

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

RECEIVED

FEB 01 2012

Farmington Field Office
Bureau of Land Management

5 Lease Serial No
NMNM 623044
6 If Indian, Allottee or Tribe Name

1a Type of Work ☒ DRILL ☐ REENTER
1b Type of Well ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator

WPX Energy Production, LLC (FKA) Williams Production Company, LLC

3a Address P.O. Box 640 Aztec, NM 87410
3b Phone No (include area code) (505) 333-1808

4 Location of Well (Report location clearly and in accordance with any State requirements *)
At surface L 2070' FSL & 660' FWL
At proposed prod zone I 2600' FSL & 1150' FEL

14 Distance in miles and direction from nearest town or post office*
approximately 31 miles northeast of Blanco, New Mexico

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 660'

16 No. of Acres in lease 640.0

18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1980'

19 Proposed Depth 7071'

21 Elevations (Show whether DF, KDB, RT, GL, etc.) 6955' GR

22 Approximate date work will start* April 1, 2012

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall be attached to this form

- 1 Well plat certified by a registered surveyor
- 2 A Drilling Plan
- 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office)

- 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
- 5 Operator certification
- 6 Such other site specific information and/or plans as may be required by the authorized officer.

25 Signature Larry Higgins Name (Printed/Typed) LARRY HIGGINS Date 2-1-12

Title PERMIT SUPRV

Approved by (Signature) [Signature] Name (Printed/Typed) Office FFO Date 3/26/12

Title AFM

Application approval 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
Conditions of approval, if any, are attached

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 reverse)

WPX Energy Production, LLC proposes to develop the Basin Fruitland Coal formation at the above described location in accordance with the attached drilling and surface use plans

The surface is under Jurisdiction of the Carson National Forest, Jicarilla Ranger District

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the CNF.

Approximately 140' of new access road will be required for this proposed well

This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 240.2 feet would be required for this well.

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

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

NMOCD

APR 02 2012

Hold C104

for Directional Survey and "As Drilled" plat

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NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT!

Hold C104
for Directional Survey and "As Drilled" plat

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

PCUD MAR 29 '12
OIL CONS. DIV.

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31108	*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 301245	*Property Name SCHALK 32	*Well Number 2A
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY	*Elevation 6955'

10 Surface Location

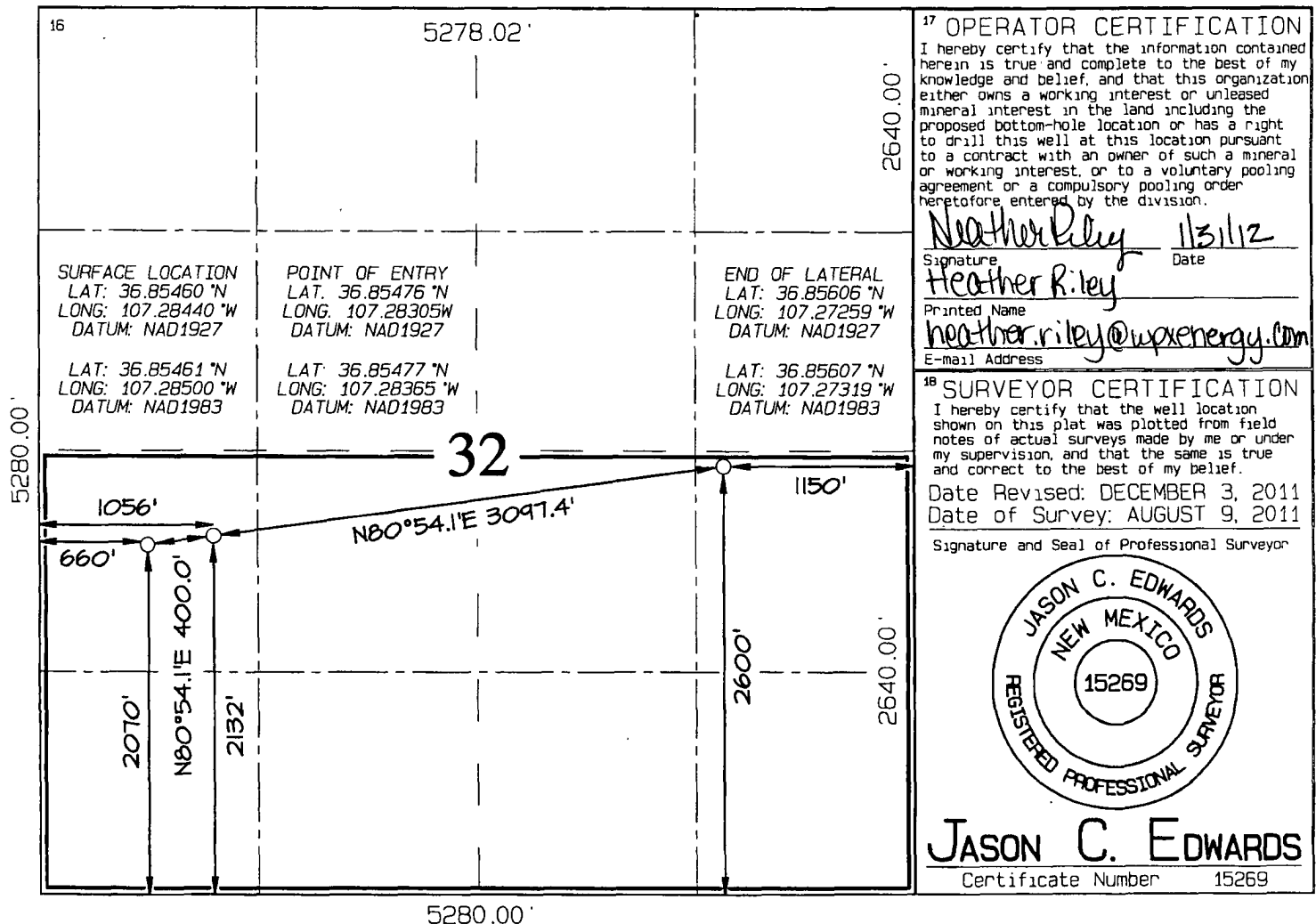
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	32	31N	4W		2070	SOUTH	660	WEST	RIO ARRIBA

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
I	32	31N	4W		2600	SOUTH	1150	EAST	RIO ARRIBA

12 Dedicated Acres 320.0 Acres - (S/2)	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



WPX Energy Production, LLC**Operations Plan***(Note: This procedure will be adjusted on site based upon actual conditions)***DATE:** 12/08/2011**WELLNAME:** Schalk #32-2A **FIELD:** Basin Fruitland Coal**BH LOCATION:** NWSW Sec. 32-T31N-4W
Rio Arriba, NM **SURFACE:** USFS**ELEVATION:** 6,955' GR **MINERALS:** Federal**TOTAL DEPTH:** 7,071' **LEASE #** NM-23044**I. GEOLOGY:** Surface formation - San Jose**A. FORMATION TOPS:** (KB)

NAME	TVD	MD	NAME	TVD	MD
San Jose	Surface	Surface	Top Target Coal	3,759	4,010
Nacimiento	2,144	2,144	Bottom Target Coal	3,774	
Ojo Alamo	3,194	3,194	Base Coal	3,788	
Kirtland	3,309	3,309	Picture Cliffs	3,789	
Fruitland	3,559	3,578	TD	3,761	7,071

- **NOTE:** Well will be vertically drilled to 100' into Pictured Cliffs, logged through the PC, 7" csg will be run with shoe 100' into Pictured Cliffs. Cased hole whipstock will be set at KOP (+/-441') above top of target coal). Well will be geosteered in lateral.

B. LOGGING PROGRAM: HRI/SDL/DSN from pilot hole TD to surface csg. 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 500' to TD of intermediate casing. Then from mill out of intermediate casing to TD.**II. DRILLING****A. MUD PROGRAM:** Clear water with benex to 7" casing point. Convert to a LSND mud to log and run pipe. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.**B. DRILLING FLUID:** Horizontal section will be drilled with produced water.

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- C. 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:

<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH (MD)</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	+ 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,890'	7"	23# K-55
Prod. Liner	6-1/4"	+/- 3,320' - 7,071'	4-1/2"	11.6# K-55

Note: Intermediate casing is set 100' into Pictured Cliffs in the pilot hole. Production liner is 4-1/2" 11.6# Pre-perforated K-55 and the liner will be set with liner hanger 5-10' outside of the window.

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 / CASING: No centralization

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 + 1/4 # 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 600psi.
2. INTERMEDIATE: Lead - 340 sx (928.2 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 = 1046 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface. WOC 12 hours. Test csg to 1500psi.
3. PRODUCTION LINER: Open hole completion. No cement.

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IV. COMPLETION

A. PRESSURE TEST

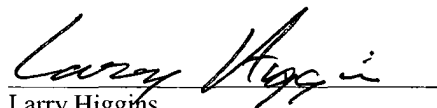
1. Pressure test 7" casing to 1500# for 15 minutes.

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.


Larry Higgins
Permit Supervisor

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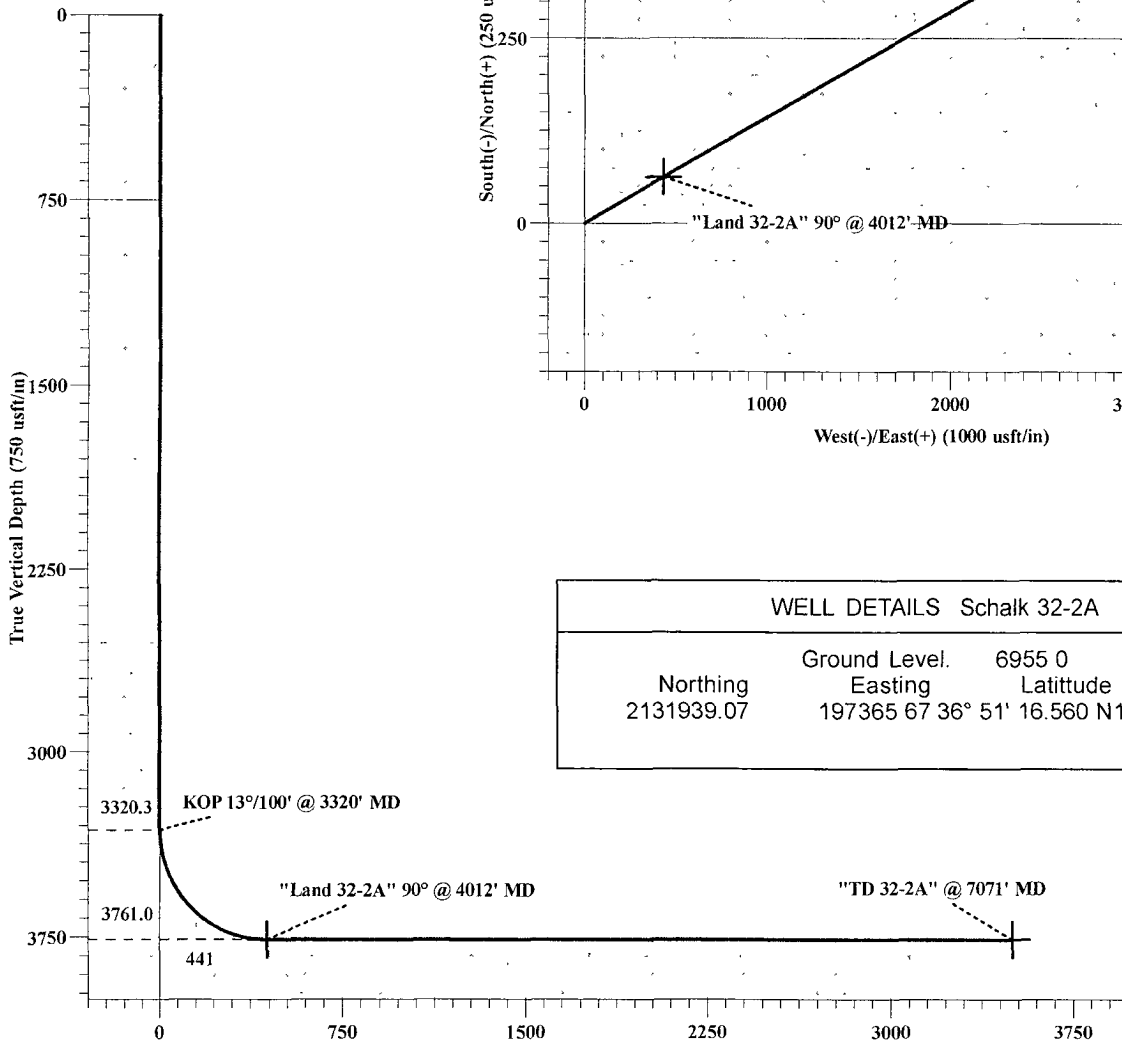
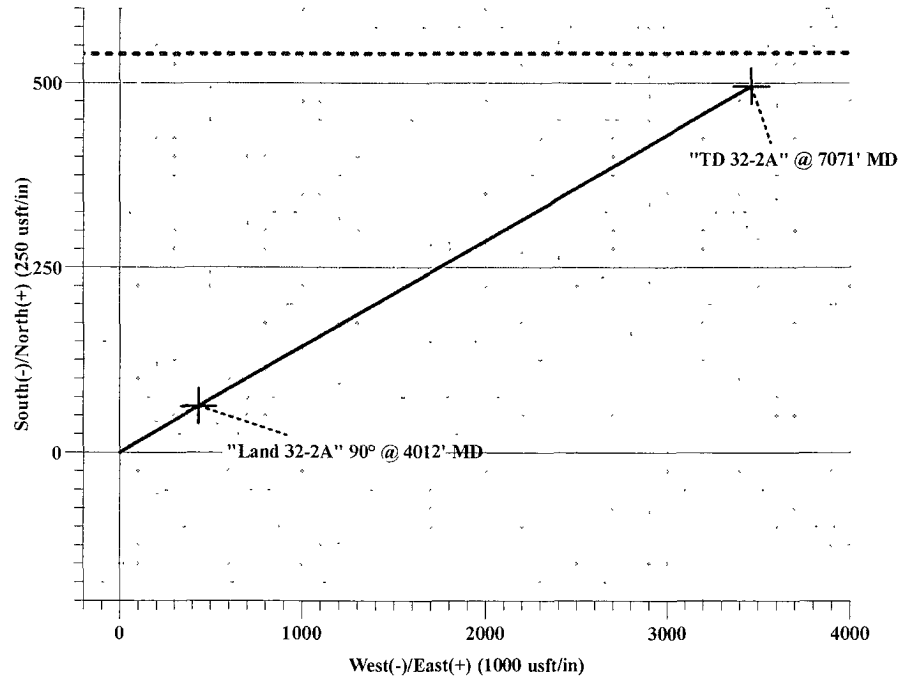


Schalk 32-2A ST01
 Sec 32 T31N R04W
 Rio Arriba Co., NM
 GE: 6955' / KB: 14'

PATHFINDER®
 A Schlumberger Company

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
LAND 32-2A3761 0	62 4		436	32131996 74	197802 62	Point
TD 32-2A ST01 0	495 4		3464	92132396 89	200835 69	Point



WELL DETAILS Schalk 32-2A

Ground Level.	6955 0
Northing	2131939.07
Easting	197365 67 36° 51' 16.560 N
Latitude	107° 17' 3 840 W
Longitude	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0 0	0.00	0 00	0.0	0.0	0.0	0 00	0.00	0 0	
3320 3	0 00	0 00	3320 3	0.0	0.0	0 00	0.00	0 0	
4012 6	90 00	81 86	3761 0	62 4	436 3	13 00	81 86	440 7	
7071 9	90 00	81.86	3761.0	495 4	3464 9	0.00	0 00	3500.1	TD 32-2A ST01

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Plan: Design #2 (Schalk 32-2A/ST01)

Created By: Breck Enoch

Date: 07-Dec-2011

Planning Report

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Site: Sec 32 T31N R04W -32-2A
Company:	Williams Production Co	TVD Reference:	WELL @ 6969 0usft (Original Well Elev)
Project:	Rio Arriba Co NM	MD Reference:	WELL @ 6969 0usft (Original Well Elev)
Site:	Sec 32 T31N R04W - 32-2A	North Reference:	True
Well:	Schalk 32-2A	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST01		
Design:	Design #2		

Project:	Rio Arriba Co NM		
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:	Sec 32 T31N R04W -32-2A				
Site Position:	Northing:	2,131,939 07 usft	Latitude:	36° 51' 16 560 N	
From:	Lat/Long	Easting:	197,365 67 usft	Longitude:	107° 17' 3 840 W
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"	Grid Convergence:	-0 62°

Well:	Schalk 32-2A					
Well Position	+N/-S	0 0 usft	Northing:	2,131,939 07 usft	Latitude:	36° 51' 16 560 N
	+E/-W	0 0 usft	Easting:	197,365 67 usft	Longitude:	107° 17' 3 840 W
Position Uncertainty	0 0 usft		Wellhead Elevation:		Ground Level:	6,955 0 usft

Wellbore:	ST01				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	12/1/2011	(°)	(°)	(nT)
			9 65	63 64	50,814

Design:	Design #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0 0	0 0	0 0	81 86

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 00	0 00	0 00	
3,320 3	0 00	0 00	3,320 3	0 0	0 0	0 00	0 00	0 00	0 00	
4,012 6	90 00	81 86	3,761 0	62 4	436 3	13 00	13 00	0 00	81 86	
7,071 9	90 00	81 86	3,761 0	495 4	3,464 9	0 00	0 00	0 00	0 00	TD 32-2A ST01

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Planning Report

Database: EDM 5000 1: Single User-Db
 Company: Williams: Production Co
 Project: Rio Arriba Co - NM
 Site: Sec 32 T31N-R04W - 32-2A
 Well: Schalk 32-2A
 Wellbore: ST01
 Design: Design #2

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Site Sec 32 T31N-R04W - 32-2A
 WELL @ 6969 0usft (Original Well Elev)
 WELL @ 6969 0usft (Original Well Elev)
 True
 Minimum Curvature

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 0	0 00	0 00	0 0	0 0	0 0	0 0	0 00	0 00	0 00
100 0	0 00	0 00	100 0	0 0	0 0	0 0	0 00	0 00	0 00
200 0	0 00	0 00	200 0	0 0	0 0	0 0	0 00	0 00	0 00
300 0	0 00	0 00	300 0	0 0	0 0	0 0	0 00	0 00	0 00
400 0	0 00	0 00	400 0	0 0	0 0	0 0	0 00	0 00	0 00
500 0	0 00	0 00	500 0	0 0	0 0	0 0	0 00	0 00	0 00
600 0	0 00	0 00	600 0	0 0	0 0	0 0	0 00	0 00	0 00
700 0	0 00	0 00	700 0	0 0	0 0	0 0	0 00	0 00	0 00
800 0	0 00	0 00	800 0	0 0	0 0	0 0	0 00	0 00	0 00
900 0	0 00	0 00	900 0	0 0	0 0	0 0	0 00	0 00	0 00
1,000 0	0 00	0 00	1,000 0	0 0	0 0	0 0	0 00	0 00	0 00
1,100 0	0 00	0 00	1,100 0	0 0	0 0	0 0	0 00	0 00	0 00
1,200 0	0 00	0 00	1,200 0	0 0	0 0	0 0	0 00	0 00	0 00
1,300 0	0 00	0 00	1,300 0	0 0	0 0	0 0	0 00	0 00	0 00
1,400 0	0 00	0 00	1,400 0	0 0	0 0	0 0	0 00	0 00	0 00
1,500 0	0 00	0 00	1,500 0	0 0	0 0	0 0	0 00	0 00	0 00
1,600 0	0 00	0 00	1,600 0	0 0	0 0	0 0	0 00	0 00	0 00
1,700 0	0 00	0 00	1,700 0	0 0	0 0	0 0	0 00	0 00	0 00
1,800 0	0 00	0 00	1,800 0	0 0	0 0	0 0	0 00	0 00	0 00
1,900 0	0 00	0 00	1,900 0	0 0	0 0	0 0	0 00	0 00	0 00
2,000 0	0 00	0 00	2,000 0	0 0	0 0	0 0	0 00	0 00	0 00
2,100 0	0 00	0 00	2,100 0	0 0	0 0	0 0	0 00	0 00	0 00
2,200 0	0 00	0 00	2,200 0	0 0	0 0	0 0	0 00	0 00	0 00
2,300 0	0 00	0 00	2,300 0	0 0	0 0	0 0	0 00	0 00	0 00
2,400 0	0 00	0 00	2,400 0	0 0	0 0	0 0	0 00	0 00	0 00
2,500 0	0 00	0 00	2,500 0	0 0	0 0	0 0	0 00	0 00	0 00
2,600 0	0 00	0 00	2,600 0	0 0	0 0	0 0	0 00	0 00	0 00
2,700 0	0 00	0 00	2,700 0	0 0	0 0	0 0	0 00	0 00	0 00
2,800 0	0 00	0 00	2,800 0	0 0	0 0	0 0	0 00	0 00	0 00
2,900 0	0 00	0 00	2,900 0	0 0	0 0	0 0	0 00	0 00	0 00
3,000 0	0 00	0 00	3,000 0	0 0	0 0	0 0	0 00	0 00	0 00
3,100 0	0 00	0 00	3,100 0	0 0	0 0	0 0	0 00	0 00	0 00
3,200 0	0 00	0 00	3,200 0	0 0	0 0	0 0	0 00	0 00	0 00
3,300 0	0 00	0 00	3,300 0	0 0	0 0	0 0	0 00	0 00	0 00
3,320 3	0 00	0 00	3,320 3	0 0	0 0	0 0	0 00	0 00	0 00
3,400 0	10 37	81 86	3,399 6	1 0	7 1	7 2	13 00	13 00	0 00
3,500 0	23 37	81 86	3,495 1	5 1	35 8	36 1	13 00	13 00	0 00
3,600 0	36 37	81 86	3,581 6	12 1	85 0	85 8	13 00	13 00	0 00
3,700 0	49 37	81 86	3,654 7	21 8	152 2	153 7	13 00	13 00	0 00
3,800 0	62 37	81 86	3,710 7	33 4	233 9	236 3	13 00	13 00	0 00
3,900 0	75 37	81 86	3,746 7	46 6	326 1	329 4	13 00	13 00	0 00
4,000 0	88 37	81 86	3,760 8	60 6	423 9	428 2	13 00	13 00	0 00
4,012 6	90 00	81 86	3,761 0	62 4	436 3	440 7	13 00	13 00	0 00
4,100 0	90 00	81 86	3,761 0	74 8	522 8	528 2	0 00	0 00	0 00
4,200 0	90 00	81 86	3,761 0	88 9	621 8	628 2	0 00	0 00	0 00
4,300 0	90 00	81 86	3,761 0	103 1	720 8	728 2	0 00	0 00	0 00
4,400 0	90 00	81 86	3,761 0	117 2	819 8	828 2	0 00	0 00	0 00
4,500 0	90 00	81 86	3,761 0	131 4	918 8	928 2	0 00	0 00	0 00
4,600 0	90 00	81 86	3,761 0	145 5	1,017 8	1,028 2	0 00	0 00	0 00
4,700 0	90 00	81 86	3,761 0	159 7	1,116 8	1,128 2	0 00	0 00	0 00
4,800 0	90 00	81 86	3,761 0	173 8	1,215 8	1,228 2	0 00	0 00	0 00
4,900 0	90 00	81 86	3,761 0	188 0	1,314 8	1,328 2	0 00	0 00	0 00
5,000 0	90 00	81 86	3,761 0	202 1	1,413 8	1,428 2	0 00	0 00	0 00
5,100 0	90 00	81 86	3,761 0	216 3	1,512 8	1,528 2	0 00	0 00	0 00

Planning Report

Database: EDM 5000 1 Single User Db
 Company: Williams Production Co
 Project: Rio Arriba Co - NM
 Site: Sec 32 T31N R04W - 32-2A
 Well: Schalk 32-2A
 Wellbore: ST01
 Design: Design #2

Local Co-ordinate Reference: Site Sec 32 T31N R04W - 32-2A
 TVD Reference: WELL @ 6969 0usft (Original Well Elev)
 MD Reference: WELL @ 6969 0usft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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)	
5,200 0	90 00	81 86	3,761 0	230 4	1,611 8	1,628 2	0 00	0 00	0 00	
5,300 0	90 00	81 86	3,761 0	244 6	1,710 8	1,728 2	0 00	0 00	0 00	
5,400 0	90 00	81 86	3,761 0	258 7	1,809 8	1,828 2	0 00	0 00	0 00	
5,500 0	90 00	81 86	3,761 0	272 9	1,908 8	1,928 2	0 00	0 00	0 00	
5,600 0	90 00	81 86	3,761 0	287 0	2,007 8	2,028 2	0 00	0 00	0 00	
5,700 0	90 00	81 86	3,761 0	301 2	2,106 7	2,128 2	0 00	0 00	0 00	
5,800 0	90 00	81 86	3,761 0	315 4	2,205 7	2,228 2	0 00	0 00	0 00	
5,900 0	90 00	81 86	3,761 0	329 5	2,304 7	2,328 2	0 00	0 00	0 00	
6,000 0	90 00	81 86	3,761 0	343 7	2,403 7	2,428 2	0 00	0 00	0 00	
6,100 0	90 00	81 86	3,761 0	357 8	2,502 7	2,528 2	0 00	0 00	0 00	
6,200 0	90 00	81 86	3,761 0	372 0	2,601 7	2,628 2	0 00	0 00	0 00	
6,300 0	90 00	81 86	3,761 0	386 1	2,700 7	2,728 2	0 00	0 00	0 00	
6,400 0	90 00	81 86	3,761 0	400 3	2,799 7	2,828 2	0 00	0 00	0 00	
6,500 0	90 00	81 86	3,761 0	414 4	2,898 7	2,928 2	0 00	0 00	0 00	
6,600 0	90 00	81 86	3,761 0	428 6	2,997 7	3,028 2	0 00	0 00	0 00	
6,700 0	90 00	81 86	3,761 0	442 7	3,096 7	3,128 2	0 00	0 00	0 00	
6,800 0	90 00	81 86	3,761 0	456 9	3,195 7	3,228 2	0 00	0 00	0 00	
6,900 0	90 00	81 86	3,761 0	471 0	3,294 7	3,328 2	0 00	0 00	0 00	
7,000 0	90 00	81 86	3,761 0	485 2	3,393 7	3,428 2	0 00	0 00	0 00	
7,071 9	90 00	81 86	3,761 0	495 4	3,464 9	3,500 1	0 00	0 00	0 00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
TD 32-2A ST01	0 00	0 00	3,761 0	495 4	3,464 9	2,132,396 89	200,835 69	36° 51' 21 456 N	107° 16' 21 209 W	
- plan hits target center										
- Point										
LAND 32-2A	0 00	0 00	3,761 0	62 4	436 3	2,131,996 74	197,802 62	36° 51' 17 177 N	107° 16' 58 472 W	
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
3,320 3	3,320 3	0 0	0 0	KOP 13°/100' @ 3320' MD	
4,012 6	3,761 0	62 4	436 3	"Land 32-2A" 90° @ 4012' MD	
7,071 9	3,761 0	495 4	3,464 9	"TD 32-2A" @ 7071' MD	

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Well Control Equipment Schematic for 2M Service

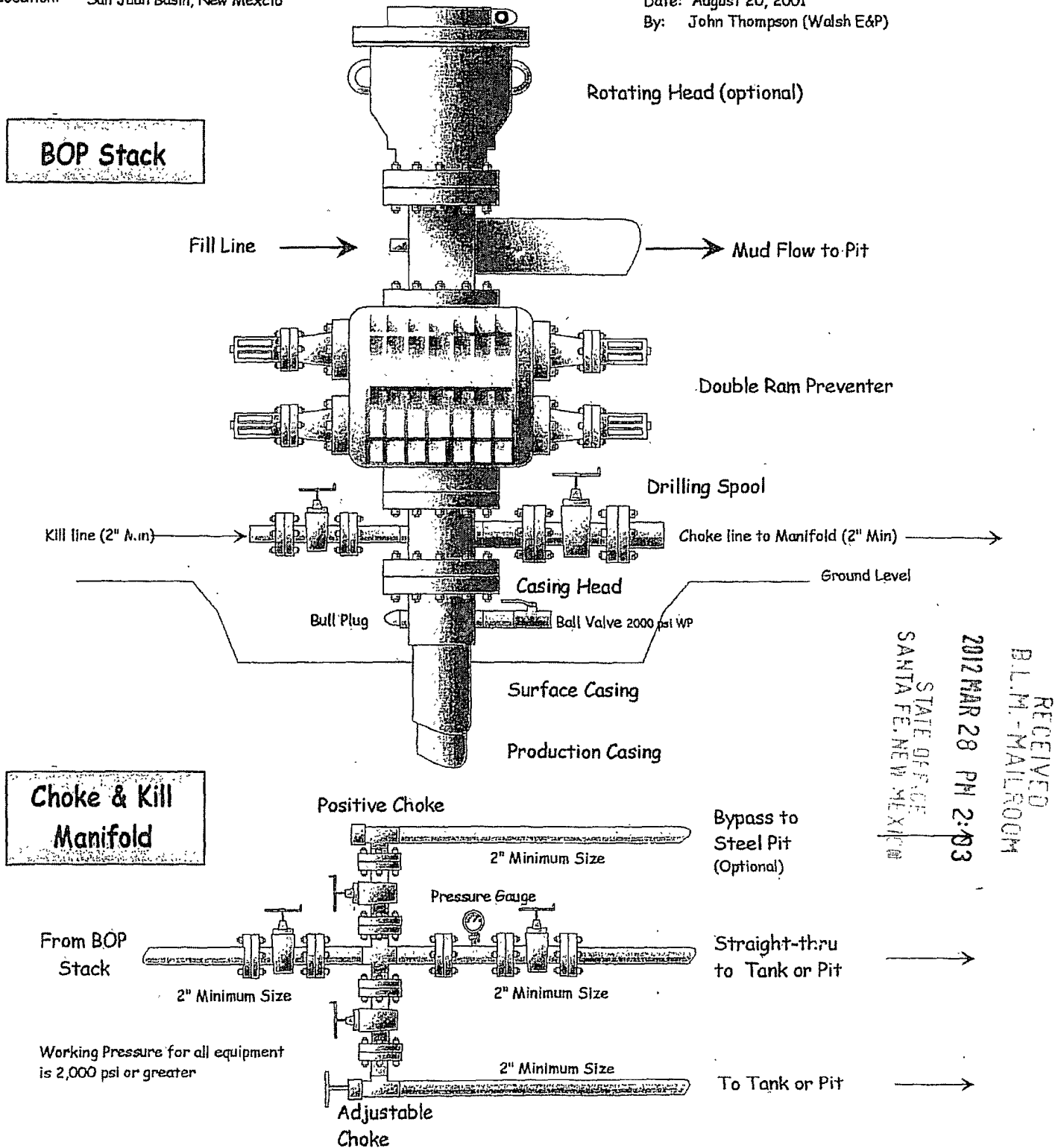
Attachment to Drilling Technical Program.

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)



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