10/22/03

SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
11/6/03	WVJ	LR	SWD	PLR0329537493

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ABOVE THIS LINE FOR DIVISION USE ONLY

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
NSL NSP SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
DHC CTB PLC PC OLS OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
WFX PMX (SWD) IPI EOR PPR

[D] Other: Specify _____

Zone ASR wells
New drill SWD
?35-045-30533?

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or _ Does Not Apply

[A] Working, Royalty or Overriding Royalty Interest Owners

[B] Offset Operators, Leaseholders or Surface Owner

[C] Application is One Which Requires Published Legal Notice

[D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name	Signature	Title	Date
BRIAN WOOD (505) 466-8120 FAX 466-9682	B. Wood	CONSULTANT	10-18-03 e-mail Address brian@permitswest.com

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance XXX Disposal _____Storage
Application qualifies for administrative approval? XXX Yes _____No

II. OPERATOR: DOMINION OKLAHOMA TEXAS EXPLORATION & PRODUCTION, INC.

ADDRESS: 14000 QUAIL SPRINGS PARKWAY, SUITE 600, OKLAHOMA CITY, OK 73134

CONTACT PARTY: BRIAN WOOD c/o PERMITS WEST, INC. PHONE: 505 466-8120

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes XXX No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE: _____ DATE: OCT. 18, 2003

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 1

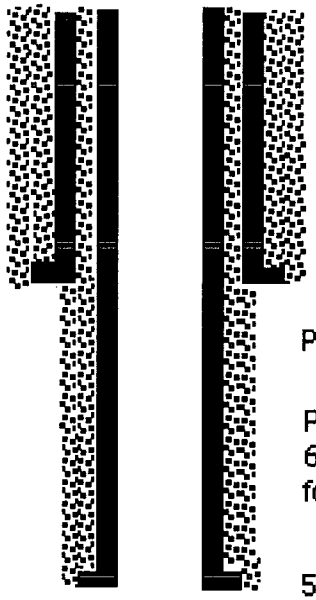
INJECTION WELL DATA SHEET

OPERATOR: DOMINION OKLAHOMA TEXAS EXPLORATION & PRODUCTION, INC.

WELL NAME & NUMBER: FEDERAL WDW 27 #1

WELL LOCATION:	1050' FNL & 840' FEL	A	27	27N	12W
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC



8-5/8" 32# J-55
set @ 500' and cemented
to the surface with 100% excess

Packer @ 6,075'

Perforate (0.38") from
6,125' to 7,075' with
four shots per foot

5-1/2" 17# J-55
set @7,200' and cemented
to the surface with 20% excess

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 11" Casing Size: 8-5/8" @ 500'

Cemented with: 185 sx. *or* 282 ft^3

Top of Cement: SURFACE Method Determined: VISUAL & TEMP. SURVEY

Intermediate Casing

Hole Size: · Casing Size: ·

Cemented with: · sx. *or* · ft^3

Top of Cement: · Method Determined: ·

Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2" @ 7,200'

Cemented with: 1,310 sx. *or* 1,519 ft^3

Top of Cement: SURFACE Method Determined: VISUAL & BOND LOG

Total Depth: 7,200'

Injection Interval

6,125' feet to 7,075'

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2-7/8" 6.5# Lining Material: PLASTIC

Type of Packer: BAKER OR ITS EQUIVALENT

Packer Setting Depth: ≈6,075'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? XXX Yes _____ No

   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: SWD; MORRISON BLUFF ENTRADA

3. Name of Field or Pool (if applicable): WILDCAT

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. NO (NEW WELL)

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   NOW PRODUCING OVERLYING: FRUITLAND, PICTURED CLIFFS, & DAKOTA

   NOW PRODUCING UNDERLYING: NONE

FEDERAL WDW 27 #1
1050' FNL & 840' FEL
SEC. 27, T. 27 N., R. 12 W.
SAN JUAN COUNTY, NEW MEXICO

I. Purpose is water disposal.

II. Operator: Dominion Oklahoma Texas Exploration & Production, Inc.
Operator phone number: (405) 748-2759
Operator address: 14000 Quail Springs Parkway, #600
Oklahoma City, OK 73134
Contact: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease: BLM lease NMSF-079114-A
Lease Size: 1,880 acres
Lease Area: all within T. 27 N., R. 11 W.
NE4NW4, S2NW4, NE4, & S2 Section 25
all Section 26
all Section 27
Closest Lease Line: 1,050'
Well Name & Number: Federal WDW 27 #1
Well Location: 1050' FNL and 840' FEL Sec. 27, T. 27 N., R. 12 W.
(see Exhibit A)

A. (2) Surface casing (8-5/8", 32#, J-55) will be set at ≈500' in a 11" hole and cemented to the surface with 282 cubic feet. Cement will be ≈185 sacks (>100% excess) Class III + 2% $CaCl_2$ + 1/4 pound per sack cello flake. Yield = 1.52 cubic feet per sack. Weight = 14.5 pounds per gallon. If cement does not circulate, a temperature survey will be run to find the T. O. C., and will then finish cementing to the surface through 1" pipe. At least three centralizers will be set at ≈330', ≈275', and ≈195'.

Production casing (5-1/2", 17#, J-55) will be set at ≈7,200' in a 7-7/8" hole and cemented to the surface. T. O. C. will be determined by visual observation and bond log. Cement will be ≈1,310 sacks (>20% excess) BJ Premium Lite High Strength FM + 10% gypsum + 5% polymer + 1/4 pound per sack cello flake. Yield =

1.16 cubic feet per sack. Weight = 13.5 pounds per gallon. Actual volumes will be determined by caliper. Centralizers will be set on top of the shoe joint and every other joint to ≈1,000'. A cement basket will be set every ≈600'.

U. S. Environmental Protection Agency Method B will be used for the mechanical integrity test. A pressure/vacuum gauge will be installed and checked weekly to monitor down hole conditions once operational.

A. (3) Tubing will be plastic coated 2-7/8" 6.5# J-55 injection string. It will be set at ≈6,100'.

A. (4) A Baker packer or its equivalent will be set at ≈6,075' (≈50' above the top Morrison perforation).

B. (1) Disposal zone will be the Morrison and Entrada sandstones. Fracture gradient is expected to be normal ≈0.75 psi per foot.

B. (2) Disposal interval will be ≈6,125' to ≈7,075' (well logs will determine exact interval after drilling). It will be perforated (0.38") with four shots per foot.

B. (3) Well has not yet been drilled. (It was originally approved (API 30-045-30533) as a Fruitland coal and Pictured Cliffs gas well.) It will be drilled for the exclusive use by Dominion and for the sole purpose of water disposal from present and future Dominion wells. Water analyses from Dominion wells in the Fruitland coal and Pictured Cliffs are attached (Exhibit B).

B. (4) Well bore has not yet been perforated since it has not yet been drilled. It will be perforated from ≈6,125' to ≈7,075' (logs will determine exact interval after drilling).

B. (5) Top of the Morrison is ≈6,113'. Seventeen wells in the San Juan Basin either are now disposing into, or have disposed of into, the Entrada, Morrison Bluff Entrada, or Morrison Entrada. Bottom of the closest (257' north) overlying productive zone is the Dakota in the Campbell Federal 5. Its lowest perforation is 5,995' (130' above highest planned Morrison perforation). It will be plugged and abandoned (see plugging Sundry, Exhibit C). There is no production from zones below the Entrada within 10 miles.

IV. This is not an expansion of an existing injection project.

V. A map (See Exhibit D) is attached showing both well bores (one P & A + one TSI gas scheduled for P & A) within a half mile radius. Details on the wells within a half mile radius follow:

OPERATOR	WELL	LOCATION (27n-12w)	ZONE	TD	STATUS	DISTANCE
ConocoPhillips	Campbell 5	NENE Sec. 27	Dakota	6044'	TSI gas	257'
Beta	Campbell 6	NENW Sec. 27	Dakota	5970'	P & A	2,603'

A map (see Exhibit E) showing all 49 (3 water + 22 P & A + 24 oil or gas) existing well bores within a two mile radius is attached.

A map (see Exhibit F) showing all leases (all BLM) within a half mile is attached. Details on the leases within a half mile are:

LEASE NUMBER	AREA	LESSEE(S)
NM-35634	SW4 Section 23 et al	Rio Arriba Investments XTO
NM-86085	all Section 22 et al	N/A (terminated 11-12-2002, not currently leased)
SF-079114-A	all Sections 26 & 27 et al	ConocoPhillips Dominion OK TX E & P Energen XTO

A map (see Exhibit G) showing and all leases (all BLM except for Section 16 which is state and E2 Sec. 35 which is allotted) within two miles is attached.

VI. One TSI well (Campbell 5) and one P & A well (Campbell 6) are within a half mile. Neither penetrated the Entrada. Only the Campbell 5 penetrated (≈28') the Morrison. See Exhibit C for a profile, construction details, and plugging plan for the Campbell Federal 5.

VII. 1. Average injection rate = 1,000 bwpd. Maximum = 2,000 bwpd.

2. System will be open (water will be trucked). Facilities will include three ≈500 barrel water tanks, ≈750 barrel gun barrel tank, filtration unit, and injection pump.

3. Average injection pressure =1,000 psi
Maximum pressure = 1,400 psi

4. Water source will be present and future Dominion wells in the basin. Five produced water analyses (Exhibit B) from the Pictured Cliffs and Fruitland are attached. Averages follow. No local sample exists from the Morrison or Entrada.

Calcium	472 mg/l
Iron	186 mg/l
Magnesium	258 mg/l
Potassium	120 mg/l
Sodium	21,340 mg/l
Chloride	32,460 mg/l
Sulfate	17 mg/l
Alkalinity Bicarbonate (as $CaCO_3$)	547 mg/l $CaCO_3$
Alkalinity Total (as $CaCO_3$)	547 mg/l $CaCO_3$
Hardness (as $CaCO_3$)	2,244 mg/l
pH	6.9 pH units
Resistivity	0.13 ohms
Specific Gravity	1.04 units
Total Dissolved Solids (residue allowable)	53,180 mg/l
Total Dissolved Solids (calculated)	55,800 mg/l

5. The Morrison and Entrada have not been found to be productive within two miles of the proposed well. (Dominion will attempt to swab load water back after stimulation and take Morrison and Entrada water samples. If successful, then the analysis will be provided to the New Mexico Oil Conservation Division.)

According to Stone et al in Hydrogeology and water resources of San Juan Basin, New Mexico, lower (known variously as the Junction Creek, Cow Springs, or Bluff member of the) Morrison water near the basin fringe has a specific conductance of <2,000 μmhos. Morrison water from one deep test of the basin had a specific conductance of 4,300 μmhos. Stone et al state, "No

wells are known to derive their water exclusively from this aquifer ...." and transmissivity is "relatively low". Summaries of analyses (see Exhibit H) of Morrison produced water from seven wells (closest is SWD 376 which is ≈30 miles northeast) follow:

Parameter	SWD 337 29-32n-10w	SWD 339 10-30n-7w	SWD 376 26-30n-9w	SWD 441 11-31n-7w	Simms 1 13-30n-4w	Pump 1 36-31n-8w	Ute A-30 2-31n-14w
Bicarbonate	*104 mg/l	*643 mg/l	*270 mg/l	610 mg/l	180 mg/l	866 mg/l	478 mg/l
Calcium	*462 mg/l	*664 mg/l	*454 mg/l	281 mg/l	150 mg/l	160 mg/l	1531 mg/l
Chloride	*7159 mg/ll	*17975 mg/l	*17039 mg/l	3905 mg/l	10479 mg/l	4470 mg/l	16075 mg/l
Iron	N/A	230 mg/l	N/A	N/A	0 mg/l	1.9 mg/l	>500 mg/l
Magnesium	*55 mg/l	66 mg/l	*74 mg/l	29 mg/l	24 mg/l	N/A	262 mg/l
pH	*6.24	*6.54	*6.57	7.08	7.10	7.07	6.29
Potassium	*1500 mg/l	1810 mg/l	N/A	N/A	15600 mg/l	N/A	69 mg/l
Sodium	*3807 mg/l	*5558 mg/l	*10988 mg/l	3852 mg/l	N/A	5650 mg/l	N/A
Sulfate	*449 mg/ll	*1730 mg/l	*1030 mg/l	3099 mg/l	256 mg/l	5450 mg/l	3333 mg/l
Specific Gravity	*1.01	*1.02	*1.02	1.01	1.02	1.01	1.02
TDS	*12796 mg/l	*35350 mg/l	*29854 mg/l	11800 mg/l	22873 mg/l	15300 mg/l	34736 mg/l
Total Hardness	*1507 mg/l	N/A	N/A	N/A	473 mg/l	397 mg/l	4905 mg/l

*average of analyses

The Entrada has not been penetrated within three miles of the proposed well. (Closest such well was Skelly's Navajo 1-B in NWSE 14-26n-12w.) In general, Entrada water near the basin fringe has a specific conductance of <1,500 μmhos. Entrada water from deeper parts of the basin have a specific conductance of >10,000 μmhos. Stone et al state, "Generally ... water from the Entrada is not suitable for drinking, especially in deeper parts of the basin." Entrada produced water analysis summaries follow. The samples (see Exhibit H) are from the Santa Fe 20 #1 at SWNE 20-21n-8w (≈51 miles southeast) and the Eagle Mesa #1 at SWSW 12-18n-4w (≈74 miles southeast).

Parameter	Santa Fe 20 #1	Eagle Mesa #1
Bicarbonate	2546 mg/l	1220 mg/l
Calcium	27 mg/l	160 mg/l
Chloride	903 mg/l	1773 mg/l
Iron	0.9 mg/l	0 mg/l
Magnesium	8 mg/l	49 mg/l
pH	7.73	7.32
Sodium	3228 mg/l	3726 mg/l
Sulfate	4400 mg/l	5000 mg/l
Specific Gravity	1.009	1.010
Total Dissolved Solids	11,114 mg/l	11,928 mg/l

VIII. According to the U. S. Geological Survey (Ground Water Atlas of the United Sates - Arizona, Colorado, New Mexico, Utah - HA 730-C), the middle and lower Morrison is an " ... interbedded fine to medium sandstone, siltstone, and mudstone." It produces oil elsewhere in the basin (e. g., XTO's Ute A #30 in NENE 2-31n-14w)). Morrison is ≈902' thick in the well bore. Top is ≈6,113' and bottom is ≈7,015'.

The Entrada sandstone is a very porous and permeable æolian sandstone. It produces oil elsewhere in the basin (e. g., Eagle Mesa, Leggs, Media, Ojo Encino, Papers Wash, Snake Eyes Fields). Entrada is estimated to be ≈65' thick in the well bore. Top is ≈7,015' and bottom is ≈7,080'.

Estimated well bore formation tops are:

Nacimiento Mudstone & Sandstone: 0'
Ojo Alamo Sandstone: 160'
Kirtland Shale: 250'
Fruitland formation: 763'
Basal Fruitland Coal: 1,310'
Pictured Cliffs Sandstone: 1,330'
Lewis Shale: 1,612'
Cliff House Sandstone: 2,207'
Menefee Shale: 2,793'
Point Lookout Sandstone: 3,828'
Mancos Shale: 4,096'
Gallup Sandstone: 4,920'
Greenhorn: 5,780'
Graneros: 5,840'
Dakota Sandstone: 5,946'
Morrison: 6,113'
Entrada Sandstone: 7,015'
Chinle Shale: 7,080'
Total Depth: 7,200'

There are only three water wells within a two mile radius. Closest is a windmill which is ≈1-1/4 miles northeast. Fresh water bearing strata are 0' to ≈250'. No existing underground drinking water sources are below the Morrison within a two mile radius. There will be ≈5,863' vertical separation between the bottom of the lowest existing underground water source (Ojo Alamo) and the top of the Morrison.

IX. The well will be stimulated, tentatively with a gelled water frac and ≈84,000 pounds of 20/40 sand. Final decision will be made once the thickness and porosity of the zones are known.

X. DIL log will be run from TD to surface. GR/CNL/CDL, ML, CBL/GR logs will be run from TD to bottom of surface casing. Copies will then be provided to the NMOCD.

XI. There are no water wells within two miles which penetrate the Morrison and Entrada. The closest water well within two miles is a windmill which is approximately 1-1/4 miles northeast.

XII. Dominion is not aware of any geologic or engineering data which indicate the Morrison or Entrada are in hydrologic connection with any underground sources of water. There will be ≈5,863' of vertical separation and four shale zones (Kirtland (513' thick), Lewis (282' thick), Menefee (1,035'), and Mancos (268') between the top (6,113') of the Morrison and the bottom of the closest fresh water aquifer (Ojo Alamo).

XIII. Notice (this application) has been sent to the surface owner (Navajo Nation), operators of all wells (only ConocoPhillips), and lease operating right holders (Dominion, ConocoPhillips, Energen, Rio Arriba Investments, and XTO), and lessors (BLM) within a half mile. A legal ad (see Exhibit I) was published on August 5, 2003.

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised October 18, 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
	96162	SWD, Morrison Bluff Entrada

⁴ Property Code	⁵ Property Name	⁶ Well Number
	Federal WDW 27	1

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
025773	Dominion Oklahoma Texas Exploration & Production, Inc.	5867

¹⁰ Surface Location

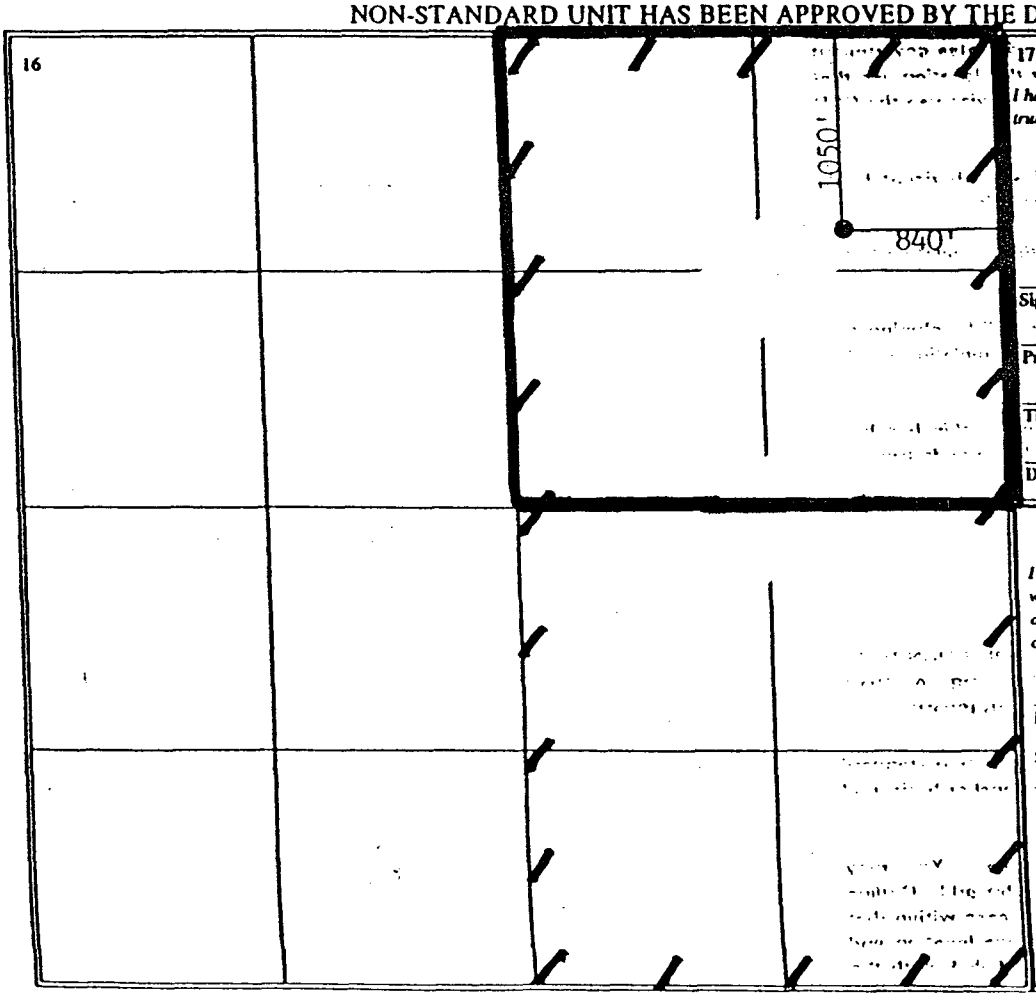
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	27N	12W		1050	NORTH	840	EAST	SAN JUAN

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.

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

Signature: Brian Wood

Printed Name: BRIAN WOOD

Title: CONSULTANT

Date: SEPT. 16, 2003

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: OCTOBER 25, 2000

Signature and Seal of Professional Surveyor: CECIL B. TULLIS

NEW MEXICO 9672 REGISTERED PROFESSIONAL LAND SURVEYOR

CECIL B. TULLIS

Certificate Number: 9672

EXHIBIT A

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: *26-Mar-03*

CLIENT:	Dominion E & P	Client Sample Info:	Produced Water
Work Order:	0303011	Client Sample ID:	Mudge A #9 (From: Hard Coal)
Project:	Produced Water	Collection Date:	3/12/2003 8:52:00 AM
Lab ID:	0303011-001A	Matrix:	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, DISSOLVED		SW6010B				Analyst: DJC
Calcium	421	1.00		mg/L	100	3/17/2003
Iron	86.6	2.40		mg/L	100	3/19/2003
Magnesium	252	0.700		mg/L	100	3/21/2003
Potassium	92.3	6.20		mg/L	100	3/21/2003
Sodium	21500	18.0		mg/L	1000	3/21/2003
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: HNR
Chloride	37500	300		mg/L	5000	3/19/2003
Sulfate	ND	10.0		mg/L	100	3/18/2003
ALKALINITY, TOTAL		M2320 B				Analyst: HNR
Alkalinity, Bicarbonate (As CaCO3)	630	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Hydroxide	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Total (As CaCO3)	630	5		mg/L CaCO3	1	3/20/2003
HARDNESS, TOTAL		M2340 B				Analyst: HNR
Hardness (As CaCO3)	2090	1		mg/L	1	3/24/2003
PH		E150.1				Analyst: HNR
pH	6.70	2.00		pH units	1	3/13/2003
Temperature	20.0	0		Deg C	1	3/13/2003
RESISTIVITY (@ 25 DEG. C)		M2510 C				Analyst: HNR
Resistivity	0.121	0.001		ohm-m	1	3/18/2003
SPECIFIC GRAVITY		M2710 F				Analyst: HNR
Specific Gravity	1.040	0.001		Units	1	3/18/2003
TOTAL DISSOLVED SOLIDS		E160.1				Analyst: HNR
Total Dissolved Solids (Residue, Filterable)	57000	40		mg/L	1	3/18/2003
TOTAL DISSOLVED SOLIDS		CALC				Analyst: HNR
Total Dissolved Solids (Calculated)	58000	5		mg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above Upper Quantitation Limit (UQL)

EXHIBIT B

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-4072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: 26-Mar-03

CLIENT: Dominion E & P
Work Order: 0303011
Project: Produced Water
Lab ID: 0303011-002A

Client Sample Info: Produced Water
Client Sample ID: Hancock 42-12 (Fruitland Coal)
Collection Date: 3/12/2003 10:45:00 AM
Matrix: AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, DISSOLVED		SW6010B				Analyst: DJC
Calcium	238	1.00		mg/L	100	3/17/2003
Iron	707	2.40		mg/L	100	3/19/2003
Magnesium	190	0.700		mg/L	100	3/21/2003
Potassium	64.1	6.20		mg/L	100	3/21/2003
Sodium	16900	1.80		mg/L	100	3/21/2003
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: HNR
Chloride	24900	300		mg/L	5000	3/19/2003
Sulfate	ND	10.0		mg/L	100	3/18/2003
ALKALINITY, TOTAL		M2320 B				Analyst: HNR
Alkalinity, Bicarbonate (As CaCO3)	438	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Hydroxide	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Total (As CaCO3)	438	5		mg/L CaCO3	1	3/20/2003
HARDNESS, TOTAL		M2340 B				Analyst: HNR
Hardness (As CaCO3)	1180	1		mg/L	1	3/24/2003
PH		E150.1				Analyst: HNR
pH	6.34	2.00		pH Units	1	3/13/2003
Temperature	22.0	0		Deg C	1	3/13/2003
RESISTIVITY (@ 25 DEG. C)		M2510 C				Analyst: HNR
Resistivity	0.159	0.001		ohm-m	1	3/18/2003
SPECIFIC GRAVITY		M2710 F				Analyst: HNR
Specific Gravity	1.030	0.001		Unit	1	3/18/2003
TOTAL DISSOLVED SOLIDS		E160.1				Analyst: HNR
Total Dissolved Solids (Residue, Filterable)	43800	40		mg/L	1	3/13/2003
TOTAL DISSOLVED SOLIDS		CALC				Analyst: HNR
Total Dissolved Solids (Calculated)	42600	5		mg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit (UQL)

EXHIBIT B

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: 26-Mar-03

CLIENT:	Dominion E & P	Client Sample Info:	Produced Water
Work Order:	0303011	Client Sample ID:	Hancock #4 (Fruitland Coal)
Project:	Produced Water	Collection Date:	3/12/2003 10:57:00 AM
Lab ID:	0303011-004A	Matrix:	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, DISSOLVED		SW6010B				Analyst: DJC
Calcium	466	1.00		mg/L	100	3/17/2003
Iron	ND	2.40		mg/L	100	3/19/2003
Magnesium	300	0.700		mg/L	100	3/21/2003
Potassium	98.1	6.20		mg/L	100	3/21/2003
Sodium	24000	18.0		mg/L	1000	3/21/2003
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: HNR
Chloride	36000	300		mg/L	5000	3/19/2003
Sulfate	ND	10.0		mg/L	100	3/18/2003
ALKALINITY, TOTAL		M2320 B				Analyst: HNR
Alkalinity, Bicarbonate (As CaCO3)	468	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Hydroxide	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Total (As CaCO3)	468	5		mg/L CaCO3	1	3/20/2003
HARDNESS, TOTAL		M2340 B				Analyst: HNR
Hardness (As CaCO3)	2400	1		mg/L	1	3/24/2003
PH		E150.1				Analyst: HNR
pH	7.59	2.00		pH units	1	3/13/2003
Temperature	20.0	0		Deg C	1	3/13/2003
RESISTIVITY (@ 25 DEG. C)		M2510 C				Analyst: HNR
Resistivity	0.114	0.001		ohm-m	1	3/18/2003
SPECIFIC GRAVITY		M2710 F				Analyst: HNR
Specific Gravity	1.043	0.001		Units	1	3/18/2003
TOTAL DISSOLVED SOLIDS		E160.1				Analyst: HNR
Total Dissolved Solids (Residue, Filterable)	62000	40		mg/L	1	3/18/2003
TOTAL DISSOLVED SOLIDS		CALC				Analyst: HNR
Total Dissolved Solids (Calculated)	62000	5		mg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

EXHIBIT B

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: *26-Mar-03*

CLIENT: Dominion E & P
Work Order: 0303011
Project: Produced Water
Lab ID: 0303011-003A

Client Sample Info: Produced Water
Client Sample ID: Hancock #1 (Pictured Cliffs)
Collection Date: 3/12/2003 10:13:00 AM
Matrix: AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, DISSOLVED		SW6010B				Analyst: DJC
Calcium	404	1.00		mg/L	100	3/17/2003
Iron	7.63	2.40		mg/L	100	3/19/2003
Magnesium	206	0.700		mg/L	100	3/21/2003
Potassium	146	6.20		mg/L	100	3/21/2003
Sodium	19200	1.80		mg/L	100	3/21/2003
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: HNR
Chloride	28000	300		mg/L	5000	3/19/2003
Sulfate	ND	10.0		mg/L	100	3/18/2003
ALKALINITY, TOTAL		M2320 B				Analyst: HNR
Alkalinity, Bicarbonate (As CaCO3)	547	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Hydroxide	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Total (As CaCO3)	547	5		mg/L CaCO3	1	3/20/2003
HARDNESS, TOTAL		M2340 B				Analyst: HNR
Hardness (As CaCO3)	1860	1		mg/L	1	3/24/2003
PH		E150.1				Analyst: HNR
pH	6.91	2.00		pH Units	1	3/13/2003
Temperature	22.0	0		Deg C	1	3/13/2003
RESISTIVITY (@ 25 DEG. C)		M2510 C				Analyst: HNR
Resistivity	0.144	0.001		ohm-m	1	3/18/2003
SPECIFIC GRAVITY		M2710 F				Analyst: HNR
Specific Gravity	1.033	0.001		Units	1	3/18/2003
TOTAL DISSOLVED SOLIDS		E160.1				Analyst: HNR
Total Dissolved Solids (Residue, Filterable)	45000	40		mg/L	1	3/10/2003
TOTAL DISSOLVED SOLIDS		CALC				Analyst: HNR
Total Dissolved Solids (Calculated)	48,000	5		mg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit - MQL

EXHIBIT B

612 E. Murray Drive
Farmington, NM 87401

Ph: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: 26-Mar-03

CLIENT:	Dominion E & P	Client Sample Info:	Produced Water
Work Order:	0303011	Client Sample ID:	Hancock 13-11 (Richard Chiles)
Project:	Produced Water	Collection Date:	3/12/2003 11:05:00 AM
Lab ID:	0303011-005A	Matrix:	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS, DISSOLVED		SW6010B				Analyst: DJC
Calcium	832	1.00		mg/L	100	3/17/2003
Iron	ND	2.40		mg/L	100	3/19/2003
Magnesium	343	0.700		mg/L	100	3/21/2003
Potassium	199	6.20		mg/L	100	3/21/2003
Sodium	25100	10.0		mg/L	1000	3/21/2003
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: HNR
Chloride	36800	300		mg/L	5000	3/19/2003
Sulfate	16.9	8.00		mg/L	100	3/19/2003
ALKALINITY, TOTAL		M2320 B				Analyst: HNR
Alkalinity, Bicarbonate (As CaCO3)	654	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Hydroxide	ND	5		mg/L CaCO3	1	3/20/2003
Alkalinity, Total (As CaCO3)	654	5		mg/L CaCO3	1	3/20/2003
HARDNESS, TOTAL		M2340 B				Analyst: HNR
Hardness (As CaCO3)	3490	1		mg/L	1	3/24/2003
PH		E150.1				Analyst: HNR
pH	6.84	2.00		pH units	1	3/13/2003
Temperature	20.0	0		Deg C	1	3/13/2003
RESISTIVITY (@ 25 DEG. C)		M2510 C				Analyst: HNR
Resistivity	0.115	0.001		ohm-m	1	3/18/2003
SPECIFIC GRAVITY		M2710 F				Analyst: HNR
Specific Gravity	1.043	0.001		Units	1	3/18/2003
TOTAL DISSOLVED SOLIDS		E160.1				Analyst: HNR
Total Dissolved Solids (Residue, Filterable)	58600	40		mg/L	1	3/18/2003
TOTAL DISSOLVED SOLIDS		CALC				Analyst: HNR
Total Dissolved Solids (Calculated)	61700	5		mg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

U - Value above Upper Quantitation Limit - UQL

EXHIBIT B

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	CURRENT OR LAST OPERATOR	WELL NAME	WHERE	STATUS NOW	SPUD DATE	COMPLETION DATE	P & A DATE	TD	PBTD	SURFACE CASING	SURFACE CEMENT	LONG STRING	LONG STRING CEMENT	PERFORATION INTERVAL & ZONE
2	Conoco Phillips	Campbell Federal 5	790 FNL & 790 FEL 27-27n-12w	TSI	8/3/61	8/14/61	N/A	6044'	6027'	10-3/4" @ 220'	150 sx to surface	4-1/2" @ 6044'	300 sx to 4,792'	5948' - 5995' Dakota
3														
4														
5														
6														
7														
8														
9														
10														
11														

EXHIBIT C

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMSF 079114-A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/

8. Well Name and No.
CAMPBELL 5

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

2. Name of Operator
CONOCO INC.
Contact: DEBORAH MARBERRY
E-Mail: deborah.marberry@conocophillips.com

9. API Well No.
30-045-06307

3a. Address
P.O. BOX 2197 DU 3066
HOUSTON, TX 77252

3b. Phone No. (include area code)
Ph: 832.486.2326
Fx: 832.486.2713

10. Field and Pool, or Exploratory
BASIN DAKOTA

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 27 T27N R12W NENE 790FNL 790FEL

11. County or Parish, and State
SAN JUAN COUNTY, NM

DEC 2002
OIL CONS. DIV.
DIST. 3

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shu
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integ
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☒ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration th
If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and
Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 d
following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed
testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator
determined that the site is ready for final inspection.)

In reference to NMSF-079114A (WC)
3162.3-2(7100)

Conoco proposes to plug and abandon this well as per the attached procedure. Also attached is the proposed and current wellbore schematic.

EXHIBIT C

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #16870 verified by the BLM Well Information System
For CONOCO INC., sent to the Farmington

Name *(Printed/Typed)* DEBORAH MARBERRY — Title SUBMITTING CONTACT

Signature (Electronic Submission) — Date 12/12/2002

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By **Original Signed: Stephen Mason** — Title — Date 12/1

Conditions of approval, if any, are attached. Approval of this notice 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. — Office

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.

** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL **

Campbell Federal #5

Current

Basin Dakota

NE, Section 27, T-27-N, R-12-W, San Juan County, NM

API #30-045-06307

Lat: 36^33'5" N / Long: 108^5'32" W

Today's Date: 11/26/02
Spud:8/3/61
Completed:8/14/61
Elevation: 5864' GL

13-3/4" hole

10-3/4" 32.75# Csg set @ 220'
Cmt w/150 sxs (Circulated to Surface)

Kirtland @ 250'

Fruitland @ 1070'

Pictured Cliffs @ 1320'

Mesaverde @ 2207'

Casing leaks 3620' to 2850', sqz'd with total 500 sxs cement (1974)

Gallup @ 4920'

8-3/4" Hole to 5039'

Dakota @ 5946'

7-7/8" Hole to 6044'

PBTD 6027'

TD 6044'

WELL HISTORY

Jan '67: Casing Leak: Set Model D packer at 5850'. Land tubing and load annulus with "Kem Pac".

Dec '74: Casing Repair: Isolate casing leak 2850' to 3620'. Squeeze with a total 500 sxs.

Feb '97: Mill out Model D packer to 5980'. PT casing to 1000#, bleed down to 750# and held for 15 min.

Jul '97: Tubing Plugged: TOH with tubing, 1 joint missing. Run scraper to 5834'. Clean out 5980'. Set Arrow packer at 5851'.

Jun '98: Ran coiled tubing down to tag fish at 5982'. Slick line ran impression blocks.

Aug '98: Pull tubing and packer. Mill out fish from 5980' to 6027'. Acidize perfs. Set Arrow Model 440 packer at 5864'.

EXHIBIT C

2-7/8" tubing at 5980'
(192 joints, 6.5# EUE)

TOC @ 4792' (Calc, 75%)

Arrow Model 440 Packer @ 5864'
(in 12000# compression)

Dakota Perforations:
5948' – 5995'

4-1/2" 10.5# Casing set @ 6044'
Cmt with 300 sxs (404 cf)

PLUG AND ABANDONMENT PROCEDURE

12/02/02

Campbell Federal #5
Basin Dakota
790' FNL & 790' FEL, Unit A, Section 27, T27N, R12W
San Juan County, NM API #30-045-06307
Latitude: 36^33.4.5" N & Longitude: 108^5'31.56" W

Note: All cement volumes use 100% excess outside pipe and 50' excess inside. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures. All cement will be ASTM Type II, mixed at 15.6 ppg with a 1.18 cf/sx yield.

1. Install and test rig anchors. Prepare blow pit. Comply with all NMOCD, BLM and ConocoPhillips safety rules and regulations. Conduct safety meeting for all personnel on location. MO and RU daylight pulling unit. NU relief line and blow well down; kill with water as necessary. ND wellhead and NU BOP and stripping head; test BOP.

2. PU on tubing to release Arrow Model 440 packer at 5864'. TOH with 192 joints 2-7/8" tubing and LD packer. Inspect tubing, if necessary use a workstring.

3. **Plug #1 (Dakota perforations, 5900' - 5800'):** TIH and set a 4-1/2" cement retainer at 5898'. Pressure test tubing to 1000#. Load casing with water and circulate clean. Pressure test casing to 800#. If casing does not test, spot or tag subsequent plug as appropriate. Mix 12 sxs cement and spot a balanced plug above the CR to isolate the Dakota perforations. PUH to 4970'.

4. **Plug #2 (Gallup top, 4970' – 4870'):** Mix 12 sxs cement and spot a balanced plug to cover the Gallup top. If casing leaks, then increase cement to 20 sxs. TOH with tubing.

5. **Plug #3 (Mesaverde top, ~~2257'~~ 2697' – ~~2157'~~ 2797'):** Perforate 3 HSC squeeze holes at ~~2257'~~ 2697'. If casing tests, then establish rate into squeeze holes. Set 4-1/2" CR at ~~2207'~~ 2647'. Mix and pump 64 sxs cement, squeeze 52 sxs outside casing and leave 12 sxs inside casing to cover MV top. TOH.

6. **Plug #4 (Pictured Cliffs and Fruitland tops, 1370' – ~~1020'~~ 938'):** Perforate 3 HSC squeeze holes at 1370'. If casing tests, then establish rate into squeeze holes. Set 4-1/2" CR at 1320'. Mix and pump ~~213~~ sxs cement, squeeze ~~182~~ sxs outside casing and leave ~~31~~ sxs inside casing to cover Pictured Cliffs and Fruitland tops. TOH and LD tubing.

7. **Plug #5 (Kirtland top and 10-3/4"casing shoe, ~~270'~~ 301' - Surface):** Perforate 3 HSC squeeze holes at ~~270'~~ 301'. Establish circulation down 4-1/2" casing and out the bradenhead valve. Mix and pump approximately 135 sxs cement down 4-1/2" casing to circulate cement out BH valve. Shut in well.

8. ND BOP and cut off wellhead below surface casing flange. Install P&A marker with cement to comply with regulations. RD, MOL and cut off anchors. Restore location per BLM stipulations.

EXHIBIT C

Campbell Federal #5

Proposed P & A

Basin Dakota

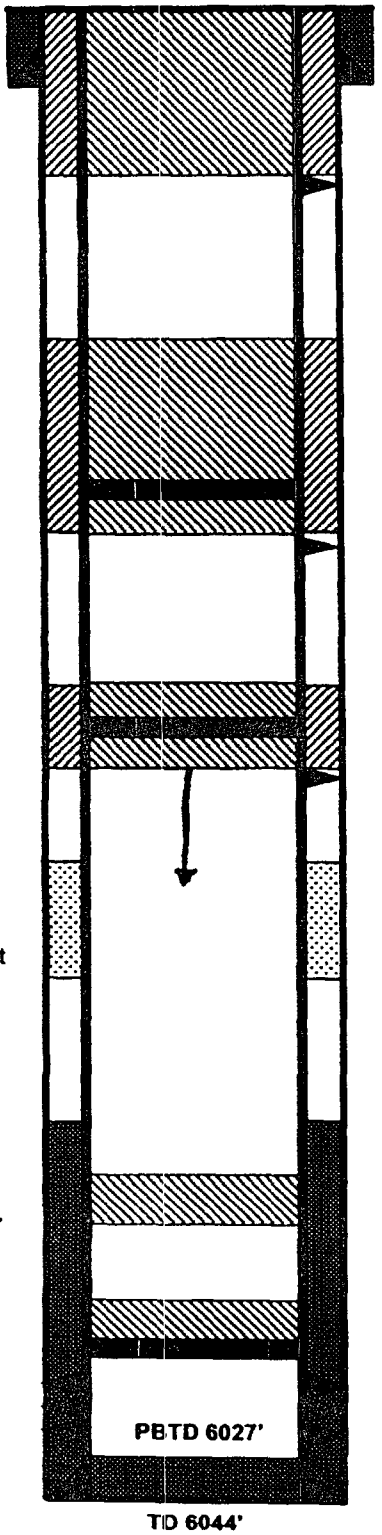
NE, Section 27, T-27-N, R-12-W, San Juan County, NM

API #30-045-06307

Lat: 36^33'5" N / Long: 108^5'32" W

Today's Date: 11/26/02
Spud:8/3/61
Completed:8/14/61
Elevation: 5864' GL
Ojo Alamo 160
Kirtland @ 250'
1

13-3/4" hole



10-3/4" 32.75# Csg set @ 220'
Cmt w/150 sxs (Circulated to Surface)

Fruitland @ ~~1070~~' 988

Pictured Cliffs @ 1320'
2

Mesaverde @ ~~2207~~' 2847'

Casing leaks 3620' to 2850', sqz'd with total 500 sxs cement (1974)

Gallup @ 4920'
16

8-3/4" Hole to 5039'

Dakota @ ~~5946~~' 5870

7-7/8" Hole to 6044'

301'

Perforate @ ~~270~~' 301'

Plug #5: ~~270~~' – Surface
Cement with 135 sxs
301/4.167(1.18) = 23 sx
50/4.3899(1.18) = 15 sx
220/4.046(1.18) = 46 sx
84 sx
938'

Plug #4: 1370' – ~~1020~~'
Cement with ~~213~~ sxs,
~~182~~ sxs outside casing
and ~~31~~ sxs inside.

Cmt Retainer @ 1320' (1370 - 938') + 52/4.167(1.18) (1370 - 938)2/4.3899(1.18)

Perforate @ 1370'

Cmt Retainer @ ~~2207~~'

Perforate @ ~~2257~~' 2897'
2897' 2797'

Plug #3: ~~2257~~' – ~~2157~~'
Cement with 64 sxs,
52 sxs outside casing
and 12 sxs inside.

TOC @ 4792' (Calc, 75%)

Plug #2: 4970' – 480'
Cement with 12 sxs

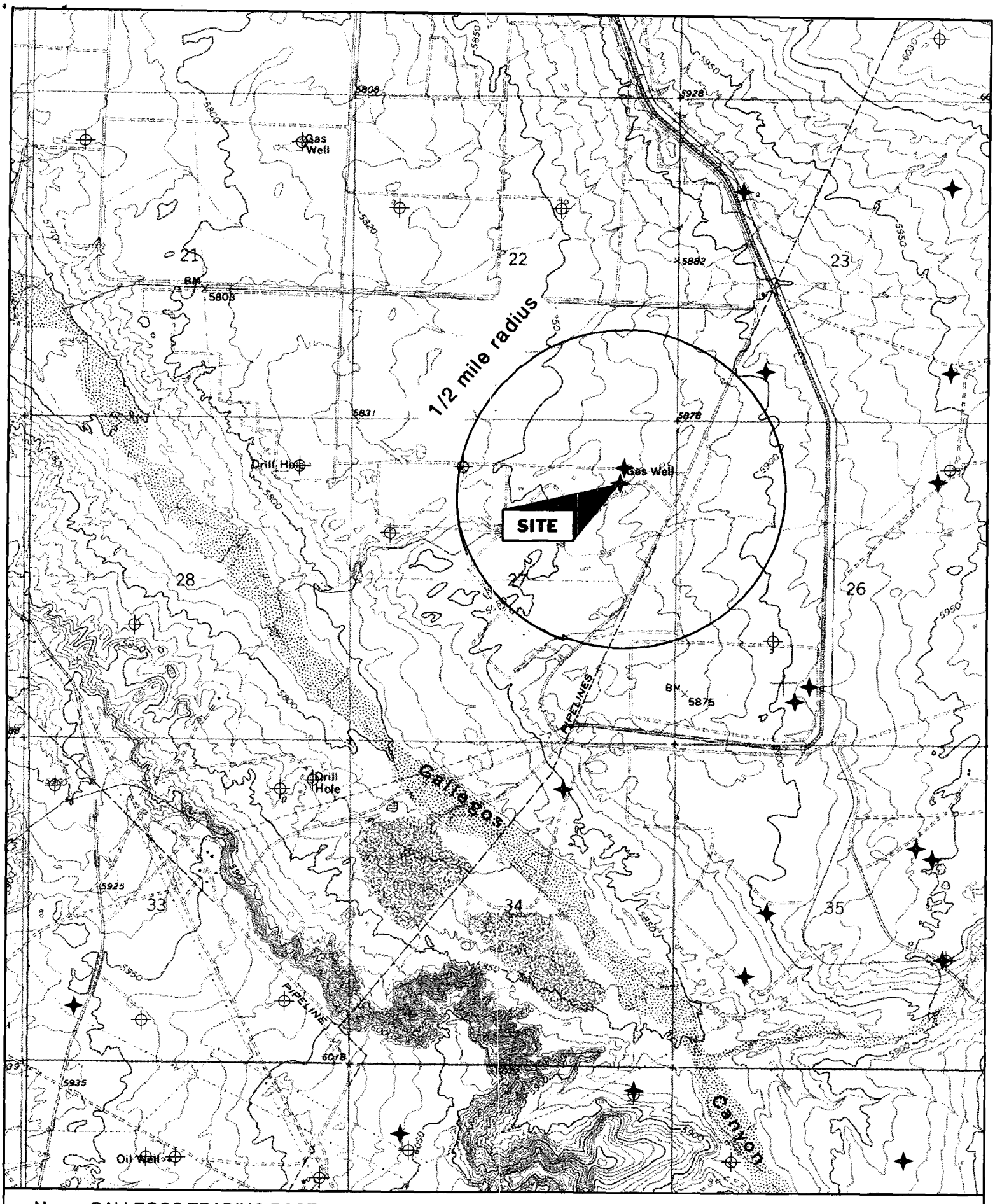
Plug #1: 5900' – 5800'
Cement with 12 sxs
12(4.167)1.18 = 158'

Set Cmt Retainer @ 5900'

Dakota Perforations:
5948' – 5995'

4-1/2" 10.5# Casing set @ 6044'
Cmt with 300 sxs (404 cf)

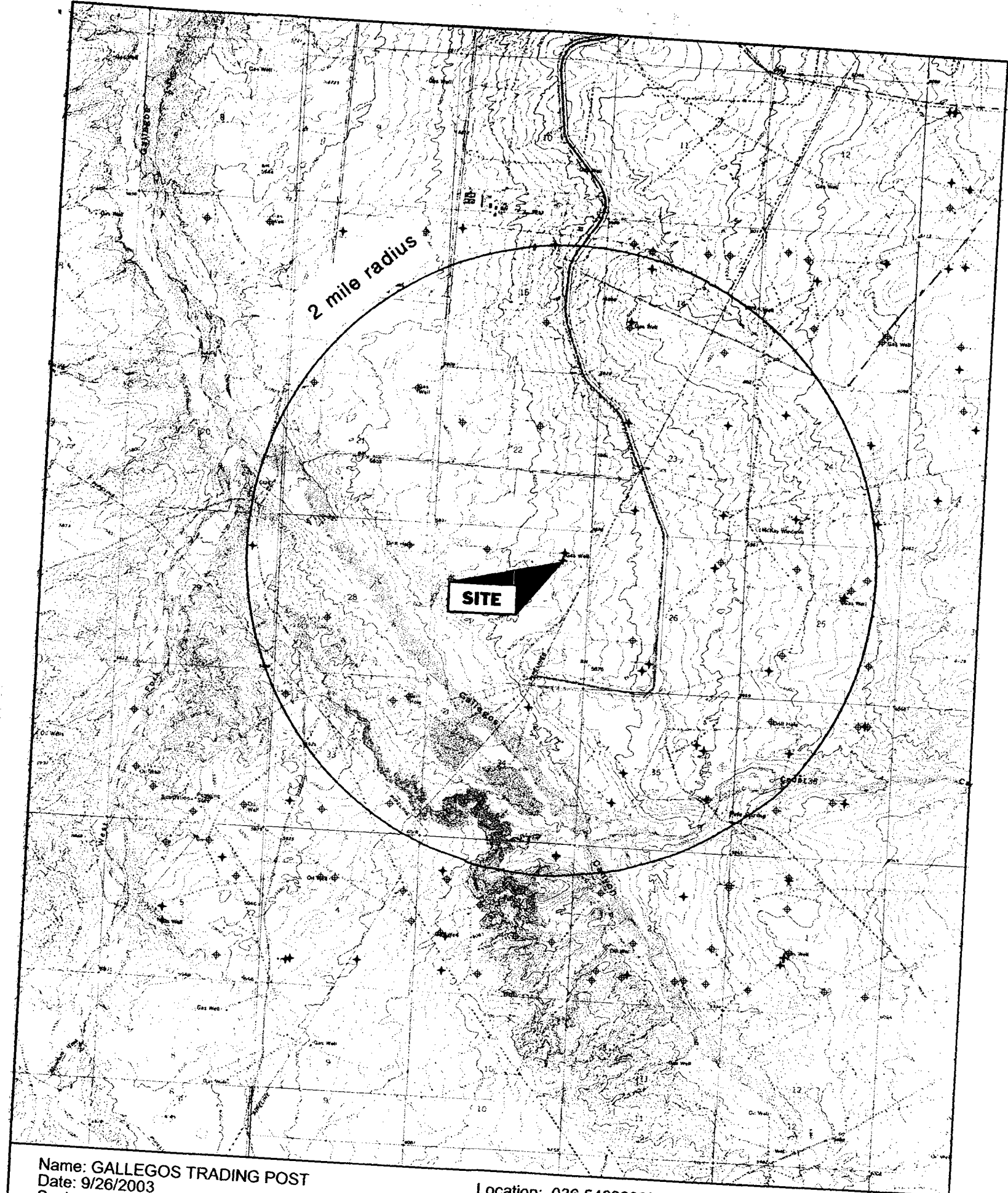
EXHIBIT C



Name: GALLEGOS TRADING POST
Date: 9/26/2003
Scale: 1 inch equals 2000 feet

Location: 036.5450909° N 108.0997897° W
Caption: 27, 27N-12W

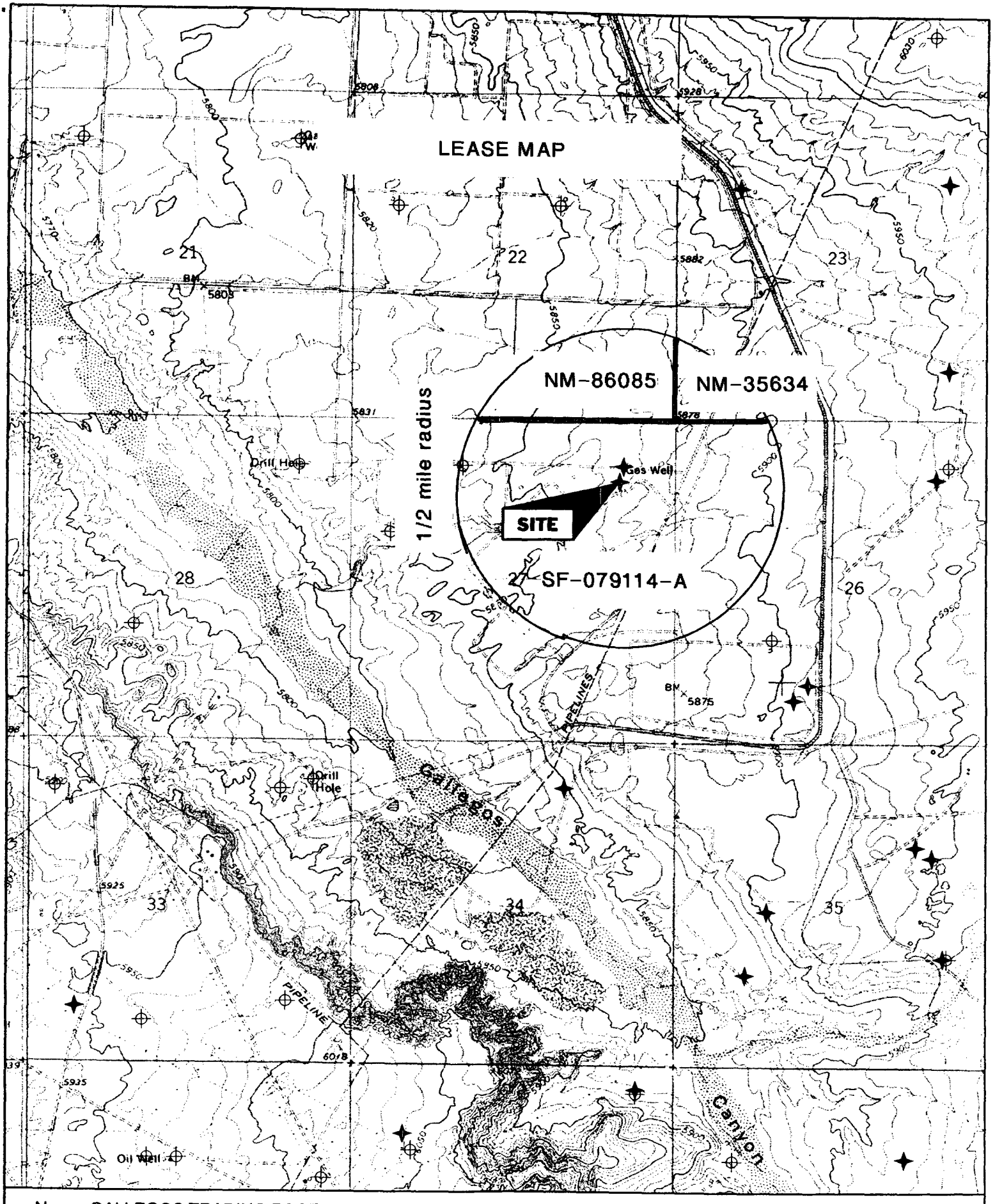
EXHIBIT D



Name: GALLEGOS TRADING POST
Date: 9/26/2003
Scale: 1 inch equals 4000 feet

Location: 036.5463989° N 108.0988900° W
Caption: 27, 27N-12W

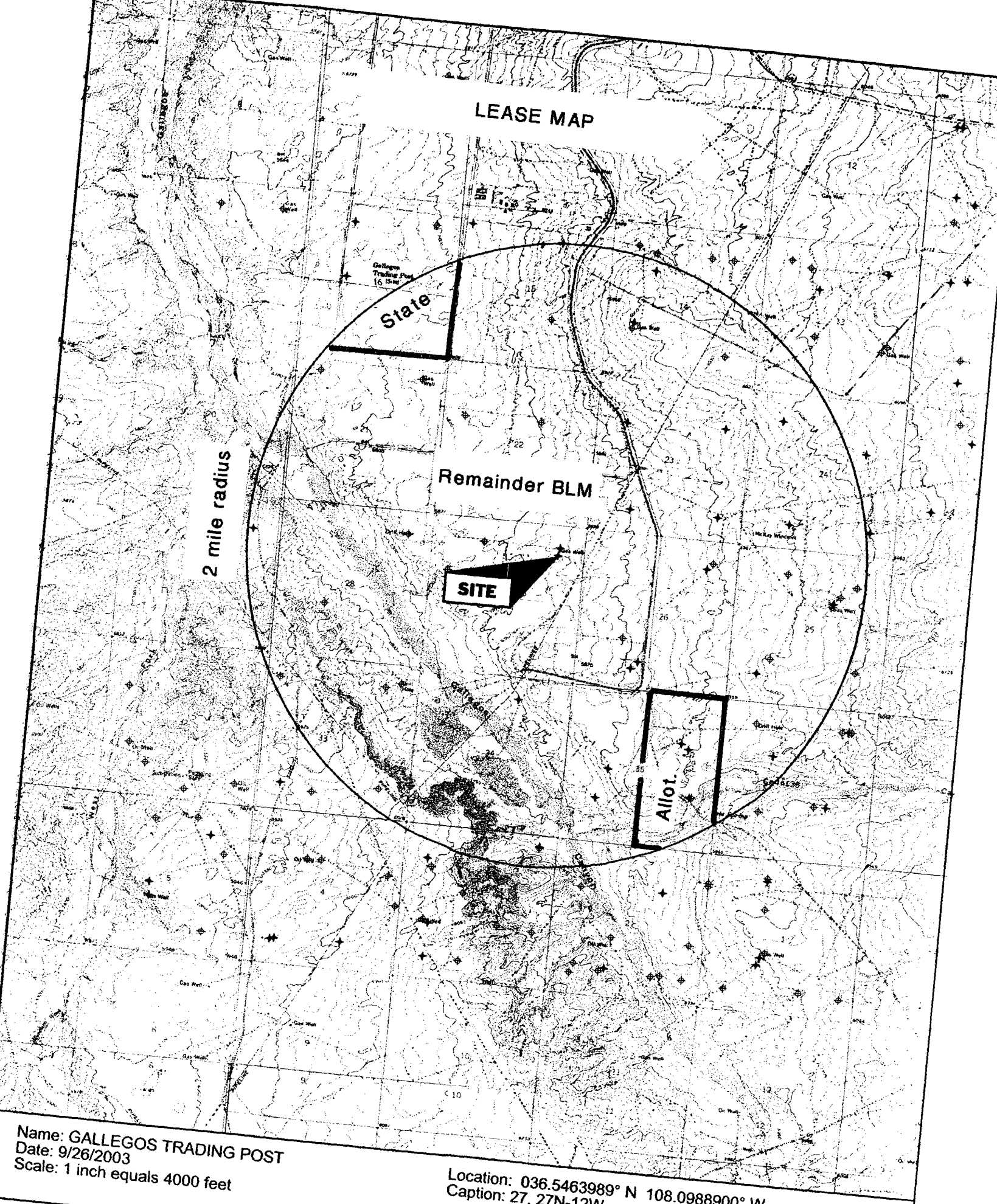
EXHIBIT E



Name: GALLEGOS TRADING POST
Date: 9/26/2003
Scale: 1 inch equals 2000 feet

Location: 036.5450909° N 108.0997897° W
Caption: 27, 27N-12W

EXHIBIT F



Name: GALLEGOS TRADING POST
Date: 9/26/2003
Scale: 1 inch equals 4000 feet

Location: 036.5463989° N 108.0988900° W
Caption: 27, 27N-12W

EXHIBIT G

TECH INC
333 East [illegible]
Farmington, [illegible]

SWD 337

API WATER ANALYSIS REPORT FORM

Company	Sample No.	Date Sampled
MERIDIAN OIL COMPANY	#1	7/11/88

Field	Legal Description	County or Parish	State
	29-32N-10W		

Lease or Unit	Well	Depth	Formation	Water, B/D
Cedar Hill SWD	#1		Bluff Dummonville	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
		M Mason

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	4086	178.4
Calcium, Ca	441	22.0
Magnesium, Mg	37	3.0
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	6745	190.0
Sulfate, SO_4	613	12.76
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	41	0.67

OTHER PROPERTIES

pH	6.43
Specific Gravity, 60/60 F.	1.006
Resistivity (ohm-meters) 77 °F.	1.40
Conductivity	μmho
Total Dissolved Solids (calc.)	12,000
Iron, Fe (total)	
Sulfide, as H_2S	neg.

REMARKS & RECOMMENDATIONS:
2505 - 1617

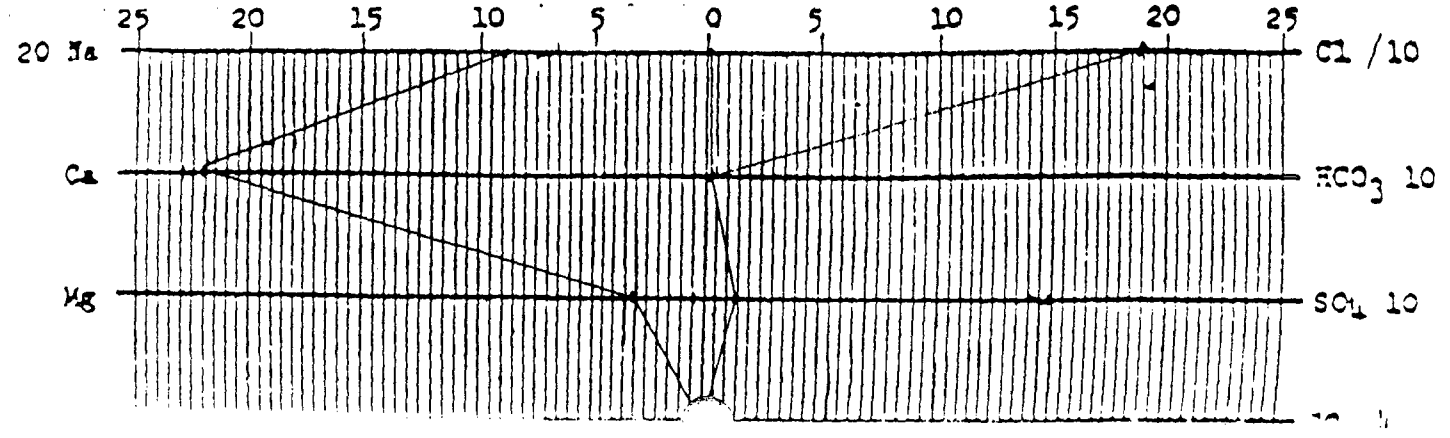


EXHIBIT H

TECH Inc
333 East [illegible]
[illegible]

SWD 33
337

API WATER ANALYSIS REPORT FORM

Company	Sample No.	Date Sampled
MERIDIAN OIL COMPANY	#2	7/11/88

Field	Legal Description	County or Parish	State
	29-32n-10w		

Lease or Unit	Well	Depth	Formation	Water, B/D
Cedar Hill SWD	#1		Bluff/Dunn Wells	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
		M. Menas

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	4097	178.9
Calcium, Ca	441	22.0
Magnesium, Mg	97	8.0
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	7100	200.0
Sulfate, SO_4	405	8.5
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	26	0.4

OTHER PROPERTIES

pH	6.05
Specific Gravity, 60/60 F.	1.004
Resistivity (ohm-meters) 71° F.	1.33
Conductivity	μmho

Total Dissolved Solids (calc.) 12,200

Iron, Fe (total)

Sulfide, as H_2S trace

REMARKS & RECOMMENDATIONS:

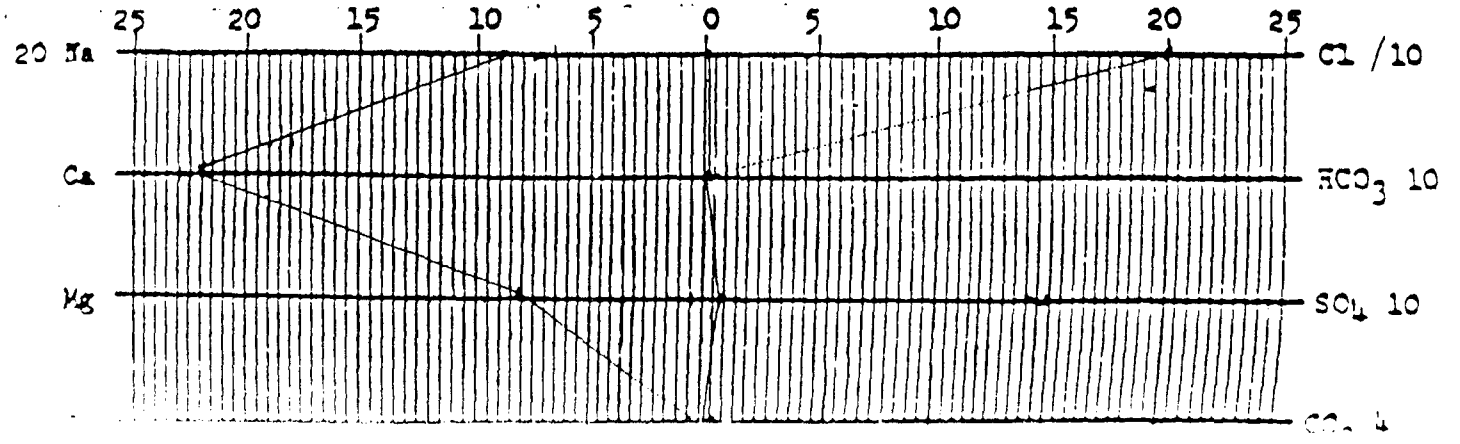


EXHIBIT #

TECH Inc
333 East [illegible]
Farmington
[illegible]

SWD 337

API WATER ANALYSIS REPORT FORM

Company	Sample No.	Date Sampled
MERIDIAN OIL COMPANY	#3	7/11/88

Field	Legal Description	County or Parish	State
	29-32N-10W		

Lease or Unit	Well	Depth	Formation	Water, B/D
Cedar Hill SWD	#1		Gallup/Dakota	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
		M. Manson

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	4823	210.6
Calcium, Ca	313	13.6
Magnesium, Mg	34	4.4
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	7810	220.0
Sulfate, SO_4	478	10.0
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	37	0.6

OTHER PROPERTIES

pH	6.25
Specific Gravity, 60/60 F.	1.006
Resistivity (ohm-meters) 71°F.	1.30
Conductivity	μmho
Total Dissolved Solids (calc.)	13,500
Iron, Fe (total)	
Sulfide, as H_2S	neg

REMARKS & RECOMMENDATIONS:

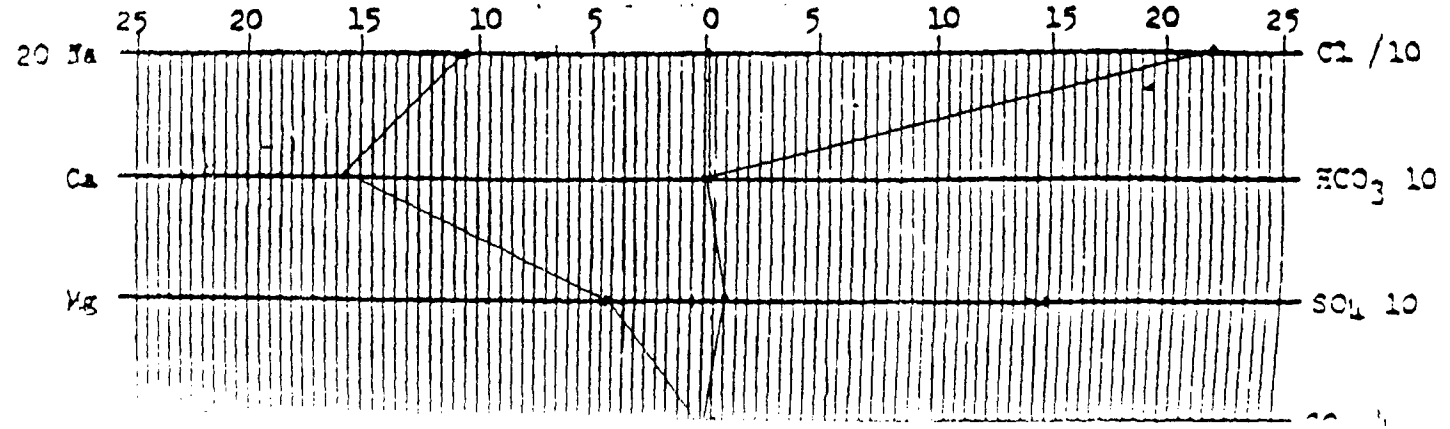


EXHIBIT H

SMITH ENERGY SERVICES
A DIVISION OF ALLIED PRODUCTS CORPORATION

2198 East Bloomfield Highway
Farmington, New Mexico 87401
Phone (505) 327-7281

SWD 337

SMITH ENERGY SERVICES a division of Allied Products
WATER ANALYSIS

Jul. 11, 1988 Page 1

MERIDIAN OIL INC.
MARK MANSON
Date Sampled: 07-09-88
Well: CEDAR HILL SWD #1

Formation: BLUFF/SUMMERVILLE
Legals: SEC. 29, T30N, R10W
County: SAN JUAN, N.M.
Report No.: 3

324

Specific Gravity:	1.010	pH:	
Chloride:	7,400.0 mg/l	Calcium:	453 mg/l
Bicarbonate:	397 mg/l	Magnesium:	75 mg/l
Sulfate:	400 mg/l	Total Iron:	mg/l
Sulfide:	mg/l	Sodium:	3,590 mg/l
Total Hardness:	1,440 mg/l	Total Diss Solids:	13,815 mg/l
Potassium:	1,500 mg/l		
Resistivity:	.62 Ohm Meters at 60 Degrees F		

Sample Source: SAMPLED WHILE SWABBING, SAMPLE #3

Remarks: SAMPLE APPEARS TO BE FORMATION WATER

Your water report was prepared by: MIKE CONREY

EXHIBIT H

SMITH ENERGY SERVICES
A DIVISION OF ALLIED PRODUCTS CORPORATION

2198 East Bloomfield Highway
Farmington, New Mexico 87401
Phone (505) 327-7281

SWD 337

SMITH ENERGY SERVICES a division of Allied Products
WATER ANALYSIS

Jul. 11, 1988 Page 1

MERIDIAN OIL INC.
MARK MANSON
Date Sampled: 07-09-88
Well: CEDAR HILL SWD #1

Formation: BLUFF/SUMMERVILLE
Legals: SEC. 29, T30N, R10W
County: SAN JUAN
Report No.: 2 32n

Specific Gravity:	1.012	pH:	
Chloride:	7,100.0 mg/l	Calcium:	529 mg/l
Bicarbonate:	61 mg/l	Magnesium:	38 mg/l
Sulfate:	400 mg/l	Total Iron:	mg/l
Sulfide:	mg/l	Sodium:	3,250 mg/l
Total Hardness:	1,480 mg/l	Total Diss Solids:	12,878 mg/l
Potassium:	1,500 mg/l		
Resistivity:	.68 Ohm Meters at 60 Degrees F		

Sample Source: SAMPLED WHILE SWABBING, SAMPLE #2

Remarks: SAMPLE APPEARS TO BE FORMATION WATER.

Your water report was prepared by: MIKE CONREY

EXHIBIT H

SWD 337

SMITH ENERGY SERVICES
A DIVISION OF ALLIED PRODUCTS CORPORATION

2198 East Bloomfield Highway
Farmington, New Mexico 87401
Phone (505) 327-7281

SMITH ENERGY SERVICES a division of Allied Products
WATER ANALYSIS

Jul. 11, 1988 Page 1

MERIDIAN OIL INC.
MARK MANSON
Date Sampled: 07-09-88
Well: CEDAR HILL SWD #1

Formation: BLUFF/SUMMERVILLE
Legals: SEC. 29, T30N, R10W
County: SAN JUAN, N.M.
Report No.: 1

32 n

Specific Gravity:	1.010	pH:	
Chloride:	6,800.0 mg/l	Calcium:	593 mg/l
Bicarbonate:	61 mg/l	Magnesium:	29 mg/l
Sulfate:	400 mg/l	Total Iron:	mg/l
Sulfide:	mg/l	Sodium:	2,997 mg/l
Total Hardness:	1,600 mg/l	Total Diss Solids:	12,380 mg/l
Potassium:	1,500 mg/l		
Resistivity:	.78 Ohm Meters at 60 Degrees F		

Sample Source: SAMPLED WHILE SWABBING.

Remarks: SAMPLE APPEARS TO BE FORMATION WATER.

Your water report was prepared by: MIKE CONREY

EXHIBIT H

75 SUTTLE STREET	ATTEN: BILL CLARK	DATE SAMPLED: 8/X/88
PO BOX 2605	PO BOX 1237	WELL NAME: NEBU UNIT 501
DURANGO, CO 81302	DURANGO, CO 81302	LOCATION: 10-30N-7W
) 247-4220	(303) 247-0728	FORMATION: MORRISON PERFS.
		SAMPLED FROM:
CDS ID #: 1120		WELL ON/Off:

CONSTITUENT		ppm	epm
Sodium	Na +	10600	461.1
Potassium	K +	1810	46.3
Calcium	Ca ++	685	34.2
Magnesium	Mg ++	65.9	5.4
Iron Total	Fe++ & Fe+++	230	12.4
POSITIVE SUB-TOTAL		13390.9	559.3565
Chloride	Cl -	18200	513.2
Carbonate	CO3 =	0	0.0
Bicarbonate	HCO3-	537	8.8
Hydroxide	OH -	0	0.0
Sulfate	SO4 =	1750	36.4
NEGATIVE SUB-TOTAL		20487	558.47643

Item 3A
SWD-339

Total Dissolved Solids	35100 ppm
pH	6.71 units
Specific Gravity	1.023 @ 73 F.
Resistivity	24 ohm-m

APPROVED BY: Joe Bowden

DR. JOE BOWDEN, DIRECTOR

EXHIBIT H

TECHLAB

Item 3B
SWD-339

API WATER ANALYSIS REPORT FORM

Company		Sample No.	Date Sampled
Sandbrook Midstream			9/5/20
Field	**Legal Description**	**County or Parish**	**State**
	10-30n-7w		
Lease or Unit	**Well**	**Depth**	**Formation**
NE SWD	301 SWD		Precambrian
Type of Water (Produced, Supply, etc.)	**Sampling Point**		**Sampled By**

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	11631	507.0
Calcium, Ca	671	33.5
Magnesium, Mg	97	8.0
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	17750	500.0
Sulfate, SO_4	1710	35.6
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	749	12.3

Total Dissolved Solids (calc.) 35,600

Iron, Fe (total)
Sulfide, as H_2S n/a

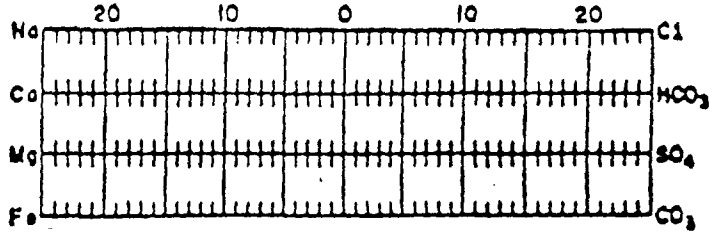
REMARKS & RECOMMENDATIONS:

OTHER PROPERTIES

pH 6.37
Specific Gravity, 60/60 F. 1.024
Resistivity (ohm-meters) 59° F. .332

WATER PATTERNS — me/l

STANDARD



LOGARITHMIC

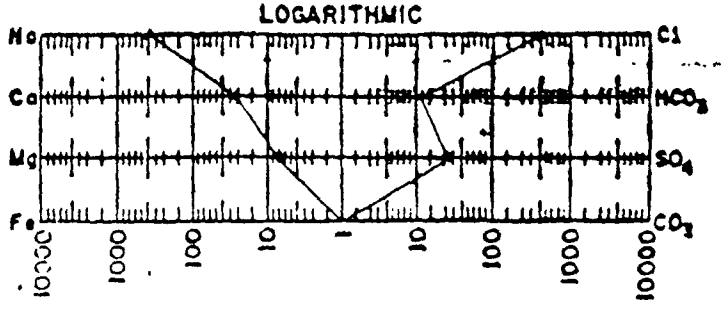


EXHIBIT H

API WATER ANALYSIS REPORT FORM

SWD 376

Laboratory No 25-90-12-31-2A

Company	Sample No.	Date Sampled
AMOCO		N/A

Field	Legal Description	County or Parish	State
	26-30n-9w		

Lease or Unit	Well	Depth	Formation	Water, B/D
ELLIOTT	SWD #1		Morrison	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
	After Perforating, Swab Prior to stimulation	

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	9169	398.8
Calcium, Ca	3266	163
Magnesium, Mg	328	31
Barium, Ba		

ANIONS		
Chloride, Cl	13770	394
Sulfate, So_4	1032	21.9
Carbonate, CO_3		
Bicarbonate, HCO_3	81	1.3

Total Dissolved Solids (calc.) 24614

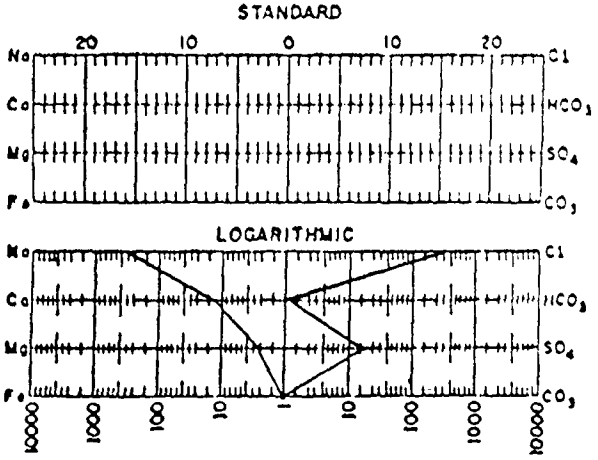
Iron, Fe (total)

Sulfide, as H_2S

OTHER PROPERTIES

pH	6.37
Specific Gravity, 60/60 F.	1.020
Resistivity (ohm-meters) 63.5°F.	0.35

WATER PATTERNS — me/l



REMARKS & RECOMMENDATIONS:

Attn: Jim Bisegar
326-9220

Brooke Bell

Date Received	Preserved	Date Analyzed	Analyzed By
12-31-90		12-31-90	

EXHIBIT H

TECH, Inc.
333 East Main
Farmington
New Mexico
87401
505/327-3311

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To J. Bisegar	From Mike Bell
Co. Amoco	Co. TECH
Dept.	Phone #
Fax # 326-9262	Fax #

API WATER ANALYSIS REPC FORM SWD 376

Laboratory No 25-901127-1A

Company	Sample No.	Date Sampled
AMOCO PRODUCTION Co.		

Field	Legal Description	County or Parish	State
	26-[illegible]-7W		

Lease or Unit	Well	Depth	Formation	Water, B/D
E.E. ELIOT	SWD #1		Bluff	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
PRODUCED	Swab after perforating	

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc)	12827	557.7
Calcium, Ca	581	29.0
Magnesium, Mg	109	9.0
Barium, Ba		

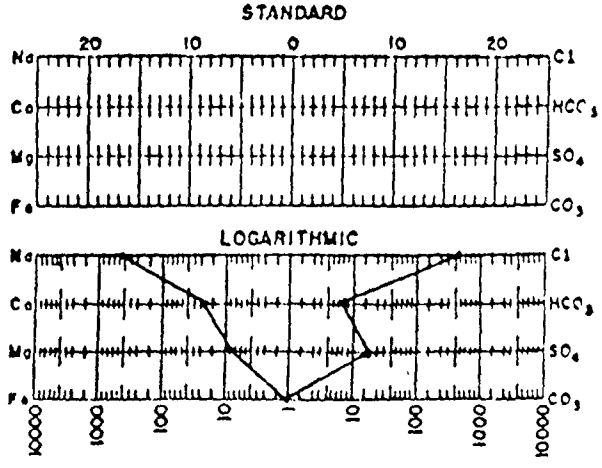
ANIONS		
Chloride, Cl	20107	567.2
Sulfate, SO_4	1010	21.0
Carbonate, CO_3		
Bicarbonate, HCO_3	459	7.5

Total Dissolved Solids (calc)	35093
Iron, Fe (total)	
Sulfide, as H_2S	

OTHER PROPERTIES

pH	6.77
Specific Gravity, 60/60 F.	1.025
Resistivity (ohm-meters) 62.6F.	0.48

WATER PATTERNS — me/l



REMARKS & RECOMMENDATIONS

Attn: Terry Crews
FAX: 303-247-6825

Date Received	Preserved	Date Analyzed	Analyzed By
11-27-90		11-27/28-90	H

EXHIBIT H

TECH, Inc.
333 East Main
Farmington
New Mexico
87401
505/327-3311

SWD 441

API WATER ANALYSIS REPORT FORM

Lab No. 2623

Company	Sample No.	Date Sampled
Blackwood & Nichols Co.	#8	1/18/90

Field	Legal Description	County or Parish	State
Ute Dome Area		San Juan	NM

Lease or Unit	Well	Depth	Formation	Water, B/D
UTERU	#502		Upper Morrison	

Type of Water (Produced, Supply, etc.)	Sampling Point	Sampled By
122 BBL's Swabbed	Swabbing Unit	Baxter

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	3852	168.2
Calcium, Ca	281	14.0
Magnesium, Mg	29	2.4
Barium, Ba		

ANIONS		
Chloride, Cl	5905	110.0
Sulfate, SO_4	3099	64.6
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	610	10.0

Total Dissolved Solids (calc.) 11,800

Iron, Fe (total)

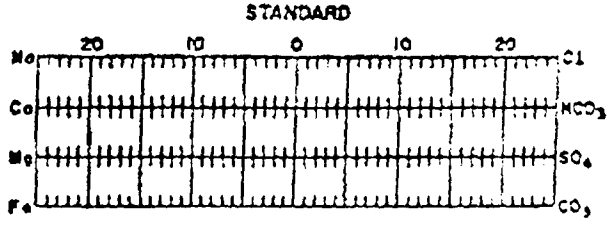
Sulfide, as H_2S

OTHER PROPERTIES

pH	7.08
Specific Gravity, 60/60 F.	1.008
Resistivity (ohm-meters) 68 F.	.60

WATER PATTERNS — me/l

STANDARD



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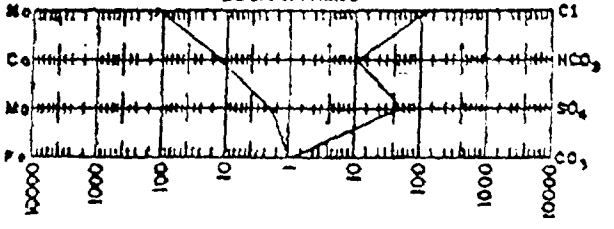


REMARKS & RECOMMENDATIONS:

Date Received	Preserved	Date Analyzed	Analyzed By
		1/22/90	

TECH, Inc.
333 East Main
Farmington
New Mexico
87401
505/327-3311

RECEIVED
JAN 25 1990
BLACKWOOD & NICHOLS CO., LTD.

EXHIBIT H

BJ SERVICES COMPANY

WATER ANALYSIS #FW01W718

FARMINGTON LAB

GENERAL INFORMATION			
OPERATOR:	MALLON OIL	DEPTH:	
WELL:	SIMMS FED. #1 13-30n-4w	DATE SAMPLED:	11/15/99
FIELD:		DATE RECEIVED:	11/15/99
SUBMITTED BY:	J. ZELLITTI	COUNTY:	STATE: NM
WORKED BY :	D. SHEPHERD	FORMATION:	Mallison
PHONE NUMBER:			

SAMPLE DESCRIPTION

SAMPLE #1

PHYSICAL AND CHEMICAL DETERMINATIONS

SPECIFIC GRAVITY:	1.015 @ 72°F	PH:	7.10
RESISTIVITY (MEASURED):	0.340 ohms @ 71°F		
IRON (FE++) :	0 ppm	SULFATE:	256 ppm
CALCIUM:	150 ppm	TOTAL HARDNESS	473 ppm
MAGNESIUM:	24 ppm	BICARBONATE:	180 ppm
CHLORIDE:	10,479 ppm	SODIUM CHLORIDE(Calc)	17,237 ppm
SODIUM+POTASS:	11,485 ppm	TOT. DISSOLVED SOLIDS:	22,873 ppm
H2S: NO TRACE		POTASSIUM (PPM):	15,600

REMARKS

STIFF TYPE PLOT (IN MEQ/L)

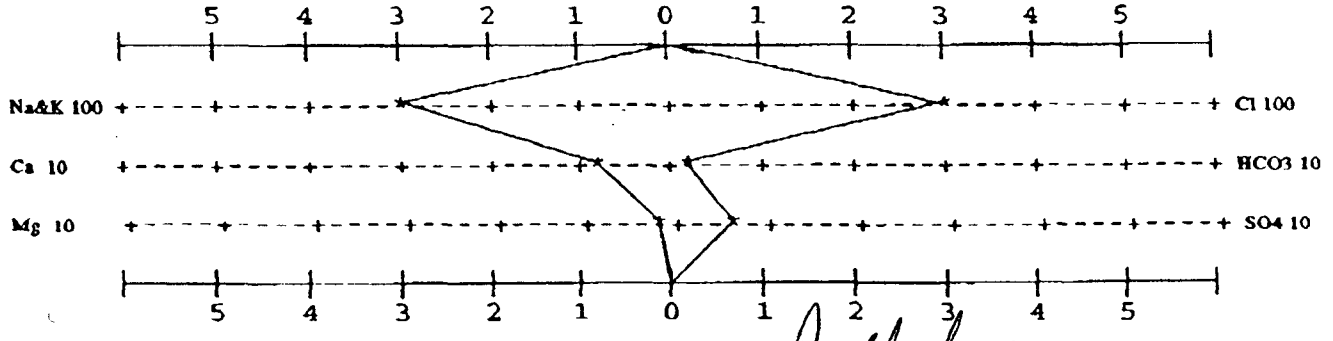


EXHIBIT H

ANALYST D. Shepherd
D. SHEPHERD

S ABORATORIES
75 SUTTLE STREET
.O. BOX 2605
URANGO CO 81302

303) 247-4220

BLACKWOOD/NICHOLS
P O BOX 1237
DURANGO, CO 80302

ATTN:

DATE 01/18/91
CDS ID# 3077
WELL: PUMP MESA
SWD #1 MORRISON
N36 31N8W
DATE TAKEN: 11/29/90
DATE REC'D: 11/30/90

NSTITUENT		mg/L	meq/L
DIUM	Na+ **	5650	245.761
TASSIUM	K+	NA	0.000
LCIUM	Ca++ *	160	7.984
GNESIUM	Mg++	NA	0.000
ON TOTAL	Fe++ & Fe+++	1.9	0.102
OSITIVE SUB-TOTAL		5811.900	253.847
HLORIDE	CL-	4470	126.082
ARBONATE	CO3=	0	0.000
ICARBONATE	HCO3-	866	14.193
YDROXIDE	OH-	0	0.000
LFATE	SO4=	5450	113.483
EGATIVE SUB-TOTAL		10786.00	253.758

OTAL DISSOLVED SOLIDS	15300	mg/L
H	7.07	units
PECIFIC GRAVITY	1.014	@ 73 Deg. F
ONDUCTIVITY		umho/cm
ESISTIVITY	56.2	ohm-cm
ARDNESS as CaCO3	397	mg/L
OTAL ALKALINITY AS CaCO3	710	mg/L
AR		
ANGLIER		

MORRISON PERFORATIONS
TOP - 8152'
BOTTOM - 8514'

COMMENT

*Ca + Mg Calculated as Ca
**Calculated
NA - Not Analyzed

ED BY: _____
DR. JOE BOWDEN, DIRECTOR

CHECKED BY: SKS

EXHIBIT H

W956

BJ SERVICES COMPANY

WATER ANALYSIS #FW01W956

FARMINGTON LAB

GENERAL INFORMATION

OPERATOR:	CROSS TIMBERS OPERATING	DEPTH:	
WELL:	UTE INDIANS A-30	DATE SAMPLED:	08/16/00
FIELD:		DATE RECEIVED:	08/16/00
SUBMITTED BY:	OPERATOR	COUNTY:	SAN JUAN STATE: NM
WORKED BY	:ROBERT WALKER	FORMATION:	MORRISON
PHONE NUMBER:		Sec 2 T31N R14W	

SAMPLE DESCRIPTION

SAMPLE FOR ANALYSIS

PHYSICAL AND CHEMICAL DETERMINATIONS

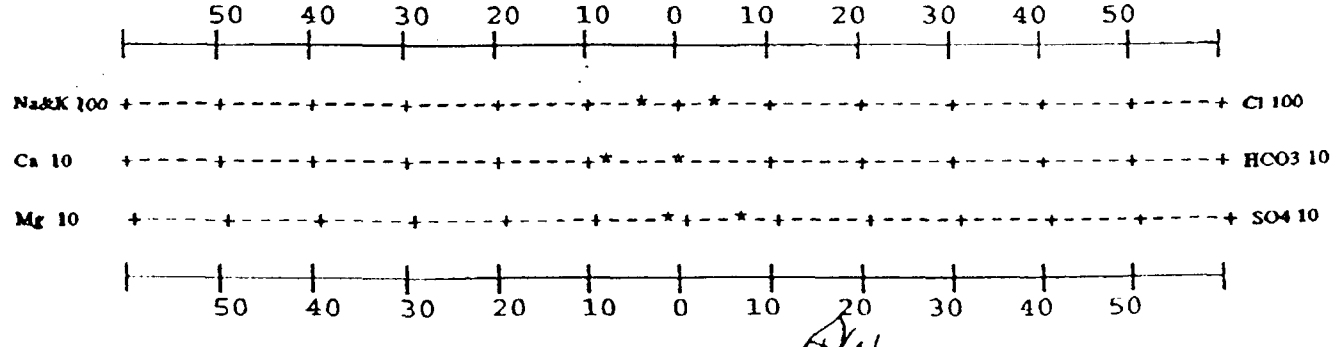
SPECIFIC GRAVITY: 1.020 @ 69°F PH: 6.29
RESISTIVITY (MEASURED): 0.360 ohms @ 76°F

IRON (FE++) :	500 ppm	SULFATE:	3,333 ppm
CALCIUM:	1,531 ppm	TOTAL HARDNESS	4,905 ppm
MAGNESIUM:	262 ppm	BICARBONATE:	478 ppm
CHLORIDE:	16,075 ppm	SODIUM CHLORIDE(Calc)	26,443 ppm
SODIUM+POTASS:	9,944 ppm	TOT. DISSOLVED SOLIDS:	34,736 ppm
H2S: no trace		POTASSIUM (PPM): 69	

REMARKS

Fe2++ in excess of 500 ppm.

STIFF TYPE PLOT (IN MEQ/L)



ANALYST _____
ROBERT WALKER

EXHIBIT H

4-5 MILES WAY - INJECTION INTO THE MORRISON/ENTRADA

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

WATER ANALYSIS

RECEIVED
MAR 25 1977
Mineral Management Inc.

File WA - 5

Company Dome Petroleum Corp. Well Name Sante Fe 20 No. 1 Sample No. SS-2

Formation _____ Depth _____ Sampled From _____

Location Sec 20 T 21N R 8W Field _____ County San Juan State N.M.

Date Sampled 3-9-77 Date Analyzed 3-13-77 Engineer RGC

Total Dissolved Solids 11,114.5 mg/L

Sp. Gr. 1.009 @ 70 °F.

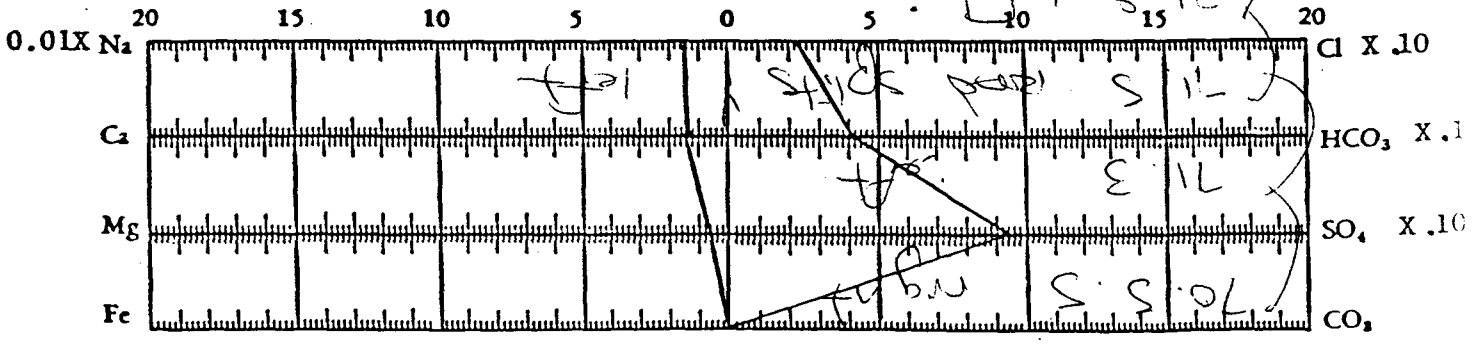
Resistivity 1.0 ohm-meters @ 70 °F.

Hydrogen Sulfide Present

pH 7.73

Constituents	meq/L	mg/L	Constituents	meq/L	mg/L
Sodium	140.44	3228.7	Chloride	25.47	903.0
Calcium	1.35	27.0	Bicarbonate	41.73	2546.0
Magnesium	0.73	8.9	Sulfate	91.61	4400.0
Iron	0.03	0.9	Carbonate	ND	ND*
Barium	ND	ND	Hydroxide	ND	ND

*ND = Less than 0.1 mg/L



Scale: meq/L

All analyses except iron determination performed on a filtered sample.

EXHIBIT H

THE WESTERN COMPANY OF NORTH AMERICA

API W A T E R A N A L Y S I S

pany: MERRION
Field:
Well: #1
Depth:
ormation: ENTRADA?
State:
County:

W.C.N.A. Sample No.: S106995
Legal Description:
Lease or Unit: EAGLE MESA
Water.B/D:
Sampling Point:
Sampled By: STEVE DUNN
Date Sampled: 05/03/95
Type of Water(Produced,Supply, ect.): PROD.

PROPERTIES

pH:	7.32	Iron, Fe(total):	0
Specific Gravity:	1.010	Sulfide as H2S:	0
Resistivity (ohm-meter):	.81	Total Hardness:	
Tempature:	64F	(see below)	

D I S S O L V E D SOLIDS

CATIONS	mg/l		me/l			
Sodium, Na:	3726	:	162			
Calcium, Ca:	160	:	8	Sample(ml):	1.0 ml of EDTA:	.40
Magnesium, Mg:	49	:	4	Sample(ml):	1.0 ml of EDTA:	.20
Barium, Ba:	N/A	:	N/A			
Potassium, K:		:				

ANIONS	mg/l		me/l			
i: .5000Chloride, Cl:	1773	:	50	Sample(ml):	1.0 ml of AgNO3:	.10
Sulfate, SO4:	5000	:	104			
Carbonate, CO3:		:		Sample(ml):	1.0 ml of H2SO4:	
Bicarbonate, HCO3:	1220	:	20	Sample(ml):	1.0 ml of H2SO4:	.20

Total Dissolved Solids (calculated):	11928				
Total Hardness:	600	Sample(ml):	1.0	ml of EDTA:	.60

REMARKS AND RECOMMENDATIONS:

ENTRADA WATER

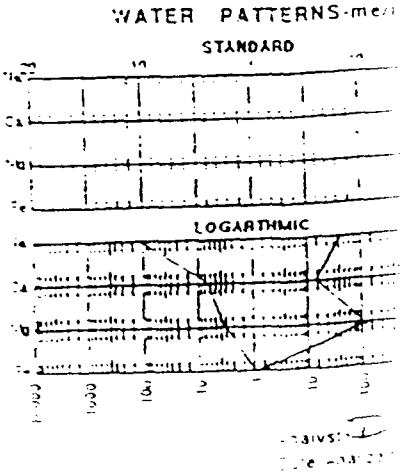


EXHIBIT H

AFFIDAVIT OF PUBLICATION

Ad No. 48334

STATE OF NEW MEXICO
County of San Juan:

CONNIE PRUITT, being duly sworn says: That she is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meeting of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s): Tuesday, August 5, 2003.

And the cost of the publication is $33.47

Connie Pruitt

ON 8-6-03 CONNIE PRUITT appeared before me, whom I know personally to be the person who signed the above document.

Jeanne Beck

My Commission Expires April 2, 2004.

COPY OF PUBLICATION

918 Legals

NOTICE

Dominion Oklahoma Texas Exploration & Production, Inc. is applying to drill the Federal WDW 27 #1 water disposal well. The Federal WDW 27 #1 will be located at 1050' FNL & 840' FEL, Sec. 27, T. 27 N., R. 12 W., San Juan County, NM. The well will dispose of water produced from oil and gas wells into the Entrada and Morrison Formations at a depth of 6,025' to 7,075' at a maximum rate of 2,000 barrels of water per day and at a maximum pressure of 1,400 psi. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120.

worth using
you take o

EXHIBIT 1

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 18, 2003

BLM
1235 LaPlata Highway
Farmington, NM 87401

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Dominion Oklahoma Texas Exploration & Production, Inc. is applying (see attached application) to drill its Federal WDW 32 #44 well.

Well Name: Federal WDW 27 #1 Total Depth: 7,200'
Proposed Disposal Zone: Morrison & Entrada (from ≈6,125' to ≈7,075')
Location: 1050' FNL & 840' FEL Sec. 27, T. 27 N., R. 12 W.,
San Juan County, NM on BLM NMSF-079114-A lease
Approximate Location: ≈14 air miles southwest of Bloomfield, NM
Applicant Name: Dominion Oklahoma Texas Exploration & Production, Inc.
Applicant's Address: 14000 Quail Springs Pkwy, #600 OKC, Ok. 73134-2600

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE
FARMINGTON, NM 87401

Postage	$ 3.85	UNIT ID: 0991
Certified Fee	2.30	
Return Receipt Fee (Endorsement Required)	1.75	Postmark Here
Restricted Delivery Fee (Endorsement Required)		Clerk: X7S5GB
Total Postage & Fees	$ 7.90	10/18/03

Sent To BLM
Street, Apt. No.; or PO Box No. 1235 LaPlata Hwy
City, State, ZIP+4 Farmington NM 87401

See Reverse for Instructions

7002 0460 0000 9182 6737

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 18, 2003

Jim Ball
ConocoPhillips Company
P. O. Box 2197
Houston, Tx. 77252

Dear Mr. Ball:

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Dominion Oklahoma Texas Exploration & Production, Inc. is applying (see attached application) to drill its Federal WDW 32 #44 well.

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Approximate Location: ≈14 air miles southwest of Bloomfield, NM
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Applicant's Address: 14000 Quail Springs Pkwy, #600 OKC, Ok. 73134-2600

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

questions.

Sincerely,

Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
HOUSTON, TX 77252
OFFICIAL USE
Postage $ 1.24
Certified Fee 2.30
Return Receipt Fee (Endorsement Required) 1.75
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $ 5.34
UNIT ID: 0991
Postmark Here
Clerk: X755CB
10/18/03
Sent To ConocoPhillips
Street, Apt. No.; PO Box 2197
Houston TX 77252
0460 0000 9182 6744

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 18, 2003

Energen Resources Corp.
605 Richard Arrington Jr. Blvd.
Birmingham, AL 35203-2707

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Dominion Oklahoma Texas Exploration & Production, Inc. is applying (see attached application) to drill its Federal WDW 32 #44 well.

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Applicant Name: Dominion Oklahoma Texas Exploration & Production, Inc.
Applicant's Address: 14000 Quail Springs Pkwy, #600 OKC, Ok. 73134-2600

Submittal Information: Application for a water disposal well will be filed with the NM Oil Conservation Division. If they determine the application complies with the applicable regulations, then it will be approved. The New Mexico Oil Conservation Division address is 1220 South St. Francis Dr., Santa Fe, NM 87505. Their phone number is (505) 476-3440.

Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

BIRMINGHAM, AL 35203 OFFICIAL USE

Postage	$ 1.29
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 5.34

UNIT ID: 0991
OCT 18 2003
Postmark Here
Clerk: X785CB
10/18/03

Sent To Energen
Street, Apt. No.; or PO Box No. 605 R. Arrington Blvd
City, State, ZIP+4 AL 35203

See Reverse for Instructions

02 0460 0000 9182 2395

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 18, 2003

Navajo Nation Project Review Office
P. O. Box 9000
Window Rock, AZ 86515

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections. Surface use was approved under SAS DNR-9864.

Dominion Oklahoma Texas Exploration & Production, Inc. is applying (see attached application) to drill its Federal WDW 32 #44 well.

Well Name: Federal WDW 27 #1 Total Depth: 7,200'
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Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE
WINDOW ROCK AZ 86515

Postage	$ 1.29	UNIT HB 0991
Certified Fee	2.30	OCT 18 2003
Return Receipt Fee (Endorsement Required)	1.75	Postmark Here
Restricted Delivery Fee (Endorsement Required)		Clerk: X755CB
Total Postage & Fees	$ 5.34	10/18/03

Sent To Project Review
Street, Apt. No.; or PO Box No. P.O. Box 9000
City, State, ZIP+4 Window Rock AZ 86515

7002 0460 0000 9782 2401

See Reverse for Instructions

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 18, 2003

Rio Arriba Investments LLC Co.
82 Devonshire St.
Boston, MA 02109

As required by New Mexico Oil Conservation Division Rules, I am notifying you of the following proposed water disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Dominion Oklahoma Texas Exploration & Production, Inc. is applying (see attached application) to drill its Federal WDW 32 #44 well.

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Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

BOSTON, MA 02109

Postage	$ 1.29
Certified Fee	2.30
Return Receipt Fee (Endorsement Required)	1.75
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$ 5.34

UNIT ID: 0991
Postmark Here
Clerk: X7553
10/18/03

Sent To: Rio Arriba Investments
Street, Apt. No.; or PO Box No.: 82 Devonshire St
City, State, ZIP+4: Boston MA 02109

PS Form 3800, January 2001 See Reverse for Instructions

7160 3901 9845 2834

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

October 18, 2003

XTO Energy Inc.
810 Houston St., #2000
Ft. Worth, TX 76102-6298

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Please call me if you have any questions.

Sincerely,

Brian Wood

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE
FORT WORTH, TX 76102

Postage	$ 1.29	UNIT ID: 0991
Certified Fee	2.30	
Return Receipt Fee (Endorsement Required)	1.75	Postmark Here
Restricted Delivery Fee (Endorsement Required)		Clerk: X755CB
Total Postage & Fees	$ 5.34	10/18/03

Sent To XTO
Street, Apt. No.; or PO Box No. 810 Houston St # 2000
City, State, ZIP+4 FW TX 76102

0460 0000 9182 2388