



U.S. Department of Interior  
Bureau of Land Management  
Moab District Office  
Price Field Office

U.S. Department of Agriculture  
Manti-La Sal National Forest  
Ferron-Price Ranger District  
Price, Utah

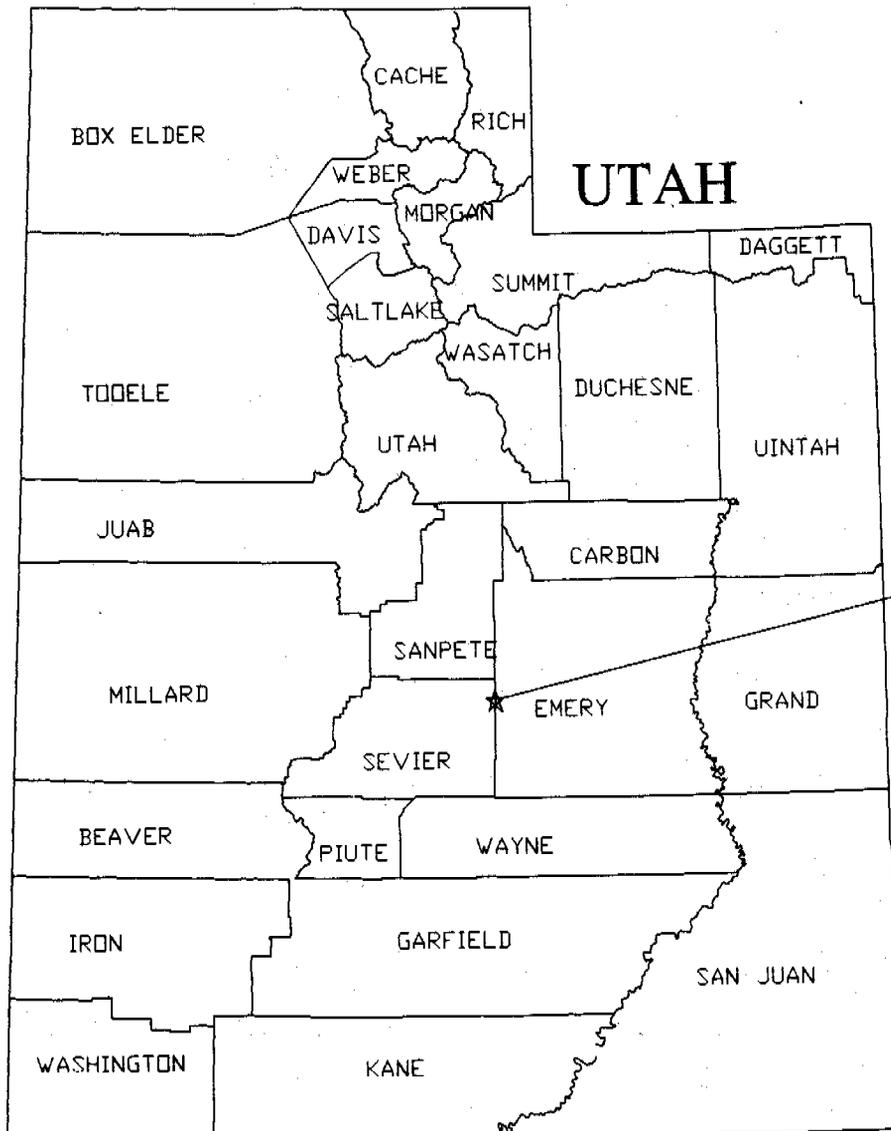


Cooperating Agency  
U.S. Department of Interior  
Office of Surface Mining  
Denver Office



July 1998

**Environmental Assessment for  
Utah Power & Light, A Pacificorp Company  
69 kV Transmission Line to serve  
the SUFCO Mine and Canyon Fuel Company, LLC  
Associated Link Canyon Break Out and Substation  
Sevier and Emery Counties, Utah**



69 kV Transmission Line  
Break Out and Substation

**ENVIRONMENTAL ASSESSMENT**

**for**

**UTAH POWER & LIGHT  
A PACIFICORP COMPANY  
69 kV TRANSMISSION LINE TO SERVE THE SUFCO MINE**

**AND**

**CANYON FUEL CO. LLC  
ASSOCIATED LINK CANYON BREAK OUT AND SUBSTATION**

**SEVIER AND EMERY COUNTY, UTAH**

**ENVIRONMENTAL ASSESSMENT NO. UT-066-98-53**

**RESPONSIBLE AGENCIES:**

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**AND**

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**JULY 1998**

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## ACRONYMS AND ABBREVIATIONS

AUM	Animal unit month
BA	Biological Assessment
BLM	Bureau of Land Management
CFC	Canyon Fuel Company, LLC
C&H	cattle and horse
EA	Environmental Assessment
EIS	Environmental Industrial Services
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
KOP	Key observation point
kV	Kilovolt
MSHA	Mining Safety and Health Administration
NEPA	National Environmental Protection Act
NRCS	Natural Resource Conservation Service
OSHA	Occupational Safety and Health Administration
PLS	Pure live seed
R	Range
RMP	Resource Management Plan (BLM)
ROW	right-of-way
SHPO	Utah State Historic Preservation Office
SUFCO	Southern Utah Fuel Company
T	Township
TES	threatened, endangered and sensitive (species)
UDOGM	Utah Division of Oil, Gas and Mining
UDWR	Utah Division of Wildlife Resources
UP&L	Utah Power and Light
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management

## GLOSSARY OF TERMS

<b>Access</b>	Passage to proposed site
<b>Alternative (action)</b>	An option to meeting the stated need
<b>Archaeology</b>	The science that investigates the history of peoples by the remains belonging to the earlier periods of existence.
<b>Assessment (environmental)</b>	(a) A concise public document for which a federal agency is responsible and that serves to (1) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact; (2) aid an agency's compliance with NEPA when no environmental impact statement is needed; (3) facilitate preparation of a statement when one is needed. (b) Shall include brief discussions of the need for proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.
<b>Commitment (mitigation)</b>	Obligation to a measure that would diminish the severity of an impact.
<b>Community (biological)</b>	A group of one or more populations of organisms that form a distinct ecological unit. Such a unit may be defined in terms of plants, animals or both.
<b>Contrast</b>	The effect of a striking difference in the form, line, color, or texture of an area being viewed.
<b>Cultural resources</b>	Any site or artifact associated with cultural activities.
<b>Distribution Line</b>	A line that carries low voltage and high amperage for short distances. Since it has the ability to be transformed into low voltages, the distribution line is usually used for residential and small commercial facilities.
<b>Endangered species</b>	Any species in danger of extinction throughout all or a significant portion of its range. This definition excludes species of insects that the Secretary of Interior determines to be pests and whose protection under the Endangered Species Act of 1973 would present an overwhelming and overriding risk to man.

<b>Environment</b>	The surrounding conditions, influences, or forces that affect or modify an organism or an ecological community and ultimately determine its form and survival.
<b>Ephemeral (streams)</b>	Flowing in response only to direct precipitation, and whose channel is at all times above the water table, and restricted to streams that do not flow continuously for at least 30 days.
<b>Erosion</b>	The group of processes whereby earth or rock material is loosened or dissolved and removed from any part of the earth's surface.
<b>Fault Current</b>	The amount of current flowing from a grounded phase conductor.
<b>Habitat</b>	A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover and living space.
<b>Hydrology</b>	The science that relates to the water of the earth.
<b>Impact</b>	A modification in the status of the environment brought about by the proposed action or alternative.
<b>Interdisciplinary team</b>	A group of people with different training representing the physical sciences, social sciences and environmental design arts assembled to solve a problem or perform a task. The members of the team proceed to solution with frequent interaction so that each discipline may provide insights to any stage of the problem and disciplines may combine to provide new solutions
<b>Irretrievable</b>	A term that applies to the loss of production, harvest, or use of natural resources.
<b>Irreversible</b>	A term that describes the loss of future options
<b>Landscape</b>	That which makes up the various attributes of land surface as a result of geologic activity and weathering, such as plateaus, mountains, plains and valleys.
<b>Longwall Mining</b>	Method of underground coal mining on straight faces, 80 yards or more in length.

<b>Mitigation</b>	To alleviate or render less intense or severe.
<b>Paleontology</b>	The science that deals with the life of past geological ages through the study of the fossil remains of organisms.
<b>Public Land</b>	Federally owned lands administered by the Bureau of Land Management
<b>Raptor</b>	A bird of prey.
<b>Right-of-way</b>	Public lands authorized to be used or occupied pursuant to a right-of-way grant.
<b>Riparian</b>	Any area of land directly influenced by permanent water that has visible vegetation or physical characteristics reflective of permanent water influence. This can include streams, springs, seeps, wet meadows, aspen stands, and similar habitats.
<b>Significant (impact)</b>	Impact that would cause a substantial adverse change or stress to one or more environmental resources.
<b>Sock line</b>	A rope that spans between power poles and to which the wire conductor is attached. This is used to spare the wire conductor from dirt and other objects that may make it subject to corrosion while stringing the line. It also allows the conductor to sag at the National Electric Code specifications.
<b>Species</b>	A group of individuals of common ancestry that closely resemble each other structurally and physiological and in nature interbreed producing fertile offspring.
<b>Threatened Species</b>	Any species likely to become endangered within the foreseeable future throughout all or a significant part of its range.
<b>Visual Resource Management</b>	Classification of landscape according to Management classes the kinds of structures and changes that are acceptable to meet established visual goals (BLM).

## **CHAPTER I. PURPOSE AND NEED FOR ACTION**

### **A. Introduction**

Canyon Fuel Company (CFC) has currently extended its present mining operation to the point that it cannot efficiently provide a reliable power source with the existing electrical service. Current mining activities are approximately seven miles from the existing substation. As the distance from the substation increases there is an associated line loss of power. Power simulations have demonstrated that to continue mining, utilizing present longwall and continuous miners sections, the existing 25 kV service is inadequate. The Mine Safety and Health Administration (MSHA) requires adequate fault current to provide tripping protection for all underground circuits.

CFC has submitted a Mine plan amendment to the Utah Division of Oil, Gas and Mining (UDOGM) requesting a plan modification to construct a breakout and substation in the upper reaches of Link Canyon. The project would necessitate that Utah Power and Light (UP&L) construct a 69 kV overhead power line from the existing Emery line, located approximately 1,300 feet East of Highway 10 in the northwest quarter of Section 20, T. 22 S., R. 6 E., S.L.B.&M to the proposed substation in Link Canyon (PLATE I & II). The line would be constructed on approximately 1.23 miles of private land, 4.71 miles of public lands and 0.24 miles of National Forest Systems land. The planned surface route is shown on PLATE II and specific facility locations are shown on PLATE III and PLATE III B. Plan and profile plates are included as PLATE II-A through PLATE II-C. With the addition of the proposed 69 kV line, substation and breakout the mine would have adequate power to facilitate current operations as well as future expansion. A subsidiary benefit to the breakout portal would be an alternative escape-way, closer to the working face, and additional ventilation capacity. The proposed 69 kV line in Link Canyon would facilitate this power demand as well as provide the mine with an emergency back up power source.

The proposed action to be taken by UP&L would be the construction, operation and maintenance of a 69 kV transmission line to serve the power and safety needs of the SUFCO Mine. The construction of a surface substation and mine breakout would be by CFC to access the mine workings with the provided power. The proposed power line would allow CFC to maintain its current production of coal for its client base, as well as provide ample fault current for the various loads previously mentioned.

### **B. Proposed Action**

The UDOGM, BLM and Manti-La Sal National Forest are proposing to issue the required permits and authorize construction and maintenance of the proposed facilities. This would be done with appropriate mitigation to protect resources and insure consistency with all laws, regulations and management plans.

### **C. Scope of the Proposed Action**

The area of the proposed action would be located within private, National Forest System Lands, and Bureau of Land Management (BLM) jurisdictions. The power line would be in conformance with the

BLM San Rafael Resource Management Plan (RMP), approved in May 1991, and the Manti-LaSal National Forest Land and Resource Management Plan 1986, as amended.

The breakout, substation and approximately 1,300 feet of power line would be located on National Forest Systems land and would be in conformance with the Manti-La Sal National Forest Land and Resource Management Plan, the Surface Mining Control and Reclamation Act of 1977, the enacting regulations and the Utah 645 Coal Rules.

Maintenance of the power line to the substation would be performed by UP&L. The substation and associated power line to the breakout would be maintained by CFC/SUFSCO Mine under the jurisdiction of MSHA and the Mine and Reclamation Plan (MRP) as directed by the UDOGM.

Most of the area of the project is zoned as MG-1, mining and grazing. Within Link Canyon near National Forest System Lands, the area is zoned as CE-1, critical environment. The proposed Right-of-Way (ROW) would not be located within the CE-1 zone. The entire location of the proposed action would be in conformance with the existing land use plans of Emery and Sevier Counties.

The ROW issuance is pursuant to the requirements of Title V of the Federal Land Policy and Management Act of 1976 (90 Stat 2760, 43 U.S.C. 1761), and regulations found within Title 43 of the Federal Regulations Code, part 2800.

#### **D. Decisions to be Made**

Principal to the environmental assessment (EA) would be a ROW issued by the BLM and a special use permit issued by the Manti-LaSal National Forest. The Manti-La Sal National Forest Supervisor must decide whether or not to issue the special use permit to UP&L to authorize construction and maintenance of the power line of National Forest System lands. The Forest Supervisor must also decide whether or not to consent to the approval of the proposed mine permit amendment for the breakout, substation and connecting power line by UDOGM. Also, conditions for the protection of non-coal resources. The Field Office Manager of the BLM Price Field Office must decide whether or not to issue the ROW for the power line located on public lands.

The Director of UDOGM, through association with the Office of Surface Mining (OSM), must decide whether or not to approve the mine permit amendment for the proposed facilities and to incorporate any off lease facilities into the SUFCO permit area.

In the event the substation were to be located outside of the current MRP permit area (Alternative 3 location) a special-use permit from the Forest Service would be required to authorize occupancy of the land for these facilities. It would also be subject to revision to the approved MRP and would have to be permitted under SMCRA and Utah Coal Regulations with the consent of the Manti-LaSal National Forest.

TABLE I-1 lists the permits that would need to be secured in order for the action to proceed.

TABLE I-1

PERMITS AND OTHER LEGAL REQUIREMENTS

<u>Agency</u>	<u>Act or Regulation</u>	<u>Requirement</u>
<b>Federal</b> Council for Environmental Quality	National Environmental Policy Act of 1969 (NEPA), as amended (40 CFR 1500) Public Law 91-90, 42 U.S.C. 4321	Environmental Assessment, Right-of-Way, Notice to Proceed, Temporary Use Permits, and Consultation.
Bureau of Land Management - Price Field Office	Federal Land Policy & Management Act of 1976 (FLPMA) (43 CFR 2800 & 3100) Public Law 94-579 (10/21/76)	Right-of-Way.
Fish and Wildlife Service	Endangered Species Act of 1973 (ESA) (16 U.S.C. 1539)  Migratory Bird Treaty Act (16 U.S.C. 703-711) Bald Eagle Protection Act (U.S.C. 663a)	Provide biological opinion of wildlife and plants that are federally listed, and impacts of the proposed action to listed species. Consultation and review of impacts to listed species. Consultation and review of impacts to golden eagles.
U.S. Forest Service - Manti La Sal NF	Federal Land Policy & Management Act of 1976 (FLPMA) (43 CFR 2800 & 3100) Public Law 94-579 (10/21/76)  Land Resource Management Plan, Nov. 1996	USFS special use permit for power line and substation if off lease. Private road special use permits.  USFS consent to SUFCO permit modification under Minera Leasing Act 1920 and SMCRA and Utah Coal Rules.
<b>Utah State</b> Department of Natural Resources Division of State Trust	Forest Road and Trails Act of 1964  Resource Development Coordinating	Commercial use of Link Canyon Road  Review of Use on State Trust Council (RDCC) Process Land
Division of Water Rights	Permit for Stream Alteration	Consider issuance of permit for alteration of natural drainage.
Division of Oil, Gas and Mining	Utah Coal Regulations (R645-301)	Modification of MRP
Department of Transportation	Permit to Cross a Road Easement	Consider issuance of permit for crossing of road ROW.
Department of Community & Economic Development Utah State Historic Preservation Office	National Historic Preservation Act (CFR 800, Section 106)	Consider NRHP eligibility and mitigation of cultural resources.
<b>Emery and Sevier Counties</b>	County Zoning Ordinances	Determine compliance with existing land use designation.
<b>Private</b>	Confirmation and Review of ROW	Obtain easements.

## CHAPTER II. ALTERNATIVES

### A. Introduction

This chapter describes the alternatives developed in response to the issues and concerns identified in the scoping process that, wholly or partially, meets the purpose and need identified in Chapter I. Included is a comparison of the effects of the alternatives summarized from the analysis of alternatives in Chapter IV.

### B. Project Initiation, Public Participation, and Scoping

Project initiation was started with a request for a ROW with the BLM Price Field Office on October 3, 1997. Initial contact with the USFS Manti-LaSal National Forest office was on October 5, 1997, by representatives of UP&L and CFC. Scoping was initiated on March 17, 1998. Scoping packages were mailed on April 14, 1998, to all persons, organizations and agencies on the project mailing list (project file). A news article requesting public comment and input was printed in the March 24, 1998, issue of the Sun Advocate and the Emery Progress.

TABLE II-1 lists all the parties, organizations or agencies who responded with comments, questions or issues regarding the proposed action. Three responses were received concerning the project as of June 8, 1998.

TABLE II-1

#### MAILING LIST SCOPING RESPONDENTS

##### Response

<u>Date</u>	<u>Organization</u>	<u>Name</u>	<u>Address</u>
3/30/98	Private Citizen	J. Stephensen	2177 Shadybrock Lane Hover, AL 36226
4/4/98	Emery County Planning & Zoning	Bryant Anderson	75 E. Main Castle Dale, UT 84513
6/8/98	Utah Division of Wildlife Resources	Ben Morris	475 W. Price River Drive Price, UT 84501

TABLE II-2 represents the comments received throughout the public participation and formal scoping process. Comments are grouped by common view point, organizations and/or by resource issues. The scoping response number appears first followed by a narrative summary.

## TABLE II-2

### SCOPING/ISSUE ANALYSIS

1. J. Stephen had concerns regarding:
  - A. Impacts relative to subsidence (address-UDOGM-map)
  - B. Compliance with county zoning
  - C. Impact to visual resources (can line be buried?)
  - D. Addressed under Pines Coal Lease Tract UTU-76195?  
Request a copy of draft EA for review.
2. Mr. Bryant Anderson, Emery County Planning and Zoning Department head, contacted by EIS Environmental (third party contractor) requesting a site tour and a more detailed description of the proposed project. On April 22, 1998 at 10:00 a.m. Mr. Anderson and Mr. Coonrod drove the Link Canyon road and discussed the proposed action. Photo simulations were used to describe visual impacts. Mr. Anderson indicated the proposed action was in accordance with Emery County Zoning.
3. Mr. Ben Morris of the Utah Division of Wildlife Resources (UDWR) voiced concern about adequate safeguards for a peregrine falcon nest in the upper reaches of Link Canyon.

#### **C. Comments and Concerns Considered but Not Identified as Issues**

##### 1. Impacts Relative to Subsidence

The proposal does not include mining that could cause subsidence. Subsidence from mining that has already been approved, was addressed in the EA for the appropriate leases.

##### 2. Roadless Character and RARE II Areas

The Nelson Mountain Muddy Canyon RARE II area lies to the west of Link Canyon Wash. A corridor along the Link Canyon road and wash was excluded due to the road and old Link Canyon mine. It has been determined that the breakout and substation location alternatives and the power line location lie within the corridor and not within the RARE II area. There would be no impact to roadless character and the project should not be affected by the proposed maintenance on road construction/reconstruction in RARE II area.

##### 3. Buried Power Line

The power loss associated with a buried power line is too great and therefore was not evaluated as a feasible alternative.

## **D. Issues**

Based on public input and recommendation by the BLM and USFS, the following issues were determined relevant. Each issue statement includes evaluation criteria or methods to measure responsiveness (effects) to the issue. Issues to be carried into the analysis are described first, followed by issues recommended for alternative development (significant issues), and issues not carried into the analysis.

TABLE II-2 lists the recommended issues to comments and concerns raised by individuals, organizations, and agencies discussed in the scoping analysis. The intent is to illustrate the link between public comments and issue development.

Effects of the powerline construction, substation development, and breakout would have on:

### **1. Water Quantity, Quality, and Downstream Beneficial Uses**

Construction activities could increase sediment in Link Canyon without the installation of long term sediment control structures. Construction activities could divert or impact water due to increased disturbance and loss of vegetation until reclamation is implemented and/or contaminate water through accidental spills of hydraulic fluids, fuels, etc. The accidental spills could contaminate water quality of the spring within Link Canyon northwest of the substation Link Wash. Reduced flows and contaminated waters could impact wetland and riparian zones and thereby affect dependent aquatic species in Quitchupah Creek.

Evaluation Criteria:

Quantity of water use that meets State of Utah water law.

- Potential for disturbance of water flow by construction operations.
- Chemicals used and potential for accidental spills.
- Does sedimentation in Link Wash effect water quality in Quitchupah Creek?
- Do anticipated effects meet State of Utah Water Quality law? i.e., follow Best Management Practices and meet beneficial use standards?
- Potential for impacts to riparian areas.
- Possible effects on subterrain flows.

### **2. Soils, Potential for Loss or Degradation**

Construction activities could impact soil in the area through an increase in erosion as a result of loss of vegetative cover created by cross country vehicle travel and construction activity. The concentration of overland flows of water as a result of road upgrading, pad construction or rutting due to vehicle traffic, may result in an increase in erosion.

Evaluation Criteria:

- Actual number of acres that would be affected.
- Soil type and inherent erosion potential analysis.

### **3. Vegetation Potential for Loss in Species, Diversity, Cover and Productivity**

An analysis of potential loss of vegetation in association with the construction activities and an analysis of impacts and remedial actions.

Evaluation Criteria:

- Actual area of potential long and short term impacts to vegetation by community types.
- An on-site survey to determine present habitats and species diversity.
- Estimates of productivity on area of disturbance.
- Potential for disturbance and loss of threatened and endangered or sensitive plant species (addressed as a separate issue).

### **4. Wildlife - Direct Disturbance and Potential for Habitat Loss**

The majority of the area associated with the proposed action is critical and/or high priority winter range for both deer and elk. In addition, there are concerns relative to both neo-tropical and raptor species which inhabit the area on both a year round or seasonal basis. Any disturbance of wildlife on winter range is considered detrimental and may result in increased winter mortality.

Evaluation Criteria:

- Acres of critical range for deer and elk.
- Potential for disturbance during peak usage of wildlife. (UDWR estimates ¼ mile buffer zone with decreased usage)
- Acreage of actual habitat loss (decrease in available forage).
- Potential impacts associated with both construction and maintenance of the action on nesting habitat and/or disturbance of neo-tropical avian species.
- Disturbance to nesting raptor species.

### **5. Livestock Grazing (Range Allotment)**

The potential affect of the proposed action on both existing range allotments within the project area and potential impacts on movements of domestic stock through Link Canyon to adjacent allotments.

Evaluation Criteria:

- Ownership and number of AUMs on all allotments directly affected by the action.
- Potential loss of forage as a result of the action.
- Potential effect on use area relative to access corridors and range improvements.
- Area of exclusion for protection of facilities, reclamation areas and transportation corridors.

## **6. Visual Resources and Associated Effect on Visitor Usage**

The proposed action would diminish the quality of the visual aspects of Link Canyon's scenic vistas. These vistas would be diminished with the presence of the 69 kV line, substation and breakout. An attempt to quantify this potential impact and how it would relate to diminished use will need to be made.

Evaluation Criteria:

- Determine consistence with USFS and BLM visual quality objectives established in the area land use plans.

## **7. Threatened, Endangered and Sensitive Species as identified by U.S. Fish and Wildlife, BLM, USFS, and UDWR.**

The presence of both plant and animal sensitive, threatened, endangered and sensitive (TES) species are addressed with both wildlife and vegetation issues. However, it will be advantageous to identify these species of high interest independently with specific evaluation criteria.

Evaluation Criteria:

- Identify all TES species that could exist within the proposed area and potential affect.
- Inventory both on the ground as well as a thorough literature search for all potential populations.

## **8. Cultural and Paleontological Resources**

Link Canyon and that portion of the valley floor which could be affected by the proposed project are in an area with an extensive history of occupancy by Native American peoples, as well as early pioneer settlement in association with both agriculture and coal extraction. In addition there are numerous sights of paleoarchologic findings located throughout Emery County. The potential for adverse impacts to these potential sites will need to be addressed.

Evaluation Criteria:

- Compliance with appropriate federal and state historic site protection mitigation and consultation guidelines as mandated.
- Identify all sites within the affected area.

## **9. Special Management Objectives by Resource Management Agencies**

Since the proposed project encompasses multiple management jurisdictions (i.e., BLM, USFS, State, County and private), the action must seek compliance and concurrence with all applicable, management objectives, ordinances, and laws of each of the various entities.

Evaluation Criteria:

- Consistency with USFS/BLM Land and Resource Management Plans.

**Issues Recommended for Alternative Development**

The following issues will be discussed in this environmental analysis and used to develop alternatives to the proposed action, as well as develop measures to mitigate and monitor anticipated environmental effects.

Issue 2 - Soil (Potential for Loss and Degradation)

Issue 3 - Vegetation - Mitigation for Loss

Issue 4 - Wildlife - Mitigation for Impacts

Issue 7 - TES Species - Avoid Impacts

Issue 9 - Special Management Objectives

**E. Critical Elements of the Human Environment Not Analyzed in Detail**

The following resources have not been identified within the area of the proposed power line and associated facilities and therefore, will not be addressed in the discussion of associated on-site resources (Affected Resources).

**Areas of Critical Environmental Concern** - No such areas occur within or would be impacted by the proposed action.

**Environmental Justice** - The proposed action would not have a disproportionately high or adverse impact to human health and environmental effect on minority and low-income populations.

**Prime or Unique Farm Lands** - A negative determination by the Natural Resource Conservation Service (NRCS) of the presence of such lands within the proposed action area is included as APPENDIX B.

**Floodplain** - The proposed action area would not be constructed, operated or maintained within a floodplain.

**Native American Religious Concerns** - The proposed action area does not contain any known sites of Native American Religious Concern.

**Wild and Scenic Rivers** - The proposed action area does not include, nor would any action associated with it impact any such designated waterway.

**Wilderness** - The proposed action area does not include, nor would any action associated with it impact any such designated area.

**F. Alternatives Considered in Detail**

**Alternative 1 - No Action**

The No Action alternative would be the current situation. This would mean that the ROW grant and special use permit would not be issued and the proposed 69 kV transmission line would not be constructed to the SUFCO Mine. CFC would need to look at other forms of power, the most probable of which would be diesel generators.

**Alternative 2 - Proposed Action**

The proposed project would be located in Emery and Sevier Counties, approximately two miles southwest of Emery, Utah (See PLATE I). The proposed power line would tap the existing Emery 69 kV line that serves the Carbon and Emery area. The power line would proceed northwest along the Link Canyon Road, from the existing 69 kV line adjacent to State Highway 10. The line would originate at a point in S.L.B.&M. T.22 S., R.6 E., Section 20. The power line would continue cross-country until it reaches the Link Canyon Road, where it would then turn to the northwest and proceed along the road until it reaches the site of the proposed substation in the upper end of Link Canyon at T. 21 S., R. 5 E., Section 26, SW ¼. The 69 kV line would be stepped down to a 12.5 kV line that would run up the slope and enter the mine at the proposed Link Canyon breakout (PLATE II). Alternative 2 is identical in all aspects to Alternative 3 with the exception of the substation location and power line to the breakout.

**Phased Construction Activities** - Due to limited access to the majority of the area of the proposed power line, construction activity would be broken into three separate phases:

**Phase I** - This would encompass the area from where the proposed power line diverges from the existing 69 kV line, across private land and State Highway 10, onto public land and ending at the intersecting Link Canyon Road. Because of dense vegetation, the presence of sensitive plant and wildlife resources and rough topography, rubber tired or tracked vehicles would be confined to existing roads and trails. Cross-country travel along the ROW would be limited as much as possible. All holes would be dug using a portable soil auger, or where limited by topography, by blasting with dynamite. Pole setting and stringing of the poles would be by wheeled vehicles.

**Phase II** - This section begins where the line crosses and parallels the Link Canyon Road and ends at the substation on National Forest System Lands. This area would allow access by rubber tired and/or tracked vehicles to dig holes and set structures. Helicopter use within this phase would be limited to areas of limited access.

**Phase III** - This phase would include the construction of the substation and breakout. All disturbance would be located on National Forest System Lands.

### **Description of Physical Facilities of the Proposed Action**

**Transmission Power Line** - The power line would be a 69,000 volt (69 kV) transmission line totaling approximately 32,616 feet or 6.18 miles in length. The total length of line located on public land would be approximately 24,878 feet or 4.71 miles. The total length of line located on private land would be approximately 6,485 feet or 1.23 miles. Total miles of line located on National Forest System Lands is approximately 1,253 feet or 0.24 miles. Total ROW acreage is shown in TABLE II-3.

**TABLE II-3**

### **OWNERSHIP SUMMARY OF LAND AFFECTED BY PROPOSED ACTION**

<u>Ownership</u>	<u>Feet</u>	<u>Miles</u>	<u>Acres</u>
BLM	24,878	4.71	34.3
USFS	1,253	0.24	1.7
Private	6,485	1.23	8.9
<b>TOTAL</b>	<b>32,616</b>	<b>6.18</b>	<b>44.90</b>

**Right-of-Way (ROW) and USFS Construction Corridor** - The desired construction zone for the 69 kV Transmission line is 60 feet wide, 30 feet on each side of the centerline. This would allow the construction crews the opportunity to maneuver to the necessary construction positions where possible. The desired ROW and special use area for the operation and maintenance of the power line would be 50 feet, 25 feet on each side of the centerline.

**Construction Access** - Access would be gained from use of existing roads, trails and along the ROW. Access to, and along the proposed action on National Forest System Lands would be from the existing road in Link Canyon. UP&L construction vehicles would access the ROW by traveling perpendicular from where the existing road or trail intersects the proposed ROW to the pole location.

Helicopter placement of poles would be implemented in areas of restricted access and/or areas of critical concern.

### **Design Features-Phase I and II**

The power line would be constructed using DS, ES, C3P, C2T and CS type poles (FIGURE II-1 - II-5), ranging from sixty to eighty feet in length. These type of pole configurations have been found

# CS 46 AND 69 KV STRUCTURE

(5 INSULATORS PER STRING)

MODULE 304609

REVISIONS - GENERAL  
4-2-83

SUPVR TRANS LINES ENG

PRO - J

W.M.M

CHECKED  
CORRECT

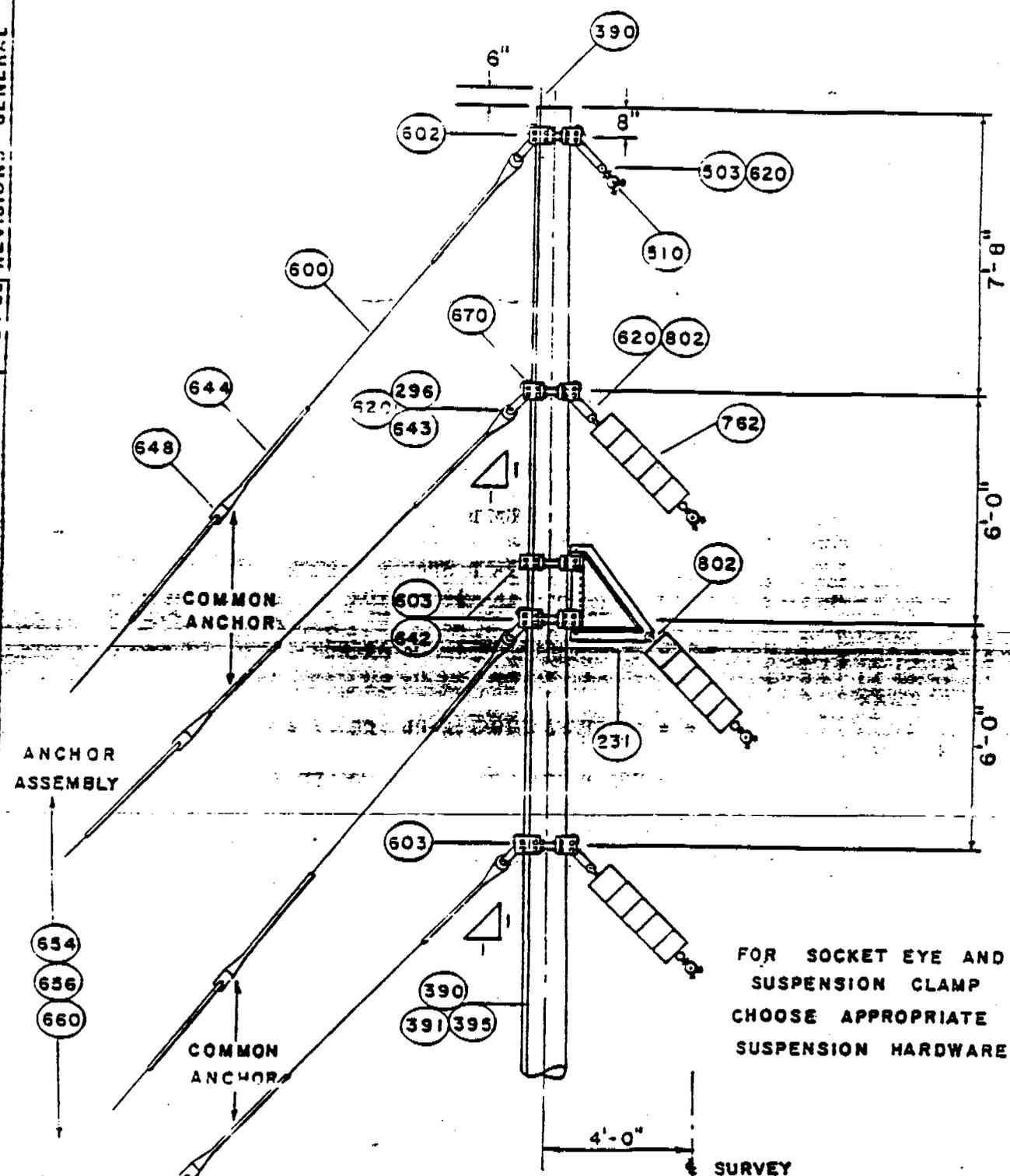
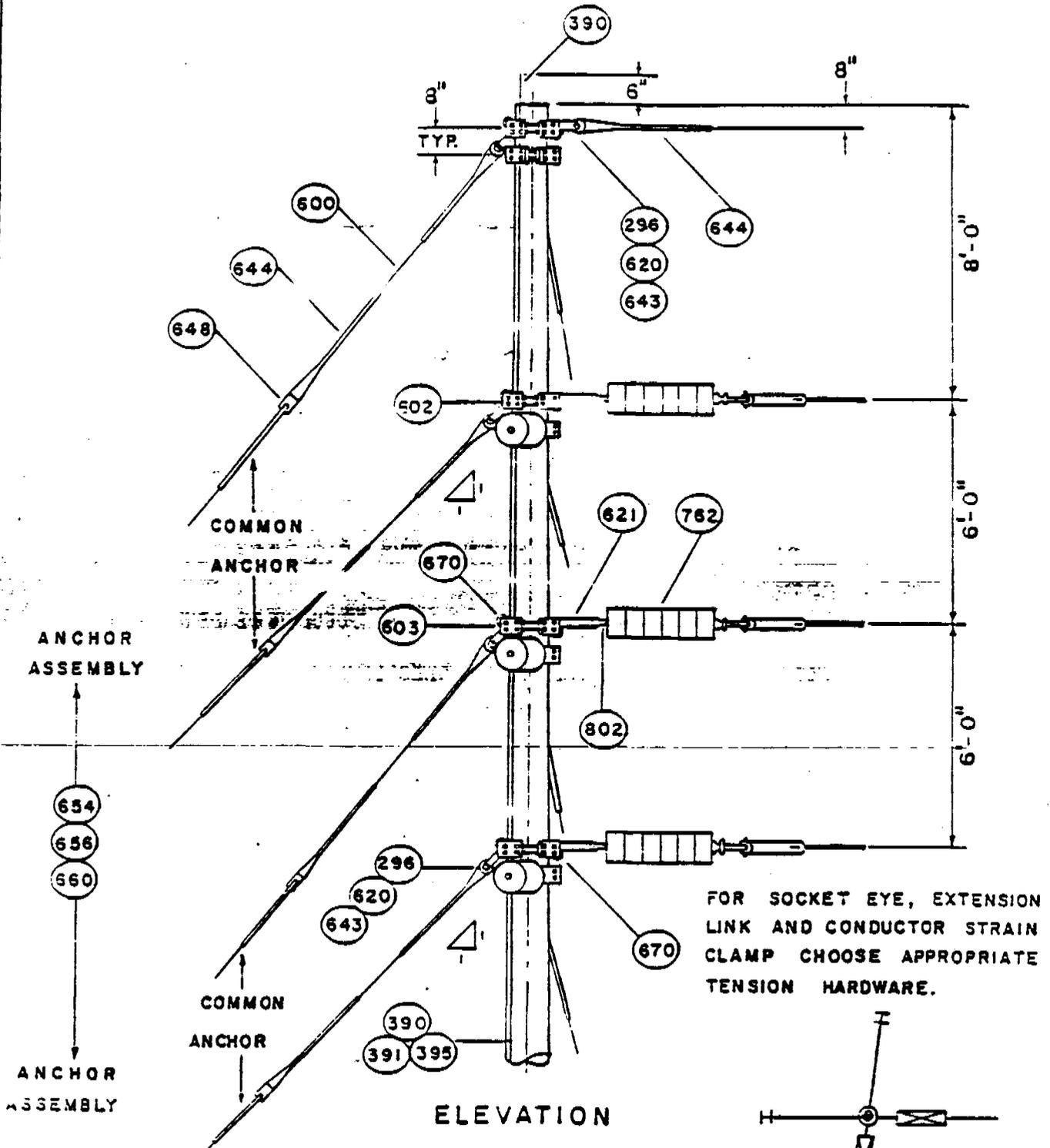


FIGURE 1

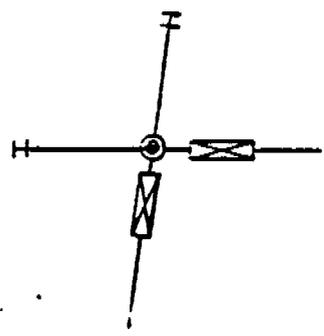
# C2T 46 AND 69 KV STRUCTURE

(6 INSULATORS PER STRING)

## MODULE 304611



ELEVATION



PLAN FIGURE II

NOTE:  
POLE GROUND WIRE TO BE CLIPPED TO POLE AT 2'-0"  
INTERVALS AND BONDED TO ALL POLE BANDS.

APPROVED: \_\_\_\_\_  
DI BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_  
CORRECT

4-29-83 REVISIONS - GENERAL

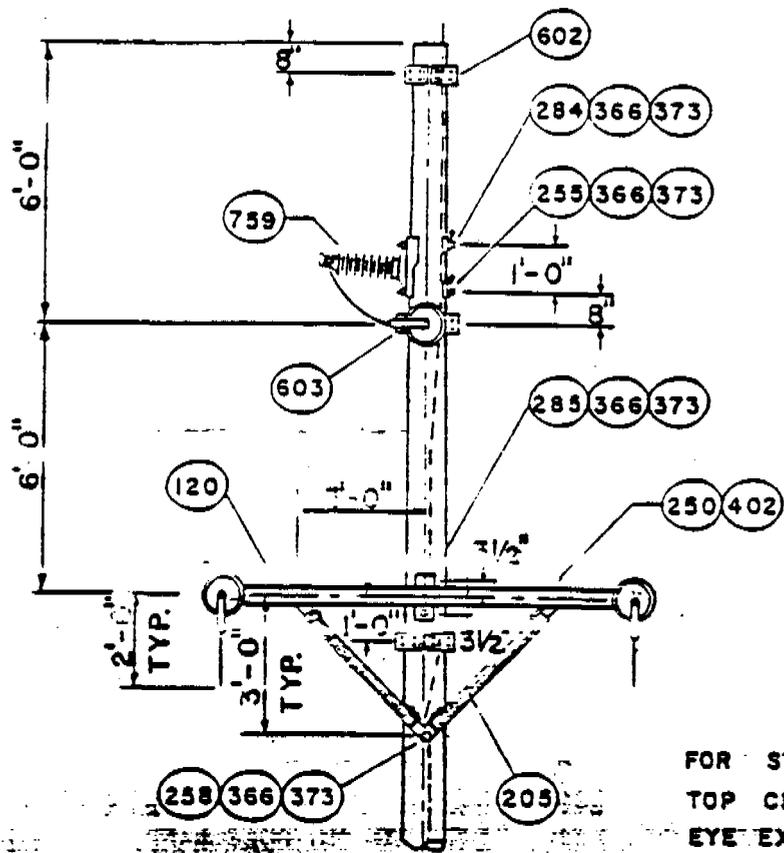
SUPVR. TRANS. LINES END



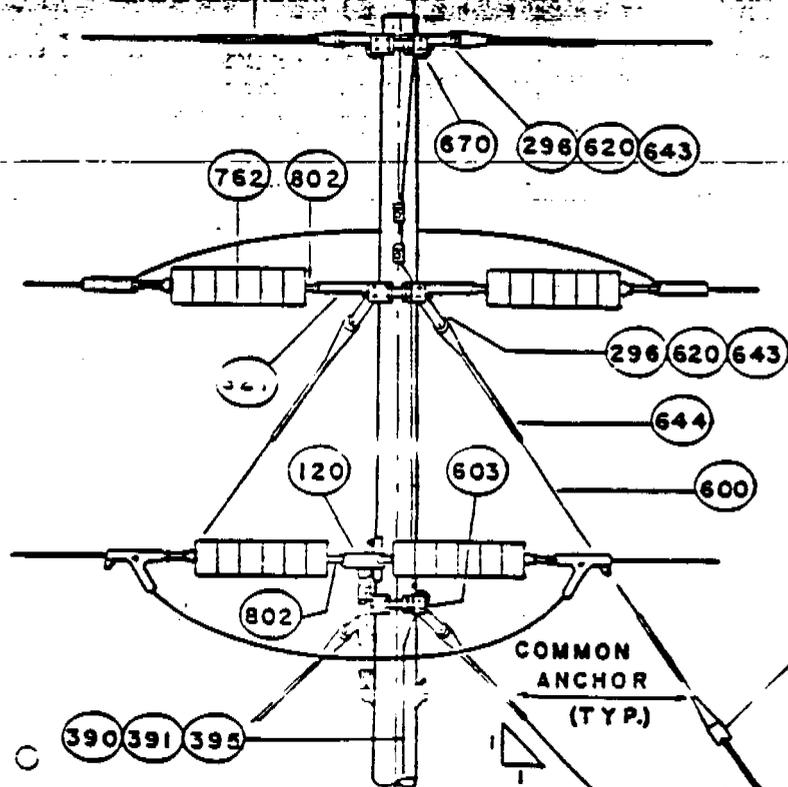
# DS 46 AND 69 KV STRUCTURE

(6 INSULATORS PER STRING)

MODULE 304622



FOR STRAIN CLAMP, CLAMP  
TOP CLAMP AND SOCKET  
EYE EXTENSION LINK.  
CHOOSE APPROPRIATE  
TENSION HARDWARE.



COMMON  
ANCHOR  
(TYP.)

ANCHOR  
ASSEMBLY

NOTE: POLE GROUND WIRE TO BE CLIPPED TO POLE AT 2'-0"

INTERVALS AND BONDED TO CASE AND SHIELD WIRE

FIGURE IV

5-3-83 REVISIONS - GENERAL

SUP / R. TRANS. LINES EN.

PP. 30, 31

CHECKED BY  
ORRECT

# ES 69 KV STRUCTURE \*

(4 INSULATORS PER STRING)

1 SHIELD WIRE

CASE  $\triangle 1$  MODULE 306908

CASE  $\triangle 2$  MODULE 306909  
X-BRACE

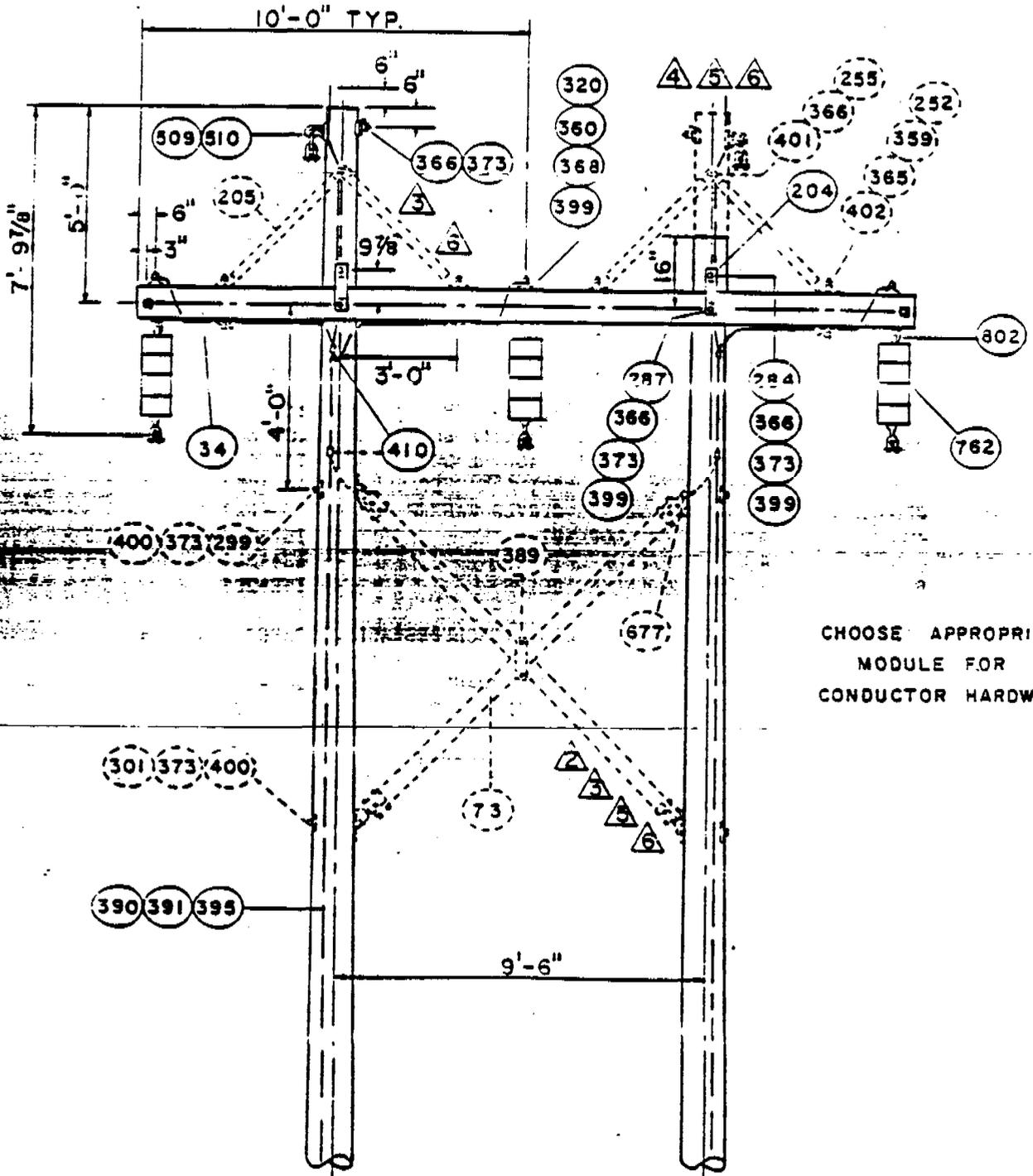
CASE  $\triangle 3$  MODULE 306910  
X-BRACE & V-BRACES

2 SHIELD WIRES

CASE  $\triangle 4$  MODULE 306911

CASE  $\triangle 5$  MODULE 306912  
X-BRACE

CASE  $\triangle 6$  MODULE 306913  
X-BRACE & V-BRACES



CHOOSE APPROPRIATE  
MODULE FOR  
CONDUCTOR HARDWARE

\*FOR 46 KV STRUCTURE SEE PRECEDING PAGE.

NOTE: POLE GROUND WIRE TO BE CLIPPED TO POLE AT 2'-0" INTERVALS  
AND BONDED TO SHIELD WIRE BRACKET AND ALL THRU BOLTS.  
GROUND ALL X-ARM HARDWARE USING EXTRA NUT AS SHOWN.

FIGURE V

5-6-83 REVISIONS - GENERAL

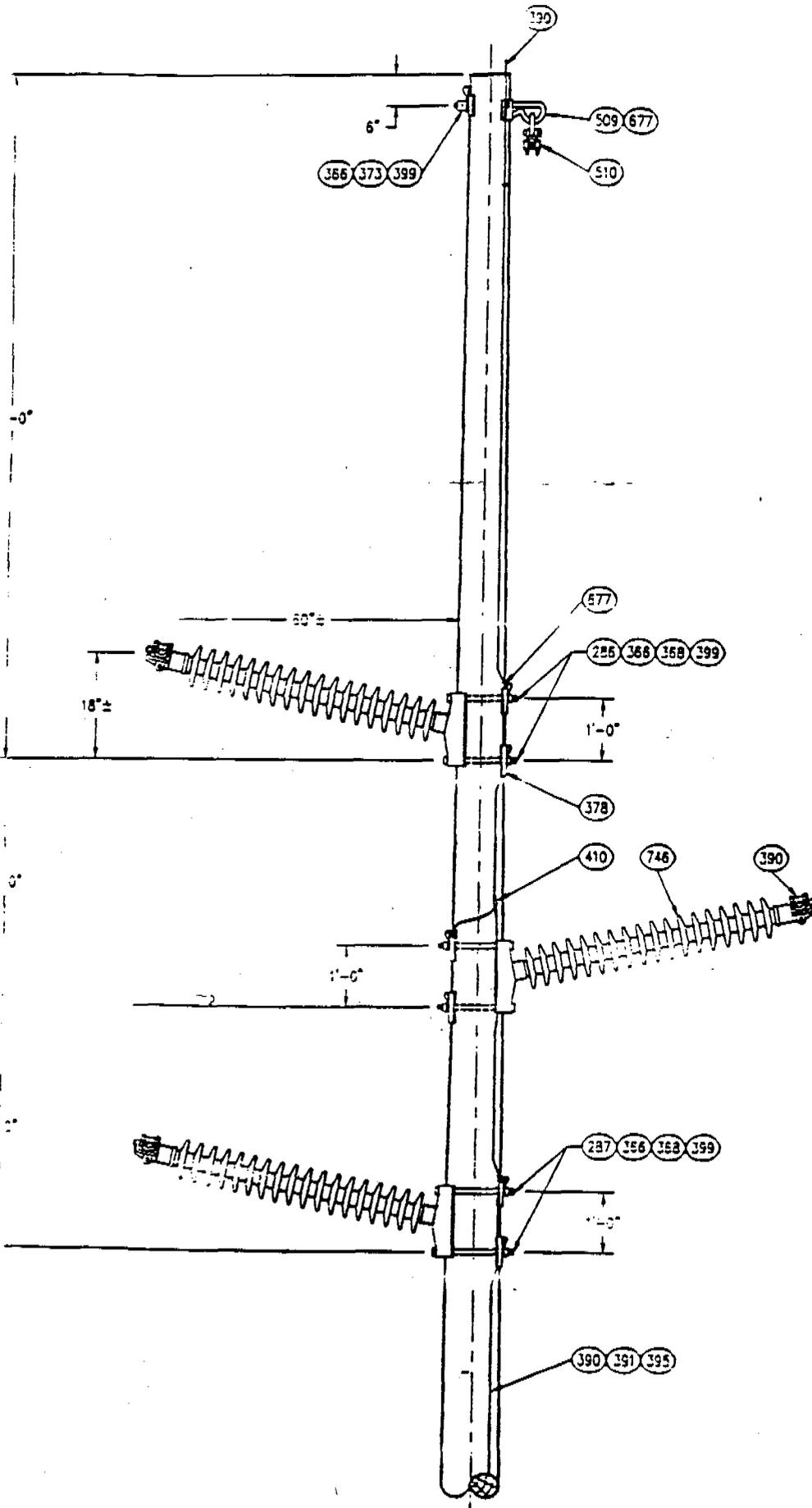
SUPV. TRANS. LINES ENG.

APPROVED:

Checked by: [Signature]  
Correct

BILL OF MATERIALS		STC.
DESCRIPTION		
POLE		
3/4" X 18" MACHINE BOLTS		62
3/4" X 18" MACHINE BOLTS		62
3/4" SPRING WASHERS		52
3/4" GALVANIZED NUTS		62
4" SQUARE CURVED WASHER		62
6" SQUARE CURVED WASHERS		15
GROUNDWIRE		45
GROUNDWIRE CLIPS		61
1 1/2" STAPLES		50
10d GALVANIZED NAILS		30
COPPER BUTT PLATE		15
3/4" LOCKNUTS		62
CABELOK CRIMPITS		46
3/4" X 12" SHIELDWIRE BOLT		15
SUSPENSION CLAMP (SW) (IRON 0.2" TO 0.46")		64
GROUNDING CLIPS		15
HORIZONTAL POST INSULATORS		58
CLAMP TOP CLAMPS		AS S

1465



May be used  
in raptor areas

	<p>'HPS' RAPTOR SAFE 46/69 KV STRUCTURE (POLYMER INSULATORS)</p>
	<p>TRANSMISSION ENGINEERING</p>

FIGURE VI

to be raptor-safe by the Raptor Research Foundation as described in Suggested Practices for Raptor Protection on Power Lines, The State of the Art in 1996.

The proposed power line would be compatible with other ROWs and special use corridors and would not interfere with other electrical transmission and distribution systems. The proposed power line would cross State Highway 10 , and the Link Canyon Road on several occasions. Construction in the vicinity of these roads would occur as quickly as possible that transportation along these routes would not be hindered.

The proposed power line would be designed to minimize the number of employees necessary to maintain the line. Maintenance of the transmission line and operational facilities would be on an as needed/emergency basis. All maintenance access would be by 4x4 vehicle and/or snow machine on existing roads, trail and/or within the 50 foot permanent ROW and special use area. Inaccessible areas would be maintained by foot and/or helicopter.

**Overhead Transmission Line - Phase I and II** - The construction vehicles to be used would be assorted tracked and wheeled equipment. A crew consisting of five to six individuals with a backhoe, HydraTrack or a line-boom truck with an auger attachment would be used to dig the holes within accessible areas along the ROW. In areas of limited access or areas of critical concern, a portable soil auger would be used to excavate the holes. The hole would be located so as to not disturb existing sensitive vegetation, and would be excavated to a depth of eight to ten feet.

Poles would be transported to the site by truck, where the structure components would be assembled on the ground and erected by a boom truck. A helicopter would be used to set and string preassembled structural components in areas of limited access or critical concern. In areas of thick vegetation and/or where vegetation may impede the performance of the active line, vegetation would be cleared by hand-held chainsaws or any other equipment needed to complete the job.

When the structures are in place, the conductor would be strung. A sock line would be laid along the route by a light vehicle, by hand, or by helicopter. Ground crews would place the sock line in pulleys on each structure at the insulator location. The conductor would be pulled up by pulleys through the insulator with the assistance of a reel truck, or by hand, before moving to the next pole location. Approximately two miles of conductor could be pulled into place in a single setup providing the line lies in a straight line or between direction changes.

Pole location can be moved up to 60 inches within the ROW if topography and/or an identifiable impact to cultural, vegetation or wildlife resources is present at the site of the structure. Five or six pulling areas (50' X 150') would be needed to pull the conductor along the ROW. Anticipated pull site locations are shown on PLATE II.

With the completion of the proposed power line, a set of original construction drawings and a set of "As-Built" drawings would be submitted to the authorized agency(s). An amended application would then be submitted.

**Helicopter Use** - In areas where vegetation, topography, or the presence of sensitive resources inhibits the use of conventional power line construction, helicopters would be used to set the structure and string the conductor. This would help to ensure the environmental quality of the area surrounding the proposed power line without excessive disturbance of resources due to construction of access roads and the complete removal of vegetation along the ROW. Areas of proposed helicopter use are shown on PLATE II. These areas are characterized by no vehicle access such as the area between the substation and the breakout.

### **Substation and Breakout - Phase III**

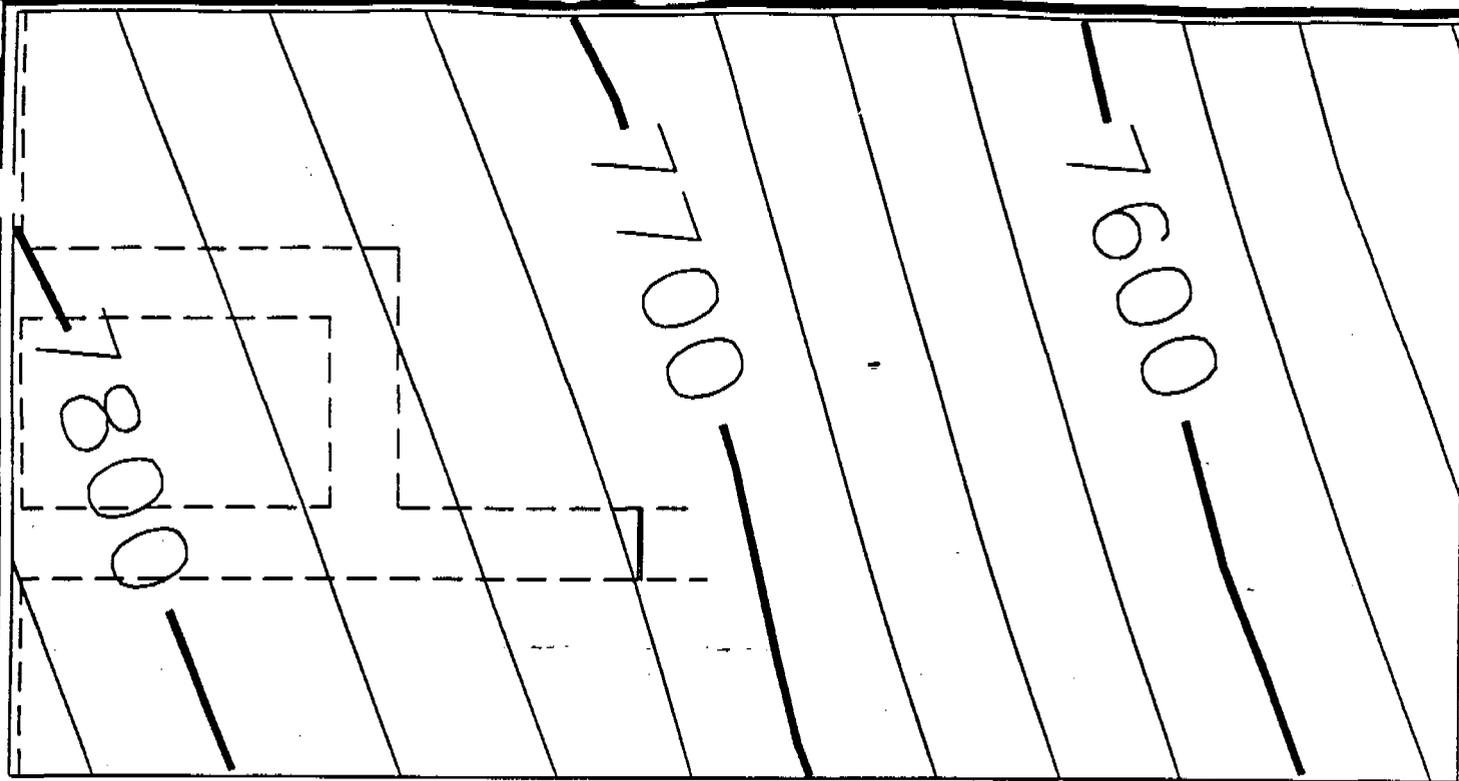
The proposed action to be taken by CFC on National Forest System Lands would be construction of a substation (PLATE III/5-2D) where the 69 kV line would be stepped down to a 12.5 kV line and enter the mine through the proposed breakout (FIGURE II-7). The following section describes each of these proposed facilities.

**Substation, Breakout and Associated Disturbance** - A substation pad would be constructed on the west side of the canyon where it would tie into the existing Link Canyon road. The total length of the substation pad would constitute 160 feet, and have an average width of 20 feet, encompassing 0.14 acres.

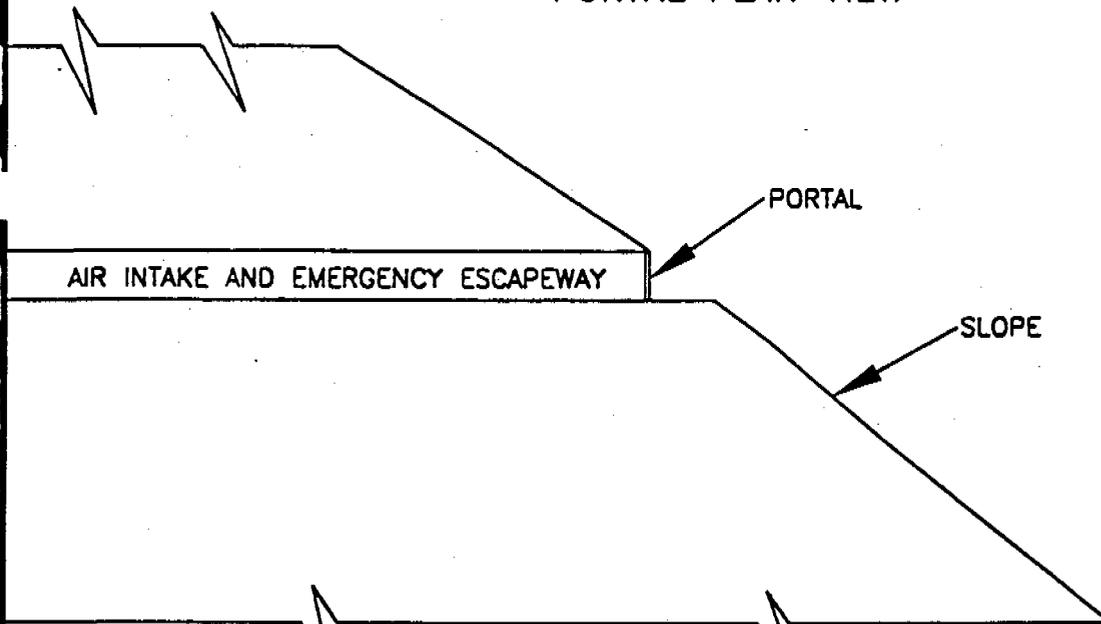
The substation working area would occupy a 20 foot by 40 foot site. The surface would have 12 inches of crushed gravel laid over a microfiber barrier that would stabilize the gravel and preclude the establishment of vegetation within the substation area. Any vegetation within the substation is considered both a safety and fire hazard and as such must be controlled. The use of microfiber barrier blanket would eliminate the need of constant maintenance as well as the use of herbicides. The balance of the site would allow for storage of material and access to maintain the substation.

A grounding field, consisting of a steel grid buried below the gravel, would be attached to grounding rods that tie into all surface structures and chain link fence enclosure. The entire substation would be fenced with a seven foot high chain link perimeter fence and a three strand barb wire climb deterrent on top. The gate would be posted with "no trespassing" and "danger high voltage" signs. It would be kept locked at all times. This structure would be designed to preclude unauthorized access. The substation would consist of one skid mounted transformer. The oil cooled transformer would contain approximately 1,500 to 2,000 gallons of non-PCB oil. The substation would be designed for total containment of all of the oil, within an earthen, gravel berm approximately 24 inches high and four feet in width.

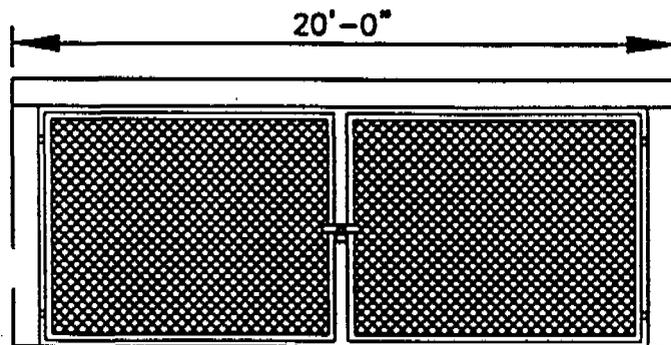
There would be two pole mounted 250 MCM mine power feeder cables carrying the 12.5 kV power line to the breakout portal. This would necessitate nine poles, approximately 40 feet (34 feet above and six feet below ground) in height. The actual breakout consists of a small area approximately 20 by 20 feet, a disturbance of approximately 0.01 acres. The portal will be approximately 20 feet wide by nine feet high (FIGURE II-7). The breakout would be constructed from within the mine utilizing a continuous miner and underground scoops. Surface disturbance should be minimal in that the



PORTAL PLAN VIEW



PORTAL CROSS-SECTION



DETAIL OF PORTAL

 <b>Canyon Fuel Company, LLC</b> <b>SUFCO Mine</b>	
<b>CONCEPTUAL SKETCH OF AIR INTAKE IN LINK CANYON</b>	
DATE: FEB. 25, 1998	SCALE: NONE
397 SOUTH 800 WEST SALINA, UTAH 84654	DRAWN BY: S.K.S.
FILENAME: H:\DRAWINGS\MAPSURF\LINKCAYN\SUBSTAT.DWG	

FIGURE V

majority of the soil/rock material would be stored within the mine and access would be through the mine. Immediately following the breakout the opening would be secured with a chain link cover and a locked gate to preclude entrance into the mine by people or large animals. Signs would be posted indicating no trespassing.

The coal seam slopes down from the breakout (down dip). This precludes any possibility of water encountered in mining to leave the mine from the breakout portal. A small berm at the breakout entrance and along the perimeter of the pad would prevent any surface water from entering the mine or leaving the disturbed area.

In addition, berms and/or silt fences (see Figure II-8 Silt Fence Installation) would be installed at the toe of all disturbances to ensure runoff from these areas is not detrimental to the undisturbed adjacent vegetation of Link Canyon Wash. The silt fences would be maintained until such time as all disturbed areas are revegetated.

**Hazardous Materials** - The only hazardous materials use during construction or maintenance would be dynamite. Use of dynamite in blasting of holes would be utilized in areas where holes could not be dug by machine or hand. Blasting would consist of drilling five holes approximately 6.4 feet deep and 1½ inches in diameter or the size of a dynamite stick, all of which would be within the circumference of the pole site. Four half sticks of dynamite would be placed into four of the holes, leaving the fifth hole empty to absorb the shock. The blast would be small enough that crews could safely remain within 50 feet of the blast. After the blast, the rubble would be removed by an auger. All explosives would be handled by a certified blaster and in accordance with OSHA guidelines.

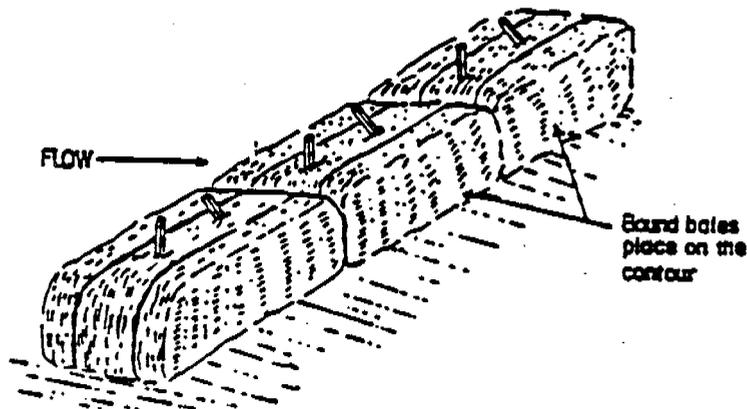
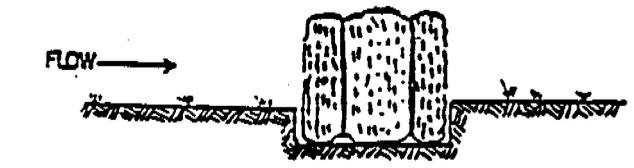
**Introduction and/or Spread of Noxious Weeds** - The operator would assure that all equipment, vehicles, and fill materials, including road aggregate imported to National Forest System and public lands for the purpose of construction, operation, and maintenance of the roads and pads, would be free of noxious weeds and seeds prior to entering upon such lands. The operator would be responsible for control of noxious weed infestations within areas they disturb, i.e., pads, roading and pole sites.

### **Construction Schedule**

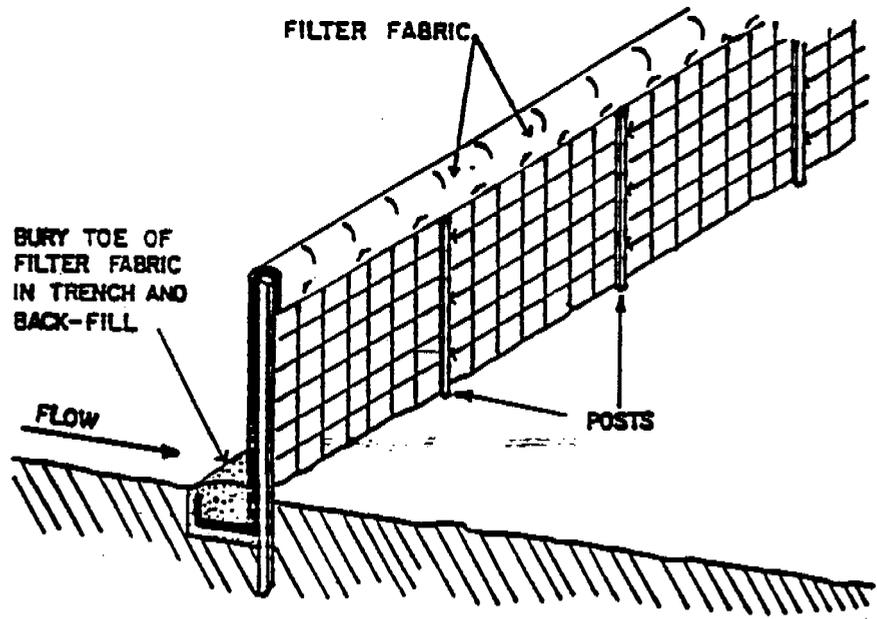
Depending on various approvals being in place, construction could begin as early as August 1998 with an anticipated completion date in November 1998. A cursory break down of activities is as follows:

#### **August**

- Mobilization of earth moving equipment, temporary stock piles of material, heliport, layout and field crews.
- Clearing and removal of vegetation from the pole sites and excavation of anchors.
- Setting of poles.



STRAW-BALE DIKE



SILT FENCE

SOURCE: BARFIELD ET AL. (1980)

**STRAW-BALE DIKE & SILT FENCE INSTALLATION PROCEDURES**

**August 16 to October 15\***

- Structures erected on all prepared areas, access to raptor buffer zones for excavation and erection.
- Activation of line.
- Implement breakout and substation.

**October to November\***

- Scarification of all compacted and disturbed areas associated with line construction-Phase I and II.
- Reseeding of all disturbed areas.

\* All operation that could restrict access to Link Canyon road would be halted during the opening two days of the Utah general elk and deer season.

**Maintenance and Operation Plan**

Operation and maintenance of the transmission line would require the use of the existing roads and trails and occasional access along the ROW. Access would be restricted to, and along the permanent ROW, and would occur in times of emergency maintenance measures or as vegetation within the ROW interferes with the operation of the transmission line. If access to the ROW would require grading or vegetation removal, the BLM and/or USFS would be contacted prior to such activities.

In the case of emergency maintenance to the line where its failure poses a serious safety risk to the SUFCO Mine, UP&L would implement immediate maintenance actions. The BLM and USFS would be notified of any immediate actions implemented by UP&L and the resulting disturbance to resources.

**Abandonment and Reclamation**

If UP&L finds that it would be to their advantage to terminate the use of the proposed power line, it would be done in accordance to the BLM and USFS guideline stipulations at the time of removal. An appropriate schedule for activities associated with dismantling of the transmission line would be established at that time. Upon dismantling of the line, a reclamation plan would be implemented for the area of the proposed power line. The breakout and substation would be addressed in the special use permit as well as bonded and reclaimed under the direction of the USFS and UDOGM in the CFC MRP.

**Alternative 3**

This alternative would be exclusive to the substation location. It was originally proposed in an effort to upgrade and correct an abandoned road and facilitate the power line construction. After

consideration it was determined that the work necessary to make the "old" road cut serviceable and comply with current safety and drainage design would constitute major reconstruction with approximately 2.6 acres of new disturbance (see Appendix A - Mine Issues).

The power line ROW, and that portion of the USFS special use area relevant to the transmission line, would remain unchanged. The main difference is the location of the substation and the necessity to set two poles to span Link Wash from the substation to the breakout. See Plat (Map 2) in Appendix A for detailed design relative to placement, structure and proximity to the breakout.

In association with the substation, the old Link Canyon Road would need to be reconstructed in accordance with USFS Manti-LaSal guidelines complete with surfacing, drainage controls etc. APPENDIX A gives design criteria for the drainage control structures, ditches and culvert sizing. The reclamation of the substation and associated road would be addressed in accordance with the approved MRP, and approved by the USFS Manti-LaSal National Forest with the issuance of a special use permit.

#### **G. Design Features Common to Alternatives 2 and 3**

Procedures that make up the following plan are designed to minimize disturbances to resources present within the area of the proposed power line. A full description of these resources and the impacts to them are described in Chapter III, AFFECTED ENVIRONMENT and Chapter IV, ENVIRONMENTAL CONSEQUENCES.

Soil disturbance during the construction of the transmission line would be restricted to the construction corridor. Unauthorized cross-country vehicular travel by construction crews would be prohibited. Construction activities would be conducted to minimize erosion. Exposed areas resulting from construction and the excavation of pole sites would be hand seeded with the approved BLM and USFS seed mixes.

In order to minimize watershed and erosion damage during wet or muddy periods, access to the ROW, construction, or any other activity would be restricted and/or prohibited. Where runoff and drainage controls would be required, they would be constructed to USFS standards. Where required, hydrological protection in the form of sediment and runoff controls would be installed below areas where construction of the transmission line could impact downstream resources with increased sediment loads (Ex. Link Wash). Particularly, activities within all wash and gully areas would be limited, so as not to significantly impact the area. Bank and channel restoration would include restoration to a geomorphologically stable condition over the present condition.

Selection of the two Link Wash crossings (lower section) required for Phase II construction of the transmission line, would be based on a route that would avoid vegetation where possible and minimize earthwork. During construction of the crossings, bank material would be pulled back to prohibit excessive sediment loss into the wash. Material removed would be stockpiled for later replacement. Sediment control structures (i.e., silt fences) would be located near each crossing, and

would be constructed to BLM standards. Upon completion of Phase II, large rocks (24"-36" MD) would be set along the bank area disturbed before the stockpiled soil would be replaced. A commitment to the Utah non-point sediment control best management practices would be adhered to.

To maintain the cultural, historical and paleontological resource integrity of the area, construction crews and staff would be provided with instructional materials regarding the identification, value, legal protection and treatment of the resources.

All construction would be planned to minimize disturbance to sensitive areas. All construction activities would be conducted within the established ROW and special use permit area so as not to detrimentally affect any established areas of historical and cultural concern. Care would be taken to avoid disturbance to any cultural, archeological or paleontological manifestations during construction of the transmission line, substation, breakout and during the time of operations/maintenance of the facilities.

If any cultural, archeological or paleontological resources are discovered during construction or any operations associated with the transmission line, all activities would cease at the area of the manifestation. The appropriate land managing agency would be contacted to evaluate the importance and potential of the site. Mitigation measures would, at that time, be made for the value of the resource site. Construction and/or maintenance crews would avoid the site until the resource potential has been determined.

Range management facilities, such as fences, wells, reservoirs and other improvements, would not be disturbed without prior approval of the BLM on their lands or the USFS on their portion. Where disturbance is necessary, UP&L would return the facility to its original condition. Newly constructed range improvements, such as fences, would meet USFS standards. When access across an existing fence line would be required, the fence line would be braced and four inch timber, or its equivalent, would be installed. All gates would be closed when not required for use by construction crews, or where found as such. There would not be any deliberate harassment of livestock.

For reducing visual contrast, reduction of disturbances is the most effective operational technique. Where disturbance is proposed, consideration would be given to repetition of basic landscape elements (form, line, color, and texture) to minimize visual change. The soil would be graded to conform with the terrain and adjacent land. To the extent possible, all foliage adjacent to the site would remain undisturbed to provide maximum available screening of the line relative to the landscape character type. A cleared ROW corridor would not be created. Visual disturbances would be minimized by using poles colored a shade darker in tone than the surrounding landscape, the use of non-reflective or clear insulators, and by placing the poles out of public view where possible.

Potential air quality measures for construction activities include proper maintenance of the construction equipment and limited travel upon the ROW and dirt access roads. Dust generation from disturbed areas would be reduced through interim and final reclamation, which includes revegetation of disturbed areas.

Noise reduction and control measures for construction activities would include proper operation and maintenance of manufacturer-installed noise abatement equipment. If helicopters are required, construction time frames would be closely monitored in order to limit the amount of time required for their use.

Vegetation removal necessitated by the transmission line would be confined to the ROW and special use area. Vegetation removed would be set aside during construction activities, and spread over the disturbed areas upon completion of construction where possible. Reclamation or surface contouring to restore all disturbed areas would start upon completion of the project, or as specified by the BLM and USFS. Reseeding would be done from October 15 to November 30. The area would be reseeded with the seed mix shown in TABLE II-4 and would be one most advantageous to wildlife within the area. An advantageous species would be included as a nurse crop or interim ground cover for erosion control as determined by the BLM and USFS. All disturbed areas would be scarified in several different directions to provide an erratic uneven surface on a small area. The seed mix would then be hand broadcast over the scarified area. The uneven surface provides depressions for an area where snow and water can accumulate, providing a favorable environment for seed germination and growth on larger areas that are accessible to a hydroseeder. The seed would be hydro-sprayed in combination with 500 pounds per acre of wood fiber mulch. Then, over-sprayed with an additional 1,500 pounds per acre of wood fiber mulch with 200 pounds per acre of 16-16-8 fertilizer.

UP&L would obtain written approval from the BLM and USFS before using insecticides, herbicides, fungicides, rodenticides, and other similar substances. The plan would describe the type and quantity of material to be used, pest to be controlled, method of application, location for storage and disposal of containers, and any other information that the agencies may require. Pesticides would be used only in accordance with its registered uses and within all other agency limitations.

All activities associated with the transmission line and associated substation and breakout would be coordinated to minimize significant impacts to all wildlife species. Helicopters would not be used within 0.5 miles of any active raptor nest before August 16, 1998.

An awareness and appreciation of wildlife would be taught to all UP&L employees and contractors. Training films that point out a number of practices that facilitate protection of both habitat and wildlife, while instilling an appreciation for wildlife and their life prerequisites would be shown to all construction crews.

TABLE II-4

SEED MIXTURE FOR DISTURBED AREAS

<u>Species</u>	<u>Pounds per Acre Pure Live Seed (PLS)*</u>
<b>Grasses</b>	
Indian rice grass <u>Oryzopsis hymenoides</u>	2.0
Crested wheatgrass <u>Agropyron cristatum</u>	2.0
Russian wildrye <u>Psathyrostachys juncea</u>	1.5
Sand dropseed <u>Sporobolus cryptandrus</u>	2.0
Needle and Thread <u>Stipa comata</u>	2.0
<b>Forbs</b>	
Yellow sweetclover <u>Melilotus officinalis</u>	1.0
Lewis flax <u>Linum perenne lewisii</u>	1.0
<b>Shrubs</b>	
Fourwing saltbush <u>Atriplex canescens</u>	1.5
Black sagebrush <u>Artemisia nova</u>	0.5
<b>TOTAL</b>	<b>13.5</b>

- Rate is pounds per acre pure live seed broadcast. Pure live seed (PLS) formula: % of purity of seed mixture times % germination of seed mixture = portion of seed mixture that is PLS.

**General Operations**

1. The USFS and BLM will be notified 48 hours in advance that heavy equipment will be moved onto National Forest System Lands and public lands and that surface disturbing activities will commence.
2. The USFS and BLM must be notified of any proposed alterations to the plan of operations. Any changes to the existing plan are subject to USFS and BLM review and approval.
3. 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 when not inconsistent with the rights and regulations must be complied with for (1) all use and occupancy of land prior to approval of a permit/operation plan by the Secretary of the Interior, (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 land not authorized by a permit/operating plan approved by the Secretary of the Interior.

4. All accidents or mishaps resulting in resource damage and/or serious personal injury must be reported to the USFS as soon as possible.
5. Section corners, survey markers and claim corners in the project area must be located and flagged by the operator prior to operations. The removal or disturbance of identified markers must be approved by the proper authority.
6. All surface-disturbing activities, including reclamation, must be supervised by a qualified, responsible official or representative of the designated operator. They will be aware of the terms and conditions of the EA and specifications in the approved plans.
7. Establishment of campsites on the pad or at other locations on National Forest System Lands and public lands by the operator or his contractors is subject to USFS and BLM approval.

#### Fire

1. 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.
2. All gasoline, diesel, and steam-powered equipment must be equipped with an effective spark arrester or muffler. Spark arresters must meet USFS 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, April, 1989." In addition, all electrical equipment must be properly insulated to prevent sparks.
3. UP&L and/or CFC will be held responsible for damage and suppression costs for fires started as a result of operations. Fires must be reported to the USFS and BLM as soon as possible.
4. The USFS and BLM reserves the right to suspend construction operations during periods of high fire potential.
5. The Memorandum of Understanding with the State of Utah Air Conservation Committee will be implemented. This will assure project implementation activities meet the State and Federal Air quality standards.

## Reclamation

1. Reclamation recontouring and reseeding of disturbed areas will be performed as soon as practicable (within the same construction season).
2. All surface disturbing activities including reclamation must be supervised by a responsible representative of UP&L and/or CFC who is aware of the terms and conditions of the projects permits/licenses.
3. Seeding will be performed using the certified seed mix TABLE II-4. The seed mixture must meet or exceed the pure live seed standards of the Utah Seed Law containing a maximum allowable weed content of less than two percent with no noxious weed species.
4. Revegetation will be considered successful when 90 percent of the pre-disturbance ground cover is reestablished over the entire disturbed area. Adjacent undisturbed areas will be used as a base for comparison. Of the vegetative ground cover, at least 90 percent must consist of seeded or other desirable species. 90 percent ground cover must be maintained for three years. If the desired ground cover is not established at the end of each three year period, an analysis of why the area has not recovered will be performed by the operator and additional treatment and seeding will be required based on the results of the analysis.
5. An erosion and sediment control plan will be prepared as prescribed in the Soil and Water Conservation Practices Handbook. During operations the operator shall maintain seasonal erosion control structures, on all affected areas.
6. All topsoil must be stripped from areas to be disturbed and stockpiled for reclamation in such a way as to prevent soil loss and contamination.
7. Following completion of the project, the substation pad and project area must be recontoured to blend naturally with the surrounding area. Gravel will be salvaged and stockpiled in an area approved by the USFS relative to that portion of the road and substation pad on National Forest System Lands.
8. The substation area must be fenced and the project road must be adequately closed off to prevent continued use until the required reclamation standards are successfully achieved.
9. Livestock may be temporarily excluded from disturbed areas through fencing or other appropriate measures in critical sections.
10. The operator is responsible for maintenance of reclamation facilities such as fences, barricades and temporary drainage structures until the desired reclaimed conditions are achieved.
11. All vehicle traffic will stay on existing roads and new access routes. Unauthorized off-road vehicular travel is prohibited.

12. Roads and access routes must not be used when they are wet, muddy, and susceptible to damage. The permittee is responsible for repair of any damages which are caused by his/her operations. If operations continue into October additional aggregate surfacing may be required to minimize damage to the existing road surface.
13. All traffic must maintain safe speeds commensurate with existing conditions.
14. Water or magnesium chloride must be applied to roadways to control dust if excessive loss of road surface material occurs or visibility creates unsafe driving conditions. Other methods of dust control require specific approval by the USFS and BLM.
15. A preconstructing meeting including the responsible company representative(s), contractors, and the USFS and BLM must be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road work must be construction-staked prior to this meeting. Site-specific requirements will be discussed at this time.
16. The operator must acquire appropriate permission to use roads not identified as Forest Development Roads or BLM road systems.
17. The project engineer and surveyors must be certified by the State in which they reside or maintain their business.
18. A gate must be constructed on the pad access roads (Alternative 3) near the intersection with the Link Canyon road to prevent public access to the pads. The gate must be locked at any time that the pad is unoccupied by company personnel. The gate design must be approved by the USFS and BLM.

#### **H. Alternatives Considered But Not Given Detailed Study**

The following alternatives were discussed and dismissed in a scoping meeting between UP&L and the BLM on June 1997:

**Alternative A** - The alternative that would have proceeded cross-country on the foot hills between Emery town and Link Canyon road to the proposed breakout and substation was dismissed for the following reasons:

- (1) There is no feasible route that would facilitate construction of the proposed power line without increasing the construction costs of the project considerably, since helicopters would be required for the majority of construction.
- (2) The BLM determined that the route of this alternative would be located on sensitive soils and that considerable environmental damage would result from added disturbance to both construction and maintenance of the line.

**Alternative B** - This alternative would remain on National Forest System Lands and continue east from the SUFCO Mine to the breakout in Link Canyon. It was dismissed due to reliability problems with the operation and maintenance of power lines when they are located at the elevation that exists on top of the mountain. The harsh winter conditions freeze the conductors, and the added weight of snow and rain accumulations along with extreme winds blowing upon the line put it under tremendous stress to the point of breaking and/or outages.

## **I. Comparison of Alternatives**

TABLE II-5 has been generated to summarize and compare alternatives relative to the issues and other analysis/decision factors. Comparisons are based on the net effects to each resource issue if the entire alternative were selected and implemented. Refer to Chapter IV for a detailed discussion of environmental effects for each alternative.

**TABLE II-5**  
**Comparison Summary of Effects by Issue and Alternative**

<b>RESOURCE ISSUE</b>	<b>EVALUATION CRITERIA</b>	<b>ALTERNATIVE 1 No Action</b>	<b>ALTERNATIVE 2 Proposed Action</b>	<b>ALTERNATIVE 3 Alt. Substation Location</b>
<p><b>WATER QUANTITY, QUALITY, RIPARIAN/WETLANDS/ FLOODPLAIN, and AQUATIC HABITAT</b></p> <p>Water Quantity</p> <p>Water Quality A. Chemical Spills</p> <p>B. Sediment</p> <p>Riparian/Wetlands</p>	<p>Changes in water yield to water users and spring</p> <p>Chance of spills</p> <p>Changes in surface and stream sediment yield</p> <p>Area of Riparian management unit or wetland impacted by the project.</p>	<p>Existing water yields would continue</p> <p>None</p> <p>Existing sedimentation from surface erosion and runoff from road would continue.</p> <p>None</p>	<p>No Impact to water rights</p> <p>Throughout the life of the project there remains, after application of mitigation measures, some degree of hazard for accidental spills into water resources. Should a spill occur mitigation will be applied to meet State standards.</p> <p>Changes in sedimentation would meet UT State law because Implementation of Best Management Practices during pad and road construction would prevent excessive sedimentation.</p> <p>None is anticipated. No wetlands or riparian areas presently exist in the area of the proposed action.</p>	<p>Same as Alternative 2</p> <p>Same as Alternative 2</p> <p>Same as Alternative 2. Potential decrease in sediment as compared to Alt. 2 due to upgrade of old mine road</p> <p>Same as Alternative 2</p>

RESOURCE ISSUE	EVALUATION CRITERIA	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Proposed Action	ALTERNATIVE 3 Alt. Substation Location
<p><b>RANGE ALLOTMENTS</b></p> <p>Stock Driveway</p>	<p>Impacts to existing allotment improvements and operations.</p> <p>Impede movement.</p>	<p>None</p> <p>None</p>	<p>Disturbance to livestock due to increased traffic. Vegetation adjacent to Link Canyon road would be covered by dust and not used by some animals. A potential loss of 7.1 acres of forage.</p> <p>None</p>	<p>Same as Alternative 2 except there would be an increase of 2.48 acres of forage for a total of 9.58 acres potential loss.</p> <p>None</p>
<p><b>NOXIOUS WEEDS</b></p>	<p>Changes in spread or establishment of new and existing populations.</p>	<p>Existing populations would continue to be treated in accordance with existing decisions and agreements. Noxious weed populations would remain static or decrease.</p>	<p>Throughout the life of the project there remains, after application of mitigation measures, some degree of risk for the introduction and establishment of noxious weeds. Should new populations be introduced mitigation will be applied in accordance with existing decisions and agreements.</p>	<p>Same as Alternative 2</p>
<p><b>ELK AND DEER HABITAT AND THEIR SECURITY</b></p> <p>Elk and Deer Population</p>	<p>Changes in acres of effective security cover and winter range.</p> <p>Decrease in population due to reduced habitat and/or disturbance</p>	<p>No Change</p> <p>No Change</p>	<p>A loss of up to 3.62 acres of winter range and up to 1067 acres of additional disturbance through the construction period (low usage time).</p> <p>Loss of habitat is insufficient to affect population. Disturbance is timed to winter range use period.</p>	<p>Same as Alternative 2 except a loss of 6.1 acres of winter range.</p> <p>Same as Alternative 2.</p>

RESOURCE ISSUE	EVALUATION CRITERIA	ALTERNATIVE 1 No Action	ALTERNATIVE 2 Proposed Action	ALTERNATIVE 3 Alt. Substation Location
<b>SENSITIVE SPECIES</b>  Peregrine Falcon	Acres of suitable habitat impacted by activities.	No effect.	No impact based on seasonal closure of construction past August 16.	Same as Alternative 2.
<b>CULTURAL RESOURCES</b>	Number of Prehistoric and/or Historic Sites Affected.	None	Through application of the measures specified in the HPO agreement, there would be no effect to cultural resources.	Adverse effect to historic Link Canyon Road.
<b>SOILS</b>  Acres Affected  Sensitive	Potential loss.  Potential loss.	No Effect.  Not Present	Approximately 7.1 Acres of Disturbance with safeguards implemented.  None	Approximately 9.58 acres of disturbance with safeguards implemented  Same as Alternative 2.
<b>VEGETATION</b>  Reclamation	Potential loss.  Success standard/area reclaimed during interim.	None  N/A	Approximately 7.10 acres loss of vegetation during construction. A net loss of 0.36 acres life of operations.  90% success standard 6.7 acres reclaimed year 1.	Approximately 9.58 acres loss during construction. A net loss of 3.10 acres life of operation.  Same as Alternative 2.
<b>VISUAL</b>	Impacts on vistas.	No Change.	Minor/No visual 70% of time in travel compatible with visual quality objectives.	Noticeable from USFS boundary to substation, location. Compatible with visual quality objectives.
<b>SOCIOECONOMICS</b>	Economic gain/loss	Short Term - No change  Long Term - May adversely effect employment if mining of area is curtailed.	Expenditure of \$800,000 during construction - a portion returned to local area.	Same as Alternative 2.

## **CHAPTER III. THE AFFECTED ENVIRONMENT**

### **A. Introduction**

The resources that make up the affected environment were identified through baseline studies done at the site of the proposed power line, issues raised by the scoping process, and consultation with numerous public agencies as directed by the administering agencies. Description and explanation of all affected resources are in accordance of those provisions set out by the National Environmental Policy Act (NEPA) of 1969 and all subsequent regulations implementing that law.

### **B. Management Plan Direction**

The analysis tiers to the Federal Land Policy and Management Act of 1976 and BLM San Rafael Resource Management Plan in addition to the forest-wide direction and management area goals and standards of the Manti-LaSal National Forest Land and Resources Management Plan and incorporates, by reference, the analysis disclosed in the EIS and Record of Decision (1986), as amended. This analysis also incorporates by reference the analysis disclosed in the Oil and Gas Leasing FEIS and Record of Decision. The entire area is classified as leasing mining development (MMA) as a management objective. The Link Canyon project meets the management directives of the plan.

### **C. Description of the Affected Environment**

The area is located within the Colorado Plateau Physiographic Province. The High Plateaus of Utah and the Canyonlands sections meet in the vicinity of the proposed power line, breakout and substation along the base of Wildcat Knolls, two miles southwest of the town of Emery in Emery County, Utah. The proposed project area is characteristic of the mid-elevations of the province, with broad, shallow canyons and ragged foothills. The vegetation is characterized as being a contrasting pattern of pinyon-juniper forests intermixed with shrubs and grasses. The project site varies from a predominantly undisturbed natural setting with occasional dirt roads throughout the pinyon-juniper bench to the visually dominant disturbed pastured area along the private sections. Steep escarpments and rugged slopes covered with pinyon-juniper transitioning to ponderosa and Douglas fir, make up the area in the upper reaches of Link Canyon above the area of disturbance.

Elevation ranges from approximately 6,200 feet above sea level to approximately 8,000 feet above sea level, and is characterized by hot, dry summers and cold, moist winters (Lines et al, 1984). Precipitation within the Link Canyon drainage area, where the proposed power line would be located, is approximately eight inches per year. Most of the available water results from winter accumulation. Summer precipitation results from northerly moving localized storms that are short in duration. Downpour is often extreme, resulting in excessive flooding and erosion (Lines et al, 1984).

CFC is currently conducting underground mining in the general area of the proposed project. The underground coal extraction is being conducted utilizing both conventional and longwall mining. The

mine's portals lie approximately seven miles to the southwest and there is no surface disturbance within the confines of Link Canyon as a result of current mining.

## Soils

Soils identified within the area of the proposed action have been categorized into nine different classifications. Through communications with Leland Sasser, soil scientist at the Natural Resource Conservation Service (NRCS), it was determined that the designated soil units for this specific project area have been documented in the 1970 issue of the Soil Survey of Carbon-Emery Area, Utah. In addition to this source, a combination of definitions regarding soil descriptions have been incorporated from the 1980 publication of the Soil Survey of Carbon Area, Utah, current descriptions derived from on going NRCS research, and an order 2 soil survey completed for the Link Canyon breakout area by Daniel M. Larsen, Soil Scientist, Manti-LaSal National Forest.

Along the southern section of the proposed powerline, Mancos derived and highly erodible soil units are found on the steep or very steep sites characterized by barren surfaces of shale dissected by intermittent drainages. The soils near the tap point of the proposed power line and existing power line are comprised of Trook, fine sandy loam, 1-3 percent slopes; Greybull-Utaline-Persayo complex, 3-55 percent slopes; and Travessilla-Rock outcrop complex/Rock outcrop. The very deep, permeable and stable Trook soils are present on the gently sloping bench terrace at the tap point. Greybull-Utaline-Persayo soils, located on the steep sides of eroded benches and dissected alluvial fans, range from shallow to deep. However, due to their steep slope location, are slowly permeable and highly erodible. Travessilla-Rock outcrop and Rock outcrop, the dominant soil within the area of the proposed action, are found on the steep forested benches and mesas. This soil is rapidly permeable, and moderately erodible. On steep barren escarpments, shallow and moderately erodible Rock outcrop soils are present where enough soil has collected to support some vegetation.

Sanpete sandy clay loam, 1-3 percent slopes; and Sanpete sandy clay loam, 3-10 percent slopes are present within the relatively flat plain north of U.S. Highway 10. These soils, sharing similar chemical characteristics, range from rapidly permeable and moderately erodible to slightly permeable and highly erodible, depending upon the degree of location slope. Penoyer Variant Loam, considered a prime farmland when irrigated, is localized in an area along Christiansen Wash in the moderately elevated alluvial fans that make up the central region of the proposed power line. This soil unit is very deep, well drained, but susceptible to sheet erosion within the wash areas below the canyon.

Within the area of the upper reaches of the proposed power line, the Lazear-Gerst-Pinon complex, 3-35 percent slopes; Travessilla-Rock outcrop complex/Rock outcrop; and Strych very stony loam, dry, 3-30 percent slopes constitute the dominant soil makeup. The sandstone capped rolling shale hills are indicative of the moderately erodible, permeable and shallow Lazear-Gerst-Pinon complex. The deeper Strych very stony loam, present within along the base of the plateau and upon the well drained alluvial terraces in the mouth of the canyon, is very permeable and moderately erodible. The soils located within the area of the terminus of the proposed power line, substation and breakout have been classified as Strych-Pathead-Podo families-Rubbleland complex, 30-80 percent slopes by the USFS. The units that make up this soil type are generally shallow, rocky and highly erodible.

Location of these soil as described are shown on PLATE IV. APPENDIX B contains a table exhibiting the individual characteristics and makeup of each soil, as well as a negative determination for prime farmland within the area of the proposed action.

### **Hydrology**

This area is contained within Hydrologic Area 51, which is one of 20 hydrologic areas defined in the Northern Great Plains and Rocky Mountain Coal Provinces (USGS Open-File Report 83-38). Precipitation in the general area varies widely, from less than six inches in the low areas to more than 40 inches along the top of the Wasatch Plateau. The Link Canyon drainage area of the proposed project area receives an average of approximately seven to 10 inches of precipitation per year. Winter precipitation is primarily snow, resulting from frontal-type storms which move across the area, primarily from west to east. The snowpack is the principal source of late spring and early summer runoff in the area. Summer precipitation generally results from thunderstorms moving through the area from the south. These storms are usually localized, short-duration but high-intensity events, which may result in flash flooding and possible property damage.

**Surface Hydrology** - The project area is located within the San Rafael River drainage that feeds into the Colorado River drainage. Link Wash, an intermittent drainage near the tie-in with the mine breakout, has a potential to flow into Quitchupah Creek during spring runoff and intense, localized rain events. Numerous small ephemeral ravines that possess drainage areas of less than one mile feed into Link Wash.

The spring runoff from snowmelt is typically slow and controlled by natural absorption. Of concern are the thunderstorms and cloudbursts occurring in the summer and early fall. These storms can be very localized and of high-intensity, and result in rapid runoff which causes erosion and contributes sediment to streams.

**Subsurface Hydrology** - There are no springs, seeps or other natural (or man-made) groundwater resources known to exist on the proposed project area. There is a small spring and well defined riparian area up canyon from the end of the 69 kV line. The area is composed of colluvium deposits from eroding Tertiary formations. Ravines cut through the outwash slopes, exposing members of the Mancos Shale below. Unconsolidated alluvium has a high transmissivity, meaning that water that percolates through is readily available. The intermittent washes and streams are a result of the alluvium. Subsurface, or subchannel flow does occur as a result of bank retention and storage of water. Surface flows are evident as the alluvium becomes saturated.

### **Cultural and Paleontological Resources**

An archeological survey was conducted by JBR Consultants, Archeological Consulting Services, in April 1998, and by AERC in 1997. A paleontological file search was conducted by JBR in 1998. One location of invertebrate fossils is present within the project area. Seven newly recorded cultural resource sites and two isolated finds were recorded during the 1998 inventory of the power line ROW. All seven sites and isolated finds were located on the BLM portion of the proposed action. One site, 42SV2481/42EM2497, portions of the Old Link Canyon Road, is located on both BLM and National Forest System Lands. The Old Link Canyon Road is eligible for listing to the National Register. The other non-nominated sites located include two prehistoric lithic scatters, two historic debris scatters, and two other historic GLO roads. The isolated finds include a secondary flake and

a lard bucket. The 1997 AERC inventory of the substation and breakout area did not locate any cultural resources. Copies of these reports are on file with the Utah State Historical Preservation Officer (SHPO) in Salt Lake City and at the Price River Field Office.

## **Land Use**

Land use information was compiled from maps and existing literature from public and private agencies. Land jurisdiction and ownership for the proposed project area is public, private land, and National Forest System Lands. Current land uses in the area of the proposed power line include: livestock grazing, wildlife habitat, hunting, wildlife viewing, cross country hiking, biking and fuel wood gathering.

Private land ownership existing in the area of the proposed power line is shown on PLATE V. Area wide and lineal land uses surrounding the proposed power line include three paved and numerous unpaved roads. To the southeast of the project site lies the town of Emery. To the northwest lies the Wasatch Plateau, a popular year-round recreation area.

The Manti-LaSal Forest Land and Resource Management Plan for the corridor along the Link Canyon road up to and including the old abandoned Link Canyon Mine is classified as "MMA," or Emphasis on Leaseable Mineral Development. This includes areas where the land surface is or will be used for facilities needed for an extended period in the extraction of leaseable minerals. Other uses may occur. Long term investments in other resources or their use will not be made until extraction is complete and the area is rehabilitated to other uses. The area outside of this corridor in Link Canyon is classified as "GWR," or Emphasis on General Big Game Winter Range. These are areas that wildlife traditionally use in winter. Other uses may occur so long as it does not conflict with or cause unacceptable stress on wildlife, and so long as the activity or its rehabilitation emphasizes habitat maintenance or enhancement.

The entire proposed Link Canyon Breakout/Substation project is within the Link Canyon MMA.

**Grazing** - The overall project area includes the Link Canyon, E. Olsen, and Johnson livestock grazing allotments. The permitted Link Canyon allotment seasonal use is from November 1 to February 28. Optimal use is for 288 AUMs or 72 cows. The season of use for the E. Olsen allotment is from April 16 to June 15 with an optimal use for 20 AUMs. Approximately 50 percent of this allotment is public land. The Johnson allotment has a permitted use of 182 AUM's with a season of use from October 16 to December 31 for 72 cows. Grazing allotment locations are shown on Plate IV.

The proposed project area, within the Manti-La Sal Forest lies entirely within the Emery C&H grazing allotment. The permitted season of use is June 18 to September 30 each year. The proposed project area contains no suitable livestock grazing areas. The existing road up Link Canyon is an established trail for cattle access to the allotment from the Emery area. The main concern for grazing in the Link Canyon is to minimize activities that would interfere with the movement of cattle to and from the allotment along the Link Canyon road.

**Recreation** - Developed, or special recreation management areas do not exist within the actual project area. Dispersed recreation activities (i.e., hunting, off-road scenic driving, limited winter sports) occur throughout the area. Recreational opportunities within the project area are limited due to access availability. However, routes near and within the area of the ROW are used for access to recreational resources in the vicinity of the proposed power line. The road in Link Canyon is used as an access route to National Forest System Lands on the southern portion of the Wasatch Plateau. State Highway 10, which a portion of the proposed power line borders, is a primary access to recreational activities within the Wasatch Plateau, as well as numerous towns in both Emery and Carbon Counties and as a west link between I70 and Hwy 191-6. The USFS Recreation Opportunity Spectrum classifies that portion on National Forest System Lands as "Semi-Primitive Motorized."

**Visual Resources** - The project area is located in an area of broad open landscapes which characterize the regional landscape of Southeast Utah. Since the proposed power line may be visible from a great distance, maintenance of visual resources is a concern from nearby and distant viewing locations. This includes views from public lands with visual resource values, designated wilderness study areas, recreation areas, major transportation routes and population centers.

This area is currently managed as VRM Class III in the San Rafael RMP. Under this classification, BLM policy states:

Changes in the basic elements caused by management activities should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes under this class should repeat the basic elements found in the predominate natural features of the characteristic landscape.

The USFS defines that portion which lies on the affected National Forest System Lands as modification. The proposed Link Canyon Breakout/Substation does not appear to be in conflict with any of these objectives. The only existing improvement in the proposed project area is the existing Link Canyon Road. This road is maintained by the Emery and Sevier Counties up to the Manti-LaSal National Forest boundary where the National Forest maintenance begins. On PLATE V, four Key Observation Points (KOP) are identified. APPENDIX C contains views of the proposed action from various locations. The following is a list of exhibits included in APPENDIX C that illustrate the existing area and the probable appearance of the proposed action after implementation.

- (KOP 1) III-1 View - Highway 10 approximately 3 miles south of Emery - looking north.  
III-1A Same (with 69 kV power line in place)
- (KOP 2) III-2 View - Link Canyon Road - BLM, Private land boundary - looking east  
III-2A Same (with 69 kV power line in place)
- (KOP 3) III-3 View - Link Canyon Road - USFS, BLM land boundary - looking west  
III-3A Same (with 69 kV power line in place)
- (KOP 4) III-4 View - USFS land - Link Canyon Road above proposed action - looking east

III-4A Same (with 69 kV power line and substation in place)

**Vegetation**

Acreage of the various vegetation types located within the proposed project area is shown in TABLE III-1. The location of vegetation of general cover types appears on PLATE VI.

A site-specific vegetation inventory was conducted within the area of the proposed power line in April 1998. Because the inventory was conducted early in the year prior to the growing season of the majority of forbs and grasses, quantified analysis of vegetation density and ground cover was not completed. However, a complete inventory of species was conducted in order to ascertain what sort of plant species are indicative to the site. A list of species identified during this site-specific vegetation inventory is shown in TABLE III-2. This list, though not comprehensive, is a good determination of what species inhabit the site of the proposed action.

**TABLE III-1**

**VEGETATION ACREAGE WITHIN THE PROPOSED ROW**

<u>Vegetation Type</u>	<u>Acres *</u>
Pinyon-Juniper	26.7
Salt Desert Shrub	10.1
Sagebrush-Pinyon-Juniper	4.2
Mat Salt Bush (monoculture)	0.6
All Other (Pasture, Roads)	<u>1.0</u>

**TOTAL ACREAGE 42.6**

**\*Acreage Based on a 60 foot Construction ROW**

**VEGETATION ACREAGE WITHIN THE BREAKOUT & SUBSTATION**

Pinyon-Juniper	0.36
Pinyon-Juniper (Alternative 3)	2.84

Vegetation cover gradually changes with elevation along the route of the proposed power line. At the base of the outwash slopes, grasses, forbs and shrubs dominate. Vegetation types become more varied toward the upper end of the benches and at higher elevations as tree species become more apparent.

Pinyon pine (Pinus edulis) and Utah juniper (Juniperus osteosperma) is the predominate cover on the majority of the area. Large stands of climax pinyon-juniper, characteristic of submontane ecosystems,

line the ravines and upper benches along the proposed route of the ROW. Ground cover here is sparse, consisting mostly of yucca (Yucca harrimaniae), buckwheat (Eriogonum spp.), and ephedera (Ephedra viridis). (FIGURE III-1)

At the base of the higher benches and down on the lower flats, Mancos Shale members become the major substrate. On these poorer soils, shadscale (Atriplex confertifolia), mat saltbush (Atriplex corrugata), fourwing saltbush (Atriplex canescens), and winterfat (Eurotia lanata) make up the majority of ground cover. Indian rice grass (Oryzopsis hymenoides) and galleta (Hilaria jamesii) are present, as are forbs such as milkvetch (Astragalus spp.) and mustard (Brassica spp.). (FIGURE III-2)

Sagebrush (Artemisia tridentata), transitioning into pinyon-juniper, is abundant along the bench above the wash. Within Link Canyon, pinyon-juniper is dominant. Open areas are characterized by grasses such as Indian rice grass, wheatgrass (Agropyron spp.), Salina wildrye (Elymus salina), and Needle and Thread (Stipa comata). Rabbitbrush (Chrysothamnus spp.) is an abundant shrub. Many forbs and shrub species including, penstemon (Penstemon spp.), buckwheat and mountain mahogany (Cercocarpus montanus and C. ledifolius) are found within the transitioning pinyon-juniper habitat. (FIGURE III-3)

**Special Status Plant Species** - According to information within Utah Endangered, Threatened, and Sensitive Plant Field Guide, published by the USFS Intermountain Region, and correspondence with the U.S. Fish and Wildlife Service (USFWS), Low hymenoxys (Hymenoxys depressa) and Creutzfeldt catseye (Cryptantha creutzfeldtii) may also occur within the area. These federal and Utah listed sensitive species grow in fine silty clay to clay loam soils within ephedra, shadscale and pinyon juniper habitats typical of the project area. Hymenoxys, or catseye, was not detected in the preliminary surveys of the project area. However, this survey was conducted too early in the season to identify hymenoxys, catseye and/or the concentrations of Canyon sweetvetch. An additional survey was conducted for these species in early June 1998, and no plants were located. A biological evaluation is included in APPENDIX D.

In addition there is potential habitat for pediocactus spp. and Wright fishhook cactus, Sclereocactus wrightii. Neither of these species were observed in the course of the 1998 inventory. No other listed species would be affected by the proposed or alternative action. A description of the TES inventory conducted by EIS Environmental, as well as the USFWS letter is shown in APPENDIX D.

**FIGURE III-1**  
**Pinon-juniper/ Mountain Brush**



**FIGURE III-2**  
**Salt Desert Shrub**



FIGURE III-3  
Sagebrush Pinyon-juniper



TABLE III-2

LIST OF PLANT SPECIES SAMPLED WITHIN THE SITE OF THE PROPOSED ACTION

<u>Common Name</u>	<u>Scientific Name</u>
<u>Grasses</u>	
wheatgrass	<i>Agropyron spp.</i>
Salina wildrye	<i>Elymus salina</i>
cheatgrass	<i>Bromus tectorum</i>
alkali sacaton	<i>Sporobolus airoides</i>
needle and thread	<i>Stipa comata</i>
Indian rice grass	<i>Oryzopsis hymenoides</i>
galleta	<i>Hilaria jamesii</i>
<u>Forbs</u>	
scarlet gilia	<i>Gilia aggregata</i>
prince's plume	<i>Stanleya pinnata</i>
mustard	<i>Brassila spp.</i>
spurge	<i>Euphorbia spp.</i>
narrowleaf gromwell	<i>Lithospermum incisum</i>
locoweed	<i>Oxytropis spp.</i>
Russian thistle	<i>Salsola kali</i>
penstemon	<i>Penstemon spp.</i>
buckwheat	<i>Eriogonum spp.</i>
Palmer penstemon	<i>Penstemon palmeri</i>
<u>Shrubs</u>	
Mormon tea	<i>Ephedra viridis</i>
rubber rabbitbrush	<i>Chrysothammus nauseosus</i>
Douglas rabbitbrush	<i>Chrysothammus viscidiflorus</i>
true mountain mahogany	<i>Cercocarpus montanus</i>
mat saltbruh	<i>Atriplex cuneata</i>
fourwing saltbush	<i>Atriplex canescens</i>
winterfat	<i>Eurotia lanata</i>
shadscale	<i>Atriplex confertifolia</i>
big sagebrush	<i>Artemisia tridentata</i>
black sage	<i>Artemisia nova</i>
yucca	<i>Yucca harrimaniae</i>
prickly pear	<i>Opuntia spp.</i>
<u>Trees</u>	
Utah juniper	<i>Juniperus osteosperma</i>
pinyon pine	<i>Pinus edulis</i>

## Wildlife

Wildlife indigenous to the general area of the proposed action include amphibians, reptiles, birds and mammals.

**Amphibians** - There are six species of amphibians known to occur within the general area of the Wasatch Plateau. These species are classified as common, but are limited to mesic areas. These species could be present within the Link Canyon riparian area, but their occurrence is not known. The pinyon-juniper and salt desert shrub benches that make up most of the affected habitat is not considered important or limiting to their survival (Dalton et al, 1990). Their occurrence within these areas of the proposed power line or breakout is doubtful.

**Reptiles** - There are 10 species of reptiles known to inhabit the region. The habitat requirements for these species ranges in value from critical to substantial (Dalton et al, 1990). The limited acreage of disturbance within the area of the proposed power line, substation and breakout, however, is not considered a significant threat to these species. This is due to the abundance of the preferred pinyon-juniper and salt desert shrub habitat throughout the area.

**Birds** - There are approximately 185 bird species that could possibly be either year long residents or frequent the site during portions of the year. Of these species, only raptor species have been identified to be possibly affected by the proposed power line. The limited affect to other avian species is due to the widespread distribution of pinyon-juniper habitat in the area. This habitat is not a limiting factor for any known bird species within the area of the proposed power line (Dalton et al, 1990).

The UDWR has indicated that raptors utilize the escarpments in the Link Canyon area, which the proposed power line are located within, for nesting and perching. Raptor surveys conducted in conjunction with UDWR for the Pine Tract LBA and SUFCO Mine (APPENDIX D) have yielded the location of seven nests within the proximity of the proposed power line and breakout. Location of identified nests with corresponding half-mile to one -mile disturbance perimeters around each site is shown on PLATE VII.

**Mammals** - Ninety-two species of mammals are known to exist in, or have the potential to inhabit the region (Dalton et al, 1993). Of these species, only mule deer (Odocoileus hemionus), elk (Cervus elaphus) and cottontail rabbit species (Sylvilagus spp.) have been identified to be of significant importance to warrant mitigation of disturbance associated with the proposed power line. Mitigation designed to aid deer and elk would likewise enhance rabbit populations, enhancing both forage and cover.

The area is listed as critical winter range for mule deer and elk by the UDWR. The San Rafael RMP restricts disturbance on critical deer and elk winter range between December 1 and April 15. Many mammal species utilize the pinyon-juniper and salt desert shrub habitat for cover and forage. Small mammals in particular use the abundant ground litter deposited among the pinyon-juniper and desert shrub area along Link Canyon.

PLATE VII shows big game movement and use within the area of the proposed power line.

**Special Status Wildlife Species** - The USFWS was consulted regarding the presence of any Special Status Wildlife Species in the project area, (APPENDIX D). The 1997 and 1998 raptor inventory conducted by CFC identified a number of golden eagle nests in the Link Canyon drainage and one confirmed peregrine falcon nest. Portions of the proposed project lies within the one mile buffer of the peregrine nest and scrape. No construction activity would occur within these areas during the nesting season of February 1 to August 15. Bald eagles and ferruginous hawks are potentially present in low numbers during winter and spring migration within the affected area. However, raptor inventories conducted within the vicinity of the proposed power line have not identified the presence of either species. The powerline would be constructed using Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996, and should not present a hazard to the falcons or other raptors. A Biological Assessment and Biological Evaluations is included as APPENDIX D.

A bat survey was conducted by SUFCO Mine in 1997. Both bat species are known to occur in the area. Survey results and findings are on file and available at the UDWR office in Price, Utah. A TES inventory conducted by EIS Environmental in April and June of 1998 did not identify the presence of, or use by either species within the affected area. A copy of the biological assessment and biological evaluation is included in APPENDIX D.

### **Socioeconomics**

The social economic inventory included demographic, economic, and fiscal attributes of the SUFCO Mine. This was done in order to characterize and evaluate present conditions. As of January 1, 1998, the workforce of SUFCO Mine consisted of approximately 222 employees and management personnel. The mine is operated for the production of coal by room and pillar and long wall methodologies.

The new 69 kV line is not anticipated to create any additional long-term jobs. The estimated project cost is \$800,000, of which half is expected to be in wages with the residual in material costs. The contractor will probably be from out of the area, because of the specialized equipment required to complete the contract. However, it is expected that some of the employees will be taken from the local labor pool.

It is expected that the transient construction workers brought in from outside the Project Area would not bring their families with them and would generally utilize motels, recreational vehicles, and mobile homes for housing. As a result, little or no increase in demand on public schools or other community facilities and services from transient construction workers is foreseen.

**CHAPTER IV. ENVIRONMENTAL CONSEQUENCES**

**A. Introduction**

Where Alternatives 2 and 3 are identical, relative to consequences, no definition is noted. TABLE IV-1 shows how activities associated with the construction and operation of the proposed transmission line, breakout and substation and alternative actions affect the area around it in various ways.

**TABLE IV-1**

**AREAS OF IMPACT ASSOCIATED WITH THE PROPOSED POWER LINE, BREAKOUT AND SUBSTATION**

<b>Category</b>	<b>Area (acres)</b>		<b>Remarks</b>
	<b>Alternative 2</b>	<b>Alternative 3</b>	
<b>Soils</b>	<b>3.62</b>	<b>6.1</b>	<b>All Disturbance - Salvaged During Construction</b>
<b>Vegetation</b>	<b>7.10</b>	<b>9.58</b>	<b>All Disturbance - Interim in Nature</b>
<b>Hydrology</b>	<b>3.62</b>	<b>6.1</b>	<b>All Disturbance - Potential for Sediment Loss During Construction</b>
<b>Wildlife</b>	<b>3.62</b> <b>1,067**</b>	<b>6.1</b> <b>1,067**</b>	<b>Actual Loss Habitat</b> <b>All Disturbances + ¼ Mile Buffer Zone on Each Side of ROW</b>
<b>Grazing</b>	<b>7.10</b>	<b>9.58</b>	<b>Temporary During Construction</b>
<b>Visual</b>	<b>Minor</b>	<b>Minor</b>	<b>Varies From Key Observation Points</b>
<b>Construction</b>	<b>7.10</b>	<b>9.58</b>	<b>All Disturbed Areas</b>
<b>Usage</b>	<b>7.10</b>	<b>9.58</b>	<b>All Disturbed Areas</b>
<b>Reclamation</b>	<b>3.62</b>	<b>9.58</b>	<b>Interim Disturbance During Construction</b>

**\* Acreage of Impact is Calculated to Be 10 Percent of Total ROW Area, Substation Disturbance as well as the Breakout and Associated Down Cast Material is determined in its entirety for the life of operation.**

**\*\* Area of diminished use.**

## **Soils**

Impact to soil resources for both Alternatives 2 and 3 would be mostly limited to those specific sites where powerpoles are to be located and excavated, the breakout and the substation. Soil compaction where tracked vehicles would access the ROW could occur. Any impact to vegetative cover could contribute to soil erosion within areas of potential access. However, due to the limited access and limited need to remove existing vegetation, this impact would be insignificant.

## **Hydrology**

No impacts are expected to effect sub-surface water, since none is known to occur in the proposed project area. As with any proposed construction, there is a potential for adverse effects to the surface water from ground disturbance. The main potential for adverse impact to the surface water would be in the crossings of Link Canyon wash. These crossings within the wash, would be used for 15 to 30 days, and are required for ROW access on both public and private lands. Impacts caused by modification of the wash bank at two points, along with the travel of construction equipment across the wash (one to three vehicles per day), could increase the sediment loads into the drainage. There are also possibilities for adverse effects on the hydrology resulting from oil/diesel spills and fugitive dust accumulations during construction.

## **Cultural Resources**

As summarized within the 1998 JBR report, the proposed power line ROW would have no effect on the eligible 42SV2481/42EM2497 site or any of the other six located sites. The archeological survey conducted by JBR and AERC did not indicate any affect of any activity thus far identified with the proposed power line. Since design and construction of all portions of the proposed power line would be restricted to those areas cleared by each inventory, no impact to identified resources should excessively disrupt the quality and designation of any cultural resource. The proposed power line would not restrict access to, or excessively impact visitation of any cultural site. Disturbance within the area of the proposed power line is expected to decrease with the commencement of operations of the transmission line, substation and breakout. Since the proposed action would not affect the characteristics of any of the sites a "No Effect to Cultural Resources" determination is recommended. However, Alternative 3 would have an "Adverse Effect", and as such, would require mitigation measures as agreed upon between the USFS, SHPO, and the Advisory Committee on Historic Preservation.

## **Land Use**

The following criteria were integrated to determine impacts to land use: 1) potential conflicts with existing land use plans; 2) proximity to "sensitive" areas (i.e., critical wildlife habitat, raptor nest sites); 3) termination of an existing land use or a land use incompatibility and 4) a general characterization of impact type (including duration, quantity and quality of the impact).

Impacts to land use would be localized in the immediate proposed project area during the three month construction timeframe, primarily affecting recreational access opportunities. For both safety and security reasons, public access to active areas of construction would be temporarily precluded during this time. However, the proposed development generally would not preclude any public use of the affected lands during the life of the power line.

**Grazing** - Since grazing use of the affected public land allotments ends on or before June 15, any impact to grazing use would be minimal, and would be associated with the loss of approximately 7.10 to 9.58 acres of potential forage for the next year. Upon the establishment of revegetation during the next growing season, this impact would be reduced to approximately three acres. Livestock grazing and access on USFS administered lands would be temporarily restricted on active construction area by herding and temporary fences. Since forage use within this area of the allotment is low, this restriction would have no impact to grazing of the allotments. Grazing use over time would not be restricted or reduced by any activity associated with the operation and life of the project.

**Recreation** - Direct impact to recreational activities surrounding the area of the proposed power line is not expected to occur except for minor delays associated with construction. Access to public and National Forest System Lands within the project area could be impacted for up to three months by temporary blockage of the road for short duration periods (15 minutes) at any given time. Flag persons would facilitate any such disturbance of traffic. Indirect impacts in the form of degraded vistas associated with the project are probable but difficult to quantify.

**Visual Resources** - The anticipated visual impacts from the proposed power line would be an increase in line and color contrasts to the surrounding landscapes created by the establishment of the transmission line. Visual contrast would be apparent for the life of the line, breakout and substation. Since vegetation removal would be minor in the proposed power line, ROW physical contrast over the entire area would be minimized.

Where the proposed line borders and crosses county roads and the state highway, the impact to visual resources would be greatest. Lines crossing of State Highway 10 would be noticeable. However the establishment of the transmission line traversing the Link Canyon access road would increase the impact to visual resources along its route to the mine.

### **Vegetation**

As discussed in the site description, the area of the transmission line ROW comprises 45.44 acres. Anticipated disturbance within the ROW could be as high as 9.58 acres. Vegetation lost to the breakout, substation, pole and structure placement, as well as cross-country vehicular travel that may flatten and crush ground cover, could compromise watershed values by increased erosion. In the pinyon-juniper, it may be necessary to trim or remove some trees.

Impacts to sagebrush and salt desert shrub habitats would be minimal. No special status plant species would be impacted by the proposed or alternative action (APPENDIX D).

## Wildlife

The three primary concerns relative to wildlife within the area of the proposed ROW and special use area are; (1) critical big game range, (2) raptor nesting and eagle eyrie's, and (3) loss of habitat.

Impacts of the proposed power line, breakout and substation would only be limited to the minor loss of 3.62 to 6.1 acres of habitat as a direct result of construction activities. The approximate acreage loss of habitat by vegetation type is shown in TABLE IV-2. The actual loss of habitat within the ROW and special use area would be much less, since actual vegetation removal would be site-specific.

**TABLE IV-2**

**ACTUAL HABITAT DISTURBANCE ANTICIPATED BY CONSTRUCTION ACTIVITIES**

Habitat Type	Disturbance (Acres)	
	<u>Alternative 2</u>	<u>Alternative 3</u>
Pinyon-Juniper	3.0	5.48
Salt Desert Shrub	0.1	0.1
Sagebrush-Pinyon-Juniper	0.42	0.42
All Other (Pasture, Roads)	<u>0.1</u>	<u>0.1</u>
<b>TOTAL DISTURBANCE</b>	<b>3.62</b>	<b>6.10</b>

**(Disturbance Determined as 10 Percent Total Habitat Affected by Power Transmission Line)**

Indirect impacts associated with construction would also be limited by the timing of construction activity. The three month construction timeframe would be initiated after the December 1 to April 15 seasonal use established for big-game winter range. Displacement of the small resident deer herd within the area of the ROW and its adjacent quarter mile buffer zone would be limited to the time of construction.

Raptor buffer zones are potentially impacted near the breakout and substation at the termination point of the line by the presence of a unknown falcon scrap and the presence of a golden eagle eyrie. Activity associated with the proposed power line in these two areas intersect the half-mile perimeter associated with active nests as delineated within the San Rafael RMP and the one mile buffer zone established by USFWS relative to the peregrine falcon eyrie (see APPENDIX D and APPENDIX E).

No other special status wildlife species would be impacted by the proposed or alternative action (APPENDIX D).

### **Social Economics**

The new 69 kV line is not anticipated to create any additional long-term jobs. However, the installation of the new 69 kV line is expected to create approximately 10- 15 short-term employment opportunities, of approximately four months. The estimated project cost is \$800,000, of which half is expected to be in wages with the residual in material costs. The contractor will probably be from out of the area, because of the specialized equipment which will be required to complete the contract. However, it is expected that some of the employees will be taken from the local labor pool.

It is expected that the transient construction workers brought in from outside the project area would not bring their families with them and would generally utilize motels, recreational vehicles, and mobile homes for housing. As a result, little or no increase in demand on public schools or other community facilities and services from transient construction workers is foreseen.

The stimulated economic impacts are associated with the potential expenditures of the related project earnings within the local area on goods and services. Since the emphasis of the assessment is the net effect to the project area associated with existing environment, the indirect and stimulated economic impacts predicted by the model for the future were equated and adjusted with the model for 1996, in accordance with Utah State Governors Office of Planning and Budget, using current earnings and values as inputs. In summary, by increasing the demand for goods and services, the proposed project would stimulate additional demand for employees and related exchange of earnings among entities providing the goods and services.

The new 69 kV line is not anticipated to create any additional long-term jobs. The estimated project cost is \$800,000, of which half is expected to be in wages with the residual in material costs. The contractor will probably be from out of the area because of the specialized equipment which will be required to complete the contract. However, it is expected that some of the employees will be taken from the local labor pool.

It is expected that the transient construction workers brought in from outside the area would not bring their families with them and would generally utilize motels, recreational vehicles, and mobile homes for housing. As a result, little or no increase in demand on public schools or other community facilities and services from transient construction workers is foreseen.

### **B. Impacts Associated with Alternative I - No Action**

Associated impacts identified with the No Action alternative are derived from the inability to supply the necessary power requirements to the SUFCO Mine. Diesel generators cost more than electrical power and add additional noise and air pollution to the surrounding area. The service from the generators is also less reliable than electrical power and has more outages.

The Mine Safety and Health Administration (MSHA) requires that more power be available than what diesel generators could supply to adequately provide tripping protection for the underground circuits. Therefore, future mining activities and safety at SUFCO Mine could be hindered, if not resulting in early cessation of mining, in the event that the present situation persists. This could result in the subsequent early closure of the mine and the loss of 222 employees. This would not be expected to occur after current coal reserves are exhausted. The socioeconomic impact associated with the potential loss of such a well paid economic base in the Carbon, Emery and Sevier county areas, in addition to the potential impact to support industries in the entire region could be significant.

Potential impacts to wildlife associated with alternative sources of power, such as noise disturbances and reduced air quality exist. However, with the exception of National Forest System Lands, all other resources within the area described would not be impacted by the No Action Alternative as described in TABLE II-5.

### **C. Cumulative and Associated Impacts**

The construction and use of the proposed transmission line would impact wildlife species as previously described. Its cumulative impact when judged against the use and existence of the many other power lines that transect the area is far greater than the actual disturbance planned for the proposed power line. Adjacent and proposed projects in the area include the expansion of the SUFCO operation and the development of the Ferron Coalbed Methane field in Emery County. Relative impacts of these projects that need to be taken into consideration with the proposed action include those to current land use, visual/scenic qualities, and wildlife. As in any project, there is a potential for the cumulative impact of the proposed action, in association with these other projects, to be greater than the actual disturbance anticipated. However, by minimizing the direct land use impacts as outlined within the proposed action, any additive impact to the vicinity of the project would be minor. Since the proposed action, unlike the described projects, would not have the extensive displacement impacts associated with year-round use, additional impact to wildlife resources would be minimal. Regardless, the potential for any cumulative impact should be assessed for future land use decisions that could occur in the area.

The area in question receives seasonal use as a cattle (livestock)-trail to access the allotments on the top of the plateau. Due to the steepness of the canyon in the area of the proposed and alternative action livestock predominately trail along the road.

Recreation in this area is largely associated with hunting. Both the elk and deer seasons see an increase in traffic. No restriction of use would be necessitated with implementation of the proposed or alternative actions.

The life of the mine and subsequent reclamation of the breakout, substation and overhead power line are subject to numerous contingencies; exceptional market factor (coal sales), additional leases, and to a lesser degree, mining conditions verses economics. Based on current estimates the mine would

continue production at a relatively constant rate until the year 2020 at which time reclamation would be implemented.

#### **D. Irretrievable and Irreversible Commitment of Resources**

No irreversible commitment of resources would occur from any activity associated with the proposed or alternative actions. However, an short term irretrievable impact to 6.10 acres of vegetation and wildlife habitat would occur during and immediately after the construction of the proposed action/alternative action. Through the incorporation of the reclamation procedures as outlined within Chapter II, commitment of these resources for either alternative would be reduced to the pole sites and substation pad area disturbed for the life of the project. Upon cessation of activities that require the use of the proposed or alternative action, reclamation of the proposed facilities would result in reestablishment of the lost productivity within the disturbed habitats.

#### **E. Mitigation Measures of Proposed Action**

The Construction, Operation and Maintenance (COM) Plan described in Chapter II, was designed to minimize most impacts to resources inherent to the area of the proposed power line. Due to the potential presence of cultural sites in Link Canyon, visual resource concerns, TES plant presence, and raptor species use, low impact construction and maintenance measures were incorporated into the COM plan. Initiation of proposed construction activities was delayed until May 15, to facilitate big game wildlife use of the project area. The use of helicopters is an option to eliminate the need for access road construction. Because of these two factors, impact to soils, vegetation and wildlife habitat has been significantly reduced. Where active raptor nests are located, construction would not occur until after August 16, as required by the San Rafael RMP and Manti-LaSal Forest Resource Plan.

Habitat rehabilitation of one acre for every acre of disturbance is planned. The BLM, in coordination with UP&L and USFS, will select an option or combination of options to meet this goal. Such a rehabilitation is planned within the Link Canyon drainage area upon completion of construction activities. A recommended reclamation and revegetation plan has been designed for the disturbance associated with Alternative 2 (APPENDIX F). In the event Alternative 3 were to be the preferred action a site specific mitigation plan would be coordinated with the USFS, BLM, and UDOGM. Crossings of Link Canyon wash would be stabilized upon completion of activities. Stockpiled soil pulled back from the wash bank would be replaced after large boulders (24-36" MD) had been placed against the bank edge. Habitat enhancement to each of the disturbed sites would be accomplished with the suggested seed mix shown in TABLE II-2 and with the establishment of containerized and/or bare root stock suited for wildlife winter areas. (APPENDIX F).

The use of color coordinated structures and non-reflective insulators would minimize the impact to visual resources in the canyon. Use of non-reflective structures and an uncleared ROW would also lend to lessening the visual impact of the power line

Stipulations specific to that portion of the proposed or alternative actions that lie within the Manti-La Sal National Forest are:

1. No construction equipment can be transported during the opening weekend of the general Utah deer hunt. (Friday, October 23 through Sunday October 25)
2. No construction equipment can be transported during the opening week of the general elk hunt (October 7 through October 12).
3. No action of any nature that would abstract or delay traffic would be allowed during these same time periods.

## **CHAPTER V. CONSULTATION AND COORDINATION**

### **A. Agencies, Organizations and Individuals Contacted**

Numerous contacts with associated land use agencies, interested parties and individuals have been made during the course of this environmental assessment. The input from meetings, briefings and conversations during the months of March through July 1998, has resulted in the completion of this document.

#### **Public Government/Public Agencies**

1. U.S. Department of Agriculture
  - a. U.S. Forest Service - Resource and Regulatory Analysis
  - b. Natural Resource Conservation Service - Soil Resources
2. U.S. Department of the Interior
  - a. Bureau of Land Management - Resource and Regulatory Analysis
  - b. U.S. Fish and Wildlife Service - Threatened and Endangered Species and Raptors

#### **State of Utah**

1. Department of Natural Resources
  - a. Division of Oil, Gas and Mining - Mining Actions
  - b. Division of Water Rights - Hydrological Impacts and Stream Alterations
  - c. Division of Wildlife Resources - Wildlife Resource Issues

#### **Local Governments and Organizations**

1. Emery County Recorder - Land Use and Resource Analysis
2. Emery County Zoning and Planning - Zoning and Land Use Issues
3. Sevier County Zoning and Planning - Zoning and Land Use Issues

#### **Industry and Business**

1. Utah Power & Light, Salt Lake City, Ut. - Proposed Action
2. Canyon Fuel Company - SUFCO Mine - Proposed Action
3. JBR Consultants - Cultural and Paleontological Resources



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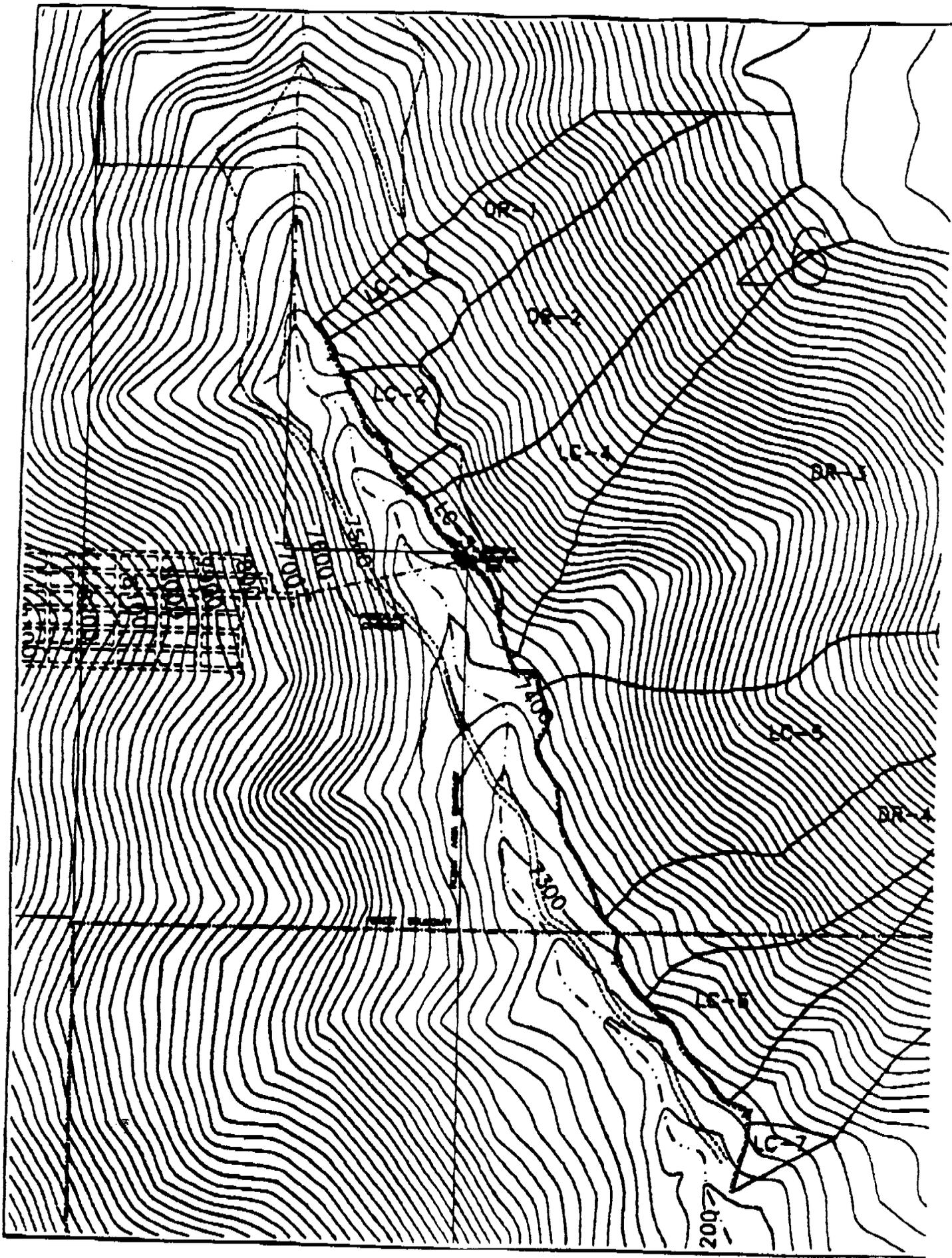
**CHAPTER VII. APPENDICES**

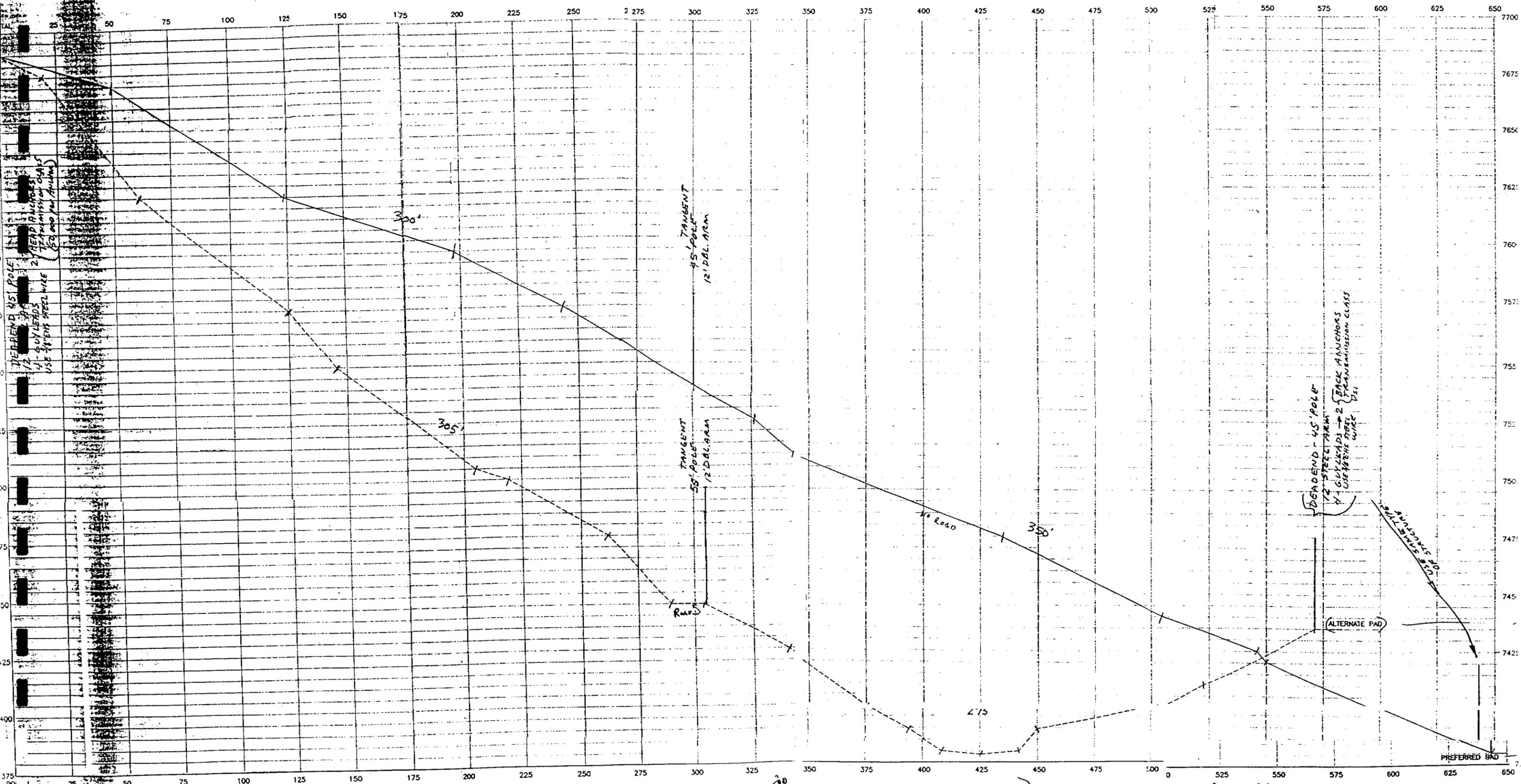
- APPENDIX A      ENGINEERING AND DRAINAGE DESIGN CRITERIA  
ALTERNATIVE 3  
CANYON FUEL COMPANY LETTER (MINE ISSUES)**
- APPENDIX B      CORRESPONDENCE WITH NRCS CONCERNING PRIME  
FARMLAND AND ALLUVIAL VALLEY FLOORS**
- APPENDIX C      PHOTO SIMULATIONS**
- APPENDIX D      CORRESPONDENCE WITH USFWS CONCERNING THREATENED  
AND ENDANGERED SPECIES POSSIBLE WITHIN AREA OF THE  
PROPOSED POWER LINE**
- WILDLIFE USE OF LINK CANYON AREA, UDWR**
- THREATENED AND ENDANGERED SPECIES INVENTORY-EIS**
- BIOLOGICAL ASSESSMENT / EVALUATION**
- APPENDIX E      RAPTOR SURVEY FOR AREA OF PROPOSED ACTION 1986-94**
- APPENDIX F      MITIGATION PLAN AND RECLAMATION**

**APPENDIX A**

**ENGINEERING AND DRAINAGE DESIGN CRITERIA  
ALTERNATIVE 3  
CANYON FUEL COMPANY LETTER (MINE ISSUES)**







Size poles  
Dwg - str. Dwg's

570  
305  
275

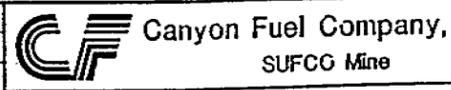
6-477 AL.  
DBL. CIRCUIT.  
1-NEUTRAL  
1-Pole locations  
2-Clearances -  
ROAD

(SUFCO.DWG 6)

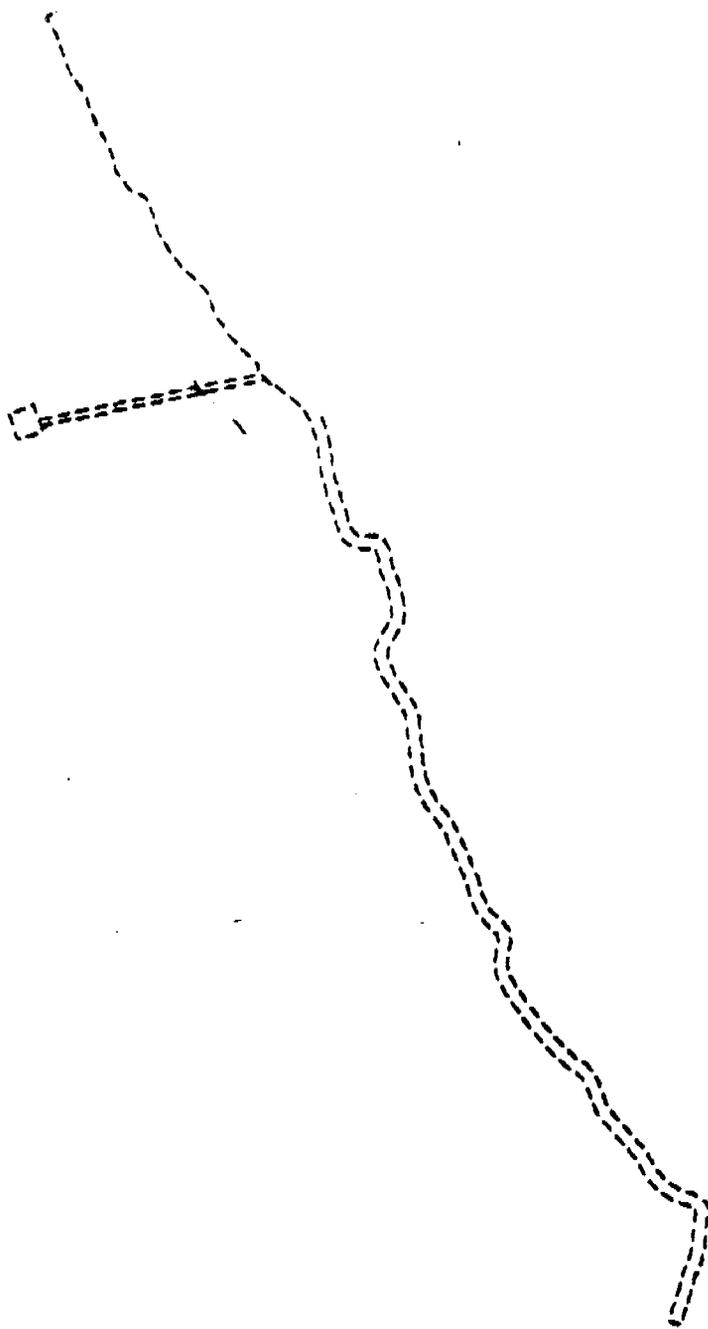


CONDUCTOR:  
6-477 AAC 19 STR.  
1-477 AAC 19 STR-NEUTRAL  
1" = 20' HORIZ.  
1" = 20' VERT.

REVISIONS OR UP-DAT		DATES		DATE: JUNE 4, 1998	
NO.	DATE	BY	DESIGNED BY:	DRAWN BY:	CHECKED BY:
				A.D.D.	



POWER LINE X-SECTIONS  
PORTAL TO PAD LOCATIONS



## LINK CANYON ALTERNATE SUBSTATION DRAINAGES

### SUBSTATION DRAINAGE

MIN. DIA. PIPE 4"

<u>DITCHES</u>	<u>DEPTH</u>	<u>FREE-BOARD</u>	<u>TOTAL DEPTH</u>
LC-1	0.40 FT	0.3 FT	0.70 FT
LC-2	0.49 FT	0.3 FT	0.79 FT
LC-3	0.37 FT	0.3 FT	0.67 FT
LC-4	0.85 FT	0.3 FT	1.15 FT
LC-5	1.19 FT	0.3 FT	1.49 FT
LC-6	0.77 FT	0.3 FT	1.07 FT
LC-7	0.35 FT	0.3 FT	0.65 FT

### CULVERTS MIN DIA.

DR-1	15"
DR-2	30"
DR-3	36"
DR-4	30"
DR-5	24"

**ASSUMPTIONS USED IN  
HYDROLOGY CALCULATIONS  
FOR ALTERNATE SUBSTATION**

1. All diversion ditches were considered temporary and a 10-year, 6-hour precipitation event was used.
2. The 10-year, 6-hour precipitation event was obtained from the SUFCo, since data is not available for Link Canyon. The precipitation was 1.60 inches.
3. A Manning's roughness coefficient of 0.043 was used in the ditch design. This coefficient was chosen because the ditches will be dug at the edge of the road in rock.
4. A discharge of 0.1 cfs was used to design the culvert for the substation because the program will not accept a discharge value below 0.1 cfs.
5. A curve number of 81 was used. This number is for an arid and semiarid rangeland with a sandy clay loam soil texture and fair ground cover.

Note:

1. The ditch will have a freeboard of 0.3 feet above the depth of flow as shown in the ditch cross section.
2. The culverts installed at each drainage should be 36 inches. This will be larger than some culverts calculated but cost to purchase one size pipe in quantity will be better than purchasing a different size pipe for each drainage.



Canyon Fuel Company, LLC  
SUFCO Mine  
397 South 800 West  
Salt Lake City, Utah 84104  
(435) 637-4880 Fax (435) 638-4499

April 23, 1998

Mr. Jeff DeFreest  
U.S. Forest Service  
Manti-LaSal National Forest  
599 West Price River Drive  
Price, UT 84501

Dear Mr. DeFreest:

The SUFCO Mine is proposing to establish a breakout and substation in Link Canyon in the SW 1/4 of Section 26, Township 21 South, Range 5 East, Salt Lake Base and Meridian. The ventilation and escapeway portal breakout will be constructed from within the SUFCO Mine. The SUFCO Mine will permit the substation, power line feeder access and breakout areas. The proposed site is in the vicinity of the old abandoned Link Canyon Mine site. The project would consist of Utah Power and Light Co. constructing a transmission line up Link Canyon on the old abandoned Link Canyon Mine access route, which is just East and on the opposite side of the canyon from the existing Link Canyon Road. The Utah Power and Light Co. transmission line would end at a substation which will be built by the SUFCO Mine. From the substation, feeder lines would enter the SUFCO Mine through the breakout which the SUFCO Mine will need to construct for ventilation requirements and an escapeway route out of the mine.

The preferred site to construct the substation is on the West side of the canyon just above the existing Link Canyon Road. UP&L would construct their transmission line up the East side of the canyon then across the canyon to the substation location. With this option, access for the life of the mine would be on the existing Link Canyon Road. The alternate site to construct the substation is on the old abandoned Link Canyon Mine access road on the East side of the canyon. UP&L will need to reopen this road to facilitate the construction of the transmission line. If the substation is built on this road, the road will need to be reconstructed so as to allow access for the life of the mine and be permitted as part of the Mining and Reclamation Permit. From the substation, the feeder line would be constructed across the canyon to the breakout.

With the preferred site, the SUFCO Mine would build the substation pad and a short access road from the existing Link Canyon Road to the substation which would be a new disturbance. The new Plate S-2D for the SUFCO Mine M&RP shows the actual location of these proposed facilities and the amount of disturbance that is proposed.

With the alternate site, the substation could be built on the old abandoned road and would require little additional excavation for the substation area. The alternate site location for the substation is shown on the Link Canyon Alternate Site Map. UP&L has to open up the old abandoned road to construct their transmission line which could then be widened and upgraded by the SUFCO Mine for access to the substation.

From the Soils, Vegetation, Wildlife, and Land Use Survey conducted in Link Canyon for the breakout and substation, it was felt that over the life of the mine the preferred site to construct the substation is on the West side of the canyon just above the existing Link Canyon Road. This is the best choice overall environmentally because:

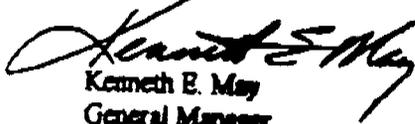
04-23-98 11:08 SOUTHERN UTAH FUEL COMPANY 4-34723730 10:02  
Mr. Jeff DeFroest  
U.S. Forest Service  
April 23, 1998  
Page 2

1. When UP&L opens the old abandoned road on the East side of the canyon to build their transmission line, they only need to open it up to the extent necessary to get all terrain vehicles over it. This could possibly save some of the trees that have become reestablished on the old road. This type of road would not be adequate for year round access to the substation by SUFCO.
2. The SUFCO Mine would have to permit this road in their Mining and Reclamation Plan as a primary road. This would entail, at a minimum, constructing designed drainage and soil treatment for the road and placing adequate surfacing for year round access. Both of these activities would greatly increase the disturbance along the old abandoned Link Canyon Mine access road.
3. The old abandoned Link Canyon Mine access road is outside of the SUFCO Mine approved permit area. Permitting this road would require a special use permit for the road from both the Forest Service and Bureau of Land Management and may require a significant permit revision to the SUFCO Mine approved M&RP whereas, the preferred site would only require a permit amendment to the existing M&RP. This significant permit revision action may require Federal approval from OSM. This approval action usually takes 12-18 months.
4. After the transmission line is constructed, the disturbance created by UP&L could be out sloped and reseeded thus returning the area back to wildlife habitat. This area is classified as "critical" Big Game Winter Range. Keeping the road open up the East side of the canyon increases the potential for disturbance to Big Game animals. The road on the East side of the canyon would not diminish the use of the road on the West side of the canyon.

In addition to the above environmental issues, MSHA requires SUFCO to conduct a monthly inspection of electrical equipment. With the substation located on the West side of the canyon on the same side as the portal the examiner could walk from the portal along the slope to the substation. If the substation is located on the East side of the canyon, it would require the examiner to walk clear around the canyon on the road or to hike down through the bottom of this steep canyon and up the other side to the substation. The other alternative is to drive around I-70 to Emery and drive up Link Canyon to the substation which would require a 2½ hour round trip. If the substation is located on the East side of the canyon, it would also shut the mine down longer with lost production during power bumps when the power would have to be reset at the substation.

Based on these considerations, SUFCO management believes the smaller disturbance on the West side of the canyon is a better overall proposal.

Sincerely,  
CANYON FUEL COMPANY, LLC  
SUFCO Mine

  
Kenneth E. May  
General Manager

KEM:lcb

Encl.

cc: Mel Coorod - EIS

**APPENDIX B**

**CORRESPONDENCE WITH NRCS CONCERNING  
PRIME FARMLANDS AND  
ALLUVIAL VALLEY FLOORS**

**USDA** Natural Resources  
Conservation Service

350 North 400 East  
Price, Utah 84501  
801-637-0041

DATE: April 13, 1998

FILE CODE: 290-11-11-5

SUBJECT: PRIME FARMLAND DETERMINATIONS

TO: Mel Coonrod  
EIS  
4855 North Spring Glen Road  
Spring Glen, UT 84526

RE: SUFCO Substation, UP&L Power Line; Emery and Sevier Counties

After site investigation, the Natural Resources Conservation Service has determined that no prime farmland or farmland of statewide importance occurs along the power line route and substation location as outlined on the attached map for the following reasons:

1. No developed irrigation system on arid soils.
2. Erodibility Factor  $K \times$  percent slope is greater than 2.

Location map is enclosed.

Remarks: There are small areas of alluvial soils along Link Canyon Wash and Christiansen Wash. Also there are steep canyons in the upper part of the project area with very erodible soils formed from shale bedrock. Care should be taken to avoid severe erosion and pollution of the streams in this area.

*Leland Sasser*  
Leland Sasser  
Soil Scientist

cc: William Broderson, State Soil Scientist, NRCS, UT

## CHARACTERISTIC OF SOILS WITHIN THE AREA OF THE PROPOSED ACTION

Name	Depth	Slope (%)	Permeability (Inches/Hour)	Water Erosion Potential	Salinity (mmhos/cm)
<b>Trook fine sandy loam, 1-3% slopes (PdB):</b>					
	Very Deep	1-3	Moderate/Rapid	Slight	< 2
<b>Greybull-Utaline-Persayo complex, 3-55 % slopes (Sn):</b>					
35 % Greybull	Moderate	8-30	Moderately Slow	Severe	< 2
20 % Utaline	Very Deep	3-30	Moderately Rapid	Slight	< 2
15 % Persayo	Shallow	25-55	Moderately Slow	Slight	< 2
10 % Badland					
20 % Other					
<b>Travessilla-Rock outcrop complex/Rock outcrop (Ry):</b>					
70 % Travessilla	Shallow	3-20	Moderately Rapid	Moderate	< 2
15 % Rock outcrop					
15 % Other					
<b>Sanpete sandy clay loam, 1-3 % slopes (SIB):</b>					
	Moderate	1-3	Rapid	Moderate	< 2
<b>Sanpete sandy clay loam, 3-10% slopes, eroded (SID2):</b>					
	Modrate	3-10	Slow	High	< 2
<b>Penoyer Variant loam (PeC2, PsC2):</b>					
	Shallow	3-6	Moderately Slow	High	< 2

**CHARACTERISTIC OF SOILS WITHIN THE AREA OF THE PROPOSED ACTION (CONTINUED)**

<b>Name</b>	<b>Depth</b>	<b>Slope (%)</b>	<b>Permeability (Inches/Hour)</b>	<b>Water Erosion Potential</b>	<b>Salinity (mmhos/cm)</b>
<b>Lazear-Gerst-Pinon complex, 3-35% slopes (CcE2)</b>					
35 % Lazear	Shallow	3-25	Moderate	Moderate	< 2
25 % Gerst	Shallow	5-35	Moderately Slow	Severe/Very Severe	< 2
20 % Pinon	Shallow	3-15	Moderately Slow	Slight	< 2
20 % Other					
<b>Strych very stony loam, dry, 3-30 percent slopes (KeE2):</b>					
	Very Deep	0-30	Moderately Rapid	Moderate	< 2
<b>Strych-Pathead-Podo families-Rubbleland complex, 30-80 % Slopes (20):</b>					
30 % Strych	Deep	30-80	Moderately Rapid	Moderate/High	< 2
30 % Pathead	Moderate/Deep	30-80	Moderate	Moderate/High	< 2
15 % Podo	Shallow	30-80	Moderately Rapid	Moderate	< 2
15 % Rubbleland					
10 % Rock outcrop					

**APPENDIX C**  
**PHOTO SIMULATIONS**



EXHIBIT III-1



EXHIBIT III-1A



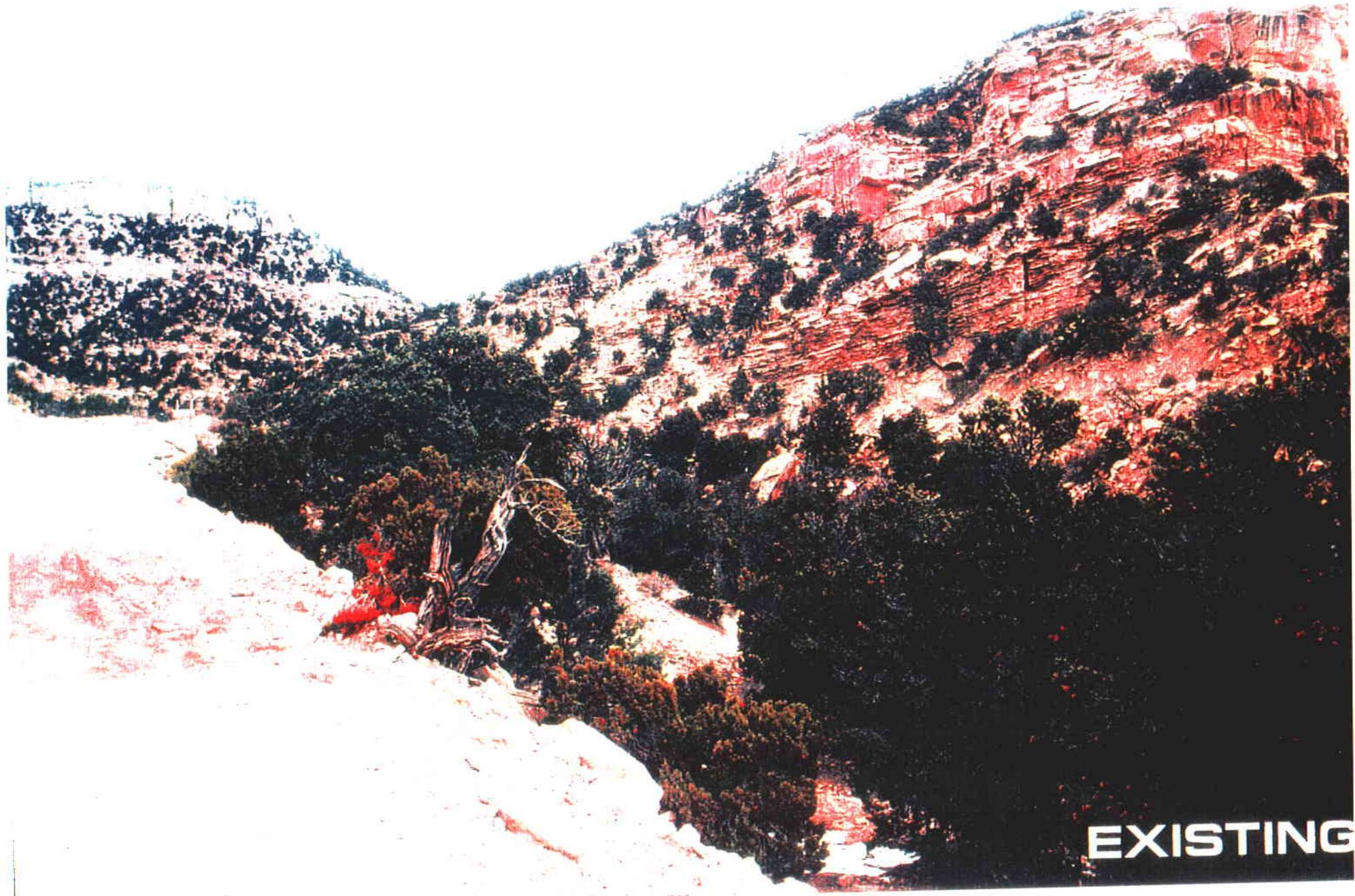
**EXISTING**

EXHIBIT III-2



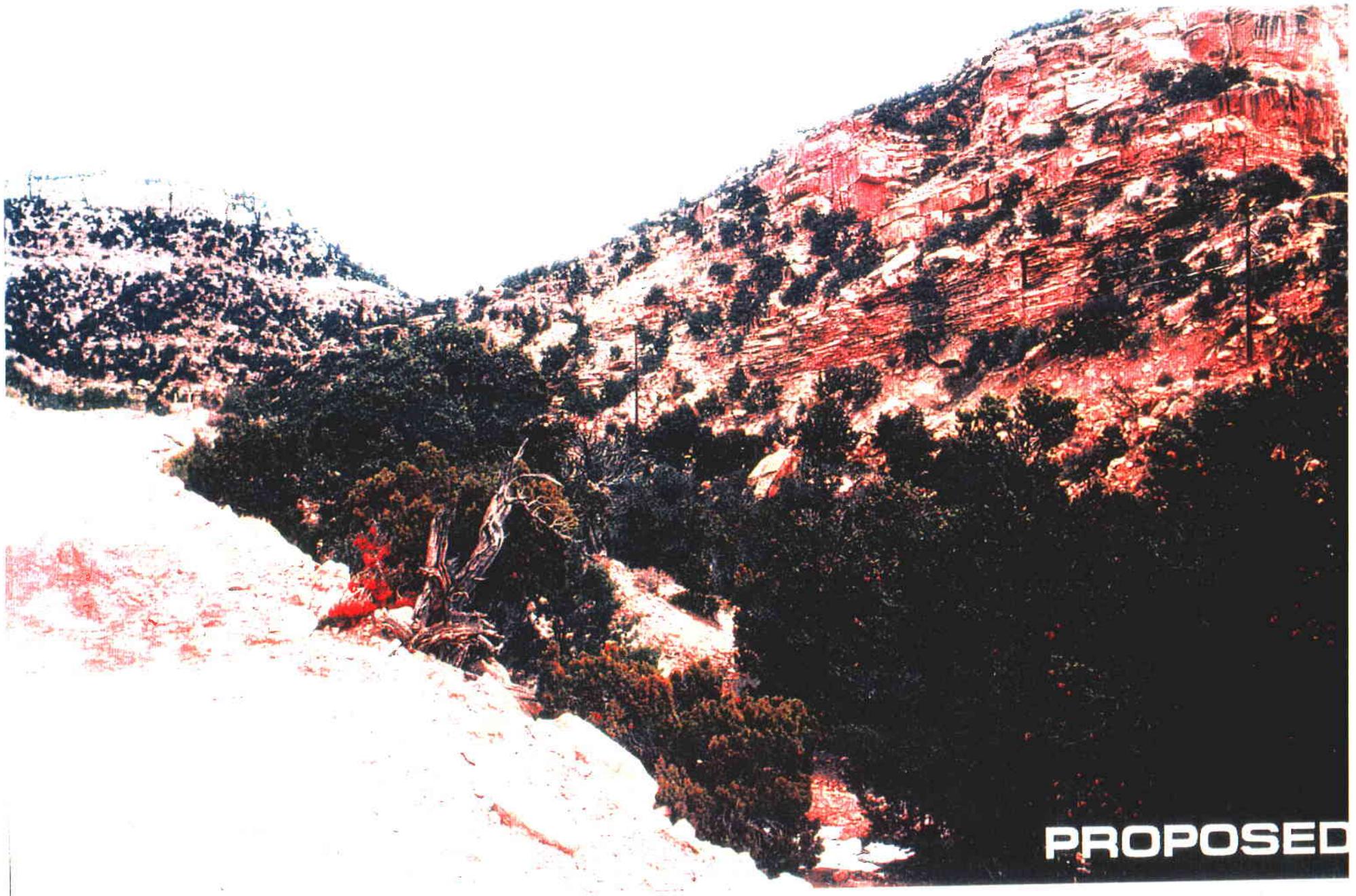
**PROPOSED**

EXHIBIT III-2A



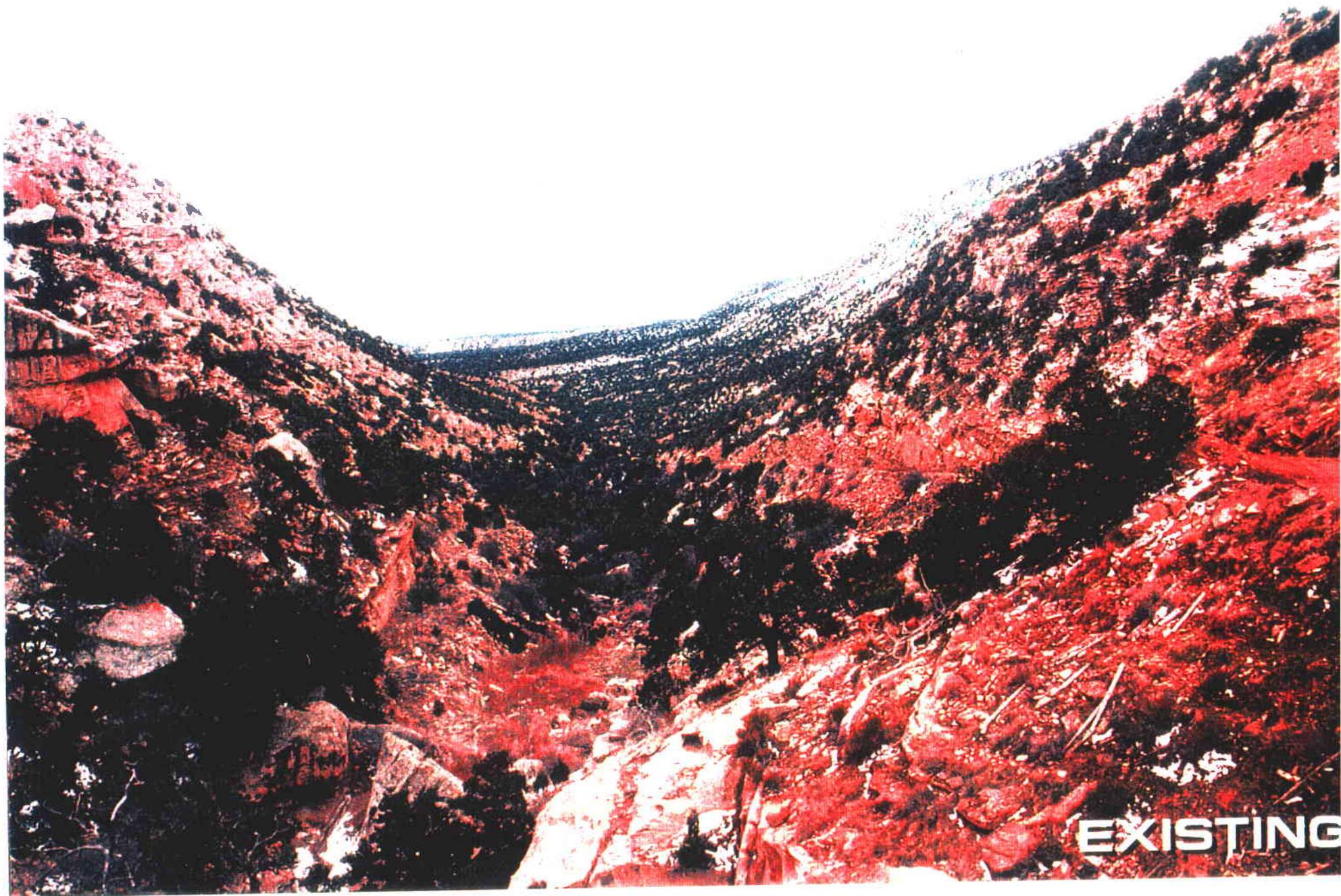
**EXISTING**

EXHIBIT III-3



**PROPOSED**

EXHIBIT III-3A



EXISTING

EXHIBIT III-4

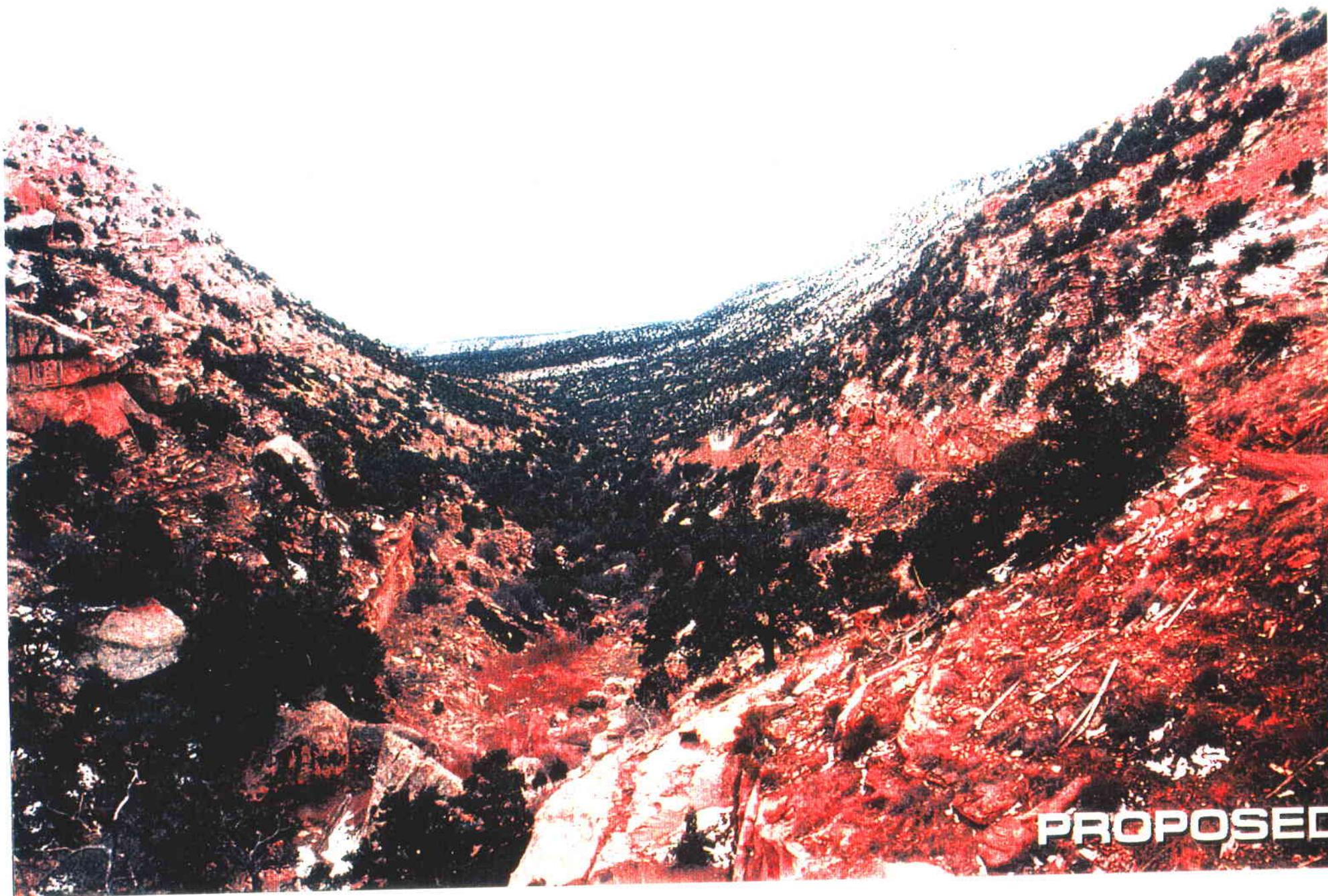


EXHIBIT III-4A

**APPENDIX D**

**CORRESPONDENCE WITH USFWS CONCERNING  
THREATENED AND ENDANGERED SPECIES POSSIBLE  
WITHIN AREA OF THE PROPOSED POWER LINE**

**WILDLIFE USE OF LINK CANYON AREA, UDWR**

**THREATENED AND ENDANGERED SPECIES INVENTORY-EIS**

**and**

**BIOLOGICAL ASSESSMENT / EVALUATION**



United States Department of the Interior  
FISH AND WILDLIFE SERVICE

UTAH FIELD OFFICE  
LINCOLN PLAZA  
145 EAST 1300 SOUTH, SUITE 404  
SALT LAKE CITY, UTAH 84115

In Reply Refer To  
(CO/KS/NE/UT)

June 8, 1998

**Memorandum**

To: Field Manager, Price Field Office, Bureau of Land Management, 125 South 600 West, Price, Utah 84501

From: Utah Field Supervisor, Ecological Service, Fish and Wildlife Service, Salt Lake City, Utah

Subject: Link Canyon 69 kV Powerline/Substation and SUFCO Mine Breakout

In response to your memorandum of June 1, 1998, the U.S. Fish and Wildlife Service concurs with your "may affect, but not likely to adversely affect" determination for the peregrine falcon. This concurrence is valid for 12 months unless a change in the project occurs at which time you should reevaluate your actions for possible impacts to listed species.

We appreciate your interest in conserving endangered species.

Sincerely,

Reed E. Harris  
Utah Field Supervisor

1998 JUN 10 10:15 AM

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND  
 THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY  
 As of July 1997

COUNTY	Species	Scientific Name	Status
<b>BEAVER</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
<b>BOX ELDER</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Lahontan Cutthroat Trout	<i>Oncorhynchus (=Salmo) clarki henshawi</i>	T
<b>CACHE</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Maguire Primrose	<i>Primula maguirei</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
<b>CARBON</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
<b>DAGGETT</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
	Whooping Crane <sup>2</sup>	<i>Grus americanus</i>	E
<b>DAVIS</b>			
	Bald Eagle <sup>1,3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND  
THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY  
As of July 1997

COUNTY	Species	Scientific Name	Status
<b>DUCHESNE</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Barneby Ridge-cress	<i>Lepidium barnebyanum</i>	E
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Shrubby Reed-mustard	<i>Schoenocrambe suffrutescens</i>	E
	Uinta Basin Hookless Cactus	<i>Sclerocactus glaucus</i>	T
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
	Whooping Crane <sup>2</sup>	<i>Grus americanus</i>	E
<b>EMERY</b>			
	Bald Eagle <sup>1</sup>	<i>Haliaeetus leucocephalus</i>	T
	Barneby Reed-mustard	<i>Schoenocrambe barnebyi</i>	E
	Black-footed Ferret <sup>5</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T
	Last Chance Townsendia	<i>Townsendia aprica</i>	T
	Maguire Daisy <sup>7</sup>	<i>Erigeron maguirei</i>	E
	Peregrine Falcon <sup>1</sup>	<del><i>Falco peregrinus</i></del>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	San Rafael Cactus	<i>Pediocactus despainii</i>	E
	Winkler Cactus	<i>Pediocactus winkleri</i>	PE
	Wright Fishhook Cactus	<i>Sclerocactus wrightiae</i>	E
<b>GARFIELD</b>			
	Autumn Buttercup	<i>Ranunculus aestivalis</i>	E
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T
	Mexican Spotted Owl <sup>1</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND  
 THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY  
 As of July 1997

COUNTY	Species	Scientific Name	Status
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
GRAND			
	Bald Eagle <sup>1</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T
	Mexican Spotted Owl <sup>1</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E
	Whooping Crane <sup>2</sup>	<i>Grus americanus</i>	E
IRON			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Mexican Spotted Owl <sup>1</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
JUAB			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Least Chub	<i>Notichthys phlegethontis</i>	PE
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
KANE			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Jones Cycladenia	<i>Cycladenia humilis</i> var. <i>jonesii</i>	T
	Kanab Ambersnail <sup>5</sup>	<i>Oxyloma haydeni kanabensis</i>	E
	Kodachrome Bladderpod	<i>Lesquerella tumulosa</i>	E
	Mexican Spotted Owl <sup>1</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Siler Pincushion Cactus	<i>Pediocactus sileri</i>	T
	Southwestern Willow Flycatcher <sup>4</sup>	<i>Empidonax traillii extimus</i>	E
	Welsh's Milkweed <sup>4</sup>	<i>Asclepias welshii</i>	T

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND  
 THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY  
 As of July 1997

COUNTY	Species	Scientific Name	Status
<b>MILLARD</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Least Chub	<i>lotichthys plegethontis</i>	PE
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
<b>MORGAN</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
<b>PIUTE</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
<b>RICH</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Whooping Crane <sup>2</sup>	<i>Grus americanus</i>	E
<b>SALT LAKE</b>			
	Bald Eagle <sup>1,3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
<b>SAN JUAN</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Mexican Spotted Owl <sup>1,4</sup>	<i>Strix occidentalis lucida</i>	T
	Navajo Sedge <sup>4</sup>	<i>Carex specuicola</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E
<b>SANPETE</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Heliotrope Milkvetch <sup>4</sup>	<i>Astragalus montii</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND  
THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY  
As of July 1997

COUNTY	Species	Scientific Name	Status
<b>SEVIER</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Heliotrope Milkvetch <sup>4</sup>	<i>Astragalus montii</i>	T
	Last Chance Townsendia	<i>Townsendia aprica</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
<b>SUMMIT</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Whooping Crane <sup>2</sup>	<i>Grus americanus</i>	E
<b>TOOELE</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Least Chub	<i>Lotichthys plegethontis</i>	PE
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
<b>UINTAH</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Clay Reed-mustard	<i>Schoenocrambe argillacea</i>	T
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Mexican Spotted Owl <sup>6</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Shrubby Reed-mustard	<i>Schoenocrambe suffrutescens</i>	E
	Uinta Basin Hookless Cactus	<i>Sclerocactus glaucus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
	Whooping Crane <sup>2</sup>	<i>Grus americanus</i>	E

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND  
THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY  
As of July 1997

COUNTY	Species	Scientific Name	Status
<b>UTAH</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Clay Phacelia	<i>Phacelia argillacea</i>	E
	June Sucker <sup>4</sup>	<i>Chasmistes liorus</i>	E
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Utah Valvata Snail <sup>6</sup>	<i>Valvata utahensis</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
<b>WASATCH</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
<b>WASHINGTON</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Desert Tortoise <sup>4</sup>	<i>Gopherus agassizii</i>	T
	Dwarf-Bear Poppy	<i>Arctomecon humilis</i>	E
	Mexican Spotted Owl <sup>1</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Siler Pincushion Cactus	<i>Pediocactus sileri</i>	T
	Southwestern Willow Flycatcher <sup>1</sup>	<i>Empidonax traillii extimus</i>	E
	Virgin River Chub <sup>5</sup>	<i>Gila seminuda</i>	E
	Woundfin <sup>5</sup>	<i>Plagopterus argentissimus</i>	E
<b>WAYNE</b>			
	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Barneby Reed-mustard	<i>Schoenocrambe barnebyi</i>	E
	Black-footed Ferret <sup>6</sup>	<i>Mustela nigripes</i>	E
	Bonytail Chub <sup>4</sup>	<i>Gila elegans</i>	E
	Colorado Squawfish <sup>4</sup>	<i>Ptychocheilus lucius</i>	E
	Humpback Chub <sup>4</sup>	<i>Gila cypha</i>	E
	Last Chance Townsendia	<i>Townsendia aprica</i>	T
	Mexican Spotted Owl <sup>1,4</sup>	<i>Strix occidentalis lucida</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Razorback Sucker <sup>4</sup>	<i>Xyrauchen texanus</i>	E
	Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E
	Utah Prairie Dog	<i>Cynomys parvidens</i>	T
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
	Winkler Cactus	<i>Pediocactus winkleri</i>	PE
	Wright Fishhook Cactus	<i>Scierocactus wrightiae</i>	E

FEDERALLY LISTED AND PROPOSED (P) ENDANGERED (E) AND THREATENED (T) SPECIES AND HABITAT IN UTAH BY COUNTY As of July 1997

COUNTY	Species	Scientific Name	Status
WEBER	Bald Eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>	T
	Peregrine Falcon <sup>1</sup>	<i>Falco peregrinus</i>	E
	Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T

<sup>1</sup>Nests in this county of Utah.

<sup>2</sup>Migrates through Utah, no resident populations.

<sup>3</sup>Wintering populations (only four known nesting pairs in Utah).

<sup>4</sup>Critical habitat designated in this county.

<sup>5</sup>Critical habitat proposed in this county.

<sup>6</sup>Historical range.

<sup>7</sup>Proposed downlisting to threatened.

For additional information contact: U.S. Fish and Wildlife Service, 145 East 1300 South Suite 404, Salt Lake City, Utah 84115 Telephone: (801) 524-5001

## **THREATENED AND ENDANGERED SPECIES INVENTORY: APRIL 21 & 22, 1998. ENVIRONMENTAL INDUSTRIAL SERVICES**

The consulting firm of Environmental Industrial Services (EIS) was contracted by Utah Power and Light Company (UP&L) to conduct a Threatened and Endangered (T&E) Inventory in conjunction with the 69 kV Transmission Line from the 69 kV line adjacent to Hwy 10 to the Link Canyon Mine breakout. This included all areas of potential disturbance on public and private lands.

On April 21, 1998, correspondence was directed to Mr. Robert D. Williams of the USFWS requesting a current list of all T&E and sensitive species which could inhabit the area of the proposed power line. A response from the USFWS was received in April of 1998 (See attached correspondence).

A vegetation inventory in association with the T&E inventory, was initiated on April 21, 1998 and completed on April 22, 1998. Information pertaining to the T&E inventory of the site was compiled at that time.

### **Methodology**

Communication with Bob Thompson, vegetation expert for the Manti-LaSal National Forest; and Wayne Ludington, Wildlife Biologist for the BLM, was carried out during the period of T&E inventory. These meetings were conducted to:

1. Gain additional information on those plant species known to exist in the general area.
2. To confirm locations of any known colonies of T&E plant species

It was believed that such species may be located in the area of the action's influence, or would be affected by the proposed power line. Winkler foot cactus (*Pediocatus despaninii*) is known to occur within the general area of the proposed power line. On-site inventories did not yield the presence of this species. Low hymenoxys (*Hymenoxys depressa*) and Creutzfeldt cateye (*Cryptantha creutzfeldtij*), may occur within the area, but their presence is not known.

Since the proposed power line is located in the Upper Colorado River Basin, the potential impacts to the T&E fish species present within the area were investigated. On consultation with UP&L concerning safeguards to hydrological resources that would be implemented during the proposed power line, it was concluded that no adverse impact would occur to these species. Sedimentation loads into Link Canyon wash caused by planned wash crossings onto the public land where a portion of the ROW would lay would not significantly impact any downstream resource which could affect these species.

Raptor surveys have been undertaken on a yearly basis since 1991 within the Link Canyon Area. Information provided by Wesley Sorenson, Environmental Engineer for CFC and Bill Bates, Habitat Specialist for the UDWR is included within this appendix. All eyries located are, or have been

traditionally inhabited by Golden eagles (Aquila chrysaetos). No active nests are known to occur within a half mile of the proposed power line.

Bald eagles (Haliaeetus leucocephalus) and Ferruginous hawks (Buteo regalis) were identified by the USFWS as potentially inhabiting the area. Raptor survey information does not support the identity of any Bald eagle use area in the vicinity of the proposed power line. A Peregrine Falcon's nest and a falcon scape was located in the upper reaches of link canyon. The proposed action falls within the USFW proposed one mile buffer zone for this species. An annual inventory will be conducted May 1998, if this site or any other site are determined to be active appropriate closure dates will be implemented. (See "BA" this Appendix)

Ground inventory of avian T&E locations was conducted by traversing the area of the potential impact on a twenty-five (25) foot grid system. This survey was conducted to determine the presence of any activity associated with the presence of Ferruginous hawks or Loggerhead shrikes (Lanis ludovicianus). No evidence of the presence of either species was found during this survey.

### **Findings**

No T&E or sensitive plant species were located by inventories conducted within the area of the proposed power line.

The presence of raptor species were confirmed to exist on escarpments to the north and east of the proposed power line. However, it appears that an adequate buffer zone (1/2 mile) has been established to minimize impacts to all species present other than the peregrine sites which will require a one mile buffer zone.

A follow up survey for raptor and sensitive plant species was conducted May and June 1998. No sensitive plants were observed and the same usage of raptors as indicated in 1997 inventory was confirmed. In the event that the transmission line is constructed, temporary closure may be imposed to safeguard raptor nests and fledglings until after the birds have left the nest (August 16).

**FERRON/PRICE RANGER DISTRICT  
MANTI-LA SAL NATIONAL FOREST  
AND  
PRICE RIVER/SAN RAFAEL RESOURCE AREA  
BLM PRICE FIELD OFFICE**

**BIOLOGICAL ASSESSMENT  
FOR  
FEDERALLY LISTED PLANT AND ANIMAL SPECIES  
FOR  
LINK CANYON 69 KV POWER LINE / SUBSTATION  
AND SUFCO MINE BREAKOUT**

**PREPARED BY**  
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EIS Environmental - Senior Consultant

**Approved by:**

Rod Player  
Wildlife Biologist  
Manti-La Sal National Forest

Date

**Approved by:**

Robert M. Thompson  
Botanist  
Manti-La Sal National Forest

Date

Wayne Ludington  
Wildlife Biologist  
Price River/San Rafael Resource Area  
Bureau of Land Management

Date

Jill DuFore  
Fisheries Biologist  
Manti-La Sal National Forest

Date

## **I. Introduction**

The purpose of this biological assessment is to evaluate the potential impacts of construction and maintenance of a 69 kV power line in Link Canyon to those plant and animal species and their habitats Federally listed or proposed as threatened and endangered.

The Endangered Species Act of 1973 (PL 93-205), as amended, require federal agencies to insure that any activities they authorize, fund, or carry out, do not jeopardize the continued existence of any wildlife species federally listed as threatened or endangered (Section 7). The biological assessment is an analysis of which threatened and endangered species may occur in the project area and whether any impacts to those species are anticipated. This biological assessment has been prepared using direction from the Forest Service manual 2672.4 and BLM manual 6840, Special Status Species Management.

## **II Proposed Action**

The proposed action to be taken by Utah Power and Light (UP&L) would be the construction, operation and maintenance of a 69 kV transmission line and substation to serve the power and safety needs of the SUFCO Mine. The proposed power line would help facilitate the supply of coal from the SUFCO Mine to it's client base, as well as provide ample fault current for the various loads required for longwall mining. SUFCO would construct a surface breakout in order to access the proposed power line (see Plate 1 Location Map Proposed Action).

With the acquisition of Pine Tract Lease by SUFCO, longwall mining will be implemented. Power simulations show that because of the addition of a longwall mining system and three continuous miner sections, the existing 25 kV service to the mine would not provide enough fault current. This is required by the Mine Safety and Health Administration (MSHA) to adequately provide tripping protection for the underground circuits. The proposed 69kV line in Link Canyon would facilitate this power demand as well as provide the mine with an emergency back up power source.

In association with the 69 kV power line, SUFCO mine (Southern Utah Fuel Company) is proposing to construct a substation and a breakout to utilize power from the proposed power line to serve its underground operations. A map showing the location for the proposed project is attached. The proposal includes development on National Forest and Bureau of Land Management lands as well as private lands.

A more detailed account of the mine and its activities in association with the 69 kV line can be found in the "Environmental Assessment, Link Canyon 69 kV Line, Document #UT-066-98-36 and in both the Pines Track EIS and SUFCO's MRP (Mine Reclamation Plan) submitted to UDOGM (Utah Division of Oil, Gas and Mining) April 1998.

### III Species Potentially Impacted by The Project

Known or Suspected Threatened and Endangered, Plant and Animal Species in the San Rafael Resource Lands in Emery County, Utah -Known or Possible Threatened, Endangered and Proposed Plants and Animals on the Manti-La Sal National Forest:

Species*		Classification
Black-footed Ferret ( <u>Mustela nigripes</u> )		Endangered
Bald Eagle ( <u>Haliaeetus leucocephalus</u> )		Threatened
Peregrine Falcon ( <u>Falco peregrinus anatum</u> )		Endangered
Mexican Spotted Owl ( <u>Strix occidentalis lucida</u> )		Threatened
Southwestern Willow Flycatcher ( <u>Empidonax traillii extimus</u> )		Threatened
Colorado Squawfish ( <u>Ptychocheilus lucius</u> )		Endangered
Bonytail Chub ( <u>Gila elegans</u> )		Endangered
Humpback Chub ( <u>Gila cypha</u> )		Endangered
Razorback Sucker ( <u>Xyrauchen texanus</u> )		Endangered
Barneby Reed-mustard ( <u>Schoenocrambe barnebyi</u> )		Endangered
Maguire Daisy ( <u>Erigeron Maguirei</u> )		Endangered
San Rafael Cactus ( <u>Pediocactus despainii</u> )		Endangered
Winkler fish hook cactus ( <u>Pediocactus winkleri</u> )	Proposed	Endangered
Wright Fishhook Cactus ( <u>Sclerocactus wrightiae</u> )		Endangered
Jones Cycladenia ( <u>Cycladenia humilis var. jonesii</u> )		Threatened
Last Chance Townsendia ( <u>Townsendia aprica</u> )		Threatened
Heliotrope milk-vetch ( <u>Astragalus montii</u> )		Threatened

*Note:*

The above species lists were derived from a U.S. Fish and Wildlife Service (USFWS) list of threatened, endangered, and proposed species that may be present in the general Wasatch Plateau area April 1998.

#### IV Species Occurrences and Habitat Needs

##### **Black-footed Ferret (Mustela nigripes)**

The relationship between black-footed ferrets and prairie dogs has long been known (Coues 1877, Bailey 1905). Black-footed ferrets live in the burrows made by prairie dogs and probably exploit these rodents as their major food resource. The high biomass of potential prey species and the abundance of burrows are probably equally important factors in attracting black-footed ferrets to this habitat. The proposed Link Canyon power line area does not have suitable habitat for the prairie dogs and no prairie dogs were observed in the area. The black-footed ferret is unlikely to occur in the area because of the lack of its major prey species, prairie dogs.

##### **Bald Eagle (Haliaeetus leucocephalus)**

During the breeding season bald eagles are closely associated with water, along coasts, lake shores, or river banks. During the winter bald eagles tend to concentrate wherever food is available. This usually means open water where fish and waterfowl can be caught. They also winter on more upland areas feeding on small mammals and deer carrion. At winter areas, bald eagles commonly roost in large groups. These communal roosts are located in forested stands that provide protection from harsh weather (Stalmaster, 1987).

Bald eagles can often be found near lakes and reservoirs, as well as within upland areas on the Manti National Forest during the late fall and early winter. When lakes and reservoirs freeze over in early winter, most eagles will leave these upland feeding sites. A pair of nesting bald eagles has recently been located thirteen miles north east of the project area near the town of Castle Dale. In 1994, a review of the nesting adults and fledglings indicated their foraging habits were within a five mile radius from the nest tree. UDWR and USFWS have monitored this pair annually and their behavior has been consistent with the study done in 1994. The eagles have not been observed inhabiting the analysis area. No other bald eagles are known to nest in the area.

##### **Peregrine Falcon (Falco peregrinus anatum)**

Peregrines occupy a wide range of habitats. They are typically found in open country near rivers, marshes, and coasts. Cliffs are preferred nesting sites, although reintroduced birds now regularly nest on man-made structures such as towers and high-rise buildings. Peregrines are known to travel more than 18 miles from the nest site to hunt food. However, a 10 mile radius around the nest is an average hunting area, with 80 percent of the foraging occurring within a mile of the nest. Peregrines prey on a wide variety of birds including shorebirds, waterfowl, grouse, and pigeons (Ratcliffe 1980; and Cade et al. 1988). Migrating or transient peregrines have been seen on the Wasatch Plateau (including Joes Valley).

On April 10, 1996 a helicopter survey conducted by the Utah Division of Wildlife Resources in cooperation with the PacifiCorp, Bureau of Land Management (BLM) and U.S. Forest Service (USFS) found a pair of falcons in the Huntington Canyon area in Emery County. The falcons have been observed several times since then from the ground. The falcons exhibited courtship behavior but the observers were never able to locate

an eyrie. This is an expansion of the falcon into a new breeding territory and the first observation of breeding falcons on the Wasatch Plateau.

In 1996 a second pair of peregrines were located near the proposed project area. These falcons were found on BLM. The falcons were observed from a helicopter exhibiting nesting behavior. It was unknown if they were successful in raising any young in 1996.

In 1997 a nesting pair was located in the mid reaches of Link Canyon and a scrape was noted in the upper portion of the canyon. This pair's nest site is shown on Plate 2 and would fall within the one mile buffer zone of the proposed project.

### **Mexican Spotted Owl (*Strix occidentalis lucida*)**

The Mexican Spotted owl is found in Southwestern United States and extends into the extreme south portion of Utah. Distribution is patchy in mountains and canyons containing mixed conifers, pine-oak, and evergreen oak forests. Elsewhere in the Southwestern U.S., they are found on steep slopes in mature forests with dense, uneven-aged stands and high canopy closure, high basal area, and many snags and downed logs. Nest sites are generally found in mature mixed conifer forests, mainly Douglas-fir and to a lesser extent in ponderosa pine, gambel oak, and on cliff ledges. They forage in mature forests of mixed-conifer and gambel oak possibly due to the availability of preferred prey (rats and mice) and avoidance of great horned owls. The Mexican Spotted owls of southwestern Utah have only been found in crevices and small canyons where mature conifer trees are scattered in the canyon bottoms, and/or sideslopes normally associated with a well defined riparian zone.

Spotted owls are sensitive to high summer temperatures, therefore closed canopy forests or protected canyon sites may be the only suitable habitats available in the arid southwest. They are known to occur at approximately 30 sites on the Colorado Plateau and all of these sites are classified as narrow sandstone canyons. Spotted owls require areas with dense multi-layered mixed-conifer stands or steep canyons with caves and crack systems in order to find protected nest/roost sites.

No Mexican spotted owls have been identified within the project area.

### **Southwestern Willow Flycatcher (*Empidonax traillii extimus*)**

The Southwestern willow flycatcher is found in the southwestern United States extending its range to the lower quarter of the state of Utah. These flycatchers are closely associated with riparian habitats such as willow or alder thickets along streams, on the shores of ponds, or bordering marshy areas. They are also found in the brushy margins of fields, along mountain streams, and in shrubby flood plain areas. They prefer areas of high shrub densities interspersed with openings or meadows. The woody component of their habitat is almost exclusively deciduous including willows, alders, cottonwoods, aspens, and shrubs such as chokecherry, hawthorn, and wild rose. As the name implies Southwestern willow flycatchers are insectivores eating wasps, bees, beetles, flies, moths and butterflies. [Unitt 1987]

No Southwestern willow flycatchers have been identified within the project area.

**Colorado Squawfish (Ptychocheilus lucius)**

The Colorado squawfish had a historic range from Green River, Wyoming, to the Gulf of California, but the species is now confined to the upper Colorado River Basin mainstream and larger tributaries (USFWS 1987a). The lower Green River between the Price and San Rafael rivers contains abundant Colorado squawfish (USFWS 1987b). The species decline can be attributed to direct loss of habitat, changes in water flow and temperature, blockage of migrations, and interactions with introduced fish species (USFWS 1987b). Colorado squawfish adults are thought to prefer deepwater eddies and pools or other areas adjacent to the main water current, whereas the young inhabit shallow, quiet backwaters adjacent to high flow areas. Colorado squawfish feed on invertebrates while young but gradually became piscivorous after one year (Woodling 1985). No Colorado squawfish have been located on the Forest but they are present in the drainage that receive water originating on the Forest and in perennial tributaries down stream from the Link Canyon ephemeral wash.

**Bonytail Chub (Gila elegans)**

Historically bonytail chubs existed throughout the Colorado River drainage (Woodling 1985). Recently, isolated captures of bonytail chubs have been made in the Colorado River basin but recruitment to the population is extremely low or nonexistent. The decline of the bonytail chub is attributed to dam constructing and associated water temperature changes. Other factors contributing to the reduced numbers include flow depletion, hybridization, stream alterations associated with dam construction, and the introduction of non-native fish species. The bonytail chub generally inhabits eddies and pools over swift current areas (Woodling 1985). The chub is an omnivore, feeding mostly on terrestrial insects, plant debris and algae and begins to spawn at five to seven years of age (Behnke and Benson 1980). No bonytail chubs have been located on the forest but they are present in drainage that receive water originating on the Forest and in perennial tributaries that receive waters from the Link Canyon ephemeral wash.

**Humpback Chub (Gila cypha)**

The humpback chub is believed to have inhabited all of the large rivers of the upper Colorado River basin and canyons of the lower Colorado River basin (Ono, Williams, and Wagner 1983). Presently the humpback chub can be located in and above the Grand Canyon, Arizona, and the major tributaries to the Colorado River (Woodling 1985). The USFWS (1990) states stream alteration, including dewatering, dams and channelization, as factors causing the decline of the species. The humpback chub normally lives adjacent to high velocity flows, where they consume plankton and small invertebrates (USFWS 1990). The humpback chub has not been located on the Forest but they are present in drainage that receive water originating on the Forest and in perennial tributaries that receive waters from the Link Canyon ephemeral wash.

**Razorback Sucker (Xyrauchen texanus)**

Historic distribution of the razorback sucker was mainly along the mainstream of the Colorado, Green and San Juan Rivers. They presently only occur in a portion of their former range in these rivers and are

normally found in water four to ten feet deep with area of strong currents and backwaters (Woodling 1985). Spawning fish have been located over both sand and gravel/cobble bars (USFWS 1987b). The razorback sucker feeds on small invertebrates, and animals and organic debris on the river bottoms. Behnke and Benson (1980) link the decline of the razorback sucker to the land and water uses, particularly dam construction and the associated change of flow regimes and river channel characteristics.

The razorback sucker has not been located on the Forest but they are present in drainages that receive water originating on the Forest and in perennial tributaries that receive waters from the Link Canyon ephemeral wash.

#### **Winkler foot cactus (Pediocactus despaninii)**

Winkler fish hook cactus grows on a clay subsoil normally associated with salt desert shrub communities. The elevation ranges between 4,790 to 5,210 feet and can normally be located and identified between March and mid May.

The elevation of the proposed project site would preclude it's presence (6,240 to approximately 7,800 feet). However, in consultation with Bob Thompson, USFS-Manti La-Sal National Forest, it was indicated that an inventory needed to be implemented to insure its absence. This inventory was conducted on April 22, 1998. No Winkler fish hook cactus were located within the project area.

#### **Barneby Reed-mustard (Schoenocrambe barnebyi)**

Barneby Reed-mustard grows on steep, northfacing slopes of the Moenkopi Formation. Elevation ranges between 1646-1753 m (5400-5750 ft). This species grows in the salt desert shrub zone and is commonly found with Ephedra and Erigonum. This habitat species is not known to occur within the proposed project area. The inventory conducted on April 22, 1998 did not locate this species within the project area.

#### **Maguire Daisy (Erigeron Maguirei)**

Maguire daisy occurs in the canyon bottoms of the Wingate and Chinle Formations at approximately 5600 ft. It has been found growing atop mesas and shaded canyon bottoms of the Navaho Sandstone Formation at approximately 6800 ft. The daisy prefers cool, shaded, moist mesic, wash bottoms and dry, partially shaded, slopes of eroded sandstone cliffs. Aspects is usually north, east or northeast and slopes do not exceed 25 degrees. The daisy grows within the lower limits of the pinyon-juniper zone but seems to attain optimal growth conditions in the mountains shrub zone. The habitat for this plant is not found within the project area.

#### **San Rafael Cactus (Pediocactus despainii)**

San Rafael cactus is found on gray to white limestone of the Carmel Formation. Elevations between 6000-6300 ft. The cactus grows in a pinyon-juniper-grassland community. It grows on flat to rolling terrain in full sunlight and the aspect is variable. The habitat for this plant is found on the proposed project area. However, no such species were located in the project area during the inventory on April 22, 1998.

### **Wright Fishhook Cactus (Sclerocactus wrightiae)**

Wright Fishhook Cactus known from Wayne County, southwestern Emery County, and southeastern Sevier County. The cactus has been found occupying a variety of geologic substrata. Throughout its distribution, the cactus does not favor one particular geologic substrate but it does seem to favor specific edaphic and geochemical conditions. The cactus occurs in salt desert shrub and mixed desert shrub zones between elevations of 4550-6200 ft. plant cover rarely exceeds 15% and very little litter is present. Slope is usually between 0 to 10 degrees and aspect is variable. This habitat species is not known to occur within the proposed project area. The inventory conducted on April 22, 1998 did not locate this species.

### **Jones Cycladenia (Cycladenia humilis var. jonesii)**

Jones Cycladenia is found on the Cutler, Summerville, and Chinle Formations in the salt desert shrub, mixed desert shrub and juniper zones. Elevation ranges from 4400-5970 ft. The plant occurs on the eroded slopes of the Summerville Formation, just east of the San Rafael Reef. This habitat species is not known to occur within the proposed project area, and it was not located during the April 22, 1998 inventory.

### **Last Chance Townsendia (Townsendia aprica)**

Last Chance Townsendia occurs on the Ferron Sandstone and Carmel Formations. The plant apparently grows on several formations, but prefers fined-textured substrates and shallow soils close to sandstone bedrock. Elevation ranges from 6000-7400 ft. It is commonly found growing in the pinyon-juniper zone associated with grasses and mixed desert shrubs. Aspect is variable and slope does not exceed 10 degrees. This habitat for this species is not known to occur within the proposed project area and it was not found during the April 22, 1998 inventory.

### **Heliotrope Milkvetch (Astragalus montii)**

Occurring within the Ferron/Price Ranger District, this plant is only found at high elevations (10,000 to 11,000 ft.) on flagstaff limestone outcrops. Associated with low growing subalpine vegetation, populations are located on top of Heliotrope, Ferron, and White Mountains (USDA Forest Service 1991). The habitat for this species does not occur within the proposed project area

## **V. Determination of Effects**

### **Suitable Habitat-**

The area affected by the proposed action does not contain suitable habitat (i.e. elevation, vegetation, and/or geology) and known home ranges for many of the species in the above lists. Therefore, it is determined that there will be no effect upon them. These species (as listed below) are therefore eliminated from further analysis.

- \* **Black-footed Ferret (Mustela nigripes)** - The area affected by the proposed action does not contain any prairie dog towns which provide black-footed ferret habitat. The proposed action would not affect these species

- \* Bald eagles (Haliaeetus leucocephalus) can often be found near the lakes and reservoirs on the Manti Division during the late fall and early winter. Joes Valley Reservoir has been known to annually inhabit bald eagles from approximately mid October to early January. When the Reservoir freezes over, the eagles leave. A pair of bald eagles have been known to nest near the town of Castle Dale. Reviews of the nesting eagles near Castle Dale indicate foraging habitat of adults and juveniles are within an approximate five mile radius from the nest site ( Nelson Boshen unpublished report). The nesting eagles's home range was not identified to be within any of the area addressed in the proposed Project area.
- \* Mexican spotted owl (Strix occidentalis lucida) - the proposed action is outside the range of this species. Refer to the Draft Recovery Plan for the Mexican Owl (March 1995).
- \* Southwestern willow flycatcher (Empidonax traillii extimus) - the proposed action is outside the range of this species and does not contain suitable habitat for this species. Refer to the excerpts from the proposed rule that appeared in Federal Register, Vol. 58, No. 140, 7/23/93.
- \* Colorado squawfish (Ptychocheilus lucius) - The area affected by the proposed action does not contain any of the endangered fish and the proposed action would not affect the amount or quality of water draining into the Colorado River Drainage.
- \* Bonytail Chub (Gila elegans) - The area affected by the proposed action does not contain any of the endangered fish and the proposed action would not affect the amount or quality of water draining into the Colorado River Drainage.
- \* Humpback Chub (Gila cypha) - The area affected by the proposed action does not contain any of the endangered fish and the proposed action would not affect the amount or quality of water draining into the Colorado River Drainage.
- \* Razorback Sucker (Xyrauchen texanus) - The area affected by the proposed action does not contain any of the endangered fish and the proposed action would not affect the amount or quality of water draining into the Colorado River Drainage.
- \* Winkler foot cactus (Pediocactus despaninii) - The area affected by the proposed action is at an elevation above where this species is known to exist (in excess of 6000 feet). However, a possibility of its presence does exist. A thorough inventory was conducted and this species was not located within the proposed ROW of the power line, substation or breakout. No affect is anticipated to this species.

In consultation with Mr. Bob Thompson, USFS Manti La-Sal National Forest, on April 14, 1998 the following plant species were discussed and a determination of "Not Present within the Project Area" was

made.

- \* Barneby Reed-mustard (Schoenocrambe barnebyi) - The area affected by the proposed action does not contain suitable habitat for this endangered plant. The proposed action would not affect this plant.
- \* Maguire Daisy (Erigeron Maguirei) - The area affected by the proposed action does not contain suitable habitat for this endangered plant. The proposed action would not affect this plant.
- \* San Rafael Cactus (Pediocactus despainii) - The area affected by the proposed action does not contain any of the endangered plants and the proposed action would not affect this plant.
- \* Wright Fishhook Cactus (Sclerocactus wrightiae) - The area affected by the proposed action does not contain any of the endangered plants and the proposed action would not affect this plant.
- \* Heliotrope Milk-vetch (Astragalus montii) - the project area is outside the designated Critical Habitat for Heliotrope milk-vetch. Designated Critical Habitat of Heliotrope milk-vetch will not be disturbed (Draft Recovery Plan for Heliotrope milk-vetch, 1995).

Accordingly the potential for effects upon the following specie will be analyzed further.

Peregrine Falcon (Falco peregrinus anatum)

### Effects of the Project Proposal

#### Peregrine Falcon (Falco peregrinus anatum)

Peregrines prefer cliffs as nest sites. The proposed Link Canyon Project does contain suitable cliffs for nesting. The falcons were identified in the area during the raptor survey conducted by SUFCO, 1997. A new eyrie identified in 1997 is outside the proposed project area but in the Mill Fork Canyon. It is possible that the falcons would forage in the proposed area. The project is not expected to affect the availability of prey species for the falcon, and it is unlikely that they would abandon any cliffs within the project area. The 1997 inventory identified an active nest and scrape within the upper reaches of Link Canyon. Both the nest and the scrape are within the one mile buffer zone established for this species.

An annual raptor survey will be conducted in May 1998 to determine use of this site or alternative site(s) within the proposed project area. In the event that the historic nest sites are active, or if new sites have been developed within the one mile of the proposed action, no construction would occur until after August 31, 1998 within the established zone of protection. If construction were to be delayed until August 31, 1998, from the area within and above the mile influence corridor (see Plate

2 Wildlife Use), a “May Effect Not Likely to Adversely Affect” would appear to be in accordance with federal guidelines.

**VI. Listed Species Biological Assessment Summary of Conclusions of Effects**

Project Name: BA for LINK CANYON 69 kV POWER LINE

Alternative:                      Alternative II

Species	No Effect	May Effect- Not Likely to Adversely Affect	Likely to Adversely	Beneficial Effect
Black-footed Ferret	X			
Bald eagle	X			
Peregrine falcon		X		
Mexican spotted owl	X			
Southwestern willow flycatcher	X			
Colorado squawfish	X			
Bonytail chub	X			
Humpback chub	X			
Razorback sucker	X			
Barneby reed-mustard	X			
Maguire daisy	X			
San Rafael cactus	X			
Winkler foot cactus	X			
Wright fishhook cactus	X			
Jones cycladenia	X			
Last chance townsendia	X			
Heliotrope milk-vetch	X			

### **Peregrine Falcon (Falco peregrinus anatum)**

The proposed action will not contribute to loss of viability of the peregrine falcon for the following reason.:

- 1) Peregrine falcons have recovered to a level of approximately 180 eyries in the state of Utah. In 1997, 119 of these nests were surveyed with 102 being occupied. This is well above the 21 active eyries set as a goal for Utah by the American Peregrine Falcon Recovery Plan.
- 2) The known falcon eyries and suitable cliffs in the proposed project area could be adequately protected with a seasonal closure until after the fledglings have left the eyrie (August 31). The presence of the 69 kV line, substation and breakout are in the near proximity of an existing road and would appear after the construction phase to be compatible with the concurrent usage of the peregrine falcon and should not prohibit future use of the same area.
- 3) A new falcon eyrie was identified near the proposed action area in Link Canyon. The falcons probably forage in the area for prey. The proposed action area would not reduce the prey species available.
- 4) Timing and access of maintenance work will be restricted during incubation period (see mitigation).
- 5) No nesting habitat of peregrine falcon will be disturbed.

### **VI. Mitigation**

To reduce or eliminate effects to threatened or endangered species the following mitigations will be implemented.

- 1) No construction activity would occur within one mile of any active nest site.
- 2) SUFCO Mine in cooperation with the USFS, BLM and UDWR will monitor the status and activity of peregrines utilizing existing habitat near the site annually.
- 3) If it has been determined that peregrine falcons have established a nest near the power line and/or breakout site SUFCO will notify UP&L maintenance personnel of possible restrictions.
- 4) If emergency maintenance needs to be implemented after construction, restrictions would include limited access and/or access accompanied by an agency biologist during the incubation period if

nesting activity is determined.

## **VII. Cumulative Impacts**

The proposed action as delineated in this BA is exclusive to those potential impacts associated with the 69 kV power line, substation and breakout. The proposed action would be in support of the SUFCO Mine. The mine activities predispose the potential for subsidence associated with both longwall and room and pillar mining. Subsidence has a direct potential for escarpment failure which could result in the loss of both habitat as well as nests, eggs, and fledgling peregrines. This potential will be analyzed in both the Pines Tract EIS and SUFCO Mine MRP.

## VIII. Documentation

References used to determine the presence (or absence) of Threatened, Endangered, Proposed and Sensitive Species as well as species characteristics and habitat information include:

Baxter, G.T. and J. R. Simon. 1970. Wyoming Fishes. Wyoming Game and Fish Dept. Bull. No. 4. Cheyenne. 168 pp.

Behnke, R.J. and D.E. Benson. 1980. Endangered and Threatened Fishes of the Upper Colorado River Basin Coop. Ext. Serv., Colorado State Univ., Fort Collins, Bull. 503A. 34 pp.

Boschen, Nelson. 1995. Bald Eagles in Southeastern Utah: 1994 Nesting Season.

Cade, T.J., J. H. Enderson, C.G. Thelander, and C.M. White. 1988. Peregrine Falcon Populations: Their Management and Recovery. The Peregrine Fund, Inc., Boise. 949 pp.

Daw, S.K. 1991. Preliminary Mexican Spotted Owl Survey in Glen Canyon National Recreation Area. Unpublished Technical Report.

Caney, J.L. 1988. Distribution and Habitat Ecology of Mexican Spotted Owls in Arizona. M.S. Thesis. Northern Arizona Univ., Flagstaff. 229 pp.

Johnsgard, P.A. 198. North American Owls, Biology and Natural History. Smith. Instit. Press, Washington and London. 295 pp.

Kass, Ron 1990. Final Report of Habitat Inventory of Threatened, Endangered and Candidate Plant Species in the San Rafael Swell, Utah. 87 pp.

Ratcliffe, D.A. 1980. The Peregrine Falcon. Buteo Books, Vermillion, SD. 416 pp.

Rocky Mt/Southwest Peregrine Falcon Recovery Team. 1984. American Peregrine Falcon Rocky Mountain/southwest Population Recovery Plan. U.S. Fish and Wildlife Service. 105 pp.

Sigler, W.F and R.R. Miller. 1963. Fishes in Utah. Utah State Dept. of Fish and Game, Salt Lake City. 203 pp.

Stalmaster, M.V. 1987. The Bald Eagle, Universe Books, New York. 227 pp.

Unitt, P. 1987. Empidonax traillii extimus: An Endangered Subspecies. Western Birds 18:137-162

Welsh, Stanley L., N.D. Atwood, S. Goodrich, and L. C. Higgins. 1987. A Utah Flora. Great Basin Naturalist Memoirs Number 9. 894 pp.

Wiley, D.J. and D. Chapman. 1991. Final Report - Mexican Spotted Owl Surveys in Forested Highlands and Adjacent Canyonlands in Southern Utah. Forest Service Contract Nos: 53-8462-0-07007, and 53-8462-0-07008. 57 pp.

### **Forest Service References**

District wildlife observation records. USDA Forest Service, Ferron/Price Ranger District, Price, Utah.

Personal communications with Forest Service personnel, Bob Thompson and Steve Romero regarding threatened and endangered species, plants and animals.

USDA Forest Service. 1991a. Threatened, Endangered, and Sensitive Species of the Intermountain Region. USDA Forest Service, Intermountain Region, Ogden, Utah.

USDA Forest Service. 1991. Utah Endangered, Threatened, and Sensitive Plant Field Guide. USDA Forest Service, Intermountain Region, Ogden, Utah.

### **Bureau of Land Management References**

Resource area wildlife and plant observation and location area records.

Personal communication with BLM personnel, Wayne Ludington and David Mills, regarding TES plant and animals.

USDI BLM manual 6840, Special Status Species Management.

### **State Wildlife Agency References**

Personal Communications with Ben Morris, Southeastern Regional Nongame Manager, Utah Division of Wildlife Resources, Price, Utah.

Utah Division of Wildlife Resources. 1980. Bats of Utah. UDWR Publication No. 80-15. Utah Division of Wildlife Resources. 1990. Fauna of Southeastern Utah and Life Requisites Regarding Their Ecosystems. Publication No. 90-11.

### **U.S. Fish and Wildlife Service References**

A phone call was made to the U.S. Fish and Wildlife Service on April 13, 1998, to confirm the list of Threatened, Endangered, and Proposed Species that was already on hand.

U.S. Fish and Wildlife Service. 1995. Mexican Spotted Owl (Strix occidentalis lucida) recovery plan. U.S. Fish and Wildlife Service, Albuquerque, New Mexico

U.S. Fish and Wildlife Service. 1995. Heliotrope milkvetch (Astragalus montii) recovery plan. U.S. Fish and Wildlife Service, Denver, Colorado. 11 pp.

Federal Register Vol. 58 No. 140, 7/23/93

# LINK CANYON PROJECT

## BIOLOGICAL EVALUATION

<u>PLANT SPECIES</u>	<u>No Action</u>	<u>Proposed</u>	<u>Alternative 3</u>
<i>Allium geyeri</i> var. <i>chatterleyii</i> Chatterley onion	NI	NI	NI
<i>Androsace chamaejasme</i> var. <i>carinata</i> Rock jasmine	NI	NI	NI
<i>Aquilegia flavescens</i> var. <i>rubincunda</i> Link Canyon columbine	NI	NI	NI
<i>Cryptantha creutzfeldii</i> creutzfeldt-flower	NI	NI	NI
<i>Cymopterus beckii</i> Pinnate spring parsley	NI	NI	NI
<i>Echinocereus triglochidiatus</i> var. <i>inermis</i> Spineless cactus	NI	NI	NI
<i>Erigeron abajoensis</i> Abajo daisy	NI	NI	NI
<i>Erigeron carringtonae</i> Carrington daisy	NI	NI	NI
<i>Erigeron kachinensis</i> Kachina daisy	NI	NI	NI
<i>Erigeron mancus</i> LaSal daisy	NI	NI	NI
<i>Hedysarum occidentale</i> var. <i>canone</i> Canyon sweetvetch	NI	NI	NI
<i>Lomatium latilobum</i> Canyonland lomatium	NI	NI	NI
<i>Senecio musinensis</i> Musenens groundsel	NI	NI	NI
<i>Silene petersonii</i> Maguire campion	NI	NI	NI
<u>VERTEBRATE SPECIES</u>			
<i>Accipiter gentilis</i> Nothem Goshawk	NI	NI	NI
<i>Aegolius funereus</i> Boreal Owl	NI	NI	NI
	<u>No Action</u>	<u>Proposed</u>	<u>Alternative 3</u>

<i>Euderma maculatum</i> Spotted Bat	NI	MIIH	MIIH
<i>Oncorhynchus clarki pleuriticus</i> Colorado River Cutthroat Trout	NI	NI	NI
<i>Oncorhynchus clarki utah</i> Bonneville Cutthroat Trout	NI	NI	NI
<i>Otus flammeolus</i> Flammulated Owl	NI	NI	NI
<i>Picoides tridactylus</i> Three-toed Woodpecker	NI	NI	NI
<i>Plecotus townsendii</i> Townsend's Big-eared Bat	NI	MIIH	MIIH
<i>Rana pretiosa</i> Spotted Frog	NI	NI	NI

Prepared by /s/ \_\_\_\_\_ /s/ \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved by /s/ \_\_\_\_\_ /s/ \_\_\_\_\_ /s/ \_\_\_\_\_

NI - No Impact

MIIH - May Impact Individuals Or Habitat, But Will Not Likely Contribute To A Trend Towards Federal Listing Or Loss Of Viability To The Population Or Species

**APPENDIX E**

**RAPTOR SURVEY FOR AREA OF PROPOSED ACTION 1986-94**



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  
Pine, Utah 84501-2829  
801-637-3310  
801-637-7361 (Fax)

July 7, 1997

Canyon Fuel Co.  
Attn: Barry Barnum  
P.O. Box 719  
Helper, Utah 84526

Barry:

Enclosed are the raptor maps and reports for the Suffco, Soldier Creek, and Skyline mine raptor flights. Suffco was flown on Tuesday May 27, 1997 by Ben Morris, UDWR and Eric Petersen from your company. Skyline was flown on June 2, 1997 by Ben Morris, Eric Petersen, and Paul Petersen. Soldier Creek was flown on June 5, 1997 by Ben Morris and Paul Bedont, UDWR.

Skyline had one redtail sitting on two eggs, one tended redtail hawk nest and one inactive tree nest.

Soldier Creek mine had 30 golden eagle nests, 12 tended, 13 old/dilapidated, four inactive and one active. Six hawk nests, three tended, one old/dilapidated, and two inactive were found. One active raven nest and one active Prairie falcon with two chicks were found.

Suffco had 68 golden eagle nests, 16 tended, 21 old/dilapidated, two active with one chick each, and two inactive, 27 historic golden eagle nest were not found on this survey. One active peregrine falcon was found, we were unable to determine the number of eggs she was sitting on. One active hawk nest was found with two chicks. Seven tended falcon scrapes and one old falcon scrape were found.

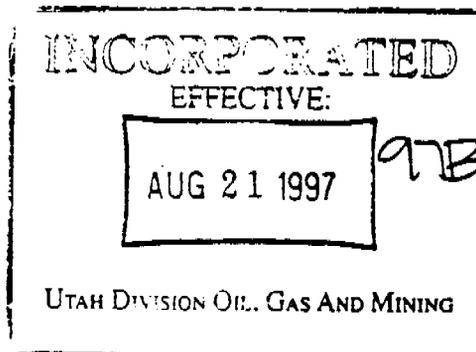
If you have any questions call Ben Morris at 636-0279 or Bill Bates at 636-0267.

Sincerely,

Ben Morris  
Habitat Biologist

Copy: Raptor File

Enclosure: 15



(map no) Quad	Year	Species	Nest Typ	Status	Yo	AGE WKS	Eggs	X	Y
7 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	468230	4311240
□ 8 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	472410	4312020
△ <del>9</del> EMERY WEST	1997	PEREGRINE FALCON	CLIFF	ACTIVE	0	0	?	474390	4312095
EMERY WEST								474075	4311109 GPS #9
○ 10 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	INACTIVE	0	0	0	474350	4312020
□ 11 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	475790	4312380
□ 12 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	475280	4312145
13 EMERY WEST	1997	FALCON SCRAPE	CLIFF	TENDED	0	0	0	475280	4311585
14 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0		
15 EMERY WEST	1997	BUTEO	CLIFF	ACTIVE	2	0	0	476190	4315425
19 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	470840	4303560
○ 20 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	470950	4305550
21 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	470650	4308650
○ 22 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	470800	4309000
○ 23 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NEST GONE	0	0	0	471150	4309150
○ 24 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	471510	4309165
25 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	468195	4311040 3 NESTS
EMERY WEST								468230	4311090
EMERY WEST								468260	4311130
26 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	468650	4311640
27 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	468880	4311725
28 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	468930	4311730
29 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	469150	4311800
30 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	469470	4311860
○ 21 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	471400	4311730
○ 32 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	471440	4312830
83 EMERY WEST	1997	FALCON SCRAPE	CLIFF	TENDED	0	0	0	472230	4311860
○ 34 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	475220	4312585
35 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	476550	4313450
36 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	477850	4313655
37 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	473985	4315198
38 EMERY WEST	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	473735	4315660

○ inactive  
 □ tested  
 △ active

STATE DIVISION OF OIL, GAS AND MINING

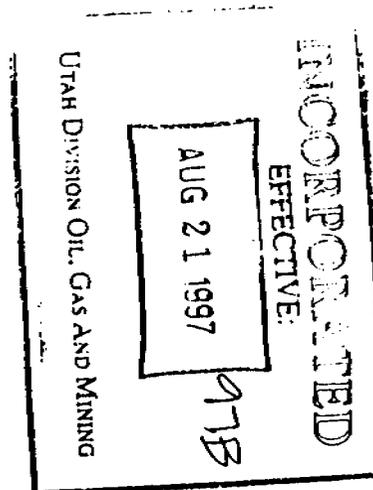
AUG 21 1997

97B

EFFECTIVE

ENDED

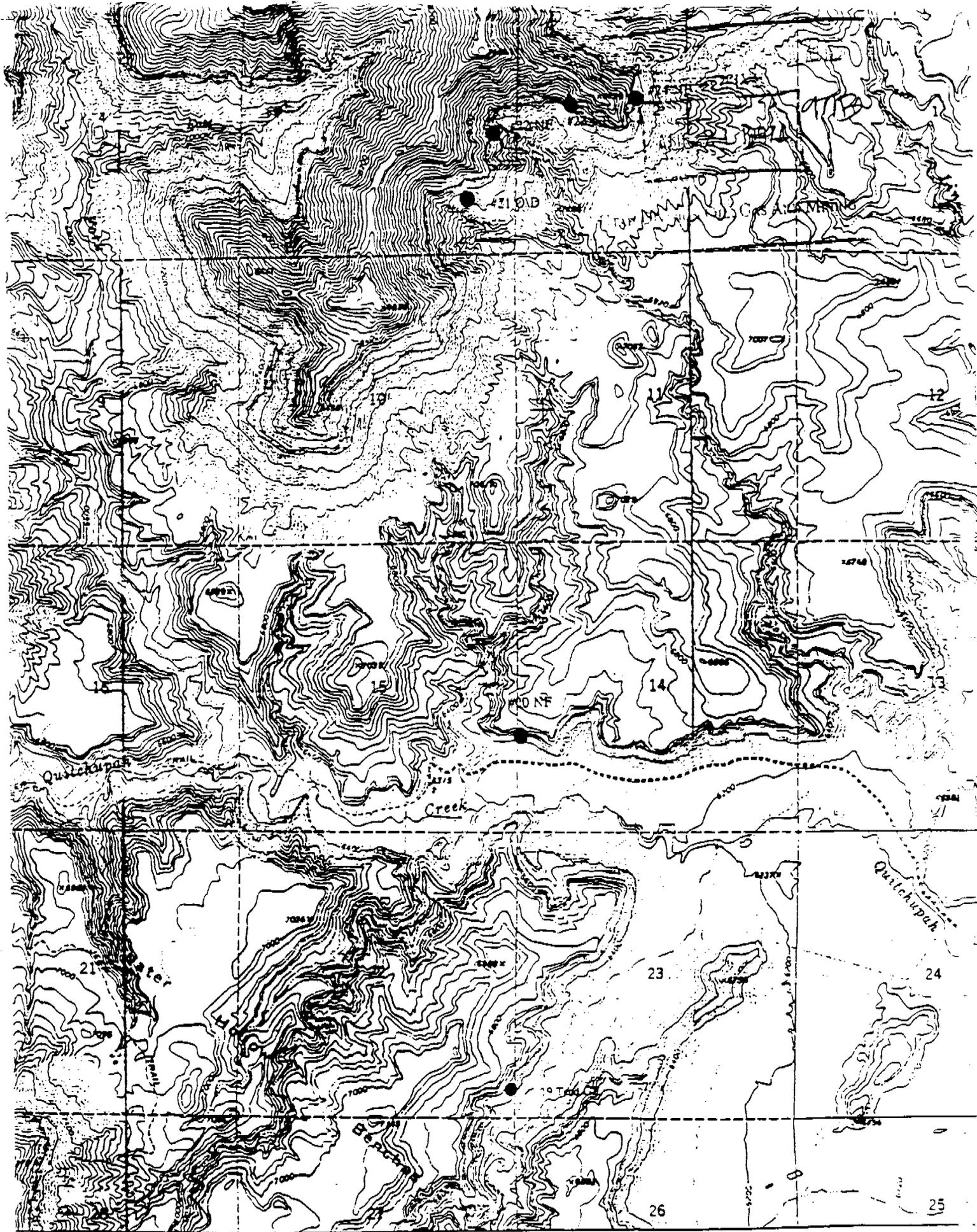
(map no) Quad	Year	Species	Nest Typ	Status	Yo	AGE WKS	Eggs	X	Y
14 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	474570	4317560
16 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	473085	4318610
17 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	469800	4318160
18 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	475150	4318880
								475050	4318450 GPS
39 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	474320	4317610
40 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	472320	4318260
41 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	469610	4317900
42 FLAGSTAFF	1997	FALCON	CLIFF	TENDED	0	0	0	471640	4320730
43 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	471700	4320740
44 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	474900	4318300
45 FLAGSTAFF	1997	GOLDEN EAGLE	CLIFF	INACTIVE	0	0	0	475098	4318895



(map no) Quad	Year	Species	Nest Typ	Status	Yo	AGE WKS	Eggs	X	Y
1	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	465267 4304151
2	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	ACTIVE	1		1	461163 4306401
3	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	464988 4305580 2 NJESTS
4	1997	ACCORD LAKES	FALCON	CLIFF	TENDED	0	0	0	466849 4306417
5	1997	ACCORD LAKES	FALCON	CLIFF	TENDED	0	0	0	467086 4306312
6	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	ACTIVE	1	0	0	466394 4313934
46	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	464955 4305510
47	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464950 4306500
48	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464930 4306600
49	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	464898 4306630
50	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	464900 4306790
51	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464830 4306750
52	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464790 4306645
53	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464680 4306470
54	1997	ACCORD LAKES	FALCON SCRAPE	CLIFF		0	0	0	464150 4306398
55	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	464060 4306370
56	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	463800 4306398
57	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464650 4308220
58	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	464530 4309330
59	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	465615 4307340
60	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	461980 4306400
61	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	459800 4305900
62	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	467230 4307090
63	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	467340 4307040
64	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	TENDED	0	0	0	467500 4309425
65	1997	ACCORD LAKES	FALCON SCRAPE	CLIFF		0	0	0	466700 4310415
66	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	466710 4310560
67	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	467350 4310650
68	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464560 4312960
69	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	OLD-D	0	0	0	464700 4313020
70	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	465070 4313120
71	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	465900 4313275
72	1997	ACCORD LAKES	GOLDEN EAGLE	CLIFF	NOT FD.	0	0	0	465930 4313865
73	1997	ACCORD LAKES	FALCON SCRAPE	CLIFF	OLD-D	0	0	0	465810 4314285
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									467250 4312350
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UTAH DIVISION OF OIL, GAS AND MINING

RECORDED & INDEXED  
 EFFECTIVE:  
 AUG 21 1997  
 97B

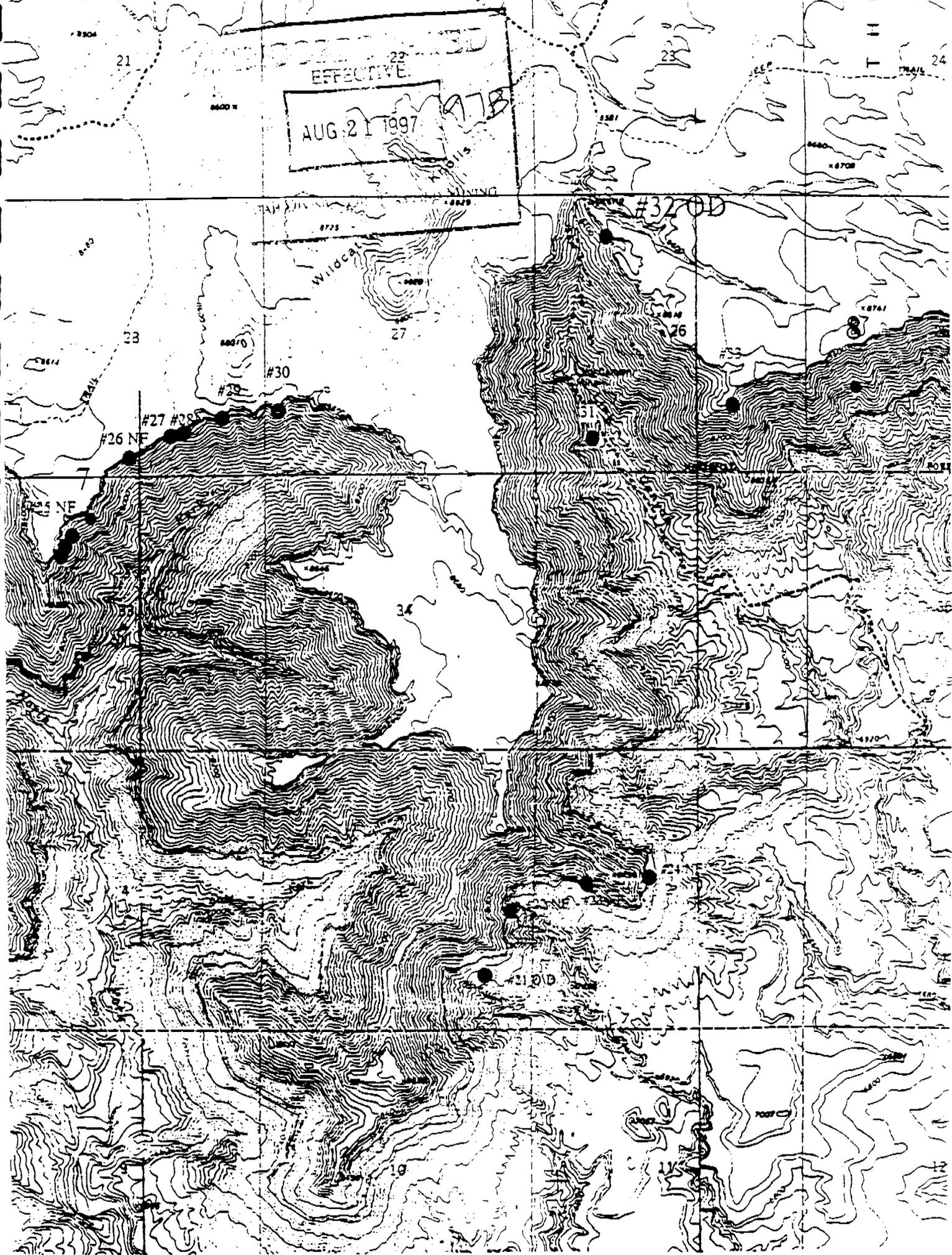


Emery West Quad

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EFFECTIVE

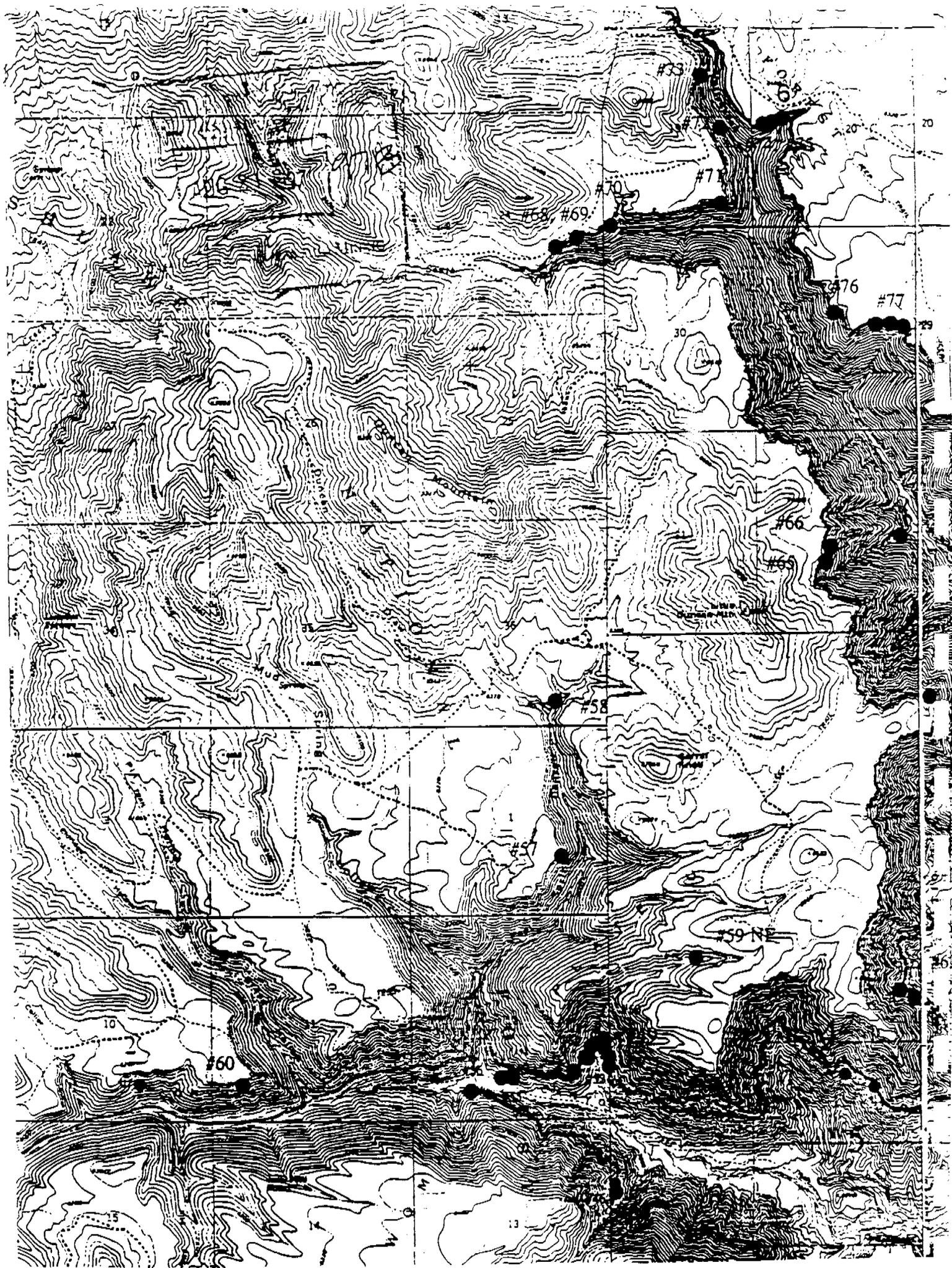
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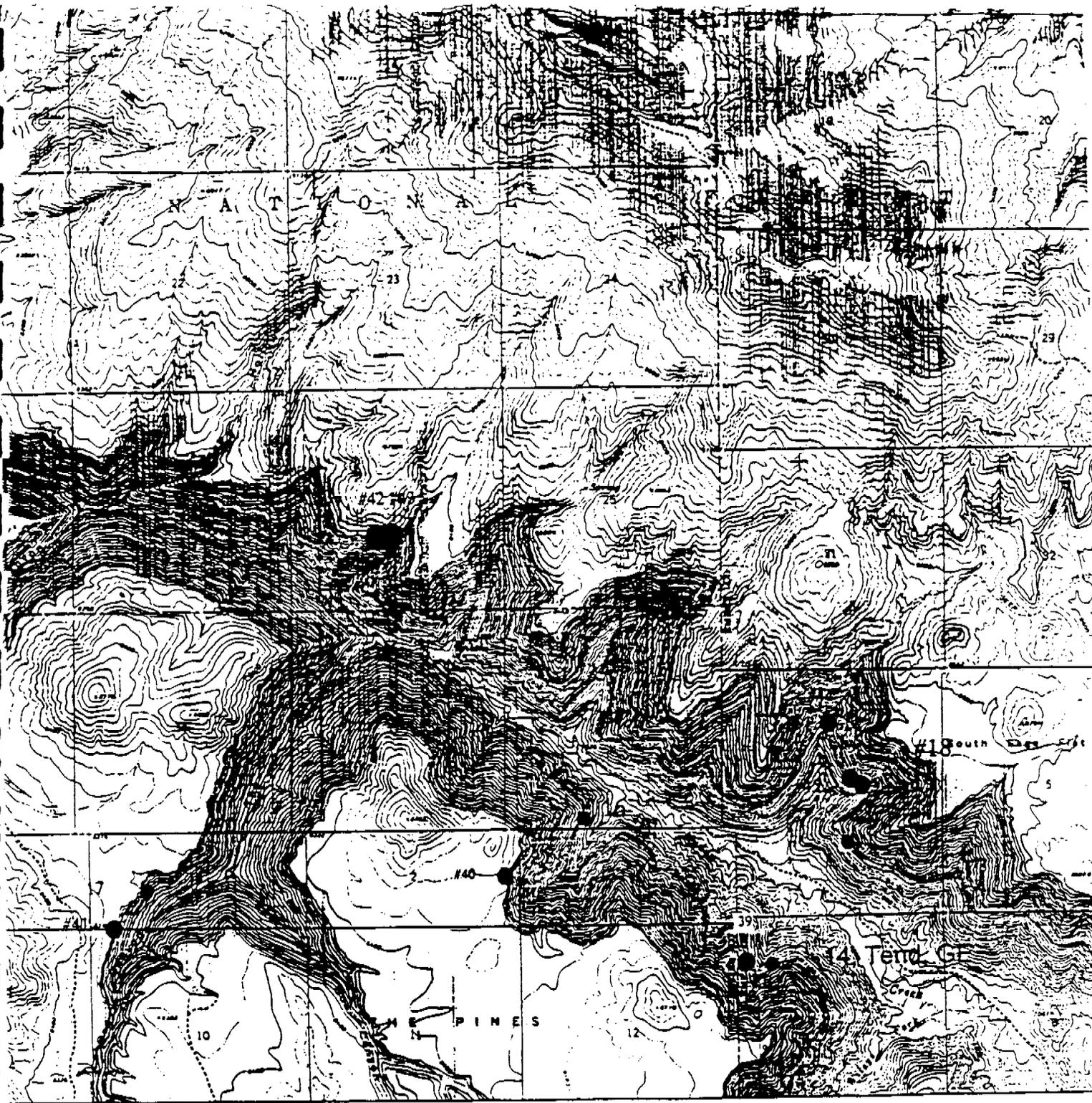
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Flagstaff Peak Quad

**INCORPORATED**  
EFFECTIVE:

AUG 21 1997

97B

UTAH DIVISION OIL, GAS AND MINING

#38 OD

#37 OD

15

**APPENDIX F**

**MITIGATION PLAN AND RECLAMATION**

## **Mitigation Plan Abandoned Mine Road**

### **I. Description of Existing Area and Need**

The upper most reaches of the 69 kV power transmission line (approximately 1500 feet) would be constructed on an old abandoned mine access road. In order to gain access for construction, the road would need to be upgraded utilizing a mid-sized D6 crawler dozer. Along the down slope of this access road, a three acre area of residual coal from historic coal haulage has developed. This activity would necessitate the loss of the majority of vegetation which has invaded the site over the last thirty years.

This new disturbance, in association with this existing acreage constitutes a loss of approximately five acres of critical high value big game winter range. In addition, it distracts from the general aesthetics of the upper reaches of Link Canyon.

The following reclamation plan is designed to rehabilitate this area to such a degree that the appearance would be aesthetically compatible with the adjacent undisturbed area and reestablish a desirable and diverse vegetative cover that will enhance wildlife habitat.

### **II. Reclamation Plan**

Following the completion of the 69 kV power line the road cut can be brought back to its approximate original contour.

**A) Earthwork** - Utilizing a trackhoe (D125 Class) or larger with a 21 foot reach equipped with a 36 inch bucket, the down cast material can be pulled up from below the road cut and placed against the high wall. In performing this function, the coal spillage would be the first material placed and then covered with native soil (see Figure 1). The coal on the down slope that could not be reached could be covered to a large degree by the trackhoe casting clean fill down slope. It is imperative that as the area is recontoured that the surface is pockmarked (see Figure 2). Pock marking creates a very uneven surface which to a large degree diminishes the likelihood of erosion (gullies and rills) and enhances the success of revegetation.

In conjunction with the pock marking the trackhoe can cast any vegetation; dead trees, large rocks, back onto the recontoured surface. The pock marking creates a more mesic site by trapping precipitation, both rain and snow, in the depressions. The debris (dead trees, rocks etc.) on the surface accomplish the same function to a lesser degree by providing solar protection. In addition, the combination of the above makes the site more aesthetically compatible with the adjacent undisturbed areas and to a large degree discourages both domestic stock as well as big game from adversely impacting the site until the vegetation can become established.

## **B) Revegetation**

In conjunction with the earth moving the site will be hydro seeded, mulched, tackafied and fertilized. The following methodologies have been incorporated on numerous sites on both private and federal lands and have proven very successful frequently allowing bond release in as little as two growing seasons.

### **Methodology - Seeding and Mulching**

A hydro-seeder is positioned directly behind the trackhoe as the hoe recontours the road and implements the site seed bed preparation, the hydro-seeder can spray over the hoe or utilize a hose line to apply the seed in combination with 500#/acre wood fiber much and 100#/acre of a tac agent. Following the seeding the entire area is then over sprayed with 1500 to 2000 pounds of wood fiber mulch per acre.

An additional 100#/acre of tac and 200#/acre of 16-16-8 fertilizer would be added to this mulch slurry. Depending on the size and type of hydro-seeder the road cut can be reclaimed in 100 to 200 linear foot sections.

Depending on weather conditions the hydro-mulched areas should be allowed to harden off (dry on the surface) from 24 to 72 hours before the area is walked on.

### **B. Methodology - Seedling Planting**

Bare root or containerized seedling will be planted at a rate of approximately 200/acre. (Ratio and species to be determined by BLM and USFS).

The planting procedures as outlined must be strictly adhered to in order to insure a reasonable degree of success. The following is a list of key points:

1. Live Seedlings - ideally dormant planting stock
2. Stock - primarily root mass kept moist at all times
3. Position of seedlings to maximize survival potential
4. Proper Planting Procedure (Figure 4)
  - A. Straight and natural root alignment (no "J" roots)
  - B. Firm soil placement length of root mass (no air pockets)
  - C. The root collar needs to be ½ to 1 inch below grade (soil depth)

The actual planting of seedling can follow the seeding mulching anywhere from 24 hours up to two years with little or no adverse results. Ideally, planting should occur as late as possible in the fall prior to the first snow or as early in the spring as the site is accessible. Fall planting normally produces better results and is not as vulnerable to weather conditions. In both cases, survival will increase if the planting stock is dormant when planted.

The root mass should be kept moist at all times, during transport, handling and planting. This is somewhat easier with containerized stock, but can be accomplished with bare root stock if a few simple procedures are followed.

A good procedure to insure moist roots on bare root stock is to mix a slurry of vermiculite and/or potting soil in a 30 gallon water filled barrel. Cut pieces of burlap approximately 18X24 inches and soak overnight in the slurry. Wrap the root mass of the bare root stock loosely in a roll of saturated burlap prior to planting. Each roll should contain 50 to 100 seedling loosely rolled within the burlap and placed in a planting bucket or bag for field use. Periodically during the day the rolls can be wet down in the event they start to dry.

It is imperative to have the hole dug and ready to plant, prior to removing the seedling from the container or burlap roll. In warm or windy conditions a seedling's root hairs can dry out in as little as seven seconds, effectively killing the plant.

When selecting the location for the seedling always keep in mind to maximize potential for moisture and shade, select "depressions" over "humps" and areas adjacent to rocks, dead trees, etc. to provide solar protection. In pock marks, the seedling should be placed approximately one-third the way up from the bottom. This area allows the roots to extend into the moist soil and avoids having the seedling covered by sluffing or siltation. (See Figure 3)

The last area of concern is to utilize correct planting procedures. There are a variety of planting tools on the market. They range from a 16 inch tile spade to a region 6 "hoedad." Any tool capable of digging a hole at least two deeper than that the root mass is adequate.

It is imperative that the root mass is placed in the hole in a straight near natural configuration. The soil should be firmly pressed around the roots utilizing your hand, not a foot or stick. The planter must make sure there are no air pockets left in the hole, and ensure the seedling is planted to the correct depth.

This is accomplished by showing each planter the location of the root crown. It is advantageous for the root crown to be covered by ½ to 1 inch of soil at time of planting. This allows the soil to settle without exposing the root crown. (See Figure 4)

Following the planting all trash containers etc. would be removed from the site. A four strand barb-wire fence will be constructed at the intersection of the reclaimed road and the Link Canyon Road.

A sign saying "This Area is Temporarily Closed for Reclamation" should be posted on the fence and maintained until the site is revegetated.

Figure 1.  
Abandoned Road Reclamation

*Existing*

*Road Cut*

*Coal Debris*

*Fill*

*Coal Debris*

*Down Cast Soil*

*Reclaimed*

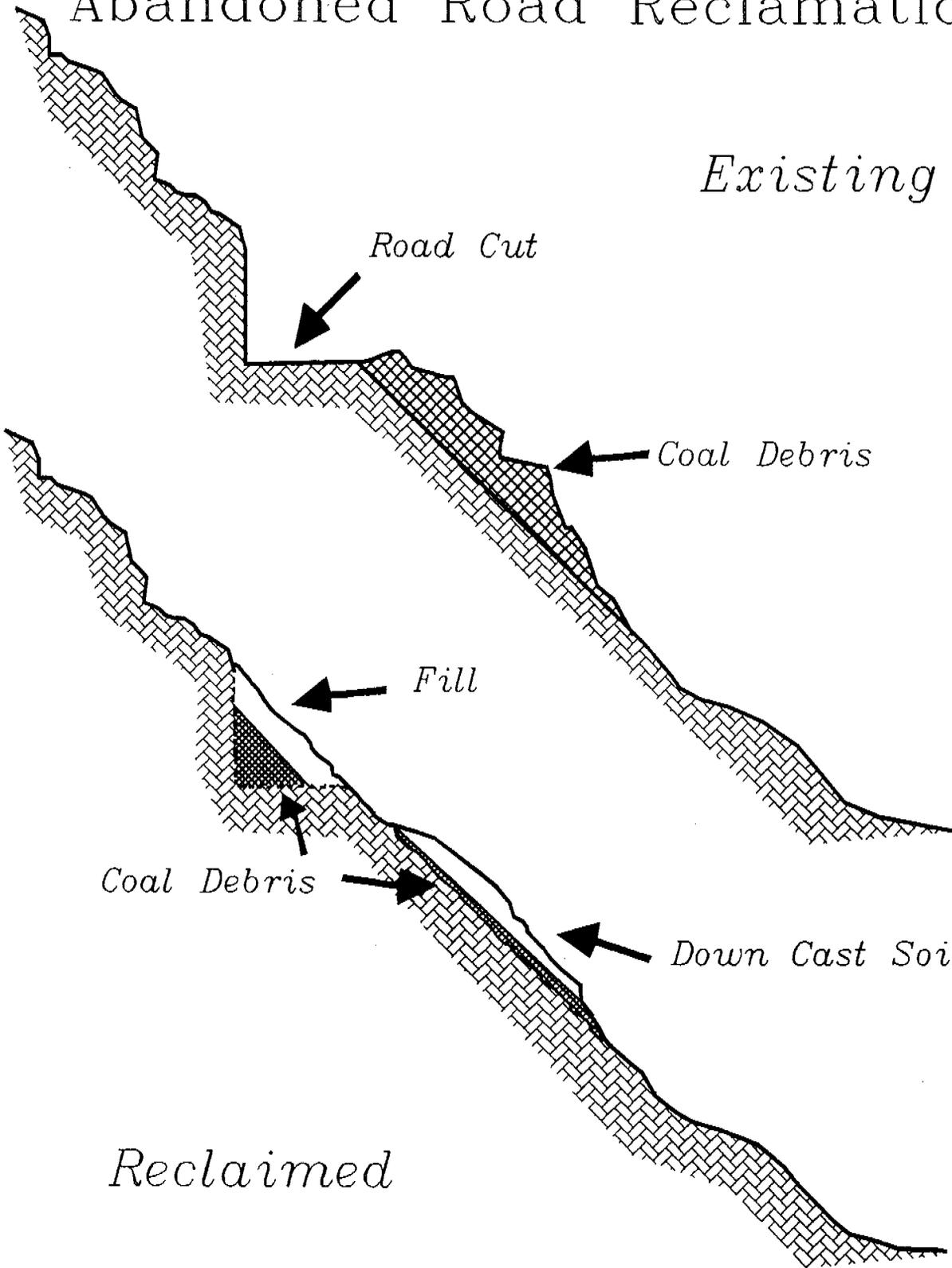


Figure 2.  
Pock Mark Configuration

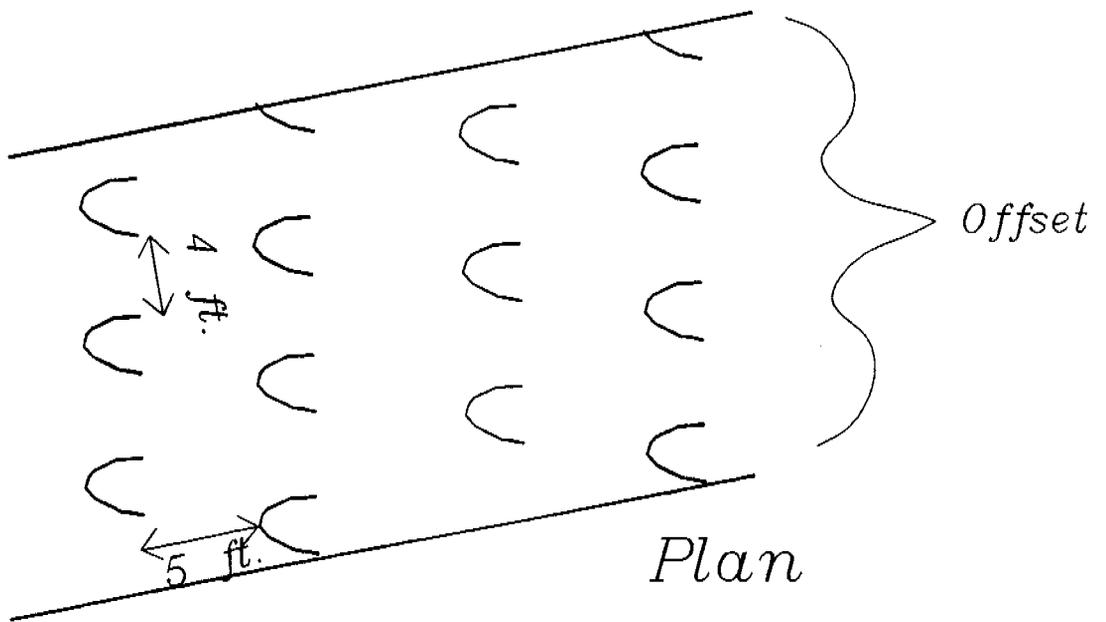
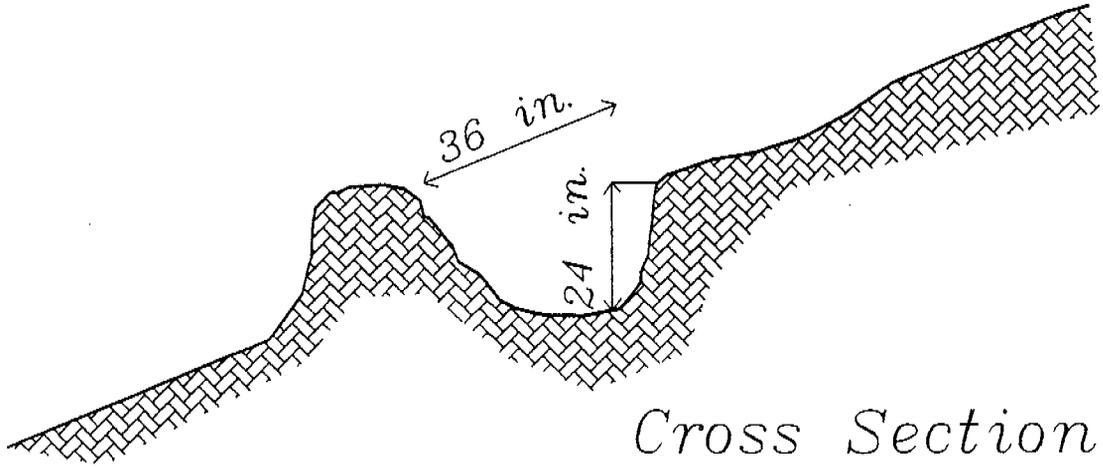


Figure 3.  
Seedling Locations

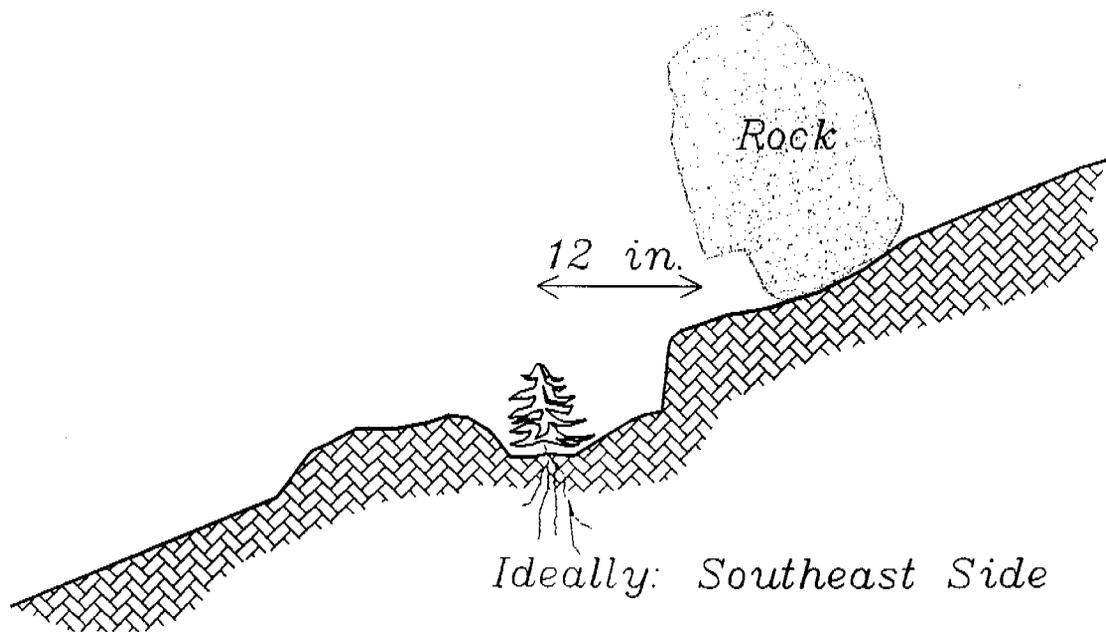
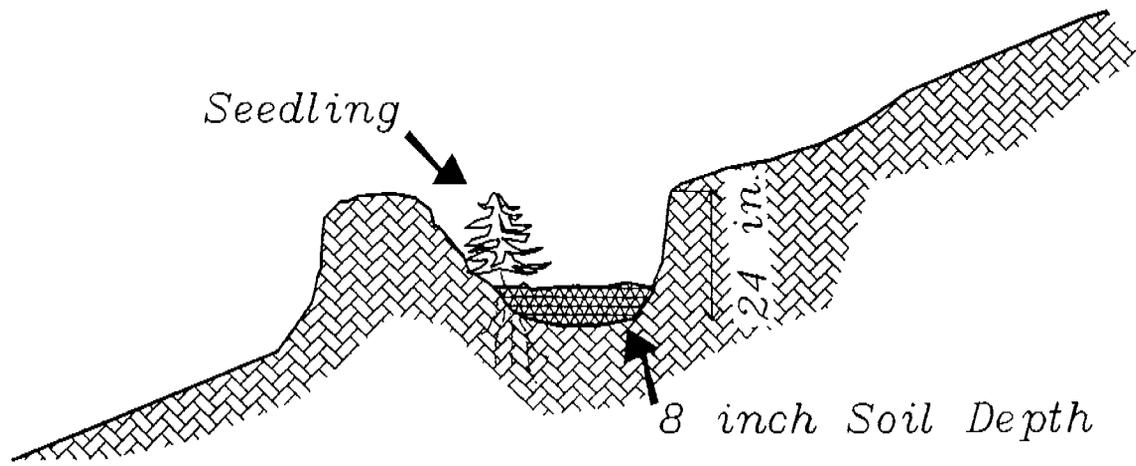


Figure 4.  
Seedling Planting Procedure

