+Submit 3 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C 103
Revised 1-1-89

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

# OIL CONSERVATION DIVISION

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

WELL API NO. 30 025 34794

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. B 2656

## 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: State 36 State

1. Type of Well: Oil Well [X] Gas Well [ ] OTHER

2. Name of Operator: Conoco Inc.

8. Well No. 27

3. Address of Operator: 10 Desta Dr. Ste 100W, Midland, Tx., 79705-4500

9. Pool name or Wildcat: South Cass Strawn

4. Well Location

Unit Letter J 2200 Feet From The South Line and 1650 Feet From The East Line

Section 36 Township 20S Range 37E NMPM Lea County

10. Elevation (Show *whether DF, RKB, RT, GR, etc.*) 3493' GR

11. 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. | [X] | PLUG AND ABANDONMENT | [ ] |
| PULL OR ALTER CASING | [ ] | | | CASING TEST AND CEMENT JOB | [ ] | | |
| OTHER: | [ ] | | | OTHER | [ ] | | |

12. 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.

2-28-00: Spudded well - 12 1/4" hole.
2-29-00: Ran 9 5/8", J-55, 36# casing to depth of 1531'. Cemented with lead slurry: 400 sx 65:35 POZ, Cl C + 2% CaCl2 + 0.25#/sx celloflake, 12.7 ppg & 1.88 cf/sx. Tailed with 150 sx Cl C + 2% CaCl2, 14.8 ppg & 1.34 cf/sx. Displaced w/fresh water, had 8 bbls cement returns. Plug bumped with 800 psi. WOC. NU BOP. Tested to 2000 psi.

I hereby *certify* that the *information* above is true and complete to the best of my knowledge and belief.

SIGNATURE Ann E. Ritchie TITLE Regulatory Agent DATE 3-9-00

TYPE OR PRINT NAME Ann E. Ritchie 915 684-6381 TELEPHONE NO. 915 686-5580

(this space *for* State Use)

APPROVED BY Gary W. Wink TITLE FIELD REPRESENTATIVE II DATE MAR 14 2000

CONITIONS OF APPROVAL, IF ANY:

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-101
Revised February 10. 1994
Instructions on back
Submit to Appropnate District Offico
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

# APPLICATION FOR PERMIT TO DR1LL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| ' Operator Name and Address. | ' OGRID No_ |
|---|---|
| Conoco Inc<br>10 Desta Dr. Ste. 430E<br>Midland, Tx. 79705-4500 | 005073 |
| | ' API Number<br>30-025-34794 |

| ' Property Code | ' Property Name | ' Well No. |
|---|---|---|
| 13396 | HARDY STATE 36 | 27 |

## ' Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| J | 36 | 20-S | 37-E | | 2200 | SOUTH | 1650 | EAST | LEA |

## s 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 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| ' Proposed Pool 1 | " Proposed Pool 2 |
|---|---|
| SOUTH CASS STRAWN | |

| " Work Type Code | " Well Type Code | " Cable/Rotary | " Lease type Code | 14 Ground Level Elevation |
|---|---|---|---|---|
| N | O | R | S | 3493 |
| **16 Multiple** | **17 Proposed Depth** | **18 Formation** | **19 Contractor** | **20 Spud Date** |
| NO | 8260 | STRAWN | CAPSTAR DRLG. | 2-10-00 |

## 21 Proposed Casiing and Cement Program

| Hole Size | Casing Size | Casing weight/foot | Setting Depth | Sacks of Cement | Estimated TOC |
|---|---|---|---|---|---|
| 12-1/4" | 9-5/8" J-55 | 36# | 1500" | 550 | SURFACE |
| 8-3/4" | 7" NSS-S95-110 | 23# | 7900' | 1025 | SURFACE |
| | | | | | |
| | | | | | |
| | | | | | |

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 necrssary.

It is proposed to drill a vertical wellbore through the Strawm formation. The well will be drilled and equipped according to the following additional attachments:

1. Well Location & Acreage Dedication Plat (C-102)
2. Proposed Well Plan Outline
3. Cementing program
4. BOP = Double Ram - 11" 3000 PSI WP
5. TOPO indicatiing access route to well location

Permit Expires 1 Year From Approval Date Unless Drilling Underway

23 I hereby cenify that the information given above is true and complute to the best of my knowledge and belief.

Signature: Stephen R Wilson

Printed name: Stephen R. Wilson

Title: ROW Agent

Date: 12-9-99

Phone: 915-686-5579

OIL CONSERVATION DIVISION

Approved by: Chris Williams

Title: DISTRICT 1 SUPERVISOR

Approval Date: DEC 15 1999

Expiration Date:

Conditions of Approval:
Attached

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State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Instruction on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

# OIL CONSERVATION DIVISION

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

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-025-34794 | 10460 | South Cass Strawn |

| Property Code | Property Name | Well Number |
|---|---|---|
| 13396 | HARDY STATE ~~"36"~~ | 27 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 005073 | CONOCO INC. | 3493' |

### Surface Location

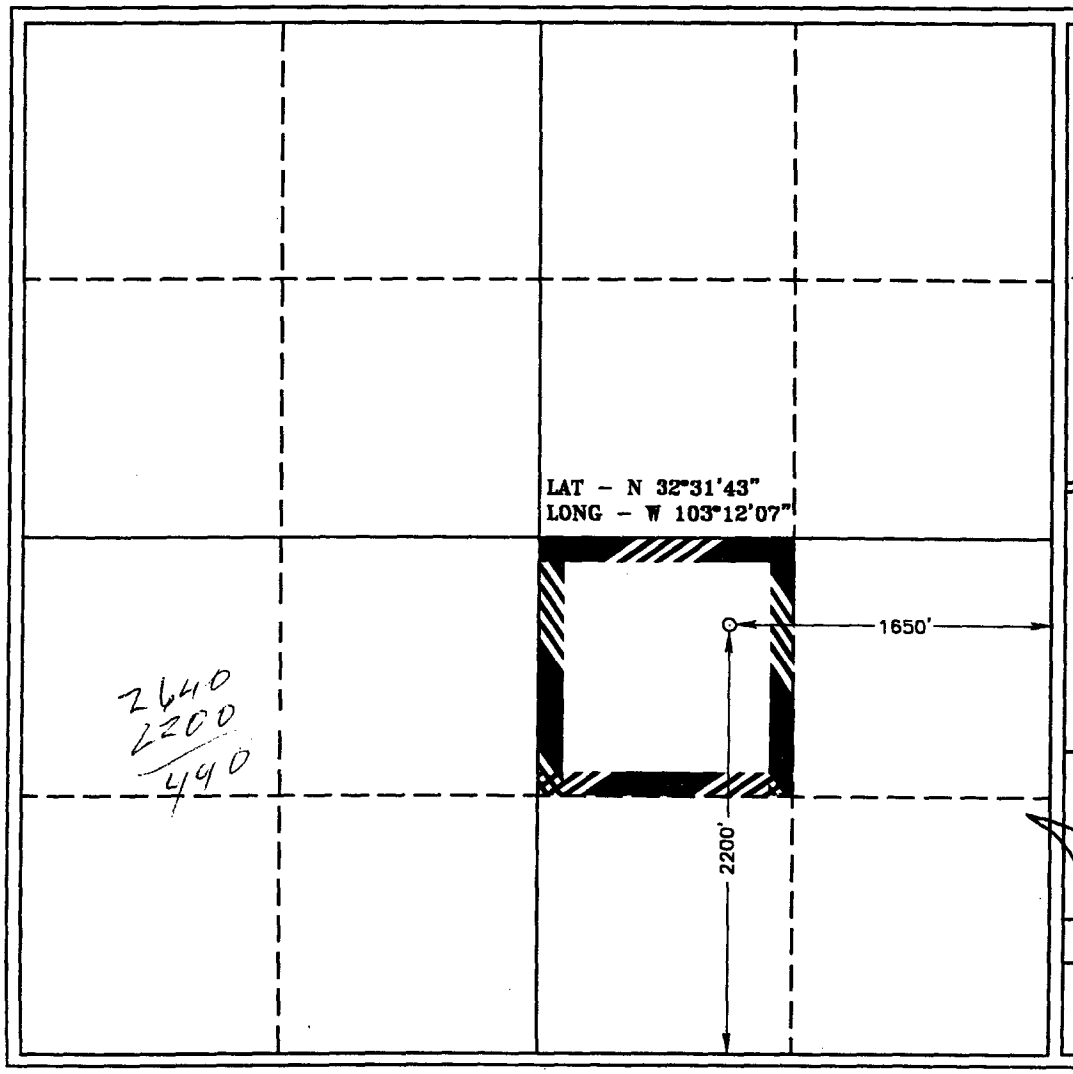
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| J | 36 | 20 S | 37 E | | 2200 | SOUTH | 1650 | EAST | LEA |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| 40 | | | |

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




### OPERATOR CERTIFICATION

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

Signature

STEPHEN R. WILSON
Printed Name

ROW AGENT
Title

12-9-99
Date

### 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 belief.*

November 11, 1999
Date Surveyed

Signature & Seal of Professional Surveyor

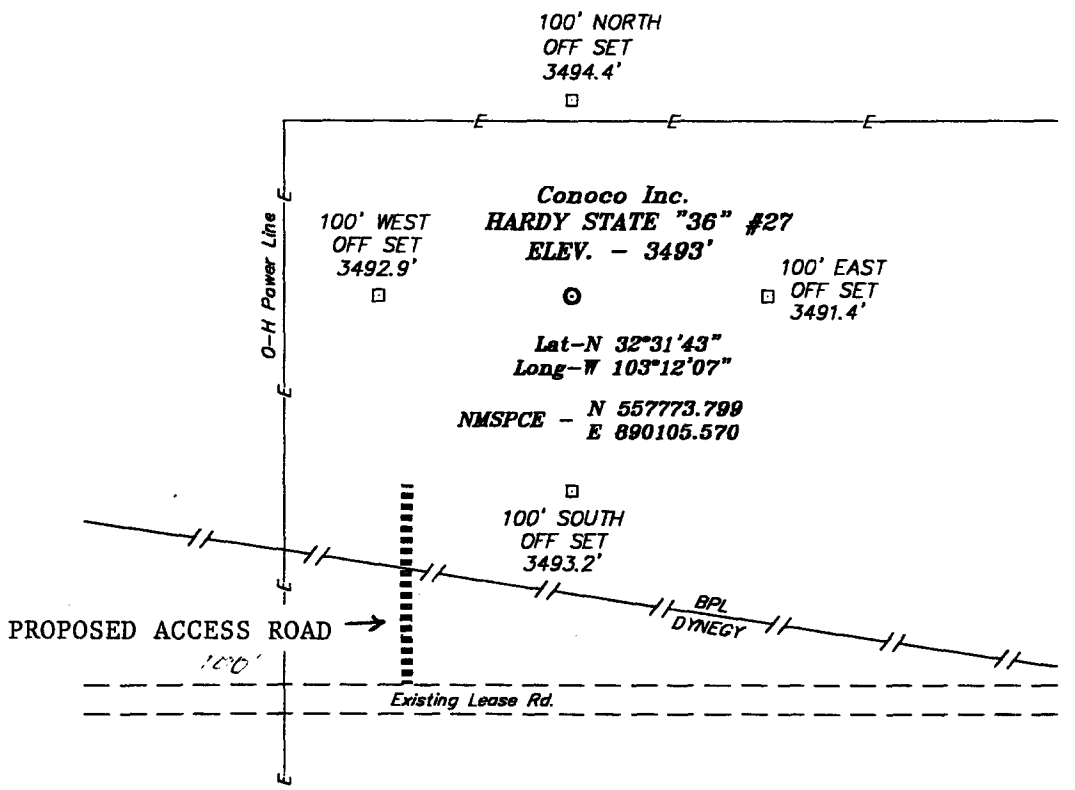
GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 9399A

Certificate No. GARY L. JONES 7977

BASIN SURVEYS

# SECTION 36, TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M.,
**LEA COUNTY,** **NEW MEXICO.**




*DIRECTIONS TO WELL LOCATION:*

*FROM JUNCTION NORTH LOOP 18 AND COUNTY ROAD C-22 IN EUNICE, GO NORTH ON LOOP 18 TO COUNTY ROAD C-34; THENCE NORTHWEST ON C-34 APPROX. 3.5 MILES TO A POINT WHICH LIES 200' SOUTH OF THE PROPOSED WELL LOCATION.*

100 0 100 200 FEET

SCALE: 1" = 100'

## Conoco Inc.

REF: HARDY STATE "36" No. 27 / Well Pad Topo

THE HARDY STATE "36" No. 27 LOCATED 2200' FROM THE SOUTH LINE AND 1650' FROM THE EAST LINE OF SECTION 36, TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

**BASIN SURVEYS** P.O. BOX 1786 - HOBBS, NEW MEXICO

| | | | |
|---|---|---|---|
| W.O. Number: 9399 | Drawn By: K. GOAD | | |
| Date: 11-12-99 | Disk: KJG #122 - 9399A.DWG | Survey Date: 11-11-99 | Sheet 1 of 1 Sheets |

# PROPOSED WELL PLAN OUTLINE

WELL NAME: Hardy 36 State No. 27
LOCATION: 1650' FEL & 2200' FSL Sec 36, T20S, R37E

Ground Level : 3492'
Kelly Bushing:

| Depth MD | FORMATION TOPS | DRILLING PROBLEMS | TYPE OF FORMATION EVALUATION | HOLE SIZE | CASING PROGRAM | FRAC GRAD | FORM. PRES. GRAD. | Mud Weight & Type | Days |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | Possible Hole Enlargement & Sloughing | | 12-1/4" | | | Less than 8.3 | 8.4 - 9.5 Fresh | |
| 1000 | | | | | | | | | |
| | Top Salt @ 1,430' | | | | 9-5/8", 36#, J-55 ST&C @ 1,500' | | | | 3 |
| | | Washouts in Salt Section | | 8-3/4" | Circulate Cement | | | 10 Brine | |
| 2000 | | | | | | | Less than 8.4 | | |
| | Base Salt @ 2.500' | | | | | | | | |
| | Yates 2,707' | | Mud Loggers F/ Yates to TD | | | | | | |
| | 7 Rivers 2,957' | | H2S Monitor on at 2900' | | | | | | |
| 3000 | | | | | | | | | |
| | Queen 3,540' | | | | | | | | |
| | Grayburg 3,810' | | | | | | | | |
| 4000 | San Andres 4,020' | Lost Returns in San Andres | | | | | | | 7 |
| 5000 | | | | | | | | | |
| | Glorietta 5,290' | Possible differential sticking thru Glorietta & Paddock | | | | | | | |
| | Blinebry Mkr 5,825' | | | | | | | | |
| 6000 | | | | | | | | | |
| | Tubb 6,360' | | | | | | | | |
| | Drinkard 6,600' | | | | | | | | |
| | Abo 6,890' | | | | | | | | |
| 7000 | | | First Log Run: GR-CAL-DLL-MLL-Sonic FDC-CNL-PE : TD to 2650' Pull GR-CNL-Cal to Surf | | | | | | |
| | Strawn 7,460' | | Second Log Run: 60 rotary sidewall cores | | | | | | |
| | TD @ 7,960' | STOP DRILLING WHEN WOODFORD SHALE IS CUT | Third Run: FMI imaging log | | 7", 23.0#, S/P110 LT&C f/0'-7,960' | | | 10 ppg | |
| 8000 | Devonian 7,960' | Severe losses in Devonian | | | Circulate Cement | | | Starch Gel | 20 |

Note: The Devonian formation is associated with severe lost circulation problems. This well will be TD'd very close to the top of the Devonian. The mud loggers will pick the Woodford shale which is 40' thick and sits on top of the Devonian. Stop drilling once the Woodford is entered.

DATE 06-Dec-99

Joe Huck, Geophysical Advisor

APPROVED

Yong Cho, Drilling Engineer

Joe Miller, Reservoir Engineer

Proposal No: 180252708A

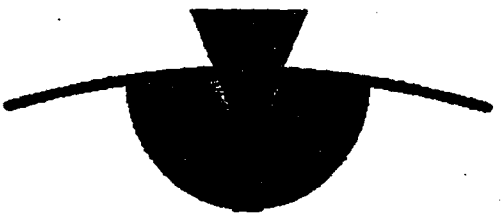
# Conoco
## Hardy 36 St. #27

Sec. 36-T20S-R37E
Lea County, New Mexico
December 2, 1999

## Well Recommendation

**Prepared for:**
Yong Cho
Drilling Engineer

**Prepared by:**
Rocky Chambers
Region Engineer
Bus Phone: 915/683-2781
Mobile: 915/557-1239
Pager: 915/498-1605



POWERVISION™

**Service Point:**
Hobbs
Bus Phone: (505) 392-5556
Fax: (505) 392-7307

**Service Representatives:**
Wayne Davis
Account Manager
Bus Phone: (915) 683-2781

Gr4105

**Operator Name:** Conoco
**Well Name:** Hardy 36 St. #27
**Job Description:** 9-5/8" Surface
**Date:** December 2, 1999

**Proposal No: 180252708A**

## WELL DATA

### ANNULAR GEOMETRY

| ANNULAR I.D. (in) | DEPTH(ft) | |
|---|---|---|
| | MEASURED | TRUE VERTICAL |
| 12.250 HOLE | 1,500 | 1,500 |

### SUSPENDED PIPES

| DIAMETER (in) | | WEIGHT (lbs/ft) | DEPTH(ft) | |
|---|---|---|---|---|
| O.D. | I.D. | | MEASURED | TRUE VERTICAL |
| 9.625 | 8.921 | 36 | 1,500 | 1,500 |

| | |
|---|---|
| **Float Collar set @** | 1,460 ft |
| **Mud Density** | 9.00 ppg |
| **Est. Static Temp.** | 86 ° F |
| **Est. Circ. Temp.** | 85 ° F |

TOC - surface

### VOLUME CALCULATIONS

| | | | | | | |
|---|---|---|---|---|---|---|
| 1,200 ft | x | 0.3132 cf/ft | with | 100 % excess | = | 750.4 cf |
| 300 ft | x | 0.3132 cf/ft | with | 96 % excess | = | 184.3 cf |
| 40 ft | x | 0.4341 cf/ft | with | 0 % excess | = | 17.4 cf (inside pipe) |
| | | | | **TOTAL SLURRY VOLUME** | = | 952.1 cf |
| | | | | | = | 170 bbls |

**Operator Name:** Conoco
**Well Name:** Hardy 36 St. #27
**Job Description:** 9-5/8" Surface
**Date:** December 2, 1999

**Proposal No: 180252708A**

## FLUID SPECIFICATIONS

Spacer — 1,500.0 gals Mud Clean I @ 8.4 ppg

| FLUID | VOLUME CU-FT | | VOLUME FACTOR | AMOUNT AND TYPE OF CEMENT |
|---|---|---|---|---|
| Lead Slurry | 750 | / | 1.88 | = 400 sacks (35:65) Poz (Fly Ash):Class C Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 6% bwoc Bentonite + 0.005 gps FP-6L + 96.5% Fresh Water |
| Tail Slurry | 202 | / | 1.34 | = 150 sacks Class C Cement + 2% bwoc Calcium Chloride + 0.005 gps FP-6L + 56.3% Fresh Water |
| Displacement | | | | 112.9 bbls FRESH WATER + 56.3% Fresh Water |

### CEMENT PROPERTIES

| | SLURRY NO. 1 | SLURRY NO. 2 |
|---|---|---|
| Slurry Weight (ppg) | 12.70 | 14.80 |
| Slurry Yield (cf/sack) | 1.88 | 1.34 |
| Amount of Mix Water (gps) | 10.07 | 6.35 |
| Amount of Mix Fluid (gps) | 10.07 | 6.35 |

**Operator Name:** Conoco
**Well Name:** Hardy 36 St. #27
**Job Description:** 7" Long String
**Date:** December 2, 1999

**Proposal No: 180252708A**

## WELL DATA

### ANNULAR GEOMETRY

| ANNULAR I.D. (in) | DEPTH(ft) | |
|---|---|---|
| | MEASURED | TRUE VERTICAL |
| 8.921 CASING | 1,500 | 1,500 |
| 8.750 HOLE | 7,900 | 7,900 |

### SUSPENDED PIPES

| DIAMETER (in) | | WEIGHT (lbs/ft) | DEPTH(ft) | |
|---|---|---|---|---|
| O.D. | I.D. | | MEASURED | TRUE VERTICAL |
| 7.000 | 6.366 | 23 | 7,900 | 7,900 |

| | |
|---|---|
| **Float Collar set @** | 7,860 ft |
| **Mud Density** | 8.70 ppg |
| **Est. Static Temp.** | 128 ° F |
| **Est. Circ. Temp.** | 121 ° F |

TOC @ surface

### VOLUME CALCULATIONS

| | | | | | | |
|---|---|---|---|---|---|---|
| 1,500 ft | x | 0.1668 cf/ft | with | 0 % excess | = | 250.2 cf |
| 4,000 ft | x | 0.1503 cf/ft | with | 51 % excess | = | 906.0 cf |
| 2,400 ft | x | 0.1503 cf/ft | with | 47 % excess | = | 528.7 cf |
| 40 ft | x | 0.2210 cf/ft | with | 0 % excess | = | 8.8 cf (inside pipe) |
| | | | | **TOTAL SLURRY VOLUME** | = | 1693.8 cf |
| | | | | | = | 302 bbls |

**Operator Name:** Conoco
**Well Name:** Hardy 36 St. #27
**Job Description:** 7" Long String
**Date:** December 2, 1999

**Proposal No: 180252708A**

## FLUID SPECIFICATIONS

Spacer — 1,500.0 gals Mud Clean I @ 8.4 ppg

| FLUID | VOLUME CU-FT | | VOLUME FACTOR | AMOUNT AND TYPE OF CEMENT |
|---|---|---|---|---|
| Lead Slurry | 1156 | / | 1.85 | = 625 sacks (35:65) Poz (Fly Ash):Class C Cement + 0.25 lbs/sack Cello Flake + 0.005 gps FP-6L + 6% bwoc Bentonite + 95.7% Fresh Water |
| Tail Slurry | 538 | / | 1.34 | = 400 sacks Class C Cement + 0.8% bwoc FL-50 + 0.4% bwoc CD-32 + 0.005 gps FP-6L + 0.2% bwoc Sodium Metasilicate + 1% bwoc BA-58 + 55.8% Fresh Water |
| Displacement | | | | 309.4 bbls FRESH WATER + 55.8% Fresh Water |

### CEMENT PROPERTIES

| | SLURRY NO. 1 | SLURRY NO. 2 |
|---|---|---|
| Slurry Weight (ppg) | 12.70 | 14.80 |
| Slurry Yield (cf/sack) | 1.85 | 1.34 |
| Amount of Mix Water (gps) | 9.98 | 6.29 |
| Amount of Mix Fluid (gps) | 9.99 | 6.30 |

## PRODUCT DESCRIPTIONS

**BA-58**
very fine, gray, free flowing siliceous powder combined with high molecular weight resins which improves the bond between the cement particles, formation and casing. It is applicable at low to high temperatures.

**Bentonite**
Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.

**CD-32**
A patented, free-flowing, water soluble polymer that is an efficient and effective dispersant for primary and remedial cementing.

**Calcium Chloride**
A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

**Cello Flake**
Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

**Class C Cement**
Intended for use from surface to 6000 ft., and for conditions requiring high early strength and/or sulfate resistance.

**FL-50**
A water soluble, high molecular weight fluid loss additive used in medium to low density slurries. It is functional from low to high temperature ranges.

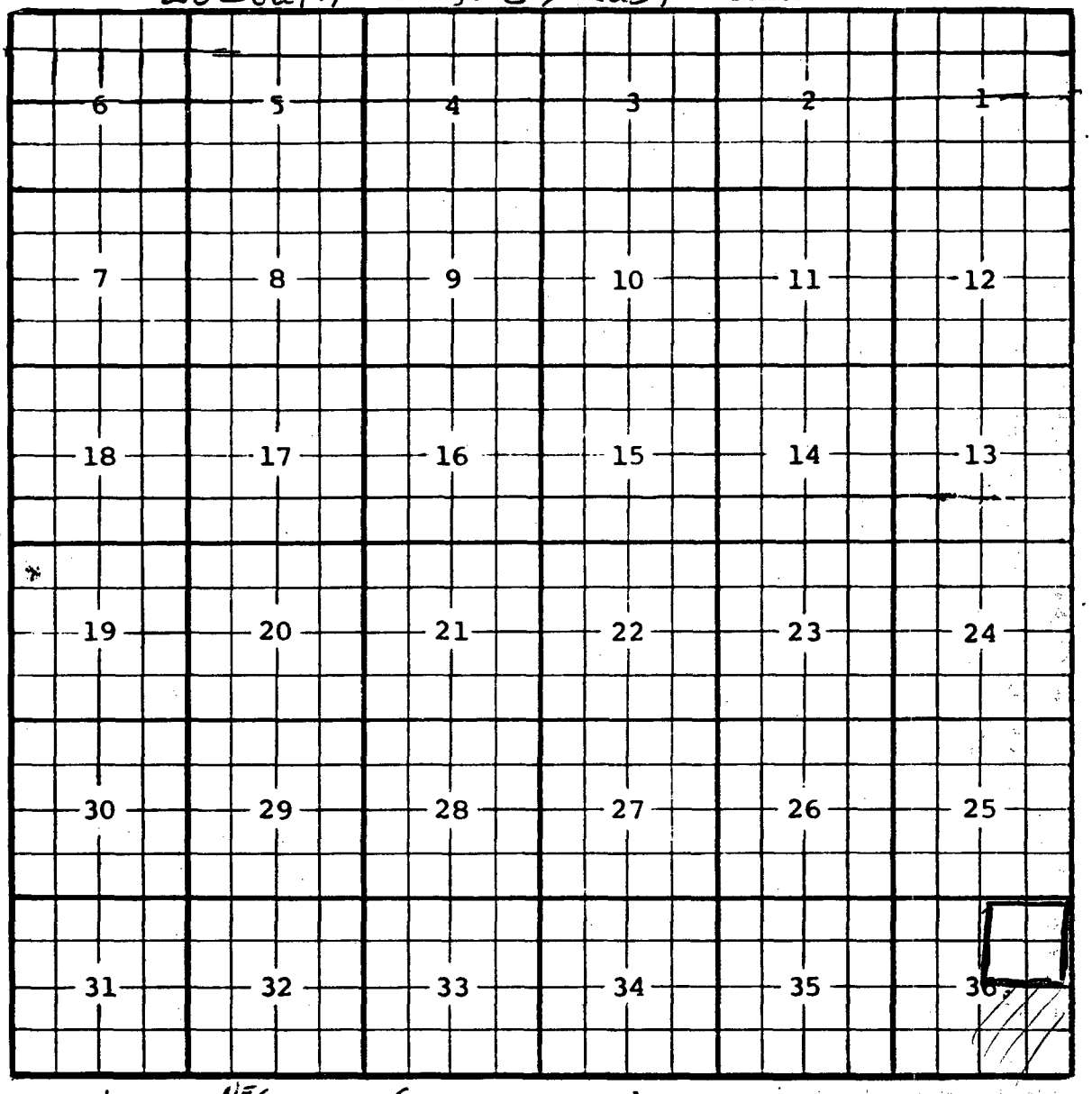
**FP-6L**
A clear liquid that decreases foaming in slurries during mixing.

**Poz (Fly Ash)**
A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.

**Sodium Metasilicate**
An extender used to produce an economical, low density cement slurry.

County Lea Pool ~~South~~ North Hardy-Strawn

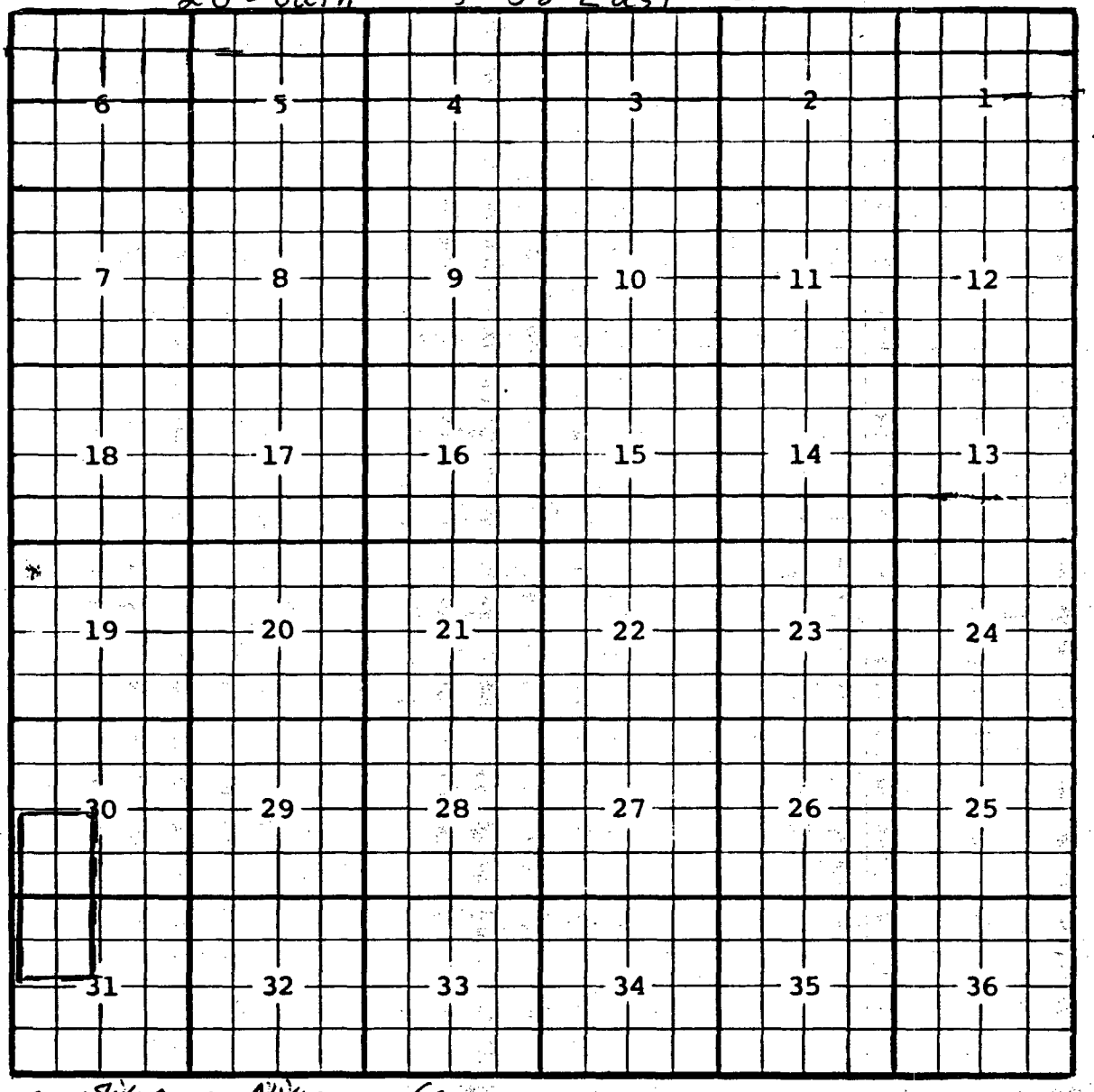
TOWNSHIP 20 South Range 37 East NMPM




Description: NE/4 Sec. 36 (R-11183, 5-19-99)
Redesignate as North Hardy-Strawn Pool (R-11203, 6-14-99)

County Lea Pool North Hardy-Strawn

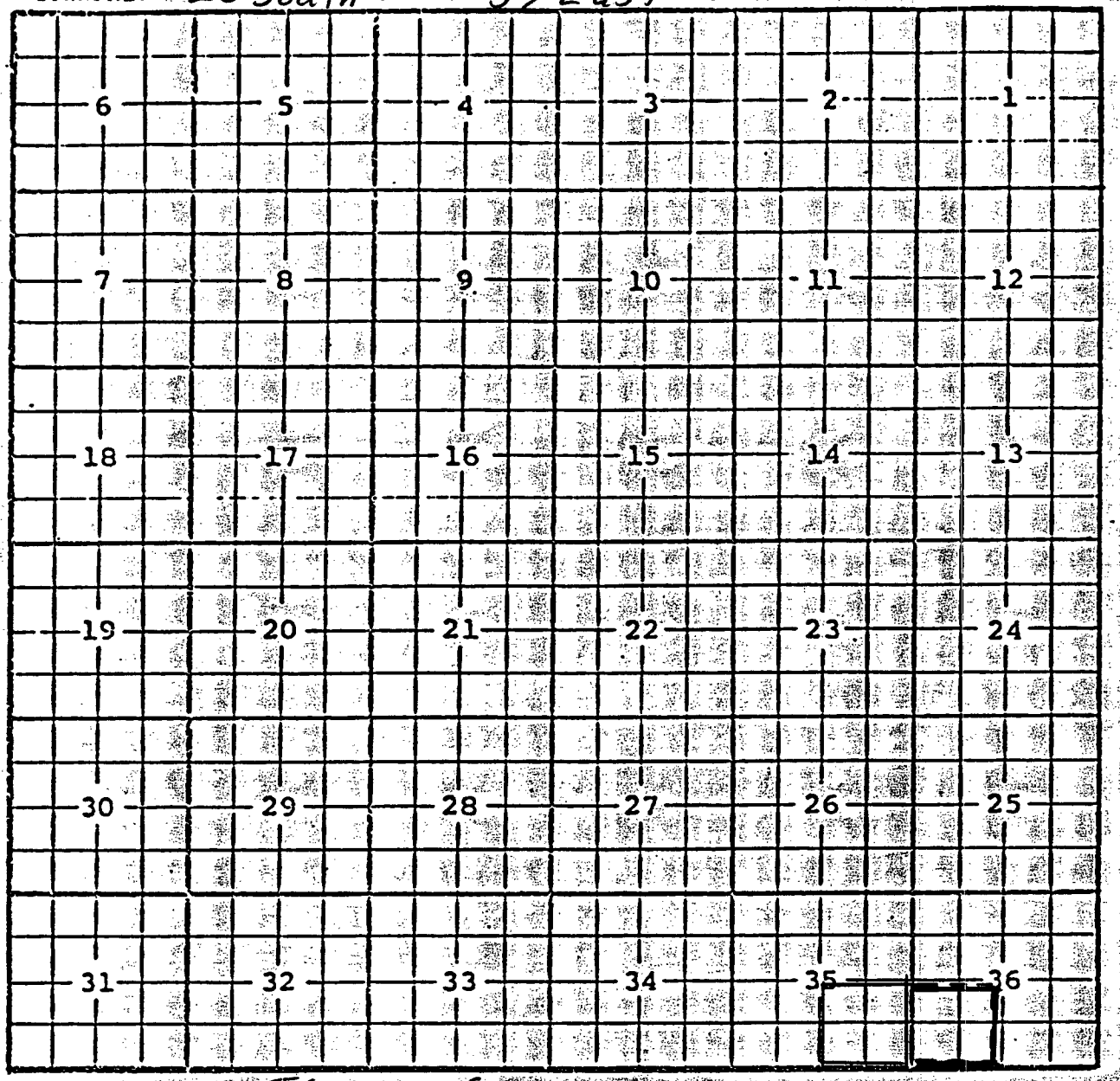
TOWNSHIP 20 South Range 38 East NMPM




Ext: SW/4 Sec. 30, NW/4 Sec. 31 (R-11304, 1-12-00)

COUNTY Lea POOL South Cass-Strawn

TOWNSHIP 20 South RANGE 32 East NMPM




Description: SE/4 Sec. 35 (A-8193, 3-21-83)

Ext: SW/4 Sec. 36 (R-11116, 1-7-99)