

COPY



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September 2, 2004

Utah Coal Regulatory Program
Division of Oil, Gas and Mining
1594 North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

RECEIVED

SEP 10 2004

DIV. OF OIL, GAS & MINING

Re: Rilda Canyon Proposed Hydrologic Investigation, PacifiCorp, Deer Creek Mine, C/015/018, Emery County, Utah

PacifiCorp, by and through its wholly-owned subsidiary, Energy West Mining Company ("Energy West") as mine operator, herewith submits three copies of a Proposed Hydrologic Investigation Plan for the Right Fork of Rilda Canyon. As a result of expansion of mining operations to the northwest (to include the Mill Fork State Lease #48258), PacifiCorp proposes constructing surface facilities in Rilda Canyon. This includes all support facilities for underground mining operations except coal transportation and handling. Initially, the facilities were proposed in an area disturbed by previous mining operations below Rilda Canyon Springs located in Section 28, Township 17 South, Range 7 East. However, due to concerns related to culverting some 1,500 feet of perennial stream that were expressed by the various governmental agencies, PacifiCorp chose to move the proposed facility site up canyon approximately 1/2 mile. Re-location of the proposed facilities up canyon from the original site places the proposed facilities above and adjacent to Rilda Canyon Springs. To alleviate concerns with the proposed Rilda Canyon Portal Facilities, PacifiCorp and North Emery Water Users Special Service District (NEWUSSD) are investigating re-location of the Rilda Canyon Springs collection system from their current location to the mouth of the right fork of Rilda Canyon above the portal facilities, refer to Map 1.

To determine the feasibility of this area as a spring collection area, PacifiCorp proposes to drill up to a total of seven (7) hydrologic test holes within the Federal Coal U-06039 in the year 2004.

This site was selected for the following reasons;

- ◆ Geologic mapping and review of stratigraphic information indicate that the canyon walls constricts the canyon of the Right Fork between outcrops of the Star Point Sandstone
- ◆ The area has been previously disturbed by a series of roads
- ◆ Flow in the Right Fork of Rilda Canyon dissipates from surface flow to subterranean flow.

Huntington Office:
(435) 687-9821
Fax (435) 687-2695
Purchasing Fax (435) 687-9092

File in:

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Refer to Record No. 0120 Date 09022004

In CO150018 2004 Emery County

For additional information

Deer Creek Mine:
(435) 687-2317
Fax (435) 687-2285

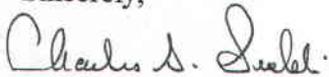
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Rilda Canyon Hydrologic Investigation
September 7, 2004
Page Two

For ease of reference, this plan follows the format of the applicable portions of the Utah Division of Oil, Gas, and Mining rules (R645-200 through R645-203) regarding Coal Exploration.

If there are any questions or concerns please call me at (435) 687-4720 or Dennis Oakley at (435) 687-4825. We would be glad to work with you on whatever is needed to allow a timely review of this application.

Sincerely,



Charles A. Semborski
Manager Geology/Permitting

enclosures:

cc:

United States Forest Service, Carter Reed and Tom Lloyd
Bureau of Land Management, Jim Kohler
Utah Division of Water Rights, Mark Page
NEWUSSD, Randy Bell
Huntington Cleveland Irrigation Company, Dennis Ward
Interwest Mining Company, Scott Child
Doug Johnson
File

NOTICE OF INTENTION TO CONDUCT HYDROLOGIC INVESTIGATION

SEPTEMBER 2004
C/O Interwest Mining Company
(Managing Agent)



Energy West Mining Company
(Mine Operator)



Right Fork Rilda Canyon: Stream Crossing Road

NOTICE OF INTENTION TO CONDUCT HYDROLOGIC INVESTIGATION

SEPTEMBER 2004

TABLE OF CONTENTS

R645-200. Exploration: Introduction.	-1-
R645-200-100. Scope:	-2-
122. Exploration.	-2-
R-645-200-200. Responsibilities.	-2-
210. Responsibility to Comply with Regulations.	-2-
220. Responsibility of the Division to Review and Reply.	-2-
230. Responsibility of the Division to Coordinate with Other Agencies.	-2-
R645-201. Exploration: Requirements for Exploration Approval.	-2-
R645-201-100. Responsibilities for Exploration Plan Review.	-2-
110. Exploration Plan Review, Responsibility of Division.	-2-
120. Requirements of 43 CFR 3480-3487.	-2-
130. Division Responsibility to Coordinate with Other Agencies.	-2-
R645-201-200. Notices of Intention to Hydrologic Investigation.	-2-
210. Division Review Requirement.	-3-
220. Required Applicant Information.	-3-
221. Name, Address, and Telephone Number of Applicant:	-3-
222. Name, Address, and Telephone Number of the Applicant's Representatives:	-3-
223. Description of Exploration Area.	-4-
224. Period of Intended Exploration:	-5-
225. Method of Exploration.	-5-
R645-202. Compliance Duties.	-8-
R645-202-100. Required Documents.	-8-
Road Use Permits:	-8-
Archeological Information:	-8-
R645-202-200. Performance Standards.	-8-
210. Requirements of the State Program.	-8-
220. Inspection and Enforcement.	-8-
230. Operational Standards.	-9-
231. Non-Disturbance of Habitats.	-9-
232. Road Construction and Use.	-9-
233. Topsoil Removal and Storage.	-9-
234. Diversions of Overland Flows.	-10-
235. Minimizing Disturbance to Hydrologic Balance.	-10-
236. Acid- or Toxic Forming Materials.	-10-
240. Reclamation Standards.	-10-
241. Excavations.	-10-
242. Re-Vegetation.	-10-
242.1 Re-Seeding.	-10-
242.2 Soil Surface Stability.	-11-
243. Reclamation of Boreholes.	-11-

244. Removal of Equipment. -12-

R645-203. Exploration: Public Availability of Information. -13-

R645-203-100. Public Records. -13-

LIST OF MAPS

- Map #1 RILDA CANYON HYDROLOGIC INVESTIGATION - PHOTO LOCATION (1"=60')*
- Map #2 RILDA CANYON HYDROLOGIC INVESTIGATION - PROPOSED TEST HOLE LOCATION (1"=60')*
- Map#3 RILDA CANYON HYDROLOGIC INVESTIGATION - GEOLOGY MAP (1"=60')*
- Map#4 RILDA CANYON HYDROLOGIC INVESTIGATION - GEOLOGIC CROSS SECTION*
- Map#5 RILDA CANYON HYDROLOGIC INVESTIGATION - AERIAL PHOTOS (Rilda Canyon)*

LIST OF PHOTOS

- PHOTO #1 View: Looking Northwest From Emery County Road #306 - Start of Reclaimed Road*
- PHOTO #2 View: Looking Northwest From Reclaimed Road - Near Intersection of Stream Crossing Road*
- PHOTO #3 View: Looking Northwest From Reclaimed Road - Near Intersection of Stream Crossing Road*
- PHOTO #4 View: Looking East From Reclaimed Road - Stream Crossing Road - Creek Dry*
- PHOTO #5 View: Looking Southeast From Reclaimed Road - Intersection With Emery County #306*
- PHOTO #6 View: Looking Southwest From Stream Crossing - Intersection With Main Raod*
- PHOTO #7 View: Looking East From Stream Crossing - Intersection With Emery County #306 in Distance*
- PHOTO #8 View: Looking Northwest From Reclaimed Road - Stream Crossing With Main Reclaimed Raod*
- PHOTO #9 View: Looking Southeast From Reclaimed Road - Intersection With Emery County #306 in Distance*

LIST OF FIGURES

- FIGURE #1: Rilda Canyon Quadrangle: Overview With Rilda Canyon Springs*
- FIGURE #2: Rilda Canyon Quadrangle: Intersection of the Right and Left Forks of Rilda Canyon*

LIST OF ATTACHMENTS

- ATTACHMENT #1: Results of Seismic Refraction Investigations at the proposed Deer Creek/Rilda Canyon Surface Facilities, Emery County, Utah - Second Survey*

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

To expedite to review process, PacifiCorp has utilized the Minor Coal Exploration Regulations, R645-301-200, even though no coal will be intercepted with the test holes.

R645-200. Exploration: Introduction.

As a result of expansion of mining operations to the northwest (to include the Mill Fork State Lease #48258), PacifiCorp proposes constructing surface facilities in Rilda Canyon. This includes all support facilities for underground mining operations except coal transportation and handling. Initially, the facilities were proposed in an area disturbed by previous mining operations below Rilda Canyon Springs located in Section 28, Township 17 South, Range 7 East. However, due to concerns related to culverting some 1,500 feet of perennial stream that were expressed by the various governmental agencies, PacifiCorp chose to move the proposed facility site up canyon approximately ½ mile. Re-location of the proposed facilities up canyon from the original site places the proposed facilities above and adjacent to Rilda Canyon Springs. North Emery Water Users Special Services District (NEWUSSD) possesses a spring collection system in Rilda Canyon Springs (refer to Figures 1 and 2). To alleviate concerns with the proposed Rilda Canyon Portal Facilities, PacifiCorp and NEWUSSD are investigating re-location of the Rilda Canyon Springs collection system from their current location to the mouth of the right fork of Rilda Canyon above the portal facilities, refer to Map 1.

To determine the feasibility of this area as a spring collection area, PacifiCorp proposes to drill up to a total of seven (7) hydrologic test holes within the Federal Coal U-06039 in the year 2004 (refer to Map 2). This site was selected for the following reasons;

- ◆ Geologic mapping and review of stratigraphic information indicate that the canyon walls constricts the canyon of the Right Fork between outcrops of the Star Point Sandstone (refer to Maps 3 and 4)
- ◆ The area has been previously disturbed by a series of roads (refer to Photo Section)
- ◆ Flow in the Right Fork of Rilda Canyon dissipates from surface flow to subterranean flow (event in Photos 4 and 8, refer to Photo Section).

For ease of reference, this plan follows the format of the applicable portions of the Utah Division of Oil, Gas, and Mining (hereinafter referred to as "the Division") rules (R645-200 through R645-203) regarding Coal Exploration.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

R645-200-100. Scope:

122. **Exploration.** PacifiCorp intends to drill seven (7) hollow stem auger holes that will fully penetrate the alluvial deposits of the Right Fork of Rilda Canyon (refer to Map 2). This hydrologic investigation will occur on a designated Federal Coal Lease (U-06039). The alluvial test holes will not penetrate any known coal resource. Pacificorp is hereby filing a Notice of Intention to Conduct Hydrologic Investigation under the requirements of R645-201-200.

R-645-200-200. Responsibilities.

210. **Responsibility to Comply with Regulations.** PacifiCorp will comply with the requirements of R645-200 through R645-303.
220. **Responsibility of the Division to Review and Reply.** The Division will receive and review this Notice of Intention to Hydrologic Investigation. The Division will review and reply within 15 days.
230. **Responsibility of the Division to Coordinate with Other Agencies.** The Division will coordinate review of this Notice with the other appropriate government agencies (U.S.D.A. Forest Service, BLM, OSM, etc.). Pacificorp will provide enough copies of this notice to the Division for distribution to these agencies.

R645-201. Exploration: Requirements for Exploration Approval.

R645-201-100. Responsibilities for Exploration Plan Review.

110. **Exploration Plan Review, Responsibility of Division.** The lands on which this exploration will be conducted are within the Deer Creek Mine permit boundary, and therefore, hydrologic investigation plan review will be the responsibility of the Division.
120. **Requirements of 43 CFR 3480-3487.** N.A.
130. **Division Responsibility to Coordinate with Other Agencies.** This Notice of Intention to Conduct Hydrologic Investigation and Drilling Plan will be submitted to the Division as the lead agency for review and approval.

R645-201-200. Notices of Intention to Hydrologic Investigation.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

- 210. Division Review Requirement.** Notices of Intention to Hydrologic Investigation where 250 tons or less of coal will be removed require Division review prior to conducting exploration. PacifiCorp is submitting this Notice to the Division in September of 2004, allowing the Division and other agencies time to review and approve the Notice before exploration activities begin on October 4, 2004.
- 220. Required Applicant Information.** This Notice of Intention to Conduct Hydrologic Investigation is required to include the following pertinent information.

221. Name, Address, and Telephone Number of Applicant:

APPLICANT:

PacifiCorp
One Utah Center
201 South Main, Suite 2100
Salt Lake City, Utah 84140-0021
(801)220-4612

OPERATOR:

Energy West Mining Company
15 North Main Street
Huntington, Utah 84528
(801)687-9821

222. Name, Address, and Telephone Number of the Applicant's Representatives:

RESPONSIBLE REPRESENTATIVE:

Chuck Semborski or Ken Fleck
Energy West Mining Company
15 North Main Street
P.O. Box 301
Huntington, Utah 84528
(435)687-4720
(435)687-6638

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

223. Description of Exploration Area. Narrative and map describing the hydrologic investigation area and indicating where drilling will occur:

PROPOSED HYDROLOGIC INVESTIGATION AREA:

The proposed hydrologic test holes are located within the current Federal Coal Lease U06039, in Section 29, Township 17 South, Range 7 East, Salt Lake Base and Meridian. The drilling will occur on lands in which the surface is administered by the U.S.D.A. Forest Service (USFS) and the subsurface by the Bureau of Land Management (see accompanying maps entitled Rilda Canyon Hydrologic Investigation Maps; General Location, Test Hole Location, Geology, Cross Section Location and Aerial Photo).

The proposed holes will be drilled in the Right Fork of Rilda Canyon, tributary to Huntington Canyon in Emery County, Utah. Access to this location will be from Emery County Road #306.

Table 1. Rilda Canyon Hydrologic Investigation Proposed Drilling for 2004:

HOLE NUMBER	LOCATION	ELEVATION (Feet)	ESTIMATED DEPTH ¹ (ft)	SURFACE OWNERSHIP	SUBSURFACE OWNERSHIP
Test Hole #1	Along Main Access Road	7727'	65'	USFS	Federal Coal Lease U-06039
Test Hole #2	Intersection of Main Access Road and Creek Crossing Road	7719'	50'	USFS	Federal Coal Lease U-06039
Test Hole #3	Along Creek Crossing Road: South Side	7717'	65'	USFS	Federal Coal Lease U-06039
Test Hole #4	Along Creek Crossing Road: North Side	7716'	65'	USFS	Federal Coal Lease U-06039
Test Hole #5	Along Creek Crossing Road: North Side	7715'	45'	USFS	Federal Coal Lease U-06039
Test Hole #6	Along Main Access Road	7719'	45'	USFS	Federal Coal Lease U-06039
Test Hole #7	Along Main Access Road	7722'	55'	USFS	Federal Coal Lease U-06039

¹ Estimated depth based on results previous drilling and seismic testing results (2004 Seismic testing included as attachment).

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

224. Period of Intended Exploration:

PROJECT STARTUP DATE: October 4, 2004

PROJECT COMPLETION DATE: October 11, 2004

It is anticipated that all drilling and reclamation activities associated with this project will be completed within 7 days following the date of implementation.

225. Method of Exploration. Method of exploration to be used, and practices to be used to protect the area from adverse impacts and reclaim the area in accordance with R645-202:

The method of hydrologic investigation to be used is a truck mounted augur drill rig. Two existing, partially reclaimed roads intersect Emery County Road #306 near the Right Fork stream crossing. These roads existed to access resources of the Right Fork of Rilda Canyon, including; coal prospecting and exploration, timber harvesting and livestock grazing. In cooperation with the Forest Service, PacifiCorp reclaimed a portion of the main road and converted it to a trail system in 1997. All drills, drilling equipment, and personnel related to the proposed hydrologic investigation will be restricted to reclaimed roads and existing trails.

Pre-Work Meeting:

A pre-work meeting including the responsible company representatives, contractors, Division of Oil, Gas and Mining, and the Forest Service will be conducted at the project location prior to commencement of operations.

Drill Methods & Procedures: PacifiCorp proposes to drill a total of seven shallow augur holes to fully penetrate the alluvial deposits. Each augur hole will be drilled to bedrock, with split spoon samples collected on 5-foot intervals. Drill cuttings will be logged by a State of Utah Registered Professional Geologist. Each hole will be completed by installing 2-inch diameter PVC casing, screened in the lower 10 feet. A filter pack will be placed in the annular space adjacent to the screens through the saturated zone, with a bentonite seal placed above the filter pack to the surface. The test holes will be developed to remove smear zones that may have resulted from drilling. The drilling will be done by a drilling contractor experienced in augur drilling techniques. The drills to be used are truck

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

mounted diesel powered augur drill rigs mounted on 2 ton truck, or comparable.

The following support equipment will be required:

- 2 pickup trucks: stationed along Emery County Road #306
- 1 rubber tire backhoe
- 1 ATV vehicle to deliver supplies to the individual sites

Initialization of the project will include moving two boulders positioned near the intersection main access road and Emery County Road #306 (refer to Photo #1). The drill rig components and associated materials, tools and equipment will be transported by truck to the areas indicated on the accompanying map (refer Map 2). No site preparation will be necessary. Minor digging, using hand tools, may be necessary at some locations to achieve effective placement of the leveling support materials (wood blocks, etc.). A impervious barrier will be placed on the ground beneath the entire drill rig.

Following test hole completion, water levels in the wells will be allowed to stabilize and the depth of water determined. Slug tests will be performed in each well to provide hydraulic conductivity of the alluvial aquifer at each location. Well locations and elevations will be surveyed to allow the stratigraphic and water level data to be interpreted. PacifiCorp proposes to allow the test wells to remain in-place throughout the high flow period of Rilda Creek in 2005. After recording the reaction of the test wells to the high flow conditions, PacifiCorp will remove the PVC casing and fill the remaining portion of the hole with sand. The data collected from this evaluation should be sufficient to allow decisions to be made regarding potential construction methods and yields of spring collection system in the test area.

Drill Hole Access:

No access road or pad construction will be necessary for the proposed project. Drilling equipment and materials will be transported to the drill site by a truck mounted augur rig. Personnel will access the site by vehicle via existing roads and on foot. The drill sites are relatively level; therefore, no site preparation will be necessary. Vegetation, in the form of grass and forbs, limited in nature, will not be removed (refer to Photo Section). An area no larger than approximately 40' by 20' will be occupied at each drill site. Leveling of drilling equipment will be accomplished

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

using hand tools and temporary supports (wood blocks, etc.) transported to the site. All materials, tools and equipment will be removed immediately upon completion of drilling and reclamation activities.

Practices to Protect from Adverse Impacts and to Reclaim the Area:

During augur drilling, water will be recirculated to the extent possible. Any returned cuttings and other materials will be captured in a container at the drill site. The cuttings will be transported from the drill site to the Deer Creek Waste Rock Site for disposal. Containment of possible fluid spills will be achieved through the use of an impervious barrier cover, silt fence, and if necessary, earthen berms. If a spill occurs, all affected materials will be removed from the site and disposed of at an approved location. If soil is removed during spill containment and clean-up, the site of removal will be recontoured and seeded with the approved seed mixture.

Fuel and/or lubricating oil containers not stored in a truck will be placed on brattice or other acceptable ground cover at a site located away from drainage channels and surrounded by brattice, earthen berm or other acceptable containment structure. If spills occur, clean-up will be conducted as stated above.

Access by personnel associated with the drilling project will be via vehicle or by foot to the drill site. Therefore, no additional access facilities will be constructed.

Following completion of drilling and completion of the test holes, the drill rig and all associated equipment and materials will be removed. All trash and extraneous materials will be removed from the USFS property and disposed of at an approved location. The sites will be reclaimed by: 1. Removing all trash, cuttings, and contaminated soil. 2. Recontouring site to original contour, and 3. Re-seeding with the approved seed mix, and scattering deadfall over the site.

Fire Suppression Equipment:

All gasoline and diesel powered equipment will be equipped with effective mufflers or spark arresters which meet applicable Forest Service specifications. Fire suppression equipment will be available to all personnel working at the project site. Equipment will include at least one hand tool per crew member consisting of shovels and pulaskis and one properly rated fire extinguisher per vehicle and/or combustion engine.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

R645-202. Compliance Duties.

R645-202-100. Required Documents.

“Each person who conducts exploration will have available a copy of the Notice of Intention to Conduct Hydrologic Investigation...for review by an authorized representative of the Division upon request.”

Road Use Permits:

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

As stated earlier, access will be achieved utilizing Emery County Road #306 from State Highway 31 in Huntington Canyon. Forest Service road use permit will not be required.

Archeological Information:

All proposed activities are along preexisting roads developed in the Right Fork of Rilda Canyon. All hydrologic investigation activities will be restricted to these roads and trails. PacifiCorp recently completed a comprehensive archeological review of Rilda Canyon. This study has been submitted to the Division and the USFS.

R645-202-200. Performance Standards.

- 210. Requirements of the State Program.** All exploration and reclamation operations will be conducted in accordance with the coal exploration requirements of the State Program, and any conditions on approval for exploration and reclamation imposed by the Division.

Pacificorp will comply with all exploration requirements of the State Program, and any conditions on approval of the exploration plan.

- 220. Inspection and Enforcement.** Any person who conducts any exploration in violation of the State Program will be subject to the provisions of 40-10-20 of the Act and the applicable inspection and enforcement provisions of the R645 Rules.

Pacificorp will comply with all exploration requirements of the State Program, and any conditions on approval of the exploration plan. Pacificorp welcomes inspection of its exploration operations at any time during exploration activities.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

230. Operational Standards.

- 231. Non-Disturbance of Habitats.** Habitats of unique or unusually high value for fish, wildlife, and other related environmental values and critical habitats of endangered or threatened species identified pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et. seq.) will not be disturbed during exploration.

As detailed in **R645-201-225**, vegetated resources will not be impacted during the hydrologic investigation. All activities associated with the project will be restricted to the preexisting roads and trails. Prior to mobilizing the drill rig to the individual drill sites, the surface area will be protected with an impervious barrier. Upon completion of the hydrologic testing, all materials related to the project will be removed.

Surveys for Threatened, Endangered and Sensitive (TES) plant and animal species have been conducted in connection with various projects in this area of Rilda Canyon (Surface Facilities, Permit Extension and Powerline) and the Mill Fork coal leasing process. Results of these surveys have been provided to the various regulatory agencies in the applications for the projects. No TES plants and animals have been found in the area of the proposed drill holes.

- 232. Road Construction and Use.** All roads or other transportation facilities used for exploration will comply with the applicable provisions of R645-301-358 through R645-301-762.

Pacificorp will use only existing roads and trails for this project (refer to Maps and Photos). No new roads will be constructed.

- 233. Topsoil Removal and Storage.** Topsoil will be separately removed, stored, and redistributed on areas disturbed by exploration activities only as necessary to assure successful revegetation or as required by the Division.

The method of drilling used by Pacificorp for these holes assures that topsoil is not disturbed as all activities will be restricted to the preexisting roads and trails. Impervious ground cover will be used under the rig to protect the surface; therefore the topsoil is not disturbed.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

- 234. Diversions of Overland Flows.** Diversions of overland flows and ephemeral, perennial, or intermittent streams will be made in accordance with R645-301-742.3.

No disturbance will be made to the stream course. The Right Fork of Rilda Creek is dry as documented in the attached photo (refer to Photo #4).

- 235. Minimizing Disturbance to Hydrologic Balance.** Exploration will be conducted in a manner which minimizes disturbance to the prevailing hydrologic balance in accordance with R645-301-356.300 and R645-301-763. The Division may specify additional measures which will be adopted by any person engaged in coal exploration.

During exploration, surface disturbance will consist only of that which is necessary to level the rig. No drill pad will be constructed, so there will be no additional runoff during precipitation events. No impoundments to contain runoff will be necessary. Overall impact on the hydrologic balance will be negligible, if any.

- 236. Acid- or Toxic Forming Materials.** Acid- or toxic-forming materials will be handled and disposed of in accordance with R645-301-731.110, 731.300, and 553.260.

No Acid- or Toxic earth materials or coal waste will be produced, used, or handled during this drilling program.

- 240. Reclamation Standards.**

- 241. Excavations.** No excavations will be necessary for the proposed project, all activities will be restricted to the preexisting road and trails.

- 242. Re-Vegetation.** All areas disturbed by exploration activities will be revegetated in a manner that encourages prompt revegetation and recovery of a diverse, effective, and permanent vegetative cover. Revegetation will be accomplished in accordance with the following:

- 242.1 Re-Seeding.** All areas disturbed by exploration activities will be seeded or planted to the same seasonal variety native to the areas disturbed. If the land use of the

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

exploration area is intensive agriculture, planting of the crops normally grown will meet the requirements of R645-202-242.100.

All drilling areas will be promptly re-seeded upon completion of each hole. The following is the seed mix specified from previous years' approved drilling permits, and will be used unless changes are indicated by the agencies.

<u>Species</u>	<u>lbs/acre (PLS)</u>
Basic Mix	
Columbia needle grass - <i>Stipa columbiana</i>	4.5
Slender wheatgrass - <i>Elymus trachycaulus</i>	4.5
Sandbergs bluegrass - <i>Poa secunda</i>	0.75
Pacific aster - <i>Aster chilensis</i>	0.2
Supplement*	
Sulfur flower - <i>Eriogonun umbellatum</i>	2.0
Rocky Mountain penstemon - <i>Penstemon strictus</i>	0.75

* Seed should be purchased in individual seed packets, not as mixture.

The seed mixture will be hand broadcast and the area will be hand raked to cover the seed. Following seeding, any dead-fall that was removed from the drill site will be replaced.

242.2 Soil Surface Stability. The vegetative cover will be capable of stabilizing the soil surface from erosion.

Since the soil and vegetative cover will not be removed, and the vegetation will spring back up as soon as the drilling equipment is removed, this requirement will be met.

No crops are raised in the project area. Crop replacement will not be necessary.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

- 243. Reclamation of Boreholes.** Each exploration hole, borehole, well, or other exposed opening created during exploration will be reclaimed in accordance with R645-301-529, R645-301-551, R645-301-631, R645-301-738, and R645-301-765.

No mine openings or exploration openings will be created, therefore, R645-301-529 and R645-301-551 do not apply in this case. As described in R645-301-225, a series of shallow augur holes will be utilized to document the hydrologic characteristics of the alluvium in the Right Fork of Rilda Canyon. Each of these holes will be developed as a water monitoring well as detailed in R645-301-225. Any variance from this procedure will be approved in advance by DOGM.

- 244. Removal of Equipment.** All facilities and equipment will be promptly removed from the exploration area when they are no longer needed for exploration, except for those facilities and equipment that the Division determines may remain to:

- 244.1 Provide additional environmental data;
- 244.2 Reduce or control the on-site and off-site effects of the exploration activities;
- 244.3 Facilitate future coal mining and reclamation operations by the person conducting the exploration.

When each drill rig setup is no longer needed for the project, the complete assemblage of equipment will be removed immediately from the area to facilitate reclamation work and free this equipment for use elsewhere by the contractor.

Pacificorp does not anticipate needing this equipment for any further use in the exploration area. As discussed in R645-301-225, PacifiCorp proposes to allow the test wells to remain in-place throughout the high flow period of Rilda Creek in 2005. After recording the reaction of the test wells to the high flow conditions, PacifiCorp will remove the PVC casing and fill the remaining portion of the hole with sand.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

**R645-203. Exploration: Public Availability of Information.
R645-203-100. Public Records.**

Except as provided in R645-203-200, all information submitted to the Division under R645-200 will be made available for public inspection and copying at the Division.

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

PHOTOS

September 2004

PacifiCorp

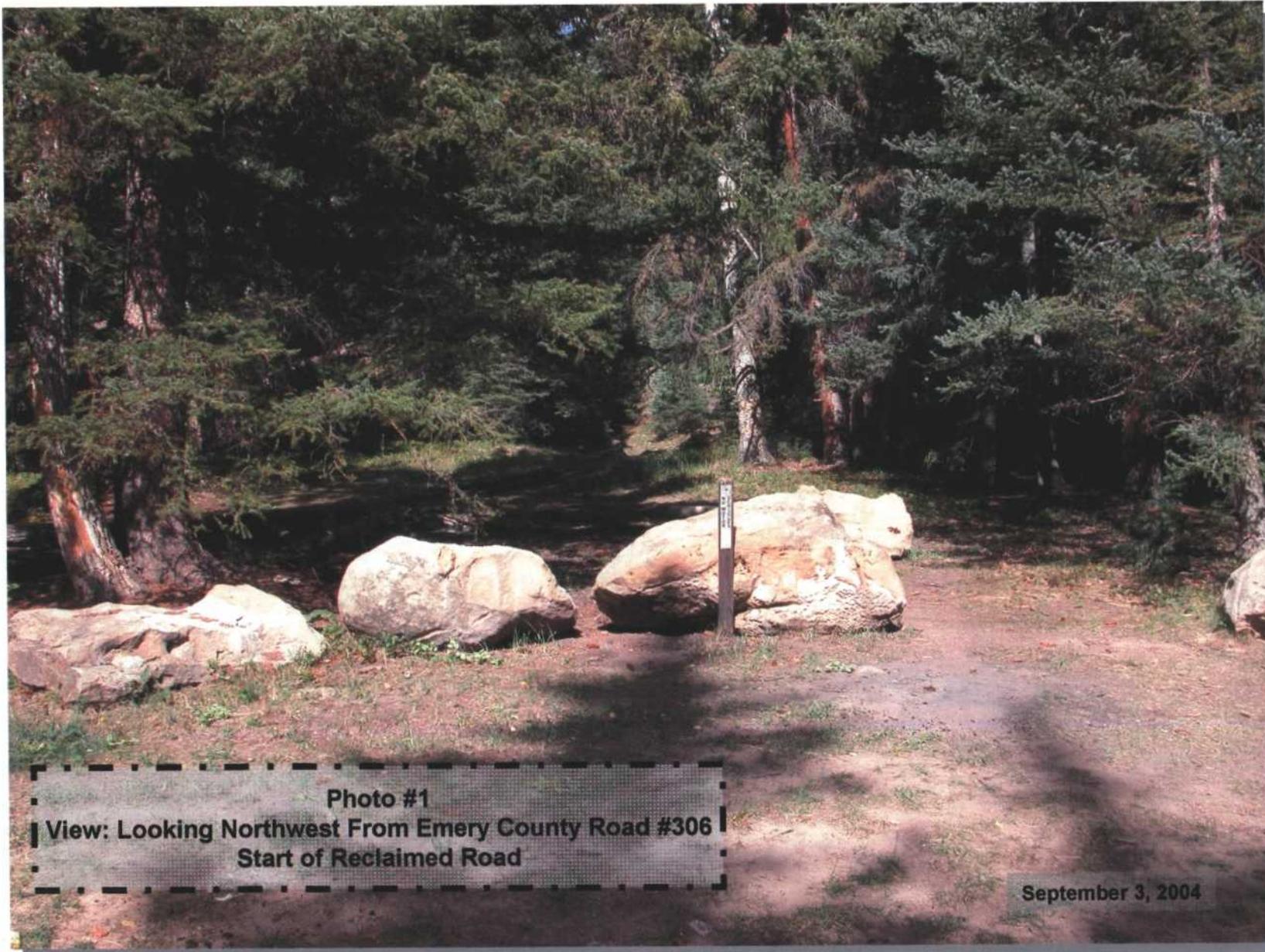


Photo #1
View: Looking Northwest From Emery County Road #306
Start of Reclaimed Road

September 3, 2004

Right Fork of Rilda Canyon
Reclaimed Road
(Reclaimed by PacifiCorp 1997)

Location of Proposed
Test Holes

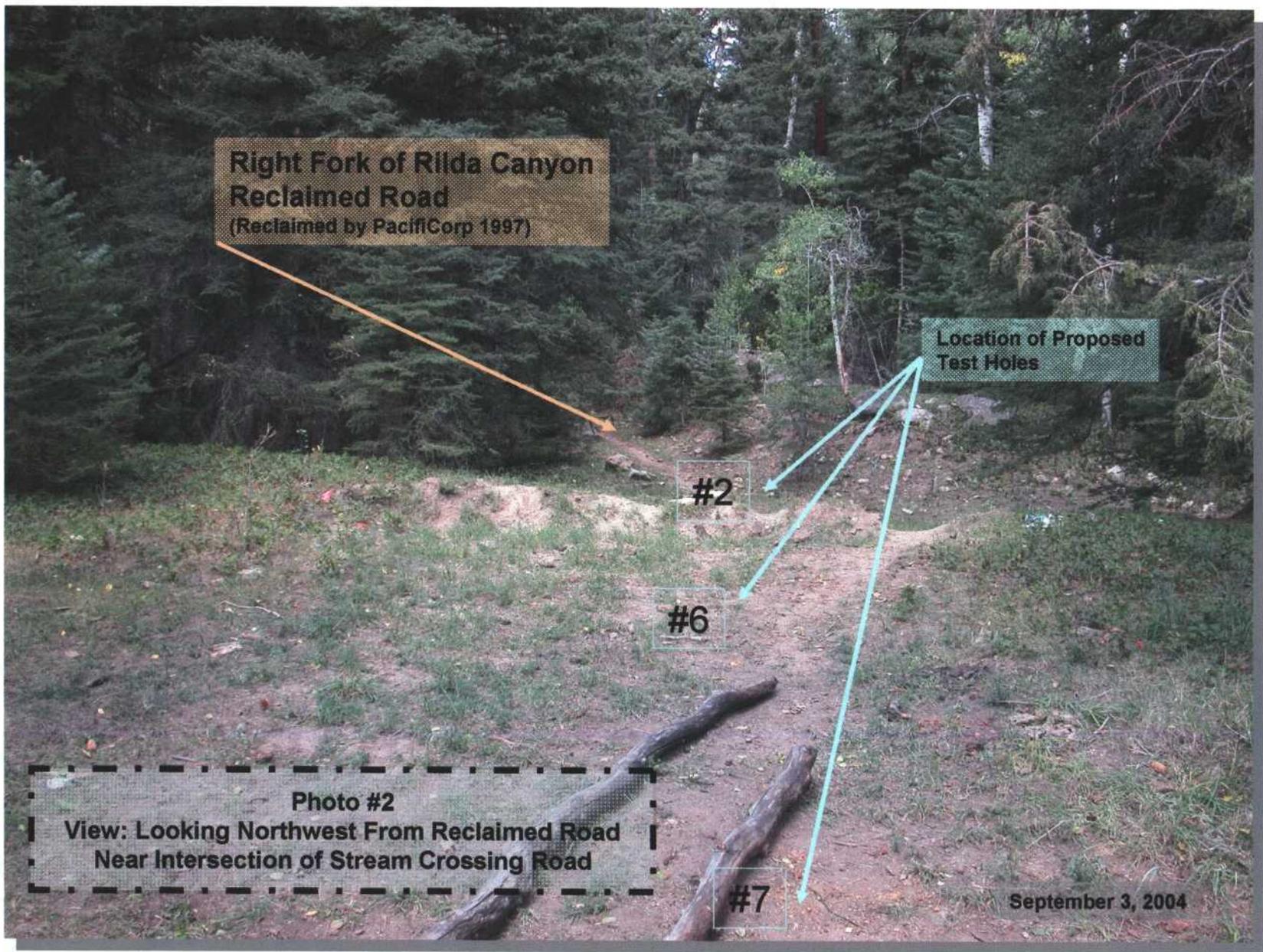
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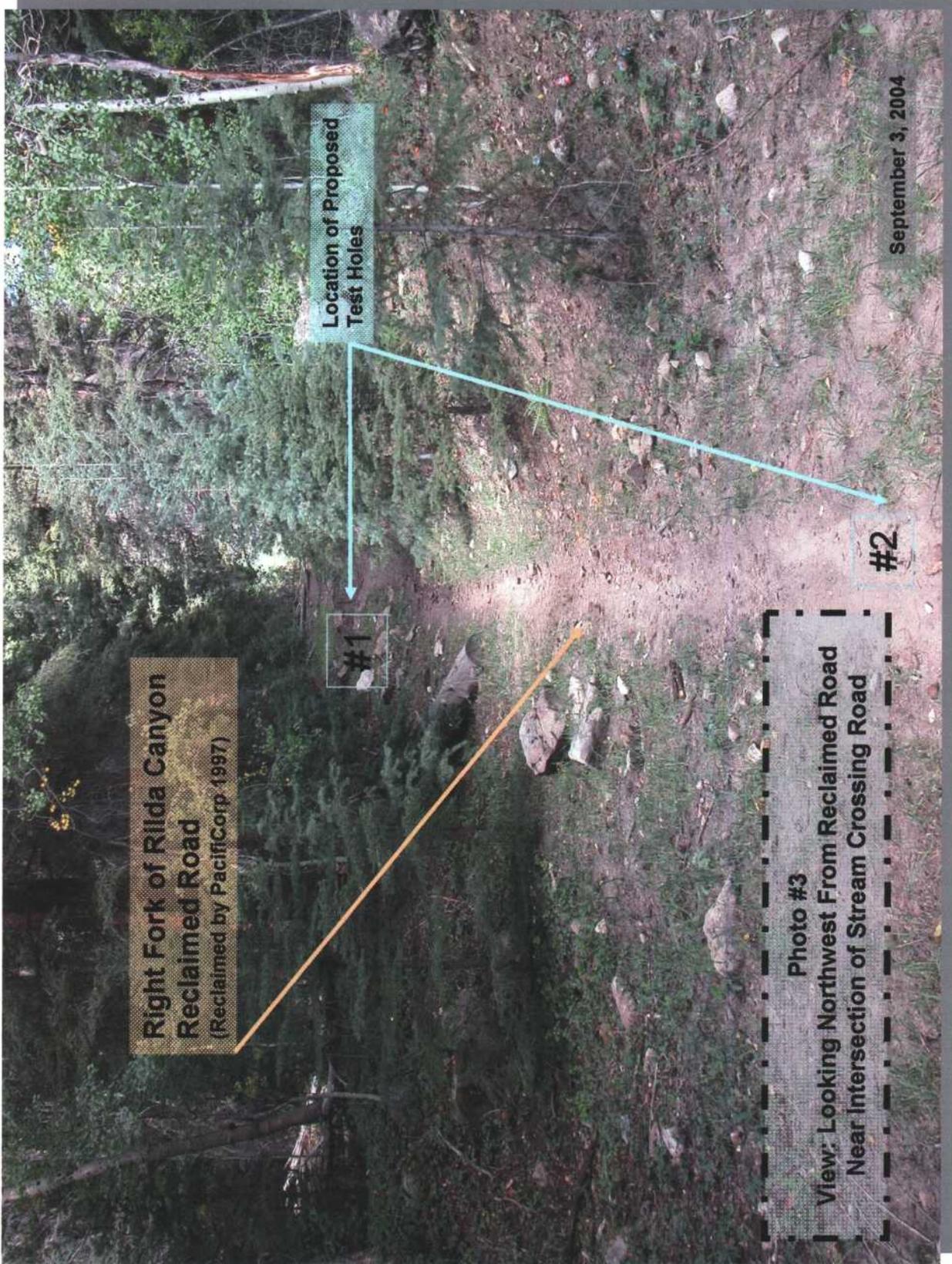
#6

#7

Photo #2
View: Looking Northwest From Reclaimed Road
Near Intersection of Stream Crossing Road

September 3, 2004





**Right Fork of Rilda Canyon
Reclaimed Road**
(Reclaimed by PacifiCorp 1997)

**Location of Proposed
Test Holes**

#1

#2

September 3, 2004

Photo #3
**View: Looking Northwest From Reclaimed Road
Near Intersection of Stream Crossing Road**



Star Point Sandstone Outcrop

Location of Proposed Test Holes

#5

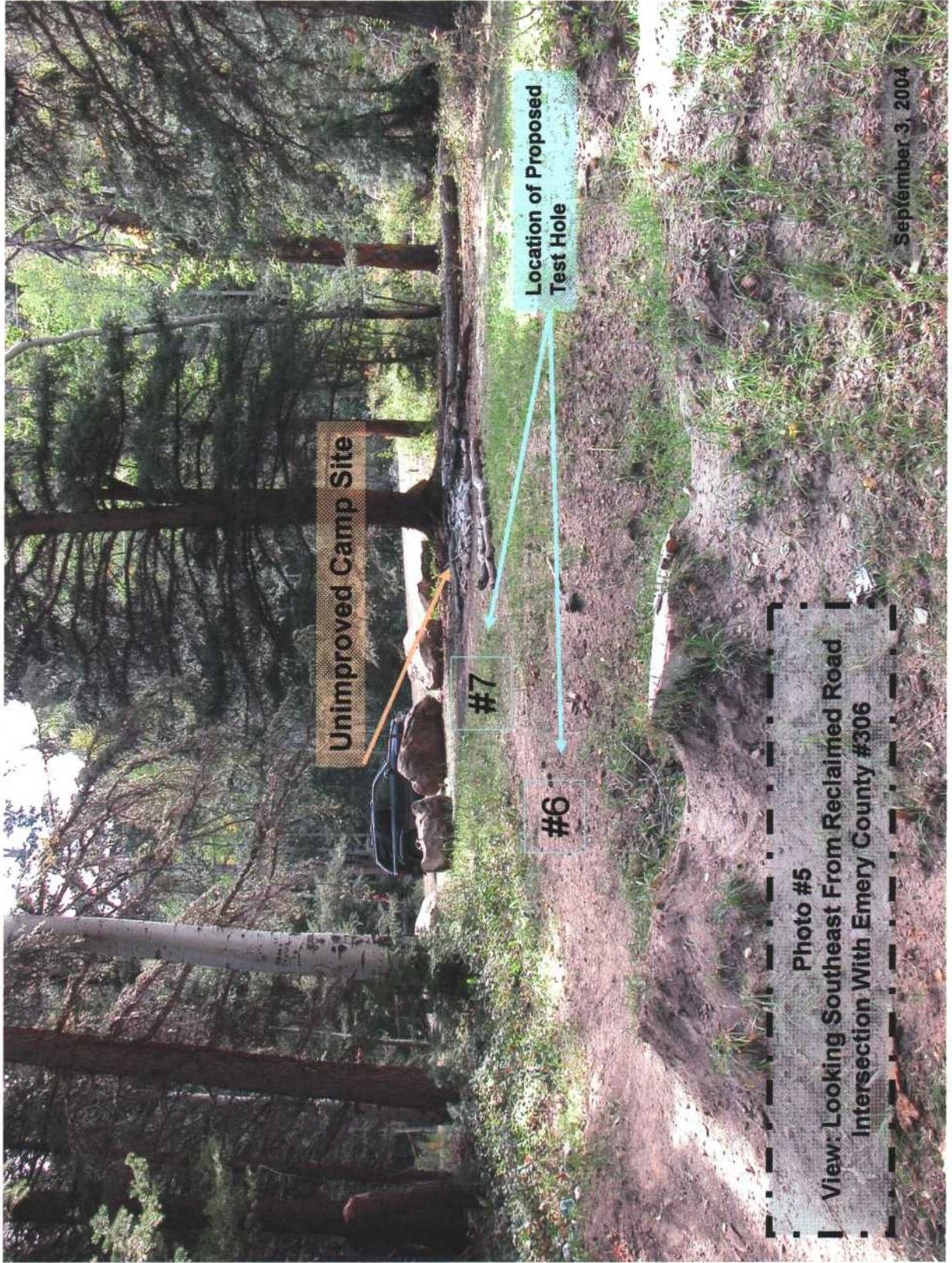
#4

#3

Right Fork of Rilda

Photo #4
View: Looking East From Reclaimed Road
Stream Crossing Road - Creek Dry

September 3, 2004



Unimproved Camp Site

#7

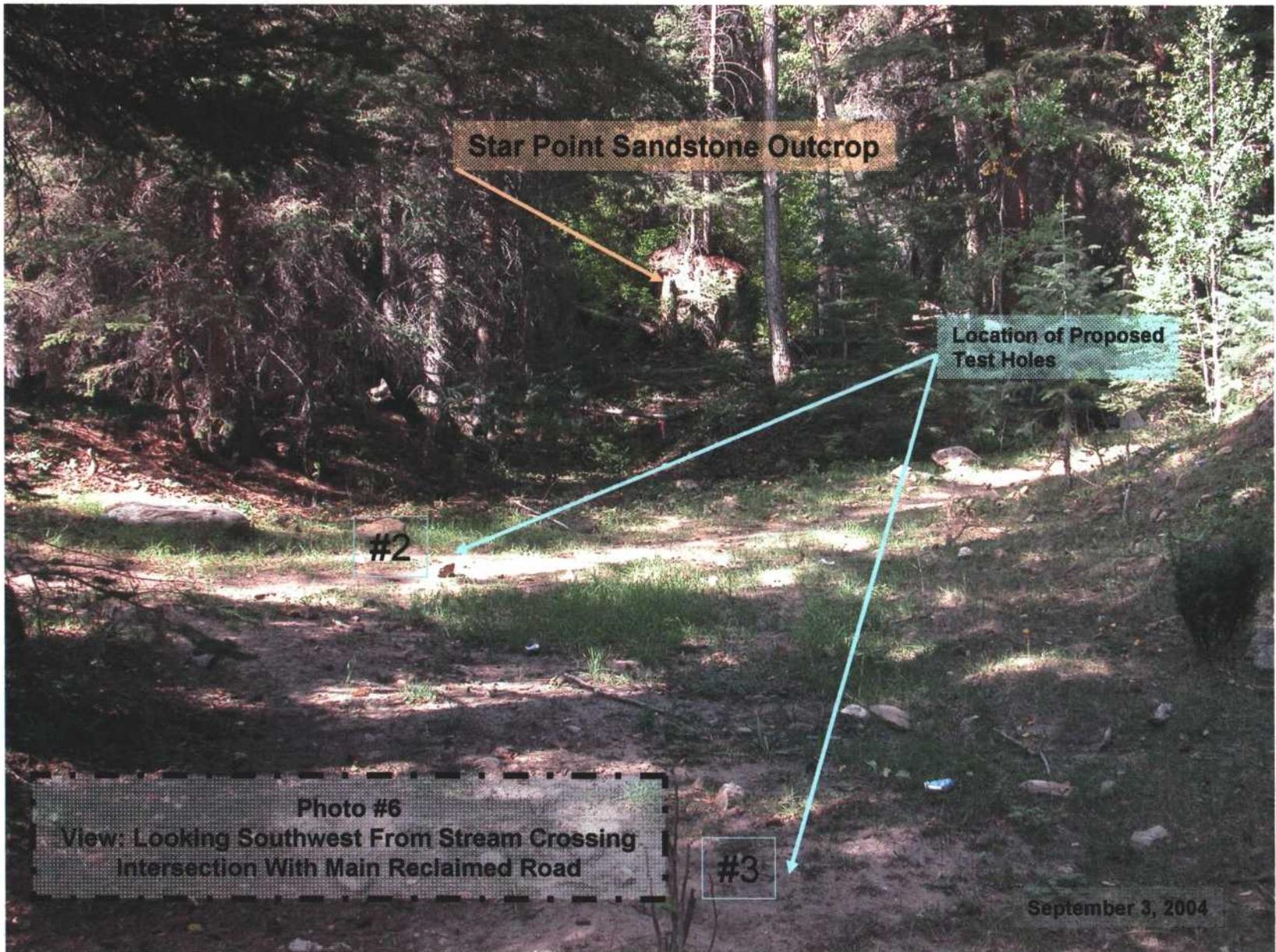
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Location of Proposed Test Hole

Photo #5

View: Looking Southeast From Reclaimed Road Intersection With Emery County #306

September 3, 2004



Star Point Sandstone Outcrop

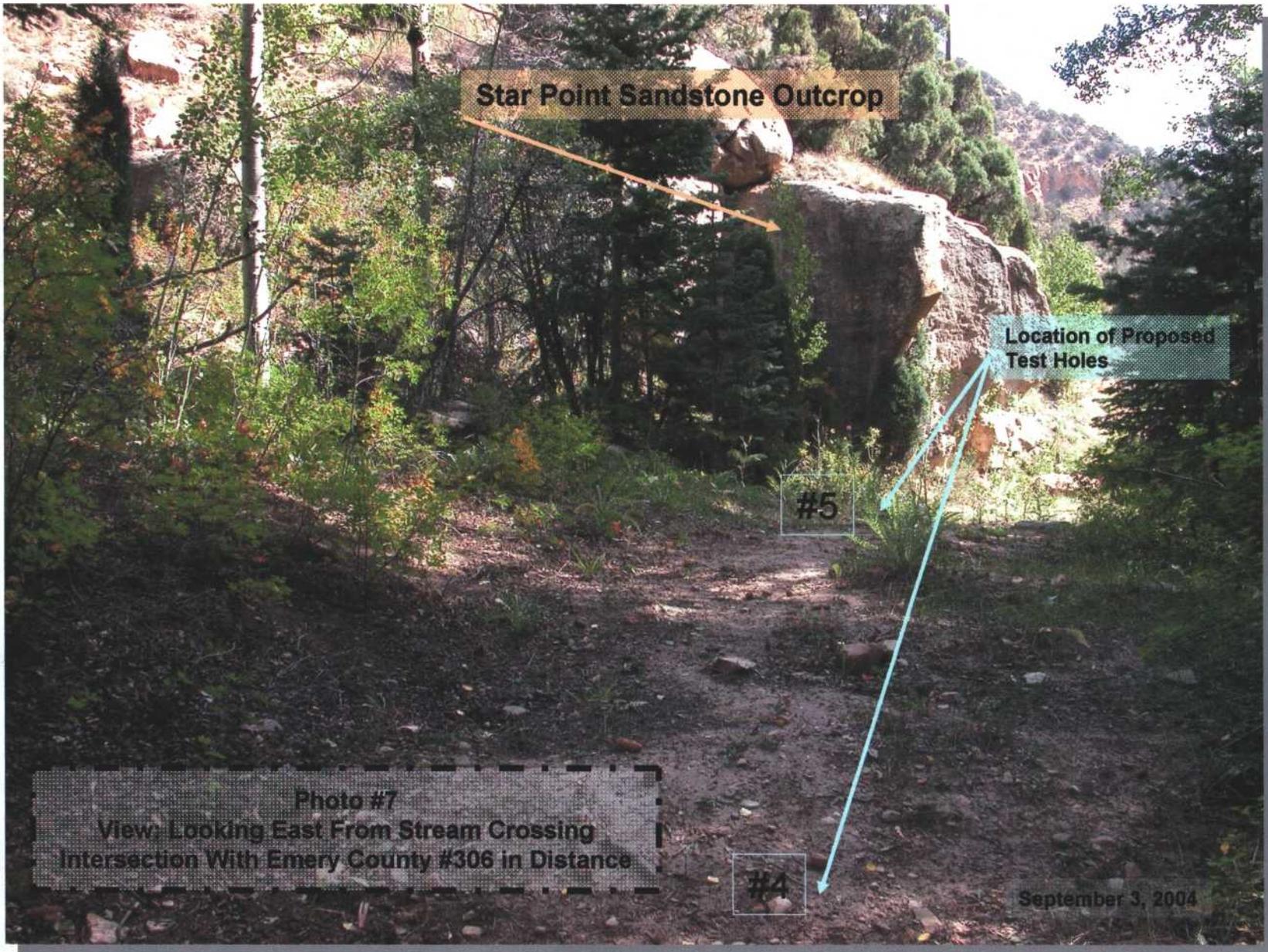
Location of Proposed Test Holes

#2

#3

Photo #6
View: Looking Southwest From Stream Crossing
Intersection With Main Reclaimed Road

September 3, 2004



Star Point Sandstone Outcrop

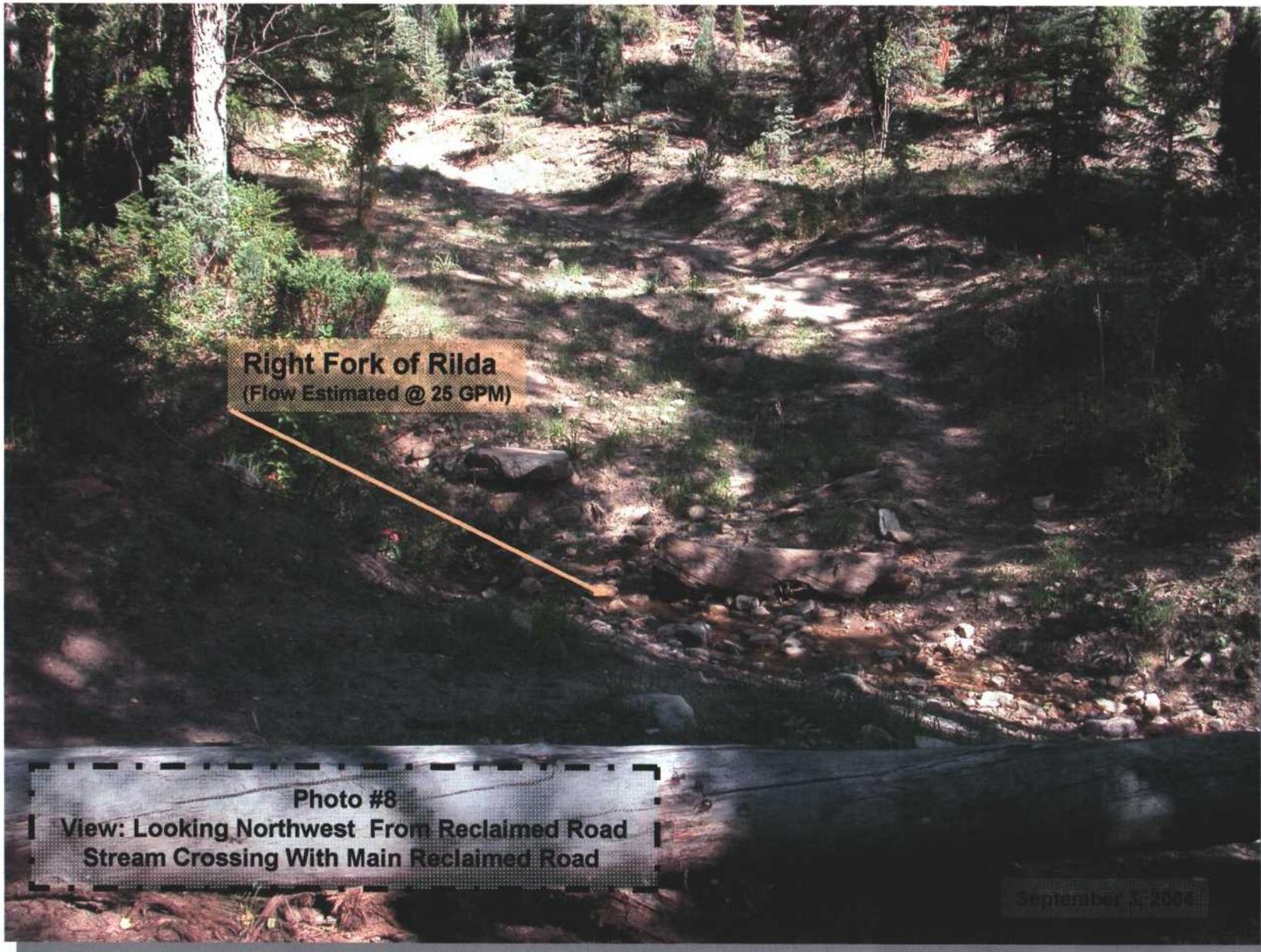
Location of Proposed Test Holes

#5

#4

Photo #7
View: Looking East From Stream Crossing
Intersection With Emery County #306 in Distance

September 3, 2004



Right Fork of Rilda
(Flow Estimated @ 25 GPM)

Photo #8
View: Looking Northwest From Reclaimed Road
Stream Crossing With Main Reclaimed Road

September 3, 2006



**Right Fork of Rilda Canyon
Reclaimed Road**
(Reclaimed by PacifiCorp 1997)

**Location of Proposed
Test Hole**

#1

Photo #9
View: Looking Southeast From Reclaimed Road
Intersection With Emery County Road #306 in Distance

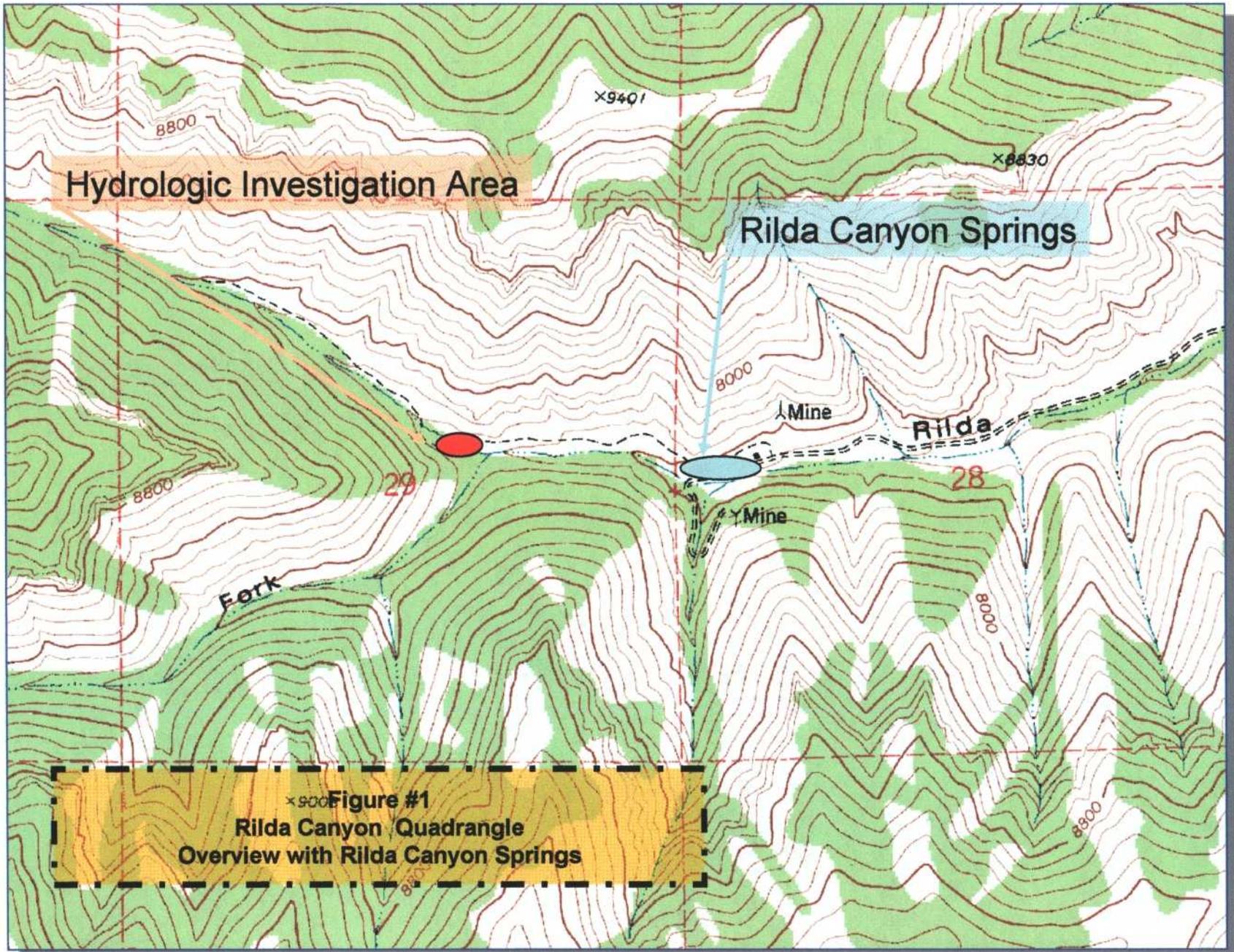
September 3, 2004

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

FIGURES

September 2004

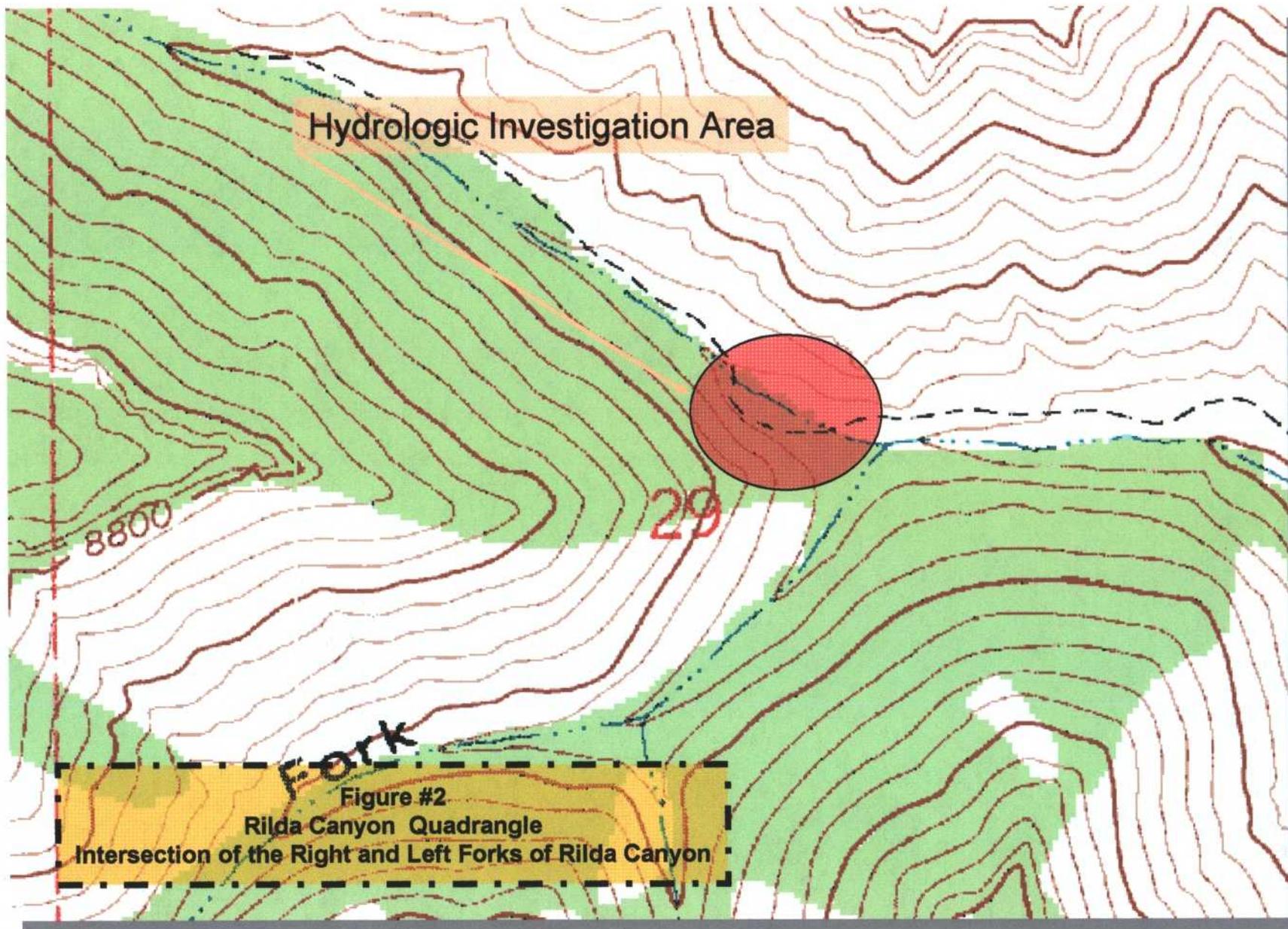
PacifiCorp



Hydrologic Investigation Area

Rilda Canyon Springs

Figure #1
Rilda Canyon Quadrangle
Overview with Rilda Canyon Springs



Hydrologic Investigation Area

8800

29

Fork

Figure #2
Rilda Canyon Quadrangle
Intersection of the Right and Left Forks of Rilda Canyon

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

ATTACHMENTS

September 2004

PacifiCorp

RESULTS OF SEISMIC REFRACTION INVESTIGATIONS
AT THE PROPOSED DEER CREEK/RILDA CANYON
SURFACE FACILITIES, EMERY COUNTY, UTAH
SECOND SURVEY

Prepared For: AMEC Earth & Environmental
Salt Lake City, Utah

Prepared By: LGS Geophysics, Inc.
Salt Lake City, Utah

July 2004

Introduction

This report presents the results of seismic refraction investigations conducted at three sites for proposed Deer Creek Mine/ Rilda Canyon surface facilities and a fourth site, located at a spring collection study area. The purpose of the investigations was to determine the approximate depths to bedrock at sites selected by the client. A site map was provided to us by the client which presented the proposed structure footprints, site topography and areas of previous mine reclamation.

Site Description

The site is located within two and one-half miles from the mouth of Rilda Canyon, Emery County, Utah. The seismic lines at the surface facility sites were located on the north wall of the canyon. The site at the spring collection study area was located at the mouth of a small drainage. Bedrock outcrops in the immediate area of each of the lines consisted of near vertical 10 to 20 ft. high cliffs of massive, buff to white sandstone with horizontal bedding. The seismic lines were located on colluvium (slope wash), with the exception of Seismic Line 1 which was located on stream alluvium.

Field Investigations

Field investigations were conducted in July 2004, and consisted of completing four seismic refraction survey lines at the areas shown on Figure 1 of this report. Both ends of each line were staked with a flagged lath on completion of the line to facilitate subsequent surveying of their locations. Each seismic line consisted of 12 geophones, spaced at 15 foot intervals in a straight line on the ground surface. Near end shot points for the seismic lines were 10 ft. from the nearest geophone. Each seismic line was reversed, that is, data for each line was obtained at both ends of each line. Four to six shot points were used at each of the lines to obtain redundancy of the data. These included extended shot points located up to 50 ft. beyond the lower end of each line. Very steep topography precluded extended shot points beyond the upper ends of the lines. Approximate relative elevations were obtained between all shot points and geophone stations by hand level to establish a datum for the subsequent seismic data reduction. The geophones were placed in small diameter holes beneath the generally loose surface soil and/or root zone in order to obtain solid coupling of the phone with the more firm, underlying soil.

The seismic data was digitized and saved on magnetic media in the field for subsequent processing in the office.

Equipment Used

A Geometrics S-12, 12 channel, signal enhancement seismograph, with an onboard computer and

8.5 Hz geophones, were used in the data collection. The signal enhancement feature enabled the use of a 16 lb. sledge hammer, striking a steel plate on the ground surface, as the energy source.

Office Procedures

Data reduction, analyses and presentations were computer assisted. Delay times and an iterative ray tracing procedure were used in determining the depths to the subsurface layering and the bedrock topography. The depths thus computed were verified by a second analytical procedure which was based on both the critical distance and the seismic velocities obtained from the time-distance plots of the seismic field data.

The data was then presented as computer printed cross sections of the subsurface immediately beneath each seismic line, showing the ground surface, contacts between the layers encountered and the bedrock topography, together with their respective, approximate elevations.

Results

Survey results are presented on Figures 2 and 3 as interpreted cross sections of the subsurface beneath each seismic line, with the reference elevations and approximate depths of the layers shown and are self-explanatory. The density of a material is an important factor in determining the seismic velocity of that material. Overburden velocities in the range of those encountered (i.e., 1500 to 1700 ft/sec) indicate generally loose to medium dense material (for predominantly granular soils).

Seismic velocities of the bedrock were moderate, ranging from 7000 to 8400 ft/sec.

The presence of a water saturated zone was not indicated by the seismic data at the spring collection study area. However, a relatively thin saturated zone, say 5 ft. or so thick over bedrock, would not be detected by the seismic method under these specific site conditions.

Several conditions occur at the sites investigated that present difficulties in analysis and interpretation. These consist of 1) apparently abrupt, steep dropoffs in the underlying bedrock surface and , 2) locally steeply dipping bedrock surface. Item 1) is difficult to model accurately since the geometry of the seismic waves used in the refraction seismic method tends to have a smoothing effect on such features. Item 2) was difficult to model due a combination of Item 1) and to topographical limitations (very steep upper slopes on the upper ends and creek bottom on the lower ends) which limited the extent of extended shot points, required to more fully map the steeply dipping bedrock surface at the lower end of the lines. These limitations were recognized in our interpretations as presented on

Figures 2 and 3 and therefore we regard the interpretations as reasonably accurate depictions of the subsurface at the sites. However, for sites where the depth to bedrock is critical, we recommend that seismic line(s) located parallel to the ground surface slope be completed to confirm our interpretations.

Limitations

Contacts between velocity layers are commonly gradational and are thus considered to be approximate. The terms overburden, weathered rock, weathered, fractured rock, bedrock, etc., are inferred, based on their seismic velocities, and are interpretative only.

We appreciate the opportunity to provide this information for you. Please contact us if there are any questions or if you need additional information.

Respectfully
LGS Geophysics Inc.



Lamont Sorenson
President

SITE MAP W/ SEISMIC LINE LOCATIONS

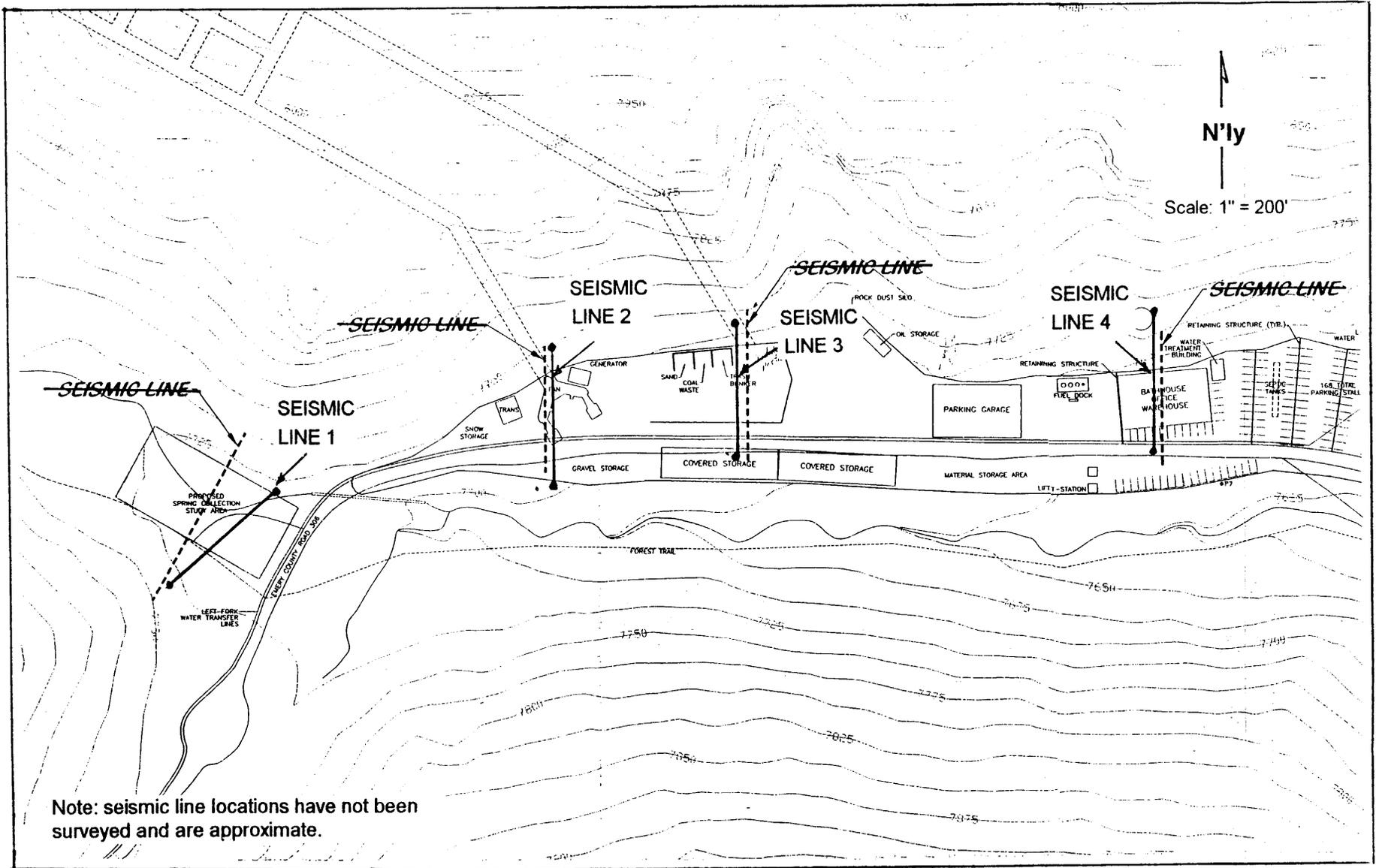
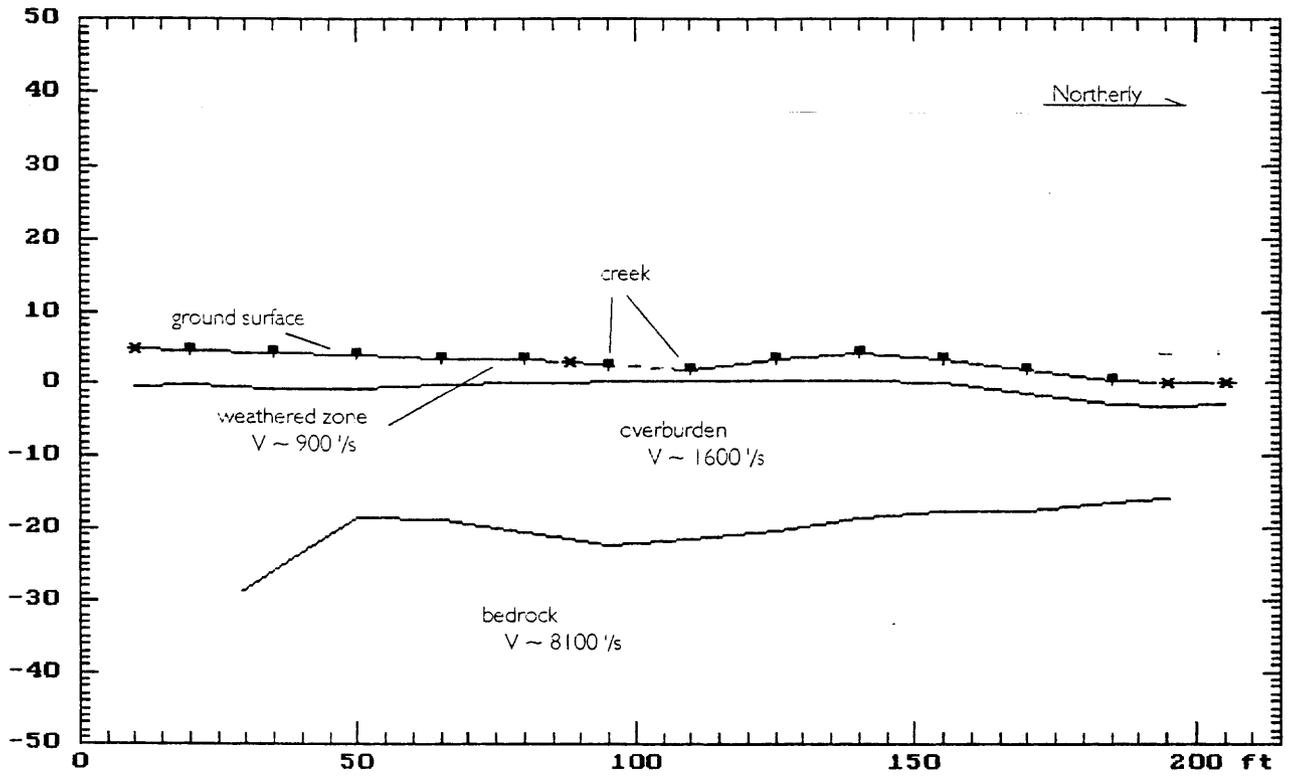
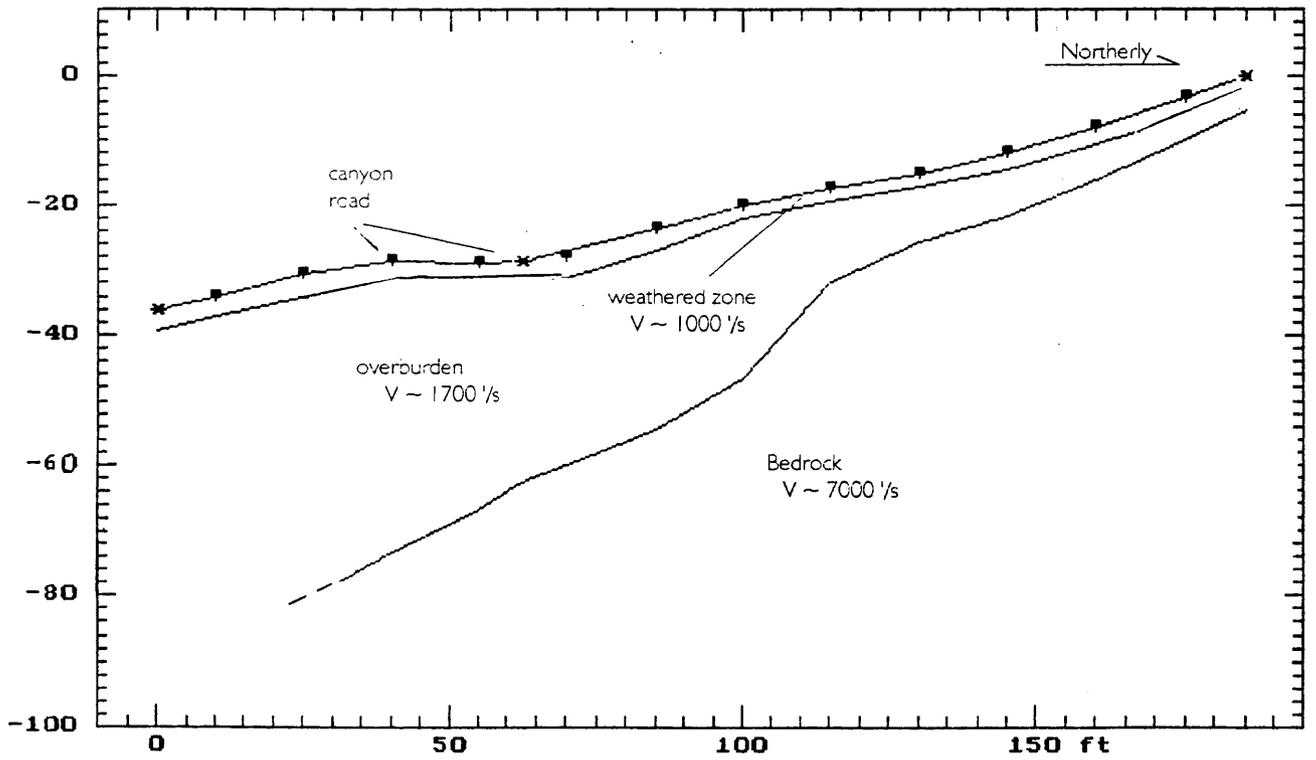


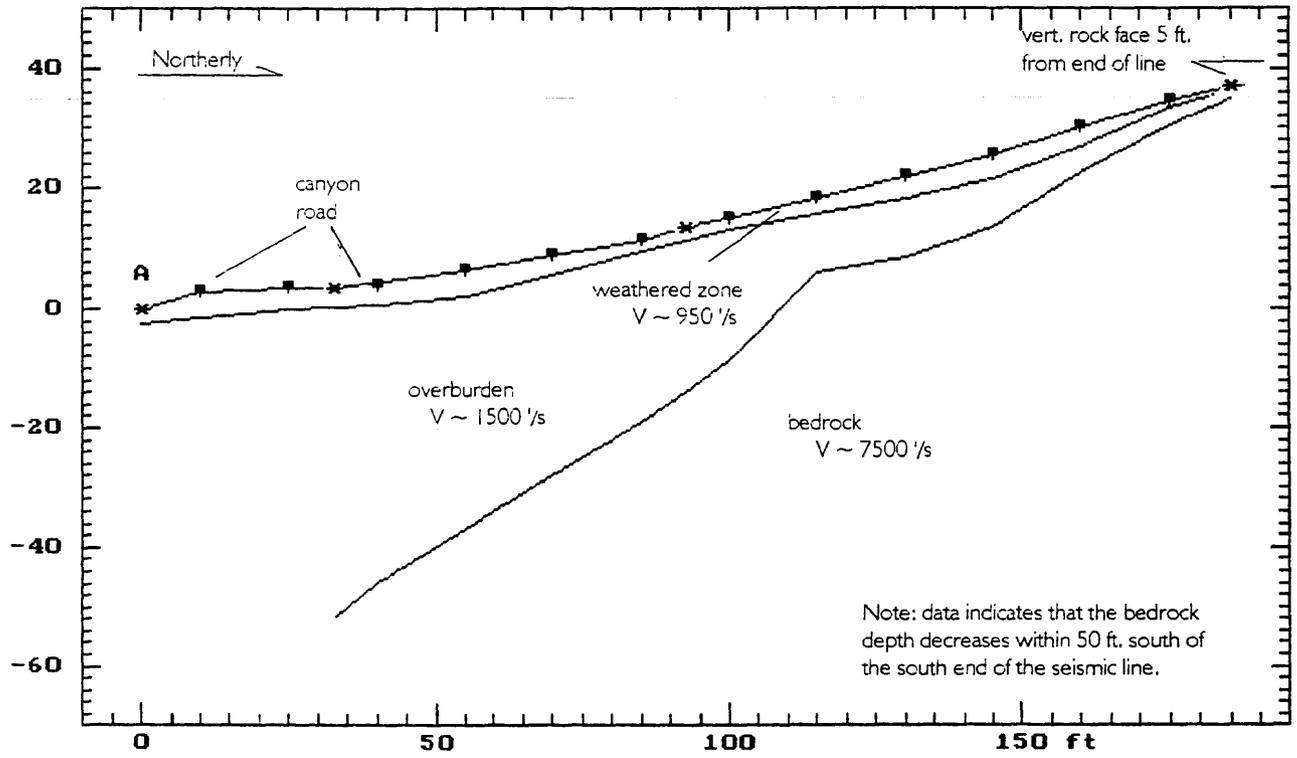
FIGURE 1



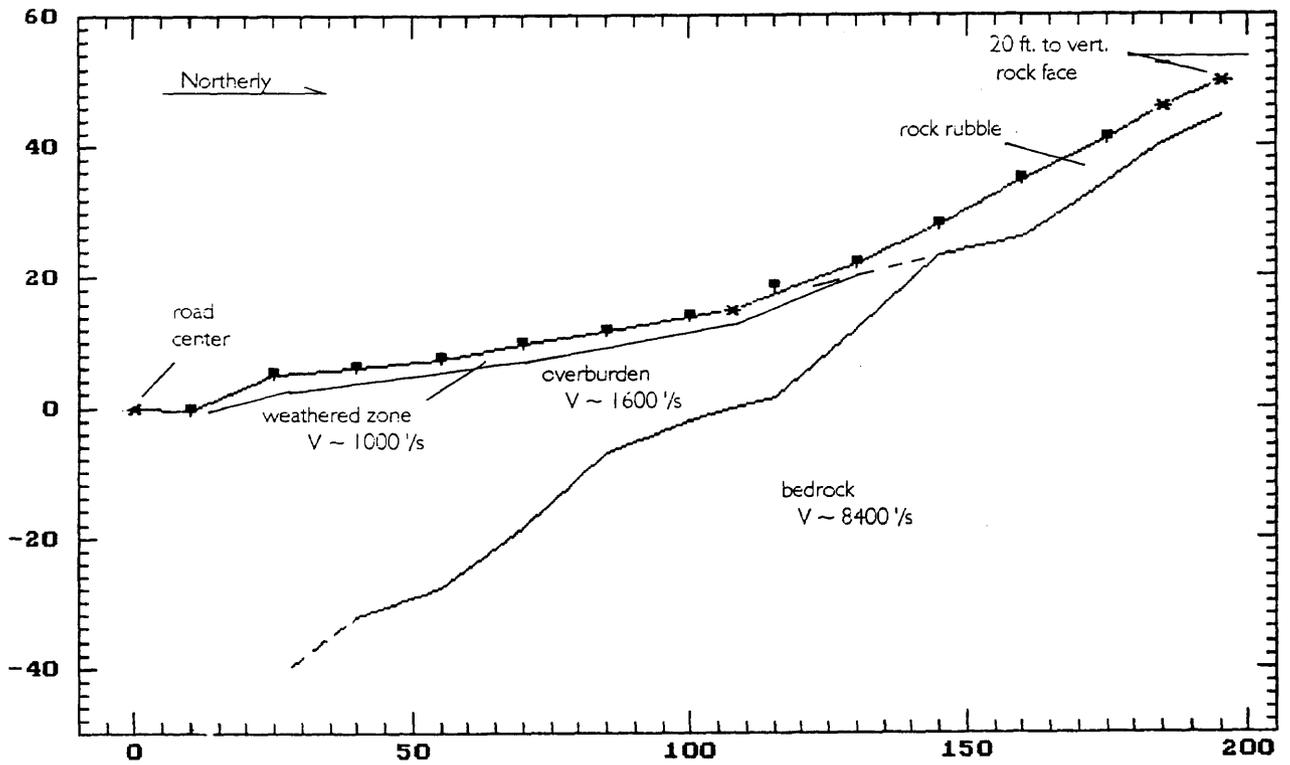
LINE 1 - INTERPRETED SUB-SURFACE CROSS SECTION



LINE 2 - INTERPRETED SUB-SURFACE CROSS SECTION



LINE 3 - INTERPRETED SUB-SURFACE CROSS SECTION



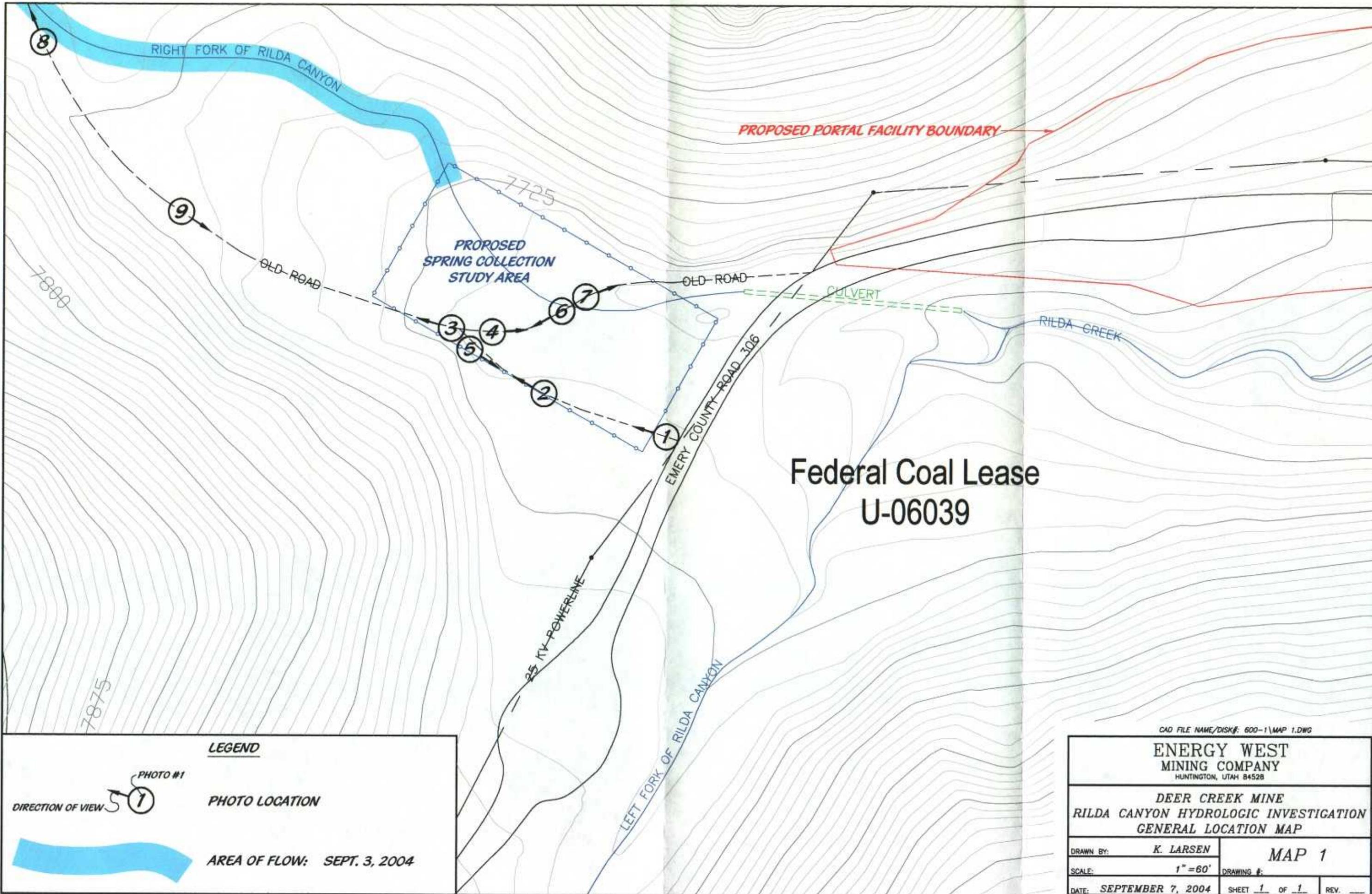
LINE 4 - INTERPRETED SUB-SURFACE CROSS SECTION

**NOTICE OF INTENTION TO CONDUCT
HYDROLOGIC INVESTIGATION
RIGHT FORK OF RILDA CANYON**

MAPS

September 2004

PacifiCorp



LEGEND

PHOTO #1
 PHOTO LOCATION

DIRECTION OF VIEW

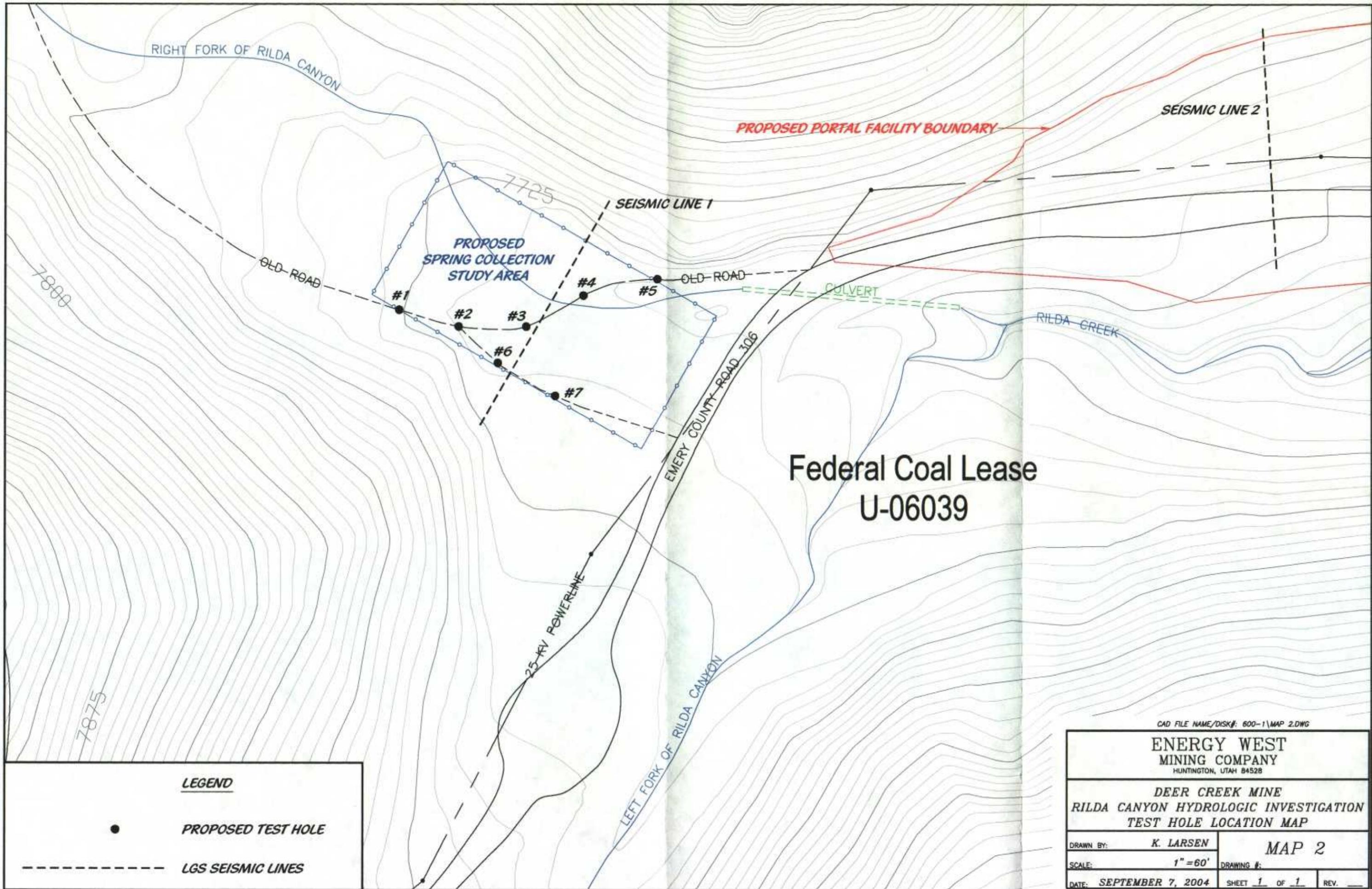

 AREA OF FLOW: SEPT. 3, 2004

CAD FILE NAME/DISK#: 600-1\MAP 1.DWG

**ENERGY WEST
 MINING COMPANY**
 HUNTINGTON, UTAH 84528

**DEER CREEK MINE
 RILDA CANYON HYDROLOGIC INVESTIGATION
 GENERAL LOCATION MAP**

DRAWN BY:	K. LARSEN	MAP 1
SCALE:	1" = 60'	
DATE:	SEPTEMBER 7, 2004	SHEET 1 OF 1 REV. _____



Federal Coal Lease
U-06039

CAD FILE NAME/DISK#: 600-1\MAP 2.DWG

ENERGY WEST
MINING COMPANY
HUNTINGTON, UTAH 84528

DEER CREEK MINE
RILDA CANYON HYDROLOGIC INVESTIGATION
TEST HOLE LOCATION MAP

DRAWN BY: **K. LARSEN**

MAP 2

SCALE: **1" = 60'**

DRAWING #:

DATE: **SEPTEMBER 7, 2004**

SHEET **1** OF **1**

REV. **---**

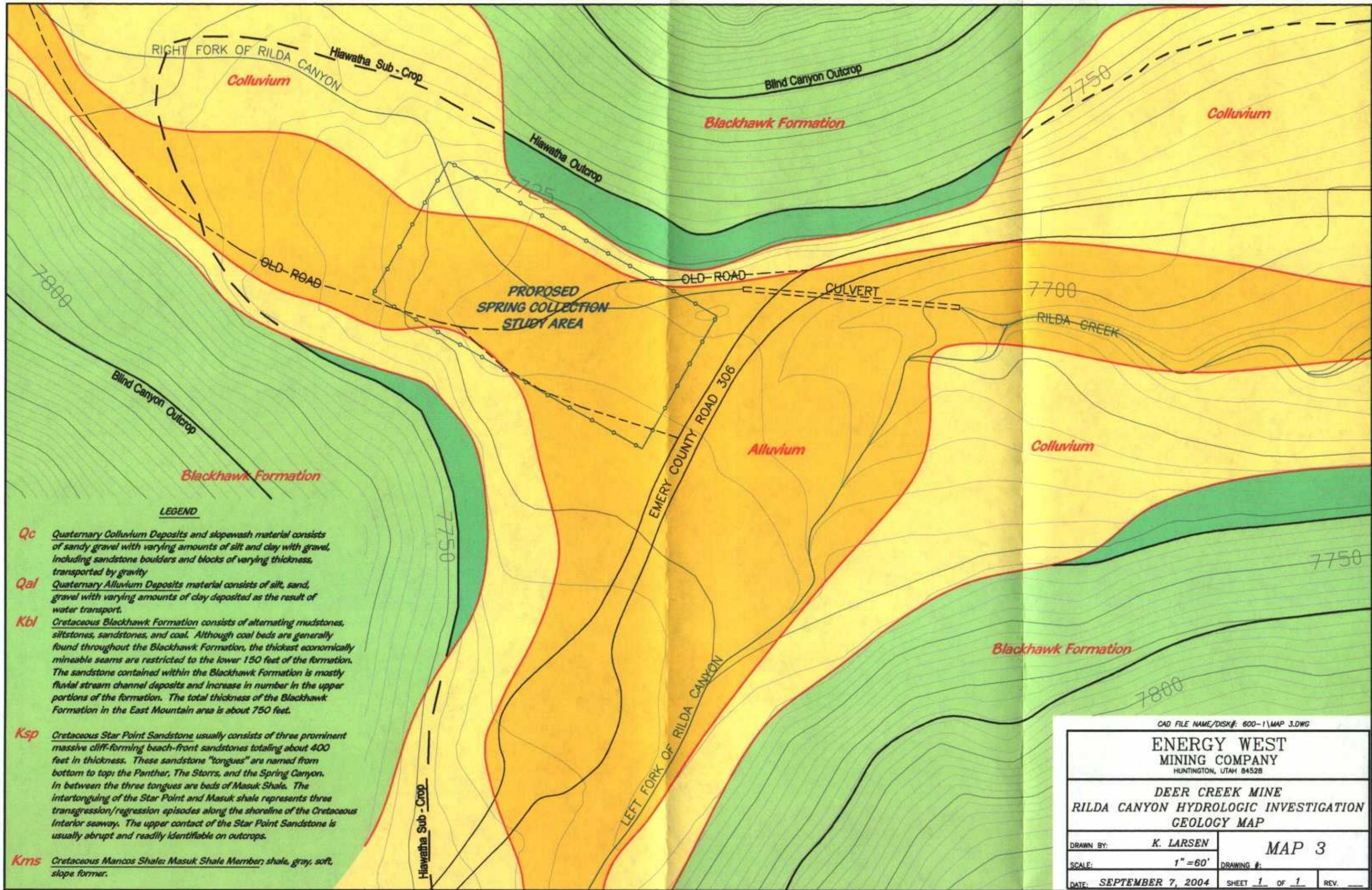
LEGEND



PROPOSED TEST HOLE



LGS SEISMIC LINES



LEGEND

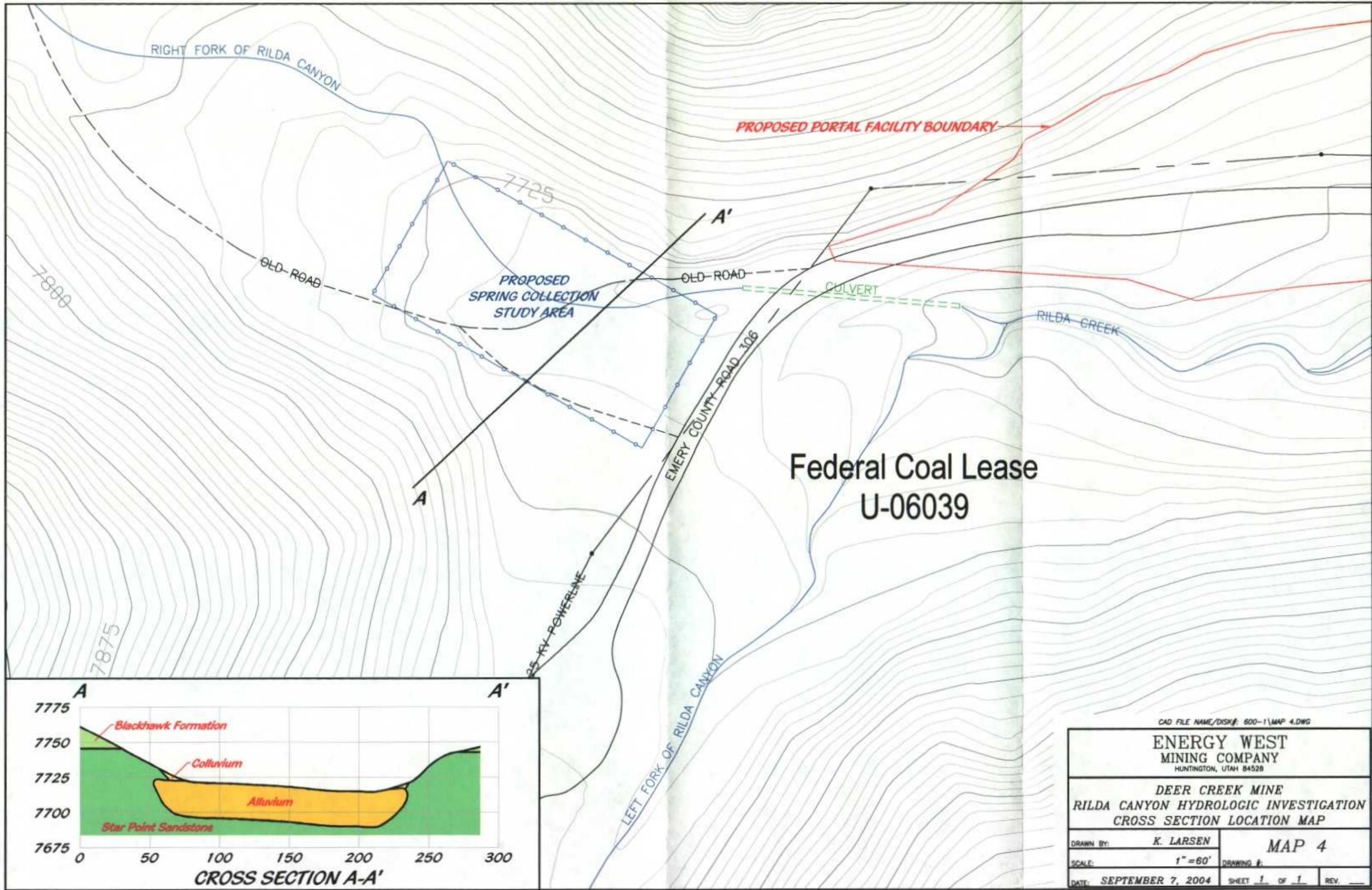
- Qc** *Quaternary Colluvium Deposits and slopewash material consists of sandy gravel with varying amounts of silt and clay with gravel, including sandstone boulders and blocks of varying thickness, transported by gravity.*
- Qal** *Quaternary Alluvium Deposits material consists of silt, sand, gravel with varying amounts of clay deposited as the result of water transport.*
- Kbl** *Cretaceous Blackhawk Formation consists of alternating mudstones, siltstones, sandstones, and coal. Although coal beds are generally found throughout the Blackhawk Formation, the thickest economically mineable seams are restricted to the lower 150 feet of the formation. The sandstone contained within the Blackhawk Formation is mostly fluvial stream channel deposits and increase in number in the upper portions of the formation. The total thickness of the Blackhawk Formation in the East Mountain area is about 750 feet.*
- Ksp** *Cretaceous Star Point Sandstone usually consists of three prominent massive cliff-forming beach-front sandstones totaling about 400 feet in thickness. These sandstone "tongues" are named from bottom to top: the Panther, The Storrs, and the Spring Canyon. In between the three tongues are beds of Masuk Shale. The intertonguing of the Star Point and Masuk shale represents three transgression/regression episodes along the shoreline of the Cretaceous Interior Seaway. The upper contact of the Star Point Sandstone is usually abrupt and readily identifiable on outcrops.*
- Kms** *Cretaceous Mancos Shale; Masuk Shale Member; shale, gray, soft, slope former.*

CAD FILE NAME/DISK#: 600-1\MAP 3.DWG

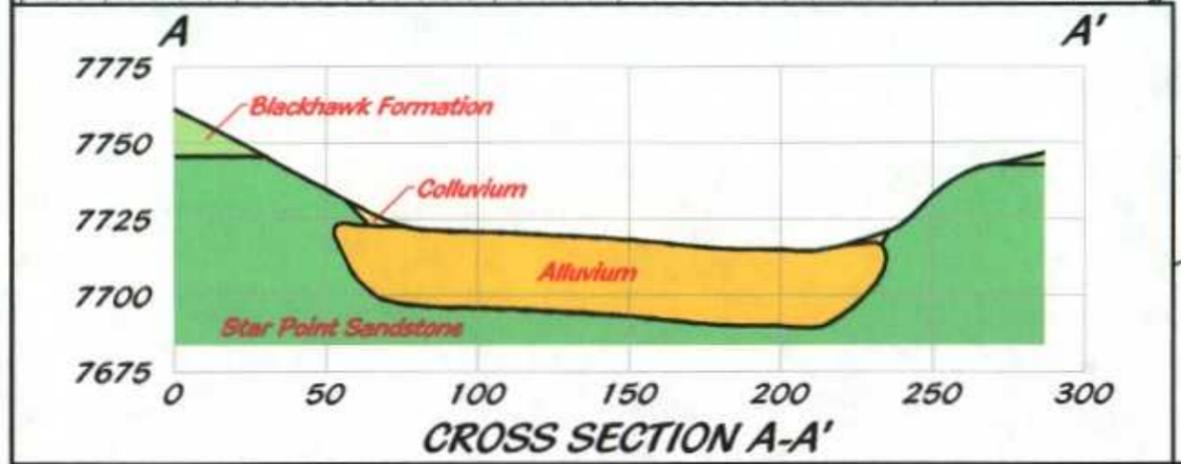
**ENERGY WEST
MINING COMPANY**
HUNTINGTON, UTAH 84528

**DEER CREEK MINE
RILDA CANYON HYDROLOGIC INVESTIGATION
GEOLOGY MAP**

DRAWN BY: K. LARSEN	MAP 3
SCALE: 1" = 60'	DRAWING #:
DATE: SEPTEMBER 7, 2004	SHEET 1 OF 1 REV. ___



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U-06039



CAD FILE NAME/DISK#: 600-1\MAP 4.DWG

ENERGY WEST MINING COMPANY HUNTINGTON, UTAH 84528			
DEER CREEK MINE RILDA CANYON HYDROLOGIC INVESTIGATION CROSS SECTION LOCATION MAP			
DRAWN BY:	K. LARSEN	MAP 4	
SCALE:	1" = 60'	DRAWING #:	
DATE:	SEPTEMBER 7, 2004	SHEET 1 OF 1	REV. _____



PROPOSED PORTAL FACILITY BOUNDARY

SEISMIC LINE 2

SEISMIC LINE 1

#1

#2

#3

#4

#5

#6

#7

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U-06039

CAD FILE NAME/DISK# 1600-11.MXD 5.DWG

LEGEND



PROPOSED TEST HOLE



LGS SEISMIC LINES

ENERGY WEST
MINING COMPANY
HUNTINGTON, UTAH 84528

DEER CREEK MINE
RILDA CANYON HYDROLOGIC INVESTIGATION
TEST HOLE LOCATION MAP

DRAWN BY:	K. LARSEN	MAP 5	
SCALE:	1" = 60'	DRAWING #:	
DATE:	SEPTEMBER 7, 2004	SHEET	1 OF 1 REV. ___