

UTAH DIVISION OF OIL, GAS AND MINING

REMARKS: WELL LOG _____ ELECTRIC LOGS _____ FILE WATER SANDS _____ LOCATION INSPECTED _____ SUB. REPORT/ABD. _____

* NAME CHANGE - Thriftway Co. 10-8-80

DATE FILED 10-23-79

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. U-15049 INDIAN

DRILLING APPROVED: 1-28-80

SPUDDED IN:

COMPLETED: PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: ~~WELL LOCATION ABANDON WELL NEVER DRILLED~~ 1-12-81

FIELD: ~~Undesignated 3/86 Thriftway Co.~~

UNIT:

COUNTY: Grand

WELL NO. Federal 12-4

API NO: 43-019-30602

LOCATION 990' FT. FROM (N) ~~XX~~ LINE. 990' FT. FROM ~~XX~~ (W) LINE. NW NW⁴ 1/4-1/4 SEC. 12

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
				20S	23E	12	* Thriftway Company

4

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
 Four "D" Oil Company

3. ADDRESS OF OPERATOR
 P.O. Box 2942 Grand Junction, CO

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface **FNL** - 990 ft. **FNL** - 990 ft. **E.W.L.** **NW NW**
 At proposed prod. zone
 2

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately 35 miles N.E. of Cisco, Utah

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

16. NO. OF ACRES IN LEASE
 200

17. NO. OF ACRES ASSIGNED TO THIS WELL
 10 acres

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

19. PROPOSED DEPTH
 2500 *Entrada*

20. ROTARY OR CABLE TOOLS
 rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 4728 GR

22. APPROX. DATE WORK WILL START*

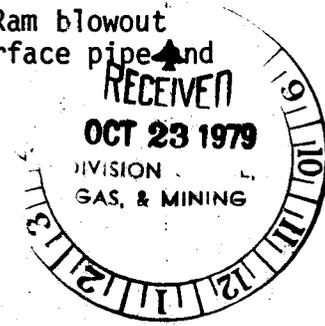
23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
9 3/4	7	17	150	45 returns to surface
6 1/4	4 1/2	10.5	TD	50 sacks

This well to be drilled to test Entrada sandstone.

Calvert-Western is equipped with A.P.I. series 900 Double Ram blowout preventers. They will be tested for drilling out under surface pipe and checked daily, or when drill pipe comes out of the hole.

Notices to: Manager, Land Office, BLM, S.L.C.
 District Manager, BLM, Moab



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 L. G. Robinson TITLE AGENT DATE 10-18-79

(This space for Federal or State office use)

PERMIT NO. 43-019-30602 APPROVAL DATE January 28, 1980

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

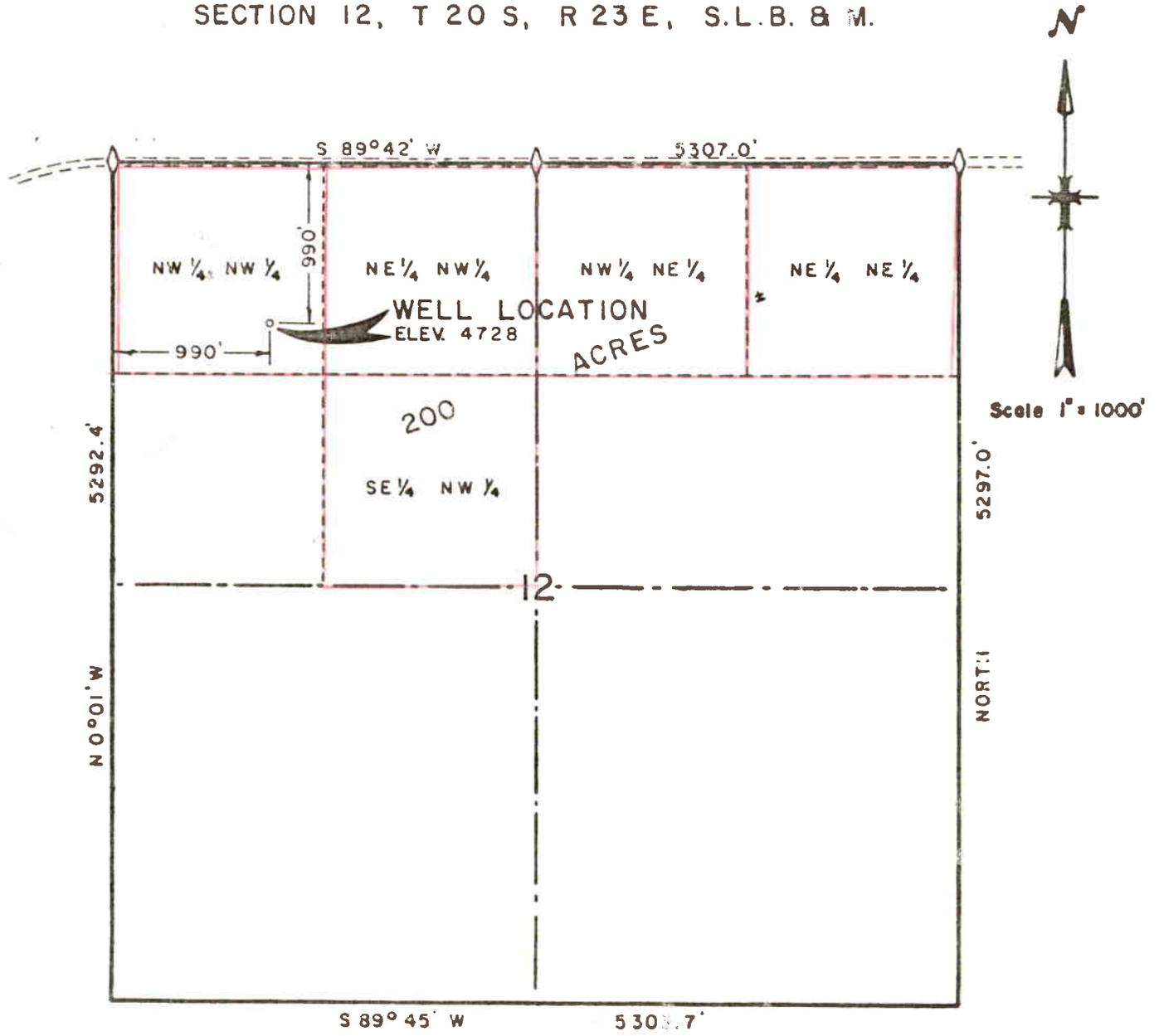
Location Abandoned

*See Instructions On Reverse Side

WELL LOCATION

990 FT. S.N.L. - 990 FT. E.W.L.

SECTION 12, T 20 S, R 23 E, S.L.B. & M.



I, David L. Bear do hereby certify that this plot was plotted from notes of a field survey made under my direct responsibility, supervision and checking on Sept. 28, 19 79.

David L. Bear
Registered Land Surveyor

WESTERN ENGINEERS, INC.
WELL LOCATION
4-D OIL COMPANY
FEDERAL 12-4
GRAND COUNTY, UTAH
SURVEYED G.L.A. DRAWN R.W.O.

FOUR "D" OIL COMPANY
P.O.Box 2942
Grand Junction, CO 81501

October 12, 1979

Mr. E.W.Guynn, District Engineer
United States Department of the Interior
Geological Survey
Conservation Division
8440 Federal Building
Salt Lake City, Utah 84138

Dear Sir:

Four "D" Oil Company of Grand Junction, Colorado wishes to make application to drill on Federal Lease #U-15049 containing 200 acres located as follows: all of Section 12, T20S, R23E, BLM land, Grand County, Utah, Federal 12-4.

In addition to information given in "Application for Permit to Drill, Deepen, or Plug Back" may we submit the following information on plan of development:

1. Mancos Shale is the geologic name of the surface formation.
2. The estimated top of the important geologic marker is the Dakota Formation, 1800 ft.
3. The estimated depth at which water, oil, gas or mineral-bearing formations are expected to be encountered are Dakota Formation, 1800 ft.; Cedar Mountain, 1710 ft.; Morrison Formation, 2000 ft.; Brush Basin, Salt Wash Formation, and Entrada Sandstone, 2300 ft.
4. The proposed casing program is 150 ft. of 7 inch 17 pounds per foot Schedule 50, T.D. 2300-2400 4½ 10 pounds Schedule 55.
5. No.1 drilling rig is equipped with A.P.I. with series 900 double ram blow-out preventers. They will be tested for drilling out under surface pipe and checked daily or when drill pipe comes out of the hole.
6. We will drill this well with air until we encounter water or oil in any of the sands and we will then go to a water base mud, 9 pounds or 10 pounds.
7. The auxillary equipment to be used consists of 1) Kelly cocks, 2) floats at the bit, 3) monitoring equipment on the mud system, 4) a sub on the floor with a full opening valve to be stabbed into drill pipe when the Kelly is not in the string.

E.W.Guynn, U.S.Dept. of Interior
October 12, 1979
Page -2-

8. We will test and log with Schlumber Well Service. We will core if necessary.
9. We do not expect any abnormal temperatures or any hydrogen sulfide gas.
10. Immediate starting date; approximately 10 days of operation.

Sincerely,

Four "D" Oil Company
Well #4
Sec. 12, T20S, R23E

Multipoint Requirements to Accompany APD

1. Existing Roads: Attached photocopy of U.S.G.S. quadrangle shows main highways and roads leading to well location in Sec. 12, T20S, R23E.
 - B. Regional map "B" attached contains this information.
 - C. Access road(s) to location are labeled.
 - E. Existing jeep road within 990 ft. of well site
 - F. If well produces, we plan to improve access roads.
2. Planned Access Roads: There is an existing jeep road starting in the Southwest corner of Section 11 off of the main road from Cisco Springs and also there is a jeep road starting in Section 19 which will give us access two ways to the well in Section 12. No road work will have to be done. Map "A" shows the location of the well to the south of the jeep trail.
 - (1) The existing road is 16 ft. wide.
 - (2) The existing road has a 2% maximum grade.
 - (3) No turnouts.
 - (4) All drainage on the well site will be to the south.
 - (5) No fills are necessary.
 - (6) Surface material is Mancos Shale.
 - (7) No fence needs to be cut. No gates need to be installed. Cattle guards will be installed where needed.
 - (8) There is no anticipated construction on any portion of the existing jeep road we plan to use. Roads to be used as is. Water along existing roads may be required for dust control. If production is established, roads would be upgraded to BLM standards.
3. Location of Existing and/or Proposed Facilities:
 - A.
 - (1) There are no existing water wells. Refer to map "A"
 - (2) There are no abandoned wells. Refer to map "A"
 - (3) there are no temporary abandoned wells. Refer to map "A"
 - (4) There are no drilling wells. Refer fo map "A"
 - (5) There are no drilling wells. Refer to map "A"

Four "D" Oil Company
Well #4
Sec. 12, T20S, R23E

Location of Existing and/or Proposed Facilities (continued)

- (6) Adam's well on state land is a producing well located in Sec. 2, 990 ft. from the Federal 12-4 well in Sec. 12. Refer to map "A"
 - (7) There are not shut-in wells. Refer to map "A"
 - (8) There are no injection wells. Refer to map "A"
 - (9) There are no monitoring or observation well. Refer to map "A"
4. A. There are no existing facilities owned or operated by operator.
- B. (1) From well head to tank battery attendant lines will be flagged.
(2) 250 ft. x 200 ft. layout attached.
(3) Gravel, if needed, would be obtained from private sources.
(4) Install hog fence around all open pits.
- C. As there is some topsoil on the location site, all topsoil shall be stripped and stockpiled. When all drilling and production activities have been completed, the location site and access road will be reshaped to their original contour and stockpiled topsoil spread over the disturbed area. Fences around pits are to be removed upon completion of drilling activities and all waste being contained in the trash pit shall be buried with a minimum of 4 ft. of cover. The reserve pit will be completely fenced and allowed to dry before covering. When restoration activities have been completed, the location site and access ramp shall be reseeded with a seed mixture recommended by the B.L.M. District Manager when the moisture content of the soil is adequate for germination. The Lessee furthers covenants and agrees that a full cleanup program would be commenced within two weeks after rig completion or if well is plugged and abandoned.
5. Location and Type of Water Supply
- A. Water will be hauled from the Colorado River 15 miles to the Southeast.
 - B. Water will be trucked to the location. Roads shown on map "A".
 - C. Well will be drilled with air and air mist. No water well necessary.
6. Source of Construction Materials
- A. If needed, river gravel will be purchased from a private contractor.
 - B. If construction materials will come from Federal lands, a permit will be acquired.
 - D. Access roads already exist. No more are needed.

Four "D" Oil Company
Well #4
Sec. 12, T20S, R23E

7. Methods for Handling Waste Disposal

- (1) The cuttings will be buried and contained in the reserve pit and covered with a minimum of 4 ft. of earth material.
- (2) The drilling fluids will be buried and contained in the reserve pit and covered with a minimum of 4 ft. of earth material.
- (3) All produced oil from this well will be contained in storage tanks and then sold. Water, if any, which is produced will be run into a reserve pit as required in the NTL-2B regulations.
- (4) A portable chemical toilet will be supplied for human waste.
- (5) All trash and flammable materials will be burned in a burn pit. The pit will be fenced with small mesh wire to prevent wind from scattering trash before being burned. Noncombustible material will be hauled to a sanitary landfill.
- (6) Upon completion of drilling the reserve pit will be fenced and allowed to dry completely before backfilling and reclamation are attempted.

8. Ancillary Facilities. No camp is required. No airstrip is required.

9. Well Site Layout

- (1) See plat of rig layout.
- (2) See plat of rig layout.
- (3) See plat of rig layout.
- (4) The pits are unlined.

10. Plans for Restoration of Surface

As there is some topsoil on the location site, all topsoil shall be stripped, stockpiled and windrowed. When all drilling and production activities have been completed, the location site and access road will be reshaped to the original contour and stockpiled topsoil spread over the disturbed area. Fences around pits are to be removed upon completion of drilling activities and all waste being contained in the trash pit shall be buried with a minimum of 4 ft. of cover. The reserve pit will be completely fenced and allowed to dry before covering. When restoration activities have been completed, the location site and access ramp shall be reseeded with a mixture recommended by the B.L.M. District Manager when the moisture content of the soil is adequate for germination. The Lessee further covenants and agrees that all of said cleanup and restoration activities shall be done and performed in a diligent and most workman-like manner.

Four "D" Oil Company
Well #4
Sec. 12, T20S, R23E

11. Other Information

- (1) Topography is flat and desert-like, there is salt brush and other desert type grasses.
- (2) None
- (3) There are no archeological stipulations.

12. Lessee's or Operator's Representative

L.R. "Robbie" Robinson, 558 North 23rd St., Grand Junction, Colorado 81501,
(303) 242-7006, Operator's representative.

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Daniel L. Schwetz, Four "D" Oil Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

10-18-79

Date

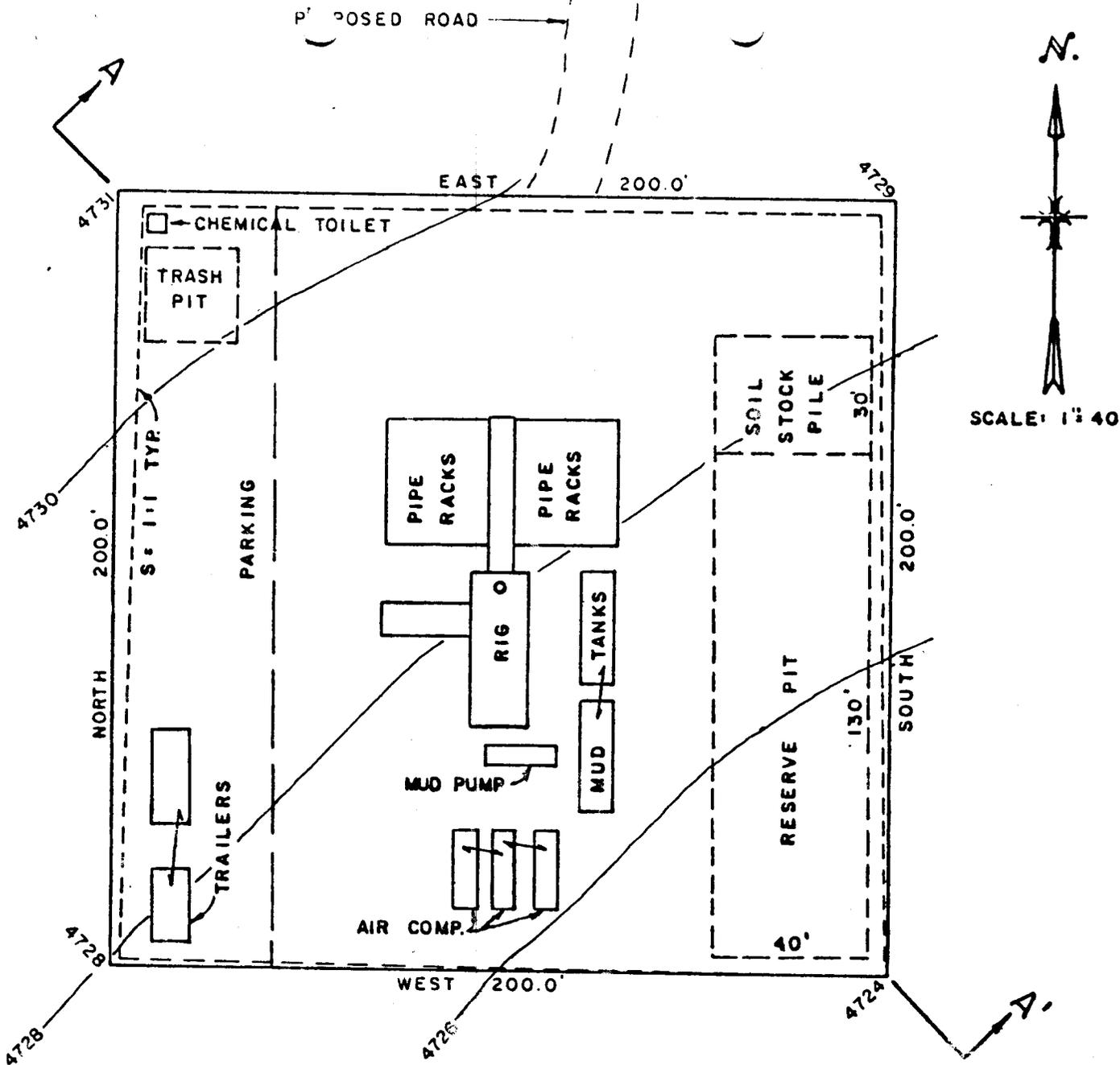
L. R. Robinson

Name and Title

Four "D" Oil Company, c/o Daniel L. Schwetz, P.O. Box 2942, Grand Junction, Colorado 81502, trusts that the above drilling proposal together with maps, charts, and forms, will provide necessary information to grant permit and allow us to proceed on our well in Section 12, T20S, R23E, B.L.M. Land, Grand County, Utah.

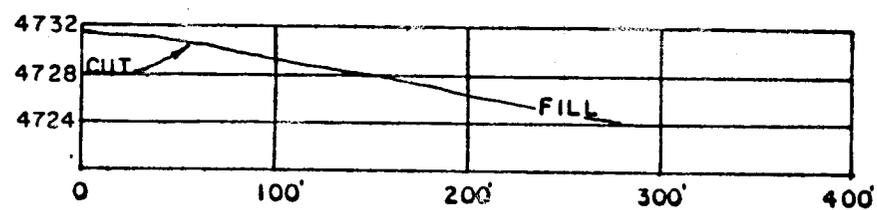
L. R. Robinson

Four "D" Oil Company
By L.R. "Robbie" Robinson, Agent



SEC. 12, T 20 S R 23 E S.L.B. & M.

DRAIN TO DANISH WASH



CROSS SECTION A-A'

SCALE: 1"=100'

WESTERN ENGINEERS, INC.	
SITE LAYOUT	
4-D OIL COMPANY	
FEDERAL 12-4	
GRAND COUNTY, UTAH	
Surveyed D.L.B.	Drawn R.W.Q.
Grand Junction, Colo.	9/28/79

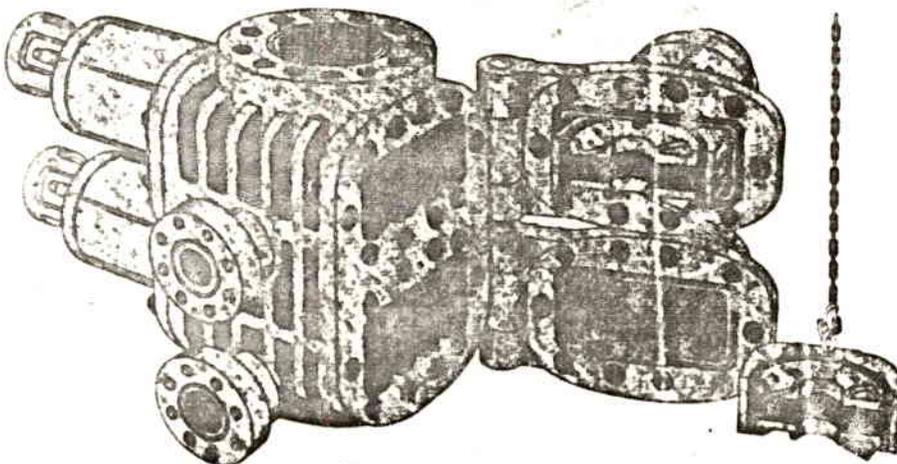
MODEL LWS RAM BOP

Model LWS Blowout Preventers have been Shaffer's most successful ram-type preventers, and have met the demanding pressure control requirements of the drilling industry for nearly 20 years. Many of the features incorporated in the most advanced SL models are included in the LWS design.

External hydraulic manifold pipes conduct fluid between the hinges on all sizes except the 4 1/8" - 10,000 psi, 20 3/4" - 3,000 psi and 21 1/2" - 2,000 psi sizes.

The hydraulic closing pressure is below 1,500 psi with rated well pressure in the bore. Any standard 1,500 psi oil field accumulator system can be used to actuate these BOP's.

Secondary ram shaft seals are furnished on all LWS BOP's except 4 1/8" - 5,000 and 10,000



Manual-lock LWS BOP

psi; 7 1/8" - 5,000 psi; and 9" and 11" - 3,000 psi BOP's.

Lip-type ram shaft seals are used in all Model LWS BOP's.

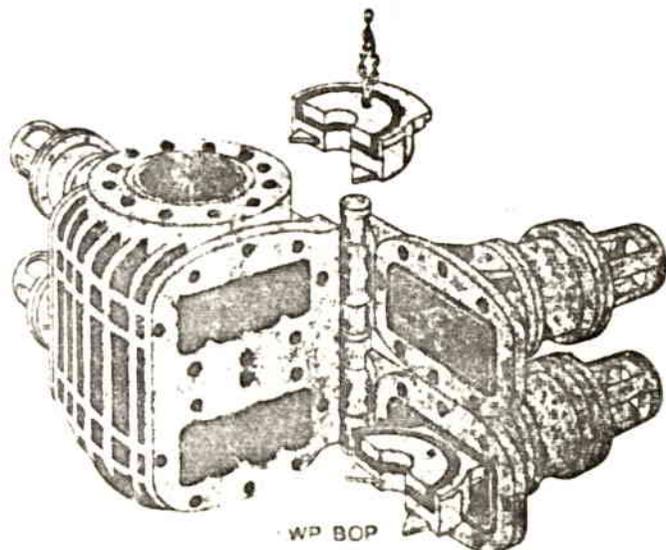
Rams are easily replaced. They slide horizontally onto the ram shaft, as shown above, except on the 4 1/8" - 10,000 psi

BOP where the ram mounts onto the ram shaft from above.

Poslock operators are available on the 20 3/4" - 3,000 psi and 21 1/2" - 2,000 psi LWS BOP's.

Manual-lock operators are available on all LWS BOP's.

MODEL LWP RAM BOP



LWP BOP

LWP ram BOP's are available in 9" and 7-1/16" - 3,000 psi sizes and are designed for workover and well servicing operations. They have the same basic features as the LWS BOP's.

The hydraulic closing pressure is below 1,000 psi with rated well pressure in the bore, but the heavy-duty cylinders allow any standard 1,500 psi oil field accumulator system to be used.

Less than one gallon of hydraulic fluid will close any LWP.

Hydraulic passages drilled through the body eliminate external manifold pipes between the hinges.

Lip-type ram shaft seals are furnished in LWP BOP's.

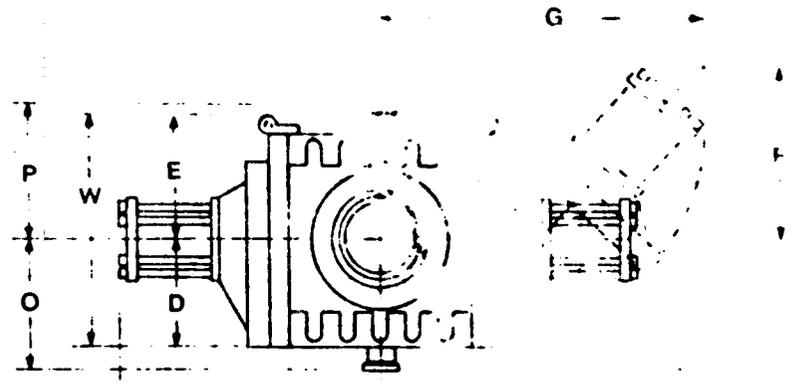
Ram mounts vertically onto ram shaft, as shown at left.

Manual-lock operators are furnished on all LWP BOP's.

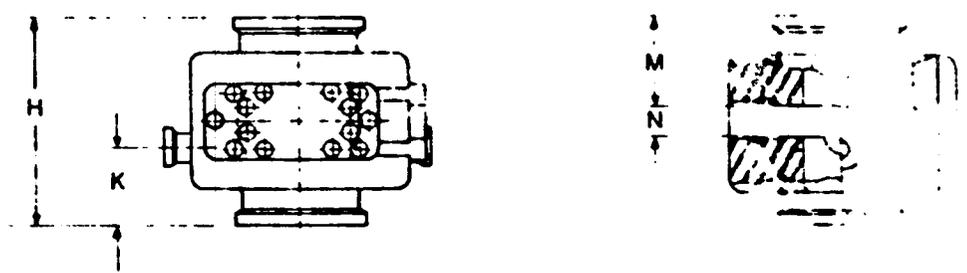
Flanged 2-1/16" - 3,000 psi side outlets are available on the front and/or back (hinge) sides of the 9" LWP. No side outlets can be supplied on the 7-1/16"

RAM-TYPE BOP SPECIFICATIONS

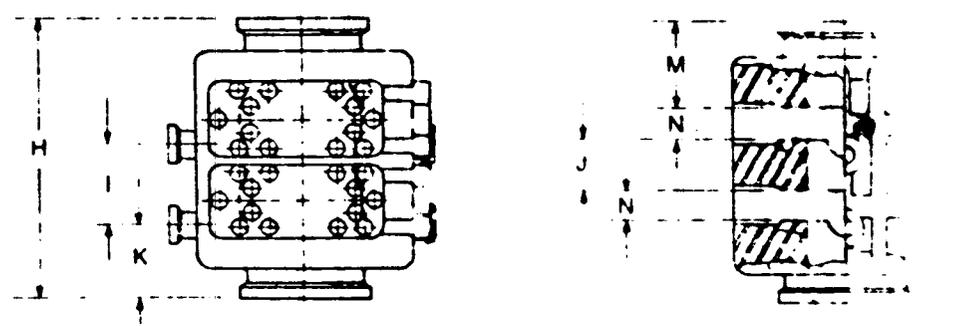
DIMENSION DRAWINGS



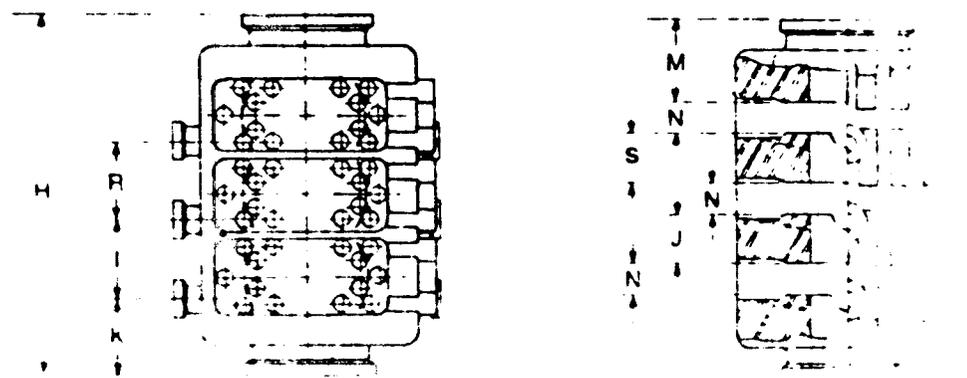
SINGLE



DOUBLE



TRIPLE



S L B B M
R 23 E R 24 E

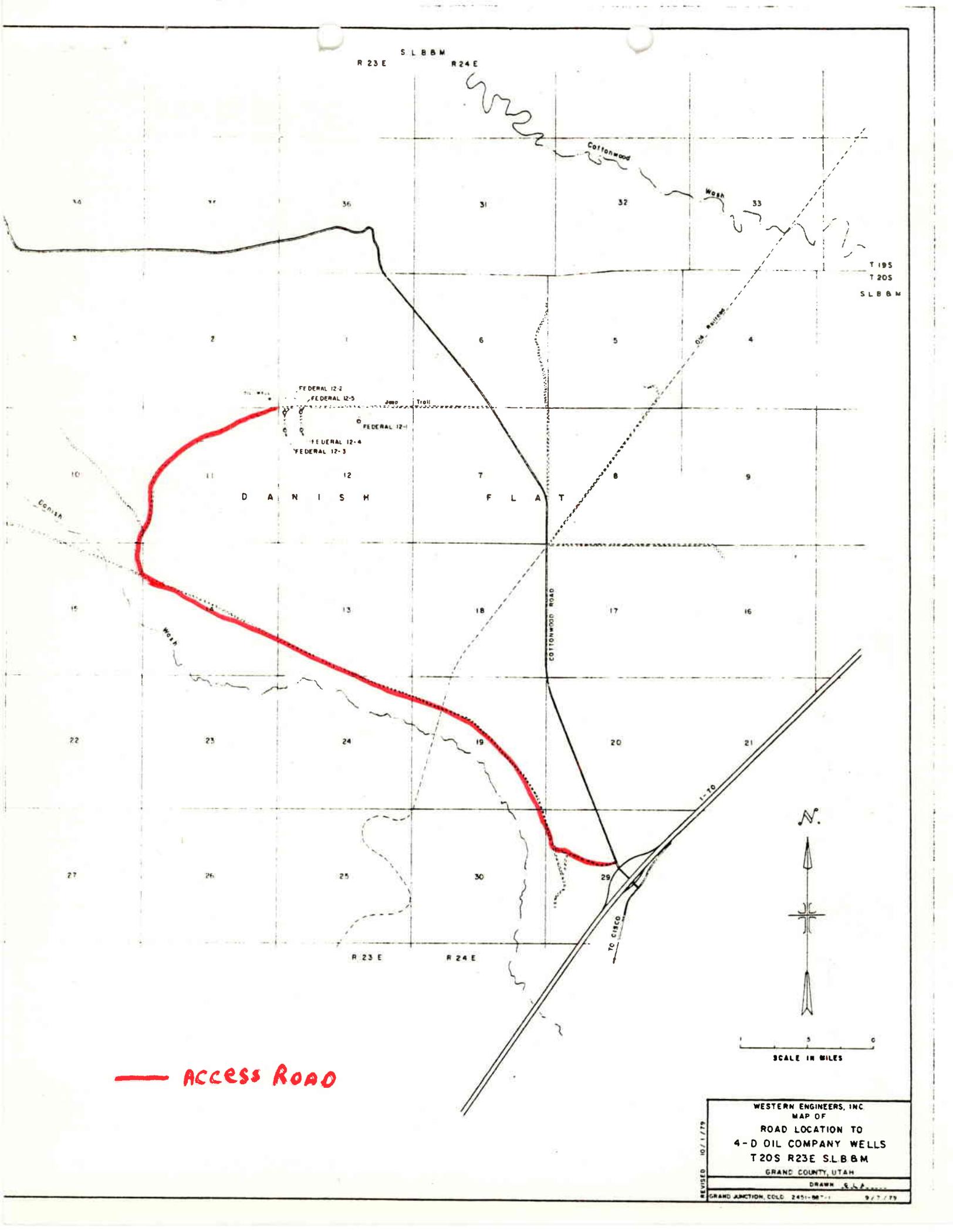
T 19S
T 20S
S L B B M

FEDERAL 12-2
FEDERAL 12-5
FEDERAL 12-4
FEDERAL 12-3

D A N I S H F L A T

— ACCESS ROAD

WESTERN ENGINEERS, INC
MAP OF
ROAD LOCATION TO
4-D OIL COMPANY WELLS
T 20S R 23E S L B B M
GRAND COUNTY, UTAH
DRAWN S.L.P.
REVISOR 10/1/79
GRAND JUNCTION, COLO. 2451-987-1 9/7/79



DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: *SALT LAKE CITY, UTAH*
SERIAL NO.: *U-15049*

and hereby designates

NAME: *DANIEL L. SCHWETZ d/b/a FOUR "D" OIL COMPANY*
ADDRESS: *P.O. BOX 1361*
DURANGO, Colorado 81301

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

GRAND CO., UTAH
T. 20S, R. 23E., 5L MER
SEC. 12, N¹/₂N¹/₂, SE¹/₄NW¹/₄
SEC. 24, SW¹/₄NE¹/₄, SE¹/₄
T 20S, R 24E., 5L MER
SEC. 6, 10TS 4, 5

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

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

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

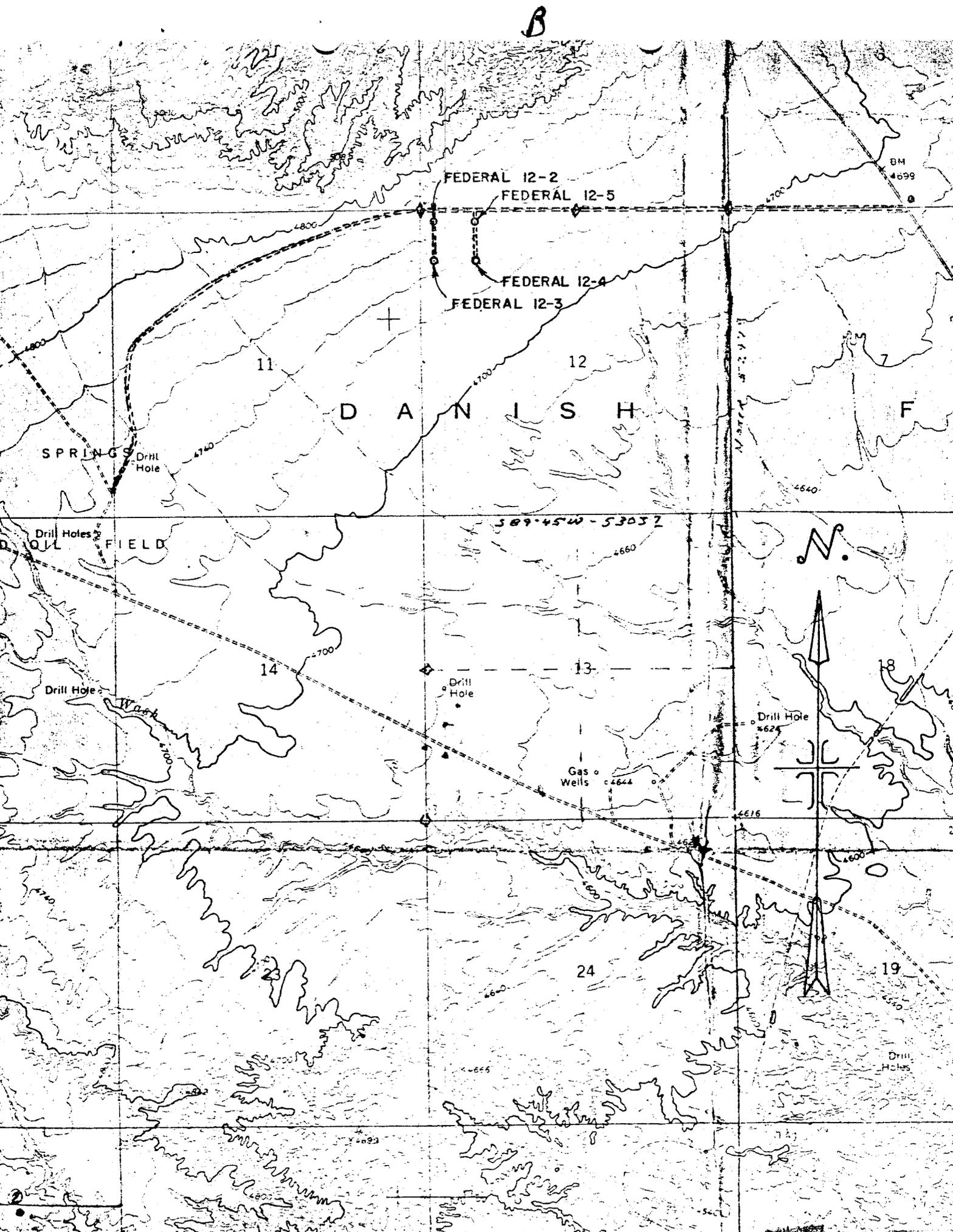
ART-MEX OIL & EXPLORATION, INC.
Billy J. Baggett President
(Signature of lessee)

P.O. BOX 249, MOAB, UTAH 84532
(Address)

Sept 23, 1979
(Date)

OPERATOR

B



FEDERAL 12-4

: DISTRICT ENGINEER, O&G, S/ LAKE CITY, UTAH
ECT: APD MINERAL EVALUATION REPORT LEASE NO. V-15049
ATOR: Four "D" Oil Company WELL NO. Fed 12-4
TION: 1/4 NW 1/4 NW 1/4 sec. 12, T. 20S, R. 23E, SLM.
Grand County, Utah

stratigraphy: Upper Mancos - surface
Dakota - 1800 (+2960)
Cedar Mtn 1900 (+2850)
Morrison 2000 (+2760)
Entrada 2300 (+2460)

resh Water: Fresh water is possible in sand lenses of the Mancos.

assable Minerals: Valuable prospectively for coal in the Dakota.
Coal is thin, lenticular and sub-commercial

ditional Logs Needed: Resistivity, Gamma Ray, Compensated Formation Density,
and Neutron Density logs should be run at least through the
coal bearing zones. (1400'-2000')

ntential Geologic Hazards: None anticipated.

ferences and Remarks: U.S.G.S. map I-736
1 mile N. of Cisco Springs, KGS.

ature: J. Paul Matheny Date: 11 - 5 - 79

Proposed Action:

On October 23, 1979, Four "D" Oil Company filed an Application for Permit to Drill the No. 12-4 development well, a 2500' oil test of the Salt Wash Formation and the Entrada Sandstone; located at an elevation of 4728' in the NW/4, NW/4, Sec. 12, T20S, R23E on Federal mineral lands and public surface; lease No. U-15049.

There was no objection raised to the wellsite. As an objection was raised to the access road, it was changed. See attached map for new access road.

A rotary rig would be used for the drilling. An adequate casing and cementing program is proposed. Freshwater 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 NTL-6 10-Point Subsurface Plan are on file in the U.S.G.S. District Office in Salt Lake City, Utah, and the U.S.G.S. Northern Rocky Mountain Area Office in Casper, Wyoming. The 13-Point Surface Protection Plan is on file in the District Office in Salt Lake City, Utah.

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.

The operator proposes to construct a drill pad 200' wide x 200' long and a reserve pit 40' x 130'. A new access road would be constructed 16' wide x approximately 300' long from the soon-to-be-constructed 12-5 wellsite.

The operator proposes to construct production facilities on disturbed area of the proposed drill pad. If production is established, plans for production facilities would be submitted to the appropriate agencies for approval. The anticipated starting date is December 1979 and duration of drilling activities would be about ten days.

Location and Natural Setting:

The proposed drillsite is approximately 35 miles NE of Cisco, Utah, the nearest town. A fair road runs to within 800' of the location. This well is in the Danish Wash field.

Topography:

The wellsite is located on flat desert terrain with slopes of less than 2%.

Geology:

The surface geology is Mancos shale. The soil is a sandy-clay. No geologic hazards are known near the drillsite. Seismic risk for the area is minor. Anticipated geologic tops are filed with the 10-Point Subsurface 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 would be placed with drilling fluid in the hole to assure protection of any mineral resources.

The potential for loss of circulation would exist. 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 topsoils in the area range from a sandy clay 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 salt-desert shrub community. The pinyon-juniper association is also present.

Eight inches of topsoil would be removed from the surface and stockpiled on the SE corner of the drillsite away from the reserve pit. 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 two 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 a 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. However, if H₂S or any other toxic substances are encountered, the USGS should be notified immediately.

Precipitation:

Annual rainfall 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 rainstorms. This type of storm is rather uncommon as the annual precipitation is around 8".

Winds are medium and gusty, occurring predominantly from southwest to northeast. Air mass inversions are rare. The climate is semiarid with abundant sunshine, hot summers and cold winters with temperature variations on a daily and seasonal basis.

Surface Water Hydrology:

The proposed location lies on a flat desert plain interlaced with a few small, intermittent dry washes. No major drainages cross or bound the wellsite. 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 for pollution would be present from leaks or spills. The operator is required to report and clean up all spills or leaks.

Groundwater Hydrology:

Some minor pollution of groundwater systems would occur with the introduction of drilling fluids (filtrate) 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 basic 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 freshwater formations are listed in the 10-Point Subsurface Protection Plan. 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:

Plants in the area are of the salt-desert shrub types including four-wing saltbush, sagebrush, rabbitbrush and grasses.

Proposed action would remove about two 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. Rehabilitation would be in accordance with BLM recommendations.

Wildlife:

Animal and plant inventory has been made by the BLM. No endangered plants or animals are known to inhabit the project area. The fauna of the area consists predominantly of mule deer, coyotes, rabbits, foxes, 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. All permanent facilities placed on the location would be painted a color to blend in with the natural 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.

The overall effect of oil and gas drilling and production activity is significant in Grand County but it is difficult to assess the environmental impact of a single well on state and/or national levels. However, if said well was to produce in sufficient quantity, additional development wells might be anticipated. This additional development, in turn, would lead to greater environmental and socioeconomic consequences.

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.

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. 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 reserves pits would contain all fluids used during the drilling operations. To allow for the stockpiling of topsoil on the SE corner of the pad, the reserve pit should be moved 30' to the north. The operator agreed to this at the onsite inspection. A covered 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) Not 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 environmental 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.

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.

Proposed Supplemental Conditions of Approval:

- 1) Operator will construct a new access road 16' wide x approximately 300' long, originating from the west edge of the already constructed #12-5 wellsite.
- 2) Operator will fence reserve pit on three sides prior to drilling and during drilling activities, and on four sides once the rig has moved off.
- 3) 8" of topsoil will be stockpiled on the SE corner of the wellsite, away from the reserve pit.
- 4) The reserve pit would be moved 30' to the north to allow for stockpiling of topsoil on the SE corner of the pad.
- 5) Operator will maintain the blooie line at least 125' from the wellhead and direct it into an approved pit.

Adverse Environmental Effects Which Cannot Be Avoided:

Surface disturbance and removal of vegetation from approximately two 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 subsurface damage to freshwater 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 would exist through leaks and spills.

If well is a producer, other development wells would be anticipated with substantially greater environmental and economic impacts.

Determination:

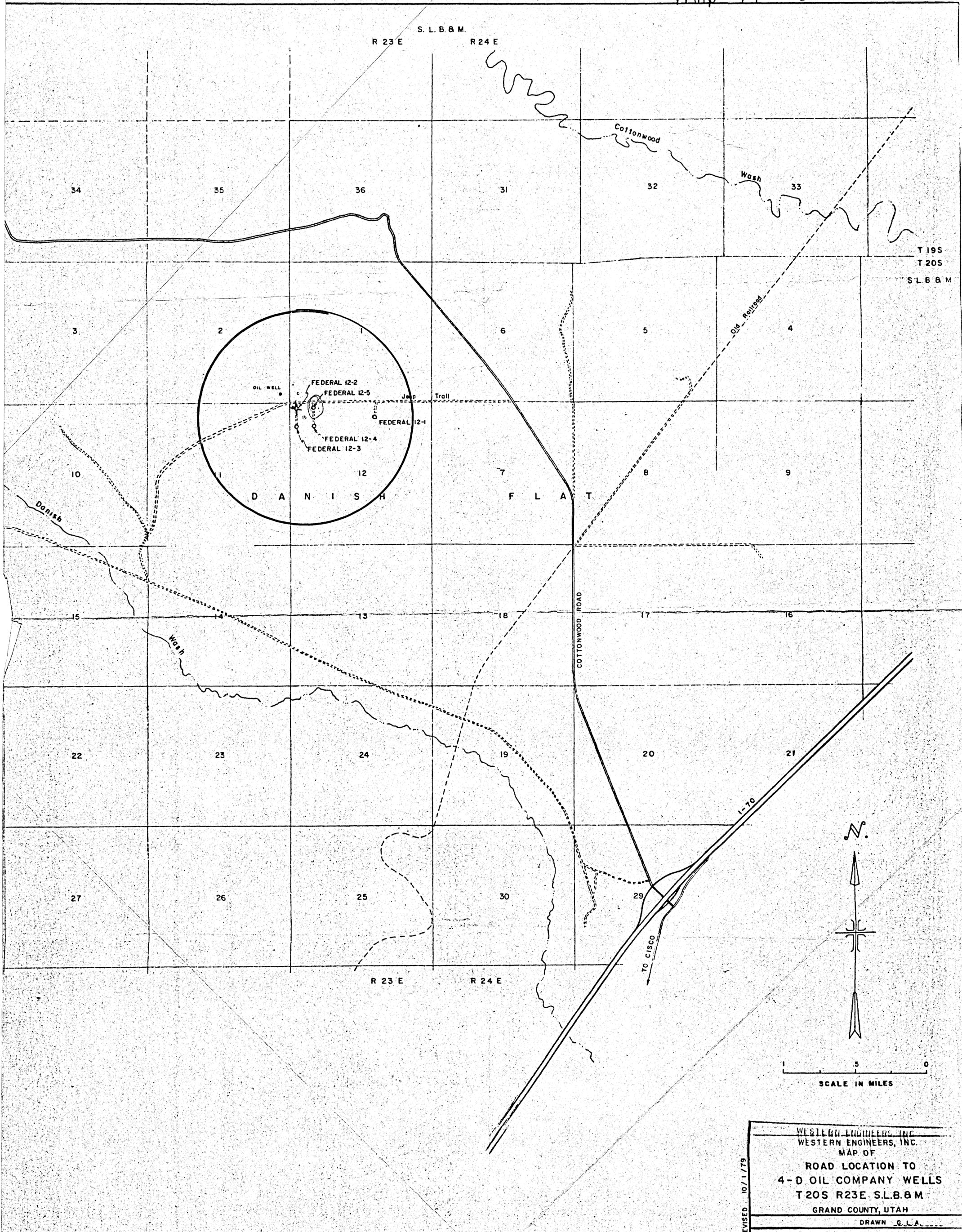
This requested action does not constitute a major Federal action significantly affecting the environment in the sense of NEPA, Sec. 102(2)(C).

DEC 12 1979
Date



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

MAP "A"



WESTERN ENGINEERS, INC.
 WESTERN ENGINEERS, INC.
 MAP OF
 ROAD LOCATION TO
 4-D OIL COMPANY WELLS
 T20S R23E S.L.B.&M
 GRAND COUNTY, UTAH
 DRAWN G.L.A.
 REVISED 10/1/79
 GRAND JUNCTION, COLO. 2451-887-1 9/7/79

** FILE NOTATIONS **

DATE: October 25, 1979

Operator: Four "D" Oil Company

Well No: Federal 12-4

Location: Sec. 12 T. 20S R. 23E County: Grand

File Prepared:

Entered on N.I.D.:

Card Indexed:

Completion Sheet:

API Number 43-019-30602

CHECKED BY:

Geological Engineer: _____

Petroleum Engineer: _____

Director: _____

APPROVAL LETTER:

Bond Required:

Survey Plat Required:

Order No. 102-16B 11/15/89

O.K. Rule C-3

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

Lease Designation Fed

Plotted on Map

Approval Letter Written

Wtm

3

nl

January 28, 1980

Four D Oil Company
P.O. Box 2942
Grand Junction, Colorado 81501

Re: Well No. Federal 12-1, Sec. 12, T. 20S, R. 23E., Grand County, Utah
Well No. Federal 12-3, Sec. 12, T. 20S, R. 23E., Grand County, Utah
Well No. Federal 12-4, Sec. 12, T. 20S, R. 23E., Grand County, Utah

Insofar as this office is concerned, approval to drill the above referred to oil wells is hereby granted in accordance with the Order issued in Cause No. 102-168 dated November 15, 1979.

Should you determine that it will be necessary to plug and abandon these wells, you are hereby requested to immediately notify the following:

MICHAEL T. MINDER
Geological Engineer
Office: 533-5771
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

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 #12-1 - 43-019-30600;
#12-3 - 43-019-30601; #12-4 - 43-019-30602 .

Sincerely,

DIVISION OF OIL, GAS AND MINING

Michael T. Minder
Geological Engineer

/b.t.m

cc: USGS

DIVISION
OIL, GAS & MINING

Conservation Division
2000 Administration Building
1745 West 1700 South
Salt Lake City, Utah 84104

January 12, 1981

Four "D" Oil Company
P.O. Box 2942
Grand Junction, Colorado

*Location
Abandon*

Re: Returned Applications for Permit to Drill
Well No.'s 12-4 & 12-5
Section 12, T. 20S., R. 23E.
Grand County, Utah
Lease No. U-15049

Gentlemen:

The Applications for Permit to Drill the referenced wells were approved December 20, 1979. Since that date no known activity has transpired at the approved locations. Under current District policy (Conditions of Approval Item No. 10), Application's for Permit to Drill are effective for a period of one year. In view of the foregoing this office is rescinding the approval of the referenced applications without prejudice. If you intend to drill at these locations on a future date, a new Application for Permit to Drill must be submitted.

This office requires a letter confirming that no surface disturbance has been made for these drill sites. Any surface disturbance associated with the approved locations of these wells is to be rehabilitated. A schedule for this rehabilitation must, then, be submitted. Your cooperation in this matter is appreciated.

Sincerely yours,

(Orig. Sgd.) R. A. Henricks

for E. W. Gynn
District Oil and Gas Supervisor

bcc: DCM, CR, O&G, Denver
BLM-Moab
Utah State O&G ✓
Utah State BLM
USGS-Vernal
Well File
APD Control

RAH/TM/tm