

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

(Other instructions on reverse side)

5. Lease Designation and Serial No.

U-40367

6. If Indian, Allottee or Tribe Name

N/A

7. Unit Agreement Name

Monument Park (Proposed)

8. Farm or Lease Name

Monument Butte Federal

9. Well No.

#1-20

10. Field and Pool, or Wildcat

Horsehead Point

11. Sec., T., R., M., or Blk. and Survey or Area

Sec. 20, T36S - R25E

12. County or Parrish 13. State

San Juan Utah

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL [X]

DEEPEN [ ]

PLUG BACK [ ]

b. Type of Well

Oil Well [ ]

Gas Well [X]

Other [ ]

Single Zone [X]

Multiple Zone [ ]

2. Name of Operator One West 3rd St., Suite 500, Tulsa, OK 74103

Santa Fe Energy Operating Partners, L.P. 918/582-6944

3. Address of Operator 303/322-7878

P.O. Box 44065

Permitco Inc. - Agent

Denver, CO 80201-4065

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*

At surface

750' FNL and 750' FWL

At proposed prod. zone

NW NW

14. Distance in miles and direction from nearest town or post office\*

25 miles southeast of Monticello, Utah

15. Distance from proposed\* location to nearest property or lease line, ft.

(Also to nearest drlg. line, if any)

none

16. No. of acres in lease

640 acres

17. No. of acres assigned to this well

160

18. Distance from proposed location\* to nearest well, drilling, completed, or applied for, on this lease, ft.

19. Proposed depth

4950'

20. Rotary or cable tools

Rotary

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

5991' GR

22. Approx. date work will start\*

Immediately upon approval of this application.

23. PROPOSED CASING AND CEMENTING PROGRAM

Table with 5 columns: Size of Hole, Size of Casing, Weight per Foot, Setting Depth, Quantity of Cement. Rows include 12-1/4" hole with 8-5/8" casing and 7-7/8" hole with 5-1/2" casing.

Santa Fe Energy Operating Partners, L.P. proposes to drill a well to 4950' to test the Hermosa formation. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements.

See Onshore Order No. 1 attached.

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 subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Signed [Signature] Title: Consultant for Santa Fe Energy Operating Partners, L.P. Date: 6/8/88

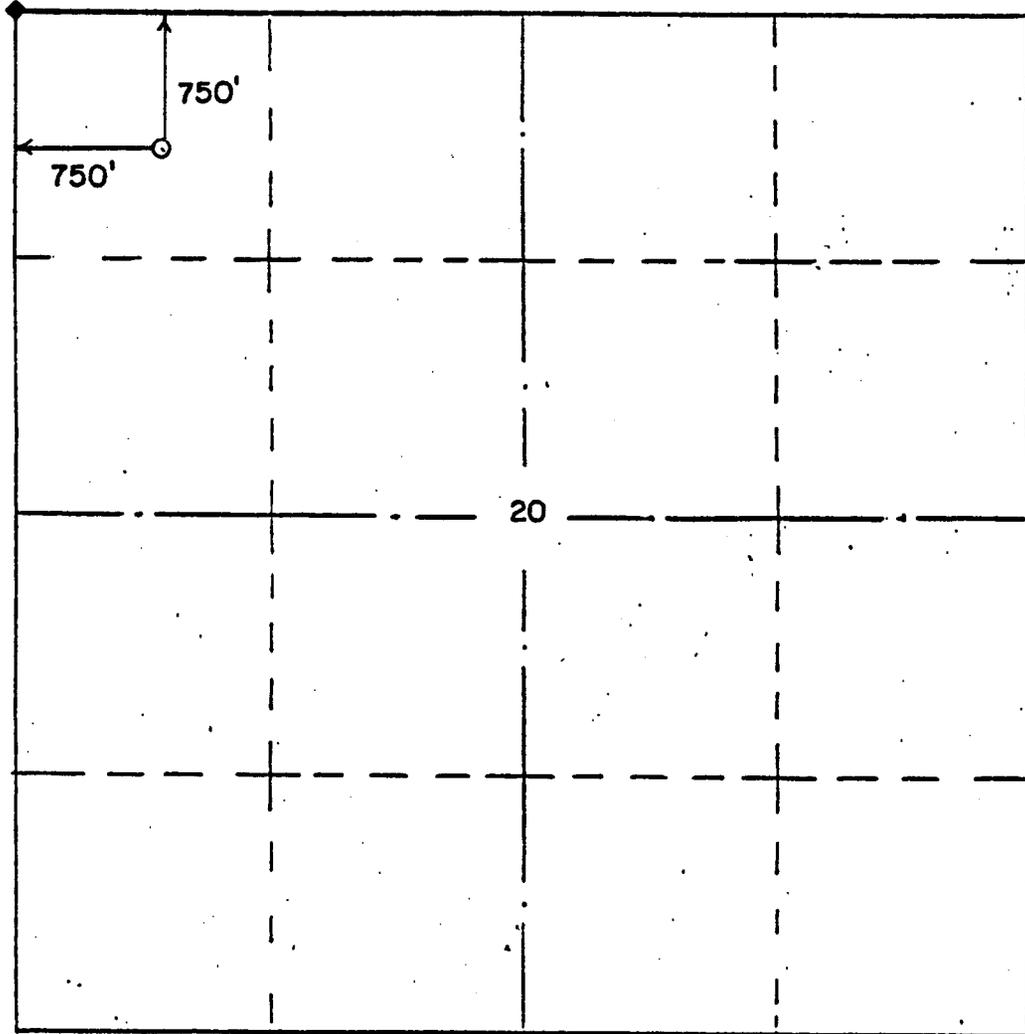
(This space for Federal or State office use)

Permit No. .... Approval Date .....

Approved by ..... Title ..... Date .....

Conditions of approval, if any:

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'  
 ◆ brass cap

WELL LOCATION DESCRIPTION:  
 SANTA FE ENERGY Operating Partners L.P.  
 Monument Butte #1-20  
 750'FNL & 750'FWL  
 Section 20, T.36 S., R.25 E., SLM  
 San Juan County, Utah  
 5991' ground elevation  
 Reference: Mobil Well, 520'FS & 630'FE, Sec. 18, 6007'graded

The above plat is true and correct to my knowledge and belief.

2 June 1988

*Gerald G. Huddleston*  
 REGISTERED LAND SURVEYOR  
 No. 5705  
 GERALD G. HUDDLESTON, LS  
 STATE OF UTAH

Santa Fe Energy Operating Partners, L.P.  
Well No. Monument Butte Federal 1-20  
Sec. 20, T. 36 S., R. 25 E.  
San Juan County, Utah  
Lease U-40367

CONDITIONS OF APPROVAL

Approval of this application 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.

Santa Fe Energy Operating Partners, L.P., is the bonded entity on this application. Liability will remain with the bonded party named until we are formally notified by letter of the new bonded entity in reference to this Application for Permit to Drill.

A. DRILLING PROGRAM

BOP Specification and Testing:

All ram-type preventers will be tested to the rated working pressure of the stack or to 70% of the internal yield of the casing, whichever is less.

The annular-type preventer will be tested to 50% of its rated working pressure.

Surface casing shall be set 50 feet into the Chinle Formation regardless of its encountered depth.

B. THIRTEEN-POINT SURFACE USE PLAN

1. In order to protect important deer winter range, exploration, drilling, and other development activity will be allowed only during the period from May 1 to November 30. This limitation does not apply to maintenance and operation of producing wells.

NOTIFICATIONS

Notify the San Juan Resource Area, at (801) 587-2144 for the following:

2 days prior to commencement of dirt work, construction or reclamation;

1 day prior to spudding;

1 day prior to running and cementing surface casing;

1 day prior to pressure testing of BOPE and/or surface casing.

Notify the Moab District Office, Branch of Fluid Minerals at (801) 259-6111 for the following:

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly drilled dry holes, and in emergency situations, verbal approval can be obtained by calling the following individuals, in the order listed.

Dale Manchester, Petroleum Engineer	Office Phone: (801) 259-6111
	Home Phone: (801) 259-6239

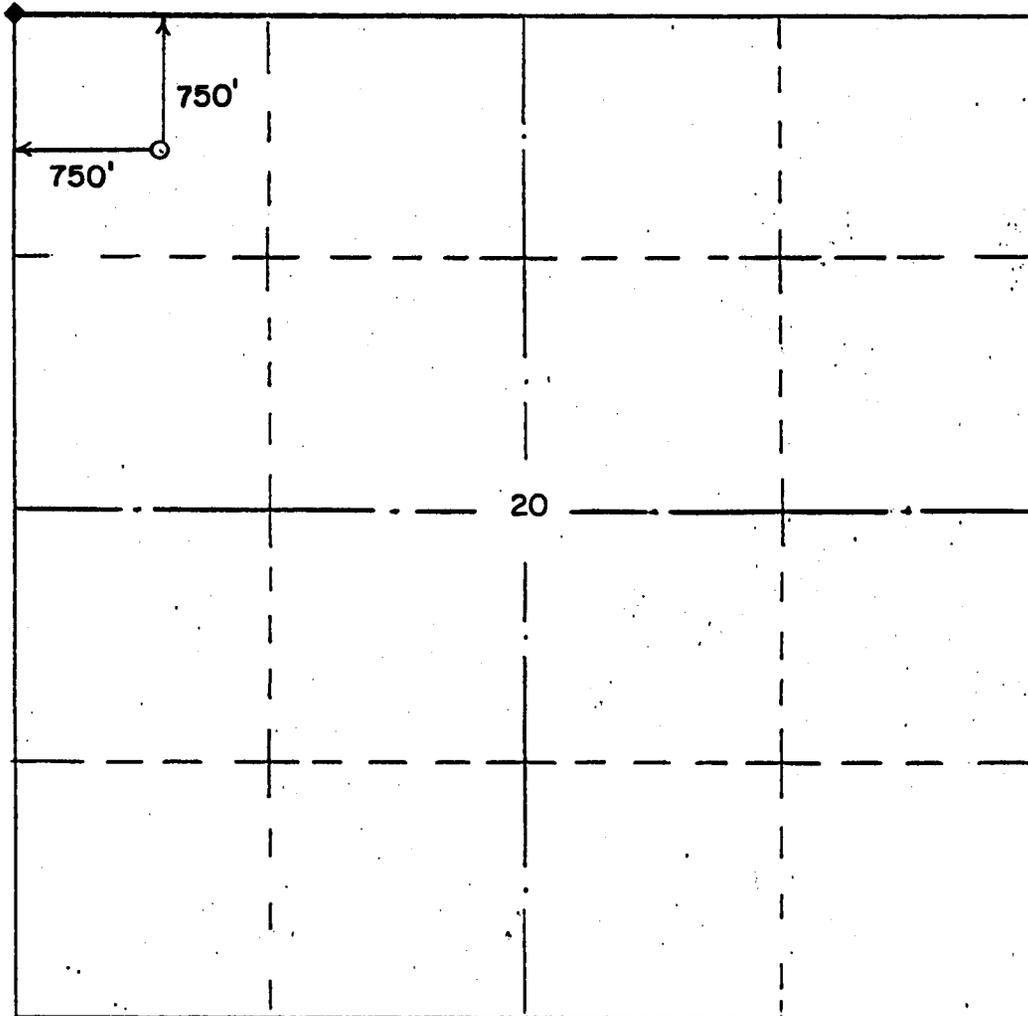
Lynn Jackson, Chief, Branch of Fluid Minerals	Office Phone: (801) 259-6111
	Home Phone: (801) 259-7990

Paul Brown, I&E Coordinator	Office Phone: (801) 259-6111
	Home Phone: (801) 259-7018

24 hours advance notice is required for all abandonments.



WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'  
◆ brass cap

WELL LOCATION DESCRIPTION:

SANTA FE ENERGY Operating Partners L.P.

Monument Butte #1-20

750'FNL & 750'FWL

Section 20, T.36 S., R.25 E., SLM

San Juan County, Utah

5991' ground elevation

Reference: Mobil Well, 520'FS & 630'FE, Sec. 18, 6007'graded

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2 June 1988

REGISTERED LAND SURVEYOR  
No. 5705  
GERALD G. HUDDLESTON  
Gerald G. Huddleston, LS  
STATE OF UTAH

ONSHORE OIL & GAS ORDER NO. 1

Approval of Operations on Onshore  
Federal and Indian Oil and Gas Leases

MONUMENT BUTTE FEDERAL #1-20  
750' FNL and 750' FWL  
Section 20, T36S - R25E  
San Juan County, Utah

Prepared For:

SANTA FE ENERGY OPERATING PARTNERS, L.P.

By:

PERMITCO INC.  
P.O. Box 44065  
Denver, Colorado 80201-4065  
303/322-7878

Copies Sent To:

- 4 - BLM - Moab, Utah
- 1 - BLM - Monticello, Utah
- 1 - Div. of Oil, Gas & Mining - SLC, Utah
- 3 - Santa Fe Energy Operating Partners, L.P. - Tulsa, OK
- 1 - Ron Muir - Duchesne, UT





# Santa Fe Energy Operating Partners, L.P.

Santa Fe Pacific Exploration Company  
Managing General Partner

June 2, 1988

Bureau of Land Management

RE: Monument Butte Federal #1-20  
NW/4 Sec. 20, T36S, R25E  
San Juan Co., Utah

&

Monument Butte Federal #1-19  
NE/4 Sec. 19, T36S, R25E  
San Juan Co., Utah

Gentlemen:

This letter is to inform you that Permitco Inc. is authorized to act as Agent and to sign documents on behalf of Santa Fe Energy Operating Partners, L.P. when necessary for filing county, state and federal permits including Onshore Order No. 1, Right-Of-Way application, etc., for the above mentioned wells.

It should be understood that Permitco Inc. is acting as Agent only in those matters stated above and is not responsible for drilling, completion, production or compliance with regulations.

Santa Fe Energy Operating Partners, L.P. agrees to accept full responsibility for operations conducted in order to drill, complete and produce the above-mentioned wells.

Sincerely,

SANTA FE ENERGY OPERATING  
PARTNERS, L.P.

Sam N. Morgan  
Sr. Drilling Engineer

SNM/dm

Mid-Continent District  
Suite 500  
Williams Center Tower I  
One West Third Street  
Tulsa, Oklahoma 74103  
918/582-6944

ONSHORE ORDER NO.  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte 1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah

DRILLING PROGRAM

ONSHORE OIL & GAS ORDER NO. 1  
Approval of Operations on Onshore  
Federal and Indian Oil and Gas Leases

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

1. The surface formation and estimated formation tops to be encountered are as follows:

<u>Formation</u>	<u>Depth</u>	<u>Subsea</u>
Morrison	Surface	
Navajo	850'	+5412'
Chinle	1600'	+4380'
Shinarump	2340'	+3640'
Cutler	2495'	+3407'
Hermosa	4400'	+1592'
Hermosa Pay	4550'	+1442'
T.D.	4950'	+1042'

2. The estimated depths at which oil, gas, water or other mineral bearing zones are expected to be encountered are as follows:

<u>Substance</u>	<u>Formation</u>	<u>Anticipated Depth</u>
Gas	Hermosa	4550'

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth cased and cemented. All oil and gas shows will be tested to determine commercial potential.

ONSHORE ORDER NO.  
 Santa Fe Energy Operating Partners, L.P.  
 Monument Butte 1-20  
 750' FNL and 750' FWL  
 Sec. 20, T36S - R25E  
 San Juan County, Utah

DRILLING PROGRAM

3. Pressure control equipment will consist of a 10", 3000# BOP. (See BOP Diagram attached.)

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. a. Casing

The proposed casing program is as follows:

<u>Purpose</u>	<u>Depth</u>	<u>Hole Size</u>	<u>O.D.</u>	<u>Wt.</u>	<u>Grade</u>	<u>Type</u>	<u>New or Used</u>
Surface	0-2000'	12-1/4"	8-5/8"	24#	K-55	ST&C	New
Produc.	0-4950'	7-7/8"	5-1/2"	15.5#	K-55	ST&C	New

- b. Cement

The cementing program will be as follows:

<u>Surface</u>	<u>Type and Amount</u>
0-2000'	715 sx + Dowell Lightweight III Class "B" cement containing 2% CaCl <sub>2</sub> and 1/4 lb/sk cellophane flakes, tail in with 200 sx Class B cement containing 1/4 lb/sk cellophane flakes.

<u>Production</u>	<u>Type and Amount</u>
	175 sx + Dowell lightweight V (Class B cement) plus 0.6% D GO FLAC.

Anticipated cement tops will be reported as to depth, not the expected number of sacks.

ONSHORE ORDER NO.  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte 1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah

DRILLING PROGRAM

c. Auxiliary Equipment will be as follows:

1. Kelly cock.
2. Float above the bit.
3. A sub with a full opening valve will be on the floor when the kelly is not in use.
4. Monitoring of the system will be done visually.

5. Drilling fluid will be as follows:

<u>Interval</u>	<u>Mud Type</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>F/L</u>	<u>PH</u>
0-2000'	Gel/Lime/ASP 700	8.4-9.0	28-45	N/C	8.0-9.0
2000-4200'	Fresh Water/Polyacrylamide Gel	8.4-9.4	26-30	N/C	
4200-T.D.	LSND	9.2-9.8	34-55	8-12 cc	9.0-9.5

6. Coring, logging and testing programs are as follows:

- a. No cores are anticipated.
- b. The logging program will consist of the following: A Dual Induction SFL/GR and BHC Sonic/GR will be run from T.D. to base of Surface casing. A Compensated Neutron/Formation Density/GR will be run from T.D. to 3800'
- c. Drill Stem Tests may be run in the Hermosa formation from approximately 4550-4570'.

Whether the well is completed as a dry hole or as a producer, "Well Completion or Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. If requested, samples (cuttings, fluids, and/or gases) will be submitted when requested by the Moab District Manager.

ONSHORE ORDER NO.  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte 1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah

DRILLING PROGRAM

7. Abnormal conditions, bottom hole pressures and potential hazards.
  - a. The maximum bottom hole pressure to be expected is 2200 psi.
  - b. Santa Fe Energy Operating Partners, L.P. plans to spud the Monument Butte Federal #1-20 immediately upon approval of this application and intends to complete the well within approximately one month after the well has reached T.D.
  - c. The operator will contact the San Juan Resource Area at 801/587-2141, 48 hours prior to beginning any dirt work on this location.
  - d. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.
  - e. Required verbal notifications are summarized in Table I, attached. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within twenty-four (24) hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.
  - f. In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329 "Monthly Report of Operations", starting with the month in which operations begin and continue each month until the well is physically plugged and abandoned. This report will be sent to the Moab BLM District Office, P. O. Box 970, Moab, Utah 84532.
  - g. Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NTL-3A.

ONSHORE ORDER NO. 7  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte 1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah

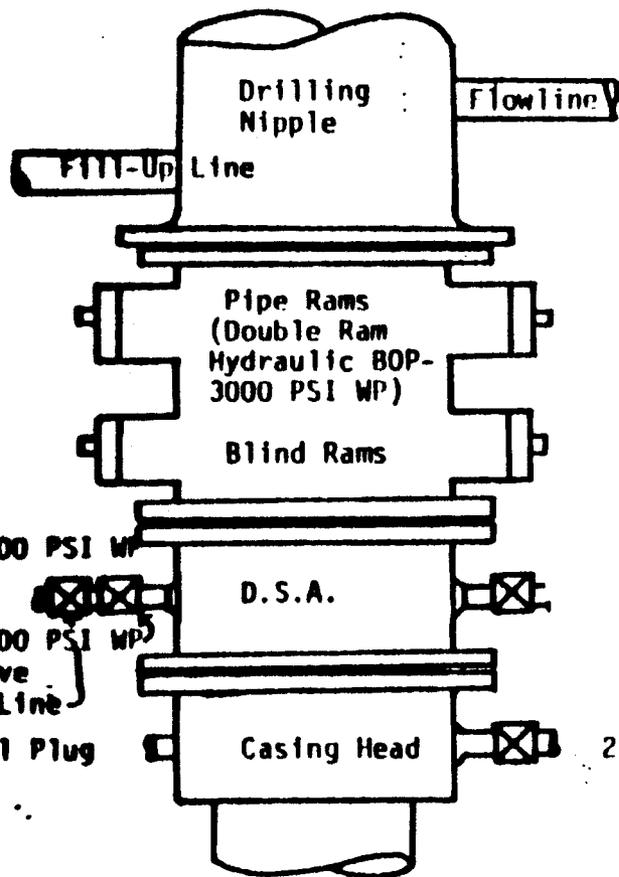
DRILLING PROGRAM

- h. If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five business days following the date on which the well is placed on production.
- i. A first production conference will be scheduled within fifteen (15) days after receipt of the first production report. The Resource Area Office will coordinate the field conference.
- j. No well abandonment operations will begin without the prior approval of the District Manager. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Petroleum Engineer. A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration.
- k. A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the District Manager within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved A.P.D. or approved abandonment notice has been completed to the satisfaction of the Area Manager or his representative, or the appropriate surface managing agency.
- l. Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

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DRILLING PROGRAM

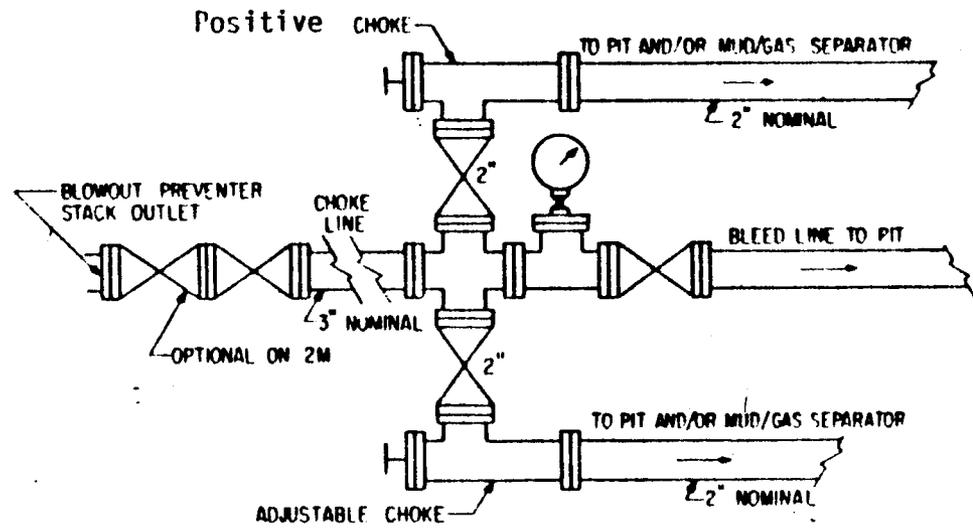
- m. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The marker will be an above ground pipe. The following information will be permanently beaded-on with a welding torch: "Fed" or "Ind", as applicable. "Well number, location by 1/4 1/4 section, township and range". "Lease number".



2"-3000 PSI WP  
Check  
Valve  
2"-3000 PSI WP  
Valve  
Kill Line  
Bull Plug

3"-3000 PSI WP Valve  
Choke Line  
2"-3000 PSI WP Valve

Configuration to be used 410' to T.D.



Positive CHOKE  
TO PIT AND/OR MUD/GAS SEPARATOR  
2" NOMINAL  
BLOWOUT PREVENTER  
STACK OUTLET  
CHOKER LINE  
3" NOMINAL  
OPTIONAL ON 2M  
BLEED LINE TO PIT  
TO PIT AND/OR MUD/GAS SEPARATOR  
2" NOMINAL  
ADJUSTABLE CHOKER

ONSHORE ORDER NO  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal 1-20  
750' FNL and 750' FWL  
Section 20, T36S - R25E  
San Juan County, Utah

SURFACE USE PLAN

ONSHORE OIL & GAS ORDER NO. 1

Thirteen Point Surface Use Plan

1. Existing Roads

- a. The proposed well site is located 25 miles southeast of Monticello, Utah.
- b. Directions to the location from the intersection of Highway 666 and the Eastland turnoff are as follows:

Go south on the paved road for 6.4 miles. Turn right onto graveled road and go 1 mile. Turn left and go 1.5 miles. Turn right and go west and south for 3.9 miles to a cattleguard. Turn left and go through another cattleguard and proceed 3.2 miles to a gate in the fence. Continue an additional 1 mile. Then turn left onto new access (flagged) and proceed approximately 1800 feet to the location.

- c. The roads in the area are primarily county roads. See Map #1. A separate Right-of-Way Application will be filed for roads crossing BLM lands outside Lease No. U-40367.
- d. Improvement to the existing access crossing BLM will be necessary. This will be done by flatblading the existing road and pulling the ditches into the center of the road creating a crown. An agreement will be reached with Mobil Oil for the maintenance and the upkeep of this road.
- e. All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.
- f. An encroachment permit will be obtained from the San Juan County Road Department, 801/587-2231, ext. 43.

ONSHORE ORDER NO.  
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San Juan County, Utah

SURFACE USE PLAN

2. Planned Access Roads

- a. The last 1800 feet will be new access. It is anticipated that the road will be flatbladed initially during drilling operations with a running surface of 18 feet (unless weather conditions prohibit).
- b. The maximum total disturbed width will be 36 feet.
- c. The grade will be 10% or less.
- d. No turnouts will be necessary. No culverts will be needed at this time. Drainage will consist of ditching on the uphill side of the road.
- e. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the San Juan Area Manager.
- f. The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road. (Roads will be maintained in the same condition as the roads crossing private surface.)

3. Location of Existing Wells Within a 1-Mile Radius of the Proposed Location. (See Map #2).

- a. Water Wells - none
- b. Injection or disposal wells - none
- c. Producing Wells - none
- d. Drilling Wells - none

ONSHORE ORDER NO.  
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SURFACE USE PLAN

4. Location of Tank Batteries and Production Facilities.
- a. All permanent structures (onsite for six months or longer) constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The color will be shale/juniper green to blend in with the terrain.
  - b. If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the largest tank.
  - c. If production is established, a diagram will be submitted showing the location of the proposed facilities.
  - d. All loading lines will be placed inside the berm surrounding the tank battery.
  - e. Any necessary pits will be properly fenced to prevent any wildlife entry. The production pit will be flagged overhead.
  - f. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.
  - g. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.
  - h. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.
  - i. Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.

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SURFACE USE PLAN

4. Production Facilities (cont.)

- j. The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Moab District Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. Location and Type of Water Supply

- a. All water needed for drilling purposes will be obtained from a private source.
- b. Water will be trucked to location over the county roads in the area.
- c. No water well is to be drilled on this lease.
- d. Use of water for this operation will approved by obtaining a temporary use permit from the Utah State Engineer, 801/637-1303, and by receiving permission from the land owner or surface management agency to use the land containing the water source.

6. Source of Construction Material

- a. Road surfacing material will be obtained from a commercial source. Pad construction material will be native.
- b. The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

ONSHORE ORDER NO. 7  
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SURFACE USE PLAN

7. Methods for Handling Waste Disposal

- a. The reserve pit will not be lined unless pourous material is encountered. At least half the capacity will be in cut.
- b. Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.
- c. A trash will be contained in a trash cage/basket and its contents will be hauled to an approved landfill. If a trash pit is used, it will be enclosed with small wire mesh and its contents buried under a minimum of four feet of fill material.
- d. If burning is required a permit will be obtained from the San Juan Sheriff's Office (801/587-2237).
- e. Produced waste water will be confined to an unlined pit for a period not to exceed 90 days after initial production. During the 90-day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

8. Ancillary Facilities

- a. There are no airstrips, camps, or other facilities planned during the drilling of the proposed well.

9. Well Site Layout

- a. See Diagram #1 for rig layout. See Diagram #2 for cross section of drill pad. See Diagram #3 for cuts and fills.
- b. The location of mud tanks; reserve, burn and trash pits; pipe racks; living facilities and soil stockpiles will be shown on Diagram #1 and #3. The location will be laid out and constructed as discussed during the predrill conference.



Permitco Incorporated  
A Petroleum Permitting Company

ONSHORE ORDER NO  
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Monument Butte Federal 1-20  
750' FNL and 750' FWL  
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SURFACE USE PLAN

9. Wellsite Layout (cont.)

- c. The top 8 inches of soil material will be removed from the location and stockpiled separately on the north side of the wellpad. Topsoil along the access will be reserved in place adjacent to the road.
- d. Access to the well pad will be from the northeast side of the well pad.

10. Reclamation

- a. Immediately upon completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash pit and will then be compacted and buried under a minimum of two feet of compacted soil.
- b. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.
- c. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.
- d. The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 12 inches deep with the contour.
- e. Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.

1 lb/acre Indian Ricegrass  
1 lb/acre Galletta  
3 lbs/acre Crested wheatgrass (*Agropyron desertorum*)  
1 lbs/acre Fourwing saltbush (*Atriplex canescens*)  
1 lbs/acre Desert bitterbrush (*purshia glandulosa*)  
1 lb/acre Yellow Sweetclover

ONSHORE ORDER NO.  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal 1-20  
750' FNL and 750' FWL  
Section 20, T36S - R25E  
San Juan County, Utah

SURFACE USE PLAN

10. Reclamation of Surface (cont.)

- f. After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed areas. The access will be blocked to prevent vehicular access.
- g. The reserve pit and that portion of the location and access road not needed for production and production facilities will be reclaimed as described in the reclamation section. Enough topsoil will be kept to reclaim the remainder of the location at a future date. This remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

11. a. Surface Ownership

Federal

b. Mineral Ownership

Federal

12. Other Information

- a. There will be no change from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.
- b. "Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.
- c. The dirt contractor will be provided with an approved copy of the surface use plan.
- d. All persons in the area who are associated with the project will be informed by the operator that they will be subject to prosecution for disturbing archaeological sites or collecting artifacts. If subsurface cultural material is exposed during



**Permitco Incorporated**  
A Petroleum Permitting Company

ONSHORE ORDER NO.  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal 1-20  
750' FNL and 750' FWL  
Section 20, T36S - R25E  
San Juan County, Utah

SURFACE USE PLAN

12. Other Information (cont.)

construction, work at that spot will stop immediately and the BLM, Sand Juan Resource Area Office will be contacted (801/587-2141). The operator will be responsible for the cost of evaluation of the discovery and proper mitigation measures. Any decision as to proper mitigation shall be made by the authorized officer after consulting wit the operator.

- e. This permit will be valid for a period of one year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.
- f. An archeological study was conducted by IaPlata Archeological Consultants. No significant cultural resources were found and clearance is recommended. A copy of this report will be submitted directly by IaPlata Archeological Consultants.
- g. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

13. Lessee's or Operator's Representative and Certification

Permit Matters

PERMITCO INC.  
Lisa L. Green  
P.O. Box 44065  
Denver, CO 80201-4065  
303/322-7878

Drilling & Completion Matters

SANTA FE ENERGY OPERATING  
PARTNERS, L.P.  
One West Third Street, Suite 500  
Tulsa, OK 74103  
918/582-6944 (W) -  
Sam Morgan - Sr. Drlg. Engineer



ONSHORE ORDER NO 1  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal 1-20  
750' FNL and 750' FWL  
Section 20, T36S - R25E  
San Juan County, Utah

SURFACE USE PLAN

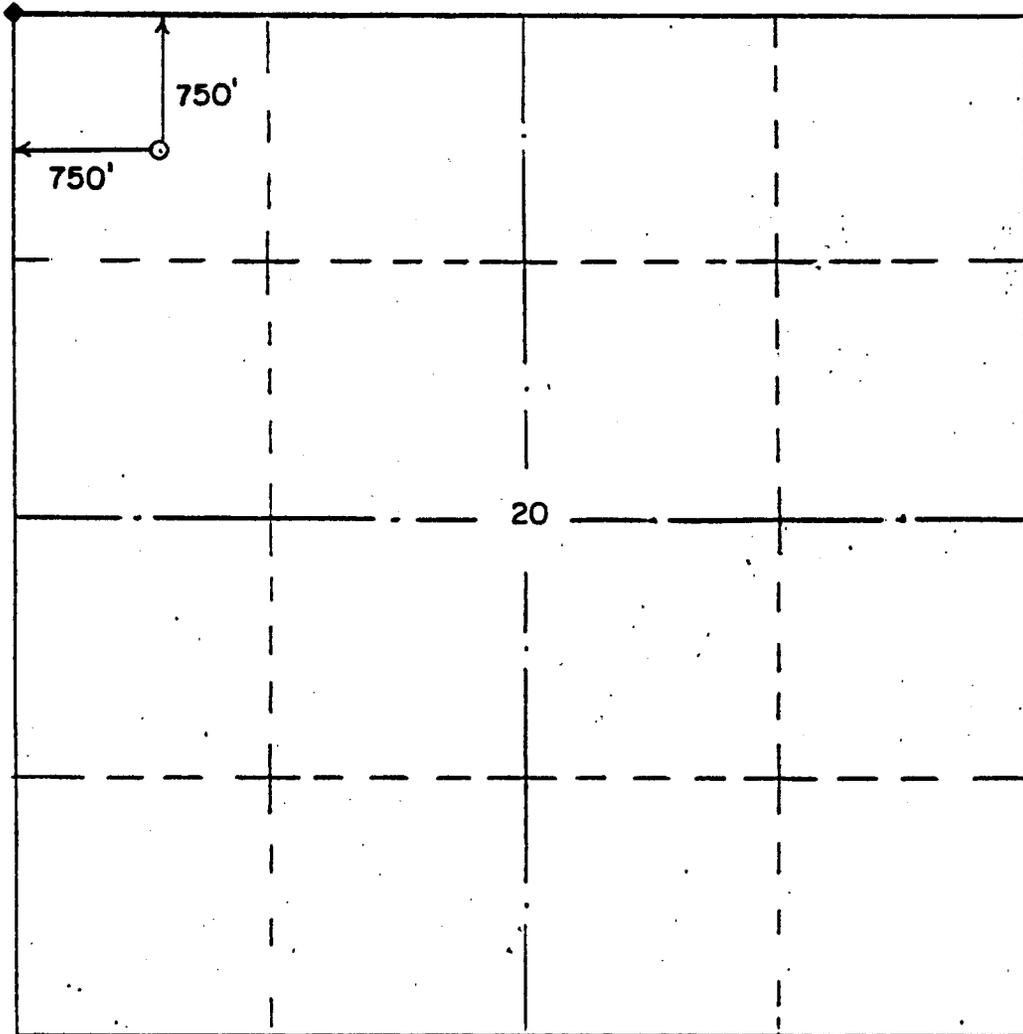
Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Santa Fe Energy Operating Partners, L.P. and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved.

June 8, 1988  
Date:

  
Lisa L. Green - PERMITCO INC.  
Authorized Agent for:  
SANTA FE ENERGY OPERATING  
PARTNERS, L.P.

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'  
 ◆ brass cap

WELL LOCATION DESCRIPTION:

SANTA FE ENERGY Operating Partners L.P.

Monument Butte #1-20

750'FNL & 750'FWL

Section 20, T.36 S., R.25 E., SLM

San Juan County, Utah

5991' ground elevation

Reference: Mobil Well, 520'FS & 630'FE, Sec. 18, 6007'graded

The above plat is true and correct to my knowledge and belief.

2 June 1988

REGISTERED LAND SURVEYOR  
 No. 5705  
 GERALD G. HUDDLESTON  
 Gerald G. Huddleston, LS  
 STATE OF UTAH

Highway 666 & Monticello, UT

R25E

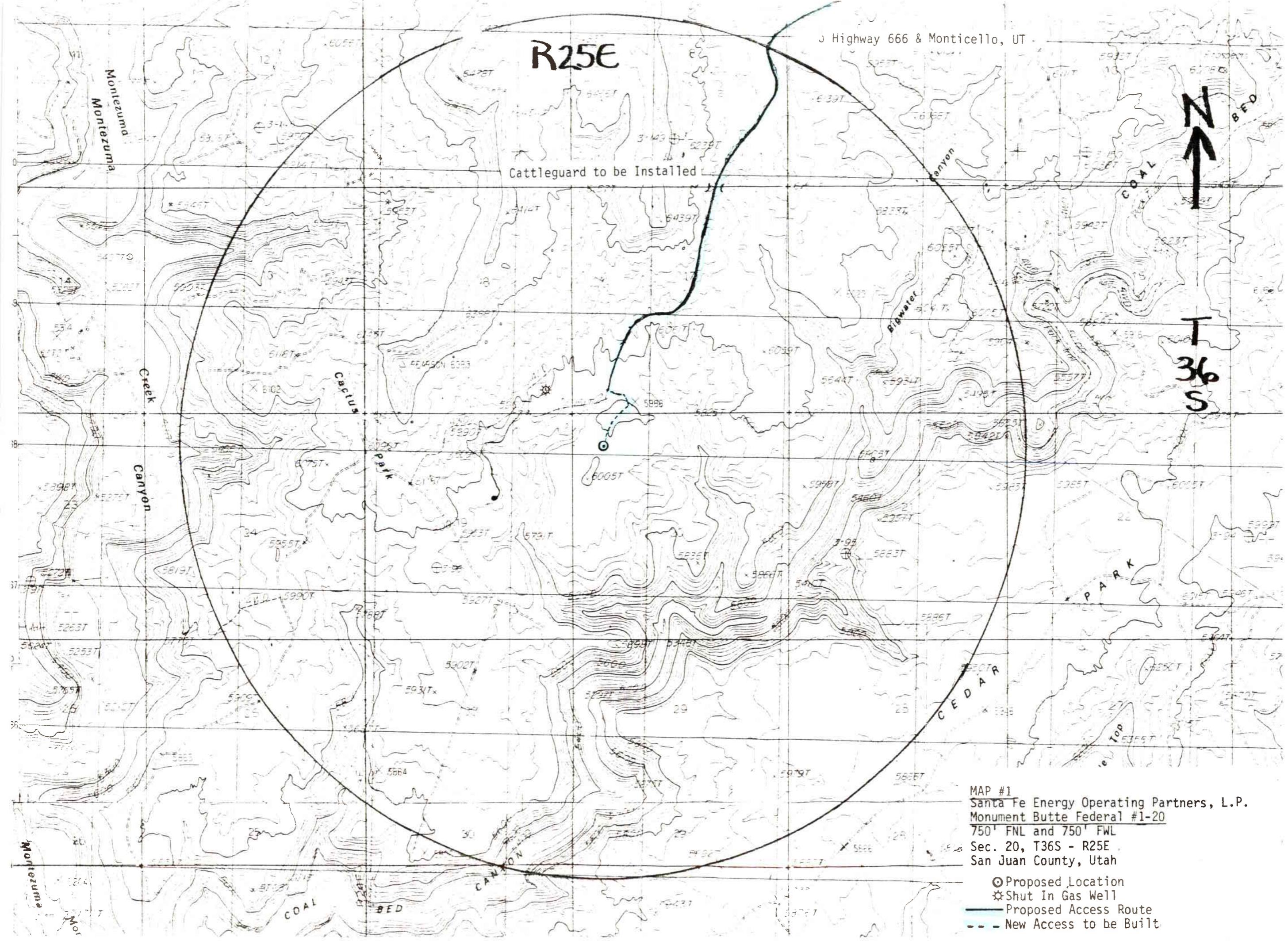


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Cattleguard to be Installed

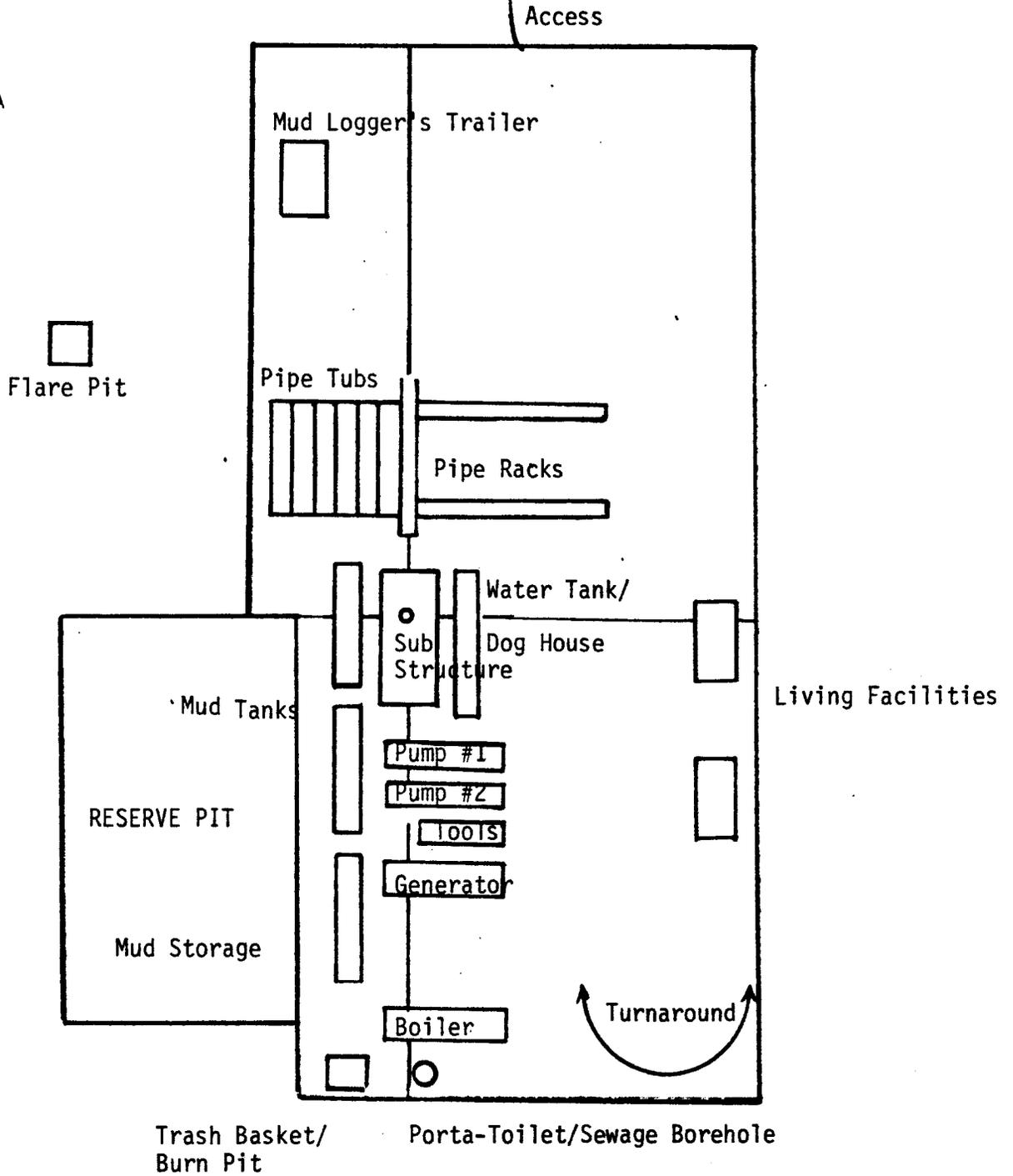
MAP #1  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal #1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah

- ⊙ Proposed Location
- ⊛ Shut In Gas Well
- Proposed Access Route
- - - New Access to be Built



GRAM #1  
Rig Layout

Santa Fe Energy Operating Partners,  
Monument Butte Federal #1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah



Cross Section

DIAGRAM #2

Monument Butte 1-20

Cross Sections

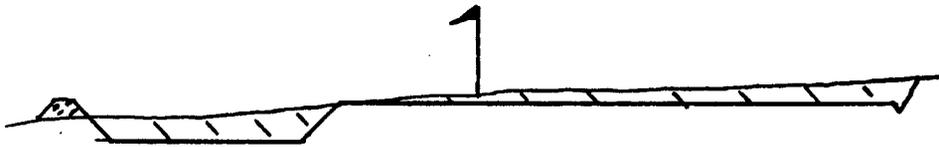
Cut \\\\  
Fill

1"=50' Horz. & Vert.



C<sup>L</sup>

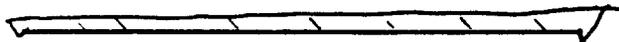
C<sup>R</sup>



← 5990'

B<sup>L</sup>

B<sup>R</sup>



A<sup>L</sup>

A<sup>R</sup>

Scale: 1" = 50'

Well Pad Plan View

Monument Butte 1-20

DIAGRAM #3  
Cuts and Fills  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal #1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah



1" = 50'

Access

N15°E

C<sup>L</sup>

F10

C60

C<sup>R</sup>

Topsoil

175'

50'

110'

B<sup>L</sup>

F50

C50

RESERVE

DIT

C100

125'

35'

150'

5991'  
C10

Stockpiled Trees and  
Brush

A<sup>L</sup>

C30

C60

A<sup>R</sup>

5995'

5990'

5985'

5990'

STATE ACTIONS

Mail to:  
RDCC Coordinator  
116 State Capitol  
Salt Lake City, Utah 84114

- 
1. ADMINISTERING STATE AGENCY  
OIL, GAS AND MINING  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203
2. STATE APPLICATION IDENTIFIER NUMBER:  
(assigned by State Clearinghouse)
- 
3. APPROXIMATE DATE PROJECT WILL START:  
Upon approval
- 
4. AREAWIDE CLEARING HOUSE(S) RECEIVING STATE ACTIONS:  
(to be sent out by agency in block 1)  
Southeastern Utah Association of Local Governments
- 
5. TYPE OF ACTION:  Lease  Permit  License  Land Aquisition  
 Land Sale  Land Exchange  Other \_\_\_\_\_
- 
6. TITLE OF PROPOSED ACTION:  
Application for Permit to Drill
- 
7. DESCRIPTION:  
Santa Fe Energy Operating Partners, L.P. proposes to drill a wildcat well, the Monument Butte Federal #1-20, on federal lease number U-40367 in San Juan County, Utah. This action is being presented to RDCC for consideration of resource issues affecting state interests. The U.S. Bureau of Land Management is the primary administrative agency in this case and must issue approval to drill jointly with DOGM before operations can commence.
- 
8. LAND AFFECTED (site location map required) (indicate county)  
NW/4, NW/4, Section 20, Township 36 South, Range 25 East, San Juan County, Utah
- 
9. HAS THE LOCAL GOVERNMENT(S) BEEN CONTACTED?  
Unknown
- 
10. POSSIBLE SIGNIFICANT IMPACTS LIKELY TO OCCUR:  
Degree of impact is based on the discovery of oil or gas in commercial quantities.
- 
11. NAME AND PHONE NUMBER OF DISTRICT REPRESENTATIVE FROM YOUR AGENCY NEAR PROJECT SITE, IF APPLICABLE:  
Chip Hutchinson, Moab, 259-8151
- 
12. FOR FURTHER INFORMATION, CONTACT: 13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL
- John Baza  
PHONE: 538-5340
- John R. Baza*  
DATE: 6/17/88  
Petroleum Engineer
-

RECEIVED  
JUN 10 1988

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING

(Other instructions on reverse side)

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  
Santa Fe Energy Operating Partners, L.P. 918/582-6944

3. Address of Operator  
303/322-7878 P.O. Box 44065  
Permitco Inc. - Agent Denver, CO 80201-4065

4. Location of Well (Report location clearly and in accordance with any State requirements.)  
At surface 750' FNL and 750' FWL  
At proposed prod. zone NW NW

14. Distance in miles and direction from nearest town or post office\*  
25 miles southeast of Monticello, Utah

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)  
none

18. Distance from proposed location\* to nearest well, drilling, completed, or applied for, on this lease, ft.  
none

21. Elevations (Show whether DF, RT, GR, etc.)  
5991' GR

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	8-5/8"	24#	2000'	915 sx or suffic to circ to sur
7-7/8"	5-1/2"	15.5#	4950'	175 sx or suffic. to cover zone of interest.

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 subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Signed Sean G. Green Title Consultant for Santa Fe Energy Operating Partners, L.P. Date 6/8/88

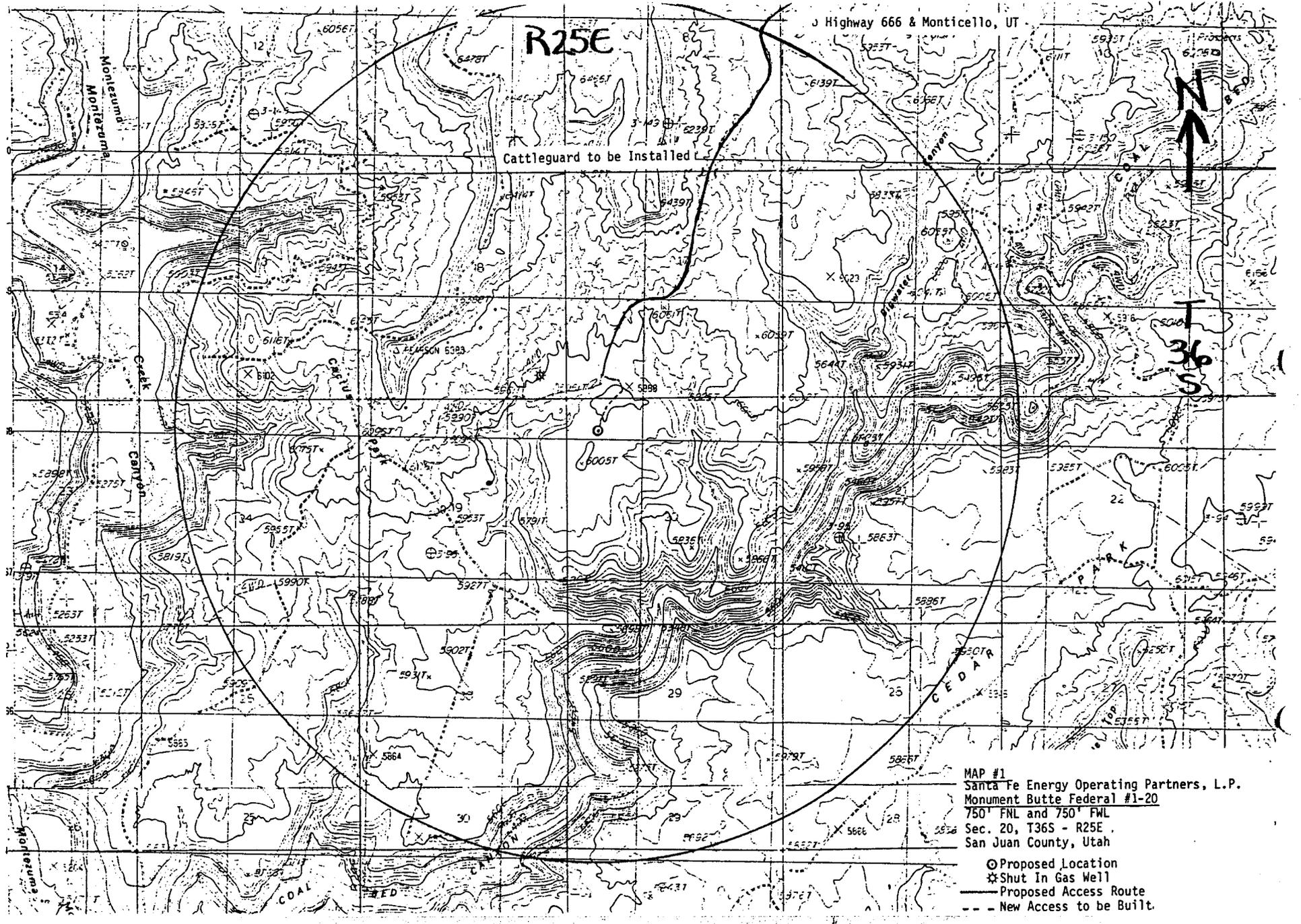
(This space for Federal or State office use)  
Permit No. \_\_\_\_\_ Approval Date \_\_\_\_\_

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
Conditions of approval, if any: \_\_\_\_\_

5. Lease Designation and Serial No. U-40367  
6. If Indian, Allottee or Tribe Name N/A  
7. Unit Agreement Name Monument Park (Proposed)  
8. Farm or Lease Name Monument Butte Federal  
9. Well No. #1-20  
10. Field and Pool, or Wildcat ~~Horsehead Point Wildcat~~  
11. Sec., T., R., M., or Blk. and Survey or Area Sec. 20, T36S - R25E  
12. County or Parrish 13. State San Juan Utah

16. No. of acres in lease 640 acres  
17. No. of acres assigned to this well 160  
19. Proposed depth 4950' *Horsehead*  
20. Rotary or cable tools Rotary  
22. Approx. date work will start\* Immediately upon approval of this application.

\*See Instructions On Reverse Side



R25E

Highway 666 & Monticello, UT

Cattleguard to be Installed

N  
36  
S

MAP #1  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal #1-20  
750' FNL and 750' FWL  
Sec. 20, T36S - R25E  
San Juan County, Utah

- Proposed Location
- ☆ Shut In Gas Well
- Proposed Access Route
- - - New Access to be Built.

**RECEIVED**  
**JUN 10 1988**

STATE OF UTAH  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF OIL, GAS, AND MINING

(Other instructions on reverse side)

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

1a. Type of Work **DRILL**  **DEE PEN**  **PLUG BACK**

b. Type of Well  
 Oil Well  Gas Well  Other  Single Zone  Multiple Zone

2. Name of Operator **One West 3rd St., Suite 500, Tulsa, OK 74103**  
**Santa Fe Energy Operating Partners, L.P. 918/582-6944**

3. Address of Operator **303/322-7878** **P.O. Box 44065**  
**Permitco Inc. - Agent** **Denver, CO 80201-4065**

4. Location of Well (Report location clearly and in accordance with any State requirements.\*)  
 At surface **750' FNL and 750' FWL**  
 At proposed prod. zone **NW NW**

**CONFIDENTIAL**

5. Lease Designation and Serial No. **U-40367**

6. If Indian, Allottee or Tribe Name **N/A**

7. Unit Agreement Name **Monument Park (Proposed)**

8. Farm or Lease Name **Monument Butte Federal**

9. Well No. **#1-20**

10. Field and Pool, or Wildcat **Horsehead Point Wildcat**

11. Sec., T., R., M., or Blk. and Survey or Area **Sec. 20, T36S - R25E**

14. Distance in miles and direction from nearest town or post office\* **25 miles southeast of Monticello, Utah** 12. County or Parrish **San Juan** 13. State **Utah**

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any) 16. No. of acres in lease **640 acres** 17. No. of acres assigned to this well **160**

18. Distance from proposed location\* to nearest well, drilling, completed, or applied for, on this lease, ft. **none** 19. Proposed depth **4950'** *Hermosa* 20. Rotary or cable tools **Rotary**

21. Elevations (Show whether DF, RT, GR, etc.) **5991' GR** 22. Approx. date work will start\* **Immediately upon approval of this application.**

**PROPOSED CASING AND CEMENTING PROGRAM**

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	8-5/8"	24#	2000'	915 sx or suffic to circ to surf.
7-7/8"	5-1/2"	15.5#	4950'	175 sx or suffic. to cover zones of interest.

Santa Fe Energy Operating Partners, L.P. proposes to drill a well to 4950' to test the Hermosa formation. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements.

See Onshore Order No. 1 attached.

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 subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. Signed *Lisa Y. Green* Title **Consultant for Santa Fe Energy Operating Partners, L.P.** Date **6/8/88**

Permit No. **43-037-31437** Approval Date **APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING**

Approved by \_\_\_\_\_ Title \_\_\_\_\_

Conditions of approval, if any: \_\_\_\_\_

DATE: **7-12-88**  
 BY: *John R. Bays*  
 WELL SPACING: **R615-B-2**

\*See Instructions On Reverse Side

# CONFIDENTIAL

OPERATOR Santa Fe Energy Operating DATE 6-10-88

WELL NAME Monument Butte Unit 1-20

SEC NW.NW 20 T 36S R 25E COUNTY San Juan

43-037-31437  
API NUMBER

Fed.  
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

no other well within 920' or in sec. 20  
need water permit (09-1130 Received 7-5-88)  
Proposed Unit not approved as of 6-13-88. (Btm)  
RDCC approved 6-17-88 - process 7-1-88.  
7-5-88 Santa Fe (Lisa Green) requests approval on a lease basis.

APPROVAL LETTER:

SPACING:  R615-2-3 Monument Park  
UNIT

R615-3-2

CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONFIDENTIAL  
PERIOD  
EXPIRED  
ON 11-4-89

June 21, 1988

Utah Division of Water Rights  
P.O. Box 718  
Price, UT 84501

Attn: Mark Page

Re: Santa Fe Energy Operating Partners, L.P.  
Monument Butte Federal #1-19 & #1-20  
1950' FNL and 1890' FEL, Sec. 19  
750' FNL and 750' FWL, Sec. 20  
T36S - R23E  
San Juan County, Utah

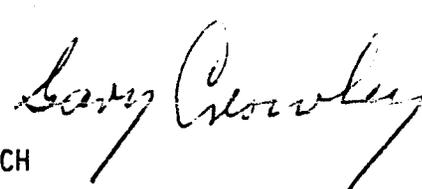
Dear Mark:

This letter is to verify that I am allowing Santa Fe Energy Operating Partners, L.P. the right to use 5 acre feet of my water from a source located in Section 25, T34S - R25E (From the NE Corner South 1400' and West 300'). Permit Number 09-1130.

If less water is used, Santa Fe Energy Operating Partners, L.P. will notify you office. Water to drill the above mentioned well will be for a period of approximately 60 days between June 25, 1988 and December 1, 1988.

Please send a copy of your approval to Lisa Green at Permitco Inc., P.O. Box 44065, Denver, CO 80201-4065.

Thank you for your cooperation.

Sincerely, 

CROWLEY RANCH

**CONFIDENTIAL**

Gary Crowley  
East Route  
Monticello, UT 84535  
(801/587-2377)

cc: Santa Fe Energy - Tulsa, OK



STATE OF UTAH  
NATURAL RESOURCES  
Water Rights

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Robert L. Morgan, State Engineer

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-637-1303

June 30, 1988

**RECEIVED**  
JUL 5 1988

**DIVISION OF  
OIL, GAS & MINING**

Division of Oil, Gas & Mining  
Attn: Lisha Romero  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Re: Water Right 09-1130  
Monument Butte Federal #1-19 Well  
Monument Butte Federal #1-20 Well

Dear Lisha:

Attached is a copy of a letter from Gary Crowley, which grants permission to Santa Fe Operating Partners, L.P., to the use of his above referenced water right. This water right is valid and should be used in connection with the drilling of these two wells.

If you have any questions concerning the enclosed, please feel free to contact me.

Sincerely,

Mark P. Page  
Area Engineer

Enclosures  
MPP/mjk



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter  
Governor  
Dee C. Hansen  
Executive Director  
Dianne R. Nielson, Ph.D.  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340

July 12, 1988

Santa Fe Energy Operating Partners, L.P.  
c/o Permitco Incorporated  
P. O. Box 44065  
Denver, Colorado 80201-4065

Gentlemen:

Re: Monument Butte Unit 1-20 - NW NW Sec. 20, T. 36S, R. 25E - San Juan County, Utah  
750' FNL, 750' FWL

Approval to drill the referenced well is hereby granted in accordance with Rule R615-3-2, Oil and Gas Conservation General Rules.

In addition, the following actions are necessary to fully comply with this approval:

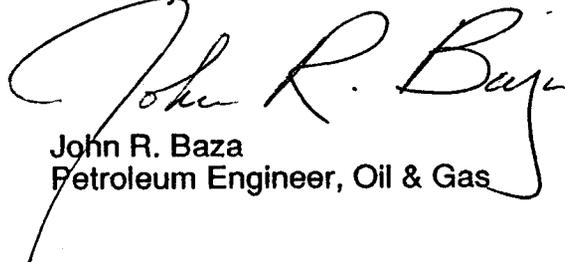
1. Spudding notification within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.
3. Submittal of the Report of Water Encountered During Drilling, Form OGC-8-X.
4. Prompt notification if it is necessary to plug and abandon the well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or Jim Thompson, Lead Inspector, (Home) 298-9318.
5. Compliance with the requirements of Rule R615-3-22, Gas Flaring or Venting, Oil and Gas Conservation General Rules.
6. Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site shall be submitted to the local health department. These drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 538-6121.

Page 2  
Santa Fe Energy Operating Partners, L.P.  
Monument Butte Unit 1-20  
July 12, 1988

7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31437.

Sincerely,

A handwritten signature in cursive script that reads "John R. Baza". The signature is written in black ink and is positioned above the typed name and title.

John R. Baza  
Petroleum Engineer, Oil & Gas

lr  
Enclosures  
cc: Branch of Fluid Minerals  
D. R. Nielson  
8159T

LGR

Form 3100-1  
November 1983  
(formerly 9-331C)

# CONFIDENTIAL RECEIVED

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Form approved.  
Budget Bureau No. 1004-0136  
Expires August 31, 1985

JUL 18 1988

5. LEASE DESIGNATION AND SERIAL NO.

U-40367

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A

7. UNIT AGREEMENT NAME

Monument Park (Proposed)

8. FARM OR LEASE NAME

Monument Butte Federal

9. WELL NO.

#1-20

10. FIELD AND POOL, OR WILDCAT

Horsehead Point

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 20, T36S - R25E

12. COUNTY OR PARISH 13. STATE

San Juan Utah

## 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 Santa Fe Energy Operating Partners, L.P.  
One West 3rd St., Suite 500, Tulsa, OK 74103 (918/582-6944)

3. ADDRESS OF OPERATOR 303/322-7878 P.O. Box 44065  
Permitco Inc. - Agent Denver, CO 80201-4065

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface  
750' FNL and 750' FWL  
At proposed prod. zone NW NW

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
25 miles southeast of Monticello, Utah

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
750'

16. NO. OF ACRES IN LEASE  
640

17. NO. OF ACRES ASSIGNED TO THIS WELL  
160

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
160

19. PROPOSED DEPTH  
4950'

20. ROTARY OR CABLE TOOLS  
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5991' GR

22. APPROX. DATE WORK WILL START\*  
Immediately upon approval of this application.

### 23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
--------------	----------------	-----------------	---------------	--------------------

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 subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED: [Signature] TITLE: Consultant for Santa Fe Energy Operating Partners, L.P. DATE: 6/8/88

(This space for Federal or State office use)

PERMIT NO. 43-037-31437 APPROVAL DATE

APPROVED BY: GENE NODINE TITLE: DISTRICT MANAGER DATE: JUL 13 1988

CONDITIONS OF APPROVAL, IF ANY:

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A DATED 1/1/80  
CONDITIONS OF APPROVAL ATTACHED  
\*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.

Doc m

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API NO.: 43-037-31437

NAME OF COMPANY: SANTA FE ENERGY

WELL NAME: MONUMENT BUTTE FEDERAL 1-20

SECTION NNW 20 TOWNSHIP 36S RANGE 25E COUNTY SAN JUAN

DRILLING CONTRACTOR COLEMAN DRILLING COMPANY

RIG # 2

SPUDDED: DATE 7/26/88

TIME 4:00 p.m.

HOW ROTARY

**CONFIDENTIAL**

DRILLING WILL COMMENCE \_\_\_\_\_

REPORTED BY SAMMY N. MORGAN

TELEPHONE # 918-582-6944

DATE 10/5/88 SIGNED TAS

H A L L I B U R T O N S E R V I C E S

FORMATION TESTING SERVICE REPORT

05-AUG-88

COMPANY NAME: SANTA FE ENERGY COMPANY  
DRILLING CONTRACTOR: COLEMAN DRILLING, RIG NO. 2  
TICKET NUMBER: 71234301  
TEST DATE: 8-4-88  
LEASE NAME: MONUMENT BUTTE FEDERAL  
WELL NUMBER: 1 - 20  
TEST NUMBER: 1  
JOB TYPE: OPEN HOLE  
LEGAL LOCATION: S 20 - T 36 S - R 25 E  
COUNTY: SAN JUAN  
STATE: UTAH DDF  
HALLIBURTON CAMP: FARMINGTON  
FIELD AREA: WILDCAT  
ELEVATION: 6004.0 FEET  
NET PAY: 9.0 FEET  
HOLE SIZE: 7.9 INCH(ES)  
TESTED INTERVAL: 4544.0 FEET - 4573.0 FEET

**CONFIDENTIAL**

NOTICE:

THESE CALCULATIONS ARE BASED UPON INFORMATION FURNISHED BY YOU AND TAKEN FROM DRILL STEM TEST PRESSURE CHARTS, AND ARE FURNISHED YOU FOR YOUR INFORMATION. IN FURNISHING SUCH CALCULATIONS AND EVALUATIONS BASED THEREON, HALLIBURTON IS MERELY EXPRESSING ITS OPINION. YOU AGREE THAT HALLIBURTON MAKES NO WARRANTY EXPRESS OR IMPLIED AS TO THE ACCURACY OF SUCH CALCULATIONS OR OPINIONS, AND THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER DUE TO NEGLIGENCE OR OTHERWISE, IN CONNECTION WITH SUCH CALCULATIONS AND OPINIONS.

08Y628

TICKET NUMBER: /1234301  
TEST DATE: 8-4-88

#### EQUIPMENT & HOLE DATA

FORMATION TESTED: HERMOSA  
NET PAY: 9.0 FT.  
GROSS TESTED FOOTAGE: 29.0 FT.  
ALL DEPTHS MEASURED FROM: KB  
CASING PERFORATIONS:  
HOLE/CASING SIZE: 7.9 IN.  
ELEVATION: 6004.0 FT.  
TOTAL DEPTH: 4573.0 FT.  
PACKER DEPTH(S): 4538.0 FT.  
4544.0 FT.  
FINAL SURFACE CHOKE:  
BOTTOM HOLE CHOKE: 0.750 IN.  
MUD WEIGHT: 9.00 LB/GAL  
MUD VISCOSITY: 48.00 SEC.  
ESTIMATED HOLE TEMPERATURE: 0.0 F  
ACTUAL HOLE TEMPERATURE: 116.0 F @ 4569.0 FT.

#### HYDROCARBON PROPERTIES

OIL GRAVITY:  
GAS/OIL RATIO:  
GAS GRAVITY:

#### SAMPLER DATA

SURFACE PRESSURE: 12.0 PSIG  
GAS VOLUME: 0.04 CU.FT.  
OIL VOLUME:  
WATER VOLUME:  
MUD VOLUME: 1700.0 CC  
TOTAL LIQUID VOLUME: 1700.0 CC

#### TESTER(S):

DELL GUNN

#### WITNESS(ES):

DONN W. MURPHY

TICKET NUMBER: 71234301  
TEST DATE: 8-4-88

FLUID PROPERTIES FOR RECOVERED MUD AND WATER

SOURCE	RESISTIVITY		CHLORIDES
TOP RECOVERY	3.500 @	90.0 F	666.0 PPM
SAMPLER	3.780 @	90.0 F	666.0 PPM
MUD PIT	3.800 @	92.0 F	500.0 PPM
	0.000 @	0.0 F	0.0 PPM
	0.000 @	0.0 F	0.0 PPM
	0.000 @	0.0 F	0.0 PPM

CUSHION DATA

TYPE	AMOUNT	WEIGHT
	0.0	0.00
	0.0	0.00

RECOVERED (MEASURED FROM TESTER VALVE):

10 FT DRILLING FLUID

REMARKS:

THE CHART FROM THE BOTTOM GAUGE, RUN AT 4570 FT, WAS WHITE AND COULD NOT BE SENT VIA THE KWIK DATA SYSTEM.

HALLIBURTON SERVICES

TICKET NUMBER: 71234 L  
 TEST DATE: 8-4-88

CLOCK NUMBER: 10444  
 HOUR: 12

GAUGE NUMBER: 2032  
 GAUGE DEPTH: 4523.0

REFERENCE	TIME (MINUTES)	PRESSURE (PSI)	DP	$\frac{(T+DT)}{(T+DT)}$	LOG $\frac{(T+DT)}{DT}$
-----------	-------------------	-------------------	----	-------------------------	-------------------------

FIRST FLOW

B	1	0.0	23.0		
	2	5.0	25.1	2.2	
	3	10.0	25.0	-0.1	
	4	15.0	22.4	-2.5	
	5	20.0	19.6	-2.8	
	6	25.0	19.3	-0.3	
C	7	28.9	20.1	0.8	

FIRST CLOSED-IN

C	1	0.0	20.1			
	2	5.0	35.3	15.2	4.3	0.832
	3	10.0	51.1	31.0	7.4	0.590
	4	15.0	65.9	45.8	9.9	0.467
	5	20.0	80.2	60.1	11.8	0.389
	6	25.0	95.1	75.0	13.4	0.334
	7	30.0	107.9	87.8	14.7	0.293
	8	35.0	121.5	101.4	15.8	0.262
	9	40.0	135.1	115.0	16.8	0.236
	10	45.0	148.1	128.1	17.6	0.216
	11	50.0	161.3	141.3	18.3	0.198
	12	55.0	175.1	155.1	19.0	0.184
D	13	60.1	189.0	168.9	19.5	0.171

SECOND FLOW

E	1	0.0	19.5			
	2	10.0	20.1	0.6		
	3	20.0	20.1	0.0		
	4	30.0	20.3	0.2		
	5	40.0	20.3	0.0		
	6	50.0	20.3	0.0		
	7	60.0	20.6	0.3		
	8	70.0	20.8	0.2		
	9	80.0	20.8	0.0		
F	10	89.7	21.7	0.9		

SECOND CLOSED-IN

F	1	0.0	21.7			
	2	10.0	54.3	32.6	9.2	1.109
	3	20.0	84.2	62.5	17.1	0.841

HALLIBURTON SERVICES

TICKET NUMBER: 71234 1  
 TEST DATE: 8-4-88  
 CLOCK NUMBER: 10444  
 HOUR: 12  
 GAUGE NUMBER: 2032  
 GAUGE DEPTH: 4523.0

REFERENCE	TIME (MINUTES )	PRESSURE (PSI )	DP	(T+DT) ----- (T+DT)	(T+DT) LOG----- DT	
	4	30.0	112.2	90.6	23.9	0.695
	5	40.0	136.7	115.0	29.9	0.598
	6	50.0	162.5	140.8	35.2	0.528
	7	60.0	186.4	164.7	39.9	0.474
	8	70.0	208.3	186.6	44.0	0.431
	9	80.0	229.7	208.0	47.8	0.395
	10	90.0	250.0	228.3	51.2	0.365
	11	100.0	270.1	248.4	54.3	0.340
	12	110.0	289.4	267.8	57.1	0.318
G	13	117.2	303.1	281.4	59.0	0.304

TICKET NUMBER: 71234

TEST DATE: 8-4-88

GAUGE NUMBER: 2032

GAUGE DEPTH: 4523.0

BLANKED OFF: NO

CLOCK HOUR: 12

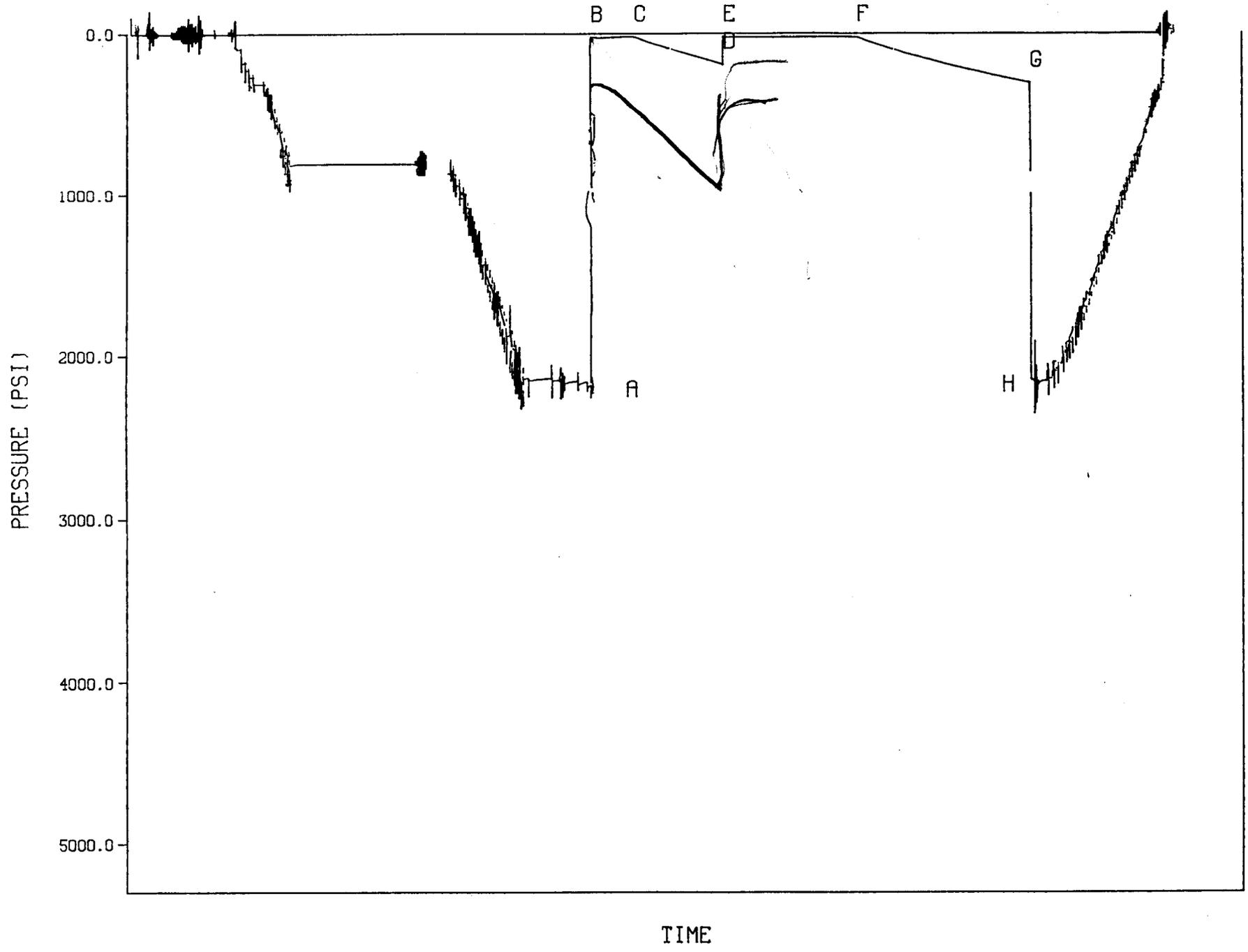
DESCRIPTION	PRESSURE		TIME		TYPE
	REPORTED	CALCULATED	REPORTED	CALCULATED	
A INITIAL HYDROSTATIC	0	2172.6			
B INITIAL FIRST FLOW	0	23.0			
C FINAL FIRST FLOW	0	20.1	30.0	28.9	F
C INITIAL FIRST CLOSED-IN	0	20.1			
D FINAL FIRST CLOSED-IN	0	189.0	60.0	60.1	C
E INITIAL SECOND FLOW	0	19.5			
F FINAL SECOND FLOW	0	21.7	69.0	89.7	F
F INITIAL SECOND CLOSED-IN	0	21.7			
G FINAL SECOND CLOSED-IN	0	303.1	117.0	117.2	C
H FINAL HYDROSTATIC	0	2144.1			

TICKET NUMBER: 71234301  
TEST DATE: 8-4-88

TYPE AND SIZE MEASURING DEVICE:

TIME	CHOKE SIZE	SURFACE PRESSURE (PSI)	GAS RATE (MCF)	LIQUID RATE (BPD)	REMARKS
8-3-88					
2315					ON LOCATION
8-4-88					
0100					PICKED UP TEST TOOLS
0200					TRIPPED IN HOLE WITH DST #1
0602					ON BOTTOM
0605	1/8BH	2.0 OZ			OPENED TOOL WITH GOOD BLOW TO BOTTOM OF BUCKET (FLOWING THROUGH A 0.125" NEEDLE VALVE BUBBLE HOSE)
0610		12 OZ			
0615		13 OZ			
0630		12.75OZ			
0635		12.5OZ			CLOSED TOOL (NO GAS TO SURFACE)
0735	1/8BH	4.0 OZ			OPENED TOOL WITH FAIR TO WEAK BLOW. 8" IN BUCKET
0745		6.0 OZ			10" IN UBCKET
0745		6.0 OZ			10" IN BUCKET
0800		6.5 OZ			10" IN BUCKET
0815		6.5 OZ			SAME
0830		6.5 OZ			SAME
0845		6.5 OZ			SAME
0904		6.5 OZ			CLOSED TOOL. NO GAS TO SURFACE
1101					PULLED OFF BOTTOM AND OPENED BYPASS
1115					TRIPPED OUT OF HOLE
1300					OUT OF HOLE. LAID DOWN TOOLS
1500					JOB COMPLETE

TICKET NUMBER: 71234301  
GAUGE NUMBER: 2032



TOOL EQUIPMENT

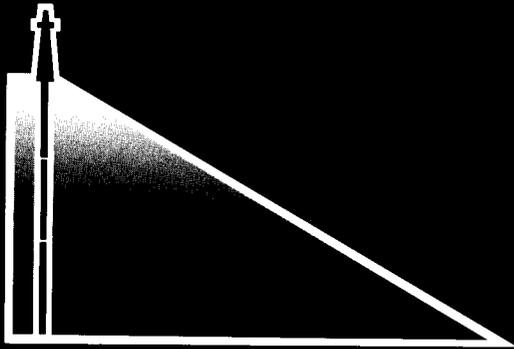
O.D.

I.D.

LENGTH

DEPTH

		O.D.	I.D.	LENGTH	DEPTH
1	 DRILL PIPE	4.500	3.826	3683.0	
3	 DRILL COLLARS	6.250	2.250	732.0	
50	 IMPACT REVERSING SUB	5.750	3.000	1.0	4415.0
3	 DRILL COLLARS	6.250	2.250	93.0	
5	 CROSSOVER	5.750	3.000	1.0	
13	 DUAL CIP SAMPLER	5.750	0.750	7.0	
60	 HYDROSPRING TESTER	5.000	0.750	5.0	4521.0
80	 AP RUNNING CASE	5.000	2.250	4.0	4523.0
15	 JAR	5.030	1.750	5.0	
16	 VR SAFETY JOINT	5.000	1.000	3.0	
70	 OPEN HOLE PACKER	6.750	1.580	6.0	4538.0
70	 OPEN HOLE PACKER	6.750	1.580	6.0	4544.0
20	 FLUSH JOINT ANCHOR	5.750	3.000	23.0	
81	 BLANKED-OFF RUNNING CASE	5.750	0.000	4.0	4570.0
	TOTAL DEPTH				4573.0



# Halliburton Reservoir Evaluation System



**HALLIBURTON SERVICES**

Duncan, Oklahoma 73536



A Halliburton Company

# NOMENCLATURE

B	= Formation Volume Factor .....	(Res Vol/Std Vol)
$c_t$	= System Total Compressibility .....	(Vol/Vol)/psi
DR	= Damage Ratio	
h	= Estimated Net Pay Thickness .....	Ft
k	= Permeability .....	md
m	{ = (Liquid) Slope Extrapolated Pressure Plot .....	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot .....
$m(P^*)$	= Real Gas Potential at P* .....	MM psi <sup>2</sup> /cp
$m(P_i)$	= Real Gas Potential at P <sub>i</sub> .....	MM psi <sup>2</sup> /cp
AOF <sub>1</sub>	= Maximum Indicated Absolute Open Flow at Test Conditions ...	MCFD
AOF <sub>2</sub>	= Minimum Indicated Absolute Open Flow at Test Conditions ....	MCFD
P*	= Extrapolated Static Pressure .....	Psig
P <sub>f</sub>	= Final Flow Pressure .....	Psig
Q	= Liquid Production Rate During Test .....	BPD
Q <sub>1</sub>	= Theoretical Liquid Production w/Damage Removed .....	BPD
Q <sub>g</sub>	= Measured Gas Production Rate .....	MCFD
r <sub>i</sub>	= Approximate Radius of Investigation .....	Ft
r <sub>w</sub>	= Radius of Well Bore .....	Ft
S	= Skin Factor	
t	= Total Flow Time Previous to Closed-in .....	Minutes
Δt	= Closed-in Time at Data Point .....	Minutes
T	= Temperature Rankine .....	°R
φ	= Porosity (fraction)	
μ	= Viscosity of Gas or Liquid .....	cp
Log	= Common Log	



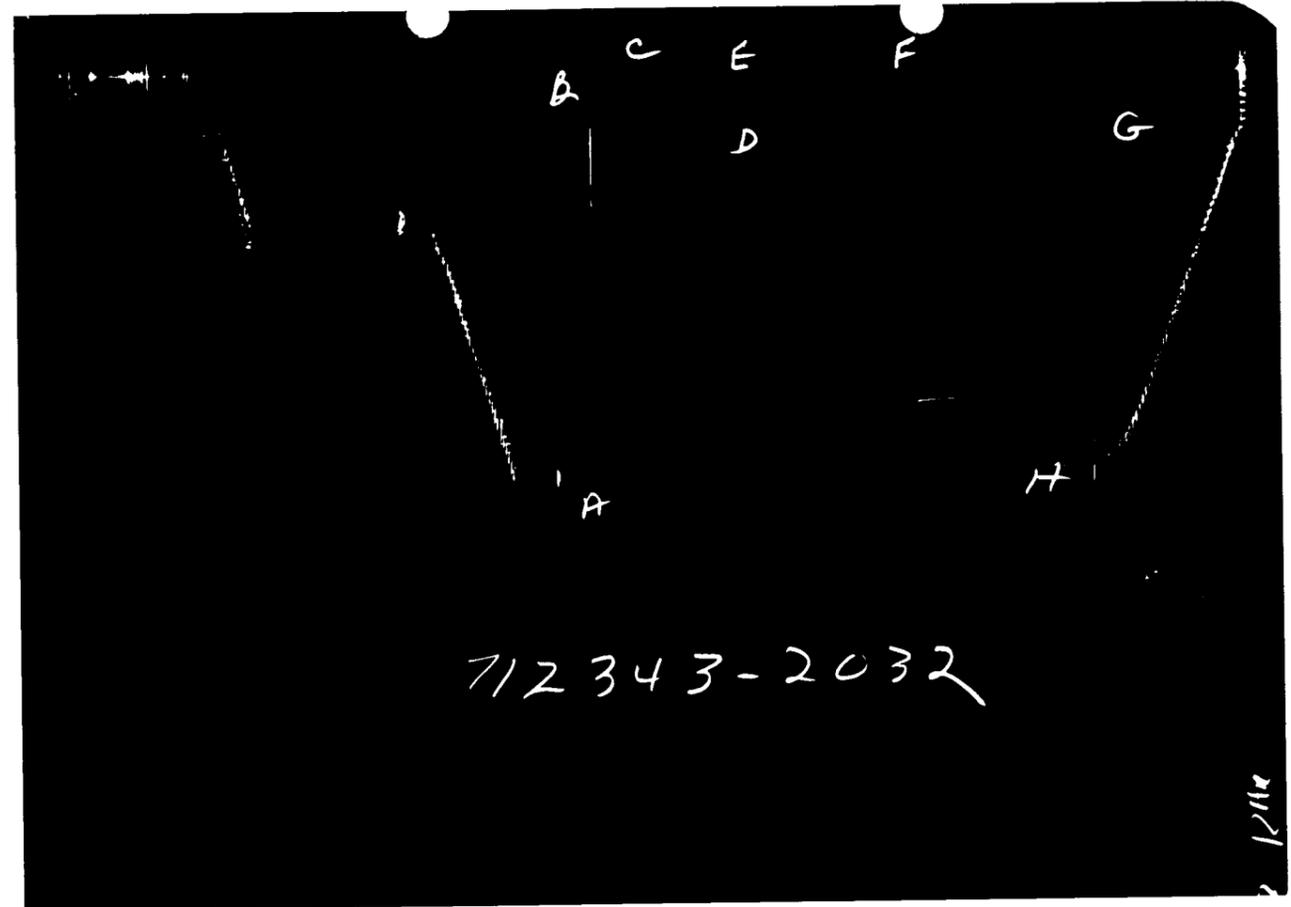
# HALLIBURTON SERVICES

TICKET NO. 71234300  
15-AUG-88  
FARMINGTON

**CONFIDENTIAL**

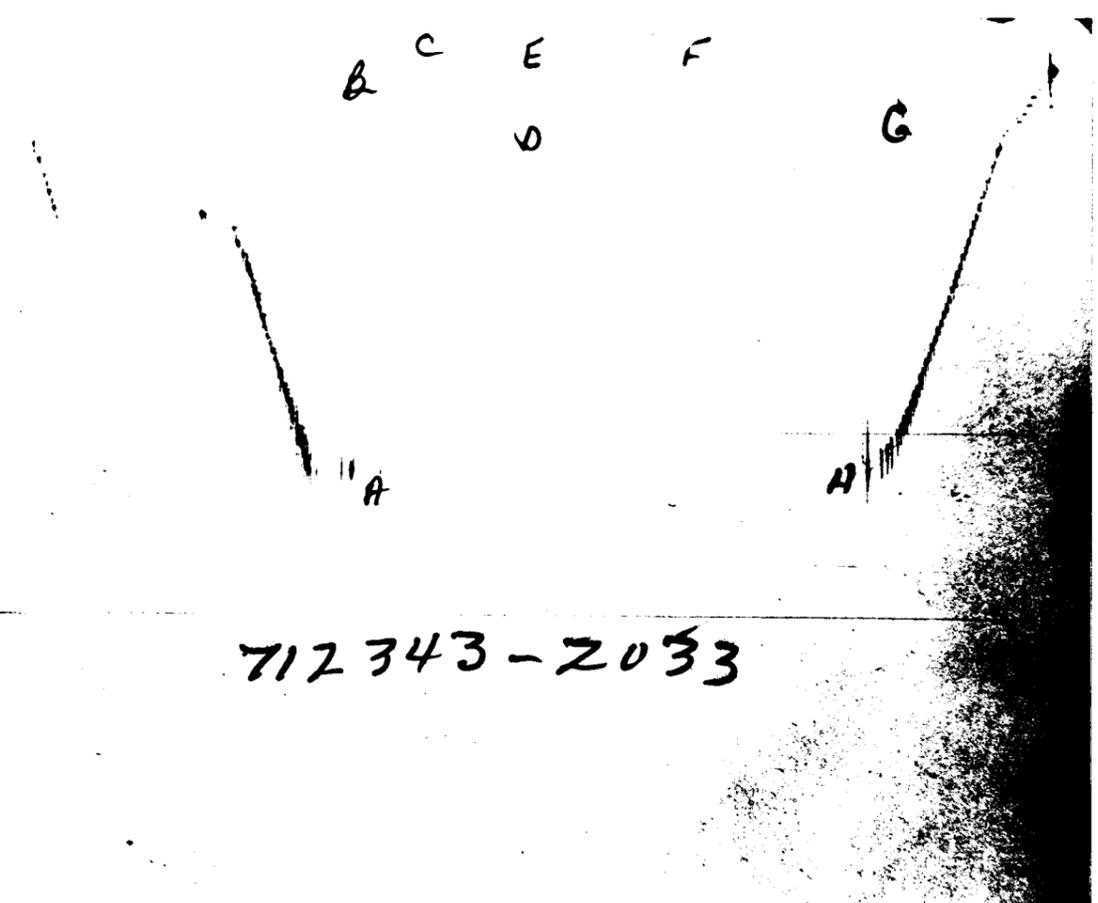
## FORMATION TESTING SERVICE REPORT

MONUMENT BUTTE FEDERAL  
LEASE NAME  
1-20  
WELL NO.  
1  
TEST NO.  
4544.0 - 4573.0  
TESTED INTERVAL  
SANTA FE ENERGY COMPANY  
LEASE OWNER/COMPANY NAME  
LEGAL LOCATION  
SEC - TWP - RNG  
20-36S-25E  
FIELD AREA  
WILDCR1  
COUNTY  
SAN JUAN  
STATE  
UTAH DR



GAUGE NO: 2032 DEPTH: 4523.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2153	2146.2			
B	INITIAL FIRST FLOW	26	22.9	30.0	30.0	F
C	FINAL FIRST FLOW	26	19.8			
C	INITIAL FIRST CLOSED-IN	26	19.8	60.0	60.0	C
D	FINAL FIRST CLOSED-IN	184	191.5			
E	INITIAL SECOND FLOW	26	20.6	89.0	89.0	F
F	FINAL SECOND FLOW	26	20.6			
F	INITIAL SECOND CLOSED-IN	26	20.6	117.0	117.0	C
G	FINAL SECOND CLOSED-IN	303	302.7			
H	FINAL HYDROSTATIC	2140	2143.0			



712343-2033

GAUGE NO: 2033 DEPTH: 4570.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2176	2171.1			
B	INITIAL FIRST FLOW	27	39.1			
C	FINAL FIRST FLOW	27	39.2	30.0	30.0	F
C	INITIAL FIRST CLOSED-IN	27	39.2			
D	FINAL FIRST CLOSED-IN	201	210.5	60.0	60.0	C
E	INITIAL SECOND FLOW	27	38.8			
F	FINAL SECOND FLOW	27	40.0	89.0	89.0	F
F	INITIAL SECOND CLOSED-IN	27	40.0			
G	FINAL SECOND CLOSED-IN	321	320.5	117.0	117.0	C
H	FINAL HYDROSTATIC	2176	2156.7			

<b>EQUIPMENT &amp; HOLE DATA</b> FORMATION TESTED: <u>HERMOSA</u> NET PAY (ft): <u>9.0</u> GROSS TESTED FOOTAGE: <u>29.0</u> ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u> CASING PERFS. (ft): _____ HOLE OR CASING SIZE (in): <u>7.875</u> ELEVATION (ft): <u>5004.0</u> KELLY BUSHING TOTAL DEPTH (ft): <u>4573.0</u> PACKER DEPTH(S) (ft): <u>4538, 4544</u> FINAL SURFACE CHOKE (in): _____ BOTTOM HOLE CHOKE (in): <u>0.750</u> MUD WEIGHT (lb/gal): <u>9.00</u> MUD VISCOSITY (sec): <u>48</u> ESTIMATED HOLE TEMP. (°F): _____ ACTUAL HOLE TEMP. (°F): <u>116 @ 4569.0 ft</u>		TICKET NUMBER: <u>71234300</u> DATE: <u>8-4-88</u> TEST NO: <u>1</u> TYPE DST: <u>OPEN HOLE</u> HALLIBURTON CAMP: <u>FARMINGTON</u> TESTER: <u>D. GUNN</u> WITNESS: <u>MURPHY</u> DRILLING CONTRACTOR: <u>COLEMAN #2</u>																						
<b>FLUID PROPERTIES FOR RECOVERED MUD &amp; WATER</b> <table border="1"> <thead> <tr> <th>SOURCE</th> <th>RESISTIVITY</th> <th>CHLORIDES</th> </tr> </thead> <tbody> <tr> <td>TOP</td> <td><u>3.500 @ 90 °F</u></td> <td><u>666 ppm</u></td> </tr> <tr> <td>SAMPLER</td> <td><u>3.780 @ 90 °F</u></td> <td><u>666 ppm</u></td> </tr> <tr> <td>MUD PIT</td> <td><u>3.800 @ 92 °F</u></td> <td><u>500 ppm</u></td> </tr> <tr> <td></td> <td>_____ @ _____ °F</td> <td>_____ ppm</td> </tr> <tr> <td></td> <td>_____ @ _____ °F</td> <td>_____ ppm</td> </tr> <tr> <td></td> <td>_____ @ _____ °F</td> <td>_____ ppm</td> </tr> </tbody> </table>		SOURCE	RESISTIVITY	CHLORIDES	TOP	<u>3.500 @ 90 °F</u>	<u>666 ppm</u>	SAMPLER	<u>3.780 @ 90 °F</u>	<u>666 ppm</u>	MUD PIT	<u>3.800 @ 92 °F</u>	<u>500 ppm</u>		_____ @ _____ °F	_____ ppm		_____ @ _____ °F	_____ ppm		_____ @ _____ °F	_____ ppm	<b>SAMPLER DATA</b> P <sub>sig</sub> AT SURFACE: <u>12.0</u> cu.ft. OF GAS: <u>0.040</u> cc OF OIL: _____ cc OF WATER: _____ cc OF MUD: <u>1700.0</u> TOTAL LIQUID cc: <u>1700.0</u>	
SOURCE	RESISTIVITY	CHLORIDES																						
TOP	<u>3.500 @ 90 °F</u>	<u>666 ppm</u>																						
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	_____ @ _____ °F	_____ ppm																						
	_____ @ _____ °F	_____ ppm																						
	_____ @ _____ °F	_____ ppm																						
<b>HYDROCARBON PROPERTIES</b> OIL GRAVITY (°API): _____ @ _____ °F GAS/OIL RATIO (cu.ft. per bbl): _____ GAS GRAVITY: _____		<b>CUSHION DATA</b> TYPE _____ AMOUNT _____ WEIGHT _____																						
<b>RECOVERED:</b> 10' OF DRILLING FLUID			MEASURED FROM TESTER VALVE																					
<b>REMARKS:</b>  																								



## EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6 QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu} \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[ \frac{P^* - P_i}{m} - \text{LOG} \left( \frac{k (t/60)}{\phi \mu c_i r_w^2} \right) + 3.23 \right]$	
Damage Ratio	$DR = \frac{P^* - P_i}{P^* - P_i - 0.87 mS}$	
Theoretical Potential w/Damage Removed	$Q_i = Q DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k (t/60)}{\phi \mu c_i}}$	ft

## EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{.001637 Q_g T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[ \frac{m(P^*) - m(P_i)}{m} - \text{LOG} \left( \frac{k (t/60)}{\phi \mu c_i r_w^2} \right) + 3.23 \right]$	
Damage Ratio	$DR = \frac{m(P^*) - m(P_i)}{m(P^*) - m(P_i) - 0.87 mS}$	
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_i)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_i)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k (t/60)}{\phi \mu c_i}}$	ft

# SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

JIMMIE WALKER  
Chairman

Price, Utah 84501 Telephone 637-5444

WILLIAM D. HOWELL  
Executive Director

RECEIVED

AUG 26 1988

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DIVISION OF  
OIL, GAS & MINING

AREAWIDE CLEARINGHOUSE A-95 REVIEW

NOI \_\_\_ Preapp \_\_\_ App \_\_\_ State Plan \_\_\_ State Action \_\_\_<sup>X</sup> Subdivision \_\_\_ (ASP # 7-621-4)

Other (indicate) \_\_\_\_\_ SAI Number UT880617-040

Applicant (Address, Phone Number):

Federal Funds:  
Requested: \_\_\_\_\_

Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

Title:

APPLICATION FOR PERMIT TO DRILL

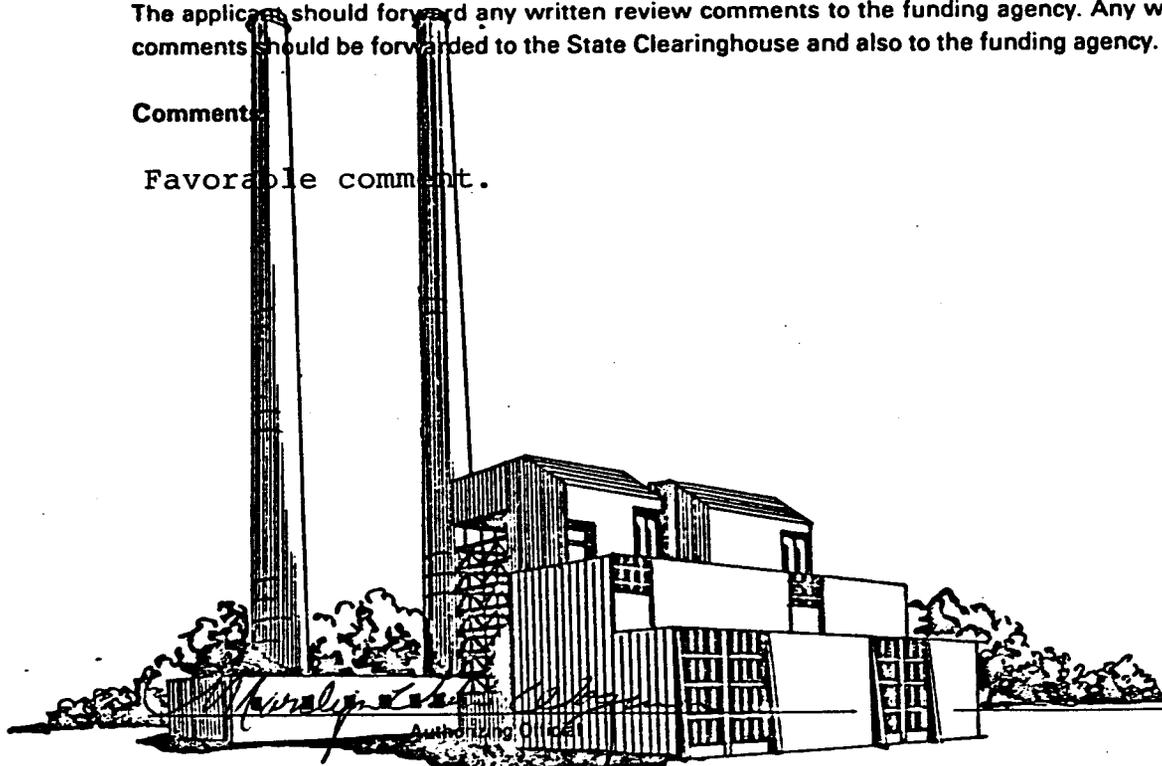
*Santa Fe 43-037-31437  
Monument Butte Fed. #1-20  
20-36 S, 25 E  
San Juan Co.*

- No comment
- See comments below
- No action taken because of insufficient information
- Please send your formal application to us for review. Your attendance is requested

The applicant should forward any written review comments to the funding agency. Any written response to those comments should be forwarded to the State Clearinghouse and also to the funding agency.

Comment:

Favorable comment.



8-24-88

Date



# Santa Fe Energy Operating Partners, L.P.

Santa Fe Pacific Exploration Company  
Managing General Partner

September 27, 1988

State of Utah  
Dept. of Natural Resources  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Traid Center, Suite 350  
Salt Lake City, Utah 84180-1203

**RECEIVED**  
SEP 30 1988

**DIVISION OF  
OIL, GAS & MINING**

RE: Monument Butte Federal #1-20  
NW NW Sec. 20, T36S, R25E  
San Juan County, Utah

Gentlemen:

Enclosed in duplicate are DOGM Form 6 and Form OGC-8-X for the above referenced well.

If you require any additional information on this well, please contact me at our Tulsa, Oklahoma office.

Sincerely,

Sammy N. Morgan  
Senior Drilling Engineer

SNM/dm

Attachments

Mid-Continent District  
Suite 500  
Williams Center Tower I  
One West Third Street - 500  
Tulsa, Oklahoma 74103  
918/582-6944

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
3 TRIAD CENTER, SUITE 350  
SALT LAKE CITY, UT 84180-1203

**RECEIVED**  
SEP 30 1988

DIVISION OF  
OIL, GAS & MINING

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number Monument Butte Federal #1-20  
Operator Santa Fe Energy Operating Partners, L.P. Address One West Third Street, Suite 500  
Tulsa, OK 74103  
Contractor Coleman Drilling Co. Address Drawer 3337  
Farmington, NM  
Location NW 1/4 NW 1/4 Sec. 20 T. 36S R. 25E County San Juan

43-037-31437

Water Sands

<u>Depth</u>		<u>Volume</u>	<u>Quality</u>
From	To	Flow Rate or Head	Fresh or Salty
1.	None encountered.		
2.			
3.			
4.			
5.			

**CONFIDENTIAL**

(Continue on reverse side if necessary)

Formation Tops Navajo @ 850', Chinle @ 1,600', Shinarump @ 2,340', Cutler @ 2,421'

Remarks

NOTE: (a) Report on this form as provided for in Rule 806, Oil and Gas Conservation General Rules.

(b) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

**RECEIVED**  
SEP 30 1988

OPERATOR Santa Fe Energy Operating Partners, L.P. OPERATOR CODE No 830

ENTITY ACTION FORM - DOGM FORM 6

ADDRESS One West Third St., Suite 500 PHONE NO. 918, 582-6944

Tulsa, Oklahoma 74103

DIVISION OF  
OIL, GAS & MINING

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OPERATORS MUST COMPLETE FORM UPON SPUDDING NEW WELL OR WHEN CHANGE IN OPERATIONS OR INTERESTS NECESSITATES CHANGE IN EXISTING ENTITY NUMBER ASSIGNMENT.

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999		43-037-31437	Monument Butte Federal #1-20	NW/NW	20	36S	25E	San Juan	7-26-88	7-26-88
COMMENTS: Field - Wildcat Proposed Zone - HRMS Stud well. Federal-lease (Only well in sec. 20, however well Pa'd 8-6-88. No entity number will be assigned) 9/30/88 Not in a Unit fcr											
A			43-037-31437	Monument Butte Federal #1-20	NW/NW	20	36S	25E	San Juan	7-26-88	7-26-88
COMMENTS: Plugged well as per BLM instructions on, August 6, 1988. Plug #1 50 sks Class "B" 4,560-4,460' #2 50 sks Class "B" 1,713-1,613' (in & out of surface casing) 8 5/8" casing set @ 1,663'. TD 4,700' #3 25 sks Class "B" 50'-surface											
COMMENTS:											
COMMENTS:											
COMMENTS:											

ACTION CODES: A - ESTABLISH NEW ENTITY FOR NEW WELL (SINGLE WELL ONLY)  
 B - ADD NEW WELL TO EXISTING ENTITY (GROUP OR UNIT WELL)  
 C - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO ANOTHER EXISTING ENTITY  
 D - RE-ASSIGN WELL FROM ONE EXISTING ENTITY TO A NEW ENTITY  
 E - OTHER (EXPLAIN IN COMMENTS SECTION)  
 (SEE INSTRUCTIONS ON BACK OF FORM)

*Sammy N. Morgan*  
 SIGNATURE  
 Senior Drilling Engineer 9-27-88  
 TITLE DATE

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING

5. LEASE DESIGNATION AND SERIAL NO. U-40367	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A	
7. UNIT AGREEMENT NAME Monument Park (Proposed)	
8. FARM OR LEASE NAME Monument Butte Federal	
9. WELL NO. 1-20	
10. FIELD AND POOL, OR WILDCAT Horsehead Point	
11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA Section 20, T36S, R25E	
12. COUNTY OR PARISH San Juan	13. STATE Utah

**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—" for such proposals.)

1.  OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR  
Santa Fe Energy Operating Partners, L.P.

3. ADDRESS OF OPERATOR  
One West Third Street, Suite 500, Tulsa, OK 74103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\* See also space 17 below.)  
At surface 750' FNL & 750' FWL  
  
NW NW

14. API NUMBER  
API #43-037-31437

15. ELEVATIONS (Show whether DF, ST, CR, etc.)  
5,991' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	FULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	
(Other) _____		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Well was plugged and abandoned 8-6-88 as per Dale Monchester, BLM, as follows:

#1	50 sacks Class "B" cement with 3% CaCl <sub>2</sub>	4,560-4,460'	(100')
#2	50 sacks Class "B" cement with 3% CaCl <sub>2</sub>	1,713-1,613'	(100' in and out of surface casing)
#3	25 sacks Class "B" cement with 3% CaCl <sub>2</sub>	50'-surface	(50')

The hole was full with 9.1 ppg mud having funnel viscosity of 51 sec/qt below and between all plugs. No casing was pulled from this well. Installed dry hole marker as per 43 CFR 3162.6. Surface restoration is on hole pending drying of reserve pit.

Note: All plugs were spotted through drill pipe.

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18. I hereby certify that the foregoing is true and correct

SIGNED Sandy D. Morgan TITLE Senior Drilling Engineer DATE October 21, 1988

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [X] Other [ ]

2. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other Dry Hole

3. NAME OF OPERATOR: Santa Fe Energy Operating Partners, L.P.

4. ADDRESS OF OPERATOR: One West Third Street, Suite 500, Tulsa, OK 74103

5. LOCATION OF WELL (Report location clearly and in accordance with State requirements): At surface 750' FNL & 750' FWL of Section 20

6. At top prod. interval reported below N/A. At total depth Same as above

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14. PERMIT NO. 43-037-31437 DATE ISSUED 7-12-88

5. LEASE DESIGNATION AND SERIAL NO. U-40367

6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A

7. UNIT AGREEMENT NAME Monument Park (Proposed)

8. FARM OR LEASE NAME Monument Butte Federal

9. WELL NO. 1-20

10. FIELD AND POOL, OR WILDCAT Horsehead Point

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Section 20, T36S, R25E

12. COUNTY OR PARISH San Juan 13. STATE Utah

15. DATE SPUNDED 7-26-88 16. DATE T.D. REACHED 8-4-88 17. DATE COMPL. (Ready to prod.) 18. ELEVATIONS (DF, RES, RT, GR, ETC.)\* 5,991' GR 19. ELEV. CASINGHEAD 5,991'

20. TOTAL DEPTH, MD & TVD 4,700' 21. PLUG. BACK T.D., MD & TVD Surface Level 22. IF MULTIPLE COMPL., HOW MANY\* 23. INTERVALS DRILLED BY 0-4,700' ROTARY TOOLS CABLE TOOLS None

24. PRODUCING INTERVAL(S). OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* None - Dry Hole 25. WAS DIRECTIONAL SURVEY MADE No

26. WERE ELECTRIC AND OTHER LOGS RUN DIL; Neutron/Density/GR 27. WAS WELL CORDED No

29. CASING RECORD (Report all strings set in well) Table with columns: CASING SIZE, WEIGHT, LB./FT., DEPTH SET (MD), HOLE SIZE, CEMENTING RECORD, AMOUNT PULLED

29. LINER RECORD and 30. TUBING RECORD Tables with columns: SIZE, TOP (MD), BOTTOM (MD), SACKS CEMENT, SCREEN (MD), SIZE, DEPTH SET (MD), PACKER SET (MD)

31. PREPARATION RECORD (Interval, size and number) None-Dry Hole 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. Table with columns: DEPTH INTERVAL (MD), AMOUNT AND KIND OF MATERIAL USED

33. PRODUCTION Table with columns: DATE FIRST PRODUCTION, PRODUCTION METHOD, WELL STATUS, DATE OF TEST, HOURS TESTED, CHOKE SIZE, PROD'N. FOR TEST PERIOD, OIL-BBL., GAS-MCF., WATER-BBL., GAS-OIL RATIO

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) N/A TEST WITNESSED BY N/A

35. LIST OF ATTACHMENTS Open Hole Logs and Drill Stem Test information.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED [Signature] TITLE Senior Drilling Engineer DATE October 21, 1988

\*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and regulations, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement". Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.														
Cutler Hermosa	2,421' 4,554'	4,554' 4,650'	<p style="text-align: center;">Orange red sand silts &amp; shales</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">OIL AND GAS</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">DRN</td> <td style="text-align: center;">RJF</td> </tr> <tr> <td style="text-align: center;">JRB</td> <td style="text-align: center;">GLH</td> </tr> <tr> <td style="text-align: center;">DTS</td> <td style="text-align: center;">SLS</td> </tr> <tr> <td colspan="2" style="text-align: center;">1-TAS</td> </tr> <tr> <td colspan="2" style="text-align: center;">2- MICROFILM</td> </tr> <tr> <td colspan="2" style="text-align: center;">3- FILE</td> </tr> </tbody> </table>	OIL AND GAS		DRN	RJF	JRB	GLH	DTS	SLS	1-TAS		2- MICROFILM		3- FILE	
OIL AND GAS																	
DRN	RJF																
JRB	GLH																
DTS	SLS																
1-TAS																	
2- MICROFILM																	
3- FILE																	
<b>38. GEOLOGIC MARKERS</b>																	
	MEAS. DEPTH	TOP															
Morrison	Surface																
Navajo	850'																
Chinle	1,600'																
Shinarump	2,340'																
Cutler	2,421'																
Hermosa	4,554'																



# Santa Fe Energy Operating Partners, L.P.

Santa Fe Pacific Exploration Company  
Managing General Partner

November 7, 1988

State of Utah  
Attn: Tammy Searing  
Dept. of Natural Resources  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203

**RECEIVED**  
NOV 09 1988  
DIVISION OF  
OIL, GAS & MINING

RE: Monument Butte Federal #1-20  
NW NW Sec. 20, T36S, R25E  
San Juan County, Utah  
43-037-31437

Dear Tammy:

Enclosed in duplicate are forms OGC-3 and DOGM Form 5. Also enclosed are the logs and the only DST run on the referenced well and the Water Permit from the Water Rights Board.

If you need any additional information on this well, please contact me at our Tulsa, Oklahoma office.

Sincerely,

Sammy N. Morgan  
Senior Drilling Engineer

SNM/dm

Attachments

cc: Well File  
SNM

**CONFIDENTIAL**

Mid-Continent District  
Suite 500  
Williams Center Tower I  
One West Third Street  
Tulsa, Oklahoma 74103  
918/582-6944