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# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
324 South State, Suite 301  
Salt Lake City, Utah 84111-2303

IN REPLY REFER TO:

3410  
UTU-74111  
(UT-923)

Mr. James W. Carter, Director  
Utah Division of Oil, Gas and Mining  
3 Triad Center, Suite 350  
355 West North Temple  
Salt Lake City, Utah 84180-1203

Dear Mr. Carter:

An application for a coal exploration license, assigned serial number UTU-74111, was filed in this office on April 13, 1995, and amended June 13, 1995, by Horizon Coal Corporation for lands in Carbon County.

The lands being considered in coal exploration license application UTU-74111 are described as follows:

T. 13 S., R. 8 E., SLM, Utah  
Sec. 7, S2SE;  
Sec. 8, N2S2, SWSE;  
Sec. 17, N2NW, SWNE;  
Sec. 18, NENE.

Containing 440.00 acres

We will notify you if and when the coal exploration license is issued.

Sincerely,

Douglas M. Koza  
Deputy State Director,  
Mineral Resources

Enclosure  
Exploration License Application

JUN 1 1995  
EXP/007/020  
**RECEIVED**  
JUN 16 1995  
DIV. OF OIL, GAS & MINING

95A  
(File all in  
exp. file in  
library)  
Copy PAM (all)

Horizon Coal Corporation

P.O. Box 2560  
Wise, VA 24293

RECEIVED

JUN 13 1995

June 13, 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

Bureau of  
Land Management

Re: Application for Exploration License, "Beaver Creek Tract"  
Modification to Description of Lands  
UTU-74111

Dear Sir:

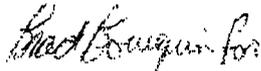
As per phone conversations with Brad Bourquin, Horizon Coal Corporation hereby applies to modify the exploration licence application UTU-74111 by the addition of the following lands:

T. 13 S., R. 8 E., SLM, Utah  
Section 7, S2SE;  
Section 8, N2S2, SWSE  
Section 17, N2NW, SWNE;  
Section 18, NENE.

Containing 440.00 Acres.

Please provide us verbal authorization to Brad Bourquin, (303) 989-4242, so that we can begin publication in the Price Sun Advocate on Thursday June 15, 1995.

Sincerely,



Richard Gilliam  
President

Horizon Coal Corporation  
P.O. Box 2560  
Wise, VA 24293

April 12, 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**

95 APR 13 AM 10:05  
BUREAU OF LAND MGMT  
SALT LAKE CITY, UT

**Re: Application for Exploration License, "Beaver Creek Tract"**

Dear Sir:

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

Township 13 South, Range 8 East. Salt Lake Meridian Utah

Section 8; N½ S½

Containing 160 acres, more or less

Attached are five copies of the Exploration Plan for the proposed exploration area, which is referred to as the "Beaver Creek" Tract. The Exploration Plan includes one hole to be drill on Federal Lease SL 063011. Application for on-lease exploration is being made to the Price River Resource Area under separate cover. 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, Horizon 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, -

*Richard Gilliam by F.B.B.*

Richard Gilliam

cc. Brad Bourquin

**Notice of Invitation to Participate in a Coal Exploration Program  
Horizon Coal Corporation  
Beaver Creek Track**

Horizon Coal 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 13 South, Range 8 East. Salt Lake Meridian Utah

Section 8; N $\frac{1}{2}$  S $\frac{1}{2}$

Containing 160 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 Brad Bourquin, 1131 S. Dover, Lakewood, Colo. 80232. 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 Horizon Coal 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**

for

**PROPOSED "BEAVER CREEK" EXPLORATION TRACT**

**UNLEASED FEDERAL COAL LAND**

**CARBON COUNTY, UTAH**

**PRIVATE Surface**

and

**FEDERAL COAL LEASE SL 063011**

**CARBON COUNTY, UTAH**

**STATE Surface**

**HORIZON COAL CORPORATION**

**APRIL 1995**

**RECEIVED**

**APR 13 1995**

Bureau of  
Land Management

## INTRODUCTION

This exploration Plan has been prepared by Horizon Coal Corporation acting as operator and owner for this exploration project. Horizon Coal Corporation has been assigned all leases mineral and surface rights, and the Mine Permit for the property formerly known as Blue Blaze. This property and permit will be referred to as the Horizon Coal Mine and Permit throughout this plan. 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 Horizon Coal and to construct ground water monitoring wells. 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 leased and unleased federal land for which this exploration plan has been prepared are 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 Horizon's response follows. References to *figures, tables and maps* are italicized for easy recognition.

Five copies of this plan are herewith submitted to the Utah State BLM office. Courtesy copies are also being forwarded to the Price, Utah, BLM office and to the UDOGM office in SLC.

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:**

Horizon Coal Corporation  
P.O. Box 2560  
Wise, VA 24293  
Telephone (703) 679-0804

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.

**Responsible Party:**

Brad Bourquin  
1131 S. Dover  
Lakewood, Colo. 80232  
Telephone (303) 989-4242

3482.1(a)(3)(iii) A narrative description of the proposed exploration area, cross-referenced to the map required under paragraphs (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 a 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 plan area includes land on existing Federal Coal Lease SL 063011 controlled by Horizon Coal Company (formerly known as Blue Blaze), and on land immediately north of and contiguous to the existing Horizon Coal leases, referred to herein as the Proposed "Beaver Creek" Exploration License Area. The attached *Proposed Drill Sites & Access Map* shows the area covered by this exploration plan.

#### **Legal Description**

Legal descriptions of the two parcels of land which comprise the area of interest for this Exploration Plan are as follows:

Proposed "Beaver Creek" Exploration License Area, Un-Leased Federal Coal Land, Private Surface (controlled by Pete and Steve Stamatakis):

Township 13 South, Range 8 East, SLM  
Section 8, N $\frac{1}{2}$ / S  $\frac{1}{2}$

The small (40 acres) portions of Federal Lease SL 063011 (The full lease encompasses 280 acres), for which the State of Utah controls the surface:

Township 13 South, Range 8 East, SLM  
Section 17, SW $\frac{1}{4}$ /NE $\frac{1}{4}$

The attached *Surface Ownership Map* shows surface ownership of all lands in the exploration plan area. Note that two surface owner's one; State of Utah, two; Pete & Steve Stamatakis, control the lands upon which exploration activities will be conducted under this exploration plan. The rather unusual circumstance of having federal coal lying beneath surface controlled by the State of Utah is the result of a land swap.

#### **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

<u>Site Designation</u>	<u>State Coordinates</u>		<u>Approx. Legal Description</u>
PRP-1	2,127,300 E	497,200 N	SW ¼ / NE ¼ S 17 T 13 S, R 8 E
PRP-2	2,128,700 E	500,700 N	NE ¼ / SE ¼ S 8 T 13 S, R 8 E
PRP-3	2,124,890 E	501,100 N	NW ¼ / SW ¼ S 8 T 13 S, R 8 E
PRP-4	2,129,100 E	501,000 N	NE ¼ / SE ¼ S 8 T 13 S, R 8 E

**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 exploration plan area. Elevations range from more than 9,000 feet above sea level on the tops of the highest ridges to 7,500 feet above sea level in the bottom of the deepest canyon.

**Geologic Features**

The lease tract lies at the northern end of the Wasatch Plateau 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 more than 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 foreshore deltaic cliff forming sandstone members in ascending order, Panther, Storrs, Spring Canyon, and Aberdeen and lower coastal plain coal seams. The landward pinch out of the Aberdeen Sandstone occurs within the boundaries of the exploration plan area.

The aggregate thickness of the Blackhawk formation in this area is approximately 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 the above mentioned shoreline delta sandstone units.

Overlying the Blackhawk Formation is the lower Castlegate Sandstone (lowest member or the Price River Formation, massive cliff-forming sandstones 200-250 feet thick,) overlain by lenticular sandstones and mudstones of the Upper Price River Formation 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 exploration plan area, and is present only on the highest ridge tops.

Stratigraphic units in this part of the Wasatch Plateau Coal Field typically dip 8° North-Northeast. This regional dip is modified locally in individual fault blocks. Four faults with throws large enough to be considered "mine bounding" occur within, or in the immediate vicinity of, the exploration license area and form three separate fault blocks. These faults include the N 60° W Fish Creek Graben (Northern Boundary Fault), the N ≈ 45° W "B-C Fault," the arcuate ≈ N-S C-D Fault and the N 20° W "Eastern Boundary Fault" which is likely a northern extension of the Bear Canyon Graben.

The "Fish Creek Graben" and the "Eastern Boundary Fault" are considered large enough to significantly influence ground water levels, whereas the "B-C" and the "C-D" Faults are considered too small to significantly impact the ground water regime.

Proposed drill holes' PRP-1 and PRP-3 lie within one fault block and PRP-2 and PRP-4 are in a second fault block. A conscious effort has been made to locate the proposed drill holes away from faults wherever possible.

### **Surface Water**

The three principal drainages found within the exploration plan are, Beaver Creek, North Fork of Gordon Creek, and Gordon Creek. Beaver Creek is the only perennial stream in the exploration area. Gordon Creek and the North Fork of Gordon Creek are intermittent streams flowing only in response to snow melt or precipitation.

A number of seeps and springs also occur along rock-soil interfaces, or along fracture/joint zones, and most of these are intermittent.

### **Vegetative Cover**

The surface is predominantly covered with sage brush, grasses and occasional conifers. A more complete description of vegetative cover may be found in section 9 of the Blue Blaze Mine Permit.

The exploration plan area includes lands inside of the Blue Blaze Mine Permit Area and lands which are contiguous with the Blue Blaze Mine Permit Area (the proposed Beaver Creek Exploration License Area). It will be noted that the Proposed Beaver Creek Exploration License Area is small (160 acres), and that the boundary lying the greatest distance from the Blue Blaze Mine Permit Area is less than 1,500 feet from the Blue Blaze Mine Permit Boundary. Vegetation Resources have been evaluated within the Blue Blaze Mine Permit Area as outlined in section 9 of the Mine Permit Document. The Mine Permit Document has been reviewed by DOGM and was found to be satisfactory but has not been approved, pending only posting of the bond (personal communication, Pamela Grubaugh Littig, April 5, 1995)

Because PRP-1 lies within the Permit Boundary and because the other holes are located within 1,200 feet from the Permit Boundary it is believed that studies of vegetative cover detailed

in the Horizon Mine Permit, and extrapolations of the vegetative cover data into the exploration tract area, satisfies the data requirements.

#### **National Register of Historical Places Listings**

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

#### **Archeological Resource Inventory**

A cultural and archaeological resource inventory of the proposed drill sites and access roads (where applicable) will be completed as soon as is practicable, and the results will be forwarded to become an attachment to this plan. The inventory will fulfill the 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).

#### **Other Physical Features**

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

#### **Soils**

All soils within the exploration plan area 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). Two soils surveys were conducted within the Horizon Coal Mine Plan Area and the results are summarized in the Horizon Coal Mine Plan Permit Document. The close proximity of the exploration license area to the permit area facilitates extrapolation of the soil types into the exploration permit area. Soils described in the area are as follows:

##### Shupert-Winetti Complex

The Shupert - Winetti complex consists of very deep, well drained, moderately permeable soils on narrow valley and canyon floors. These soils formed in alluvium derived from sandstone and shale. Slopes are 1 to 8 percent. Elevation ranges from 4,600 to 7,200 feet. Average annual precipitation is 12 to 16 inches, and average annual air temperature is 43 to 45 degrees F. These soils are fine-loamy, mixed (calcareous), frigid Typic Ustifluvents.

##### Brycan

The Brycan Series consists of very deep, well drained, moderately slowly permeable soils on alluvium derived from shale and sandstone. Slope is 3 to 8 percent. Elevation is 7,700 to 8,600 feet. Average annual precipitation is 16 to 20 inches, and average annual air temperature is 38 to 45 degrees F.

##### Rabbityex

The Rabbityex series consists of very deep, well drained, moderately permeable soils on mountain slopes and ridgetops. These soils formed in residuum and colluvium derived dominantly from sandstone, shale, limestone, and siltstone. Slope is 15 to 70 percent. Elevation is 7,000 to 9,200 feet. Average annual precipitation ranges from 16 to 20 inches, and average annual air temperature ranges from 38 to 45 degrees F.

### **Threatened or Endangered Species**

There are no known threatened or endangered species found on or near the permit area, and by extrapolation, within the exploration plan 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 Peregrine (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)
- Swainson'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)

Wildlife in the exploration plan area has been monitored for more than six years by the UDWR as a result of the proximity to the Gordon Creek Wildlife Management Area which lies less than 3,000 feet east of proposed drill site PRP-1. Personnel communications from Bill Bates and Ben Morris (UDWR) indicate the exploration plan area is used as non-critical deer and elk winter range from December 1 through April 15. They also indicate that two Bald Eagle / Prairie Falcon Nests are located in the N $\frac{1}{2}$  of S 17. Proposed drill site PRP-1 lies within a 0.5 mile radius of both nests. Holes PRP-2, 3&4 lie outside of a 0.5 mile radius from the nests. It is not known if these nests are active this year.

A Raptor survey will be conducted by UDWR on approximately May 15 to determine if the Bald Eagle/Prairie Falcon Nests are active, and if there are any Goss Hawk Nests in the area. Results of this survey will be forwarded to become an attachment to this exploration plan.

**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 (conventional truck-or track-mounted), core sampling and testing, and down-hole geophysical logging of the open holes as the main methods of data collection. All three holes will be completed as groundwater monitor wells. The attached *Proposed Drill Sites & Access Map* shows pad site locations and access roads.

**Pad & Site Access Detail**

**PRP-1** is located approximately 1,200 feet up drainage from the old Blue Blaze Mine Portals. Access will be gained along the existing road to the mine portals and via an approximate 500-foot extension up the drainage to the proposed drill site. The pad is planned as a single 75 X 125 foot rectangle, and a minor amount of cut and fill will be required to obtain these dimensions.

**PRP-2** is located approximately 100 feet west of the existing road which passes up the drainage tributary to Beaver Creek in the east half of section eight. Access will be gained via the county road which passes through the head of Beaver Creek then via the private road passing down Beaver Creek, then along another private road passing up the drainage to the drill site. Approximately 400 feet of new road will be constructed starting from the existing road, along elevation contour, north-westward to PRP-2. The planned pad dimensions are 75 X 150 feet to accommodate the mud pit and compressors for air-foam drilling.

**PRP-3** is located along the access road in Beaver Creek approximately one mile down stream from the large beaver pond. Access will be gained via the county road to the head of Beaver Creek, then down Beaver Creek via the private road as described for PRP-2 access. Construction of a new road will not be required because the site is adjacent to the existing private road. Planned pad dimensions are 75 X 150 to accommodate the mud pit and all equipment on-site.

**PRP-4** is located approximately 500 feet east of PRP-2 and approximately 400 feet east of the existing road. Access will be gained via the same route as for PRP-2 except an approximately 600 feet of road will be constructed, along grade, from the existing road to the proposed site. Pad dimensions are planned to be 100 X 100 feet to accommodate the mud pit and all equipment on-site.

PRP-4 is planned as an alternative site to PRP-2 because of the risks presented by not knowing the exact location of the fault which passes up the drainage. Two sites are permitted in this vicinity so if the fault is inadvertently encountered in the first choice site, we will have the option of moving to the alternate site without having to wait for the permitting process. Planned pad dimensions are similar to those for PRP-2.

Three drill holes "only" are planned to be drilled to "total depth" and completed as groundwater monitor wells on this project.

**Drill Water**

Drill Water for PRP-2,3,&4 and possibly PRP-1, will be procured from the artesian well which flows approximately 15 gmp, located adjacent to the access road in the SE¼ of section 5.

A small (approximately 500 gal. ) storage tank will be placed immediately down-hill from the artesian well to act as a reservoir from which to pump.

Permission is being sought to use the large beaver pond which lies along the access road in upper Beaver Creek as an alternate water source.

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. At least one truck mounted drill rig, together with a variety of ancillary or support equipment and a geophysical logging truck and other service trucks may be used at each site.

### PLANNED MAJOR EQUIPMENT

- One D-4 or D-6 dozer
- One rubber tired back-hoe
- One truck mounted rotary or continuous core rig
- One pipe truck
- One casing trailer
- One on-site water tank
- One equipment/"dog house" trailer
- Possibly one or two compressors
- One or two flat-bed/rig-up trucks
- Two ≈ 2,000 gal. water trucks
- One ≈ 15 ft core /field office trailer
- Three or four 4X4 pickup trucks

### Seed Mixtures

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

Table 2

SHRUBS	Seed Mix	Pounds per Acre
Symphoricarpus albus		1.0
Artemesia tridentata wyomingensis		0.5
Cercocarpus ledifolius		1.0

Table 2 (cont.)

<b>FORBS</b>	
Achillea millefolium	0.5
Balsamorhiza saggitata	0.5
Penstemon strictus	0.5
<b>GRASSES</b>	
Poa secunda	1.5
Bromus carinatus	1.5
Agropyron spicatum	1.5
A. smithii	1.5
A. trachycaulum	1.5
<b>Total, lbs./acre, Pure Live Seed</b>	<b>11.5</b>

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 at these locations. 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 mud pits after coring and plugging activities are complete. Drill cuttings will be contained and buried in the mud pit. Mud pits 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)      The proposed method for plugging drill holes:

The three drill holes drilled to TD will 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 five inches for the cored intervals. The deepest hole should not exceed about 1,200 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 2 and 3 (Ground Water Monitor Well Detail, & Suggested Locking Cap Detail For Monitor Wells)* with two inch steel, PVC, or fiberglass 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 approximately 50 feet below the top of the StarPoint Sandstone which immediately underlies the lowest minable coal seam.

The hole will be fitted with a one quarter 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

	July	August	Sept	Oct
WEEK ⇒	2 3 4	1 2 3 4	1 2 3 4	1 2 3
PROGRAM				
PHASE				
↓				
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 three drill holes. Three-inch diameter coal core with length equal to the seam thickness will be removed from each of the anticipated seams encountered. Two Coal Seams (Castlegate A, and Hiawatha) will be cored with an estimated 16 feet of coal being removed from each hole. Calculated amount of coal to be removed is approximately 201 lbs.

Calculations for lbs. of coal per hole:

$$(1.5\text{in.}) \times \pi/144 \times 16 \text{ ft.} = (\text{est. cubic ft. coal/hole})$$

$$\times 85 \text{ lbs./cu. ft.} = 67 \text{ lbs. coal / hole}$$

**Total for Program = 67 X 3 = 201 lbs. of coal to be removed.**

The core sampled will be used for quality and geo-technical 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, for some reason, 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 property. 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 core 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, geo-technical, 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 law requirements for such a transfer, conversion, or utilization as 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; existing bodies of surface water; and topographic and drainage features.

*Proposed 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 lands covered in this exploration plan is privately held. The attached *Surface Ownership* Map depicts ownership within and in vicinity of the Horizon coal Mine. The surface owners of record are:

PETE STAMATAKIS JR.  
STEVE N G. STAMATAKIS  
1111 S. 450 W  
Price, Utah 84501

STATE OF UTAH  
SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION  
355 W. N. Temple  
3 Triad Center  
Suite 400  
Salt Lake City, Utah 84180-1204

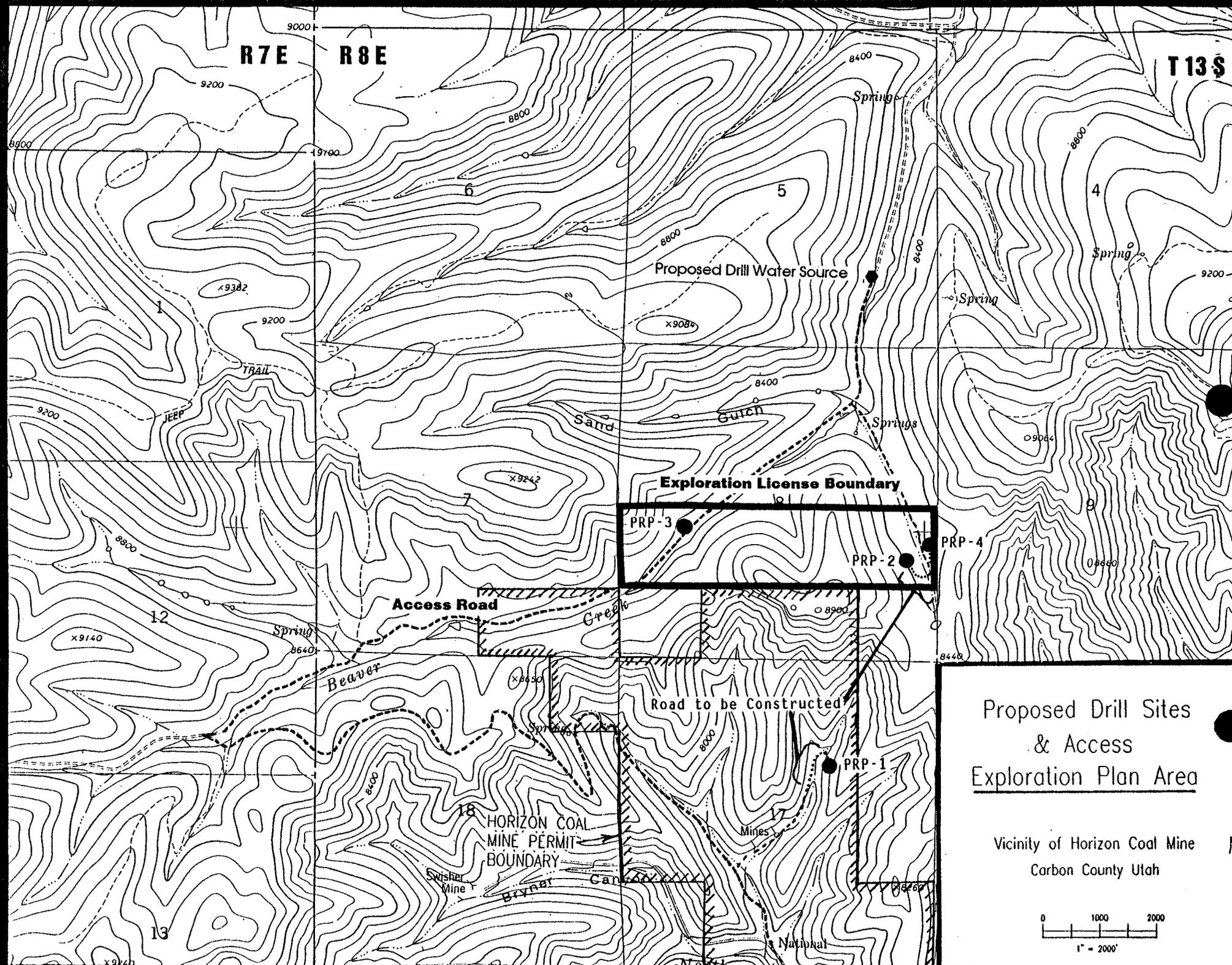
All lands on which drill pads and roads are to be constructed for execution of this exploration plan are owned by the above named surface owners. The access road to PRP-2,3,& 4 passes over two other parcels of private land. Approximately one half mile of the access road passes across land controlled by Medicine Bear Land & Cattle Company, Provo, Utah. Approximately 1,000 feet of the access road crosses over land owned by Robert F. & Linda N. Jewkes, Salt Lake City, Utah.

Access to PRP-1 passes over land controlled by Horizon Coal Corporation.

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

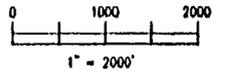
Other data that may be required will be made available as soon as possible upon the request of the BLM.

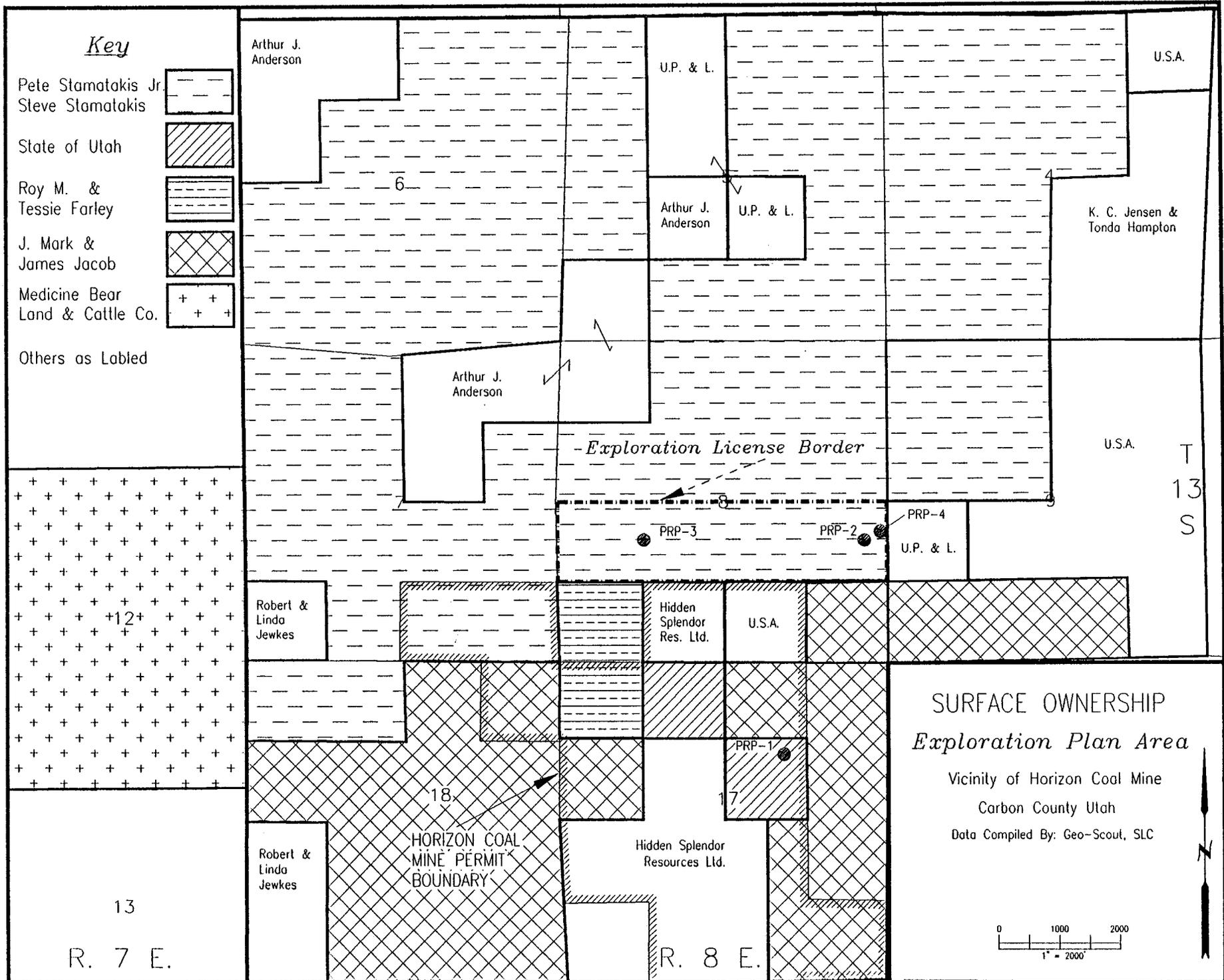
**Maps**



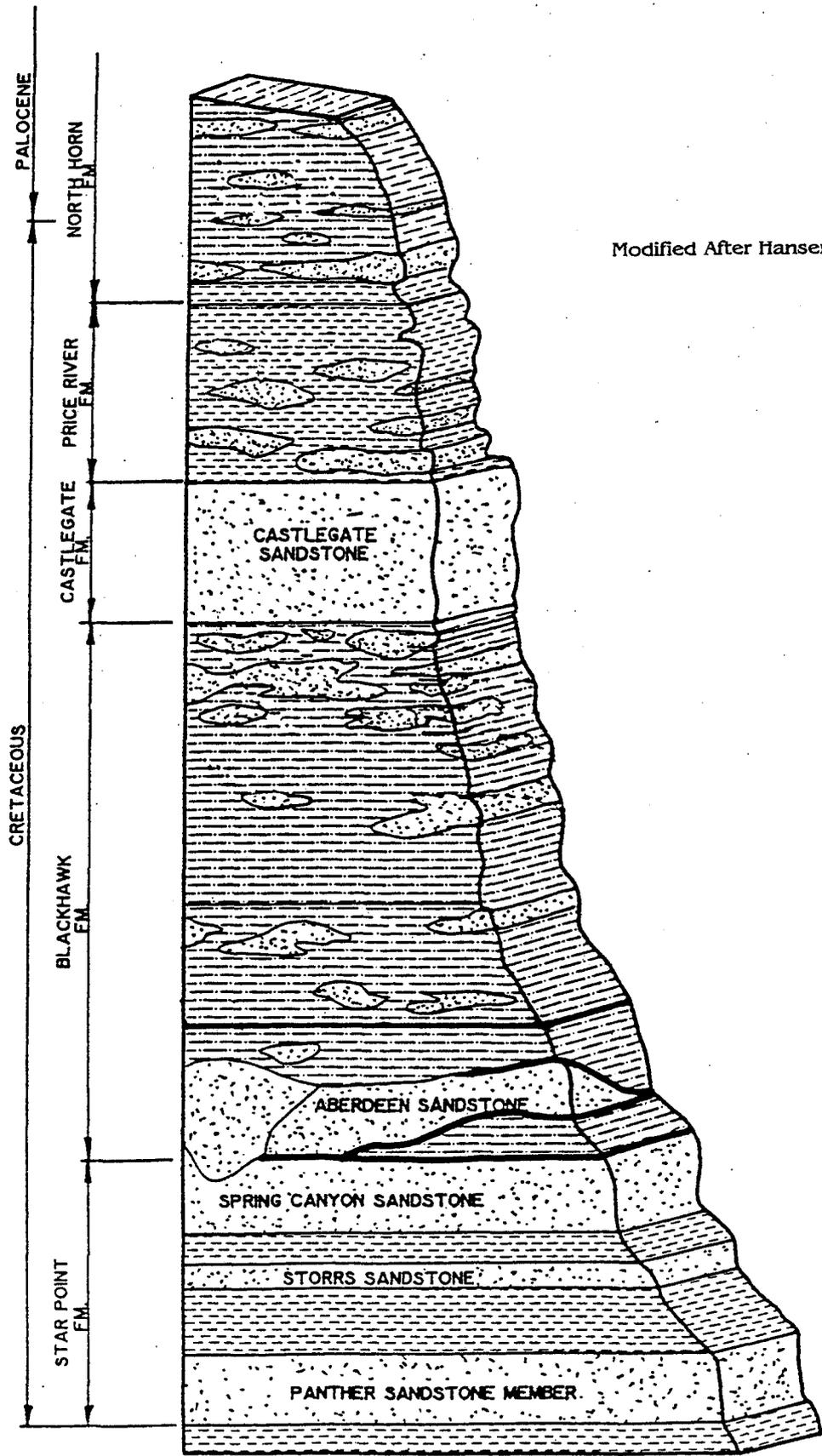
Proposed Drill Sites  
& Access  
Exploration Plan Area

Vicinity of Horizon Coal Mine  
Carbon County Utah





## Figures

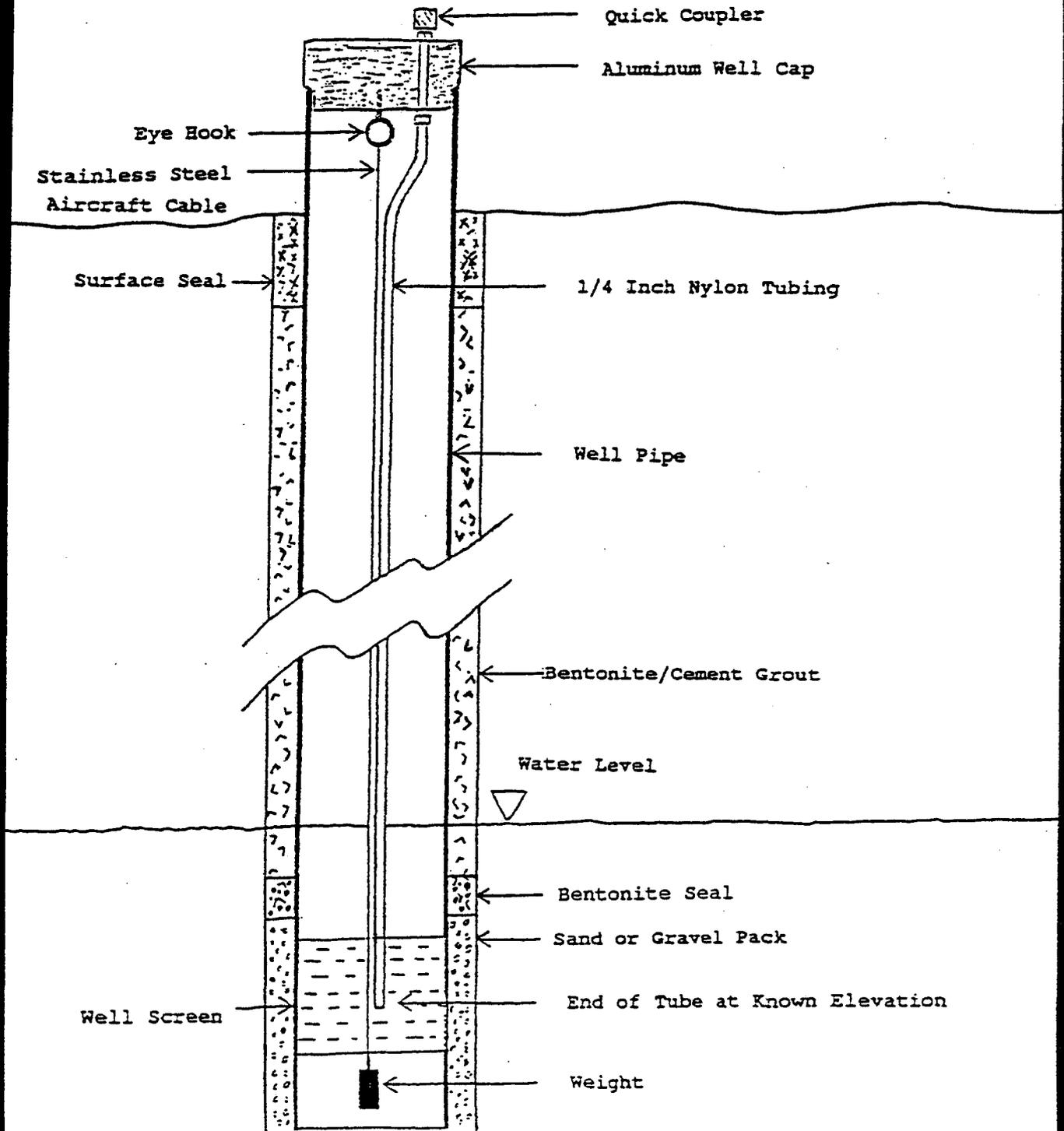


Modified After Hansen

**Generalized Stratigraphic Column  
Horizon Coal Mine Area**

**Figure 1**

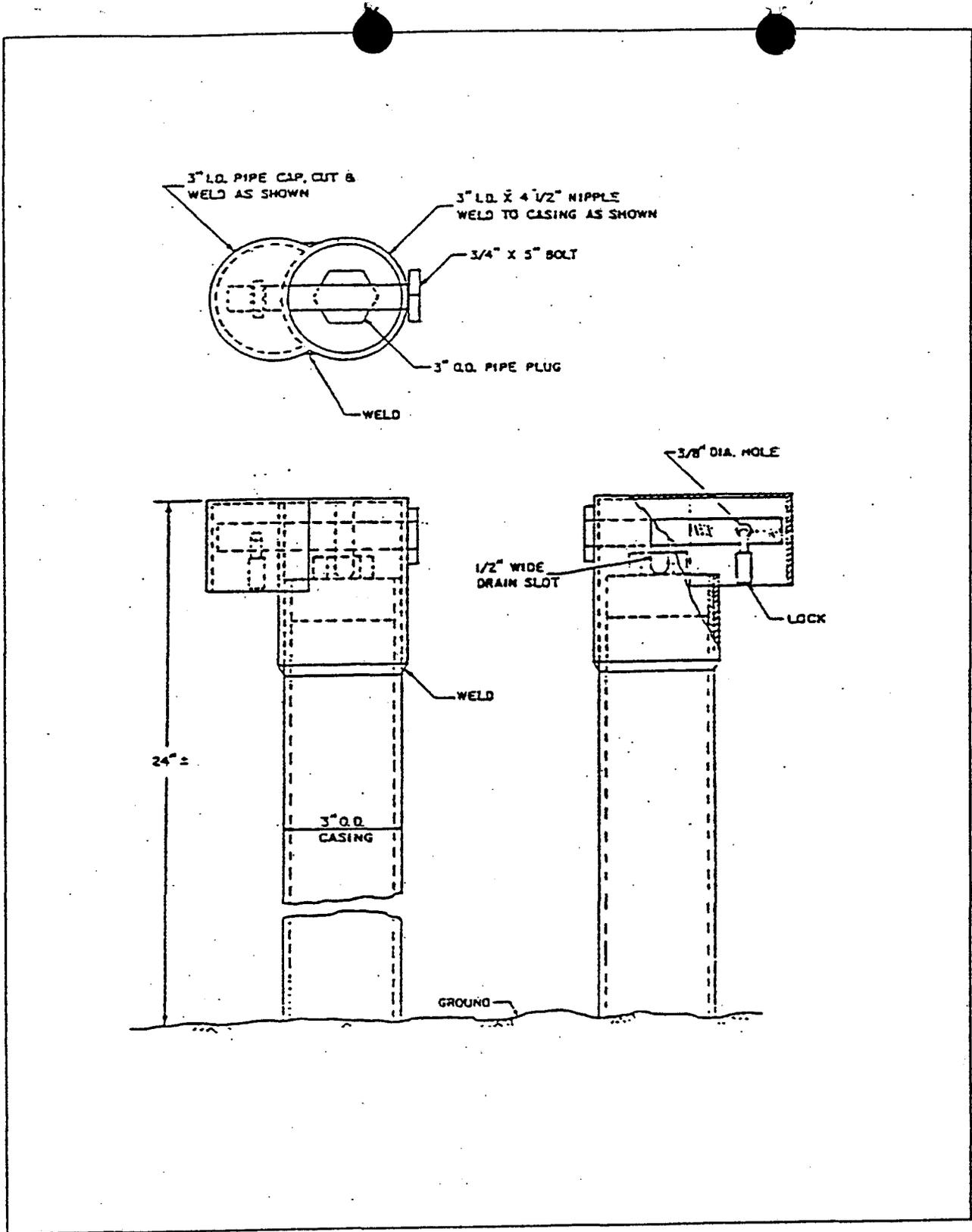
# Ground Water Monitor Well Detail



Not To Scale

FIGURE

2



**Figure 3**  
**Suggested Locking Cap Detail For**  
**Monitoring Wells**