

UTAH DIVISION OF OIL, GAS AND MINING

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

DATE FILED 5-29-79

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. U-15080 INDIAN

DRILLING APPROVED: 5-29-79

SPUDED IN:

COMPLETED: PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: LOCATION ABANDONED- WELL NEVER DRILLED 6-19-80

FIELD: ~~WIDECAT~~ Bull Canyon 3/86 Greater Circle

UNIT:

COUNTY: Grand

WELL NO. Bull Canyon #1

API NO: 43-019-30512

LOCATION 1003' FT. FROM (N) ~~XX~~ LINE. 2187' FT. FROM ~~XX~~ (W) LINE. NE NW³ 1/4-1/4 SEC. 9

3

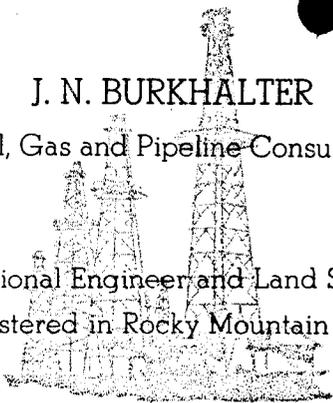
TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
				20S	21E	9	CARMACK DRILLING CO,

Re: Telephone conversation w/ Burkhalter
Will drill when weather clears

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

November 1, 1978

Mr. Edgar W. Guynn
District Engineer
U.S.G.S.
8440 Federal Building
Salt Lake City, Utah 84138

Re: Carmack Bull Canyon Well #1
SE NE NW Sec.9, T20S, R21E, SLM
Grand County, Utah
Lease No. U-15080



Dear Mr. Guynn:

Herewith is Application for Permit to Drill the above referenced well. The Carmack Bull Canyon #1 will be located 125' South of the original Toledo Mining Bull Canyon #2, and will be drilled on the same pad as the Bull Canyon #2 occupied.

We, therefore, request that you waive the archeological requirement as we are working on ground that is already disturbed. Existing roads will be used for access, and there will be no additional environmental disturbance.

Appropriate copies are also being sent to the Utah Division of Oil, Gas & Mining for the above well. We are desirous of commencing drilling operations yet in the fall of 1978, so would greatly appreciate your attention.

Very truly yours,

J. N. Burkhalter

JNB/sb
enc.

cc: Mr. Jack Feight ✓
Mr. Rocky Curnnutt

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
 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 1064 FNL, 2123 FWL
 At proposed prod. zone Same

5. LEASE DESIGNATION AND SERIAL NO.
 U-15080

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO.
 Carmack Bull Canyon Well #1

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 9, T20S, R21E, SLM

12. COUNTY OR PARISH
 Grand

13. STATE
 Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 20 miles by road to Cisco, Utah to South

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
 517'

16. NO. OF ACRES IN LEASE
 1473.6

17. NO. OF ACRES ASSIGNED TO THIS WELL
 40

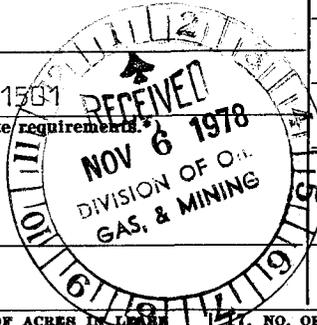
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
 125'

19. PROPOSED DEPTH
 4200'

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5972 GR

22. APPROX. DATE WORK WILL START*
 November 1, 1978



23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24 lb. (new)	200 ft.	200 sks Class G - Circulate
7 7/8	4 1/2	10.5 lb. (new)	4200 ft.	250 sks Dowell BFC

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: 3290 - Gas
 Buckhorn: 3500 - Gas
 Salt Wash: 3650 - Oil

Pressure Control: Schematic attached showing BOP, Kill Lines, Check Valves & Pressure Ratings, Seven Point Plan attached.

Logging: No Coring Planned DIL, FDC-CNL-GR
 Hazards: Experience does not indicate that abnormal pressures or Hydrogen Sulfide will be encountered.

Starting Date: November 1, 1978, Twenty 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.

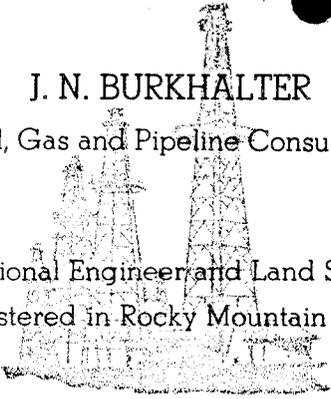
24. SIGNED Robt. Carmack TITLE President DATE 11-1-78

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:



J. N. BURKHALTER

Oil, Gas and Pipeline Consultant

Professional Engineer and Land Surveyor

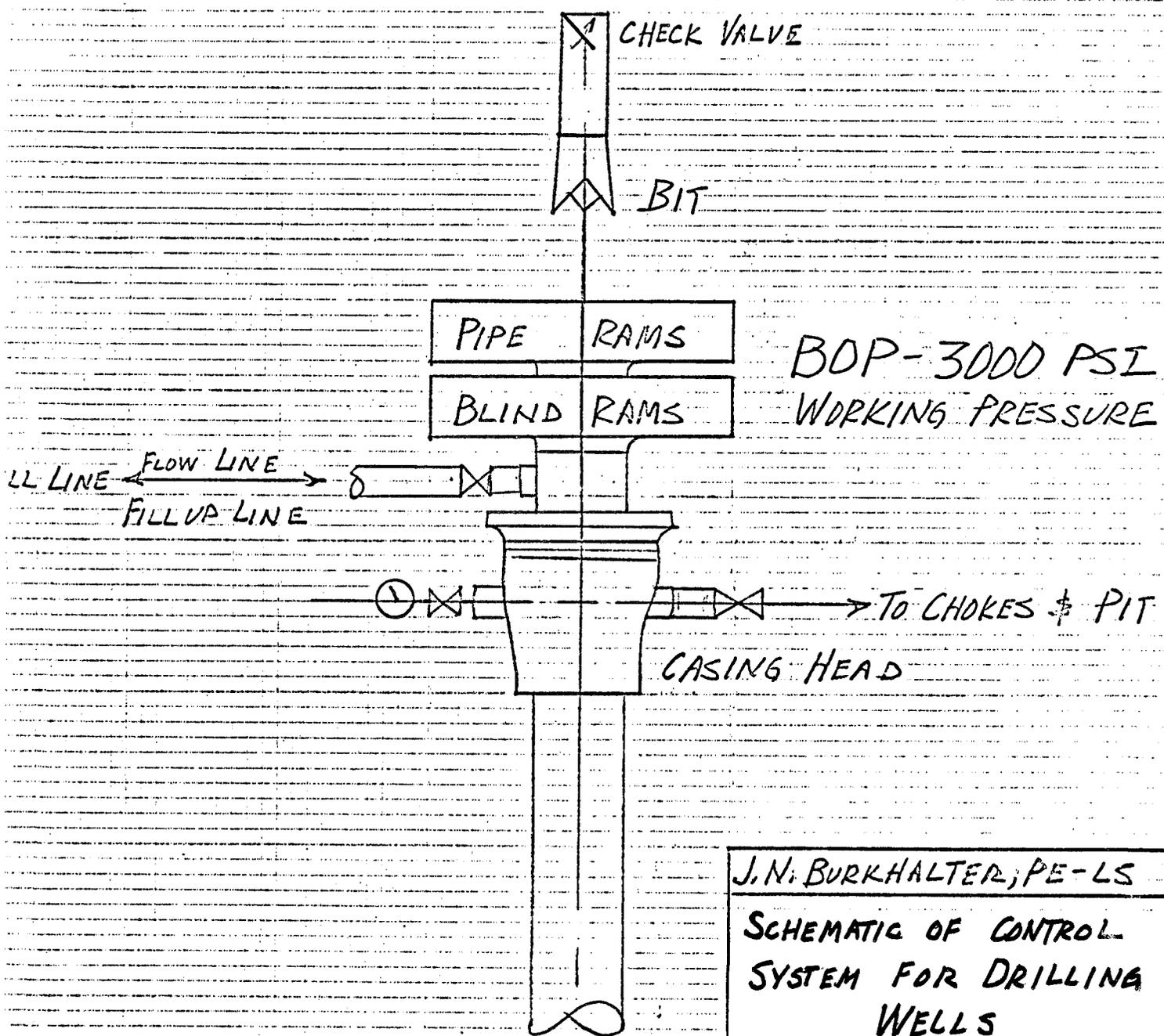
Registered in Rocky Mountain States

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

Re: Carmack Bull Canyon Well No. 1
SE NE NW Sec.9, T20S, R21E, SLM
Grand County, Utah
Lease: U-15080

PRESSURE MONITORING AND CONTROL DATA
SEVEN POINT PLAN

1. Surface Casing: Set at 200'
Size 8 5/8
Weight 24#
Length Range 3
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:
900 psig.
7. The Type of Drilling Fluid:
Air until gas or oil encountered
Mud up with gel mud with proper additives to control lost circulation,
water loss and weight as required.



J. N. BURKHALTER, PE-LS

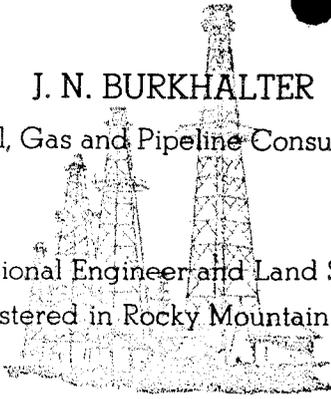
SCHMATIC OF CONTROL
SYSTEM FOR DRILLING
WELLS

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

CARMACK BULL CANYON WELL NO. 1
SE NE NW Sec. 9, T20S, R21E, SLM
Grand County, Utah
Lease:U-15080

SURFACE USE PLAN

Geographical: 20 miles northwest of Cisco, Utah.

Terrain: Steep hillside and canyon country.

Vegetation: Pinyon - Juniper

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.

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 be constructed which will be to the same physical characteristics as existing roads - 15-18 feet wide with native Mancos shale as surface. 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 two directions with reference stakes set at 100 and 150 feet in two directions giving a total reference of 300 feet for the well.

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 applied for at that time. 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 the Cunningham ranch about 3½ miles from 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 Hauling Waste Disposal:

- a) Cuttings - The hole will be 90% air drilled and cuttings will be blown into the pit. These cuttings will be buried in the pit.
- 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 in 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. Revegetation will be as required by BLM.
- 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 Cisco, Utah is steep hillsides, Pinyon-Juniper & canyons. The soil is raw Mancos shale and Mesa Verde. A few coyotes, prairie dogs, deer 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.
 - c) The proximity of water has been described at the Cunningham Ranch, about 3½ miles southwest. The only occupied dwellings are at the Cunningham Ranch, 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

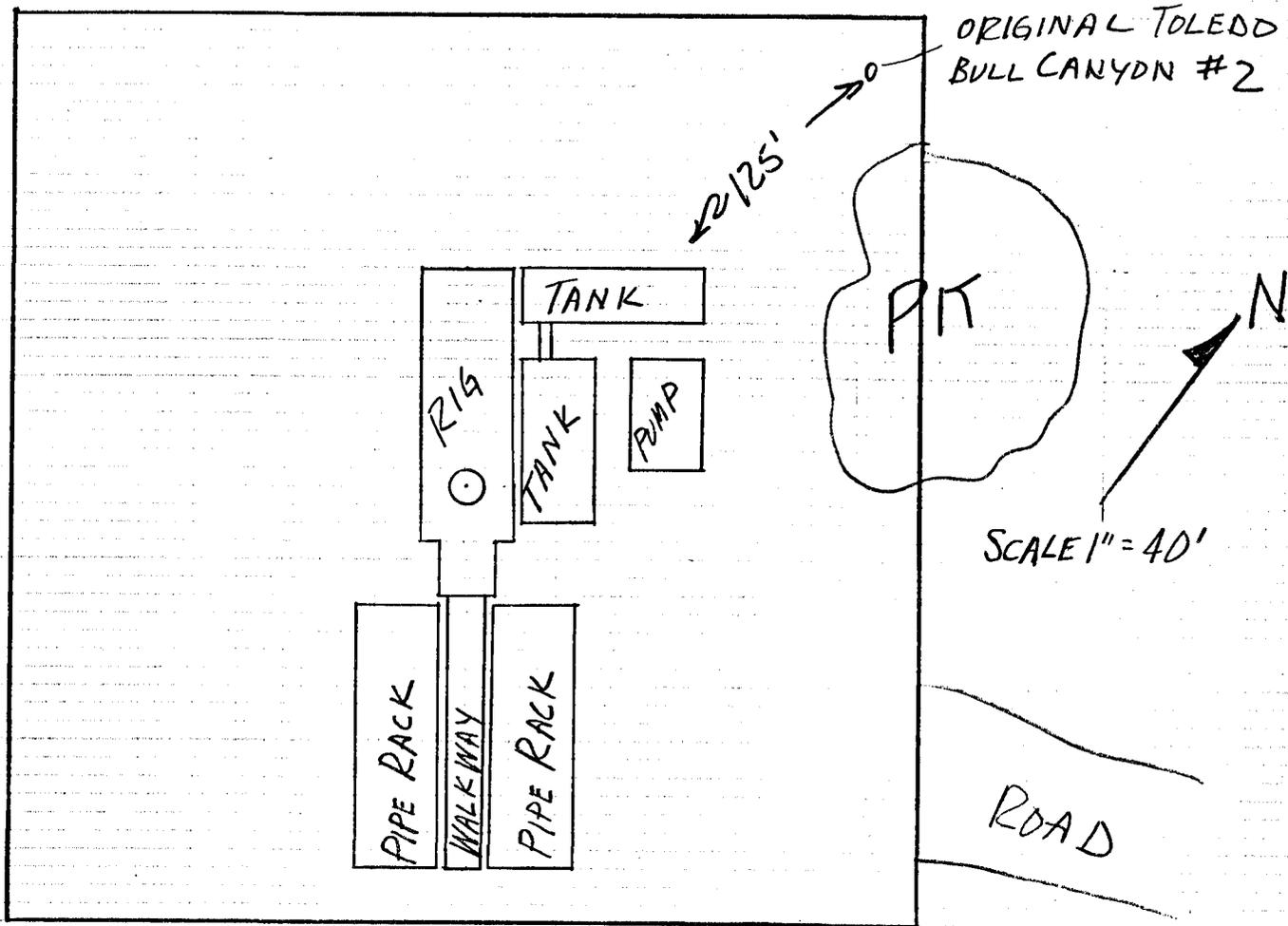
13. I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated 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.

11-1-78

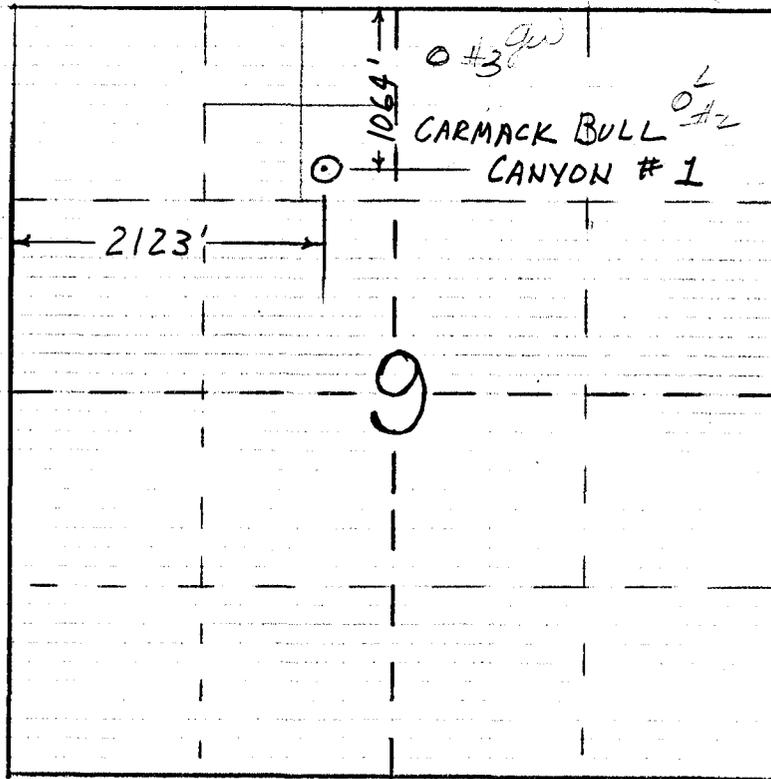
Date

Robert Carmack

Robert Carmack
President



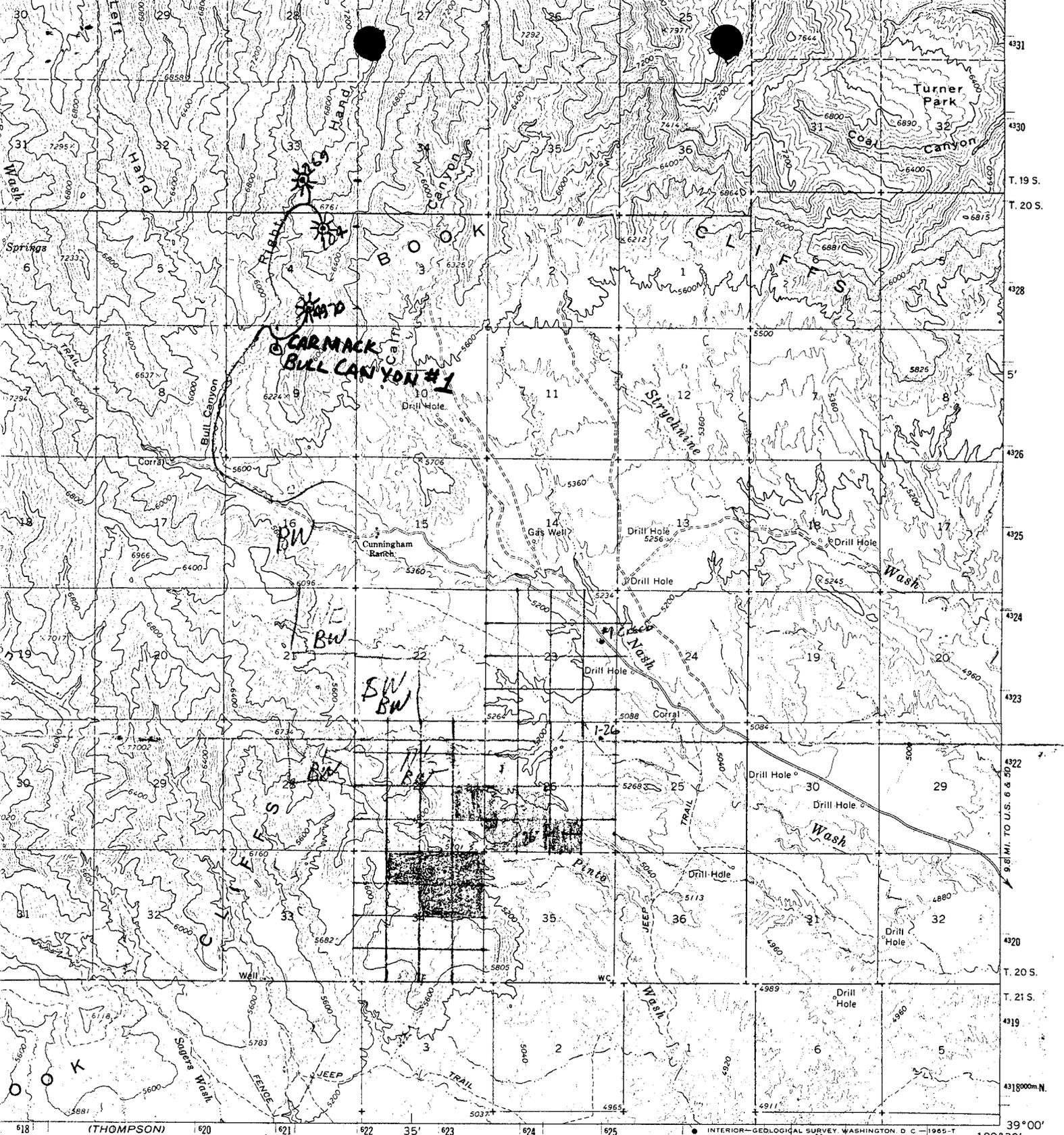
J. N. BURKHALTER, PE-LS
 PROPOSED ROAD LOCATION
 SITE LAYOUT
 CARMACK BULL CANYON
 WELL NO. 1



T20S, R21E
 GRAND COUNTY, UTAH

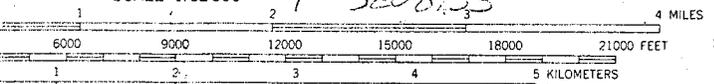
NOTE: WELL IS LOCATED 125' SOUTH
 OF ABANDONED TOLEDO BULL CANYON
 WELL NO. 2, AND WILL BE
 DRILLED ON EXISTING PAD.

JN BURKHALTER, PE-LS
 LOCATION OF CARMACK
 BULL CANYON NO. 1
 GRAND COUNTY, UTAH



(THOMPSON)
4061
SCALE 1:62500

1" = 5208.33'



CONTOUR INTERVAL 80 FEET
DOTTED LINES REPRESENT 40-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.
ING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION

ROAD CLASSIFICATION

- Light duty
- Unimproved dirt
- State Route

QUADRANGLE LOCATION
SEG0 CANYON, UTAH
QUADRANGLE ENGINEERING INC. N3900—W10930/15

1963

307 South 12th Street Phone 245-3450
Grand Junction, Colorado 81501

AMS 4062 II—SERIES V797

CGSCO
4161 N

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

January 4, 1979

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

Re: Application for Permit to Drill
Carmack Bull Canyon Well #1
Sec.9, T20S, R21E, SLM
Grand County, Utah

Dear Mr. Guynn:

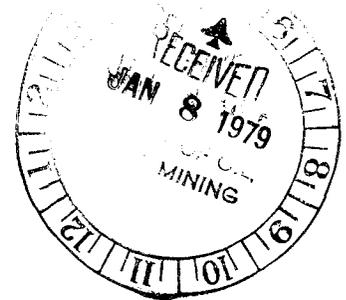
Herewith is the Designation of Operator for Lease Serial #U-15080. I neglected to include the Designation of Operator with the referenced APD.

Very truly yours,

J. N. Burkhalter

JNB/sb
enc.

cc: Utah Division of Oil, Gas & Mining ✓



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.: ~~1793~~
15030

and hereby designates

NAME: Carmack Drilling Company
ADDRESS: 592 25 Road
Grand Junction, Colorado 80501

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):

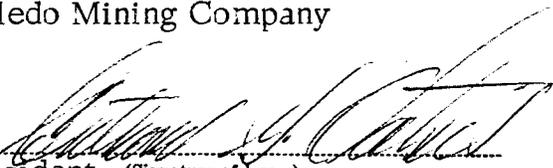
T 20 S, R 21 E, SLM, Utah
Section 9: NE1/4 NW1/4, S1/2 NW1/4 and SW1/4

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.

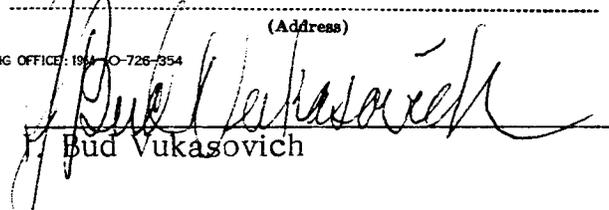
Toledo Mining Company

By: 
President (Signature of lessee)

322 Newhouse Building
Salt Lake City, Utah 84111

10-17-78

(Date)


Bud Vukasovich
(Address)

U.S. GOVERNMENT PRINTING OFFICE: 1964 O-726-354

10-17-78

Date

Yuma ARIZ 85366

Address

STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING

** FILE NOTATIONS **

Date: Apr. 13 -

Operator: Armack Drilling Co.

Well No: Buel Canyon #1

Location: Sec. 9 T. 20S R. 21E County: Grand

File Prepared:

Entered on N.I.D.:

Card Indexed:

Completion Sheet:

API Number: _____

CHECKED BY:

Administrative Assistant: _____

Remarks: too close to #3 (gw), complete for oil only

Petroleum Engineer: _____

Remarks:

Director: _____

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

J. N. BURKHALTER

Oil, Gas and Pipeline Consultant

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

Professional Engineer and Land Surveyor
Registered in Rocky Mountain States



March 12, 1979

Mr. Edgar W. Gynn
District Engineer
U.S.G.S.
8440 Federal Building
Salt Lake City, Utah 84138

re: Carmack Bull Canyon #1
NE NW Sec.9, T20S, R21E
Grand County, Utah
Lease U-15080

Reference: USGS letter dated January 29, 1979

Dear Mr. Gynn:

Prior to the preparation of subject Application to Drill, this office sent a registered engineer to the site to make a reconnaissance Brunton compass survey and map of the existing Bull Canyon #2 location. As a result of this survey and in the interest of minimizing environmental impacts, this office made the considered judgment that the Carmack Bull Canyon #1 well could be drilled on the existing #2 location with no new surface disturbance other than construction of a new pit to contain drill cuttings.

This office is familiar with the rig that is scheduled to drill the proposed test and although it is conceded that more room would be desirable, it is still our judgement that subject test could be drilled safely on the existing pad.

However, this office has responsibilities toward its clients and the priority considerations are as follows:

1. To maintain the lease in good standing.
2. To obtain regulatory agency approvals for the drilling of subject well.
3. To supervise the drilling, testing and completion of the test well.

Enclosed find a revised plot of the existing Bull Canyon #2 pad showing the proposed rig layout for drilling Carmack Bull Canyon #1 without additional surface disturbance.

Mr. Edgar W. Guynn (con't)
page 2

At the present time the access road is inaccessible but, as soon as possible, we propose to return to the site to restake the Carmack Bull Canyon Well #1 location and set appropriate reference stakes.

A revised Application to Drill is enclosed which complies with suggestions made by regulatory personnel during the on-site inspection made on January 16, 1979.

Note that the proposal recommended by this office would not require an archeological survey.

Please advise your decision in this matter. If drill site enlargement is mandated, an extension of the grace period is requested in order to accomplish the archeological survey after the access road becomes passable. An extension of 60 days more is requested.

Very truly yours,



J. N. Burkhalter, PE - LS

JNB/sb

enc.

cc: Mr. Jack Feight
Mr. Rocky Curnutt

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
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3. ADDRESS OF OPERATOR
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 Approximately 20 miles by road to Cisco, Utah to Southeast

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 453'
 18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 90'

16. NO. OF ACRES IN LEASE 1473.6
 19. PROPOSED DEPTH 4200'

17. NO. OF ACRES ASSIGNED TO THIS WELL 40
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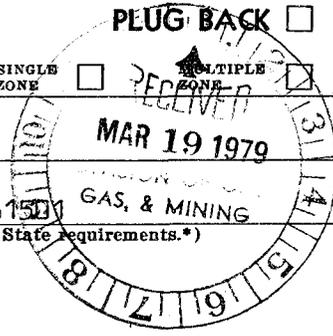
24. SIGNED *Roby Carmack* TITLE President DATE March 14, 1979

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:



J. N. BURKHALTER

Oil, Gas and Pipeline Consultant

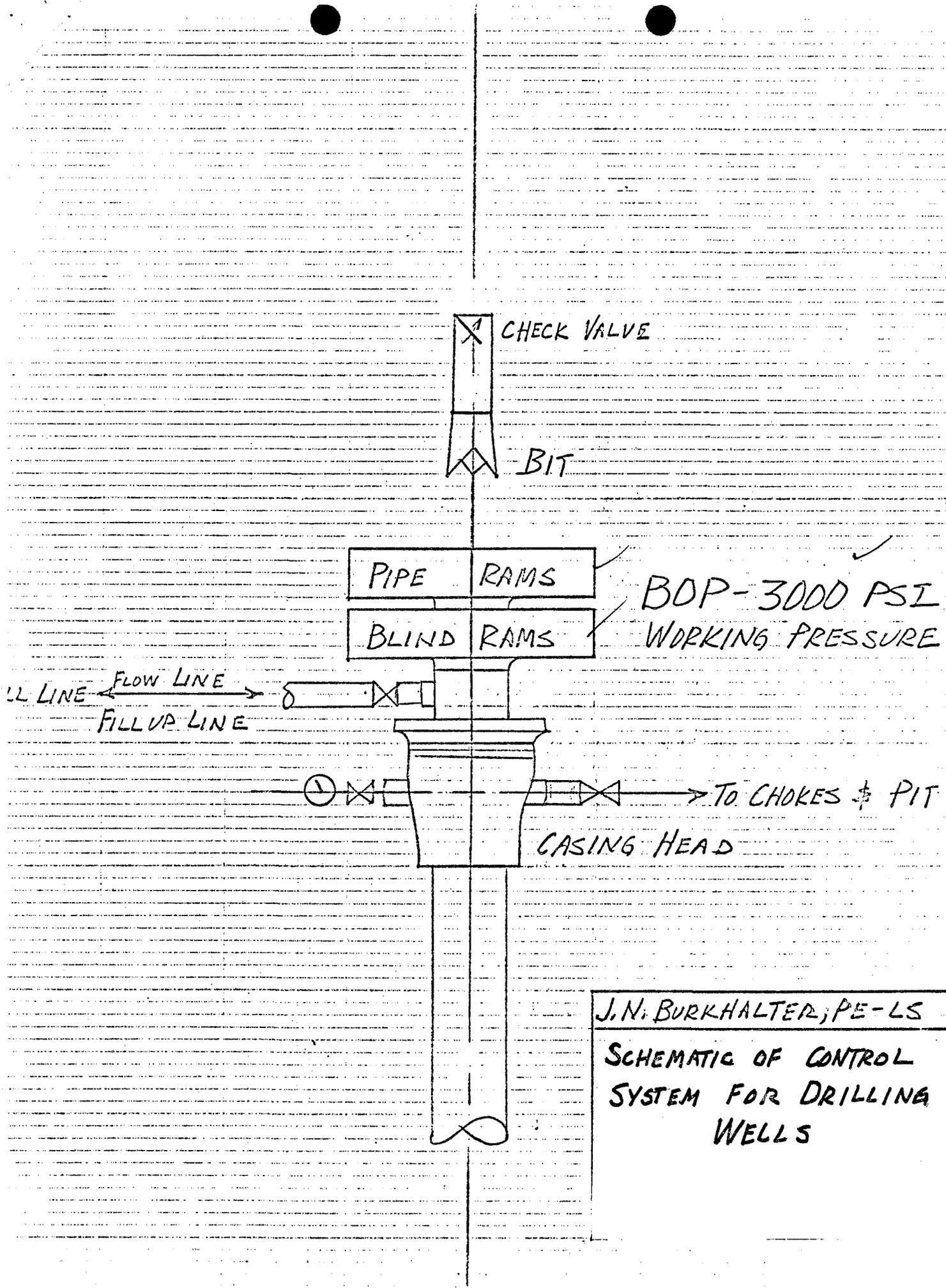
Professional Engineer and Land Surveyor
Registered in Rocky Mountain States

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

Re: Carmack Dull Canyon Well No. 1
SE NE NW Sec.9, T20S, R21E, SLM
Grand County, Utah
Lease: U-15000

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SEVEN POINT PLAN

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Series 600 - 1500 psi working pressure.
3. Production Casing:
Size 4 1/2"
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.
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 - 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:
900 psig.
7. The Type of Drilling Fluid:
Air until gas or oil encountered
Mud up with gel mud with proper additives to control lost circulation,
water loss and weight as required.



J. N. BURKHALTER, PE-LS

SCHMATIC OF CONTROL
SYSTEM FOR DRILLING
WELLS

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

CARMACK DRILLING COMPANY

13 Point Surface Use Plan
for
Well Location

CARMACK BULL CANYON NO. 1
Sec. 9, T20S, R21E
Grand County, Utah

Carmack Bull Canyon No.1

1. Existing Roads: The attached topographic Map "A" is legible and shows:

- A. The proposed well site as staked. Site is referenced by two each 200 ft. directional reference stakes.
- B. To reach Carmack Bull Canyon Well No. 1 in the Northwest quarter of Sec. 9, T20S, R21E, proceed southwest from Cisco, Utah 3 miles to Windy Mesa Road; turn Northwest for approximately 13 miles. Turn North on Bull Canyon Road 3/4 of a mile to a sharp turn Southeast approximately 1/2 mile to the existing location.

Grading has been done on the road leaving Bull Canyon. Grading will be required for about 100 yds. onto the existing location.

- C. The access road is labeled on the attached Topographic Map "A".
- D. The well is not exploratory.
- E. The well is a development well, and all existing roads within a one mile radius of the well site are shown.
- F. The access road out of Bull Canyon has been graded. The maximum grade is approximately 10% and will not present a problem. The last 100 yds. into the location will require grading. A minimum amount of work on the rest of the roads.

2. Planned Access Roads: See attached Topographic Map "A".

The existing road will be utilized entirely with no new road required. The last approximately 100 yards will require grading. The road is

- (1) About 18' wide
- (2) Maximum grade out of Bull Canyon is about 10%
- (3) The only "turnout" required is the existing one from road going on to Anschutz USA 4970 Well No.1
- (4) Drainage is provided by a small ditch on the inside of road out of Bull Canyon. Normal meteorological conditions do not require an elaborate drainage plan.
- (5) There will be no culverts and no major cuts or fills as there will be no new roads
- (6) Surfacing material will be the native material which is primarily the upper Mancos with some tongues of sandstone crossing the roads
- (7) There will be no new necessary gates, cattle guards or fence cuts
- (8) Since there will be no new roads required, there will not be any center line flagging.

3. Location of Existing Wells:

This well is considered a development well, therefore, a one mile radius circle has been drawn around the prospective location on attached Topographic Map "A".

- (1) There are no water wells within the one mile circle
- (2) Abandoned wells have been shown - the Toledo Bull Canyon No. 1 in NW NE Sec.4, T20S, R21E and the Anschutz 675-2 NE, NE Sec.9, T20S, R21E;
- (3) There are no temporarily abandoned wells within the one mile radius
- (4) There are no disposal wells within the one mile radius
- (5) There are no drilling wells at the present time within the one mile radius
- (6) There are no producing wells at this time within the one mile radius
- (7) There are two shut-in gas wells within the one mile radius - Anschutz Well No. 104-1 in NE, NE, Sec 4, T20S, R21E and Anschutz USA 4970-1 in SW, SE, Sec.4, T20S, R21E. A shut-in well of indeterminate status is in NW NE Sec.9, T20S, R21E.
- (8) There are no injection wells within the one mile radius
- (9) There are no monitoring or observation wells for other resources within the one mile radius.

4. Location of Existing and/or Proposed Facilities:

A. There are no production facilities owned or controlled by lessee/operator such as

- (1) Tank batteries
- (2) Production facilities
- (3) Oil gathering lines
- (4) Gas gathering lines
- (5) Injection lines or
- (6) Disposal lines

B. At the present time we are not sure whether we will find a dry hole, an oil well or a gas well. The well is classified a development well due to the proximity of other producers. The geology in the area is, however, quite difficult. Therefore, we cannot be sure just what we are going to get. We would respectfully request permission to submit a plan for production facilities when we know what we are going to get with this well.

- C. Plan for rehabilitation of disturbed areas no longer needed for operations after construction completed:
We plan to rehabilitate all necessary areas during the fall months of 1979 to the prescribed program set by the Bureau of Land Management. This includes land contours and revegetation.

5. Location, Type of Water Supply:

- A. Water for the drilling operation will be obtained from the Cunningham Ranch approximately 3 miles SE of the proposed location. The main access road passes directly by the Cunningham Ranch.
- B. Water will be transported by a regular oil field water truck on the access road shown on the attached Topographic Map "A".
- C. There will be no water wells drilled on the lease.

6. Source of Construction Materials:

- A. No additional construction materials will be required.
- B. Since no construction materials will be required, none will come from Federal or Indian land.
- C. There will be no construction materials used at this time.
- D. The needed access roads are existing roads and cross Federal and private lands. I have personally contacted Mr. Bill Cunningham and the Anschutz Corporation, and have been given permission to use the existing access roads. Carmack Drilling Company is committed to restore damaged roads to good condition.

7. Methods for Handling Waste Disposal:

Waste material will be disposed of as follows:

- (1) Cuttings - During air drilling, cuttings will be blown into the pit where they can be covered up and disposed of.
- (2) Drilling fluids such as mud will be contained in steel tanks and excess resulting from cementing and similar operations will be disposed of in the pit.
- (3) Produced fluids such as oil will be contained in storage tanks for purification and sale
- (4) Water will be contained in a fenced pit and disposed of as necessary
- (5) There will be a chemical toilet on location to handle human waste.
- (6) Garbage and other waste material will be contained in a trash pit which will be fenced with chicken wire to prevent the wind scattering trash before it is buried.
- (7) The well site will be cleaned up as the rig is moved out by crews attached to the rig. The site will be left clean and free of garbage and/or trash.

Carmack Bull Canyon No.1 (con't)

8. Ancillary Facilities:

There will be no camps nor air strips required by the proposed well.

9. Well Site Layout:

A plat is included. Scale is 1" = 50 feet.

- (1) No cross sections of the drill pad have been shown since we propose to drill the proposed well without further surface disturbance.
- (2) Location of mud tanks, reserve pit, trash pit, pipe racks, living facilities are all shown on the plat. No soil material stockpiles are shown, since we do not propose to disturb any more ground.
- (3) The rig is oriented on the plat, parking areas and access roads are clearly shown. The rig was personally measured and a true scale of the rig is shown upon the plat.
- (4) Pits will be unlined for drilling operations.

10. Plans for Restoration of Surface:

- (1) If we get a dry hole, backfilling, leveling, contouring, and waste disposal will be performed at the direction of Bureau of Land Management. The location is an old one, no spoils materials were segregated.
- (2) Revegetation and rehabilitation including the approximately 100 yards of access road from the road to Anschutz USA 4970-1 will be rehabilitated per BLM recommendations.
- (3) Prior to rig release, pits will be fenced or closed in so as to protect livestock and wildlife.
- (4) If there is any oil on the pit, it will be removed.
- (5) The time table for commencement and completion of rehabilitation operations is the fall of 1979. We plan to have this work done prior to October 31, 1979.

11. Other Information:

- (1) The topography in the area of the proposed location is steep canyons covered by sagebrush and pinyon-juniper. The geology is the top of Mancos - bottom of Mesa Verde and is predominately Mancos shale. There are some streaks of Cretaceous sandstone. The animals present are a few rabbits, ground squirrels, mule deer, and an occasional coyote, an occasional bobcat, and hereford cattle.
- (2) Surface use activities other than drilling would be for the grazing of cattle from the Cunningham Ranch. The surface ownership is all Federal government in the area with the exception of a small tract in Sec.15 belonging to the Cunningham Ranch. About ¼ mile of the access road crosses land owned by the Cunningham Ranch in the NW, SW, Sec.15, T20S, R21E.

(3) There is surface water which runs practically year around in Nash Wash at the mouth of Bull Canyon in the NE, NE, Sec.17, T20S, R21E. This water is approximately 1½ miles from the proposed drilling site. Occupied dwellings are at the Cunningham Ranch which is approximately 3 miles from the proposed drilling site. There are no archeological, historical or cultural sites known to the writer within several miles of the proposed location.

12. Lessee's or Operator's Representative:

J. N. Burkhalter
592 - 25 Road
Grand Junction, Colorado 81501
303-242-8555
Mobile 303-245-3660, Unit 5640

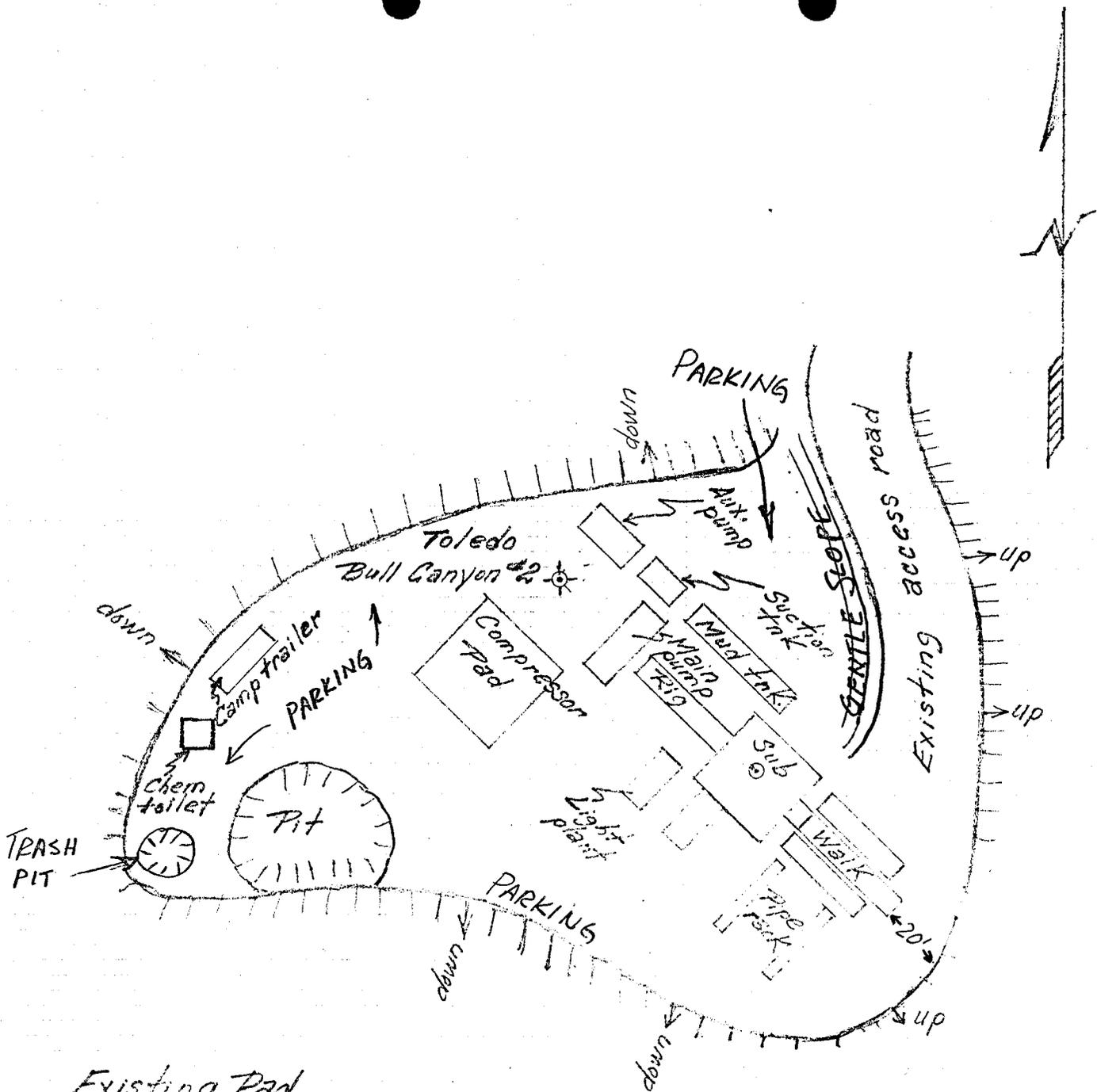
13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access routes; that I am familiar with the conditions which presently exist; that the statements made in this plan, to the best of my knowledge, are true and correct; and, that the work associated with the operation 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.

March 14, 1979

Date

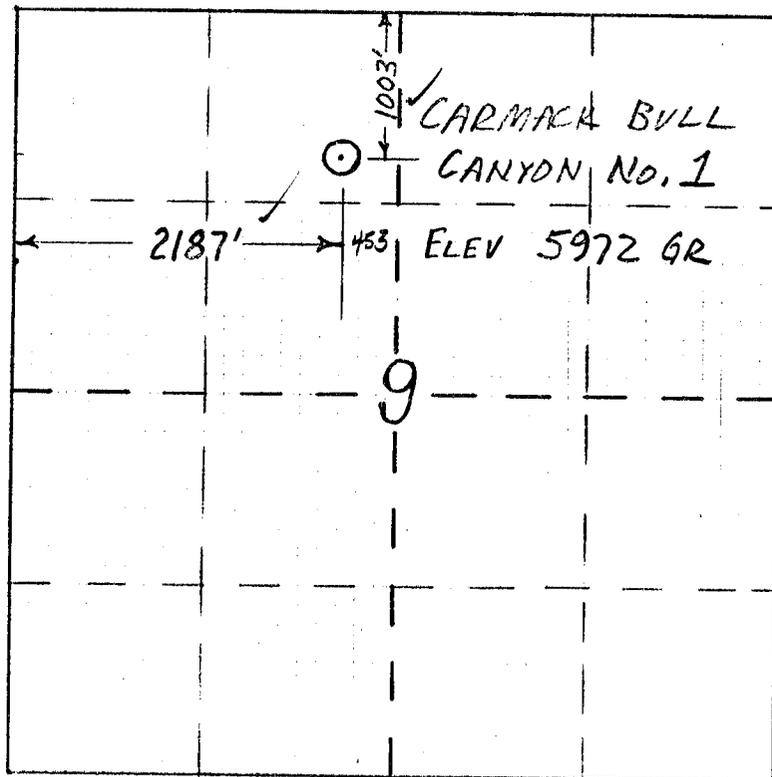

Robb Carmack
Name and title President



Existing Pad
 280' W-E x 160' N-S

New Location:
 2187' FWL, 1003' FNL
 Sec 9, T20S, R21E
 Grand County, Utah

Burkhalter Eng'g.
 Proposed Access Road
 & Site Layout
 Carmack Bull Canyon
 Well No. 1
 Scale 1" = 50'



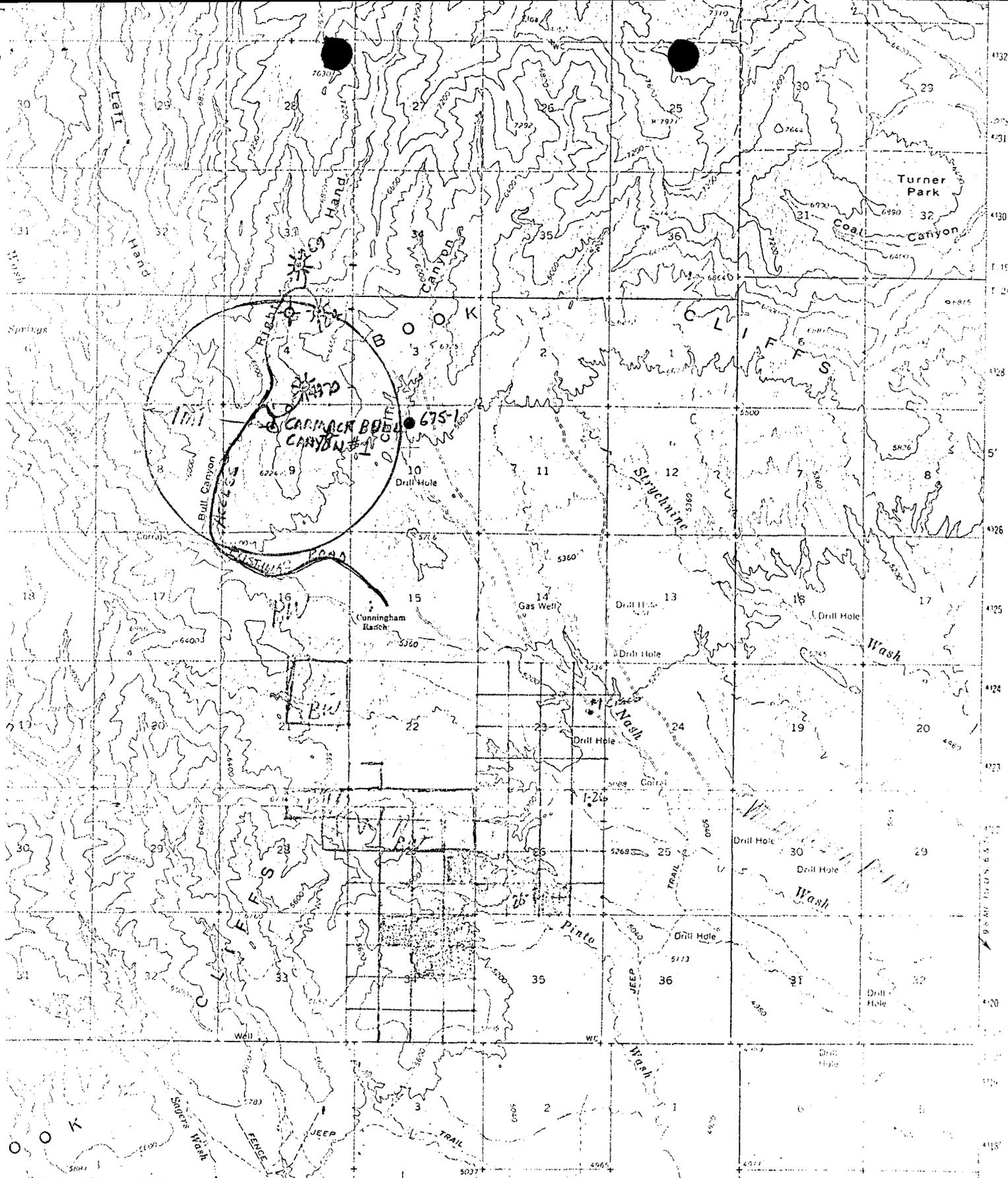
SCALE: 1" = 1320'

T20S, R21E
GRAND COUNTY, UTAH

NOTE: WELL IS LOCATED 90' S 45° E
OF ABANDONED TOLEDO BULL CANYON
WELL NO. 2, AND WILL BE
DRILLED ON EXISTING PAD

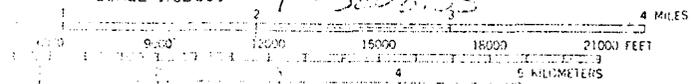
Not acceptable

J.N. BURKHALTER, PE-LS
LOCATION OF CARMACK BULL CANYON NO. 1 GRAND COUNTY, UTAH



(THOMPSON)
4061.1
SCALE 1:62500

1111
14 = 5208.331



ROAD CLASSIFICATION

- Light duty
- Unimproved dirt
- State Route

CONTOUR INTERVAL 80 FEET
MID LINES REPRESENT 40 FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING

** FILE NOTATIONS **

Date: March 22, 1979

Operator: Carmack Drilling

Well No: Bull Canyon #1

Location: Sec. 9 T. 20S R. 21E County: Grand

File Prepared:

Entered on N.I.D.:

Card Indexed:

Completion Sheet:

API Number: 43-019-30512

CHECKED BY:

Administrative Assistant: _____

Remarks:

Petroleum Engineer: _____

Remarks: *Bull Canyon Sec 3
S.W. Arkansas Co Inc
A gas producer is located within 800' of proposed location
& it produces from the same zone but has SI for years.*

Director: Denied w/o Board approval *J*

Remarks:

*approved by Jeds
May 10, 1979*

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

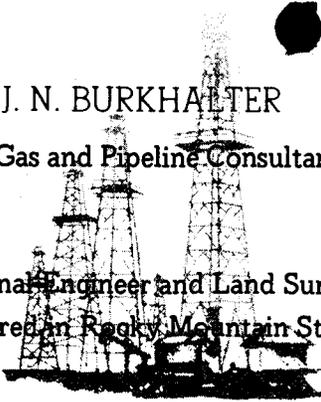
Other:

Letter Written/Approved

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

May 4, 1979

Mr. Mike Minder
Utah Division Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Re: Carmack Bull Canyon #1
SE NE NW Sec.9, T20S, R21E, Grand County, Utah

Dear Mr. Minder:

As you requested, I enclose 3 copies of the plat of the referenced well complete with my signature and Utah Professional Registration Number.

If you have further questions, or need other information, please don't hesitate to call.

Very truly yours,

A handwritten signature in cursive script that reads "J. N. Burkhalter".

J. N. Burkhalter, PE-LS

JNB/sb
enc.

Bull Canyon Fed # 3
NW NW NE
Sec 9, T20 21

3

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
 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: 1003 FNL, 2187 FWL
 At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately 20 miles by road to Cisco, Utah to Southeast

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 453'

16. NO. OF ACRES IN LEASE 1473.6

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 90'

19. PROPOSED DEPTH 4200'

20. ROTARY OR CABLE TOOLS
 Rotary

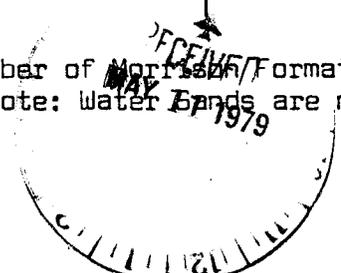
21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5972 GR

22. APPROX. DATE WORK WILL START*
 June 1, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24 lb. (new)	200 ft.	200 sks Class G - Circulate
7 7/8	4 1/2	10.5 lb. (new)	4200 ft.	250 sks Dowell RFC

Propose to Test Salt Wash Member of Morrison Formation.
 Surface Use Plan Attached: Note: Water Bands are not anticipated.
 Surface FMN - Mancos
 Estimated Tops:
 Dakota: 3290 - Gas
 Buckhorn: 3500 - Gas
 Salt Wash: 3650 - Oil
 Pressure Control: Schematic attached showing BOP, Kill Lines, Check Valves & Pressure Ratings, Seven Point Plan attached.
 Logging: No Coring Planned DIL, FDC-CNL-GR
 Hazards: Experience does not indicate that abnormal pressures or Hydrogen Sulfide will be encountered.
 Starting Date: June 1, 1979, Twenty 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 Ruby Carmack TITLE President DATE March 14, 1979

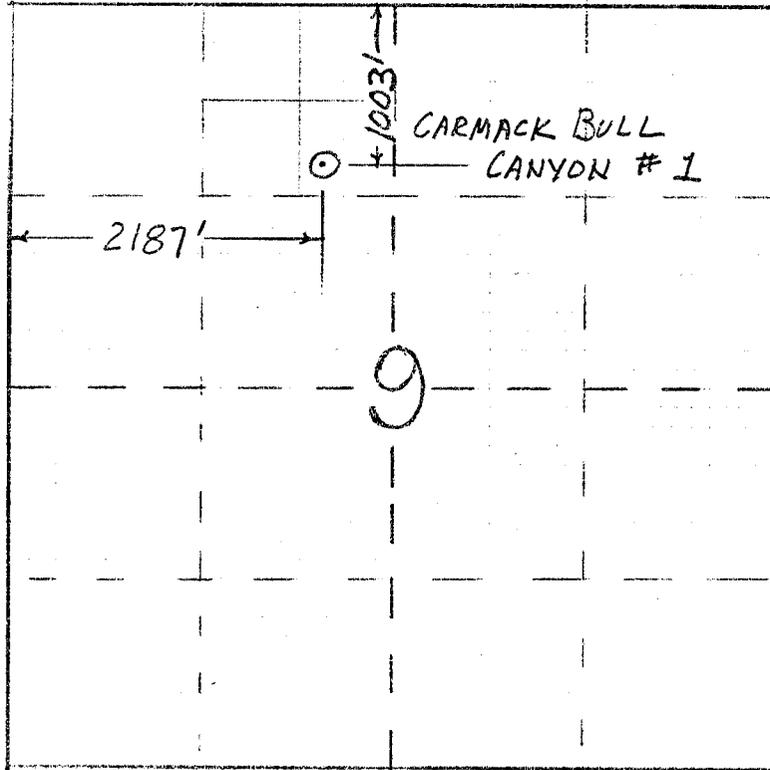
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY W.P. [Signature] TITLE ACTING DISTRICT ENGINEER DATE MAY 10 1979
 CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY

NOTICE OF APPROVAL

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



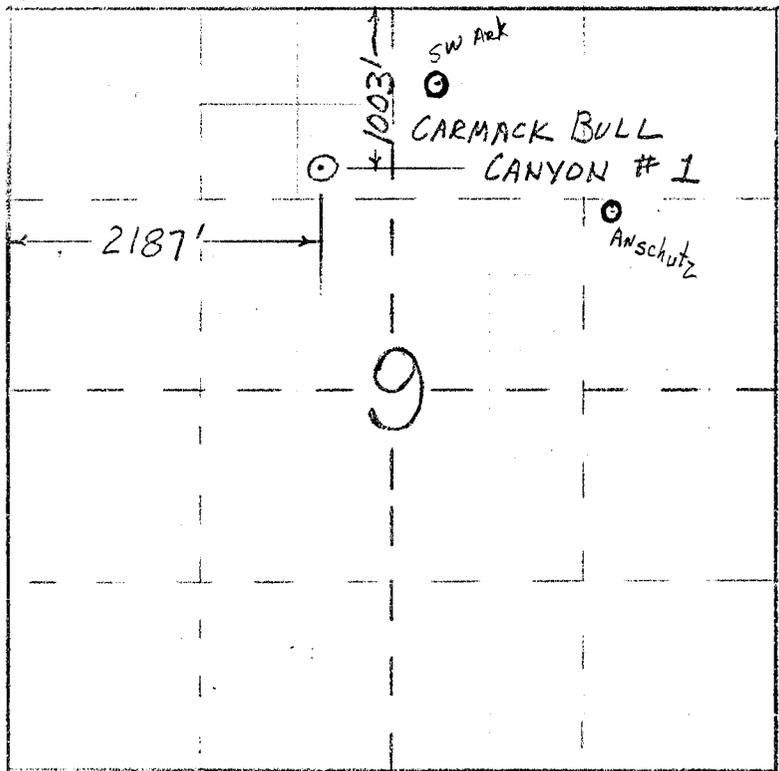
T20S, R21E

GRAND COUNTY, UTAH

NOTE: WELL IS LOCATED ^{90'}~~125'~~ SOUTH EAST
 OF ABANDONED TOLEDO BULL CANYON
 WELL NO. 2, AND WILL BE
 DRILLED ON EXISTING PAD.

J. N. Burkhalter
 UTAH PROFESSIONAL # 4187

JN BURKHALTER, PE-LS
 LOCATION OF CARMACK
 BULL CANYON NO. 1
 GRAND COUNTY, UTAH

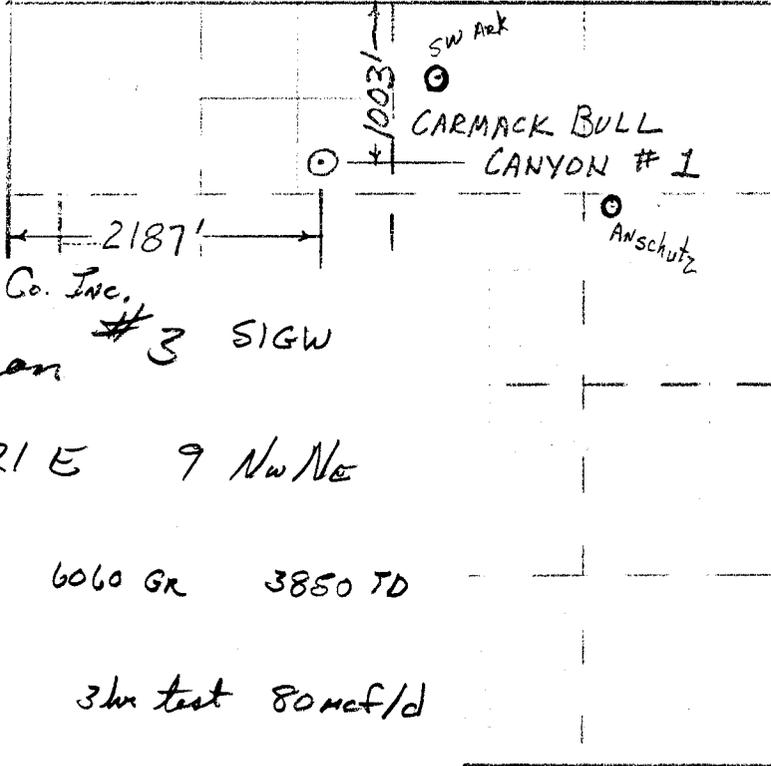


T20S, R21E
 GRAND COUNTY, UTAH

NOTE: WELL IS LOCATED ^{90'} 125' SOUTH EAST
 OF ABANDONED TOLEDO BULL CANYON
 WELL NO. 2, AND WILL BE
 DRILLED ON EXISTING PAD.

J. M. Burkhalter
 UTAH PROFESSIONAL # 4187

JN BURKHALTER, PE-LS
 LOCATION OF CARMACK
 BULL CANYON NO. 1
 GRAND COUNTY, UTAH



Southwest Arkansas Co. Inc.

Bull Canyon # 3 SIGW

20 S 21 E 9 Nw Ne

Prod Interval 6060 GR 3850 TD

3694-3708 3hr test 80 mcf/d

3724-3738

3762-3782

1 E
TY, UTAH

SOUTH EAST
BULL CANYON

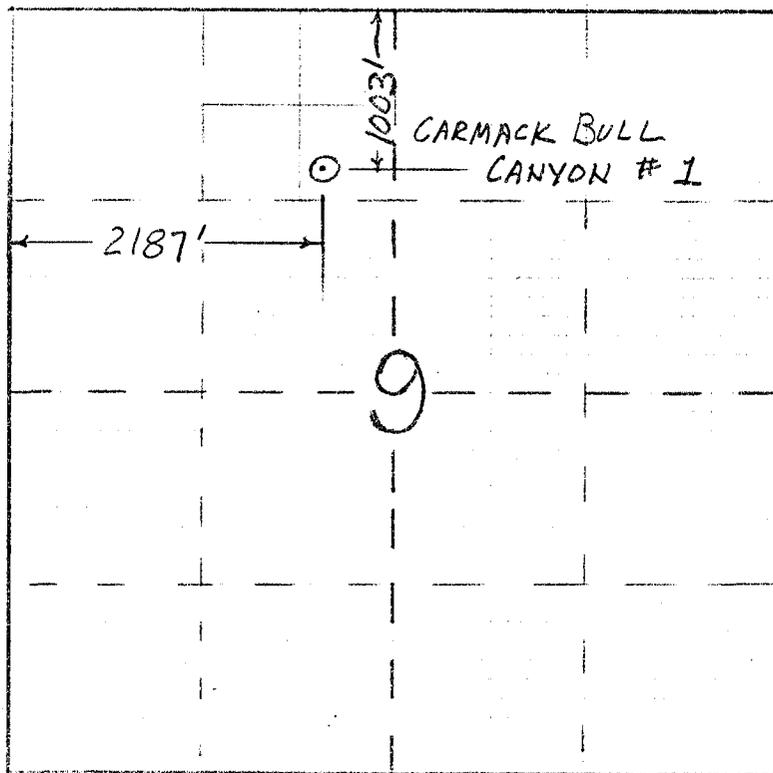
JN BURKHALTER, PE-LS

LOCATION OF CARMACK

BULL CANYON No. 1

GRAND COUNTY, UTAH

J. N. Burkhalter
UTAH PROFESSIONAL # 4187



T20S, R21E

GRAND COUNTY, UTAH

NOTE: WELL IS LOCATED ⁹⁰ ~~125~~' SOUTHEAST
OF ABANDONED TOLEDO BULL CANYON
WELL NO. 2, AND WILL BE
DRILLED ON EXISTING PAD.

J. H. Burkhalter
UTAH PROFESSIONAL # 4187

JN BURKHALTER, PE-LS
LOCATION OF CARMACK BULL CANYON NO. 1
GRAND COUNTY, UTAH

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

Usual Environmental Analysis

Lease No.: U-¹⁵⁰⁸⁰~~105080~~

Operator: Carmack Drilling Company

Well No.: Bull Canyon No. 1

Location: 1003' FNL & 2187' FWL
NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 9, T. 20S., R. 21E., SLM
Grand County, Utah

Related References:

(1) Unit Resource Analysis, Book Mountain Planning Unit (06-01), BLM, Moab

Analysis Prepared By: George Diwachak
Environmental Scientist
Salt Lake City, Utah

Date: April 5, 1979

*No add. cost to be made
for this analysis*

Introduction:

The following participated in a joint onsite inspection of the proposed test site on January 16, 1979.

<u>NAME</u>	<u>REPRESENTING</u>
John Evans	USGS, Grand Junction, Colorado
Rocky Curnutt	BLM, Moab, Utah
Hart Gleason	J.N. Burkhalter, Consultant

At that time, the inspection was cancelled. Information concerning the site was not representative of the actual layout. The operator was notified that additional development was necessary concerning the surface use plan. A new application was received by this office March 19, 1979. A new onsite inspection was waived by mutual agreement between USGS and BLM. The proposed test site is to occur on an existing unrehabilitated drill pad. The original well was drilled in 1972, prior to the USGS Environmental Analysis program.

Proposed Action:

On March 19, 1979 Carmack Drilling Company refiled an Application for Permit to Drill the No. 1 Bull Canyon exploratory well, a 4200 foot oil test of the Salt Wash member of the Morrison Formation; located at an elevation of 5972 ft. in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 9, T. 20S., R. 21E. on Federal mineral lands and public surface; lease No. U-105080.

An objection was raised to the wellsite concerning safety of operations; however, the operator has stated that the subject test could be drilled safely on the existing pad. There was no objection raised 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 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 USGS District Office in Salt Lake City Utah, and the USGS 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.

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.

No new dill pad would be constructed. All activities would occur on the existing pad present from past operations. A reserve pit would be constructed on the existing disturbed surface. No additional surface disturbances would be authorized as they would require an archaeological survey.

No new access road would be constructed. The existing road would be utilized entirely. The last 300 ft. would require upgrading which would consist of blading.

The operator proposes to construct production facilities on the disturbed area of the existing drill pad.

The anticipated starting date is upon approval and duration of drilling activities would be about 20 days.

Location and Natural Setting:

The proposed drillsite is approximately 20 miles northwest of Cisco, Utah, the nearest town. A fair road runs to the location. This well is a wildcat.

Topography:

The topography of the area consists of the steep, incised canyons, and associated ridges characteristic of the Book Cliffs region.

Geology:

The surface geology is Mancos shale. The soil is shale. 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 in to 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 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 pinon, juniper association is also present.

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.

No land would be stripped of vegetation. This would not increase the erosional potential.

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.

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. Air mass inversions are rare. 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 area is toward Nash Wash, a tributary of the Colorado River.

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 comingling 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 fresh water 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 grading to the pinon-juniper association.

Proposed action would not remove vegetation.

The operator proposes to rehabilitate the surface upon completion of operations.

Wildlife:

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.

Animal and plant inventory has been made by the BLM. No endangered plants or animals are known to habitat on the project area.

Social-Economic Effect:

An on the ground surface archaeological reconnaissance would not be required prior to approval of the proposed action. If any new surface disturbances occur, an archaeological survey would be necessary.

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 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. After drilling operations, completion equipment would be visible to passersby of the area but should 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 possible 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.

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 reserves 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.

Alternative 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 USGS 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.

(3) The operator has agreed to utilize the existing drill pad. No additional surface disturbances would be authorized for this well.

Adverse Environmental Effects Which Cannot Be Avoided:

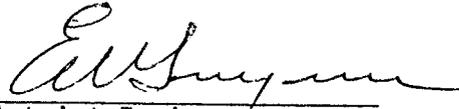
Minor induced air pollution due to exhaust emissions from rig engines of support traffic engines would occur. Minor decrease in dust pollution would occur due to vehicular traffic associated with the operation. If the well is a gas producer, additional surface disturbance would be required to install production pipelines. The potential for fires, gas leaks, and spills of oil and water would exist. During the drilling phases of the project, noise levels would increase. Potential for subsurface 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 Nash Wash 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, Section 102(2)(C).

Date

4/6/79



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

U.S. GEOLOGICAL SURVEY, CONSERVATION DIVISION

FROM: DISTRICT GEOLOGIST, SALT LAKE CITY, UTAH

TO: DISTRICT ENGINEER, SALT LAKE CITY, UTAH

Well	Location	Lease No.
------	----------	-----------

CARMACK DRILLING Co.	1064' FNL 72123' FWL (NE 1/4 NW 1/4) SEC. 9 T. 30 S., R. 21 E., SLM	U-15080
CARMACK BULL CANYON WELL	GRAND COUNTY, UTAH GLE 15972'	

1. Stratigraphy and Potential Oil and Gas Horizons. Gravel overlies Mancos shale at this location. Numerous wells have been drilled in this township in the Cisco Dome area. Site lies on NW flank of the dome. Operators estimated tops should be very close.

2. Fresh Water Sands. Operator does not anticipate water sands in this test. If any water sands are encountered they will probably be saline or contain brine.

3. Other Mineral Bearing Formations. (Coal, Oil Shale, Potash, Etc.) This well will be spudded in Mancos shale which lies stratigraphically below the Mesaverde (Brice River Formation) which contains coal beds. No coals of economic value occur below the Mesaverde in this area.

4. Possible Lost Circulation Zones.
Unknown

5. Other Horizons Which May Need Special Mud, Casing, or Cementing Programs.
Unknown:

6. Possible Abnormal Pressure Zones and Temperature Gradients. Experience in the area does not indicate that abnormal pressures or H₂S gas will be encountered.

7. Competency of Beds at Proposed Casing Setting Points. Gravel and weathered shale will be cased off.

8. Additional Logs or Samples Needed. None.

9. References and Remarks Within Bull Canyon KGS.
USGS Bull 852, Fisher

Date: 11/16/78 Signed: R.E.G.



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

May 15, 1979

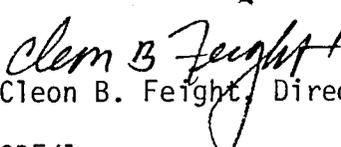
MR J N BURKHALTER
592 25 ROAD
GRAND JUNCTION CO 81501

Dear Mr. Burkhalter:

As per our telephone conversation of this date, approval to drill the above mentioned well cannot be granted without Board and offset leasee approval.

Yours very truly,

DIVISION OF OIL, GAS, AND MINING


Cleon B. Feight, Director

CBF/lw

cc: U. S. Geological Survey

May 28, 1979

MR J N BURKHALTER
592 25 ROAD
GRAND JUNCTION CO 81501

Re: Well No. Carmack Bull Canyon #1, Sec. 9, T. 20S, R. 21 E, Grand County, UT

Dear Mr. Burkhalter:

At their regular meeting on May 24, 1979, the Board of Oil, Gas, and Mining approved the drilling of the above mentioned well at the location requested, provided that all off-set leases file a letter with this Division stating that they have no objection to the drilling of said well at said location prior to the well being spudded in.

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

MICHAEL T. MINDER - Geological Engineer
HOME: 876-3001
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. 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 43-019-30512.

Yours very truly,

DIVISION OF OIL, GAS, AND MINING

ORIGINAL SIGNED BY C. B. FEIGHT

Cleon B. Feight, Director

cc: U. S. Geological Survey

C. WILLIAM EVELYN, JR.

P. O. Drawer 119
Fittstown, OK 74842

June 19, 1979

Mr. Mike Minder
Utah Division Oil-Gas and Mining
1588 W. North Temple
Salt Lake City, UT 84116



Dear Mr. Minder:

Re: Carmichael Drilling Co. -
Southwest Rangely, Bull Canyon #1
NE-NW Sec. 9, 20S-21E, Grand County, Utah

With reference to Mr. Newt Burkholter's request that I write you that James Clem, operator of the Bull Canyon #3 well, NW-NE, Sec. 9, 20S-21E, has no objection to the near offsetting of the Toledo Mining Co. Bull Canyon #2 well, and my telephone call to you the 18th of June, the following comments are offered for consideration.

It is my understanding that the subject well seeking permit approval is to be drilled as a twin to the Toledo Mining Co. Bull Canyon #2 well. The location of the Toledo Mining Bull Canyon #2 is reported to be 939' S/N line and 2123' E/W line of Sec. 9 (279' south and 143' east of a center 40 acre location). The reported proposed location of the Carmichael Drilling Co. - Et al., Bull Canyon #1 is to be 1003' S/N line and 2187' E/W line of Sec. 9 (343' south and 207' east of center 40 acre location). These coordinates indicate that the proposed location, for which approval is being requested, is 64' south and 64' east of the abandoned Toledo Mining Co. Bull Canyon #2 well.

Log correlation of the Bull Canyon #2 and #3 wells indicate the Bull Canyon #3 well to be approximately 47' structurally higher than the #2 well. It appears that the possibly productive zones are common to both wells. Initial production tests indicate that the lower Morrison zones of the Bull Canyon #3 well are capable of producing both oil and gas at an indicated high gas-oil ratio.

Considering the problems of making a legal location because of the rough terrain in the area, we have no objection to a location 1003' S/N line and 2187' E/W line of Sec. 9, 20S-21E, provided that the deviation of the hole is controlled so as to prevent the location of the bottom of the well from exceeding regulated limits. This non-objection is also contingent upon the petitioning operator agreeing the subject well be completed only as an oil well and that the excepted location be approved only for a defined oil well.

Thank you for your consideration and interest.

Sincerely,
James Clem, Operator
By 
Wm. Evelyn, Jr.



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

November 15, 1979

CHARLES R. HENDERSON
Chairman

CLEON B. FEIGHT
Director

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

Carmack Drilling Co.
592 25 road
Grand Junction, Colo.

81501

RE: SEE ATTACHMENT FOR WELLS.

Gentlemen:

In reference to above mentioned well(s), considerable time has gone by since approval was obtained from this office.

This office has not recieved any notification of spudding. If you do not intend to drill this well (these wells), please notify this Division. If spudding or any other activity has taken place, please send necessary forms.* If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill this well, and action will be taken to terminate the application. If you plan on drilling this well at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Debbie Beauregard
DEBBIE BEAUREGARD
CLERK-TYPIST

ATTACHMENT, WELLS DUE.

- 1) Well No. Toledo Federal #2A
Sec. 3, T. 22S, R. 21E,
Grand County, Utah
- 2) Well No. Toledo Federal #1A
Sec. 10, T. 22S, R. 21E,
Grand County, Utah
- 3) Well No. Bull Canyon #1
Sec. 9, T. 20S, R. 21E,
Grand County, Utah



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
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CLEON B. FEIGHT
Director

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

Carmack Drilling Co.
592 - 25 Rd.
Grand Junction, Colo. 81501

RE: Well No. Anschutz-Carmack #1-21
Sec. 21, T. 20S, R. 24E,
Grand County, Utah

Well No. Bull Canyon #1
Sec. 9, T. 20S, R. 21E,
Grand County, Utah

SECOND NOTICE

Gentlemen:

In reference to the above mentioned wells, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you do not intend to drill these wells, please notify this division. If spudding or any other activity has taken place, please send necessary forms. * If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill these wells, and action will be taken to terminate the application. If you plan on drilling these wells at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.
Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON FEIGHT
DIRECTOR

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

5. LEASE DESIGNATION AND SERIAL NO.
U-15080

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

9. WELL NO.
CARMACK BULL CANYON#1

10. FIELD AND POOL, OR WILDCAT
WILDCAT

11. SEC., T., E., M., OR BLK. AND SURVEY OR AREA
SEC. 9, T20S, R21E, S1M

12. COUNTY OR PARISH 18. STATE
GRAND UTAH

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
1064 FNL, 2123FWL

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, OR, etc.)
5972 GR

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

(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.)*

According to a telephone conversation to J.N. Burkhalter on 3-7-80, this well will be drilled when weather permits.

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

SIGNED _____ TITLE _____ DATE _____

(This space for Federal or State office use)

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

June 13, 1980

Starner Drilling Co.
P.O. Box 1868
Grand Junction, Colorado 81502

Re: Well No. Carmack Federal 1-4
Sec. 14, T. 21S, R. 20E.
Grand County, Utah

Well No. Bull Canyon #1
Sec. 9, T. 20S, R. 21E.
Grand County, Utah

Gentlemen:

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

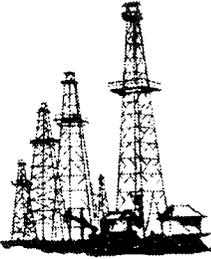
Please complete the enclosed Form OGC-3, in duplicate, and forward them to this office as soon as possible.

Thank you for your cooperation relative to the above.

Very truly yours,

DIVISION OF OIL, GAS, & MINING

JANICE TABISH
CLERK-TYPIST



BURKHALTER ENGINEERING

588 - 25 Road
Grand Junction, CO 81501
Telephone (303) 242-8555

*Petroleum and Energy Consultants
Registered in Rocky Mountain States*

June 19, 1980

Utah Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116

attn: Janis Tabish

Re: Your letter dated June 13, 1980
concerning Carmack Federal 1-14
and Bull Canyon #1. Letter ad-
dressed to Starner Drilling Co.

Gentlemen:

Enclosed is the completion report on the dry hole Carmack Federal 1-14.

The Bull Canyon #1 was not drilled due to an inability to reach an agree-
ment with the lease holder.

Very truly yours,

J. N. Burkhalter, PE-LS

JNB/jb
enc.

RECEIVED

JUN 23 1980

DIVISION OF
OIL, GAS & MINING

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

August 20, 1980

Carmack Drilling Co.
592 - 25 Road
Grand Junction, Colorado 81501

Re: Returned Application for
Permit to Drill
Well #Bull Canyon 1
Section 9, T. 20S., R. 21E.
Grand County, UT
Lease #U-150 80
Application Approved May 10, 1979

Gentlemen

An Application for Permit to Drill the referenced well was approved. Since that date no known activity has transpired at the approved location. Under current District policy, 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 application without prejudice. If you intend to drill at this location 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 this drill site. Any surface disturbance associated with the approved location of this well is to be rehabilitated. A schedule for this rehabilitation must, then, be submitted. Your cooperation in this matter is appreciated.

Sincerely

(Orig. Sgd.) E. W. GUYNN
E. W. Guynn
District Engineer

bcc: O&GS NRMA Casper
SMA
State Office (O&G) ✓
State Office (BLM)
USGS-Vernal
Well File
APD Control

RAH/cva