UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG ____ ELECTRIC LOGS ✓ X WATER SANDS ____ LOCATION INSPECTED ____ SUB. REPORT/abd. ____

990413 Conf Etap!

DATE FILED OCTOBER 30, 1998

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. INDIAN

DRILLING APPROVED: JANUARY 8, 1998 14-20-H62-3515

SPUDDED IN: 2/8/98

COMPLETED: 3-13-98 POW PUT TO PRODUCING: 3-20-98

INITIAL PRODUCTION: G-100 MCF W-20 BBL

GRAVITY A.P.I.

GOR:

PRODUCING ZONES: 4416-5938'

TOTAL DEPTH: 6160'

WELL ELEVATION: 6495' KB

DATE ABANDONED:

FIELD: ANTELOPE CREEK

UNIT:

COUNTY: DUCHESNE COUNTY

WELL NO. UTE TRIBAL 20-13 API NO. 43-013-31981

LOCATION 700 FSL FT. FROM (N) (S) LINE, 700 FWL FT. FROM (E) (W) LINE. SW SW 1/4 – 1/4 SEC. 20

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
5S	3W	20	PETROGLYPH OPERATING				

GEOLOGIC TOPS:

QUATERNARY	Star Point	Chinle	Molas
Alluvium	Wahweap	Shinarump	Manning Canyon
Lake beds	Masuk	Moenkopi	Mississippian
Pleistocene	Colorado	Sinbad	Humbug
Lake beds	Sego	PERMIAN	Brazer
TERTIARY	Buck Tongue	Kaibab	Pilot Shale
Pliocene	Castlegate	Coconino	Madison
Salt Lake	Mancos	Cutler	Leadville
Oligocene	Upper	Hoskinnini	Redwall
Norwood	Middle	DeChelly	DEVONIAN
Eocene	Lower	White Rim	Upper
Duchesne River	Emery	Organ Rock	Middle
Uinta	Blue Gate	Cedar Mesa	Lower
Bridger	Ferron	Halgaite Tongue	Ouray
Green River	Frontier	Phosphoria	Elbert
G MKR 4022	Dakota	Park City	McCracken
G MKR 4507	Burro Canyon	Rico (Goodridge)	Aneth
Douglas CR 4644	Cedar Mountain	Supai	Simonson Dolomite
B-Limestone 5026	Buckhorn	Wolfcamp	Sevy Dolomite
Castle PK 5576	JURASSIC	CARBONIFEROUS	North Point
~~Wasatch~~ Basal Carb 6006	Morrison	Pennsylvanian	SILURIAN
Stone Cabin	Salt Wash	Oquirrh	Laketown Dolomite
Colton	San Rafeal Gr.	Weber	ORDOVICIAN
Flagstaff	Summerville	Morgan	Eureka Quartzite
North Horn	Bluff Sandstone	Hermosa	Pogonip Limestone
Almy	Curtis		CAMBRIAN
Paleocene	Entrada	Pardox	Lynch
Current Creek	Moab Tongue	Ismay	Bowman
North Horn	Carmel	Desert Creek	Tapeats
CRETACEOUS	Glen Canyon Gr.	Akah	Ophir
Montana	Navajo	Barker Creek	Tintic
Mesaverde	Kayenta		PRE - CAMBRIAN
Price River	Wingate	Cane Creek	
Blackhawk	TRIASSIC		

Form 3160-3
(July 1992)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

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

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

2. NAME OF OPERATOR
PETROGLYPH OPERATING COMPANY, INC.

3. ADDRESS AND TELEPHONE NO.
P.O. BOX 607, ROOSEVELT, UTAH 84066

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface
700' FSL & 700' FWL SW/SW
At proposed prod. zone

5. LEASE DESIGNATION AND SERIAL NO.
14-20-H62-3515

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

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.
UTE TRIBAL

9. API WELL NO.
#20-13

10. FIELD AND POOL, OR WILDCAT
ANTELOPE CREEK

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SEC. 20, T5S, R3W

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
20.85 MILES SOUTHWEST OF MYTON, UTAH

12. COUNTY OR PARISH: DUCHESNE
13. STATE: UTAH

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 700'±
16. NO. OF ACRES IN LEASE: 640
17. NO. OF ACRES ASSIGNED TO THIS WELL: 80
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.:
19. PROPOSED DEPTH: 6118.1'
20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
6485.1' GRADED GROUND

22. APPROX. DATE WORK WILL START*
OCTOBER 1997

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24.0#	250'	135 sx class "G" + 2% $CaCl_2$ + 1/4 #/sx celloflake.
7 7/8	5 1/2	15.5#	6118.1'	50/50 POZMIX + 2% GEL + 10% SALT TO 400' ABOVE ALL ZONES OF INTEREST (+ 10% EXCESS). LIGHT CEMENT (11 PPG±) + LCM TO 200' ABOVE OIL SHALE OR FRESH WATER INTERVALS (+ 5% EXCESS).

CONFIDENTIAL CONFIDENTIAL

PETROGLYPH OPERATING COMPANY, INC. WILL BE THE DESIGNATED OPERATOR OF THE SUBJECT WELL UNDER BOND #4556.

pc: Utah Division of Oil, Gas, and Mining
Bureau of Indian Affairs, Fort Duchesne, Utah
Ute Tribe, Fort Duchesne, Utah

RECEIVED
OCT 30 1997
DIV. OF OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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 Ed Trotter TITLE AGENT FOR PETROGLYPH DATE 10-23-97

(This space for Federal or State office use)

PERMIT NO. 43-013-31981 APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

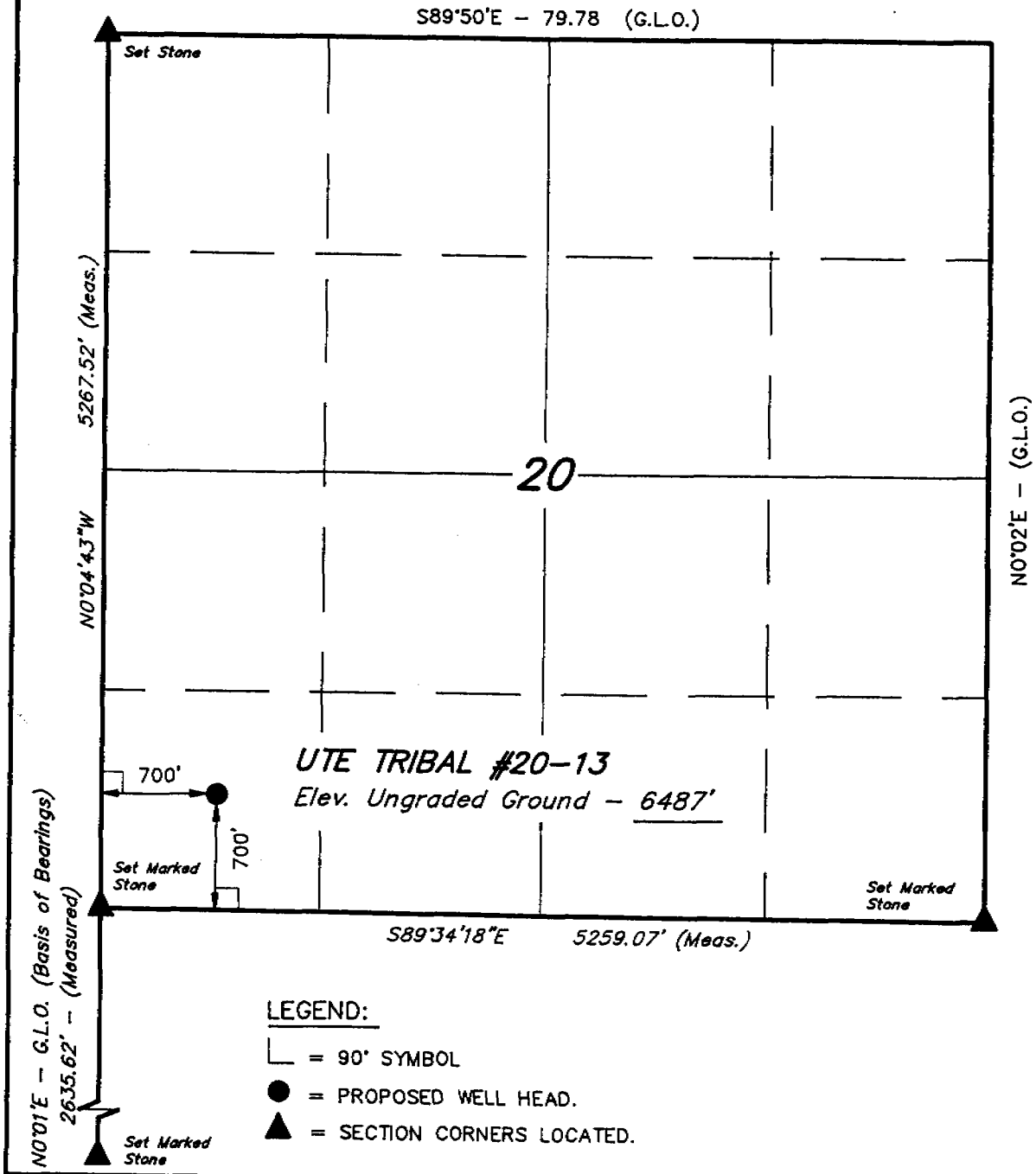
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY John R. Baza TITLE Associate Director DATE 1/8/98

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the

T5S, R3W, U.S.B.&M.

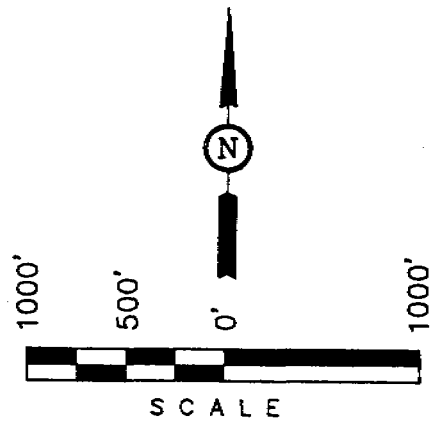


PETROGLYPH OPERATING CO., INC.

Well Location, UTE TRIBAL #20-13, located as shown in SW 1/4 SW 1/4 of Section 20, T5S, R3W, U.S.B.&M. Duchesne County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION AT THE NW CORNER OF SECTION 29, T5S, R3W, U.S.B.&M. TAKEN FROM THE DUCHESNE SE QUADRANGLE, UTAH, DUCHESNE COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6549 FEET.



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. 161319
STATE OF UTAH

Revised: 9-9-97 C.B.T.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(801) 789-1017

SCALE: 1" = 1000'	DATE SURVEYED: 6-8-94	DATE DRAWN: 6-21-94
PARTY: B.B. S.D. D.R.B.	REFERENCES: G.L.O. PLAT	
WEATHER: HOT/WINDY	FILE: PETROGLYPH OPERATING CO., INC.	

Petroglyph Operating Co., Inc.
P.O. Box 1839
Hutchinson, KS 67504-1839

October 14, 1997

Utah Division of Oil, Gas, & Mining
1594 West North Temple
Box 145801
Salt Lake City, UT 84114-5801

RE: APPLICATION FOR PERMIT TO DRILL
UTE TRIBAL #20-13
SW/SW, SEC. 20, T5S, R3W
DUCHESNE COUNTY, UTAH
LEASE NO. BIA 14-20-H62-3515
UTE TRIBAL LANDS

Enclosed please find a copy of the Application for Permit to Drill and associated attachments for the referenced well.

Please address further communication regarding this matter (including approval) to:
Ed Trotter
P.O. Box 1910
Vernal, UT 84078
Phone # (801) 789-4120
Fax # (801) 789-1420

Sincerely,

Ed Trotter
Agent
Petroglyph Operating Co., Inc.

Attachments

/EHT/dmt

EIGHT POINT PLAN

UTE TRIBAL #20-13
SW/SW, SEC. 20, T5S R3W
DUCHESNE COUNTY, UTAH

1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS:

FORMATIONS	DEPTH	SUBSEA
Mahogany Shale	2930.1	3565
"X" Marker	4503.1	1992
Douglas Creek	4645.1	1850
"B" Limestone	5030.1	1465
B/Castle Peak Limestone	5585.1	910
Basal Carbonate Limestone	6008.1	487
Total Depth	6118.1	377

Anticipated BHP 2000 psi

2. ESTIMATED DEPTHS OF ANTICIPATED WATER, OIL, GAS OR MINERALS FORMATIONS:

Substance	Formation	Depth	Subsea
Oil/Gas	Douglas Creek	4645.1	1850
Oil/Gas	B/Castle Peak	5585.1	910
Other mineral zones	N/A		

3. PRESSURE CONTROL EQUIPMENT : BOP Schematic Diagram attached.

4. CASING PROGRAM :

						MINIMUM SAFETY FACTOR		
HOLE SIZE	INTERVAL	LENGTH	SIZE	WEIGHT	GRADE	COLLAPSE	BURST	TENSILE
12 1/4	0' - 250'	250'	8 5/8	24.0 #	J-55	1370 PSI	2950 PSI	263,000#
7 7/8	0' - 6118.1'	6118.1'	5 1/2	15.5 #	M-50	3650 PSI	4550 PSI	186,000#

All casing will be new or inspected.

EIGHT POINT PLAN

UTE TRIBAL #20-13
SW/SW, SEC. 20, T5S R3W
DUCHESNE COUNTY, UTAH

5. MUD PROGRAM

INTERVAL	MUD TYPE
0' - 250'	Air
250' - 4000'	Air/Mist & Aerated Water
4000' - TD	Air/3% KCL water or KCL substitute
TD	Gel/polyacrylamide polymer w/5-10% LCM

Sufficient mud inventory will be maintained on location during drilling to handle any adverse conditions that may arise.

6. VARIANCE REQUESTS:

A. Petroglyph Operating Co., Inc. requests a variance to regulations requiring a straight run blooie line.

B. Petroglyph Operating Co., Inc. requests a variance to regulations requiring an automatic ignitor or continuous pilot light on the blooie line.

7. EVALUATION PROGRAM:

Logs:	Mud Logging	T.D. to base of surface csg.
	Compensated Density-Compensated Neutron Log	T.D. to base of surface csg.
	Dual Laterolog - Micro-SFL	T.D. to base of surface csg.
	Numar (Magnetic Resonance Imaging Log)	@ Geologists discretion

Cores: None Programmed
DST: None Programmed

Completion: To be submitted at a later date.

8. ABNORMAL CONDITIONS:

None anticipated.

EIGHT POINT PLAN

UTE TRIBAL #20-13
SW/SW, SEC. 20, T5S R3W
DUCHESNE COUNTY, UTAH

9. STANDARD REQUIRED EQUIPMENT:

A. Choke Manifold
B. Kelly Cock
C. Stabbing Valve
D. Visual Mud Monitoring

10. HAZARDOUS CHEMICALS:

No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in associaton with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in associaton with the drilling of this well.

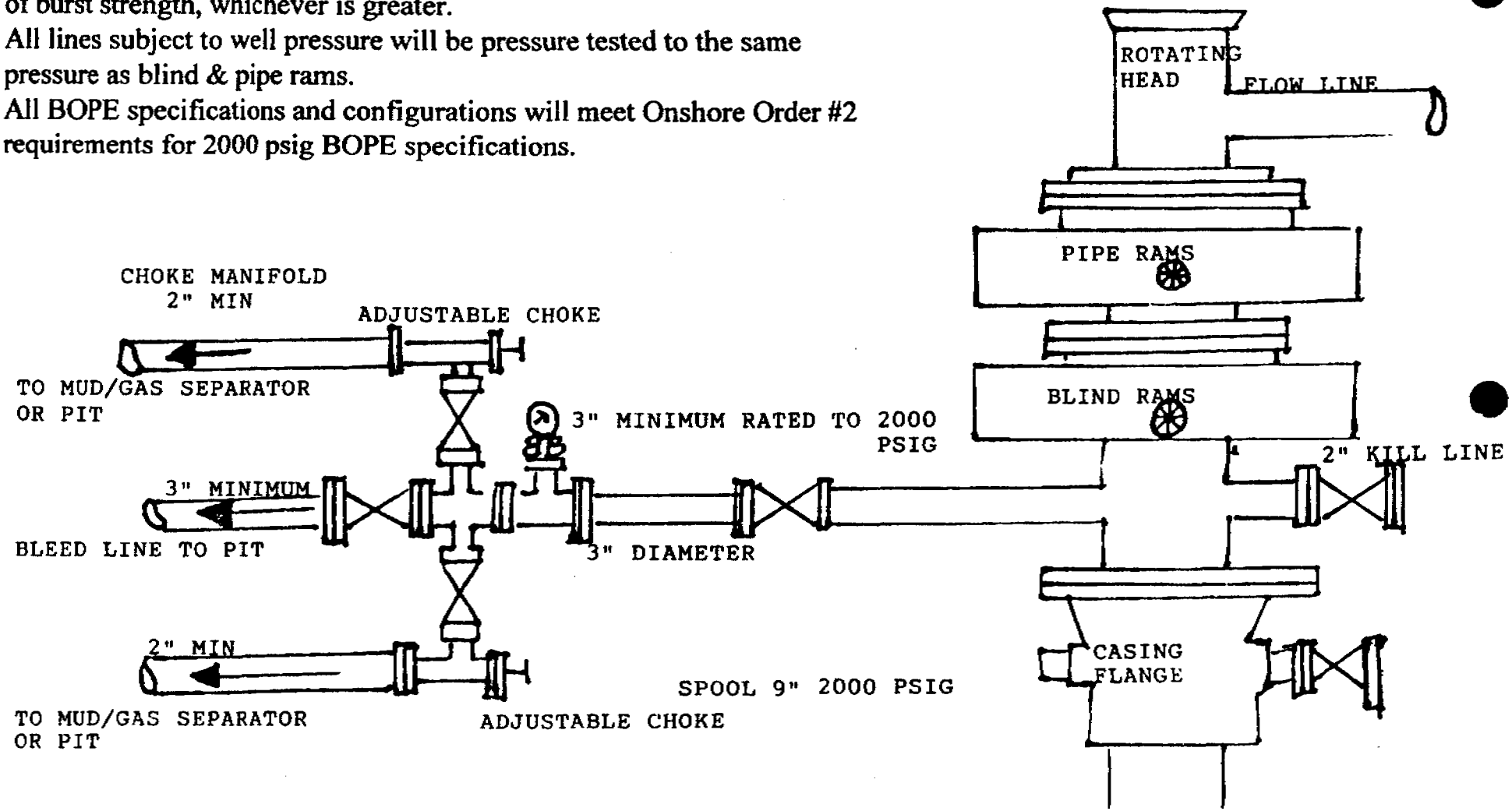
(Attachment: BOP Schematic Diagram)

2000 PSIG DIAGRAM

BOTH RAMS ARE 2000 PSIG RATED.
CASING FLANGE IS 9" 2000 PSIG RATED.
BOPE 9" 2000 PSIG

TESTING PROCEDURE:

1. BOPE 's will be tested with a professional tester to conform to Onshore Order #2 with retest every 14 days.
2. Blind & Pipe rams will be tested to rated working pressure, 2000 psig
3. Casing will be tested to 0.22 psi/ft. or 1500 psig. Not to exceed 70% of burst strength, whichever is greater.
4. All lines subject to well pressure will be pressure tested to the same pressure as blind & pipe rams.
5. All BOPE specifications and configurations will meet Onshore Order #2 requirements for 2000 psig BOPE specifications.



CONDITIONS OF APPROVAL
FOR THE SURFACE USE PROGRAM OF THE
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Petroglyph Operating Co., Inc.
Well Name & Number: Ute Tribal #20-13
Lease Number: BIA 14-20-H62-3515
Location: 700' FSL & 700' FWL SW/SW, Sec. 20, T5S R3W
U.S.B.&M., Duchesne County, Utah
Surface Ownership: Ute Indian Tribe

NOTIFICATION REQUIREMENTS

Location Construction - forty-eight (48) hours prior to construction of location and access roads.

Location Completion - prior to moving on the drilling rig.

Spud Notice - at least twenty-four (24) hours prior to spudding the well.

Casing String and Cementing - twenty-four (24) hours prior to running casing and cementing all casing strings.

BOP and related Equipment Tests - twenty-four (24) hours prior to running casing and tests.

First Production Notice - within five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

For more specific details on notification requirements, please check the Conditions of Approval for Notice To Drill and Surface Use Program.

THIRTEEN POINT SURFACE USE PROGRAM

1. EXISTING ROADS

A. See attached Wellsite Plats showing directional reference stakes on location, and attached TOPO Map "B" showing access to location from existing road.
B. The proposed well site is located approximately 20.85 miles southwest of Myton, Utah - See attached TOPO Map "A".
C. Refer to attached Topographic Map "A" showing labeled access route to location.
D. Existing roads will be maintained and repaired as necessary. No off lease Right-of-Way will be required.

2. PLANNED ACCESS ROAD

A. The access road will be approximately 0.15 miles in length. See attached TOPO Map "B".
B. The access road has a 30 foot ROW w/18 foot running surface.
C. Maximum grade on access road will be 8%
D. No turnouts will be required.
E. Road drainage crossings shall be of the typical dry creek drainage crossing type.
F. No culverts, bridges or major cuts & fills will be required.
G. The access road will be dirt surface.
H. No gates, cattleguards or fences will be required or encountered.

New or reconstructed roads will be centerlined - flagged at time of location staking.
All travel will be confined to existing access road Right-of-Way.
Access roads and surface disturbing activities will conform to standards outlined in the Bureau of Land Management and Forest Service Publication: Surface Operating Standards For Oil & Gas Exploration and Development, (1989).

The road shall be upgraded to meet the standards of the anticipated traffic flow and all-weather road requirements. Upgrading shall include ditching, drainage, graveling, crowning, and capping the

roadbed as necessary to provide a well-constructed safe road. Prior to upgrading, the road shall be cleared of any snow cover and allowed to dry completely. Traveling off the 30 foot Right-of- Way will not be allowed.

Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or accumulation of debris in the drainage crossings nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by run off water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading shall not be allowed during muddy conditions. Should mud holes develop, they shall be filled in and detours around them avoided.

As operator, Petroglyph Operating Co., Inc. shall be responsible for all maintenance on cattleguards, or gates associated with this oil and/or gas operation.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS OF PROPOSED WELL LOCATION

A. Water wells - None
B. Abandoned wells - None
C. Temporarily abandoned wells - 3*
D. Disposal wells - None.
E. Drilling wells - None.
F. Producing wells - 14*
G. Shut in wells - 1*
H. Injection wells - 1*

(*See attached TOPO map "C" for location)

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

A. ON WELL PAD

1. Tank batteries - None
2. Production facilities-To be submitted later
3. Oil gathering lines - None

4. Gas gathering lines-None
5. Injection lines - None
6. Disposal lines - None
7. Surface pits - None

B. OFF WELL PAD

1. Proposed location of attendant off pad flowlines shall be flagged prior to archaeological clearance.
2. A 4 1/2" OD steel above ground production pipeline will be laid approximately 70' from proposed location to a point in the SW/SW of Section 20, T5S, R3W, where it will tie into Petroglyph Operating Co., Inc.'s existing pipeline. Proposed pipeline crosses Ute Tribe lands, thus a Right-of-Way grant will be required. See attached TOPO Map D showing pipeline route.
3. Proposed pipeline will be a 4 1/2" OD steel, welded line laid on the surface.
4. Protective measures and devices for livestock and wildlife will be taken and/or installed where required.

If storage facilities/tank batteries are constructed on this lease, the facility/battery or the well pad shall be surrounded by a containment dike of sufficient capacity to contain, at a minimum, the entire contents of the largest tank within the facility/battery, unless more stringent protective requirements are deemed necessary by the authorized officer.

The production facilities will be placed on the Ute Tribal #19-16 location.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities required will be painted within 6 months of installation. Facilities required to comply with O.S.H.A.

(Occupational Safety and Health Act) will be excluded.
The required paint color is Desert Brown.

5. LOCATION & TYPE OF WATER SUPPLY

A. Water supply will be from Target Trucking's Roosevelt Brine Storage and/or Target's water source in SE 1/4, Sec. 1, T 4S, R 5W Duchesne County, Utah (State water right #43-10152). All water will come from a non-depletable source.
B. Water will be hauled by Target Trucking.
C. No water well will be drilled on lease.

6. SOURCE OF CONSTRUCTION MATERIAL

A. All construction material for this location and access road will be of native borrow and soil accumulated during the construction of location.
B. All construction material will come from Ute Tribal Land.
C. No mineral materials will be required.

7. METHODS OF HANDLING WASTE DISPOSAL

A. METHODS AND LOCATION
   1. Cuttings will be confined in the reserve pit.
   2. A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.
   3. Burning will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at an approved waste disposal facility.
   4. Produced waste water will be confined to a lined pit or storage tank for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, together with the required water analysis, will be submitted for the AO's approval.

5. All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on drilling rig to avoid leakage of oil to pit.

B. Water from drilling fluids and recovered during testing operations will be disposed of by either evaporating in reserve pit or be removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to reserve pit will be avoided by flaring them off in flare pit at time of recovery.

Burning of trash will not be allowed. All trash must be contained in a trash cage and hauled away to an approved disposal site at the completion of the drilling activities.

On BIA administered land:

All reserve pits will be lined with either native clay, commercial bentonite or plastic sufficient to prevent seepage. (If a plastic nylon reinforced liner is used, it shall be torn and perforated after the pit dries and before backfilling of the reserve pit).

A 12 mill liner shall be installed in the reserve pit.

___To protect the environment:

If the reserve pit is lined the operator will provide the BIA with a chemical analysis of the fluids in that pit no later than 90 days after the well completion to determine the method for final reclamation of the reserve pit. If the elemental concentrations shown by the chemical analysis exceeds the requirements described by part II, Standards of Quality for Waters of the State, Wastewater Disposal Regulations, State of Utah Division of Health, the contents and liner will be removed and disposed of at an authorized disposal site.

__To protect the environment (without a chemical analysis) reserve pits will be constructed so as not to leak, break, or allow discharge of liquids.

___Storage tanks will be used if drill sites are located on tribal

irrigable land, flood plains, or on lands under crop production. After first production, produced waste water will be confined to a lined pit or storage tank for a period not to exceed ninety (90) days. During the 90 day period, in accordance with NTL-2B, an application for approval of a permanent disposal method and location, along with required water analysis, shall be submitted for the AO's approval. Failure to file an application within the time allowed will be considered an incident of noncompliance.

8. ANCILLARY FACILITIES

A. No airstrips or camps are planned for this well.

9. WELL SITE LAYOUT

A. Refer to attached well site plat for related topography cuts and fills & cross sections.
B. Refer to attached well site plat for rig layout and soil material stockpile location as approved on On-site.
C. Refer to attached well site plat for rig orientation parking areas, and access road.

The reserve pit will be located on the South side of the location.
The flare pit will be located downwind of the prevailing wind direction on the South side of the location, a minimum of 100 feet from the well head and 30 feet from the reserve pit fence.
The stockpiled topsoil will be stored on the Southwest corner.

Access to the well pad will be from the West.
N/A Diversion ditch(es) shall be constructed on the _____ side of the location (above/below) the cut slope, draining to the _____
N/A Soil compacted earthen berm(s) shall be placed on the _____ side(s) of the location between the _____
N/A The drainage(s) shall be diverted around the sides of the well pad location.
N/A The reserve pit and/or pad locations shall be constructed long and narrow for topographic reasons _____
X Corners No. 2, 4, 6 & 8 will be rounded off to minimize excavation.

FENCING REQUIREMENTS

All pits will be fenced according to the following minimum standards:

A. 39 inch net wire shall be used with at least one strand of barbed wire on top of the net wire. (barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence).
B. The net wire shall be no more than 2 inches above the ground. The barbed wire strand shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.
C. Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
D. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than 16'.
E. All wire shall be stretched by using a stretching device before it is attached to the corner posts.

The reserve pit fencing will be on the three sides during drilling operations and on the fourth side when the rig moves off the location. Pits will be fenced and maintained until clean-up.

Each existing fence to be crossed by the access road shall be braced and tied off before cutting so as to prevent slacking of the wire. The opening shall be closed temporarily as necessary during construction to prevent the escape of livestock, and upon completion of construction the fence shall be repaired to BIA or SMA specifications. A cattleguard with an adjacent 16 foot gate shall be installed in any fence where a road is to be regularly travelled. If the well is a producer, the cattleguards (shall/ shall not) be permanently mounted on concrete bases. Prior to a new road, crossing any fence located on federal land, or any fence between federal land and private land, the operator will contact the BIA, who will in turn contact the grazing permittee or owner of said fence and offer him/her the opportunity to be present when the fence is cut in order to

satisfy himself/herself that the fence is adequately braced and tied off.

10. PLANS FOR RESTORATION OF SURFACE

A. PRODUCING LOCATION

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.
Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with CFR 3162.7-1.
If a plastic nylon reinforced liner is used, it shall be torn and perforated before backfilling of the reserve pit.
The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 120 days from the date of well completion (weather permitting). Before any dirt work takes place, the reserve pit will be completely dry and all cans, barrels, pipe, fluid, and hydrocarbons, will be removed.

Contact appropriate surface management agency for required seed mixture.

B. DRY HOLE/ABANDONED LOCATION

At such time as the well is plugged and abandoned, the operator will submit a subsequent report of abandonment and BIA will attach the appropriate surface rehabilitation conditions of approval.

ON BIA Administered lands:

Abandoned well sites, roads, or other disturbed areas will be restored to near their original condition. This procedure will include: (a) reestablishing irrigation systems where applicable, (b) reestablishing soil conditions in irrigated fields in such a way as to ensure cultivation and harvesting of crops and, (c) ensuring revegetation of the disturbed areas to the specifications of the Ute Indian Tribe or the BIA at the time of abandonment.

11. SURFACE OWNERSHIP

Access road: Ute Indian Tribe

Location: Ute Indian Tribe

12. OTHER INFORMATION

A. Petroglyph Operating Co., Inc. will inform all persons in the area who are associated with this project that they are subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the AO. Within five working days the AO will inform the operator as to:
-whether the materials appear eligible for the National Register of historic Places;

the mitigation measures the operator will likely have to undertake before the site can be used.

-a time frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.
If the operator wished, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials that may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that required mitigation has been completed, the operator will then be allowed to resume construction.

B. As operator, Petroglyph Operating Co., Inc. will control noxious weeds along Right-of-Ways for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds will be obtained from the BIA,

or the appropriate County Extension Office. On BIA administered land, a Pesticide Use proposal shall be submitted, and given approval, prior to the application of herbicides or other pesticides or possible hazardous chemicals.

C. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on Tribal Lands after the conclusion of drilling operations or at any other time without BIA authorization. However, if BIA authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities.

On BIA administered land:

Operator's employees, including subcontractors, will not gather firewood along roads constructed by operators. If wood cutting is required, a permit will be obtained from the Forestry Department of the BIA pursuant to 25 CFR 169.13 "Assessed Damages Incident to Right-of-Way authorization". All operators, subcontractors, vendors, and their employees or agents may not disturb saleable timber (including firewood) without a duly granted wood permit from the BIA Forester.

If the surface rights are owned by the Ute Indian Tribe and mineral rights are owned by another entity, an approved right-of-way will be obtained from the BIA before the operator begins any construction activities. If the surface is owned by another entity and the mineral rights are owned by the Ute Indian Tribe, rights-of-way will be obtained from the other entity.

All roads constructed by operators on the Uintah and Ouray Indian Reservation will have appropriate signs. Signs will be neat and of sound construction. They will state: (a) that the land is owned by the Ute Indian Tribe, (b) the name of the operator, (c) that firearms are prohibited to all non-Ute Tribal members (d) that permits must be obtained from the BIA before cutting firewood or other timber products, and (e) only authorized personnel permitted. All well site locations on the Uintah and Ouray Indian Reservation will have an appropriate sign indicating the name of the operator,

the lease serial number, the well name and number, the survey description of the well (either footage or the quarter-quarter section, the section, township, and range).

Additional Surface Stipulations

N/A No construction or drilling activities shall be conducted between _____ and _____ because of _____

_____

_____

_____

N/A No surface occupancy will be allowed within 1,000 feet of any sage grouse strutting ground.

N/A No construction or exploration activities are permitted within 1.5 mile radius of sage grouse strutting grounds from April 1 to June 30.

N/A There shall be no surface disturbance within 600 feet of live water (includes stock tanks, springs, and guzzlers).

N/A No cottonwood trees will be removed or damaged.

N/A Pond will be constructed according to BLM specifications approximately _____ ft._____ of the location, as flagged on onsite.

LESSEE'S OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

PERMITTING	OPERATIONS
Ed Trotter	Vince Guinn
1620 West 750 North	P.O. Box 607
Vernal UT 84078	Roosevelt, UT 84066
Telephone # (801)789-4120	(801) 722-2531
Fax # (801) 789-1420	Fax # (801) 722-9145

All lease/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approval plan of operations, and any applicable Notice to Lessees. Petroglyph Operating Co., Inc. is fully responsible for the actions of their subcontractors. A copy of these conditions will be furnished to the field representative to insure compliance.

A copy of the approved APD and ROW grant, if applicable, shall be on location during construction of the location and drilling activities.

The BIA Office shall be notified upon site completion prior to moving on the drilling rig.

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in the 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 Petroglyph Operating Co., Inc. and its contractors and sub-contractors in conformity with this Plan and the terms and conditions under which it is approved.

10-23-97
Date

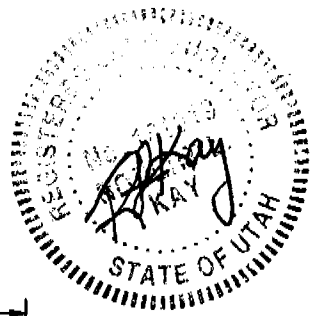
PETROGLYPH OPERATING CO., INC.

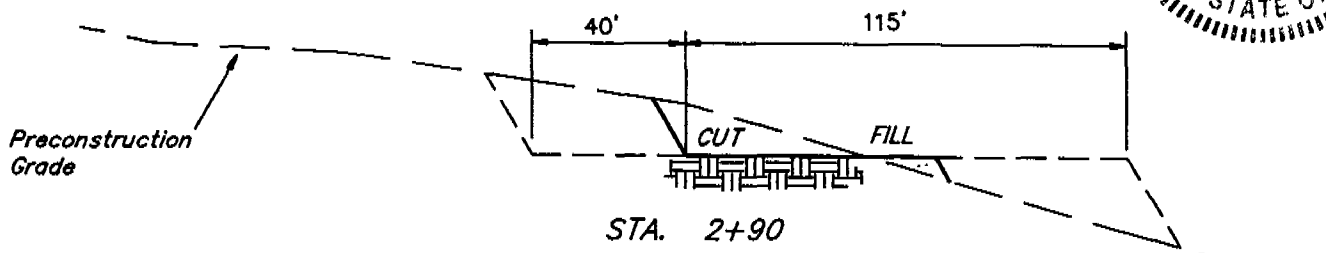
TYPICAL CROSS SECTIONS FOR

UTE TRIBAL #20-13
SECTION 20, T5S, R3W, U.S.B.&M.
700' FSL 700' FWL

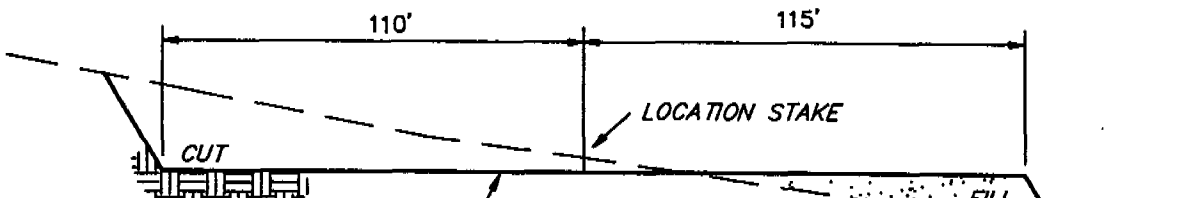
1" = 20'
X-Section Scale
1" = 50'

DATE: 9-9-97
Drawn By: C.B.T.

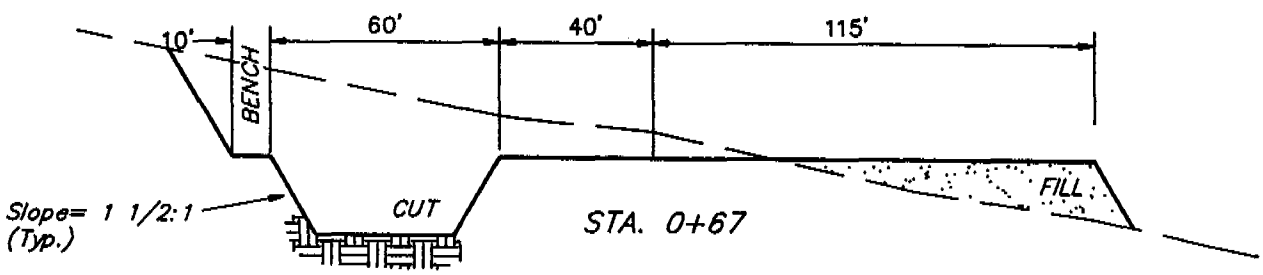




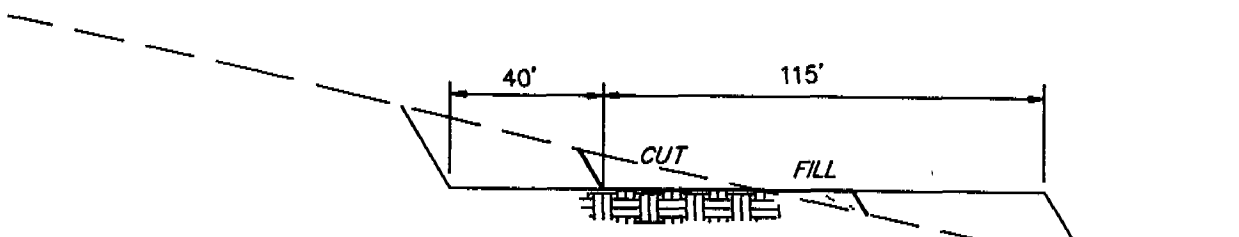
STA. 2+90



STA. 1+65



STA. 0+67



STA. 0+00

NOTE:
Topsoil should not be Stripped Below Finished Grade on Substructure Area.

APPROXIMATE YARDAGES

(12") Topsoil Stripping	=	1,910 Cu. Yds.
Remaining Location	=	5,290 Cu. Yds.
TOTAL CUT	=	7,200 CU.YDS.
FILL	=	4,350 CU.YDS.

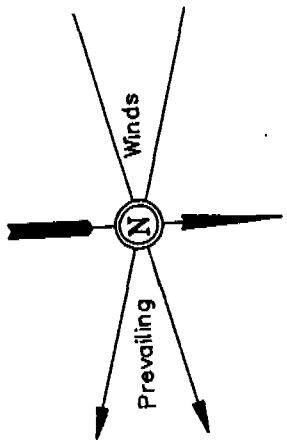
EXCESS MATERIAL AFTER 5% COMPACTION	=	2,620 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	=	2,610 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	=	10 Cu. Yds.

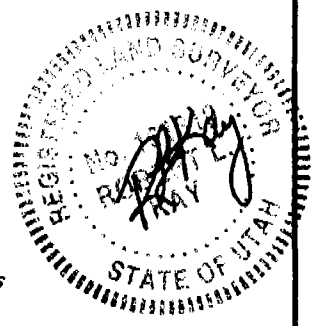
UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (801) 789-1017

PETROGLYPH OPERATING CO., INC.

LOCATION LAYOUT FOR

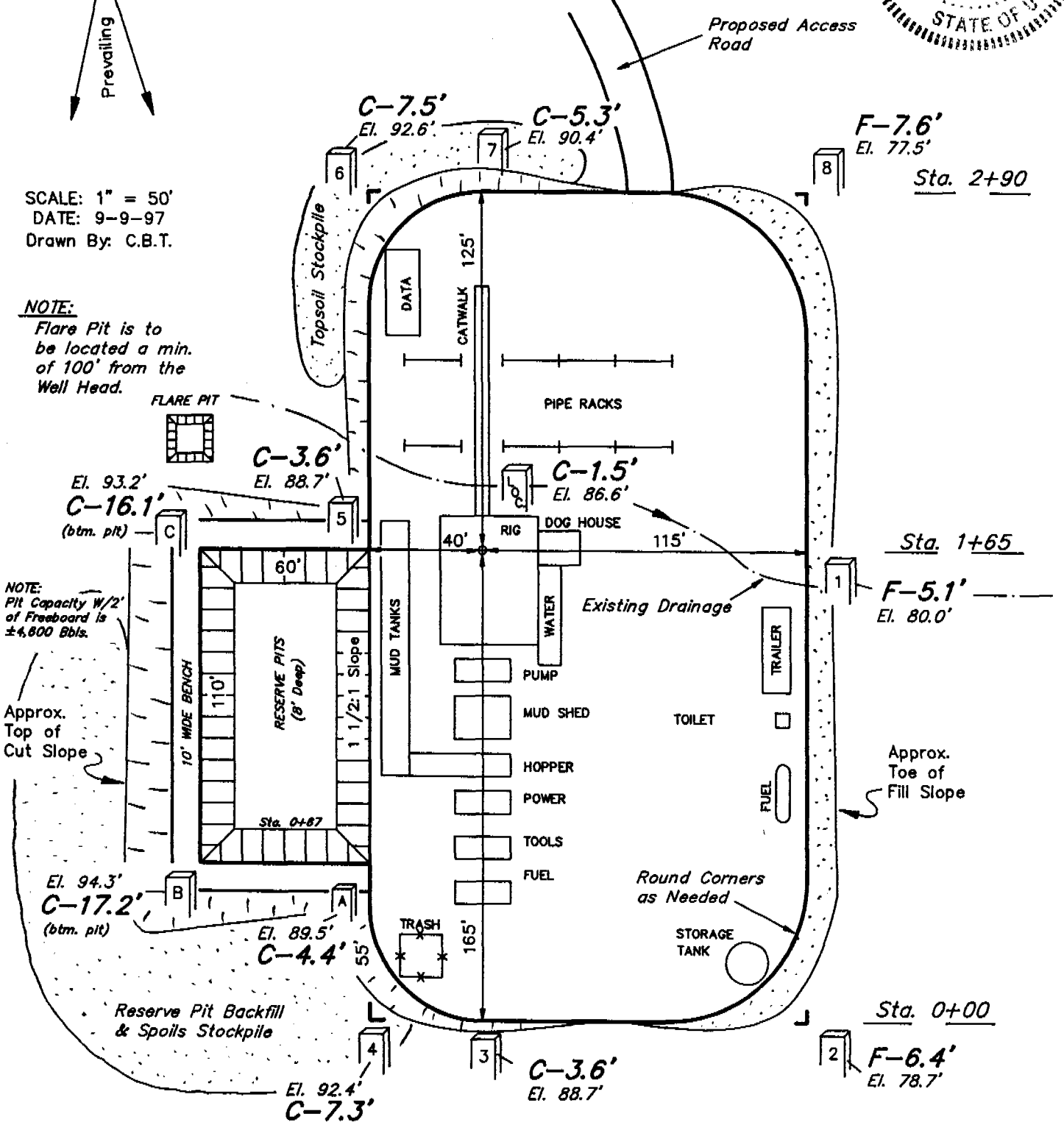
UTE TRIBAL #20-13
SECTION 20, T5S, R3W, U.S.B.&M.
700' FSL 700' FWL





SCALE: 1" = 50'
DATE: 9-9-97
Drawn By: C.B.T.

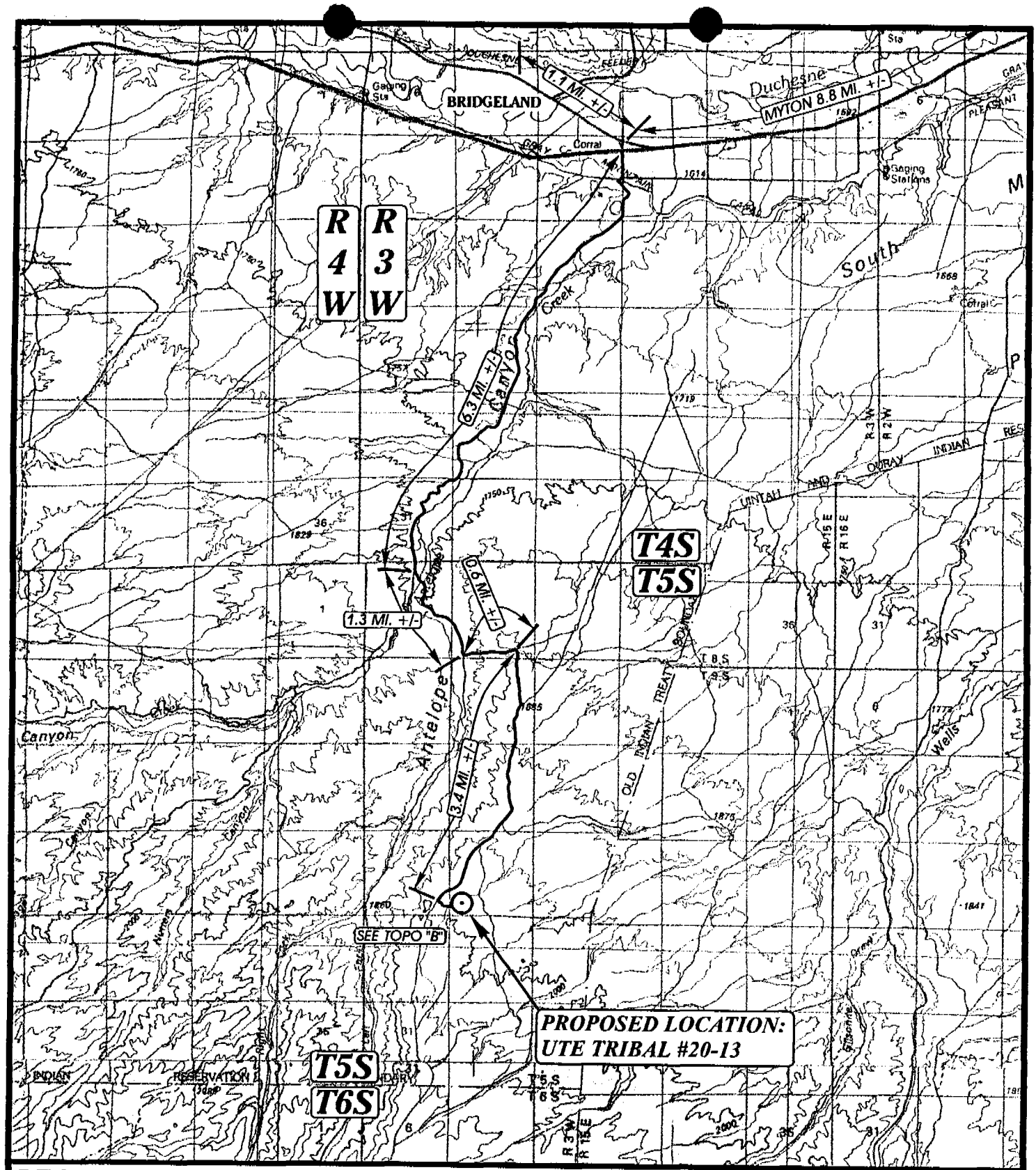
NOTE:
Flare Pit is to be located a min. of 100' from the Well Head.



Elev. Ungraded Ground at Location Stake = 6486.6'

Elev. Graded Ground at Location Stake = 6485.1'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East • Vernal, Utah 84078 • (801) 789-1017



LEGEND:

⊙ PROPOSED LOCATION

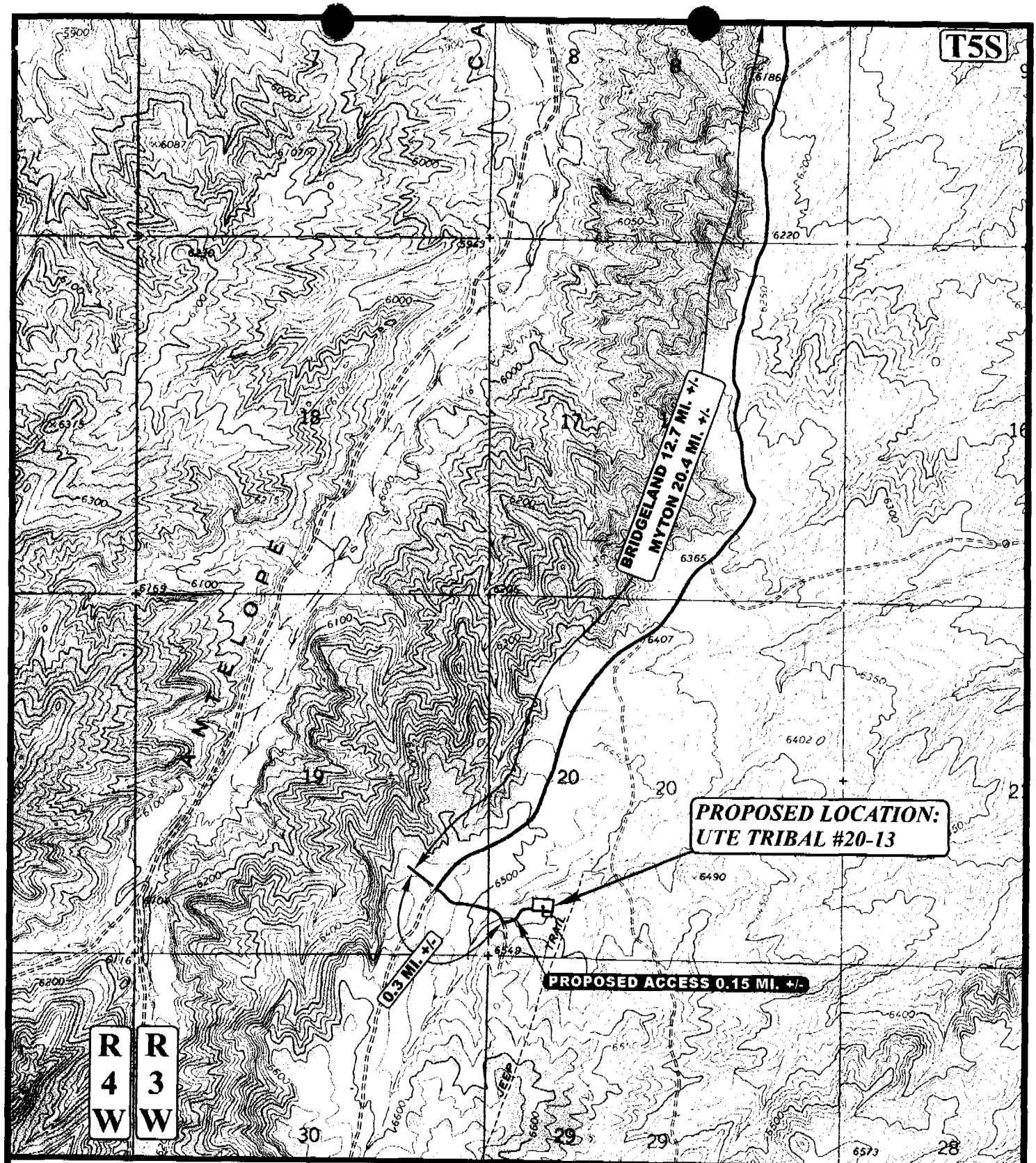
N

PETROGLYPH OPERATING CO., INC.

UTE TRIBAL #20-13
SECTION 20, T5S, R3W, U.S.B.&M.
700' FSL 700' FWL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(801) 789-1017 * FAX (801) 789-1813
Email: uels@easilink.com

TOPOGRAPHIC MAP	9 MONTH	3 DAY	97 YEAR	A TOPO
SCALE: 1 : 100,000	DRAWN BY: D.COX	REVISED: 00-00-00		



LEGEND:

- - - - - - - - - - PROPOSED ACCESS ROAD
———— EXISTING ROAD

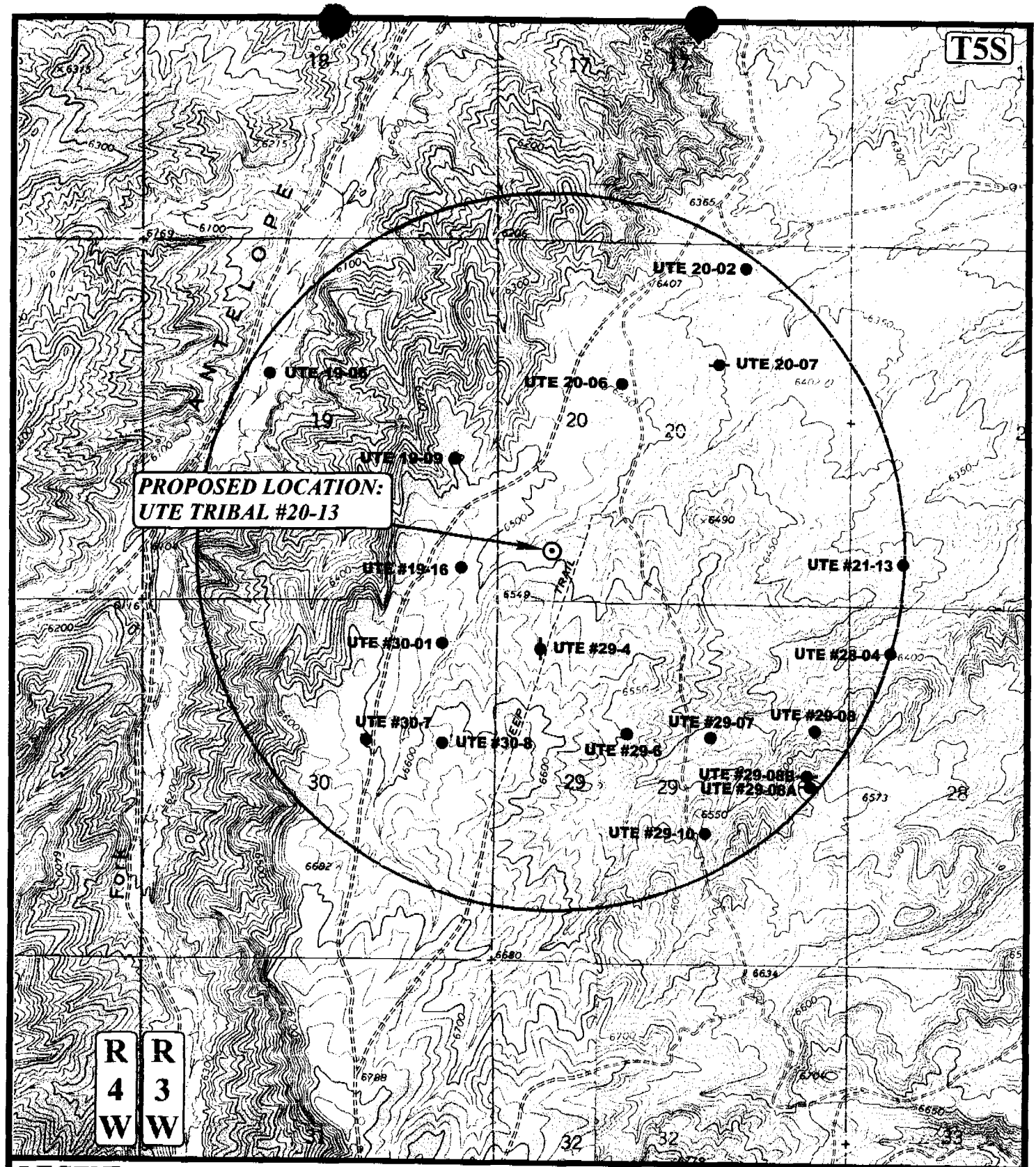
N

PETROGLYPH OPERATING CO., INC.

UTE TRIBAL #20-13
SECTION 20, T5S, R3W, U.S.B.&M.
700' FSL 700' FWL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(801) 789-1017 * FAX (801) 789-1813
Email: uels@easilink.com

TOPOGRAPHIC MAP	9 MONTH	3 DAY	97 YEAR	B TOPO
SCALE: 1" = 2000'	DRAWN BY: D.COX	REVISED: 00-00-00		



LEGEND:

- DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- WATER WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED

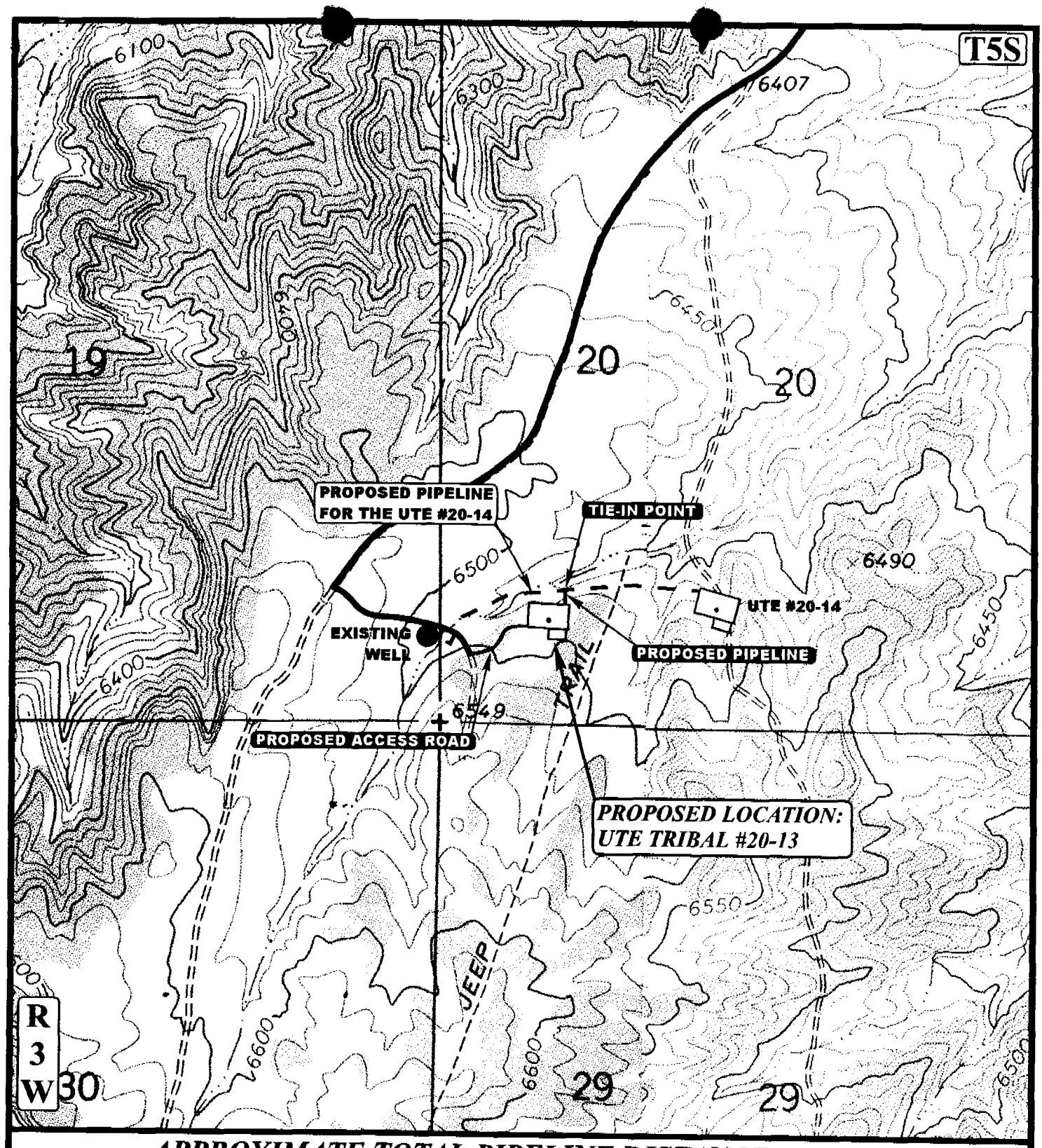
N

PETROGLYPH OPERATING CO., INC.

UTE TRIBAL #20-13
SECTION 20, T5S, R3W, U.S.B.&M.
700' FSL 700' FWL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(801) 789-1017 * FAX (801) 789-1813
Email: uels@easilink.com

TOPOGRAPHIC MAP	9 MONTH	3 DAY	97 YEAR
SCALE: 1" = 2000'	DRAWN BY: D.COX	REVISED: 00-00-00	C TOPO



APPROXIMATE TOTAL PIPELINE DISTANCE = 70' +/-

LEGEND:

EXISTING PIPELINE

PROPOSED PIPELINE

PROPOSED ACCESS

N

PETROGLYPH OPERATING CO., INC.

UTE TRIBAL #20-13

SECTION 20, T5S, R3W, U.S.B.&M.

700' FSL 700' FWL

Uintah Engineering & Land Surveying
85 South 200 East Vernal, Utah 84078
(801) 789-1017 * FAX (801) 789-1813
Email: uels@easilink.com

TOPOGRAPHIC MAP	9 MONTH	3 DAY	97 YEAR
SCALE: 1" = 1000'	DRAWN BY: D.COX	REVISED: 00-00-00	D TOPO

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/30/97

API NO. ASSIGNED: 43-013-31981

WELL NAME: UTE TRIBAL 20-13
OPERATOR: PETROGLYPH OPERATING (N3800)

PROPOSED LOCATION:
SWSW 20 - T05S - R03W
SURFACE: 0700-FSL-0700-FWL
BOTTOM: 0700-FSL-0700-FWL
DUCHESNE COUNTY
ANTELOPE CREEK FIELD (060)

LEASE TYPE: IND
LEASE NUMBER: 14-20-H62-3515

PROPOSED PRODUCING FORMATION: GRRV

INSPECT LOCATION BY: / /		
TECH REVIEW	Initials	Date
Engineering		
Geology		
Surface		

RECEIVED AND/OR REVIEWED:

✓ Plat
✓ Bond: Federal [✓] State [] Fee []
(Number 4556)
N Potash (Y/N)
N Oil shale (Y/N)
✓ Water permit
(Number 43-10152)
N RDCC Review (Y/N)
(Date:)

LOCATION AND SITING:

___ R649-2-3. Unit: ___

✓ R649-3-2. General.

___ R649-3-3. Exception.

___ Drilling Unit.
Board Cause no: ___
Date: ___

COMMENTS: Conf. status req.

STIPULATIONS:

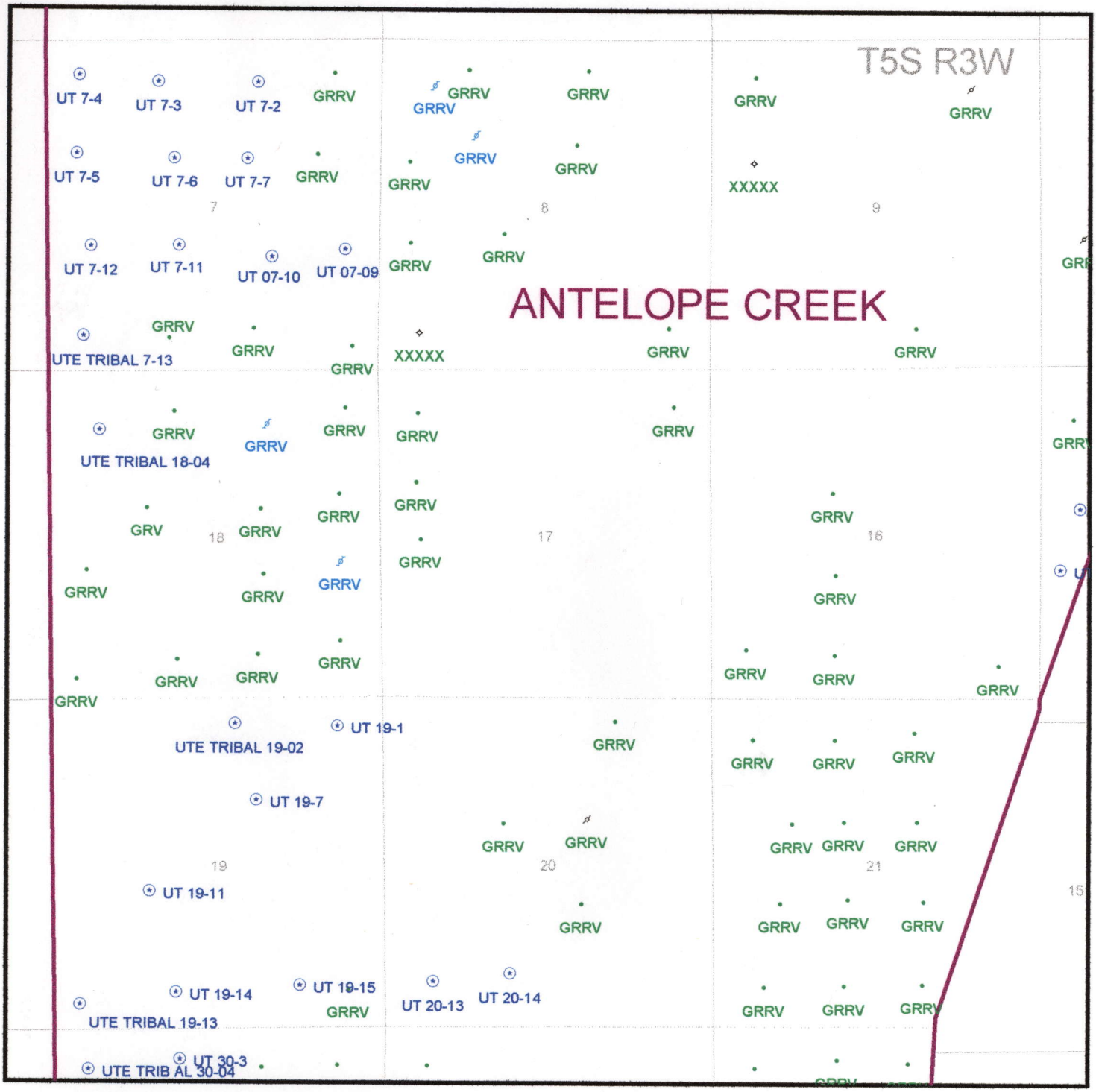
DIVISION OF OIL, GAS & MINING

OPERATOR: PETROGLYPH OPERATING (N3800)

FIELD: ANTELOPE CREEK (060)

SEC. TWP, RNG: SEC. 7 & 20 , T5S, R3W

COUNTY: DUCHESNE UAC: R649-3-2 & R649-3-3



DATE PREPARED:
31-OCT-1997

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

January 8, 1998

Petroglyph Operating Company
P.O. Box 607
Roosevelt, Utah 84066

Re: Ute Tribal 20-13, 700' FSL, 700' FWL, SW SW
Sec. 20, T. 5 S., R. 3 W., Duchesne County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-013-31981.

Sincerely,

John R. Baza
Associate Director

ls
Enclosures
cc: Duchesne County Assessor
Bureau of Land Management, Vernal District Office

Operator: Petroglyph Operating Company

Well Name & Number: Ute Tribal 20-13

API Number: 43-013-31981

Lease: 14-20-H62-3515

Location: SW SW **Sec.** 20 **T.** 5 S. **R.** 3 W.

Conditions of Approval

1. General

   Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

   Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jim Thompson at (801)538-5336.

   Notify the Division prior to commencing operations to plug and abandon the well. Contact John R. Baza (801)538-5334.

3. Reporting Requirements

   All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Form 3160-3
(July 1992)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

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

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

2. NAME OF OPERATOR: PETROGLYPH OPERATING COMPANY, INC.

3. ADDRESS AND TELEPHONE NO.: P.O. BOX 607, ROOSEVELT, UTAH 84066

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 700' FSL & 700' FWL SW/SW
At proposed prod. zone:

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-H62-3515

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

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME, WELL NO.: UTE TRIBAL

9. API WELL NO.: #20-13

10. FIELD AND POOL, OR WILDCAT: ANTELOPE CREEK

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC. 20, T5S, R3W

12. COUNTY OR PARISH: DUCHESNE

13. STATE: UTAH

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 20.85 MILES SOUTHWEST OF MYTON, UTAH

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 700'±

16. NO. OF ACRES IN LEASE: 640

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80

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

19. PROPOSED DEPTH: 6118.1'

20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6485.1' GRADED GROUND

22. APPROX. DATE WORK WILL START*: OCTOBER 1997

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	24.0#	250'	135 sx class "G" + 2% $CaCl_2$ + 1/4 #/sx celloflake.
7 7/8	5 1/2	15.5#	6118.1'	50/50 POZMIX + 2% GEL + 10% SALT TO 400' ABOVE ALL ZONES OF INTEREST (+ 10% EXCESS). LIGHT CEMENT (11 PPG±) + LCM TO 200' ABOVE OIL SHALE OR FRESH WATER INTERVALS (+ 5% EXCESS).

CONFIDENTIAL

PETROGLYPH OPERATING COMPANY, INC. WILL BE THE DESIGNATED OPERATOR OF THE SUBJECT WELL UNDER BOND #4556.

pc: Utah Division of Oil, Gas, and Mining
Bureau of Indian Affairs, Fort Duchesne, Utah
Ute Tribe, Fort Duchesne, Utah

RECEIVED
JAN 20 1998
DIV. OF OIL, GAS & MINING

RECEIVED
OCT 28 1997

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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: Ed Trotter TITLE: AGENT FOR PETROGLYPH DATE: 10-23-97

(This space for Federal or State office use)

PERMIT NO. NOTICE OF APPROVAL APPROVAL DATE

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY: Howard B. Cleavinger II TITLE: Assistant Field Manager Mineral Resources DATE: JAN 08 1998

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

U ED STATES GOVERNMENT

RECEIVED
DEC 23 1997

memorandum

DATE: December 16, 1997

REPLY TO ATTN OF: Acting Superintendent, Uintah & Ouray Agency

SUBJECT: APD Concurrence Letter for PETROGLYPH OPERATING CO.

TO: Bureau of Land Management, Vernal District Office
Attention: Minerals and Mining Division

DEC 1997
Received
DOI-BLM
Vernal, Utah

JAN 0 3 1998

We recommend approval of the Application for Permit to Drill on the wells listed below.

SECTION 20, TOWNSHIP 5 SOUTH RANGE 3 WEST, USB&M	
Ute Tribal 20-13, SWSW	Ute Tribal 20-14, SESW

Each location will include two right-of-ways with the following:

1) 75 foot corridor right of way to include the following:
   a) One buried 3" steel oil pipeline.
   b) One buried 3" poly water pipeline
   c) One buried 3" poly gas pipeline
   d) One buried 6" steel water pipeline
   e) One surface 4 ½" steel production pipeline
   f) 4" production pipeline
2) 30 foot access road

Based on available information received on September 30, 1997 and December 15, 1997, we cleared the proposed location in the following areas of environmental impact.

YES _x__ NO ___ Listed threatened or endangered species
YES _x__ NO ___ Critical wildlife habitat
YES _x__ NO ___ Archaeological or cultural resources
YES _ __ NO ___ Air quality aspects (to be used only if Project is in or adjacent to a Class I area

Enclosed a copy of the Bureau of Indian Affairs, Environmental Analysis Item 6.0 for Mitigation Stipulations.

REMARKS: The Ute Tribe Energy and Minerals Department is recommending the following criteria to be adhered during all phases of construction.

1. The Ute Tribe Energy and Minerals Dept. is to be notified 48 hours prior to construction, as a Tribal Technician is to monitor construction.

OPTIONAL FORM NO. 10
(REV. 1-80)
GSA FPMR (41 CFR) 101-11.6
5010-114

* U.S. GPO: 1988-201-760

2. 75 foot corridor rights of way shall be granted with the following:

    a) Buried pipelines shall be a minimum of 3 feet below soil surface.
    b) Surface pipelines shall be limited to 13 feet wide.
    c) Buried pipelines shall be limited to 15 feet wide.

3. Pipelines adjacent to access roads shall be buried within 1.5 feet from the outside edge of the barrow ditch. Additional pipelines shall be parallel to each other, as safety requirements will allow.
4. Access roads shall be limited to 30 feet.
5. Petroglyph Operating Company will assure the Ute Tribe that any/all contractors and sub-contractors have acquired a Tribal Business License and have an access permits prior to construction.
6. All vehicular traffic, personnel movement, construction and restoration operations should be confined to the areas examined, as referenced in report, and to the existing roadways and/or evaluated access routes.
7. All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
8. The personnel from the Ute Energy and Minerals Department should be consulted if cultural remains from subsurface deposits be exposed or identified during construction.
9. All mitigative stipulations contained in the Bureau of Indian Affairs site specific Environmental Analysis (EA), will be strictly adhered.
10. Upon completion of Application of Right-of-way, the Ute Tribe Energy and Minerals Department, will be notified by Petroglyph Operating Company, so that a Tribal Technician can verify Affidavit of Completions.

If you have any questions in regards to the above, please feel free to contact us (801) 722-4310.

Richard L. Ord

SITE SPECIFIC
ENVIRONMENTAL ASSESSMENT

1.0 PROPOSED ACTION

Petroglyph Operating Co., Inc. is proposing to drill oil well #20-13 and construct pipelines, and an access road. This is a site specific Environmental Assessment Tierd off from the Antelope Creek Oil & Gas Field Environmental Assessment prepared by the Bureau of Indian Affairs dated December, 1994.

2.0 ALTERNATIVE ACTIONS

A. ALTERNATIVE CONSIDERED: The proposed action is the preferred alternative.

B. NO ACTION: Under the no action alternative the proposed action would not be implemented.

C. OTHER: NA

3.0 PERMITTEE/LOCATION

A. Permittee- Petroglyph Operating Co., Inc.
B. Date 9-22-97
C. Well number- 20-13
D. Right-of-way- Access road R\W approx. 329.00 feet. Corridor R/W- 65.53 feet.
E. Site location- SWSW, Section 20, T5S, R3W, USB&M.

4.0 SITE SPECIFIC SURVEY

A. SITE DESCRIPTION

1. Elevation (feet) 6487
2. Annual precipitation (inches)- 10-12
3. Topography- rolling hills
4. Soil- The soil texture is (0 to 6") loam

B. VEGETATION

1. Habitat type is upland shrub.

2. Percent Ground Cover- estimated to be 40%.

3. Vegetation consists of approximately 30% grasses, 60% shrubs, 10% forbs. The main variety of grasses are squirrel tail, Indian ricegrass, poa, needle & thread, bluebunch wheat, galleta, and blue grama. Forbs are astragalus, mustard, lambs quarter, globemallow, buck wheat, flox, daisy, Indian paint brush, & annuals. Shrubs consist of black sagebrush, fringe sage, bud sage, pygmy sage, prickly pear, winterfat, shadscale,

A. CULTURAL SURVEY

Cultural Resource Surveys were performed by James A. Truesdale, an Independent Archaeologist.

5.0 ENVIRONMENTAL IMPACTS

A. SURFACE ALTERATIONS

		acres
1.	Access road	0.23
2.	Well site	1.43
3.	Pipeline right-of-way	0.00
4.	Corridor right-of-way	0.11
5.	Total area disturbed	1.77

B. VEGETATION/LANDSCAPE

1. Production loss (AUM's)/year: 0.12
2. Permanent scar on landscape: Yes x No
3. Potential impacts to Threatened & Endangered species: Yes No X

C. SOIL/RANGE/WATERSHED

There will be an increase in soil erosion from wind and water. There will not be any possible point source of water pollution.

The area is presently used as rangeland. In recent years the area has been permitted for livestock grazing, but at the present time no permits have been issued for the area. This project will reduce livestock grazing by approximately 0.12 AUM/year.

The area is not used as irrigated cropland and a water right has not been designated for the area.

D. WILDLIFE/THREATENED & ENDANGERED SPECIES

There will be an insignificant reduction of wildlife habitat and grazing for livestock. There will also be an increase in wildlife disturbance and poaching resulting from the additional traffic and people using the area.

There are no known impacts to Threatened or Endangered species but is important habitat for the Ferruginous hawk. The area is important winter range for big game.

Ferruginous Hawks use this area for nesting and hunting. There is an nest in Section 20.

6.0 MITIGATION STIPULATIONS

A. VEGETATION/LANDSCAPE

1. Before the site is abandoned the company will be required to restore the well site and right-of-ways to near their original state. The disturbed area will be reseeded with desirable perennial vegetation.

2. Noxious weeds will be controlled on the well site and rights-of-way. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.

B. SOILS/RANGE/WATERSHEDS

1. Soil erosion will be mitigated by reseeding all disturbed areas.

2. SURFACE PIPELINES

Surface pipelines will be constructed to lay on the soil surface, and the right-of-way will not be bladed or cleared of vegetation.

Where surface pipelines do not parallel roads but cross country between stations, they shall be welded in place at wellsites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.

3. BURIED PIPELINES

Buried pipelines shall be buried a minimum of 3.0 feet below the soil surface. After construction of the pipeline is completed the disturbed area of the right-of-way shall be contoured to blend into the natural landscape, and it shall be reseeded with desirable vegetation.

Between September 15 and November 1 of the year following pipeline construction all disturbed areas shall be reseeded with perennial vegetation according to BIA, or Ute Tribe specifications.

4. CORRIDOR RIGHT-OF-WAY

A 75 foot wide corridor pipeline right-of-way will be used for, surface pipelines, buried pipelines.

5. ACCESS ROADS

Although the access road rights-of-way is 30 feet, the constructed travel width of the access road shall be

limited to 22 feet, except it may be wider where sharp curves, or intersections are required.

6. DRILLING SYSTEM

An open drilling system will be used. Reserve pits will be lined with impervious synthetic liners. Prior to backfilling the reserve pit all fluids will be pumped from the pit into trucks and hauled to approved disposal sites. When the reserve pits are backfilled the surplus oil and mud, etc will be buried a minimum of 3.0 feet below the surface of the soil.

7. PRODUCTION SYSTEM

A closed production system will be used. Production fluids will be contained in leak proof tanks. All production fluids will be disposed of at approved disposal sites. The indiscriminate dumping of production fluids on roads, wellsites or other areas will not be allowed.

8. FIREWOOD

Firewood shall be stockpiled at convenient locations near the wellsite and along the access road.

C. WILDLIFE/VEGETATION/THREATENED & ENDANGERED SPECIES

The operator, their employees, sub-contractor, and representatives shall not carry firearms on their person or in their vehicles while working on Indian lands.

Because the wellsite is located more than 1/2 mile from a Ferruginous hawk nest this wellsite can be constructed and drilled at any time of the year.

D. CULTURAL RESOURCES

Cultural resource surveys were performed by James A. Truesdale. The consultant recommends clearance of the project as it is presently staked.

E. UTE TRIBAL REGULATIONS

(1). Prior to commencing surveys or construction on the U&O Indian Reservation the operator, and any of its sub-contractors, shall acquire access permits and business permits from the Ute Indian Tribe.

(2). Prior to the commencement of construction, the operator shall notify the Ute Tribal Department of Energy and Minerals of the date construction shall begin.

7.0 UNAVOIDABLE ADVERSE IMPACTS

A. SURFACE ALTERATIONS

None of the adverse impacts listed in 5.0 above can be avoided in a practical manner except those which are mitigated in item 6.0 above and those specified in BLM's 13 point surface use plan.

B. RELATIONSHIP BETWEEN SHORT-TERM USE OF THE ENVIRONMENT VS LONG TERM PRODUCTIVITY.

1. Short Term: (Estimated 20 years) A total loss of production on the land and the associated environmental impacts will continue to influence the surrounding area for the productive life of the well.

2. Long Term: Standard policies provide for rehabilitation of wellsite and rights-of-ways. After the land is rehabilitated, it is not expected to return to its original productive capability. Normally, there will be a permanent scar left on the landscape.

C. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT

Oil and Gas are non-renewable resources, once they have been removed they can never be replaced.

8.0 CUMULATIVE IMPACTS

A. FULL DEVELOPMENT

Each additional well drilled for development increases the soil erosion potential, reduces wildlife habitat and grazing, increases potential soil and geologic pollution resulting from salt loading, reduces the soil's potential to recover, and increases the potential of water pollution from produced waters and hydro-carbons. Therefore, strict conformance with the mitigation measures and recommendations in this document is emphasized to minimize the adverse environmental impacts.

9.0 NEPA COMPLIANCE

A. RESEARCH/DOCUMENTATION

Based on available information, 9-25-97, the proposed location in the following areas of environmental impacts has been cleared:

_X_ Yes _____ No Listed Threatened & Endangered species

X	Yes	____ No	Critical wildlife habitat
X	Yes	____ No	Historical and cultural resources
X	Yes	____ No	Floodplain
X	Yes	____ No	Wetlands
X	Yes	____ No	Riparian

10.0 REMARKS

A. SURFACE PROTECTION/REHABILITATION

All essential surface protection and rehabilitation requirements are specified above.

11.0 RECOMMENDATIONS

A. APPROVAL/DISAPPROVAL

We recommend approval of the proposed action as outlined in item 1.0 above.

9-25-97
Date

Dale A. Hanberg
Representative - BIA Land Operations, Uintah and Ouray Agency

12.0 DECLARATION

A. APPROVAL

It has been determined that the proposed action is not a federal action significantly affecting the quality of the environment as it would require the preparation of an environmental impact statement in accordance with Section 102 (2) (c) of the National Environmental Policy Act of 1969 (42 USC 4331) (2) (C).

9/30/97
Date

Superintendent,
Uintah and Ouray Agency

14.0 CONSULTATION

A. REPRESENTATIVES/ORGANIZATION

Dale Hanberg- BIA
Ed Trotter-Petroglyphs
Lonnie Nephi-UTEM
Greg Darlington-BLM

Steve Wall=Petroglyphs

B:\EAPet20_13

CONDITIONS OF APPROVAL
APPLICATION FOR PERMIT TO DRILL

Company/Operator: Petroglyph Operating Company Inc.

Well Name & Number: Ute Tribal 20-13

API Number: 43-013-31981

Lease Number: 14-20-H62-3515

Location: SWSW Sec. 20 T.5S R. 3W

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

A. DRILLING PROGRAM

1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered

Report ALL water shows and water-bearing sands to Tim Ingwell of this office **prior to setting the next casing string or requesting plugging orders**. Faxed copies of State of Utah form OGC-8-X are acceptable. If noticeable water flows are detected, submit samples to this office along with any water analyses conducted.

All usable water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.

2. Pressure Control Equipment

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc., for a **2M** system and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests.

Test charts, with individual test results identified, shall be maintained on location while drilling and shall be made available to a BLM representative upon request.

If an air compressor is on location and is being utilized to provide air for the drilling medium while drilling, the special drilling requirements in Onshore Oil and Gas Order No. 2, regarding air or gas drilling shall be adhered to. If a mist system is being utilized then the requirement for a deduster shall be waived.

3. Casing Program and Auxiliary Equipment

Surface casing shall have centralizers on the bottom three joints, with a minimum of one centralizer per joint.

As a minimum, the usable water shall be isolated and/or protected by having a cement top for the production casing at least 200 ft. above the base of the usable water zone, identified at 500 ft. If gilsonite is encountered while drilling, it shall be isolated and/or protected via the cementing program.

4. Mud Program and Circulating Medium

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

5. .Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

All Drill Stem tests (DST) shall be accomplished during daylight hours, unless specific approval to start during other hours is obtained from the AO. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vaporproof for safe operations). Packers can be released, but tripping should not begin before daylight unless prior approval is obtained from the AO.

A cement bond log (CBL) will be run from the production casing shoe to the top of the cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the AO.

6. Notifications of Operations

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

Operator shall report production data to MMS pursuant to 30 CFR 216.5 using form MMS/3160.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported in accordance with the requirements of NTL-3A or its revision.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the AO, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Should the well be successfully completed for production, the AO will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five (5) days following the date on which the well is placed on production.

Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 MMCF following its completion, whichever occurs first, without the prior written approval of the Authorized Officer. Should gas be vented or flared without approval beyond the authorized test period, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted and the operator shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

A schematic facilities diagram as required by 43 CFR 3162.7-2, 3162.7-3, and 3162.7-4 shall be submitted to the appropriate District Office within thirty (30) days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-4.

No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the AO or his representative, or the appropriate Surface Managing Agency.

7. Other Information

All loading lines will be placed inside the berm surrounding the tank battery.

All off-lease storage, off-lease measurement, or commingling onlease or off-lease will have prior written approval from the AO.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries and tested for meter accuracy at least quarterly thereafter. The AO will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Vernal District Office. All meter measurement facilities will conform with Onshore Oil & Gas Order No. 4 for liquid hydrocarbons and Onshore Oil & Gas Order No. 5 for natural gas measurement.

The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to $10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

APD approval is valid for a period of one (1) year from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period.

In the event after-hours approvals are necessary, please contact one of the following individuals:

Ed Forsman Petroleum Engineer	(801) 789-7077
Wayne P. Bankert Petroleum Engineer	(801) 789-4170
Jerry Kenzcka Petroleum Engineer	(801) 781-1190
BLM FAX Machine	(801) 781-4410

EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES

While the following wastes are nonexempt, they are not necessarily hazardous.

Unused fracturing fluids or acids

Gas plant cooling tower cleaning wastes

Painting wastes

Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spend solvents, spilled chemicals, and waste acids

Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste

Refinery wastes

Liquid and solid wastes generated by crude oil and tank bottom reclaimers

Used equipment lubrication oils

Waste compressor oil, filters, and blowdown

Used hydraulic fluids

Waste solvents

Waste in transportation pipeline-related pits

Caustic or acid cleaners

Boiler cleaning wastes

Boiler refractory bricks

Incinerator ash

Laboratory wastes

Sanitary wastes

Pesticide wastes

Radioactive tracer wastes

Drums, insulation and miscellaneous solids.

SURFACE CONDITIONS OF APPROVAL

The Surface Use Conditions of Approval all come from the Bureau of Indian Affairs Concurrence Memorandum and Site Specific Environmental Analysis.

The Ute Tribe Energy and Mineral Department is to be notified 48 hours prior to construction. A Tribal Technician is to monitor construction.

Seventy-five (75) foot wide Rights-Of-Way (ROWs) corridor shall be granted for the following:

Access roads which shall have constructed travel width limited to 22 feet within a 30 foot allocation of the ROW, except as granted for sharp curves or intersections.

Surface pipelines shall be limited to 13 feet of the ROW. The pipeline will be constructed to lay on the soil surface, and the ROW for the pipeline will not be bladed or cleared of vegetation.

Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the ROW. Where pipelines cross country between stations, they shall be welded in place at wellsites or on roads and then pulled into place with suitable equipment. Traffic will be restricted along these areas so that the pipeline ROW will not be used as an access road.

Buried pipelines shall be buried a minimum of 3 feet below the soil surface within an area of disturbance limited to 15 feet wide, and construction will be monitored by a Tribal Technician.

Buried pipelines adjacent to access roads shall be buried within 1.5 feet from the outside edge of the barrow ditch. Any additional buried pipelines shall be parallel to the outer side of the first buried pipeline and shall be constructed as close to the first pipeline as safety requirements allow.

After construction of the buried pipeline is completed the disturbed area of the right-of-way shall be contoured to blend into the natural landscape and it shall be reseeded with desirable vegetation as recommended by the BIA. Between September 15 and November 1 of the year following pipeline construction all disturbed areas shall be reseeded with perennial vegetation according to BIA, or Ute Tribe specifications.

Petroglyph will assure the Ute Tribe that any/all contractors and subcontractors have acquired a Tribal Business License and have access permits prior to construction.

All vehicular traffic, personnel movement, construction, and restoration activities shall be confined to the areas examined, as referenced in report, and to the existing roadways and/or evaluated access routes.

All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.

The Ute Tribe Energy & Mineral Department shall be consulted if cultural remains from subsurface deposits are exposed or identified during construction.

Before the site is abandoned, the company will be required to restore the well site and ROWs to near their original state. The disturbed areas will be reseeded with desirable perennial vegetation.

Noxious weeds will be controlled on the well site and rights-of-way. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.

Reserve pits will be lined with impervious synthetic liners. Prior to backfilling the reserve pit all fluids will be pumped from the pit into trucks and hauled to approved disposal sites. When the reserve pits are backfilled the cuttings and mud, etc. left in them to be buried will be buried a minimum of three feet below the surface of the soil.

A closed production system will be used. Production fluids will be contained in leak proof tanks. All production fluids will be disposed of at approved disposal sites. The indiscriminate dumping of production fluids on roads, wellsites or other areas will not be allowed.

Firewood shall be stockpiled at convenient locations near the wellsite and along the access road.

Upon completion of the project approved under this Application for Permit to Drill and Right-of-way, the Ute Tribe Energy & Minerals Resources Department will be notified by Petroglyph Operating Company so that a Tribal Technician can verify Affidavit of Completion's.

DIVISION OF OIL, GAS AND MINING

CONFIDENTIAL

SPUDDING INFORMATION

Name of Company: PETROGLYPH OPERATING

Well Name: UTE TRIBAL 20-13

Api No. 43-013-31981

Section 20 Township 5S Range 3W County DUCHESNE

Drilling Contractor UNION

Rig # 16

SPUDDED:

Date 2/8/98

Time

How ROTARY

Drilling will commence

Reported by CHUCK WHITE

Telephone # 1-801-722-2531

Date: 2/9/98 Signed: JLT

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR Petroglyph Operating Company, Inc.
ADDRESS P. O. Box 607
Roosevelt, UT 84066

OPERATOR ACCT. NO. N3900

ACTION CODE	CURRENT ENTITY NO.	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION QQ	SC	TP	RG	COUNTY	SPUD DATE	EFFECTIVE DATE
B		09397	43-013-31981	UTE TRIBAL 20-13	SWSW	20	5S	3W	Duchesne	2/9/98	

WELL 1 COMMENTS: CONFIDENTIAL Entity added 4-17-98. (Common Tank) lec

WELL 2 COMMENTS:

WELL 3 COMMENTS:

WELL 4 COMMENTS:

WELL 5 COMMENTS:

ACTION CODES (See instructions on back of form)

A - Establish new entity for new well (single well only)
B - Add new well to existing entity (group or unit well)
C - Re-assign well from one existing entity to another existing entity
D - Re-assign well from one existing entity to a new entity
E - other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

(3/89)

Deanna Bell
Signature Deanna Bell

Operations Coordinator
Title

2/20/98
Date

Phone No. (435) 722-2531

Form 7

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

REPORT OF WATER ENCOUNTERED DURING DRILLING

RECEIVED
APR 22 1998
DIV. OF OIL, GAS & MINING

1. Well name and number: Ute Tribal 20-13

   API number: 43-013-31981

2. Well Location: QQ SWSW Section 20 Township 5S Range 3W County Duchesne

3. Well Operator: Petroglyph Operating Company, Inc.

   Address: P.O. Box 607

   Roosevelt, UT 84066 Phone: (435) 722-2531

4. Drilling Contractor: Union Drilling

   Address: P.O. Drawer 40

   Buckhannon, WV 26201 Phone: (304) 472-4610

5. Water encountered (attach additional pages as needed):

DEPTH		VOLUME	QUALITY
FROM	TO	(FLOW RATE OR HEAD)	(FRESH OR SALTY)
0	1195	DRY	NONE
1195	2860	Damp	FRESH
2860		1" x 1"	Fresh Salty
		Cmt 2320	
		FAXED	FAXED
		APR 20 1998 KS	APR 20 1998 DaeM
		By	By

6. Formation tops: _____

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge. Date: 3-10-98

Name & Signature Deanna Bell Title: Operations Coordinator

Form 7

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

REPORT OF WATER ENCOUNTERED DURING DRILLING

1. Well name and number: Ute Tribal 20-13

   API number: 43-013-31981

2. Well Location: QQ SWSW Section 20 Township 5S Range 3W County Duchesne

3. Well Operator: Petroglyph Operating Company, Inc.

   Address: P.O. Box 607

   Roosevelt, UT 84066 Phone: (435) 722-2531

4. Drilling Contractor: Union Drilling

   Address: P.O. Drawer 40

   Buckhannon, WV 26201 Phone: (304) 472-4610

5. Water encountered (attach additional pages as needed):

DEPTH		VOLUME	QUALITY
FROM	TO	(FLOW RATE OR HEAD)	(FRESH OR SALTY)
0	1195	DRY	NONE
1195	2560	Damp	FRESH
2560		7" x 7"	Fresh Salty
		Cmt 2320	

6. Formation tops: _____ _____ _____

   _____ _____ _____

   _____ _____ _____

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

I hereby certify that this report is true and complete to the best of my knowledge. Date: 3-10-98

Name & Signature Deanna Bell Title: Operations Coordinator

Form 3160-4
(November 1983)
(formerly 9-330)

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
(Expires August 31, 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: 14-20-H62-3515

6. IF INDIAN, ALOTTEE OR TRIBE NAME: Ute Indian Tribe

1.a. TYPE OF WELL: Oil Well [xx] Gas Well [ ] Dry [ ] Other

7. UNIT AGREEMENT NAME: 14-20-H62-4650

b. TYPE OF COMPLETION: New Well [xx] Workover [ ] Deepen [ ] Plug Back [ ] Diff. Reserv. [ ] Other

8. FARM OR LEASE NAME

2. NAME OF OPERATOR: PETROGLYPH OPERATING COMPANY, INC.

9. WELL NO.: Ute Tribal 20-13

3. ADDRESS OF OPERATOR: P.O. BOX 607, ROOSEVELT, UT 84066 (435) 722-2531

10. FIELD AND POOL, OR WILDCAT: Antelope Creek

4. LOCATION OF WELL *(Report location clearly and in accordance with any State requirements)**
At surface: 700' FSL 700' FWL

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: SWSW Sec. 20-T5S-R3W

At top prod. interval reported below

At total depth: 6160' RTD

CONFIDENTIAL PERIOD EXPIRED 4-13-99

14. PERMIT NO.	DATE ISSUED	12. County or Parish	13. State
43-013-31981	1/8/98	Duchesne	Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPLETED *(Ready to prod.)*	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
	2/15/98	3/13/98	6495' KB	6485' GGL

20. TOTAL DEPTH, MD & TVD	21. PLUG BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLLED BY	ROTARY TOOLS	CABLE TOOLS
6160' TD	6122' PBTD	#	→		

24. PRODUCING INTERVAL(S) OF THIS COMPLETION -- TOP, BOTTOM, NAME (MD AND TVD)*
Green River B10, C3, C5, C5.2, C6.1, D5, E1, E2, E4.2, E6

25. WAS DIRECTIONAL SURVEY MADE: No

26. TYPE ELECTRIC AND OTHER LOGS RUN
Gamma Ray to surface, Density-Compensated Neutron Porosity, AIT (normal suite)

27. WAS WELL CORED: No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-5/8"	24	283	12-1/4"	165 sxs Type 5 w/ 2% CaCl2, all cement had .25#/sk cellophane flake	
5-1/2"	15.5	6136'	7-7/8"	125 sxs Highfill, 360 sxs Thixotropic	

29. LINER RECORD

SIZE	TOP	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8"	6009	

31. PERFORATION RECORD *(Interval, size and number)*
CONFIDENTIAL
E6 5934-38' (16 holes) C6.1 4842-46' (16 holes)
E4 5812-16' (16 holes) C5.2 4742-48' (16 holes)
E2 5645-48' (12 holes) C5 4696-4702' (24 holes)
E1 5614-18' (16 holes) C3 4630-34' (16 holes)
D5 5180-84' (16 holes) B10 4416-20' (16 holes)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
5934-38'	6179 gals Boragel 30, 28100# 20/40 prop
5812-16'	5683 gals Boragel 30, 29000# 20/40 prop
5645-48' & 5614-18'	7400 gals Boragel 30, 42500# 20/40 prop
5180-84'	10056 gals Boragel 30, 28000# 20/40 prop
4842-46'	9110 gal Boragel 30, 52800# 20/40 prop

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD *(Flowing, gas lift, pumping - size and type of pump)*	WELL STATUS *(Producing or shut-in)*
3/20/98	2½" x 1-3/4" x 16' 40 ring PA pump	producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N FOR TEST PERIOD →	OIL - BBL.	GAS - MCF.	WATER - BBL.	GAS-OIL RATIO
3/31/98	24			#	100	20	

FLOW. TUBING PRESS	CASING PRESSURE	CALCULATED 24 HR. RATE →	OIL - BBL.	GAS - MCF.	WATER - BBL.	OIL GRAVITY - API (CORR.)
	900					

34. DISPOSITION OF GAS *(Sold, used for fuel, vented, etc.)*
Sold, used for fuel CONFIDENTIAL

TEST WITNESSED BY: Dave Schreiner

35. LIST OF ATTACHMENTS
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. Page 2

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

Signed _____ Title Operations Coordinator Date 5/11/98

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

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly or willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED
JUN 01 1998
DIV. OF OIL, GAS & MINING

WELL COMPLETION CONTINUED

UTE TRIBAL 20-13

32.

[redacted]

	4742-48'	7770 gals Boragel 30, 32000# 20/40 prop
	4696-4702'	8240 gals Boragel 30, 20000# 20/40 prop
Refrac	4696-4702'	7110 gals Boragel 30, 42000# 20/40 prop
	4630-34'	6076 gals Boragel 30, 31000# 20/40 prop
	4416-20'	4601 gals Boragel 30, 28000# 20/40 prop

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38. GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
Ute Tribal 20-13						
B Marker	4022					
X Marker	4507					
Douglas Creek	4644	CONFIDENTIAL				
B Limestone	5026					
Castle Peak	5576					
Basal Carbonate	6006					

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
14-20-H62-3515

6. If Indian, Allottee or Tribe Name
Ute Indian Tribe

7. If Unit or CA, Agreement Designation
14-20-H62-4650

1. Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

CONFIDENTIAL

8. Well Name and No.
Ute Tribal 20-13

2. Name of Operator
Petroglyph Operating Company, Inc.

9. API Well No.
43-013-31981

3. Address and Telephone No.
P.O. Box 1839, Hutchinson, KS 67504-1839; (316) 665-8500

10. Field and Pool, or Exploratory Area
Antelope Creek

4. Location of Well (Footage, Sec., T., R., or Survey Description)
700' FSL & 700' FWL
SW SW 20-T5S-R3W

11. County or Parish, State
Duchesne County, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other convert to injector	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. 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.)*

Petroglyph Operating Company, Inc. has submitted an application for a UIC permit to convert the Ute Tribal 20-13 from a producing well to an injection well under the EPA Area Permit #UT2736-00000 within the Antelope Creek Waterflood Project Area located in Duchesne County, Utah.

RECEIVED
SEP 28 1998
DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct
Signed _____ Title Administrative Assistant Date _____

(This space for Federal or State official use)

Approved by _____ Title _____ Date _____

Conditions of Approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter in its jurisdiction.

*See Instruction on Reverse Side

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

JUN 9 1999

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RECEIVED
JUN 11 1999
DIV. OF OIL, GAS & MINING

Ms. Deanna Bell
Operations Coordinator
Petroglyph Operating Company, Inc.
4116 W. 3000 S
P. O. Box 607
Roosevelt, UT 84066

RE: **UIC PERMIT AUTHORIZATION for Conversion of Additional Well to**
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Ms. Bell:

Your request of September 24, 1998, that the following production well be converted to a Class II enhanced oil recovery well and added to the Antelope Creek Waterflood, as authorized under EPA Area Permit #UT2736-00000 and under the provisions of 40 CFR Part 144.33 has been reviewed. The additional well is described as:

NAME	LOCATION	EPA WELL PERMIT NO.
Ute Tribal #20-13	*SW SW Section 20 T 5 S - R 3 W Duchesne County, UT*	*#UT2736-04494*

This additional well is within the boundary of the existing area permit for the Antelope Creek Waterflood (UT2736-00000) and this addition is made according to the terms and conditions of that permit, unless specifically detailed below. The information provided with your request, The proposed well location, well schematic, conversion procedures with/schematic, plugging and abandonment plan with/schematic, Cement Bond Log (CBL), and Financial Responsibility Demonstration, have been reviewed and approved as follows:

UNDERGROUND SOURCES OF DRINKING WATER (USDWs): The base of the USDWs in the Ute Tribal #20-13 is approximately 1,280 feet below ground level and is located within the Uinta Formation. The source for this USDW information is formation water analyses submitted by the operator for twenty-two (22) wells within the initial AOR, and information from Publication No. 92 (1987), prepared jointly by the USGS and the Utah Division of Oil, Gas, and Mining.

CONFINING ZONE: The overall confining strata above the top perforated injection zones (4,416 feet) to 1,280 feet (base of Uinta Formation) consist of impermeable Upper Green River Formation calcareous shales and continuous beds of microcrystalline dolomite, and is considered adequate to limit fluid movement above the injection zone.

PART II.

A. Well Conversion/Construction Requirements

1. Casing and Cementing. The proposed conversion plan for this production well, submitted with this application, is hereby approved by the Director. (See enclosed conversion schematic and workover procedure).

2. Requirements for Additional Wells.

(a) Surface Casing: 8-5/8 inch casing is set at 283 feet in a 12-1/4 inch hole using 165 sacks of cement and cemented to the surface.

(b) Production Casing: 5-1/2 inch casing is set at 6136 feet in a 7-7/8 inch hole, cemented with 485 sacks cement. Top of cement is estimated at 2450 feet by cement bond log (CBL). Top of perforated interval is 4416 feet.

(c) Formation Logging and Testing: Upon conversion of the Ute Tribal #20-13 the permittee is required to determine and submit to the EPA the **injection zone fluid pore pressure (static bottom hole pressure)** prior to commencement of enhanced recovery injection operations.

~~(d) Area of Review (AOR) Within the 1/4-mile~~ area of review there are three (3) production wells. The annulus cement ranges from 1380 to 2634 feet above the top perforations and is so located as to confine the injectate to the authorized interval. No remedial action is required for these wells.

(3) Tubing and Packer: The injection well will be equipped with 2-3/8 inch tubing, with a packer set 4340 feet.

PART II.

A. CORRECTIVE ACTION

The operator is not required to take any corrective action on any of the three (3) production wells within the AOR. The manner in which the wells are cased and cemented (annulus cement ranges from 1380 to 2634 feet above the top perforations) will prevent any migration of fluids from the injection zones into USDWs in the Uinta Formation (base at 1280 feet). If, as a result of injection into the Ute Tribal #20-13, upward fluid migration occurs behind the casings of any wells "serviced" by the Ute Tribal #20-13, injection into that/those well(s) shall immediately halt. No further injection will be allowed until the proper remedial work has been performed, and has been approved by the EPA. Any such flowage will be considered as noncompliance with the Area Permit.

B. WELL OPERATION

2. Prior to Commencing Injection (Additional Wells). **Prior to commencing injection into this well,** permittee must fulfill permit condition Part II, C. 2. and have submitted to the EPA, for review and approval, the following:

   (a) All conversion is complete and the permittee has submitted a completed **Well Rework Record (EPA Form 7520-12)** or **Well Completion Report (EPA Form 7520-10)** with after conversion wellbore diagram; and,

   (b) the **injection zone pore pressure has been determined; and,**

   (c) the well has successfully completed and passed a **mechanical integrity test (MIT), with pressure chart (MIT Guidance enclosed).**

4. Injection Interval. Fluid injection shall be limited to the gross interval within the Green River Formation between the approximate depths of 4,416 to 5,938 feet. Petroglyph proposes to inject water into multiple lenticular sands which are distributed throughout a 1,522 foot section of the Green River Formation. These sands are individually separated by shales which act as isolated barriers (confining zones) for the waterflood sections.

5. Injection Pressure Limitation. **Maximum injection pressure (Pmax)** - the permittee shall limit the maximum surface injection pressure (Pmax) to **1974 psig. The operator may request an increase or decrease in the injection pressure based on valid step rate test (SRT) data and or other parameters reflecting actual injection operations, pursuant to Part II, Section C. 5. of the original permit.**

The calculations for the fracture gradient was estimated from instantaneous shut-in pressures (ISIP's) observed during fracturing treatments performed on individually fractured zones within the four (4) initial wells establishing the Antelope Creek Field Area Permit. Based on this information, an initial maximum injection pressure, using 0.88 psi/ft fracture gradient (Fg) has been established for this area permit and wells. This Fg is acceptable and the initial maximum allowable surface injection pressure (Pmax) for this well has been determined as shown below:

Pmax = [Fg - 0.433 (Sg)] d

Where: Pmax = Maximum surface injection pressure at wellhead

d = 4416' shallowest perforations after conversion

Sg = Specific gravity of injected water

Pmax = [0.88 - .433 (1.00)] 4416

Pmax = 1974 psig

E. Plugging and Abandonment. The plugging and abandonment plan and schematic (see enclosed plugging and abandonment procedure and schematic), ~~submitted with this application, has been~~ reviewed and approved. The EPA reserves the right to change the manner in which the well will be plugged if the well is not made consistent with EPA requirements for construction and mechanical integrity.

F. Financial Responsibility.
The operator has chosen to demonstrate financial responsibility through a Surety Performance Bond in the amount of $15,000 per well, as amended and submitted by Bond Rider NO. 13., signed sealed and dated the 25th day of September, 1998.

Please be aware that Petroglyph will not have authorization to begin injection into the Ute Tribal #20-13 until the items listed above have been approved by the EPA and Petroglyph has received **written authorization** to begin injection from the EPA.

All other provisions and conditions of Area Permit UT2736-00000 remain as originally issued July 12, 1994, and modified April 30, 1998.

If you have any questions, please contact Mr. Chuck Williams at 303-312-6625. Also, please direct the above requirements to Mr. Williams at the above letterhead address, citing **MAIL CODE 8P-W-GW**. Thank you for your continued cooperation.

Sincerely,

for Kerrigan G. Clough
Assistant Regional Administrator
Office of Partnerships and
Regulatory Assistance

Enclosures: Before Conversion Schematic
Guidance for Conducting a Pressure Test to Determine if a Well Has Leaks in the Tubing, Casing or Packer
Plugging and Abandonment Schematic

cc: Mr. Ronald Wopsock, Chairman
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

UTE TRIBAL #20-13
Wellbore Diagram
Before Conversion

GL: 6485
KB: 6495

Well History:

2/9/98 Spudded Well
3/20/98 First Production

3/11/98 **B10 Zone;** Perfs 4416' to 4420', 16 holes
Frac'ed; ISIP 2372 psi

3/11/98 **C3 Zone;** Perfs 4630 to 4634', 16 holes
Frac'ed; ISIP 2702 psi

3/10/98 **C5 Zone;** Perfs 4696 to 4702', 24 holes
Frac'ed; ISIP 2168 psi

3/10/98 **C5.2 Zone;** Perfs 4742 to 4748', 16 holes
Frac'ed; ISIP 2275 psi

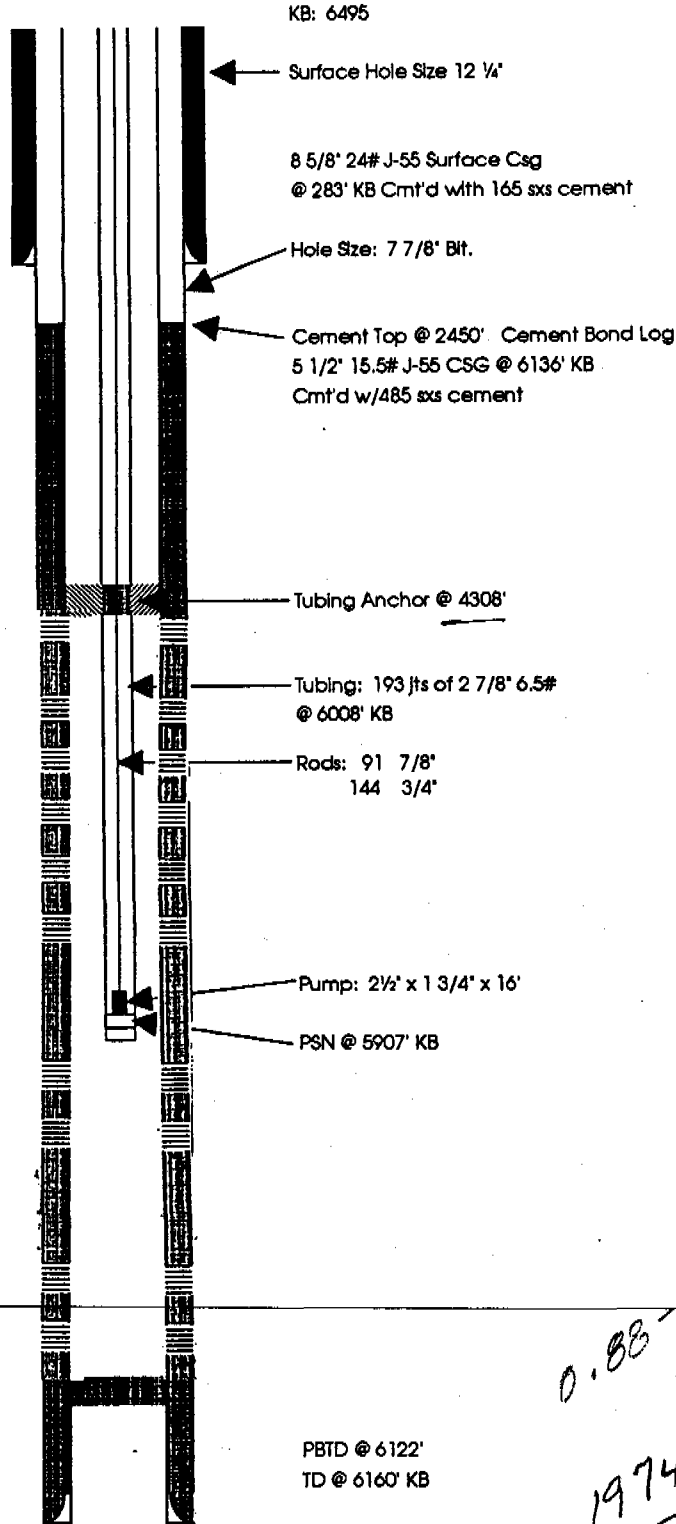
3/5/98 **C6.1 Zone;** Perfs 4842 to 4846', 16 holes
Frac'ed; ISIP 3340 psi

3/5/98 **D5 Zone;** Perfs 5180 to 5184', 16 holes
Frac'ed; Screened out

3/3/98 **E1 Zone;** Perfs 5614 to 5618', 16 holes;
also **E2 Zone;** Perfs 5645 to 5648', 12 holes
Frac'ed together; ISIP 1549 psi

3/2/98 **E4.2 Zone;** Perfs 5812 to 5816', 16 holes
Frac'ed; ISIP 1845 psi

3/2/98 **E6 Zone;** Perfs 5934 to 5938', 16 holes
Frac'ed; Screened out



(Not to Scale)

Petroglyph Operating Co., Inc.
Ute Tribal #20-13
(700' FSL & 700' FWL)
SW SW Section 20 - 5S - 3W Antelope Creek Field Duchesne Co. Utah
API #43-013-31981 ; LEASE #1420-H62-3515

0.88 · .433 (1.0) (4416)

1974 psig.

Ute Tribal #20-13
Wellbore Diagram
Plugged and Abandoned

GL: 6485
KB: 6495

Well History:

2/9/98 Spudded Well
3/20/98 First Production

3/11/98 **B10 Zone;** Perfs 4416' to 4420', 16 holes
Frac'ed; ISIP 2372 psi

3/11/98 **C3 Zone;** Perfs 4630 to 4634', 16 holes
Frac'ed; ISIP 2702 psi

3/10/98 **C5 Zone;** Perfs 4696 to 4702', 24 holes
Frac'ed; ISIP 2168 psi

3/10/98 **C5.2 Zone;** Perfs 4742 to 4748', 16 holes
Frac'ed; ISIP 2275 psi

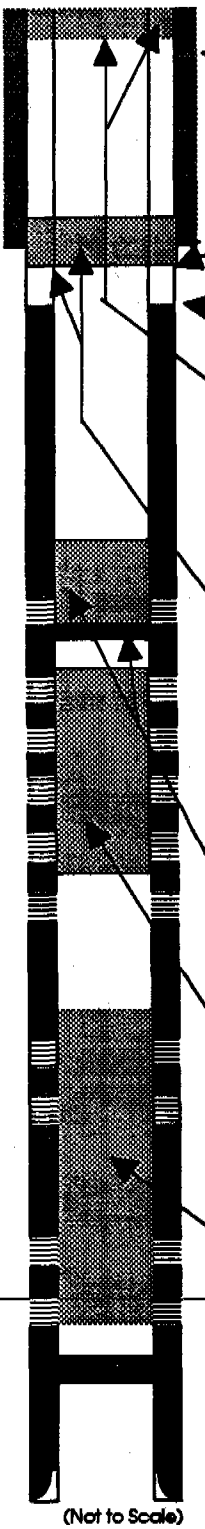
3/5/98 **C6.1 Zone;** Perfs 4842 to 4846', 16 holes
Frac'ed; ISIP 3340 psi

3/5/98 **D5 Zone;** Perfs 5180 to 5184', 16 holes
Frac'ed; Screened out

3/3/98 **E1 Zone;** Perfs 5614 to 5618', 16 holes;
also **E2 Zone;** Perfs 5645 TO 5648', 12 holes
Frac'ed together; ISIP 1549 psi

3/2/98 **E4.2 Zone;** Perfs 5812 to 5816', 16 holes
Frac'ed; ISIP 1845 psi

3/2/98 **E6 Zone;** Perfs 5934 to 5938', 16 holes
Frac'ed; Screened out



Surface Hole Size 12 1/4"

8 5/8" 24# J-55 Surface Csg
@ 283' KB Cmt'd with 165 sxs cement

Hole Size: 7 7/8" Bit.

Cement Top @ 2450' Cement Bond Log
5 1/2" 15.5# J-55 CSG @ 6136' KB
Cmt'd w/485 sxs cement

One inch between the surface pipe and production casing bringing cement from 50' to surface.

Fill the 5½" production casing from 50' to surface with 7 sxs Class "G" cement.

Perforate the 5½" casing with 4 shots at 333' and squeeze with 20 sxs Class "G" cement from 333' to233'. (50' below and 50' above the 8 5/8" surface casing shoe.) Also, Spot 15 sxs Class "G" cement inside the 5½" casing from 333' back to 233'.

Displace 5½" casing with 9.2 ppg plugging gel or bentonite mud. Spot 30 sxs Class "G" cement from 4450' to 4250' on top of CIBP set @ 4450'.

Displace 5½" casing with 9.2 ppg plugging gel or bentonite mud. Spot 45 sxs Class "G" cement from 4900' to 4600'.

Displace 5½" casing with 9.2 ppg plugging gel or bentonite mud. Spot 60 sxs Class "G" cement from 5950' to 5550'.

PBTD @ 6122'
TD @ 6160' KB

(Not to Scale)

Petroglyph Operating Co., Inc.

Ute Tribal #20-13

(700' FSL & 700' FWL)

SW SW Section 20 - 5S - 3W
Antelope Creek Field
Duchesne Co. Utah

API #43-013-31981 ; LEASE #1420-H62-3515

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

SEP 27 1995

SUBJECT: GROUND WATER SECTION GUIDANCE NO. 39
Pressure testing injection wells for Part I (internal) Mechanical Integrity

FROM: Tom Pike, Chief
UIC Direct Implementation Section

TO: All Section Staff
Montana Operations Office

Introduction

The Underground Injection Control (UIC) regulations require that an injection well have mechanical integrity at all times (40 CFR 144.28 (f)(2) and 40 CFR 144.51 (q)(1)). A well has mechanical integrity (40 CFR 146.8) if:

(1) There is no significant leak in the tubing, casing or packer; and

(2) There is no significant fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore.

Definition: Mechanical Integrity Pressure Test for Part I. A pressure test used to determine the integrity of all the downhole components of an injection well, usually tubing,casing and packer. It is also used to test tubing cemented in the hole by using a tubing plug or retrievable packer. Pressure tests must be run at least once every five years. **If for any reason the tubing/packer is pulled, the injection well is required to pass another mechanical integrity test of the tubing casing and packer prior to recommencing injection regardless of when the last test was conducted. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on either the attached form or an equivalent form containing the necessary information. A pressure recording chart documenting the actual annulus test pressures must be attached to the form.**

This guidance addresses making a determination of Part I of Mechanical Integrity (no leaks in the tubing, casing or packer). The Region's policy is: 1) to determine if there are significant leaks in the tubing, casing or packer; 2) to assure that the casing can withstand pressure similar to that which would be applied if the tubing or packer fails; 3) to make the Region's test procedure consistent with the procedures utilized

by other Region VIII Primacy programs; and 4) to provide a procedure which can be easily administered and is applicable to all class I and II wells. Although there are several methods allowed for determining mechanical integrity, the principal method involves running a pressure test of the tubing/casing annulus. Region VIII's procedure for running a pressure test is intended to aid UIC field inspectors who witness pressure tests for the purpose of demonstrating that a well has Part I of Mechanical Integrity. The guidance is also intended as a means of informing operators of the procedures required for conducting the test in the absence of an EPA inspector.

Pressure Test Description

Test Frequency

The mechanical integrity of an injection well must be maintained at all times. Mechanical integrity pressure tests are required at least every five (5) years. **If for any reason the tubing/packer is pulled, however, the injection well is required to pass another mechanical integrity test prior to recommencing injection regardless of when the last test was conducted. The Regional UIC program must be notified of the workover and the proposed date of the pressure test. The well's test cycle would then start from the date of the new test if the well passes the test and documentation is adequate.** Tests may be required on a more frequent basis depending on the nature of the injectate and the construction of the well (see Section guidance on MITs for wells with cemented tubing and regulations for Class I wells).

Region VIII's criteria for well testing frequency is as follows:

1. Class I hazardous waste injection wells; initially [40 CFR 146.68(d)(1)] and annually thereafter;

2. Class I non-hazardous waste injection wells; initially and every two (2) years thereafter, except for old permits (such as the disposal wells at carbon dioxide extraction plants which require a test at least every five years);

3. ~~Class II wells with tubing, casing and packer;~~ initially and at least every five (5) years thereafter;

4. Class II wells with tubing cemented in the hole; initially and every one (1) or two (2) years thereafter depending on well specific conditions (See Region VIII UIC Section Guidance #36);

5. Class II wells which have been temporarily abandoned (TAd) must be pressure tested after being shut-in for two years; and

6. Class III uranium extraction wells; initially.

Test Pressure

To assure that the test pressure will detect significant leaks and that the casing is subjected to pressure similar to that which would be applied if the tubing or packer fails, the tubing/casing annulus should be tested at a pressure equal to the maximum allowed injection pressure or 1000 psig whichever is less. The annular test pressure must, however, have a difference of at least 200 psig either greater or less than the injection tubing pressure. Wells which inject at pressures of less than 300 psig must test at a minimum pressure of 300 psig, and the pressure difference between the annulus and the injection tubing must be at least 200 psi.

Test Criteria

1. The duration of the pressure test is 30 minutes.

2. Both the annulus and tubing pressures should be monitored and recorded every five (5) minutes.

3. If there is a pressure change of 10 percent or more from the initial test pressure during the 30 minute duration, the well has failed to demonstrate mechanical integrity and should be shut-in until it is repaired or plugged.

4. A pressure change of 10 percent or more is considered significant. If there is no significant pressure change in 30 minutes from the time that the pressure source is disconnected from the annulus, the test may be completed as passed.

Recordkeeping and Reporting

The test results must be recorded on the attached form. The annulus pressure should be recorded at five (5) minute intervals. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on the attached form or an equivalent form . A pressure recording chart documenting the actual annulus test pressures must be attached to the submittal. The tubing pressure at the beginning and end of each test must be recorded. The volume of the annulus fluid bled back at the surface after the test should be measured and recorded on the form. This can be done by bleeding the annulus pressure off and discharging the associated fluid into a five gallon container. The volume information can be used to verify the approximate location of the packer.

Procedures for Pressure Test

1. Scheduling the test should be done at least two (2) weeks in advance.

2. Information on the well completion (location of the packer, location of perforations, previous cement work on the casing, size of casing and tubing, etc.) and the results of the previous MIT test should be reviewed by the field inspector in advance of the test. Regional UIC Guidance #35 should also be reviewed. Information relating to the previous MIT and any well workovers should be reviewed and taken into the field for verification purposes.

3. All Class I wells and Class II SWD wells should be shut-in prior to the test. A 12 to 24-hour shut-in is preferable to assure that the temperature of the fluid in the wellbore is stable.

4. Class II enhanced recovery wells may be operating during the test, but it is recommended that the well be shut-in if possible.

5. The operator should fill the casing/tubing annulus with inhibited fluid at least 24 hours in advance, if possible. Filling the annulus should be undertaken through one valve with the second valve open to allow air to escape. After the operator has filled the annulus, a check should be made to assure that the annulus will remain full. If the annulus can not maintain a full column of fluid, the operator should notify the Director and begin a rework. The operator should measure and report the volume of fluid added to the annulus. If not already the case, the casing/tubing valves should be closed, at least, 24 hours prior to the pressure test.

Following steps are at the well:

6. Read tubing pressure and record on the form. If the well is shut-in, the reported information on the actual maximum operating pressure should be used to determine test pressures.

7. Read pressure on the casing/tubing annulus and record value on the form. If there is pressure on the annulus, it should be bled off prior to the test. If the pressure will not bleed-off, the guidance on well failures (Region VIII UIC Section Guidance #35) should be followed.

8. Ask the operator for the date of the last workover and the volume of fluid added to the annulus prior to this test and record information on the form.

9. Hook-up well to pressure source and apply pressure until test value is reached.

10. Immediately disconnect pressure source and start test time (If there has been a significant drop in pressure during the process of disconnection, the test may have to be restarted). The pressure gages used to monitor injection tubing pressure and annulus pressure should have a pressure range which will allow the test pressure to be near the mid-range of the gage. Additionally, the gage must be of sufficient accuracy and scale to allow an accurate reading of a 10 percent change to be read. For instance, a test pressure of 600 psi should be monitored with a 0 to 1000 psi gage. The scale should be incremented in 20 psi increments.

11. Record tubing and annulus pressure values every five (5) minutes.

12. At the end of the test, record the final tubing pressure.

13. If the test fails, check the valves, bull plugs and casing head close up for possible leaks. The well should be retested.

14. If the second test indicates a well failure, the Region should be informed of the failure within 24 hours by the operator, and the well should be shut-in within 48 hours per Headquarters guidance #76. A follow-up letter should be prepared by the operator which outlines the cause of the MIT failure and proposes a potential course of action. This report should be submitted to EPA within five days.

15. Bleed off well into a bucket, if possible, to obtain a volume estimate. This should be compared to the calculated value obtained using the casing/tubing annulus volume and fluid compressibility values.

16. Return to office and prepare follow-up.

Alternative Test Option

While it is expected that the test procedure outlined above will be applicable to most wells, the potential does exist that unique circumstances may exist for a given well that precludes or makes unsafe the application of this test procedure. In the event that these **exceptional or extraordinary** conditions are encountered, the operator has the option to propose an alternative test or monitoring procedures. The request must be submitted by the operator in writing and must be approved in writing by the UIC-Implementation Section Chief or equivalent level of management.

Attachment

MECHANICAL INTEGRITY PRESSURE TEST

Additional comments for mechanical integrity pressure test, such as volume of fluid added to annulus and bled back at end of test, reason for failing test (casing head leak, tubing leak, other), etc.:

Signature of Witness:_____

OFFICE USE ONLY - COMPLIANCE FOLLOWUP

Staff _____ Date: ___/___/___

Do you agree with the reported test results? [ ] YES [ ] NO

If not, why?_____

Possible violation identified? [ ] YES [ ] NO

If YES, what_____

If YES - followup initiated? [ ] YES_____

[ ] NO - why not?_____

[ ] Data Entry [ ] Compliance Staff [ ] 2nd Data Entry [ ] Hardcopy Filing

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals

SUBMIT IN TRIPLICATE- Other instructions on reverse side

5. Lease Serial No.
1420H623515

6. If Indian, Alloffee or Tribe Name
UTE INDIAN TRIBE

7. If Unit or CA Agreement, Name and No.
1420H624650

1. Type of Well:
☐ Oil Well ☐ Gas Well ☒ Other

8. Lease Name and Well No.
UTE TRIBAL 20-13

2. Name of Operator **PETROGLYPH OPERATING COMPANY, CONTACT: MICHEAL SAFFORD COORDINATOR EMAIL: mikes@petroglyph.net**

9. API Well No.
4301331981

3a. Address **P.O. BOX 607 ROOSEVELT, UT 84066**

3b. Phone No. (include area code) **TEL: 435.722.2531 EXT: FAX: 435.722.9145**

10. Field and Pool, or Exploratory
ANTELOPE CREEK

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 20 T05S R03W SWSW 700FSL 700FWL

11. County or Parish, State
DUCHESNE, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐
☐ Final Abandonment Notice	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☒ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give the subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of involved operations. If the operation results in multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Further to BLM (EPA Permit #UT2736-04494) Injection commenced on 11/20/00.
Attached is the EPA well rework record.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY

RECEIVED
DEC 07 2000
DIVISION OF
OIL, GAS AND MINING

Name (Printed/Typed) | Title

Signature | Date

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by | Title | Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to thos rights in the subject lease Which would entitle the applicant to conduct operations theron. | Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

ELECTRONIC SUBMISSION #2026 VERIFIED BY THE BLM WELL INFORMATION SYSTEM FOR PETROGLYPH OPERATING COMPANY, SENT TO THE VERNAL FIELD OFFICE

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
14-20-H62-3515

6. If Indian, Allottee or Tribe Name
Ute Indian Tribe

7. If Unit or CA, Agreement Designation
14-20-H62-4650

1. Type of Well
[X] Oil Well [ ] Gas Well [ ] Other

8. Well Name and No.
Ute Tribal 20-13

2. Name of Operator
Petroglyph Operating Company, Inc.

9. API Well No.
43-013-31981

3. Address and Telephone No.
P.O. Box 1839, Hutchinson, KS 67504-1839; (316) 665-8500

10. Field and Pool, or Exploratory Area
Antelope Creek

4. Location of Well (Footage, Sec., T., R., or Survey Description)
700' FSL & 700' FWL
SW SW 20-T5S-R3W

11. County or Parish, State
Duchesne County, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
[ ] Subsequent Report	[ ] Recompletion	[ ] New Construction
[ ] Final Abandonment Notice	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing Repair	[ ] Water Shut-Off
	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other convert to injector	[ ] Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. 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.)*

Petroglyph Operating Company, Inc. has submitted an application for a UIC permit to convert the Ute Tribal 20-13 from a producing well to an injection well under the EPA Area Permit #UT2736-00000 within the Antelope Creek Waterflood Project Area located in Duchesne County, Utah.

RECEIVED
OCT 11 2002
DIVISION OF
OIL, GAS AND MINING

14. I hereby certify that the foregoing is true and correct
Signed _____ Title Administrative Assistant Date _____

(This space for Federal or State official use)

Approved by _____ Title _____ Date _____

Conditions of Approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter in its jurisdiction.

*See Instruction on Reverse Side

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

NOV 17 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

Re: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #20-13 (UT04494)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #20-13 to the Environmental Protection Agency (EPA) Region VIII Groundwater Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (*EPA Form 7520-12*) with after conversion well schematic; and

2. successfully run Mechanical Integrity Test (MIT) with pressure chart; and

3. run injection zone fluid pore pressure survey.

All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #20-13 under the conditions of UIC Permit Modification for Conversion of Additional Well to Area Permit UT2736-00000, dated June 9,1999. The Director has determined, according to Part II, A. (Well Conversion/Construction Requirements), 5. (Injection Pressure Limitation) that the **maximum surface injection pressure for the Ute Tribal #20-13 shall not exceed 1974 psig.**

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals

SUBMIT IN TRIPLICATE- Other instructions on reverse side

5. Lease Serial No.
1420H623515

6. If Indian, Allottee or Tribe Name
UTE INDIAN TRIBE

7. If Unit or CA Agreement, Name and No.
1420H624650

1. Type of Well:
☐ Oil Well ☐ Gas Well ☒ Other

8. Lease Name and Well No.
UTE TRIBAL 20-13

2. Name of Operator **PETROGLYPH OPERATING COMPANY, CONTACT: MICHEAL SAFFORD COORDINATOR EMAIL: mikes@petroglyph.net**

9. API Well No.
4301331981

3a. Address **P.O. BOX 607 ROOSEVELT, UT 84066**

3b. Phone No. (include area code) **TEL: 435.722.2531 EXT: FAX: 435.722.9145**

10. Field and Pool, or Exploratory
ANTELOPE CREEK

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 20 T05S R03W SWSW 700FSL 700FWL

11. County or Parish, State
DUCHESNE, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐
☐ Final Abandonment Notice	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☒ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give the subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of involved operations. If the operation results in multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Further to BLM (EPA Permit #UT2736-04494) Injection commenced on 11/20/00. Attached is the EPA well rework record.

RECEIVED
OCT 11 2002
DIVISION OF OIL, GAS AND MINING

Name (Printed/Typed)	Title
Signature	Date

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to thos rights in the subject lease Which would entitle the applicant to conduct operations theron.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

ELECTRONIC SUBMISSION #2026 VERIFIED BY THE BLM WELL INFORMATION SYSTEM FOR PETROGLYPH OPERATING COMPANY, SENT TO THE VERNAL FIELD OFFICE

Mechanical Integrity Test
Casing or Annulus Pressure Mechanical Integrity Test

U.S. Environmental Protection Agency
Underground Injection Control Program, UIC Direct Implementation Program 8P-W-GW
999 18th Street, Suite 500 Denver, CO 80202-2466

EPA Witness: _____ Date: 11/29/05

Test conducted by: CLIFF MCCOY

Others present: _____

43-013-31981 5S 3W 20

Well Name: 20-13 Type: ER SWD Status: AC TA UC

Field: ANTELOPE CREEK

Location: 20-13 Sec: ____ T ____ N/S R ____ E/W County: DUCHESNE State: UT

Operator: PETROGLYPH OPERATING

Last MIT: / / Maximum Allowable Pressure: _____ PSIG

Is this a regularly scheduled test? [X] Yes [ ] No

Initial test for permit? [ ] Yes [ ] No

Test after well rework? [ ] Yes [ ] No

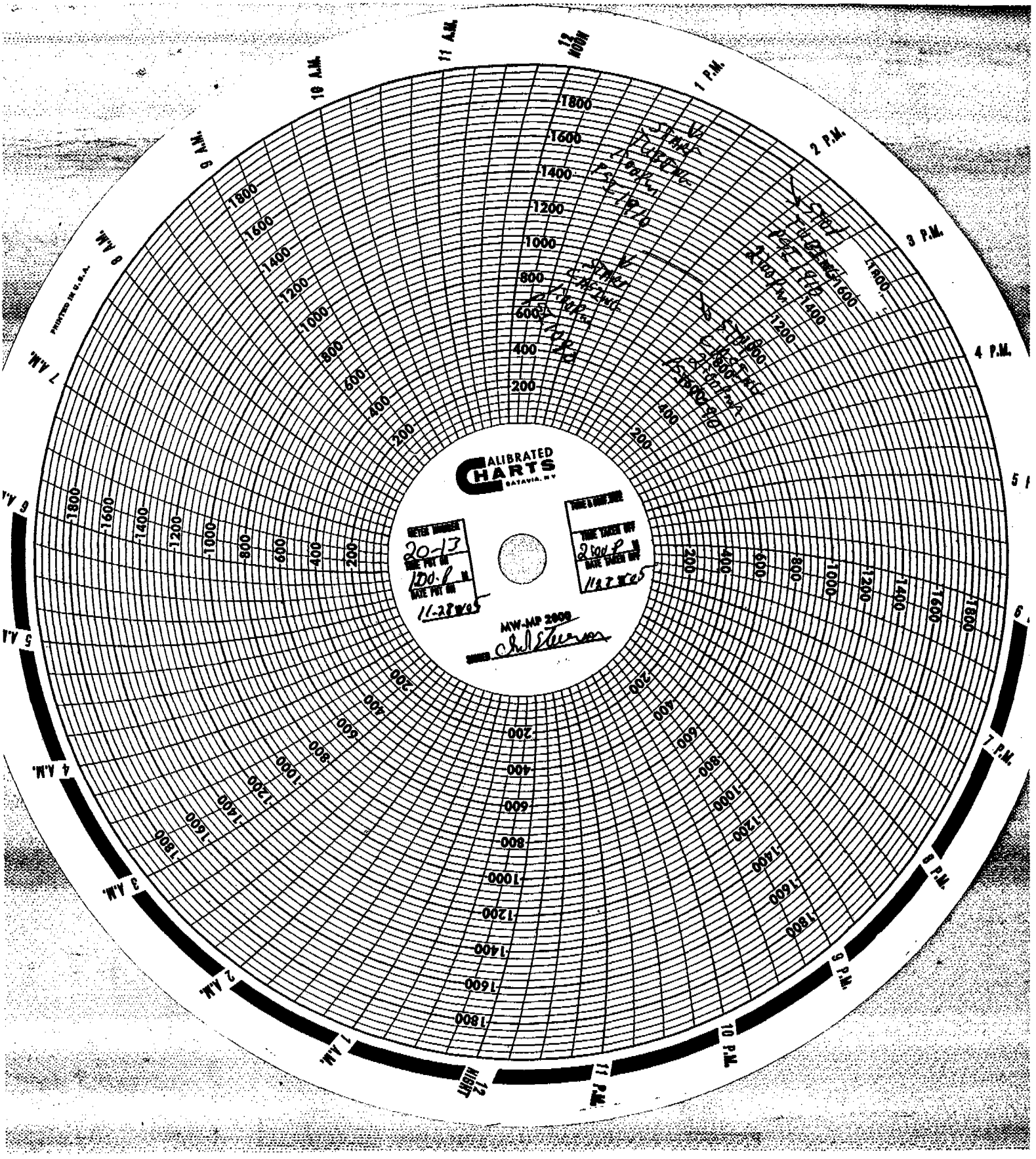
Well injecting during test? [X] Yes [ ] No If Yes, rate: 140 bpd

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY

Pre-test casing/tubing annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING PRESSURE			
Initial Pressure	1910 psig	psig	psig
End of test pressure	1910 psig	psig	psig
CASING / TUBING ANNULUS PRESSURE			
0 minutes	1090 psig	psig	psig
5 minutes	1090 psig	psig	psig
10 minutes	1090 psig	psig	psig
15 minutes	1090 psig	psig	psig
20 minutes	1090 psig	psig	psig
25 minutes	1090 psig	psig	psig
30 minutes	1090 psig	psig	psig
1 HOUR ~~minutes~~	1090 psig	psig	psig
minutes	psig	psig	psig
RESULT	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail

Does the annulus pressure build back up after the test ? [ ] Yes [ ] No


CALIBRATED
CHARTS
BATAVIA, N.Y.
METER NUMBER
20-13
DATE PUT ON
11-28-95
DATE TAKEN OFF
11-27-95
MW-MAP 2000
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.