

**FILE NOTATIONS**

Entered in NID File ..✓.....  
Location Map Pinned .....  
Card Indexed .....✓.....

Checked by Chief .....  
Approval Letter .....  
Disapproval Letter .....

**COMPLETION DATA:**

Date Well Completed .....  
OW..... WW..... TA.....  
GW..... OS..... PA.....

Location Inspected .....  
Bond released  
State of Pa. I. ....

**LOGS FILED**

Driller's Log.....  
Electric Logs (No.) .....  
E..... I..... Dual I Lat..... GR-N..... Micro.....  
BHC Sonic GR..... Lat..... MI-L..... Sonic.....  
CRLog..... CCLog.....

*CRW 9-19-90*



SCOTT M. MATHESON  
Governor

OIL, GAS, AND MINING BOARD

GORDON E. HARMSTON  
*Executive Director,*  
NATURAL RESOURCES

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771  
August 24, 1978

I. DANIEL STEWART  
*Chairman*

CHARLES R. HENDERSON  
JOHN L. BELL  
THADIS W. BOX  
C. RAY JUVELIN

CLEON B. FEIGHT  
*Director*

Natural Gas Corporation of Calif.  
2305 Oxford Lane  
Casper, Wyoming 82601

Re: Well No.:  
Fed. 1-20  
Sec. 20, T. 16 S, R. 25 E, -SLB&M  
Grand County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with the Order issued in Cause #149-2.

Should you determine that it will be necessary to plug and abandon this well, it will be necessary for you to immediately notify the following:

PATRICK L. DRISCOLL - Chief Petroleum Engineer  
HOME: 582-7247  
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is:

Fed. 1-20: 43-019-30460

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT  
Director

cc: U.S. Geological Survey

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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  
*Natural Gas Corporation of California*

3. ADDRESS OF OPERATOR  
*c/o McIlroy-Adams & Co., Inc.  
 2305 Oxford Lane, Casper, Wyoming 82601*

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface  
*1921' FEL & 2264' FSL (NW SE) Section 20-T16S-R25E*  
 At proposed prod. zone  
*Same*

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
*66 miles North of Quarry, Utah*

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
*1921'*

16. NO. OF ACRES IN LEASE  
*480*

17. NO. OF ACRES ASSIGNED TO THIS WELL  
*320*

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
*2400'*

19. PROPOSED DEPTH  
*6500'*

20. ROTARY OR CABLE TOOLS  
*Rotary*

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
*7286' ungraded ground level*

22. APPROX. DATE WORK WILL START\*  
*July 15, 1978*

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13 3/4"	9 5/8"	36#	500'	Cement to surface = 300 sx
7 7/8"	5 1/2"	15.5#	6500'	250 sx

It is proposed to drill this well to a Total Depth of 6500' for the purpose of testing and evaluating all potential oil and/or gas zones encountered. If the well is found productive, 5 1/2" casing will be installed and the well completed. If it is found non-productive, the well will be P&A as per USGS instructions and the disturbed areas restored as per USGS and BLM requirements. See attached "Well Control and Related Information" and "USGS Surface Use and Operating Plan" for details.



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 *Edward W. McIlroy* TITLE *Agent* DATE *6-14-78*

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY *Daniel G. Newquist* TITLE **ACTING DISTRICT ENGINEER** DATE **SEP 27 1978**  
 CONDITIONS OF APPROVAL, IF ANY:  
*State O&G*      **CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY**

NOTICE OF APPROVAL

\*See Instructions On Reverse Side

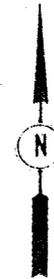
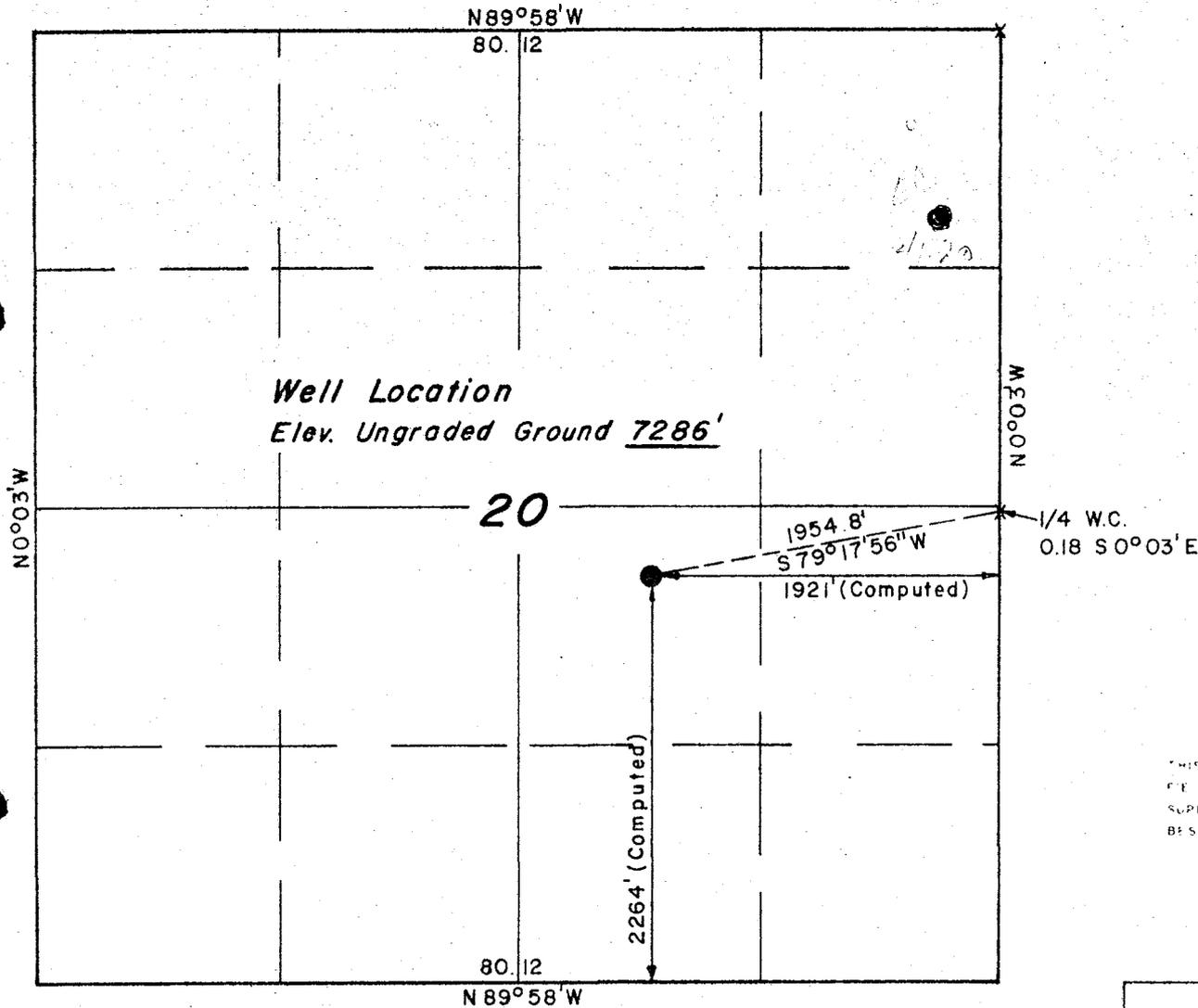
NECESSARY FLARING OF GAS DURING DRILLING AND COMPLETION APPROVED SUBJECT TO ROYALTY (NTL-4)

T16S, R25E, S.L.B.&M.

PROJECT  
NATURAL GAS CO

Well location, located as shown  
in the, NW 1/4 SE 1/4, Section 20 T16S,  
R25E, S.L.B.&M. Grand County, Utah.

FEDERAL #1-20



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM  
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY  
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

*James P. Cox*

REGISTERED LAND SURVEYOR  
REGISTRATION NO 3137  
STATE OF UTAH

X = Section Corners Located.

UTAH ENGINEERING & LAND SURVEYING P.O. BOX Q - 110 EAST - FIRST SOUTH VERNAL, UTAH - 84078	
SCALE 1" = 1000'	DATE 9/3/77
PARTY RK DJ DD	REFERENCE GLO PLAT
WEATHER Warm	FILE NATURAL GAS CO.



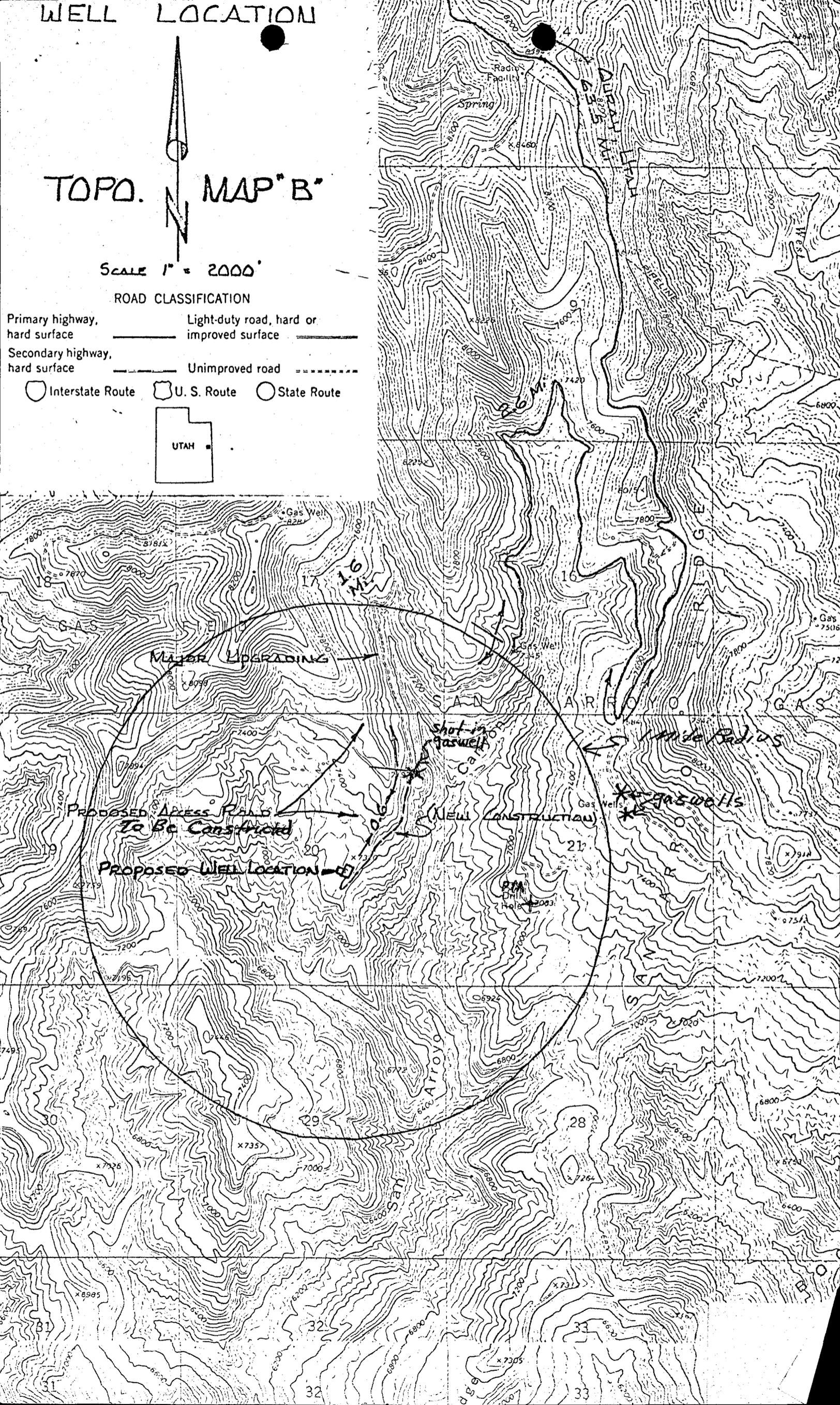
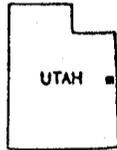
# WELL LOCATION

## TOPO. MAP "B"

Scale 1" = 2000'

### ROAD CLASSIFICATION

- Primary highway, hard surface
- Secondary highway, hard surface
- Light-duty road, hard or improved surface
- Unimproved road
- Interstate Route
- U. S. Route
- State Route



1.6 Mi

Major Upgrading

Proposed Access Road To Be Constructed

Proposed Well Location

Shot in Gaswell

(New Construction)

Intersected Radius

X Gas Wells

FROM: District Geologist, Salt Lake City, Utah

TO: District Engineer, Salt Lake City, Utah

Lease No. U-29644

SUBJECT: APD supplemental stipulations

Operator: NATURAL GAS CORP. of CALIF. Location: 1921' FEL, 2264' FSL

1/4 1/4 sec. 20 T. 16S, R. 25E

Well: 1-20

GRAND Co., UTAH

1. Operator picked tops are adequate? Yes X, No    . If not: The following are estimated tops of important geologic markers:

Formation	Depth	Formation	Depth
-----------	-------	-----------	-------

2. Fresh water aquifers likely to be present below surface casing? Yes    , No X. If yes: Surface casing program may require adjustment for protection of fresh water aquifers to a depth of approximately     feet in the     Formation.

3. Does operator note all prospectively valuable oil and gas horizons? Yes X, No    . If not: The following additional horizons will be adequately logged for hydrocarbons:

Unit	Depth	Unit	Depth
------	-------	------	-------

4. Any other leasable minerals present? Yes X, No    . If yes: 1. Logs (Density <sup>\*\*</sup>) will be run through the mesaverde at approximate depths of 0 to 2000 feet to adequately locate and identify anticipated Coal beds. 2. Logs (    <sup>\*</sup>) will be run through the     <sup>\*\*</sup> at approximate depths of     to     feet to adequately locate and identify anticipated     beds. 3. Logs (    <sup>\*</sup>) will be run through the     <sup>\*\*</sup> at approximate depths of     to     feet to adequately locate and identify anticipated     beds.

5. Any potential problems that should be brought to operators attention (e.g. abnormal temperature, pressure, incompetent beds, H<sub>2</sub>S)? Yes    , No X. If yes, what?

6. References and remarks: Within San Arroyo K. D. S.

\* From 10 pt or others as necessary. \*\* Members, Formations.

Date: 7-3-78

Signed: emp

WELL CONTROL AND RELATED INFORMATION

NATURAL GAS CORPORATION OF CALIFORNIA

Federal #1-20

NW SE Section 20-T16S-R25E

Grand County, Utah

1. Surface Formation:

Mesaverde

2. Estimated Geological Tops:

<u>Formation</u>	<u>Vertical Depth</u>
Buck Tongue	2,100'
Castlegate	2,425'
Mancos	2,520'
Dakota Silt	5,930'
Dakota Beach	6,030'
Cedar Mountain	6,090'
Buckhorn	6,200'
Morrison	6,245'
T.D. (estimated)	6,300'

3. Estimated Depths At Which Anticipated Water, Oil, Gas or Other Mineral-Bearing Formations are Expected to be Encountered:

Possible oil and/or gas bearing zones anticipated at 6,030', 6,090', 6,200', and 6,245'. All formations below about 100' will probably contain some water.

4. Casing Program:

Surface Casing:

0 - 500' -- 9 5/8", 36#/ft, K-55, ST&C, "new".

Production Casing:

0 - T.D. (6,300') -- 5 1/2", 15.5#/ft, K-55, ST&C, "new".

5. Pressure Control Equipment (See Attached Diagram):

- a. One 10", 3000 psi preventer with drill pipe and blind rams (make unknown).
- b. At least one 2" kill line with flanged connections will be installed below BOP rams. A choke manifold with one variable and one fixed choke will be placed at least 30' from the rig substructure.
- c. The pressure control equipment will be tested to 1500 psi for 30 minutes prior to drilling below surface casing.
- d. A daily operational check of the BOP equipment will be made and recorded.

6. Drilling Fluid:

<u>Interval</u>	<u>Mud Wt. #/gal</u>	<u>Vis</u>	<u>W.L.</u>	<u>Type System</u>
0 - 500'	8.4 - 8.7	N.C.	N.C.	Lime Water - Native
*500 - T.D.				Air and Airedated Water System

\*If water zones are encountered while drilling which can not be handled by air drilling procedures, the drilling fluid will be converted to a fresh water gel system with the following properties:

<u>Mud Weight #/gal</u>	<u>Vis</u>	<u>W.L.</u>
8.9 to 9.2	30 - 38	4 to 8 cc.

If the entire hole is air drilled, it will be filled at T.D. with KCl water for the purpose of running electric logs. Sufficient mud materials to maintain mud requirements and meet minimum lost circulation and blowout problems will be maintained at the wellsite.

7. Auxiliary Equipment to be Used:

- a. While drilling with air a 10" -- 3000 psig drilling head will be utilized.
- b. 10,000 psi kelly cock.
- c. Float at bit if no lost circulation has been encountered.
- d. Mud tank levels will be visually monitored.
- e. A full-opening drill pipe stabbing valve with proper connections will be on the rig floor ready for use when the kelly is not in the string.
- f. An unmanned mud logging unit will be utilized if and when drilling fluid is converted to mud.

8. Testing, Logging, Coring, and Tentative Completion Program:

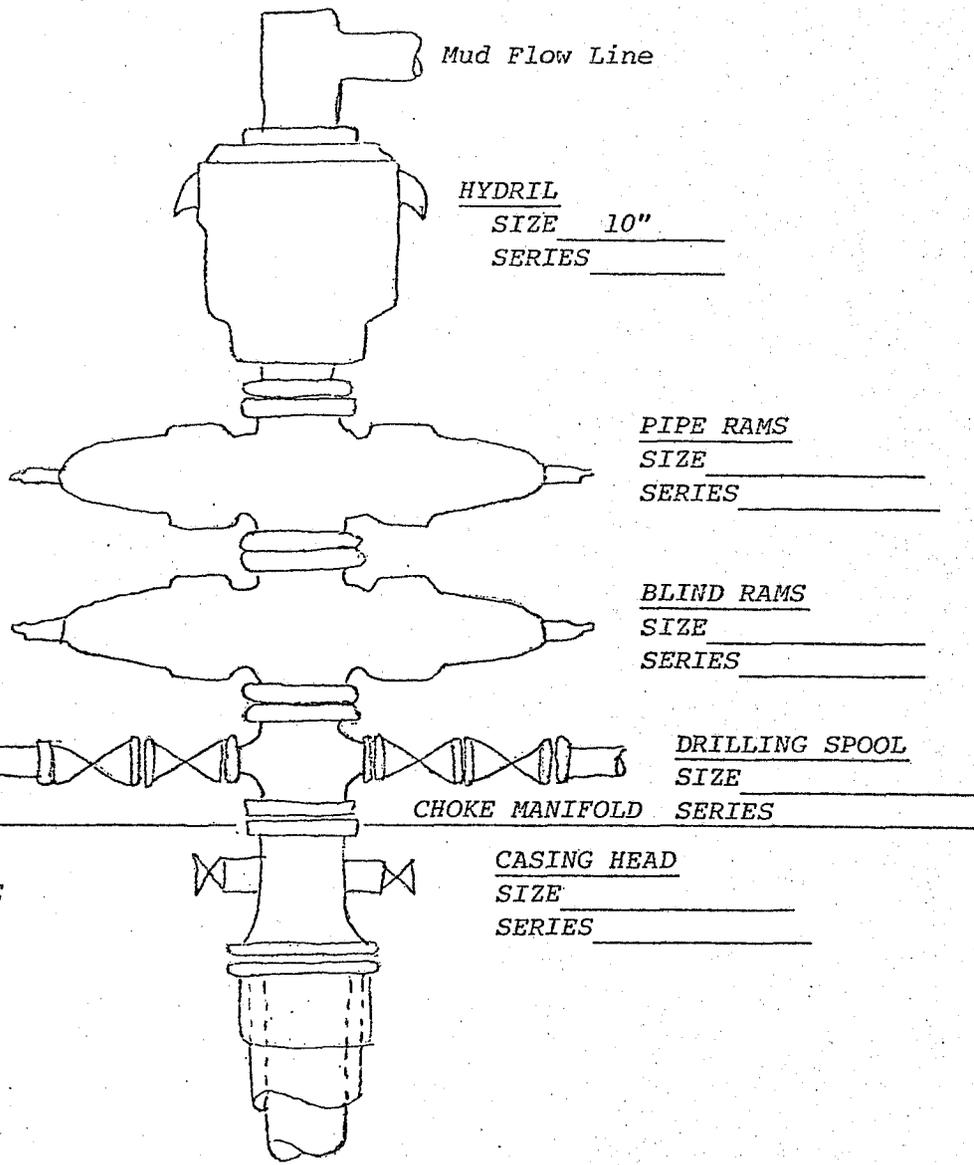
- a. All "good" gas and/or oil shows will be tested.
- b. Logging Program: Dual Induction Laterolog (linear 2" and logarithmic 5" with Rxo/Rt) and Integrated Borehole Compensated Sonic-Gamma Ray with Caliper from surface pipe to total depth. Compensated Neutron-Formation Density log over zones of interest.
- c. Coring Program: None
- d. Tentative Completion Program: 5 1/2" production casing will be cemented into place. Possible perforations are 6030' to 6050' with 20 holes. The productive zone will be broken down with approximately 1000 gals of 15% HCl acid. If necessary, the well will be fracture stimulated with approximately 100,000# of sand and 70,000 gals of gelled water. All frac fluids non-volatile.

9. Abnormal Conditions or Potential Hazards:

Abnormal conditions or potential hazards are not expected. Estimated temperature @ 6300' (T.D.) is 170°F. Estimated bottom hole pressure at T.D. is 3150 psig. Hydrogen sulfide gas is not expected.

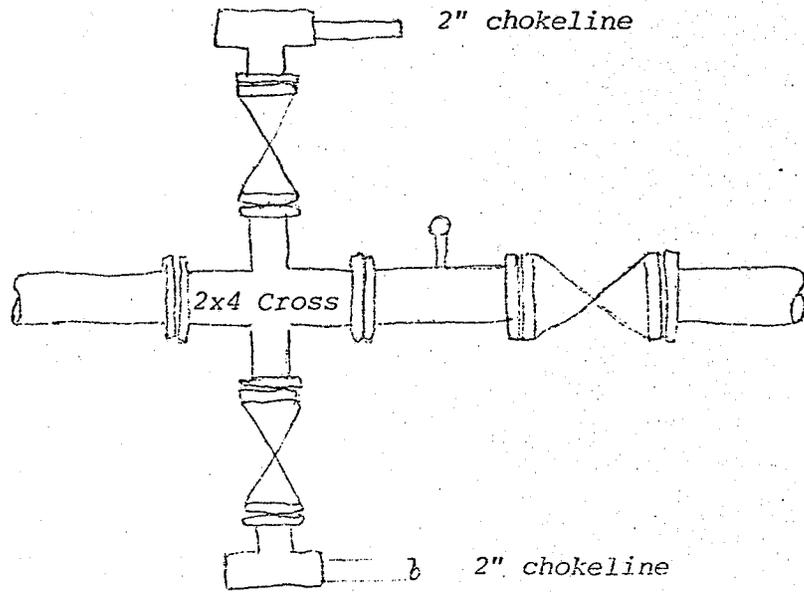
10. Anticipated Starting Date of Drilling Operations:

Plan to start drilling July 15, 1978. Approximately 14 days should be required to drill, test, etc.



CHOKe MANIFOLD

BOP Min. 30'



NATURAL GAS CORPORATION OF CALIFORNIA

Federal #1-20

NW SE Section 20-T16S-R25E

Grand County, Utah

1. Existing Roads:

- A. Proposed well site: See surveyor's plat, Map A and Figure 4. Elevations were measured at several points around the location as shown on Figure 4. Directional reference stakes were set in all four (4) directions.
- B. To reach Natural Gas Co., well location, located in the NW/4 SE/4 Section 20-T16S-R25E, S.L.B. & M., Grand County, Utah, proceed west from Vernal, Utah along U.S. Highway 40 - 14 miles to the junction of this highway and Utah State Highway 88 that exits to the south. Proceed south along Utah State Highway 88, 17.8 miles to Ouray, Utah. Proceed south from Ouray along the Uintah County Road (of which the first 4 miles is paved and the rest an improved dirt road), 53 miles to P.R. Springs; proceed easterly along an improved dirt road that is called the McCook Ridge road 7.6 miles to its junction with a road that runs in a southerly direction along San Arroyo Ridge; proceed along this improved dirt road 2.85 miles to the junction of a service road that runs in a westerly direction into the bottom of San Arroyo Canyon; proceed westerly along this road 2.6 miles to an existing Gas Well in the SW/4 of Section 16-T16S-R25E, S.L.B.&M. of which point an exit road proceeds on in a southwesterly direction for 1.6 miles to an existing wellsite (NE NE Section 20-T16S-R25E). From this point, 0.6 miles of new road in a southwesterly direction will be required.
- C. Access road to location is shown on Map A & B.
- D. Not an exploratory well.
- E. Existing roads within a 1-mile radius are shown on attached Maps A & B. These roads are dirt roads, which in dry weather will support heavy loads.
- F. The roads that are required for access during the drilling phase, completion phase, and production phase of this well, will be maintained at the standards required by the BLM or other controlling agencies. Existing dirt roads will require periodic blading.

2. Planned Access Roads: (See Map B)

1. Width: The new road will be built to a width of 18' for a distance of about 0.6 miles. The 1.6 miles of road leading to the existing wellsite in the NE NE of Section 20 will also be upgraded to a width of 18'.
2. Maximum grade will not exceed 8%. Back slopes along cut areas of the road will be 1 1/2 to 1 slopes and terraced.
3. Turnouts: If deemed necessary by BLM and/or the USGS, turnouts will be constructed for safety purposes every 0.25 miles or on the top of ridges that will provide the greatest sight distance. These turnouts will be 200' in length and 12' in width and will be tapered from the shoulder of the road for a distance of 50' in length at both the access road and the outlet road.
4. Drainage design: Drainage ditches will be constructed along either side of the new road and the upgraded road where it is determined necessary to handle run-off of water and provide adequate drainage.
5. No culverts are anticipated.
6. Surfacing material: The road will be constructed from native borrow accumulated during construction.
7. No gates, cattleguards or fence cuts will be required.
8. The road is center-line flagged. The terrain the road traverses is along the side of a ridge that separates San Arroyo Canyon to the east and East Canyon to the west and is shad scale, sagebrush, some grasses and cacti.

3. Location of Existing Wells: (Development Well - 1 mile radius)

1. Water Wells: none
2. Abandoned Wells: 1 - SE SW Section 21-T16S-R25E
3. Temporarily Abandoned Wells: none
4. Disposal Wells: none
5. Drilling Wells: none
6. Producing Wells: none
7. Shut-in Wells: 1 shut in gas well in 1 mile radius from proposed location (NE NE Section 20-T16S-R25E)
8. Injection Wells: none
9. Monitoring or Observation Wells for Other Resources: none

4. Location of Existing and/or Proposed Facilities:

- A. The Operator at this time does not own or control any production facilities, tank batteries, oil gathering lines, gas gathering lines, injection lines, or disposal lines within a one-mile radius of the proposed well.
- B. If the proposed well is found productive of oil and/or gas, a production unit will be installed 100' northwest of the well on the wellsite pad. One 400 bbl storage tank will be located 125' east from the production unit on the wellsite pad. See attached Figure 3 which presents the location of production facilities in relation to the well.

Flowlines will be buried. Facilities will be constructed utilizing "good" and acceptable "oil field" construction practices. Flowlines and all piping will consist of high pressure (300 psig minimum WP) steel and fiberglass tubular goods.

The emergency disposal pit will be fenced and flagged. Additional measures other than burying the flowlines and fencing the pit will not be needed to protect animals.

Periodic maintenance of the producing facilities will require necessary cleaning and painting, grading of roads and locations, weed cutting, etc.

- C. Water disposal will be provided in accordance with USGS regulations NTL-2B. All disturbed surfaces not required for producing operations will be restored and reseeded as per BLM requirements.

5. Location and Type of Water Supply:

- A. The anticipated water supply for this location is from P.R. Springs in Section 33-T15½S-R24E.
- B. Water for drilling will be hauled by truck to the drilling site over roads discussed in Items #1 and #2.
- C. No water well will be drilled.

6. Source of Construction Materials:

- A. Native soil will be utilized for the drilling site and access road. No additional construction materials will be required for drilling operations.
- B. Materials other than native soil will not be obtained from Federal or Indian lands.
- C. No additional road gravel, sand, stone, etc. from other sources other than native are anticipated.
- D. No additional access road across Federal land other than those discussed in Items #1 & #2 will be required.

7. Methods for Handling Waste Disposal:

Drilling fluids and drill cuttings will be contained within an impermeable fenced earthen pit with dimensions of 100' x 100' x 8'. A trash pit and engine oil pit will be constructed approximately 25' x 25' x 4' and will be utilized for oil and solid trash. The pit will be fenced with woven wire to prevent spreading of trash from the pit by winds. All engine oil, lubricants, etc. will be collected and contained in steel containers and disposed of into the disposal pit. All pits will be covered, leveled and reseeded. With proper burn permits, oil and solid trash will be burned. The location will be cleaned of debris after the rig moves off. Produced water and/or oil recovered during drill-stem testing operations will be disposed of into the mud reserve pit.

At the onset of drilling, the reserve pit will be fenced on three sides and on the fourth side when the rig moves out and until such time as the pit can be backfilled and reclamation activities started. During well completion operations, produced fluid will be stored in test tanks.

8. Ancillary Facilities:

None.

9. Well Site Layout:

Figure 4 presents a location layout sheet, which shows a cross section, rig layout. Pits will not be lined unless it is deemed necessary to prevent leakage of drilling fluids. If necessary, pits will be lined with gel. Maximum cut will be 10' to the northwest and maximum fill will be 7' to the southwest. Top soil will be stockpiled adjacent to the well site.

10. Plans for Restoration of Surface:

Surface will be restored to as near its current condition as is practical. All pits will be filled, waste material buried or burned (with proper permits), location leveled and all disturbed land reseeded in accordance with BLM instructions. Those access roads determined to be unnecessary will be restored as near as practical and reseeded. Top soil from the location and disturbed areas will be stockpiled and spread over the disturbed area. Prior to rig release, pits will be fenced until they are filled. Rehabilitation will commence when the rig moves out and finish when the pit dries in September 1978. Any oil on pits will be removed or overhead flagging installed before rig release.

11. Other Information:

The Topography of the General Area (See Topographic Map "A")

The terrain of the general area slopes from the rim of the Book Cliff Mountains to the north to the Colorado River to the south and is a portion of the East Tavaputs Plateau.

The area is interlaced with numerous ridges and canyons formed by nonperennial streams and washes. The sides of the hills and canyons are rather steep and outcrops of sandstones, conglomerates, and shale deposits, are common in the area forming ledges and cliff along the sides of the canyons.

The visible geologic structures in the area are of the Tuscher Formation - Tertiary Period and the Wasatch Formation also of the Tertiary Period.

The major drainage in the area with a year-round flow is the West Fork Bitter Creek to the east.

The majority of the numerous drainages in the surrounding area are of a non-perennial nature flowing only during the early spring run-off and during extremely heavy rain storms of relatively long duration. This type of storm is rather uncommon as the normal annual precipitation is around 8".

The topsoil in the area ranges from a sandy-clay (SM-ML) type soil to a clayey (OL) type soil.

Due to the low precipitation average, climate condition and the types of soils, the vegetation that is found in the area is common of the semi-arid region we are located in, and consists of juniper and pinion pine trees, sagebrush, scrub oak, shadscale, and bitterbrush, and some grasses and cacti as the primary flora.

The fauna of the area is sparse and consists predominantly of the mule deer, coyotes, rabbits, and varieties of small ground squirrels and other types of rodents and various forms of reptiles. The area is used by man for the primary purpose of grazing domestic livestock and sheep. The birds of the area are raptors, finches, ground sparrow, magpies, crows, and jays.

There are no visible archaeological, historical, or cultural sites within any reasonable proximity of the proposed location site. An archaeological survey will be conducted.

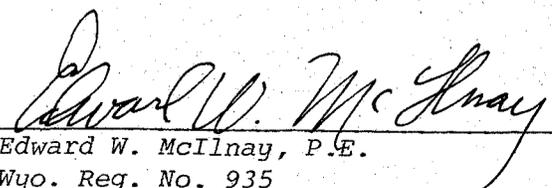
12. Lessee's or Operator's Representative:

McIlnay-Adams & Co., Inc.-----(307) 265-4351 (office)  
2305 Oxford Lane  
Casper, WY 82601  
Mr. Edward W. McIlnay----- (307) 237-3655 (home)

13. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access roads; that I am familiar with the conditions which presently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and that the work associated with the operation proposed herein will be performed by the Natural Gas Corporation of California and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

6/14/78  
Date

  
Edward W. McIlnay, P.E.  
Wyo. Reg. No. 935

USUAL ENVIRONMENTAL ANALYSIS

OPERATOR Natural Gas Corporation of California

WELL NAME AND NUMBER 1-20

SECTION 20 T 16 S R 25 E , PM

LOCATION NW SE 1/4, 1921' FE L & 2264' FS L

COUNTY Grand STATE Utah

FIELD San Arroyo UNIT N.A.

WELL TYPE Development LEASE NUMBER U-29644

DATE INSPECTED July 20, 1978

INSPECTOR George Diwachak

TITLE Environmental Scientist

PREPARED BY George Diwachak 9/1/78

ENVIRONMENTAL SCIENTIST DATE

SALT LAKE CITY DISTRICT

OTHER AGENCIES OR REPRESENTATIVE CONCURRENCE:

Bob Kershaw - BLM Yes

---

- Book Mountain (06-01) Unit Resource Analysis, BLM, Utah

---

MAJOR FEDERAL ACTION UNDER NEPA No

*Pad 140' x 230'*  
*Pit 100 x 10-0*  
*0.6 mi new access*  
*Upgrade 1.6 mi*  
*Prod fee on pad*  
*Stock pile top soil*  
*2 ac*  
*See #97-6 cont.*  
*9 approval*

Reviewed by - NOTED-RUST

The following participated in a joint inspection of the proposed well-site and access road on July 20, 1978.

<u>NAME:</u>	<u>REPRESENTING:</u>	<u>TITLE:</u>	<u>STATIONED IN:</u>
George Diwachak	USGS	Env. Scientist	Salt Lake City, Ut.
Bob Kershaw	BLM		
Jim Langman	Nat. Gas Corp.		
Richard Boyd	Nat. Gas Corp.		
C.K. Adams	McIlnay-Adams, Inc.		
Earl Cody		Contractor	

Proposed Action:

On June 19, 1978, Natural Gas Corporation of California filed an Application for Permit to Drill the No. 1-20 development well, a 6,500-foot gas test of the Morrison formation; located at an elevation of 7286 feet in the San Arroyo field on Federal mineral lands and public surface; lease no. U-29644. There was no objection raised to the wellsite nor to the access road. Access will, however, be from the south, following Colorado Road # 2 from the State line to the San Arroyo Gas field, not out of Ouray, Utah as originally proposed. Access from the gas field to the lease area will remain the same. See attached maps for new access location.  
*1921 ft FEL & 2264 ft FSL SW 20-16S-25E, Grand Co., Utah*

A rotary rig would be used for the drilling. An adequate casing and cementing program is proposed. Fresh-water sands and other mineral-bearing formations would be protected. A Blowout Preventor would be used during the drilling of the well. The proposed pressure rating should be adequate. Details of the operator's NPL-6 10-Point Sub-surface and 13-Point Surface Protection Plans are on file in the USGS District Office in Salt Lake City, Utah and the USGS Northern Rocky Mountain Area Office in Casper, Wyoming. A period of 30 to 90 days is normally necessary to complete a well for production if hydrocarbons are discovered.

A working agreement has been reached with the Bureau of Land Management, the controlling surface agency. Rehabilitation plans would be decided upon as the well neared completion; the Surface Management Agency would be consulted for technical expertise on those arrangements. Written concurrence of the surface managing agency is attached. The operator proposes to construct a drill pad 140' wide X 230' and a reserve pit 100' X 100'. A new access road will be constructed 18' wide X 0.6 miles long and upgrade 18' wide by 1.6 miles access road from an existing and improved road. The operator proposes to construct production facilities on disturbed areas of the proposed drill pad. If production is established, plans for a gas flow line will be submitted to the appropriate agencies for approval. The anticipated starting date is when approved and duration of drilling activities would be about 14 days.

Location and Natural Setting:

The proposed drillsite is approximately 18 miles northwest of Mack, Colorado, the nearest town. A fair road runs to within 2.2 miles of the location. This well is in the San Arroyo field.

#### Topography:

The lease area is located on a generally flat ridgetop (B-B' on Picture #1) in the Book Cliffs, an area of dissected topography consisting of steep canyon sides and narrow canyon floors.

#### Geology:

The surface geology is Mesa Verde. The soil is Loamy to Sandy Loam. No geologic hazards are known near the drillsite. Seismic risk for the area is minor. Anticipated geologic tops are filed with the 10-Point Sub-surface Protection Plan.

Approval of the proposed action would be conditioned that adequate and sufficient electric/radioactive/density logging surveys would be made to locate and identify any potential mineral resources. Production casing and cementing would be adjusted to assure no influence of the hydrocarbon zones through the well bore on these minerals. In the event the well is abandoned, cement plugs will be placed with drilling fluid in the hole to assure protection of any mineral resources.

The potential for loss of circulation would exist and is possible in the sandstone units of the Mesa Verde. Loss of circulation may result in the lowering of the mud levels, which might permit exposed upper formations to blow out or to cause formation to slough and stick to drill pipe. A loss of circulation would result in contamination due to the introduction of drilling muds, mud chemicals, filler materials, and water deep into the permeable zone, fissures, fractures, and caverns within the formation in which fluid loss is occurring. The use of special drilling techniques, drilling muds, and lost circulation materials may be effective in controlling lost circulation.

A geologic review of the proposed action has been furnished by the area geologist, U.S. Geological Survey, Salt Lake City, Utah. The operator's drilling, cementing, casing and blowout prevention programs have been reviewed by the Geological Survey engineers and determined to be adequate.

#### Soils:

No detailed soil survey has been made of the project area. The top soils in the area range from a sandy clay Loam to a clay type soil. The soil is subject to runoff from rainfall and has a high runoff potential and sediment production would be high. The soils are mildly to moderately alkaline and support the piñon, juniper association.

Top soil would be removed from the surface and stockpiled. The soil would be spread over the surface of disturbed areas when abandoned to aid in rehabilitation of the surface. Rehabilitation is necessary to prevent erosion and encroachment of undesired species on the disturbed areas. The operator proposes to rehabilitate the location and access roads per the recommendations of the bureau of Land Management.

Approximately 2 acres of land would be stripped of vegetation. This

would increase the erosional potential. Proper construction practice, construction of water bars, reseeding of slope-cut area would minimize this impact.

#### Air:

No specific data on air quality is available at the proposed location. There would be a minor increase in air pollution due to emissions from rig and support traffic engines. Particulate matter would increase due to dust from travel over unpaved dirt roads. The potential for increased air pollution due to leaks, spills, and fire would be possible.

Relatively heavy traffic would be anticipated during the drilling-operations phase, increasing dust levels and exhaust pollutants in the area. If the well was to be completed for production, traffic would be reduced substantially to maintenance schedule with a corresponding decrease of dust levels and exhaust pollutants to minor levels. If the project results in a dry hole, all operations and impact from vehicular traffic would cease after abandonment. Due to the limited number of service vehicles and limited time span of their operation, the air quality would not be substantially reduced.

Toxic or noxious gases would not be anticipated.

#### Precipitation:

Annual rain fall should range from about 8 to 11" at the proposed location. The majority of the numerous drainages in the surrounding area are of a non-perennial nature flowing only during early spring runoff and during extremely heavy rain storms. This type of storm is rather uncommon as the normal annual precipitation is around 8".

Winds are medium and gusty, occurring predominately from west to east. The climate is semi-arid with abundant sunshine, hot summers and cold winters with temperature variations on a daily and seasonal basis.

#### Surface Water Hydrology:

Drainage from the lease area is towards west Bitter Creek which flows south to its confluence with Bitter Creek, a tributary of the Colorado River.

Some additional erosion would be expected in the area since surface vegetation would be removed. If erosion became serious, drainage systems such as water bars and dikes would be installed to minimize the problem. The proposed project should have minor impact on the surface water systems.

The potentials of pollution of would be present from leaks or spills. The operator is required to report and clean-up all spills or leaks.

#### Ground Water Hydrology:

Some minor pollution of ground water systems would occur with the introduction of drilling fluids filltrate into the aquifer. This is normal and unavoidable during rotary drilling operations. The potential for communication, contamination and commingling of formations via the well

bore would be possible. The drilling program is designed to prevent this. There is need for more data on hydrologic systems in the area and the drilling of this well may provide some basis information as all shows of fresh water would be reported. Water production with the gas would require disposal of produced water per the requirements of NTL-2B.

The depths of fresh-water formations are listed in the 10-Point Subsurface Protection Plan. There would be no tangible effect on water migration in fresh-water aquifers. The pits would be unlined. If fresh water should be available from the well, the owner or surface agency may request completion as a water well if given approval.

#### Vegetation:

The vegetation of the lease area consists of Piñon, Juniper, Douglas fir, Scrub oak, Sagebrush, Shadscale, Bitterbrush, True Mountain Mahogany, and some grasses and cacti.

Proposed action would remove about 2 acres of vegetation. Removal of vegetation would increase the erosional potential and there would be a minor decrease in the amount of vegetation available for grazing. The operator proposes to rehabilitate the surface upon completion of operations.

#### Wildlife:

Animal and plant inventory has been made by the BLM. No endangered plants or animals are known to habitat on the project area. The fauna of the area consists predominantly of the mule deer, coyotes, rabbits, and varieties of small ground squirrels and other types of rodents and various types of reptiles. The area is used by man for the primary purpose of grazing domestic livestock and sheep. The birds of the area are raptors, finches, ground sparrows magpies, crows, and jays.

#### Social-Economic Effect:

An on the ground surface archaeological reconnaissance would be required prior to approval of the proposed action. Appropriate clearances would then be obtained from the surface managing agency. If a historic artifact, an archaeological feature or site is discovered during construction operations; activity would cease until the extent, the scientific importance, and the method of mitigating the adverse effects could be determined by a qualified cultural resource specialist.

There are no occupied dwellings or other facilities of this nature in the general area. Minor distractions from aesthetics would occur over the lifetime of the project and is judged to be minor. All permanent facilities placed on the location could be painted light sand color to blend in with the environment. Present use of the area is grazing, recreation, and oil and gas activities.

Noise from the drilling operation may temporarily disturb wildlife and people in the area. Noise levels would be moderately high during drilling and completion operations. Upon completion, noise levels would be

infrequent and significantly less. If the area is abandoned, noise levels should return to pre-drilling levels.

The site is not visible from any major roads. After drilling operations, completion equipment would not be visible to passersby of the area and would not present a major intrusion.

The economic effect of one well would be difficult to determine. The overall effect of oil and gas drilling and production activity are significant in Grand County.

But should this well discover a significant new hydrocarbon source, local, state, and possibly national economics might be improved. In this instance other development wells would be anticipated, with substantially greater environmental and economic impacts.

Should the wellsite be abandoned, surface rehabilitation would be done according to the surface agency's requirements and to USGS's satisfaction. This would involve leveling, contouring, reseeding, etc., of the location and possibly the access road. If the well should produce hydrocarbons, measures would be undertaken to protect wildlife and domestic stock from the production equipment.

#### Land Use:

The land use of the general area is primarily oil and gas operations, with some recreation and livestock grazing activities.

There are no national, state, or local parks, forests, wildlife refuges or ranges, grasslands, monuments, trails or other formally designated recreational facilities near the proposed location.

The proposed location is within the Book Mountain Planning Unit (06-01). This Environmental Assessment Record was compiled by the Bureau of Land Management, the surface managing agency of the Federal surface in the area. The study includes additional information on the environmental impact of oil and gas operations in this area and gives land use recommendations. The E.A.R. is on file in the agency's State offices and is incorporated herein by reference.

#### Waste Disposal:

The mud and reserve pits would contain all fluids used during the drilling operations. A trash pit would be utilized for any solid wastes generated at the site and would be buried at the completion of the operations. Sewage would be handled according to State sanitary codes. For further information, see the 13-Point Surface Plan.

#### Alternatives to the Proposed Action:

1. No approving the proposed permit--the oil and gas lease grants the lessee exclusive right to drill for, mine, extract, remove and dispose of all oil and gas deposits.

Under leasing provisions, the Geological Survey has an obligation to allow mineral development if the environmental consequences are not too severe or irreversible. Upon rehabilitation of the site, the environ-

mental effects of this action would be substantially mitigated, if not totally annulled. Permanent damage to the surface and subsurface would be prevented as much as possible under U.S.G.S. and other controlling agencies supervision with rehabilitation planning reversing almost all effects. Additionally, the growing scarcity of oil and gas should be taken into consideration. Therefore, the alternative of not proceeding with the proposed action at this time is rejected.

2. Minor relocation of the wellsite and access road or any special, restrictive stipulations or modifications to the proposed program would not significantly reduce the environmental impact. There are no severe vegetative, animal or archaeological-historical-cultural conflicts at the site. Since only a minor impact on the environment would be expected, the alternative of moving the location is rejected. At abandonment, normal rehabilitation of the area such as contouring, reseeding, etc., would be undertaken with an eventual return to the present status as outlined in the 13-Point Surface Plan.

At the onsite inspection, the following changes and stipulations were agreed upon by the operator, BLM and USGS representative:

1. Access, as previously mentioned, will be from the south. See Fig. 2 and 3. No changes were made in access road construction. Picture #1 shows a view Across San Arroya Canyon of the usage area (B-B') and existing well location (A-A'). Road Construction will follow the natural ridge line from the existing well to the proposed site. No major construction difficulties or hazards are anticipated.
2. The reserve pit was moved 20 ft. Northeast of the original location to avoid construction in an existing drainage. See figure 1.
3. Topsoil stockpiles were moved to more environmentally suitable location. See figure 1
4. The southeast corner of the drillpad (#2) will be rounded to avoid the drainage and the edge of the ridgetop. See figure 1
5. A 30 ft. buffer zone of vegetation will be maintained on the southeast side of the drillpad (8-1-2) for stabilization and scenic preservation.
6. The blooie line will be misted for dust suppression.

Adverse Environmental Effects Which Cannot Be Avoided:

Surface disturbance and removal of vegetation from approximately acres of land surface for the lifetime of the project which would result in increased and accelerated erosional potential. Grazing would be eliminated in the disturbed areas and there would be a minor and temporary disturbance of wildlife and livestock. Minor induced air pollution due to exhaust emissions from rig engines of support traffic engines would occur. Minor increase in dust pollution would occur due to vehicular traffic associated with the operation. If the well is a gas producer, additional surface disturbance would be required to install production pipelines. The potential for fires, leaks, spills of

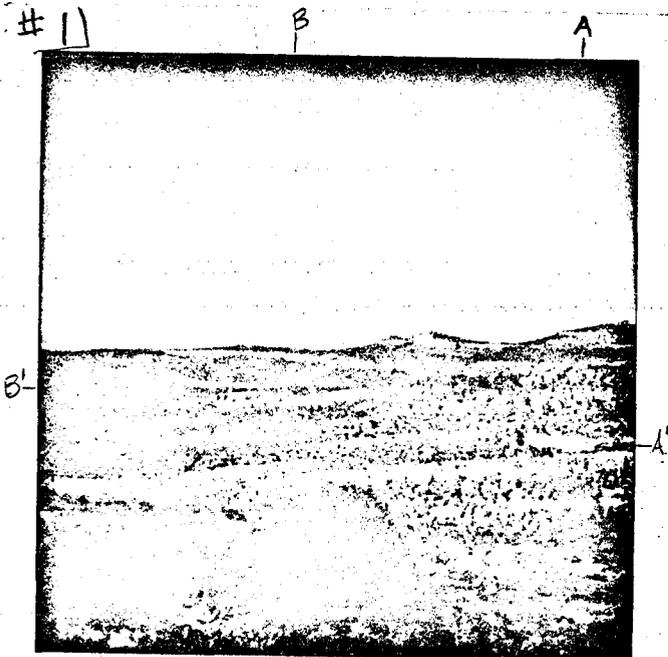
gas, oil or water would exist. During the construction and drilling phases of the project, noise levels would increase. Potential for sub-surface damage to fresh water aquifers and other geologic formations exists. Minor distractions from aesthetics during the lifetime of the project would exist. If the well is a producer, an irreplaceable and irretrievable commitment of resources would be made. Erosion from the site would eventually be carried as sediment in the Colorado River. The potential for pollution to west Bitter Creek would exist through leaks and spills.

Determination:

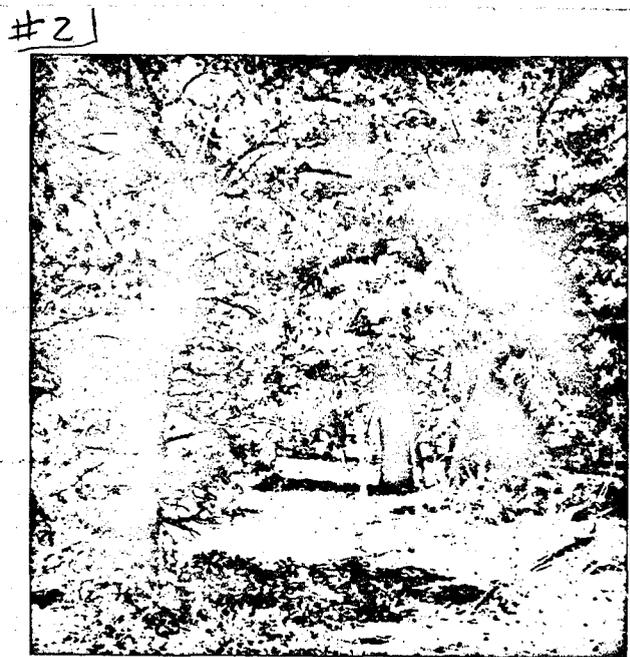
This requested action does not constitute a major Federal action significantly affecting the environment in the sense of NEPA, Sec. 102 (2) (C).

District Engineer  
U.S. Geological Survey  
Conservation Division  
Oil and Gas Operations  
Salt Lake City District

2 - photos

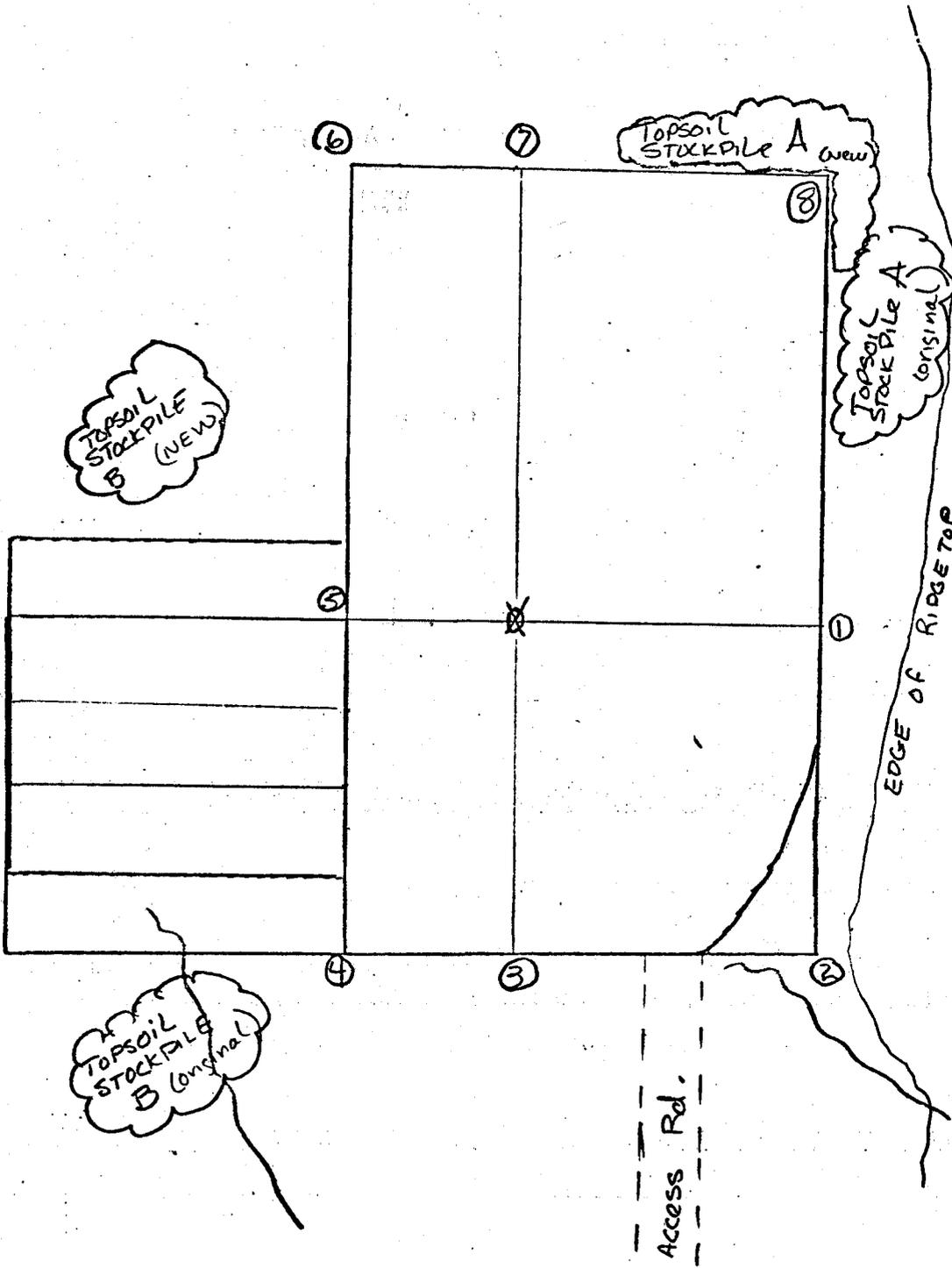


Looking Across U-29644 F1-20  
SAN Arroya Canyon ~~SW~~  
Sec 16 - San Arroya Road



U-29644  
# 1-20 NAT. GAS CORP. of Calif. SW

FIGURE 1



~~~~~ Drainages  
———— New Locations or Boundaries

1" = 50'



Access Area (Well Location)

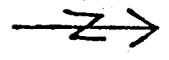
Access Route

1:250,000

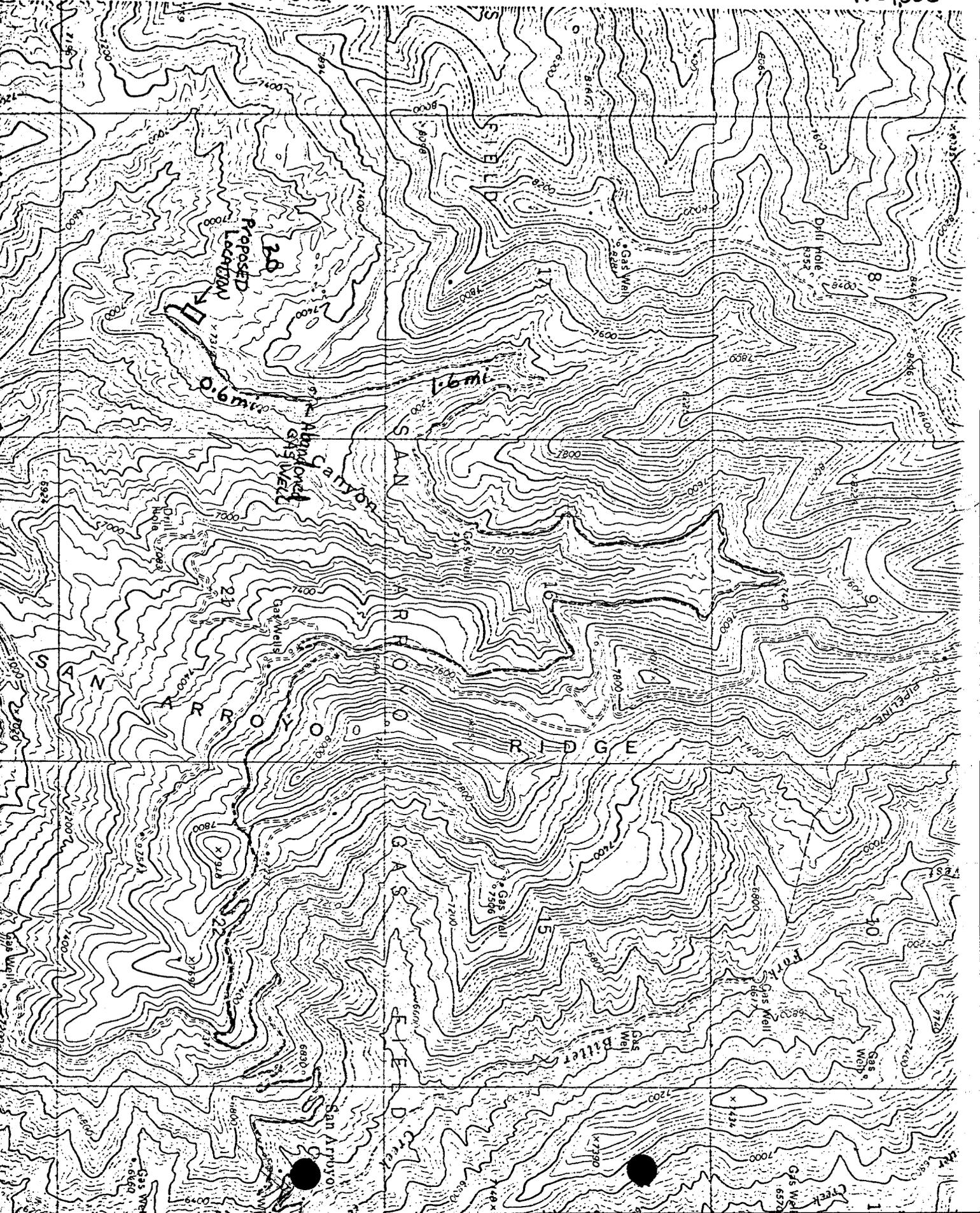


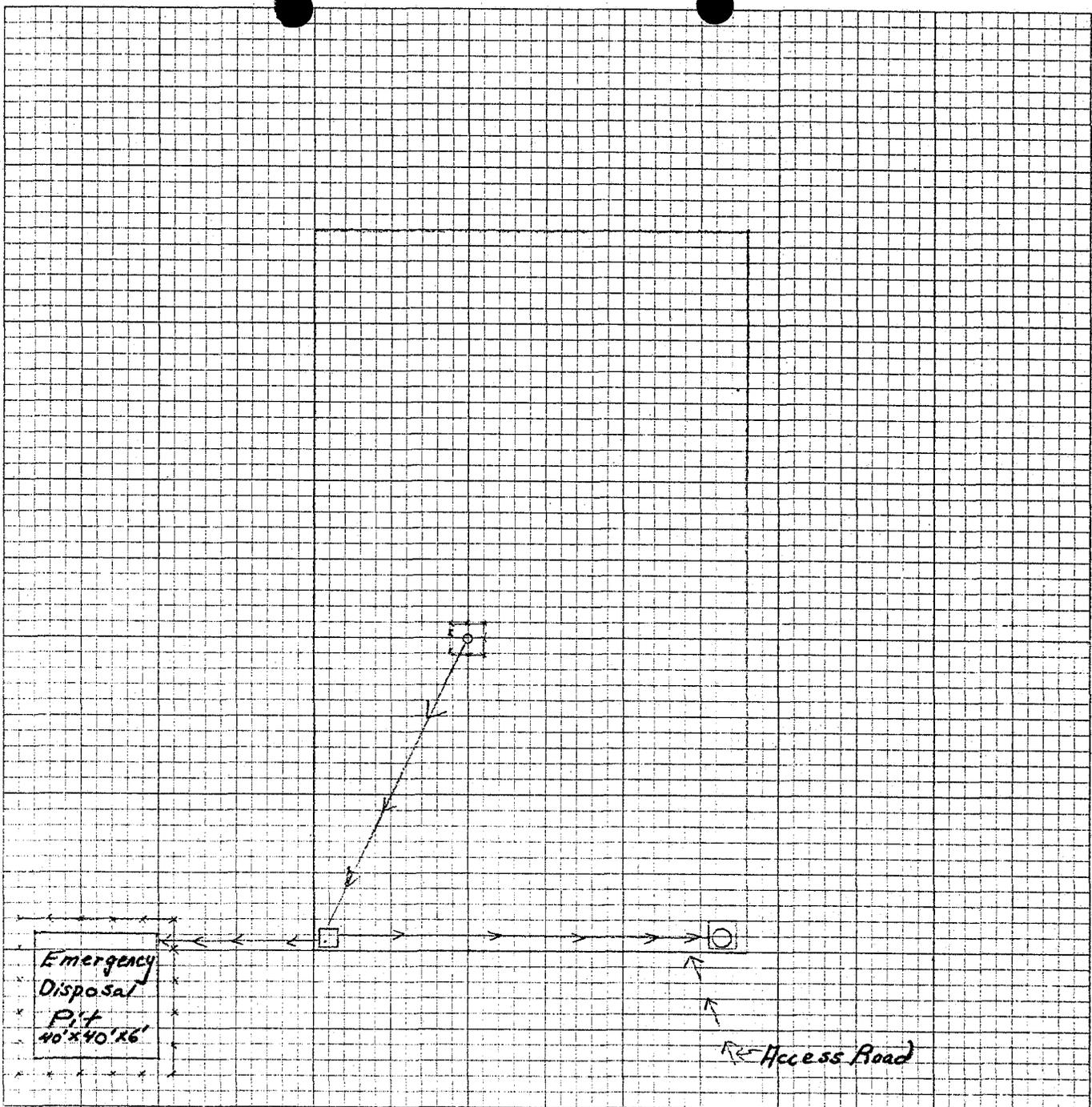
Major upgrading  
of existing Rd.

Proposed  
access Rd.



1:24000





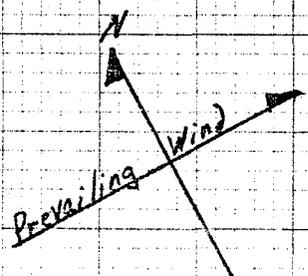
NATURAL GAS CORPORATION  
Federal #1-20  
NW SE Section 20-T16S-R25E  
Grand County, Utah

FIGURE 3  
Production Facilities

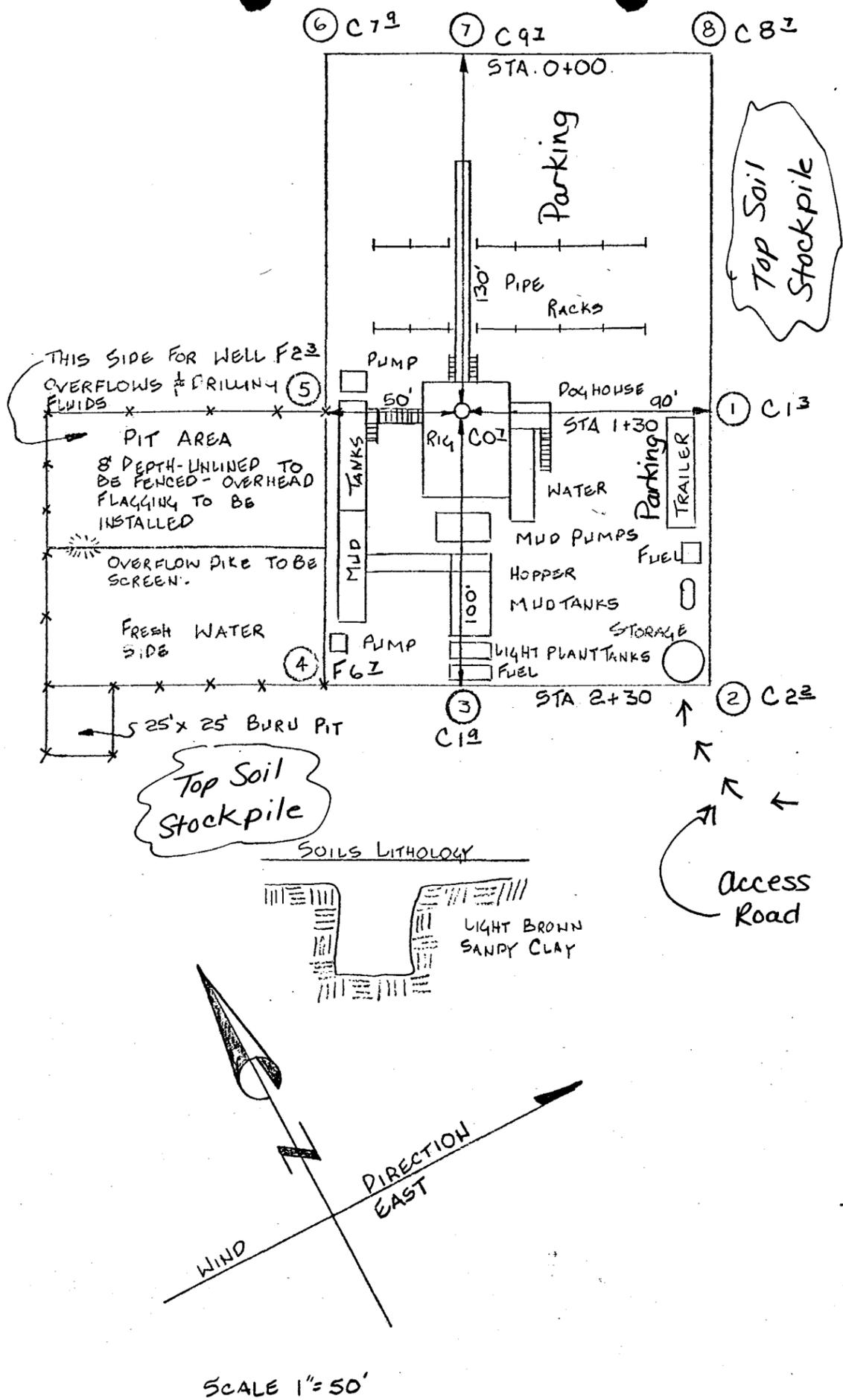
GLOSSARY

- Well
- with ○ 400 bbl storage tanks with retainer dikes
- with ○ Housed production unit
- with × Fenced area
- with > Buried Flow Lines

Scale: 1" = 50'

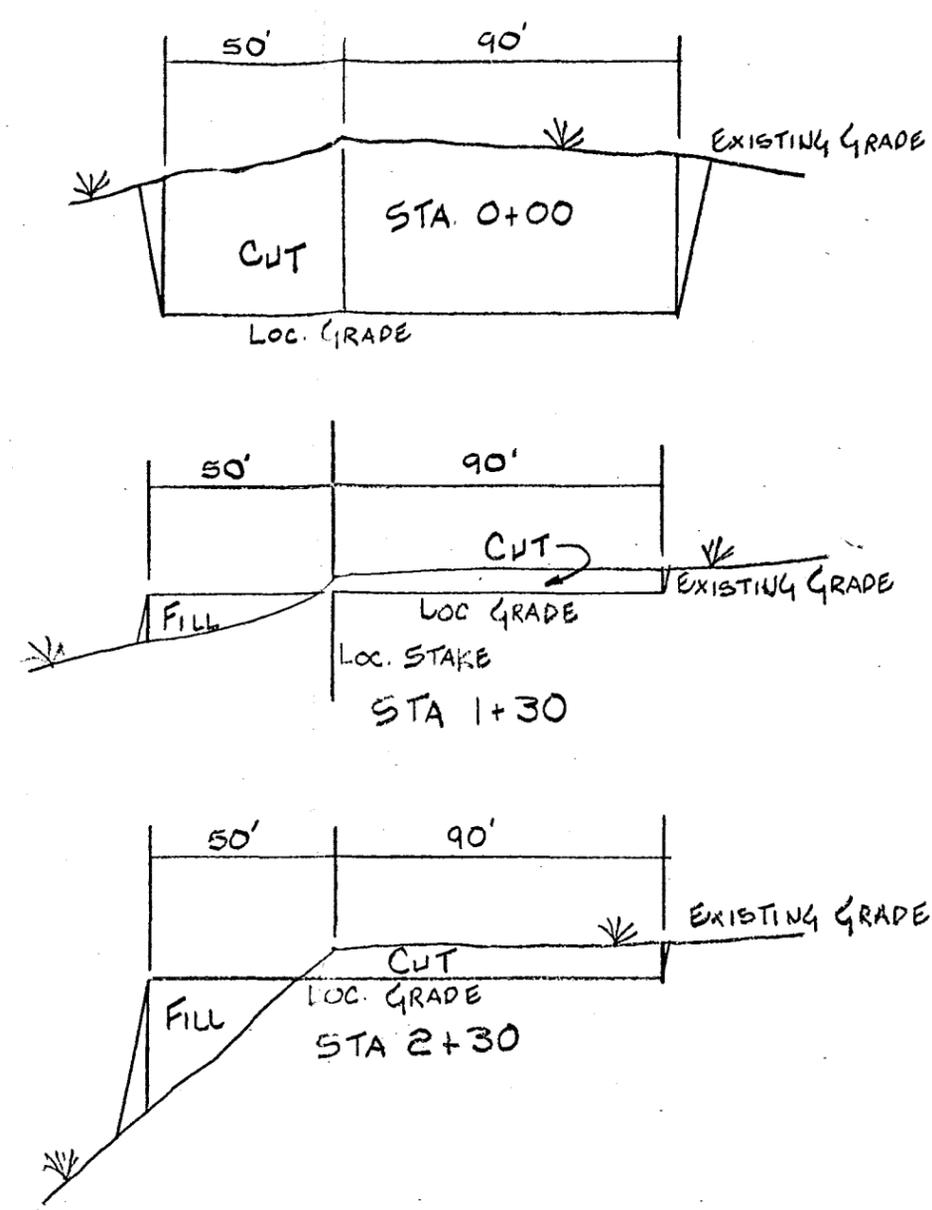


NATURAL GAS CO.  
 Sec. 20 T16S, R25E, S.U.B. 1/4 M.  
 LOCATION LAYOUT SHEET  
 FEDERAL #1-20



W20-1-20-025

SLOPE 1:1



| APPROX. YARDAGES |         |
|------------------|---------|
| CUT 3984         | Cu Yds. |
| FILL 494         | Cu Yds. |

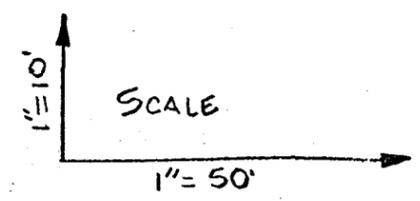
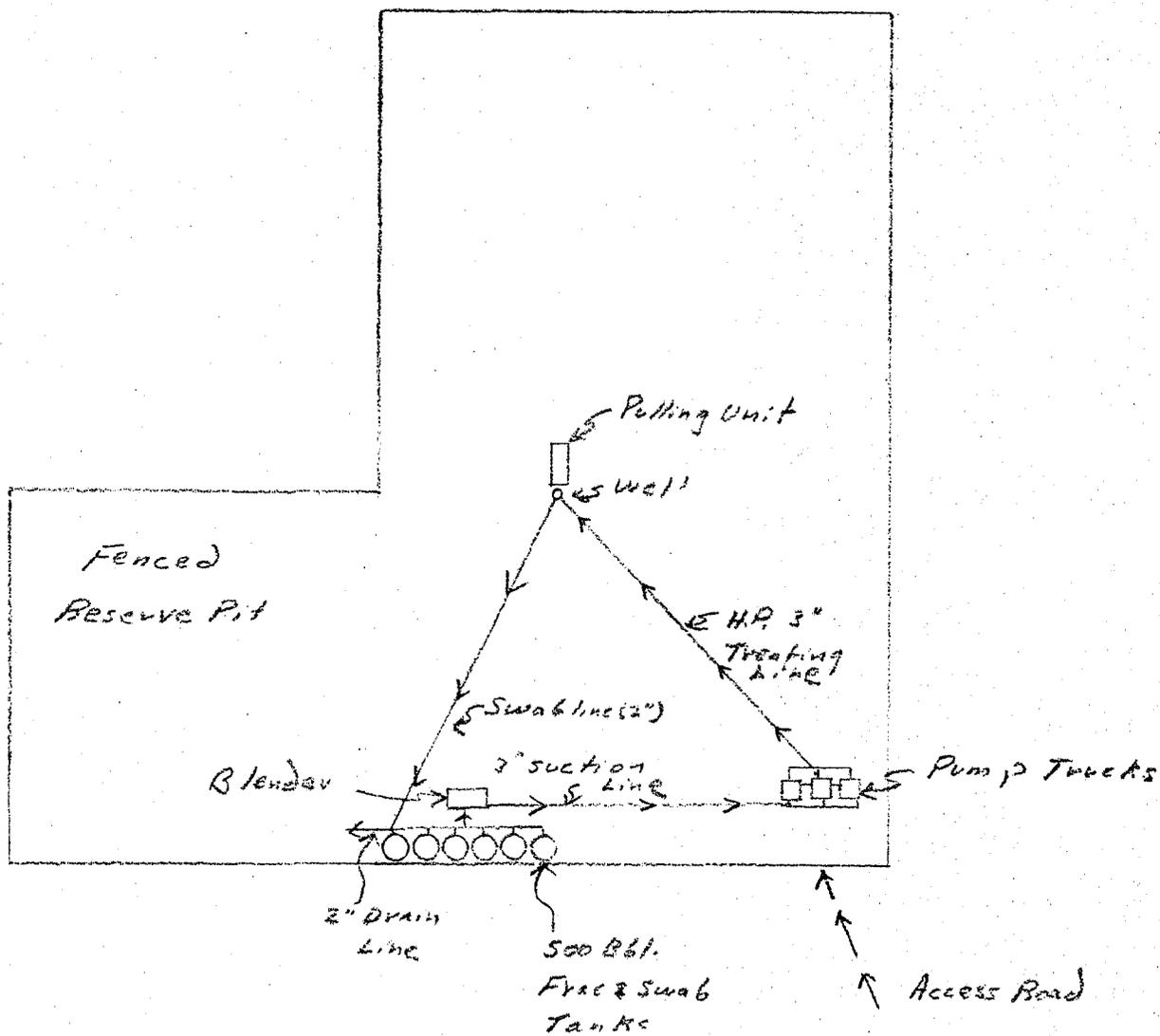


FIGURE 4



NATURAL GAS CORPORATION  
 FEDERAL #1-20  
 NW SE Section 20-T16N-R25E  
 Grand County, Utah

**FIGURE 5**  
 Treating and Testing Facilities

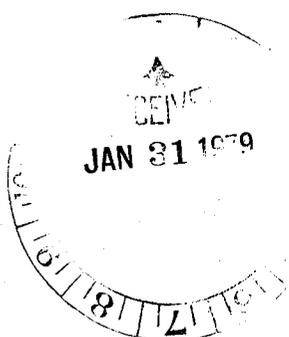
SCALE: 1" = 50'

COMPANY NATURAL GAS CORPORATION OF CALIFORNIA WELL FEDERAL #1-20 TEST NO. 1 COUNTY GRAND STATE UTAH

JOHNSTON

Schlumberger

technical  
report



F.R. #13790 D



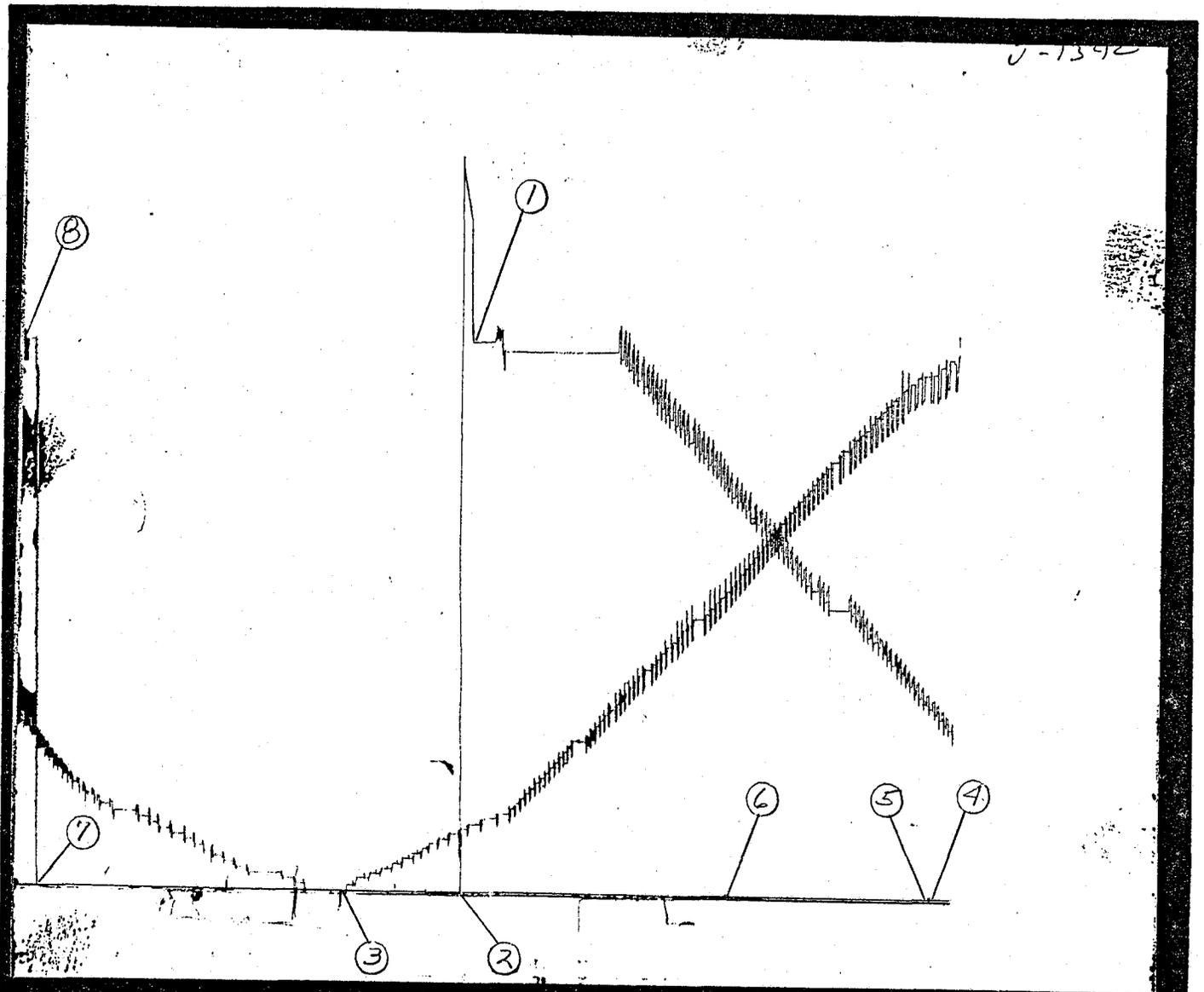
BOTTOM HOLE PRESSURE AND TIME DATA

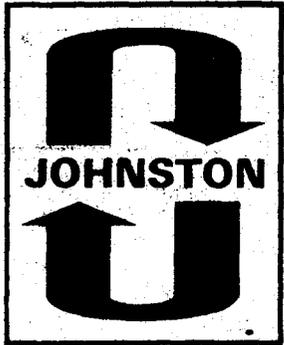
INSTRUMENT NO.: J-1342      CAPACITY (P.S.I.): 4700#      DEPTH      6245    FT.  
 PORT OPENING:    OUTSIDE    BOTTOM HOLE TEMP.:      168°F.      FIELD REPORT NO.13790 D

| DESCRIPTION             | LABELED POINTS | PRESSURE (P.S.I.) | GIVEN TIME | COMPUTED TIME |
|-------------------------|----------------|-------------------|------------|---------------|
| INITIAL HYDROSTATIC MUD | 1              | 3180.3            |            |               |
| INITIAL FLOW (1)        | 2              | 18.4              |            |               |
| INITIAL FLOW (2)        | 3              | 21.2              | 31         |               |
| INITIAL SHUT-IN         | 4              | 29.7              | 90         |               |
| SECOND FLOW (1)         |                |                   |            |               |
| SECOND FLOW (2)         |                |                   |            |               |
| SECOND SHUT-IN          |                |                   |            |               |
| FINAL FLOW (1)          | 5              | 28.8              |            |               |
| FINAL FLOW (2)          | 6              | 27.8              | 62         |               |
| FINAL SHUT-IN           | 7              | 27.8              | 198        |               |
| FINAL HYDROSTATIC MUD   | 8              | 3152.0            |            |               |

REMARKS: NOT BROKEN DOWN IN INCREMENTS OF TIME DUE TO INSUFFICIENT BUILD-UP OF PRESSURE DURING THE SHUT-INS.

14-





# PRESSURE LOG\*

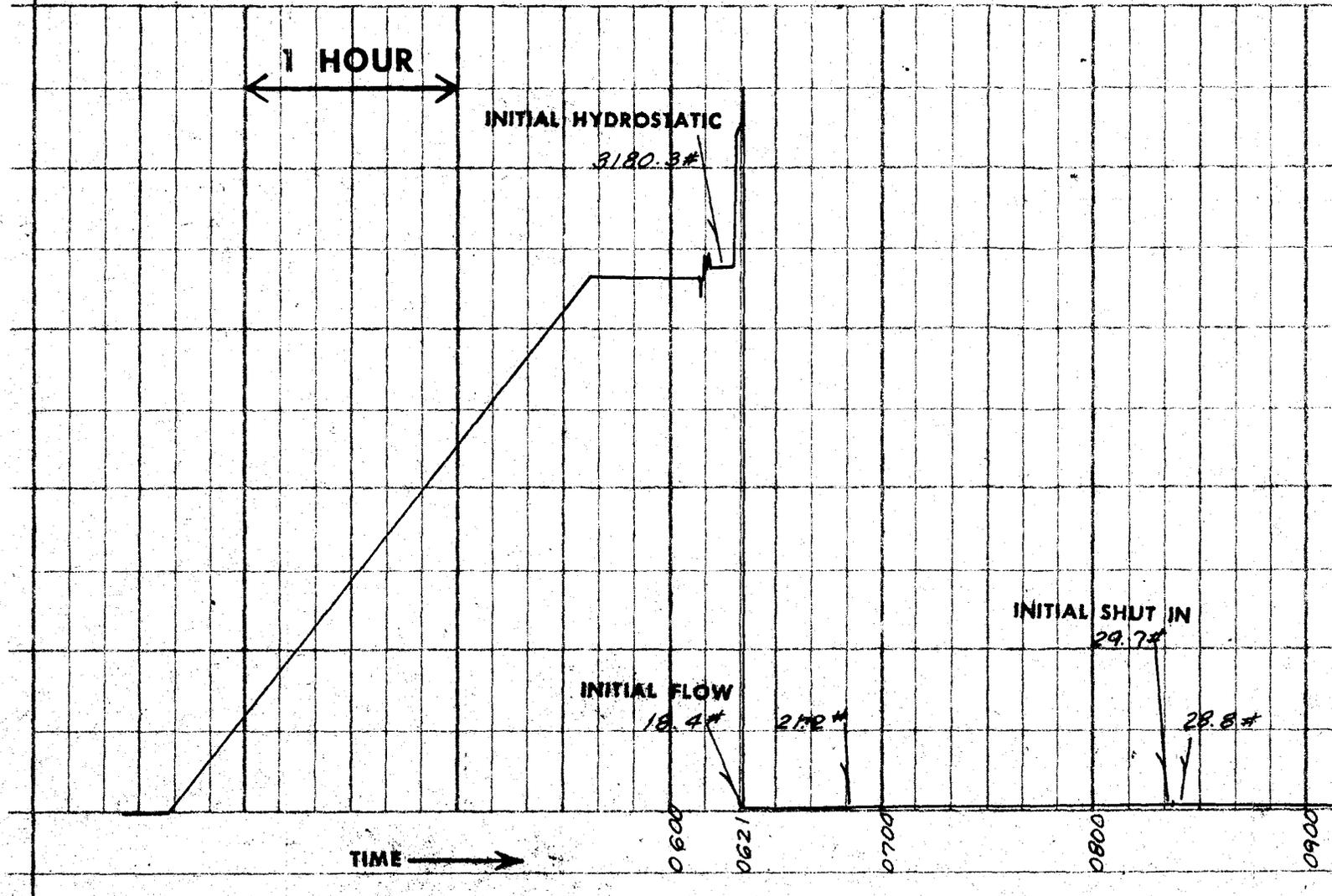
Field Report No. 13790 D

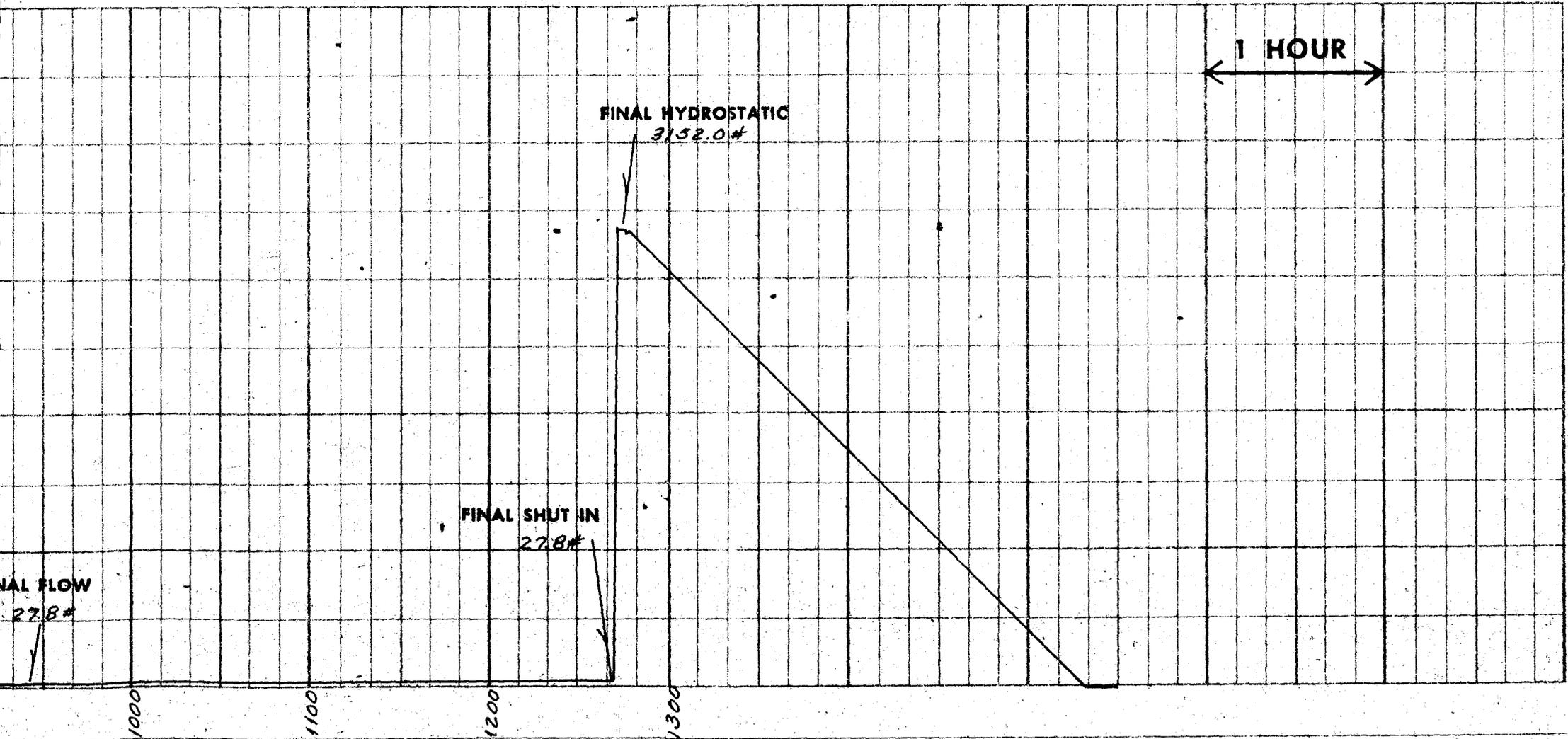
Instrument:  
Number J. 1342

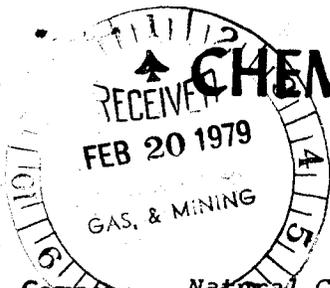
Capacity 4700 p.s.i.

Depth 6245 ft.

\* a continuous tracing of the original chart.







# CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794  
Casper, Wyoming 82602

P

## GAS ANALYSIS REPORT

Company Natural Gas Corporation of California Date February 15, 1979 Lab. No. 29916  
 Well No. 11-20 Federal Location NW SE 20-16S-25E  
 Field San Arroyo Formation Buckhorn  
 County Grand Depth 6387-6462  
 State Utah Sampling point DST No. 2  
 Line pressure 5 psig; Sample pressure 0 psig; Temperature      ° F; Container number 97L

Remarks \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

| Component                                               | Mole % or Volume % | Gallons per MCF |
|---------------------------------------------------------|--------------------|-----------------|
| Oxygen.....                                             | 0                  |                 |
| Nitrogen.....                                           | 72.89              |                 |
| Carbon dioxide.....                                     | 27.12              |                 |
| Hydrogen sulfide.....                                   | *                  |                 |
| Methane & Higher.....                                   | none               |                 |
| Ethane.....                                             |                    |                 |
| Propane.....                                            |                    |                 |
| Iso-butane.....                                         |                    |                 |
| N-butane.....                                           |                    |                 |
| Iso-pentane.....                                        |                    |                 |
| N-pentane.....                                          |                    |                 |
| Hexanes & higher.....                                   |                    |                 |
| <b>Total.....</b>                                       | <b>100.00</b>      |                 |
| GPM of pentanes & higher fraction.....                  | 0                  |                 |
| Gross btu/cu. ft. @ 60° F. & 14.7 psia (dry basis)..... | 0                  |                 |
| Specific gravity (calculated from analysis).....        | 1.117              |                 |
| Specific gravity (measured).....                        | 1.120              |                 |

Remarks: \*H<sub>2</sub>S = Negative to lead acetate paper.  
No hydrocarbon gases found in this sample.  
 \_\_\_\_\_  
 \_\_\_\_\_

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well  gas well  other  T A

2. NAME OF OPERATOR  
Natural Gas Corp.

3. ADDRESS OF OPERATOR c/o McIlhenny-Adams & Co., Inc.  
2305 Oxford Lane, Casper, WY 82601

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)  
AT SURFACE: 1921 FEL & 2264 FSL (NW SE)  
AT TOP PROD. INTERVAL: 20-16S-25E SLB&M  
AT TOTAL DEPTH: Same

5. LEASE  
U-29644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
---

7. UNIT AGREEMENT NAME  
---

8. FARM OR LEASE NAME  
Federal

9. WELL NO.  
#1-20

10. FIELD OR WILDCAT NAME  
San Arroyo

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
20-16S-25E, SLB & M

12. COUNTY OR PARISH  
Grand

13. STATE  
Utah

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)  
GL 7286 KB 7296

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

PULL OR ALTER CASING

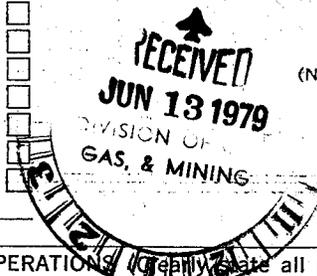
MULTIPLE COMPLETE

CHANGE ZONES

ABANDON\*

(other)

SUBSEQUENT REPORT OF:



(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)\*

Current Wellbore Status  
 TD - 6479 PBD - 6447'  
 Conductor Pipe: 13 3/8", 54#/ft., @ 60' KB cemented to surface w/70 sx. cement  
 Surface: 9 5/8", 36#/ft., @ 681' KB cemented to surface w/950 sx. cement  
 Intermediate: 7", 23# @ 2926' KB cemented w/150 sx. cement  
 Long String: 4 1/2", 10.5# @ 6479' KB cemented w/110 sx.  
 Perforations: Zone Perforations 1 hole/ft. Total Holes  
 1st Dakota 6239, 6243, 6249, 6252, 6256 5  
 2nd Dakota 6276, 6281, 6290, 6294, 6298, 6302 6  
 Cedar Mtn. 6336, 6340, 6342, 6344, 6346 5  
 Buck Horn 6390, 6395, 6399, 6403, 6406 5

Tubing: 203 Jts. 2 3/8", EUE set @ 6373' KB OVER FOR PROGRAM ON PLUGGING

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

18. I hereby certify that the foregoing is true and correct  
SIGNED E. W. McIlhenny TITLE Agent DATE June 11, 1979

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE DIVISION OF OIL, GAS, AND MINING

DATE: \_\_\_\_\_

BY: \_\_\_\_\_

\*See Instructions on Reverse Side

## Instructions

**General:** This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

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

**Item 17:** Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

GPO : 1976 O - 214-149

### RESULTS OF COMPLETION ATTEMPT

- 1) The Cedar Mtn. Zone was perf. 6336 - 6346 (gross) w/ 5 holes and acidized w/250 gal 7½% BDA. The zone tested water and was squeezed off w/100 sx. Class H Cement.
- 2) The two Dakota zones and Buckhorn Fm were perforated (as above) and frac'd w/69000-gal Versagel + 88000# sand. After swab tests, zones tested non-commercial.
- 3) The Buckhorn zone 6390 - 6406 (gross) was isolated by packer & acidized w/1000 gal 15% BDA. Swab tests showed water & non-commercial quantities of oil & gas.

### PROPOSED P & A PROCEDURE

As per verbal instructions of Mr. Ed Gwynn 6-8-79 well will be P & A as per the following procedure.

- 1) 2 3/8" tubing will be lowered to 6420', hole loaded w/ water & 25 sx. plug set from 6420 - 6100'. Pull Tbg.
- 2) 4½" Csg. shot off @ ≈ 5500'. (Indicated annular cement top @ 5530') and pulled from wellbore.
- 3) Using 2 3/8" Tbg. 35 sx. plug set across csg. stub @ ≈ 5450 - 5600.
- 4) Using 2 3/8" Tbg. 35 sx. plug set across bottom of 7" from 2950 - 2850.
- 5) 7" Intermediate will be shot off @ ≈ 1880' and pulled.
- 6) Using 2 3/8" Tbg. a 35 sx. plug set across 7" casing stub @ 1700 - 1800' + ?
- 7) Using 2 3/8" Tbg. a 35 sx. plug will be set across bottom of 9 5/8" surface casing from 600 - 700'.
- 8) A 10 sx. surface plug will be set w/regulation marker installed.

FILE IN QUADRUPPLICATE  
FORM OGC-8-X

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number: Federal #1-20  
Operator: Natural Gas Corp. of California Address: c/o McIlhenny-Adams & Co., Inc. 2305 Oxford Lane, Casper, WY 82601  
Contractor: ----- Address: -----  
Location NW 1/4 SE 1/4; Sec. 20 T. 16 S, R. 25 E; Grand County Grand

Water Sands:

|    | <u>Depth:</u>                                             | <u>Volume:</u> | <u>Quality:</u>   |                |
|----|-----------------------------------------------------------|----------------|-------------------|----------------|
|    | From-                                                     | To-            | Flow Rate or Head | Fresh or Salty |
| 1. | <u>None (no productive water sands were encountered).</u> |                |                   |                |
| 2. | <u>-----</u>                                              |                |                   |                |
| 3. | <u>-----</u>                                              |                |                   |                |
| 4. | <u>-----</u>                                              |                |                   |                |
| 5. | <u>-----</u>                                              |                |                   |                |

(Continue on Reverse Side if Necessary)

Formation Tops: Castlegate -- 2040'  
Mancos -- 2130'  
Dakota -- 6238'  
Cedar Mtn. -- 6334'  
Remarks: Buckhorn -- 6390'  
Morrison -- 6410'  
T.D. -- 6479'

- NOTE: (a) Upon diminishing supply of forms, please inform this office.  
(b) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.  
(c) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

*From the Desk of*

**Sharon Orr**

Attn: Mike Minder

Mike I have attached a P & A Notice to the USGS on the Natural Gas Corporation location. If you need any further info. please let me know. I will forward copies of all reports filed with the USGS to your office.

A handwritten signature in cursive script, appearing to read "Sharon".

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

\*\* FILE NOTATIONS \*\*

Date: June 22 -  
Operator: Natural Gas Corp. of Calif.  
Well No: Sec. 1-20  
Location: Sec. 20 T. 16S R. 25E County: Grand

File Prepared:  Entered on N.I.D.:   
Card Indexed:  Completion Sheet:

API NUMBER: 43-019-30460

CHECKED BY:

Administrative Assistant [Signature]

Remarks:

Petroleum Engineer [Signature]

Remarks:

Director [Signature]

Remarks:

*Exception Well*

*8/23/98*

INCLUDE WITHIN APPROVAL LETTER:

Bond Required:  Survey Plat Required:

Order No. 149-149-2 Surface Casing Change to

Rule C-3(c), Topographic exception/company owns or controls acreage within a 660' radius of proposed site

O.K. Rule C-3  O.K. In \_\_\_\_\_ Unit

Other:

Letter Written/Approved

*5/21/98*  
*Dr. #38*  
*exception*

PdA

DIVISION OF OIL, GAS AND MINING

PLUGGING PROGRAM

NAME OF COMPANY: Natural Gas Corp. of Calif.

WELL NAME: Federal #1-20

SECTION 20 TOWNSHIP 16S RANGE 25E COUNTY Grand

VERBAL APPROVAL GIVEN TO PLUG AND ABOVE REFERRED TO WELL IN THE FOLLOWING MANNER:

TOTAL DEPTH: 6479'

CASING PROGRAM:

- 13 3/8", 54# @ 60'
- 9 5/8", 36# @ 681'
- 7", 23# @ 2926'
- 4 1/2", 10.5# @ 6479'

Perfs.: 6239'-6402'

FORMATION TOPS:

|                |       |
|----------------|-------|
| Buck Tongue    | 3330' |
| Castlegate     | 3820' |
| Mancos         | 3874' |
| Dakota Silt    | 6239' |
| Dakota Bench   | 6273' |
| Cedar Mountain | 6333' |
| Buckhorn       | 6390' |
| Morrison       | 6410' |

PLUGS SET AS FOLLOWS:

- |                                                         |                                            |
|---------------------------------------------------------|--------------------------------------------|
| 1) 6420'-6100' 35 Sxs                                   | DST"s: 1) 6238'-6266'                      |
| 2) 4600'-4331' 20 Sxs                                   | 2) 6387'-6462'                             |
| 3) 3311'-2781' 100 Sxs (shot off 4 1/2" Casing @ 3311') |                                            |
| 4) 1669'-1540' 45 Sxs (shot off 7" Casing @ 1620')      |                                            |
| 5) 729'-600' 45 Sxs                                     | Not submitted to State, notified by letter |
| 6) 30'-Surface 10 Sxs                                   | to Sharon Orr 2/14/80.                     |

DATE 7-9-79

SIGNED USGS



SCOTT M. MATHESON  
Governor

GORDON E. HARMSTON  
*Executive Director,*  
NATURAL RESOURCES

CLEON B. FEIGHT  
*Director*

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771

OIL, GAS, AND MINING BOARD

CHARLES R. HENDERSON  
*Chairman*

JOHN L. BELL  
C. RAY JUVELIN  
THADIS W. BOX  
CONSTANCE K. LUNDBERG  
EDWARD T. BECK  
E. STEELE McINTYRE

February 5, 1980

Natural Gas Corporation of Calif.  
c/o. McIlroy-Adams & Co., Inc.  
2305 Oxford Lane  
Casper, Wyoming 82601

RE: Well No. Federal #1-20  
Sec. 20, T. 16S, R. 25E,  
Grand County, Utah

Gentlemen:

This letter is to advise you that the Well Completion or Recompletion Report and Log for the above mentioned well (s) is due and has not been filed with this office as required by our rules and regulations.

Please complete the enclosed Form OGC-3, in duplicate, and forward them to this office as soon as possible.

Thank you for your cooperation relative to the above.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

DEBBIE BEAUREGARD  
CLERK-TYPIST

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

**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 Form 9-331-C for such proposals.)

1. oil well  gas well  other  P&A

2. NAME OF OPERATOR  
*Natural Gas Corp.*

3. ADDRESS OF OPERATOR *c/o McIlnay-Adams & Co., Inc.  
2305 Oxford Lane, Casper, Wyoming 82601*

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)  
AT SURFACE: *1921' FEL & 2264' FSL (NW SE)*  
AT TOP PROD. INTERVAL: *Sec. 20-T16S-R25E,*  
AT TOTAL DEPTH: *Same. SLB&M*

5. LEASE  
*U-29644*

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
----

7. UNIT AGREEMENT NAME  
----

8. FARM OR LEASE NAME  
*Federal*

9. WELL NO.  
*1-20*

10. FIELD OR WILDCAT NAME  
*San Arroyo*

11. SEC., T., R., M. OR BLK. AND SURVEY OR AREA  
*20-16S-25E, SLB&M*

12. COUNTY OR PARISH *Grand* 13. STATE *Utah*

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)  
*GL 7286'; KB 7296'*

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

|                          |                          |                       |                                     |
|--------------------------|--------------------------|-----------------------|-------------------------------------|
| REQUEST FOR APPROVAL TO: |                          | SUBSEQUENT REPORT OF: |                                     |
| TEST WATER SHUT-OFF      | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| FRACTURE TREAT           | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| SHOOT OR ACIDIZE         | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| REPAIR WELL              | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| PULL OR ALTER CASING     | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| MULTIPLE COMPLETE        | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| CHANGE ZONES             | <input type="checkbox"/> |                       | <input type="checkbox"/>            |
| ABANDON*                 | <input type="checkbox"/> |                       | <input checked="" type="checkbox"/> |
| (other)                  | <input type="checkbox"/> |                       | <input type="checkbox"/>            |

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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

*Well was plugged and abandoned 7/9/79 as follows;*

*4 1/2" casing was shot off @ 3311', 3224' was recovered.*  
*7" casing was shot off @ 1620', recovered 1576' of pipe.*

*Plugs were set as follows:*

- 35 sxs 6420' - 6100'*
- 20 sxs 4600' - 4331' Across 4 1/2" casing stub*
- 100 sxs 3311' - 2781' Bottom of 7" casing*
- 45 sxs 1669' - 1540' Across 7" casing stub*
- 45 sxs 729' - 600' In & out of surface casing*
- 10 sxs w/marker @ surface.*

*Location will be restored as per original NTL-6 instructions.*

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

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

SIGNED *[Signature]* TITLE *Agent* DATE *2/13/80*

(This space for Federal or State office use)

APPROVED BY *[Signature]* FOR *E. W. GUYNN* TITLE *DISTRICT ENGINEER* DATE *AUG 27 1981*

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

*UTAH STATE OIL & GAS*

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

**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.)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>P&amp;A</u></p> <p>2. NAME OF OPERATOR<br/><u>Natural Gas Corp.</u></p> <p>3. ADDRESS OF OPERATOR <u>c/o McIlnay-Adams &amp; Co., Inc.</u><br/><u>2305 Oxford Lane, Casper, Wyoming 82601</u></p> <p>4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)<br/><u>At surface</u><br/><br/><u>1921' FEL &amp; 2264' FSL (NW SE) Sec. 20-T16S-R25E SLB&amp;M</u></p> <p>14. PERMIT NO. _____</p> |  | <p>5. LEASE DESIGNATION AND SERIAL NO.<br/><u>U-29644</u></p> <p>6. IF INDIAN, ALLOTTEE OR TRIBE NAME<br/>_____</p> <p>7. UNIT AGREEMENT NAME<br/>_____</p> <p>8. FARM OR LEASE NAME<br/><u>Federal</u></p> <p>9. WELL NO.<br/><u>1-20</u></p> <p>10. FIELD AND POOL, OR WILDCAT<br/><u>San Arroyo</u></p> <p>11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA<br/><u>20-16S-25E, SLB&amp;M</u></p> <p>12. COUNTY OR PARISH<br/><u>Grand</u></p> <p>13. STATE<br/><u>Utah</u></p> |
| <p>15. ELEVATIONS (Show whether DF, RT, GR, etc.)<br/><u>GL 7286'; KB 7296'</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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 checked="" type="checkbox"/> |
| REPAIR WELL <input type="checkbox"/>         | CHANGE PLANS <input type="checkbox"/>         | (Other) _____                                                                                         |                                                  |
| (Other) _____                                |                                               | (NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.) |                                                  |

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

Well was plugged and abandoned 7-9-79 as follows:  
 4 1/2" casing was shot off @ 3311', 3224' was recovered.  
 7" casing was shot off @ 1620', recovered 1576' of pipe.  
 Plugs were set as follows:  
 35 sxs 6420' - 6100'  
 20 sxs 4600' - 4331' Across 4 1/2" casing stub  
 100 sxs 3311' - 2781' Bottom of 7" casing  
 45 sxs 1669' - 1540' Across 7" casing stub  
 45 sxs 720' - 600' In & out of surface casing  
 10 sxs w/marker @ surface

Location will be restored as per original NTL-6 instructions.

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

SIGNED [Signature] TITLE Agent DATE 2/13/80

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
 CONDITIONS OF APPROVAL, IF ANY:

STATE OF UTAH  
OIL & GAS CONSERVATION COMMISSION

(See other instructions on reverse side)

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. RESVR.  Other P&A

2. NAME OF OPERATOR  
Natural Gas Corp.

3. ADDRESS OF OPERATOR c/o McIlnay-Adams & Co., Inc.  
2305 Oxford Lane, Casper, WY 82601

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

At surface 1921' FEL & 2264' FSL (NW SE) Sec. 20-T16S-R25E

At top prod. interval reported below Same.

At total depth Same.

14. PERMIT NO. DATE ISSUED

43-019-304601

5. LEASE DESIGNATION AND SERIAL NO.

U-29644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

-----

7. UNIT AGREEMENT NAME

-----

8. FARM OR LEASE NAME

Federal

9. WELL NO.

1-20

10. FIELD AND POOL, OR WILDCAT

San Arroyo

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

Sec. 20-T16S-R25E,  
SLB&M

12. COUNTY OR PARISH  
Grand

13. STATE  
Utah

15. DATE SPUDDED 11-20-78 16. DATE T.D. REACHED 1-23-79 17. DATE COMPL. (Ready to prod.) 7-9-79 P & A 18. ELEVATIONS (DF, REB, RT, GR, ETC.)\* 7296' KB - 7285' GL 19. ELEV. CASINGHEAD -----

20. TOTAL DEPTH, MD & TVD 6479' DRLR 21. PLUG, BACK T.D., MD & TVD Surface 22. IF MULTIPLE COMPL., HOW MANY\* ----- 23. INTERVALS DRILLED BY Rotary ROTARY TOOLS 0-6479 CABLE TOOLS -----

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*  
Dakota: 6239-6256', 6276-6302'  
Cedar Mtn: 6336-6346'  
Buckhorn: 6390-6406'  
All zones cemented off for P&A

25. WAS DIRECTIONAL SURVEY MADE  
No

26. TYPE ELECTRIC AND OTHER LOGS RUN  
BHC/GR & DIL

27. WAS WELL CORED  
No

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

| CASING SIZE | WEIGHT, LB./FT. | DEPTH SET (MD) | HOLE SIZE | CEMENTING RECORD | AMOUNT PULLED |
|-------------|-----------------|----------------|-----------|------------------|---------------|
| 13 3/8"     | 54#             | 60'            | 17 1/4"   | 70sxs            | ---           |
| 9 5/8"      | 36#             | 681'           | 12 1/4"   | 950sxs           | ---           |
| 7"          | 23#             | 2926'          | 8 3/4"    | 150sxs           | 1576'         |
| 4 1/2"      | 10.5#           | 6479'          | 6 1/4"    | 110sxs           | 3224'         |

29. LINER RECORD 30. TUBING RECORD

| SIZE | TOP (MD) | BOTTOM (MD) | SACKS CEMENT* | SCREEN (MD) | SIZE   | DEPTH SET (MD)    | PACKER SET (MD) |
|------|----------|-------------|---------------|-------------|--------|-------------------|-----------------|
|      |          |             |               |             | 2 3/8" | 6373' Pulled from | hole.           |

31. PERFORATION RECORD (Interval, size and number) 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

6239-6256' -- 5 holes  
6276-6302' -- 6 holes  
6336-6346' -- 5 holes  
6390-6404' -- 5 holes

| DEPTH INTERVAL (MD) | AMOUNT AND KIND OF MATERIAL USED |
|---------------------|----------------------------------|
| 6336-6346           | 250 gal 7 1/2% BDA               |
| 6302-6276           | 69,000 gal Acid Versagel         |
| 6256-6239           | 88,000# sand                     |
| 6390-6402           | 1000 gal 15% BDA                 |

33. PRODUCTION

DATE FIRST PRODUCTION ----- PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) ----- WELL STATUS (Producing or shut-in) P&A

DATE OF TEST Swabbed HOURS TESTED 5-18 - 6-25 CHOKER SIZE No recovery other than frac fluid 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

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

SIGNED [Signature] TITLE Agent DATE 2/13/80

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

# INSTRUCTIONS

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

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

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

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

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

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

**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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-----|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |     |        | <p><u>DST #1 (6238-66') Dakota-Buckhorn</u></p> <p>IF - 30 min.<br/>           ISI - 60 min.      Tool plugged - no pressures available.<br/>           FF - 90 min.<br/>           FSI - 120 min.<br/>           BHT - 168° F</p> <p><u>DST #2 (6387-6462') Dakota</u></p> <p>IF - 30 min; 33-33 psig<br/>           ISI - 60 min; 1145 psig<br/>           FF - 150 min; 33-99 psig<br/>           FSI - 240 min; 1126 psig<br/>           IHP - 3256 psig<br/>           FHP - 3256 psig<br/>           BHT - 168° F<br/>           90' GCM</p> |

**38. GEOLOGIC MARKERS**

| NAME         | MEAS. DEPTH | TOP |
|--------------|-------------|-----|
| Buck Tongue  | 3330        |     |
| Castlegate   | 3820        |     |
| Mancos       | 3874        |     |
| Dakota Silt  | 6239        |     |
| Dakota Bench | 6273        |     |
| Cedar Mtn.   | 6333        |     |
| Buckhorn     | 6390        |     |
| Morrison     | 6410        |     |

**McILNAY-ADAMS & CO., INC.****McILNAY-ADAMS**2305 OXFORD LANE • CASPER, WYOMING 82601  
PETROLEUM CONSULTING ENGINEERS & PROPERTY MANAGEMENT

REGISTERED PROFESSIONAL ENGINEERS

February 14, 1980

U. S. Geological Survey  
8440 Federal Building  
125 S. State Street  
Salt Lake City, UT 84138

✓ State of Utah  
Division of Oil, Gas & Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Re: Completion Reports  
Natural Gas Corporation  
Federal #1-20 (U-29644)  
Sec. 20-T16S-R25E  
Grand Co., Utah

Gentlemen:

Attached is the plugging report and the completion report for the above referenced well.

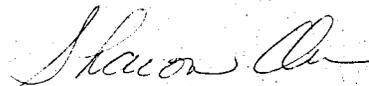
At the time of plugging Natural Gas took over the work on this well and at about the same time they had a corporate structure change. In all this confusion the reports were not submitted to your offices. I have completed the reports since I do have a complete well history.

In the future all correspondence on this well or any other in the area should be directed to Natural Gas Corporation, 245 Market St., San Francisco, Calif. 94106.

Thank you.

Very truly yours,

McILNAY - ADAMS & CO., INC.



Sharon Orr  
Office Manager

SO

Attachments

*Natural Gas  
Corporation of  
California*

April 2, 1984

Mr. Bob Graft  
Bureau of Land Management  
P.O. Box 970  
Moab, UT 84532

Division of Oil, Gas & Mining  
4241 State Office Building  
Salt Lake City, UT 84114

Re: NGC #1-20 Federal  
NW SE Sec. 20, T.16S., R.25E.  
Grand County, UT

Gentlemen:

Attached are copies of Form 3160-5, Sundry Notices and Reports on Wells,  
Request for Final Inspection for the subject well.

Yours truly,

*William A. Ryan*

William A. Ryan  
Petroleum Engineer

/kh

Encls.

cc: E. Hadsell  
Land Dept.  
L. Jorgensen

**RECEIVED**

APR 4 1984

DIVISION OF  
OIL, GAS & MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on reverse side)

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

3

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 <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER P & A                                                                                                                 |                                                            | 5. LEASE DESIGNATION AND SERIAL NO.<br>29644                                |
| 2. NAME OF OPERATOR<br>Natural Gas Corporation of California                                                                                                                                       |                                                            | 6. IF INDIAN, ALLOTTEE OR TRIBE NAME                                        |
| 3. ADDRESS OF OPERATOR<br>85 South 200 East, Vernal, UT 84078                                                                                                                                      |                                                            | 7. UNIT AGREEMENT NAME                                                      |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*<br>See also space 17 below.)<br>At surface<br>1921' FEL, 2264' FSL, NW $\frac{1}{4}$ SE $\frac{1}{4}$ |                                                            | 8. FARM OR LEASE NAME                                                       |
| 14. PERMIT NO.                                                                                                                                                                                     | 15. ELEVATIONS (Show whether DF, RT, GR, etc.)<br>7286' GR | 9. WELL NO.<br>1-20                                                         |
|                                                                                                                                                                                                    |                                                            | 10. FIELD AND POOL, OR WILDCAT<br>Wildcat                                   |
|                                                                                                                                                                                                    |                                                            | 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA<br>Sec. 20, T.16S., R.25E. |
|                                                                                                                                                                                                    |                                                            | 12. COUNTY OR PARISH<br>Grand                                               |
|                                                                                                                                                                                                    |                                                            | 13. STATE<br>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) _____                                                                                         | (Other) _____                            |
| (Other) Request Final Inspection <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.)\*

On September 7, 1983, operator inspected the subject well and found no equipment on the location except for the dry hole marker. The location has been recontoured and seeded. The location has revegetated well and is ready for final inspection.

RECEIVED

APR 4 1984

DIVISION OF  
OIL, GAS & MINING

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

SIGNED William A. Ryan TITLE Petroleum Engineer DATE April 2, 1984

(This space for Federal or State office use)

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

CONDITIONS OF APPROVAL, IF ANY:

cc: BLM-Moab; Div. OG&M; Operations; Land; LJorgensen

\*See Instructions on Reverse Side