

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG _____ ELECTRIC LOGS _____ FIELD X WATER SANDS _____ LOCATION INSPECTED oil SUB. REPORT/abd. _____

11-9-83 Operator + Well name change from Hiko Bell to AFE Management

DATE FILED 12-2-82

LAND: FEE & PATENTED _____ STATE LEASE NO. _____ PUBLIC LEASE NO. U-38355 INDIAN _____

DRILLING APPROVED: 12-9-82

SPUDDED IN: _____

COMPLETED: _____ PUT TO PRODUCING: _____

INITIAL PRODUCTION: _____

GRAVITY A.P.I. _____

GOR _____

PRODUCING ZONES: _____

TOTAL DEPTH: _____

WELL ELEVATION: _____

DATE ABANDONED: *2.11.85 Application rescinded.*

FIELD: EIGHT MILE FLAT 386

UNIT: _____

COUNTY: DUCHESNE

WELL NO. ~~HIKO BELL~~ # 23-8 *AFE* API NO. 43-013-30723

LOCATION 1761 FT. FROM (W) (S) LINE. 2055 FT. FROM (E) (W) LINE. NE SW 1/4 - 1/4 SEC. 8

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
10S	17E	8	<i>AFE Management, Inc</i> HIKO BELL OIL CO.				

Requested Bob Covington
and C-3c request.

12-6-82

Morrison

Rec'd 12-9-82

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
 Hiko Bell Mining & Oil Company

3. ADDRESS OF OPERATOR
 P.O. Drawer AB, Vernal, Utah 84078

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
 At surface 2055' FWL & 1761' FSL
 At proposed prod. zone Section 8, T10S-R17E, SLM NE SW
 Duchesne County, Utah 5914 Ground

5. LEASE DESIGNATION AND SERIAL NO.
 U- 38355

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
WILKIN ADGE *TRM*

8. FARM OR LEASE NAME
 White Mule Springs

9. WELL NO.
 Hiko Bell #23-8

10. FIELD AND POOL, OR WILDCAT
~~Wildcat~~ EIGHT MILE FLAT

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 8, T10S-R17E, SLM

12. COUNTY OR PARISH
 Duchesne Co.

13. STATE
 Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 25 miles southwest of Myton, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. 1761' FSL (Also to nearest drig. unit line, if any)

16. NO. OF ACRES IN LEASE
 360

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. 1200'

19. PROPOSED DEPTH
 8500 *WASATCH*

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 CR. 5914

22. APPROX. DATE WORK WILL START*
 Jan. 17, 1983

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/2"	9 5/8"	#24 new	300'	Circ. to surface
7 7/8"	5 1/2"	15.5 J-55	8500'	450 sx.

Propose to drill a 8500' Wasatch test with Rotary tools. KCl water will be used with gel when needed to drill 7 7/8" hole to set 8500' of 5 1/2" casing if commercial production is established.

The sands in the Douglas Creek Member of the Green River Formation will be tested for oil and gas. The sand in the Wasatch formation around 8200' will be tested for gas.

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE: 12-9-82
BY: Norman [Signature]

RECEIVED
DEC 02 1982

DIVISION OF
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present production zone. If proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measurements and give vertical depth. Give blowout preventer program, if any.

SIGNED Robert E. Covington TITLE Manager of Exploration DATE Nov. 30, 1982
(This space for Federal or State office use)

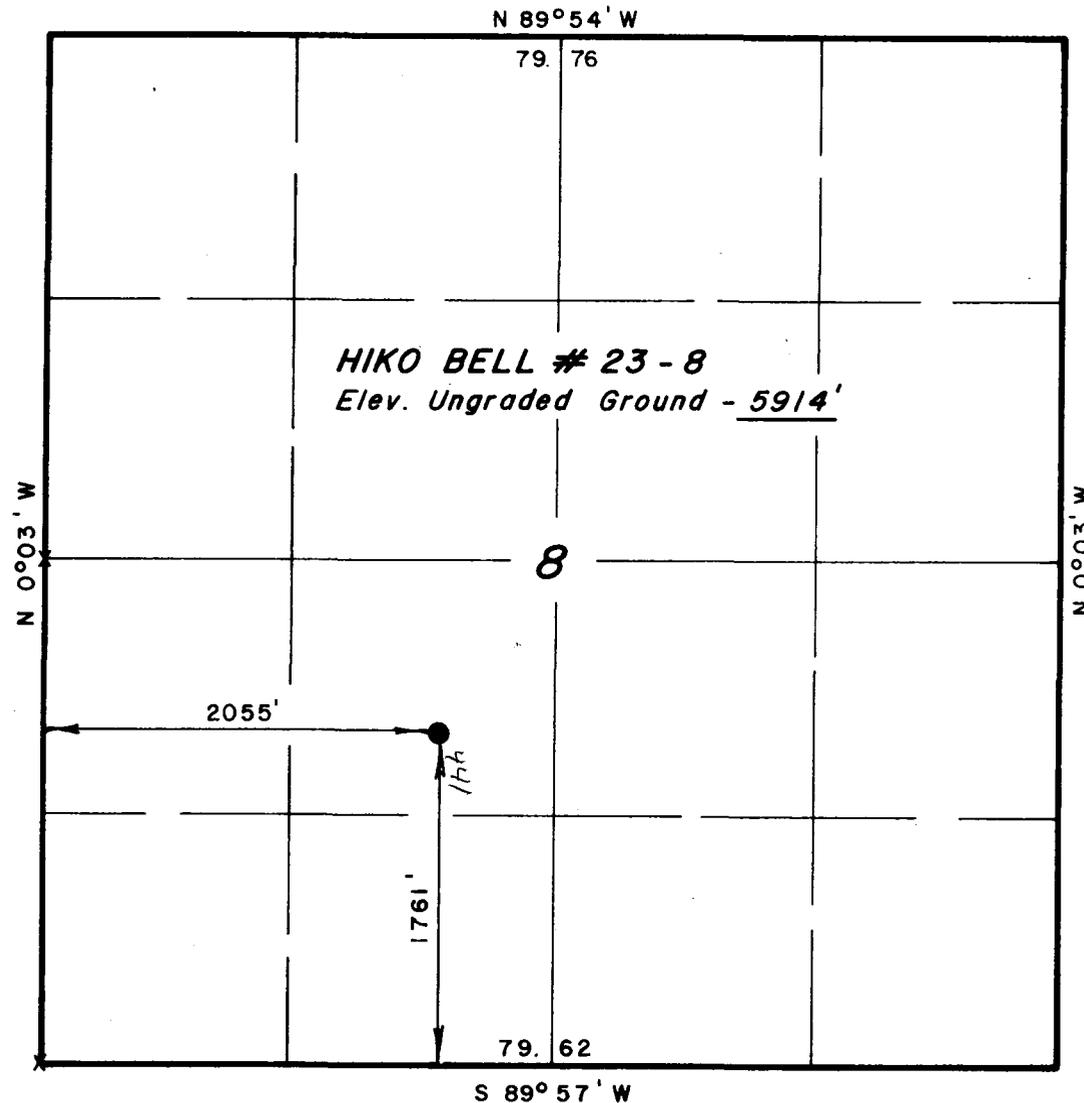
PERMIT NO. _____ APPROVAL DATE _____

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

T 10 S, R 17 E, S.L.B. & M.

PROJECT
HIKO BELL MINING & OIL CO.

Well location, *HIKO BELL # 23-8*,
 located as shown in the NE 1/4 SW 1/4
 Section 8, T10S, R17E, S.L.B. & M.,
 Duchesne County, Utah.



X = Section Corners Located



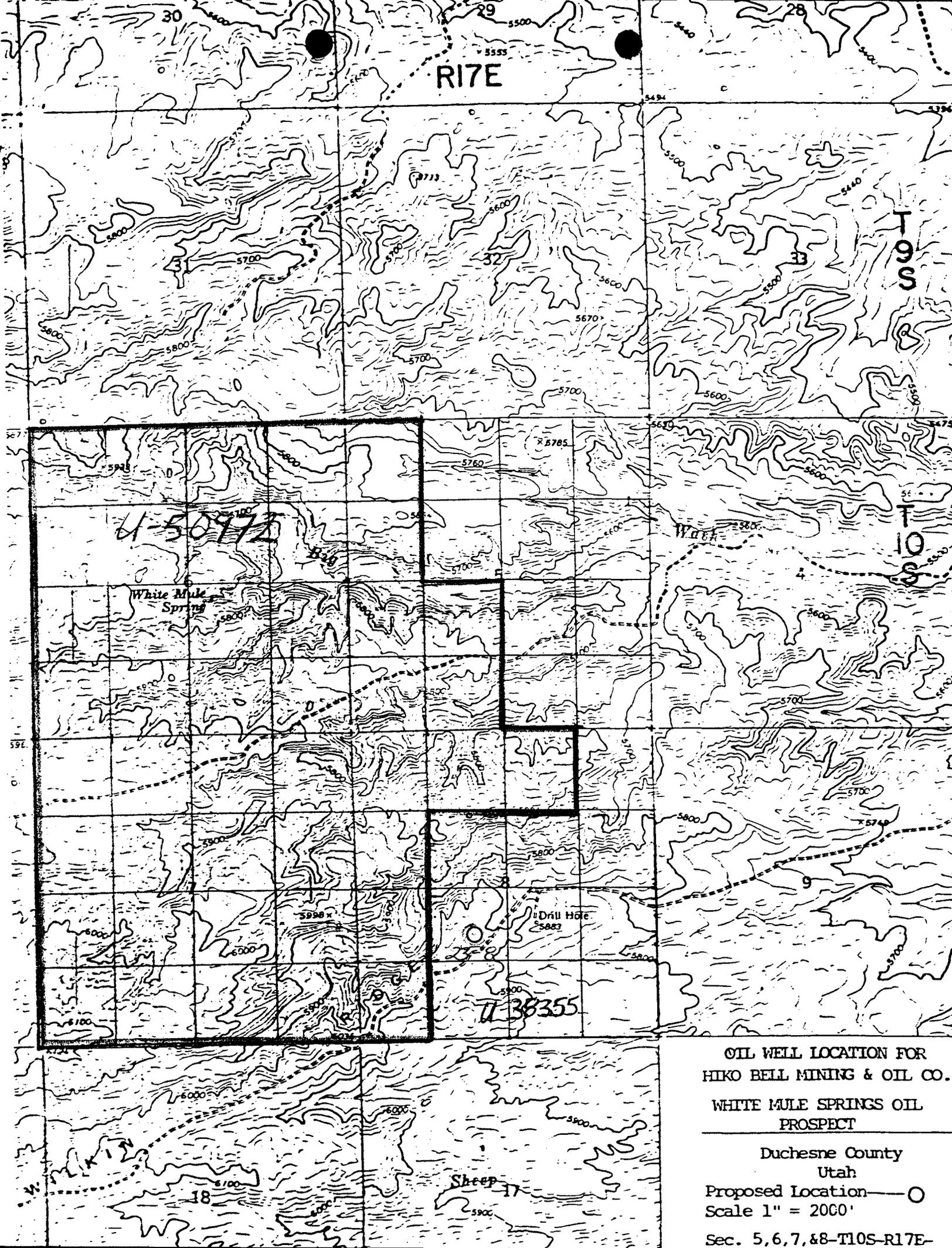
CERTIFICATE

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.

REGISTERED LAND SURVEYOR
 REGISTRATION NO 2454
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
 P. O. BOX Q - 85 SOUTH - 200 EAST
 VERNAL, UTAH - 84078

SCALE	1" = 1000'	DATE	11/26/82
PARTY	DB, RS, BK, JH	REFERENCES	GLO PLAT
WEATHER	COLD	FILE	HIKO BELL



OIL WELL LOCATION FOR
HIKO BELL MINING & OIL CO.
WHITE MULE SPRINGS OIL
PROSPECT

Duchesne County
Utah
Proposed Location — ○
Scale 1" = 2000'

Sec. 5,6,7,&8-T10S-R17E-

DESIGNATION OF OPERATOR

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

DISTRICT LAND OFFICE:
SERIAL No.: U-50972

and hereby designates

NAME: AFE Management Inc. 2932 Edge Rock Circle
ADDRESS: 208-372 Bay St., Toronto, Ontario Salt Lake City, Utah 84117

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):

Township 10 South - Range 17 East, SLM, Duchesne Co., Utah:

Section 5: Lot 4, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$
Section 6: All
Section 7: All
Section 8: NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ W $\frac{1}{2}$
Containing 1,746.10 acres.

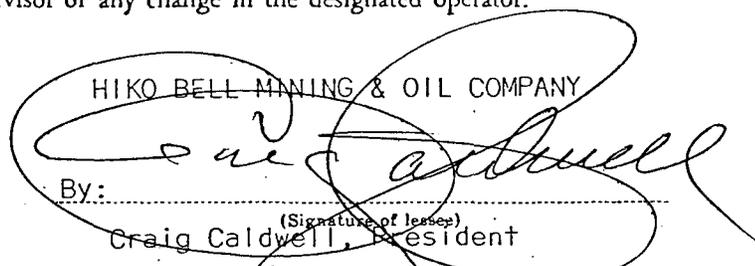
It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

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.

ATTEST:

Robert E. Covington, Sec. -Treas.
(Date)

HIKO BELL MINING & OIL COMPANY

By: _____
(Signature of lessee)
Craig Caldwell, President
P.O. Drawer AB, Vernal, Utah, 84078

(Address)

Sept. 13, 1983

AFE

OPERATOR Hiko Bell Mining & Oil Co.

DATE 12-3-82

WELL NAME AFE Hiko Bell #23-8

SEC NE SW 8 T 10S R 17E COUNTY Duchesne

43-013-30723
API NUMBER

Fed.
TYPE OF LEASE

POSTING CHECK OFF:

INDEX

HL

NID

PI

MAP

PROCESSING COMMENTS:

RJF ✓

APPROVAL LETTER:

SPACING: A-3 _____ UNIT

c-3-a _____ CAUSE NO. & DATE

c-3-b

c-3-c

SPECIAL LANGUAGE:

RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.

AUTHENTICATE LEASE AND OPERATOR INFORMATION

VERIFY ADEQUATE AND PROPER BONDING *FED*

AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.

APPLY SPACING CONSIDERATION

ORDER NO

UNIT NO *WILKIN AREA - TERMINATED*

c-3-b

c-3-c

OUTSTANDING OR OVERDUE REPORTS FOR OTHER WELLS OF THE OPERATOR.

IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER

HIKO BELL MINING & OIL COMPANY

POST OFFICE BOX DRAWER AB * VERNAL, UTAH 84078 * TELEPHONE 789-3233 AREA CODE (80)

HOLDING FILE

December 7, 1982

Mr. Norm Stout
State of Utah Oil, Gas, & Mining
4241 State Office Bldg.
Salt Lake City, Utah 84114

Re: Location of 23-8 Well Site
Hiko Bell Mining & Oil Co.
Duchesne Co., Utah

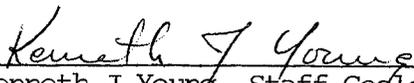
Dear Sir,

I am writing to request an unorthodox location for the above well site. The reason that the location was situated where it is can be seen on the enclosed topographic map. The area outlined in the red is Hiko Bells U-50972 lease, and the area outlined in yellow is also Hiko Bells on a farmout from NGC. This shows that the 40 acre parcels adjoining the 40 with the 23-8 location all belong to Hiko Bell.

The 23-8 location was moved south from the middle of the 40 because of a hill that rises up in the middle of it. This hill which is a sandstone ledge did not seem like a suitable location for a well. In order to stay out of the drainages in the area and to put the location where it would not have to be into the side of a hill I located it where it is.

Please let me know if you feel that this is enough information to warrant an unorthodox location. I felt at the time of staking that it would be better to locate the site closer to the line than to place in the side of the hill.

Very truly yours,


Kenneth J Young, Staff Geologist

kjy

Enclosures



DIVISION OF
OIL GAS & MINING

December 9, 1982

Hiko Bell Mining & Oil Company
P. O. Drawer AB
Vernal, Utah 84078

RE: Well No. Hiko Bell 23-8
NESW Sec. 8, T.10S, R.17E
Duchesne County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to oil well on said unorthodox location 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:

RONALD J. FIRTH - Engineer
Office: 533-5771
Home: 571-6068

OR

CLEON B. FEIGHT - Director
Office: 533-5771
Home: 466-4455

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 43-013-30723.

Sincerely,


Norman C. Stout
Administrative Assistant

NCS/as
cc: MMS
Enclosure

SUBMIT IN TRIPlicate (Other instructions on reverse side)

Form approved. Budget Bureau No. 42-R1425.

UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

MINERAL MANAGEMENT SERVICE RECEIVED

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO. U-38355
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME SALT LAKE CITY, UTAH
8. FARM OR LEASE NAME White Mule Springs
9. WELL NO. Hiko Bell #23-8
10. FIELD AND POOL, OR WILDCAT Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 8, T10S-R17E, SLM
12. COUNTY OR PARISH Duchesne Co.
13. STATE Utah
17. NO. OF ACRES ASSIGNED TO THIS WELL 40
20. ROTARY OR CABLE TOOLS Rotary
22. APPROX. DATE WORK WILL START* Jan. 17, 1983

1a. TYPE OF WORK DRILL [X] DEEPEN [] PLUG BACK []
1b. TYPE OF WELL OIL WELL [X] GAS WELL [] OTHER [] SINGLE ZONE [] MULTIPLE ZONE []
2. NAME OF OPERATOR Hiko Bell Mining & Oil Company
3. ADDRESS OF OPERATOR P.O. Drawer AB, Vernal, Utah 84078
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) At surface 2055' FWL & 1761' FSL Section 8, T10S-R17E, SLM Duchesne County, Utah 5914 Ground
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 25 miles southwest of Myton, Utah
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. 1761' FSL (Also to nearest drlg. unit line, if any)
16. NO. OF ACRES IN LEASE 360
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. 1200'
19. PROPOSED DEPTH 8500
20. ROTARY OR CABLE TOOLS Rotary
21. ELEVATIONS (Show whether DF, RT, GR, etc.) GR. 5914
22. APPROX. DATE WORK WILL START* Jan. 17, 1983

PROPOSED CASING AND CEMENTING PROGRAM

Table with 5 columns: SIZE OF HOLE, SIZE OF CASING, WEIGHT PER FOOT, SETTING DEPTH, QUANTITY OF CEMENT. Row 1: 12 1/2", 9 5/8", #24 new, 300', Circ. to surface. Row 2: 7 7/8", 5 1/2", 15.5 J-55, 8500', 450 sx.

CEMENT SHOULD PROTECT OIL SHALE

Propose to drill a 8500' Wasatch test with Rotary tools. KCl water will be used with gel when needed to drill 7 7/8" hole to set 8500' of 5 1/2" casing if commercial production is established.

The sands in the Douglas Creek Member of the Green River Formation will be tested for oil and gas. The sand in the Wasatch formation around 8200' will be tested for gas.

RECEIVED JAN 10 1983

DIVISION OF OIL GAS & MINING

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.

SIGNED Robert E. Covington TITLE Manager of Exploration DATE Nov. 30, 1982

PERMIT NO. APPROVAL DATE APPROVED BY W. W. Martin for E. W. Guynn TITLE District Oil & Gas Supervisor DATE JAN 07 1983

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY

*See Instructions On Reverse Side

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

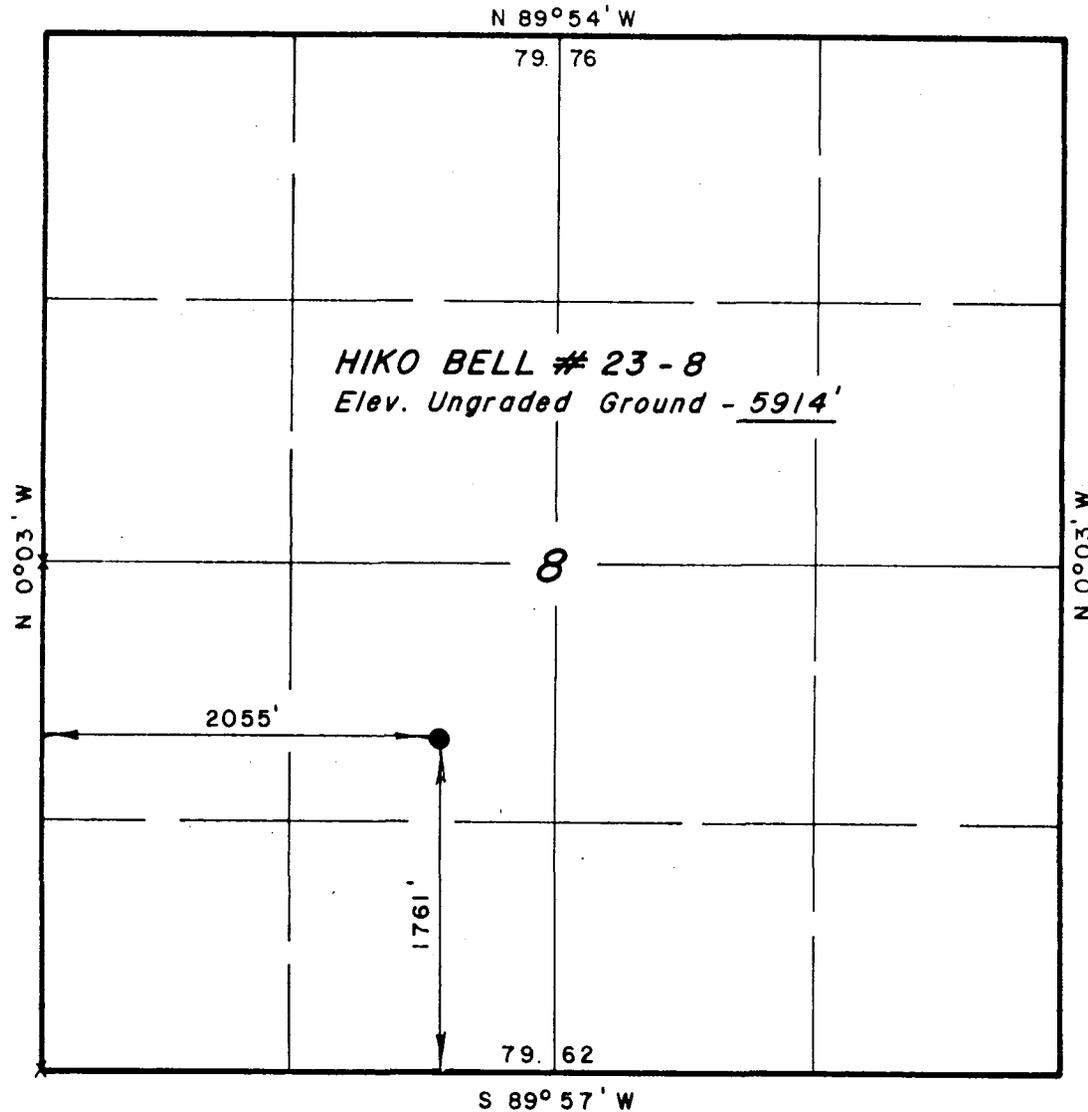
State & G

T 10 S, R 17 E, S.L.B. & M.

PROJECT

HIKO BELL MINING & OIL CO.

Well location, *HIKO BELL # 23-8*,
located as shown in the NE 1/4 SW 1/4
Section 8, T10S, R17E, S.L.B. & M.,
Duchesne County, Utah.



X = Section Corners Located



CERTIFICATE

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

REGISTERED LAND SURVEYOR
REGISTRATION NO 2454
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P.O. BOX Q - 85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE	1" = 1000'	DATE	11/26/82
PARTY	DB, RS, BK, JH	REFERENCES	GLO PLAT
WEATHER	COLD	FILE	HIKO BELL

Hiko Bell Mining & Oil Company
Well No. 23-8
Section 8, T.10S., R.17E.
Duchesne County, Utah
Lease U-38355

Supplemental Stipulations

- 1) The maximum width of access roads will be 30 feet total disturbed area. Turnouts will not be required and traveling off the right-of-way will not be allowed.
- 2) It is recommended the top 6-10 inches of topsoil material be stockpiled.
- 3) A burn pit will not be constructed. There will be no burying of garbage or trash at the location. No trash will be thrown in the reserve pit. All trash must be contained and hauled to the nearest sanitary landfill.
- 4) All permanent (onsite for six (6) months duration or longer) structures constructed or installed, including the pumpjack, shall be painted a flat, non-reflective, earth tone color to match Themec 23-08351 Mesa Brown Enduratone or an approved equal. All facilities shall be painted within 6 months of when the production facilities are put in place. Facilities that are required to comply with O.S.H.A. (Occupational Safety and Health Act) standards are excluded.
- 5) Reserve pits will be fenced with a wire mesh fence topped with at least one strand of barbed wire.
- 6) Water for this location will be hauled from Pariette Draw in T.8S., R.18E., Section 27.
- 7) Adequate and sufficient electric/radioactive logs will be run to locate and identify the prime oil shale horizons in the Mahogany Zone of the Green River formation. Casing and cementing programs will be adjusted to eliminate any potential influence of the well bore or productive hydrocarbon zones on the oil shale resource. Surface casing program may require adjustment for protection of fresh water aquifers. (See attached tentative casing and cementing program for the Uinta Basin.)

HIKO BELL MINING & OIL COMPANY

WHITE MULE SPRINGS OIL

AND GAS FIELD

23-8

SEC. 8, T10S-R17E, S.L.M

DUCHESNE COUNTY, UTAH

DRILLING PLAN

1. The geologic name of the surface formation is the Tertiary Uinta Formation.
2. Estimated tops of important geologic markers are as follows:

Green River Formation	988
Wasatch Tongue	4788
Green River Tongue (carbonate marker)	5195
Wasatch Formation	5388
Proposed T.D.	8500

3. Oil or gas may be encountered in the Green River and Wasatch Formations. No other formations are expected to produce oil, gas, water, or other minerals in measurable quantities.

<u>Size of Hole</u>	<u>Size of Casing & Wt./ft.</u>	<u>Setting Depth</u>	<u>Quantity of Cement</u>
12 1/2"	9 5/8", 24# new	300'	Circ to Surface
7 7/8"	5 1/2", 15.5# new	8500'	450 sx.

5. Operator's minimum specifications for pressure control equipment is a 10", 3000 psi hydraulic blowout preventer. Blowout preventer will be tested daily. Refer to Diagram "C".
6. Fresh water base drilling mud will be used for the entire drilling operations, utilizing a dispersed mud system to total depth. Mud weight will be controlled by drilling solids. Barite will be used for weighing materials in the event of abnormal pressures being encountered.
7. Auxiliary equipment is as follows:
 1. Kelly Cocks
 2. Bit Floats
 3. A full opening-quick close drill pipe valve is to be located on the derrick floor at all times.

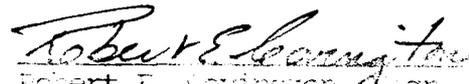
Drilling Plan, Continued
Hiko Bell Mining & Oil Company
White Mule Springs-Hiko Bell Well #23-8
Duchesne County, Utah

Page Two

8. Commercial shows of oil and gas will be tested. We are anticipating drill stem tests in the Wasatch and Green River Formations. No coring is anticipated.

The logging program is as follows:

1. Mud logging unit, from 300' to T.D.
 2. Dual Induction Laterlog-T.D. to base of surface casing.
 3. BHC-Gamma Ray Sonic w/Caliper, Integrated T.D. to base of surface casing.
 4. Formations Density/Compensated Neutron, Zones of interest.
9. No abnormal pressures or temperatures are anticipated. No potential hazards such as hydrogen sulfide are expected, based upon well experience in the area.
10. The anticipated starting date is, January 17, 1983.


Robert E. Lovington, Jr., Explor.
Hiko Bell Mining & Oil Company
Vernal, Utah

HIKO BELL MINING & OIL COMPANY

13 Point Surface Use Plan

For

Well Location

White Mule Spring

HIKO BELL #23-8

Located in

Section 8, T10S-R17E, S.L.M.

Duchesne County, Utah

1. EXISTING ROADS

To reach the Hiko Bell Mining & Oil Company Well location White Mule Springs-Hiko Bell #23-8, located in the NE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 8, T10S-R17E, SLM, Duchesne County, Utah; proceed Southwesterly out of Hyton, Utah along U.S. Highway 40 - 1.5 miles to the junction of this Highway and Utah State Highway 53, to the south; proceed Southerly along this Highway 1.5 miles more or less, to the intersection of Utah State Highway 53 and Utah State Highway 216, thence proceed Southeasterly along Utah State Highway 216 - 18.1 miles to the junction of this road and an existing road to the west, proceed along this road 2.5 miles to the location. The location is on the north side of the road approximately 300 feet from the existing road. The main road passing by this location is the Wilkens Ridge Road.

The Highways mentioned in the foregoing paragraph are high grade surfaced roads up to the intersection of Utah State Highway 53 and 216, at which point Utah State Highway is constructed out of existing native materials that are prevalent to the existing area. It is located in the ranges from clay to sandy-clay shale materials, as are the aforementioned dirt oil field service roads and other roads in the vicinity.

There is no anticipated construction on any portion of the above described roads. They will meet the necessary standards required to facilitate an orderly flow of traffic during the drilling phase, completion phase, and production phase, of the well. These roads will be maintained at the standards required by the B.L.M. or other controlling agencies. The dirt roads mentioned above will be upgraded before use.

2. PLANNED ACCESS ROAD

See Topographic Map "B". There will be a limited amount of road building to the location off of the main road. The location is approximately 100 feet off the main road.

3. LOCATION OF EXISTING WELLS

See Topographic Map "B".

There are three existing wells in the vicinity, which were all plugged and abandoned. They are as follows;

Phillips Petroleum Company
Phillips-Curay No. A-1
NW $\frac{1}{4}$ SE $\frac{1}{4}$, Sec. 31, T9S-R17E, SLM
Plugged and Abandoned

Mountain Fuel Supply
Wells Draw No. 1
NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 8, T10S-R17E, SLM
Plugged and Abandoned

Mountain Fuel Supply
Wells Draw No. 1
SE $\frac{1}{4}$ NE $\frac{1}{4}$, Section 8, T10S-R17E, SLM
Plugged and Abandoned

4. LOCATION OF EXISTING AND PROPOSED FACILITIES

There are no Hiko Bell Mining & Oil Company tank batteries, production facilities, oil gathering lines, gas gathering lines, injection lines, or disposal lines within a mile radius of this location site. Mountain fuel has a gas line one mile to the west of this location in section 7, T10S-R17E.

In the event that production is established, plans for a flowline from this location to existing lines in the area will be submitted to the proper authorities and the existing area of the location will be utilized for the establishment of the necessary production facilities.

The total area that is needed for the production of this well will be fenced and cuttleguards which will be utilized for access to these facilities.

The area will be built if possible, with native materials and if these materials are not available, then the necessary arrangements will be made to get them from private sources.

These facilities will be constructed using bulldozers, graders, and workmen crews to construct and place the proposed facilities.

If there is any deviation from the above, all appropriate agencies will be notified.

Rehabilitation of disturbed areas no longer needed for operations after construction is completed will meet the requirements of Item #10.

5. LOCATION OF AND TYPE OF WATER SUPPLY

Water to be used for the drilling and production of this well will be hauled by truck from Pariette Draw, at a point northeast of the well approximately 20 miles. The PLM has set aside an area for drawing water from the stream that is used by most of the operators in the area.

In the event that the above source is not used, other arrangements will be made with the proper authorities for an alternate source.

All regulations and guidelines will be followed and no deviations will be made unless all concerned agencies are notified.

There will be no water well drilled at this location site.

6. SOURCE OF CONSTRUCTION MATERIALS

All construction materials for this location site and access road shall be borrow materials accumulated during the construction of the location site and access road.. No additional road gravels or pit lining materials from other sources are anticipated at this time, but if they are required the appropriate actions will be taken to acquire them from private sources.

The native materials that will be used in the construction of this location site and access road will consist of a sandy-clay soil and sandstone and shale material gathered in actual construction of the road and location.

7. METHODS FOR HANDLING WASTE DISPOSAL

A reserve pit shall be constructed, and at least half of the depth of the reserve pit shall be below the existing ground surface. Non-flammable materials such as cuttings, salts, chemicals, etc., will be buried in the reserve pit and covered with a minimum of four feet of earth materials. Prior to the onset of drilling, the reserve pit will be fenced on three sides. Upon completion of drilling, the fourth side of the reserve pit will be fenced and allowed to dry completely before backfilling and reclamation are attempted. A portable toilet will be supplied for human waste.

A trash basket will be provided for flammable materials. Waste will be hauled by truck to the nearest sanitary landfill.

8. ANCILLARY FACILITIES

There are no ancillary facilities planned for at the present time, and none foreseen in the near future.

9. WELL SITE LAYOUT

See attached Location Layout Sheet.

The B.L.M. District Manager shall be notified before any construction begins on the proposed location site and road.

As mentioned in Item #6, the pits will be unlined unless it is determined by the representatives of the agencies involved that the materials are too porous and would cause contamination to the surrounding area; then the pits will be lined with a geotextile fabric or other material necessary to make the pits safe and tight.

10. PLANS FOR RESTORATION OF SURFACE

As there is some topsoil on the location site, all topsoil shall be stripped and stockpiled. (See Location Layout Sheet and Item #9). When all drilling and production activities have been completed, the location site and access road will be reshaped to the original contour and stockpiled topsoil spread over the disturbed area. Fences around pits are to be removed upon completion of drilling activities and all waste being contained in the trash baskets will be hauled to the nearest sanitary landfill. The reserve pit will be completely fenced and allowed to dry before covering. When restoration activities have been completed, the location site and access ramp shall be reseeded with a seed mixture recommended by the B.L.M. District Manager when the moisture content of the soil is adequate for germination. The lessee further covenants and agrees that all of said cleanup and restoration activities shall be done and performed in a diligent and most workmanlike manner and in strict conformity with the above mentioned Items #7 and #10.

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11. OTHER INFORMATION

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

The area is a basin that lies between the Look Cliff Mountains to the south and the Uinta Mountains to the North. The area is interlaced with numerous canyons and ridges which are extremely steep with numerous ledges formed in sandstone, conglomerates, and shale deposits.

The majority of the washes and streams in the area are non-perennial streams and flow to the east and are tributaries to the Green River.

The soils of the semi-arid area are of the Uinta Formation and Duchesne River Formation (the Fluvial, Sandstone, Mudstone) from the Eocene and Quaternary Epoch (gravel surfaces) and the visible geologic structures consist of light brownish clay (CL) to sandy soils (SP-CL) with poorly graded gravels and shales with outcrops of rock (sandstone, mudstone, conglomerates, and shales).

Due to the low precipitation average, climatic conditions and the marginal types of soils, the vegetation that is found in the area is common of the semi-arid region we are located in and in the lower elevations of the Uinta Basin. It consists of, as primary flora, areas of sagebrush, rabbitbrush, some grasses, cacti, and large areas of bare soils devoid of any growth. In the areas that are formed along the edges of perennial streams cottonwoods, willows, tamarack, sagebrush, rabbitbrush, grasses, and cacti can be found.

The fauna of the area is sparse and consists predominantly of mule deer, coyotes, pronghorn antelope, rabbits, and varieties of small ground squirrels and chipmunks of various species which are common to the area.

The birds of the area are raptors, finches, ground sparrow, magpies, crows, and jays.

The area is used by man for the primary purpose of grazing domestic livestock.

The Topography of the Immediate Area (See Topographic Map "B").

White Mule Spring-Hiko Bell # 23-8 location site sits on a sloping hillside north of a non-perennial drainage which drains into the Sheep Wash and Big Wash. Sheep Wash is located 3/4 miles south of the location, and Big Wash is located 1.5 miles north of the location. Big Wash drains into Sheep Wash and Sheep Wash drains into the Green River to the East.

The geologic formation on the location is the Uinta Formation and consists of light brownish-gray clay (SP-CL) with some sandstone outcrops.

POOR COPY

11. OTHER INFORMATION -cont...

The location is covered with some sagebrush and grasses.

There are no occupied dwellings or other facilities of this nature in the general area.

There are no visible archaeological, historical, or cultural sites within any reasonable proximity of the proposed location site. (see Topographic Map F).

12. LESSEE'S OR OPERATOR'S REPRESENTATIVE

Robert E. Covington
Manager of Exploration
Hiko Bell Mining & Oil Company
P.O. Drawer AB
Vernal, Utah 84078

801-789-3233

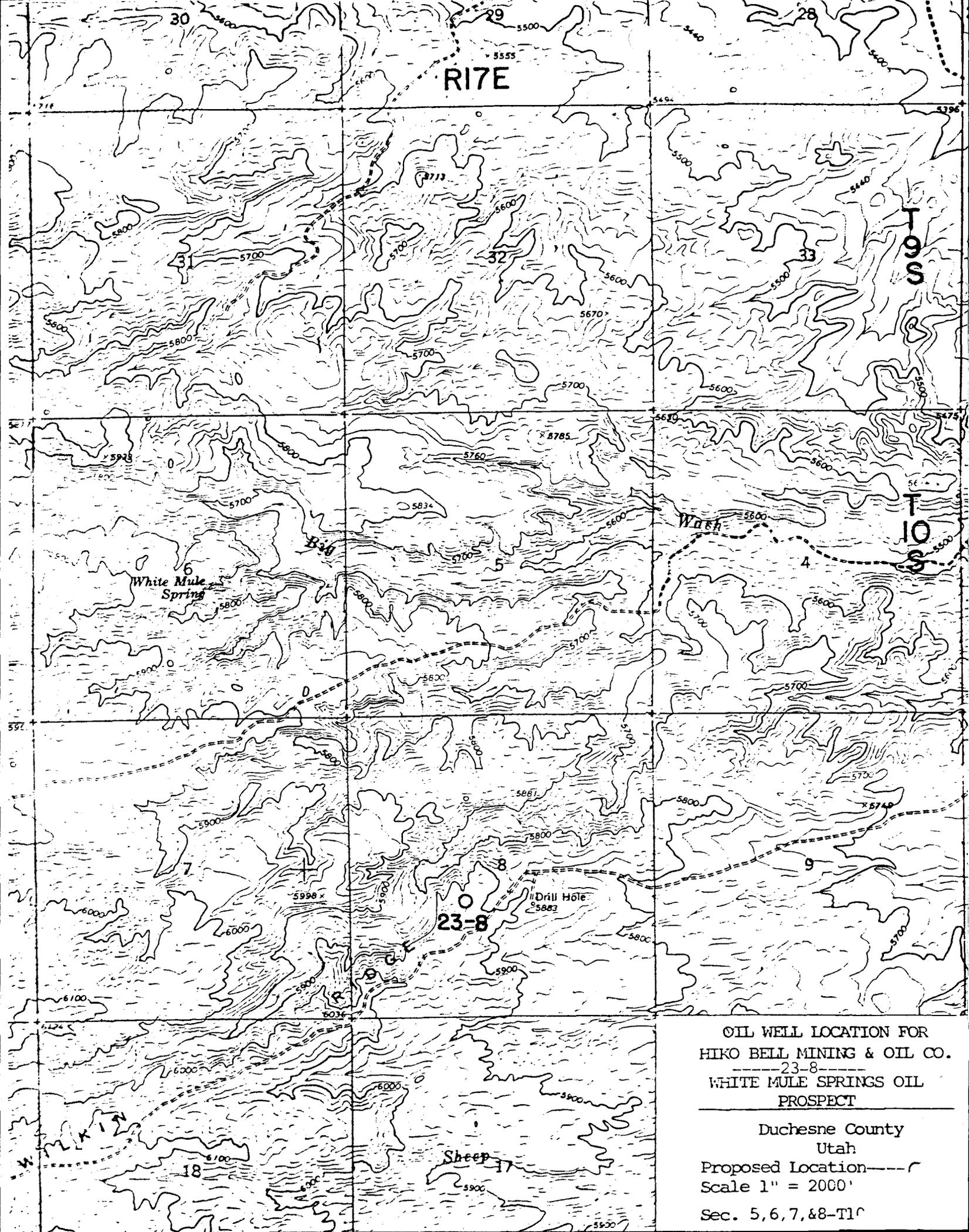
13. CERTIFICATION

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access road 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 work associated with the operation proposed herein will be performed by HIKO BELL MINING & OIL COMPANY and its contractors and subcontractors in conformity with this plan and terms and conditions under which it is approved.

DATE

Robert E. Covington, Mngr. Explor.

POOR COPY



OIL WELL LOCATION FOR
 HIKO BELL MINING & OIL CO.
 -----23-8-----
 WHITE MULE SPRINGS OIL
 PROSPECT

Duchesne County
 Utah
 Proposed Location-----
 Scale 1" = 2000'
 Sec. 5,6,7,&8-T10

HIKO BELL MINING & OIL CO.

23-8

SCALE - 1" = 50'
11/26/82

El. 5907.31

El. 5914.61

El. 5907.71
F-6.50

El. 5912.01
F-2.20

C-4.80
El. 5919.01

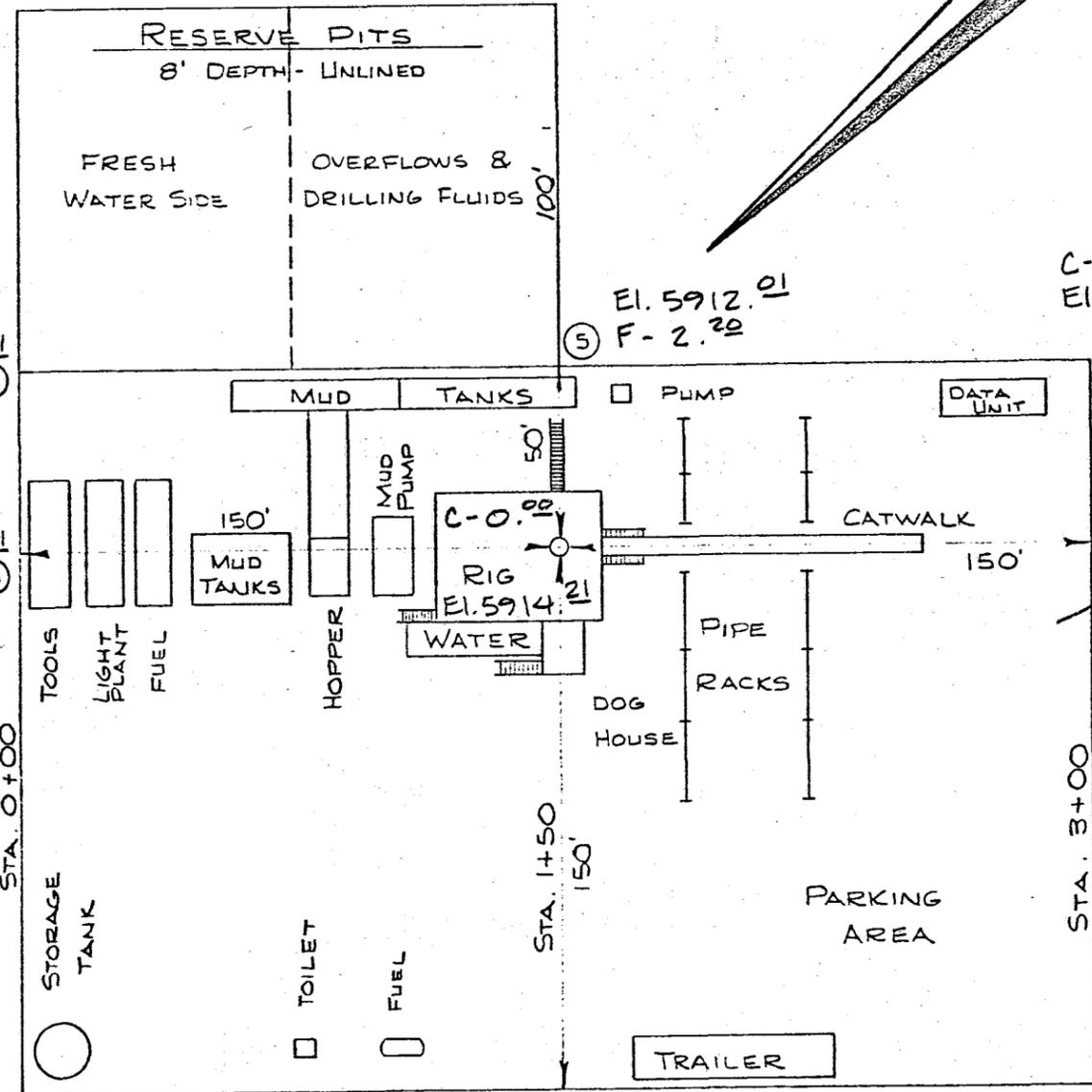
El. 5910.91
F-3.30

C-5.10
El. 5919.31

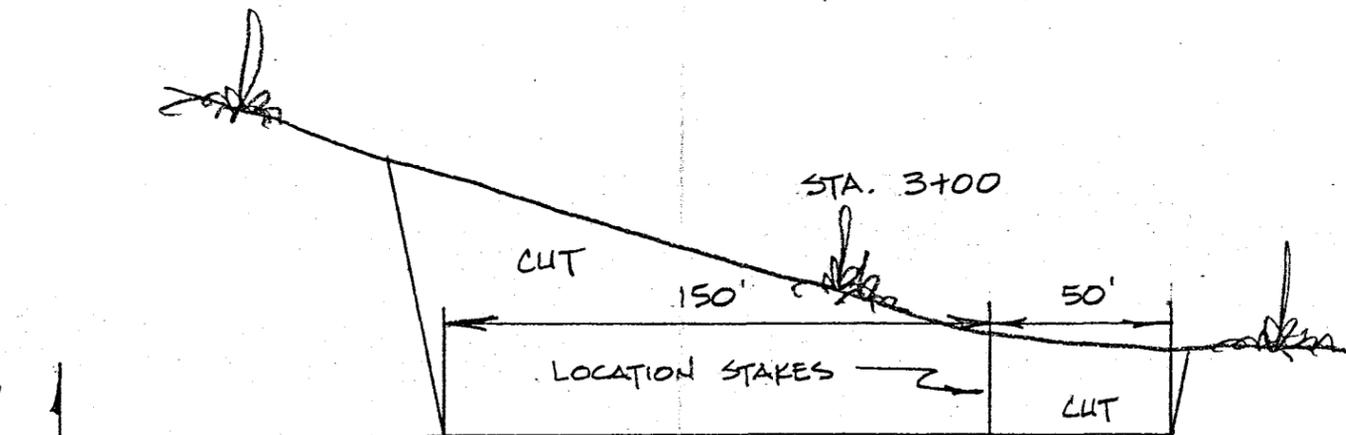
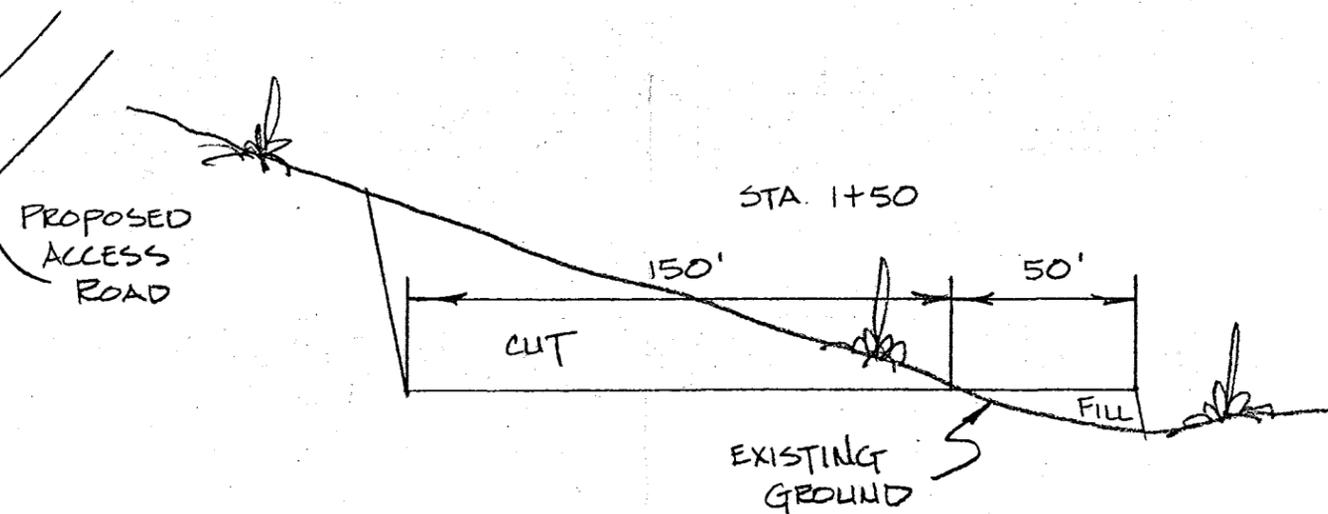
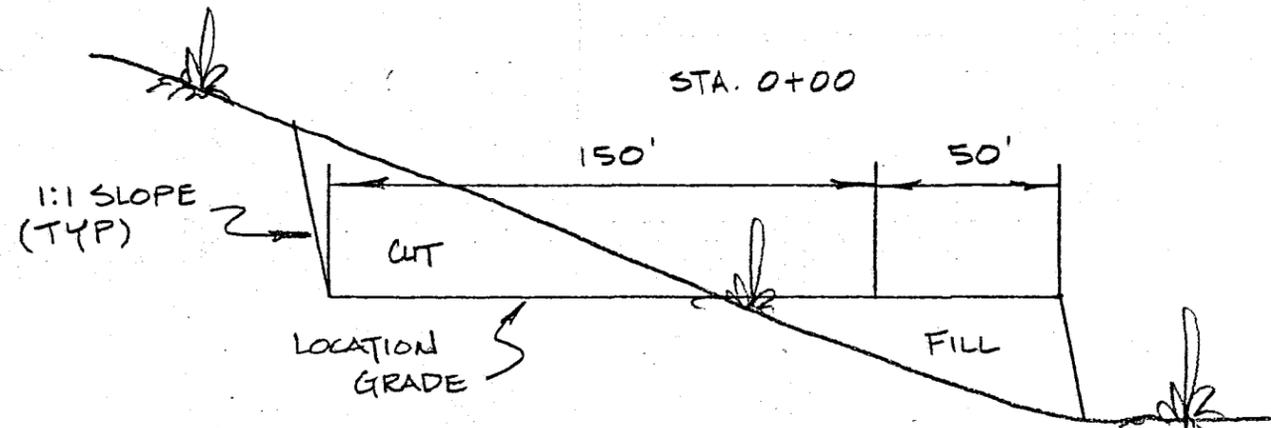
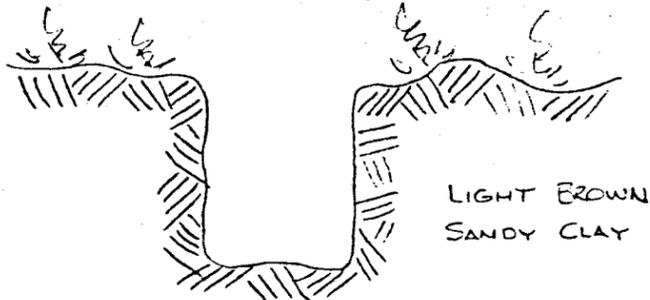
El. 5922.56
C-8.35

El. 5924.17
C-9.90

El. 5928.39
C-14.18



SOILS LITHOLOGY
NO - SCALE



SCALE
1" = 50'

APPROXIMATE YARDAGES

CU. YDS. CUT - 10,825
CU. YDS. FILL - 1,253

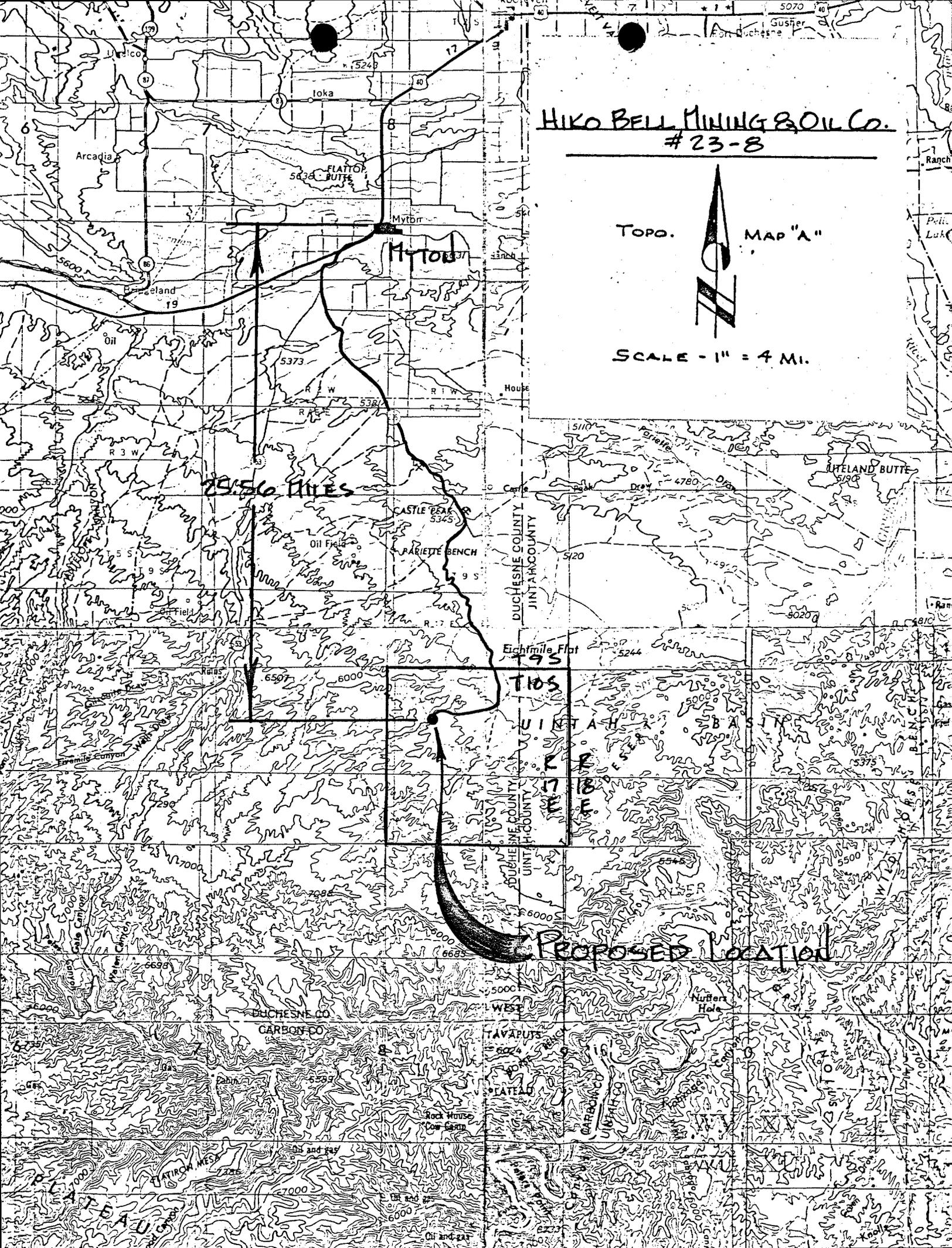
C
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HIKO BELL MINING & OIL CO.
#23-8

TOPO. MAP "A"



SCALE - 1" = 4 MI.



20.50 MILES

T10S
U17N
R17E
E17E

PROPOSED LOCATION

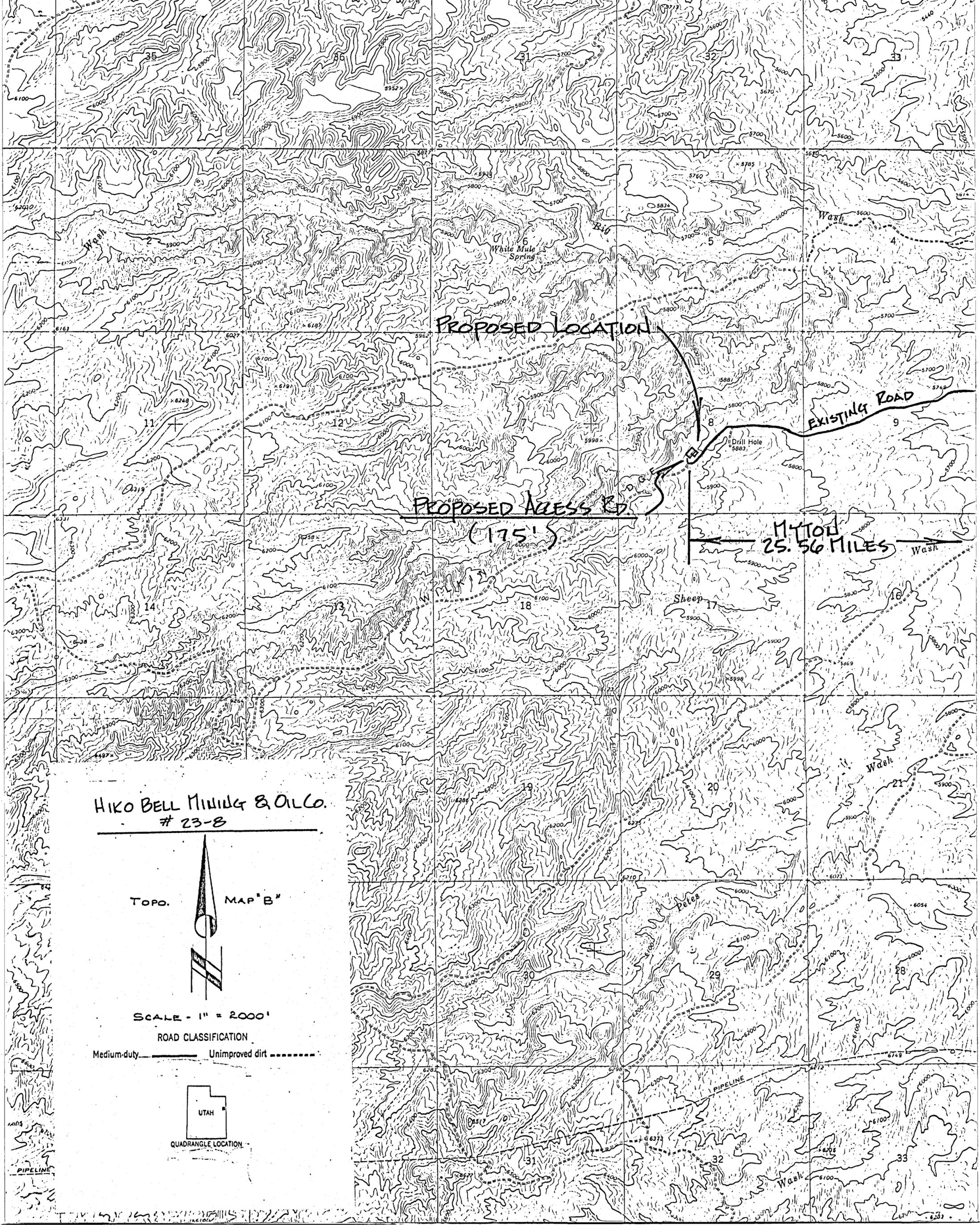
DUCHESE CO
CARBON CO

WEST
TAVAPUTS
PLATEAU

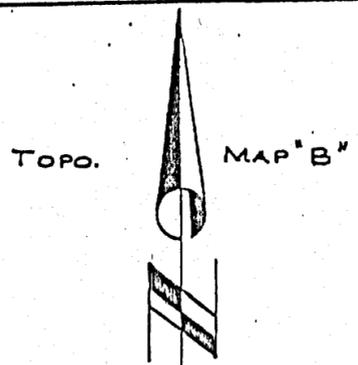
PLATEAU

Oil and gas

HUBBARD HOLE

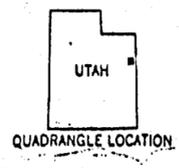


Hiko Bell Mining & Oil Co.
23-B



SCALE - 1" = 2000'

ROAD CLASSIFICATION
Medium-duty ——— Unimproved dirt - - - - -



QUADRANGLE LOCATION

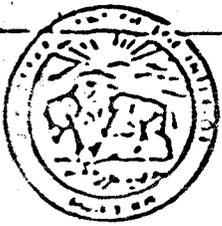
PROPOSED LOCATION

PROPOSED ACCESS RD.
(175')

EXISTING ROAD

MYTON
25.56 MILES

PIPELINE



United States Department of the Interior

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

February 2, 1981

General Outline for the Protection and Isolation of Ground Water and Oil Shale in the Uinta Basin.

The oil shale occurs with varying thicknesses in most parts of the Uinta Basin and at varying depths. Ground water also occurs at varied depths above and below the Oil Shale. These ground waters have varying degrees of salinity. Nonetheless, drilling for hydrocarbon in the Uinta Basin should provide for the protection of the oil shale and the ground water if either is present.

The protection of the oil shale and the ground water can effectively be carried on through the design of an adequate casing and cementing program for each well drilled in the area.

In the Uinta Basin, water occurs mainly in the Uinta and the Green River formations. As drilling for hydrocarbon gets deeper into the crust of the earth, more ground water might be encountered and will be protected as it is encountered.

This notice's purpose is to attempt to lay the groundwork for a casing program and cementing program that will protect the oil shale and the ground water if present.

These programs are to be considered as guidelines. The specificity of casing depth, amount of cement and the depth of staging collars will be considered on an individual basis after a careful study of the logs of each individual well. Cementing from the bottom up is an economical solution if carefully conducted.

The casing and cementing program presented here as an example, will assume that fresh water was encountered in the upper parts of the Green River, that the oil shale occurs in the middle of the Green River (1000 foot section) and that some ground water is encountered in the lower parts of the Green River.

In this case, three areas will have to be cemented to assure the integrity of the ground water and oil shale: These areas are above the upper fresh water, across the oil shale and below the lower water aquifer. Deep aquifers that do not contain useful water are cemented to prevent water zone influence on production.

The following casing and cementing program will be appropriate for this example:

- A. Surface casing is set at approximately 300 feet and cemented to the surface.

- B. The next casing string will be set at approximately 300 feet below the lowest aquifer. Cementing will be done in three stages, using two stage collars and cement baskets or equivalent as described below and on attached sketches:
1. Cement first stage through the casing shoe to fill annulus back to base of lower aquifer.
 2. Place 1st stage collar (with cement basket immediately below) at a selected point at the base of the oil shale. Cement will have to reach top of oil shale.
 3. Place 2nd stage collar (with cement basket immediately below) 50 feet above the top of the Bird's Nest aquifer and cement to at least 300 feet above the stage collar.
- C. The above is an example. Reasonable equivalents that accomplish these same protective measures, (such as cementing the water zones instead of isolating them), depending on the individual cases will be considered for approval.
- D. When the above mentioned well is to be abandoned, inner-casing plugs will have to be placed at the same depth as the above mentioned annulus cement jobs.

The use of cement bond logs will verify the authenticity of the cement job performed.

- E. The Operator of such well should notify U.S.G.S. 48 hours prior to commencement of casing and cementing activity, so a technician could be dispatched to witness the operations to verify compliance with casing and cementing program.

Attached Sketches:

1. Schematic of the required casing and cementing program.
2. Cross section of the Uinta Basin.
3. Schematic of the general ground water protection program.

E. W. Guynn
District Oil and Gas Supervisor

AMR/kr

PARTIAL CASING & CEMENTING PROGRAM
FOR WELLS IN THE
WHITE MULE SPRINGS OIL
& GAS FIELD
DUCHESNE CO., UTAH

NOT TO SCALE

UINTA FORMATION

BIRDS NEST AQUIFER
Horsebench Sandstone

GREEN RIVER

OIL SHALE ZONE

DOUGLAS CREEK
AQUIFER
Limestone & Sandstone

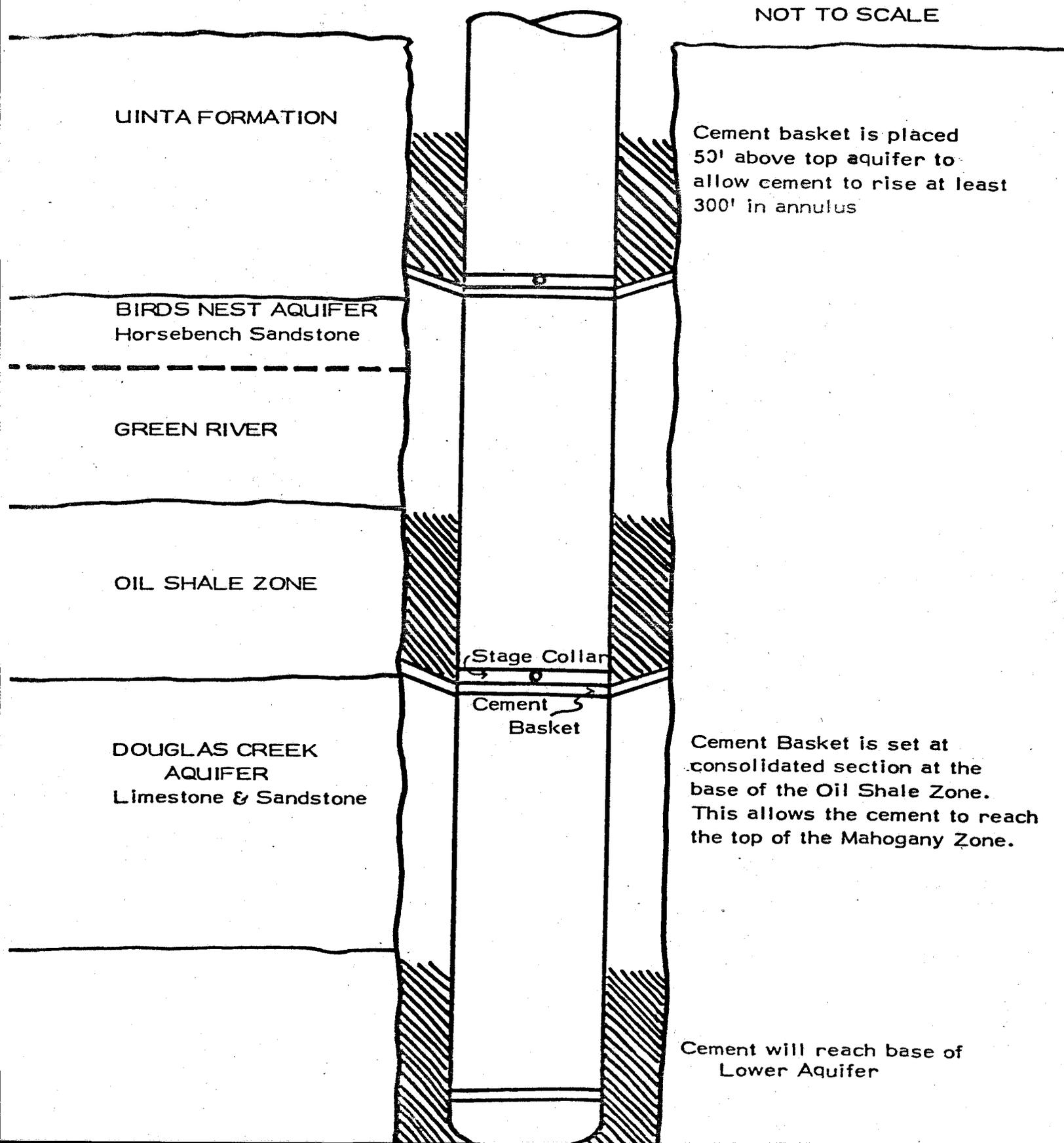
Cement basket is placed
50' above top aquifer to
allow cement to rise at least
300' in annulus

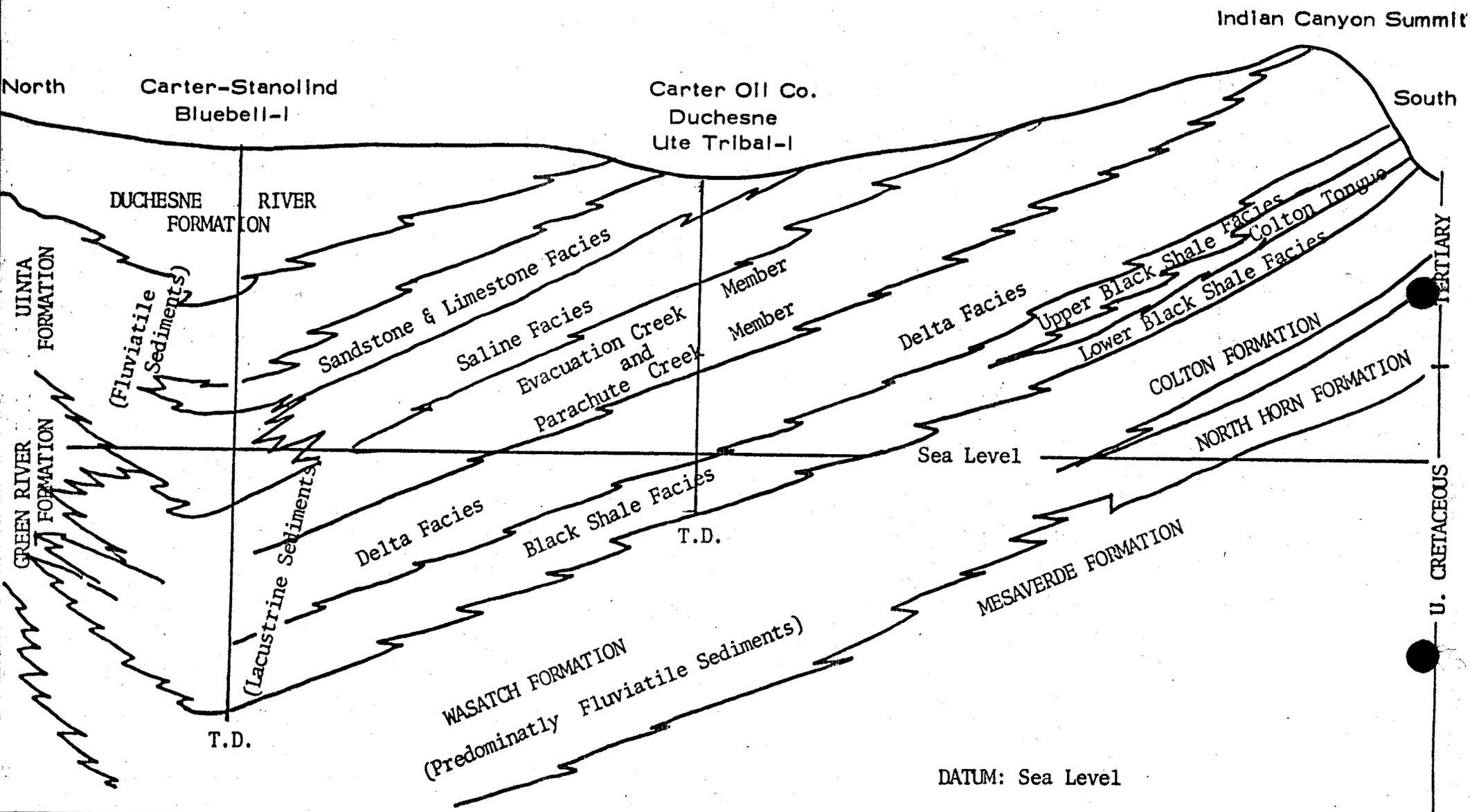
Stage Collar

Cement
Basket

Cement Basket is set at
consolidated section at the
base of the Oil Shale Zone.
This allows the cement to reach
the top of the Mahogany Zone.

Cement will reach base of
Lower Aquifer





View east of cross section of Uinta Basin showing stratigraphy and intertongling of Tertiary rocks. Ute Tribal-1 (in cross section) is located about 8 miles southeast of the application area.

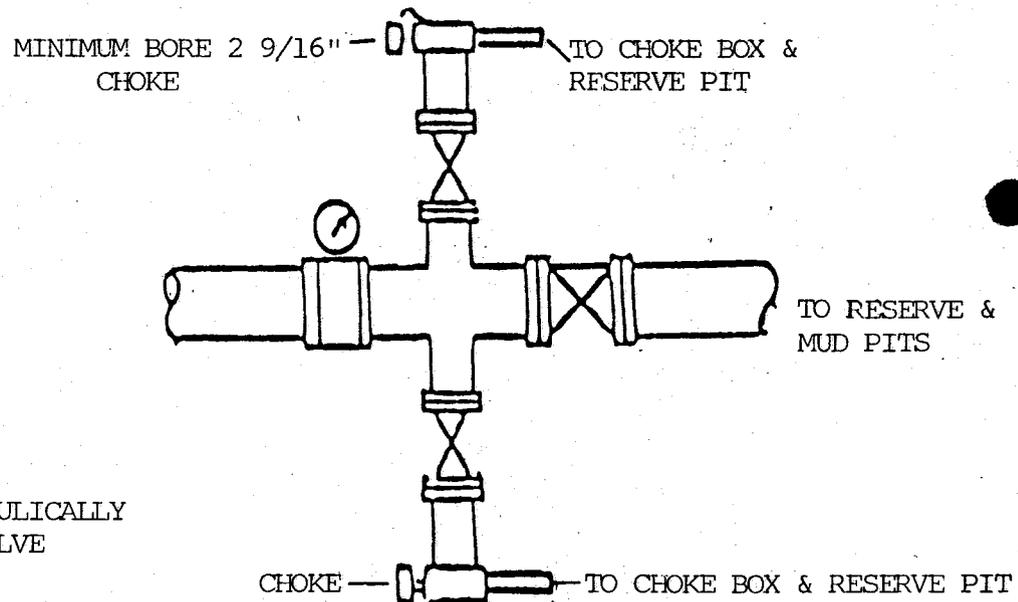
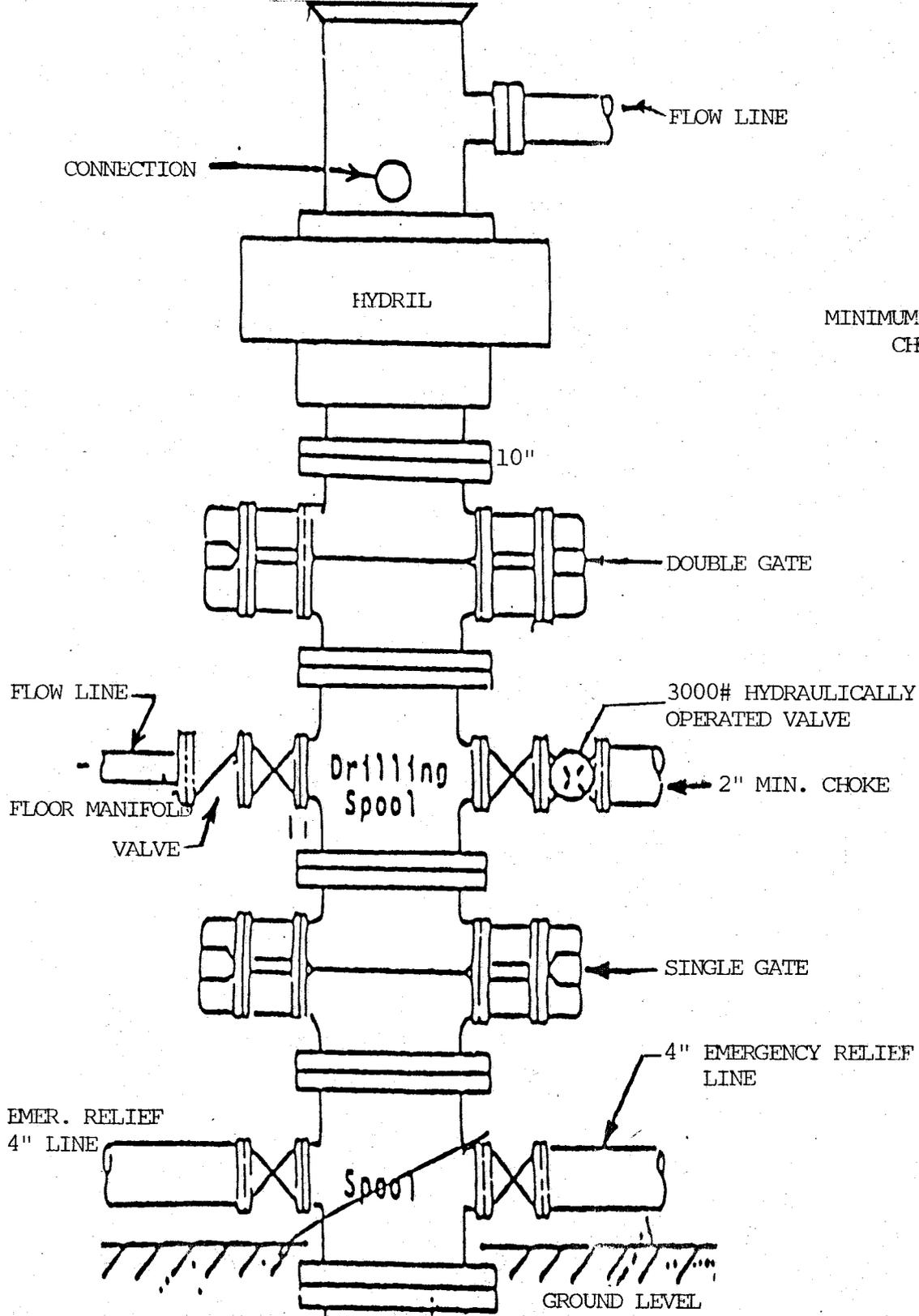


DIAGRAM "C"

HIKO BELL MINING & OIL COMPANY

WHITE MULE SPRINGS OIL
AND GAS PROSPECT

DUCHESNE CO., UTAH

CULTURAL RESOURCE INVENTORY OF
FOUR WELL PADS AND ACCESS ROADS
NEAR WILKIN RIDGE, DUCHESNE COUNTY, UTAH

Cultural Resources Reports

Number 82-8

Submitted to

Bureau of Land Management
Vernal District
Diamond Mountain Resource Area
170 South 500 East
P.O. Box F
Vernal, Utah 84078

by

Alan R. Schroedl
Principal Investigator
P-III Associates
419 Boston Building
9 Exchange Place
Salt Lake City, Utah 84111

November 24, 1982

Work Completed Under
Department of Interior Antiquities Permit Number 82-UT-172

U.S. Department of the Interior
Bureau of Land Management
Utah State Office

Summary Report of
Inspection for Cultural Resources

BLM Report No. 1 4 10
Report Acceptable Yes No
Mitigation Acceptable Yes No
Comments: _____

Report Title FOUR WELL PADS - DUCHESENE CO. UT

Development Company Hiko Bell Mining and Oil Company

Report Date 11 24 1982

4. Antiquities Permit No. 82-UT-172

Responsible Institution PII I I I A S S O C I A T E S County Duchesne

Fieldwork Location: TWN 10 S Range 17 E Section(s) 5 6 7 8
62 65 66 69 70 71 72 73 74 75 76 77

TWN 78 81 Range 82 85 Section(s) 86 87 88 89 90 91 92 93

Resource Area DM TWN 94 97 Range 98 101 Section(s) 102 103 104 105 106 107 108 109

PO= PONY EXPRESS, BR= BEAR RIVER, PR= PRICE RIVER, WS= WARM SPRINGS
BC= BOOK CLIFFS, HR= HOUSE RANGE, SE= SEVIER RIVER,
HM= HENRY MOUNTAINS, BE= BEAVER RIVER, DX= DIXIE,
KA= KANAB, ES= ESCALANTE, SJ= SAN JUAN, GR= GRAND
SR= SAN RAFAEL, DM= DIAMOND MOUNTAIN,

Fill in spaces 65, 69, 81, 85, 97, 101 Only if
V= Vernal Meridian
H= Half Township

Description of Examination Procedures: The area of direct impact (roughly 300' by 300') plus a 10 m buffer zone on each side, was inventoried at each drill pad. The survey was conducted on foot, in adjacent sweeps no more than 15 m apart. A 30 m corridor was intensively surveyed for the access routes to the well pads.

9. Linear Miles Surveyed and/or 112 117

10. Inventory Type I

R= Reconnaissance
I= Intensive
S= Statistical Sample

Definable Acres Surveyed and/or 118 123

* Legally Undefinable Acres Surveyed 14 2

1. Description of Findings (attach appendices, if appropriate)

12. Number Sites Found: 0
No sites = 0 131 13

No sites or cultural materials were observed at any of the drill pad locations or access routes. Title of report (appended): "Cultural Resource Inventory of Four Well Pads and Access Roads Near Wilkin Ridge, Duchesne County, Utah."

13. Collection: N Y=Yes, N=No
136

4. Actual/Potential National Register Properties Affected: None.

15. Literature Search: Bureau of Land Management, Utah State Office, 11/23/82

6. Conclusion/Recommendations:

Cultural resource clearance is recommended for the four well pads and access roads.

7. Signature and Title of Institutional Officer Responsible

H. K. [Signature]
Senior Consultant

MANAGEMENT SUMMARY

In 1972, F-III Associates developed a cultural
survey of historic roads near
Burr Trail, Mineral District,
Utah. The
location of Burr Trail and Oil

adjacent
located within
F-III Associates
cross routes
is.

or within
extended

POOR COPY

POOR COPY

INTRODUCTION

On November 23, 1982, P-III Associates of Salt Lake City, Utah, completed a cultural resource inventory of four oil well pads and associated access roads on Bureau of Management land in the Vernal District, Diamond Mountain Resource Area, in northeastern Utah. The work was performed by Alan R. Schroedl, Principal Investigator, and Tim Pratt, staff archaeologist, at the request of Hiko Bell Mining and Oil Company. Ken Young of Hiko Bell accompanied the field crew during the inventory.

The project was undertaken to comply with federal historic preservation laws and Executive Order 11593 which requires inventory and evaluation of cultural resources on federal lands. The work was conducted under the provisions of P-III Associates' Department of Interior Antiquities Permit No. 82-UT-172 which expires on April 8, 1983.

LOCATION

The four well pads are located within a four square mile area in the southern part of Duchesne County, south of Myton, Utah. Three of the pads are situated on an unnamed ridge a half mile south of White Mule Springs and Big Wash. The other well pad is located on Wilkin Ridge. Access to these well pads is by an unimproved dirt road that can be reached from the Sand Wash access road. One drill pad is located in each of sections 5, 6, 7, and 8 of T10S, R17E (Figure 1).

METHODS

A 300 ft by 300 ft drilling area had been previously staked and flagged by Uintah Engineering at each of the well pads. This area plus a 10 m buffer zone on all four sides of the pad was intensively inventoried for each well location. The area was surveyed on foot in adjacent sweeps with no more than 15 m between surveyors. The access routes to Wells 23-8 and 44-6 had been previously staked or marked. A 30 m wide corridor was intensively inventoried in 10-15 m sweeps for each access road. The access routes for Wells 23-8 and 44-6 were 25 m and 90 m long respectively.

A search of existing records was performed at the State Office of the Bureau of Land Management to determine if there were any previously recorded cultural resources in the project area or if the project area had been previously inventoried. While considerable work has been conducted in the surrounding area, no cultural resource work has been conducted in the immediate project area. One major project has been completed in the vicinity of the well pads, a survey of the Pariette Bench by the University of Utah for the Central Utah Project in 1977 (Sisson 1977, Sisson 1978). In a survey of 2,964 acres on the Pariette Bench and Eight-Mile Flat area Sisson (1977) recorded only two sites, one historic and one prehistoric. Thus, the site density in this area of Duchesne County is apparently very low.

In 1981 AERC recorded 42DC353, the Lima Bean site, several miles to the north of the study area. A fragment of a Folsom point was recovered from this site in an area of desert pavement. This may indicate that other Paleo-Indian components could be discovered in the area.

Vernal District Archaeologist Blaine Phillips was notified both before and after completion of the survey.

DRILL PAD DESCRIPTION AND SURVEY RESULTS

No cultural resources, historic or prehistoric, were observed during the inventory of the four drill pads and associated access roads.

Well Pad 23-8

Legal Description:

SE 1/4, NE 1/4, SW 1/4, Sec. 8, T10S. R17E
Salt Lake Principal Meridian, Duchesne County, Utah

Elevation: 5910 feet

Map Reference: U.S.G.S. 7.5' Wilkin Ridge, Utah, 1965

Area Surveyed: 120 m by 120 m square with drill hole located at the center. Approximately 25 m of a 30 m wide access road was also inventoried.

Description: The well pad is in a shallow swale on Wilkin Ridge. Vegetation is typical of the mixed desert shrub community and is dominated by the Atriplex-Tetradymia association. Vegetation noted on this and the other well pads includes Indian rice grass (Oryzopsis hymenoides), Prickly pear (Opuntia sp.), shadscale (Atriplex confertifolia), and sagebrush (Artemisia sp.). Less than 20% of the surveyed area was covered with snow.

Results: No archaeological or historical sites were observed at this location.

Recommendation: Clearance is recommended.

Well Pad 21-7

Legal Description:

NE 1/4, NE 1/4, NW 1/4, Sec. 7, T10S, R17E
Salt Lake Principal Meridian, Duchesne County, Utah

Elevation: 5950 feet

Map Reference: U.S.G.S. 7.5' Wilkin Ridge, Utah, 1965

Area Surveyed: 120 m by 120 m square with the drill hole located at the center.

Description: The drill pad is located on an unnamed ridge about a half mile south of White Mule Springs. Vegetation is typical of a mixed desert shrub zone and is dominated by grasses, salt-bush and sage. Less than 20% of the area surveyed was covered with snow.

Results: No cultural resources were observed.

Recommendation: Clearance is recommended.

Well Pad 44-6

Legal Description:

SE 1/4, SE 1/4, SE 1/4, Sec. 6, T10S, R17E
Salt Lake Principal Meridian, Duchesne County, Utah

Elevation: 5885 feet

Map Reference: U.S.G.S. 7.5' Wilkin Ridge, Utah, 1965

Area Surveyed: A 120 m by 120 m area was inventoried with the drill hole at the center. Approximately 90 m of a 30 m wide access road was also inventoried.

Description: The well pad is northeast of a small rise on a ridge that overlooks a tertiary drainage of Big Wash, which is half a mile to the north of the drill pad. Vegetation is sparse, and is typical of a mixed desert shrub zone. It is similar to vegetation at the other three drill pad locations. Less than 25% of the total survey area was covered with snow.

Results: No cultural resources were observed.

Recommendations: Clearance is recommended.

Well Pad 14-5

Legal Description:

NW 1/4, SW 1/4, SW 1/4, Sec. 5, T10S, R17E
Salt Lake Principal Meridian, Duchesne County, Utah

Elevation: 5860 feet

Map Reference: U.S.G.S. 7.5' Wilkin Ridge, Utah, 1965

Area Surveyed: A 120 m by 120 m area was surveyed with the drill hole at the center.

Description: The well pad is located on the south side of the ridge on which drill pad 21-7 and 44-6 are located. This location overlooks a small draw to the south. The existing road runs

through a portion of the surveyed area. Vegetation is typical of the Atriplex-Tetradymia association, with an abundance of small grasses in this drill pad location. Less than 20% of the survey area was covered by snow.

Results: No cultural resources were observed.

Recommendations: Clearance is recommended.

RECOMMENDATIONS

Cultural resource clearance is recommended for four well pad locations and access roads to Hiko Bell Mining and Oil Company locations 23-8, 21-7, 44-6, and 14-5.

REFERENCES CITED

Sisson, E. B.

1977 A reconnaissance survey of Pariette Bench and Eight-Mile Flat, Uintah and Duchesne Counties, Utah. Unpublished report on file, Archeological Laboratory, University of Utah, Salt Lake City.

1978 Final report: Survey and evaluation of archeological and historical resources: Central Utah Project, 1977. Special report, University of Utah, Salt Lake City.

WILKIN RIDGE, UTAH

N3952.5—W11000/7.5

1965

AMS 3963 I NE—SERIES V897

White Mule Springs

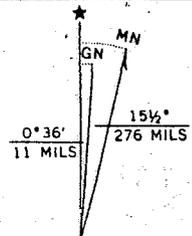
Well # 44-6

Well # 14-5

Well # 21-7

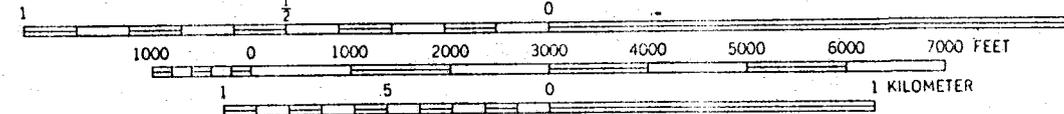
Well # 23-8

Figure 1. Location of well pads and survey areas.

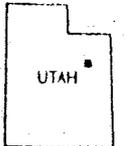


UTM GRID AND 1965 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24 000



CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL



QUADRANGLE LOCATION



United States Department of the Interior

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

February 2, 1981

General Outline for the Protection and Isolation of Ground Water and Oil Shale in the Uinta Basin.

The oil shale occurs with varying thicknesses in most parts of the Uinta Basin and at varying depths. Ground water also occurs at varied depths above and below the Oil Shale. These ground waters have varying degrees of salinity. Nonetheless, drilling for hydrocarbon in the Uinta Basin should provide for the protection of the oil shale and the ground water if either is present.

The protection of the oil shale and the ground water can effectively be carried on through the design of an adequate casing and cementing program for each well drilled in the area.

In the Uinta Basin, water occurs mainly in the Uinta and the Green River formations. As drilling for hydrocarbon gets deeper into the crust of the earth, more ground water might be encountered and will be protected as it is encountered.

This notice's purpose is to attempt to lay the groundwork for a casing program and cementing program that will protect the oil shale and the ground water if present.

These programs are to be considered as guidelines. The specificity of casing depth, amount of cement and the depth of staging collars will be considered on an individual basis after a careful study of the logs of each individual well. Cementing from the bottom up is an economical solution if carefully conducted.

The casing and cementing program presented here as an example, will assume that fresh water was encountered in the upper parts of the Green River, that the oil shale occurs in the middle of the Green River (1000 foot section) and that some ground water is encountered in the lower parts of the Green River.

In this case, three areas will have to be cemented to assure the integrity of the ground water and oil shale. These areas are above the upper fresh water, across the oil shale and below the lower water aquifer. Deep aquifers that do not contain useful water are cemented to prevent water zone influence on production.

The following casing and cementing program will be appropriate for this example:

- A. Surface casing is set at approximately 300 feet and cemented to the surface.

- B. The next casing string will be set at approximately 300 feet below the lowest aquifer. Cementing will be done in three stages, using two stage collars and cement baskets or equivalent as described below and on attached sketches:
1. Cement first stage through the casing shoe to fill annulus back to base of lower aquifer.
 2. Place 1st stage collar (with cement basket immediately below) at a selected point at the base of the oil shale. Cement will have to reach top of oil shale.
 3. Place 2nd stage collar (with cement basket immediately below) 50 feet above the top of the Bird's Nest aquifer and cement to at least 300 feet above the stage collar.
- C. The above is an example. Reasonable equivalents that accomplish these same protective measures, (such as cementing the water zones instead of isolating them), depending on the individual cases will be considered for approval.
- D. When the above mentioned well is to be abandoned, inner-casing plugs will have to be placed at the same depth as the above mentioned annulus cement jobs.

The use of cement bond logs will verify the authenticity of the cement job performed.

- E. The Operator of such well should notify U.S.G.S. 48 hours prior to commencement of casing and cementing activity, so a technician could be dispatched to witness the operations to verify compliance with casing and cementing program.

Attached Sketches:

1. Schematic of the required casing and cementing program.
2. Cross section of the Uinta Basin.
3. Schematic of the general ground water protection program.

E. W. Guynn
District Oil and Gas Supervisor

AMR/kr

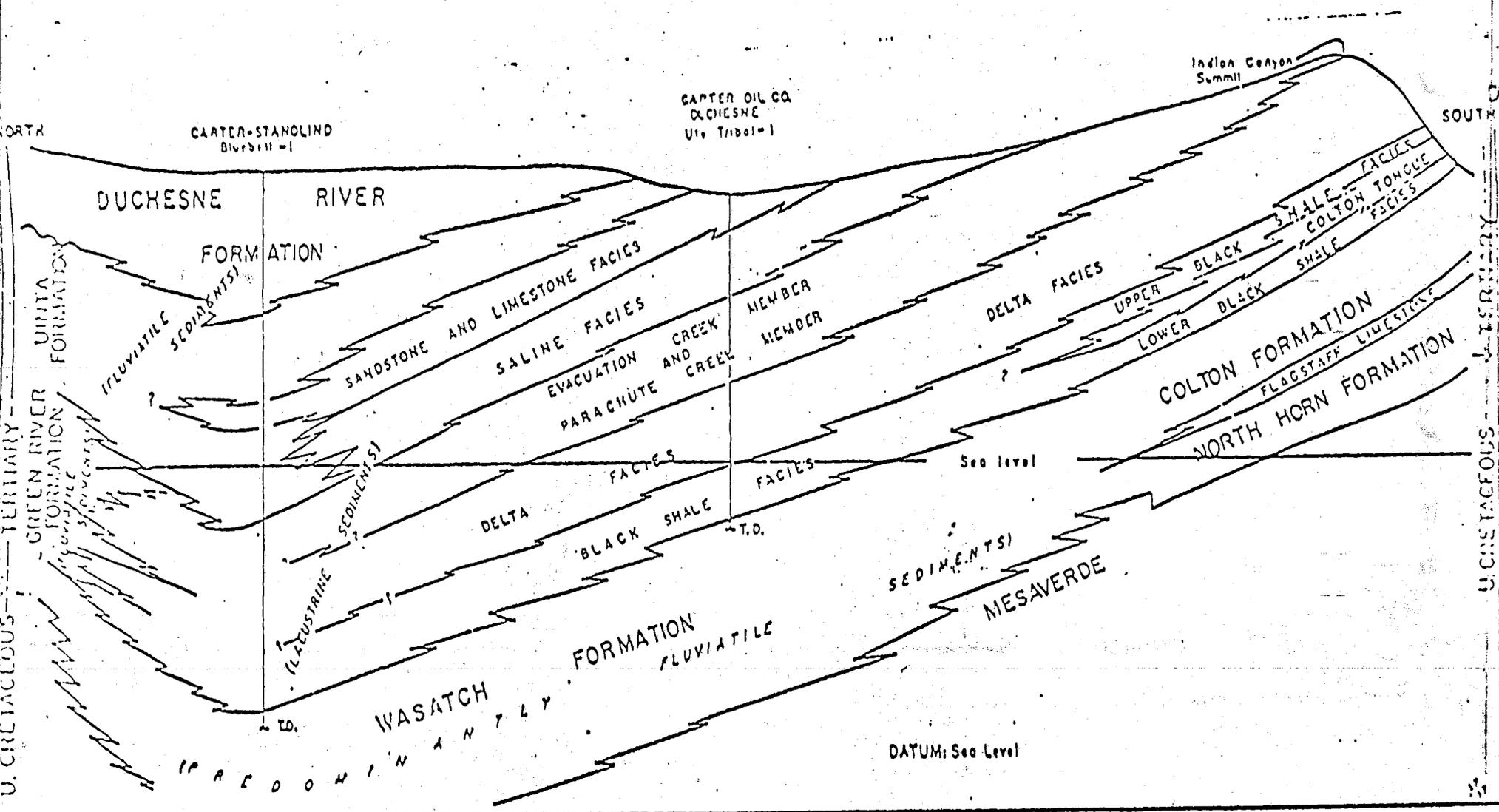
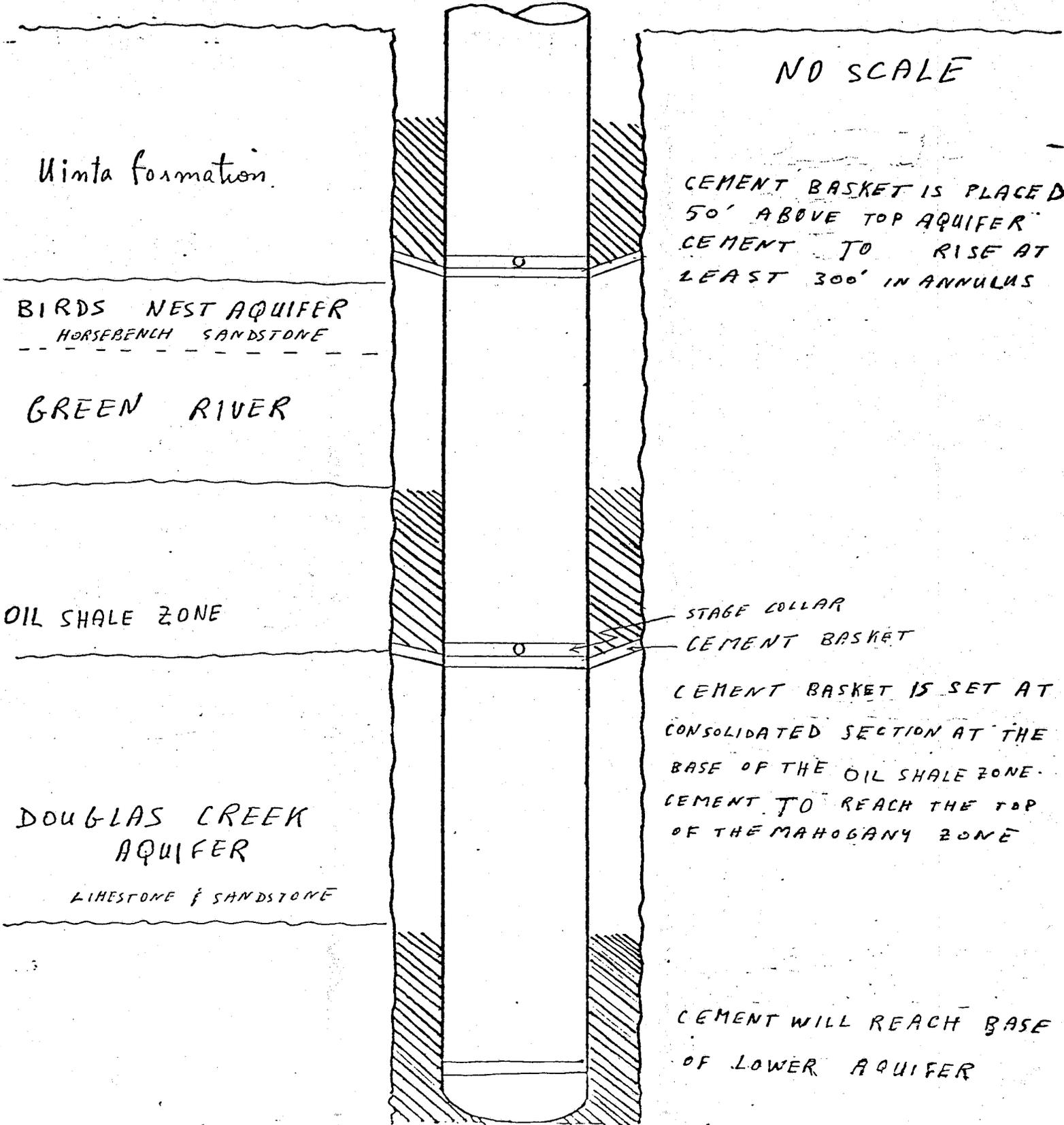


Figure 5.- View east of cross section of Uinta Basin showing stratigraphy and intertonguing of Tertiary rocks. Ute Tribal-1 (in section) is located about 8 miles southeast of the application area.

PARTIAL CASING & CEMENTING PROGRAM FOR WELLS IN NATURAL BUTTES FIELD. HINTAH COUNTY, UTAH





STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

October 24, 1983

Hiko Bell Mining & Oil Company
P. O. Drawer AB
Vernal, Utah 84078

Re: Well No. Hiko Bell # 44-6
660' FSL, 660' FEL
SE SE, Sec. 6, T. 10S, R. 17E.
Duchesne County, Utah

Well No. Hiko Bell # 21-7
724' FNL, 1935' FWL
NE NW, Sec. 7, T. 10S, R. 17E.
Duchesne County, Utah

Well No. Hiko Bell # 23-8
1761' FSL, 2055' FWL
NE SW, Sec. 8, T. 10S, R. 17E.
Duchesne County, Utah

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 you plan to drill these locations at a later date, please notify as such.

We will be happy to acknowledge receipt of your response to this notice if you will include an extra copy of the transmittal letter with a place for our signature, and a self addressed envelope for the return. Such acknowledgement should avoid unnecessary mailing of a second notice from our agency.

Your prompt attention to the above will be greatly appreciated.

Respectfully,

DIVISION OF OIL, GAS AND MINING

Cari Furse
Well Records Specialist

CF/cf

AFE MANAGEMENT INC.

372 BAY STREET, SUITE 208,
TORONTO, ONTARIO M5H 2W9

November 3, 1983

State of Utah Natural Resources
Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah
USA 84114

Contacted
Benna BLM
Vernal
5/23/84

ATTENTION: Cari Furse

Gentlemen:

RE: Well No. Hiko Bell #44-6, 660' FSL, 660' FEL
SE SE, Sec. 6, T. 10S, R. 17E., Duchesne County, Utah

Well No. Hiko Bell #21-7, 724' FNL, 1935' FWL
NE NW, Sec. 7., T. 10S, R. 17E., Duchesne County, Utah

Well No. Hiko Bell #23-8, 1761' FSL, 2055' FWL
NE SW, Sec. 8, T. 10S, R. 17E., Duchesne County, Utah

Your letter of October 24th to Hiko Bell Mining and Oil Company regarding the above wells has been forwarded to us for reply.

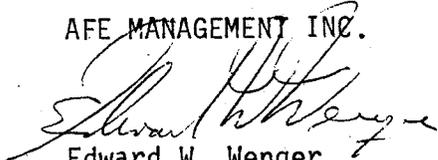
AFE Management Inc. is now the Operator of the above captioned wells. A copy of the Designation of Operator is enclosed for your records. We are also the Assignee of Oil and Gas Lease Serial No. U50972 on which the subject wells are located.

Please be advised that it is our intention to proceed with the drilling of the wells. We would like to change the name of the above wells to AFE 44-6, 21-7 and 23-8 and would ask your assistance in advising us on how we might go about instrumenting this change.

Thank you for your assistance, we look forward to hearing from you soon.

Yours truly,

AFE MANAGEMENT INC.


Edward W. Wenger
President

EWW:acp
Enclosure

c.c. Hiko Bell



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

January 25, 1985

Bureau of Land Management
Vernal District Office
170 South 500 East
Vernal, Utah 84078

Gentlemen:

Re: Well No. AFE 23-8 - Sec. 8, T. 10S., R. 17E.
Duchesne County, Utah - API #43-013-30723
Operator of Record - AFE Management Limited

The above referred to well in your district was given Federal approval to drill January 7, 1983. This office has not received notification of any activity on this location.

Please let me know what action, if any, the Bureau of Land Management is taking on this well.

Thank you for your help in keeping our records up to date.

Sincerely,

A handwritten signature in cursive script that reads "Claudia L. Jones".

Claudia L. Jones
Well Records Specialist

cc: Dianne R. Nielson
Ronald J. Firth
John R. Baza
File

0009S/9

RECEIVED

FEB 4 1985

3100
U-810

DIVISION OF OIL
GAS & MINING

April 11, 1984

Hiko Bell Mining & Oil Company
P.O. Drawer AB
Vernal, UT 84078

Re: Rescind Application for Permit to Drill
Well No. White Mule Springs #23-8
Section 8, T10S, R17E
Duchesne County, Utah
Lease U-38355

Gentlemen:

The Application for Permit to Drill the referenced well was approved on January 7, 1983. Since that date, no known activity has transpired at the approved location. Under current District policy, applications 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 at 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 be submitted to this office. Your cooperation in this matter is appreciated.

Sincerely,

Lloyd H Ferguson
District Manager

cc: Well File
State O & G
SMA

JKenczka:ma



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

February 11, 1985

AFE Management Ltd
372 Bay Street, Suite 208
Totonto, Ontario, Canada M5H 2W9

Gentlemen:

Re: Well No. AFE 23-8 - Sec. 8, T. 10S., R. 17E
Duchesne County, Utah - API #43-013-30723

In concert with action taken by the Bureau of Land Management, April 11, 1984, approval to drill the above-indicated well is hereby rescinded.

A new "Application for Permit to Drill" must be filed with this office, for approval, prior to future drilling of the subject location.

Sincerely,

A handwritten signature in cursive script that reads "John R. Baza".

John R. Baza
Petroleum Engineer

clj

cc: Dianne R. Nielson
Ronald J. Firth
File

0087S/42