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SURVEY FOR FEDERAL AND STATE THREATENED, ENDANGERED, AND  
BLM AND STATE SENSITIVE  
ANIMAL SPECIES CONDUCTED IN MAY AND JUNE 1998

SUMMARY REPORT  
PRIVATE FUEL STORAGE FACILITY PROJECT  
SKULL VALLEY, UTAH  
JULY 30, 1998

Prepared by	<u><i>D. [Signature]</i></u>	Date	<u>9-14-98</u>
Reviewed by	<u><i>J. Cooper</i></u>	Date	<u>9-15-98</u>
Approved by	<u><i>W. Heumery</i></u>	Date	<u>9-24-98</u>

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## 1. Introduction

### 1.1 Project Scope

The following report is a summary of the 1998 threatened, endangered, and sensitive wildlife survey conducted along a 1-mile wide corridor (0.5 mile each side) for the proposed Low Corridor Rail Spur and the Skull Valley Road transportation corridors, and the Intermodal Transfer Point (ITP) in north-central Utah. The survey was conducted in May and June 1998 under the supervision of David Kane, Terrestrial Ecologist, Stone & Webster Engineering with the assistance of Steve Nachtman, Stone & Webster. Mr. Kane is a Ph.D. candidate in conservation biology at the University of Denver, and a research associate of the Denver Zoological Foundation (Denver Zoo).

Portions of the project area are located on land administered by the Bureau of Land Management (BLM). One directive of the BLM is a requirement for addressing threatened, endangered, and species of special concern as part of the requirements of the Endangered Species Act of 1973. BLM is required to comply with the mandates under the Endangered Species Act, and its own mandate, the BLM 6840 Manual for sensitive species. As a result of these mandates, the Private Fuel Storage, L.L.C. requested that Stone & Webster of Englewood, Colorado conduct a rare wildlife survey in the project area (Figure 1).

Table 1 lists the federal and state threatened and endangered species, federal species of concern, BLM and state sensitive species, and state game species which were suggested as possibly occurring within and/or along the proposed project components. A total of 26 different special status species were identified as potentially occurring or known to occur within the project area. These species were the focus of the wildlife surveys conducted in 1998.

### 1.2 Physiography, Geology, and Climate

The project area occurs on the eastern boundary of the Great Basin Physiographic Province. It is characterized by a series of long, parallel, north and south trending mountain ranges separated by broad valleys filled with unconsolidated alluvium (Hunt 1967). These fault-block ranges are slowly rising, and valleys between are downthrown as horsts and grabens. Since these valleys were formed by crustal movement and not carved by flowing rivers, no overall drainage pattern developed (Hunt 1967). Locally, the project area is mainly confined to the Skull Valley which occurs between the Stansbury Mountains to the east and Cedar Mountains to the west. Project area elevation is approximately 1,355 m (4,445 ft).

Pennsylvanian-Permian Oquirrh Group is the dominant geologic strata in the project area. It consists of very thick limestones and fine sandstones accumulated in shallow marine environments (Kass 1998a). Skull Valley proper is composed of Quaternary

**TABLE 1**

Wildlife species of concern on the proposed Private Fuel Storage Site  
**(Bolded** denotes species observed during the 1998 wildlife survey; T = Threatened;  
 E= Endangered; SC = Species of Concern; SG= State Game; S = Sensitive)

Species Common and Scientific Name	Status		
	FWS	BLM	State
<u>Invertebrates</u>			
Swamp lymnaea ( <i>Lymnaea stagnalis</i> )			S
<u>Fish</u>			
Speckled dace ( <i>Rhinichthys osculus</i> )			S
<u>Amphibians</u>			
Great Basin spadefoot toad ( <i>Spea intermontanus</i> )			S
<u>Birds</u>			
Chukar ( <i>Phasianus colchicus</i> )			SG
Ring-necked pheasant ( <i>Phasianus colchicus</i> )			SG
Sage grouse ( <i>Centrocercus urophasianus</i> )			SG
Hungarian partridge ( <i>Perdix perdix</i> )			SG
American bald eagle ( <i>Haliaeetus leucocephalus</i> )	T		
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	E		
<b>Burrowing owl</b> ( <i>Speotyto cunicularia</i> )		S	
<b>Ferruginous hawk</b> ( <i>Buteo regalis</i> )		S	
Golden eagle ( <i>Aquila chrysaetos</i> )		S	
<b>Loggerhead shrike</b> ( <i>Lanius ludovicianus</i> )		S	
<b>Long-billed curlew</b> ( <i>Numenius americanus</i> )		S	

Species Common and Scientific Name	Status		
	FWS	BLM	State
Mountain plover ( <i>Charadrius montanus</i> )	SC		
Snowy plover ( <i>Charadrius alexandrius</i> )		S	
<b>Short-eared owl</b> ( <i>Asio flammeus</i> )		S	S
<b>Swainson's hawk</b> ( <i>Buteo swainsoni</i> )			
White-faced ibis ( <i>Plegadis chichi</i> )		S	
<u>Mammals</u>			
Kit fox ( <i>Vulpes macrotis</i> )		S	
Merriam's kangaroo rat ( <i>Dipodomys merriami</i> )		S	
Desert kangaroo rat ( <i>Dipodomys deserti</i> )		S	
Skull Valley pocket gopher ( <i>Thomomys bottae robustus</i> )			S
<b>Mule deer</b> ( <i>Odocoileus hemionus</i> )			SG
<b>Pronghorn antelope</b> ( <i>Antilocapra americana</i> )			SG
Wild horse	S		

sediments which reflect the geologic history of Pleistocene Lake Bonneville with its alluvial deposits and formation of shorelines (Currey et al. 1984, Kass 1998a).

The nearest location with long-term climactic records is the town of Tooele, located north of the project area at 1,545 m (5,070 ft). Average January and July temperatures are 1.7 C (30 F) and 24.7 C (76 F) respectively, with average annual temperatures of 10.6 C (50 F). High and low temperatures are 35.6 C (95 F) and -22.2 C (-8 F). Average annual precipitation is 41.4 cm (16.3 in) with the largest amounts falling in the months of March through May. Average annual precipitation in Skull Valley is probably slightly lower (Ashcroft et al. 1992).

### 1.3 Vegetation

For the most part, the project area is dominated by greasewood (*Sarcobatus vermiculatus*) typically found in saline valley bottoms. Native salt desert shrubs such as shadscale (*Atriplex confertifolia*), budsage (*Artemisia spinescens*), horsebush (*Tetradymia glabarata*), winterfat (*Ceratoides lanata*), and native grasses such as galleta grass (*Hilaria jamesii*), Indian ricegrass (*Stipa hymenoides*), sand dropseed (*Sporobolus cryptandrus*), and alkali sacaton (*Sporobolus airoides*) were virtually absent from the project area.

The most commonly occurring species were invasive annuals such as cheatgrass (*Bromus tectorum*), bur buttercup (*Ranunculus testiculatus*) and tansy mustard (*Descurainia sophia*). The abundance of invasive annuals and conspicuous absence of native plant communities reflects the past history and repeated cycles of overgrazing, drought, and fire (Cottam 1976, Rogers 1982, Billings 1990).

## 2.0 Methods

### 2.1 Pre-survey preparation

Stone & Webster received preliminary rare wildlife species information from the U.S. Fish and Wildlife Service (FWS) (letter from Robert D. Williams, Assistant Field Supervisor, Utah Field Office, Salt Lake City, Utah, February 10, 1997), Bureau of Land Management (informal memorandum from Alice B. Stephenson, Environmental Specialist, Salt Lake District Office, Salt Lake City, Utah, February 24, 1997), and the Utah Division of Wildlife Resources (UDWR) (biological assessment from John Kimball, Director, UWDR, Salt Lake City, Utah, March 27, 1997). The combined information provided by these agencies was used to determine field survey methods for species likely to occur within the project area. Consultations with the UDWR and BLM wildlife and range resource managers that occurred prior to the 1998 wildlife survey were very limited in scope (i.e., ferruginous hawks and other raptors).

## 2.2 Field Survey

Wildlife surveys were conducted during two periods. The first survey period occurred 11-14 May 1998 and coincided with the rare plant survey conducted by Dr. Ronald Kass of Intermountain Ecosystems, L.L.C. The second survey period occurred 17-19 June, 1998. Observers drove and walked along the proposed Low Corridor rail spur and documented the location of any rare wildlife species observed within one-half mile of either side of the corridor. Observations were recorded using a Trimble global (May survey) positioning system mounted on the roof of the survey vehicle and a Garmin handheld GPS (June survey). All locations were mapped on 1:24,000 scale (1 in = 2,000 ft) topographic maps. Because access was limited due to roughness of terrain or thickness of vegetation, observers were often required to survey on foot. Observers walked abreast and in a zig-zag pattern to assure greater coverage of terrain. Any suitable habitat areas located during the survey were also examined more closely on foot. The second wildlife survey period occurred 17-19 June, 1998 and observers used the same survey methodology used during the May survey period.

Locations of rare wildlife species observed while driving slowly along the paved Skull Valley Road were also recorded. This corridor is largely privately-owned and trespass to areas within ½ mile of the road was not permitted by any landowners. Observations were limited to sight distances not exceeding ¼ mile.

## 3.0 Results and Discussion

### 3.1 Species Accounts and Observations

#### 3.1.1 Swamp lymnaea

UDWR (1997a) identifies the swamp lymnaea (*Lymnaea stagnalis*) as a high interest species that could occur in wetlands along the Skull Valley Road transportation corridor. The swamp lymnaea is a non-protected endemic aquatic snail which has been documented south of the project facilities in Township 5 South, Range 8 West. This species has not yet been ranked by the state. It has a Natural Heritage Program Global rank of G5 and a tentative State Rank of S1S2. No sampling for this species occurred during the 1998 field survey periods. Indeed, potentially suitable habitat occurs along the Skull Valley Road where wetlands occur, particularly near the Horseshoe Springs Wildlife Management Area (WMA).

#### 3.1.2 Great Basin spadefoot toad

The Great Basin spadefoot is a state-protected indigenous toad which has been documented in wetlands south of the project in Township 5 South, Range 8 West. It has a Natural Heritage Program Global Rank of G5 and a State Rank of S4 (usually more than 100 occurrences; widespread, abundant, and apparently secure, though it

may be quite rare in parts of its range) (UDWR 1997a). A few seasonal wetlands adjacent to several seeps and springs east of the Low Corridor rail spur could provide suitable breeding habitat for amphibians. Some of the seasonal wetlands appear to emerge coincidentally with heavy spring rains, and persist until drier summer conditions cause them to disappear. One wetland, however, appeared to be more persistent. This wetland occurred both east and within the ½ mile buffer of the rail spur. It appears to have been created as the result of a developed spring and water impoundment for cattle. During the June 1998 survey a ¼ to ½ acre was covered with 2-4 inches of standing water and supported a number of unidentified wetland-adapted plants. No toads were observed during the 1998 survey.

### 3.1.3 American bald eagle

According to the USFWS (letters from R. D. Williams, Assistant Field Supervisor, Utah Field Office, USFWS to N.T. Georges, SWEC, February 10, 1997 and February 27, 1997), there is a significant bald eagle (*Haliaeetus leucocephalus*) wintering area in Rush Valley, located approximately 20 miles east of Skull Valley. Bald eagles, a federally threatened species, are likely to occasionally enter Skull Valley to forage on small mammals such as the black-tailed jackrabbit and carrion. According to the U.S. Forest Service (USFS) (letter from K. Clapier, Kamas Field Office, USFS to S. Davis, SWEC, January 27, 1997) it is suspected that bald eagles could feed on carrion along Skull Valley Road during the winter months and roost in the cliffs along the east side of the Stansbury Mountains. No bald eagles were observed along any of the project components during the May and June survey periods. To date, no wintering bald eagle surveys have been conducted to determine the number and extent of use of Skull Valley by wintering bald eagles.

### 3.1.4 American peregrine falcon

There is a peregrine falcon (*Falco peregrinus*) nest site at Timpie Springs Waterfowl Management Area at the north end of Skull Valley, approximately 25 miles north of the facility (letter from R.D. Williams, Assistant Field Supervisor, Utah Field Office, USFWS, to N.T. Georges, SWEC, February 27, 1997). The peregrine is the only federally listed endangered species found in Skull Valley. UDWR has placed hacking towers along the south shore of the Great Salt Lake where a pair is nesting. Peregrine falcons may travel more than 18 miles from the nest site to hunt for food; however, a 10-mile radius around the nest is an average hunting area, with 80 percent of foraging occurring within 1 mile of the nest (letter from K. Clapier, Kamas Field Office, USFS, to S. Davis, SWEC, January 27, 1997). Migratory peregrine falcons may occur around the PFSF project components; however, these occurrences would be unusual and infrequent. The 10-mile radius frequented by the nesting peregrine falcons would include the northernmost part of Skull Valley Road. No peregrine falcons were observed in the vicinity of any of the project components during the May and June survey period.

### 3.1.5 Burrowing owl

The burrowing owl (*Speotyto cunicularia*), a BLM sensitive species, ranges from southern interior British Columbia south through eastern Washington, central Oregon to California, east to western Minnesota, western Missouri, Oklahoma, eastern Texas and Louisiana, and south to central Mexico (American Ornithologists' Union 1983). A ground-dwelling bird with both diurnal and nocturnal (day and night) habits (Bologna 1978), it is found in grasslands and deserts (Cassidy 1990) and in prairies, plains, and savannas (American Ornithologists' Union 1983). Nests are found in abandoned dens of prairie dogs, ground squirrels, or other burrowing mammals (Bologna 1978). Birds typically nests in single pairs, but more commonly in small colonies (Scott 1978). Burrowing owls also demonstrate a high fidelity to nest sites, returning to the same nest year after year to remodel them with their beaks, legs, and wings (Cassidy 1990). Diet consists of large insects, small mammals (mainly rodents), and birds (Bologna 1978). No burrowing owls were observed within the PFSF site; however, suitable habitat exists (abandoned burrows) that could support breeding burrowing owls. Four nest sites occurred to the west and north along the proposed Low corridor rail spur. All four burrowing owl nest sites were located in abandoned badger dens or burrows. The accumulation of owl pellets and skeletal remains of prey indicates that these burrowing owls return to these same sites annually.

### 3.1.6 Ferruginous hawk

The ferruginous hawk (*Buteo regalis*) is known to nest in the foothills of the Cedar Mountains mainly on rock outcrops or cliffs, although it will nest on the ground. Prey species typically consist of young rabbits and ground squirrels though mice and kangaroo rats may also be consumed when opportunities are available to capture these animals. A single, but abandoned ferruginous hawk nest was located about 1 mile west of the Low Corridor rail spur. A single adult ferruginous hawk was observed flying south along the Skull Valley Road during the May survey period.

### 3.1.7 Golden eagle

Golden eagles (*Aquila chrysaetos*) have been sighted numerous times using the desert shrub and juniper communities on both sides of the Stansbury Range (letter from K. Clapier, Kamas Field Office, USFS, to S. Davis, SWEC, January 27, 1997). The golden eagle nests mostly on ledges along canyon walls or on cliffsides, but often hunts in the valleys, notably on roadkill (Ryser 1985). Although it is likely that golden eagles occasionally forage in the vicinity of the PFSF and its project components, there does not appear to be suitable nesting habitat in the area. Birds in the project area could be impacted if construction and operation of the project had a significant impact on prey species.

### 3.1.8 Loggerhead shrike

The loggerhead shrike (*Lanius ludovicianus*) is a BLM sensitive species known to nest in the saline lowlands in Skull Valley. Nest sites are mainly found low in the crotch of mature greasewood, sagebrush, and saltbush shrubs. Shrikes are unique songbirds in that they are predatory frequently impaling their small mammal and invertebrate prey on barbed wire fences or the limbs of shrubs. Two pairs of shrikes were observed along the western third of the PFSF site. Another 4 shrikes were observed in both open areas and greasewood stands along the Low Corridor rail spur.

### 3.1.9 Long-billed curlew

The long-billed curlew (*Numenius americanus*) is a BLM sensitive species and a western bird that ranges from the southern portions of the western Canadian provinces south to Texas. In migration, the curlews utilize the shores of lakes, rivers, and salt marshes to catch small fish, crabs, snails, toads. In summer, curlews nest in open prairie and upland areas where its diet consists of invertebrates. A pair of curlews was observed south of Horseshoe Springs and another pair was observed at the midpoint of the Low Corridor rail spur during the 1998 wildlife survey. The distressed behavior of these pairs indicated that nest sites were present in a nearby open, upland area surrounded by greasewood and rabbitbrush.

### 3.1.10 Snowy plover

The western subspecies (*Charadrius alexandrius*) favors the shores of salt or alkaline lakes typical of the Great Salt Lake where compact flocks feed for crustaceans, worms, and other insects. This subspecies ranges throughout the western U.S. and nests throughout the Great Basin. Snowy plovers were observed along the southern shore of the Great Salt Lake north of the Rush Valley. No plovers were observed at any of the project components and while an occasional flock may fly and forage in the Skull Valley, suitable habitat is generally lacking.

### 3.1.11 Short-eared owl

The short-eared owl (*Asio flammeus*) is a BLM sensitive species that ranges throughout North America, and is known to nest in the Great Plains region of the U.S. Birds typically nest on the ground in upland or wetland areas at the base of mature shrubs or tall grasses. Occasionally birds may nest in small colonies and some individuals exhibit high nest site fidelity. Short-eared owls typically prey on mice, shrews, rats, rabbits, pocket gophers, and bats. Although no owls were observed at the PFSF site, suitable nesting habitat occurs. A single owl was observed in an upland area in the lower-third of the Low Corridor rail spur about 9 miles north of the PFSF site.

### 3.1.12 Swainson's hawk

Swainson's hawks (*Buteo swainsoni*), a BLM sensitive species, ranges from central Alaska to South America, and as far eastward as Saskatchewan, Manitoba, and western Minnesota. It is a raptor characteristic of the western plains of the U.S. Birds typically nest in large trees on the plains, and some birds exhibit high nest-site fidelity. Typical prey species include grasshoppers, mice, ground squirrels, rabbits, lizards, frogs, toads, and occasionally game birds. The BLM considers this species sensitive because of the perceived decline in numbers in the western U.S. Although no Swainson's hawks were observed and no nesting habitat is available at the PFSF site, the proximity of nest sites along the Skull Valley Road does not preclude that birds may hunt prey in the area. Five nests sites were located along the Skull Valley Road in mature cottonwood trees growing in the yards of private residences. Two nests contained at least one young each. The number of young in the other nests could not be determined.

### 3.1.13 White-faced ibis

The white-faced ibis (*Plegadis chichi*) is known to nest in northern Utah and ranges over most of the Great Basin. Ibises prefer freshwater marshes where they feed on insects, worms, frogs, and small fish. Nests are found in small colonies built in a large bed of bulrushes and tall weeds. Nesting habitat is lacking along the Skull Valley Road and the Low Corridor rail spur. Some marginal habitat exists in the BLM's Horsehoe Springs WMA. No ibises were observed during the 1998 wildlife survey.

### 3.1.14 Merriam's kangaroo rat

Merriam's kangaroo rat (*Dipodomys merriami*) inhabits sandy to rocky soil areas, mostly in desert environments which contain a mosaic of sagebrush, shadscale, creosote bush, and other desert scrub plants. Areas along the Low Corridor rail spur and ITP could support this species of kangaroo rats. The range of Merriam's kangaroo rat is typically the Great Basin area of central Nevada south to southern California continuing through central and southern Arizona and New Mexico and most of northern Mexico (Burt and Grossenheinder 1976).

### 3.1.15 Desert kangaroo rat

The desert kangaroo rat (*Dipodomys deserti*) generally inhabits low desert areas where soft sand areas such as dunes and a component of sparse desert vegetation, such as creosote bush and shadscale, are present. According to Burt and Grossenheinder (1976), the central range of the desert kangaroo rat is the Mojave Desert. However, without conducting formal live-trapping surveys, it is not possible to state whether this BLM sensitive species occurs in or is absent from the Skull Valley.

### 3.1.16 Skull Valley pocket gopher

The Skull Valley pocket gopher (*Thomomys bottae robustus*) is a subspecies of the valley pocket gopher which occurs over a wide range from the Sierra Mountains of northern California through the deserts of the Great Basin, south through southwestern Colorado, most of Arizona and New Mexico into northern Mexico (Burt and Grossenheider 1976). The species prefer soft loamy soils to dig mounded burrows, and though they are active day and night are seldom observed. No burrows attributable to pocket gopher activity were observed along the Low corridor rail spur or the Skull Valley Road during the 1998 wildlife survey.

### 3.1.17 Cedar Mountain wild horse herd

The Cedar Mountain wild horse herd occurs within the BLM's Cedar Mountain Herd Management Area (HMA), which includes most of the Skull Valley and the entire Cedar Mountains. The HMA contains about 179,500 acres of federal, state, and private lands. This herd has occupied the area since the late 1800's. Most horses are colored bay and black, though other colors found are sorrel, red and blue roan, buckskin, gray, palomino, and pinto. These horses are classified as average size with mares weighing about 800 pounds, and stallions weighing up to 1000 pounds.

While no wild horses were observed, wild horse sign (stallion fecal piles) were observed within the Low Corridor rail spur area. Also, tracks across to the Skull Valley and various BLM roads indicated that horses were crossing the valley to reach water resources on the east side.

### 3.1.18 Other observations

A number of other observations were made during the May and June 1998 survey periods. Both pronghorn and mule deer were observed along the Low Corridor rail spur. On one occasion a male and female pronghorn were observed feeding in the brush at the edge of the one-mile wide corridor. Only a single female mule deer was observed in an ephemeral drainage 2 miles west of the Low Corridor.

Four pairs of northern harriers (*Circus cyaneus*) were observed immediately along the Low Corridor. Harriers are ground-nesters near low shrubs. The presence of these pairs in association with dense stands of greasewood indicates that there is a high probability that active nest sites exist. No attempt was made to locate these nests to avoid disturbing chicks. Prior to construction, a more rigorous effort to locate nests should be made, and timing restrictions on construction activities would have to be implemented where active nests are located. In most cases, BLM imposes a 0.5 mile raptor nest buffer requirement on all construction activities.

A single great-horned owl was observed along the Skull Valley Road during the May survey period.

**TABLE 2**  
**RAPTOR NEST LOCATIONS**

Table 2 lists the raptor nests located during the 1998 wildlife survey.

Species	Location	UTM Coordinates
Burrowing owl	Low Corridor	0343916, 4493646
Burrowing owl	Low Corridor	0342064, 4485047
Burrowing owl	Low Corridor	0343000, 4485891
Swainson's hawk	Skull Valley Road	0351684, 4477384
Swainson's hawk	Skull Valley Road	0351865, 4484136
Swainson's hawk	Skull Valley Road	0352127, 4489005
Ferruginous hawk <sup>1</sup>	Skull Valley Road	0341158, 4507405
Burrowing owl	Low Corridor	0341015, 4486137
Red-tailed hawk	Skull Valley Road	0351673, 4477390
Swainson's hawk	Skull Valley Road	0351902, 4484117
Swainson's hawk	Skull Valley Road	0352200, 4489295

<sup>1</sup>Species observed, no nest site located

## 4.0 Summary

### 4.1 Needs and Considerations

While the range of Merriam's and desert kangaroo rats does not appear to include Skull Valley, trapping surveys for the Merriam's and desert kangaroo rat may be necessary if so deemed by the BLM. A pre-construction wildlife survey will be needed to assure that no nesting raptors (e.g., northern harrier, burrowing owl) are present. If nesting raptors are present, construction activities would be restricted within 0.5 miles of the nest site for the period between about April 1-August 15. This work may need to be more intensive, especially considering the presence of burrowing owls, loggerhead shrikes, and a number of other BLM sensitive species in the area.

No additional plant survey work will be required. The impact of constructing and operating a railroad in the Low Corridor rail spur on wild horses, mule deer, and pronghorn will have to be assessed in detail because such activity could restrict animal movement to water resources on the east side of Skull Valley. The team also needs to consider and discuss upfront other interests and concerns that the UDWR and BLM resource managers have regarding the project.

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Mark S. Delligatti, Senior Project Manager  
Licensing and Inspection Directorate  
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J.O. No. 05996.02  
Letter No. S-O-51  
File No. L1

Survey for Threatened, Endangered, and Sensitive Animal Species  
Docket No. 72-22 / TAC No. L22462  
Private Fuel Storage Facility  
Private Fuel Storage L.L.C.

Reference 1. PFSLLC letter, Parkyn to Delligatti, Submittal of EIS RAI Response Attachments, dated February 18, 1999.

Dear Mr. Delligatti,

Reference 1 transmitted the Stone and Webster report entitled "Survey For Federal and State Threatened, Endangered, and BLM and State Sensitive Animal Species Conducted In May And June 1998", Report Number 05996.02-W (D)-2, Revision 0. The report was included in the attachment package as Attachment 10-1 b. This report contains a Copyright statement on the cover page.

The purpose of this letter is to advise you that you are authorized unrestricted use of this document in your review of the PFSF license application. This includes any necessary reproduction and release of the report to the public document room.

If you have any questions regarding this matter or need additional information please contact me.

Sincerely,

W. P. Hennessy  
Assistant Project Manager

WPH:smr

Stone & Webster Engineering Corporation  
7677 East Berry Avenue, Englewood, Colorado 80111-2137  
Tel: 303-741-7700 Fax: 303-741-7670  
Telex: 289251 303-741-7671

Address all correspondence to P.O. Box 5406, Denver, Colorado 80217-5406

9403160267  
2 P.P.

Mr. Mark Delligatti  
March 2, 1999  
Page 2

Copy to: Mr. Leon Bear - Skull Valley Band of Goshutes  
Ms. Denise Chancellor, Esq. - State of Utah  
Mr. Asadul Chowdhury - Center for Nuclear Waste Regulatory Analyses  
Mr. Richard Condit - Land and Water Fund of the Rockies  
Mr. John Donnell - Stone & Webster  
Mr. John Parkyn - PFSLLS  
Mr. John Kennedy, Esq. - Confederated Tribes of the Goshute Reservation  
Mr. Scott Northard - Northern States Power Company  
Mr. Danny Quintana, Esq. - Skull Valley Band of Goshute Indians  
Mr. Jay Silberg, Esq. - Shaw, Pittman, Potts & Trowbridge  
Mr. Sherwin Turk - U.S. Nuclear Regulatory Commission  
Mr. Murray Wade - Oak Ridge National Laboratory  
Mr. Joro Walker, Esq. - Land and Water Fund of the Rockies

Attachment 10-1 c

EIS RAI 10-1 c

High-interest wild life information

Provided by

Utah Division of Wildlife Resources

January 6, 1999



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF WILDLIFE RESOURCES

1594 West North Temple, Suite 2110

PO Box 146301

Salt Lake City, Utah 84114-6301

801-538-4700

801-538-4709 (Fax)

801-538-7458 (TTY)

Michael O. Leavitt  
Governor

John Kimball  
Division Director

0599602

W1

R1.16

NOTED S.M. MACIE JAN 19 '99

cc JLC/JUD/WPH

January 6, 1999

Mr. Stanley M. Macie  
Project Engineer  
Stone & Webster Engineering Corporation  
P.O. Box 5406  
Denver, Colorado 80217-5406

Dear Mr. Macie,

I am writing in response to your request for information on high-interest wildlife species which occur in the area of the proposed Low corridor in Tooele County, Utah. We have queried our databases and discussed the proposed project with Utah Division of Wildlife Resources (UDWR) biologists.

UDWR is currently aware of occurrence records for two federally listed species near the proposed project area. The peregrine falcon, *Falco peregrinus*, a federally and state listed endangered species, is known to nest at Timpie Springs. The bald eagle, *Haliaeetus leucocephalus*, a federally listed threatened species (and state listed endangered species) is known to winter in Rush Valley, approximately 20 miles east of Skull Valley.

UDWR is also aware of several state listed sensitive species which are known to occur in the Skull Valley area. These species include bobolink, *Dolichonyx oryzivorus*, burrowing owl, *Athene cunicularia*, caspian tern, *Sterna caspia*, common yellowthroat, *Geothlypis trichas*, ferruginous hawk, *Buteo regalis*, long-billed curlew, *Numenius americanus*, short-eared owl, *Asio flammeus*, and Swainson's hawk, *Buteo swainsoni*.

Many species which occur in the Skull Valley area, although not federally or state listed, are thought to be of conservation concern by UDWR's Utah Natural Heritage Program or resource management agencies such as the BLM or the U.S.D.A. Forest Service. These species include Pohl milkvetch, *Astragalus lentiginosus pohlii*, small spring parsley, *Cymopterus acaulis* var *parvus*, Skull Valley pocket gopher, *Thomomys bottae robustus*, and sandhill crane, *Grus canadensis*.

In addition to the species listed above, many other "high-interest" wildlife species are known to occur in the skull valley area. High-interest species include those species which are not particularly rare, but are considered especially important to the public, UDWR, or other resource management agencies. High-interest species that are known to occur in the Skull Valley area include great horned owl, *Bubo virginianus*, golden eagle, *Aquila chrysaetos*, mourning dove,

*Zenaida macroura*, northern harrier, *Circus cyaneus*, prairie falcon, *Falco mexicanus*, ring-necked pheasant, *Phasianus colchicus*, red-tailed hawk, *Buteo jamaicensis*, turkey vulture, *Cathartes aura*, pronghorn, *Antilocapra americana*, mule deer, *Odocoileus hemionus*, and chukar, *Alectoris chukar*. Please see the attached maps for the locations of areas valuable to pronghorn, mule deer, and chukar.

In spite of the locality records mentioned in the preceding paragraphs, the Skull Valley area has not been adequately surveyed by UDWR. Therefore, UDWR may not have locality records for all species which occur near the proposed project area. Although UDWR is currently not aware of occurrence records for the following state-listed sensitive species, it is quite possible they occur near the project area: least chub, *Iotichthys phlegethontis* (proposed to be federally listed as endangered), Columbia spotted frog, *Rana luteiventris*, milk snake, *Lampropeltis triangulum*, Townsend's big-eared bat, *Plecotus townsendii*, Brazilian free-tailed bat, *Tadarida brasiliensis*, ringtail, *Bassariscus astutus*, sage grouse, *Centrocercus urophasianus*, and Lewis' woodpecker, *Melanerpes lewis*.

In addition to direct impacts to the aforementioned wildlife species, UDWR is also concerned about potential impacts to the Timpie Springs (owned by UDWR) and Horseshoe Springs wetland areas. UDWR has concerns about the proposed project damaging these wetlands, their associated species, and the Great Salt Lake, into which these wetlands flow. Damage to the Great Salt Lake ecosystem could lead to the deaths of thousands of migratory birds.

Due to the incomplete biological data UDWR has for the Skull Valley area, we cannot currently provide an adequate assessment of the biological impacts that will be created by the proposed Low corridor, nor can we determine the necessary mitigation for those impacts. If your on-site investigations determine that impacts will be made to any wildlife species, please contact Mr. Jordan Pederson, Utah Division of Wildlife Resources Central Region Supervisor at (801) 489-5678.

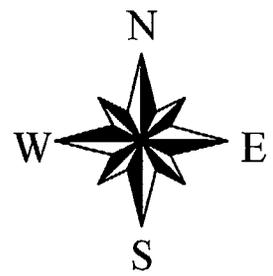
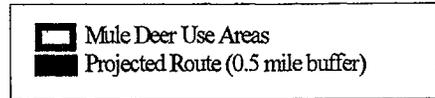
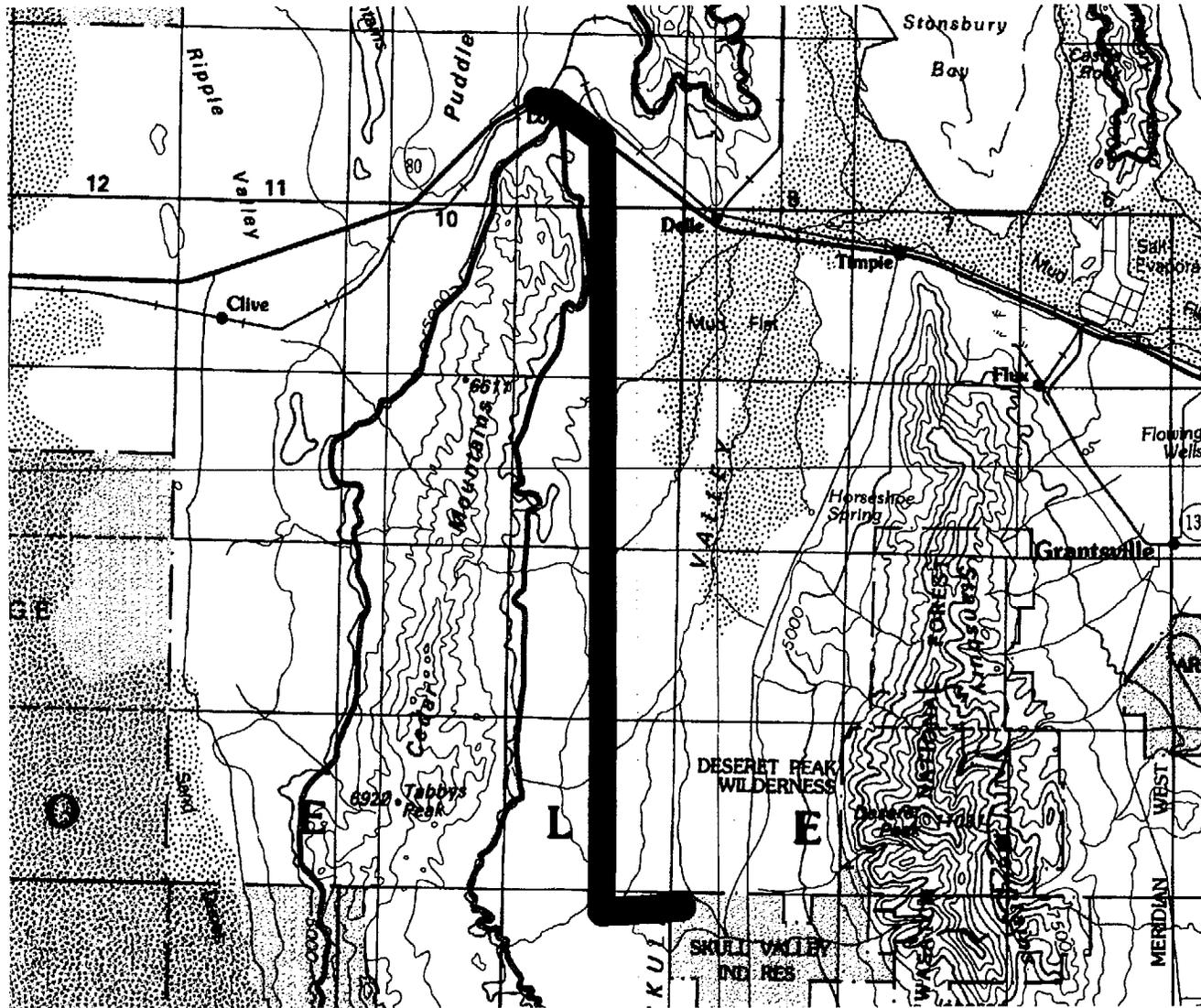
The information in this letter of response is based on the existing data known to the Utah Division of Wildlife Resources at the time of the response. The information contained in this letter should not be regarded as a final statement on the occurrence of any special-status species. The absence of data for a particular species or area does not necessarily mean that these natural resources do not occur on or near the project site, rather that our records do not indicate such. Also, because the Utah Division of Wildlife Resources' databases are being continually updated, and because data requests are evaluated by the specific type of action, any given response is only appropriate for its respective request.

Sincerely,

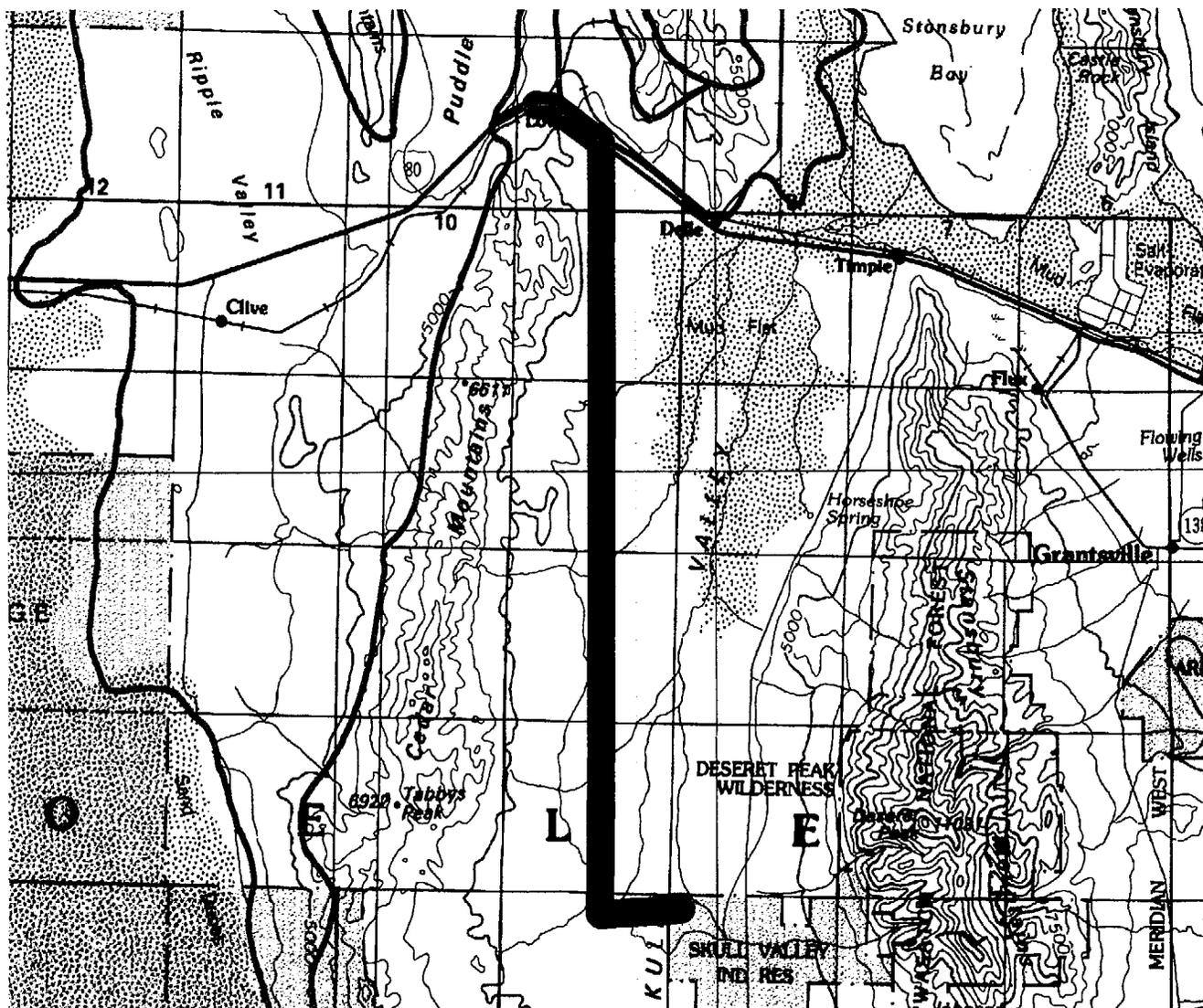


John Kimball  
Director

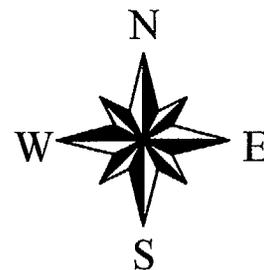
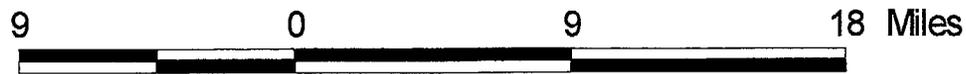
# Mule Deer Yearlong Use Areas



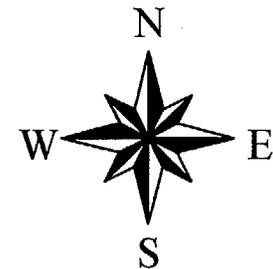
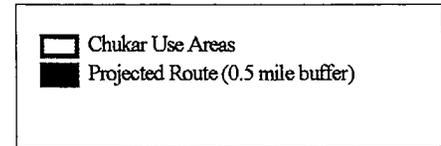
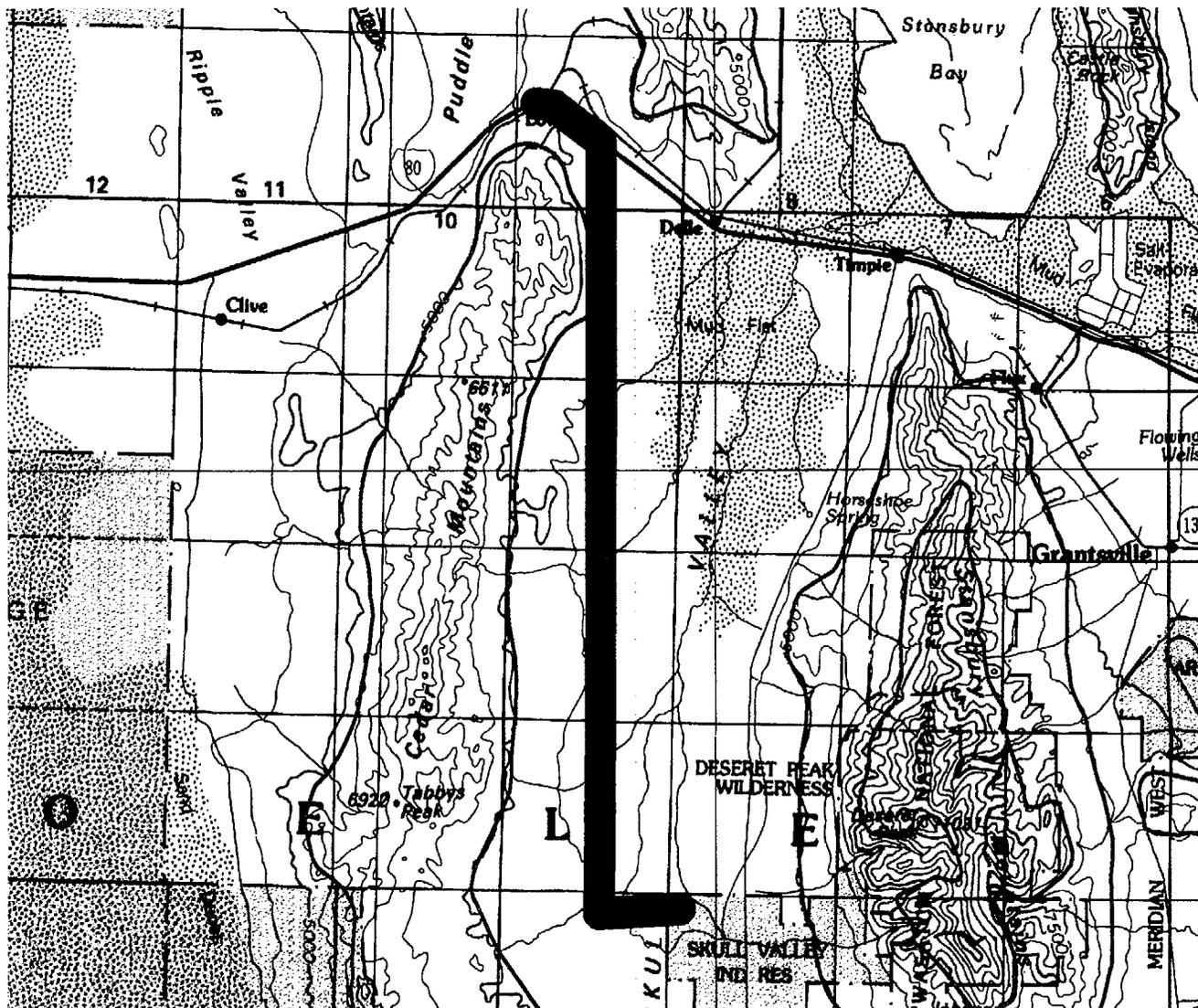
# Pronghorn Antelope Use Areas



■ Pronghorn Use Areas  
■ Projected Route (0.5 mile buffer)



# Chukar Yearlong Substantial Value Use Areas

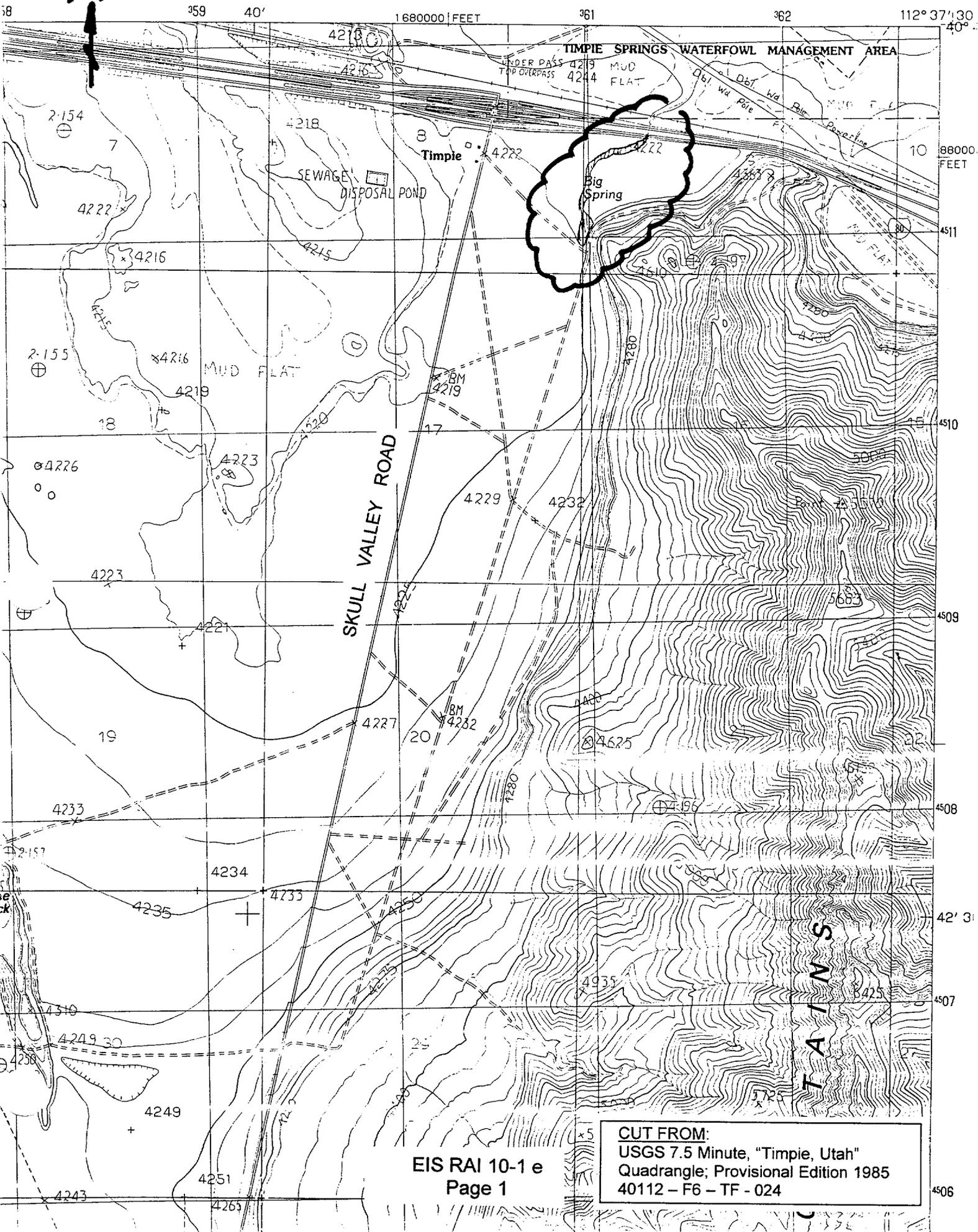


Attachment 10-1 e

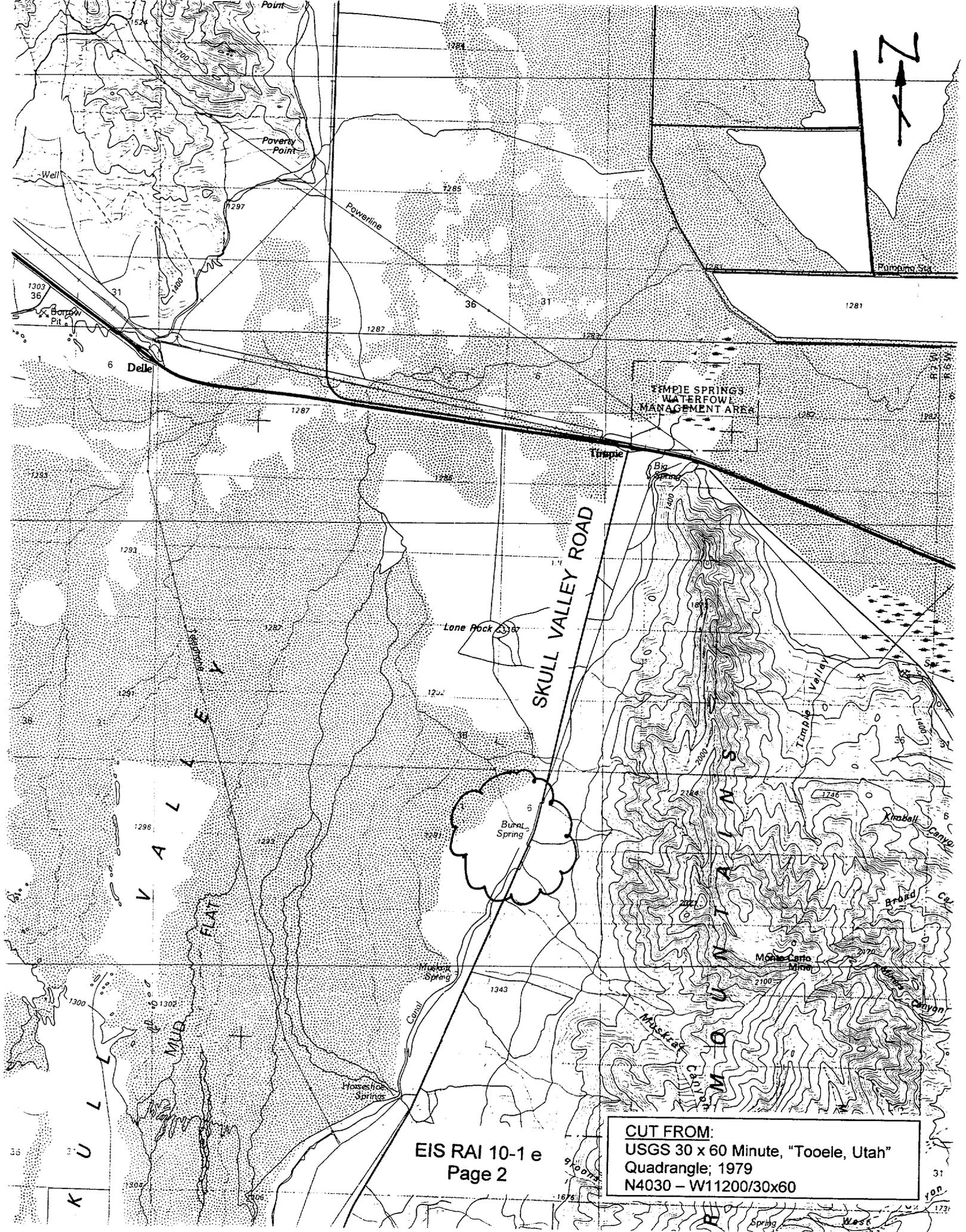
EIS RAI 10-1 e

USGS MAPS

5 Pages  
(Excluding this page)

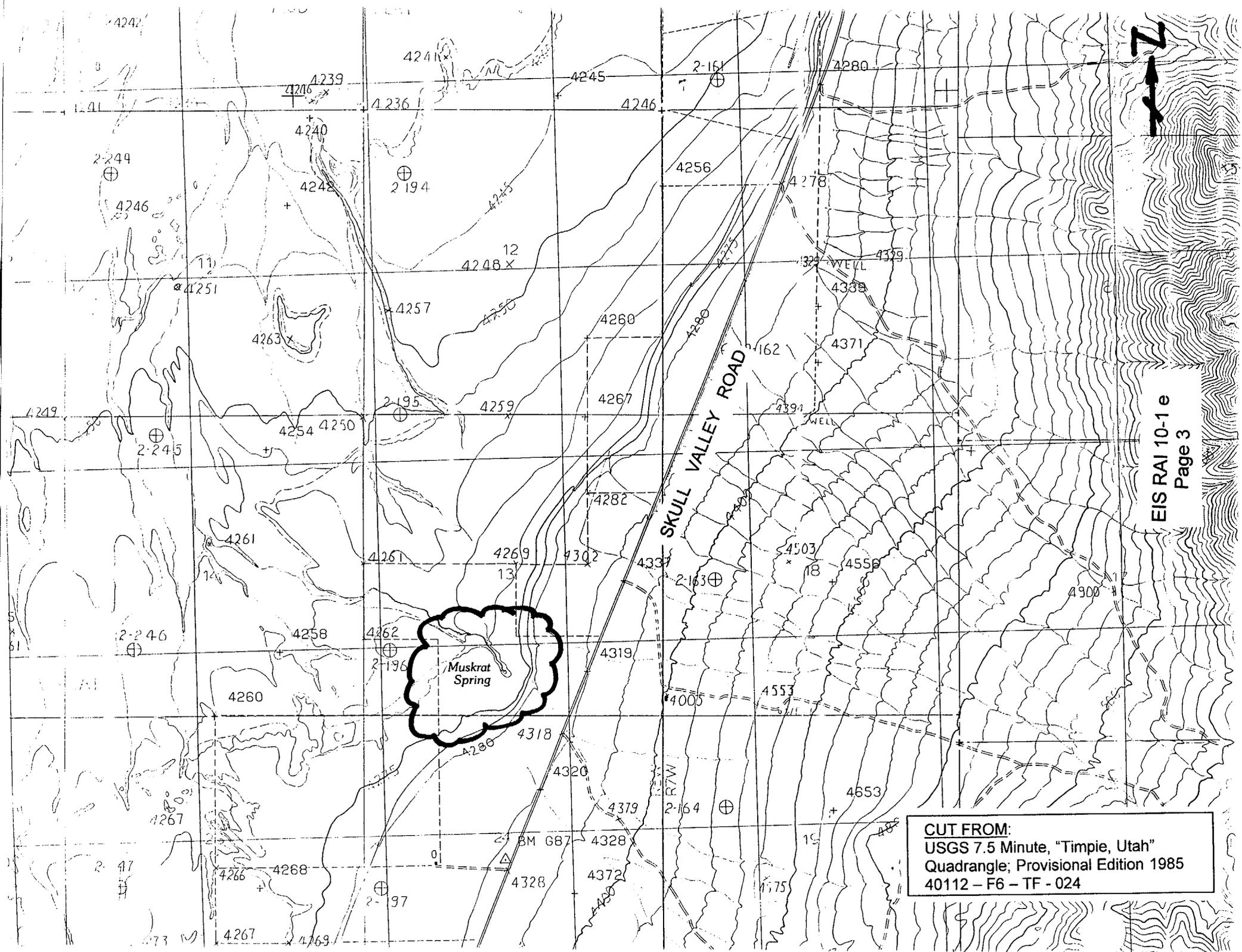


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 Quadrangle; Provisional Edition 1985  
 40112 - F6 - TF - 024

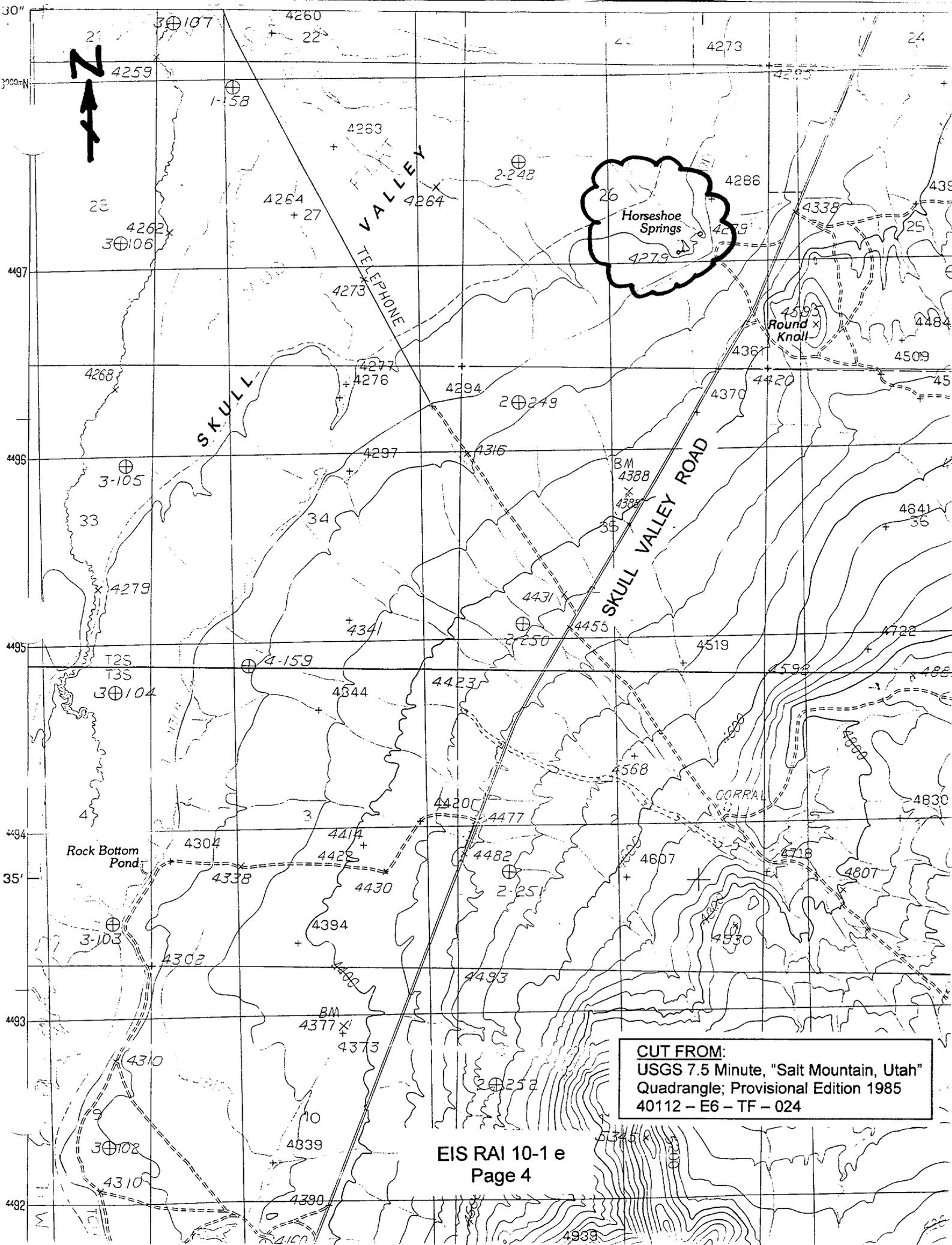


EIS RAI 10-1 e  
Page 2

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USGS 30 x 60 Minute, "Tooele, Utah"  
Quadrangle, 1979  
N4030 - W11200/30x60



**CUT FROM:**  
USGS 7.5 Minute, "Timpie, Utah"  
Quadrangle; Provisional Edition 1985  
40112 - F6 - TF - 024



**CUT FROM:**  
 USGS 7.5 Minute, "Salt Mountain, Utah"  
 Quadrangle; Provisional Edition 1985  
 40112 - E6 - TF - 024



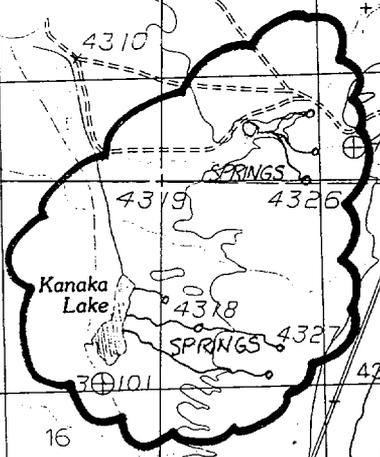
**CUT FROM:**  
USGS 7.5 Minute, "Salt Mountain, Utah"  
Quadrangle; Provisional Edition 1985  
40112 - E6 - TF - 024

Rock Bottom Pond

SKULL VALLEY ROAD

CORRAL

Salt Mountain

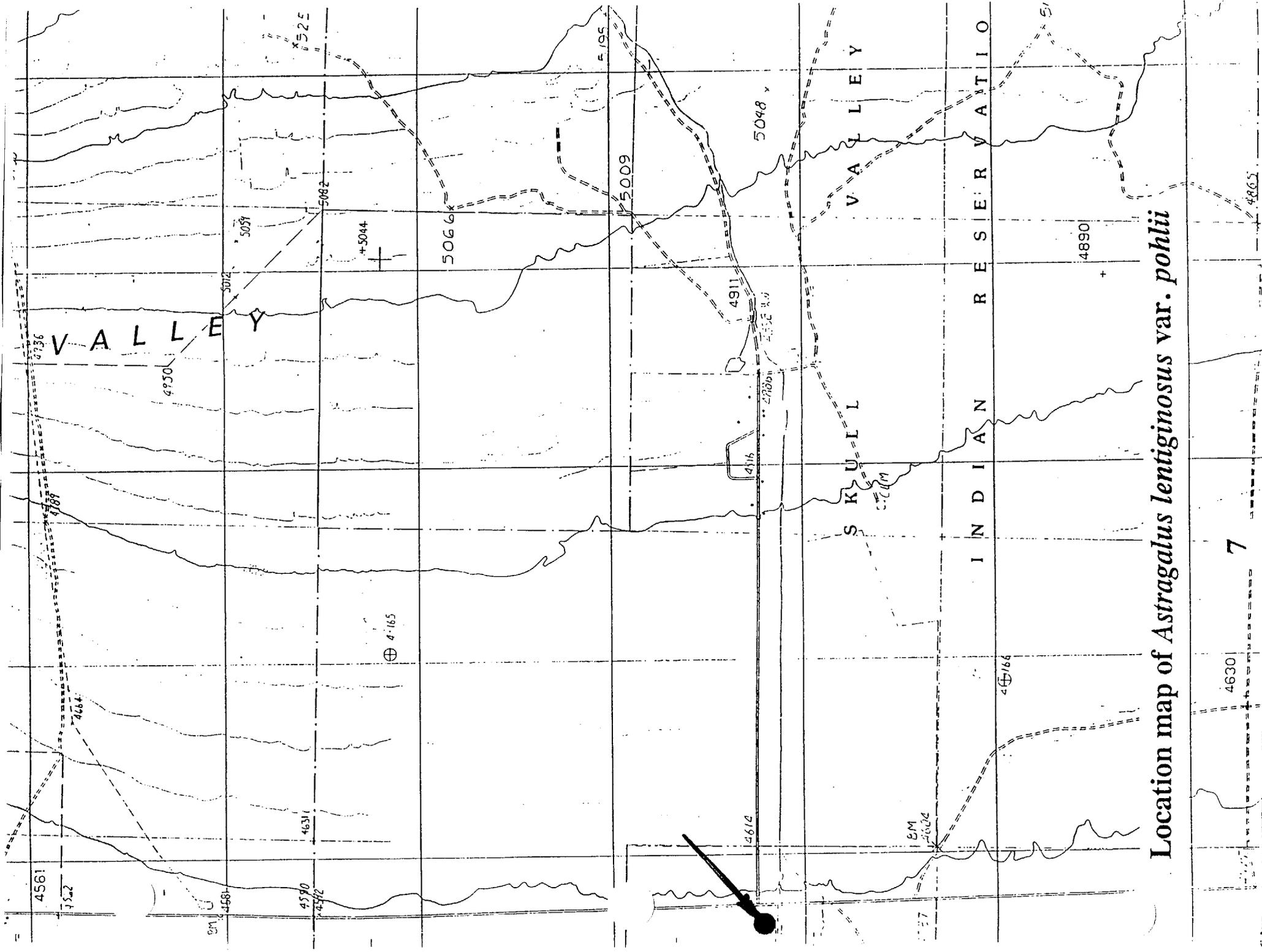


Attachment 10-6

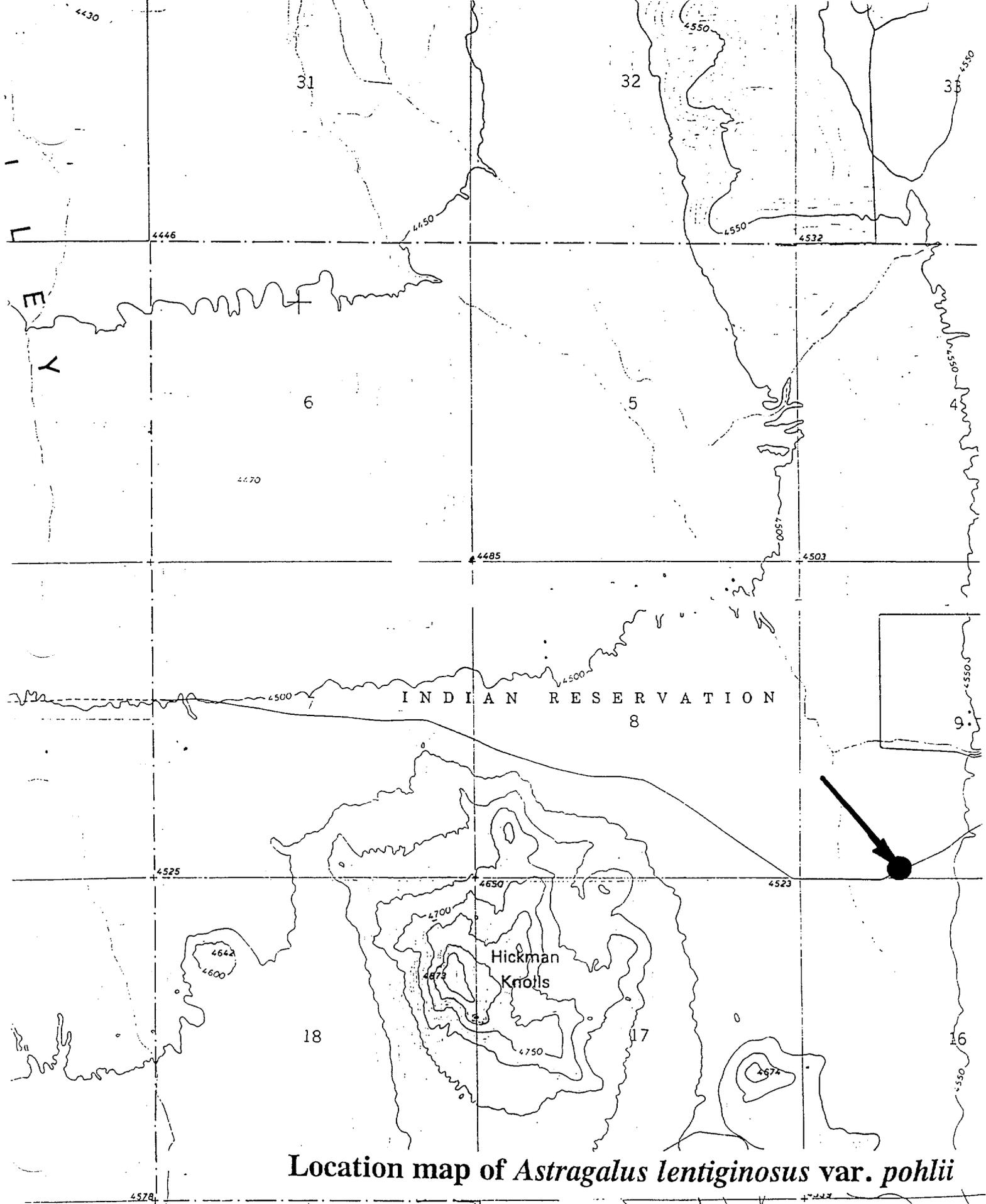
EIS RAI 10-6 a

Maps showing Pohl's milkvetch  
population locations

2 Pages  
(Excluding this page)



Location map of *Astragalus lentiginos* var. *pohlii*



**Location map of *Astragalus lentiginosus* var. *pohlii***

EJ R 9 W R 8 W 47° 30" 149

6 INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA—1993 351000m.E.

ROAD CLASSIFICATION

Primary highway,

Light-duty road, hard or

1 MILE

**Attachment 12-1**

**EIS RAI 12-1**

**Correspondence with**

**Utah State Historic Preservation Office**

**8 Pages**

**(Excluding this page)**



# State of Utah

Department of Community & Economic Development  
Division of State History  
Utah State Historical Society



Michael O. Leavitt  
Governor  
Max J. Evans  
Director

300 Rio Grande  
Salt Lake City, Utah 84101-1182  
(801) 533-3500 • FAX: 533-3503 • TDD: 533-3502  
cehistory.ushs@email.state.ut.us

April 30, 1997

Nuri T. Georges, Program Manager  
Stone & Webster Environmental Technology & Services  
245 Summer Street  
Boston Massachusetts 92210

RE: Proposed Industrial Development, Tooele County, Utah

In Reply Please Refer to Case No. 97-0013

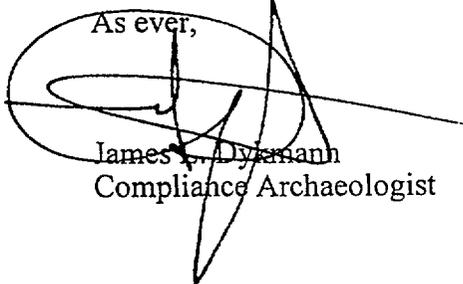
Dear Nuri T. Georges:

The Utah State Historic Preservation Office received the above referenced request on March 17, 1997. Your firm requested information about any known historic or archaeological sites within the proposed study area in order to begin Section 106 consultation. As you know, Section 106 of the National Historic Preservation Act requests the lead federal agency to consult with the SHPO. When that agency is designated, formal consultation can begin. In the meantime, we are able to provide the following information.

1. Known cultural resources: our records indicate that nine archaeological sites are located in the potential area of effect.
2. About five percent of the area of potential effect has been surveyed for historic properties as outlined by Secretary of Interior Guidelines. Based on that information and other data, the project area appears to have a high potential for location of other historic properties. Areas of high potential include: Antelope Canyon, Indian Hickman Canyon, springs in Section 34, Salt Mountain, Ranch Knoll, Horse Shoe Spring, Muskrat Canyon, Lone Rock and the historic community of Iosepa.
2. The Utah Preservation Office also notes historic use by Goshute and other groups.

If you have questions, contact me at (801) 533-3555. My email address is: [jdykman@history.state.ut.us](mailto:jdykman@history.state.ut.us)

As ever,

  
James A. Dykman  
Compliance Archaeologist

JLD:97-0013 OFR

F:\CULTURAL\JIM\97-0013.WPD

TOOELE COUNTY, UTAH, FACILITY  
TELEPHONE CONVERSATION

Telephone conversation between James Dykmann, Compliance Archeologist for the Utah State Historic Preservation Office (Utah Historical Society) at (801) 533-3500 and Patricia Weslowski, Stone & Webster at (617) 589-1477.

Mr. Dykmann called on Thursday, March 20, 1997, at approximately 2:30 p.m. to indicate that his data base shows no other sites along the transportation corridor beyond the cemetery that we had already identified. He indicated that he just mailed a letter to this effect. I asked about whether we would need to do any surveys to comply with the identification requirements of Section 106. Because our letter did not indicate the specific undertaking or the federal agency, he had interpreted our letter as a request for guidance on the 106 compliance process, rather than a request for guidance on whether any additional surveys would be needed in order to comply with Section 106. He indicated that the Skull Valley highway had been subject to surveys around 1980-1981 and that no sites had been found at that time. He generally stated that not many sites had been found in the quadrant containing our project. Therefore, he said that he would not require any additional survey but would recommend monitoring of construction and on-going consultation with the Goshute during the monitoring. He indicated that he would send a second letter (if the first one had gone already) to this effect. He also indicated that he routinely advises the Goshutes and had recently advised them on a nuclear waste facility that is planned for a location on the reservation.

Mr. Dykmann than called a second time at approximately 2:40 p.m. to tell us that Kevin Jones, the chief archeologist, has an internal communication from the Governor's office indicating that Governor Leavitt is on record in opposition to the nuclear waste storage facility project located on the Goshute reservation and that all communication with state agencies concerning this project would have to go through the Governor's office. Therefore, since our project is on the Goshute reservation, he cannot respond directly to our inquiry. Instead, he will package our letter with his response and forward it to the SHPO, Wilson Martin, who will forward it to the Governor's office for review. He did not know whether or when the Governor's office would response to our request.

# STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES



a division of  
**STONE & WEBSTER ENGINEERING CORPORATION**  
245 SUMMER STREET, BOSTON, MASSACHUSETTS 02210

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617-589-2156

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MILTON KEYNES, ENGLAND  
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Mr. Max Evans, SHPO,  
Director  
Utah State Historical Society  
300 Rio Grande  
Salt Lake City, UT 84101  
Attn: James L. Dykmann  
Compliance Archeologist

March 11, 1997  
S-O-34

Cultural Resources Review  
Proposed Industrial Development  
Tooele County, Utah

Stone & Webster contacted your office in January concerning a siting study for a proposed industrial facility located in Tooele County, Utah. The facility is located on the Skull Valley Indian Reservation. We indicated that we had contacted the Skull Valley Band of Goshute Indians and that they had advised us that the area under consideration does not contain any cultural or historic resources, or areas of religious significance to the them. Your office concurred with that assessment by letter dated January 14, 1997.

The siting study will include consideration of a transportation corridor extending from the northern edge of the Skull Valley Indian Reservation to I-80. The transportation alternatives under consideration include the widening of Skull Valley Road, or the laying of railroad tracks parallel to Skull Valley Road. The road widening alternative would involve a road and work corridor of approximately 20 feet on both the east side and west side of the existing road. The railroad alternative would involve a corridor of approximately 33 feet on the west side of the existing road. The corridors are shown on the attached map.

We have consulted the National Register Information System (NRIS) database and found only one known site, the Ioseph Cemetery, in the vicinity of the study area. However, this site appears to be well outside of the proposed corridor. We also recognize that the NRIS database may not be complete. Therefore, the purpose of this letter is to determine

if there are any known historic or archeological sites within the proposed study area, and to obtain your guidance in determining what steps should be taken to satisfy Section 106 consultation for the identification and protection of historic properties. Please feel free to contact Pat Weslowski at (617) 589-1477 (or e-mail at Patricia.Weslowsk@stoneweb.com) should you have any questions concerning this project or this request. I look forward to receiving your comments on this undertaking.

Sincerely,

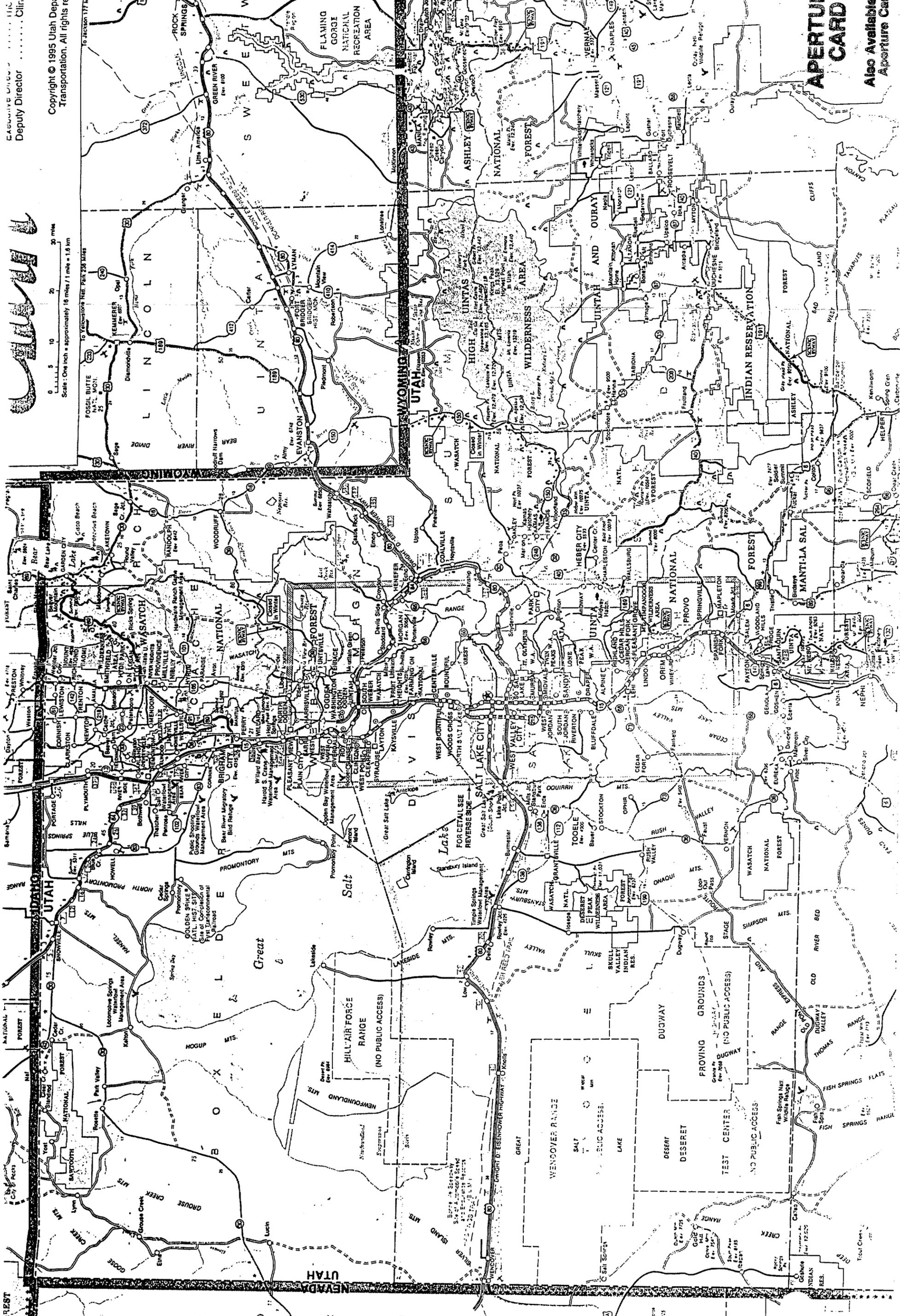
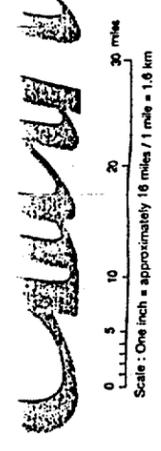
  
Nuri T. Georges  
Program Manager



10-8810519066

CASPER, WYOMING  
Deputy Director

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Transportation. All rights reserved.



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# State of Utah

Department of Community & Economic Development  
Division of State History  
Utah State Historical Society



Michael O. Leavitt  
Governor  
Max J. Evans  
Director

300 Rio Grande  
Salt Lake City, Utah 84101-1182  
(801) 533-3500 • FAX: 533-3503 • TDD: 533-3502  
cehistory.ushs@email.state.ut.us

January 14, 1997

Nuri T. Georges, Program Manager  
Stone & Webster Environmental Technology & Services  
245 Summer Street  
Boston, Massachusetts 02210

RE: Proposed Industrial Development, Pelee County, Utah - Skull Valley

In Reply Please Refer to Case No. 97-0013

Dear M. Georges:

The Utah State Historic Preservation Office received the above referenced cultural resources review on January 9, 1997. After consideration of your letter, the Utah Preservation Office concurs with the determination of the Goshute Nation that there are No Historic or Religious Properties in the project area as defined by the National Historic Preservation Act or the American Indian Religious Freedom Act.

This information is provided on request to assist with Section 106 responsibilities as specified in 36CFR800. If you have questions, please contact me at (801) 533-3555, or Barbara L. Murphy at (801) 533-3563. My computer address on internet is: jdykman@history.state.ut.us

As ever,

James L. Dykman  
Compliance Archaeologist

JLD:97-0013 OR

F:\Cultural Resources\97-0013.wpd

A 024 27A  
COPY

NGeorges-3  
JDonnell-Denver  
SMMacie-Denver  
WHennessy-Denver  
SRussell-Denver (Job Book W1, Chrono 2.1.6)  
JHRumpp-37

Mr. Max Evans, SHPO  
Director  
Utah State Historical Society  
300 Rio Grande  
Salt Lake City, UT 84101

January 3, 1997  
S-O-16

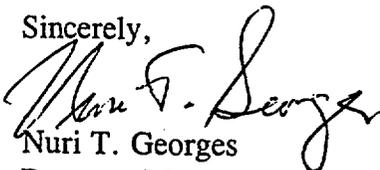
Cultural Resources Review  
Proposed Industrial Development  
Tooele County, Utah

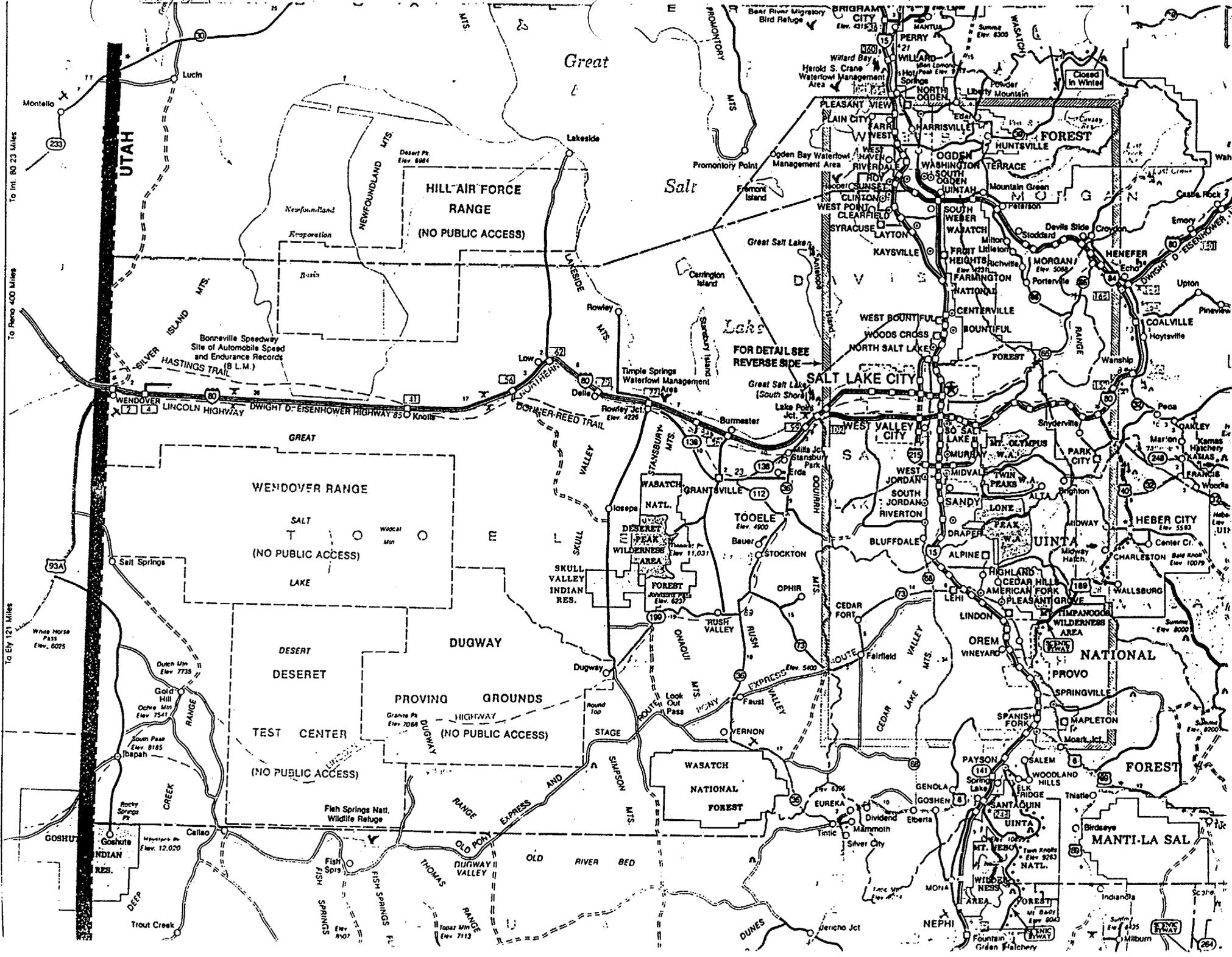
Stone & Webster is conducting a siting study for a proposed industrial facility located in Tooele County, Utah. The proposed site for the facility is located in Skull Valley, within the boundaries of the Skull Valley Indian Reservation. The enclosed copy of a portion of the Utah state map shows the location of the Skull Valley Indian Reservation.

The purpose of this letter is to inform you of this project and to request that you provide us with any comments or concerns you may have regarding impacts to historic or archeological resources in the area. Due to the location of the site within the Goshute reservation, no cultural resource reviews have been conducted to date. However, we have received a letter from Mr. Leon Bear, Tribal Chairman for the Skull Valley Band of Goshute Indians, indicating that the areas under consideration "do not contain any cultural or historic resources, or areas of religious significance..."

We would appreciate your guidance in determining what course of action should be taken to satisfy the State's cultural resource concerns, should this project proceed. Please feel free to contact J.H. Rumpp at 617.589.2467, or me at 617.589.5028, should you have any questions concerning this project or this request. I look forward to receiving your comments on this matter.

Sincerely,

  
Nuri T. Georges  
Program Manager



To Mt. 80 23 Miles

To Reno 400 Miles

To Ely 121 Miles

UTAH

Great

Salt

Lake

FOR DETAIL SEE REVERSE SIDE

SALT LAKE CITY

WENDOVER RANGE

SALT LAKE

(NO PUBLIC ACCESS)

DESERT

DESERT

TEST CENTER

(NO PUBLIC ACCESS)

HILL AIR FORCE RANGE  
(NO PUBLIC ACCESS)

DUGWAY PROVING GROUNDS  
(NO PUBLIC ACCESS)

TOOELE

WASATCH NATIONAL FOREST

NATIONAL FOREST

PROVO

SPRINGVILLE

MAPLETON

SANTAQUIN

WINDY HILLS

WINDY HILLS

MANTI-LA SAL

WEST VALLEY CITY

WEST JORDAN

SOUTH JORDAN

RIVERTON

BLUFFDALE

OPHIR

CEGAR FORT

ROUTE 12

FAIRFIELD

EXPRESS

EUREKA

GOSHEN

GENOLA

MOHA

NEPHI

SALT LAKE CITY

WEST VALLEY CITY

WEST JORDAN

SOUTH JORDAN

RIVERTON

BLUFFDALE

OPHIR

CEGAR FORT

ROUTE 12

FAIRFIELD

EXPRESS

EUREKA

GOSHEN

GENOLA

MOHA

SALT LAKE CITY

WEST VALLEY CITY

WEST JORDAN

SOUTH JORDAN

RIVERTON

BLUFFDALE

OPHIR

CEGAR FORT

ROUTE 12

FAIRFIELD

EXPRESS

EUREKA

GOSHEN

GENOLA

MOHA

To Mt. 80 23 Miles

To Reno 400 Miles

To Ely 121 Miles

UTAH

Salt

Lake

FOR DETAIL SEE REVERSE SIDE

SALT LAKE CITY

WENDOVER RANGE

SALT LAKE

(NO PUBLIC ACCESS)

DESERT

DESERT

TEST CENTER

(NO PUBLIC ACCESS)

HILL AIR FORCE RANGE  
(NO PUBLIC ACCESS)

DUGWAY PROVING GROUNDS  
(NO PUBLIC ACCESS)

TOOELE

WASATCH NATIONAL FOREST

NATIONAL FOREST

PROVO

SPRINGVILLE

MAPLETON

SANTAQUIN

WINDY HILLS

WINDY HILLS

MANTI-LA SAL

WEST VALLEY CITY

WEST JORDAN

SOUTH JORDAN

RIVERTON

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ROUTE 12

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WEST JORDAN

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**Attachment 12-2 b**

**EIS RAI 12-2 b**

**Class I Cultural Resource Inventory of the  
Private Fuel Storage Facility Railroad Spur  
and Intermodal Transfer Point,  
Skull Valley, Tooele county, Utah**

**21 Pages  
(Excluding this page)**