

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 Lone Mountain Production Company

3. ADDRESS OF OPERATOR  
 P.O. Box 3394, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At existing: 1742 ft FNL, 2445 ft FWL  
 At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE  
 22 miles Northwest of Mack, Colorado

16. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drilg. unit line, if any)  
 4858 ft boundary (Unit)

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETION OR APPLIED FOR, ON THIS LEASE, FT.  
 1783 ft (No. 23) DK-MR

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 6068 ft GL, 6078 ft KB

5. LEASE DESIGNATION AND SERIAL NO.  
 U-06023

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

7. UNIT AGREEMENT NAME  
 San Arroyo

8. FARM OR LEASE NAME  
 Federal

9. WELL NO.  
 Unit No. 48

10. FIELD AND POOL, OR WILDCAT  
 San Arroyo 050

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 SENW Sec 30-T16S-R26E

12. COUNTY OR PARISH 13. STATE  
 Grand UT

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 NA

20. ROTARY OR CABLE TOOLS  
 Rotary

22. APPROX. DATE WORK WILL START  
 May 9, 1991

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" new	32.3#, H40	300 feet	200 sx 'G' to surface
8-3/4"	7" new	17#, H40	900 feet	125 sx "G" if needed
6-1/4"	4-1/2" new	10.5#, J55	4778 feet	225 sx 10-0 RFC

- Surface formation is the Mesa Verde.
- Anticipated Geologic markers are: Castlegate 748', Mancos 848', Dakota Silt 4228', Dakota 4328', Morrison 4452'.
- Gas is anticipated in the Dakota and Morrison. No oil or other minerals are anticipated. No water sands are expected.
- Proposed casing program: See item no. 23 above. The 7" casing will not be run if water is not encountered above the proposed setting depth. Hole size will be reduced to 7-7/8" and 225 sx of cement will be used for the 4-1/2" casing.
- Pressure control equipment: See Attached well control plan and schematic of contractor's BOP stack. BOP's will be tested before drilling out from under surface casing and checked daily.
- Air or mist drilling will be used to drill the surface hole unless water is encountered. If water is encountered, chemical-gel mud will be used.

(Continued on page 2.)

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. SIGNATURE: *[Signature]* TITLE: Petroleum Engineer DATE: March 25, 1991

(This space for Federal or State office use)

PERMIT NO. 43-019-31317 APPROVAL DATE: APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING

APPROVED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_ DATE: 5-3-91

CONDITIONS OF APPROVAL, IF ANY: BY: *[Signature]* WELL SPACING: 6/5-2-3

\*See Instructions On Reverse Side

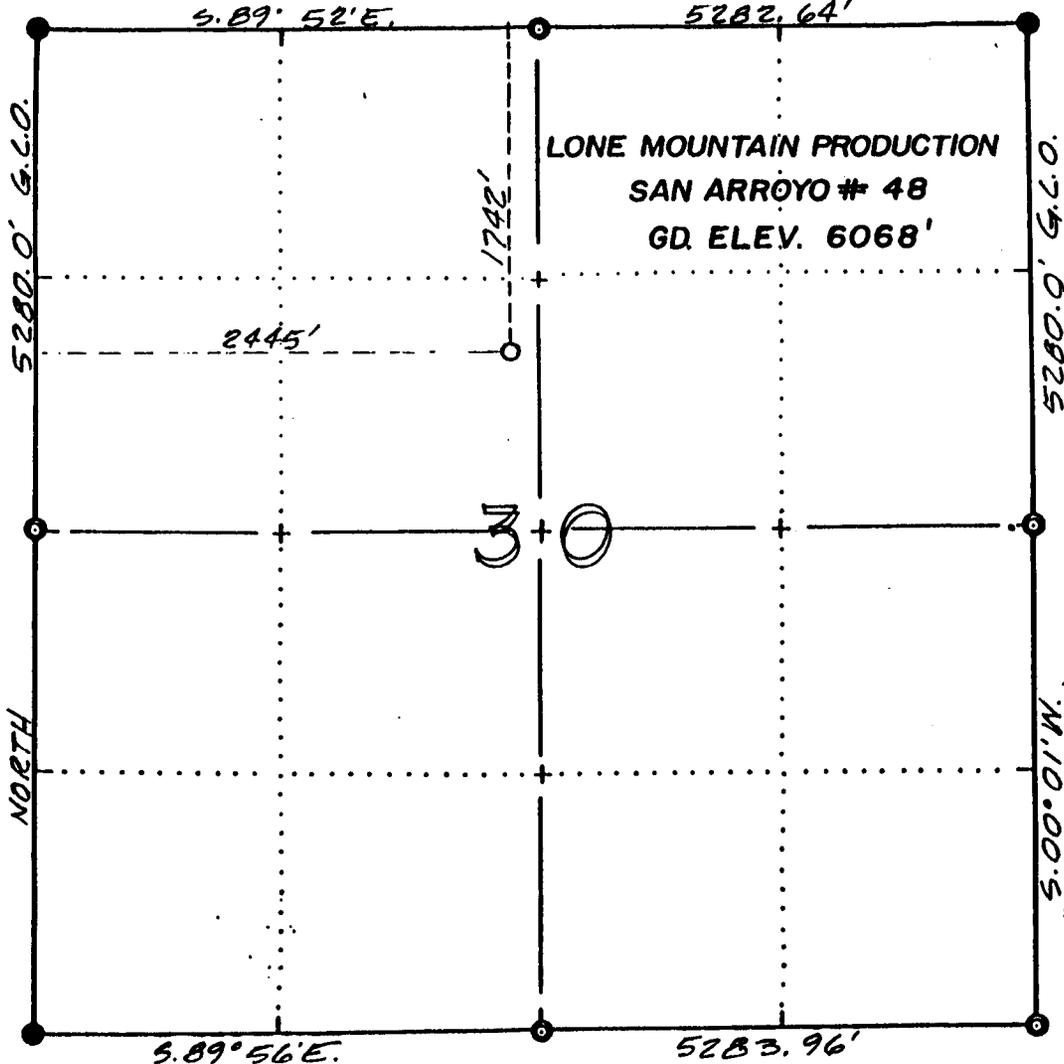
Application for Permit to Drill  
San Arroyo Unit No. 48  
SENW Section 30-T16S-R26E  
Grand County, Utah

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6. The well will be air drilled from under surface casing to total depth.
7. Auxiliary equipment: See Well Control Plan.
8. The logging program will consist of a DIL log from total depth to base of surface or intermediate casing and GR-FDC-CNL logs from total depth to above the Frontier. No cores or drill stem tests are planned.
9. No abnormal pressures or temperatures are anticipated. No poisonous gas is anticipated.
10. Anticipated spud date is May 9, 1991. Completion operations should commence within 30 days of rig release.
11. Survey plats are attached.
12. The gas is dedicated to Mesa Pipeline at this time.
13. Lone Mountain Production Company's Statewide Bond Number is: UT0719
14. The completion program will be designed after the logs have been evaluated.

SEC. 30, T. 16S., R. 26E. OF THE S.L.M.

PLAT # 1



SCALE



- LEGEND -

- ⊙ STANDARD LOCATION OF OLD SECTION CORNERS.
- OLD CORNERS FOUND.
- WELL LOCATION STAKED.

REFERENCE DOCUMENTS

1924 OLD PLAT

JIM CANYON, UT  
QUADRANGLE, U.S.G.S.

THIS WELL LOCATION PLAT WAS PREPARED FOR: LONE MOUNTAIN PRODUCTION CO.  
 TO LOCATE THE SAN ARROYO # 48, 1742' F.N.L. &  
2445' F.W.L. IN THE SE 1/4 NW 1/4, OF SECTION 30, T. 16S., R. 26E.  
 OF THE S.L.M. GRAND COUNTY, UTAH

SURVEYOR'S CERTIFICATE

I, Larry D. Becker: a Registered Land Surveyor in  
 The State Of UTAH Do Hereby Certify That This  
 Survey Was Made Under My Direct Supervision, and  
 That This Plat Represents Said Survey.

*Larry D. Becker*  
 UTAH L.S. # 4189

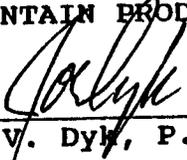
SURVEYED	10/90	ENERGY SURVEYS CORPORATION	381 PIKES PEAK DRIVE GRAND JUNCTION, CO. 81503 (303) 243-7221	SCALE: 1" = 1000'
DRAWN	11/90			JOB NO.
CHECKED	11/90			SHEET OF.

## WELL CONTROL PLAN

1. Surface Pipe: 9-5/8" O.D., 32.3#, L.S., STC set at 300', cemented with pump and plug method back to the surface.
2. Intermediate casing: 7" O.D., 20.0# or 23.0#, used, STC (to meet new pipe specifications for bodywall thickness on 7 inch, 17.0 lb/ft, H-40 casing) set at 900' and cemented with 125 sx Standard cement + 2% CaCl<sub>2</sub> (yield=1.15 ft<sup>3</sup>/sk; compressive strength= 650 psi in 6 hours).
3. Casinghead Flange: 9-5/8" or 7" x 4-1/2" 600 series casinghead with two 2", 2000psi L.P. outlets.
4. Blowout Preventer: The rig is equipped with a 10" 3000 psi W.P. double gate hydraulic Shaffer BOP (or equivalent) with drill pipe rams and blind rams to meet requirements for a 2000 psi stack in Onshore Order No. 2. All fill, kill and choke lines will be a minimum of 2" 2000 psi W.P. A Grant rotating head will be used while air and mist drilling. A new rubber will be installed before drilling through the Dakota. BOP's will be worked daily. Blind rams will be checked during trips. BOP's will be tested to 2000 psi but not more than 70% of casing burst pressure prior to drilling the shoe joint on intermediate casing.
5. Auxiliary Equipment: (a) Drill pipe floats will be allowed at contractor's discretion. (b) Visual monitoring of air returns will be maintained. (c) Upper kelly cock will be used. (d) Stabbing valve will be kept on the floor.
6. Anticipated bottom hole pressure is less than 900 psi at 4778' or 0.19 psi/ft. No abnormal temperatures or hydrogen sulfide gas are anticipated.

LONE MOUNTAIN PRODUCTION COMPANY

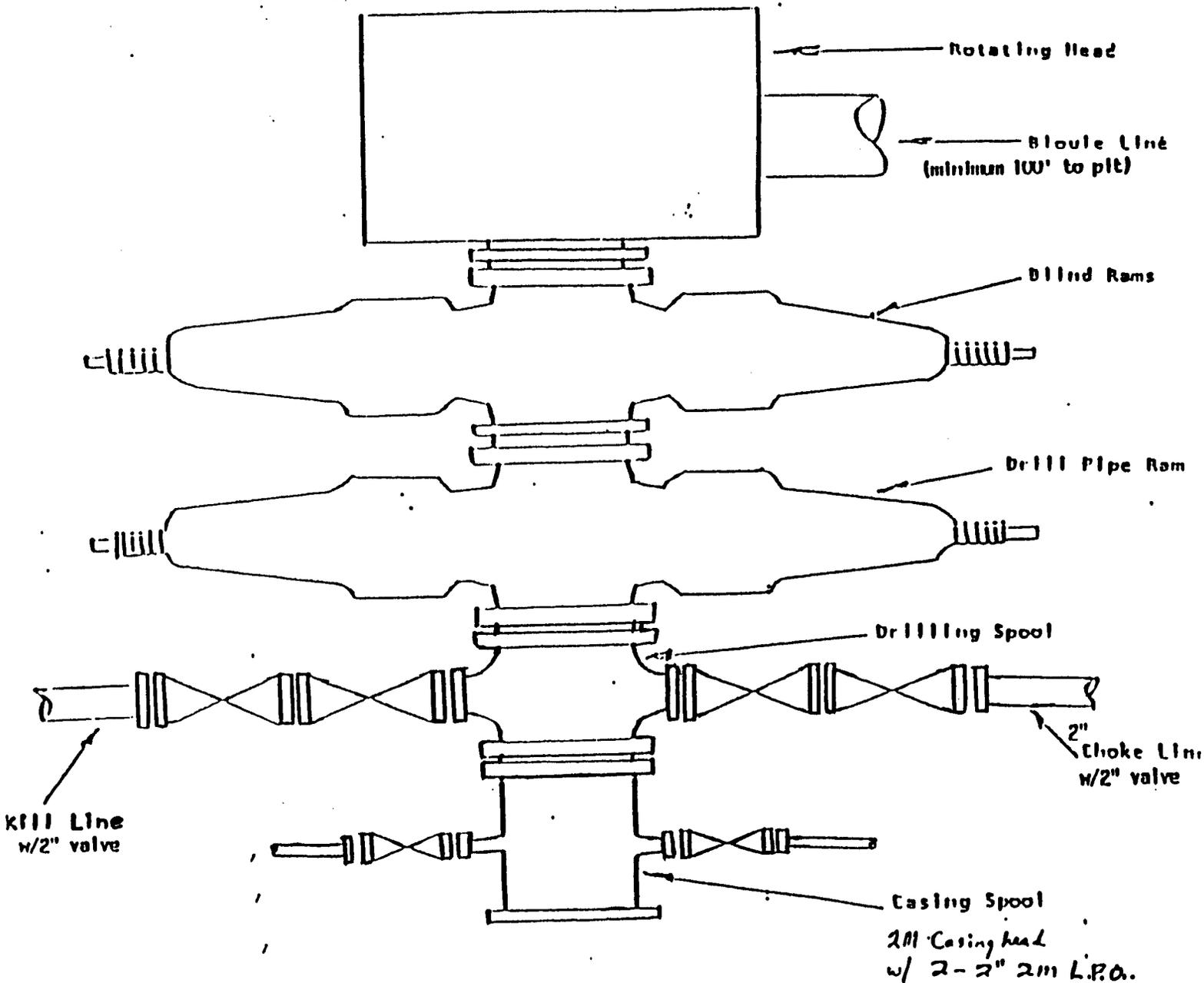
By: \_\_\_\_\_

  
J. V. Dyk, P.E.

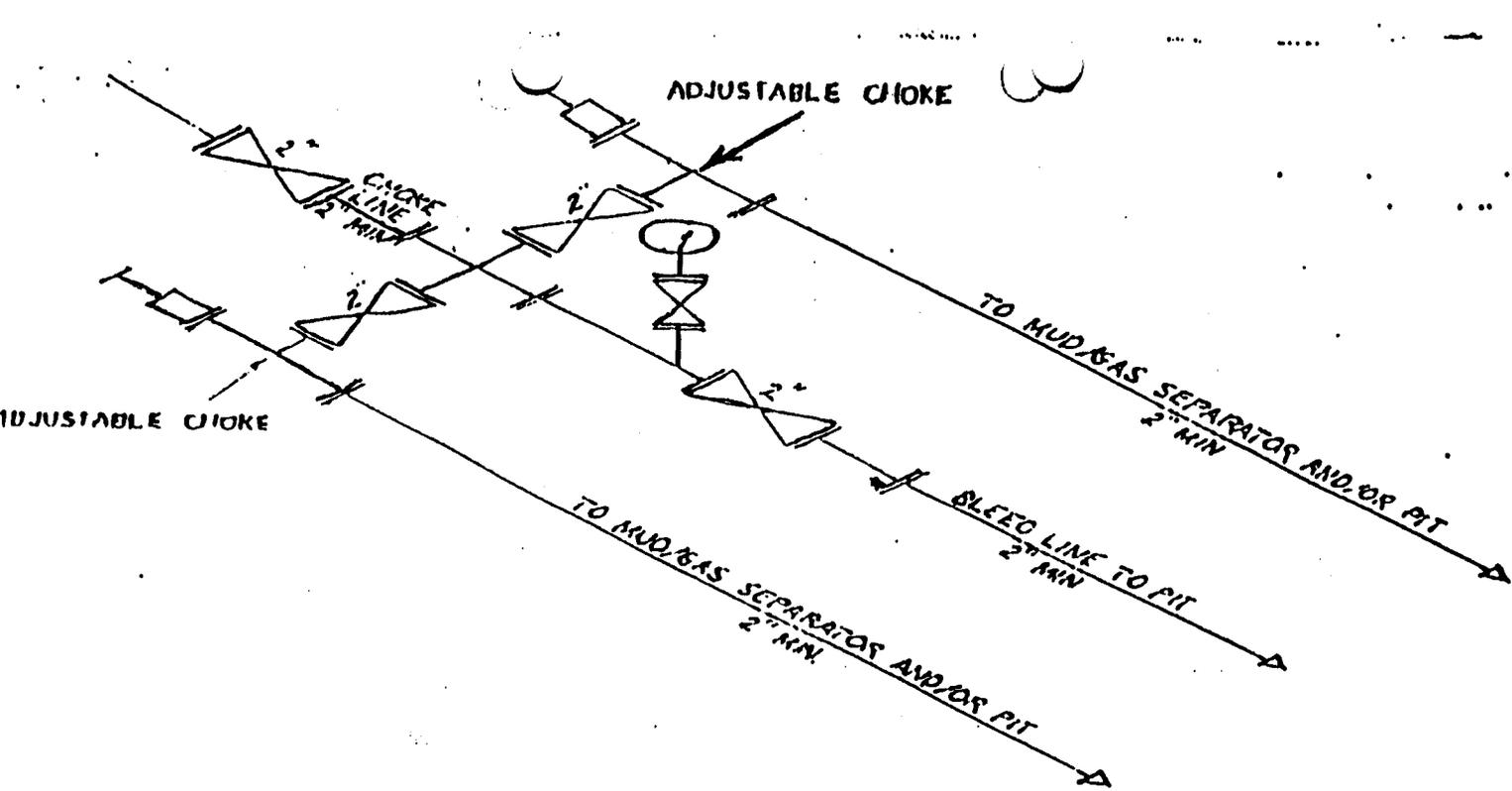
# SCHEMATIC OF BOV STACK

Air drilled wells using 900 Series wellhead equipment to meet 2000 psi stack requirement.

Interval from 300' to total depth.



x



2M CHOKER MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

## SURFACE USE PLAN

Lone Mountain Production Company  
San Arroyo Unit No. 48  
SENW Section 30-T16S-R26E  
Grand County, Utah

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### 1. EXISTING ROADS

See Maps #1 and #2 and Plat #1. This proposed well is located approximately 22 miles northwest of Mack, Colorado. It is reached by going west on Old Highway 6&50 8.8 miles to 2 Road. Turn right and go 4.1 miles to the state line fence. Turn right on the state line fence road and go 8.8 miles. Turn right and go 0.8 miles north. Turn right on switchback and go 0.7 miles. Take first left uphill and go 0.5 miles to location.

### 2. ACCESS ROADS TO BE CONSTRUCTED

The proposed 0.5 miles of access road will be constructed with an 18 foot travel width. All of the proposed access road is within the Unit boundary. A survey was done to determine the side slopes over the proposed access route. Average slopes were estimate every 100 yards and are tabulated here:

Yards up road	Average slope	Maximum slope
0-100	20%	25%
100-200	33%	36%
200-300	29%	33%
300-400	45%	50%
400-500	50%	56%
500-600	25%	28%
600-700	28%	30%
800-900	35%	40%

=====  
Average side slope = 29.44%

See Map #1 and Plat #2. The Grand Resource Area's Resource Management Plan (RMP) allows up to 30% slopes as a rule to allow development. This lease was in effect prior to the 30% slope rule in the RMP. The steepest portion of the proposed road happens where a rock rim adds stability to the cut.

Drivable waterbars or "thank-you-mams" will be installed at approximately 250 foot intervals on 1 to 4 percent grades. Placement of a culvert will take the place of a waterbar.

Drivable waterbars will be installed prior to moving the drilling rig onto the location.

### 3. LOCATION OF EXISTING WELLS

9 producing wells and 2 applied for within one mile radius. See Map #3.

### 4. LOCATION OF PRODUCTION FACILITIES

See Plat #5. Every thing will be painted dark green.

### 5. LOCATION AND TYPE OF WATER SUPPLY

The source of water for this well is West Salt Creek. The pickup point is on old highway 6&50 out 2.5 miles west of Mack, Colorado.

### 6. SOURCE OF CONSTRUCTION MATERIALS

No construction materials will be used other than native materials. Soil from cuts will be used in fills. No outside material will be brought in.

### 7. METHODS FOR HANDLING WASTE MATERIAL

Cuttings will be buried in the reserve pit at cleanup. Garbage and other waste material will be contained in a trash cage. This cage will be dumped at an approved sanitary landfill. Human waste will be contained in chemically treated sanitary holes.

Drilling fluids will be contained in the reserve pit and left to evaporate. Any fluids produced during testing operations will be collected in a test tank. If a test tank is not available, the fluids will be contained in the reserve pit. Any spills of oil, gas, saltwater, or noxious fluid will be cleaned up and removed.

If the well is productive, produced water will be disposed of on site for 30 days only or 90 days with the permission of the State Petroleum Engineer. After that time application will be made for approval of permanent disposal method in compliance with the rules and regulations of the State of Utah.

### 8. ANCILLARY FACILITIES

No ancillary facilities are planned.

## 9. WELLSITE LAYOUT

See Plat #2 - Pit and Pad Layout  
See Plat #3 - Cross Sections of Pit and Pad  
See Plat #4 - Rig Layout

The location will be constructed large enough to accommodate the drilling rig and associated equipment with allowance made for future completion and production equipment.

Topsoil will be stripped to a depth of 4-6 inches and stockpiled on the south edge of the location. No topsoil stripping will be done when soils are moisture saturated to a depth of 3 inches, or frozen below the stripping depth.

The reserve pit will be fenced on three sides prior to drilling activity and closed off on the fourth side after drilling is finished. Fencing will be four strands of barb wire or 48 inch woven wire with one strand of barb wire above the woven wire. All corners will be braced. The fence construction will be on cut or undisturbed surface. The backslope of the location will not exceed 2:1.

All construction activities will be confined to the minimum area necessary. The exterior boundaries of the construction area will be clearly flagged prior to any surface disturbing activities or vegetation removal.

The location and proposed access road will be cleared of vegetation above 4 inches in diameter prior to construction. Where earth blading or fill is required, stumps will be removed and scattered or buried in an area designated by the authorized officer. Where earth blading or fill is not required, stump height will not exceed 12 inches. All slash less than 4 inches in diameter will be scattered outside the cleared area or chipped and scattered. Along the access road slash will be scattered beyond the fill slope.

Lone Mountain Production Company will clear all brush prior to construction. Brush will be stock piled on the south edge of the location and will be kept separate from the soil stock piles. The brush will be used for mulch after the disturbed area has been seeded.

## 10. PLANS FOR RECLAMATION OF THE SURFACE

A biodegradeable mulch may be required if soil erosion or vegetation establishment is determined to be a problem by the authorized officer on the access or location reclamation.

All disturbed areas will be seeded with the mixture approved and designated by the resource area manager. Application rates are for pure, live seed (PLS). Seed tags will be submitted to the area manager within 30 days of seeding.

Lone Mountain will prepare seedbed by contour cultivating 4 - 6 inches deep and drilling seed 1/2 to 1 inch deep following the contour. In areas that cannot be drilled, seed will be broadcast at 1.5 times the application rate and covered 1/2 to 1 inch deep with a harrow or drag bar.

Seeding will be completed after August 15 and prior to October 1 of the fall of 1991, if feasible, but not later than the fall of 1992.

If the well is a producer:

Lone Mountain will upgrade and maintain access roads as necessary to prevent soil erosion and accomodate year-round traffic. Lone Mountain will reshape areas unnecessary to operation, rip or disk on the contour, and seed all disturbed areas outside the work area according to the above seed mixture. The top soil will be saved for use during final reclamation unless the site can be recontoured to blend with the natural topography as required for final abandonment. Perennial vegetation will be established. Additional work will be required in case of seeding failures. All permanent facilities placed on the location will be painted dark green to blend with the natural environment.

If the well is abandoned/dryhole:

Lone Mountain will restore the access road and location to blend with the natural topography. During reclamation of the site, fill material will be pushed into cuts and up over the backslope. No depressions will be left that could trap water or form ponds. Topsoil will be distributed evenly over the location and seeding according to the approved seed mixture. The access road and location will be ripped or disked prior to seeding.

The area is considered to be satisfactorily reclaimed when:

- 1
- A) Soil erosion resulting from the operation has been stabilized.
  - B) A vegetative cover at least equal to that present prior to disturbance and a plant species composition at least as desirable as that present prior to disturbance has been established. Establishment of seeded species in the approved seed formula will be considered as acceptance.

Additional work will be required until these conditions are satisfied.

#### 11. SURFACE OWNERSHIP

All lands involving new construction are federal lands.

#### 12. OTHER INFORMATION

Lone Mountain will contact the Grand Resource Area Manager at least 24 hours prior to commencing construction or maintenance of the access road and well pad.

Lone Mountain will immediately bring to the attention of the Grand Resource Area Manager any and all antiquities or other objects of historic or prehistoric ruins, artifacts, or fossils discovered as a result of operations under this permit. Lone Mountain will immediately suspend all activities in the area of the object and will leave such discoveries intact until told to proceed by the Area Manager. Notice to proceed will be based upon evaluation of the cultural significance of the object. Evaluation will be by a qualified professional selected by the Area Manager from a federal agency insofar as practical. When not practical, Lone Mountain will follow the mitigation requirements set forth by the Area Manager concerning protection, preservation, or disposition of any sites or material discovered. In those situations where the Area Manager determines that data recovery and/or salvage excavations are necessary, Lone Mountain will bear the cost of such data recovery and/or salvage operations.

The Grand Resource Area Manager will be notified at least 24 hours prior to commencing reclamation work.

13. LESSEE'S OR OPERATOR'S REPRESENTATIVES AND CERTIFICATION

James G. Routson  
Lone Mountain Production Company  
P.O. Box 3394  
Billings, Montana 59103  
Office Phone: 406-245-5077  
Home Phone: 406-245-8797

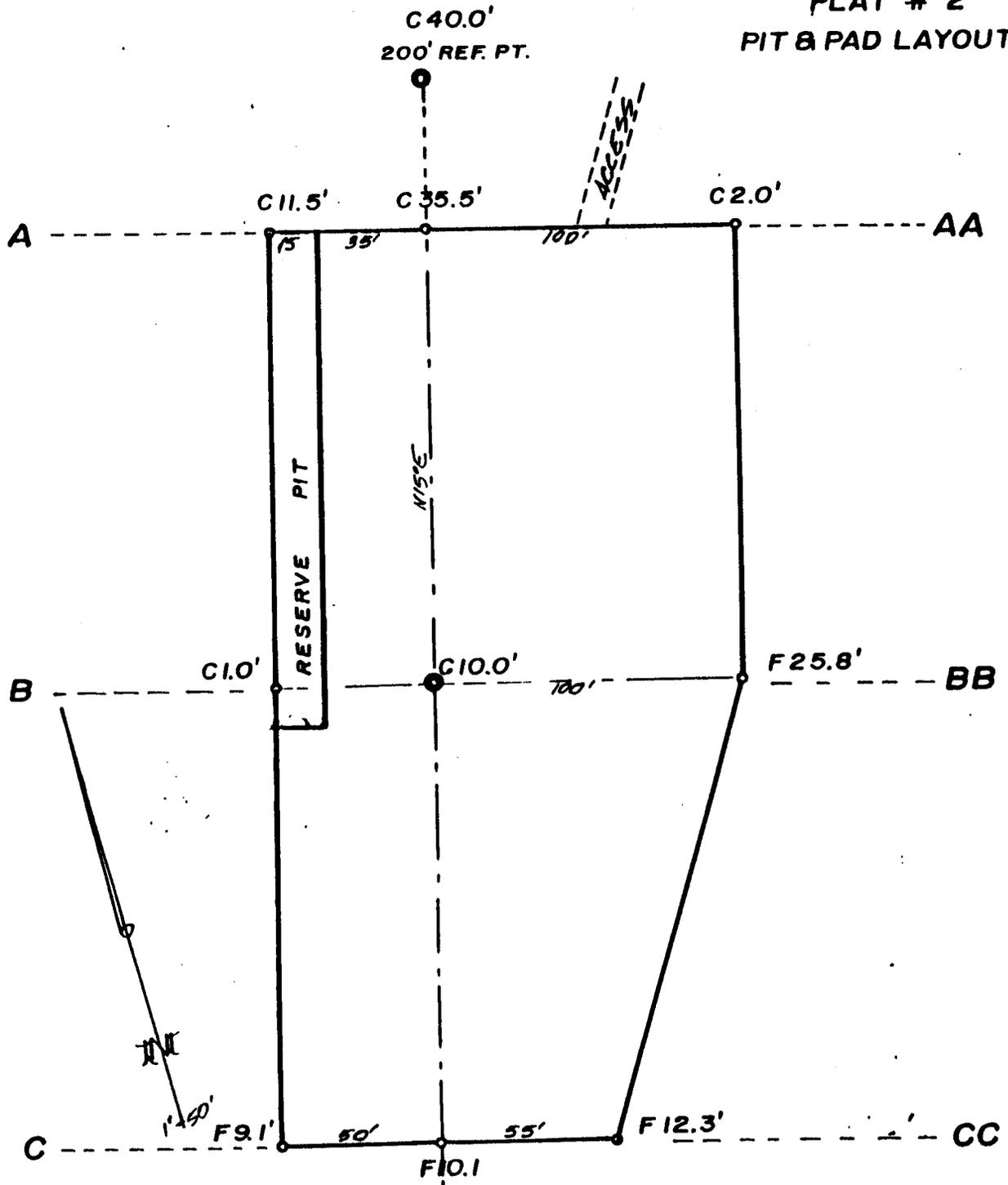
Joe Dyk  
Lone Mountain Production Company  
777 Valley Court  
Grand Junction, Colorado 81505  
Office Phone: 303-243-5906  
Home Phone: 303-245-7907  
Mobile Phone: 303-244-6238

I hereby certify that I, or persons under my supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Lone Mountain Production Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

March 25, 1991  
Date

  
Joe Dyk, P.E.

FLAT # 2  
PIT & PAD LAYOUT

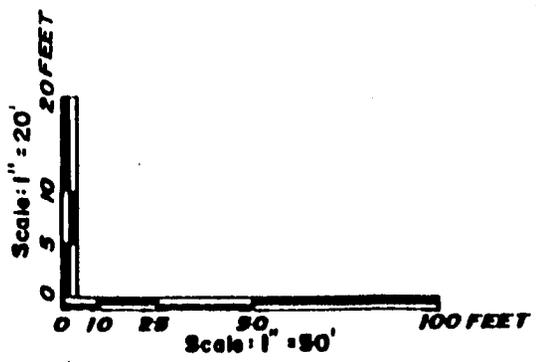
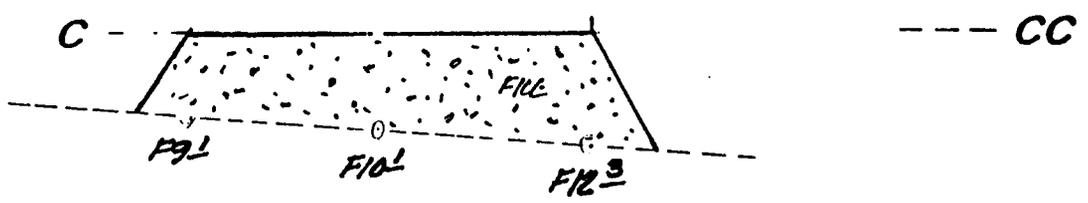
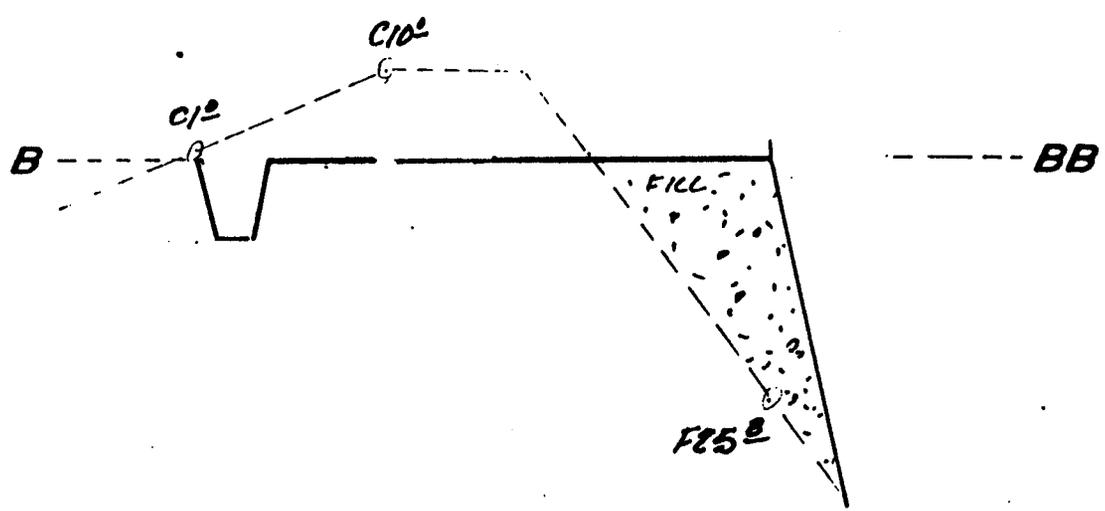
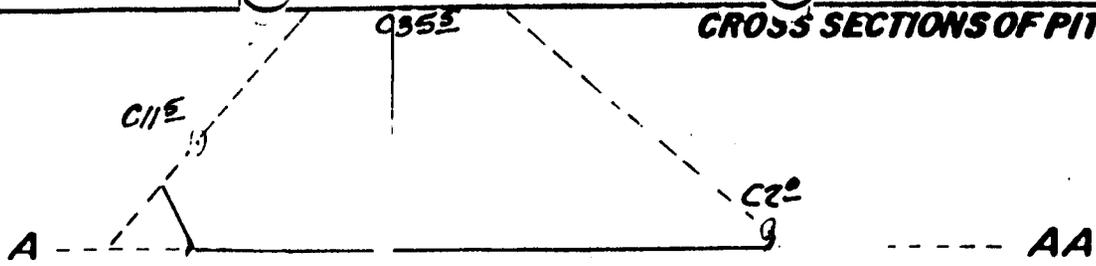


SAGEBRUSH  
JUNIPERS  
CACTUS  
GRASS

CUT	10,500
FILL	8000
PIT	500
T.S.	1000
EXCESS	20'00

SAN ARROYO # 48

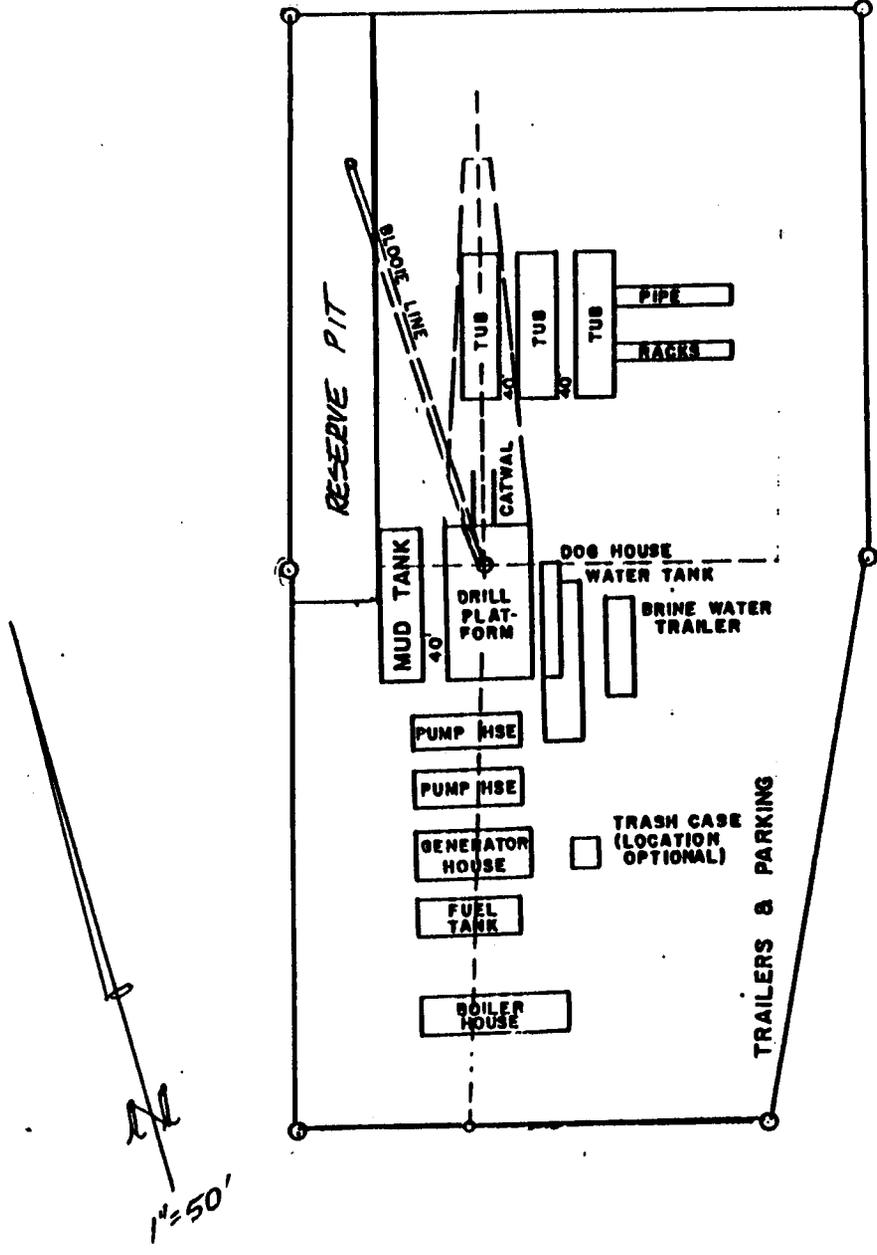
CROSS SECTIONS OF PIT & PAD



SAN ARROYO # 48

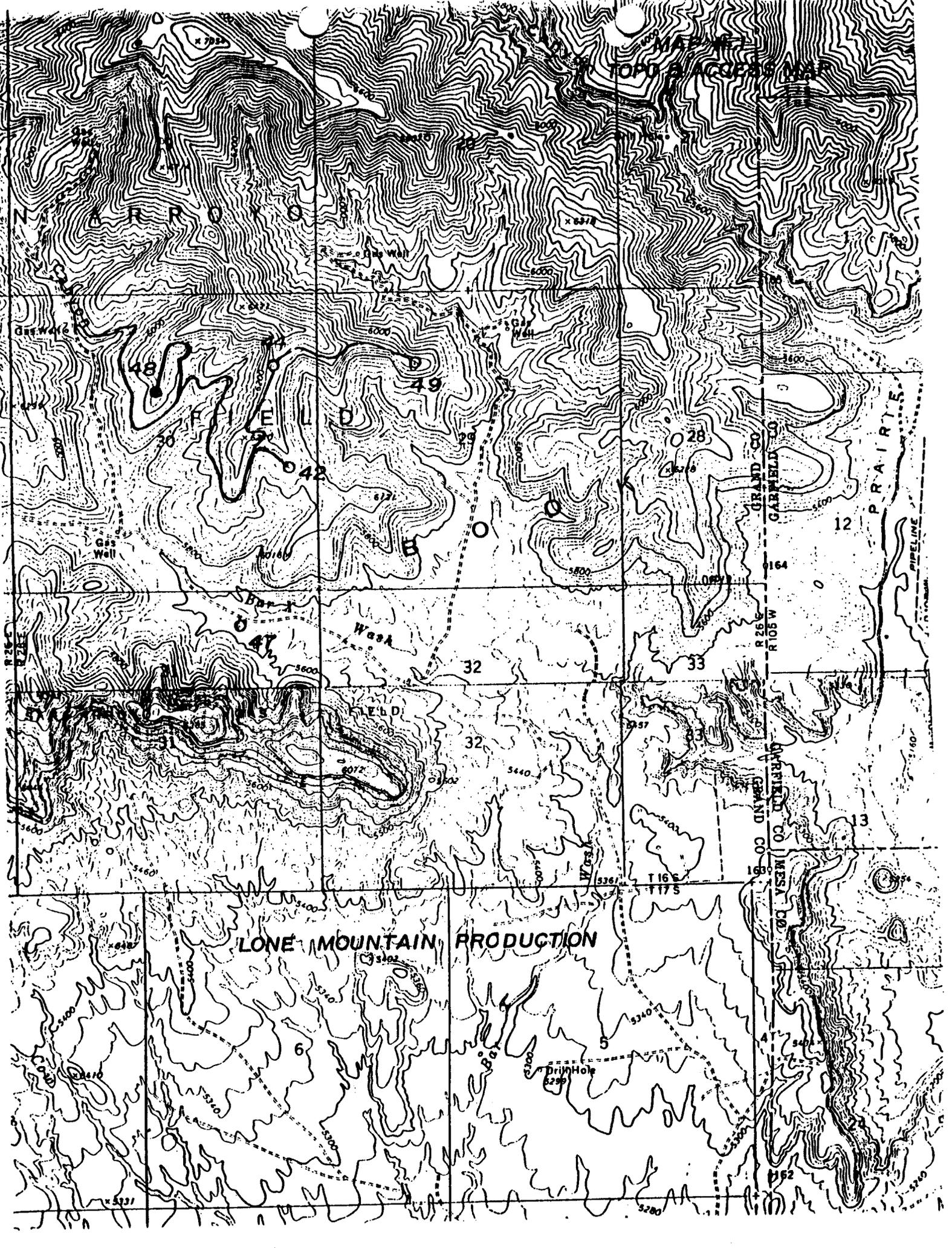
SURVEYED			ENERGY SURVEYS & ENGINEERING CORP.
DRAWN			
ENGINEER			

PLAT NO. 4  
RIG LAYOUT



SAN ARROYO # 48

TOPographic MAP



LONE MOUNTAIN PRODUCTION

FIELD

PRAIRIE

GRAND CO.

GARFIELD CO.

GRAND CO.

MESA CO.

N A R R O Y O

Gas Well

Gas Well

Drill Hole

Drill Hole

Drill Hole 5299

T 16 S

R 105 W

R 26 E

R 105 W

48

49

42

32

32

33

12

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U.S.  
Department of the Interior  
Bureau of Land Management  
Utah State Office

Summary Report of  
Inspection for Cultural Resources

Project Authorization No. U-1-GB-068b

Report Acceptable Yes \_\_\_ No \_\_\_

Mitigation Acceptable Yes \_\_\_ No \_\_\_

Comments: \_\_\_\_\_

1. Report Title S|a|n|A|r|r|o|y|o|#|4|8|W|e|l|l|L|o|c|a|t|i|o|n|

2. Development Company Lone Mountain Production

3. Report Date 0|3| 19 1|9|9|1| 4. Antiquities Permit No. 91-UT-54939

5. Responsible Institution G|R|A|N|D|R|I|V|E|R|I|N|S| County GRAND

6. Fieldwork Location: TWN 1|6|S| Range 2|6|E| Section(s) 3|0|           
 TWN          Range          Section(s)            

7. Resource Area G|R| TWN          Range          Section(s)            

PO=Pony Express, BR=Bear River, WS=Warm Springs, BC=Book Cliffs, HR=House Range,  
 SE=Sevier River, HM=Henry Mountains, BE=Beaver River, DX=Dixie, KA=Kanab,  
 ES=Escalante, SJ=San Juan, GR=Grand, SR=San Raphael, DM=Diamond Mountain

8. Description of Examination Procedures: A 100 percent pedestrian cultural resources survey of the proposed well location was made by walking a series of concentric circles around the flagged center to a diameter of 750 feet, thus covering an area of about 10 acres. The connecting access route was walked in a zigzag transect centered on the flagged centerline to cover a swath 200 feet wide.

9. Linear Miles Surveyed and/or Definable Acres Surveyed and/or Legally Undefinable Acres Surveyed

0|.3|        
            
1|0|        

10. Inventory Type I|

R=Reconnaissance  
 I=Intensive  
 S=Statistical

11. Description of Findings (attach appendices, if appropriate)

No cultural resources were identified.

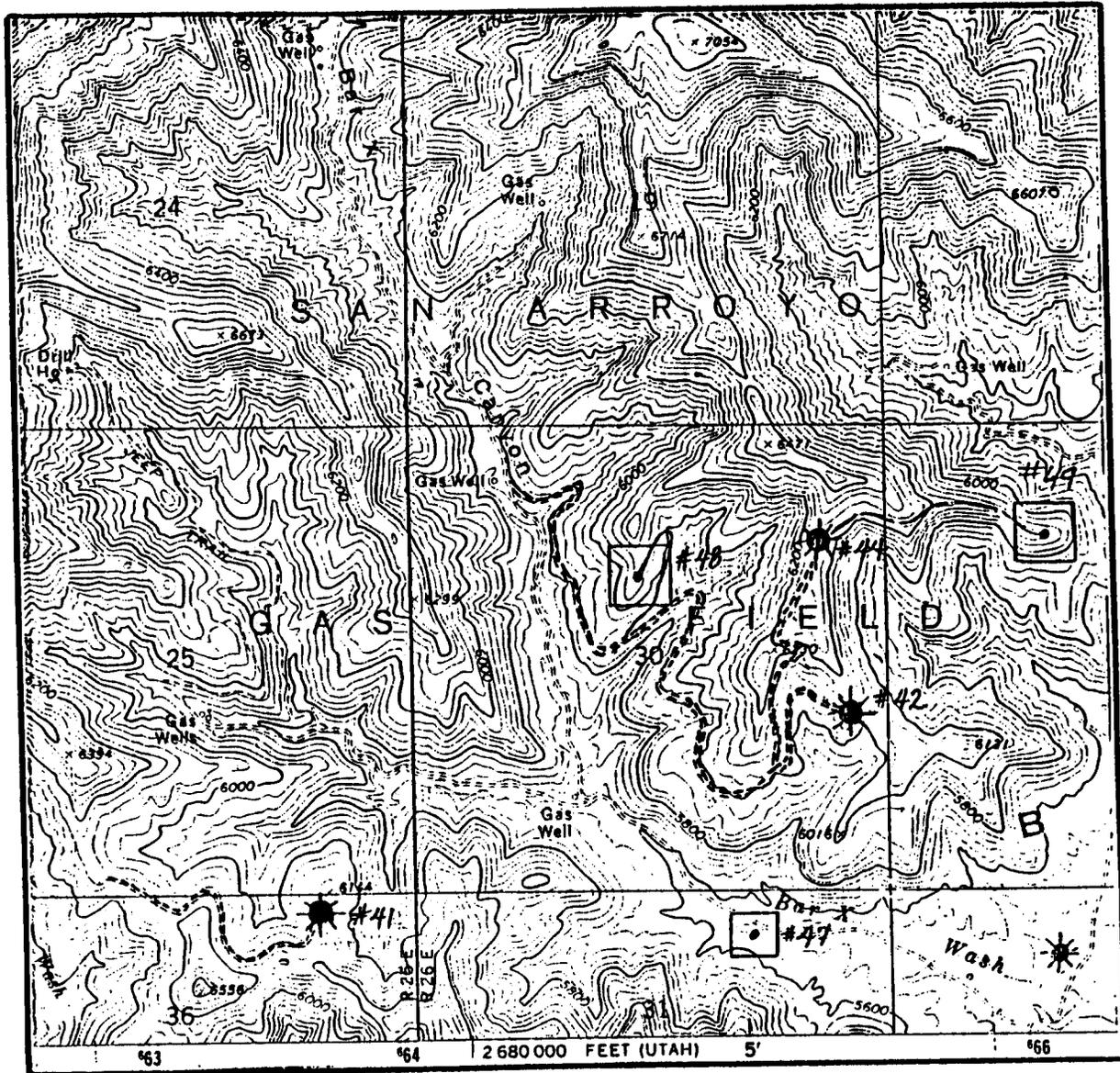
12. Number Sites found 0|         13. Collection N|  
 No sites = 0 Y=Yes N=No

14. Actual/Potential National Register Properties Affected: None.

15. Literature Search, Location/Date: BLM Grand Resource Area Office, 3/14/91

16. Conclusion/Recommendations:  
 Archaeological clearance is recommended.

17. Signature of Administrator & Field Supervisor: Administrator Carl E. Conner  
 Carl E. Conner  
 Field Supervisor Carl E. Conner



**Jim Canyon Quadrangle**  
**Utah--Grand County**  
**1970**  
**USGS 7.5' Series (topographic)**  
**Scale 1:24000**  
**Contour interval 40 feet**  
**T. 17S., R. 25E., S.L.P.M.**

Cultural resources inventory on three proposed well locations (nos. 47, 48, and 49) and related access routes in Grand County, Utah, for Lone Mountain Production. Areas surveyed for cultural resources are highlighted. [GRI Project No. 9107, 3/19/91]

DESIGNATION OF AGENT

Supervisor, Oil and Gas Operations:

The undersigned is, on the records of the MINERALS MANAGEMENT SERVICE, Unit Operator under the San Arroyo Unit Agreement, Grand County, Utah (state), No. 14-08-001-3859 approved 9/1/57 and hereby designates:

NAME: Lone Mountain Production Company

ADDRESS: 408 Petroleum Building

P.O. Box 3394  
Billings, MT 59103

as its agent, with full authority to act in its behalf in complying with the terms of the Unit Agreement and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Oil and Gas Operating Regulations with respect to drilling, testing and completing unit well No. 48, in the SE NW Sec. 30, T. 16S, R. 26E, Grand County, Utah.

It is understood that this designation of agent does not relieve the Unit Operator of responsibility for compliance with the terms of the Unit Agreement and the Oil and Gas Operating Regulations. It is also understood that this designation of agent does not constitute an assignment of any interest under the Unit Agreement or any lease committed thereto.

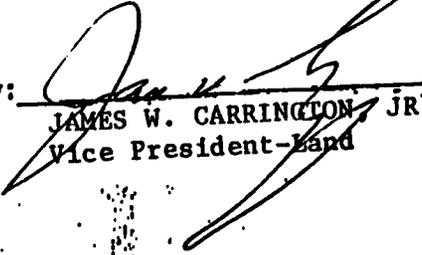
In case of default on the part of the designated agent, the Unit Operator will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The Unit Operator agrees promptly to notify the oil and gas supervisor of any change in the designated agent.

This designation of agent is deemed to be temporary and in no manner a permanent arrangement.

This designation is given only to enable the agent herein designated to drill the above-specified unit well. Unless sooner terminated, this designation shall terminate when there is filed in the appropriate district office of the U. S. Geological Survey a completed file of all required Federal reports pertaining to subject well. It is also understood that this designation of agent is limited to field operations and does not cover administrative action requiring specific authorization of the Unit Operator.

Graham Royalty, LTD  
Unit Operator

By:   
JAMES W. CARRINGTON JR.  
Vice President-land

LONE MOUNTAIN PRODUCTION COMPANY  
MAC WASH - DRAIN DITCH / COLORADO  
GRAND COUNTY

(WATER SUPPLY IS FROM THE ABOVE, NO UTAH WATER PERMIT IS NEEDED)  
(AS PER THE DIVISION OF WATER RIGHTS)

(9-6-88 / LCR)

OPERATOR Iron Mountain Expl. N7010 DATE 4-09-91

WELL NAME Federal #48

SEC SE 1/4 T 30 R 01W E COUNTY Grand

43-019-31317  
API NUMBER

Federal (1)  
TYPE OF LEASE

CHECK OFF:

PLAT.

BOND

NEAREST WELL

LEASE

FIELD SLBM

POTASH OR OIL SHALE

PROCESSING COMMENTS:

Included in '91' P.O.D. approved 4-23-91 per d.c. BLM.  
Water Permit none needed.

Designation of Agent approved 4-23-91 per d.c. BLM.

APPROVAL LETTER:

SPACING:

R615-2-3

Jan Amoy  
UNIT

R615-3-2

N/A  
CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

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



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertter  
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

May 2, 1991

Lone Mountain Production Company  
P. O. Box 3394  
Billings, Montana 59103

Gentlemen:

Re: Federal #48 Well, 1742 feet from the North line, 2445 feet from the West line, SE NW, Section 30, Township 16 South, Range 26 East, Grand County, Utah

Approval to drill the referenced well is hereby granted in accordance with Utah Code Ann. Section 40-6-18, et seq. (1953, as amended), and Utah Admin. R.615-2-3.

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 Entity Action Form 6, 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 7.
4. Prompt notification in the event it is necessary to plug and abandon the well. Notify R. J. Firth, Associate Director, (Office) (801) 538-5340, (Home) 571-6068, or J. L. Thompson, Lead Inspector, (Home) 298-9318.
5. Compliance with the requirements of Utah Admin. R.615-3-20, Gas Flaring or Venting.

Page 2  
Lone Mountain Production Company  
Federal #48  
May 2, 1991

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 Drinking Water/Sanitation, telephone (801) 538-6159.
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 43-019-31317.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

tas  
Enclosures  
cc: Bureau of Land Management  
J. L. Thompson  
we14/1-6

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL       DEEPEN       PLUG BACK

b. TYPE OF WELL  
 OIL WELL       GAS WELL       OTHER       SINGLE ZONE       MULTIPLE ZONE

2. NAME OF OPERATOR  
 Lone Mountain Production Company

3. ADDRESS OF OPERATOR  
 P.O. Box 3394, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface: 1742 ft FNL, 2445 ft FWL  
 At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.  
 U-06023

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

7. UNIT AGREEMENT NAME  
 San Arroyo

8. FARM OR LEASE NAME  
 Federal

9. WELL NO.  
 Unit No. 48

10. FIELD AND POOL, OR WILDCAT  
 San Arroyo

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 SENW Sec 30-T16S-R26E

12. COUNTY OR PARISH  
 Grand

13. STATE  
 UT

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 22 miles Northwest of Mack, Colorado

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
 4858 ft boundary (Unit)

16. NO. OF ACRES IN LEASE  
 NA

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 NA

18. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST WELL, DRILLING, COMPLETED OR APPLIED FOR, ON THIS LEASE, FT.  
 1783 ft (No. 23)

19. PROPOSED DEPTH  
 4778 ft

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 6068 ft GL, 6078 ft KB

22. APPROX. DATE WORK WILL START\*  
 May 9, 1991

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"new	32.3#,H40	300 feet	200 SX 'G' to surface
8-3/4"	7"new	17#,H40	900 feet	125 SX "G" if needed
6-1/4"	4-1/2"new	10.5#,J55	4778 feet	225 SX 10-0 RFC

**RECEIVED**

MAY 13 1991

DIVISION OF  
OIL GAS & MINING

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: Petroleum Engineer DATE: March 25, 1991

PERMIT NO. \_\_\_\_\_ APPROVAL DATE: \_\_\_\_\_  
 /S/ WILLIAM C. STRINGER Assistant District Manager  
 APPROVED BY: [Signature] TITLE: \_\_\_\_\_ DATE: MAY 8 1991  
 CONDITIONS OF APPROVAL: \_\_\_\_\_

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.

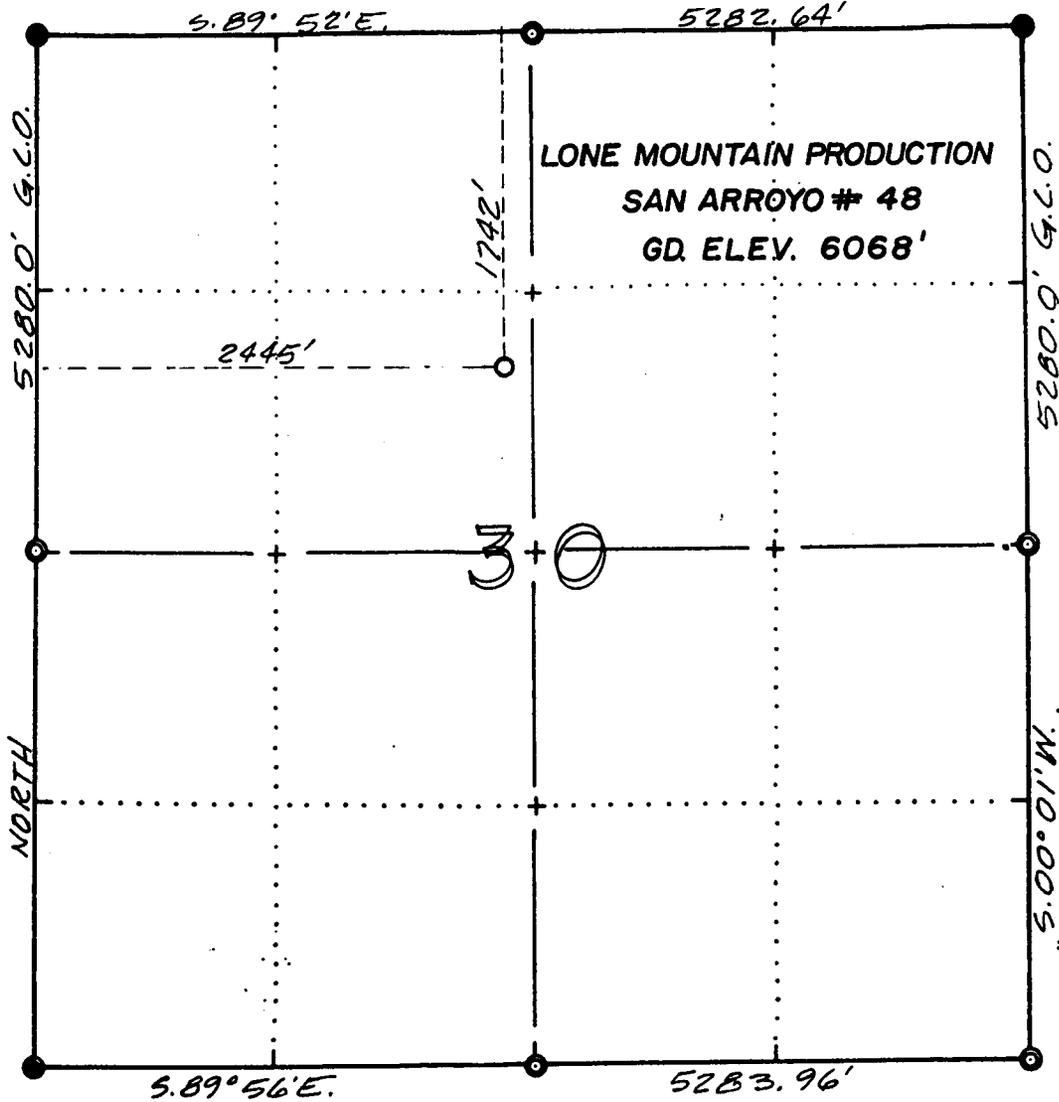
1

Application for Permit to Drill  
San Arroyo Unit, No. 48  
SENW Section 30-T16S-R26E  
Grand County, Utah

---

6. The well will be air drilled from under surface casing to total depth.
7. Auxiliary equipment: See Well Control Plan.
8. The logging program will consist of a DIL log from total depth to base of surface or intermediate casing and GR-FDC-CNL logs from total depth to above the Frontier. No cores or drill stem tests are planned.
9. No abnormal pressures or temperatures are anticipated. No poisonous gas is anticipated.
10. Anticipated spud date is May 9, 1991. Completion operations should commence within 30 days of rig release.
11. Survey plats are attached.
12. The gas is dedicated to Mesa Pipeline at this time.
13. Lone Mountain Production Company's Statewide Bond Number is: UT0719
14. The completion program will be designed after the logs have been evaluated.

SEC. 30, T. 16S., R. 26E. OF THE S.L.M.



SCALE



- LEGEND -

- ⊙ STANDARD LOCATION OF GLO SECTION CORNERS.
- GLO CORNERS FOUND.
- WELL LOCATION STAKED.

REFERENCE DOCUMENTS

1924 GLO PLAT

JIM CANYON, UT  
QUADRANGLE, U.S.G.S.

THIS WELL LOCATION PLAT WAS PREPARED FOR: LONE MOUNTAIN PRODUCTION CO.  
TO LOCATE THE SAN ARROYO # 48, 1742' F.N.L. &  
2445' F.W.L. IN THE SE 1/4 NW 1/4, OF SECTION 30, T. 16S., R. 26E.  
OF THE S.L.M. GRAND COUNTY, UTAH

SURVEYOR'S CERTIFICATE

I, Larry D. Becker: a Registered Land Surveyor In  
The State Of UTAH Do Hereby Certify That This  
Survey Was Made Under My Direct Supervision, and  
That This Plat Represents Said Survey.

*Larry D. Becker*  
UTAH L.S. # 4189

SURVEYED	10/90	
DRAWN	11/90	
CHECKED	11/90	

ENERGY  
SURVEYS  
CORPORATION

361 PIKES PEAK DRIVE  
GRAND JUNCTION, CO. 81503  
(303) 243-7221

SCALE: 1" = 1000'

JOB NO.

SHEET OF.

Lone Mountain Production Company  
Well No. Federal Unit No. 48  
SENE Sec. 30, T. 16 S., R. 26 E.  
Grand County, Utah  
891003859A (Lease U-06023)

#### 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.

Be advised that Lone Mountain Production Company is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by UT0719 (Principal - Lone Mountain Production) via surety consent as provided for in 43 CFR 3104.3.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

#### A. DRILLING PROGRAM

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1 and Onshore Oil and Gas Order No. 2 and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

1. If unconsolidated rock is encountered, conductor shall be set ten (10) feet unto underlying bedrock with cement circulated to surface.
2. Surface casing shall have a centralizer on each of the bottom three joints.
3. A float valve above the bit shall be in place and operational during air/gas drilling.
4. 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.
5. No hexavalent chromate additives will be used in the mud system in order to protect usable quality water aquifers.
6. Daily drilling and completion progress reports shall be submitted to the Moab District Office on a weekly basis.

6. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the District Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gas) will be submitted when requested by the Assistant District Manager.

Company: Lone Mountain  
Well: 47, 48, & 49  
Section: 29, 30, 31, T. 16S., R. 26E.

CONDITIONS OF APPROVAL  
SURFACE USE PLAN

CONSTRUCTION:

1. During periods of wet weather when activity would result in increased erosion, in loss of soil or vegetation, or in heavy deep rutting to access routes, activity will stop. Ruts of six inches or more will be considered excessive.
2. Surface disturbance and vehicular travel will be limited to the approved locations and access roads (map #1 & plat #2).

PRODUCTION

1. If the well is a producer, the side cast material along the access route and the fill slopes on the location will be seeded with a mixture determined by the BLM. Seeding will enhance road stabilization and erosion control.
2. Pipeline construction will be addressed separately from the drilling application either by a Sundry Notice or a Rights of Way application.
3. The access will be to the design of a Class 111 road.

C. SURFACE USE PLAN

1. All site security guidelines identified in 43 CFR 3162.7-5 and ONSHORE OIL AND GAS ORDER NO. 3; SITE SECURITY will be adhered to.
2. Gas measurement will be conducted in accordance with the ONSHORE ORDER NO. 5; GAS MEASUREMENT and 43 CFR 3162.7-3.
3. Oil measurement will be conducted in accordance with ONSHORE OIL AND GAS ORDER NO. 4; OIL MEASUREMENT as of the effective date of August 23, 1989 and 43 CFR 3162.7-2.
4. All loading lines and valves will be placed inside the berm surrounding the tank battery.
5. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the Assistant District Manager.
6. Pipeline construction activity is not authorized under this permit.
7. Produced waste water will be confined to a unlined pit for a period not to exceed ninety (90) days after initial production. During the ninety (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 Assistant District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).
8. There will be no deviation from the proposed drilling and/or workover program without prior approval from the Assistant District Manager. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR 3162.6.
9. The dirt contractor will be provided with an approved copy of the surface use plan of operations.
10. Copies of all water analysis required by the State of Utah in relation to surface discharge of produced water will be submitted to the Moab District Office, Bureau of Land Management.

D. Anticipated Starting Dates and Notifications of Operations:

Required verbal notifications are summarized in Table 1, 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.

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.

Should the well be successfully completed for production, the Assistant District Manager, Minerals Division will be notified when the well is placed in producing status. Such notification will be sent by telegram or other written communication, not later than five (5) business days following the date on which the well is placed on production.

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.

A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the Assistant District Manager, Minerals Division 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 APD or approved abandonment notice has been completed to the satisfaction of the Area Manager or his representative, or the appropriate surface managing agency.

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 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

"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 3162.3-2.

This permit will be valid for a period of one(1) year from, the date of approval. After permit termination, a new application will be filed for approval for any future operations.

NOTIFICATIONS

Notify Elmer Duncan of the Grand Resource Area, at  
(801) 259-8193 for the following:

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

1 day prior to spudding;

50 feet prior to reaching surface casing depth;

3 hours prior to testing BOP's and surface casing.

If the person at the above number cannot be reached, then notify Fred Oneyear in the Moab District Office at (801) 259-6111 or at home (801) 259-5937 (If unsuccessful, then notify one of the following people listed below).

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 Assistant District Manager, Minerals Division.

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

Eric Jones, Petroleum Engineer      Office Phone: (801) 259-6111

Home Phone: (801) 259-2214

If unable to reach the above individuals including weekends, holidays, or after hours please call the following:

Lynn Jackson,      Office Phone: (801) 259-6111

Chief, Branch of Fluid Minerals

Home Phone: (801) 259-7990

24 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL ABANDONMENTS

DIVISION OF OIL, GAS AND MINING

API NO. 43-019-31317

SPUDDING INFORMATION

NAME OF COMPANY: LONE MOUNTAIN PRODUCTION CO.

WELL NAME: SAN ARROYO #48

SECTION SEW 30 TOWNSHIP 16S RANGE 26E COUNTY GRAND

DRILLING CONTRACTOR VECO

RIG # 2

SPUDDED: DATE 6-24-91

TIME 6:30 a.m.

HOW ROTARY

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

REPORTED BY JOE DYK

TELEPHONE # 303-244-6238

DATE 6-24-91 SIGNED \_\_\_\_\_ TAS

**LONE MOUNTAIN PRODUCTION COMPANY**

P.O. BOX 3394  
408 PETROLEUM BUILDING  
BILLINGS, MONTANA 59103-3394  
(406) 245-5077  
FAX 248-6321

**RECEIVED**

**JUN 27 1991**

**DIVISION OF  
OIL GAS & MINING**

June 25, 1991

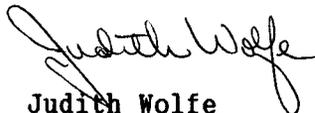
State of Utah  
Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180

Gentlemen:

Please find enclosed an Entity Action Form, in duplicate for the San Arroyo Unit No. 48 well in Grand County, Utah.

If you are in need of further information, please advise.

Sincerely,



Judith Wolfe

/jlw  
Enclosures

**RECEIVED**

JUN 27 1991

OPERATOR Lone Mountain Production Company  
 ADDRESS 408 Petroleum Bldg., P.O. Box 3394  
Billings, MT 59103

OPERATOR ACCT. NO. N7210

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	DIVISION OF OIL GAS & MINING	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
						QQ	SC	TP	RG	COUNTY		
A	99999	11240	43-019-31317		San Arroyo Unit No. 48	SENW	30	16S	26E	Grand	6-24-91	6-24-91
WELL 1 COMMENTS: Federal-Lease Prop. Zone-DK-mk Field-San Arroyo (New entity added 6-28-91) fcp Unit-San Arroyo												
WELL 2 COMMENTS:												
WELL 3 COMMENTS:												
WELL 4 COMMENTS:												
WELL 5 COMMENTS:												

**ACTION CODES (See instructions on back of form)**  
 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)

NOTE: Use COMMENT section to explain why each Action Code was selected.

Judith Wolfe  
 Signature  
Secretary Title 6/25/91 Date  
 Phone No. (406-) 245-5077

**LONE MOUNTAIN PRODUCTION COMPANY**

P.O. BOX 3394  
408 PETROLEUM BUILDING  
BILLINGS, MONTANA 59103-3394  
(406) 245-5077  
FAX 248-6321

**RECEIVED**

**JUL 03 1991**

**DIVISION OF  
OIL GAS & MINING**

July 1, 1991

Division of Oil, Gas & Mining  
State of Utah  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180

Gentlemen:

Enclosed please find, in duplicate, the Sundry Notice Status Report, Well Completion Report, and Report of Water Encountered During Drilling for the following well, located in Grand County, Utah:

*San Arroyo Unit No. 48  
SE NW Section 30: T16S-R26E  
Grand County, Utah*

Very truly yours,

Lone Mountain Production Company

  
James G. Routson

JGR:lw

Enclosures

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPPLICATE  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO

**U-06023**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

**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.)

7. UNIT AGREEMENT NAME

**San Arroyo**

8. FARM OR LEASE NAME

**Federal**

9. WELL NO.

**No. 48**

10. FIELD AND POOL, OR WILDCAT

**San Arroyo**

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

**SENW Sec. 30: T16S-R26E**

1. OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR

**Lone Mountain Production Company**

3. ADDRESS OF OPERATOR

**408 Petroleum Building, P. O. Box 3394, Billings, MT 59103**

4. LOCATION OF WELL (Report location clearly and in accordance with any State or Federal regulations.  
See also space 17 below.)  
At surface

**1742' FNL, 2445' FWL, Section 30**

**RECEIVED**

**JUL 03 1991**

14. PERMIT NO.

**43-019-31317**

16. ELEVATIONS (Show whether DF, RT, OR, etc.)

**6068' GL, 6078' KB**

**DIVISION OF**

**OIL GAS & MINING**

13. COUNTY OR PARISH

**Grand**

15. STATE

**Utah**

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANE

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

**Status Report**

(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 and 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.)\*

Spudded well at 6:30 AM, June 24, 1991. Reported to BLM and State of Utah by Joe Dyk. Drilled 12-1/4" hole to 307', ran 9-5/8", 36#, WC-50 casing to 298'. Cemented with 200 sacks. Circulated 1 bbl. cement to pit. Cement fell back 10', grouted top of hole with dirt. Drilled 8-3/4" hole to 4125', no water encountered in Castlegate. Drilled 7-7/8" hole to 4820' TD. Ran GR-FDC-CNL and DIL logs.

LOG TOPS:	Castlegate	781'	(+5297)
	Mancos	910'	(+5168)
	Dakota Silt	4235'	(+1843)
	Dakota Sand	4343'	(+1735)
	Morrison	4430'	(+1648)

Had only minor show of gas from Morrison while drilling. Received plugging orders from BLM and State of Utah at 1:00 PM, June 29, 1991. Plugged and abandoned as follows:

Plug #1	65 sacks, 4423-4323' (tagged top at 4288')
Plug #2	53 sacks, 2100-2000'
Plug #3	50 sacks, 350- 250'
Plug #4	25 sacks, 50- Sfc.

Rig released at 1:00 AM, June 30, 1991. Dry hole marker will be set and rehab of location will begin within two (2) weeks.

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

SIGNED

*James G. Routson*

TITLE

**James G. Routson  
Petroleum Engineer**

DATE

**July 1, 1991**

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE  
(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER

b. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. REVR.  OTHER

2. NAME OF OPERATOR: LONE MOUNTAIN PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P. O. BOX 3394, 408 Petroleum Bldg., Billings, MONTANA

4. LOCATION OF WELL (Report location clearly and in accordance with any State or Federal regulations):  
At surface 1742' FNL, 2445' FWL, Sec. 30

At top prod. interval reported below: Same

At total depth: Same

RECEIVED  
JUL 03 1991

5. LEASE DESIGNATION AND SERIAL NO.: U-06023

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: San Arroyo

8. FARM OR LEASE NAME: Federal

9. WELL NO.: No. 48

10. FIELD AND POOL, OR WILDCAT: San Arroyo

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: SE NW Sec. 30: T16S-R26E

12. COUNTY OR PARISH: Grand

13. STATE: Utah

14. PERMIT NO.: 43-019-31317

DATE ISSUED: 5-2-91

15. DATE SPUDDED: 6-24-91

16. DATE T.D. REACHED: 6-29-91

17. DATE COMPL. (Ready to prod.): P&A 6-30-91

18. ELEVATIONS (OF, RKB, RT, GR, ETC.): 6068' GL, 6078' KB

19. ELEV. CASINGHEAD:

20. TOTAL DEPTH, MD & TVD: 4820'

21. PLUG, BACK T.D., MD & TVD: SFC

22. IF MULTIPLE COMPL., HOW MANY? —

23. INTERVALS DRILLED BY: —

ROTARY TOOLS: 0-ID

CABLE TOOLS: —

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*: None

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN: GR-FDC-CNL and DIL

7-19-91

BORHOLE PROFILE FROM DENSITY CALIPER

27. WAS WELL CORDED: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	36# WC-50	298'	12-1/4"	200 sacks Class "G"	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
None				

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
None		

31. PERFORATION RECORD (Interval, size and number): None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
Plug #1	4423-4288' - 65 sacks
Plug #2	2100-2000' - 53 sacks
Plug #3	350-250' - 50 sacks
Plug #4	50- Sfc. - 25 sacks

33. PRODUCTION

DATE FIRST PRODUCTION: None

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump):

WELL STATUS (Producing or shut-in):

DATE OF TEST	HOURS TESTED	CHOKS SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.):

TEST WITNESSED BY:

35. LIST OF ATTACHMENTS: None

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

SIGNED: James G. Routson

TITLE: Petroleum Engineer

DATE: July 1, 1991

\*(See Instructions and Spaces for Additional Data 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.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Dakota	4358	4376	Tight gas - no shows while air drilling.
Morrison	4684	4694	Gas - continuous flare, est. 500 MCFD while drilling, decreased to intermittent flare in 2 hours, est. less than 200 MCFD.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
CASTLEGATE	781	+5297
MANCOS	910	+5168
DAKOTA SILT	4235	+1843
DAKOTA SAND	4343	+1735
MORRISON	4430	+1648

**RECEIVED**

**JUL 03 1991**

REPORT OF WATER ENCOUNTERED DURING DRILLING - FORM 7 (1/89)

DIVISION OF  
OIL GAS & MINING

1. Well name and number: San Arroyo Unit No. 48  
API number: 43-019-31317
2. Well location: QQ SE NW section 30 township 16S range 26E county Grand
3. Well operator: Lone Mountain Production Company  
Address: P. O. Box 3394, Billings, MT 59103 phone: (406) 245-5077
4. Drilling contractor: Veco Drilling, Inc.  
Address: P. O. Box 1705 phone: (303) 242-6912  
Grand Junction, CO 81502

5. Water encountered (continue on reverse side if necessary)

Depth		Volume (flow rate or head)	Quality (fresh or salty)
from	to		
<del>None Encountered</del>			

6. Formation tops:	<u>Castlegate</u>	<u>781'</u>	<u>(+5297)</u>
	<u>Mancos</u>	<u>910'</u>	<u>(+5168)</u>
	<u>Dakota Silt</u>	<u>4235'</u>	<u>(+1843)</u>
	<u>Dakota Sand</u>	<u>4343'</u>	<u>(+1735)</u>
	<u>Morrison</u>	<u>4430'</u>	<u>(+1648)</u>

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I certify that this report is true and complete to the best of my knowledge.

Name James G. Routson Signature *James G. Routson*  
Title Petroleum Engineer Date July 1, 1991

Comments: Air drilled, dusted entire hole.

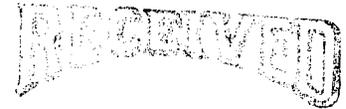


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2405

JUL 0 1 1991



JUL 0 3 1991

DIVISION OF  
OIL GAS & MINING

Ref: 8PM-GSC

Dianne R. Nielson, Director  
Utah Division of Oil, Gas and Mining  
355 West North Temple  
3 Traid Center, Suite 250  
Salt Lake City, Utah 84180-1203

Re: Underground Water Source  
Protection Program Grant  
No. G 008426-90

Dear Dr. Nielson:

We have received all of the final reports required on this assistance agreement. Therefore, we are closing out this project, subject to final Audit.

Your records should be preserved for three years from the date of the submission of the final Financial Status Report or until any litigation, claim or audit started before the expiration of the three-year period is completed and all issues resolved. To ensure proper disposition of your records, please refer to 40 CFR 31.42 of our "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments." Once the provisions of this regulation are satisfied, you may dispose of these records in accordance with your own practices.

We are pleased to have participated with you in this project.

Sincerely,

*/SIGNED BY/*  
**MARTHA NICODEMUS, CHIEF**  
**GRANTS & SUPERFUND CONTRACTS BRANCH**  
Martha Nicodemus, Chief  
Grants & Superfund Contracts Br.  
Office of Policy and Management

cc: ~~LG~~ Hunt, UDOG&M  
J. Walker, EPA (8WM-DW)