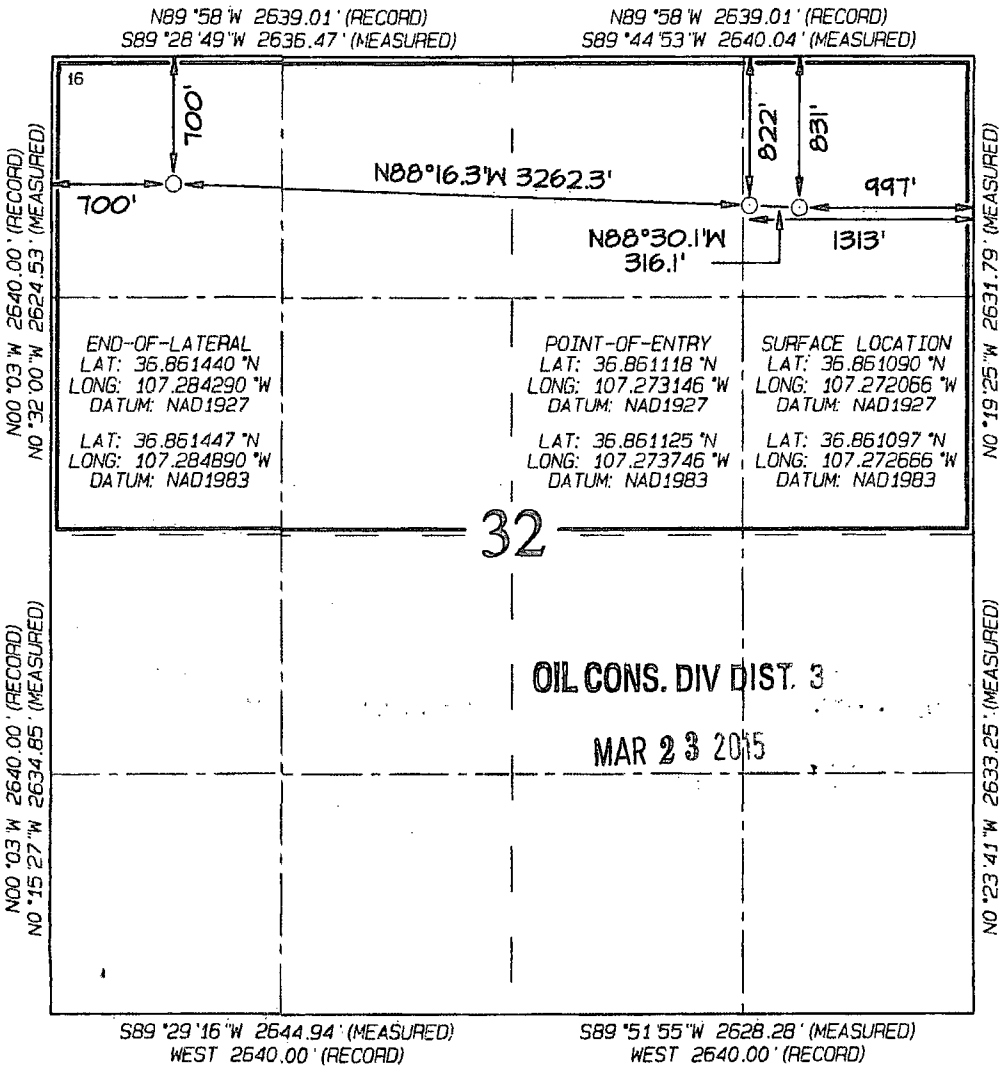
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	32	31N	4W		831	NORTH	997	EAST	RIO ARRIBA

[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
D	32	31N	4W		700	NORTH	700	WEST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320.0 Acres - (N/2)			

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 the division.

Signature 3/16/15 Date

Printed Name

E-mail Address

[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.

Date Revised: MARCH 16, 2015
Survey Date: SEPTEMBER 23, 2011

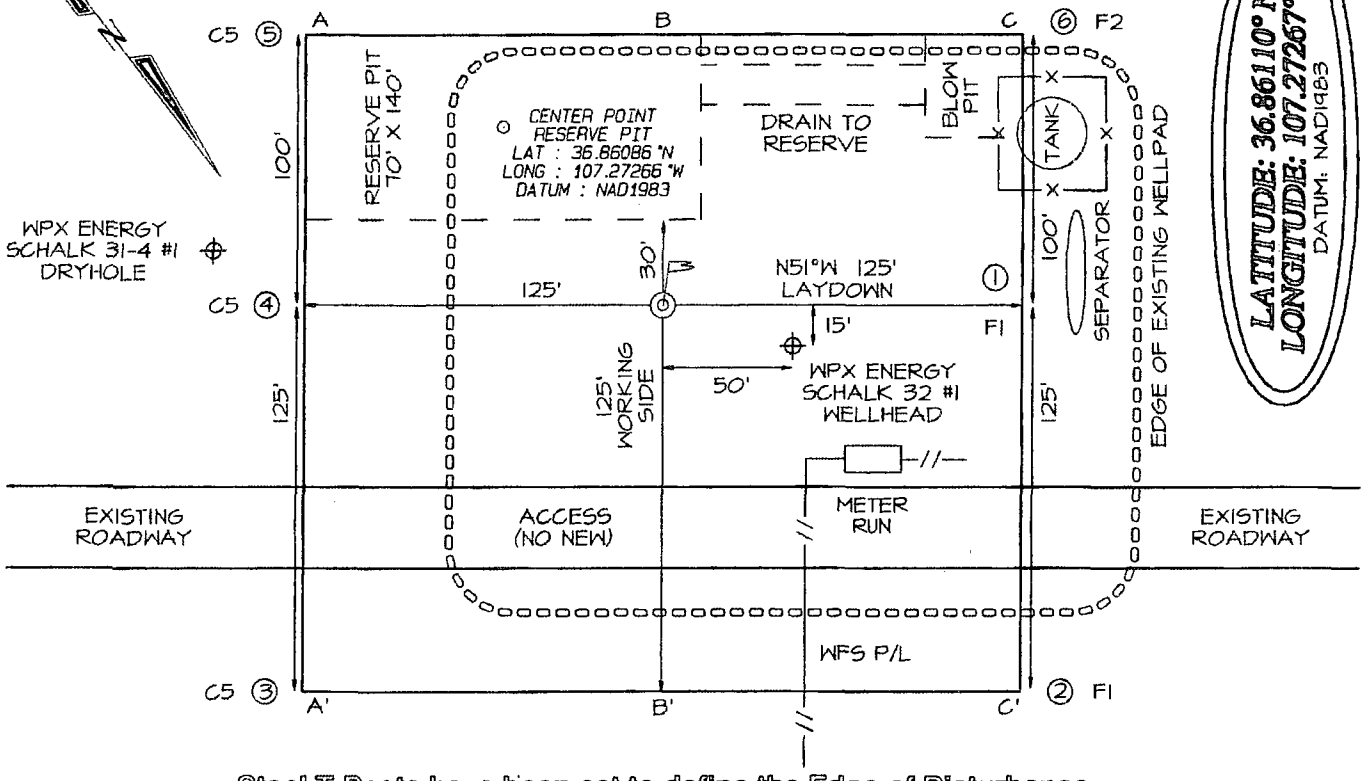
Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

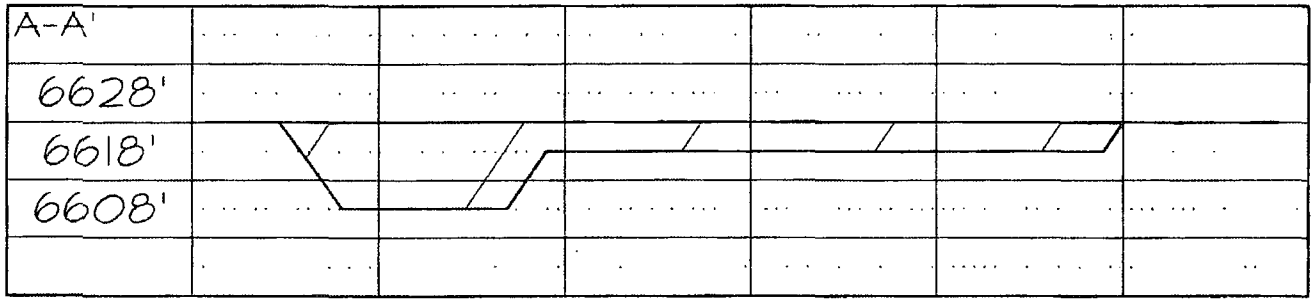
JASON C. EDWARDS
Certificate Number 15269

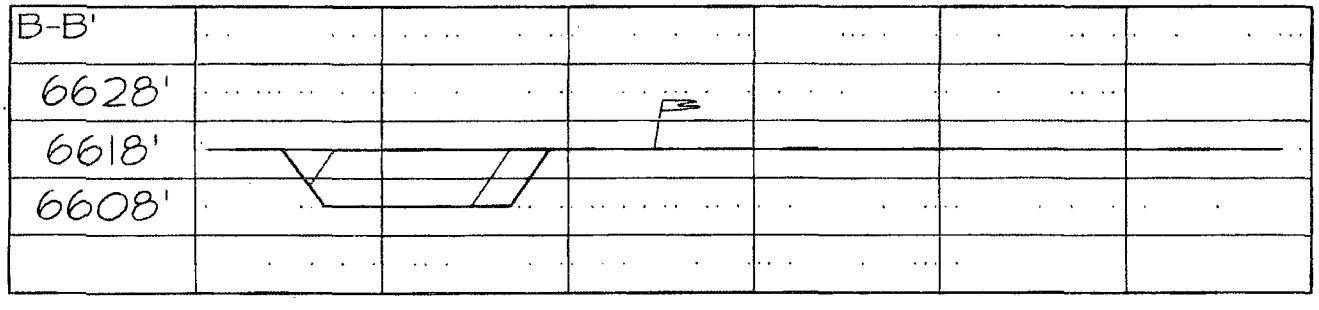
WPX ENERGY PRODUCTION, LLC SCHALK 32 #1B
831' FNL & 997' FEL, SECTION 32, T31N, R4W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 6618'

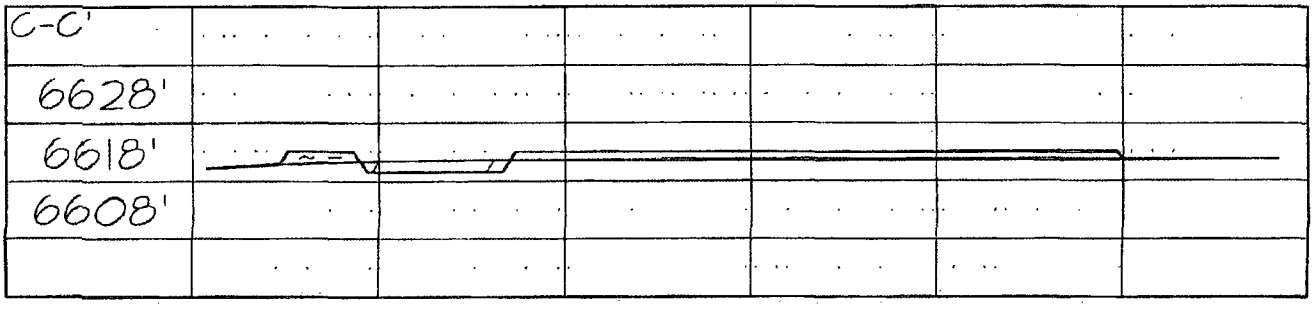
LATITUDE: 36.86110° N
LONGITUDE: 107.27267° W
DATUM: NAD1983



Steel T-Posts have been set to define the Edge of Disturbance limits which are 50' offset from the edge of the staked wellpad.

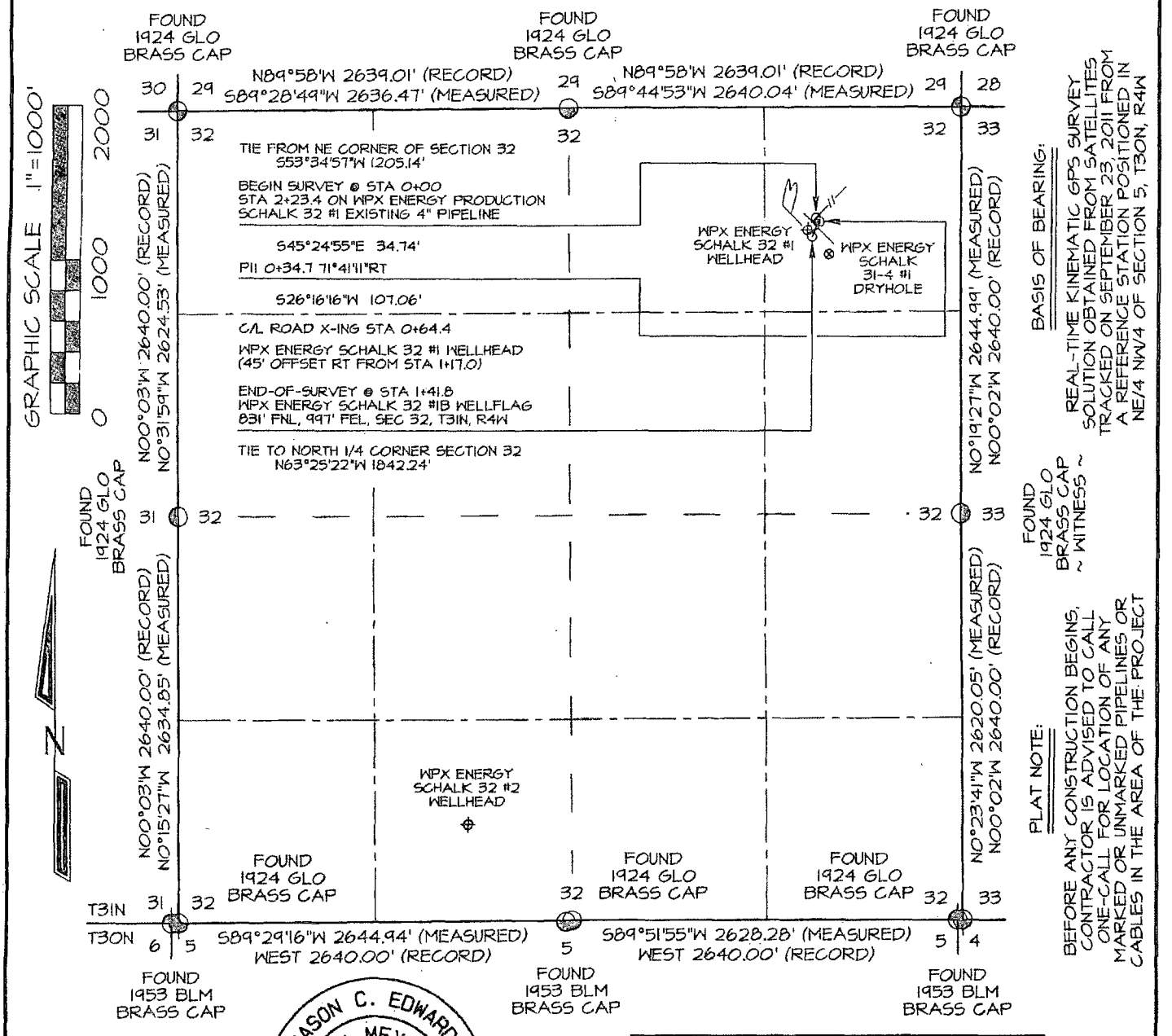






FILENAME: 31432AT	SHEET 2 OF 4	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY: JCE

WPX ENERGY PRODUCTION, LLC SCHALK 32 #1B
PROPOSED PIPELINE SURVEY LOCATED IN THE
NE/4 NE/4 OF SECTION 32, T31N, R4W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO



BASIS OF BEARING:
REAL-TIME KINEMATIC GPS SURVEY SOLUTION OBTAINED FROM SATELLITES TRACKED ON SEPTEMBER 23, 2011 FROM A REFERENCE STATION POSITIONED IN NE/4 NW/4 OF SECTION 5, T30N, R4W

PLAT NOTE:
BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THE PROJECT

~ SURFACE OWNERSHIP ~ Carson National Forest Land	
0+00 TO 1+41.8	141.8 FT / 8.6 RODS

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: March 16, 2015

Jason C. Edwards, P.L.S.
New Mexico L.S. #15269

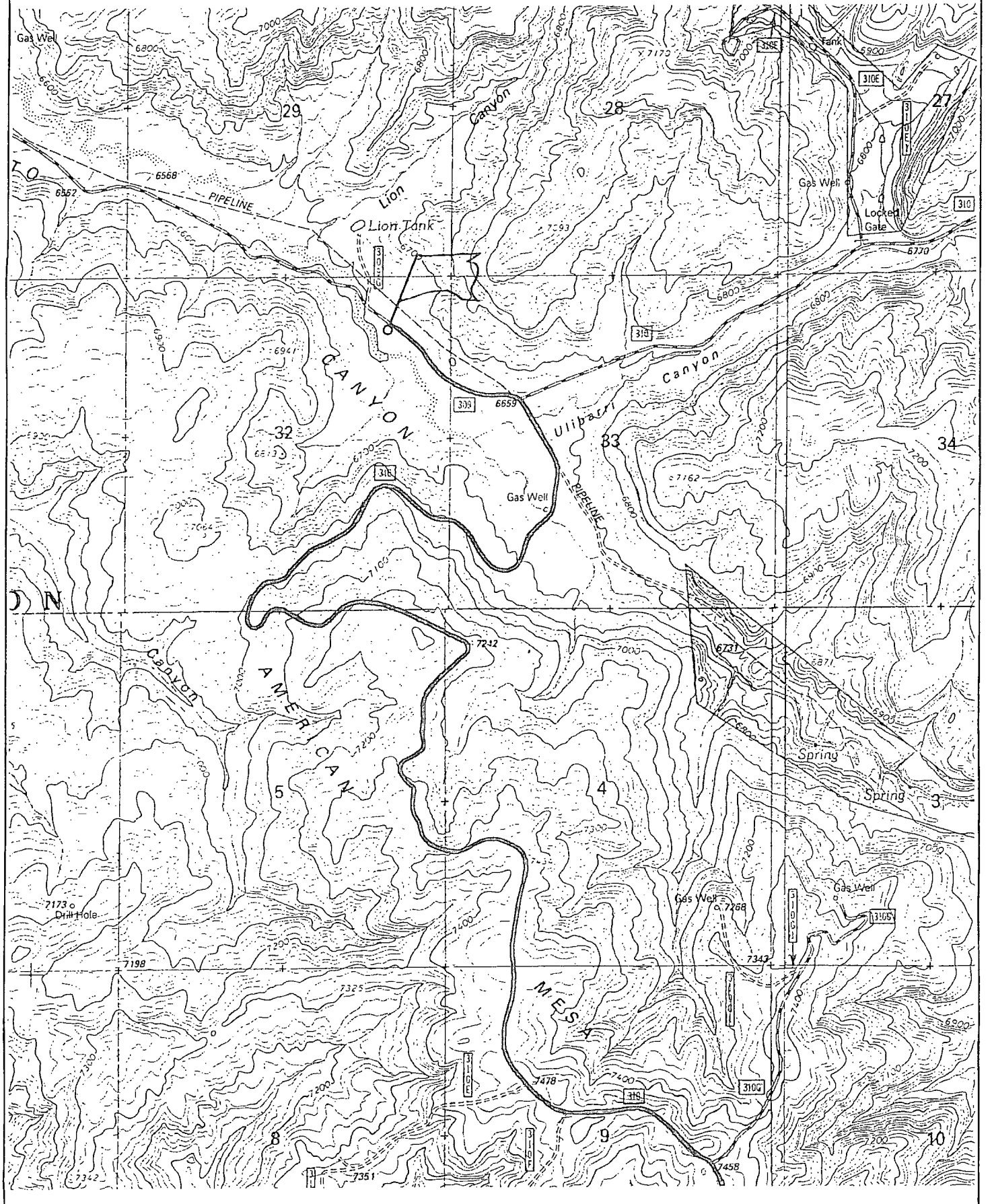
Prepared for:
WILLIAMS PRODUCTION
P.O. BOX #640
AZTEC, NM 87410

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 325-2654 (Office)
(505) 326-5650 (Fax)
SURVEYS, INC.

SHEET 3 OF 4 | CHECKED BY: JCE
FILENAME: 31432AG | DRAWN BY: SLE

WPX ENERGY PRODUCTION, LLC SCHALK 32 #1B

831' FNL & 997 FEL, SECTION 32, T31N, R4W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO



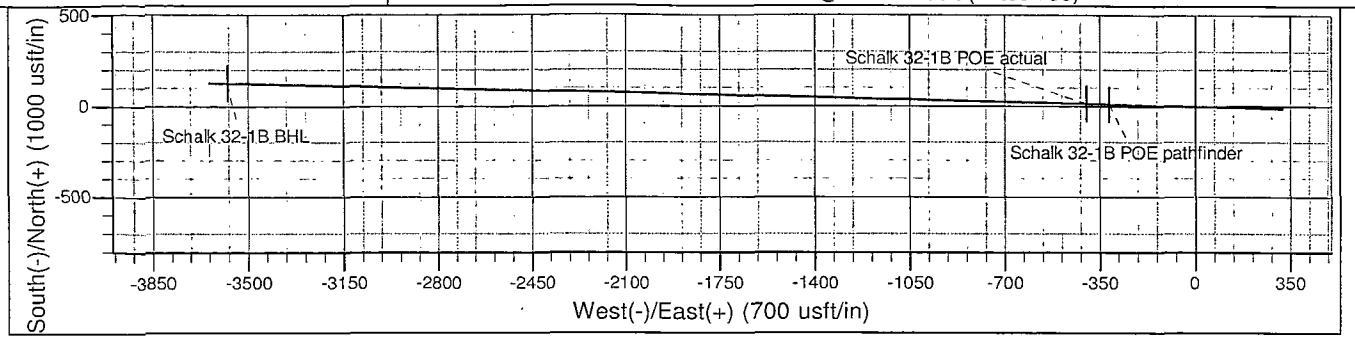
NAME OF TOPO MAP : ESPINOSA RANCH ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

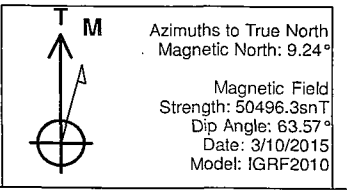
WPXENERGY

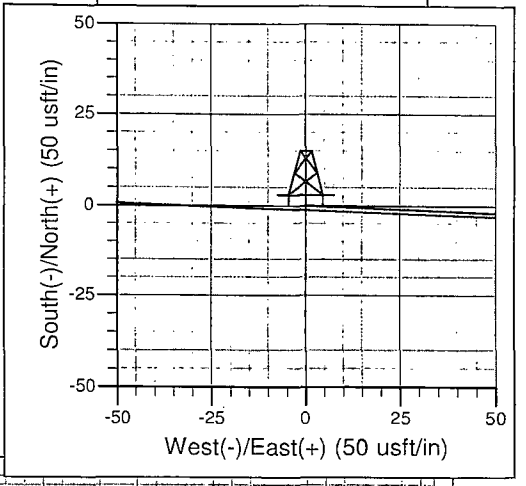
Well Name: Schalk 32-1B
Surface Location: Schalk 32-1B
NAD 1927 (NADCON CONUS) , US State Plane 1927 (Exact solution) New Mexico Central 3002
Ground Elevation: 6618.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	2134262.99	200998.45	36.8610900	-107.2720700	

KB @ 6632.00usft (Aztec 730)



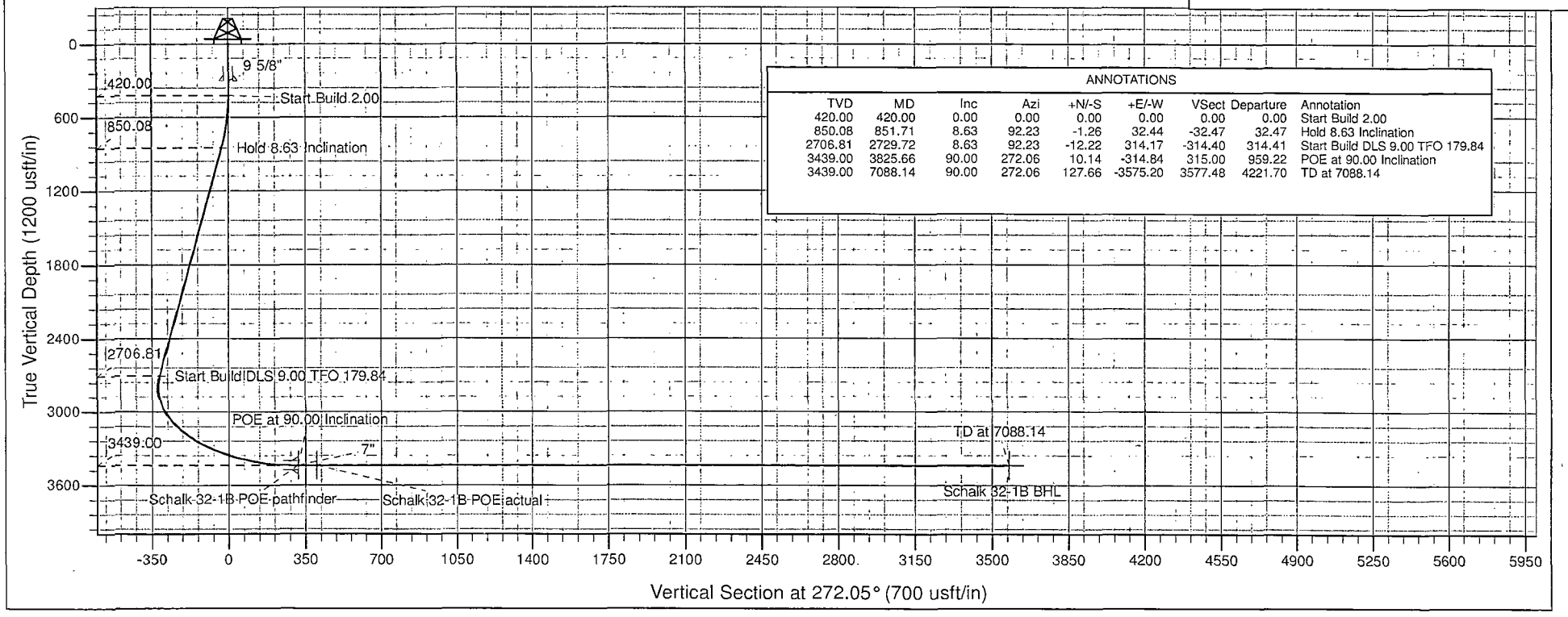




DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Schalk 32-1B POE pathfinder	3439.00	10.14	-314.84	2134276.50	200683.74	36.8611178	-107.2731461	Point
- plan hits target center								
Schalk 32-1B BHL	3439.00	127.66	-3575.20	2134428.91	197424.82	36.8614400	-107.2842900	Point
- plan hits target center								
Schalk 32-1B POE actual	3439.00	14.57	-397.90	2134281.82	200600.73	36.8611300	-107.2734300	Point
- plan misses target center by 1.44usft at 3908.82usft MD (3439.00 TVD, 13.14 N, -397.95 E)								

Project: T31N 4W (NM Central)
Site: Schalk 32-1B
Well: Schalk 32-1B
Plan #1 10Mar15 sam



ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
420.00	420.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
850.08	851.71	8.63	92.23	-1.26	32.44	-32.47	32.47	Hold 8.63 Inclination
2706.81	2729.72	8.63	92.23	-12.22	314.17	-314.40	314.41	Start Build DLS 9.00 TFO 179.84
3439.00	3825.66	90.00	272.06	10.14	-314.84	315.00	959.22	POE at 90.00 Inclination
3439.00	7088.14	90.00	272.06	127.66	-3575.20	3577.48	4221.70	TD at 7088.14

WPX Energy

T31N 4W (NM Central)
Schalk 32-1B
Schalk 32-1B

Wellbore #1

Plan: Plan #1 10Mar15 sam

Standard Planning Report

11 March, 2015

WPX

Planning Report

Database:	COMPASS-SANJUAN	**Local Co-ordinate Reference:**	Well Schalk 32-1B
Company:	WPX Energy	**TVD Reference:**	KB @ 6632.00usft (Aztec 730)
Project:	T31N 4W (NM Central)	**MD Reference:**	KB @ 6632.00usft (Aztec 730)
Site:	Schalk 32-1B	**North Reference:**	True
Well:	Schalk 32-1B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 10Mar15 sam		

Project	T31N 4W (NM Central)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Schalk 32-1B				
Site Position:		**Northing:**	2,134,262.99 usft	**Latitude:**	36.8610899
From:	Map	**Easting:**	200,998.46 usft	**Longitude:**	-107.2720700
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	-0.61 °

Well	Schalk 32-1B					
Well Position	**+N/-S**	0.00 usft	**Northing:**	2,134,262.99 usft	**Latitude:**	36.8610899
	+E/-W	0.00 usft	**Easting:**	200,998.46 usft	**Longitude:**	-107.2720700
Position Uncertainty		0.00 usft	***Wellhead Elevation:***	0.00 usft	**Ground Level:**	6,618.00 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	3/10/2015	9.24	63.57	50,496

Design	Plan #1 10Mar15 sam			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	272.05

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
420.00	0.00	0.00	420.00	0.00	0.00	0.00	0.00	0.00	0.00	
851.71	8.63	92.23	850.08	-1.26	32.44	2.00	2.00	0.00	92.23	
2,729.72	8.63	92.23	2,706.81	-12.22	314.17	0.00	0.00	0.00	0.00	
3,825.66	90.00	272.06	3,439.00	10.14	-314.84	9.00	7.42	16.41	179.84	Schalk 32-1B POE pa
7,088.14	90.00	272.06	3,439.00	127.66	-3,575.20	0.00	0.00	0.00	0.00	Schalk 32-1B BHL

Database:	COMPASS-SANJUAN	**Local Co-ordinate Reference:**	Well Schalk 32-1B
Company:	WPX Energy	**TVD Reference:**	KB @ 6632.00usft (Aztec 730)
Project:	T31N 4W (NM Central)	**MD Reference:**	KB @ 6632.00usft (Aztec 730)
Site:	Schalk 32-1B	**North Reference:**	True
Well:	Schalk 32-1B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 10Mar15 sam		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
420.00	0.00	0.00	420.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
600.00	3.60	92.23	599.88	-0.22	5.65	-5.65	2.00	2.00	0.00
800.00	7.60	92.23	798.89	-0.98	25.15	-25.17	2.00	2.00	0.00
851.71	8.63	92.23	850.08	-1.26	32.44	-32.47	2.00	2.00	0.00
Hold 8.63 Inclination									
1,000.00	8.63	92.23	996.69	-2.13	54.69	-54.73	0.00	0.00	0.00
1,200.00	8.63	92.23	1,194.42	-3.29	84.69	-84.75	0.00	0.00	0.00
1,400.00	8.63	92.23	1,392.15	-4.46	114.69	-114.78	0.00	0.00	0.00
1,600.00	8.63	92.23	1,589.89	-5.63	144.70	-144.80	0.00	0.00	0.00
1,800.00	8.63	92.23	1,787.62	-6.79	174.70	-174.83	0.00	0.00	0.00
2,000.00	8.63	92.23	1,985.35	-7.96	204.70	-204.85	0.00	0.00	0.00
2,200.00	8.63	92.23	2,183.09	-9.13	234.70	-234.88	0.00	0.00	0.00
2,400.00	8.63	92.23	2,380.82	-10.29	264.71	-264.90	0.00	0.00	0.00
2,600.00	8.63	92.23	2,578.55	-11.46	294.71	-294.93	0.00	0.00	0.00
2,729.72	8.63	92.23	2,706.81	-12.22	314.17	-314.40	0.00	0.00	0.00
Start Build DLS 9.00 TFO 179.84									
2,800.00	2.31	92.68	2,776.73	-12.49	320.86	-321.10	9.00	-9.00	0.64
3,000.00	15.69	271.98	2,974.55	-11.74	297.67	-297.90	9.00	6.69	89.65
3,200.00	33.69	272.03	3,155.52	-8.82	214.52	-214.69	9.00	9.00	0.03
3,400.00	51.69	272.04	3,301.92	-4.02	79.55	-79.64	9.00	9.00	0.01
3,600.00	69.69	272.06	3,399.42	2.20	-94.02	94.04	9.00	9.00	0.01
3,800.00	87.69	272.06	3,438.48	9.22	-289.20	289.35	9.00	9.00	0.00
3,825.66	90.00	272.06	3,439.00	10.14	-314.84	315.00	9.00	9.00	0.00
POE at 90.00 Inclination									
3,826.00	90.00	272.06	3,439.00	10.15	-315.18	315.34	0.00	0.00	0.00
7"									
4,000.00	90.00	272.06	3,439.00	16.42	-489.07	489.34	0.00	0.00	0.00
4,200.00	90.00	272.06	3,439.00	23.62	-688.94	689.34	0.00	0.00	0.00
4,400.00	90.00	272.06	3,439.00	30.83	-888.81	889.34	0.00	0.00	0.00
4,600.00	90.00	272.06	3,439.00	38.03	-1,088.68	1,089.34	0.00	0.00	0.00
4,800.00	90.00	272.06	3,439.00	45.24	-1,288.55	1,289.34	0.00	0.00	0.00
5,000.00	90.00	272.06	3,439.00	52.44	-1,488.42	1,489.34	0.00	0.00	0.00
5,200.00	90.00	272.06	3,439.00	59.65	-1,688.29	1,689.34	0.00	0.00	0.00
5,400.00	90.00	272.06	3,439.00	66.85	-1,888.16	1,889.34	0.00	0.00	0.00
5,600.00	90.00	272.06	3,439.00	74.06	-2,088.03	2,089.34	0.00	0.00	0.00
5,800.00	90.00	272.06	3,439.00	81.26	-2,287.90	2,289.34	0.00	0.00	0.00
6,000.00	90.00	272.06	3,439.00	88.47	-2,487.77	2,489.34	0.00	0.00	0.00
6,200.00	90.00	272.06	3,439.00	95.67	-2,687.64	2,689.34	0.00	0.00	0.00
6,400.00	90.00	272.06	3,439.00	102.88	-2,887.51	2,889.34	0.00	0.00	0.00
6,600.00	90.00	272.06	3,439.00	110.08	-3,087.38	3,089.34	0.00	0.00	0.00
6,800.00	90.00	272.06	3,439.00	117.29	-3,287.25	3,289.34	0.00	0.00	0.00
7,000.00	90.00	272.06	3,439.00	124.49	-3,487.12	3,489.34	0.00	0.00	0.00
7,088.14	90.00	272.06	3,439.00	127.66	-3,575.20	3,577.48	0.00	0.00	0.00
TD at 7088.14									

Database:	COMPASS-SANJUAN	**Local Co-ordinate Reference:**	Well Schalk 32-1B
Company:	WPX Energy	**TVD Reference:**	KB @ 6632.00usft (Aztec 730)
Project:	T31N 4W (NM Central)	**MD Reference:**	KB @ 6632.00usft (Aztec 730)
Site:	Schalk 32-1B	**North Reference:**	True
Well:	Schalk 32-1B	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 10Mar15 sam		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Schalk 32-1B POE pathf - plan hits target center - Point	0.00	0.00	3,439.00	10.14	-314.84	2,134,276.50	200,683.74	36.8611178	-107.2731462
Schalk 32-1B BHL - plan hits target center - Point	0.00	0.00	3,439.00	127.66	-3,575.20	2,134,428.91	197,424.83	36.8614400	-107.2842900
Schalk 32-1B POE actua - plan misses target center by 1.44usft at 3908.82usft MD (3439.00 TVD, 13.14 N, -397.95 E) - Point	0.00	0.00	3,439.00	14.57	-397.90	2,134,281.82	200,600.74	36.8611300	-107.2734300

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
300.00	300.00	9 5/8"	9.62	12.25
3,826.00	3,439.00	7"	7.00	8.75

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
420.00	420.00	0.00	0.00	Start Build 2.00
851.71	850.08	-1.26	32.44	Hold 8.63 Inclination
2,729.72	2,706.81	-12.22	314.17	Start Build DLS 9.00 TFO 179.84
3,825.66	3,439.00	10.14	-314.84	POE at 90.00 Inclination
7,088.14	3,439.00	127.66	-3,575.20	TD at 7088.14

WPXENERGY

WPX ENERGY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE:	3/11/2015	**API:**	30-039-31109
WELL NAME:	**Schalk 32 #1B**	**FIELD:**	Basin Fruitland Coal
BH LOCATION:	NWNW Sec. 32-T31N-R4W Rio Arriba, NM	**SURFACE:**	USFS
ELEVATION:	6618' GR	**MINERALS:**	BLM
TOTAL DEPTH:	**7088'**	**LEASE #**	NM-23044

I. **GEOLOGY:** Surface formation - San Jose

A. **FORMATION TOPS:** (6,632' KB; NP = not penetrated)

NAME		TVD	MD		NAME		TVD	MD
San Jose		Surface	Surface		Top Target Coal		3,439	3,824
Nacimiento		1,815	1,828		Bottom Target Coal (NP)		3,451	
Ojo Alamo		2,876	2,900		Base Coal (NP)		3,467	
Kirtland		3,006	3,035		Picture Cliffs (NP)		3,468	
Fruitland		3,228	3,299		**TD**		**3,439**	**7,088**

B. **LOGGING PROGRAM:** No open-hole logs. MWD Gamma Ray in curve and lateral.

C. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

D. **MUD LOGGING PROGRAM:** Mud logger will be on location from surface casing to TD.

II. **DRILLING**

A. **MUD PROGRAM:** LSND mud through vertical and curve. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing casing. Notify Engineering of any mud losses. Produced water in lateral.

B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	HOLE SIZE	DEPTH (MD)	CASING SIZE	WT. & GRADE
Surface	12-1/4"	+ 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3826'	7"	23# K-55
Prod. Liner	6-1/4"	+/- 3676'- 7088'	4-1/2"	11.6# K-55

Note: Intermediate casing is set at landing point. Production liner is 4-1/2" 11.6# Pre-perforated K-55.

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.

2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) Turbulent centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. **(NTL-FRA 90-1).**

3. PRODUCTION LINER: 4-1/2" 11.6# Pre-perforated K-55 liner.

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. SURFACE: Slurry: 150sx (269.4 cu.ft.) of "Type III" + 2% Cal-Seal 60 + ¼ # of poly-e-flake/sk + 0.3% Versaset + 2% Econolite + 6% Salt (Yield = 1.796 cu.ft./sk, Weight = 13.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.

2. INTERMEDIATE: Lead - 400 sx (1092 cu.ft.) of "EXTENDACEM" + 5 #/sk pheno-seal + 5% Cal-Seal 60 (Yield = 2.723 cu.ft./sk, Weight = 11.5 #/gal.). Tail - 100 sx (117.8cu.ft.) of Premium cement + 0.125 #/sk Poly-E-Flake, (Yield = 1.178 cu.ft./sk, Weight = 15.6#/gal.). Total volume = 1209.8 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface

3. PRODUCTION LINER: Un-cemented 4.5" perforated liner.

IV. COMPLETION

A. PRESSURE TEST

1. Pressure test 7" casing to 1500 psi for 30 minutes.

B. STIMULATION

1. No stimulation

C. RUNNING TUBING

1. *Fruitland Coal:* Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing approximately 50' above PBTD of 7" casing.