Form 3160-3
(September 2001)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No: NMSF-078767

6 If Indian, Allottee or Tribe Name:

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No: Rosa Unit NMNM-78407A-MV

1b Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8 Lease Name and Well No.: 72B

2. Name of Operator: Williams Production Company, LLC

9. API Well No.: 30-039-30336

3a. Address: P O. Box 640 Aztec, NM 87410

3b. Phone No. *(include area code)*: (505) 634-4208

10. Field and Pool, or Exploratory: Blanco Mesaverde/Basin Dakota

4 Location of Well *(Report location clearly and in accordance with any State requirements. *)*

At surface: 2260' FSL & 600' FEL

At proposed prod. zone: 2310' FSL & 2310' FEL

11. Sec., T., R., M., or Blk. and Survey or Area: I Section 6, 31N, 5W

14. Distance in miles and direction from nearest town or post office*: approximately 56 miles northeast of Blanco, New Mexico

12. County or Parish: Rio Arriba

13. State: NM

15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in lease	17 Spacing Unit dedicated to this well
600'	2518.040	265.520– (Entire Section))
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19 Proposed Depth**	**20. BLM/BIA Bond No. on file**
50'	8,548'	UT0847 899
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
6,334' GR	Fall, 2007	1 month

RCVD AUG 29 '07
OIL CONS. DIV.
DIST. 3

24. Attachments

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	Name *(Printed/Typed)*	Date
Larry Higgins	Larry Higgins	8-20-07

Title: Drilling COM

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/s/ Matthew Mavrogeorge		8/28/07
Title: AFM	Office: FFO	

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)

Williams Exploration and Production Company, LLC, proposes to develop the Blanco Mesaverde and Basin Dakota formations at the above described location in accordance with the attached drilling and surface use plan.

The well pad surface is under jurisdiction of the Bureau of Land Management, Farmington Field Office (BLM/FFO).

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

This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 124 10 feet would be required for this location

HOLD C104 FOR directional Survey

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

NMOCD

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

This action is subject to technical and procedural review pursuant to 43 CFR 3165 3 and appeal pursuant to 43 CFR 3165 4

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 12, 2005
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

RECEIVED
070 FARMINGTON NM
2007 AUG 29 P 11:40

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30336	72319 / 71599	BLANCO MESAVERDE / BASIN DAKOTA

[4] Property Code	[5] Property Name	[6] Well Number
17033	ROSA UNIT	72B

[7] OGRID No.	[8] Operator Name	[9] Elevation
120782	WILLIAMS PRODUCTION COMPANY	6334'

[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
I	6	31N	5W		2260	SOUTH	600	EAST	RIO ARRIBA

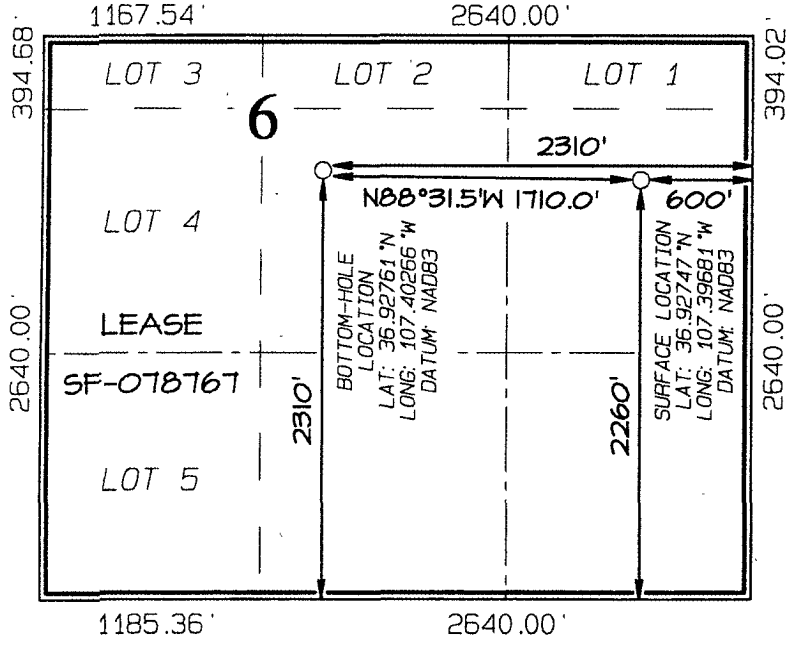
[11] Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	6	31N	5W		2310	SOUTH	2310	EAST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
264.56 Acres - (Entire Section)			

RCVD AUG 29 '07
OIL CONS. DIV.
DIST. 3

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.

Larry Higgins 8-20-07
Signature Date

Larry Higgins
Printed Name

[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

Survey Date: FEBRUARY 22, 2007

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., 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 and Natural Resources

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

Form C-103
May 27, 2004

WELL API NO. 30-039-30336

5. Indicate Type of Lease FEDERAL X STATE ☐ FEE ☐

6. State Oil & Gas Lease No. **NMSF-078767**

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: **Rosa**

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

8. Well Number **72B**

2. Name of Operator: **Williams Production Company, LLC**

9. OGRID Number: **120782**

3. Address of Operator: **POB 640, Aztec, NM**

10. Pool name or Wildcat: **Blanco Mesaverde/Basin Dakota**

4. Well Location: Surface
Unit Letter **I** : **2260** feet from the **S** line and **600** feet from the **E** line
Section **6** Township **31N** Range **05W** NMPM County **Rio Arriba**

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* **6334' GR**

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drlg/Completion Depth to Groundwater >100 ft Distance from nearest fresh water well >1000 ft Distance from nearest surface water >500 ft

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:	☐			OTHER:	☐		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Drilling/Completion pit to be located approximately 50 to 75 feet from well head. Pit multi-use drilling and completion to avoid additional site disturbance and pit will be considered out of service once production tubing set. Pit to be constructed, operated and closed in accordance with NMOCD guidelines and Williams procedures.

RCVD AUG 29 '07
OIL CONS. DIV.
DIST. 3

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.**

SIGNATURE Larry Higgins TITLE Drilling COM DATE 8-20-07

Type or print name **Larry Higgins** E-mail address: **larry.higgins@williams.com** Telephone No. **505-634-4208**

For State Use Only

APPROVED BY: _____ TITLE Deputy Oil & Gas Inspector, District #3 DATE SEP 04 2007

Conditions of Approval (if any):

APD Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 20TH day of AUGUST, 2007.

Name LARRY HIGGINS

Position Title DRILLING COM

Address P.O. Box 640, AZTEC, NM 87410

Telephone (505) 634-4208

Field representative (if not above signatory) _____

E-mail LARRY.HIGGINS@WILLIAMS.COM

Date: 8-20-07

Larry Higgins
Drlg COM
Williams Production Company, LLC

WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE:	8/6/2007	**FIELD:**	Basin DK/ BlancoMV
WELL NAME:	Rosa #72B	**SURFACE:**	BLM
BH LOCATION:	NWSE Sec 6-31N-5W Rio Arriba, NM	**MINERALS:**	BLM
SURF LOCATION:	NESE Sec 6-31N-5W Rio Arriba, NM		
ELEVATION:	6,334' GR	**LEASE #**	SF-078767
MEASURED DEPTH:	**8,548'**		

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

A. **FORMATION TOPS:** (KB)

Name		MD	TVD		Name		MD	TVD
Ojo Alamo		2,757	2,413		Menefee		5,923	5,433
Kirtland		2,878	2,518		Point Lookout		6,118	5,628
Fruitland		3,391	2,943		Mancos		6,448	5,958
Pictured Cliffs		3,649	3,178		Gallup		7,488	6,998
Lewis		3,958	3,473		Greenhorn		8,208	7,718
Cliff House		5,878	5,388		Graneros		8,268	7,778
					Dakota		8,398	7,908
					TD		**8,548**	**8,058**

B. **MUD LOGGING PROGRAM:** Mudlogger on location at 100' above Gallup SS to TD. Mud logger to pick TD.

C. **LOGGING PROGRAM:** Cased Hole Logs only.

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

II. **DRILLING**

A. **MUD PROGRAM:** Clear water with benex to 7-5/8" 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. Use air w/Air Hammer from 7-5/8in. csg.to TD.

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	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	14 3/4	300	10 3/4	40.5	K-55
Intermediate	9 7/8	4,490	7 5/8	26.4	K-55
Longstring	6 3/4	8,548	5 1/2	17	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 10 3/4" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.

2. INTERMEDIATE CASING: 7 5/8" 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: 5-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place marker joint above 5,400'. Place centralizers as needed across selected production intervals.

C. CEMENTING:

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

1. SURFACE: Slurry: 255sx (356 cu.ft.) of "Type III" + 2% $CaCl_2$ + ¼ # of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.

2. INTERMEDIATE: Lead - 790 sx (1,651) cu.ft.) of "Premium Light with 8% gel and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 100 sx (139cu.ft.) of "Type III" with 1/4# cello-flake/sk, (Yield = 1.4 cu.ft./sk, Weight = 14.5#/gal.). Use **100% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = 1,790 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.

3. PRODUCTION CASING: 10 bbl Gelled Water space. Cement: 195 sx (417 ft^3) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, ¼ #/sk cello flake and 4% Phenoseal. (Yield = 2.15 ft^3/sk, Weight = 12.3 #/gal.). Displace cement at a minimum of 8 BPM. The 20% excess in slurry should cover 100 ft into intermediate casing. Total volume 417ft^3. WOC 12 hours

IV. IV COMPLETION

A. CBL

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings if cement not circulated to surface..

B. PRESSURE TEST

1. Pressure test 5-1/2" casing to 6000 psi max, hold at 1500 psi for 30 minutes.

C. STIMULATION

1. Stimulate Dakota with approximately 10,000# of LiteProp 108™ sand in slick water..
2. Isolate Dakota with a RBP.
3. Stimulate Point Lookout with approximately 9300# of 14/30 LiteProp™ in slick water.
4. Isolate Point Lookout with a RBP.
5. Perforate the Menefee/Cliff House as determined from the open hole logs.
6. Stimulate with approximately 9300# of 14/30 LiteProp™ in slick water.
7. Test each zone before removing bridge plugs.

D. RUNNING TUBING

1. *Dakota*: Run 2-1/16", 3.25#, J-55, IJ tubing with 1/2 mule shoe on bottom , SN with pump-out plug on top of adeem joint and 5 Seal Units. Land tubing approximately 100' below top Dakota perf.

2. *Mesa Verde:* Run 2-1/16", 2.9#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforations.

for Gary Sizemore
Sr. Drilling Engineer

WILLIAMS PRODUCTION COMPANY, LLC

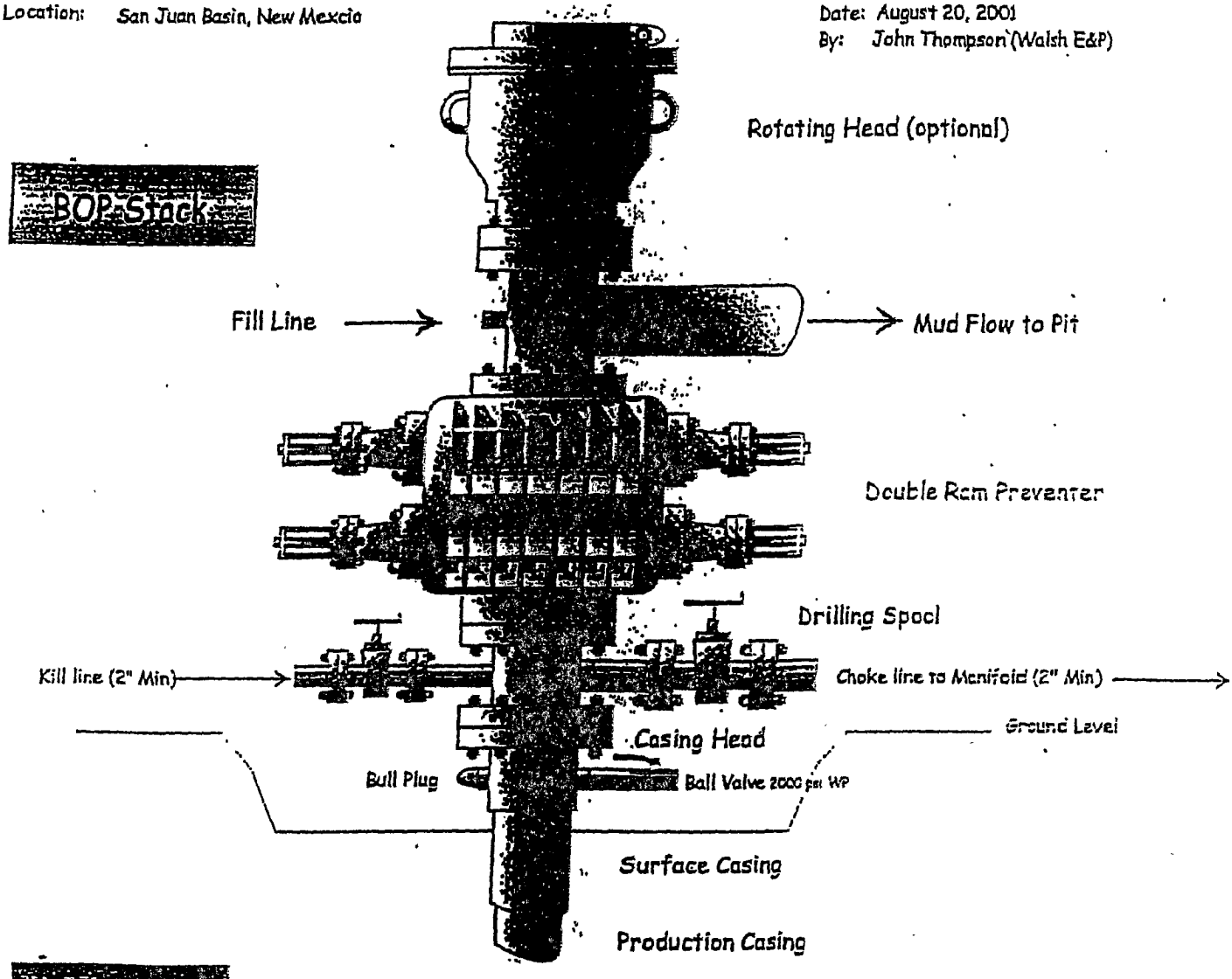
Well Control Equipment Schematic for 2M Service

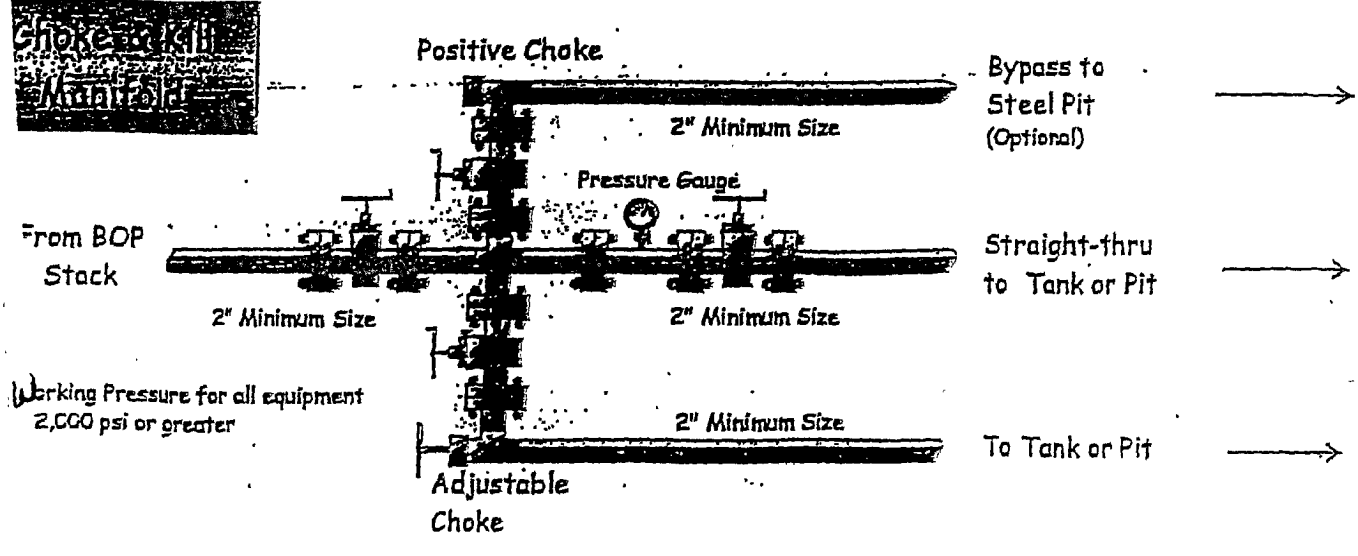
Attachment to Drilling Technical Program

Typical BOP setup

Location: San Juan Basin, New Mexcio

Date: August 20, 2001
By: John Thompson (Walsh E&P)





GENERAL ROSA DRILLING PLAN

Rosa Unit boundries:

T31N, R4W: all except sections 32-36
T31N, R5W: all except sections 1 & 2
T31N, R6W: all except sections 6,7,18,20, & 27-36
T32N, R6W: sections 32-36

FORMATION	LITHOLOGY	WATER	GAS	OIL/COND	OVER-PRES	LOST CIRC
Nacimiento	Interbedded shales, siltstones and sandstones	Possible	Possible	No	No	No
Ojo Alamo	Sandstone and conglomerates with lenses of shale	Fresh	No	No	No	No
Kirtland	Shale W/interbedded sandstones	No	Possible	No	No	No
Fruitland	Inter, SS, SiltSt, SH &Coals w/carb, SS, SiltSt, SH	Yes	Yes	No	Possible	Possible
Pictured Cliffs	Massive Sandstone w/thin interbedded shales	Possible	Yes	Possible	No	Possible
Lewis	Shale w/thin interbedded sandstones and siltstones	No	Possible	No	No	No
Cliff House	Transgressive sandstones	Possible	Yes	No	No	No
Menefee	Sandstones, carb shales and coal	Possible	Yes	No	No	No
Point Lookout	Regressive coastal barrier sandstone	Possible	Yes	Possible	No	Yes
Mancos	Marine shale and interbedded sandstone	No	Possible	Possible	No	Possible
Upr Dadota	Marine sand and shales	No	Yes	Possible	No	Possible
Lwr Dakota	Fluvial sands, shales, & coal	Possible	Yes	Possible	No	Possible

DRILLING

Potential Hazards:

1. There are no overpressured zones expected in this well.
2. No H2S zones will be penetrated while drilling this well.

Mud System:

1. Surface - The surface hole will be drilled with a low-solids, non-dispersed system with starch and lost circulation material as needed. Expected mud weights will be in the 8.4 to 9.0 lb per gal range. Viscosities will be in the 30 to 60 sec/qrt range as needed to remove drill cuttings.
2. Intermediate - The intermediate hole will be drilled with clear water and Benex to TD where the well will be mudded up to log and run casing. The mud system will be low-solids, non-dispersed with mud weights in the 9 to 10 lb per gal range as needed to control the well. Viscosities will be in the 45 to 55 range as needed to support any weight material. The weight material will consist of Barite.
3. Production - The well will be drilled using air from the intermediate casing point to TD. For Fruitland Coal wells, the coal section will be drilled with air/mist.

Williams

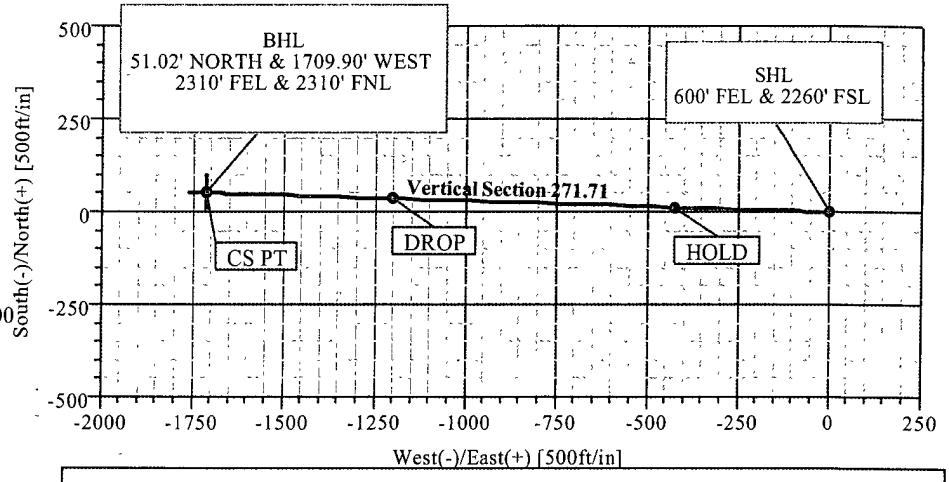
Weatherford

ROSA UNIT 72B
SECT. 6 T31N R5W
2260' FSL & 600' FEL
RIO ARRIBA COUNTY, NM
PLAN 2

KB ELEVATION: 6348'
GR ELEVATION:6334'

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	271.71	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	271.71	400.00	0.00	0.00	0.00	0.00	0.00	
3	1700.00	39.00	271.71	1601.91	12.69	-425.43	3.00	271.71	425.62	
4	2930.76	39.00	271.71	2558.39	35.80	-1199.63	0.00	0.00	1200.16	
5	4490.01	0.00	271.71	4000.00	51.02	-1709.90	2.50	180.00	1710.66	CS PT
6	8548.01	0.00	271.71	8058.00	51.02	-1709.90	0.00	271.71	1710.66	PBHL

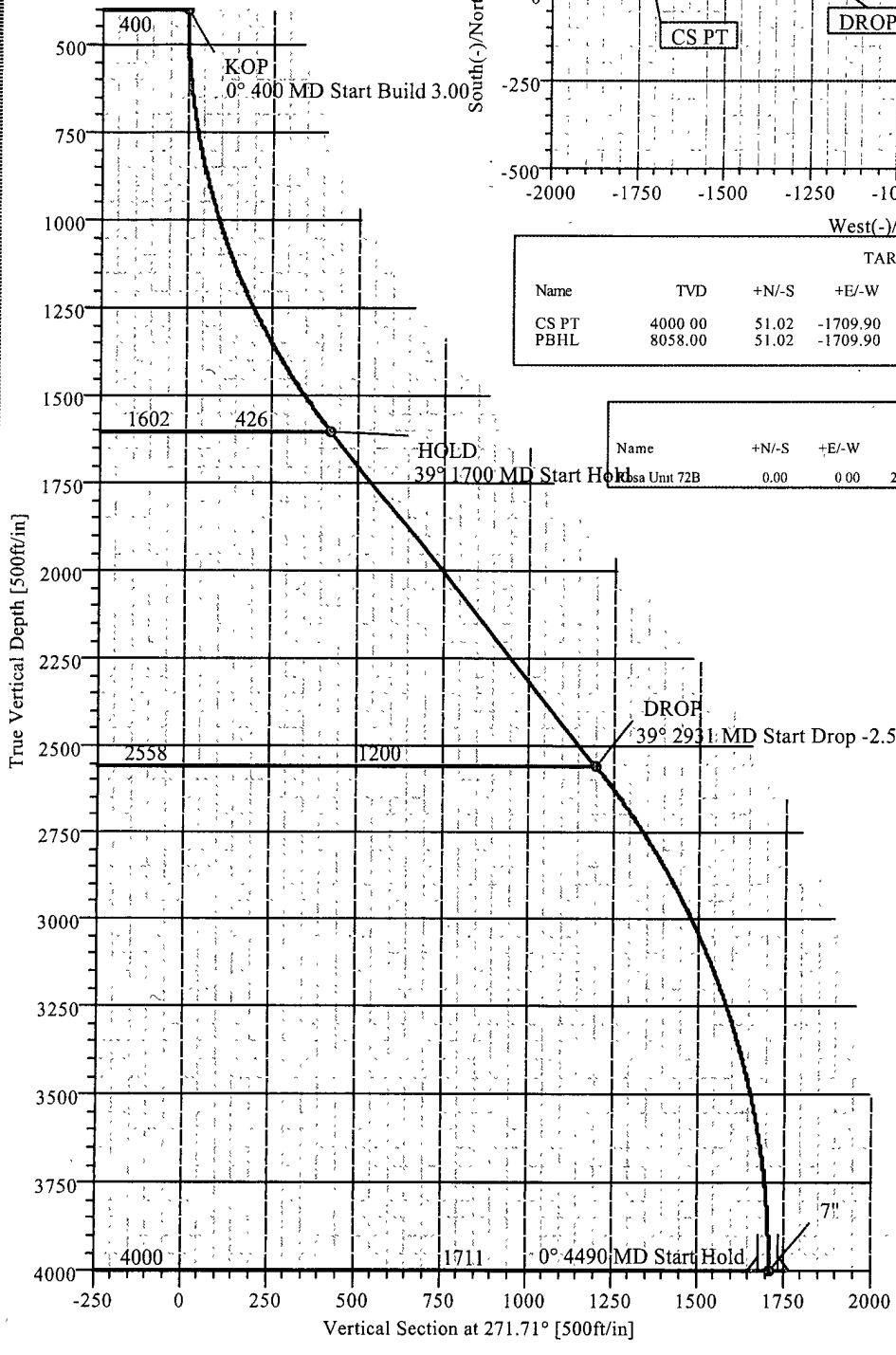


TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
CS PT	4000 00	51.02	-1709.90	36°55'39.396N	107°24'09.576W	Point
PBHL	8058.00	51.02	-1709.90	36°55'39.396N	107°24'09.576W	Circle (Radius 50)

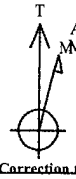
WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Rosa Unit 72B	0.00	0 00	2157223.45	2850687 05	36°55'38 892N	107°23'48 516W	N/A



FORMATION TOP DETAILS

No	TVDPath	MDPath	Formation
1	243 00	243.00	Ojo Alamo
2	2518.00	2878.78	Kirtland
3	2943 00	3391 38	Fruitland
4	3178 00	3649 27	Pictured Cliffs
5	3473.00	3958 25	Lewis
6	5083.00	5573 01	Cliff House Trans
7	5388 00	5878 01	Cliff House
8	5433.00	5923.01	Menefee
9	5628.00	6118 01	Point Lookout
10	5958 00	6448 01	Mancos
11	6998.00	7488.01	Gallup
12	7718 00	8208.01	Greenhorn
13	7778 00	8268.01	Granersos
14	7908 00	8398 01	Dakota



Azimuths to True North
Magnetic North: 10.29°

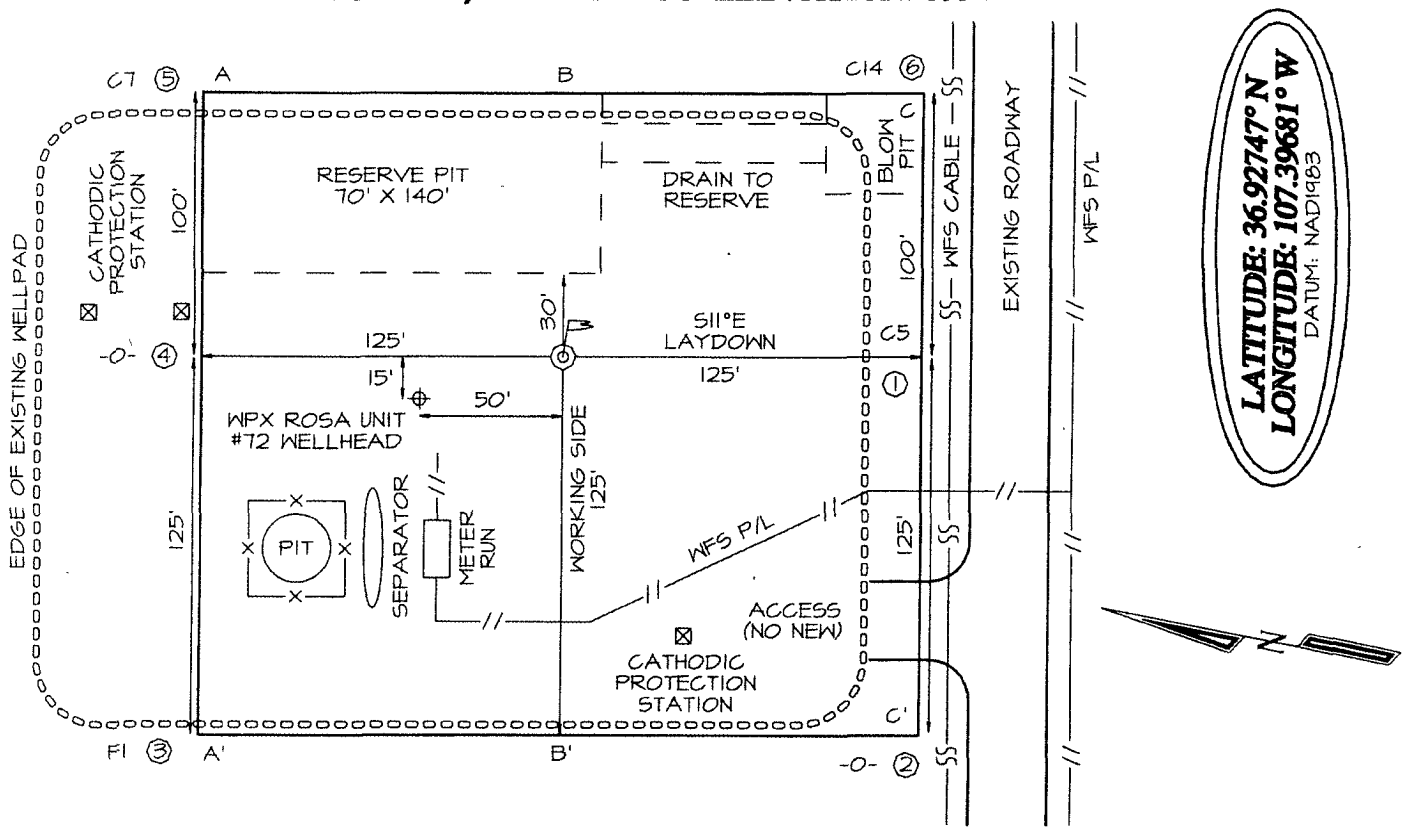
Magnetic Field
Strength 51348nT
Dip Angle: 63.83°
Date 8/1/2007
Model: bggm2006

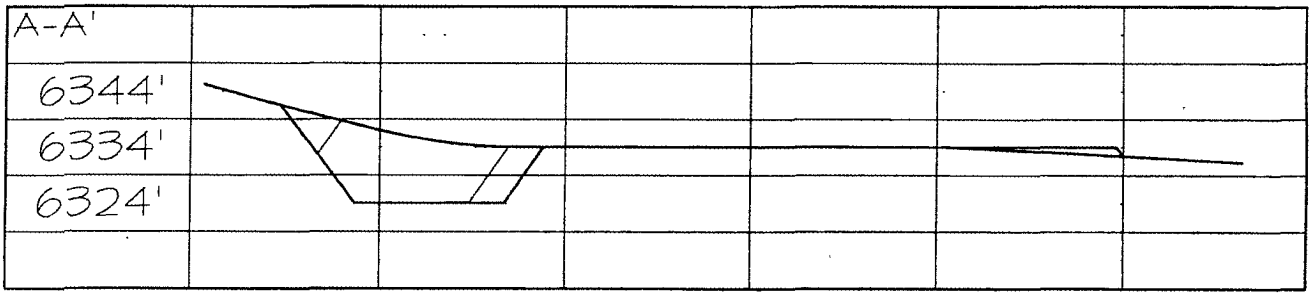
Total Correction to True North 10.29°

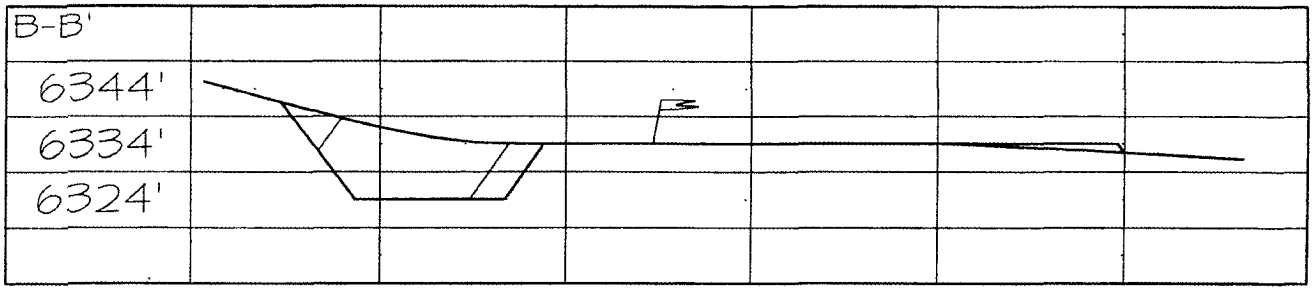
Plan Plan #2 (Rosa Unit 72B/1)

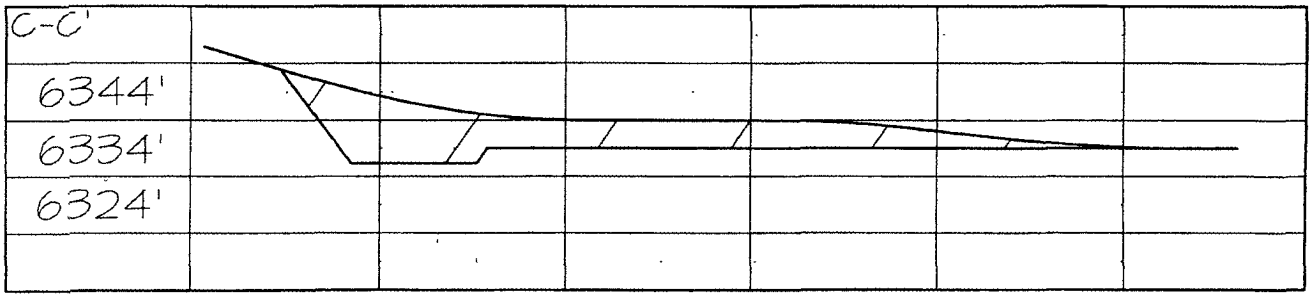
Created By Jose Perez Date. 08/02/07
Weatherford Drilling Services
11943 FM 529
Houston TX 77041
(713) 896 8194 MAIN
(713) 896 8194 FAX

WILLIAMS PRODUCTION COMPANY ROSA UNIT #72B
2260' FSL & 600' FEL, SECTION 6, T31N, R5W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 6334'









FILENAME: 31561T2	SHEET 2 OF 3	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY JGE