

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

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: 300 ft FNL, 300 ft FWL
 At proposed prod. zone: Same
 NWNW

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

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)
 2187 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.
 2309 ft (No. 28) Morrison

10. PROPOSED DEPTH
 5150 ft

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 6270 ft GL, 6281 ft KB

22. APPROX. DATE WORK WILL START*
 May 1, 1990

5. LEASE DESIGNATION AND SERIAL NO.
 U-05650

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. 46

10. FIELD AND POOL, OR WILDCAT
 San Arroyo (250)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 NWNW Sec 28-T16S-R26E

12. COUNTY OR PARISH
 Grand

13. STATE
 UT

RECEIVED
 MAR 15 1990
 DIVISION OF OIL, GAS & MINING

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	250 feet	150 SX 'G' to surface
8-3/4"	7" new	17.0#, H40	1200 feet	125 SX 'G' if needed
6-1/4"	4-1/2" new	10.5#, J55	5150 feet	175 SX 10-0 RFC

- Surface formation is the Mesa Verde.
- Anticipated Geologic markers are: Castlegate 1111', Mancos 1215', Dakota Silt 4601', Dakota 4700', Morrison 4810'.
- 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. SIGNED Joel G. K. TITLE Petroleum Engineer DATE Feb. 15, 1990

(This space for Federal or State office use)

PERMIT NO. 43-019-31300 APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY: _____
 DATE: 5-1-90
 BY: John R. Bay
 WELL SPACING: R&I-2-3

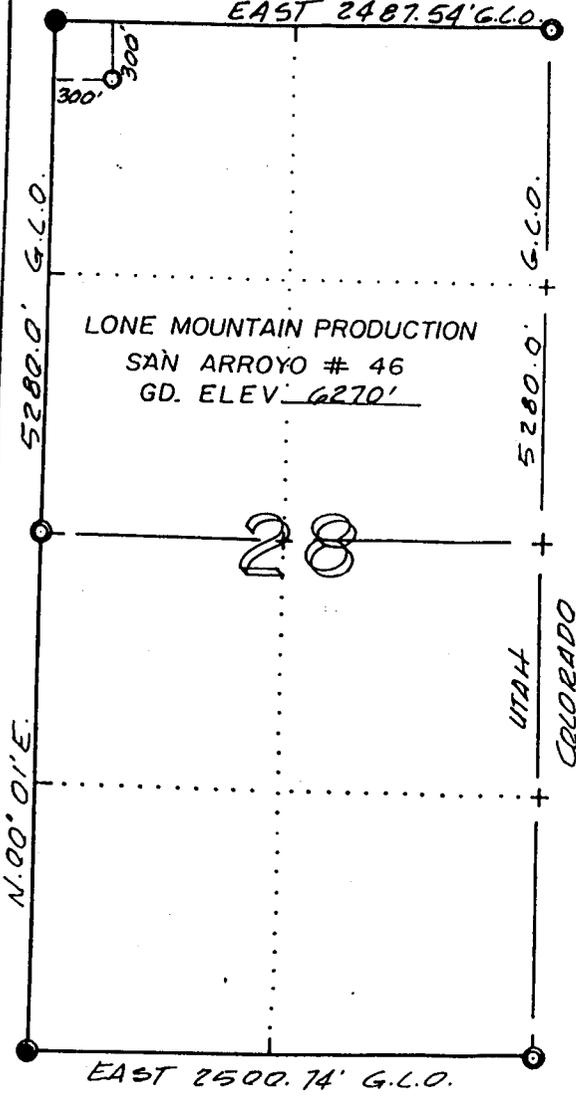
*See Instructions On Reverse Side

Application for Permit to Drill
San Arroyo Unit No. 46
NWNW Section 28-T16S-R26E
Grand County, Utah

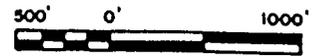
6. The well will be air drilled from under intermediate casing to total depth.
7. Auxiliary equipment: See Well Control Plan.
8. The logging program will consist of a DIL log from total depth to base of surface casing and GR-FDC-CNL logs from total depth to above the Frontier. No cores or drill stem tests are planned.
9. No abnormal pressures or temperatures are anticipated. No poisonous gas is anticipated.
10. Anticipated spud date is May 1, 1990. 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. 28, T. 16S., R. 26E. OF THE S.L.M.

LOCATION PLAT



SCALE



- LEGEND -

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

REFERENCE DOCUMENTS

1924 GLO PLAT

QUADRANGLE, U.S.G.S.

THIS WELL LOCATION PLAT WAS PREPARED FOR: LONE MOUNTAIN PRODUCTION CO. TO LOCATE THE SAN ARROYO # 46, 300' F.N.L. & 300' F.W.L. IN THE NW 1/4 NW 1/4, OF SECTION 28, 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 Heroby 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	10/89	
DRAWN	11/89	
CHECKED	11/89	

ENERGY SURVEYS CORPORATION

381 PIKES PEAK DRIVE
GRAND JUNCTION, CO 81503
(303) 245-7221

SCALE: 1" = 1000'
JOB NO.
SHEET NO.

©SURFACE USE PLAN

Lone Mountain Production Company
San Arroyo Unit No. 46
NWNW Section 28-T16S-R26E
Grand County, Utah

1. EXHISTING ROADS

See Maps #1 and #2 and Plat #1. This proposed well is located approximately 22 miles northwest of Mack, Colorado.

2. ACCESS ROADS TO BE CONSTRUCTED

The proposed 1.4 miles of access road will be constructed with an 18 foot travel width. All of the proposed access road is within the Unit boundary. The southern route was chosen over the northern route at the on-site inspection because it has southern exposure and is a shorter distance. See Map #1 and Plat #2.

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

7 producing wells and 1 applied for within one mile radius. See Map #3.

4. LOCATION OF PRODUCTION FACILITIES

See Plat #4. 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 #2A - Cross Sections of Pit and Pad
See Plat #3 - 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 6 - 8 inches and stockpiled on the north and south edges 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 biodegradable 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 following mixture. Application rates are for pure, live seed (PLS). Seed tags will be submitted to the area manager within 30 days of seeding.

Species	Application Rate lbs/acre PLS
Arriba Western Wheatgrass	3
Luna Pubescent Wheatgrass	3
Lodorm Green Needlegrass	2
Manchar Smooth Brome	2
Rincon Fourwing Saltbush	1
Yellow Sweetclover	.5
	<hr/>
	11.5 lbs PLS/acre

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/September 1 and prior to October 1 of the fall of 1990, if feasible, but not later than the fall of 1991.

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 above seed mixture. The access road and location will be ripped or disked prior to seeding.

The area is considered to be satisfactorily reclaimed when:

- 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

The vegetation includes juniper, pinion, Oregon grape, mormon tea, service berry, Mt. Mahogany, cheatgrass, Indian rice grass, and Colorado wild rye.

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: 303-858-1472

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.

Feb 15, 1990
Date

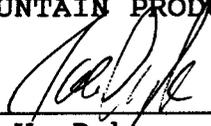

Joe Dyk

WELL CONTROL PLAN

1. Surface Pipe: 9-5/8" O.D., 32.3#, L.S., STC set at 250', 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 1200' and cemented back to surface with 225 sx Standard cement + 2% CaCl₂ (yield=1.15 ft³/sk; compressive strength= 650 psi in 6 hours).
3. Casinghead Flange: 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 1000 psi at 5150' or 0.19 psi/ft. No abnormal temperatures or hydrogen sulfide gas are anticipated.

LONE MOUNTAIN PRODUCTION COMPANY

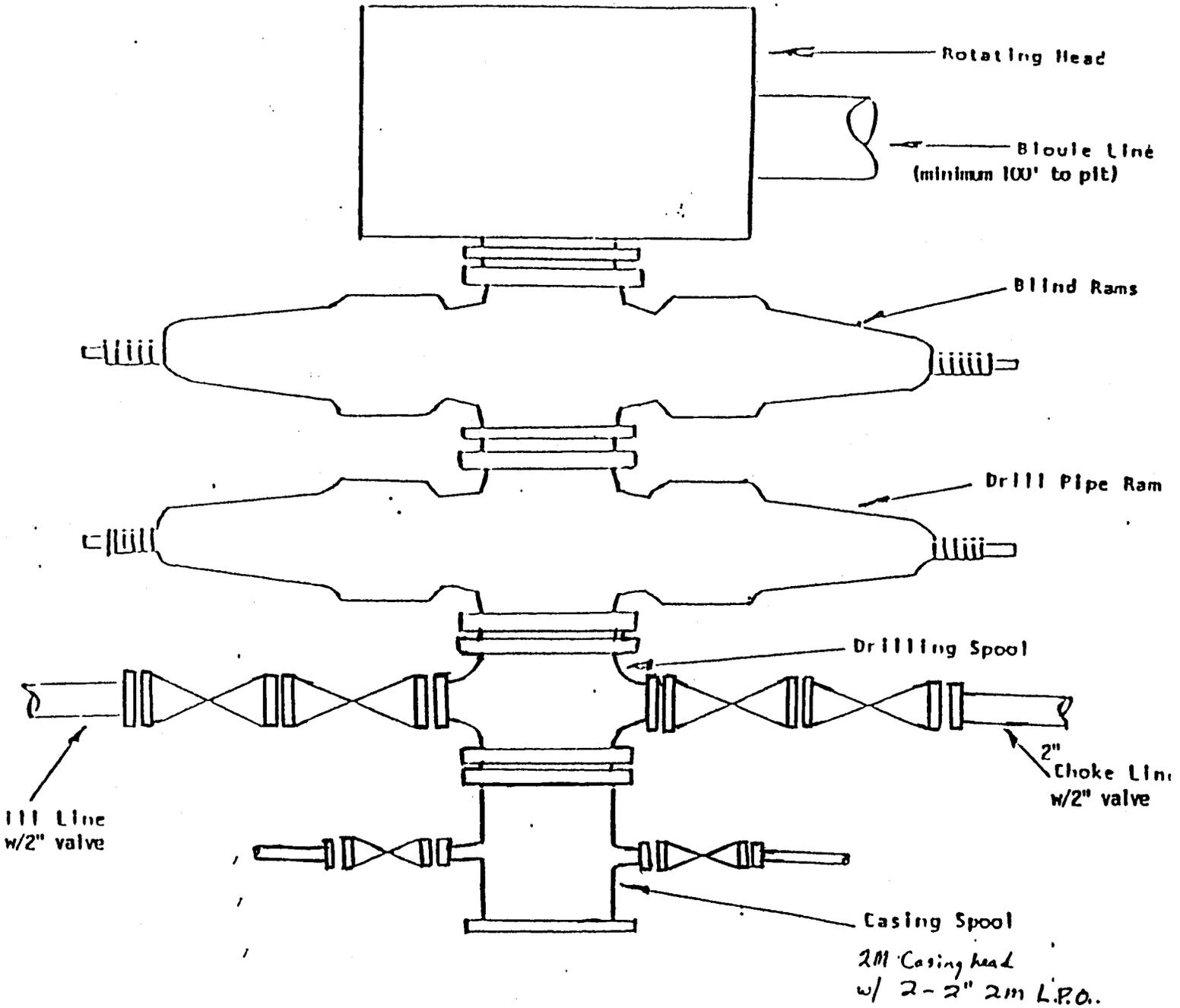
By: _____


J. V. Dyk
Petroleum Engineer

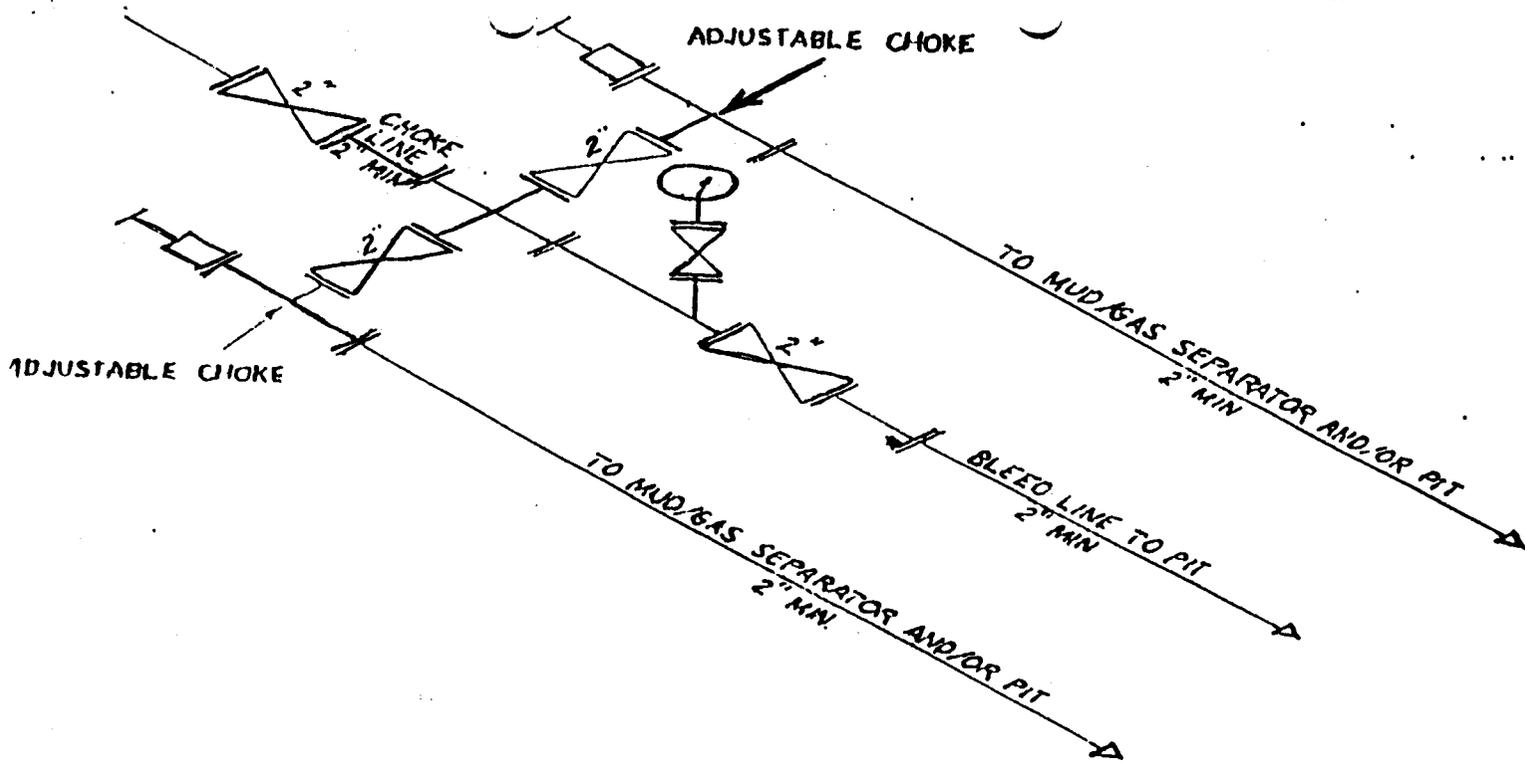
SCHEMATIC OF BOP STACK

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

Interval from 250' to total depth.



x



2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

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 8/2/57 effective 9/1/57 and hereby designates:

NAME: Lone Mountain Production Company
ADDRESS: 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. 46, in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 28, T. 16S, R. 26E, Salt Lake Meridian, 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.

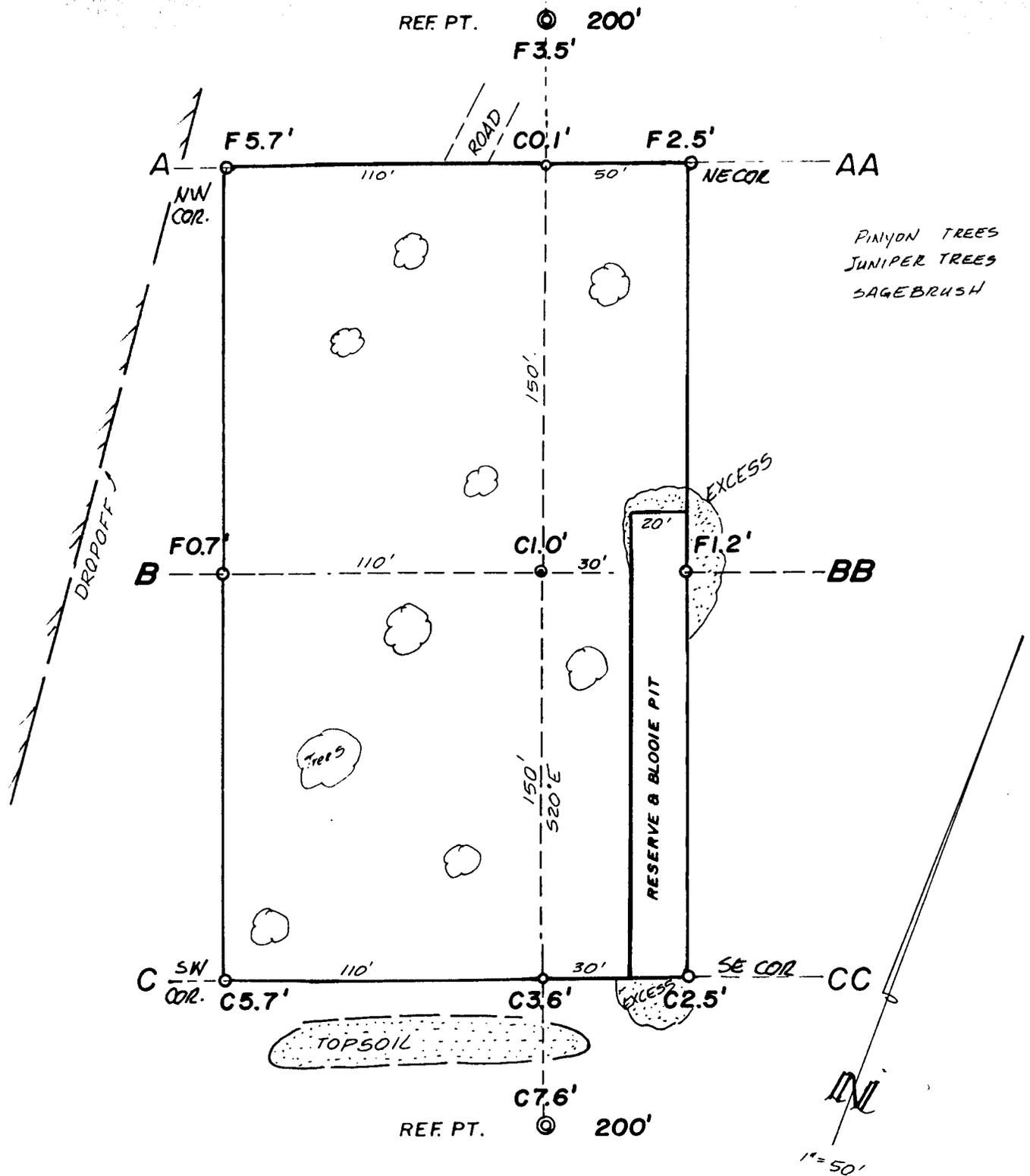
This designation of agent is deemed to be temporary and in no manner a permanent arrangement.

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: 
~~THE ATTORNEY IN FACT~~
T. J. Burnett, Jr.
Senior Vice President-Land

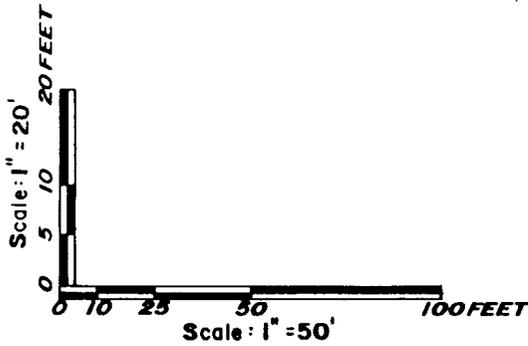
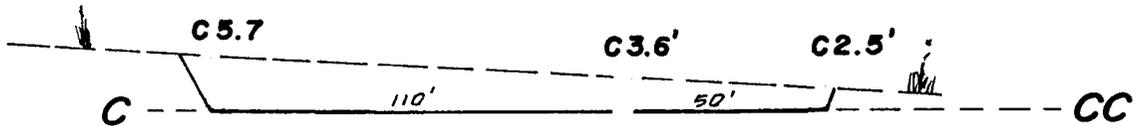
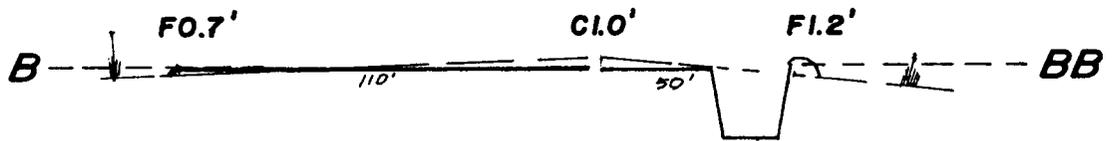
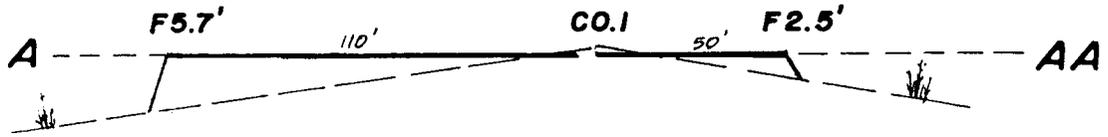
**PLAT NO. 2
PIT & PAD LAYOUT**



ESTIMATED DIRT QUANTITIES				
ITEM	CUT	FILL	TOPSOIL	EXCESS
PAD	2250	1300	900	
PIT	800			
				850

**LONE MOUNTAIN PRODUCTION
SAN ARROYO # 46**

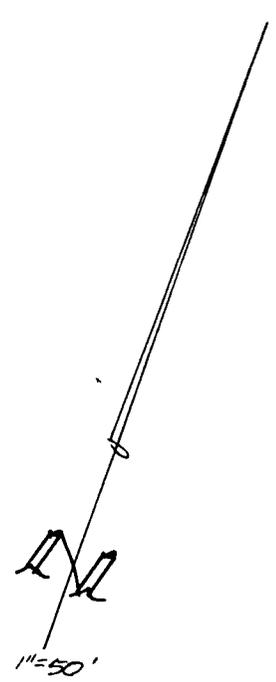
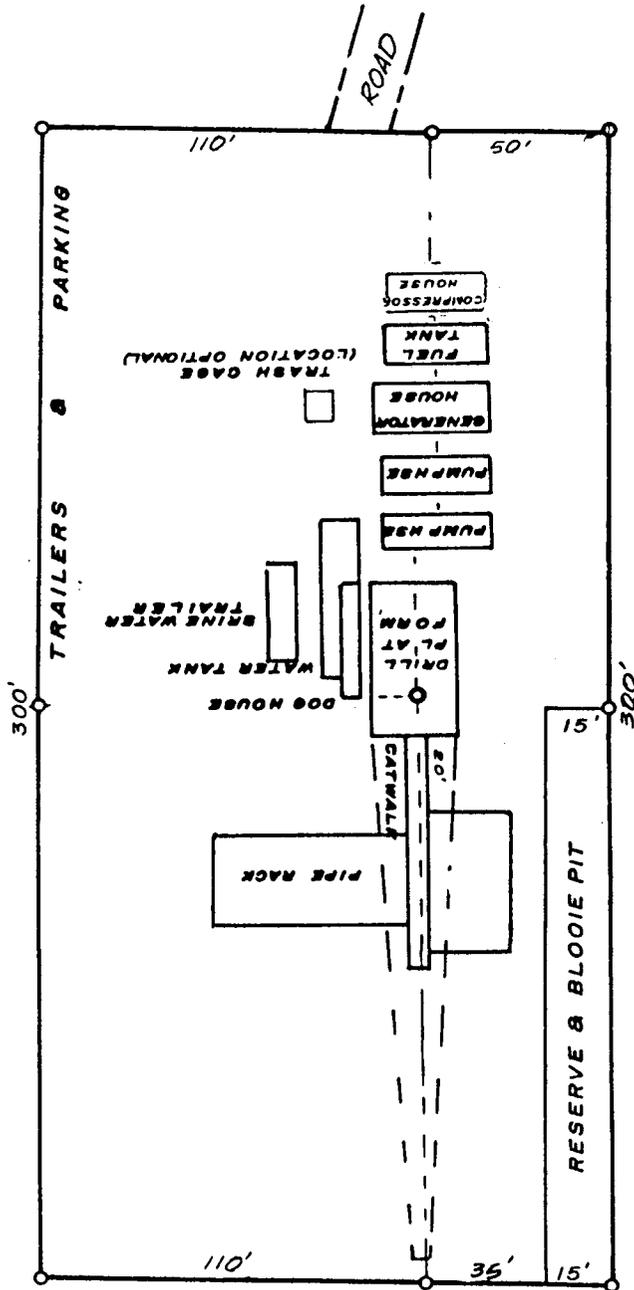
CROSS SECTIONS OF PIT & PAD



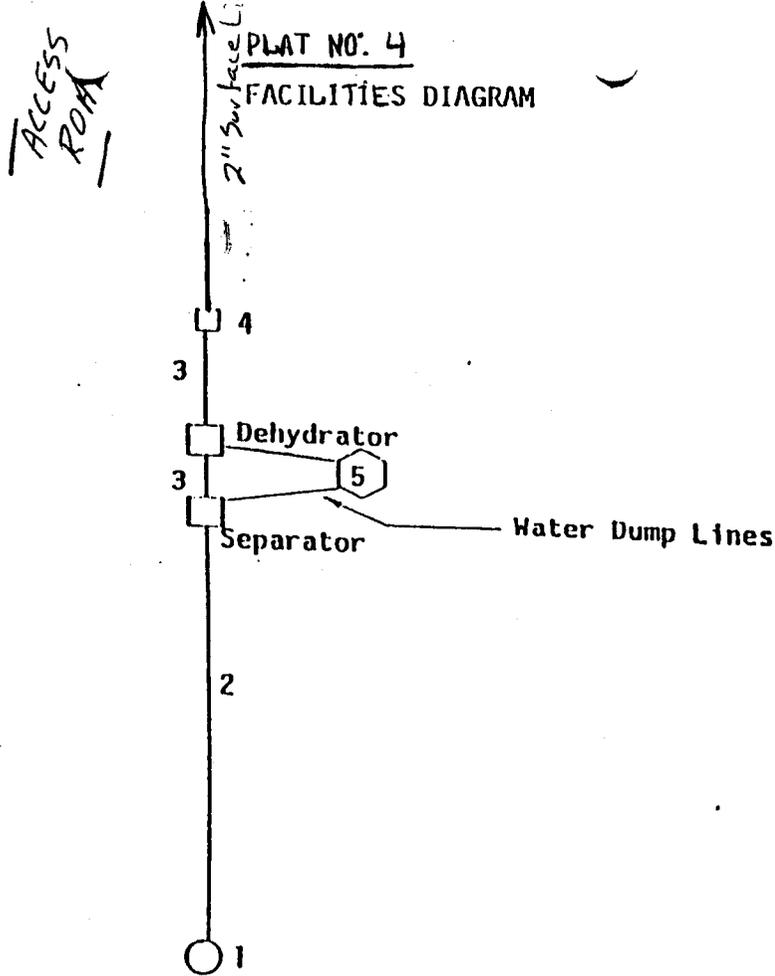
SAN ARROYO # 46

SURVEYED	10/89		ENERGY SURVEYS & ENGINEERING CORP.
DRAWN	11/89		
CHECKED	11/89		

PLAT NO. 3
RIG LAYOUT



SAN ARROYO # 46



1. Wellhead will be a 6" 900 series flanged top. Tubing head will be 10" 900 x 6" 3000 psi with two 2" 3000 psi flanged valves. Tree will be 2" screwed x 200 psi W.P.
2. Line between wellhead and separator will be approximately 100 feet in length and constructed of 2 3/8" .218 wall seamless, welded, wrapped, and buried approximately 5 feet deep.
3. Lines between separator and dehydrator, and dehydrator and meter run, will be 2 3/8" OD seamless, .218 wall, welded, coated, wrapped, and buried, and will be approximately 25 feet in length.
4. Meter run will be American 2" run, or equivalent, 1000 psi static rating, 100" of water differential rating.
5. Pit will be 10' x 10', enclosed by dikes and fenced.

MAP #1
TOPOGRAPHIC ACCESS

SAN ARROYO

AS FIELD

SAN ARROYO UNIT
LONE MOUNTAIN PRODUCTION

GRAND CO
GARFIELD CO

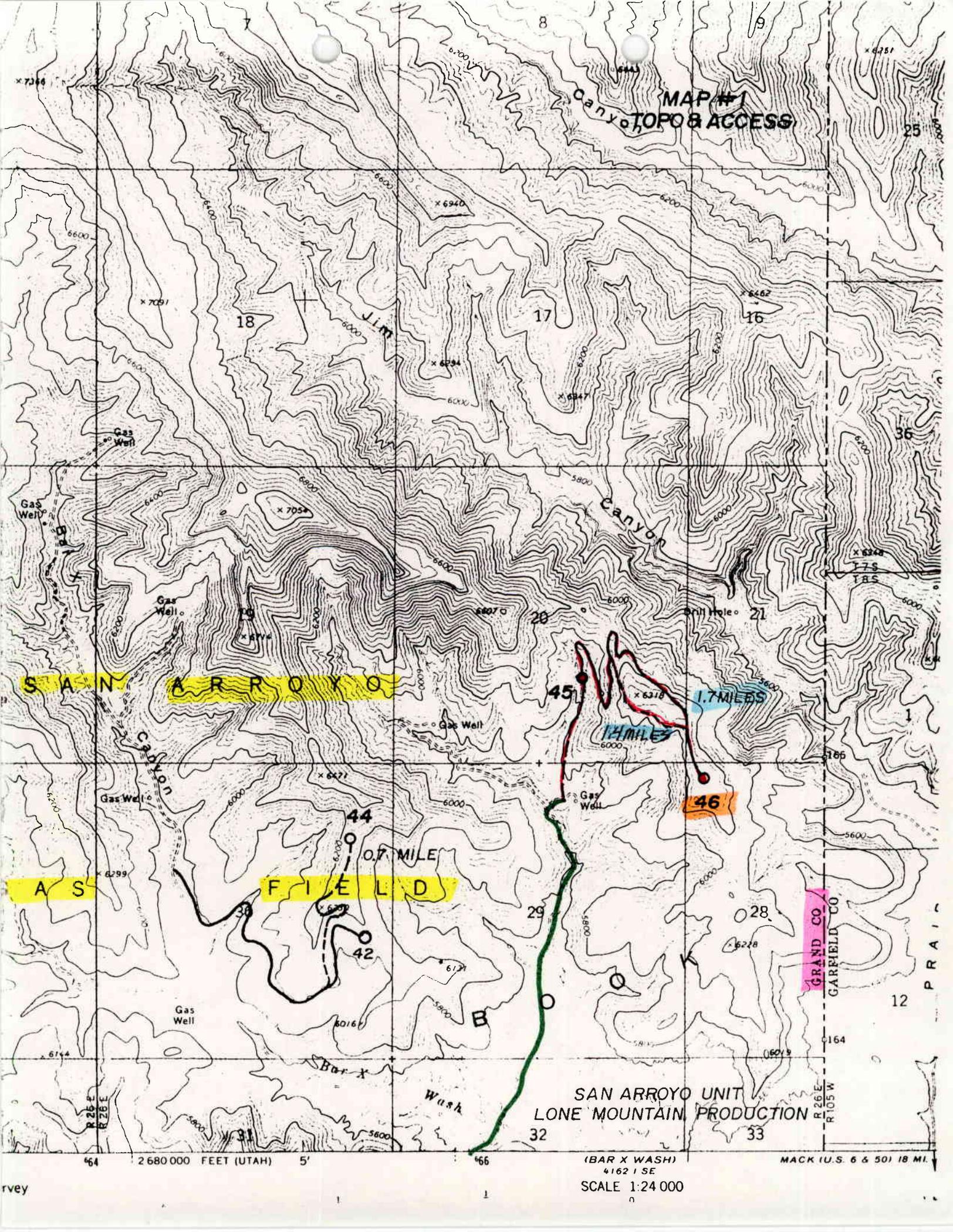
64 2680000 FEET (UTAH) 5' 66

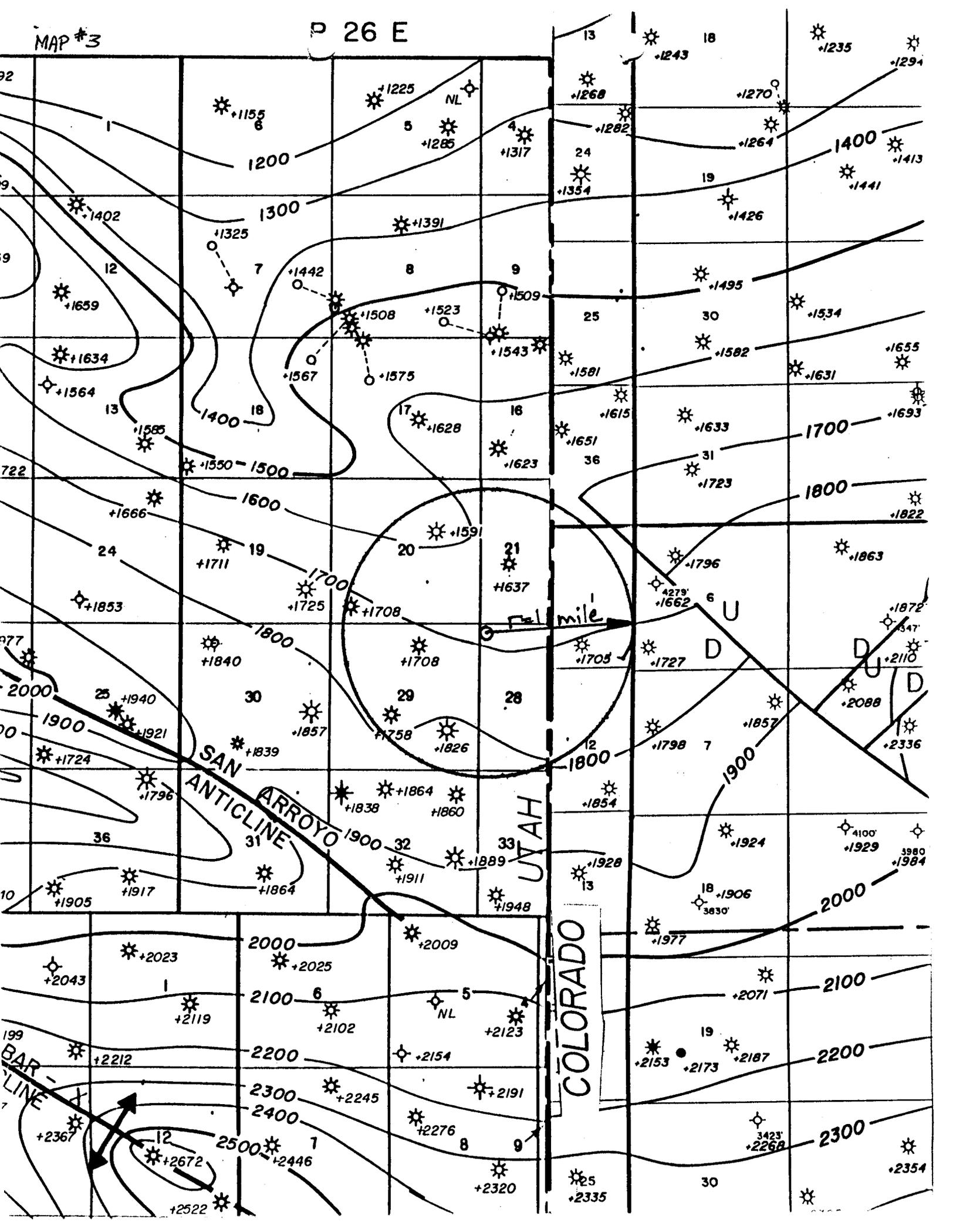
(BAR X WASH)
4162 1 SE

MACK (U.S. 6 & 50) 18 MI.

SCALE 1:24 000

rvey





OPERATOR Lone Mountain Prod. Co. (N7210) DATE 3-19-90

WELL NAME San Arroyo #46

SEC NWNW 28 T 16S R 26E COUNTY Grand

43-019-31300
API NUMBER

Federal (1)
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

Nearest well ok under Unit Spacing.
No Utah water permit necessary (Mac Wash - Co. 7)
Need 1990 P.O.D. San Arroyo Unit / P.O.D. Approved 4-4-90. (5.3.90 copy will be sent) ASAP per Bfm.

APPROVAL LETTER:

SPACING: R615-2-3 San Arroyo
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. Bangerter

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 4, 1990

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

Gentlemen:

Re: San Arroyo #46 - NW NW Sec. 28, T. 16S, R. 26E - Grand County, Utah
300' FNL, 300' FWL

Approval to drill the referenced well is hereby granted in accordance with Section 40-6-18, Utah Code Annotated, as amended 1983; and predicated on Rule R615-2-3, 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 7.
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 R615-3-20, 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
Lone Mountain Production Company
San Arroyo #46
May 4, 1990

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 43-019-31300.

Sincerely,



R. J. Frith
Associate Director, Oil & Gas

lcr
Enclosures
cc: Bureau of Land Management
J. L. Thompson
WE14/52-53

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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 DRILL DEEPEN PLUG BACK

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RECEIVED
MAY 16 1990

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7. UNIT AGREEMENT NAME
 San Arroyo

8. FARM OR LEASE NAME
 Federal

9. WELL NO.
 Unit No. 46

10. FIELD AND POOL, OR WILDCAT
 San Arroyo

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 NWNW Sec 28-T16S-R26E

12. COUNTY OR PARISH
 Grand

13. STATE
 UT

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	250 feet	150 sx 'G' to surface
8-3/4"	7" new	17.0#, H40	1200 feet	225 sx 'G' if needed
6-1/4"	4-1/2" new	10.5#, J55	5150 feet	175 sx 10-0 RFC

- Surface formation is the Mesa Verde.
- Anticipated Geologic markers are: Castlegate 1111', Mancos 1215', Dakota Silt 4601', Dakota 4700', Morrison 4810'.
- 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. SIGNED [Signature] TITLE Petroleum Engineer DATE Feb. 15, 1990

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE Assistant District Manager
for Minerals DATE MAY 11 1990
 APPROVED BY Isl William C. Stringer TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED

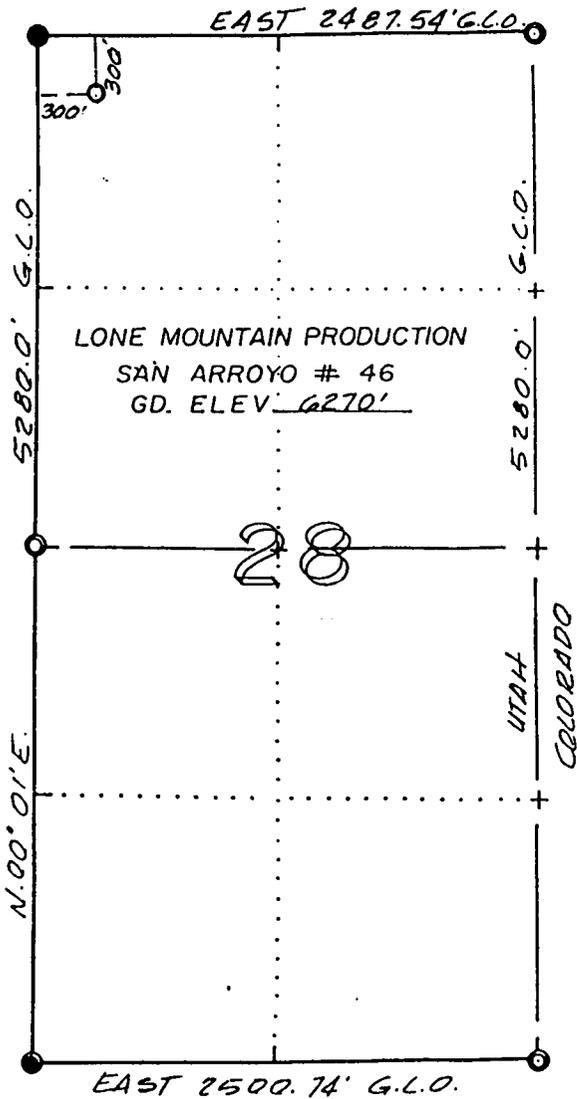
*See Instructions On Reverse Side

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A Dated 1/1/80

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.

SEC. 28, T. 16 S., R. 26 E. OF THE S.L.M.

LOCATION PLAT



SCALE



- LEGEND -

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

REFERENCE DOCUMENTS

1924 GLO PLAT

QUADRANGLE, U.S.G.S.

THIS WELL LOCATION PLAT WAS PREPARED FOR: LONE MOUNTAIN PRODUCTION CO.
 TO LOCATE THE SAN ARROYO # 46, 300' F.N. L. &
300' F.W. L. IN THE NW 1/4 NW 1/4, OF SECTION 28, T. 16 S., R. 26 E.
 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 Heroby 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	10/89	
DRAWN	11/89	
CHECKED	11/89	

ENERGY
 SURVEYS
 CORPORATION

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

SCALE: 1" = 1000'
JOB NO.
SHEET 01

Lone Mountain Production Company
Well No. San Arroyo Federal Unit #46
NWSE, Sec. 20, T. 16 S., R. 26 E.
Grand County, Utah
Lease No. U-05650

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 Bond No. UT0719 (Principal: Lone Mountain Production Company) as provided for in 43 CFR 3104.2.

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, 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.

All fresh water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling will be recorded by depth, cased, and cemented. All oil and gas shows will be tested to determine commercial potential.

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.

B. SURFACE USE PROGRAM

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.

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO). Within five working days the AO will inform the operator whether the materials appear eligible for the National Register of Historic Places.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the expose materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

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 a 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 the appropriate rental, or other financial obligation determined by the authorized officer.

If you plan to lay a pipeline from the location to an existing lateral or trunk line, a sundry notice needs to be submitted to the District Office detailing the following:

All site security guidelines identified in the Onshore Order # 3 regulations will be adhered to.

Gas meter runs for each well will be located within five hundred (500) feet of the wellhead. The gas flowline will be buried from the wellhead to the meter along with any other sections occurring on the pad. Meter runs will be housed and/or fenced.

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 (3) months on new meter installations and at least quarterly thereafter. The 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 Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

If the well is a producer, the side cast material along the access will be seeded with a mixture given by the authorized officer's representative in a manner mutually agreed upon between the operator and BLM for the specific purpose of road stabilization and erosion control.

The operator or his contractor will notify the Grand Resource Area at (801) 259-8193 forty-eight (48) hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.

Your proposed seed mixture in the APD is not authorized by the District Manager's signature on the permit. An authorized seed mixture will be submitted with an approved Sundry Notice of Intent to Abandon (form 3160-5).

Final location release will be issued when the seeding is shown to be successful (when perennial vegetation is established).

C. 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 District Manager 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.

If a replacement rig is needed for completion operations, a Sundry Notice (Form 3160-5) to that effect will be filed for prior approval from the District Office, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergency situations, verbal approval to bring on a replacement rig will be approved through the District Office.

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 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 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.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6.

The following minimum information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch:

"Fed" or "Ind", as applicable; "Well number, location by $\frac{1}{4}$ $\frac{1}{4}$ section, township and range"; "Lease number".

- 2000 psi BOP & BOPE:

Annular preventer, or double rams, or two rams with one being blind and one being a pipe ram

Kill line (2 inch minimum)

1 kill line valve (2 inch minimum)

1 choke line valve

2 chokes

Upper kelly cock valve with handle available

Safety valve and subs to fit all drill strings in use

Pressure gauge on choke manifold

2 inch minimum choke line

Fill-up line above the uppermost preventer

- If repair or replacement of the BOPE is required after testing, this work shall be performed prior to drilling out the casing shoe.

- When the BOPE cannot function to secure the hole, the hole shall be secured using cement, retrievable packer or bridge plug packer, bridge plug or other acceptable approved methods to assure safe well conditions.

- Choke Manifold Equipment:

All choke lines shall be straight lines unless turns use tee blocks or are targeted with running tees, and shall be anchored to prevent whip and reduce vibration.

All valves (except chokes) in the kill line, choke manifold and choke line shall be a type that does not restrict the flow (full opening) and that allows a straight through flow.

Pressure gauges in the well control system shall be a type designed for drilling fluid service.

- 2000 psi system - Accumulator Equipment:

Accumulator shall have sufficient capacity to close all BOP's and retain 200 psi above precharge. Nitrogen bottles that meet manufacturer's specifications may be used as the backup to the required independent power source.

Accumulator precharge pressure test: This test shall be conducted prior to connecting the closing unit to the BOP stack and at least once every 6 months.

Power for the closing unit pumps shall be available to the unit at all times so that the pumps shall automatically start when the closing unit manifold pressure has decreased to a pre-set level.

Each BOP closing unit shall be equipped with sufficient number and sizes of pumps so that, with the accumulator system isolated from service, the pumps shall be capable of opening the hydraulically-operated gate valve (if so equipped), plus closing the annular preventer on the smallest size drill pipe to be used within 2 minutes, and obtain a minimum of 200 psi. above specified accumulator precharge pressure.

A manual locking device (i.e., hand wheels) or automatic locking devices shall be installed on all systems of 2M or greater. A valve shall be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.

- BOP Testing:

Ram type preventers and associated equipment shall be tested to approved stack working pressure if isolated by test plug or to 70 percent of internal yield pressure of casing if BOP is not isolated from casing. Pressure tests on ram type preventers shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed off of pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10 percent in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test of BOP stack.

Annular BOP pressure tests shall be tested to 50 percent of rated working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above tests shall be performed:

- **When initially installed;
- **Whenever any seal subject to test pressure is broken;
- **Following related repairs; and
- **At 30 day intervals.

Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s), the check valve shall be held open or the ball removed.

Pipe and blind rams shall be activated each trip, however this function need not be performed more than once a day

Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

Pressure tests shall apply to all related well control equipment.

All of the above described tests and/or drills shall be recorded in the drilling log.

- Casing and Cementing:

All waiting on cement times shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

All casing, except the conductor casing, shall be new or reconditioned and tested used casing that meets or exceeds API standards for new casing.

The surface casing shall be cemented back to surface either during the primary cement job or by remedial cementing.

All of the above described tests shall be recorded in the drilling log.

All indications of usable water shall be reported to the authorized officer prior to running the next string of casing or before plugging orders are requested, whichever occurs first.

Surface casing shall have centralizers on at least the bottom three joints depending on the severity of hole inclination.

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

All casing strings below the conductor shall be pressure tested to 0.22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

- Mud Program Requirements:

The characteristics, use and testing of drilling mud and the implementation of related drilling procedures shall be designed to prevent the loss of well control. Sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring well control.

-Record slow pump speed on daily drilling report after mudding up.

-Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

-A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

-All flare systems shall be designed to gather and burn all gas. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where non-combustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare.

- Drill Stem Testing Requirements:

Initial opening of drill stem test tools shall be restricted to daylight hours unless specific approval to start during other hours is obtained from the authorized officer. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vapor-proof for safe operations). Packers can be released, but tripping shall not begin before daylight, unless prior approval is obtained from the authorized officer. Closed chamber DSTs may be accomplished day or night.

-A DST that flows to the surface with evidence of hydrocarbons shall be either reversed out of the testing string under controlled surface conditions, or displaced into the formation prior to pulling the test tool. This would involve providing some means for reverse circulation.

-Separation equipment required for the anticipated recovery shall be properly installed before a test starts.

-All engines within 100 feet of the wellbore that are required to "run" during the test shall have spark arresters or water cooled exhausts.

- Special Drilling Operations:

In addition to the equipment already specified elsewhere in Onshore Order No. 2 , the following equipment shall be in place and operational during air/gas drilling:

- Properly lubricated and maintained rotating head;
- Spark arresters on engines or water cooled exhaust;
- Blooie line discharge 100 feet from well bore and securely anchored;
- Straight run on blooie line unless otherwise approved;
- Deduster equipment;
- All cuttings and circulating medium shall be directed into a reserve or blooie pit;
- Float valve above bit;
- Automatic igniter or continuous pilot light on the blooie line;
- Compressors located in the opposite direction from the blooie line a minimum of 100 feet from the well bore;
- Mud circulating equipment, water, and mud materials (does not have to be premixed) sufficient to maintain the capacity of the hole and circulating tanks or pits.

NOTIFICATIONS

Notify Jeff Robbins 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;

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 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

SPUDDING INFORMATION

API NO. 43-019-31300

NAME OF COMPANY: Lone Mountain Production

WELL NAME: San Arroyo Unit #46

SECTION NWNW 28 TOWNSHIP 16S RANGE 26E COUNTY Grand

DRILLING CONTRACTOR Veco

RIG # 2

SPUDDED: DATE 8-29-90

TIME 6:45 p.m.

HOW Rotary

DRILLING WILL COMMENCE Drilled 12 1/4" hole

REPORTED BY Judy Wolfe

TELEPHONE # 406-245-5077

OIL AND GAS	
DFN	RJF
JPB	GLH
DIS	SLS
L-TAS	<input checked="" type="checkbox"/>
J-JLT	<input checked="" type="checkbox"/>
3 - MICROFILM	<input checked="" type="checkbox"/>
4 - FILE	<input checked="" type="checkbox"/>

DATE 9-4-90 SIGNED TAS

LONE MOUNTAIN PRODUCTION COMPANY

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

RECEIVED
SEP 04 1990

DIVISION OF
OIL, GAS & MINING

August 31, 1990

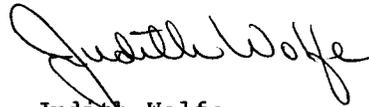
Utah Division of Oil, Gas & Mining
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180

Gentlemen:

Enclosed please find two (2) copies of the Spud Report for the San Arroyo Unit No. 46 well, Grand County, Utah, and two (2) copies of the Status Report and Water Encounter Report for the San Arroyo Unit No. 45 well, Grand County, Utah.

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

Sincerely,



Judith Wolfe

/jlw
Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved,
Budget Bureau No. 1004-013
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug a well. Use "APPLICATION FOR PERMIT" for such proposals.)

RECEIVED
SEP 04 1990

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Lone Mountain Production Company

3. ADDRESS OF OPERATOR
P.O. Box 3394, 408 Petroleum Bldg., Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface
300' FNL, 300' FWL, Section 28

5. PERMIT NO.
43-019-31300

6. RESERVATIONS (Show whether DF, RT, SR, etc.)
6270' GL, 6280' KB

7. LEASE DESIGNATION AND SERIAL NO.
U-05650

8. IF INDIAN, ALLOTTEE OR TRIBE NAME

9. UNIT AGREEMENT NAME
San Arroyo

10. FARM OR LEASE NAME
Federal

11. WELL NO.
Unit No. 46

12. FIELD AND POOL, OR WILDCAT
San Arroyo

13. SEC., T., R., M., OR BLE. AND SURVEY OR AREA
NWNW Sec. 28: T16S-R26E

14. COUNTY OR PARISH
Grand

15. STATE
Utah

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"/>	PULL 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 type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) <input type="checkbox"/>	Spud Report <input checked="" type="checkbox"/>	(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.)

Spudded 12 1/4" hole at 6:45 p.m., 8-29-90. Drilled 12 1/4" hole to 270'. Ran 9-5/8", 36#, L.S. casing to 259'. Cemented to surface with 150 sacks class "G", 3% CaCl₂, 1/4# celloflake w/ sack, and 60 sacks neat down annulus.

Notified John Baza with the Utah Division of Oil, Gas & Mining at 8:40 a.m., August 30, 1990.

Notified Dale Manchester with the BLM, Moab, Utah, at 9:00 a.m., August 30, 1990

Veco Rig No. 2

OIL AND GAS	
DFN	RJF
JFB	GLH
LIS	SLS
1-TAS	
2-LC/ff	
3	MICROFILM
4	FILE

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

SIGNED James G. Roubison TITLE Petroleum Engineer DATE August 31, 1990

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

LONE MOUNTAIN PRODUCTION COMPANY

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

4301931300
DRL

September 7, 1990

RECEIVED
SEP 10 1990

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

DIVISION OF
OIL, GAS & MINING

Gentlemen:

Please find enclosed two (2) copies of the Abandonment Report Notice and Report of Water Encountered for the San Arroyo Unit No. 46 well in Grand County, Utah.

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

Sincerely,

Judith Wolfe

/jlw

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIP DATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1001-01
Expires August 31, 1985
5. LEASE DESIGNATION AND SERIAL NO.
U-05650
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.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

LONE MOUNTAIN PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

408 Petroleum Bldg., P.O. Box 3394, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
AT SURFACE

300' FNL, 300' FWL, Section 28

14. PERMIT NO
43-019-31300

16. ELEVATIONS (Show whether DF, RT, OR, etc.)
6270' GL, 6280' KB

SEP 10 1990

DIVISION OF
OIL, GAS & MINING

UNIT AGREEMENT NAME

San Arroyo

7. FARM OR LEASE NAME

Federal

9. WELL NO.

Unit No. 46

10. FIELD AND POOL, OR WILDCAT

San Arroyo

11. SEC., T., R., M., OR B.L.K. AND SURVEY OR AREA

NWNW Sec. 28: T16S-R26E

12. COUNTY OR PARISH
Grand

13. 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*

(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.)

Air drilled 8-3/4" hole to 672'. Ran 15 Jts. 7", 23#, L.S. casing to 652'. Cemented with 125 sx class "G", 2% CaCl₂, 1/4" celloflake/sack. Encountered unconsolidated blow sand at 300', lost returns with air. Drilled without returns to 672' and got stuck. Ran intermediate casing to isolate unconsolidated interval.

Air drilled to TD 5150', no gas encountered. Ran GR-FDC-CNL and SP-DIL logs. Log tops:
Castlegate 1274 (+5006)
Dakota silt 4582 (+1698)
Dakota sand 4696 (+1584)
Morrison 4831 (+1449)

Plugged and abandoned as follows:

Plug No. 1: 4650-4790, 35 sacks
Plug No. 2: 2530-2640, 27 sacks
Plug No. 3: 592-712, 27 sacks
Plug No. 4: Sfc-50', 10 sacks

9-5/8"/7" annulus sealed with welded steel plate at surface. Finished plugging at 3:30 p.m.,

9-5-90. Rig released at 5:00 p.m., 9-5-90.

Plugging orders received at 1:00 a.m., 9-4-90 from Dale Manchester, BLM, Moab; and John Baza, Utah Division of Oil, Gas & Mining, Salt Lake City, Utah.

Dry hole marker will be installed and rehab work will begin within 30 days.

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

SIGNED *James G. Routson*
James G. Routson

TITLE **Petroleum Engineer**

Stamp: RECEIVED SEP 10 1990

DATE **September 7, 1990**

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

Division of Oil, Gas and Mining
PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

Well File Federal Unit No. 416

Suspense
(Return Date) _____
(To - Initials) _____

Other

(Location) Sec 28 Twp 14S Rng 26E
(API No.) 43-019-31300

1. Date of Phone Call: 9-28-90 Time: 2:17 pm

2. DOGM Employee (name) Debra Eatchel (Initiated Call
Talked to:

Name Jim Houlson (Initiated Call - Phone No. (406) 245-5077

of (Company/Organization) LONE MTN Production Co.

3. Topic of Conversation: Need WCR for the San Arroyo
Unit No. 416 in Grand County - said he would
send it.

4. Highlights of Conversation: * Received WCR 10/10/90 *



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

October 3, 1990

Mr. Jim Routson
Lone Mtn. Production Company
P. O. Box 3394
Billings, Montana 59103

Dear Mr. Routson:

Re: Request for Completed Entity Action Form

This is written to remind you that all well operators are responsible for sending an Entity Action Form to the Division of Oil, Gas and Mining within five working days of spudding a new well. This office was notified that your company spudded the San Arroyo Unit #46, API Number 43-019-31300, on August 29, 1990. At this time, we have not received an Entity Action Form for this well.

Please review the instructions on the back of the enclosed form. Make sure you choose the proper Action Code to show whether the well will be a single well with its own sales facilities (Code A), a well being added to an existing group of wells having the same tank battery and common division of royalty interest (Code B - show existing Entity Number to which well should be added), or a well being drilled in the participating area of a properly designated unit (Code B). Complete the form and return it to us by October 12, 1990.

Your attention to this matter is appreciated. If we can be of assistance to you, please feel free to call Lisha Romero at the above number.

Sincerely,

Don Staley
Administrative Supervisor

lcr
Enclosure
cc: R. J. Firth
0682S-6

LONE MOUNTAIN PRODUCTION COMPANY

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

RECEIVED
OCT 10 1990

DIVISION OF
OIL, GAS & MINING

October 8, 1990

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

Re: San Arroyo Unit #46
NW NW Section 28: T16S-R26E
Grand County, Utah

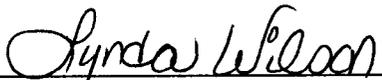
Gentlemen:

Please find enclosed two copies of the Well Completion Report, Form 3160-4 for the captioned well, which was plugged & abandoned on September 5, 1990.

If you require any further information, please give us a call.

Very truly yours,

Lone Mountain Production Company



Lynda Wilson

/lw

enclosures

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

5. LEASE DESIGNATION AND SERIAL NO.

U-05650

6. INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

San Arroyo

8. FARM OR LEASE NAME

Federal

9. WELL NO.

Unit No. 46

10. FIELD AND POOL, OR WILDCAT

San Arroyo

11. SEC., T., R., N., OR BLOCK AND SURVEY OR AREA

NWNW Sec. 28-T16S-R26E

12. COUNTY OR PARISH

Grand

13. STATE

Utah

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other OCT 10 1990

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RENVR. Other DIVISION OF OIL, GAS & MINING

2. NAME OF OPERATOR
Lone Mountain Production Company

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface **300' FNL, 300' FWL, Sec. 28**

At top prod. interval reported below
same

At total depth **same**

14. PERMIT NO. **43-019-31300** DATE ISSUED **5-4-90**

15. DATE SPudded	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DP, RKB, RT, OR, ETC.)*	19. ELEV. CASINGHEAD
8-29-90	9-4-90	P&A 9-5-90	6270' GL, 6280' KB	

20. TOTAL DEPTH, MD & TVD	21. PLUG BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
5150	Sfc		→	0-TD	

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, SP-DIL 10-9-90

27. WAS WELL CORRED
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# L.S.	259	12 1/4"	210 sx class "G", 3% CaCl ₂	None
7"	23# L.S.	652	8-3/4"	125 sx class "G", 2% CaCl ₂	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACKS CEMENT*	SCREEN (MD)	30. TUBING RECORD	PACKER SET (MD)
None					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
cement Plug #1	4650-4790, 35 sacks
cement Plug #2	2530-2640', 27 sacks
cement Plug #3	592-712, 27 sacks
cement Plug #4	Sfc-50', 10 sacks

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
None	None	P&A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
None	na		→				

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

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

TEST WITNESSED BY

35. LIST OF ATTACHMENTS
None - Logs sent direct by service companies

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 10-5-90

*(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, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	GEOLOGIC MARKERS																	
				NAME	TOP MEAS. DEPTH TRUE VERT. DEPTH																
Dakota	4706	4724	tight gas <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td colspan="2">OIL AND GAS</td></tr> <tr><td>DPN</td><td>✓</td></tr> <tr><td>JFB</td><td>GIH</td></tr> <tr><td>DIS</td><td>SLS</td></tr> <tr><td colspan="2">2-DIME ✓</td></tr> <tr><td colspan="2">3-VLC ✓</td></tr> <tr><td colspan="2">4-MICROFILM ✓</td></tr> <tr><td colspan="2">5-FEE ✓</td></tr> </table>	OIL AND GAS		DPN	✓	JFB	GIH	DIS	SLS	2-DIME ✓		3-VLC ✓		4-MICROFILM ✓		5-FEE ✓		1274 4582 4696 4831	+5006 +1698 +1584 +1449
OIL AND GAS																					
DPN	✓																				
JFB	GIH																				
DIS	SLS																				
2-DIME ✓																					
3-VLC ✓																					
4-MICROFILM ✓																					
5-FEE ✓																					

LONE MOUNTAIN PRODUCTION COMPANY

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

RECEIVED
OCT 19 1990

October 17, 1990

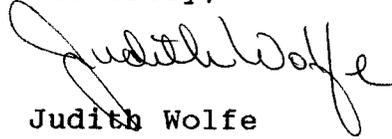
State of Utah
Division of Oil, Gas and Mining
3 Triad Center, Suite 350
355 W. North Temple
Salt Lake City, UT 84180

Gentlemen:

Please find enclosed an Entity Action Form for the San Arroyo
Unit No. 46 well in Grand County, Utah.

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

Sincerely,


Judith Wolfe

/jlw
Enclosure

OPERATOR Lone Mountain Production Company

OPERATOR ACCT. NO. N- 7210

ADDRESS P.O. Box 3394, 408 Petroleum Building

Billings, MT 59103

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99998	—	43-019-31300	San Arroyo No. 46	NWNW	28	16S	26E	Grand	8/29/90	8/29/90
WELL 1 COMMENTS: Federal - Lease Proposed Zone - MASH Field - San Arroyo (Well was PA'd eff. 9-5-90, no entity change necessary) Unit - San Arroyo											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
WELL 4 COMMENTS:											
WELL 5 COMMENTS:											

RECEIVED
OCT 19 1990

DIVISION OF
OIL, GAS & MINING

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.

James D. Ambrose
Signature
Petroleum Engineer Title
10/08/90 Date

Phone No. (406) 245-5077

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1001-013
Expires August 31, 1985
5. LEASE DESIGNATION AND SERIAL NO.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back for oil or gas on Indian Reservations. Use "APPLICATION FOR PERMIT-" for such proposals.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR Lone Mountain Production Co.

3. ADDRESS OF OPERATOR PO Box 3394, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface
300' FNL, 300' FWL, Sec 28

14. PERMIT NO. 43-019-31300 PA

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
6270' GL, 6280' KB

7. LEASE AGREEMENT NAME San Arroyo

8. FARM OR LEASE NAME Federal

9. WELL NO. Unit No. 46

10. FIELD AND POOL, OR WILDCAT San Arroyo

11. SEC., T., R., M., OR B.L.K. AND SURVEY OR AREA
NWNW Sec 28:T16S-R26E

12. COUNTY OR PARISH Grand

13. STATE Utah

DEC 17 1990

DIVISION OF OIL, GAS & MINING

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"/>	PULL 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 type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANE <input type="checkbox"/>	(Other) Reclamation work <input checked="" type="checkbox"/>	

(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.)

The San Arroyo Unit No. 46 location has been recontoured and reseeded. Work was completed 12/2/90. Seed tickets have been sent under separate cover.

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

SIGNED James G. Routson TITLE Petroleum Engineer DATE 12/4/90
James G. Routson
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side