Fan #1 - plugged + rig still used to #1A
Waiting on further testing

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Carmack Drilling Company

3. ADDRESS OF OPERATOR: 592 - 25 Road, Grand Junction, Colorado 81501

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: ~~1320~~ 1300 FEL, ~~1320~~ 1300 FSL SE SE
At proposed prod. zone: same

5. LEASE DESIGNATION AND SERIAL NO.: U-17978-A

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

7. UNIT AGREEMENT NAME: --

8. FARM OR LEASE NAME: --

9. WELL NO.: Toledo Federal No.1

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec.10,T22S,R21E,SLM

12. COUNTY OR PARISH: Grand

13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 5 miles N.W. to Thompson, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1320'

16. NO. OF ACRES IN LEASE: 1200.0

17. NO. OF ACRES ASSIGNED TO THIS WELL: 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1 mile

19. PROPOSED DEPTH: 1500'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4719 GR

22. APPROX. DATE WORK WILL START*: October 15, 1978

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8 3/4"	7"	17 lb (new)	200 ft.	40 sks Class G-Circulate
6 1/4"	4½"	10.5 lb (new)	1500 ft.	40 sks Dowell RFC

Propose to Test Salt Wash Member of Morrison Formation.
Surface Use Plan Attached: Note: Water Sands are not anticipated.
Surface FMN - Mancos Shale
Estimated Tops:
Dakota: 850-Gas
Buckhorn: 1150-Oil
Salt Wash: 1370-Gas
Pressure Control: Schematic attached showing BOP, Kill Lines, Check Valves & Pressure Ratings, Seven Point Plan attached.
Logging: IES & FDC-CNL, No Coring Planned.
Hazards: Experience does not indicate that abnormal pressures of Hydrogen Sulfide will be encountered.
Starting Date: October 15, 1978, Ten days Operating Time.

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.

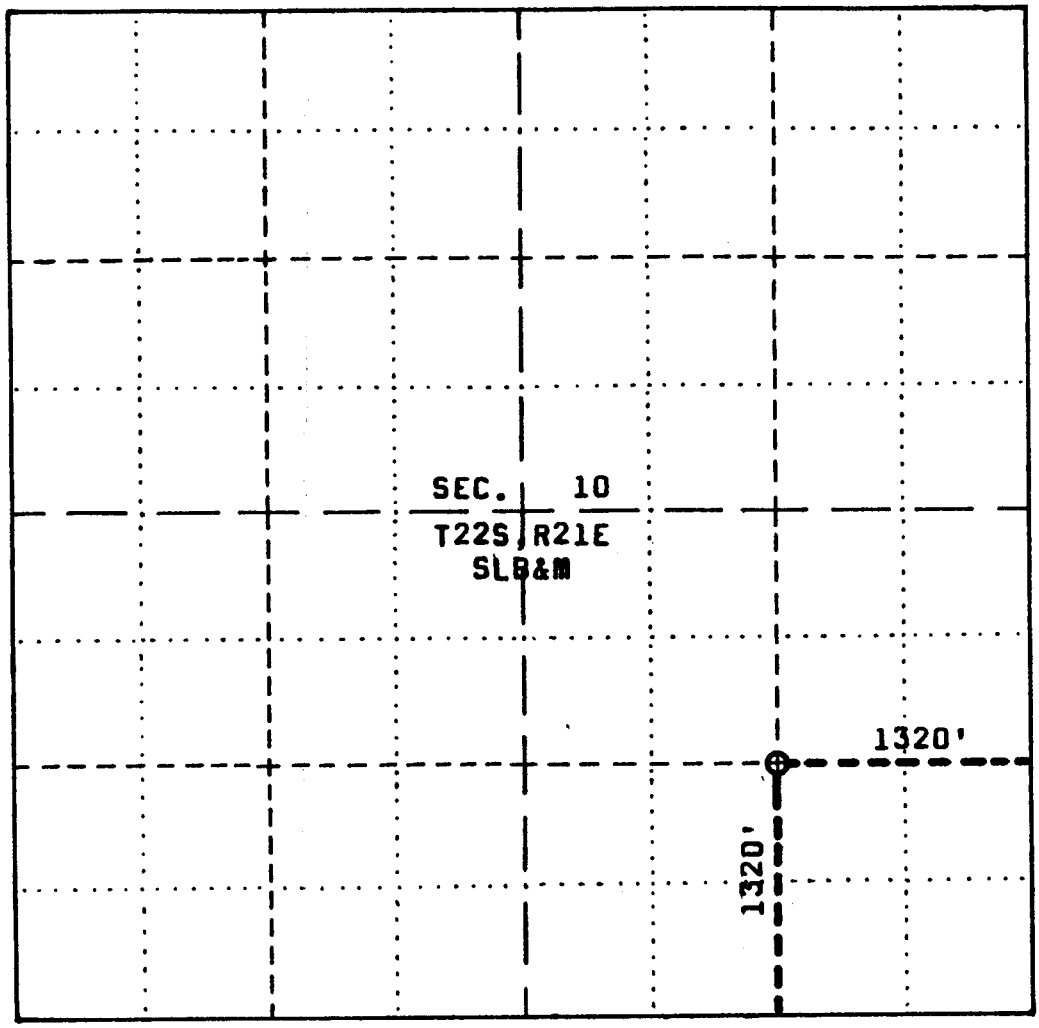
24.
SIGNED Ruth J. Carmack TITLE Operator DATE 9-30-78

(This space for Federal or State office use)

PERMIT NO. 43-019-30473 APPROVAL DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:



SCALE: 1" = 1000'

WELL #1 TOLEDO FEDERAL

Located North 1320 feet from the South boundary and West 1320 feet from the East boundary of Section 10, T22S, R21E, SLB&M.

ELEV. 4719

Grand County, Utah

REGISTERED LAND SURVEYOR
No. 2573
UDELL S. WILLIAMS
STATE OF UTAH

SURVEYOR'S 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

UTAH R.L.S. NO. 2573

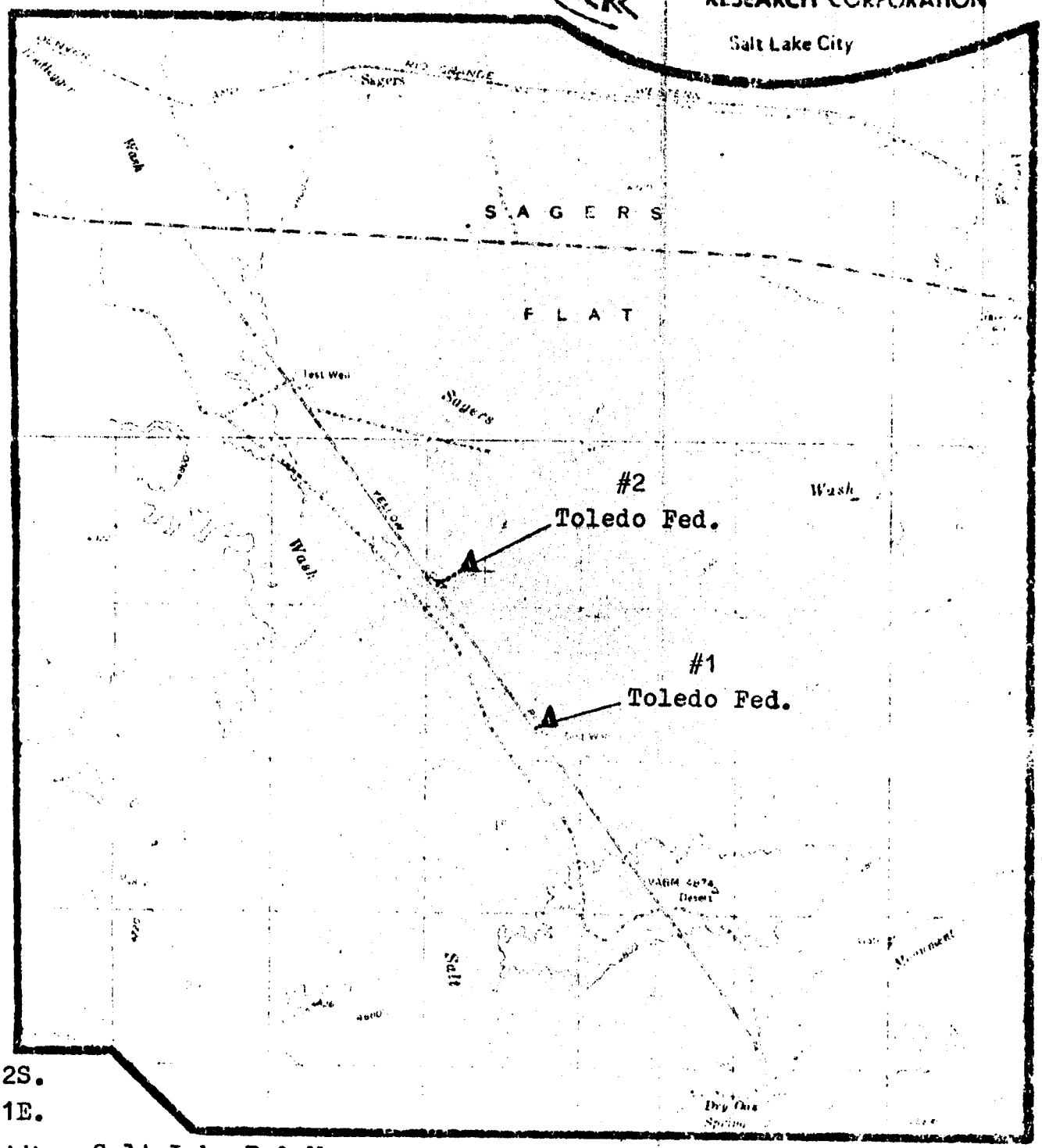
UDELL S. WILLIAMS
751 Rood Avenue
GRAND JUNCTION, COLORADO 81501

PLAT OF
PROPOSED LOCATION
WELL #1 TOLEDO FEDERAL
SE¼ SECTION 10
T22S, R21E, SLB&M

SURVEYED BY: USW DATE: 8/3/78
DRAWN BY: USW DATE: 8/3/78

ARCHEOLOGICAL-ENVIRONMENTAL RESEARCH CORPORATION

Salt Lake City



T. 22S.

R. 21E.

Meridian: Salt Lake B & M

Quad:

Thompson
15' Series

Project: WROC-78-1

Series: East Central Utah

Date: 9/5/78

PROPOSED DRILL PADS AND ACCESS ROADS IN THE SAGERS FLAT LOCALITY OF GRAND COUNTY, UTAH

Legend:

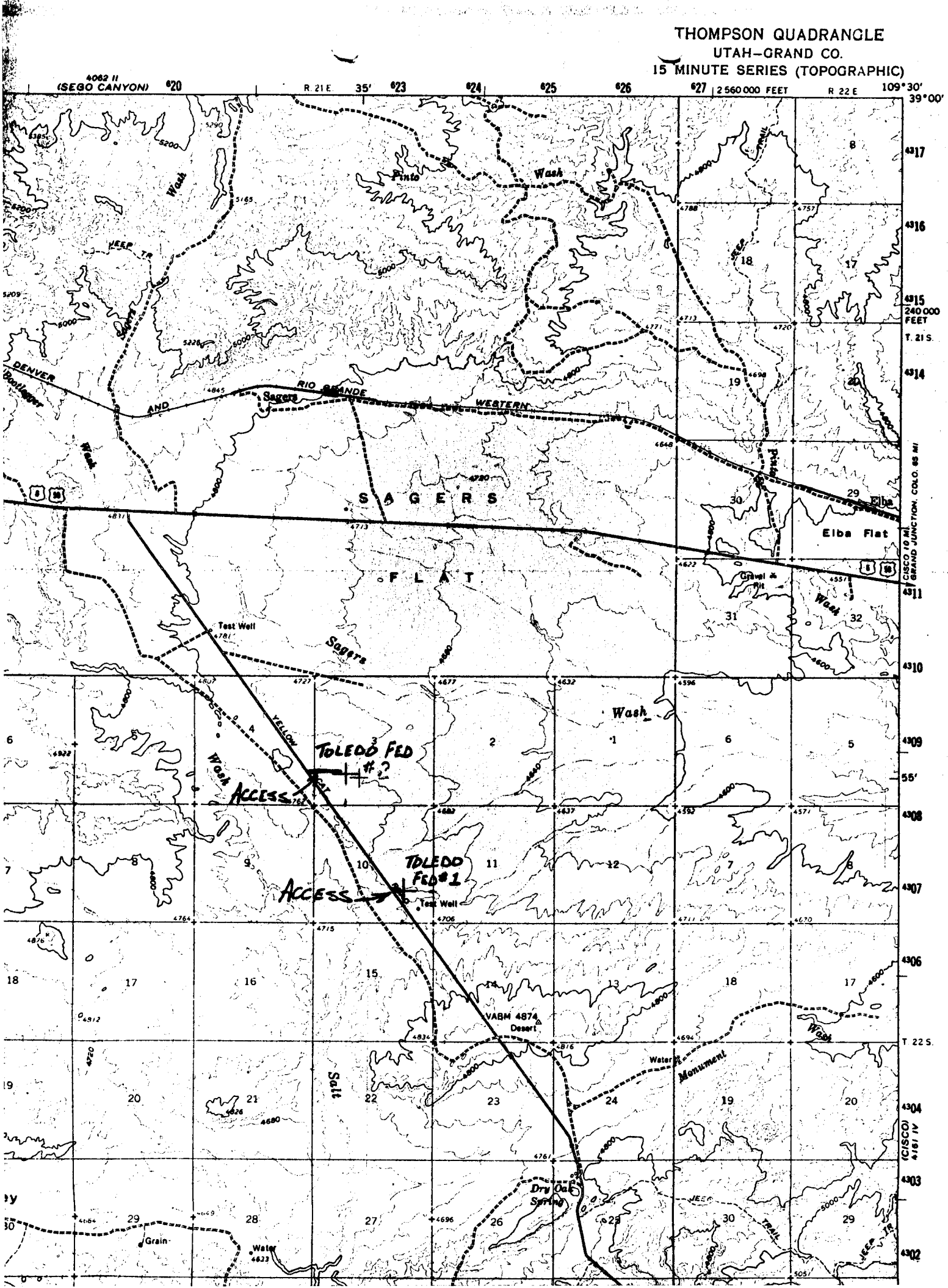
Drill Pad ▲

Access Road -----

N

5 0 1 2 M

5 0 1 2 Km


THOMPSON QUADRANGLE
UTAH–GRAND CO.
15 MINUTE SERIES (TOPOGRAPHIC)
4062 II
(SEGO CANYON)
R. 21 E.
R. 22 E
109°30'
39°00'
2 560 000 FEET
240 000 FEET
T. 21 S.
T. 22 S.
DENVER AND RIO GRANDE WESTERN
SAGERS
FLAT
Sagers
Elba
Elba Flat
Pinto Wash
Wash
Test Well
TOLEDO FED #2
TOLEDO FED #1
ACCESS
ACCESS
Test Well
YELLOW
VABM 4874
Desert
Monument
Salt
Dry Oak Spring
Water
Grain
Water
JEEP TR
JEEP TRAIL
Gravel Pit
CISCO 10 MI
GRAND JUNCTION, COLO. 85 MI
(CISCO) 4161 IV

J. N. BURKHALTER
Oil, Gas and Pipeline Consultant

Professional Engineer and Land Surveyor
Registered in Rocky Mountain States

592 25 Road
Grand Junction, Colorado 81501
Telephone 303/242-8555

Re: Toledo Federal Well No. 1
CSE Sec. 10, T22S, R21E, SLB&M
Grand County, Utah
Lease: U-17978-A

PRESSURE MONITORING AND CONTROL DATA
SEVEN POINT PLAN

1. Surface Casing: Set at 200'
   Size 7"
   Weight 17#
   Length Range 2
   Grade J-55 new. Tested to 3000 psig.

2. Casing Heads:
   Series 600 - 1500 psi working pressure.

3. Production Casing:
   Size 4½"
   Weight 10.5#
   Length Range 3
   Grade J-55 New, Tested to 3000 psig.

4. Pressure Control:
   BOP RAM Type
   Series 600 - Tested to 3000 psig
   Rams Pipe & Blind
   Will use fill, kill and choke lines.

5. Auxiliary Pressure Control:
   a. Kelly cocks.
   b. Check valve at bit.
   c. Monitoring equipment on mud system.
   d. A sub on floor with a full opening valve to be stabbed into drill pipe when Kelly is out of string.

6. Anticipated Bottom Hole Pressure:
   550 psig.

7. The Type of Drilling Fluid:
   Air until gas encountered.
   Mud up with Polymer mud with NaCl and $CaCl_2$ as weighting agent - 10.5 to 11.00 lb. per gallon as required.

J. N. BURKHALTER
Oil, Gas and Pipeline Consultant

Professional Engineer and Land Surveyor
Registered in Rocky Mountain States

592 25 Road
Grand Junction, Colorado 81501
Telephone 303/242-8555

Toledo Federal Well No.1
CSE Sec.10, T22S, R21E, SLB&M
Grand County, Utah

Surface Use Plan

Geographical: 5 miles southeast of Thompson, Utah.

Terrain: Low, rolling hills of Mancos shale.

Vegetation: Very sparse.

Surface Water: None. This is dry, desolate, desert country.

1. Existing Roads: Existing roads are 15-18 feet wide, with native ground as surface material. This is primarily Mancos shale with a little Cretaceous gravel in some places.

   Toledo Federal Well No.1 is located south of I-70 and 150' east of the Yellow Cat Road. A turnout will be required off the Yellow Cat Road.

   The included map shows all access roads and roads within a several mile radius of the locations.

   There are no immediate plans for improvement of existing roads. If commercial production is found and road improvement is needed, it will be considered at the appropriate time.

2. Planned Access Roads: The map indicates all necessary access roads to be constructed which will be to the same physical characteristics as existing roads - 15-18 feet wide with native Mancos shale as surface with maximum grades not to exceed 3-4%. There will be no culverts required and no major cuts and fills required for access to the well applied for. No fence cuts or cattle guards will be required.

3. Location of Existing Wells: As you can see from the map, existing wells have been located upon the map. The status of the wells is generally indicated on the map by the manner in which the well is marked. There are no water wells or disposal wells.

The well applied for in this application has been referenced in four directions with reference stakes set at 150 and 200 feet in four directions.

4. Location of Existing and/or Proposed Facilities:

   a) There are no tank batteries off of well locations within a one mile radius of the proposed location. Gas gathering lines are indicated on the attached map. All lines in the area are surface lines.

   b) If production is found, storage facilities will be located on the location. If oil storage facilities are needed, application will be made. If gas is discovered in commercial quantities, necessary pipelines will be applied for at that time.

      Complete protective measures such as fences will be used to protect livestock and wildlife in the area.

   c) Rehabilitation of all disturbed areas no longer needed after construction is completed will be returned to smooth contour and all debris will be cleaned up. All pits will be covered and cleaned up after drill operations. Those pits required for production will be fenced.

5. Location and Type of Water Supply: Water will be acquired from Thompson, which is about 5 miles northwest of the proposed well location. Water will be transported by truck. Existing roads will be used to transport water.

   No water well will be drilled on the lease.

6. Source of Construction Materials: No construction materials such as sand, gravel, stone and soil will be used other than that found in the native location.

   In the event that tanks and production equipment are required, gravel will be hauled from Grand Junction, Colorado or Moab, Utah to set tanks on. This gravel will be purchased from private enterprise.

7. Methods for Handling Waste Disposal:

   a) Cuttings - The hole will be 90% air drilled and cuttings will be blown into the pit and buried.

   b) Drilling Fluids - Will be contained in steel mud tanks. A dirt pit will be dug to contain excess flow out of the well during cementing and completion operations. Of course, these pits will be cleaned up and covered up.

   c) Produced Fluids such as Oil and Water - Will be properly disposed of with oil being stored in tanks and water being diverted to the pit and disposed of as required.

d) Sewage - A portable chemical toilet will be provided on location during drilling operations.

e) Garbage and Other Waste Material - Will be contained in 30 gallon galvanized garbage cans and hauled off the location.

f) As stated before, the entire well site area will be properly cleaned up and restored to smooth contour when the rig moves out. Only that part of the location required for production operations will be kept is use. In the event of a dry hole, the only appurtenance left at the location will be the required dry hole marker.

8. Ancillary Facilities: There will be no camps or air strips required for this drilling operation.

9. Well Site Layout: A plat on a scale of 1" = 40' is included with the application showing location and orientation of the drilling rig, mud tanks, reserve pit, pipe racks and other appurtenances to the operation. For the time being pits will be unlined as allowed by present law. The only water introduced into these pits will be fresh water used in the drilling operation.

10. Plans for Restoration of Surface: As stated before, the entire location will be restored to smooth contour. Also stated, the vegetation in this desert area is extremely sparse. Crested wheat grass or sandrop will be broadcast and harrowed in. Four pounds per acre.

It is intended to have all locations cleaned up within 30 days after operations are concluded.

11. Other Information:

a) The topography of these locations near Thompson, Utah is a very gentle rolling, flat characteristic. The soil is raw Mancos shale with extremely sparse vegetation. A few coyotes, prairie dogs and cottontail rabbits occupy the entire area.

b) The only other surface use activities other than petroleum exploration in the area is in spring grazing of the sparse vegetation by cattle and sheep. Uranium mining is conducted approximately 3 miles southward.

c) The proximity of water has been described at Thompson, (about 5 miles northwest). The only occupied dwellings are at Thompson, Utah, which has been located already. There will be no disturbance to archeological, historical or cultural sites by drilling the applied-for well in the present application. The land is under the jurisdiction of the Bureau of Land Management.

12. Operator's Representative:

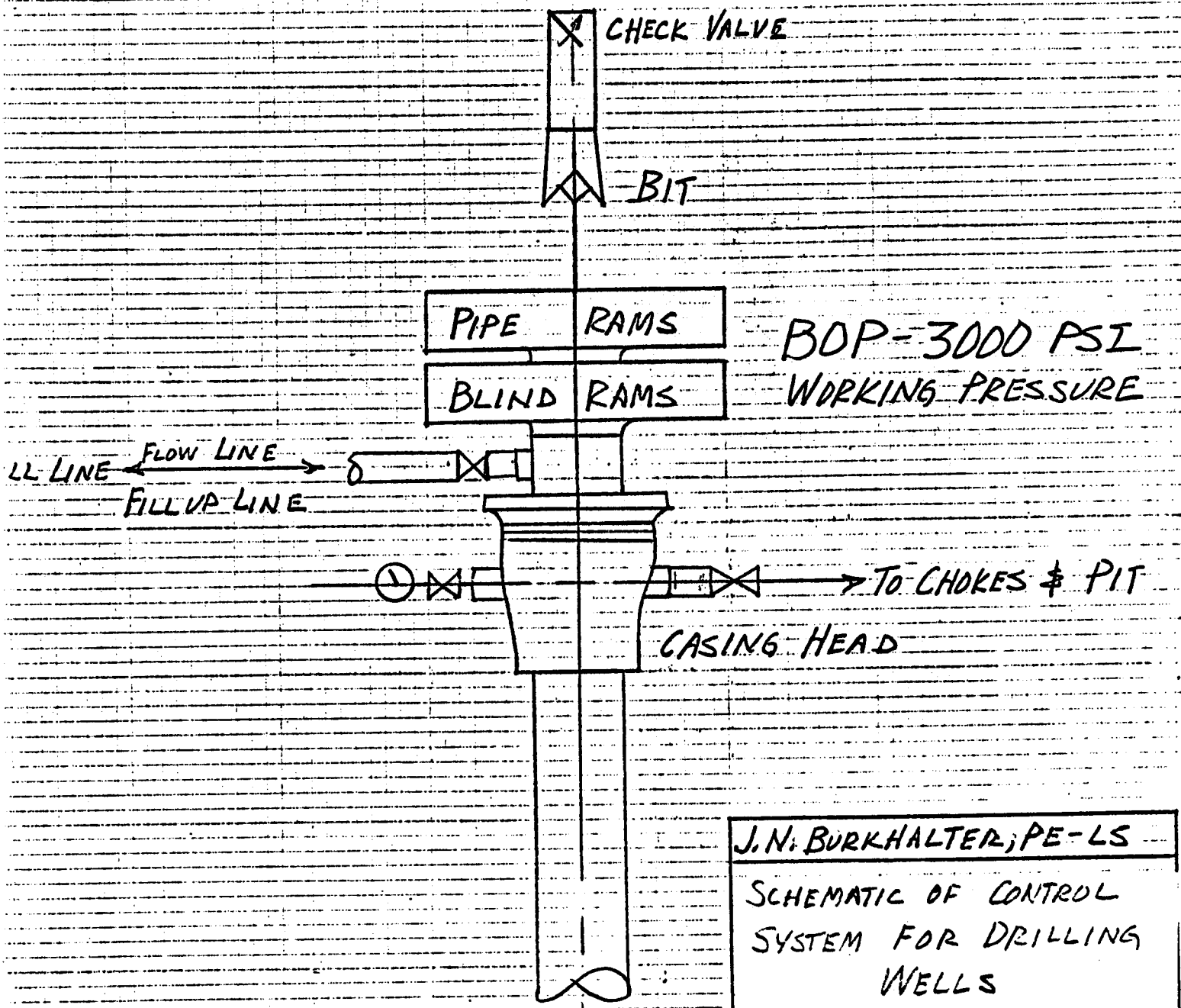
J. N. Burkhalter
592 - 25 Road
Grand Junction, Colorado 81501
(303) 242-8555
Mobile (303) 245-3660, Unit 472

Surface Use Plan (con't)

13. 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 Carmack Drilling Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

9-30-78
Date

Robert J. Carmack
Robert Carmack
Operator



J. N. BURKHALTER, PE-LS

SCHEMATIC OF CONTROL SYSTEM FOR DRILLING WELLS

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Moab District Office

Summary Report of
Inspection for Cultural Resources

BLM Use Only: Use Initials.
Case File No.
Report Acceptable Yes__ No__
Mitigation Acceptable Yes__ No__
Comments:

1. Project Name, Developer
West Rangely Operating Co., Inc.

Archeological Research in the Sagers Flat Drilling Exploration Project locality in Grand County, Utah (WROC-78-1)

2. Legal Description of Project Area (Attach Map Also)

Township 22 South, Range 21 East, Sections 3 and 10

3. Institution Holding Antiquities

NA. No collections were made.

4. Antiquities Permit No.

78-Ut-014

5. Dates of Field Work

August 22, 1978

6. Description of Examination Procedures

An archeologist walked parallel transects 30 feet apart for a 200 foot radius from two proposed drill sites and along a 100 foot wide corridor for the proposed access roads.

7. Description of Findings (Attach forms or detailed report, if appropriate)

No cultural resources were observed during the survey.

8. Actual/Potential National Register Properties Affected

A records check of the locality shows that no previously registered National Register properties will be affected by the project.

9. Conclusions/Recommendations 1. All vehicular traffic, personnel movement, and construction be confined to the locations examined and to access roads leading into these locations; 2. all personnel refrain from collecting individual artifacts or from disturbing any cultural resources in the area; and 3. a qualified archeologist be consulted should cultural remains from subsurface deposits be exposed during construction work or if the need arises to relocate or otherwise alter the construction area.

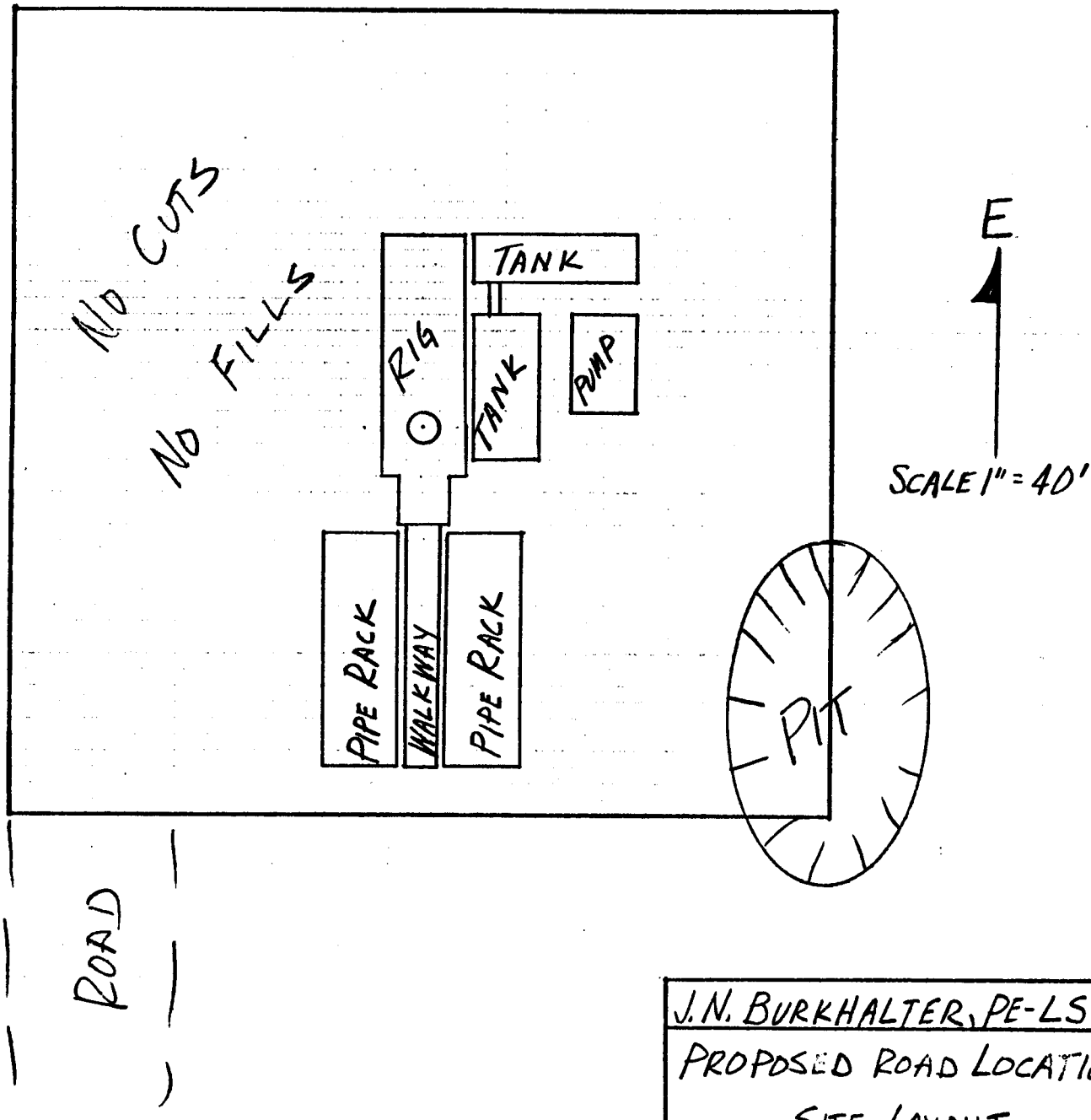
10. Signature of Person in Direct Charge of Field Work

U.S. Norman

11. Signature of Title of Institutional Officer Responsible

E. R. Hauck

USO Form 6230-3 (July 1



J. N. BURKHALTER, PE-LS

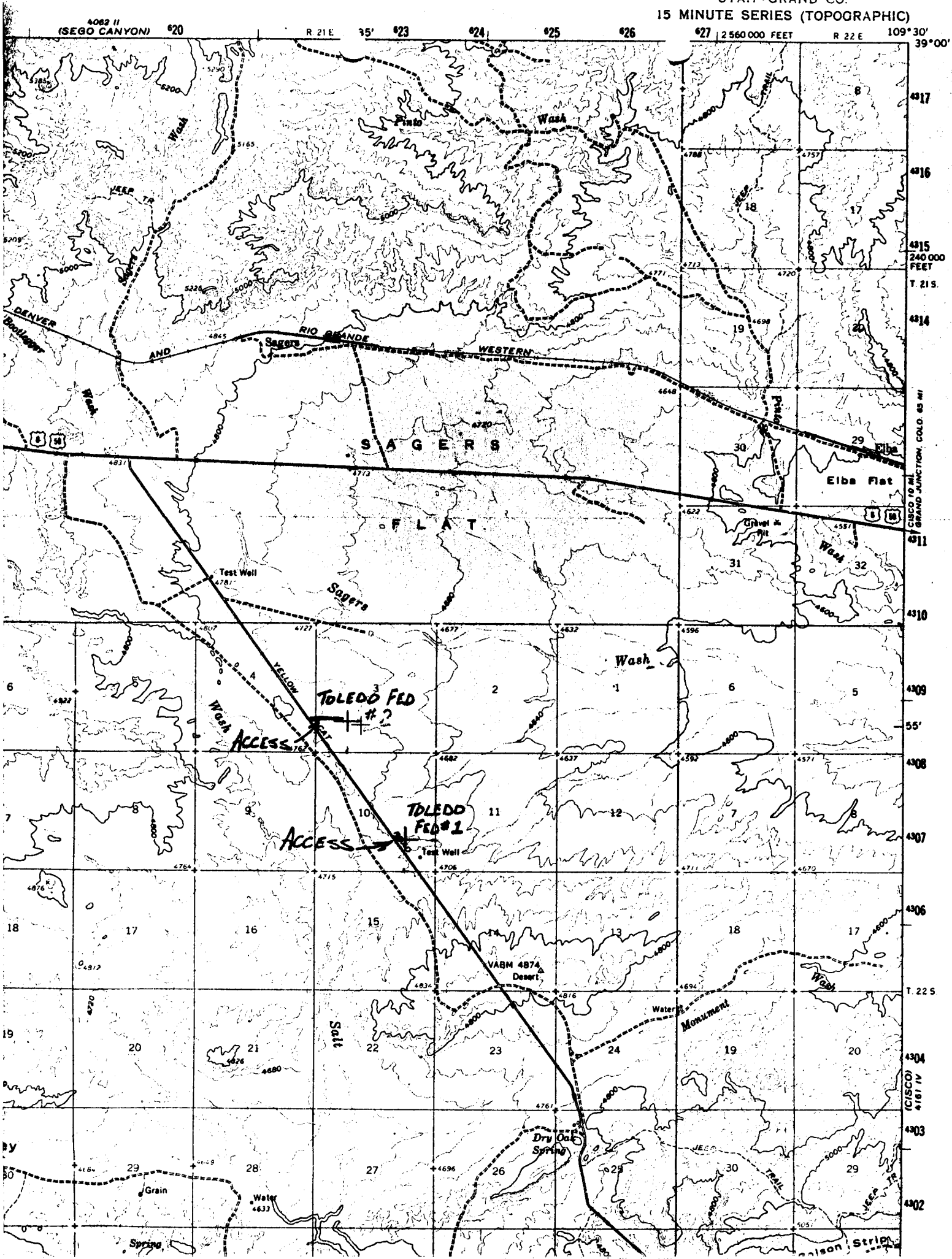
PROPOSED ROAD LOCATION

SITE LAYOUT

TOLEDO FEDERAL NO. 1

C SE SEC 10, T22S, R21E

SLM, GRAND CO, UTAH


GRAND CO.
15 MINUTE SERIES (TOPOGRAPHIC)
4062 II
(SEGO CANYON)
R 21 E
R 22 E
2 560 000 FEET
109°30'
39°00'
240 000 FEET
T. 21 S.
T. 22 S.
DENVER AND RIO GRANDE WESTERN
Bootlegger
Sagers
Wash
Pinto
Wash
JEEP TR
SAGERS
FLAT
Elba
Elba Flat
Gravel Pit
Test Well
Sagers
YELLOW CAT
TOLEDO FED #2
TOLEDO FED #1
ACCESS
ACCESS
Test Well
Wash
VABM 4874
Desert
Water
Monument
Salt
Wash
Dry Oak Spring
JEEP TRAIL
Grain
Water
4633
Spring
Carlson Strip
CISCO 10 MI.
GRAND JUNCTION, COLO. 85 MI
(CISCO)
4161 IV

TOLEDO MINING COMPANY

322 NEWHOUSE BLDG. • SALT LAKE CITY, UTAH 84111 • PHONE 801-322-0417

October 3, 1978

ANTHONY G. HATSIS
PRESIDENT

District Oil and Gas Engineer
U. S. Geological Survey
Conservation Division
8440 Federal Building
Salt Lake City, Utah 84138

Re: Stipulation

Dear Sir:

Toledo Mining Company is the owner of U. S. Oil and Gas Lease U-17978-A, and proposes to drill a well on the leased premises to test for oil and gas at a location in the NW¼SE¼ SE¼ Section 10, Township 22 South, Range 21 East, S L Mer., Grand County, State of Utah, 1300' from south line and 1300' from East line of Section 10.

Section 221.20 of the Federal Oil and Gas Regulations requires that no well be drilled less than 200' from the boundary of any legal subdivision without the written consent of the Supervisor, United States Geological Survey. The proposed location is approximately 20' from the east boundary line of the SW¼ of the SE¼; approximately 20' from the south line of the NE¼ of the NE¼ and approximately 28' southeastly from the SE corner of the NW¼ of the SE¼ of Section 10, but is considered to be necessary because of Rule 30 C F R 22/20. Therefore, Toledo Mining Company, Lessee, requests the consent of the Supervisor to the drilling of the proposed well at the above-described location. In consideration of such consent, Toledo Mining Company, Lessee, hereby expressly covenants and agrees that he will make no separate assignments of the NW¼ SE¼SE¼ and the Section 10, T. 22South, R. 21 East, S L Mer., and that he will keep the above described subdivisions under joint assignment until the above-mentioned well has been plugged and abandoned with the approval of the supervisor.

Very truly yours,

A. G. Hatsis
President

Form 9-1123
(Rev. Dec. 1957)

(Submit in triplicate to appropriate
Regional Oil and Gas or Mining Supervisor)

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.: 17978 A

and hereby designates

NAME: Carmack Drilling Company
ADDRESS: 592 25 Road
Grand Junction, Colorado 81501

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):

Sections 3 and 10 Township 22 S Range 21 E SLM

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.

TOLEDO MINING COMPANY

By: [signature]
President (Signature of lessee)

322 Newhouse Building
Salt Lake City, Utah 84111
(Address)

8-21-78
(Date)

U.S. GOVERNMENT PRINTING OFFICE: 1964—O-728-354
9 10- 536

Schever approve this one only?

STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING

** FILE NOTATIONS **

Date: Oct. 4.

Operator: Carmack Drilling

Well No: Toledo Fed. #1 (Rig skidded to #1A)

Location: Sec. 10 T. 22S R. 21E County: Grand

File Prepared: [ ] Entered on N.I.D.: [ ]

Card Indexed: [ ] Completion Sheet: [ ]

API Number: 43-019-30423

CHECKED BY:

Administrative Assistant: [signature]

Remarks: No other wells in Section

Petroleum Engineer: [signature] OK [signature] 10/5/83

Remarks:

Director: [signature]

Remarks:

INCLUDE WITHIN APPROVAL LETTER:

Bond Required: [ ] Survey Plat Required: [ ]

Order No. _____ 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~~

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

October 18, 1978

Carmack Drilling Company
592 - 25 Road
Grand Junction, Colorado 81501

Re: Well No. Toledo Federal #1
Sec. 10, T. 22 S, R. 21 E,
Grand County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure.

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

CLEON B. FEIGHT, Director
HOME: 466-4455
OFFICE: 533-5771

With reference to your "Application" for the Toledo Federal #2 well, to be located in Section 3, Township 22 South, Range 21 East, please be advised that this Division will withhold approval of same until such time as the above well has been drilled and completed.

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

The API number assigned to this well is 43-019-30473.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Cleon B. Feight
Director

FROM: : DISTRICT GEOLOGIST, ME, SALT LAKE CITY, UTAH

TO : DISTRICT ENGINEER, OS SALT LAKE CITY, UTAH

SUBJECT: APD MINERAL EVALUATION REPORT LEASE NO. U-17978-A

OPERATOR: CARMACK DRILLING CO WELL NO. TOLEDO FEDERAL No.1

LOCATION: ___ ¼ ___ ¼ SE ¼ sec. 10, T. 22 S., R. 21 E., SLM

GRAND County, UTAH

1. Stratigraphy: OPERATOR ESTIMATES OF STRATIGRAPHY MAY BE TOO DEEP. PURE OIL No.1 IN CENTER OF SE¼ SE¼ SAME SEC. AND NEAR SAME ELEVATION REPORTS DAKOTA @ 450' AND MORRISON @ 518'.

2. Fresh Water: WRD REPORTS THAT THERE ARE NO WELLS IN VICINITY OF THIS TEST. REPORTS FROM NEARBY TOWNSHIPS INDICATE THAT USABLE WATER MAY BE FOUND IN SANDSTONES AS DEEP AS 1000'.

3. Leasable Minerals: VALUABLE PROSPECTIVELY FOR COAL AND POTASH AND SODIUM CHLORIDE. COAL FOUND IN THE DAKOTA IS LIKELY TO BE THIN, LENTICULAR AND SUBECONOMIC. POTASH AND SODIUM CHLORIDE FOUND IN THE PARADOX FM. WILL BE SEVERAL THOUSAND FEET DEEP AND WELL BELOW THE PROJECTED T.D. OF THIS TEST.

4. Additional Logs Needed: NONE

5. Potential Geologic Hazards: NONE ANTICIPATED

6. References and Remarks: USGS FILES SLC., UT.
REMOTE FROM KNOWN KGS

Signature: TRA Date: 10 - 19 - 78

Oil and Gas Drilling

EA No. 009-79

009-79

United States Department of the Interior
Geological Survey
8440 Federal Building
Salt Lake City, Utah 84138

Usual Environmental Analysis

Lease No. U 17978-A

Operator Carmack Drilling Company Well No. 1 Toledo Federal

Location Center SE¼ Sec. 10 T. 22S R. 21E

County Grand State Utah Field Wildcat

Status: Surface Ownership Public Minerals Federal

Joint Field Inspection Date October 26, 1978

Participants and Organizations:

Elmer Duncan	Bureau of Land Management
Hart Gleason	Operator Representative
Ray Foster	U.S. Geological Survey

Related Environmental Analyses and References:

(1) Book Mountain Planning Unit - Bureau of Land Management - Moals

(2)

Pad 200 x 200
Pit 50 x 90
200' new access
Stockpile topsoil
1 ac

Analysis Prepared by: Ray Foster, Environmental Scientist, Salt Lake City, Utah

Reviewed by: George Diwachak, Environmental Scientist, Salt Lake City, Utah

Date October 27, 1978

Noted - G. Diwachak

Proposed Action:

On October 3, 1978, Carmack Drilling Company filed an Application for Permit to Drill the No. 1 Toledo Federal exploratory well, a 1500-ft. gas test of the Salt Wash member of the Morrison formation; located at an elevation of 4719 ft. in the center of the SE¼, section 10, T.22S, R.21E on Federal mineral lands and Public surface; lease No. U 17978-A. There was no objection raised to the wellsite nor to the access road.

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 Preventer 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 and 13-Point Surface Protection Plans 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.

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 ft. wide x 200 ft. long and a reserve pit 50 ft. wide x 90 ft. long. A new access road would be contructed 18 ft., wide x 200 ft. long from an existing and improved road. The operator proposes to construct production facilities on a disturbed area of the proposed drill pad. If production is established, plans for a gas flow line have been submitted to the appropriate agencies for approval. The anticipated starting date is upon approval and duration of drilling activities would be about 10 days.

Location and Natural Setting:

The proposed drillsite is approximately 5 miles southeast of Thompson, Utah, the nearest town. a good roade runs to within 200 ft. of the location. This well is a wildcat.

Topography:

Rolling terrain of small shaby hills cut by small errosional gulbys. Location is on south slope of a shale hill.

Geology:

The surface geology is Mancos shale. The soil is shaley. 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 will 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 blowout 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. The operator proposes to drill with air methods, eliminating lost circulation problems.

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 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.
✓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 one acre of land would be stripped of vegetation. This would increase the erosional potential. Proper construction practice, construction of water bars, and 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 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.

Precipitation:

Annual rainfall should range from about 6 to 8 inches at the proposed location. The majority of the numerous drainages in the surrounding area are of a nonperennial 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 inches.

Winds are medium and gusty, occurring predominantly from West to East. 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:

Drainage is to the south by small errosional gullys, toward Nash Wash 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 for pollution 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 (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 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:

Shadscale,sage. Plants in the area are of the salt-desert-shrub types. Proposed action would remove about one acre 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 Bureau of Land Management. No endangered plants or animals are known to habitat on the project area. The fauna of the area consists predominantly of coyotes, rabbits, an 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 an 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 and other facilities of this nature in the general area. Minor distractions from aesthetics would occur over the lifetime of the project and are judged to be minor. All permanent facilities placed on the location should be painted a light sand 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 predrilling levels.

The site is visible from any major roads. After drilling operations, completion equipment would be visible to passersby of the area but 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 U.S. Geological Survey'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:

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 (EAR) was compiled by the Bureau of Land Management, the surface management 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 EAR 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 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) 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 the U.S. Geological Survey 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 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.

Adverse Environmental Effects Which Cannot Be Avoided:

Surface disturbance and removal of vegetation from approximately one acre of land surface from 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 lifestock. 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 aethestics during the lifetime of the project would exist. If the well is a producer, an irreplaceable and irretrievable committment of resources would be made. Erosion from the site would eventually be carried as sediment in the Colorado River. The potential for pollution to the Nash Wash would exist through leaks and spills.

EA No. 09-79

Determination:

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

12/1/78
Date

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

February 16, 1979

MEMO TO FILE

Re: CARMACK DRILLING COMPANY
Well No. Toledo Federal #1
Sec. 10, T. 22S, R. 21E
Grand County, Utah

This office was notified by telephone on February 16, 1979 that Carmack Drilling Company's Well No. Toledo Federal #1 was spudded-in on February 15, 1979 at 9:00 a.m.

The drilling contractor and rig number was not given.

CLEON B. FEIGHT
DIRECTOR

CBF/lw
cc: U. S. Geological Survey
State Industrial Commission

DIVISION OF OIL, GAS, AND MINING

P L U G G I N G P R O G R A M

NAME OF COMPANY: CARMACK DRILLING COMPANY

WELL NAME: Toledo Federal #1

Sec. 10 T. 22 S R. 21 E, County Grand

Verbal approval given to plug the above referred to well in the following manner:

Total Depth: 1,271'

Casing Program:

160' of 7" 23# casing

Formation Tops:

Dakota - 515'
Morrison - 710'
Salt Wash - 990'
Summerville - 1,210'

Plugs Set as Follows:

PER ED GUYNN (U.S.G.S.)

#1	1,000'-800'	35 SX	#3	175'- 75'	17 SX
#2	600'-400'	35	#4	-Surface	10 SX

(This is a poor practice, only 15' outside casing)

A dry hole regulation marker was set.

Received by phone call, February 26, 1979, from Newt Burkhalter, 592 25th Road, Grand Junction CO 81701 ph. # 303-242-8555.

cc: U.S. Geological Survey

Date: February 26, 1979 Signed: Mike Minder

J. N. BURKHALTER

Oil, Gas and Pipeline Consultant

Professional Engineer and Land Surveyor
Registered in Rocky Mountain States

592 - 25 Road
Grand Junction, CO 81501
Telephone 303/242-8555

March 9, 1979

#1 plugged & plug skidded to #1A

Mr. Edgar W. Guynn, District Engineer
U.S. Geological Survey
8440 Federal Building
125 South State
Salt Lake City, Utah 84138

Reference: Toledo Federal No. 1 A, S. E. Quarter, Section 10, Township 22 South, Range 21 East, Grand County, Utah

Toledo Federal No. 2 A, S. W. Quarter, Section 3, Township 22 South, Range 21 East, Grand County, Utah

Dear Mr. Guynn:

Enclosed are APD Forms 9-331-C in triplicate for the above referenced wells.

After receiving verbal permission to plug the Toledo Federal No. 1 and the Toledo Federal No. 2, we wanted to further test the shallow (300-600') Mancos fractures to evaluate any possible natural gas production. Since log analysis of these shallow fractures is impossible, I obtained verbal permission from Mr. Martins to proceed with the program as outlined in the enclosed Applications on the same pad as the original wells were drilled upon. Nothing has been changed as far as the surface is concerned. The hole size and program is somewhat changed in order to get as practical a test as possible.

We certainly do wish to thank you for your practical cooperation so that we may obtain a test and evaluate whether or not further drilling and exploration would be feasible.

Very truly yours,

J. N. Burkhalter, PE - LS

Enclosures

p.c. Mr. Jack Feight

Note: I also obtained verbal permission for everything mentioned through your office. Not from me

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: CARMACK DRILLING COMPANY

3. ADDRESS OF OPERATOR: 592 25 Road, Grand Junction, Colorado 81501

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1356 FSL, 1285 FEL
At proposed prod. zone: Same

RECEIVED MAR 12 1979 DIVISION OF OIL, GAS, & MINING

5. LEASE DESIGNATION AND SERIAL NO.: U - 17978 - A
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME:
9. WELL NO.: Toledo Federal No. 1 A
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 10, T22S, R21E, SLM
12. COUNTY OR PARISH: Grand
13. STATE: Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 5 miles S E of Thompson, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1285
16. NO. OF ACRES IN LEASE: 1200.0
17. NO. OF ACRES ASSIGNED TO THIS WELL: 160
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 50'
19. PROPOSED DEPTH: 400'
20. ROTARY OR CABLE TOOLS: Rotary
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 4719 GR
22. APPROX. DATE WORK WILL START*: March 12, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
7 7/8"	5 ½"	23 lbs.(used)	350'	50 sx G w/ 3% $CaCl_2$

Surface Formation - Mancos
Plan to test Mancos fractures for gas
Same surface, use plan as for Toledo Federal No. 1 - Same location
Note: No water sands
Stay in Mancos
Pressure Control: See permit for Toledo Federal No. 1
No logging or coring. No hazards.
Plan to set 5½" at 350' and drill open hole w/ 4 3/4" bit into dry mancos to test low-pressure gas from fractures. Start March 12, 1959, 5 days.

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 Rilly D. Carmack TITLE Operator DATE 3-9-79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

April 2, 1979

Carmack Drilling Company
502, 25 Road
Grand Junction, CO 81501

Re: Toledo Federal #1A
Sec. 10, T. 22S, R. 21E and
Toledo Federal #2A
Sec. 3, T. 22S, R. 21E

Dear Mr. Carmack:

In as much as your firm has drilled the above mentioned wells without filing a notice of intention to drill with this Division and obtaining the Division's approval, you are in violation of Rule C-4, General Rules and Regulations and Rules of Practice and Procedures. In the future you will be required to obtain written approval from the Division prior to initialting any spud-in, drilling, or plugging of wells in the State of Utah.

Should there be another violation, you would leave us no other recourse but to have the Attorney General prepare papers injoining your firm from further work in the State.

Sincerely,

Michael T. Minder, Geological Engineer

MTM/lw

J. N. BURKHALTER

Oil, Gas and Pipeline Consultant

Professional Engineer and Land Surveyor
Registered in Rocky Mountain States

592 - 25 Road
Grand Junction, CO 81501
Telephone 303/242-8555

April 5, 1979

Mr. Michael T. Minder
Geological Engineer
Division of Oil, Gas & Mining
1588 West North Temple
Salt Lake City, Utah 84116

Re: Toledo Federal No. 1A
Sec.10, T22S, R21E
Toledo Federal No. 2A
Sec.3, T22S, R21E

Dear Mr. Minder:

Please refer to your letter dated April 2, 1979, in which you alleged that Carmack Drilling Company violated Rule C-4. I personally obtained verbal permission to skid the rig from the original locations of Toledo Federal #1 and Toledo Federal #2. We were attempting to evaluate shallow gas shows in the mancos. We did not move off the original location.

Enclosed are copies of Federal Form 9-331 C which I have received back from the USGS.

Further, I enclose a photo copy of my carbon copy of the letter transmitting forms 9-331 C to the United States Geological Survey. You will note that a photo copy was sent to Mr. Jack Feight with a note describing the fact that I had obtained verbal permission through the State Office. Mr. Minder, I would like to remind you, that we are not in a habit of violating state or federal rules. I would like to suggest that, in the future, you make sure of your facts before you threaten to go to the Attorney General to make allegations.

Very truly yours,

J. N. Burkhalter

J. N. Burkhalter,PE-LS

JNB/sb
enc.
cc: Mr. Robert Carmack
Mr. Jack Feight

Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: CARMACK DRILLING CO.

3. ADDRESS OF OPERATOR: 592 25 ROAD, GRAND JUNCTION, COLORADO 81501

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

5. LEASE DESIGNATION AND SERIAL NO.: U-17978-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME:

9. WELL NO.: TOLEDO FED. #1A

10. FIELD AND POOL, OR WILDCAT: WILDCAT

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC.10,T.22S,R21E,SLM

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 4719 GR

12. COUNTY OR PARISH: GRAND

13. STATE: UTAH

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(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.) *

Fed.#1 Plugged and rig skidded to #1A. Presently waiting on further testing. This information was obtained during a telephone conversation with J.N. Burkhalter on 3-7-80.

* Bfm does not have wcr for the Toledo Fed. #1. No other info available. Lee

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

SIGNED Janice Tabet TITLE Clerk DATE 3-7-80

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side