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
...x 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-101
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

[X] AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address.	[2] OGRID Number
Mitchell Energy Corporation P.O. Box 4000 The Woodlands, Texas 77387-4000	015025
	[3] API Number 30 - 025-32047

[4] Property Code	[5] Property Name	[6] Well No.
13257	Anasazi "4" State	4

[7] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	4	20S	33E		2310	North	1980	East	Lea

[8] Proposed 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

[9] Proposed Pool 1	[10] Proposed Pool 2
Teas West (Yates / Seven Rivers) 59110	

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	O	R	S	3568
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
No	3,600	Yates/Seven Rivers		

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12-1/4"	8-5/8"	24#	1350'	860 sx Prem.	Surface
7-7/8"	4-1/2"	10.5#	TD	1st Stage- 150	Surface
				sx Prem.	
				2nd Stage- 720	sx lead
				80	sx tail

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

POTASH AREA

Drilling, casing, and cementing program amended to conform to proposal submitted in NMOCD hearing docket no. 10,858 on April 28, 1994. Proposal includes the setting of a combination tool (DV Tool w/ External Casing Packer) at approximately 2950' (140' below the base of the salt), as shown on attached "Well Plan" and wellbore schematics. If the well is non-productive, it will be plugged and abandoned in a manner consistent with NMOCD regulations.

R-10122

Permit Expires 6 Months From Approval Date Unless Drilling Underway.

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: George Mullen

Printed name: George Mullen

Title: Regulatory Affairs Specialist

Date: 5-05-94

Phone: (713)377-5855

OIL CONSERVATION DIVISION

Approved by: Orig. Signed by Paul Kautz Geologist

Title:

Approval Date: JUN 29 1994

Expiration Date:

Conditions of Approval:
Attached ☐

MITCHELL ENERGY CORP.

Well Plan

ANASAZI / SCHARBAUER AREA

Lea County. New Mexico

WELL DATA

Company: Mitchell Energy Corporation

Field: West Teas

Objective: Yates

Total Depth: 3600'

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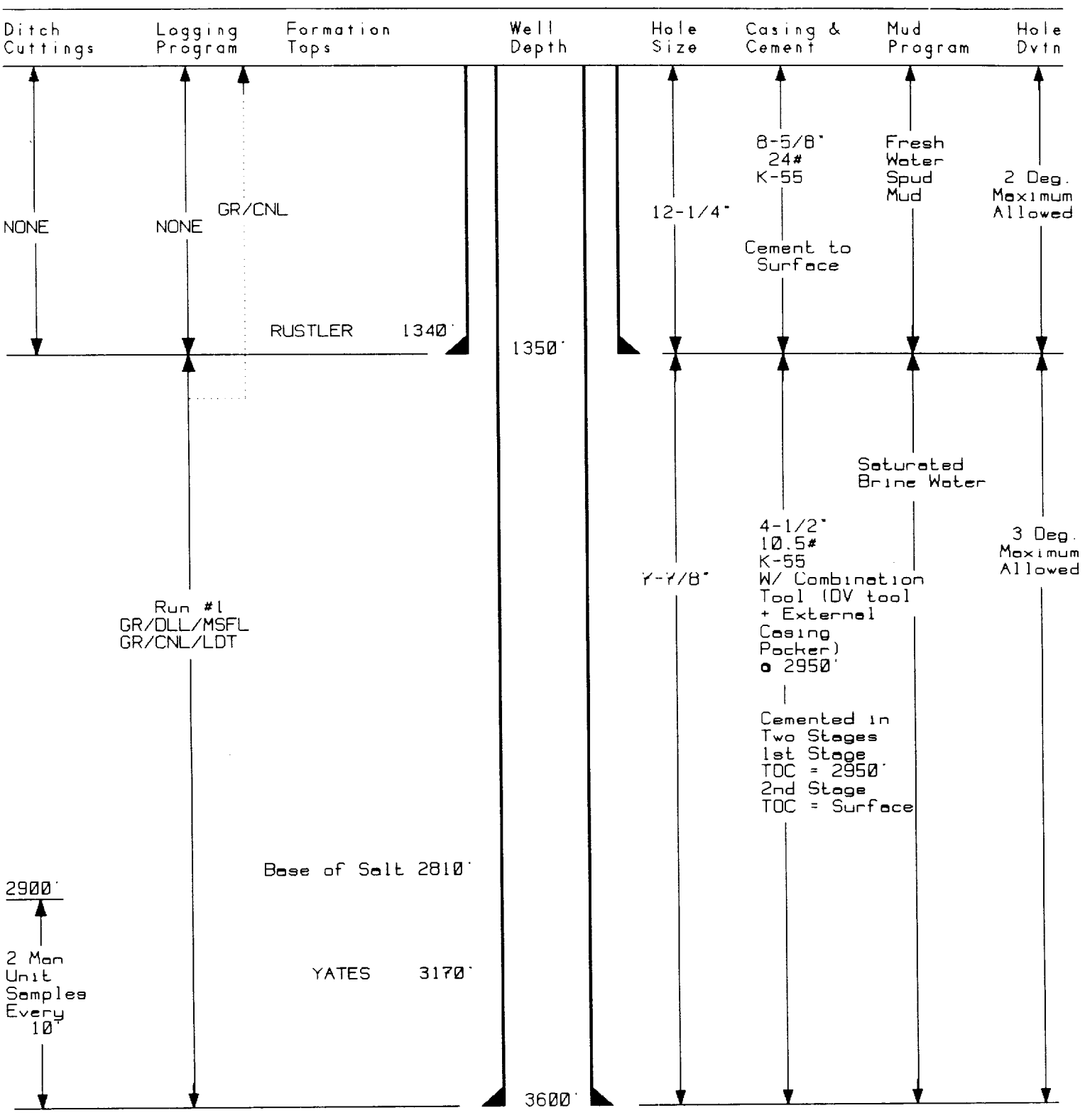
DRILLING PROGNOSIS

FIELD: **West Texas**

WELL: **Anasazi/Scharbauer Area**

OBJECTIVE: **Yates**

ELEVATION:



DRILLING PROGRAM

1.0 Set conductor at +/- 40' with rat hole machine.

2.0 Move in drilling rig and rig up same.

3.0 Drill 12-1/4" hole to +/- 1350'.

4.0 At 1350' circulate and condition hole for casing.

5.0 Run 8-5/8" casing as shown on the appropriate attachment, "Casing String Design".

5.1 Once casing string is made up, circulate a minimum of one entire circulation while reciprocating casing.

6.0 Cement 8-5/8" casing as per attached cement program.

7.0 Cut off conductor and 8-5/8" casing and install 11" x 3MWP head as shown on attachment.

8.0 Nipple up 11" x 3MWP - BOP stack as shown on attachment.

9.0 Test annular BOP to 1000 psi. Test rams, choke manifold and all associated equipment to 1000 psi.

10.0 Drill 7-7/8" hole to +/- 3600'.

10.1 Prior to drilling the float collar, pressure test the casing to 600 psi by closing the annular preventer and pressuring up to 600psi. Hold this pressure for a minimum of 30 minutes and record any pressure fluctuations. Report the results of this test on the morning report.

11.0 At 3600', condition hole for logs and log well as per attached "Geological Prognosis".

12.0 Following logging operations, trip back in hole and circulate a minimum of one complete circulation. Have the mud engineer perform a full check during this circulation and verify mud is in condition to run casing.

13.0 Once the order has been given to run pipe and the above conditions have been met, begin the trip out of the hole laying down the drill string to run casing.

14.0 Make up and run 4 1/2" casing as per the following:

A. Clean exposed threads on the guide shoe, first joint of 4 1/2" casing, float collar, and second joint of casing.

B. Apply thread lock to the above listed connections prior to make-up.

C. The bottom assembly of the casing assembly must be made up as follows with the first listed being the first in the hole:

1. Guide shoe
2. First joint of 4 1/2" casing
3. Float collar
4. 4 1/2" casing back to setting depth of 2950' (140' below the salt).
5. Combination Tool (DV Tool with External Casing Packer)
6. 4-1/2" casing back to surface.

D. Install centralizers as follows on the 4-1/2" casing:

1. 10' above the guide shoe by means of a stop collar.
2. Around the first coupling above the float collar.
3. Every third coupling back to the combination tool.
4. Around the coupling immediately below the combination tool.
5. Around the coupling immediately above the combination tool.
6. Every third coupling back to surface.

15. With casing on bottom, circulate mud a minimum of one circulation. Monitor returns to ensure hole is "clean".

16. Cement the 4 1/2" casing string as follows:

A. Reciprocate the casing during the <u>first stage</u> circulation and cementation.

B. Once the first stage cement is in place (Figure 1), drop the ***EXTERNAL CASING PACKER / DV TOOL ACTUATION DEVICE*** (a.k.a. Ball, Bomb, Plug, Dart (Figure 2)).

C. With guidance from the tool manufacturers representative, set the external casing packer and open the DV tool.

D. Circulate one complete circulation through the DV tool to ensure any residual cement from the first stage is removed from the annulus above the combination tool.

E. Pump the second stage cement into position followed by the ***SECOND STAGE FOLLOWING PLUG***. Displace cement and plug with drilling fluid. The ***SECOND STAGE FOLLOWING PLUG*** will close the DV tool ports when the cement is in place (Figure 3).

17. Set the slips on the 4 1/2" casing in the as cemented condition.

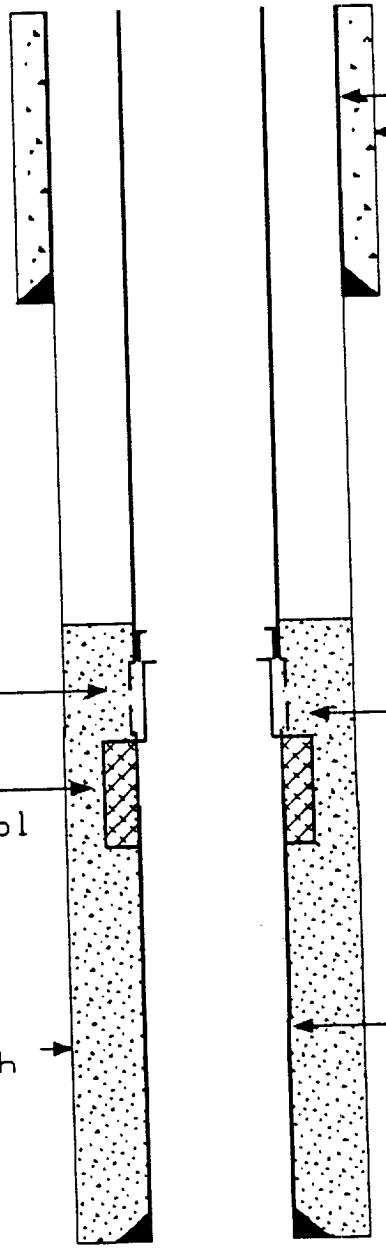
18. Install the "Bell Nipple" tubing head, and associated equipment comprising the B" section.

19. Once all contractual obligations are met, release the rig.

20. **!!!!!!!!!! -- NET THE PITS -- !!!!!!!!!!!!!!!**

Wellbore Schematic

First Stage Cement In Place



Surface Casing set at approximately 1350' and cemented to surface

DV Tool portion of combination tool

External Casing Packer portion of combination tool

First stage cement with sufficient volume to reach combination tool plus 15% excess

Combination Tool located in Production Casing String so that cementing ports of DV Tool portion are 100' to 600' below the salt

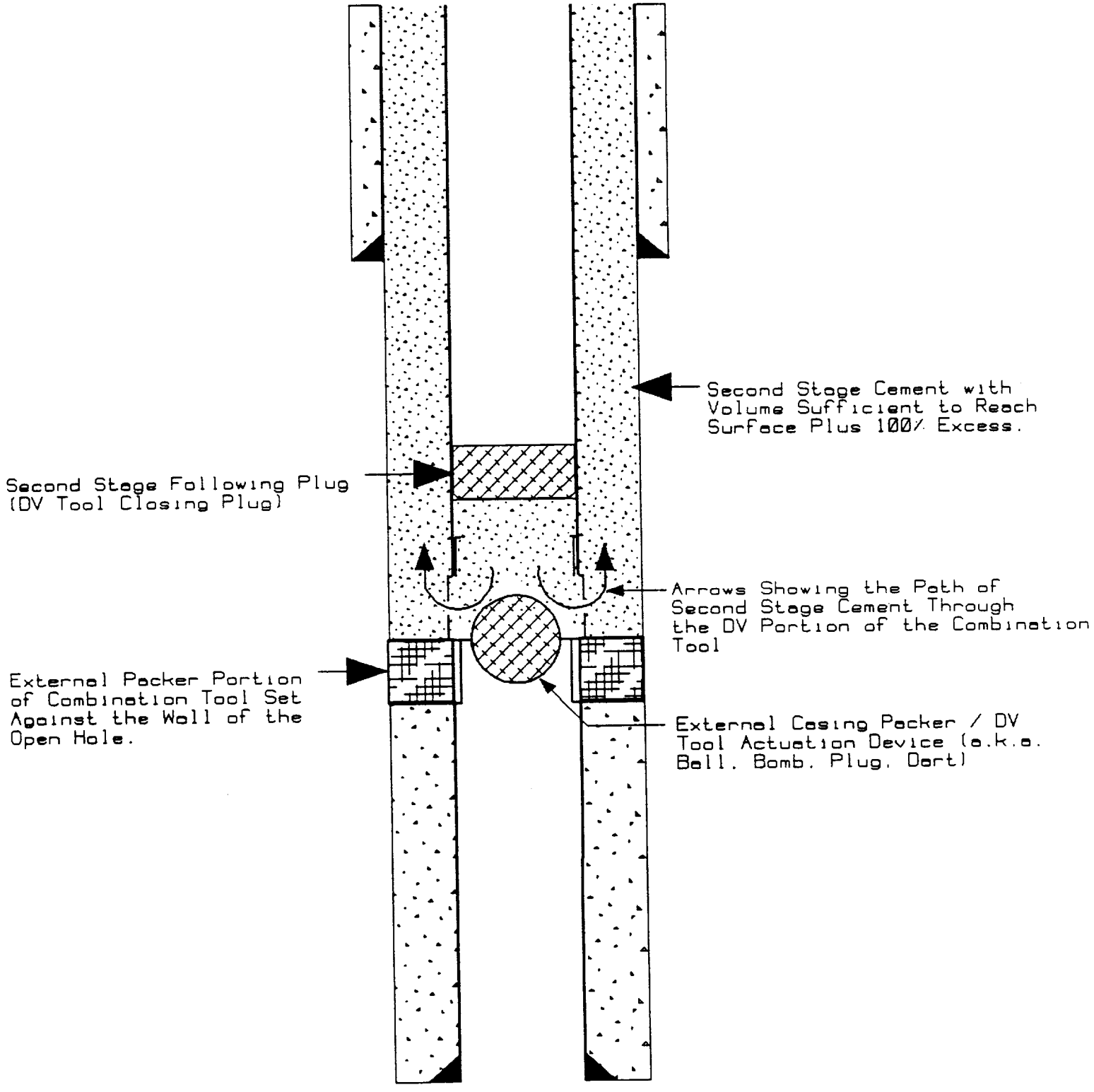
4-1/2" Production Casing set 400' - 500' below the Top of the Yates formation

WCT

Figure 1

Wellbore Schematic

DISPLACING SECOND STAGE CEMENT

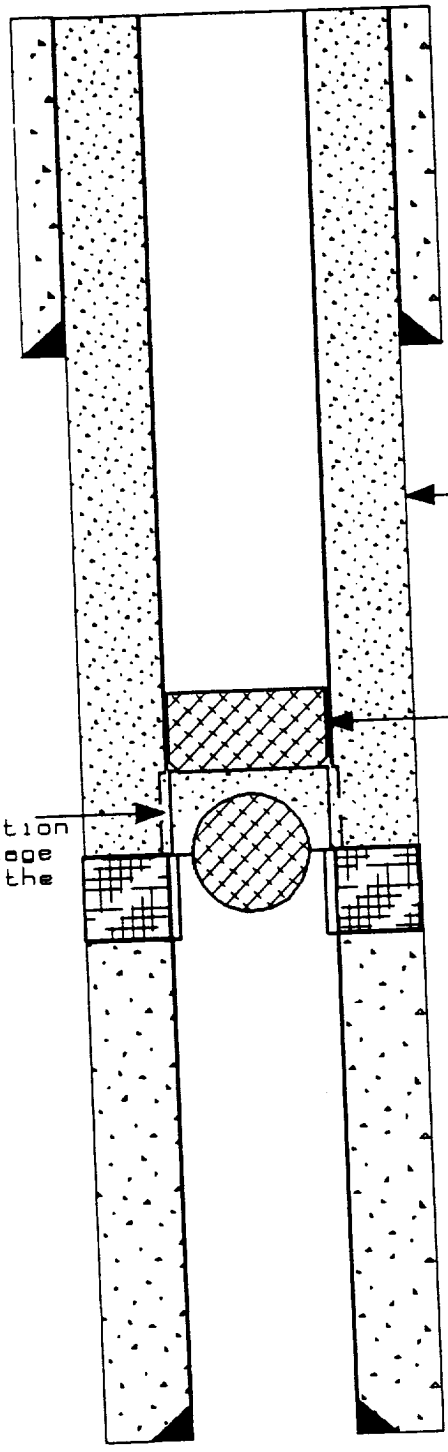


WCT

Figure 2

Wellbore Schematic

SECOND STAGE CEMENT IN PLACE



Second Stage cement in Place

Second Stage Following Plug (DV Tool Closing Plug) In Position After Closing DV Tool Ports.

DV Tool Portion of Combination Tool Shown After Second Stage Following Plug Has Closed the DV Tool Ports

WCT

Figure 3

MUD PROGRAM

Depth Interval (feet)	*Density PPG)*	*Funnel Viscosity (Seconds)*	*Type Mud*	*Filtrate (cc)*
0-1350'	8.5	40-45	Spud Mud	NC
1350'-3600'	10.0	28	Saturated Brine Water	NC

CASING STRING DESIGN

DEPTH: 1350'
TYPE: Surface
SIZE: 8-5/8"
MUD WEIGHT: 8.5

Description	*Interval*	*Length Per Section*	*Weight Per Section*	*Cumm. Weight*	*Min. Strength*	*Tens. S.F.*
24#,ST&C,K-55	0-1350'	1350'	32400#	32400#	263,000	8.12

Collapse Force	**Resist*	*S.F.*	*Burst Force*	*Resist.*	*S.F.*	*Minimum Torque*	*Optimum Torque*	*Maximum Torque*
596	1370	2.29	624	2950	4.72	1970	2630	3290

* Tension effect on collapse resistance included

Procedure:

1. Clean threads on shoe joint , float collar, and guide shoe to bare shiny metal. Apply Thread Lock to connections prior to make-up.

2. The casing assembly will be made up as follows:

Note: Best-o-Life 2000 will be applied to all connections not receiving Thread Lock.

   a. Guide shoe
   b. Shoe Joint
   c. Float collar
   d. Remainder of casing string

3. Centralizers should be applied 10 feet above the guide shoe by means of a stop collar, around the first coupling above the float collar, and every fourth coupling back to surface.

CASING STRING DESIGN

DEPTH:	**3600'**
TYPE:	**Production**
SIZE:	**4-1/2"**
MUD WEIGHT:	**10.0**

Description	*Interval*	*Length Per Section*	*Weight Per Section*	*Cumm. Weight*	*Min. Strength*	*Tens. S.F.*
10.5#,LT&C,K-55	0-3600'	3600'	37,800#	37,800#	146K	3.86

Collapse Force	*Resist*	*S.F.*	*Burst Force*	*Resist.*	*S.F.*	*Minimum Torque*	*Optimum Torque*	*Maximum Torque*
1872	4010	2.14	1740	4790	2.75	1100	1460	1825

Procedure:

Make up and run 4 1/2" casing as per the following:

A. Clean exposed threads on the guide shoe, first joint of 4 1/2" casing, float collar, and second joint of casing. Apply Thread Lock to these connections prior to make-up.

B. The bottom assembly of the casing assembly must be made up as follows with the first listed being the first in the hole:

Note: Seal Lube will be applied to all conections not receiving Thread Lock.

1. Guide shoe
2. First joint of 4 1/2" casing
3. Float collar
4. 4 1/2" casing back to setting depth of 2950' (140' below the salt).
5. Combination Tool (DV Tool with External Casing Packer)
6. 4-1/2" casing back to surface.

C. Install centralizers as follows on the 4-1/2" casing:

1. 10' above the guide shoe by means of a stop collar.
2. Around the first coupling above the float collar.
3. Every third coupling back to the combination tool.
4. Around the coupling immediately below the combination tool.
5. Around the coupling immediately above the combination tool.
6. Every third coupling back to surface.

Cementing Program

8-5/8" Surface Casing

Depth:	1350'
Casing Size:	8-5/8"
Hole Size:	12.25"
Calculated Cement Fill:	1350'
Excess Calculated:	100%
Cementing Company:	Halliburton

Cement Recommendation:

Spacer: 20 Bbls Fresh Water

Slurry: 860 sacks Premium Plus + 2% CaCl2

Slurry Weight:	14.8 ppg
Slurry Yield:	1.34 cu.ft./sack

Procedure:

1. Utilize the two-plug system.
2. Wait on cement a minimum of 8 hours.

NOTE: VOLUME ADJUSTMENTS BASED ON THE CALIPER WILL BE UNATTAINABLE. THE STANDARD PRACTICE FOR SURFACE CASING CEMENT VOLUME DETERMINATION HAS BEEN CALCULATED (GAUGE HOLE PLUS 100% EXCESS). NO FURTHER CALCULATIONS WILL BE MADE FOR CEMENT VOLUME.

Cementing Program

4-1/2" Production Casing

Depth:	3600'
Casing Size:	4-1/2"
Hole Size:	7-7/8"
Calculated Cement Fill:	3600' (In Two Stages)
Excess Calculated	
1st Stage:	15% over caliper
2nd Stage:	100%
Cementing Company:	Halliburton

Cement Recommendation:

1st Stage:

Slurry: 150 sacks Premium Plus + 2.5 #/sk Salt (Accelerator) + 0.4% HALAD-322 (Fluid Loss)

Slurry Weight:	14.8 ppg
Slurry Yield:	1.36 cu.ft./sack

2nd Stage:

Lead Slurry: 720 sacks Premium Plus + 1% CaCl2 + 15 #/sk Salt

Slurry Weight:	14.0 ppg
Slurry Yield:	1.75 cu.ft./sack

Tail Slurry: 80 sacks Premium Plus

Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft./sack

Procedure:

Cement the 4 1/2" casing string as follows:

A. Reciprocate the casing during the <u>first stage</u> circulation and cementation.

Cementing Program

4-1/2" Production Casing
Continued

B. Once the first stage cement is in place (Figure 1), drop the ***EXTERNAL CASING PACKER / DV TOOL ACTUATION DEVICE*** (a.k.a. Ball, Bomb, Plug, Dart) .

C. With guidance from the tool manufacturers representative, set the external casing packer and open the DV tool.

D. Circulate one complete circulation through the DV tool to ensure any residual cement from the first stage is removed from the annulus above the combination tool.

E. Pump the second stage cement into position followed by the ***SECOND STAGE FOLLOWING PLUG***. Displace cement and plug with drilling fluid. The ***SECOND STAGE FOLLOWING PLUG*** will close the DV tool ports when the cement is in place

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

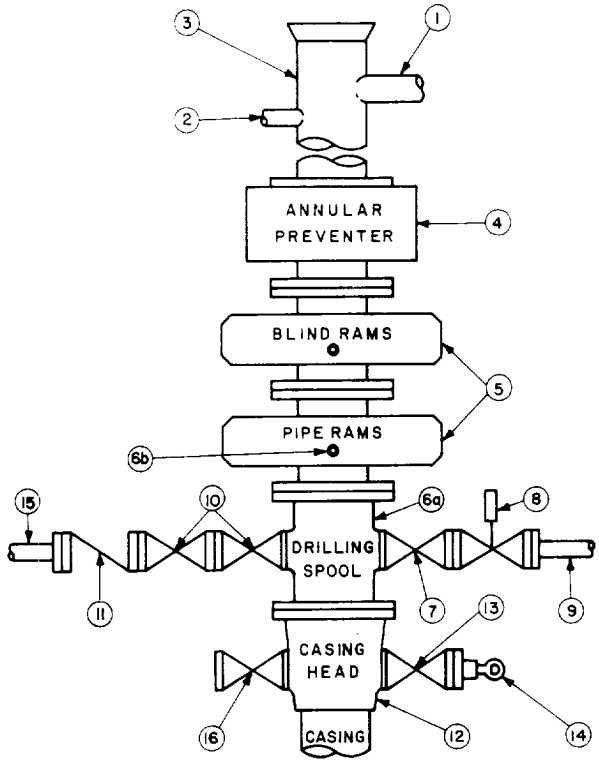
3 MWP

STACK REQUIREMENTS

NO.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
	—or—		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate ☐ Plug ☐	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☐ Plug ☐	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate ☐ Plug ☐	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL			
16	Flanged valve	1-13/16"	

CONFIGURATION A



CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers position.
4. Kelly equipped with Kelly cock.
5. Inside blowout prevventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

MEC TO FURNISH:

1. Bradenhead or casinghead and side valves.
2. Wear bushing, if required.

GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised 1-1-89

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
MITCHELL ENERGY Corporation	ANASAZI 4 STATE	#4 - RESTAKE

Unit Letter	Section	Township	Range	County
G	4	20S.	33E. NMPM	LEA

Actual Footage Location of Well: 2310 feet from the NORTH line and 1980 feet from the EAST line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3568	Yates/Seven Rivers	West Teas (Yates/Seven Rivers)	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

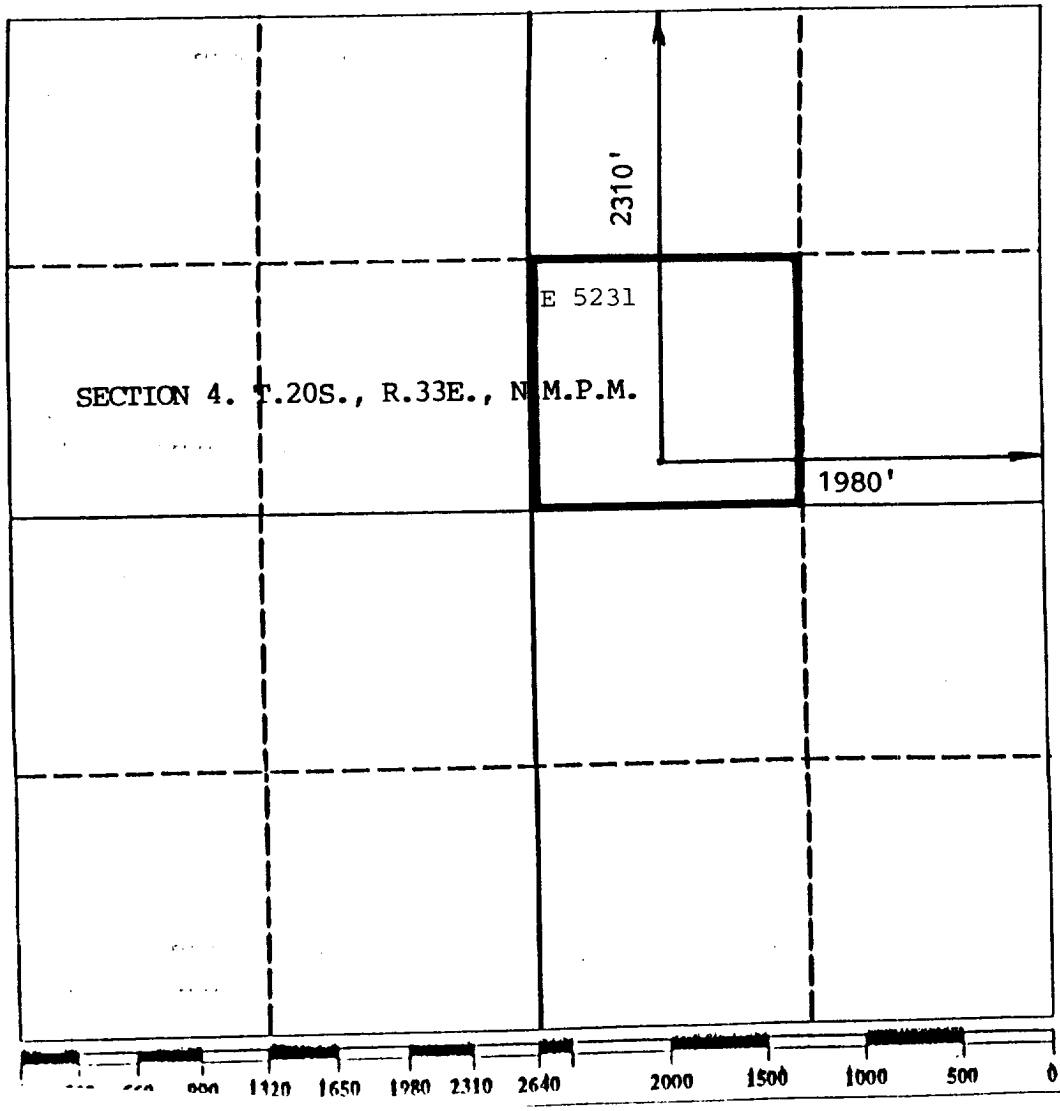
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if neccessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein in true and complete to the best of my knowledge and belief.

Signature: George Mullen

Printed Name: George Mullen

Position: Reg. Affairs Specialist

Company: Mitchell Energy Corp.

Date: September 1, 1993

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 supervison, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: 7/25/93

Signature & Seal of Professional Surveyor: GARY D. JAQUES, NEW MEXICO, 6290, REGISTERED LAND SURVEYOR, ENGINEER

Certificate No. 6290

RESETSZ1