

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER ☐

SINGLE
ZONE ☒

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

BASF Corporation (303) 565-7773

3. ADDRESS OF OPERATOR

230 West North St., Cortez, Co. 81321

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1284' FSL & 1112' FWL (SWSW)

At proposed prod. zone

1006' FSL & 2543' FWL (SESW)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

9 air miles N of Kirtland, NM

10. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)

1284'*

16. NO. OF ACRES IN LEASE

1,919.80

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

742'*

19. PROPOSED DEPTH

5,000'*

17. NO. OF ACRES ASSIGNED
TO THIS WELL

5/80 160

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5,505' ungraded ground

22. APPROX. DATE WORK WILL START*

Aug. 1, 1990

PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT |
|---------------|----------------|--------------------|---------------|-----------------------|
| 17-1/2" | 13-3/8" | 61* (K-55, ST&C) | 240' | #290 sx or to surface |
| 12-1/4" | 9-5/8" | 40* (K-55, LT&C) | 3,500' | #725 sx or to surface |
| NOTE: 12-1/4" | 9-5/8" | 40* (S-95 or C-95) | 4,300' | " |

Well will be a horizontal well. See PAGES 5 & 6 for more details.

*Surface location. Projected BHL would be 1006' from lease line
and 733' away at end of horizontal stretch. BASF's proposed Ute
Mtn. Ute 28-24 would be closer still.

** True vertical depth projected to ~6,000'

RECEIVED

JUL 19 1990

Bureau of Land Management
Durango, Colorado

AUG 29 1990

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on surface locations and measured and true vertical depths. Give blowout preventer program, if any.

OIL CON. DIV.

DIST. 3

SIGNED

TITLE Consultant

DATE

7-18-90

(This space for Federal or State office use)

cc: Clausen (3), BIA, BLM(3, +2 for OCD), G. Hammond, Howell

PERMIT NO.

APPROVAL DATE

APPROVED BY

L. Mark Hollis

ACTING

TITLE AREA MANAGER

DATE

AUG 28 1990

CONDITIONS OF APPROVAL, IF ANY:

STIPULATIONS
ATTACHED

APPROVED FOR A PERIOD
NOT TO EXCEED 1 YEAR

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

| | | | | | | | | |
|--|----------------------|--------------------------------------|---------------------------------|-----------------------------|--|---|--|--|
| Operator BASF Corporation | | | Lease Ute Mtn. Ute 28 | | | Well No. 28-14 | | |
| Unit Letter M | Section 28 | Township 31 North | Range 14 West | County San Juan | | NMPM | | |
| Actual Footage Location of Well: 1284 feet from the South line and 1112 feet from the West line | | | | | | | | |
| Ground level Elev. 5505' | | Producing Formation Gallup | | Pool Verde-Gallup | | Dedicated Acreage: 160.80 Acres | | |

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 necessary.)
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.

Horizontal well will be directionally drilled into SE SW.
NMOCD Case 10023 will be heard July 25, 1990.
Surface location is shown.

RECEIVED
AUG 29 1990
OIL CON. DIV.
DIST. 3

OPERATOR CERTIFICATION

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

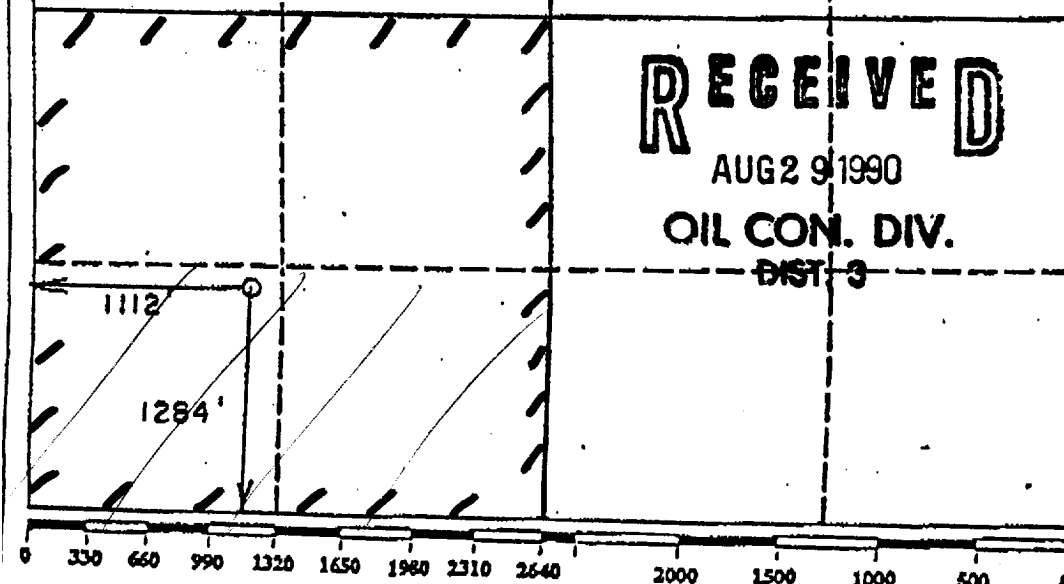
Signature *Brian Wood*
Printed Name **Brian Wood**
Position **Consultant**

Company **BASF Corporation**
Date **July 18, 1990**

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 knowledge and belief.

Date Surveyed _____
Signature *[Signature]*
Professional Surveyor
Certificate No. **6844**
6844



BASF Corporation's Ute Mtn. Ute 28-14
1284' FSL & 1112' FWL (Surface)
≈1006' FSL & ≈2543' FWL (BHL)
Sec. 28, T. 31 N., R. 14 W.
San Juan County, New Mexico

PAGE 1

Drilling Program

1. FORMATION TOPS

The estimated tops of important geologic markers are:

| <u>Formation Name</u> | <u>True Vertical Depth*</u> | <u>Depth from KB*</u> | <u>Subsea Depth*</u> |
|-----------------------|-----------------------------|-----------------------|----------------------|
| Kirtland Shale | 000' | 12' | +5,505' |
| Huerfanito Bentonite | 975' | 987' | +4,530' |
| Cliffhouse Ss | 1,917' | 1,929' | +3,588' |
| Menefee Shale | 2,108' | 2,120' | +3,397' |
| Point Lookout Ss | 2,849' | 2,861' | +2,656' |
| Mancos 1 Marker | 3,306' | 3,318' | +2,199' |
| Mancos 2 Marker | 3,499' | 3,511' | +2,006' |
| Mancos 4 Marker | 3,901' | 3,913' | +1,604' |
| Gallup Siltstone #1 | 4,205' | 4,217' | +1,300' |
| Gallup Siltstone #2 | 4,266' | 4,278' | +1,239' |
| Gallup Siltstone #3 | 4,323' | 4,335' | +1,182' |
| Gallup Siltstone #4 | 4,420' | 4,432' | +1,085' |
| Gallup Siltstone #5 | 4,446' | 4,458' | +1,059' |
| Gallup Siltstone #5A | 4,466' | 4,478' | +1,039' |
| Gallup Siltstone #6 | 4,566' | 4,578' | + 939' |
| Carlile | 4,600' | 4,612' | + 905' |
| Total Depth (TD) | 5,000' | 5,012' | + 505' |

* Based on ungraded ground level of 5,505'. Depths approximate due to steeply dipping beds.

2. NOTABLE ZONES

Primary objective is oil in the Gallup siltstone. All oil and gas shows will be tested and evaluated for commercial potential if found to be warranted by the wellsite geologist. Estimated true vertical depths from ungraded GL

BASF Corporation's Ute Mtn. Ute 28-14
1284' FSL & 1112' FWL (Surface)
≈1006' FSL & ≈2543' FWL (BHL)
Sec. 28, T. 31 N., R. 14 W.
San Juan County, New Mexico

PAGE 2

at which water, oil, gas, or other mineral bearing zones may be found are:

Coal Zones

Menefee: 2,108'

Oil and/ or Gas Zones

Menefee: 2,108'

Gallup: 4,205' - 4,600'

Fresh Water

Menefee: 2,108'

Surface casing and production casing (the latter only if completion is attempted) will protect water, oil, gas, or other mineral zones. Well will be drilled with weighted mud to ≈4,300' TVD. Air, mist, or stabilized foam will be used from 4,300' to TD. Fresh water will be recorded by depth, cased, and cemented. Surface casing will be cemented through its length.

3. PRESSURE CONTROL (See PAGE 5 for mud program)

The drilling contract has not yet been awarded, thus the exact type of BOP to be used is not known at this time. A schematic diagram of a typical 10" 3,000 psi BOP is on PAGE 3. Rotating head will be used during air drilling. Whatever BOP is used will be tested to 1,500 psi when installed.

BOPs will be inspected and operated at least daily to assure good mechanical working order. Inspections will be recorded on the daily drilling report. Onshore Order #2 requirements will be followed throughout.

4. CASING & CEMENT

| <u>Hole Size</u> | <u>O.D.</u> | <u>Weight</u> | <u>Grade</u> | <u>Type</u> | <u>Age</u> | <u>Measured Depth</u> |
|------------------|---|---------------|--------------|-------------|------------|-----------------------|
| 17-1/2" | 13-3/8" | 61* | K-55 | ST&C | New | 0' - 240' |
| 12-1/4" | 9-5/8" | 40* | K-55 | LT&C | New | 0' - 3,500' |
| 12-1/4" | 9-5/8" | 40* | S or C-95 | LT&C | New | 3,500' - 4,300' |
| 8.75-8.5" | Open hole completion, but 5- 1/2" liner may be run if needed. | | | | | 4,300' - 6,000' |

BASF Corporation's Ute Mtn. Ute 28-14
1284' FSL & 1112' FWL (Surface)
≈1006' FSL & ≈2543' FWL (BHL)
Sec. 28, T. 31 N., R. 14 W.
San Juan County, New Mexico

PAGE 4

Surface casing (0'-240') will be cemented with ≈290 sx (or sufficient quantity [≈166 cu. ft. including 100% excess] to circulate to the surface) Class B with 3% calcium chloride + 1/4 lb/sk cellophane. Four centralizers, one stop ring, and a guide shoe with a top wooden plug will be used.

First stage of the production casing will be cemented with ≈150 sx Class B with 2% calcium chloride and 1/4 lb/sk cellophane. Calculated fill is ≈500'. Circulate 3-1/2 to 4 hours.

Second stage of the production casing will be cemented to the surface with ≈525 sx Halliburton Light (or equivalent) with 10 #/sk gilsonite and 1/4 lb/sk cellophane mixed at 12.4 ppg. Tail with ≈50 sx Class B cement with 2% calcium chloride and 1/4 lb/sk cellophane.

Production casing will be run after penetrating ≈20' into the Gallup. Cementing tools will include 15 centralizers, 3 stop rings, guide shoe, float collar, DV collar @ ≈3,300', and 4 cement baskets (at ≈4,100' - ≈3,340' - ≈1,900' & ≈900').

5. MUD PROGRAM

| <u>Depth</u> | <u>Type</u> | <u>Pounds/Gal</u> | <u>Viscosity (sec/qt)</u> | <u>F.L.(cc)</u> | <u>pH</u> |
|--------------|-------------|-------------------|---------------------------|-----------------|-----------|
| 0'-4,300' | Gel & Water | 8.5-9.0 | 27-35 | N/C | 7-10 |

4,300' - TD Air, air mist, or stabilized foam system is planned. If hole conditions require, an oil based mud system may be used. Adequate volumes of water and mud materials will be maintained on location during air drilling to control well is abnormal pressures are found, though none are anticipated in this pressure depleted field.

6. CORING, TESTING, & LOGGING

No cores are planned. DIL with GR and Caliper logs will be used from

**BASF Corporation's Ute Mtn. Ute 28-14
1284' FSL & 1112' FWL (Surface)
≈1006' FSL & ≈2543' FWL (BHL)
Sec. 28, T. 31 N., R. 14 W.
San Juan County, New Mexico**

PAGE 5

≈4,300' to the surface. MWD and mud motor will be used below ≈4,300'. DLL will be used as needed for depth determination. No logging is anticipated in the horizontal section. Cuttings will be collected every 30' from surface to ≈4,300' and every 10' from ≈4,300' to TD. Two man mud logging unit will be on site from 240' to TD.

7. DOWNHOLE CONDITIONS

Maximum expected bottom hole pressure is ≈2,000 psi. No hydrogen sulfide, abnormal pressures, or abnormal temperatures are expected. Possible caving formations include the Menefee shale. Lost circulation can occur in the Cliffhouse, Point Lookout, and Gallup formations. Beds dip steeply.

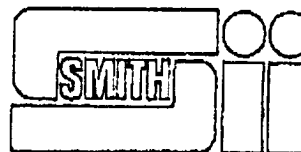
Kickoff point will be @ ≈3,999' (TVD). Build rate will be 12°/100' in a south 80.33° east direction. Drill a 8-3/4" to 8-1/2" hole from ≈4,300' MD to ≈6,000' MD. Continue building angle at 12°/100' until horizontal is reached. Maintain horizontal for ≈1,000 to TD. Horizontal hole is likely to be 8-1/2". Open hole completion is anticipated. However, if conditions dictate, a 5-1/2" liner may be run. Directional surveys will be run, calculated, and reported to TD. See following page for profile .

8. MISCELLANEOUS

The anticipated spud date is August 1, 1989. It is expected it will take 3-4 weeks to drill and ≈2 weeks to complete the well.

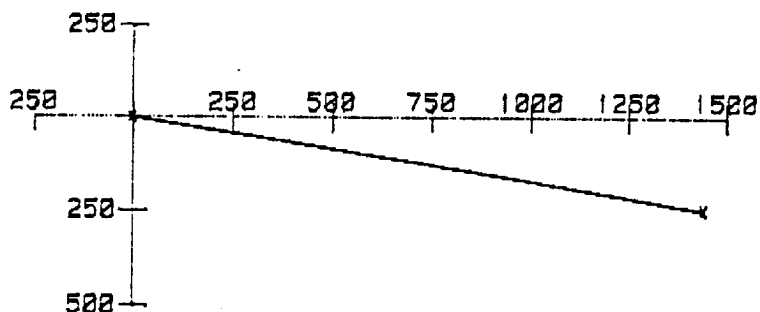
22 Jun 1990 @ 14:13

WINTERSHALL ENERGY
VERDE GALLUP FIELD
SAN JUAN COUNTY, NEW MEXICO



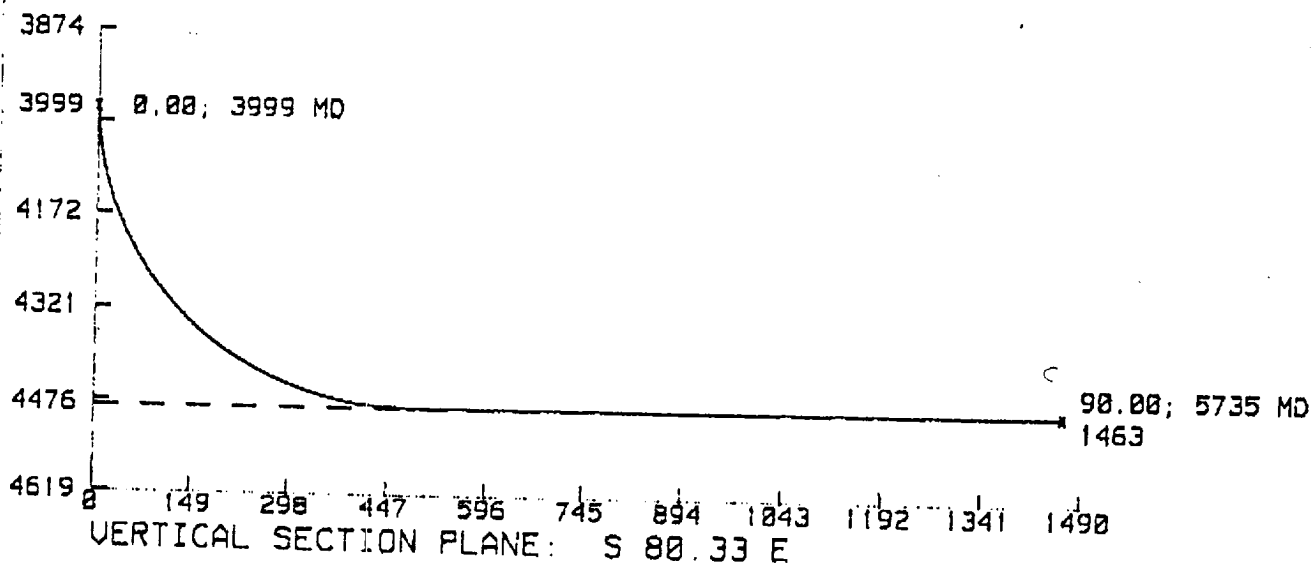
VERTICAL PLAN
SCALE: 149 FEET/DIVISION

HORIZONTAL PLAN
SCALE: 250 FEET/DIVISION



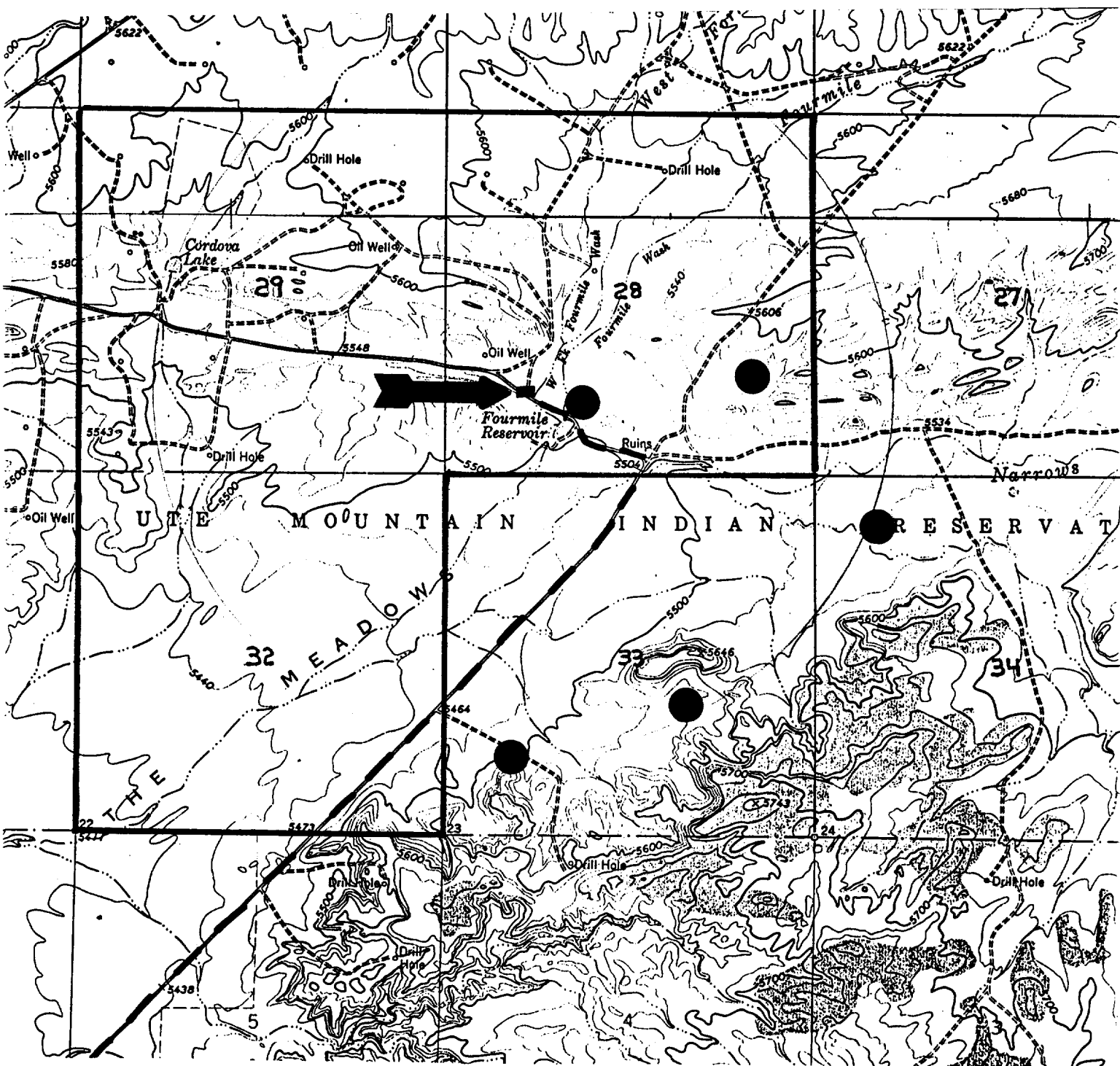
BASF Corporation's Ute Mtn. Ute 28-14
1284' FSL & 1112' FWL (Surface)
≈1006' FSL & ≈2543' FWL (BHL)
Sec. 28, T. 31 N., R. 14 W.
San Juan County, New Mexico

PAGE 6



BASF Corporation's Ute Mtn. Ute 28-14
 1284' FSL & 1112' FWL (Surface)
 ~1006' FSL & ~2543' FWL (BHL)
 Sec. 28, T. 31 N., R. 14 W.
 San Juan County, New Mexico

PAGE 15



Proposed Well (Surface Location): 

Other Wells: 

Access Route: 

Lease Line: 

PERMITS WEST, INC.
 PROVIDING PERMITS for the ENERGY INDUSTRY