Form 3160-3
(August 1999)

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070 Farmington, NM

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

APR 2004

5. Lease Serial No. **NM 0309373**

6. If Indian, Allottee or Tribe Name

1a. Type of Work: [X] DRILL [ ] REENTER

7. If Unit or CA Agreement, Name and No.

b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone

8. Lease Name and Well No. **Callow #1F**

2. Name of Operator **Great Western Drilling Company**

9. API Well No. **3204532165**

3A. Address **c/o Walsh Engineering,7415 E. Main, Farmington, NM 87402**

3b. Phone No. *(include area code)* **(505) 327-4892**

10. Field and Pool, or Exploratory **Basin Dakota**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1970' FSL and 2450 FWL**
At proposed prod. Zone

11. Sec., T., R., M., or Blk, and Survey or Area **K Sec. 33, T29N, R13W**

14. Distance in miles and direction from nearest town or post office* **3 miles south of Farmington, NM**

12. County or Parish **San Juan**

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
670'	**640 +**	**S/2 320 acres**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth **6480' +/-**	20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **5874' GR**	22. Approximate date work will start* **April 1, 2004**	23. Estimated duration **2 weeks**

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 office.

25. Signature	Name *(Printed/Typed)*	Date
Paul C. Thompson	**Paul C. Thompson, P.E.**	**1/30/2004**
Title	**Agent**	
Approved by *(Signature)* DM	Name *(Printed/Typed)*	Date 4-19-04
Title	Office	

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)*

C.O.A. compliance w/Rule 60

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

NMOCD

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

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-045-32165	71599	BASIN DAKOTA

[4] Property Code	[5] Property Name	[6] Well Number
33867	CALLOW	1F

[7] OGRID No.	[8] Operator Name	[9] Elevation
9338	GREAT WESTERN DRILLING	5874'

[10] Surface Location

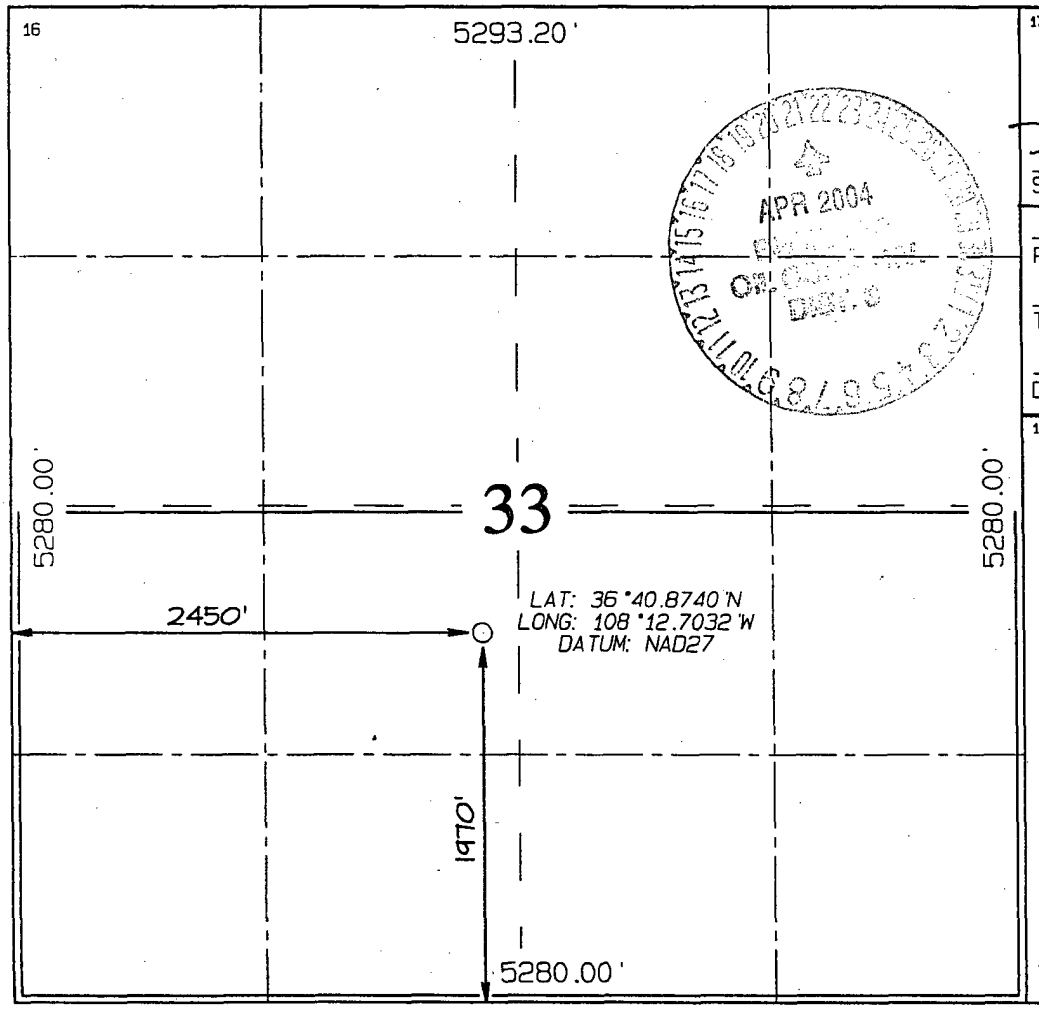
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	33	29N	13W		1970	SOUTH	2450	WEST	SAN JUAN

[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

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

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

Paul C. Thompson
Signature

Paul C. Thompson
Printed Name

Agent
Title

1/29/04
Date

[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 of Survey: JULY 31, 2003

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

GREAT WESTERN DRILLING
OPERATIONS PLAN
CALLOW #1F

I. Location: 1970' FSL & 2450' FWL Date: January 28, 2004
Sec 33 T29N R13W
San Juan County, NM

Field: Basin Dakota Elev: 5874' GL
Surface: Bureau of Land Management
Minerals: Federal

II. Geology: Surface formation _ Nacimiento

A.

Formation Tops	Depths
Ojo Alamo	131'
Kirtland	306'
Fruitland	1261'
Pictured Cliffs	1606'
Cliff House	3151'
Menefee	3201'
Point Lookout	4081'
Mancos	4361'
Gallup	5271
Dakota	6186'
Total Depth	6480'

Estimated depths of anticipated water, oil, gas, and other mineral bearing formations which are expected to be encountered:

Water and gas - 1261, 1606, 4081, 5271, and 6186.

B. Logging Program: FDC/CNL/GR/SP and DIL logs at TD.

C. The Dakota zone may be over pressured. No H_2S zones will be penetrated in this well. Max. BHP = 3000 psig.

III. Drilling
A. Contractor:

B. Mud Program:

The surface hole will be drilled with a fresh water mud.

The production hole will be drilled with a fresh water polymer mud. The weighting material will be drill solids or if conditions dictate, barite. The maximum mud weight expected is 9.5 ppg.

C. Minimum Blowout Control Specifications:

Double ram type 2000 psi working pressure BOP with a rotating head. See the attached Exhibit #1 for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up and after any use under pressure to 1500 psi.

The blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

IV. Materials

A. Casing Program:

Hole Size	Depth	Casing Size	Wt. & Grade
12-1/4"	350'	8-5/8"	24# J-55
7-7/8"	6480'	4-1/2"	10.5# J-55

B. Float Equipment:

a) Surface Casing: Notched collar and 3 centralizers on the bottom 3 collars.

b) Production Casing: Production Casing: 4-1/2" cement guide shoe and self fill insert float collar. Place float one joint above shoe. **Place DV tool at 3100'**. Place ten centralizers spaced every other joint above the shoe, two turbolizers on the collars below the DV tool and two turbolizers above the DV tool. Place five turbolizers every third joint from the top of the well.

V. Cementing:

Surface casing: 8-5/8" - Use 245 sx (289 cu. ft.) of Cl "B" with 3% $CaCl_2$ (Yield = 1.18 cu. ft./sk; slurry weight = 15.6 PPG). 100% excess to circulate cement to surface. WOC 12 hours. Pressure test the surface casing to 1500 psi for 30 min.

Production Casing: 4-1/2" - Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. **1st Stage: Lead** with 640 sx (1126 cu.ft.) of Cl "B" 65/35 poz with 6% gel, 1% $CaCl_2$, 4% phenoseal, and ¼ #/sx celloflake (Yield = 1.76 cu. ft./sk; slurry weight = 12.8 PPG). **Tail** with 100 sx (146 cu.ft.) of Cl "B" 50/50 poz with 0.15% dispersant, 1% $CaCl_2$ and ¼#/sk. celloflake. (Yield = 1.46 cu. ft./sk; slurry weight = 13.0 PPG). **2nd Stage:** Precede cement with 20 bbls of water. Cement with 665 sx (1170 cu.ft) Cl "B" 65/35 poz with 6% gel, 1% $CaCl_2$, and ¼ #/sx celloflake (Yield = 1.76 cu. ft./sk; slurry weight = 12.8 PPG). Total cement volume is 2442 cu.ft. (65% excess to circulate cement to surface).

Paul C. Thompson

Paul C. Thompson, P.E.

Great Western Drilling Company

Well Control Equipment Schematic for 2M Service

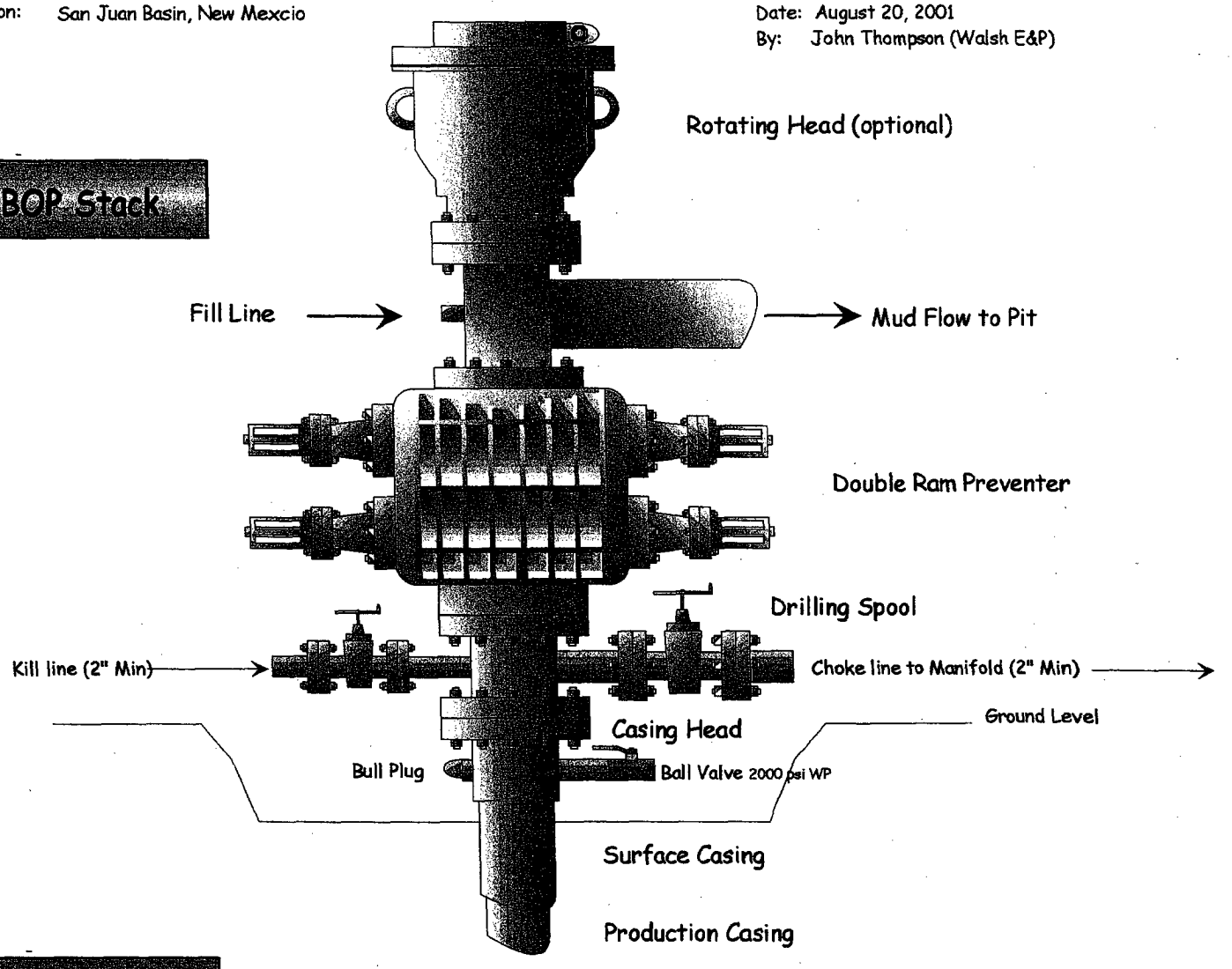
Attachment to Drilling Technical Program

Exhibit #1
Typical BOP setup

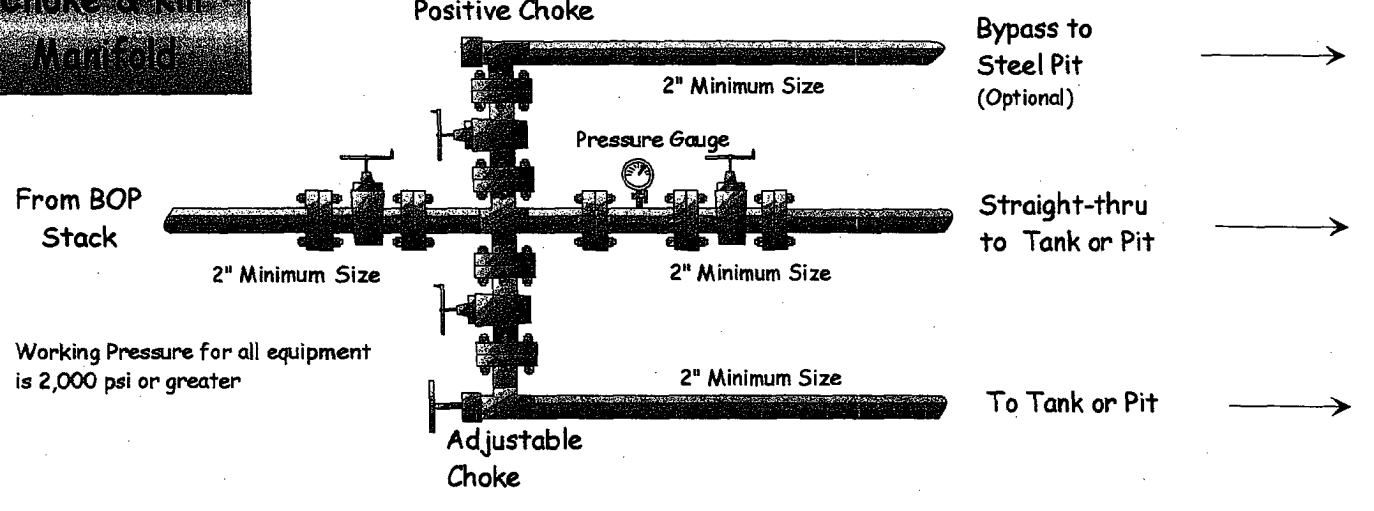
Location: San Juan Basin, New Mexcio

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

BOP Stack

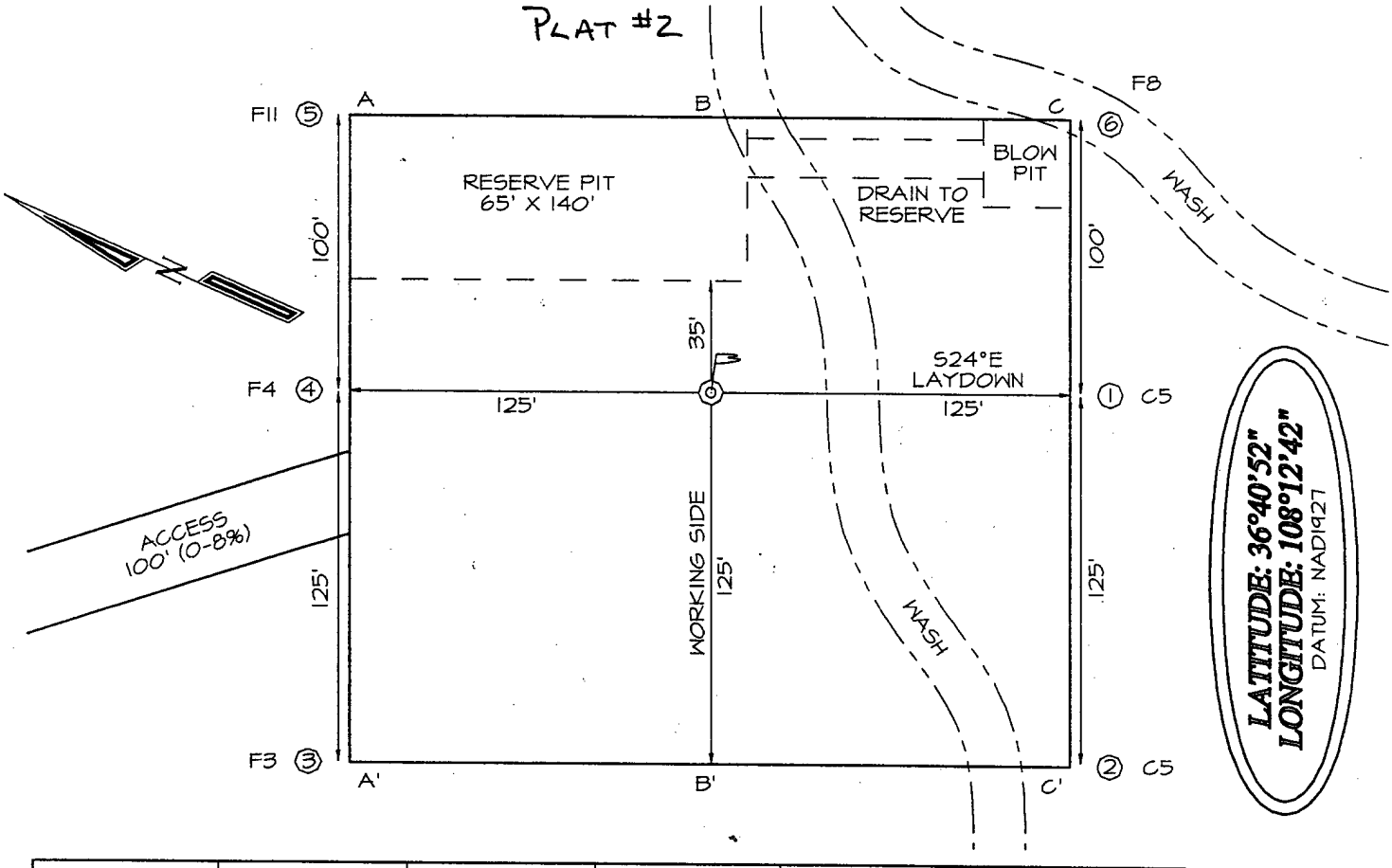


Choke & Kill Manifold

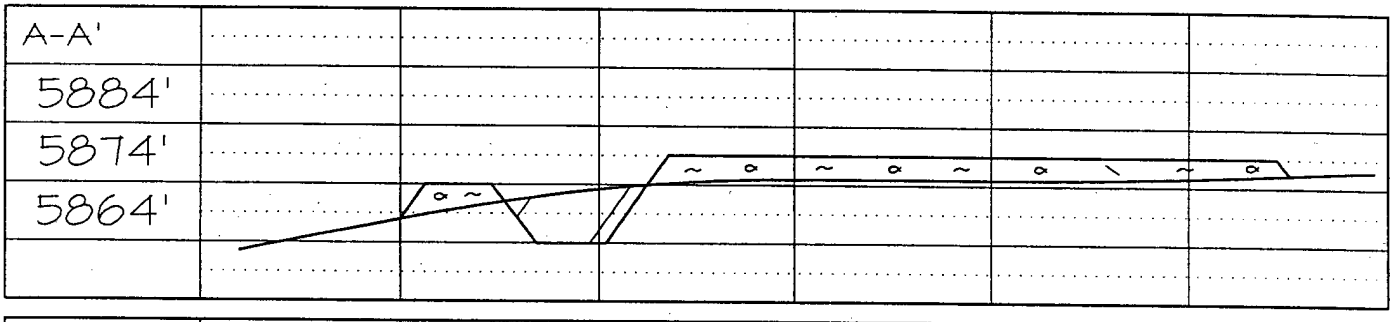


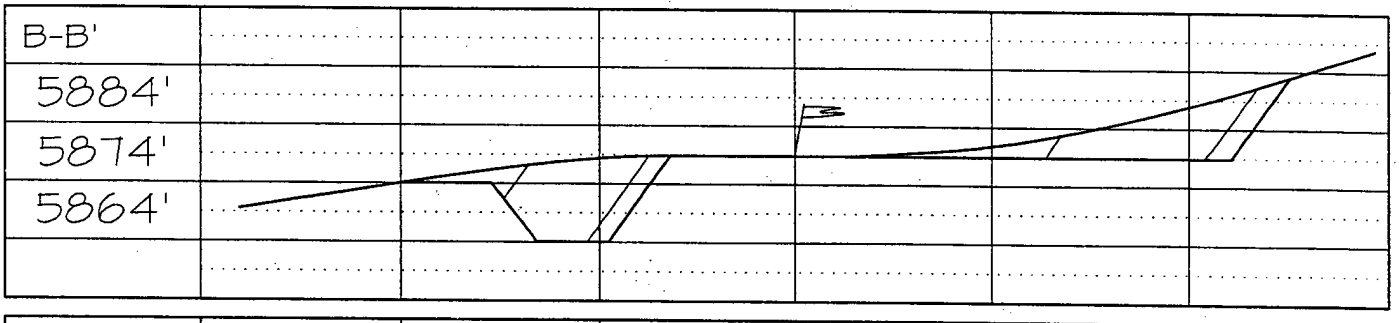
GREAT WESTERN DRILLING CALLOW #1F
1970' FSL & 2450' FWL, SECTION 33, T29N, R13W, NMPM
SAN JUAN COUNTY, NEW MEXICO GROUND ELEVATION: 5874'

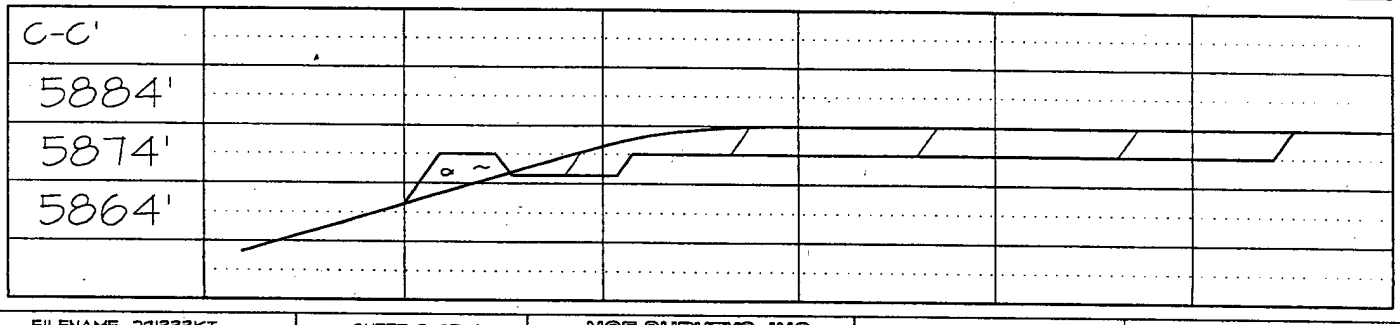
PLAT #2



LATITUDE: 36°40'52"
LONGITUDE: 108°12'42"
DATUM: NAD1927







FILENAME: 291333KT	SHEET 2 OF 4	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY: JCE