Bureau of Land Management
Utah State Office
P. O. Box 45155
Salt Lake City, Utah 84145-0155

orig file
Route thru Daran
~~L Paxton~~
CEP/007/005 exploration
cc: Mine file
Priscilla

3410
UTU-68087
(U-942)

SEP 18 1991

CERTIFIED MAIL--Return Receipt Requested

DECISION

Coastal States Energy Company	:	
175 East 400 South, Suite 800	:	Coal Exploration License
Salt Lake City, UT 84111	:	UTU-68087

Coal Exploration License Issued
Bond Accepted

Coal exploration license UTU-68087 is hereby issued effective September 18, 1991, with an expiration date of September 17, 1993.

On September 17, 1991, a coal exploration license bond in the amount of $18,000 was filed in this office with Coastal States Energy Company as principal, and United Pacific Insurance Company of Federal Way, Washington as surety. The bond (No. U605244-15) was submitted to provide coverage for coal exploration license UTU-68087 and is accepted as of September 17, 1991.

/s/ ROBERT LOPEZ
Chief, Minerals
Adjudication Section

Enclosure
Exploration License

cc: Forest Service, Ogden, Utah (w/encl.)
Moab District Office, BLM (w/encl.)
Price Coal Office, BLM (w/encl.)
U-921
Dr. Dianne Nielson, Division of Oil, Gas & Mining

RECEIVED
SEP 19 1991
DIVISION OF
OIL GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

COAL EXPLORATION LICENSE

Serial Number UTU-68087

Issue Date SEP 1 3 1991

Expiration Date SEP 1 7 1993

This license, entered into on SEP 1 3 1991, by the United States of America, the licensor, through the Bureau of Land Management (BLM), and

Coastal States Energy Company
175 East 400 South, Suite 800
Salt Lake City, Utah 84111

the licensee, is hereby issued under the Mineral Leasing Act of February 25, 1920, 41 Stat. 437, as amended (30 U.S.C. Sections 181-263, and is subject to all applicable Federal, state, and local laws and regulations including, but not limited to, 43 CFR Group 3400, and 30 CFR Part 211.

Sec. 1. RIGHTS UNDER LICENSE. This license confers the right to perform exploration operations in accordance with the terms and conditions of this license, the approved exploration plan, and applicable regulations in the following-described lands situated in:

T. 12 S., R. 6 E., SLM, Utah
Sec. 26, S½SW¼;
Sec. 34, all;
Sec. 35, lots 1-8.

T. 13 S., R. 6 E., SLM, Utah
Sec. 3, lots 1-4.

Containing 1,232.78 Acres

This license is for a period of two years, is not subject to extension or assignment, and shall confer no right to lease.

The issuance of this license shall not preclude the issuance of a coal lease under applicable regulations for the above-described lands. If a coal lease is issued, the lands embraced in such lease shall be eliminated from the license effective upon the date of issuance of such lease. A licensee may not remove for sale any coal from the deposits subject to this license, but he may remove a reasonable amount of coal for analysis and study.

Sec. 2. EXPLORATION. The licensee shall diligently explore the lands by drilling, excavating or by geophysical and geochemical surveying or other acceptable methods. The licensee is entitled to use for exploration purposes so much of the surface of the licensed lands as is reasonably necessary for such operations in accordance with the approved exploration plan which is attached and made a part of this license.

Sec. 3. OPERATIONS. (a) Licensee shall comply with all regulations of the Secretary of the Interior and with all regulations and orders of the Secretary of Agriculture.

(b) Licensee shall comply with the provisions of the operating regulations under 30 43 CFR 3480 and all orders issued pursuant thereto. Copies of the operating regulations may be obtained from the authorized officer, Bureau of Land Management.

(c) Licensee shall allow inspection of the premises and operations by duly authorized representatives of the Department of the Interior, or other agency administering the lands, and shall provide for the free ingress or egress of Government officers and for users of the lands under authority of the United States.

Sec. 4. MULTIPLE USE. (a) The Government reserves the right to authorize other uses of the licensed lands by regulations or by issuing, in addition to this license, leases, licenses, permits, easements, or rights-of-way, including leases for the development of minerals other than coal under the Act. The Government may authorize any other uses of the licensed lands that do not unreasonably interfere with the exploration operations of the licensee, and the licensee shall make all reasonable efforts to avoid interference with such authorized uses.

(b) The Government reserves the right: (1) to sell or otherwise dispose of the surface of the licensed lands under existing law or laws hereafter enacted insofar as such disposal will not interfere with the rights of the licensee, or (2) to dispose of any resource in such lands if such disposal will not unreasonable interfere with the exploration operations of the licensee.

(c) If the licensed lands have been or shall hereafter be disposed of under laws reserving to the United States the deposits of coal therein, the licensee shall comply with all conditions as are or may hereafter be provided by the laws and regulations reserving coal.

Sec. 5. PROTECTION OF SURFACE, NATURAL RESOURCES, AND IMPROVEMENTS. The licensee agrees to take such reasonable steps as may be needed to prevent operations on the licensed lands from unnecessarily:

(a) causing or contributing to soil erosion or crop damage, including forage, and timber growth on the licensed lands or on Federal or non-Federal lands in the vicinity;

(b) polluting air and water; and

(c) damaging improvements owned by the United States or other parties.

Upon any partial or total relinquishment or the cancellation or expiration of this license, or at any other time prior thereto, when required, and to the extent deemed necessary, by the licensor the licensee will fill and reclaim any pits, ditches and other excavations, remove all debris, and so far as reasonably possible, restore the surface of the licensed lands and access roads to their former condition, including the removal of structures as and if required. The licensor may prescribe the steps to be taken and restoration to be made with respect to the licensed lands and improvements thereon whether or not owned by the United States.

Sec. 6. RELINQUISHMENT OF LICENSE. The licensee may relinquish this license, in whole or in part, by filing in the proper BLM office a written relinquishment which shall be effective as of the date it is filed, subject to the continued obligation of licensee and his surety to comply with the terms and conditions and special stipulations of the license, the exploration plan, and the regulations and, to provide for the preservation of any permanent improvements on the licensed lands.

Sec. 7. REVOCATION OF LICENSE. This license may be revoked for noncompliance with the terms and conditions of the license, the exploration plan, or the regulations, after the licensee has been notified of such violation in writing and the licensee has failed to correct the violation within the period prescribed by such notice.

Sec. 8. MODIFICATION OF LICENSE. When unforeseen conditions that could result in substantial disturbance to the natural land surface or damage to the environment or improvements are encountered, or where geological or other physical conditions warrant a modification, the authorized officer, after consultation with the surface management agency, may modify the license or adjust the terms and conditions of the exploration license.

Sec. 9. EQUAL OPPORTUNITY CLAUSE. This license is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the nondiscrimination clauses.

Sec. 10. USE OF DATA. The licensee shall furnish to the authorized officer copies of all data (including but not limited to, geological, geophysical and core drilling analyses) obtained during exploration. The licensee shall submit the data and, where appropriate, the methods by which the data were gathered, at such time and in such form as required by the authorized officer. The confidentiality of all data so obtained shall be maintained until after the areas involved have been leased or until such time as the authorized officer determines that making the data available to the public would not damage the competitive position of the licensee, whichever comes first. 43 CFR 3400; 43 CFR 2.20. The applicant may be required to collect and report ground water data to the authorized officer.

Sec. 11. UNLAWFUL INTEREST. No member of, or Delegate to Congress, or Resident Commissioner, after his election or appointment, either before or after he has qualified and during his continuance in office, and no officer, or employee of the Department of the Interior, except as provided in 43 CFR 7.4(a)(3), shall hold any share or part in this license or derive any benefit therefrom. The provisions of Section 3741 of the Revised Statutes, as amended, 41 U.S.C. Section 22, and the Act of June 25, 1948, 62 Stat. 702, as amended, 18 U.S.C. Sections 431-433, relating to contracts entered into and form a part of this license insofar as they may be applicable.

Sec. 12. BOND. The licensee shall file with the appropriate BLM office a compliance bond in the amount of $18,000 to ensure compliance with the terms and conditions of the license and regulations. Where the surface of the land being explored is in private ownership, the authorized officer shall not terminate the period of liability under the compliance bond until he has received written acknowledgement from the surface owner of his satisfaction with the reclamation of the surface. In the event the licensee and surface owners are unable to reach agreement on the adequacy of the reclamation, the authorized officer shall make the final determination. He will terminate the period of liability under the compliance bond after determining that the terms and conditions and special stipulations of the license, the approved plan, and the regulations have been met.

Sec. 13. SPECIAL STIPULATIONS.

SEE ATTACHED

FOREST SERVICE

AND

BUREAU OF LAND MANAGEMENT

STIPULATIONS

Attached to this license and made a part hereof is a map showing the drill hole locations and the exploration plan approved September 9, 1991.

THE UNITED STATES OF AMERICA

Verna J. Mortensen
Signature of Licensee

Senior Vice President
Title

Sept. 16, 1991
Date

/s/ ROBERT LOPEZ
Signature of Licensor

Chief, Minerals Adjudication Section
Title

SEP 13 1991
Date

FOREST SERVICE STIPULATIONS

1. A pre-work meeting including the responsible company representative(s), contractors, and the Forest Service must be conducted at the project location prior to commencement of operations. Site-specific Forest Service requirements will be discussed at this time.

2. A Road-Use Permit must be obtained from the Forest Service before equipment is transported onto National Forest System lands. The location of new roads is subject to Forest Service review and approval. No construction may begin prior to approval. Any modifications or changes to approved locations are also subject to review and approval.

3. All surface disturbing activities including reclamation must be supervised by a responsible representative of the permittee/licensee who is aware of the terms and conditions of the project permits/licenses. A copy of the appropriate permits/licenses must be available for review at the project site.

4. The Forest Service must be notified 48 hours in advance that heavy equipment will be moved onto National Forest System lands and that surface disturbing activities will commence.

5. Establishment of campsites and staging areas on National Forest System lands in support of this project is subject to Forest Service approval.

6. The Forest Service must be notified of any proposed alterations to the plan of operations. Any changes to the existing plan are subject to Forest Service review and concurrence.

7. Fire suppression equipment must be available to all personnel working at the project site. Equipment must include at least one hand tool per crew member consisting of shovels and pulaskis and one properly rated fire extinguisher per vehicle and/or internal combustion engine.

8. All gasoline, diesel, and steam-powered equipment must be equipped with effective spark arresters or mufflers. Spark arresters must meet Forest Service specifications discussed in the "General Purpose and Locomotive (GP/L) Spark Arrester Guide, Volume 1, April, 1988"; and Multi-position Small Engine (MSE) Spark Arrester Guide, Volume 2, April, 1988. In addition, all electrical equipment must be properly insulated to prevent sparks.

9. The permittee/licensee will be held responsible for damage and suppression cost for fires started as a result of operations. Fires must be reported to the Forest Service as soon as possible.

10. The Forest Service reserves the right to suspend operations during periods of high fire potential.

11. Water needed in support of operations must be properly and legally obtained according to Utah State water laws. The location of diversions, if on National Forest System lands, is subject to Forest Service review and approval. Water diversion structures, if needed, must be constructed as specified by the Forest Service.

12. Unauthorized off-road vehicular travel is prohibited.

13. Sections corners or other survey markers, including claim corners, in the project area must be located and flagged for preservation prior to commencement of surface disturbing activities. The removal, displacement, or disturbance of markers must be approved by the proper authority. Replacement will be done by the proper authority at the expense of the permittee/licensee.

14. If cultural or paleontological resources are discovered during operations, all operations which may result in disturbance to the resources must cease and the Forest Service must be notified of the discovery.

15. Gates must be closed by the permittee after entry unless otherwise notified.

16. The permittee/licensee will be held responsible for all damage to fences, cattleguards, resource improvements, roads, and other structures on National Forest System lands which result from their operations. The Forest Service must be notified of damages as soon as possible.

17. Operations must be coordinated with grazing permittees to prevent conflicts.

18. Harassment of wildlife and livestock is prohibited.

19. Topsoil must be stripped from areas occupied by parked vehicles and mud pits and stockpiled for use during reclamation. Topsoil stockpiles will be located to minimize contamination or loss. Rock material will be stockpiled separately.

20. Drill pads will be designed to prevent or diminish overland flow from entering the site during precipitation events. Pad sites will be sloped to drain all spills and on-site precipitation into the mud pits. If necessary, pits will be pumped out to reduce their content and insure that overflow does not occur. Fluids will be disposed of at a Utah State approved disposal site.

21. All drilling fluids, mud and cuttings must be contained on the project site in mud pits or portable containers. The pits must not be used for disposal of garbage, trash or other refuse. Unattended pits will be fenced to keep out livestock and wildlife.

22. During the drilling operations all trash, garbage and other refuse must be properly contained on the project site prior to disposal at authorized sites.

23. All significant water encountered during drilling must be reported to the Forest Service, including the depth and formation at which it was encountered, and an estimate of the flow.

24. If any of the drill holes encounter artesian groundwater flow, the District Ranger must be notified prior to plugging the hole to determine whether or not the Forest Service would elect to establish a permanent water development at the site.

25. All drill holes must be plugged in accordance with Federal and State regulations.

26. The operator must clean up and remove all drilling equipment, trash, garbage, flagging, vehicles and other such materials from National Forest System lands.

27. Disturbed areas must be reclaimed by the end of the field season. Exceptions require Forest Service approval.

28. Drill rigs and heavy equipment (not including water trucks) must not be transported on or off the project area during the opening of the general elk hunt nor during the opening weekend of the general deer hunt. Water trucks must be preceded by a pilot vehicle when hauling water for the project during the hunting season.

29. Contaminated soil and gravel must be stripped and placed in the mud pit prior to site reclamation. All toxic or hazardous fluids and materials must be removed from the National Forest and disposed of at a facility licensed to handle and dispose of such materials.

30. Mud pits must be allowed to dry or be pumped out before they are backfilled and reclaimed. If pumped, fluids will be disposed of off-Forest, at a Utah State approved site. They must be enclosed by a 2-strand barbed wire fence with sheep net while they are left to dry.

31. Drill sites, roads to be obliterated, and mud pits when they are dry, must be reclaimed by selectively backfilling excavated materials, topsoil last, such that the disturbed area is replaced to approximate original contour. The disturbed area must be seeded with the specified seed mix.

32. Upon completion of the project, compacted soils must be scarified and seeded with the specified seed mix.

33. All disturbed drainages must be replaced to their approximate original configuration when the project area is reclaimed.

34. The reclaimed roads must be signed and blocked off to discourage vehicle access by the public.

35. Reclamation efforts will be diligently pursued to insure that a minimum ground cover is established on all disturbed areas which is equal to or greater than the surrounding undisturbed areas.

36. Seeding will be done with the following certified seed mix:

Species	Pounds/Acre
Intermediate Wheatgrass - Agropyron intermedium	3
Orchard Grass - Dactylis glomerata	2
Slender Wheatgrass - Agropyron trachycaulum	3
Smooth brome - Bromus inermus	3
Crested Wheatgrass - Agropyron cristatum	2
Ladak Alfalfa - Medicago sativa ladak	1
Yellow Sweet Clover - Meliotus officinalis	1
Small Burnett - Sanguisorba minor	1
Perennial Ryegrass - Lolium perenne	1

This seed mixture must be 99 percent pure live seed containing a maximum of 1% weeds, none of which are noxious.

37. The operator will be held liable for control of noxious weed infestations found to be a result of this drill operation.

38. Merchantable timber will be purchased by the permittee at appraised rates and removed from the area. Timber not meeting sawlog utilization standards but which is suitable for fuelwood will be cut into four foot lengths and decked at a location that is accessible to the public.

39. Outside berms will not be constructed on any roads.

40. Heavy equipment may not be moved on Forest Development Roads on holiday weekends. If the project should continue into 1992, restricted dates will be determined at that time.

41. The temporary access road to hole 91-35-1 will be obliterated and closed to the public. When this hole is no longer needed for water monitoring the temporary access will be reopened under Forest Service direction, the hole will be plugged and abandoned, and the access road will again be obliterated and closed to the public.

42. Construction of an access toad to hole 91-35-2 will not be allowed. Forest Service consent for this hole involves helo-portable operations only. Other access methods and operations would require an amendment to the Exploration License and specific Forest Service consent.

43. Stipulations for Lands of the National Forest System Under jurisdiction of the Department of Agriculture.

The licensee/permittee/lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of a permit/operation plan by the Secretary of the Interior, and (2) uses of all existing improvements, such as Forest Development Roads, within and outside the area licensed, permitted or leased by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by a permit/operating plan approved by the Secretary of the Interior.

All matters related to this stipulation are to be addressed

to: Forest Supervisor

at: Manti-La Sal National Forest
599 West Price River Drive
Price, Utah 84501

Telephone No. (801) 637-2817

who is the authorized representative of the Secretary of Agriculture.

BUREAU OF LAND MANAGEMENT

STIPULATIONS

1. The Chief of the Price Coal Office shall be notified 48 hours prior to the start and completion of the program.

2. The lessee/licensee is responsible to see that all personnel contracted or otherwise doing work on the exploration program are aware of these approval requirements and abide by all regulations governing this program. Any changes to the approved exploration plan must receive approval from the Chief of the Price Coal Office prior to implementation.

3. When artesian flows or horizons with possible development potential are encountered, the Chief of the Price Coal Office shall be notified immediately so that a determination may be made concerning their development potential. When possible, water samples shall be collected by the operator for analysis by the BLM. A written report is required upon completion of exploration as noted by Stipulation 8 H.

4. Upon completion of down-hole procedures, all drill holes shall be properly sealed by emplacing cement through tubing from the bottom of the hole to the collar. Any variance from this procedure must be approved in advance by the Chief, Price Coal Office.

5. If adverse down-hole conditions prevent a completed drill hole from being properly plugged after attempting all standard industry plugging procedures, the Chief of the Price Coal Office will be contacted immediately to make a determination as to a final plugging method.

6. The hole location is to be marked by placing an approved marker made of galvanized steel, brass, aluminum or similar noncorrosive metal in the concrete plug. Such markers are to show hole number, year drilled, lessee/licensee name, and as feasible, the section, township, and range in which the hole is located. Top of concrete plug, if located in cultivated field must be set below normal plow depth (10 to 12 inches). In noncultivated areas, all marker caps should not protrude above the ground level. All drill holes shall be surveyed in to assure proper location. An exact survey of each drill hole location will be submitted to the Chief of the Price Coal Office.

7. The Chief of the Price Coal Office shall be notified 24 hours in advance as to the time when each hole is to be plugged so that a representative of the BLM may arrange to observe the plugging procedure.

8. Upon completion of exploration activities, two reports as required by 43 CFR 3485.1, shall be submitted to the Chief of the Price Coal Office, Moab District. The reports at a minimum must contain the following:

A. Location(s) and serial number(s) of lands under Federal lease or license on which exploration was completed.

B. A description of the completed exploration operations that includes the number of holes drilled, total depth of each hole, and completion date of each hole.

C. A map showing the locations of all holes drilled, other excavations, and the coal outcrop lines as appropriate. The scale of the map shall not be less than 1 inch equals 1 mile.

D. Analysis of coal samples and other pertinent tests obtained from exploration operations.

E. Copies of all in-hole mechanical or geophysical stratigraphic surveys or logs, such electric logs, gamma ray-neutron logs, sonic logs, or any other logs. The records shall include a lithologic log of all strata penetrated and conditions encountered such as water, gas, or any unusual conditions.

F. Status of reclamation of the disturbed areas.

G. Any other information requested by the District Manager.

H. Hydrologic reports using the attached form.

REPORT OF WATER OBSERVED

Company: _____ Lease/License Number: _____

Address: _____ Drill Hole Number: _____

_____ Date Completed: _____

_____ Total Depth: _____

Company Contact: _____

Phone Number: _____

Drilling Contractor: _____

Address: _____

_____

_____

Company Contact: _____

Phone Number: _____

Location of Hole: T.___S., R.___E., SLB&M, Section ____: ___¼ ___¼ ___¼

Collar Elevation of Hole: _____ Hole Diameter: _____

Drilling Method/Medium: _____

Static Water Level: _____

Acquifer #1

Depth below Collar Elevation: _____ Formation: _____

Rock Type: _____ Yield(GPM): _____

Date Reported to BLM:* _____ Requirements of BLM:* _____

_____ Water Sample Provided to BLM? _____

Acquifer #2

Depth below Collar Elevation: _____ Formation: _____

Rock Type: _____ Yield(GPM): _____

Date Reported to BLM:* _____ Requirements of BLM:* _____

_____ Water Sample Provided to BLM? _____

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* Refer to Stipulation Number 3

APPLICATION FOR FEDERAL COAL EXPLORATION LICENSE

Woods Canyon Area
Carbon County, Utah
Manti-LaSal National Forest

SR/PR Date MAR 11 1991

UT 068087

Exploration Plan
March 4, 1991

RECEIVED

MAR 5 1991

Bureau of
Land Management

43 CFR 3482 (3) (i)

Applicant

Coastal States Energy Company
Vernal J. Mortensen, Vice President
175 East 400 South, Suite 800
Salt Lake City, Utah 84111
801-596-7111

43 CFR 3842 (3)(ii)

Person Present During Exploration

Mark Bunnell
Skyline Coal Company
P.O. Box 719
Helper, Utah 84526
801-637-7925

EXPLORATION PLAN APPROVED BY
BUREAU OF LAND MANAGEMENT

Recommended By:

Thomas E. Rasmussen 9/9/91
Name & Title (Date)

Approved By:

[signature] 9/9/91
~~Area Manager~~ (Date)
Acting - Chief - Price Coal Off.

43 CFR 3842 (3)(iii)

Description

The Woods Canyon exploration program involves Federal surface and coal rights in the Woods Canyon area of Carbon County about 3 miles northwest of Scofield, Utah. The requested license area encompasses 1280 acres, more or less. The coal is managed by the U.S. Department of the Interior, Bureau of Land Management and the surface is managed by the U.S. Department of Agriculture Forest Service. Map 1 shows the boundaries of the proposed exploration area. The area included within the Woods Canyon license is tabulated as follows:

T.12.S., R.6E., Salt Lake Meridian, Carbon County, Utah

Section 26: ~~S1/2, SW1/4~~ S1/2 SW1/4;	80 Acres	
Section 34: All;	~~720 Acres~~	692 ACRES
Section 35: ~~W1/2~~ LOTS 1-8.	~~320 Acres~~	318.98 ACRES

T.13.S., R.6E, Salt Lake Meridian, Carbon County, Utah

Section 3: ~~N1/2, N1/2~~ LOTS 1-4.	~~160 Acres~~	141.80 ACRES
Total	1232.78	~~1280~~ Acres, more or less

Geology and Topography

The proposed Woods Canyon exploration area lies in the Wasatch Plateau physiographic province. The area is dissected by gullies, washes, and canyons which drain into Pleasant Valley to the east. Elevations range from about 9400 feet on Granger Ridge near the northern boundary to 8300 feet in canyon bottoms. Where drilling is proposed, elevations average about 9000 feet.

The area is underlain by sedimentary rocks of late Cretaceous age. Two formations crop out in the area including the coal-bearing Blackhawk Formation and the overlying Price River Formation. At least one potentially mineable coal seam (Lower O'Connor) occurs in the area. The Winter Quarters mine (1890's through 1940's) mined extensively in this coal seam to the southeast.

Strata in the area dip uniformly from 2 to 10 degrees to the west-northwest. Several faults have been identified as well as igneous dikes.

Coastal plans to rotary drill to within about 50 feet of projected mineable coal horizons and core drill through coal seams to at least 10 feet of floor rock. All drill holes are planned to penetrate the first underlying tongue of the Starpoint sandstone to ensure penetration of the entire coal bearing interval.

No valuable minerals other than coal are known to occur within the boundary of the proposed exploration license area.

Surface Water

The Woods Canyon area belongs to the Price and San Rafael Rivers sub-basins of the Upper Colorado River basin. The area is drained by the stream in Woods Canyon.

Ground Water

Previous drilling south of the area has encountered ground water. Potential and known acquifers are contained in lenticular sandstones within the Price River formation and Blackhawk formation. The underlying tongues of Starpoint Sandstone may also contain acquifers. Springs originating from the base of the Castlegate Sandstone member of the Price River Formation are known to occur in the area. Springs will not be affected by the proposed drilling program.

Soils

Soils in the Woods Canyon area are generally sandy loams. Surface horizons are commonly dark and organic rich. Subsoils are mainly loam with a high rock content. In a few places within the exploration area, bedrock is exposed with little or no soil cover. Care will be taken in locating drill sites to ensure that soil conditions will not be a limiting factor for site reclamation potential.

Erosion and Sedimentation

Strata which crop out in the immediate area of interest consist of massive cliff forming sandstone and interbedded sandstone and shale. Some slumping occurs along steep slopes. The proposed drill sites do not occur in slump areas and the proposed program will not adversely affect erosion and sedimentation in the area.

Biology

Vegetation in the area occurs in the mountain brush and White Fir/Spruce plant communities.

Big game wildlife consists of mule deer and elk. Other animals include bobcat, cougar, coyote, red squirrel, porcupine, rabbit, skunk, mice, and other small rodents. reptiles, amphibians, and birds. The proposed program will be scheduled to avoid conflict with elk or deer in the area.

There are no documented occurrences of threatened or endangered plant or animal species in the area.

Historic Places

No district, sites, buildings, structures, or objects are listed on, or known to be eligible for listing on, the National Register of Historic Places.

Cultural or Archaeological

Archaeological work preceeding development of previous drill pads, mine expansion projects and access roads show little cultural material. This area probably received only occasional use. The National Register of Historic Places lists no cultural sites for the area.

An archaelogical study on areas to be disturbed will be completed prior to commencement of field operations. This study will seek to identify concentrations of scientifically important material which may qualify for inclusion in the National Register of Historic Places.

Exploration

Drill site locations and projected depths are tabulated as follows:

Site	Location	Projected TD (feet)
91-26-1	T12S, R6E NW, NE, 34	2300
91-35-1	T12S, R6E SW, SW, 35	1900
91-35-2	T12S, R6E, NE, SW, 35	1700

Drilling

The drilling method of data collection will involve rotary drilling and core sampling. Only the coal seams and immediate roof and floor will be core drilled. The overlying material will be plug-drilled to predetermined core points. Exploration equipment for the drilling phase will include one truck-mounted rotary drilling machine. Backup and auxiliary equipment may include but not be limited to a water truck, a D-8 Caterpillar or similar track-type dozer, a track-mounted backhoe, an electric generator, personnel trailer, and electric and mechanical geophysical logging equipment. Access by personnel to drilling sites will be by four-wheel drive pick-up truck.

The size of the drill holes will range from 4 3/4 inches in diameter to 9 5/8 inches in diameter. Six (6) or seven (7) inch surface casing will be inserted through the surface alluvium and certain other intervals depending on hole conditions. Approximately 100 - 200 feet of core will be recovered per hole. The average depth of the drill holes will be approximately 2000 feet. The following suite of logs is planned to be run on each drill hole: natural gamma, gamma-gamma density, resistivity, and caliper. When desired, this suite may be expanded to include any or all of the following: sonic, spontaneous potential, dipmeter, neutron-neutron, verticality, and/or temperature.

Where possible, all drill hole sites will be located on existing roads and trails. When it is not possible to locate sites on or along these existing facilities, a temporary access trail and level bench will be constructed. Where it is pracital and/or stipulated, topsoil and vegetation will be removed and stored for use in reclamation activities.

Existing roads and trails will be utilized wherever possible, and movement by equipment across undisturbed terrain will be kept to aminimum. If existing roads or trails are disturbed by the proposed exploration activities, they will be bladed and returned to a condition equal to or better than their condition prior to commencement of the proposed exploration activities. New or additional roads will be constructed only immediately prior to the drilling operations; at the conclusion of the exploration activity, they will be reclaimed.

Estimated construction and drilling related to disturbed area is tabulated as follows:

Site	Required Construction	Road Length (Feet)	Est. Disturbed Area
91-26-1	Drill Pad	N/A	0.1 Acre
91-35-1	Drill Pad & New Road	5200	1.5 Acre
91-35-2	Drill Pad & New Road	2100	0.7 Acre
	Total		2.3 Acres

The disturbed area was calculated using a 12' average road width and an average 70 ft. X 50 ft. drill site.

The following is a description of additional individual locations and site-specific information:

91-26-1 - This hole is located adjacent to an existing road which was improved during drilling of an oil and gas well a number of years ago. Little, if any road upgrading will be necessary.

91-35-1 - Approximately 5200 feet of new access road will have to be constructed along the ridge top from an existing jeep trail. The pad will be located in an open area.

91-35-2 - Another 2100 feet of new access road will be extended from 91-35-1 along the side ridge extending to the northeast. The drill pad will be located near the center of the ridge.

Each exploration site that requires reclamation will have trash and debris removed, mud pits (at drill locations) backfilled, and topsoil (when removed) distributed upon completion of exploration activity. All roads and trails constructed or used during the exploration program will be rehabilitated. Existing roads will be returned to a condition equal to or better than their condition prior to commencement of the exploration activities. New roads which have been constructed will be leveled, scarified, water barred where needed, and re-seeded once their existance is no longer needed for exploration activities. The seeding of rehabilitated locations and access roads will be accomplished in the first favorable seeding season following completion of the exploration program. The re-establishment of vegetation on reclaimed sites and abandoned roads, after exploration activities are concluded, is the planned method to prevent possible soil erosion.

After the topsoil is re-spread, the surface will be scarified, if necessary. Upon recommendations of the surface management agency, fertilizer and seed will be applied at the proper mix and rate specified.

Drilling Equipment

Equipment expected to be utilized during various phases of the exploration program is tabulated as follows:

LIST OF EQUIPMENT

Exploration Phase	Types of Equipment	Size or Capacity	Qnty.	Comments
Drilling	Rotary Drill Rig	GD2000 or similar	1	All of this equipment will be used only for drilling activities.
	Water Truck	4000 Gal.	2	
	Pipe Truck	Dual-axle flat bed	2	
	Core Trailer	8' X 28'	1	
	Elect. Generator	50 KW	1	
	Travel Trailer	8' X 25'	1	
	Air Compressors	750 CFM	2	
Support & Reclamation	Bulldozer	D8 Caterpillar or similar	1	All equipment will be rubber tired except the Bulldozer and backhoe which are track mounted.
	Road Grater	D14 Caterpillar or similar	1	
	Backhoe	Rubber tire Tractor-type	1	
	Fuel Truck	2000 Gal.	1	

All earth excavated in any phase of the proposed exploration activities will be treated the same. Where stipulated, the topsoil will be removed and stockpiled for re-distribution during road and site reclamation. Drainage will be controlled to prevent concentrated runoff across exposed soils. Each site or disturbed area will be reshaped to approximately the original land contours leaving a roughened surface. The areas will be scarified where excessive compaction has occurred. The reclaimed sites will be prepared to be fertilized and seeded at the earliest suitable times.

All debris and trash will be disposed of properly, accumulation over an extended period of time before removal will not be allowed. Location of disposal will be off in an approved sanitary landfill.

Access and Road Construction

The pipeline road northwest of the Skyline minesite will be the primary access road into the drill sites. 91-26-1 will be accessed along the existing Granger Ridge road. The proposed new road to the two remaining sites will be accessed from the existing jeep trail on Winter Quarters Ridge.

Map 1 shows roads to be constructed. These are tabulated as follows:

From	To	Length (mi.)
Jeep Trail	91-35-1	1.0
91-35-1	91-35-2	0.4
		1.4

Finalized road routes will be selected in consultation with the U.S. Forest Service. The routes will be cleared by a BLM and Forest Service approved archaeologist. Roads will be constructed with a 12 foot average width. Construction will allow appropriate drainage on steep grades through use of sloping and water bars. Culverts will be placed across streams or seeps where necessary.

Drill Hole Plugging

Upon completion, each drill hole will be cemented to at least 50 feet above the highest mineable coal seam (4 feet thick or greater) or aquifer. The remainder of the hole to within 5' of the surface will be filled with a plugging gel with a ten-minute gel strength of 20 lbs./100 square ft. The five-foot void at the surface will be cemented to the surface and an approved marker will be placed in the five foot plug.

Drill Hole to Monitoring Well Conversion

At least one of the drill holes will be converted to a ground water monitoring well. Site selection as well as detailed plans of well construction and monitoring will be worked out through consultation with the Forest Service and the BLM. The selected monitoring well(s) will have a locked cap to prevent unauthorized access.

Site Preparation

Vegetation and topsoil will be removed from an approximate 0.1-acre area. Topsoil will be stored adjacent to the site. It will be located so as not to be washed away or driven over.

The drill hole locations will require mud pits to be dug to contain the drilling medium. These pits will be constructed to a sufficient size to contain all effluent drilling materials. Pits of this size are estimated to be 12 ft. by 30 ft. with an average depth of about 6 ft. To prevent overflow, the waste pits will be pumped out and the waste fluids will be disposed of properly.

Logging

Geophysical logs will be run in accordance with 10 CFR part 39.

Surveying

Each drill hole will be surveyed to a 0.01 foot horizontal location and to a 0.1 ft. vertical elevation. Locations will be expressed in state plane coordinates adjusted to job datum.

43 CFR 3482.1 (3)(v) Estimated Timetable

The proposed drilling program is scheduled to begin in August, 1991. Current plans allow for both phases (drilling and reclamation) of the program to run simultaneously. The following bar graph demonstrates the time schedule for each phase of the program.

Phase of Exploration	August		September		October
	Week 1	Week 2 3 4	Week 1	2 3 4	1 2 3 4
Construction & Drilling	_____				
Reclamation	_____	_____	_____	_____	_____

The total plan, including re-seeding, can be completed in 6 to 9 weeks, providing there are no unforeseen delays.

Reclamation

Reclamation work will begin within 2 to 3 days of hole plugging and the site will be returned to approximate original contour, topsoil will be spread and seeded with a USFS approved seed mixture. Constructed access roads will be sacrificed and any culverts will be removed. The road bed will then be seeded with the approved seed mix.

The planned seed mixture is tabulated as follows:

Species	Lbs./Acre, P.L.S.
Slender Wheatgrass (Agropyron trachycaulum)	3
Smooth Brome Grass (Bromis inermis)	3
Mountain Brome	2
Perennial Rye Grass (Lolium perenne)	2
Orchard Grass (Dactylis Glomerata)	2
Timothy (Phleum pratensis)	2
Yellow Sweet Clover (Melitotus officinalsis)	0.5
Ladake Alfalfa (Medieago sativa-Lakak)	0.5
Mountain Aster (Aster adsendens)	0.25
Hard Fescue	1.0
Rocky Mountain Penstemon	0.5
Yarrow	0.1
	17.35

Prior to any seeding, the USFS will be consulted to ensure proper seeding mixture.

Safety

Both Coastal and contractor employees will be required to wear hard hats, steel toed boots, and safety glases when within the license area. Gloves will be worn when the nature of work merits.

Any open drill pits will be fenced to prevent entry of livestock and wildlife.

Internal combustion engines will be equipped with appropriate mufflers and/or spark arrestors. All vehicles will carry a readily available and fully charged fire extinguisher and a first aid kit, as well as required firefighting tools.

Large equipment will not be moved when roads or trails are excessively muddy. Personnel will not be allowed to drive onto the area when muddy roads occur, but may leave the area at the end of the work day or drill period. Any rutting that may occur will be repaired by Coastal contractors when conditions permit.

43 CFR 3482.1 (3)(vi) Amount of Coal Removed

Ideally, 3 inch diameter coal core will be removed from each of the seams in each of the 3 holes. While exact seam thickness is unclear at the proposed locations, it can be assumed that less than a total of 300 lbs. of coal will be removed throughout the entire proposed program.

The removed coal will be used for quality and geotechnical testing.

Other Permits

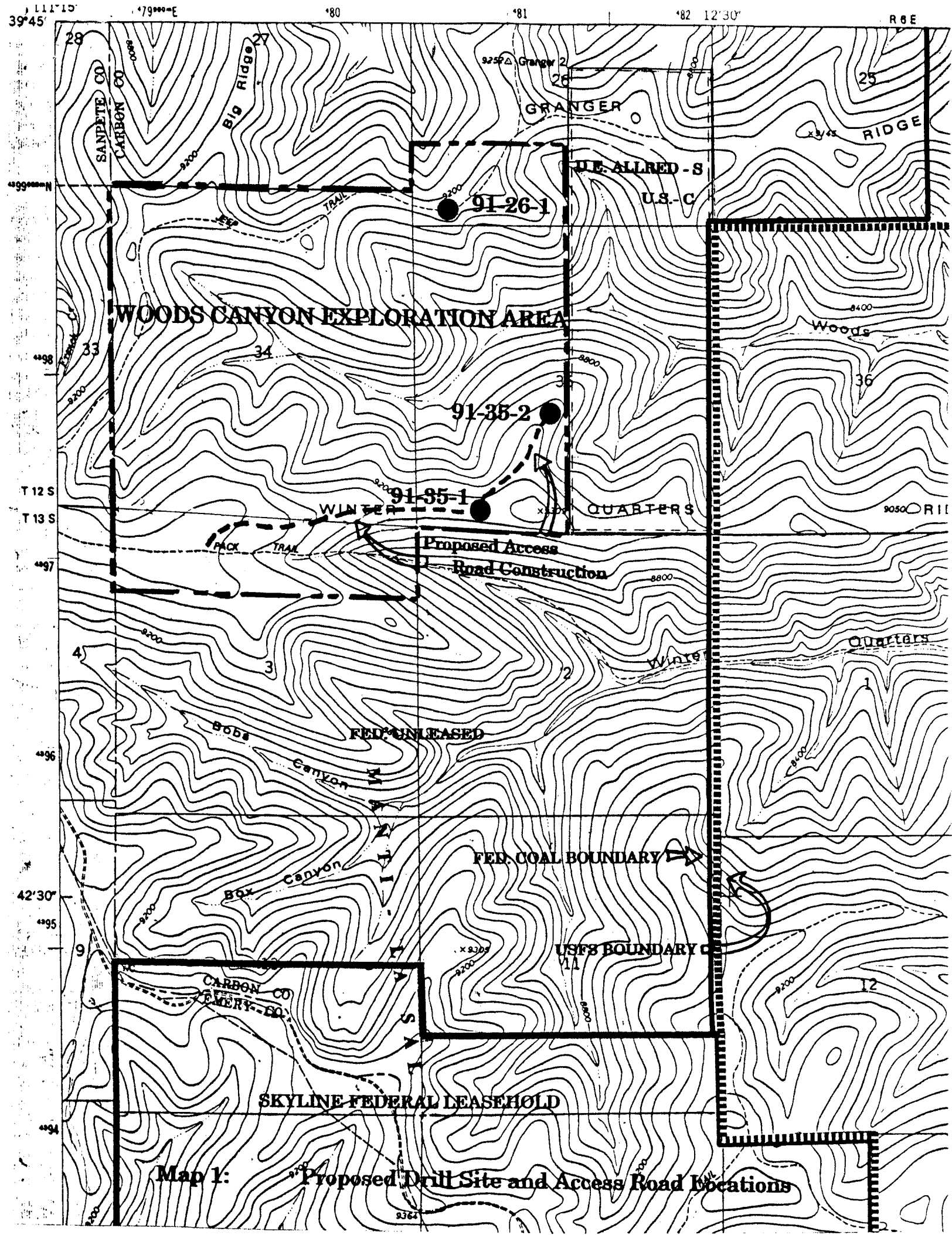
Required permits will be obtained from the Utah Division of Oil, Gas, and Mining.

Reclamation Bonds

Because the area contains Federal coal, double bonding will be required by State and Federal regulations. Each bond will be of the amount required by the USFS or Utah Division of Oil, Gas, and Mining and made payable to that agency.

Data Use

Data will be transferred to the BLM within a reasonable time period after exploration. Coastal requests that all data be kept confidential.



Map 1: Proposed Drill Site and Access Road Locations