CYPRUS
Plateau Mining

Cyprus Plateau Mining Corporation
P.O. Drawer PMC
Price, Utah 84501
(801) 637-2875

March 22, 1995

Utah Coal Regulatory Program
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RECEIVED
MAR 24 1995
DIV OF OIL, GAS & MINING

(Copy all)

EXP/007/038 #2
95C

Dear Ms. Littig,

RE: APPLICATION FOR EXPLORATION LICENSE, WILLOW CREEK NORTH - ACCESS ROAD IN BARN CANYON

The enclosed application was sent to the BLM on January 2, 1995. On the map titled Proposed 1995 Drill Sites & Access is shown an existing road in Barn Canyon, this road begins in Section 36 on Fee land controlled by Cyprus Plateau Mining Corporation, and is in the Castle Gate Permit area. This letter is to confirm that the exploration project can use the road.

The road has existed since approximately 1956 when a 138 KVA power transmission line was constructed by Utah Power & Light Company running up Barn Canyon. Utah Power & Light Company uses the road periodically to maintain the transmission line.

The road will not require upgrading for the exploration project, and will be left in its current configuration after the exploration project is completed.

If you have questions, please contact me at (801) 636-2227.

Respectfully,

Ben Grimes
Sr. Project Staff Engineer

CC: BLM - Chris Merritt
File: WCENV 2.5.2.9
Chron: BG950311

CYPRUS
Plateau Mining

Cyprus Plateau Mining Corporation
P.O. Drawer PMC
Price, Utah 84501
(801) 637-2875
Fax: (801) 637-2247

January 2, 1995

Department of the Interior
Bureau of Land Management
Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0115
Attention: Chris Merritt

Re: Application for Exploration License, Willow Creek North

Dear Sir:

Cyprus Plateau Mining Corporation hereby applies for an exploration license to obtain geological, environmental, and other pertinent data concerning coal deposits pursuant to 43 CFR Subpart 3410. The lands requested to be explored are located in Carbon County, Utah and are described more fully as follows:

Township 12 South, Range 9 East. Salt Lake Meridian Utah

Section 25; All
Section 26; $E\frac{1}{2}E\frac{1}{2}$

Township 12 South, Range 10 East. Salt Lake Meridian Utah

Section 28; $S\frac{1}{2}$, $NE\frac{1}{4}$, $S\frac{1}{2}NW\frac{1}{4}$, $NE\frac{1}{4}NW\frac{1}{4}$
Section 29; $E\frac{1}{2}SE\frac{1}{4}$, $NW\frac{1}{4}$, $N\frac{1}{2}NE\frac{1}{4}$, $NW\frac{1}{4}SW\frac{1}{4}$
Section 30; $N\frac{1}{2}$, $SW\frac{1}{4}$, $W\frac{1}{2}SE\frac{1}{4}$, $NE\frac{1}{4}SE\frac{1}{4}$

containing 2,299.46 acres, more or less.

Attached are five copies of the Exploration Plan for the proposed exploration area, which is referred to as the "Willow Creek North" Tract. This name is used throughout the exploration plan. The required fee of $250.00 is attached.

Also attached is the proposed "Notice of Invitation" for your review and approval. Upon receipt of your approval, Cyprus will publish the notice once every week for two consecutive weeks in the Sun Advocate, a newspaper having general circulation in the general area of interest.

Your prompt attention to this matter is greatly appreciated.

Sincerely,

Tom Hurst

Tom Hurst
Mining Engineer

c. John Borla
Ben Grimes
John Mercier
file WC GOV 1.6.3.2

Notice of Invitation to Participate in a Coal Exploration Program
Cyprus Plateau Mining Corporation
Willow Creek North

Cyprus Plateau Mining Corporation is inviting all qualified parties to participate in proposed exploration of certain Federal coal deposits in the following described lands in Carbon County, Utah:

Township 12 South, Range 9 East. Salt Lake Meridian Utah

Section 25; All
Section 26; E½E½

Township 12 South, Range 10 East. Salt Lake Meridian Utah

Section 28; S½, NE¼, S½NW¼, NE¼NW¼
Section 29; E½SE¼, NW¼, N½NE¼, NW¼SW¼
Section 30; N½, SW¼, W½SE¼, NE¼SE¼

containing 2,299.46 acres, more or less.

Any party electing to participate in this exploration program must send written notice of such election to the Bureau of Land Management, Utah State Office, P.O. Box 45155, Salt Lake City, Utah 84145-0155 and to Ben Grimes, Cyprus Plateau Mining Corp., P.O. Drawer PMC, Price, Utah 84501. Such written notice must be received within thirty days after publication of this notice in the Federal Register.

Any party wishing to participate in this exploration program must be qualified to hold a lease under the provisions of 43 CFR 3472.1 and must share all cost of the exploration program. An exploration plan submitted by Cyprus Plateau Mining Corporation, detailing the scope and timing of this exploration program is available for public review during normal business hours in the Public Room of the BLM State office, 324 South State Street, Salt Lake City, Utah.

EXPLORATION PLAN

PROPOSED "WILLOW CREEK NORTH" TRACT

UNLEASED FEDERAL COAL LAND

CARBON COUNTY, UTAH

BLM Surface

CYPRUS PLATEAU MINING CORPORATION

DECEMBER 1994

INTRODUCTION

This exploration Plan has been prepared by Cyprus Plateau Mining Corporation ("Cyprus" - a Delaware corporation) acting as operator and owner for this exploration project. The focus of the proposed exploration program is to explore the extent and mineability of potential coal resources adjacent to the existing leases controlled by Cyprus. It is our desire to commence drilling activities as soon as possible and complete all activities in one field season, however, drilling activities could spread over two drilling seasons.

The unleased federal land for which this exploration plan has been prepared is not contained within an approved permit area and therefore the format utilized follows that of 43 CFR, Subpart 3482 (12/31/92, edition) . The appropriate regulation is referenced and underlined and Cyprus/response follows. References to figures and maps are italicized for easy recognition.

Five copies of this plan are herewith submitted to the Utah State BLM office. One courtesy copy is also being forwarded to the Price Utah, BLM office.

The information contained in this exploration plan demonstrates that environmental protection and reclamation are integral parts of the proposed exploration program and that reclamation will progress as contemporaneously as practical with the exploration program. Sufficient information is provided in the exploration plan to substantiate the effectiveness of the proposed reclamation method.

3482.1(a) (3) Exploration plans shall contain all of the following:

3482.1(a)(3)(i) the name, address, and telephone number of the applicant, and, if applicable the operator/lessee of record.

Applicant and Operator:
Cyprus Plateau Mining Corporation
P.O. Drawer PMC
Price, Utah 84501
Telephone: (801) 637-2875

3482.1(a)(3)(ii) The name, address, and telephone number of the applicant who will be representation and be responsible for conducting the exploration.

John M. Mercier
1232 West 1625 South
Price, Utah 84501
Telephone: (801) 637-4434

3482.1(a)(3)(iii) A narrative description of the proposed exploration area, cross-referenced to the map required under paragraph (a)(3)(viii) of this section, including applicable federal lease and license serial numbers; surface topography; geologic, surface water, and other physical features; vegetative cover; endangered or threatened species listed pursuant to the endangered Species Act of 1973 (16 U.S.C. 1531, et seq.); districts, sites, buildings, structures, or objects listed on, or eligible for listing on, the National Register of Historic Places; and known cultural or archeological resources located within the proposed exploration area.

Narrative description of the proposed exploration area

The proposed exploration area (proposed "Willow Creek North" Tract) is contiguous with existing Cyprus leases and lies north of the confluence of Willow Creek and the Price River and also includes land East of Willow Creek. The attached *Proposed 1995 Drill Sites & Access* Map shows boundaries of the area covered by this exploration plan which is the same area covered by a Lease by Application for the proposed "Willow Creek North" Tract and will be referred to as the "Willow Creek North" Tract throughout this application.

Legal Description

Legal description of the area of interest for this Exploration Plan is as follows:

Township 12 South, Range 9 East. Salt Lake Meridian Utah

Section 25; All
Section 26; E½E½

Township 12 South, Range 10 East. Salt Lake Meridian Utah

Section 28; S½, NE¼, S½NW¼, NE¼NW¼
Section 29; E½SE¼, NW¼, N½NE¼, NW¼SW¼
Section 30; N½, SW¼, W½SE¼, NE¼SE¼

containing 2,299.46 acres, more or less.

The attached *Surface Ownership* Map shows location of lands within the proposed tract controlled by the two surface owners, BLM / USA and the Melvin Frandsen Trust.

Proposed Site Locations

Site designation nomenclature "PRP" for "Proposed" drill hole site. A permanent designation will be given when the hole is actually drilled. *Table 1* lists the proposed drill sites and their locations.

TABLE 1 PROPOSED DRILL SITE LOCATIONS

Site Designation	State Coordinates		Approx Legal Description
PRP-1	2180600 E	519400 N	NE¼ S 25 T 12 S, R 9E
PRP-2	2179750 E	517000 N	SW¼ S 25 T 12 S, R 9E
PRP-3	2183375 E	517750 N	SW¼ S 30 T 12 S, R10E
PRP-4	2183100 E	517200 N	SW¼ S 30 T 12 S, R10E
PRP-5	2195795 E	515359 N	NW¼ S 33 T 12 S, R10E
PRP-6	2186910 E	517600 N	SE¼ S 30 T 12 S, R10E
PRP-7	2186950 E	517500 N	SE¼ S 30 T 12 S, R10E

Surface Topography Features

The area is characterized as deeply incised "plateau topography", existing as flat-topped ridges elevated above the adjacent desert lands. This topography is the result of advanced erosion carving up a flat top "plateau" forming steep-walled canyons cutting into the proposed tract. Elevations range from over 8,000 feet above sea level on the tops of the flat topped ridges to 6,000 feet above sea level in the bottom of the deepest canyon.

Geologic Features

The lease tract lies within the Book Cliff Coal Field which contains minable coal only within the lower, Cretaceous Age, Blackhawk Formation (*Figure 1, Generalized Stratigraphic Column*).

Stratigraphic units present are, in ascending order, Mancos Shale, overlain by the deltaic and coastal plain sediments of the Blackhawk, Price River and North Horn Formations.

The Mancos Shale forms the valley floor and lower slopes of the south facing escarpment and is over 4,000 feet thick in the area and contains the interfingered, eastward thinning delta sandstones of the Lower Blackhawk Formation. Locally the Blackhawk Formation is comprised of five shoreline deltaic cliff forming sandstone members in ascending order, Panther, Storrs, Spring Canyon, Aberdeen, and Kenilworth and lower coastal plain coal seams.

The aggregate thickness of the Blackhawk formation in this area is 1,200 feet. The Blackhawk Formation is the primary coal-bearing formation within the area where thick and laterally extensive seams are closely associated with shoreline delta sandstone units.

Overlying the Blackhawk Formation is the lower Castlegate Sandstone (massive cliff-forming sandstones 200-250 feet thick) overlain by lenticular sandstone and mudstones of the Upper Castlegate which grade upwards into the North Horn Formation.

The North Horn Formation composed of lenticular sandstones and clay-rich mudstones is the uppermost unit present in the lease tract, and can only be seen on the extreme northeastern side of the tract.

Stratigraphic units in this part of the Book Cliff Coal Field typically dip 8° North Northeast. Evidence of faults within the "Willow Creek North" Tract is absent. There may be some minor faults but none large enough to seriously affect mine planning and presumably ground water hydrology.

Surface Water

The Price River and Willow Creek are the only perennial streams in the area. The six smaller side canyons draining into Price River and Willow Creek are annual or ephemeral channels, only running in the Spring or in direct response to precipitation. A number of seeps and springs also occur along rock-soil interfaces, or along fracture/joint zones.

Vegetative Cover

The surface of this area is predominantly covered with sage brush, grasses and occasional conifers.

National Register of Historical Places Listings

No listed district, site, building, structure, or object is located within the proposed exploration area.

Archeological Resource Inventory

A cultural and archaeological resource inventory of the proposed drill sites and access roads was completed on October 20, 1994 by Jackie A. Montgomery, consulting archeologist, with Abajo Archaeology. Results of the inventory were summarized in a report submitted to Mr John Borla, Cyprus Plateau Mining Corporation, on October 23, 1994, and is attached as Exhibit A. Copies of the inventory were also forwarded to Price BLM (Miller) and, Utah State Historic Preservation Office (Dykman).

The cultural and archaeological resource inventory did not find any archaeological sites or isolated finds of artifacts. This inventory fulfills the compliance requirements of the National Historic Preservation Act of 1966 (amended), the National Environmental and Historic Preservation Act of 1971, the Archaeological Resources Protection Act of 1979, and the Utah Antiquities Act of 1973 (amended). A determination of "no effect" to historic sites was made by Abajo Archaeology as indicated by the following quote from page 3 of the report:

> "Due to the absence of significant cultural or paleontological resources within the proposed project areas, a determination of "no effect" to historic properties is recommended for purposes of Section 106, 36 CFR 800."

Other Physical Features

No significant physical features will be affected by the proposed drilling activities.

Soils

All soils within both the proposed lease and Project areas have been surveyed by the USDA, Soil Conservation Service. The results of area soil surveys were published as the Soil Survey of Carbon Area, Utah (USDA-SCS, 6/88). The exploration area contains a number of different soils derived from sandstone, and shale parent material. A generalized soils map of the Lease Area is shown on *Figure 2 (Generalized Soils Map)*. Due to the rocky nature of the terrain, the soils are quite variable, with drainage, texture, reaction, and land-use generally site-specific as a result of weathering and the parent rock materials.

The Argic Cryoborolls-Pachic Cryoborolls-Cyric Paleborolls Association, is found mainly to the west of the Price River on the Wasatch Plateau. It is characteristic of the high mountain landform, with steep slopes, moderate to deep soil depths, and highly variable permeabilities. Only a small amount of this soil type is found within the exploration area to the east of the Price River. The association consists generally of 25 percent Argic Cryoborolls, 25 percent Pachic Cryoborolls, and 25 percent Cyric Palebrolls, with the remaining 25 percent consisting of varying amounts of Typic Cryoborolls, Cyric Pachic Paleborolls, Lithic Cryoborolls, Mollic Cryoborolls, and rock outcrop.

The Majority of the area is covered by the Typic Argiborolls-Lithic Argiborolls-Typic Haploborolls Association. This association is characterized by steep slopes, shallow to deep soil cover (10 inches to 36 inches), and reasonably well-drained soils. The association generally is composed of 35 percent Typic Argiborolls, 20 percent Lithic Argiborolls, and 20 percent Typic Haploborolls. The remaining 25 percent consists of Pachic Argiborolls, Argic Cryoborolls, and rock outcrop.

Threatened or Endangered Species

There are no known threatened or endangered species within the "Willow Creek North" Tract.

In addition to vegetation community mapping and identification and characterization of plant communities, research was conducted to evaluate the potential or presence of any Threatened, Endangered or Protected (T&E) plant species. T&E evaluations included consultations under the Utah Natural Heritage Program, discussions with local botanists with both the BLM and USDA-Forest Service, review of the original 1981 Price River Coal Company Vegetation Inventory, and reconnaissance level field surveys. Research indicated that while several T&E plants are known to occur in the Carbon County area, specific habitat preferences limit potential T&E occurrences within the proposed lease and Project areas to only one specie of potential concern, the Canyon Western Sweetvetch, Hedysarum occidentalis var. canoe. The computer files of the Utah Natural Heritage Program show this specie as occurring in the upper reaches of Willow Creek several miles to the northeast of the site. The principal investigator for the recent vegetation inventories, who has worked extensively is this general area and is familiar with this species, has identified several small undocumented populations of Canyon Western Sweetvetch near Kenilworth but has never encountered this specie during field work on either the "Willow Creek North" Tract or the planned Willow Creek facilities area.

Wildlife and Fish

Some of the predominate mammals which may occur in the general area include elk, deer, black bear, cougar, bobcat, coyote, badger, porcupine, snowshoe hare, golden mantled squirrel, Andy ground squirrel, red fox, gray fox, marmot, flying squirrel, and other species of small rodents.

Data from UDWR Fish and Wildlife information indicate the following birds may be found in the ecological zone:

Golden Eagle (protected, common)
Bald Eagle (endangered, rare)
Prairie Falcon (protected,common)
American Peregrin (endangered, rare)
American Kestrel, (protected, summer resident)
Goshawk (protected,uncommon)
Sharp-shinned Hawk (protected, uncommon)
Cooper's Hawk (protected, transient)
Red-tailed Hawk (protected, common)
Swainsons's Hawk (protected, summer resident)
Marsh Hawk (protected, common)
Various species of owls (essentially all are protected and most show an abundance designation of common, summer resident, or transient)
Blue Grouse (protected as a gamebird, common)
Ruffed Grouse (protected as a gamebird, common)
Sage Grouse (protected as a gamebird, common)
California Quail (protected as a gamebird, common)
Gambel's Quail (protected as a gamebird, common)
Chukar (protected as a gamebird, common)
Great Blue Heron (protected, abundance unknown)
Various species of geese, ducks, teal scaups, mergansers, and widgeons (essentially all are protected as gamebirds and most show an abundance designation of either common, summer resident, or transient)
Bald Eagle (endangered, rare)
American Peregrin (endangered, rare)

A site specific raptor inventory was conducted by Bill Bates, Utah Division of Wildlife, and Ben Grimes, Cyprus-Plateau, on October 20th 1994. Six of the seven proposed drill sites and the area within 1/2 mile radius were surveyed. *There were no significant finds.* One very old nest, which apparently has not been used in years, was observed in the NW 1/4 NW 1/4 of section 36 within 1/2 mile of PRP-2, and a Raven or Redtailed Hawk nest was observed in SW 1/4 of the SW 1/4 of Section 29 within 1/2 mile of PRP-7. See Exhibit B for a copy of a letter report from the Utah Division of Wildlife on the survey. Site PRP-5 was not included in this survey but was surveyed in preparation for the 1994 exploration plan because of its proximity to Drill Hole 94-33-1.

With exception of an approximate 300 ft. long stretch of Willow Creek, which passes through the corner of "Willow Creek North" Tract in Section 29, perennial streams are not found within the Tract Boundaries and therefore fish were not observed. Access to Sites 5, 6 and 7 will require crossing Willow Creek on existing roadways where disturbance to the stream will be minimized. When required, a stream crossing permit will be obtained from the State Engineer.

Reptiles and amphibians of the area may include: boreal toad, leopard frog, northern sagebrush lizard, rocky mountain rubber boa, great basin gopher snake and great basin rattlesnake.

3482.1(a)(3)(iv) A narrative description of the methods to be used to conduct coal exploration, reclamation, and abandonment of operations including, but not limited to-

The proposed coal exploration program will utilize drilling and coring (either air/skid mobile or conventional truck-mounted), core sampling and testing, and down-hole geophysical logging of the open holes as the main methods of data collection. Two of the drilled sites (PRP-1 & PRP-6 or 7) are planned to be completed as groundwater monitor wells. The attached *Proposed 1995 Drill Sites & Access* Map shows pad site locations and access road paths to be re-habilitated and in the case of PRP-4,6 & 7, roads to be constructed. Cyprus has various water rights in the general area, and temporary changes in the point of diversion will be obtained, when needed, from the State Engineer prior to obtaining water for the exploration program.

Pad & Site Access Detail

Proposed Site 1 (likely Hole No. H95-25-1), is located along the old "Power Line Road" in Barn Canyon with approximate coordinates 2180600E 519400N, and surface elevation of 6890 ft. Due to the restricted width in the canyon an elongated or "extended" site is planned at this location to accommodate both the rig set-up and water truck turn around. The drill pad proper is located immediately below two large rocks between which the old road passes. The extended portion of the site will be located immediately up-hill from the two large rocks. The main pad is planned to be approximately 50 X 100 ft., with the minor pad planned to be approximately 25 X 50 ft.

Access will be gained by re-habilitating the old "Power Line Road". Re-habilitation will be accomplished with a small dozer, D-6 or similar. Two large rocks, not the same mentioned above, have fallen into the road and will require drilling and blasting to break them into pieces small enough to be moved by a dozer.

Proposed Site 2, (likely Hole No. H95-25-2) is also located in Barn Canyon along the same power-line road as Proposed Site 1; approximate coordinates 2179750E, 517000N, and elevation 6,580 ft. As with Site 1, an elongated or "extended" site is planned at this location for the same reasons. The pad is planned to be at least 50 X 200 ft in one or two levels.

Access will be gained via the old "Power Line" road which will already be re-habilitated for drilling at site 1. Water will be hauled from the Price River or the old Amax Preparation Plant for both site 1 and 2.

A 4 X 4 mounted continuous core rig, Longyear 44 or similar, is planned to be used for both sites 1 and 2. This rig and it's ancillary equipment is relatively small which precludes the need for major road construction and large pads.

A small (15 ft) "field trailer" is planned, in case of cold weather drilling, to be used as a warm-up house, field office and core logging facility at both site 1 and 2.

Because both site 1 and 2 are located within 40-60 feet from the high tension power line, for which the road was constructed, UP&L has been contacted and indicate that so long as the drill rig mast remains at least 10 feet away from the power lines there will be no safety hazard.

Proposed Site 3 is located on "North Ridge" (local name given here for reference only) which forms the divide between Barn Canyon and the next two drainages east. Site 3 is currently an approximately 30 X 50 ft. turn-around spot at the end of the existing road. This site is being permitted to enlarge it to approximately 100 X 50 ft. for use as water truck turn around, and parking space only. This additional space is necessary because available space on the ridge top is very scarce and having this site as parking and turnaround will reduce the potential for off pad disturbance.

Proposed Site 4, (likely Hole No. H95-30-1) is the southern-most on "North Ridge"; approximate coordinates 2183100E, 517200N, and surface elevation 8,060. Pad construction will utilize the available space on the ridge top for this site which is 75 X 150 ft.

Drilling equipment planned to be used on site 4 is a truck mounted Gardner Denver 2000 rig, or similar, together with customary ancillary support equipment, detailed below in response to 3482.1(a)(3)(iv)(A).

Access will be gained via Highway 6 in Price Canyon and along the Duchesne cut-off, then along existing dirt road (3.8 miles), which will need to be maintained. A 600 foot extension to

the existing road will have to be constructed along the ridge-top, from site 3 to site 4.

Water will be hauled from the Price River from a point of diversion yet to be determined. An on-site storage tank is planned to insure an un-interrupted water supply to the rig.

Proposed Site 5 (likely Hole No 95-33-2) is at the same location as the former drill site MC119 in Dry Canyon at 2195795E, 515359N Elevation 7073. This location is on an existing lease and not on the "Willow Creek North" Tract. However, from this site an inclined hole, planned to be drilled at an angle of 45° (45° from vertical), would reach north into the "Willow Creek North" Tract. Because this is the site of a previous drill hole the existing drill pad would merely need to be re-habilitated with minimal disturbance to un-disturbed ground. Former drill site 94-33-1, located approximately 300 feet downstream from MC119, will be utilized as a parking and staging area.

Access would be via the existing road from Willow Creek, and would involve maintaining this road with a dozer or motorgrader.

Drilling equipment would either be a truck mounted Longyear 44 or a top head drive rig.

Water is planned to be hauled from Willow Creek.

Proposed Sites 6 & 7, are being permitted as a "double site" to allow sufficient room for turn-around and parking, however, only one hole will be drilled on one or the other site (likely Hole No. H95-30-5). Both sites lie in the very narrow portion of "Skinny Canyon", a local name given here as reference only to the narrow canyon draining into Willow Creek from the north immediately downstream from the mouth of Dry Canyon. Site 6 lies at approximately 2186910E 517600N, while Site 7 lies down-stream at approximately 2186950E, 517500N, and surface elevation 6,780.

Pads at both sites PRP-6 & PRP-7 are planned to be relatively small, 40 X 60 and will therefore require a small drill rig and ancillary equipment.

Planned drilling equipment will be a skid mounted, or small 4X4 mounted, Longyear 38 to 44 or similar; minimizing the need for a wide road and large pad.

Water will either be hauled from Willow Creek or pumped from Willow Creek via approximately 2,500 feet of pipeline to be laid along the roadway to the site. The temporary pipeline is the most likely method of supplying water.

Access would be gained via rehabilitating the 5,000 ft. of existing road from Willow Creek to the old drill site MC128 (refer to *Proposed 1995 Drill Sites & Access* Map) then by constructing 1,200 ft new road from MC128 to Sites 6 & 7. Construction of the 1,200 ft of road will require a small amount of blasting to get past several large boulders. Blasting and road construction in general will be minimized because this road will be a "roughed in dozer road" only, and not a wide graded road.

3482.1(a)(3)(iv)(A) The types, sizes, numbers, capacity and uses of equipment for drilling and blasting,and the road or other access route construction:

Equipment

A variety of equipment is expected to be utilized during this drilling project. As indicated above, three different types of rigs will be required due to the varied settings, together with a variety of ancillary or support equipment. A geophysical logging truck and other service trucks may be used at each site.

EQUIPMENT FOR SITES 1 & 2 (BARN CANYON HOLES)

One D-6 or smaller dozer
One air compressor & jack-hammer
One rubber tired back-hoe
One truck mounted continuous core rig, Longyear 44 or sim.
One pipe truck
Possibly one or two compressors
One or two flat-bed/rig-up trucks
Two 4X4 ≈ 1,000 gal. water trucks
One ≈ 15 ft core /field office trailer
Three or four 4X4 pickup trucks

EQUIPMENT FOR SITE 4 ("NORTH RIDGE" HOLE)

One rubber-tired backhoe
One tracked dozer (D4)
Several four wheel drive pickup trucks
(The dozer and backhoe will be used constructing the site, moving equipment as necessary, and excavating the mudpits.)
One truck-mounted drill rig (PortaDrill TKT, Gardner-Denver 2000 or similar)
One or two pipe trucks
One casing trailer
Two water trucks
One on-site water tank
Two skid mounted compressors
One equipment/"dog house" trailer

EQUIPMENT FOR SITE 5 (DRY CANYON HOLE)

Same as for Site 4 except a top head drive or Longyear 44 rig will be used instead of the TKT.

EQUIPMENT FOR SITE 6 OR 7 ("SKINNY CANYON HOLE)

Same as for sites 1 & 2 except the rig may be skidded instead of hauled on a truck and water will likely be supplied by a 2" aluminum pipeline eliminating the need for water trucks. Space will likely preclude the use of a core/field office trailer.

Seed Mixtures
The proposed drill sites and access routes are located on BLM and private land. The seed mix listed below on *Table 2* was provided by the BLM specifically for sites in this area.

Table 2

Seed Mix

	Pounds per Acre
SHRUBS	
Symphoricarpus albus	1.0
Artemesia tridentata wyomingensis	0.5
Cercocarpus ledifolius	1.0
FORBS	
Achillea millefolium	0.5
Balsamorhiza saggitata	0.5
Penstemon strictus	0.5
GRASSES	
Poa secunda	1.5
Bromus carinatus	1.5
Agropyron spicatum	1.5
A. smithii	1.5
A. trachycaulum	1.5
Total Pure Live Seed	**11.5**

3482.1(a)(3)(iv)(B) Excavated earth or debris disposal activities:

All soils excavated in any phase of the proposed exploration activities will be treated the same. Unless otherwise required, the topsoil and native vegetation at the drill sites will be removed, if present, and stockpiled for re-distribution during site reclamation. Topsoil will only be removed where required; generally where soils would be directly impacted at the drill site.

A competent and responsible person, knowledgeable about soils, will be on the site during excavation and reclamation in order to minimize environmental impacts and assure proper soil extraction (depth, etc.) and replacement. This person will be on the drill site during any type of excavation, construction, or reclamation. Methods used to extract topsoil from drill pad locations will be mechanical equipment such as a front-end loader, backhoe, medium to small dozer, or other method.

Stockpiled soil will be protected from erosional loss by containment berms or silt fencing. Wind erosion is not anticipated to be a problem. If the topsoil pile is dry and deflating, it will be wet down. Weathered rock and/or subsoils excavated from the mud pits will be stockpiled separately from the topsoil and will be used to backfill the mudpits after coring and plugging activities are complete. Drill cuttings will be contained and buried in the mud pit. Mudpits will not be backfilled until drilling fluids are pumped out or evaporated.

Soil loss off the drill site will be controlled by berms, straw bales, or silt fences.

The sites and roads will be graded/reclaimed to approximate original contour and recovered with topsoil in a roughened and scarified state. Reclamation parameters of existing roads will be determined by BLM personnel. Drainage will be controlled to prevent runoff across exposed soils.

All debris and trash will be disposed of properly and in a timely manner. Location of disposal will be completely off the exploration area. Areas on the drill site which might be contaminated by fuels or toxic substances will be protected by ground tarps or other means. Contaminated soils will be removed from the sites and transported to an approved disposal facility.

3482.1(a)(3)(iv)(C) <u>The proposed method for plugging drill holes:</u>

The holes drilled at PRP-1, PRP-6 will both be completed as groundwater monitor wells, as described below in the response to 3482.1(a)(3)iv)(E). Completion details will be in compliance with the State of Utah ADMINISTRATIVE RULES FOR WATER WELL DRILLERS, July 15, 1987, Part II, Section 8 for drilled wells. The annular space between the casing and/or drill hole wall and the well casing above the well screen completions will be completely sealed with cement, bentonite or a mixture of cement and bentonite up to within 20 feet of the ground surface. A cement surface seal will be placed from the surface to a depth of 20 feet.

All drill holes not completed as monitor wells will be grouted from bottom to the surface with a slurry of portland cement and bentonite.

3482.1(a)(3)(iv)(D) Estimated size and depth of drill holes, trenches and test pits:

The size of the core holes will range from ten inches in diameter for surface casing to about 4-3/4 inches for the cored intervals. The deepest hole should not exceed about 2,600 feet in depth.

No trenches or test pits are planned.

3482.1(a)(3)(iv)(E) Plans for transfer and modification of exploration drill holes to be used as surveillance, monitoring, or water wells.

Monitor well installation will be under the direction of a currently licensed Utah Water Well Driller. Completion details will be in compliance with the State of Utah Administrative Rules for Water Well Drillers, July 15, 1987, Part II, Section 8 for drilled wells.

Each monitor well will be completed as shown on *Figures 3 and 4 (ground-monitor well detail, & locking cap detail)* with two inch steel or PVC well pipe and a ten foot section of approved two inch well screen, near but not at the bottom of the hole. It is anticipated that the well screen will be placed near the base of the Aberdeen Sandstone which immediately underlies the lowest minable coal seam.

The hole will be fitted with 1/4 inch nylon tubing as a permanent water level monitoring device. Sand or gravel will be used as filter pack and emplaced in the annular space between the borehole and well screen, extending at least two feet above the top on the well screen. A fine sand seal, at least five feet thick, will be emplaced on top of the filter pack. The annular space between the well pipe and bore hole and or casing will be grouted with cement.

3482.1(a)(3)(v) An estimated timetable for conducting and completing each phase of the exploration, drilling and reclamation.

TABLE 3 TIMETABLE FOR PROPOSED 1995 EXPLORATION ACTIVITIES

PHASE OF PROGRAM	May				June				July				August				Sept		
	week				week				week				week				week		
	2	3	4		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Drilling	**********				**********				**********										
Reclamation					**********				**********				**********						

3482.1(a)(3)(vi) The estimated amounts of coal to be removed during exploration, a description of the method to be used to determine those amounts, and the proposed use of the coal removed.

The proposed exploration plan calls for five drill holes. Three-inch diameter coal core with length equal to the seam thickness will be removed from each of the anticipated seams encountered. Because continuous core will be taken from at least three of the five holes, and possibly from all five holes, coal seams less than 5 feet in thickness will be cored along with the minable thick seams greater than 5 feet in thickness. It is estimated that a maximum total of 30 feet cumulative thickness of coal will be removed from each hole. Resulting calculated coal to be removed is approximately 625 lbs.

Calculations for lbs. of coal per hole:

$(1.5^2 \text{in.}) \times \pi/144 \times 30 \text{ ft.} = (\text{est.cubic ft. coal/hole})$
$\times$ 85lbs./cu.ft. = **125 lbs.coal / hole**

Total for Program = 125 X 5 = **625 lbs of coal removed.**

The core sampled will be used for quality and geotechnical testing. The results of these tests will aid in thickness, seam geometry, coal quality determinations, mine planning and future exploration planning.

3482.1(a)(3)(vii) A description of the measures to be used during exploration for Federal coal to comply with the performance standards for exploration (3481.1(a) and applicable requirements of 30 CFR 815.15 or an approved state program.

3484.1(a)(2) The operator/lessee, if required by the authorized officer, shall set and cement casing in the hole and install suitable blowout prevention equipment when drilling on lands valuable or prospectively valuable for oil, gas, or geothermal resources.

If required by the authorized officer, casing will be set and cemented in the hole and suitable blowout prevention equipment will be installed.

3484.1(a)(3) All exploration drill holes must be capped with at least 5 feet of cement and plugged with a permanent plugging material that is unaffected by water and hydrocarbon gases and will prevent the migration of gases and water in the drill hole under normal hole pressures. For exploration holes drilled deeper than stripping limits the operator/lessee, using cement or other suitable plugging material approved by the authorized officer shall plug the hole through the thickness of the coal bed(s) or mineral deposits(s) and through aquifers for a distance of at least 50 feet above and below the coal bed(s) or mineral deposit(s) and aquifers, or to the bottom of the drill hole. A lesser cap or plug may be approved by the authorized officer. Exploration activities shall be managed to prevent water pollution and mixing of ground and surface waters and ensure the safety of people, livestock, and wildlife.

As noted above in 3482.1(a)(3)(iv)(C), this stipulation will be complied with if the drill hole is not to be completed as a water monitoring well site. The possibility of contamination of surface waters by drilling materials is low because of location. Adequate precautionary measures (such as berms, bales, and/or silt fences) to prevent the escape of drilling materials into stream drainages will be incorporated into individual site designs. The potential for contamination of surface waters will be minimized by constructing waste pits of sufficient size to contain all effluent drilling materials. To prevent overflow, the waste pits will be pumped out and waste fluids will be disposed of properly. Waste pits will be lined if percolation of fluids through the walls into stream drainages appears possible.

In accordance with the revised stipulations of 43 CFR 3482.2(b), all coal exploration drill holes will be: 1.)"cemented from the total depth of the hole to the surface and, 2.) the

surface and the intermediate casing(if used) will be fully pressure grouted in the annulus from the bottom of the string to the surface". These measures will be taken to prevent intermixing of ground water. Detail on encountered groundwater flow will be noted on appropriate form for the BLM records. When monitoring wells are no longer needed, they will be plugged with portland cement and sealed.

3484.1(a)(4) The operator/lessee shall retain for one (1) year, unless a shorter time period is authorized by the authorized officer, all drill and geophysical logs and shall make such logs available for inspection or analysis by the authorized officer, if requested. The authorized officer, at his discretion, may require the operator/lessee to retain representative samples of drill cores for one (1) year. Confidentiality of such information will be accorded pursuant to the provisions of 3481.3 of this title.

Drill and geophysical logs as well as representative core samples obtained from the proposed exploration program will be available for inspection or analysis by the authorized officer for one year. An exception to the above will be those cores samples consumed during quality testing. Splits of the samples will be maintained by the testing labs. Typically all collected data including seam depth, thickness, quality, geophysical logs, structure, geotechnical, drilling logs, etc. have been copied and transferred to the appropriate personnel at the B.L.M. offices for review and confidential storage, pursuant to 43 CFR 3485.1.

3484.1(a)(5) The operator/lessee may utilize exploration drill holes as surveillance wells for the purpose of monitoring the effects of subsequent operations on the quantity, quality, or pressure of groundwater or mine gases only with the written approval of the authorized officer, in consultation with the regulatory authority. The operator/lessee may convert exploration drill holes to water wells only after approval of the operator/lessee's written request by the authorized officer and the surface owner or authorized officer in consultation with the regulatory authority. All such approvals shall be accompanied by a corresponding transfer of responsibility for and liability including eventual plugging,

reclamation, and abandonment. Nothing in this paragraph shall supersede or affect the applicability of any state low requirements for such a transfer, conversion, or utilizations a supply for domestic consumption.

Refer to response to 3482.1(a)(3)(iv)(E)

3482.1(a)(3)(viii) A map at a scale of 1:24,000 or larger showing the areas of land to be affected by the proposed exploration and reclamation. The map shall show existing roads, occupied dwellings, and pipelines; proposed location of trenches, roads, and other access routes and structures to be constructed; applicable federal lease and license boundaries; the location of land excavating to be conducted; coal exploratory holes to be drilled or altered; earth or debris-disposal areas; exiting bodies of surface water; and topographic and drainage features.

Proposed "Willow Creek North" Tract / Proposed 1995 Drill Sites & Access Map is attached to this application. The map is at a scale of 1:24,000 and contains the requested information (proposed drill hole locations, access routes, etc.).

3482.1(a)(3)(ix) The name and address of the owner of record of the surface land, if other than the United States. If the surface is owned by a person other than the applicant or if the federal coal is leased to a person other than the applicant, a description of the basis upon which the applicant claims the right to enter that land for the purpose of conducting exploration and reclamation.

Surface ownership for this exploration plan application is the US Government (Bureau of Land Management) with approximately 280 acres privately owned. The surface owners of record are:

Melvin Frandsen Trust
506 So. 100 West
American Fork, Ut 84003

USDI Bureau of Land Management (BLM)
900 North 700 East
Price, Utah 84501

All lands on which drill pads and roads are to be constructed for execution of this exploration plan are owned by the BLM. There are three parcels of surface land which lie outside of the "Willow Creek North" Trace but which will be crossed, on existing roads, as access to certain drill sites. The first is owned by Cyprus Amax Minerals Co. and lies adjacent to the south of the "Willow Creek North" Tract in Barn Canyon which provides access to PRP-1 and PRP-2. The second is owned by Boyd Marsing located in Dry Canyon which provides access to PRP-5. A written agreement is already on file, from the 1994 Willow Creek Drill Program, for access to drill sites through the Marsing land.

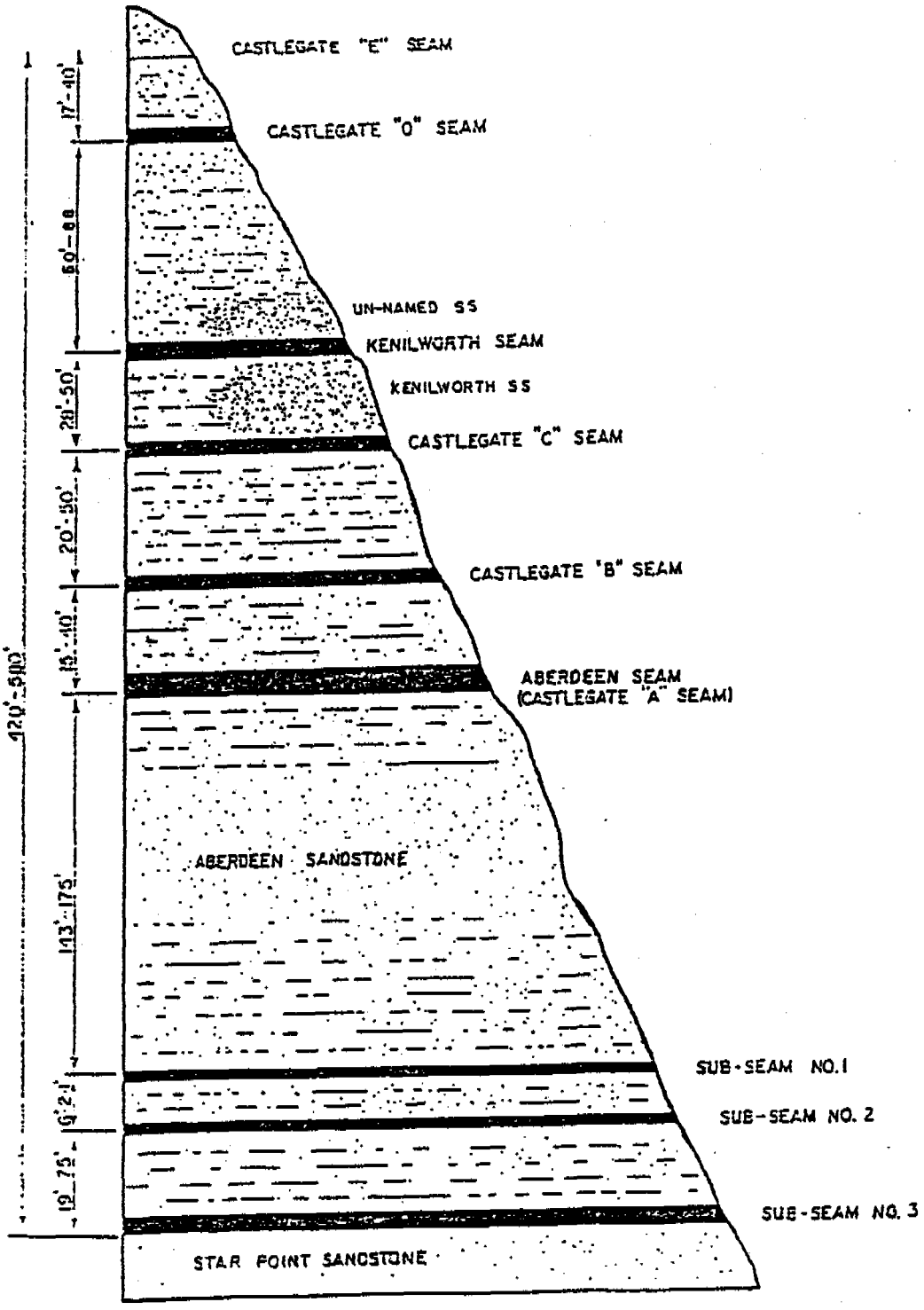
The third land parcel is owned by T.N. Jensen and lies immediately north of the "Willow Creek North" Tract, and provides access to PRP-3 and PRP- 4 (on "North Ridge"). A letter of permission to access will be secured before mobilization.

8432.1(a)(3)(x) Such other data as may be required by the authorized officer.

Other data that may be required will be made available as soon as possible upon the request of the BLM.

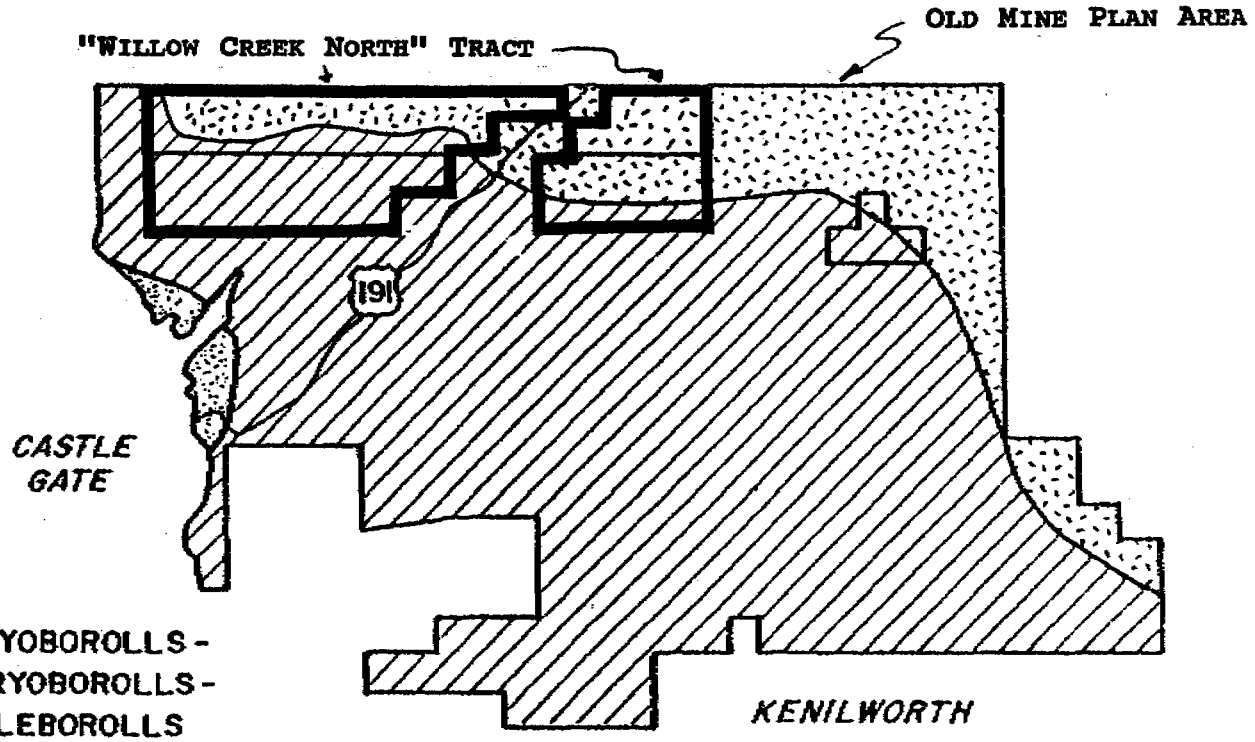
Figures

GENERALIZED STRATIGRAPHIC SECTION



FIGURE

1



ARGIC CRYOBOROLLS - PACHIC CRYOBOROLLS - CRYIC PALEBOROLLS ASSOCIATION

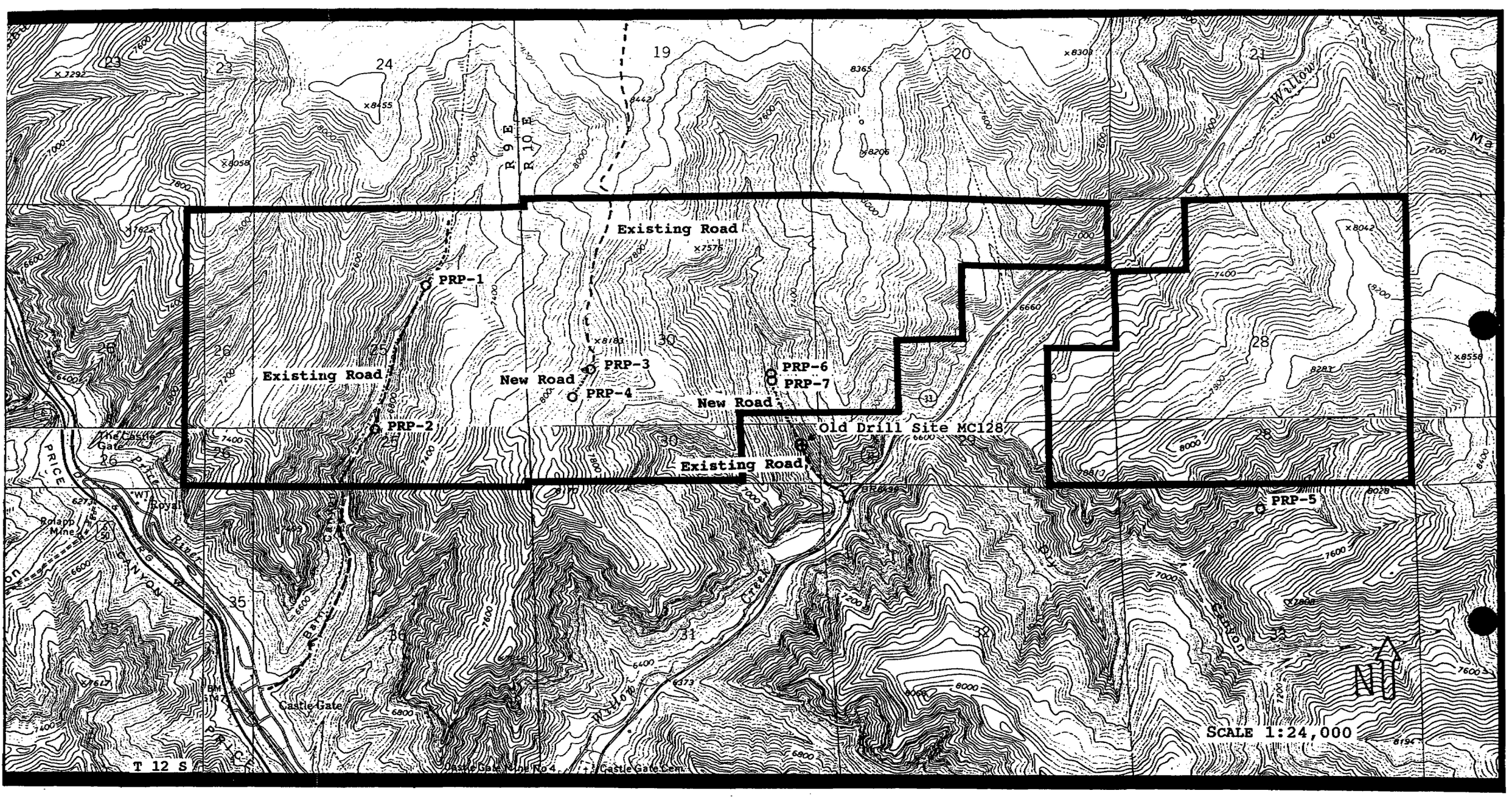
TYPIC ARGIBOROLLS - LITHIC ARGIBOROLLS - TYPIC HAPLOBOROLLS ASSOCIATION

BADLAND - ROCKLAND ASSOCIATION

GENERALIZED SOILS MAP

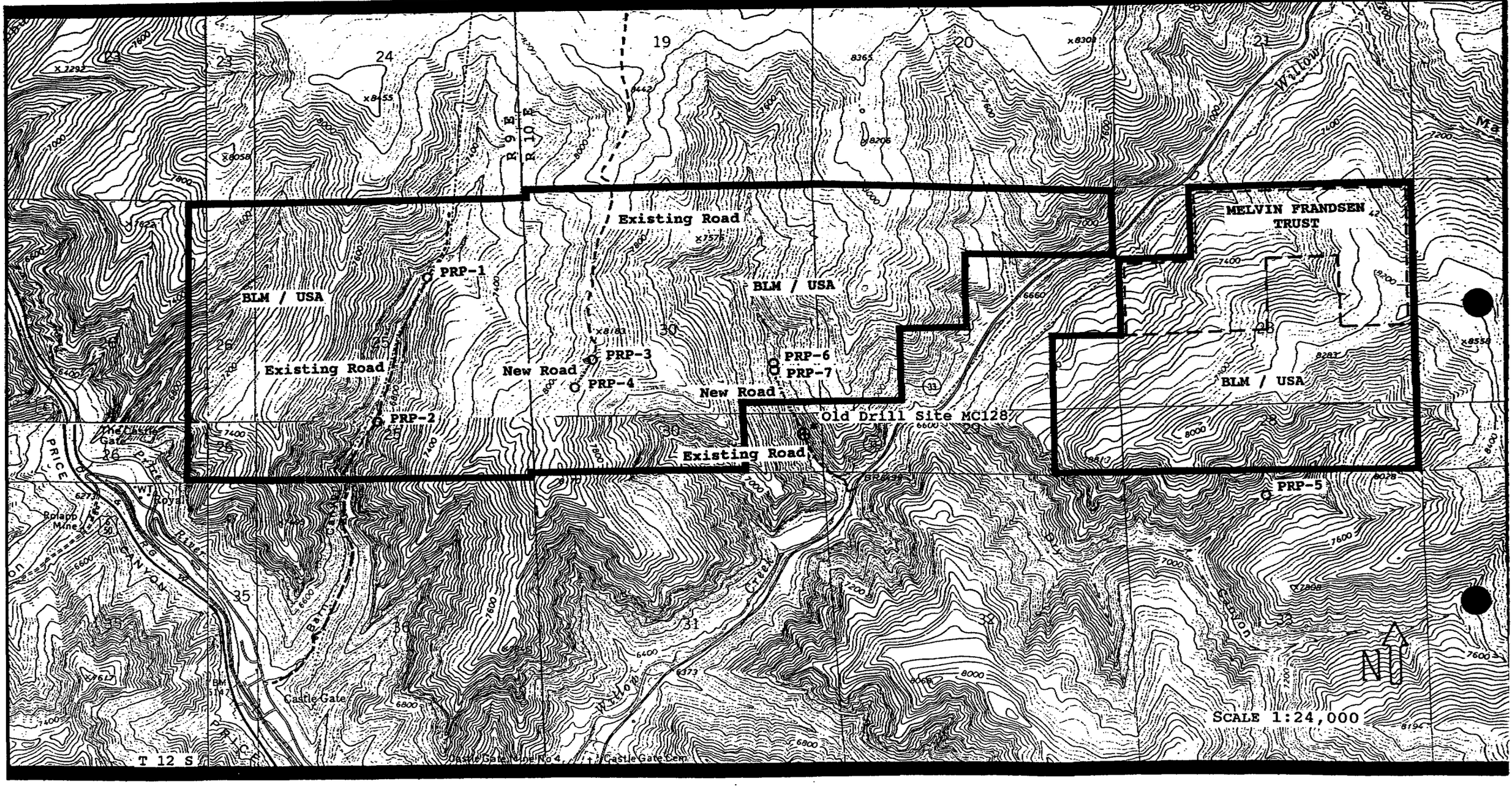
FIGURE 2

Maps



PROPOSED "WILLOW CREEK NORTH" TRACT

PROPOSED 1995 DRILL SITES & ACCESS



PROPOSED "WILLOW CREEK NORTH" TRACT

SURFACE OWNERSHIP

Exhibit A

ABAJO ARCHÆOLOGY

WILLIAM E. DAVIS, Director

October 23, 1994

John Borla
Manager of Technical Services
Cyprus-Plateau Mining Company
P.O. Drawer PMC
Price, Utah 84501

Dear Mr. Borla:

Abajo Archaeology conducted an archaeological and paleontological survey on October 20, 1994 for six drill locations in Carbon County, Utah. The inventory was performed upon the request of Mr. Gregory L. Hunt, consulting geologist, Castle Rock, Colorado. The project area is located in Township 12S, Range 9E, Section 25, and Township 12S, Range 10E, Section 30 (USGS Helper, UT 7.5', 1972 and Matts Summit, UT 7.5', 1969). The inventory area is situated on private land and public lands administered by the Bureau of Land Management (BLM), Price River Resource Area (Moab District).

The objectives of the inventory were to locate, document, and evaluate any cultural or paleontological resources occurring within the project area to attain compliance with a number of federal and state antiquities related laws including: the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, the Archaeological and Historic Preservation Act of 1974, American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Utah State Antiquities Act of 1973 (amended 1990).

The fieldwork was performed by Jacki A. Montgomery, consulting archaeologist with Abajo Archaeology under the authority of U.S. Department of the Interior (FLPMA) Permit No. U-94-56323 and State of Utah Antiquities Permit (Survey) No. U-94-AS-675b,p. A file search for previous archaeological surveys and recorded sites was carried out at the BLM Price River Resource Area Office on October 20, 1994. The results indicated that an inventory of seismograph lines (Harden 1984), and a proposed drill locations project for American Electric Power (Hauck 1979) have been conducted in the area. Various drill sites and

P. O. Box 100 Bluff, Ut. 84512 (801) 672-2272

access routes previously surveyed for American Electric Power are within the current project area, however no cultural resources have been documented within the confines of the Cyprus-Plateau Mining Company's project area. Also, no paleontological sites have been recorded in the area.

The Cyprus-Plateau Mining Company's six proposed drill locations and access roads are situated north of Helper, Utah in Carbon County. All drill locations are on lands administered by the BLM. Their locations are shown in Figure 1 and their legal descriptions are as follows:

PRP-1 NE1/4 of Section 25, Township 12S, Range 9E;
PRP-2 SW1/4 of Section 25, Township 12S, Range 9E;
PRP-3 SW1/4 of Section 30, Township 12S, Range 10E;
PRP-4 SW1/4 of Section 30, Township 12S, Range 10E;
PRP-6 SE1/4 of Section 30, Township 12S, Range 10E;
PRP-7 SE1/4 of Section 30, Township 12S, Range 10E.

The project area lies within the Bookcliffs-Roan Plateau of the Colorado Plateau (Stokes 1986:232). It occurs within the Upper Sonoran Vegetation Zone in the Pinyon-Juniper and Mixed Conifer Forest vegetation zones. Basically both canyon systems have been impacted by previous bulldozed two-track roads and alluvial/colluvial erosion.

A 200 ft. by 200 ft. area (0.92 acre) was surveyed at each proposed drill location. A 100-foot wide corridor was surveyed along the access routes. The archaeologist walked parallel transects, spaced no more than 10 meters apart, across the drill location areas and the access corridors. This considered intensive, or 100%, coverage.

Locations PRP-1 and PRP-2 are situated in upper Burn Canyon and approximately 1.0 mile was surveyed along an existing two-track road that leads to these two locations. Locations PRP-6 and PRP-7 are situated in a side canyon of Willow Creek, and approximately 0.57 mile was surveyed from Highway 33 into these locations.

Based on the file search and consultation with the BLM Archaeologist Blaine Miller, it was decided that proposed locations PRP-3 and PRP-4 and associated access, located south of Matts Summit, were previously surveyed for cultural resources by AERC in 1979 for the American Electric Power project (Hauck 1979); therefore these proposed locations (e.g., PRP-3 and PRP-4) were excluded from the present inventory.

A total of 3.68 acres was inventoried for drill locations PRP-1, PRP-2, PRP-6, and PRP-7, and 19.0 acres along the total 1.57 miles of access corridors (total = 22.68 acres). No cultural or paleontological resources were found during the inventory.

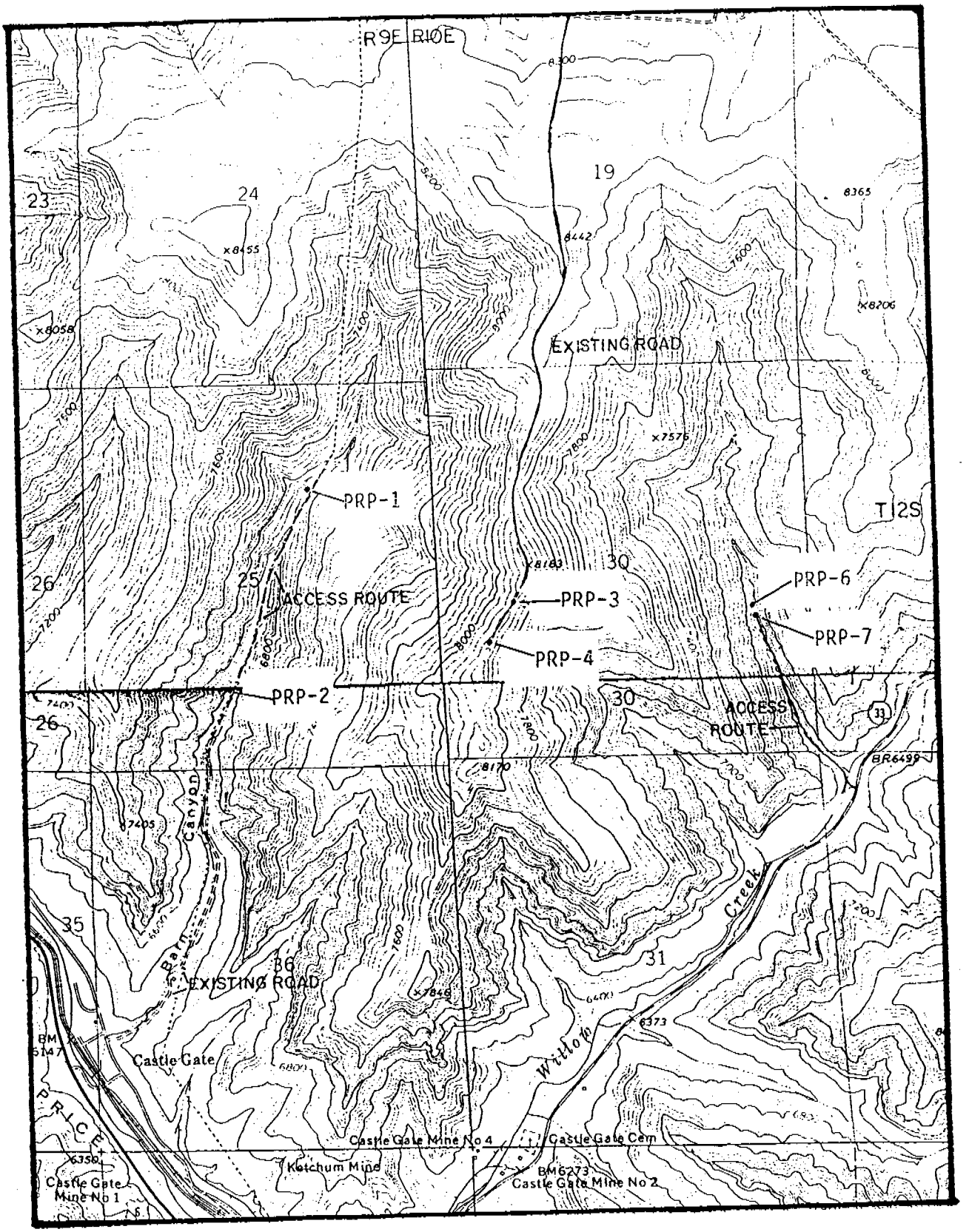


Figure 1. Cyprus-Plateau Mining Company's Proposed Drill Locations and Access Routes (USGS Matts Summit, UT, 7.5', 1969 and Helper, UT, 7.5', 1972)

Due to the absence of significant cultural or paleontological resources within the proposed project areas, a determination of "no effect" to historic properites is recommended for purposes of Section 106, 36 CFR 800.

Sincerely,

William E. Davis, Director

cc: Miller, BLM
Dykman, Utah SHPO

References Cited

Harden, Patrick
1984 An Archaeological Survey of Eleven Seismograph Lines for Seis-Port Explorations, Inc. in Emery and Carbon Counties, Utah. La Plata Archaeological Consultants, Dolores, Co. BLM Report No. 84-7, on file at the Price River Resource Area, Price, Utah.

Hauck, F.R.
1979 An Archaeological Reconnaissance of Proposed Well Locations and Access Roads in the Matt's Summit Locality of Carbon County, Utah. Archeological-Environmental Research Corporation, Bountiful, Utah. BLM Report No. 79-28, on file at the Price River Resource Area, Price, Utah.

Stokes, William L.
1986 Geology of Utah. Utah Museum of Natural History and Utah Geological and Mineral Survey. Salt Lake City.

Exhibit B

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Robert G. Valentine
Division Director

Southeastern Region
455 West Railroad Avenue
Price, Utah 84501-2829
801-637-3310
801-637-7361 (Fax)

December 13, 1994

Ben Grimes, Environmental Engineer
Cyprus Plateau Mining
P.O. Drawer PMC
Price, Utah 84501

Dear Ben:

On October 20, 1994, Bill Bates of our staff assisted with a raptor survey of areas within the 0.5 mile buffer zone of 4 proposed core hole drilling sites in Price Canyon and Willow Creek. The following nest sites were located during that survey:

Species	Location	Condition
Golden Eagle	T 12 S, R 9 E, Sec. 36, NW NW	Used in past several years
Golden Eagle	T 12 S, R 9 E, Sec. 36, NE NW	Old and dilapidated
Buteo	T 12 S, R 10 E, Sec. 29, SW SW	Used in past several years

The first golden eagle nest is located on the opposite side of a ridge approximately 0.5 miles from drill site PRP-2. The buteo nest is within 0.5 miles of PRP-6 and 7. These nests should be checked for activity next spring if drilling activities are to occur during the nesting season, from February 15 to July 15.

Thank you for the opportunity to assist with this survey. If you have questions please contact Bill Bates, Habitat Manager.

Sincerely,

Miles Moretti
Regional Supervisor

copy: Ralph Miles