



Consolidation Coal Company
Western Region
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February 11, 1982

Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, Utah 84114

re: Apparent Completeness Review - Preparation Plant and Loadout

Dear Mr. Smith:

This submittal is intended to address the deficiencies listed in the "Apparent Completeness Review" sent to Mr. Carl Muha on January 20, 1982.

As discussed with Sally Kefer, I've included two copies of this submittal for your review. I've also sent two copies of this submittal to Mr. Bob Bamburg of the OSM and one copy to the Emery County Auditor's Office.

Please notify us as soon as you feel our application can be deemed complete so that we can begin the public notice and comment period.

Thank you for your cooperation on this matter. If you have any questions, please contact me at our Englewood office.

Sincerely,

A handwritten signature in cursive script that reads "Dave Schouweiler".

Dave Schouweiler
Permit Coordinator

DS/mcf
Enclosure

cc: J. Higgins
R. Holbrook
L. Meschede
C. Muha
M. Ormiston
R. Williamson

783.12 General Environmental Resources Information

OGM COMMENT

(b) The applicant must submit the following before the cultural resource investigation and plan may be determined complete.

Need site forms for all sites included within the Emery Deep Mine plan area.

Need site-specific eligibility recommendations and potential impact for all sites documented in the 1980 survey report.

Proposed surface modifications and disturbances should be drawn on the cultural resources map (plate 5-1).

A compendium chart consolidating information on all sites in the Emery Deep Mine plan area should be prepared as an appendix to the mine plan cultural resource submissions. The chart should minimally include site numbers, site type, eligibility recommendations and impact statements.

CONSOL RESPONSE

The site forms, a compendium chart and a new plate 5-1 are included with this report.

783.19 Vegetation Information

OGM COMMENT

A map that overlaps the vegetation types over the disturbed and proposed disturbance areas.

CONSOL RESPONSE

The vegetation map has been modified to show the disturbance acreage involved in the prep plant yard and associated facilities. The vegetation map is located in the maps section of this report.

783.19 Vegetation Information

OGM COMMENT

The mine plan is contradictory in relation to additional disturbance of vegetation. Page 3-50 states that there will be no additional impact or disturbance within the mine permit, however, Table 9-2 indicates an additional 409.2 acres will be affected.

CONSOL RESPONSE

The statement on page 3-50 was meant to refer only to the underground mine itself and did not include the prep plant and its associated facilities which were discussed in volumes 11 and 12. Table 9-2 discusses outdated affected areas and should therefore be disregarded.

The additional disturbance caused by the prep plant and the associated facilities will involve approximately 210 acres. However, only 206.6 acres of this will be newly disturbed because 3.4 acres of an existing county road is also counted in the total figure. Of the 206.6 newly disturbed acreage, 47% is made up of the "greasewood shrubland" type, 32% consists of "annual forb community", 19% is "mixed desert shrubland", and 2% is "agricultural land".

783.19 Vegetation Information

OGM COMMENT

There are some minor discrepancies between figures in the text and corresponding tables. A list of these discrepancies will be supplied to Consol if the applicant wishes to correct them.

CONSOL RESPONSE

Consol is interested in receiving the OGM's list of minor discrepancies in figures between the text and corresponding tables.

783.19 Vegetation Information

OGM COMMENT

The species list for the annual forb community (Table 9-8) should include the perennial grasses encountered during cover sampling (Table 9-9).

CONSOL RESPONSE

Table 9-8. Vascular plant species encountered in sampling the affected area annual forbs community for the deep mine permit area.

Scientific Name	Common Name	Family
SHRUBS		
Artemisia tridentata	Big Sagebrush	Compositae
Artiplex confertifolia	Shadscale Saltbrush	Chenopodiaceae

<i>Atriplex cuneata</i>	Castle Valley Clover	Chenopodiaceae
<i>Atriplex corrugata</i>	Mat Saltbrush	Chenopodiaceae
<i>Chrysothamnus nauseosus</i>	Rubber Rabbitbrush	Compositae
<i>Sarcobatus vermiculatus</i>	Black Greasewood	Chenopodiaceae

SEMI-SHRUBS AND CACTI

<i>Echinocactus whipplei</i> var <i>spinosior</i>	Hedgehog Cactus	Cactaceae
<i>Eurotia lanata</i>	Winterfat	Chenopodiaceae
<i>Gutierrezia sarothrae</i>	Broom Snakeweed	Compositae
<i>Opuntia polyacantha</i>	Plains Pricklypear	Cactaceae

FORBS

<i>Abronia fragrans</i>	Sand Verbena	Nyctaginaceae
<i>Atriplex powellii</i>	Orach	Chenopodiaceae
<i>Bahia nudicaulis</i>	Basin Bahia	Compositae
<i>Calochortus nuttallii</i>	Mariposa Segolily	Liliaceae
<i>Cryptantha flavoculata</i>	Roughseed Cryptantha	Boraginaceae
<i>Cymopterus</i> sp.	Springparsley	Umbelliferae
<i>Eriastrum diffusum</i>	Eriastrum	Polemoniaceae
<i>Eriogonum cernuum</i>	Nodding Wildbuckwheat	Polygonaceae
<i>Eriogonum inflatum</i>	Deserttrumpet	Polygonaceae
<i>Halogeton glomeratus</i>	Common Halogeton	Chenopodiaceae
<i>Haplopappus spinulosus</i>	Ironplant Goldenweed	Compositae
<i>Helianthus annuus</i>	Common Sunflower	Compositae
<i>Lappula occidentalis</i>	Western Stickseed	Boraginaceae
<i>Malcolmia africana</i>	African Mustard	Cruciferae
<i>Oenothera caespitosa</i>	Tufted Eveningprimrose	Onagraceae
<i>Oenothera scapoidea</i>	Barestem Eveningprimrose	Onagraceae
<i>Salsola kali</i>	Russian Thistle	Chenopodiaceae
<i>Sphaeralcea coccinea</i>	Scarlet Globemallow	Malvaceae

PERENNIAL GRASSES

Hilaria jamesii	Galleta	Gramineae
Oryzopsis hymenoides	Indian Ricegrass	Gramineae
Sitanion hystrix	Squirrel Tail	Gramineae

783.19 Vegetation Information

OGM COMMENT

The species list for the riparian meadow community (Table 9-33) should include Scirpus americanus, S. paludosus and Carex sp., which were encountered during cover sampling (Table 9-34) and production sampling (Table 9-35).

CONSOL RESPONSE

Table 9-33. Vascular plant species encountered in sampling the reference area riparian meadow community for the deep mine permit area.

Scientific Name	Common Name	Family
FORBS		
Aster sp.	Aster	Compositae
Castilleja sp.	Indian Paintbrush	Scrophulariaceae
Crepis runcinata	Narrowleaf Hawksbeard	Compositae
Erigeron sp.	Fleabane	Compositae
Naux maritima	Common seamilkwort	Polemoniaceae
GRASSES AND GRASSLIKE SPECIES		
Agropyron sp.	Wheatgrass	Gramineae
Eleocharis rostellata	Beaked Spikerush	Cyperaceae
Hordeum jubatum	Foxtail Barley	Gramineae
Juncus balticus	Baltic Rush	Juncaceae
Muhlenbergia asperifolia	Alkali Muhly	Gramineae
Scirpus validus	Softstem Bullrush	Cyperaceae
Scirpus americanus	Chairmakers Rush	Cyperaceae
Scirpus paludosus	Prairie Bullrush	Cyperaceae
Carex sp.	Sedges	Cyperaceae

784.11 Operation Plan: General Requirements

OGM COMMENT

(a) The production values used to determine the quantity of coal refuse which will be produced as presented on pages 15-18 and 15-58 do not match the production values on page 3-44. The apparent discrepancy should be clarified with any implications to current facilities described.

CONSOL RESPONSE

The production figures on pages 15-18 and 15-58 include the estimated production from a planned surface mine. The estimated production values on page 3-44 include only the production from the existing underground mine.

The components of the preparation plant have been sized so as to accommodate the estimated production of both the existing underground mine and the future surface mine.

784.11 Operation Plan: General Requirements

OGM COMMENT

(b)(1) Applicant states that the sedimentation pond will be removed and the site regraded approximately three years after seeding has been established on the preparation plant site (Vol. II, 15.3.5.3). The reclamation time-table (Vol. I, 3.5.6.1) shows removal and reclamation of ponds two years after termination of mining. Applicant should correct this discrepancy.

What is the anticipated time frame for the slurry pond to dry so backfilling and grading can commence? Applicant should include reclamation of slurry pond in the reclamation time-table (Vol. I, 3.5.6.1).

CONSOL RESPONSE

In order to minimize the effects of mining on the hydrologic balance, the sedimentation pond and the slurry pond will remain in place until the areas of disturbance within each of their respective watersheds have been regraded, the topsoil respread and the area revegetated to where these areas will not contribute significant suspended solids to the natural drainages.

Based on past experience, this will take two to four years from the time mining stops. Because the area normally has relatively low humidity and infrequent rainfall, it is expected that the ponds could be regraded within a month or two after it has been determined that the ponds are no longer needed.

Schedule of Reclamation

The reclamation schedule discussed in the following section forecasts the timing of reclamation activities for the existing facilities at the Emery Mine. The schedule is based on the proposition that mining will continue through 2010.

3.5.6.1 Detailed Timetable for Reclamation

Final Abandonment

1st Qtr., through 4th Qtr., 2011	Removal of all non-earthen structures.
1st and 2nd Qtr., 2012	Surface debris removal, regrading, sealing of mine openings, backfilling and regrading, removal of culverts and bridges, regrading roads and parking areas, topsoil respreading.
3rd and 4th Qtr., 2012	Seedbed preparation and seeding, fertilization, mulching, and erosion control.
1st Qtr., 2013	Erosion control and reseeding.
1st and 2nd Qtr., 2014	Regrade, respread topsoil and revegetate sediment ponds and slurry pond.

784.11 Operation Plan: General Requirements

OGM COMMENT

(b)(3 and 5) Discuss the removal of all structures; including disposal of building materials and removal of foundations.

CONSOL RESPONSE

Due to the nature of the preparation plant, much of the equipment will have a salvage value and will be removed and used at another mine. Salvage values, however, have not been considered in reclamation costs. Portions of the plant that do not have a sufficient salvage value will be either buried or disposed of in the abandoned underground mine.

Prior to burying any building materials, Consol will submit a disposal plan for regulatory approval. Foundation materials will be buried in place under at least two feet of soil. In areas where the finished grade is not two feet above the top of the foundation, the foundation will be removed to a depth which allows at least two feet of soil to be placed over the top of the foundation.

784.13 Reclamation Plan: General Requirements

OGM COMMENT

(b)(2) The bond estimate provided in Table 15-2, Chapter 3 must be substantiated. The applicant should provide volumes, areas and unit costs for all categories shown in the estimate. The applicability of area and unit costs for each specific facility as listed in 15.3.2.1 must be described.

CONSOL RESPONSE

Reclamation Costs

PART I - Removal of Structures (Proposed Facilities)

Run-of-Mine (ROM) Belt.		
350 ft. x 180 lb./ft. x ton/2000 lb. x \$92/ton	\$	2,898
Transfer Building		
36,000 c.f. x \$0.14/c.f.	\$	5,040
2 - Raw Coal (RC) Storage Belts		
438 ft. x 150 lb./ft. x ton/2000 lb. x \$92/ton	\$	3,022
526 ft. x 150 lb./ft. x ton/2000 lb. x \$92/ton	\$	3,629
2 - Raw Coal (RC) Storage Piles with Concrete Stacking Tubes		
2 x 57.5 c.y. (concrete) x \$76/c.y.	\$	8,740
Raw Coal (RC) Reclaim System		
Tunnel to Be Buried		Included In Regrading
Belt: 482 ft. x 150 lb./ft. x ton/2000 lb. x \$92/ton	\$	3,326
Transfer Building		
21,000 c.f. x \$0.14/c.f.	\$	2,940
Plant Feed Belt		
390 ft. x 150 lb./ft. x ton/2000 lb. x \$92/ton	\$	2,691

Preparation Plant		
647,860 c.f. x \$0.14/c.f.		\$ 90,700
Static Thickener		
Wall: 232 c.y. (concrete) x \$76/c.y.		\$ 17,632
Bottom: Concrete to Be Buried		Included In Regrading
Refuse Facilities		
Belt: 176 ft. x 0.075 ton/ft. x \$92/ton		\$ 1,214
Bin: 27 ton x \$92/ton		\$ 2,484
Enclosure: 3570 c.f. x \$0.14/c.f.		\$ 500
Clean Coal (CC) Transfer Belt		
105 ft. x 0.75 ton/ft. x \$94/ton		\$ 725
Sample Building		
39,000 c.f. x \$0.14/c.f.		\$ 5,460
Clean Coal (CC) Storage Belt		
232 ft. x .075 ton/ft. x \$92/ton		\$ 1,601
Clean Coal (CC) Storage Pile with Concrete Stacking Tube		
57.5 c.y. (concrete) x \$76/c.y.		\$ 4,370
Stoker Belt		
330 ft. x .060 ton/ft. x \$92/ton		\$ 1,822
Stoker Bins		
Bin: 36 ton x \$92/ton		\$ 3,312
Enclosure: 1382 c.f. x \$0.14/c.f.		\$ 194
Truck Loadout Belt		
60 ft. x .055 ton/ft. x \$92/ton		\$ 304
Stoker Oil Building		
1671 c.f. x \$0.14/c.f.		\$ 234
Truck Scale		
Concrete: 30 c.y. x \$76/c.y.		\$ 2,280
Scale House: 2250 c.f. x \$0.14/c.f.		\$ 315
Make Up Water Sump		
Concrete Sump: To Be Buried		Included In Regrading
Pump House: 800 c.f. x \$0.14/c.f.		\$ 112
Removal of Equipment Throughout Facility		
190 tons x \$330/ton		\$ 62,700

Removal Of Structures
(Facilities For Surface Mine)

Truck Dump Hopper Hopper & Tunnel to Be Buried	Included In Regrading
Raw Coal (RC) Storage Belt 300 ft. x .075 ton/ft. x \$92/ton	\$ 2,070
Raw Coal (RC) Storage Pile with Concrete Stacking Tube 57.5 c.y. concrete x \$76/c.y.	\$ 4,370
Raw Coal (RC) Reclaim System Tunnel To Be Buried	Included In Regrading
360 ft. (Conveyor structure) x .075/ton/ft. x \$92/ton	\$ 2,484
Transfer Building 21,000 c.f. x \$0.14/c.f.	\$ 2,940
Raw Coal (RC) Transfer Belt 270 ft. x .075 ton/ft. x \$92/ton	\$ 1,863
Removal of Equipment Throughout The Facilities For the Surface Mine 20 ton x \$330/ton	<u>\$ 6,600</u>
SUBTOTAL - Removal of Structures Cost	\$248,600
 PART II - Regrading and Topsoiling	
Plant and Refuse Area 300,000 c.y. x \$1.25/c.y.	\$375,000
Haulroads and Diversions 35,000 c.y. x \$1.25/c.y.	\$ 43,750
Topsoil Respreading 380,000 c.y. x \$1.25/c.y.	<u>\$475,000</u>
SUBTOTAL	\$893,750

PART III - Revegetation Costs

	<u>Cost/Acre</u>	<u>Acres</u>	<u>Total Cost</u>
Seedbed Preparation	\$ 28.56	206.6	\$ 5,900
Seed and Transplant Materials	\$600.00	206.6	\$123,960
Mulching-Crimping (Straw Included)	\$ 72.70	206.6	\$ 15,019
Erosion Control	\$ 37.63	206.6	\$ 7,774
Weed Control	\$ 27.64	206.6	\$ 3,644
Reseeding (based on 25% of area)	\$132.56	51.6	\$ 6,846
Monitoring	\$108.23	206.6	<u>\$ 22,360</u>
SUBTOTAL			\$185,503

TOTAL RECLAMATION COST = \$1,327,853

784.13 Reclamation Plan: General Requirements

OGM COMMENT

(b)(3) The applicant must include contour maps or cross sections that show the anticipated final configuration of all proposed preparation plant and loadout facilities within the permit area.

CONSOL RESPONSE

A contour map of the preparation plant and loadout facilities has been included in plate 15-20.

784.13 Reclamation Plan: General Requirements

OGM COMMENT

(b)(4) The applicant should clarify whether or not vegetation cover will be removed prior to topsoil stockpiling. The location of topsoil stockpiles must be depicted more precisely than on Maps 15-1A and B and the seed mix to be used to stabilize the stockpiles should be given. The applicant must include a soil testing plan as required in UMC 817.25.

CONSOL RESPONSE

Vegetation will be removed on the areas to be stripped of topsoil only if the vegetative cover is of large enough size to prohibit the stabilizing of the topsoil stockpiles.

Seed Plan For Revegetating Topsoil Stockpiles

<u>Species</u>	<u>lbs. of PLS*/acre</u>	<u>PLS*/sq. ft.</u>
Crested Wheatgrass	3.0	12
Streambank Wheatgrass	3.0	11
Western Wheatgrass	3.5	10
Russian Wildrye	3.0	12
Yellow Sweetclover	<u>1.5</u>	<u>9</u>
TOTAL	14.0	54

*PLS - Pure Live Seeds

The topsoils will be tested prior to redistribution to identify if soil amendments will be needed to insure that the reclaimed areas meet their designated postmine land use.

784.13 Reclamation Plan: General Requirements

OGM COMMENT

Shrub tree transplanting as mentioned on page 3-58 should be done according to the density of woody plants in the reference areas rather than a general density of 6' x 6' centers for the entire area.

(b)(5) The applicant should provide justification for the use of introduced plant species as per the requirements of UMC 817.112.

Although several seed mixes are proposed for different plant associations, the applicant needs to indicate which mix will be used for each vegetation type that is or will be disturbed.

Alternative species are listed with each mix. Specifically, what species will be used? What species will they replace?

It is suggested that the applicant develop new seed mixes, giving consideration to the native species in each vegetation type (as indicated in the vegetation study) and local conditions.

Temporary and contemporaneous reclamation should be addressed by the applicant, including: methods to be employed for seeding and mulching; seed mix(es) to be used for topsoil stockpile stabilization; and outslopes on dams, embankments, road cuts, etc., and irrigation and pest (weed) control measures (if used) UMC 817.100.

817.21-.25 Topsoil: General Requirements

OGM COMMENT

Applicant must address the method to be used for final reclamation of topsoil stockpile areas.

CONSOL RESPONSE (Refers to previous two OGM Comments)

15.3.5.5 Seedings (Methods, Timing, and Seed Plan)

Once the seedbed has been prepared, the disturbed acreages will be seeded to grasses and shrubs. Some shrub transplanting will be performed using many of the species common to the surrounding area.

All grass and shrub seeding will be performed using a drill that is specially designed to seed grass and shrub seed, with uniquely constructed seed boxes for handling seeds of a variety of sizes and weights. Generally, seeding will take place just prior to the period when moisture is adequate for germination, emergence, and establishment (early spring); however, some seeding may also be done in the fall. All shrub transplanting will be done in the spring.

Of the four plant communities that will be disturbed by the prep plant and associated facilities, the "greasewood community" makes up the largest portion of the area with 47%, followed by the "annual forb community" with 32% and the "mixed desert shrubland" community with 19% of the total area. "Agricultural land" makes up approximately 2% of the total area. Consol has developed two seed plans for the postmine disturbance areas. One is intended to psuedo-replace the "greasewood shrubland" type previously removed and one is to psuedo-replace the "mixed desert shrubland" type. The acreages previously occupied by the "annual forb community" and the "agricultural lands" type will be seeded to one of these two seed plans also. The reasons why similar types are not re-established for these latter two types are because (1) the "annual forb community" has so little to offer as a habitat type for wildlife or livestock, (2) the "agricultural lands" type make up an insignificant amount of the total disturbed area.

The two seed plans that will be utilized for revegetation are as follows:

<u>Species</u>	<u>SEED PLAN A</u>	
	<u>lbs. of PLS*/acre</u>	<u>PLS*/sq. ft.</u>
Crested wheatgrass	1.5	6
Indian ricegrass	1.0	4
Alkali sacaton	0.25	10
Western wheatgrass	2.0	6
Winterfat	4.0	5

4-wing saltbrush	4.0	6
Rubber rabbitbrush	1.0	8
Galleta	<u>1.5</u>	<u>5</u>
TOTALS	15.25	50

To be seeded on 105 acres of the most arid portion of the disturbed sites. Is to replace the "mixed desert shrubland" and the "annual forb community" acreages.

SEED PLAN B

<u>Species</u>	<u>lbs. of PLS*/acre</u>	<u>PLS*/sq. ft.</u>
Pubescent wheatgrass	5.0	10
Streambank wheatgrass	2.5	9
Crested wheatgrass	1.5	6
Russian wildrye	2.5	10
4-wing saltbrush	4.0	6
Rubber rabbitbrush	1.0	8
Winterfat	4.0	5
Big sagebrush	0.25	14
Alfalfa	<u>1.0</u>	<u>5</u>
TOTALS	21.7	73

To be seeded on 101.6 acres of the most mesic of the disturbed sites. Is to replace the "greasewood shrubland" and "agricultural land" type acreages.

In addition to seeding, these two reclamation sites will have live shrub transplants put in also. The species to be used and planting rates are as follows:

TRANSPLANT PLAN A
(Corresponds with Seed Plan A)

<u>Species</u>	<u>Plants/Acre</u>	<u>% of total no./acre</u>
Oldman wormwood - (ARAB)	61	5
Four-wing saltbrush - (ATCA)	302	25
Shadscale - (ATCO)	182	15

Greasewood - (SAVE)	61	5
Gardner saltbush - (ATGA)	243	20
Winterfat - (CELA)	61	5
Rubber rabbitbrush - (CHNA)	61	5
Cliffrose - (COME)	121	10
Nevada Mormon tea - (EPNE)	61	5
Great Plains yucca - (YUGL)	<u>61</u>	<u>5</u>
TOTALS	1,209	100

These shrubs are to be planted on approximate 6' x 6' centers.

TRANSPLANT PLAN B
(Corresponds with Seed Plan B)

<u>Species</u>	<u>Plants/Acre</u>	<u>% of total no./acre</u>
Oldman wormwood - (ARAB)	54	10
Big sagebrush - (ARTR) (var. wyomingensis)	134	25
Greasewood - (SAVE)	27	5
Fourwing saltbush - (ATCA)	134	25
Winterfat - (CELA)	54	10
Antelope bitterbrush - (PUTR)	54	10
Oakbrush sumac - (RHTR)	27	5
Woods rose - (ROWO)	27	5
Great Plains yucca - (YUGL)	<u>27</u>	<u>5</u>
TOTALS	538	100

These shrubs are to be planted on approximate 9' x 9' centers.

All transplants will probably be inoculated with mycorrhizae before being transplanted.

As is evident, plan A has fifteen species to be re-established on 105 acres of the most arid site of the disturbance area. Plan B also has a total of fifteen species to be re-established on 101.6 acres of the most mesic reclamation sites. However, the species to be utilized and the

seeding rates and transplant densities differ significantly. Plan A is meant to generally represent the "mixed desert shrub" reference area which has approximately 4,497 stems per acre. Plan B is meant to generally represent the "greasewood" reference area which has approximately 3,420 plants/acre in its present form.

Plan A has a lower seeding rate than Plan B, but has a much higher transplanting density rate. The mesic sites where Plan B will be utilized is more conducive to seeding than the dryer Plan A sites, however the transplants will not be as affected by the differences in sites. Because the "MDS" reference area has higher densities of shrubs than the "GW" reference area, Plan A also has a much higher transplanting density than the Plan B sites.

Of the 23 species proposed to be utilized in revegetating the disturbance sites, five of them are introduced species. These five species are: crested wheatgrass, pubescent wheatgrass, russian wildrye, alfalfa, and oldman wormwood. None of these species are poisonous or noxious and are compatible with the plant and animal species of the region. These species are necessary to aid in achieving a quick and permanent stabilizing cover that enhances the control of soil erosion. All of these species have been studied in appropriate field trials (most of them extensively) and have demonstrated their ability at establishing effective cover capable of achieving the postmining land use.

Total area to be revegetated will be 206.6 acres.

Revegetation of all land that is disturbed by surface operations will occur as contemporaneously as practicable with mining operations.

Topsoil stockpiles and pond embankments will be seeded to temporarily control erosion. The seed mix to be used is as follows:

TOPSOIL STOCKPILES, DIVERSION DITCH, AND POND EMBANKMENT SEED MIX

<u>Species</u>	<u>lbs. of PLS/acre</u>
Crested wheatgrass	3
Streambank wheatgrass	3
Russian wildrye	3
Western wheatgrass	3.5
Yellow sweetclover	<u>1.5</u>
TOTAL	14.0

Topsoil stockpile sites will be revegetated after the stockpile has been removed and respread. These sites will be tilled, harrowed, reseeded (with the same mix that is used on the major disturbance area), and mulched to insure revegetation success.

784.13 Reclamation Plan: General Requirements

OGM COMMENT

The applicant should indicate the rate of application of the mulch to be used.

The applicant should commit to mulching all areas that are reseeded or provide justification for not mulching, i.e., successful stand establishment and erosion control on previous revegetated areas or test plots (UMC 817.114[a]).

CONSOL RESPONSE

15.3.5.6 Mulching

Straw mulch will be applied at a rate of 2,000 lbs./acre to all reclamation areas with potentially serious erosion problems. All other acreages will have mulch applied to them at a ratio of 1,000 lbs./acre. The mulch will aid in controlling erosion, promoting germination of seeds, and increasing the moisture retention of the soil. After the mulch is blown onto the disturbed acreages, the mulch will be crimped in with a straight disk crimper. This process will secure the mulch to the soil.

784.13 Reclamation Plan: General Requirements

OGM COMMENT

The methods proposed to be used to determine the success of the vegetation as required in UMC 817.116 should be described.

CONSOL RESPONSE

15.3.5.7.1 Management

Please refer to section 3.5.5.4 in Chapter 3.0 of the Emery Mine permit application for details concerning vegetation management. Please note that section 3.5.5.4 has been revised in this report.

15.3.5.7.2 Vegetation Monitoring and Success Standards

The vegetation on the reclaimed sites will be monitored at intervals through the entire liability period. Data will be collected primarily for cover and productivity. Some density measurements may also be taken.

Since the postmining land use is to be rangeland and to be primarily utilized for livestock grazing, productivity and cover will be the measurements used for primary comparisons to the designated vegetative reference areas. For the prep plant and associated facilities, these reference areas will be the "mixed desert shrubland" and "greasewood" sites. No comparisons will be made until the last two years of the liability period at the earliest. Reference areas will be managed similar to the reclamation sites.

Actual measurement techniques to be utilized for obtaining cover and productivity data for comparisons will be submitted to the appropriate regulatory authorities for approval prior to their use.

784.13 Reclamation Plan: General Requirements

OGM COMMENT

The applicant should describe the proposed methods for weed control in the revegetated areas.

CONSOL RESPONSE

3.5.5.4 Management

The revegetated acreages will be carefully managed for 2 or 3 years after seeding and transplanting to control weeds, etc., and to ensure that the new vegetation is taking hold. Methods of weed control will probably be selective spraying of weeds by hand with approved herbicides. However, since actual reclamation of these sites will take place at least 30 years from now, exact methods to be used will depend on the technology that exists at that time. All methods will be submitted to the appropriate regulatory authority at or near reclamation time for approvals before implementation.

Once the liability period starts very little will be done to the areas. Some grazing may be allowed under very careful control.

784.14 Reclamation Plan: Protection of Hydrologic Balance

OGM COMMENT

(b)(1) The plant diversion ditch (plate 15-1 and 15-10) has no apparent outlet point. Applicant must specify outlet for diversion.

CONSOL RESPONSE

The plant diversion ditch illustrated on plate 15-10 consists of an upper reach (shown on this plate) and a lower reach (shown on plate 15-5). The lower reach of the diversion structure serves as the northern ditchline of the proposed main entrance road.

Plate 15-10 has been revised to indicate that station 11+18 of the plant diversion ditch will tie into the proposed main entrance road ditchline.

784.14 Reclamation Plan: Protection of Hydrologic Balance

OGM COMMENT

It is not clear how the ground water swell occurring from irrigation flows will be diverted. Please clarify.

CONSOL RESPONSE

As stated in section 15.3.4.3 of the permit application, Consol intends to divert the irrigation runoff directly to Quitchupah Creek. This diversion will remove the source of the ground-water mound and at the same time, allow direct return of runoff to Quitchupah Creek.

784.14 Reclamation Plan: Protection of Hydrologic Balance

OGM COMMENT

(c) Describe the means utilized to estimate TDS at 5,000 to 10,000 mg/l for the slurry cell seepage. Upon commencement of operations, a toxicity report should be supplied for the slurry refuse and coarse refuse to justify minimal impact to the ground-water regime.

CONSOL RESPONSE

A study performed by the Utah Water Research Laboratory (1981) entitled "Use of Saline Water In Energy Development" listed water analyses for coal slurries. One of these slurries was obtained by mixing coal from the Emery Mine with water of TDS content comparable to that of the mine

discharge water. The TDS of the slurry increased to 5,100 mg/l from 4,640 mg/l of the original water. The stated range of 5,000-10,000 mg/l TDS for the seeped water was given to incorporate the indeterminate effects of leaching by the water migrating through the unsaturated zone.

Extraction procedure (EP) toxicity tests will be performed on both the slurry and coarse refuses upon commencement of operations.

784.14 Reclamation Plan: Protection of Hydrologic Balance

OGM COMMENT

On page 15-36, it states that initial samples from slurry cell monitoring wells will be submitted for complete major and minor components. Has ground water monitoring begun in the six wells designated? Seasonal variation in baseline data must be submitted prior to commencement of surface operations. A list of water monitoring parameters should be submitted as part of the permit application.

CONSOL RESPONSE

The six wells proposed to monitor the slurry impoundment area have not been drilled yet. The statement on page 15-36 regarding sample analysis merely qualifies the types of analysis which Consol intends to perform when the samples are obtained.

Consol acknowledges that baseline data which characterizes seasonal variation must be submitted prior to commencement of surface operations.

Following monitor well completion, Consol intends to measure water levels bi-monthly and sample for quality quarterly. Temperature, pH, specific conductance, and water level shall be determined in the field for each sample obtained. In addition, the following parameters shall be analyzed on a quarterly basis for a period of one year:

Turbidity	Cadmium
Total Dissolved Solids	Calcium
Total Hardness	Chloride
Aluminum	Chromium
Arsenic	Copper
Barium	Fluoride
Boron	Iron - Total
Carbonate	Lead
Bicarbonate	Magnesium
Molybdenum	Manganese
Mercury	
Nickel	
Nitrogen: Ammonia, Nitrate, Nitrite	
Potassium	
Phosphate - Dissolved	
Selenium	
Sodium	
Sulfate	
Sulfide	
Zinc	

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dam and Embankments

OGM COMMENT

(e) The applicant must demonstrate that sufficient material is available to line the slurry cells with two feet of compacted shale. If a borrow area is utilized, the applicant must address the disturbance and reclamation of these areas in terms of the appropriate regulations. A materials balance should be provided showing the volume of material to be excavated, placed as a liner and liner protector, stockpiled and used in the embankment.

CONSOL RESPONSE

The slurry impoundment area will be lined with two feet of compacted shale. The approximate volume of material required is 86,000 cubic yards. The borrow material will be excavated from the shale ridge in the area indicated as BA1 on Plate 15-17. Refer to the lab and drilling analysis performed by Rollins, Brown & Gunnell, Inc. in section 5 of the proposed application. Drill hole #6 was analyzed and the results show at least 30 feet depth of shale material available. This shale material will be excavated along the ridge until the required volume is obtained. During construction, a competent engineer will evaluate the properties to assure the shale material excavation and placement are performed correctly.

Cut and Fill Volume Summary

Cut (Cubic Yards)

Slurry Pond Excavation	<u>350,000</u>
Clay Liner	<u>86,000</u>
TOTAL	436,000

Fill (Cubic Yards)

Embankments	45,000
Protective Cover	30,000
Clay Liner	86,000
Subsoil Stockpile	215,000
Topsoil Stockpile	<u>60,000</u>
TOTAL	436,000

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

OGM COMMENT

(e)(1) Information, such as drill logs, used to determine the ground water levels in the alluvium and Ferron Sandstone and the top of the Blue Gate Shale should be provided. Field work and/or analyses used to determine the permeabilities of material underlying the refuse area (page 15-29, 0.05 ft/day to 2.70 ft/day) and information on how the void ratios and volumetric water content were determined should be provided.

CONSOL RESPONSE

Drill holes used to determine structural contours for the top of the Blue Gate Shale were FC49, FC76, FC 288, FC 294, FC347, FC348, FC458, FC500, and FC511. Logs for these holes are enclosed.

Ground water levels in the alluvium were determined entirely from foundation investigation boreholes. Logs for these holes are depicted in the geotechnical report (see Section 15.5 of the permit application). Ground water level contours for the upper Ferron Sandstone were computer generated using data acquired in June, 1981. These data, from wells H(U), R-2(U), Lewis, Bryant, AA(U), USGS1-2, Muddy #1, and Muddy #2, are included with this report.

Permeabilities of material underlying the refuse area are listed in Table 1 of the geotechnical report in Section 15.5. Void ratios were taken from consolidation test results at the 0.01 tons/sq. ft. pressure level and converted to porosity values. These tests are also included in the geotechnical report.

Volumetric water content (θ) was determined by using the relation:

$$\theta = \frac{w f_b}{\rho_w}$$

where w is the moisture percent (gravimetric water content), f_b is the dry bulk density, and ρ_w is the density of water. Values of f_b and w are given in figures 16, 17, and 18 of the geotechnical report for specific samples intervals within the proposed refuse area.

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

OGM COMMENT

(e)(3) The assumption that the pore-size distribution is between one and three must be verified (page 15-32). McWhorter and Nelson (1979) state only that the equation is viable for strata with a pore-size distribution between one and three not that this situation is always true.

CONSOL RESPONSE

McWhorter (personal communication, 1982) stated that a pore-size distribution index (λ) of 2 was applicable for soils ranging from silty clay to sandy gravel. Additionally, he stated that virtually all natural porous media would have λ values greater than one and less than three.

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

OGM COMMENT

The information used for the determination of porosity and the basis of the assumption of the value of specific retention stated on pages 15-32, 15-33, and 15-34 should be provided.

CONSOL RESPONSE

As stated previously, porosity values were determined from void ratios given in the geotechnical report. Values of specific retention were approximated by taking the average median particle diameter and comparing it to published values of specific retention for other alluvial materials (Davis and DeWiest, 1966).

784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankments

OGM COMMENT

How was the value for the water level of 2.7 feet in the fine refuse determined? It appears that from the cell bottom to the top of the dewatering pipe is 2.25 ft.

CONSOL RESPONSE

The water level value of 2.7 feet represents the average height to the phreatic line, within the fine refuse, above the clay liner. It was determined by averaging the values of pond depth and/or height to the

phreatic line within cell #2 for the first five years of operation. The dewatering pipe will be extended to accomodate stages above the illustrated 2.25 foot level as operation of the cell requires.

784.19 Underground Development Waste

OGM COMMENT

Applicant must provide plans for the disposal area-material stockpile area shown on plate 15-1B. Pursuant to 784.11(b)(2)(4) submit a narrative explaining the construction, use, maintenance and removal of the stockpile. Submit maps and cross sections of the stockpile in accordance with 784.23(b)(5). The stockpile is considered an underground development waste disposal area and should comply with the requirements under 784.19 and 817.71-.74 (underground development waste is defined as mixtures of materials that are excavated, moved and disposed of during development and preparation of areas incident to underground coal mining activities). Plate 15-13 portrays the excess waste disposal area off the earth embankment dike (noted from cross-section). Applicant must clarify extent of this waste disposal area.

CONSOL RESPONSE

Earth removed during construction of the slurry pond will be stockpiled so as to be available for respreading over the slurry pond and coarse refuse pile. Approximately 350,000 cubic yards of material will be excavated during the construction of the slurry pond. Approximately 60,000 cubic yards of this material is classified as topsoil and will be stockpiled separately from the subsoil. About 45,000 cubic yards of the subsoil will be used in construction of the embankments around the pond. About 30,000 cubic yards of subsoil will be used as a protective cover for the clay liner. The remainder of the subsoil will be stockpiled.

The subsoil will be stockpiled in the areas designated as a subsoil stockpile on plate 15-17. Prior to commencing subsoil stockpiling operations, the stockpile area will be stripped of topsoil and this topsoil will also be stockpiled. The subsoil stockpiles will be stabilized and maintained in the same manner as the topsoil stockpiles.

784.20 Subsidence Control Plan

OGM COMMENT

The subsidence analysis presented by the applicant for the area around the slurry pond and refuse pile did not include an analysis of the effects of retreat mining. Overlaying plates 15-16 and 21-1 indicate

that retreat mining will occur in this area in the mid-1980's. Subsidence from this operation and its potential effects on the refuse pile and slurry pond should be carefully analyzed by the applicant.

CONSOL RESPONSE

Retreat mining is not proposed for the areas beneath the slurry pond. Plate 15-16 has been changed to more clearly show the areas where retreat mining is intended.

784.24 Transportation Facilities

OGM COMMENT

784.11(b)(3) Pursuant to UMC 817.155, .165 discuss general road maintenance. Include sections of 817.95(b)(1-8) as applicable.

CONSOL RESPONSE

The roads and parking areas will be maintained so that design grades and drainage are kept for life of the facility so as to insure its safe and efficient use. Maintenance will include blading, filling pot holes, replacement of gravel, re-stabilizing cut and fill slopes, brush removal, watering for dust control and minor reconstruction if necessary.

Should a roadway or parking area become structurally damaged by a catastrophic event it will be reconstructed as soon as practical after the event.

After the road or parking area is no longer needed, it will be closed to traffic. The culverts and bridges will be removed and the area will be regraded so as to reestablish the natural drainage. The cut and fill slopes will be rounded and shaped to blend with adjacent terrain and excess fill materials will be used in filling the cut areas. Prior to respreading topsoil the roadbed will be ripped and scarified so as to eliminate slip planes. The topsoil will then be respread to a uniform thickness. The area will then be seeded and stablized in the same manner as the other disturbed areas.

784.24 Transportation Facilities

OGM COMMENT

Pursuant to UMC 817.156, .166(a)(2) discuss plans for restoration of natural drainage patterns upon final reclamation of roads (submit a postmining topographical map).

CONSOL RESPONSE

With the exception of the existing county road, the roads will be reclaimed so as to restore natural drainage. A post-mining topography map for the area has been included with this submittal, plate 15-19.

784.24 Transportation Facilities

OGM COMMENT

784.13(b)(1) Applicant discusses reclamation of roads - 15.3.5.3, page 15-24; the detailed time-table for reclamation (Vol. I, 3.5.6.1, page 3-59) does not include removal and reclamation of roads.

CONSOL RESPONSE

The roadway reclamation has been added to the reclamation time-table (see OGM comment 784.11).

784.24 Transportation Facilities

OGM COMMENT

784.24(a) Pursuant to UMC 817.153, .163 submit drainage ditch design and flow calculation for drainage ditches parallel to proposed roads.

CONSOL RESPONSE

The northern ditch of the main entrance road has been designed to intercept the drainage from the plant site diversion ditch. These calculations are included in the preparation plant application. Refer to pages 15-53 through 15-55. With the completion of the final plant yard design the profile of the diversion has been revised (refer to Plate 15-10). A copy of this revised upper reach calculation sheet, page 15-54, is included here to reflect the change in grade.

The southern ditch of the main entrance road as well as the ditchlines for the coal refuse haulage road and plant access road are designed as small triangular cuts with minimum side slopes of 2:1 and minimum depths of 1 foot. The 10 year - 24 hour runoff is so small that even this triangular section is overdesigned, however equipment used to construct the ditches limits the minimum size, rather than the expected runoff. A calculation sheet is included giving the design for the worst possible case and proves that the ditches are adequately designed as shown on the drawings.

DITCHLINE DESIGN FOR PLANT ACCESS ROAD

Use for a very conservative design:

1. steep slopes
2. CN = 90
3. Type II storm distribution

4. Area = 1. acre maximum
5. 10 year - 24 hour rainfall = 1.5"

Use SCS Method:

1. Refer to SCS-TP-149, A method for Estimating Volume and Rate of Runoff in Small Watersheds.
2. The minimum area on chart is 5 acres. Chart yields peak discharge of 5 cfs.

Check capacity of channel.

Use:

1. Triangular section
2. depth = 1 foot
3. side slopes = 2:1

then:

$$\text{Area} = 2 \text{ ft}^2$$

$$R = 0.5$$

$$N = 0.04 \text{ for small earth drainage ditches}$$

$$S = 10\% \text{ (this is at maximum grade as shown on profile, Plate 15-7)}$$

$$Q = \frac{1.49}{n} R^{2/3} S^{1/2} A = \frac{1.49}{.04} (0.5)^{2/3} (.1)^{1/2} (2)$$

$$Q = 14.84 \text{ cfs} \quad \text{This is much greater than 5 cfs, therefore adequate.}$$

DIVERSION INFORMATION SHEET

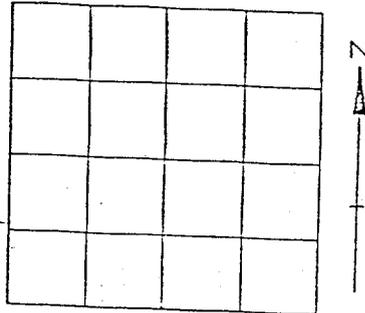
Owner/Operator CONSOL Address _____

County Emery Date 1/27/82

Diversion Identification Number Upper drainage - Prep Plant Diversion

Location of Diversion:

LOCATION MAP



Sec. 33
T. 22 S. X. R. 62 W.

DIVERSIONS AND HAUL ROAD DRAINAGES

1. Total drainage area 43.6 acres
2. Design storm frequency 10 yr - 24 hr
3. Design discharge 5.5 cfs
4. Channel type triangular
5. Base width - feet
6. Sideslope(s) 3 : 1, 3 : 1
7. Channel capacity design
Design flow depth 0.77 feet
8. Channel velocity design
Maximum design flow velocity 2.38 fps

784.24 Transportation Facilities

OGM COMMENT

Applicant shows cross section and profile of 3-120" culverts for Quitchupah Creek crossing. Submit design criteria and calculations used for culvert design. Pursuant to 817.153(c)(1)(i)-.163, culverts should be sized to safely pass the 10-year, 24-hour precipitation event. Plans for compliance with 817.153(c)(1)(ii-v)-.163 must be submitted.

CONSOL COMMENT

The 3-120" culverts proposed for the Quitchupah Creek crossing are designed to pass the 10-year, 24-hour precipitation event without a head of water at the entrance (see attached nomograph for culvert design). The design peak flow of 2186 cfs was used for the design of the existing Quitchupah Creek multi-plate arch bridge which is down stream from this proposed installation. Approval of the existing bridge was received from OGM on March 19, 1979 (refer to correspondences to Tim O'Connor, Consol from K. Michael Thompson, OGM).

REFUSE HAULAGE ROAD
 QUITCHUPAH CREEK CROSSING

HYDRAULICS OF CULVERTS

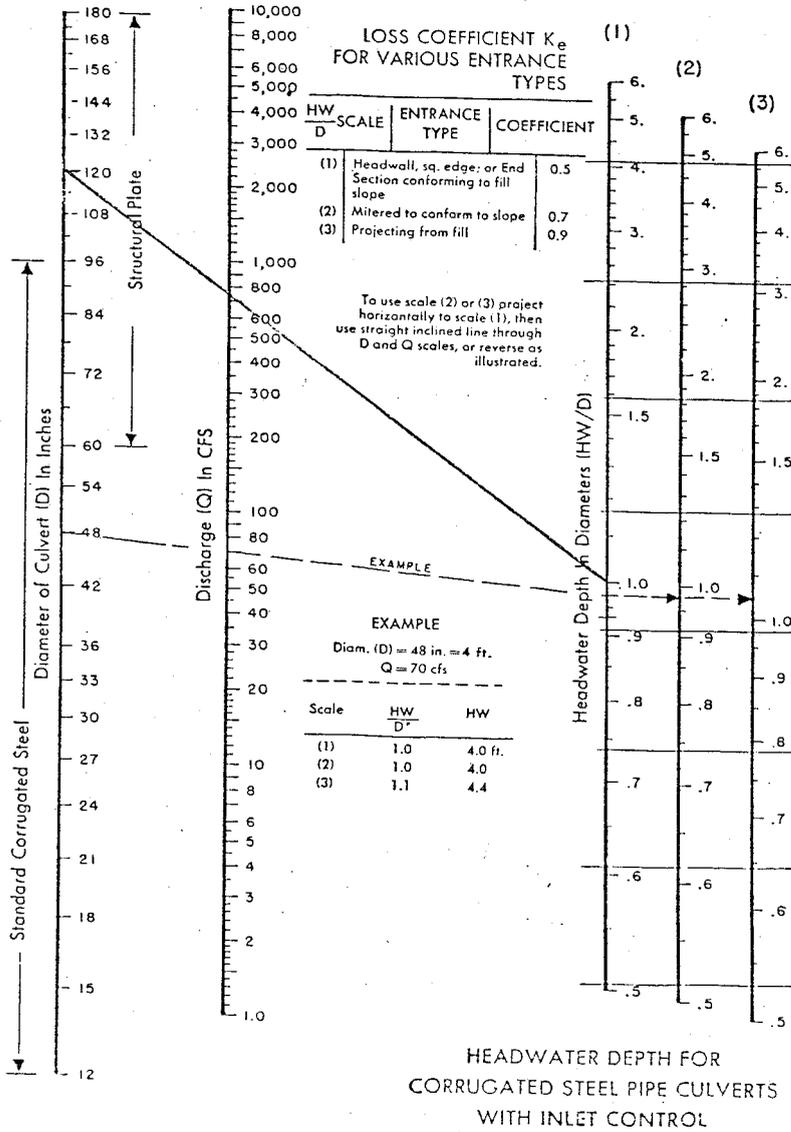


Fig. 4.18. Inlet control nomograph for corrugated steel pipe culverts. The manufacturers recommend keeping HW/D to a maximum of 1.5 and preferably to no more than 1.0.

784.24 Transportation Facilities

OGM COMMENT

817.152, .162 The applicant must provide plans for replacement of topsoil and vegetation on cut and fill slopes on the entrance road in compliance with 817.152, .162(c)(2) and d(14).

CONSOL RESPONSE

Because of the scarcity of topsoils on these disturbance sites, none will be available for use in topsoiling cut and fill slopes for the entrance road. These sites will be stabilized by other means. A heavy application of hydromulch with a strong tackifier will be sprayed onto the bare slopes insuring their stabilization. Jute netting and crimped-in straw mulch may also be utilized if necessary.

784.24 Transportation Facilities

OGM COMMENT

The applicant must provide plans for placement of fill material on the main entrance road in lifts in compliance with parts 817.152(d)(3) or (4) and (5) through (9).

CONSOL RESPONSE

In order to insure the stability of the fill sections of the roadways, the roadway will be first stripped of all topsoil and organic material. Fill material will be placed in uniform lifts not exceeding 12" of depth. Each lift will be leveled and compacted before the next lift is placed. Compactive effort will be sufficient to achieve 95% of the maximum dry density in accordance with ASTM D:698-78 (Standard Proctor Method).

784.24 Transportation Facilities

OGM COMMENT

817.163(c) The applicant must provide plans to install culverts along the coal refuse haulage road that meet the requirement of part (2)(i). Culvert design must incorporate the requirements of Parts (2)(iv) through (vi).

CONSOL RESPONSE

An 18" cross culvert has been located at station 10+00 on the refuse haulage road. To comply with the above mentioned regulations (see plate

15-5) refer to the attached design peak flow calculations and culvert design nomograph.

FLOW DETERMINATION
COAL REFUSE HAULAGE ROAD
CULVERT DESIGN
STATION 10+00

Assume: Culvert needs to pass runoff in ditchline under road into natural drainage. The only runoff in ditchline will be road surface runoff.

Road Characteristics (refer to Plate 15-5):

Length = 800'

Width = $30/2 = 15'$

Area = 12,000 sq. ft. = 0.28 ac.

- Use:
- 1) steep slopes
 - 2) CN = 90
 - 3) 10-year, 24-hour rainfall = 1.5"
 - 4) area = 0.28 acres
 - 5) Type II storm distribution

Use SCS method of design:

- 1) Refer to SCS-TP-149
- 2) The minimum area on chart is 5 acres.
Chart yields.

Peak discharge of 5 cfs.

REFUSE HAULAGE ROAD
CROSS CULVERT

HYDRAULICS OF CULVERTS

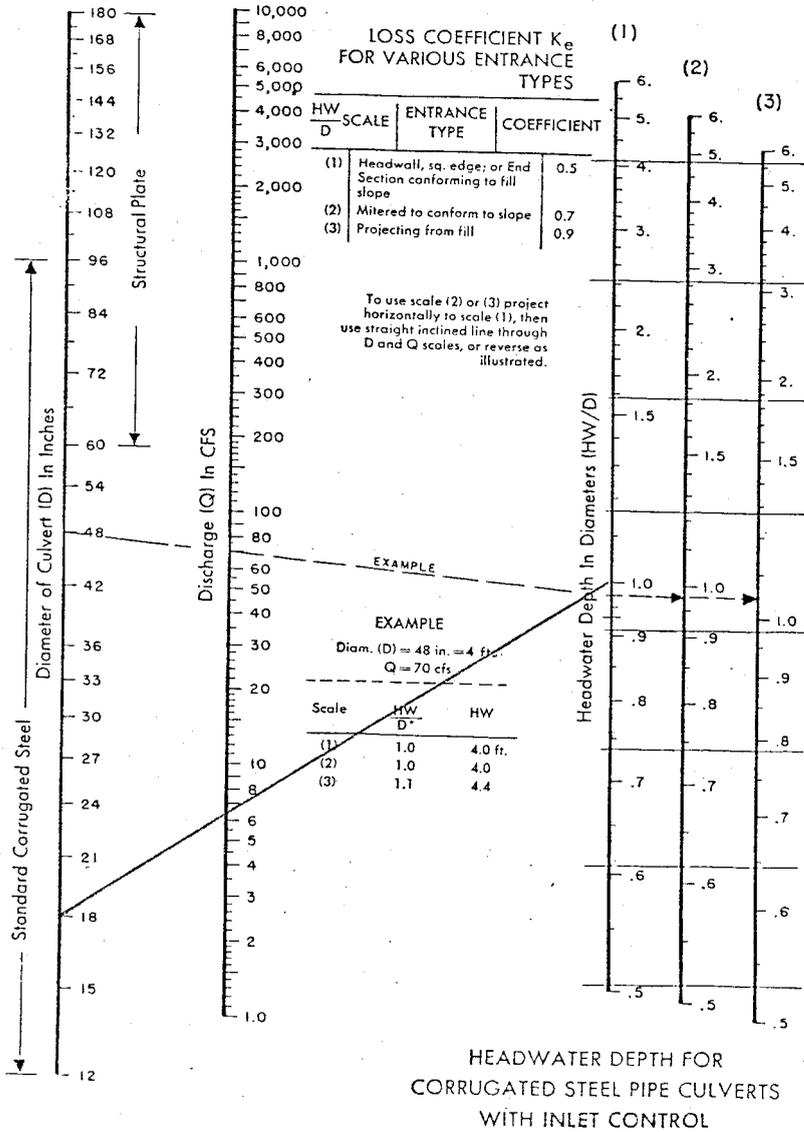


Fig. 4-18. Inlet control nomograph for corrugated steel pipe culverts. The manufacturers recommend keeping HW/D to a maximum of 1.5 and preferably to no more than 1.0.

UMC 817.21-.25 Topsoil: General Requirements

OGM COMMENT

Applicants must supply a soils map of the permit area with an overlay of the proposed area of disturbance for the prep plant and supporting facilities.

CONSOL RESPONSE

The soils map has been modified to show the acreage of disturbance that will be involved in the construction and operation of the prep plant and associated facilities. This map can be found in the maps section of this report.

UMC 817.21-.25 Topsoil: General Requirements

OGM COMMENT

Applicant must provide chemical and physical analysis for the Rafael silty clay loam to justify use as growth medium.

CONSOL RESPONSE

The Rafael silty clay loam was not analyzed in our initial study, which was based on the underground and surface mine permits and not the prep plant and associated facilities permit. Thus for purposes of this completeness review response, we will assume that the USDA-SCS information used in our Soils Inventory Report is correct, but to verify this, Consol will field sample the Rafael series on site to insure our assumptions are correct. The field data will be submitted as soon as possible to the Division of Oil, Gas and Mining personnel.

UMC 817.21-.25 Topsoil: General Requirements

OGM COMMENT

The applicant's mine plan proposes to remove two different depths and volumes of topsoil from the same area. Table 15-1 states one removal depth and volume while Table 8-7 indicates a different removal depth and volume. Applicant must indicate which proposed depth of topsoil is to be removed as well as total volume to be removed.

CONSOL RESPONSE

The table 15-1 has been revised to reflect the data in table 8-7 and to take into account the larger area involved in our new disturbance acreage calculations.

The entire 210 acres (206.6 acres of actual disturbance, taking into account the 3.4 acres that are already disturbed) will have approximately 13.6 inches of topsoil redistributed at the termination of the project.

The revised table 15-1 follows:

PRE-DISTURBANCE TOPSOILS (SPGM) DATA
 PREP. PLANT AND ASSOCIATED FACILITIES AREA

Soil Type	Depth of SPGM (inches)	% of Map Unit	Acreage	Yd ³ to be Recovered
RUB ₂ OK			<u>63.7</u>	<u>153,266</u>
Ravola	30	60	38	153,266 153,583
Bunderson	0	35	22	0
Strongly Saline Soils	0	5	3.7	0
HS OK			<u>1.6</u>	<u>8,066</u> 8083
Hunting	40	95	1.5	8,066
Strongly Saline Soils	0	5	.1	0
FE			<u>0.3</u>	<u>1,331</u>
Ferron Topsoil 0-15"	30	90	.27	1,089 1091
Abbott Topsoil Approx 22" ok to 60"	60	10	.03	242 242
BLB OK			<u>4.0</u>	<u>27,426</u> 27483
Billings Topsoil 2-11"	60	85	3.4	27,426
Bunderson OK SAR & EC to Augh	0	15	0.6	0
PCE ₂ OK			<u>39.0</u>	<u>37,510</u>
Persayo	18	40	15.5	37,510 37,587
Chipeta	0	40	15.5	0
Badland	0	20	8	0
CBE ₂ OK			<u>20.0</u>	<u>4,840</u>
Chipeta OK Topsoil 0-11"	0	50	10	0
Badland	0	40	8	0
Persayo	18	10	2	4,840 4850
CPB ₂			<u>1.7</u>	<u>968</u>
Chipeta	0	60	1	0
Persayo Topsoil 0-11"	18	25	0.4	968 970
Shallow Soils	0	15	0.3	0
RLB ₂ OK			<u>14.0</u>	<u>45,576</u> 45,670
Ravola Topsoil 0-15"	30	80	11.3	45,576
Bunderson	0	20	2.6	0
ILD ₂ OK			<u>7.6</u>	<u>53,105</u>
Ildefonso 0-6" Topsoil	54	85	6.5	47,190 47287
Hunting	40	15	1.1	5,915 5928

CEE ^{ok} ₂			<u>16.7</u>	<u>17,303</u>	
Castle Valley	9	85	<u>14.3</u>	17,303	17,339
Rock Outcrop	0	15	2.4	0	
GU ^{ok}			<u>3.5</u>	<u>0</u>	
Gullied Land	0	100	3.5	0	
AW ^T			<u>2.0</u>	<u>0</u>	
Alluvial Land	0	100	2.0	0	
RA ^{ok}			<u>18.2</u>	<u>29,362</u>	
Rafael	12	100	<u>18.2</u>	29,362	29,423
DL ^{ok}			<u>6.1</u>	<u>0</u>	
Disturbed Land ^{ok}	0	100	6.1	0	
BA ^{ok}			<u>7.3</u>	<u>0</u>	
Badlands	0	100	7.3	0	
RY ^{ok}			<u>0.9</u>	<u>0</u>	
Rock Lands	0	100	0.9	0	
TOTALS			206.6	378,753	379,536
					783,9d3

NOTE: Total acres within the mapped disturbance area = 210. There is one 3.4 acre site included in the total figure that has already been disturbed due to the county road that presently occupies the site. Thus, this acreage figure is not included in the data above.

UMC 817.21-.25 Topsoil: General Requirements

OGM COMMENT

Applicant must provide a map outlining the exact location and dimensions of the topsoil stockpile. Pursuant to UMC 784.23(b)(5), a cross section map of each topsoil stockpile must also be provided.

CONSOL RESPONSE

Plate 15-17 has been included to show the exact locations of the proposed stockpiles and borrow areas. Plate 15-18 shows cross sections of a typical stockpile.

UMC 817.21-.25 Topsoil: General Requirements

OGM COMMENT

Pursuant to UMC 783.24 Prime Farmland Investigation, the applicant must provide a letter from Theron B. Hutchings, State Soil Scientist, indicating concurrence or nonconcurrence with applicant's findings.

CONSOL RESPONSE

This letter has been included in this submittal.

UMC 817.21-.25 Topsoil: General Requirements

OGM COMMENT

The applicant should clarify whether or not vegetation cover will be removed prior to topsoil stockpiling. The applicant must commit to a soil testing plan if shown to be necessary for reclamation pursuant to UMC 817.25.

CONSOL RESPONSE

15.3.5.1 Soil Removal and Storage

Prior to construction of the plant facilities, topsoil will be removed and stockpiled. The topsoil will be removed with scrapers to the depth recommended in the soil classifier's report (Chapter 8.0). The storage piles will be constructed with broad side slopes (2 Hor.:1 Vert.) and will be revegetated with a permanent vegetation cover.

Table 15-1 identifies the soil types found in the construction area and shows the estimated soil volumes that will be removed and stockpiled.

Refer to Consol Response to OGM Comment 784.13 Reclamation Plan: General Requirements, (b)(4) paragraph number one for details on soil testing plans.

Note: If necessary, vegetative cover will be removed prior to topsoil recovery. This will only be done if the vegetation is large enough to cause problems in stabilizing the topsoil stockpiles.

817.93 Coal Processing Waste: Dams and Embankments: Design and Construction

OGM COMMENT

The performance standards listed in this section must be addressed for the coarse refuse dike. The earth embankment has been adequately addressed for this section.

CONSOL RESPONSE

The coarse refuse dikes are illustrated on Plate 15-14. The dikes will be constructed in the embankment to form cell #1. The dikes are composed of an earth core, a clay liner and coarse refuse material which will be placed and allowed to settle at the angle of repose, as described in the permit application.

The sole purpose of this cellular arrangement is to assure that the fines are properly settled and clarified water is available to return to the plant for reuse. The refuse dikes serve only to filter out the small particles in cell #2 so that the water in cell #1 is clarified. The refuse dikes require no structural properties for the purpose of impounding materials. They merely serve to aid in the filtering process of the clarified water. Since the refuse dikes are not defined as, or functioning as a dam or embankment as described in section 817.93, the performance standards of this section are not applicable.

The design for the slurry impoundment has been reviewed and approved by MSHA, indicating a structurally sound and stable impoundment.

817.97 Wildlife Resources

OGM COMMENT

1. The names of the individuals who collected and analyzed the data.

CONSOL RESPONSE

James E. Orpet - Principal Investigator
Michael D. Marcus - Aquatic Resources

Land Resources Technology, Inc.
(formerly Mine Reclamation Consultants, Inc.)
214 Sheridan
Laramie, WY 82070

817.97 Wildlife Resources

OGM COMMENT

2. Specific dates and time for all study periods rather than the time ranges provided (i.e., dates and times of aerial surveys, aquatic surveys, etc.).

CONSOL RESPONSE

Mid-April Survey - April 14-19, 1980

Aerial Flight - 9:00 a.m., 4/14/80

Aquatic Surveys

Physical habitat parameters

Water quality parameters

Terrestrial Wildlife Surveys

Prairie dog colonies

Raptor nest search

Opportunistic observations and habitat affinities of all classes of wildlife

Waterbird surveys

Nest Searches for Scott's oriole and Western bluebird

May-June Survey - May 29-June 2, 1980

Aquatic Surveys

Riparian vegetation

Terrestrial Wildlife Surveys

Prairie dog colonies

Raptor nest and production surveys

Nest searches for Scott's oriole and Western bluebird

Waterbird surveys

Habitat affinity transects

Opportunistic observations and habitat affinities of all classes of wildlife

Late July Survey - July 27-30, 1980

Aquatic Surveys

Physical habitat parameters

Water quality parameters

Aquatic vegetation

Terrestrial Wildlife Surveys

Opportunistic sightings

Early October Survey - October 5-9, 1980

Aquatic Surveys

Physical habitat parameters

Water quality parameters

Fish sampling

Aquatic and riparian vegetation

Macroinvertebrates

Terrestrial Wildlife Surveys

Prairie dog colonies

Waterbird surveys

Opportunistic observations and habitat affinities of all species

Specific dates of aquatic surveys by sample sites are shown in Tables 10-3, 10-5, 10-6, and 10-7.

817.97 Wildlife Resources

OGM COMMENT

3. Descriptions of the methodology used to collect and analyze the data; including sample sizes, techniques used for determining density and diversity of benthic invertebrates (i.e., sample size, site of collection, method used in collecting, etc.) the number of times each habitat was traversed to determine habitat preference, etc.

CONSOL RESPONSE

Sampling methodology is described in Section 10.2 of the Fish and Wildlife Resources section. Aquatic sample site locations are described in Table 10-1 and shown on Map 10-1. The method of collecting benthic invertebrates was by using a dip net and preserving specimens in alcohol for further identification as stated in Section 10.2.2.7. One collection was made at each aquatic survey site and included turning over rocks and/or submerged debris as well as use of the dip net. Quantitative estimates of abundance of aquatic macroinvertebrates were based on relative density of invertebrates at the sample sites and on the investigators experience studying invertebrate populations in other streams.

Habitat affinity transect locations are shown on Map 10-1. Each transect was traversed once. Wildlife observations made during other field work were also recorded by habitat type to determine habitats most important to wildlife.

817.101-.103 Backfilling and Grading

OGM COMMENT

Applicant has submitted a backfilling and grading reclamation plan: Vol. 1.0, 3.5.4 and Vol. 11.0 - 15.3.5.3. Pursuant to 784.13(b)(3) and 784.23(b)(11), submit contour maps or cross sections which show the anticipated final surface configuration of all facilities within the proposed permit area which will assure proper drainage and stability of land surfaces.

CONSOL RESPONSE

Plate 15-19 shows the intended post-mining topography of the disturbed area.

817.101-.103 Backfilling and Grading

OGM COMMENT

Pursuant to 817.85(d), applicant must specify that the coal processing waste will be covered with four feet of the best available nontoxic material. The availability of this material in sufficient quantities must be demonstrated or chemical analysis of the material should be provided to demonstrate that it is nontoxic. 15.3.5.4 addresses topsoil depths to be replaced for reclamation of the coarse refuse and slurry disposal areas. However, there is no justification based on a toxicity analysis.

CONSOL COMMENT

During the reclamation phases of this project the coal processing wastes will be covered with the subsoil material that has been stockpiled for this purpose before spreading the topsoil material.

An estimated 350,000 cubic yards of subsoil and topsoil will be available for respreading over the 42 acres of disturbed area. This volume of material should provide about five feet of cover for the refuse area.

SEQ NO = 1 DRILL HOLE NO = FC 49 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = G5 SURFACE ELEV. = 5945.25 HOW DET. = 6
 N-COORD = 193310 E-COORD = 2065380 SOURCE = 2 LOCATION = 2
 THK CORED = .00 THK N-CORED = .00 USGS = ACORD LAKES SZE. CD. = 1

SEQ NO. = 2 DRILL HOLE NO = FC 49 FORMAT = B PROPERTY OR FARM = DRILLER = GILLAND L
 DRILL CONTR = CONSOL DATE DRILLED = 0469
 TWP OR PLACE = EMERY COMMENTS = CEMENT

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 49	C	.00	42.00	42.00	SS	GRY SFT		0	
4	FC 49	C	42.00	125.00	83.00	SH	GRY		0	
5	FC 49	C	125.00	143.00	18.00	SH	BLK SDY		0	
6	FC 49	C	143.00	168.00	25.00	SS	GRY	TF	0	
7	FC 49	C	168.00	180.00	12.00	SH	BLK SDY		0	
8	FC 49	C	180.00	281.50	101.50	SS	GRY		0	
9	FC 49	C	281.50	282.70	1.20	SH	MED GRY		0	
10	FC 49	C	282.70	283.90	1.20	BO		J	0	
11	FC 49	C	283.90	284.60	.70	SH	DRK GRY CRB COV		0	
12	FC 49	C	284.60	287.80	3.20	ST	DRK GRY SDY FGR		0	
13	FC 49	C	287.80	288.30	.50	SS	FGR LIT GRY SHS		0	
14	FC 49	C	288.30	288.60	.30	SH	DRK GRY		0	
15	FC 49	C	288.60	288.90	.30	SS	FGR LIT GRY SHY		0	
16	FC 49	C	288.90	289.60	.70	SH	BLK		0	
17	FC 49	C	289.60	289.92	.32	SS	FGR SHL		0	
18	FC 49	C	289.92	295.13	5.21	CO		UI	0	
19	FC 49	C	295.13	295.15	.02	SH		UI	0	
20	FC 49	C	295.15	296.79	1.64	CO		UI	0	
21	FC 49	C	296.79	296.83	.04	SH			0	
22	FC 49	C	296.83	297.05	.22	CO			0	
23	FC 49	C	297.05	297.30	.25	BO			0	
24	FC 49	C	297.30	300.52	3.22	CO		LI	1	
25	FC 49	C	300.52	300.57	.05	SH		LI	1	
26	FC 49	C	300.57	300.92	.35	CO		LI	1	
27	FC 49	C	300.92	300.93	.01	SH		LI	1	
28	FC 49	C	300.93	305.79	4.86	CO		LI	1	
29	FC 49	C	305.79	305.87	.08	SH			0	
30	FC 49	C	305.87	311.20	5.33	CO		LI	5	
31	FC 49	C	311.20	311.60	.40	BO			0	
32	FC 49	C	311.60	314.20	2.60	SH	DRK GRY HRD		0	
33	FC 49	C	314.20	318.60	4.40	SH	DRK GRY FRB SFT		0	
34	FC 49	C	318.60	321.10	2.50	SH	BLK HRD COL BH		0	

SEQ NO = 1 DRILL HOLE NO = FC 76 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = H2 SURFACE ELEV. = 5943.85 HOW DET. = 6
 N-COORD = 193504 E-COORD = 2067150 SOURCE = 2 LOCATION = 1
 THK CORED = .00 THK N-CORED = .00 USGS = WALKER FLAT SZE. CD. = 1

SEQ NO. = 2 DRILL HOLE NO = FC 76 FORMAT = B PROPERTY OR FARM = DRILLER = GILLAND L
 DRILL CONTR = CONSOL DATE DRILLED = 1069
 TWP OR PLACE = EMERY COMMENTS = CEMENT

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 76	C	.00	5.00	5.00	SM			0	
4	FC 76	C	5.00	100.00	95.00	SH	GRY		0	
5	FC 76	C	100.00	137.60	37.60	SS			0	START CORE
6	FC 76	C	137.60	138.20	.60	CO			0	
7	FC 76	C	138.20	151.50	13.30	SH	CRB SDY		0	
8	FC 76	C	151.50	178.00	26.50	SS			0	
9	FC 76	C	178.00	195.50	17.50	SH	CRB SDY		0	
10	FC 76	C	195.50	201.80	6.30	SS			0	
17	FC 76	C	201.80	206.88	5.08	SS	GRY FGR		0	
18	FC 76	C	206.88	209.65	2.77	SH	BLK HRD CRB		0	
19	FC 76	C	209.65	209.65	.00	CO	EXH	J	0	
20	FC 76	C	209.65	211.50	1.85	SH	BLK CLY		0	
21	FC 76	C	211.50	211.60	.10	CO		UI	0	
22	FC 76	C	211.60	216.52	4.92	CO	HRD	UI	0	
23	FC 76	C	216.52	216.57	.05	SH	LIT	UI	0	
24	FC 76	C	216.57	216.90	.33	CO	HRD	UI	0	
25	FC 76	C	216.90	217.07	.17	CO	SHY	UI	0	
26	FC 76	C	217.07	217.29	.22	SH	BLK COL		0	
27	FC 76	C	217.29	220.93	3.64	CO	HRD	LI	1	
28	FC 76	C	220.93	222.95	2.02	SH	DRK		0	
29	FC 76	C	222.95	228.00	5.05	CO	HRD	LI	5	
30	FC 76	C	228.00	231.80	3.80	CO	HRD	LI	5	
31	FC 76	C	231.80	232.92	1.12	SH	DRK COS		0	
32	FC 76	C	232.92	233.93	1.01	SS	GRY		0	
33	FC 76	C	233.93	236.56	2.63	SH	BLK CLY		0	
34	FC 76	C	236.56	238.61	2.05	SH	DRK GRY SDY		0	
35	FC 76	C	238.61	241.80	3.19	SH	DRK GRY CLY BH		0	SSE

SEAM CODE	SAMP NO	SAMPLE FROM	DEPTH TO	ANALYSIS CODE	PROXIMATE ANALYSIS	EQUIL. F	
					%MOIS %VOL %CARB %ASH %SUL BTU	MOIST P	
1	FC 76	D	IJ 1	211.80	218.00	1	5.2 36.8 50.7 7.4 .50 12595 .00 F
2	FC 76	D	IJ 1	211.80	218.00	2	.0 38.8 53.4 7.8 .53 13284 .00 F

SEQ NO = 1 DRILL HOLE NO = FC 288 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5941.06 HOW DET. = 6
 N-COORD = 191614 E-COORD = 2065345 SOURCE = 2 LOCATION = 1
 THK CORED = 75.50 THK N-CORED = 284.50 USGS = SIZE. CD. =

SEQ NO. = 2 DRILL HOLE NO = FC 288 FORMAT = B PROPERTY OR FARM = DRILLER = GORDON
 DRILL CONTR = DATE DRILLED = 0774
 TWP OR PLACE = COMMENTS =

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 288	C	.00	36.80	36.80	SN	BRN		0	
4	FC 288	C	36.80	40.50	3.70	GR			0	
5	FC 288	C	40.50	49.40	8.90	SN	BRN		0	
6	FC 288	C	49.40	72.80	23.40	SH			0	
7	FC 288	C	72.80	72.80	.00	SS		TF	0	
8	FC 288	C	72.80	94.60	21.80	SS			0	
9	FC 288	C	94.60	161.00	66.40	SS	GRY HRD		0	
10	FC 288	C	161.00	166.50	5.50	CL	BRN SDY		0	
11	FC 288	C	166.50	177.90	11.40	SS	GRY HRD		0	
12	FC 288	C	177.90	179.40	1.50	CL	BRN SDY		0	
13	FC 288	C	179.40	200.00	20.60	SS	HRD		0	
14	FC 288	C	200.00	200.25	.25	SS	CAS GRY HRD		0	CORED
15	FC 288	C	200.25	200.60	.35	SH	CRB SDY		0	CORED
16	FC 288	C	200.60	201.05	.45	SS	GRY HRD SHY		0	CORED
17	FC 288	C	201.05	201.40	.35	SS	CAS GRY HRD		0	CORED
18	FC 288	C	201.40	201.80	.40	SS	GRY COL HRD		0	CORED
19	FC 288	C	201.80	204.10	2.30	SH	DRK GRY SDY		0	CORED
20	FC 288	C	204.10	205.20	1.10	SH	CRB SFT		0	CORED
21	FC 288	C	205.20	206.00	.80	SH	DRK GRY SDY		0	CORED
22	FC 288	C	206.00	206.30	.30	SH	CRB COL		0	CORED
23	FC 288	C	206.30	206.75	.45	CO		J	1	CORED
24	FC 288	C	206.75	207.10	.35	BO		J	1	CORED
25	FC 288	C	207.10	207.65	.55	SH	CRB COL		0	CORED
26	FC 288	C	207.65	208.80	1.15	SH	DRK GRY SFT		0	CORED
27	FC 288	C	208.80	209.00	.20	SH	CRB COL		0	CORED
28	FC 288	C	209.00	209.60	.60	CO		J	3	CORED
29	FC 288	C	209.60	210.00	.40	CO		J	3	LOSS CORED
30	FC 288	C	210.00	210.85	.85	CO		J	3	CORED
31	FC 288	C	210.85	211.45	.60	BO		UI	0	CORED
32	FC 288	C	211.45	213.65	2.20	CO		UI	0	CORED
33	FC 288	C	213.65	213.85	.20	BO		UI	0	CORED
34	FC 288	C	213.85	217.10	3.25	CO		UI	0	CORED
35	FC 288	C	217.10	217.50	.40	SH	BNY COL		0	CORED
36	FC 288	C	217.50	217.70	.20	CL	CRB SFT COL		0	CORED

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH		THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
			FROM	TO						
37	FC 288	C	217.70	218.00	.30	CO		LI	1	CORED
38	FC 288	C	218.00	218.10	.10	BO		LI	1	CORED
39	FC 288	C	218.10	218.20	.10	ST	COL		0	CORED
40	FC 288	C	218.20	225.50	7.30	CO		LI	1	CORED
41	FC 288	C	225.50	225.70	.20	CO		LI	1	CORED
42	FC 288	C	225.70	225.85	.15	CO		LI	1	CORED
43	FC 288	C	225.85	227.55	1.70	SH	CRB COL SFT		0	CORED
44	FC 288	C	227.55	231.35	3.80	CO		LI	5	CORED
45	FC 288	C	231.35	231.65	.30	SH	CRB SDY		0	CORED
46	FC 288	C	231.65	231.85	.20	SS	SLY COL		0	CORED
47	FC 288	C	231.85	232.00	.15	SS	GRY MED HRD		0	CORED
48	FC 288	C	232.00	234.75	2.75	SS	GRY HRD		0	CORED
49	FC 288	C	234.75	235.50	.75	SH	SDY SLY		0	CORED
50	FC 288	C	235.50	240.90	5.40	SS	GRY HRD		0	
51	FC 288	C	240.90	245.40	4.50	CL	GRY SDY		0	
52	FC 288	C	245.40	246.00	.60	SS	HRD GRY		0	
53	FC 288	C	246.00	250.30	4.30	CL	GRY SDY		0	
54	FC 288	C	250.30	270.00	19.70	SS	GRY HRD		0	
55	FC 288	C	270.00	276.00	6.00	SH	GRY SFT CLY		0	CORED
56	FC 288	C	276.00	279.20	3.20	CO		G	0	CORED
57	FC 288	C	279.20	280.00	.80	CO		G	0	LOSS CORED
58	FC 288	C	280.00	281.10	1.10	CL	GRY SFT	G	0	CORED
59	FC 288	C	281.10	282.00	.90	CO		G	0	CORED
60	FC 288	C	282.00	284.00	2.00	SH	GRY CLY SFT		0	CORED
61	FC 288	C	284.00	290.00	6.00	SS	CAS HRD		0	CORED
62	FC 288	C	290.00	292.00	2.00	SS			0	
63	FC 288	C	292.00	294.00	2.00	SH			0	
64	FC 288	C	294.00	319.00	25.00	SS			0	
65	FC 288	C	319.00	323.00	4.00	SH			0	
66	FC 288	C	323.00	328.00	5.00	SS			0	
67	FC 288	C	328.00	330.00	2.00	SH			0	
68	FC 288	C	330.00	333.00	3.00	SS			0	
69	FC 288	C	333.00	335.00	2.00	SH	CRB		0	
70	FC 288	C	335.00	335.60	.60	BO	COL		0	CORED
71	FC 288	C	335.60	336.60	1.00	CO			0	CORED
72	FC 288	C	336.60	336.80	.20	SH	CRB SFT		0	CORED
73	FC 288	C	336.80	337.75	.95	SH	CRB CLY		0	CORED
74	FC 288	C	337.75	338.20	.45	ST	SDY CLY		0	CORED
75	FC 288	C	338.20	340.30	2.10	CO		D	0	CORED
76	FC 288	C	340.30	340.45	.15	BO		D	0	CORED
77	FC 288	C	340.45	340.65	.20	SS	BNY SDY HRD	D	0	CORED
78	FC 288	C	340.65	341.50	.85	CO		D	0	CORED
79	FC 288	C	341.50	341.60	.10	SS	COL HRD		0	CORED
80	FC 288	C	341.60	343.25	1.65	CO		C	0	CORED
81	FC 288	C	343.25	343.40	.15	BO		C	0	CORED
82	FC 288	C	343.40	343.85	.45	ST	GRY CRB SDY HRD	C	0	CORED
83	FC 288	C	343.85	344.85	1.00	CO		C	0	CORED
84	FC 288	C	344.85	345.00	.15	CO		C	0	LOSS CORED
85	FC 288	C	345.00	351.45	6.45	SH	DRK GRY SFT		0	CORED
86	FC 288	C	351.45	355.00	3.55	SH			0	LOSS CORED
87	FC 288	C	355.00	360.00	5.00	SH		BH	0	

1	FC 288	D	IJ	1	208.00	209.00	1	4.6	.0	.0	79.6	.72	1346	.00	F
2	FC 288	D	IJ	1	208.00	209.00	2	.0	.0	.0	83.5	.76	1411	.00	F
3	FC 288	D	IJ	2	225.85	227.55	1	2.9	.0	.0	76.7	.19	2091	.00	F
4	FC 288	D	IJ	2	225.85	227.55	2	.0	.0	.0	79.0	.20	2154	.00	F
5	FC 288	D	IJ	3	231.35	232.00	1	1.6	.0	.0	84.5	.08	1580	.00	F
6	FC 288	D	IJ	3	213.35	232.00	2	.0	.0	.0	85.9	.08	1607	.00	F

	SEAM CODE	SAMP NO	SP GR	TYPE CODE	F L O A T		S I N K		D A T A		BTU	SCREEN SIZE
					% WT.	% VOL	% ASH	% SUL				
1	FC 288	G	IJ	1	000160	DF	9110	.00	8.81	1.87	0	0001
2	FC 288	G	IJ	2	000160	DF	6488	.00	11.52	1.33	0	0001
3	FC 288	G	IJ	3	000160	DF	9906	.00	7.11	1.01	0	0001
4	FC 288	G	IJ	4	000160	DF	9895	.00	5.78	1.72	0	0001
5	FC 288	G	IJ	5	000160	DF	7670	.00	12.42	1.34	0	0001
6	FC 288	G	IJ	6	000160	DF	8358	.00	11.04	.59	0	0001
7	FC 288	G	IJ	7	000160	DS	9751	.00	5.88	.42	0	0001
8	FC 288	G	IJ	8	000160	DS	9954	.00	8.11	.36	0	0001
9	FC 288	G	IJ	9	000160	DF	9908	.00	6.46	.58	0	0001
10	FC 288	G	IJ	0	000160	DF	9872	.00	6.73	.53	0	0001
11	FC 288	G	IJ	1	000160	DF	9842	.00	5.37	.88	0	0001
12	FC 288	G	IJ	2	000160	DS	0890	.00	49.51	3.45	0	0001
13	FC 288	G	IJ	3	000160	DS	3512	.00	11.19	.78	0	0001
14	FC 288	G	IJ	4	000160	DS	0094	.00	46.92	6.83	0	0001
15	FC 288	G	IJ	5	000160	DS	0105	.00	35.74	8.53	0	0001
16	FC 288	G	IJ	6	000160	DS	2330	.00	60.91	.93	0	0001
17	FC 288	G	IJ	7	000160	DS	1642	.00	59.03	5.30	0	0001
18	FC 288	G	IJ	8	000160	DS	0249	.00	36.53	.23	0	0001
19	FC 288	G	IJ	9	000160	DS	0055	.00	32.80	.63	0	0001
20	FC 288	G	IJ	0	000160	DS	0092	.00	45.11	.52	0	0001
21	FC 288	G	IJ	1	000160	DS	0128	.00	44.43	.48	0	0001
22	FC 288	G	IJ	2	000160	DS	0158	.00	72.97	.97	0	0001

SEQ NO = 1 DRILL HOLE NO = FC 294 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5944.15 HOW DET. = 6
 N-COORD = 192473 E-COORD = 2065364 SOURCE = 2 LOCATION = 1
 THK CORED = 67.00 THK N-CORED = 205.00 USGS = SZE. CD. =

SEQ NO. = 2 DRILL HOLE NO = FC 294 FORMAT = B PROPERTY OR FARM = DRILLER = GRIMM
 DRILL CONTR = DATE DRILLED = 0574
 TWP OR PLACE = COMMENTS =

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 294	C	.00	20.00	20.00	SD	BRN		0	
4	FC 294	C	20.00	20.30	.30	SH	BRN		0	
5	FC 294	C	20.30	29.00	8.70	GR			0	
6	FC 294	C	29.00	32.60	3.60	SH	BRN		0	
7	FC 294	C	32.60	126.10	93.50	SH	GRY		0	
8	FC 294	C	126.10	126.10	.00	SS		TF	0	
9	FC 294	C	126.10	152.90	26.80	SS	GRY		0	
10	FC 294	C	152.90	155.40	2.50	SH	GRY		0	
11	FC 294	C	155.40	181.40	26.00	SS	GRY		0	
12	FC 294	C	181.40	183.90	2.50	SH	GRY		0	
13	FC 294	C	183.90	198.30	14.40	SS	GRY		0	
14	FC 294	C	198.30	200.20	1.90	SH	GRY COL		0	
15	FC 294	C	200.20	205.00	4.80	SS	GRY		0	
16	FC 294	C	205.00	214.70	9.70	SS	CAS		0	CORED
17	FC 294	C	214.70	215.00	.30	ND			0	CORED
18	FC 294	C	215.00	225.00	10.00	SS	LIT GRY HRD		0	CORED
19	FC 294	C	225.00	227.50	2.50	SS	CAS HRD		0	CORED
20	FC 294	C	227.50	231.00	3.50	SH	GRY SDY		0	CORED
21	FC 294	C	231.00	232.00	1.00	SS	LIT GRY HRD		0	CORED
22	FC 294	C	232.00	233.00	1.00	SH	GRY SDY		0	CORED
23	FC 294	C	233.00	234.65	1.65	SS	LIT GRY HRD		0	CORED
24	FC 294	C	234.65	235.00	.35	SS			0	CORED
25	FC 294	C	235.00	236.70	1.70	SS	CAS		0	CORED
26	FC 294	C	236.70	238.20	1.50	SH	CRB SFT		0	CORED
27	FC 294	C	238.20	239.00	.80	CO		J	0	
28	FC 294	C	239.00	239.20	.20	SH	CRB SFT		0	CORED
29	FC 294	C	239.20	240.30	1.10	CS	SFT		0	CORED
30	FC 294	C	240.30	240.60	.30	SH	CRB SFT		0	CORED
31	FC 294	C	240.60	241.60	1.00	BO			0	CORED
32	FC 294	C	241.60	242.00	.40	CO		UI	0	CORED
33	FC 294	C	242.00	248.70	6.70	CO		UI	0	
34	FC 294	C	248.70	249.90	1.20	SH			0	
35	FC 294	C	249.90	256.20	6.30	CO		LI	1	
36	FC 294	C	256.20	256.50	.30	BO			0	CORED

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
37	FC 294	C	256.50	257.30	.80	B0			0	CORED
38	FC 294	C	257.30	257.70	.40	B0			0	CORED
39	FC 294	C	257.70	261.10	3.40	C0		LI	5	CORED
40	FC 294	C	261.10	262.00	.90	SS	CRB		0	CORED
41	FC 294	C	262.00	264.40	2.40	SS	SHY LIT GRY		0	CORED
42	FC 294	C	264.40	264.60	.20	SH	SDY DRK GRY		0	CORED
43	FC 294	C	264.60	265.20	.60	SS	HRD LIT GRY		0	CORED
44	FC 294	C	265.20	268.60	3.40	SH	DRK GRY SFT		0	CORED
45	FC 294	C	268.60	269.10	.50	SS	CAS HRD		0	CORED
46	FC 294	C	269.10	271.60	2.50	SH	DRK GRY SFT		0	CORED
47	FC 294	C	271.60	272.00	.40			BH	0	CORED

	SEAM CODE	SAMP NO	SAMPLE FROM	DEPTH TO	ANALYSIS CODE	P R O X I M A T E %MOIS	%VOL	%CARB	A N A L Y S I S %ASH	%SUL	B T U	EQUIL. F MOIST	P		
1	FC 294	D	IJ	1	236.70	239.00	1	3.3	.0	.0	52.8	1.93	5859	.00	F
2	FC 294	D	IJ	1	236.70	239.00	2	.0	.0	.0	54.6	2.00	6058	.00	F
3	FC 294	D	IJ	2	239.00	240.30	1	7.7	.0	.0	80.2	1.43	539	.00	F
4	FC 294	D	IJ	2	239.00	240.30	2	.0	.0	.0	86.8	1.55	584	.00	F
5	FC 294	D		3	261.10	262.00	1	1.4	.0	.0	90.8	.07	779	.00	F
6	FC 294	D		3	261.10	262.00	3	.0	.0	.0	92.1	.07	790	.00	F

	SEAM CODE	SAMP NO	SP GR	TYPE CODE	F L O A T % WT.	S I N K % VOL	D A T A % ASH	% SUL	B T U	SCREEN SIZE		
1	FC 294	G	IJ	1	000160	DF	8474	.00	8.62	1.20	0	0001
2	FC 294	G	IJ	2	000160	DF	9954	.00	5.44	1.33	0	0001
3	FC 294	G	IJ	3	000160	DF	9828	.00	7.85	1.27	0	0001
4	FC 294	G	IJ	4	000160	DF	9766	.00	8.12	1.44	0	0001
5	FC 294	G	IJ	5	000160	DF	8368	.00	9.35	.90	0	0001
6	FC 294	G	IJ	6	000160	DF	9850	.00	5.39	1.00	0	0001
7	FC 294	G	IJ	7	000160	DF	9804	.00	8.06	.59	0	0001
8	FC 294	G	IJ	8	000160	DF	9942	.00	7.47	.68	0	0001
9	FC 294	G	IJ	9	000160	DF	5584	.00	12.57	1.55	0	0001
10	FC 294	G	IJ	0	000160	DF	9894	.00	8.08	1.93	0	0001
11	FC 294	G	IJ	1	000160	DF	9962	.00	6.32	.85	0	0001
12	FC 294	G	IJ	2	000160	DS	1526	.00	66.58	1.15	0	0001
13	FC 294	G	IJ	3	000160	DS	0046	.00	40.62	3.77	0	0001
14	FC 294	G	IJ	4	000160	DS	0172	.00	36.98	12.49	0	0001
15	FC 294	G	IJ	5	000160	DS	0234	.00	46.34	1.19	0	0001
16	FC 294	G	IJ	6	000160	DS	1632	.00	64.50	1.03	0	0001
17	FC 294	G	IJ	7	000160	DS	0150	.00	54.71	2.36	0	0001
18	FC 294	G	IJ	8	000160	DS	0196	.00	45.80	3.72	0	0001
19	FC 294	G	IJ	9	000160	DS	0058	.00	26.47	.52	0	0001
20	FC 294	G	IJ	0	000160	DS	4416	.00	64.55	2.28	0	0001
21	FC 291	G	IJ	1	000160	DS	0106	.00	37.54	4.32	0	0001
22	FC 294	G	IJ	2	000160	DS	0038	.00	41.88	1.68	0	0001

1

SEQ NO = 1 DRILL HOLE NO = FC 347 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5929.96 HOW DET. = 6
 N-COORD = 192374 E-COORD = 2066838 SOURCE = 2 LOCATION = 1
 THK CORED = 152.00 THK N-CORED = 52.00 USGS = SIZE. CD. =

SEQ NO. = 2 DRILL HOLE NO = FC 347 FORMAT = B PROPERTY OR FARM = DRILLER = DANIELS
 DRILL CONTR = DATE DRILLED = 0874
 TWP OR PLACE = COMMENTS =

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 347	C	.00	31.00	31.00	ST			0	
4	FC 347	C	31.00	47.00	16.00	GR			0	
5	FC 347	C	47.00	52.00	5.00	SH			0	
6	FC 347	C	52.00	53.40	1.40	ST	CAS HRD		0	CORED
7	FC 347	C	53.40	54.70	1.30	ST	HRD		0	CORED
8	FC 347	C	54.70	55.50	.80	SS		TF	0	CORED LOSS
9	FC 347	C	55.50	59.00	3.50	SS	MED HRD		0	CORED
10	FC 347	C	59.00	59.50	.50	ND			0	CORED LOSS
11	FC 347	C	59.50	61.60	2.10	SS	LIT GRY HRD		0	CORED
12	FC 347	C	61.60	61.75	.15	SH	LIT GRY SLY		0	CORED
13	FC 347	C	61.75	61.90	.15	SH	DRK GRY CLY		0	CORED
14	FC 347	C	61.90	63.35	1.45	SS	HRD		0	CORED
15	FC 347	C	63.35	63.85	.50	SH	LIT GRY MED HRD		0	CORED
16	FC 347	C	63.85	64.05	.20	SH	SLY MED HRD		0	CORED
17	FC 347	C	64.05	64.30	.25	SH	CLY SFT		0	CORED
18	FC 347	C	64.30	69.00	4.70	SS	LIT GRY MED SFT		0	CORED
19	FC 347	C	69.00	90.00	21.00	SS	LIT GRY HRD		0	CORED
20	FC 347	C	90.00	90.30	.30	SH	LIT GRY SLY		0	CORED
21	FC 347	C	90.30	94.50	4.20	SS	LIT GRY HRD		0	CORED
22	FC 347	C	94.50	95.30	.80	CO			0	CORED
23	FC 347	C	95.30	96.15	.85	SH	CRB MED HRD		0	CORED
24	FC 347	C	96.15	96.50	.35	SH	CRB CLY SLY		0	CORED
25	FC 347	C	96.50	97.15	.65	ST	CRB		0	CORED BENTG
26	FC 347	C	97.15	97.45	.30	SH	SLY MED HRD		0	CORED
27	FC 347	C	97.45	99.00	1.55	SH	SDY MED HRD		0	CORED
28	FC 347	C	99.00	99.85	.85	ST	SHY HRD		0	CORED
29	FC 347	C	99.85	100.45	.60	SH	SLY MED HRD		0	CORED
30	FC 347	C	100.45	102.10	1.65	ST	SHY HRD		0	CORED
31	FC 347	C	102.10	102.25	.15	SH	CLY SFT		0	CORED
32	FC 347	C	102.25	102.40	.15	CO			0	CORED
33	FC 347	C	102.40	102.50	.10	SH			0	CORED LOSS
34	FC 347	C	102.50	102.60	.10	SH	CLY SFT		0	CORED
35	FC 347	C	102.60	103.60	1.00	SH	SLY MED HRD		0	CORED
36	FC 347	C	103.60	103.95	.35	ST	SDY HRD		0	CORED

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
37	FC 347	C	103.95	153.40	49.45	SS	LIT GRY HRD		0	CORED
38	FC 347	C	153.40	153.75	.35	SH	CRB MED HRD		0	CORED
39	FC 347	C	153.75	154.55	.80	CO			0	CORED
40	FC 347	C	154.55	155.35	.80	SH	CRB MED HRD		0	CORED
41	FC 347	C	155.35	155.90	.55	SH	CLY		0	CORED
42	FC 347	C	155.90	156.30	.40	SH	SLY MED HRD		0	CORED
43	FC 347	C	156.30	159.00	2.70	ST	SDY HRD		0	CORED
44	FC 347	C	159.00	169.00	10.00	ST	SHY HRD		0	CORED
45	FC 347	C	169.00	170.65	1.65	ST	SDY HRD		0	CORED
46	FC 347	C	170.65	170.90	.25	SH	CLY MED HRD		0	CORED
47	FC 347	C	170.90	171.35	.45	SH	CRB MED HRD		0	CORED
48	FC 347	C	171.35	171.70	.35	CO		J	0	CORED
49	FC 347	C	171.70	173.00	1.30	SH	CRB CO L MED HRD		0	CORED
50	FC 347	C	173.00	173.40	.40	ST	DRK BRN		0	CORED
51	FC 347	C	173.40	173.50	.10	SH	CRB SLY MED HRD		0	CORED
52	FC 347	C	173.50	179.00	5.50	CO		UI	0	
53	FC 347	C	179.00	180.20	1.20	SH			0	
54	FC 347	C	180.20	192.50	12.30	CO		LI	0	
55	FC 347	C	192.50	193.00	.50	SH	SLY MED HRD		0	CORED
56	FC 347	C	193.00	193.15	.15	SH	CLY MED HRD		0	CORED
57	FC 347	C	193.15	193.65	.50	CL	SFT		0	CORED BENTO
58	FC 347	C	193.65	194.40	.75	SH	CLY MED HRD		0	CORED
59	FC 347	C	194.40	195.10	.70	ST	LIT GRY HRD		0	CORED
60	FC 347	C	195.10	195.50	.40	SH	CLY MED HRD		0	CORED
61	FC 347	C	195.50	195.95	.45	ST	LIT GRY HRD		0	CORED
62	FC 347	C	195.95	196.75	.80	SH	CLY MED HRD		0	CORED
63	FC 347	C	196.75	197.05	.30	ST	LIT GRY HRD		0	CORED
64	FC 347	C	197.05	197.85	.80	SH	CLY MED SFT		0	CORED
65	FC 347	C	197.85	198.30	.45	SH			0	CORED LOSS
66	FC 347	C	198.30	200.80	2.50	SH	CLY MED SFT		0	CORED
67	FC 347	C	200.80	201.70	.90	ST	CLY HRD		0	CORED
68	FC 347	C	201.70	203.00	1.30	SH	CLY MED HRD		0	CORED
69	FC 347	C	203.00	204.00	1.00	SH		BH	0	CORED LOSS

	SEAM CODE	SAMP NO	SAMPLE FROM	DEPTH TO	ANALYSIS CODE	P R O X I M A T E	A N A L Y S I S	EQUIL. F
						%MOIS %VOL %CARB %ASH %SUL	BTU	MOIST P
1	FC 347	D	IJ 1	173.00	173.50	1	3.4 .0 .0 80.2 .28	0 .00
2	FC 347	D	IJ 2	173.00	173.50	2	.0 .0 .0 83.0 .29	0 .00
3	FC 347	D	IJ 3	192.55	193.00	1	4.1 .0 .0 86.2 .07	713 .00
4	FC 347	D	IJ 4	192.55	193.00	2	.0 .0 .0 89.9 .07	744 .00

	SEAM CODE	SAMP NO	SP GR	TYPE CODE	F L O A T	S I N K	D A T A	BTU	SCREEN SIZE
					% WT.	% VOL	% ASH % SUL		
1	FC 347	G	IJ 1	000160	DF	9773	.00 7.72 .86	0	0001
2	FC 347	G	IJ 2	000160	DF	9670	.00 5.69 .86	0	0001
3	FC 347	G	IJ 3	000160	DF	9688	.00 8.83 1.09	0	0001

SEQ NO = 1 DRILL HOLE NO = FC 348 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5932.31 HOW DET. = 6
 N-COORD = 192479 E-COORD = 2066203 SOURCE = 2 LOCATION = 1
 THK CORED = 173.20 THK N-CORED = 52.00 USGS = SIZE CD. =

SEQ NO. = 2 DRILL HOLE NO = FC 348 FORMAT = B PROPERTY OR FARM = DRILLER = DANIELS
 DRILL CONTR = DATE DRILLED = 0774
 TWP OR PLACE = COMMENTS =

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 348	C		31.00	31.00	ST			0	
4	FC 348	C	31.00	47.00	16.00	GR			0	
5	FC 348	C	47.00	52.00	5.00	SH			0	
6	FC 348	C	52.00	54.60	2.60	SH	DRK GRY		0	CORED
7	FC 348	C	54.60	55.00	.40	ND			0	CORED LOSS
8	FC 348	C	55.00	63.80	8.80	SH	DRK GRY		0	CORED
9	FC 348	C	63.80	64.00	.20	ND			0	CORED LOSS
10	FC 348	C	64.00	73.20	9.20	SH	SLY HRD		0	CORED
11	FC 348	C	73.20	74.00	.80	ND			0	CORED LOSS
12	FC 348	C	74.00	78.10	4.10	SH	CRB SLY		0	CORED
13	FC 348	C	78.10	78.50	.40	ND			0	CORED LOSS
14	FC 348	C	78.50	90.40	11.90	SS	BLK HRD		0	CORED
15	FC 348	C	90.40	137.15	46.75	SS	GRY HRD		0	CORED
16	FC 348	C	137.15	137.40	.25	SH	BLK		0	CORED
17	FC 348	C	137.40	138.45	1.05	SS	HRD		0	CORED
18	FC 348	C	138.45	138.60	.15	SH	BLK		0	CORED
19	FC 348	C	138.60	141.45	2.85	SS	HRD		0	CORED
20	FC 348	C	141.45	141.55	.10	SH	BLK		0	CORED
21	FC 348	C	141.55	183.90	42.35	SS	HRD		0	CORED
22	FC 348	C	183.90	187.50	3.60	SS	SLY		0	CORED
23	FC 348	C	187.50	188.30	.80	CO		J	1	CORED
24	FC 348	C	188.30	188.60	.30	BO			0	CORED
25	FC 348	C	188.60	189.50	.90	SH	CRB		0	CORED
26	FC 348	C	189.50	190.70	1.20	SH	SLY MED HRD		0	CORED
27	FC 348	C	190.70	190.80	.10	ND			0	CORED LOSS
28	FC 348	C	190.80	191.30	.50	SH	CRB MED SFT		0	CORED
29	FC 348	C	191.30	192.80	1.50	CO		J	3	CORED
30	FC 348	C	192.80	192.95	.15	SH	CRB MED SFT		0	CORED
31	FC 348	C	192.95	193.55	.60	ST	MED HRD		0	CORED LOSS
32	FC 348	C	193.55	200.50	6.95	CO		UI	0	
33	FC 348	C	200.50	202.10	1.60	SH			0	
34	FC 348	C	202.10	212.90	10.80	CO		LI	0	
35	FC 348	C	212.90	217.65	4.75	ST	HRD		0	CORED
36	FC 348	C	217.65	222.25	4.60	SH	CLY MED SFT		0	CORED

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
37	FC 348	C	222.25	222.75	.50	SH	SLY MED HRD		0	CORED
38	FC 348	C	222.75	224.60	1.85	ST	SHY MED HRD		0	CORED
39	FC 348	C	224.60	225.20	.60	SH	SLY CLY MED BH		0	CORED

	SEAM CODE	SAMP NO	SAMPLE FROM	DEPTH TO	ANALYSIS CODE	PROXIMATE %MOIS	PROXIMATE %VOL	PROXIMATE %CARB	PROXIMATE %ASH	PROXIMATE %SUL	BTU	EQUIL. F MOIST	F P
1		1	190.80	191.30	1	5.3	.0	.0	63.7	2.79	3751	.00	F
2		1	190.80	191.30	2	.0	.0	.0	67.3	2.95	3962	.00	F
3	IJ	2	192.80	193.55	1	4.3	.0	.0	79.3	.89	674	.00	F
4	IJ	2	192.80	193.55	2	.0	.0	.0	82.9	.93	704	.00	F
5		3	212.90	213.50	1	.7	.0	.0	93.4	.03	528	.00	F
6		3	212.90	213.50	2	.0	.0	.0	94.0	.03	532	.00	F

	SEAM CODE	SAMP NO	SP GR	TYPE CODE	FLOAT % WT.	SINK % VOL	DATA % ASH	DATA % SUL	BTU	SCREEN SIZE	
1	FC 348	IJ	1	000160	DF	9369	.00	16.22	4.16	0	0001
2	FC 348	IJ	2	000160	DF	9400	.00	8.11	1.44	0	0001
3	FC 348	IJ	3	000160	DF	9818	.00	6.43	1.38	0	0001
4	FC 348	IJ	4	000160	DF	9953	.00	5.84	1.29	0	0001
5	FC 348	IJ	5	000160	DF	9616	.00	11.04	.81	0	0001
6	FC 348	IJ	6	000160	DF	9705	.00	5.49	1.09	0	0001
8	FC 348	IJ	8	000160	DF	9917	.00	6.03	.52	0	0001
9	FC 348	IJ	9	000160	DF	9478	.00	12.91	.50	0	0001
10	FC 348	IJ	0	000160	DF	9880	.00	5.85	.61	0	0001
11	FC 348	IJ	1	000160	DF	9659	.00	5.79	.49	0	0001
12	FC 348	IJ	2	000160	DS	0631	.00	39.89	9.14	0	0001
13	FC 348	IJ	3	000160	DS	0600	.00	41.32	9.19	0	0001
14	FC 348	IJ	4	000160	DS	0182	.00	34.00	1.06	0	0001
15	FC 348	IJ	5	000160	DS	0047	.00	39.76	4.53	0	0001
16	FC 348	IJ	6	000160	DS	0384	.00	45.28	.72	0	0001
17	FC 348	IJ	7	000160	DS	0295	.00	37.54	21.36	0	0001
18	FC 348	IJ	8	000160	DS	0477	.00	30.52	2.00	0	0001
19	FC 348	IJ	9	000160	DS	0083	.00	37.44	.52	0	0001
20	FC 348	IJ	0	000160	DS	0522	.00	40.51	.44	0	0001
21	FC 348	IJ	1	000160	DS	0120	.00	26.48	.62	0	0001
22	FC 348	IJ	2	000160	DS	0341	.00	55.08	.30	0	0001
23	FC 348	IJ	3	000160	DF	9541	.00	8.38	.60	0	0001

SEQ NO = 1 DRILL HOLE NO = FC 458 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5934.30 HOW DET. = 6
 N-COORD = 191436 E-COORD = 2066675 SOURCE = 2 LOCATION = 1
 THK CORED = .00 THK N-CORED = .00 USGS = WALKER FLAT SIZE CD. =

SEQ NO. = 2 DRILL HOLE NO = FC 458 FORMAT = B PROPERTY OR FARM = DRILLER = M. WARDLAW
 DRILL CONTR = WARDLAW DATE DRILLED = 0579
 TWP OR PLACE = COMMENTS =

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	FC 458	C	.00	19.00	19.00	OB			0	
4	FC 458	C	19.00	63.00	44.00	SH			0	
5	FC 458	C	63.00	125.00	62.00	SS			0	
6	FC 458	C	125.00	125.70	.70	CO		J	1	
7	FC 458	C	125.70	130.03	4.33	SH			0	
8	FC 458	C	130.03	131.20	1.17	CO		J	3	
9	FC 458	C	131.20	132.30	1.10	SS			0	
10	FC 458	C	132.30	136.40	4.10	CO		UI	0	
11	FC 458	C	136.40	138.40	2.00	CO		UI	0	
12	FC 458	C	138.40	142.00	3.60	SH			0	
13	FC 458	C	142.00	154.10	12.10	CO		LI	0	
14	FC 458	C	154.10	155.50	1.40	FC			0	
15	FC 458	C	155.50	199.10	43.60	SH			0	
16	FC 458	C	199.10	200.00	.90	CO		G	0	
17	FC 458	C	200.00	200.10	.10	SS		G	0	
18	FC 458	C	200.10	205.45	5.35	CO		G	0	
19	FC 458	C	205.45	205.90	.45	CL			0	
20	FC 458	C	205.90	242.30	36.40	SH			0	
21	FC 458	C	242.30	243.40	1.10	SS			0	
22	FC 458	C	243.40	250.80	7.40	SS			0	
23	FC 458	C	250.80	251.60	.80	SH			0	
24	FC 458	C	251.60	253.60	2.00	CO		D	0	
25	FC 458	C	253.60	254.40	.80	SS			0	
26	FC 458	C	254.40	261.10	6.70	CO		C	0	
27	FC 458	C	261.10	261.80	.70	CL			0	
28	FC 458	C	261.80	265.00	3.20	ND			0	
29	FC 458	C	265.00	279.00	14.00	SH			0	
30	FC 458	C	279.00	400.00	121.00	SS		BH	0	

SEQ NO = 1 DRILL HOLE NO = 79FC500 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5950.00 HOW DET. = 6
 N-COORD = 194021 E-COORD = 2065462 SOURCE = 2 LOCATION = 5
 THK CORED = .00 THK N-CORED = .00 USGS = WALKER FLAT SIZE CD. =

SEQ NO. = 2 DRILL HOLE NO = 79FC500 FORMAT = B PROPERTY OR FARM = CONSOL DRILLER =
 DRILL CONTR = DATE DRILLED = 0979
 TWP OR PLACE = COMMENTS = E LOG INTERP

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	79FC500	C	.00	50.00	50.00	SL			0	
4	79FC500	C	50.00	214.00	164.00	SH			0	
5	79FC500	C	214.00	214.00	.00	SH		TF	0	
6	79FC500	C	214.00	302.00	88.00	SS			0	
7	79FC500	C	302.00	304.80	2.80	SS			0	
8	79FC500	C	304.80	305.80	1.00	CO		K	0	
9	79FC500	C	305.80	306.80	1.00	CL	CAR		0	
10	79FC500	C	306.80	308.80	2.00	SH			0	
11	79FC500	C	308.80	324.10	15.30	SS			0	
12	79FC500	C	324.10	324.10	.00	CO	EXH	J	0	
13	79FC500	C	324.10	330.10	6.00	SH			0	
14	79FC500	C	330.10	332.00	1.90	SH	ELO		0	
15	79FC500	C	332.00	339.30	7.30	SH			0	
16	79FC500	C	339.30	341.00	1.70	CO	ELO	UI	0	
17	79FC500	C	341.00	345.00	4.00	CO		UI	0	
18	79FC500	C	345.00	345.50	.50	PT			0	
19	79FC500	C	345.50	352.00	6.50	CO		LI	1	
20	79FC500	C	352.00	352.40	.40	SH	CAR		0	
21	79FC500	C	352.40	356.90	4.50	CO		LI	5	
22	79FC500	C	356.90	357.00	.10	CL			0	
23	79FC500	C	357.00	402.80	45.80	SH	SDY ELO		0	
24	79FC500	C	402.80	407.00	4.20	CO	PYT	G	0	
25	79FC500	C	407.00	442.50	35.50	SH	ELO		0	
26	79FC500	C	442.50	445.60	3.10	CO	BKN ELO	D	0	
27	79FC500	C	445.60	448.00	2.40	CL			0	
28	79FC500	C	448.00	453.80	5.80	CO		C	0	
29	79FC500	C	453.80	475.00	21.20	CL			0	
30	79FC500	C	475.00	514.00	39.00	SS			0	
31	79FC500	C	514.00	569.10	55.10	SS			0	
32	79FC500	C	569.10	571.00	1.90	CO		A	0	
33	79FC500	C	571.00	575.00	4.00	SH			0	
34	79FC500	C	575.00	600.00	25.00	SS		BH	0	

SEQ NO = 1 DRILL HOLE NO = 79FC511 FORMAT = A STATE = 43 COUNTY = 015 TWP = 22S RANGE = 6E SECTION = 32
 SECTION CODE = SURFACE ELEV. = 5957.40 HOW DET. = 6
 N-COORD = 193596 E-COORD = 2064310 SOURCE = 2 LOCATION = 5
 THK CORED = .00 THK N-CORED = .00 USGS = WALKER FLAT SIZE CD. =

SEQ NO. = 2 DRILL HOLE NO = 79FC511 FORMAT = B PROPERTY OR FARM = CONSOL DRILLER =
 DRILL CONTR = DATE DRILLED = 1079
 TWP OR PLACE = COMMENTS = WATER WELL

SEQ NO.	DRILL HOLE NUMBER	FORMAT	DEPTH FROM	DEPTH TO	THICKNESS	LITHOLOGY CODE	CHARACTERISTICS	SEAM CODE	CORR.	COMMENTS
3	79FC511	C	.00	60.00	60.00	OB			0	
4	79FC511	C	60.00	235.00	175.00	SH			0	
5	79FC511	C	235.00	235.00	.00	SS		TF	0	
6	79FC511	C	235.00	298.00	63.00	SS			0	
7	79FC511	C	298.00	306.00	8.00	CO	SHY	K	0	
8	79FC511	C	306.00	334.50	28.50	SS			0	
9	79FC511	C	334.50	336.30	1.80	CO	BNY	J	1	
10	79FC511	C	336.30	338.70	2.40	SH			0	
11	79FC511	C	338.70	340.00	1.30	CO	BNY	J	3	
12	79FC511	C	340.00	357.50	17.50	SS			0	
13	79FC511	C	357.50	364.00	6.50	CO		UI	0	
14	79FC511	C	364.00	366.00	2.00	SH	COL CAR		0	
15	79FC511	C	366.00	374.20	8.20	CO		LI	1	
16	79FC511	C	374.20	376.50	2.30	SH			0	
17	79FC511	C	376.50	380.40	3.90	CO		LI	5	
18	79FC511	C	380.40	400.00	19.60	SS	SHY EL0	BH	0	

WATER LEVEL DATA

WELL LOCATION N-193,463
E- 2,071,408

ELEVATION:
 MEASURING POINT 6068.2

MEASURING POINT T0C - 1.75' AGL

GROUND LEVEL 6066.45

DATE	TIME	MEASURING DEVICE	READING	CONVERSIONS OR CORRECTIONS	WATER LEVEL		BY	COMMENTS
					DEPTH	ELEVATION		
7-2-79					141.08	5925.37	WGS	
8-1-79					141.25	5925.20	"	
9-6-79					141.88	5924.57	"	
9-28-79					138.43	5928.02	"	
10-30-79					134.64	5931.81	"	
2/9/80		E. PROBE	132.42	-1.75	130.67	5935.8	JSD	water
3/17/80			131.14	"	129.39	5937.1	JSD	
4/18/80			131.24	"	129.49	5937.0	JSD	
5/21/80			130.54	"	128.79	5937.7	JSD	
6/11/80			127.84	"	126.09	5940.4	TK	
7/16/80			128.05	"	126.30	5940.2	JSD	
8/11/80			128.74	"	126.99	5939.5	PB	
9/17/80			129.15	"	127.40	5939.1	PB	
10/13/80			128.95	"	127.20	5939.3	PB	
11/9/80			129.07	"	127.32	5939.1	PB	
12/9/80			129.79	"	128.04	5938.4	PB	
1/8/81			129.13	"	127.38	5939.1	PB	
2/9/81			129.09	"	127.34	5939.1	PB	
3/16/81			128.44	"	126.69	5939.8	DB	Consol
4/11/81			128.39	"	126.64	5939.8	DB	
5/11/81			129.00	"	127.25	5939.2	DB	
6-22-81			129.04	"	127.29	5939.16	SD	
7-15-81			129.33	"	127.58	5938.87	SD	
8-15-81			129.64	"	127.89	5938.56	SD	
9-19-81			129.17	"	127.42	5939.03	SD	
10-29-81			129.92	"	128.17	5938.28	SD	Kmf(u) deventered

Emergy
MINE

Kmf(u)
WELL COMPLETION



WATER LEVEL DATA

WELL LOCATION N-198,327
E-2,062,407
 COG-.78' A CONCRETE ; ELEV. TO CONC. = 6030.9'
 MEASURING POINT TOC-1.75' AGL

WELL
 ELEVATION:
 MEASURING POINT 6031.68
 GROUND LEVEL 6029.93

MINE EMERY

WELL COMPLETION UPPER FERRON
 Km-f(u)

DATE	TIME	MEASURING DEVICE	READING	CONVERSIONS or CORRECTIONS	WATER LEVEL		BY	COMMENTS
					DEPTH	ELEVATION		
12-7-79					-175.33	6205.26	W	
2/9/80		NO MEAS.	—	—	—	—		
3/14/80			6 psi	1.75 +.15	-15.76	6045.7	JSD	Water.
4/18/80			6 "	1.75 +.15	-15.76	6045.7	JSD	
5/21/80			6 "	1.75 +.15	-15.76	6045.7	JSD	
6/11/80			24 "	1.75 +.15	<- 11.14	~ 6041.1	JSD	GAGE MALFNC.
7/15/80			24 "	1.75 +.15	<- 11.14	~ 6041.1		
8/10/80			38.68'	-1.75	36.93	5993.0	PB	STOPPED FLOWING
9/17/80			8.5 psi	+1.75	-21.39	6051.3	PB	
10/13/80			11.4 "	+1.75	-28.05	6058.0	PB	
11/7/80			10.7 "	+1.75	-26.43	6056.4	PB	
12/9/80			10.6 "	+1.75	-26.20	6056.1	PB	
1/8/81			10.1 "	+1.75	-25.08	6055.0	PB	
2/9/81			12.0 "	+1.75	-29.43	6059.4	PB	
3/16/81			19.8 "	"	-47.49	6077.42	DB	Consol Datum = TO CONCRETE
4/11/81			22.2 "	"	-53.03	6082.96	DB	
5/11/81			18.0 "	"	-43.33	6073.26	DB	
6-22-81			14.9	"	-36.17	6066.10	SD	



WATER LEVEL DATA

WELL LOCATION N-196,717
E-2,073,393

ELEVATION:
 MEASURING POINT 6046.25

MEASURING POINT TDC@NOTCH - 0.55' AGL GROUND LEVEL 6045.7

EMERY
MINE

K+M+U

WELL COMPLETION

DATE	TIME	MEASURING DEVICE	READING	CONVERSIONS or CORRECTIONS	WATER LEVEL		BY	COMMENTS
					DEPTH	ELEVATION		
12-6-78					36.81	6008.89	USGS	
1-3-79					36.73	6008.97	"	
2-5-79					36.77	6008.93	"	
3-5-79					40.45	6005.25	"	
5-9-79					42.49	6003.21	"	
5-31-79					43.78	6001.92	"	
7-2-79					43.79	6001.91	"	
8-1-79					43.59	6002.11	"	
9-6-79					45.34	6000.36	"	
9-28-79					50.29	5995.41	"	
10-30-79					54.11	5991.59	"	
2/9/80		ELECT. PROBE	67.92	-0.55	67.37	5978.3	JSD	WATEC
3/15/80			70.94	"	70.39	5975.3	JSD	
4/18/80			74.33	"	73.78	5971.9	JSD	
5/21/80			76.25	"	75.70	5970.0	JSD	
6/11/80			77.56	"	77.01	5968.7	TK	
7/14/80			78.00	"	77.45	5968.3	JSD	
8/11/80			77.1	"	76.55	5969.2	PB	
9/15/80			77.36	"	76.81	5968.9	PB	
10/13/80			77.56	"	77.01	5968.7	PB	
11/8/80			77.98	"	77.43	5968.3	PB	
12/9/80			79.95	"	79.40	5966.3	PB	
1/8/81			81.64	"	81.09	5964.6	PB	
2/9/81			83.52	"	82.97	5962.7	PB	
3/16/81			81.15	"	80.60	5965.1	DB	CONSOL
4/11/81			91.36	"	90.81	5954.9	DB	
5/11/81			87.73	"	87.18	5958.5	DB	
6-22-81			87.45	"	86.90	5958.8	SD	
7-15-81			87.17	"	86.62	5959.08	"	
8-16-81			87.92	"	87.37	5958.33	"	
9-19-81			81.33	"	80.78	5964.92	"	
10-20-81			82.08	"	81.53	5964.17	"	

CONSOLIDATION COAL CO.



WESTERN REGION

CULTURAL RESOURCE COMPENDIUM
(Updated February, 1982)

<u>Site No.</u>	<u>Site Type</u>	<u>NRHP Eligibility Criteria*</u>	<u>Impact Potential</u>	
			<u>Direct</u>	<u>Indirect</u>
42Em611	Prehistoric Lithic Scatter	No	Moderate	Low
42Em625	Prehistoric Rockshelter	No**	No**	No
42Em626	Prehistoric Rockshelter	No	No**	No
42Em627	Prehistoric Lithic Scatter	No	No**	No
42Em1311	Prehistoric Rockshelter	d	Low	Low
42Em1312	Prehistoric Lithic Scatter	No	Low	Moderate
42Em1313	Prehistoric Lithic Scatter	No	Low	Moderate
42Em1314	Prehistoric Rockshelter	Unknown	Moderate	Moderate
42Em1315	Prehistoric Rockshelter	d	Low	Moderate
42Em1316	Prehistoric Rockshelter	d	Moderate	Moderate
42Em1317	Prehistoric Lithic Scatter	No	Moderate	High
42Em1318	Prehistoric Rockshelter	Unknown	Moderate	Moderate
42Em1319	Prehistoric Rockshelter	Unknown	Moderate	High
42Em1321	Prehistoric Lithic-Ceramic Scatter	Unknown	Low	Low
42Em1385	Historic Farm Buildings	d	Low	Low
42Em1386	Prehistoric Lithic Scatter	No	Low	Low
42Em1387	Historic Farm Buildings	d	Low	Low
488N/10	Historic Browning Mine Site	Unknown	High	Moderate

*under 36CFR60.6

**see Madsen letter of Feb. 20,
1976 (attached) and LaMar
Lindsay-C.K. Lund, 1976



STATE OF UTAH
 Cabin L. Rampton, Governor
 DEPARTMENT OF
 DEVELOPMENT SERVICES
 Division of State History

Melvin T. Smith, Director
 603 East South Temple
 Salt Lake City, Utah 84102
 Telephone: (801) 328-5755

February 20, 1976

Mr. Buddy A. Beach
 Consolidation Coal Company
 5889 So. Syracuse Circle
 Plaza Colorado Building
 Englewood, Colorado 80110

Dear Buddy,

Please find enclosed a report on the excavations we carried out on your property in Emery County, Utah. With the exception of the appendix on site geomorphology the report is complete. The delivery of the missing appendix has been promised us by February 27. I will forward it to you when we receive it.

I hope the format of the enclosed report is acceptable to you and sufficient for your present purposes. The report will be eventually published in our monograph series sometime this summer. When it appears I will forward however many copies you require, to your office.

The report is essentially a technical one and some of the terminology may be unclear to nonarcheologists. Depending on the distribution, you may wish us to forward you a glossary of terms. If so, please let me know.

With the completion and publication of this report, nothing further will be gained by continued excavations on your property. I feel therefore that it should be cleared for construction purposes.

I will forward a statement of costs to you along with the missing appendix. Unless there are changes you require, our contract should be fulfilled.

Sincerely,

David B. Madsen

DAVID B. MADSEN
 State Archeologist

DBM:lg

Encl.

STATE HISTORY BOARD: Dr. Milton C. Abrams, Chairman • Theron H. Luke • Juanita Brooks • Cleo L. Jensen • Howard C. Price, Jr.
 Dr. Delo G. Dayton • Dr. Richard O. Elibarri • Helen Z. Papanikolas • Clyde L. Miller • Elizabeth Skanchy • Naomi Woolley

Figure 7 Archeological clearance

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ANTIQUITIES SITE INVENTORY

Archeological Paleontological Historical

1. Site number 2. Type of site
42 Em 611 Quarry & Chipping Station

3. State Utah	County Emery	District Price	4. Map reference Walker Flat 7.5" Quad.
-------------------------	------------------------	--------------------------	---

5. Location

On a roadway & ca. 50 ft. to SE on a bench above Christensen Wash & ca. 1/2 mile NE of Browning Mine.

Section Sec. 33 NW 1/4	Township T. 22 S.	Range R. 6 E.	Meridian Salt Lake
----------------------------------	-----------------------------	-------------------------	------------------------------

6. Land ownership status Bureau of Land Management	7. Other site designations None
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8. Cultural affiliation; Geologic Age and/or formation; dates of use
Unknown (possible San Rafael Fremont)

9. Site description, position, surrounding terrain, and importance
Large nodules of quartzite and agage with some chipping detritus seen on a knoll above canyon. No other artifacts. Site located in area of sage, rabbit brush id other desert shrubs and grasses.

*See 42 Em 610 for map of site -
also CCC-80-3 Report -*

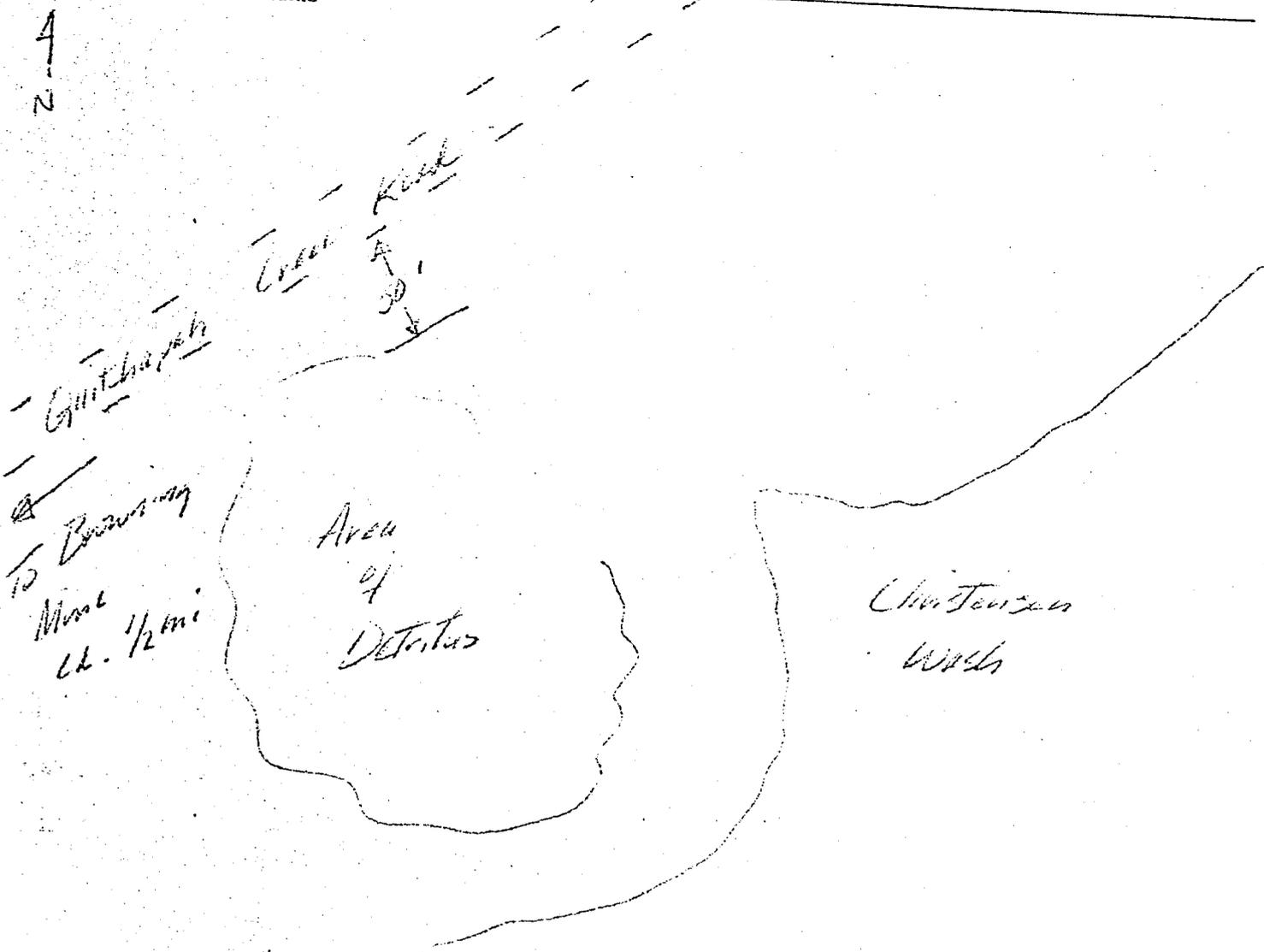
10. Area of occupation 30-40 square feet.	11. Present condition Heavily eroded.
---	---

12. Photo numbers None

13. Informants and references
Ed McTaggart, Bureau of Land Management

Recorded by Lamar W. Lindsay	Date July 3, 1974
--	-----------------------------

15. Sketch and/or remarks



EVALUATION

16. Does site have recreation value? Yes No If "yes," has the Recreation Inventory Form 6110-3 been completed? Yes No

17. Does site have sufficient value to justify preservation and/or development? Yes No If "yes," specify type of preservation or development.

8. Reviewed by (Signature of District Manager)

Date

Berry Report
of March 29, 1975

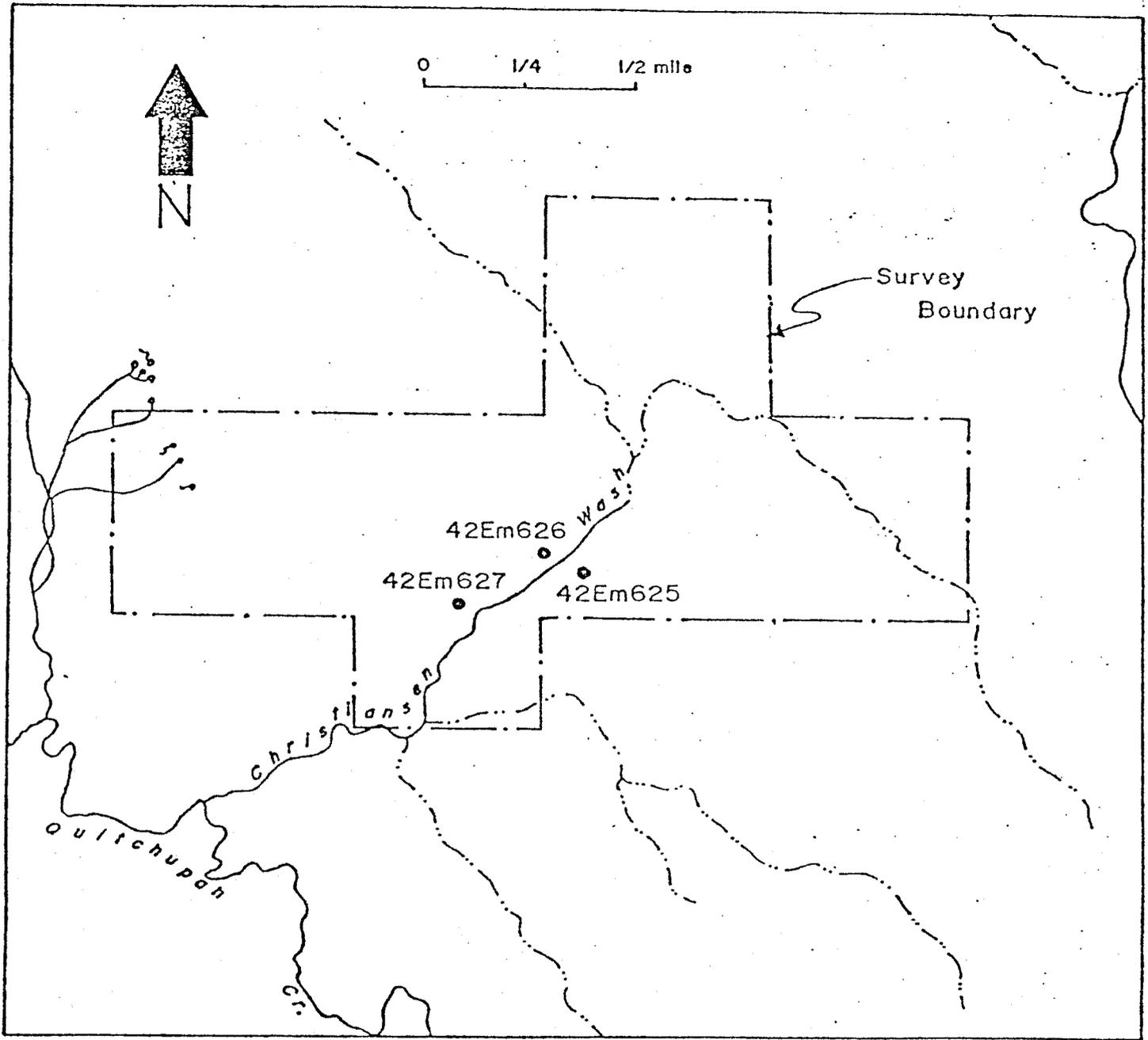


FIGURE 1

Map showing location of sites. Survey area (dashed line) includes the S $\frac{1}{2}$, Section 28; N $\frac{1}{2}$, NE $\frac{1}{4}$, Section 28; S $\frac{1}{2}$ and NW $\frac{1}{4}$, Section 27, T22S, R6E, Salt Lake Meridian.

42 Em 625	Rock shelter	CRRS: 5-3	vandalized
42 Em 626		CRRS: 5-3	"
42 Em 627	Lithic scatterer	CRRS: 5-4	

On the 9th and 10th of March, 1975, two representatives of the Antiquities Section, Division of State History conducted a survey of cultural resources on a parcel of land south of Emery, Utah which is scheduled for development by the Consolidated Coal Company of Englewood, Colorado. In addition, James Madsen, Department of Geology and Geophysics, University of Utah surveyed the area for possible paleontological remains (see Appendix I). The area surveyed included the S $\frac{1}{2}$, Section 28; N $\frac{1}{2}$, NE $\frac{1}{4}$, Section 28; S $\frac{1}{2}$ and NW $\frac{1}{4}$, Section 27, T22S, R6E, Salt Lake Meridian (Fig. 1).

The entire area was traversed on foot at ca. 50 to 75 ft. intervals depending on ground cover and terrain. U.S.G.S. 7.5 minute maps were used for locational reference. As cultural sites were encountered, they were pinpointed on the maps and described in detail to include surrounding terrain, local vegetation and the density and form of the artifacts. A surface collection of artifacts was taken in all cases and these were subsequently processed at our laboratory facilities.

Archeological Sites

Although hundreds of sites have been recorded in the pinyon/juniper zone to the south of this area, only three sites were located within the survey boundaries. The paucity of archeological remains at the lower elevations is probably due to erosional processes. Two of the three sites we recorded are located above the erosional plane in protected aeolian deposits. The third consists of a scattering of lithic materials lying on sandstone bedrock.

From surface indications, site 42Em625 appears potentially to have the best preservation. It is located in the SW $\frac{1}{4}$, SW $\frac{1}{4}$, Section 27, T22S, R6E, on

the east bank of Christiansen Wash. The site consists of a heavy concentration of chipping debris and worked flakes in and around dunal deposits associated with a prominent sandstone outcrop. The outcrop has been undercut in numerous places to form small shelters. Occasional pockets of charcoal were visible on the surface, indicating the possibility of stratified deposits.

42Em626 is located in the SW $\frac{1}{4}$, SW $\frac{1}{4}$, Section 27, T22S, R6E, on the west side of Christiansen Wash, directly across from 42Em625. The potential of this site is difficult to determine from surface indications since the numerous vehicle tracks in the immediate vicinity suggest that local amateurs have probably removed the majority of surface artifacts. The deposits consist of aeolian sand overlying terrace gravels. Associated artifacts included one triangular projectile point (Fig. 2), two sandstone milling stone fragments and a light concentration of chipping detritus and worked flakes. This site should be tested for sub-surface phenomena. The possibility of further investigation would, of course, be determined on the basis of this test.

42Em627 is located in the SE $\frac{1}{4}$, SE $\frac{1}{4}$, Sec. 28, T22S, R6E, on the west bank of Christiansen Wash. It consists of a relatively dense concentration of chipping detritus and worked flakes lying on sandstone bedrock. The presence of numerous modern camps and the absence of diagnostic artifacts suggests that the site has been extensively surface collected by local amateurs. Since there are no remnant deposits in the immediate site area, no further investigation is warranted.

ARTIFACTS

With the exception of two fragments of ground stone, all the artifacts recovered were chipped stone implements and detritus. These have been subdivided into six classes: points (one specimen), bifaces, unifaces, cores,

retouched flakes and unmodified flakes.

Points

No. Specimens: one (Fig.2)

Description: Large triangular point with excurvate edges. Base is broken off so that only one tang remains. It originally had two shallow basal notches. Point is bi-convex in cross section. Both faces worked equally showing numerous step fractures. Edges display shallow secondary retouch.

Measurements: Length, 3.5 cm.; width, 2.6 cm.; thickness, 0.6 cm.; weight, 4.0 gms.

Material: Chalcedony

Provenience: 42Em626 (1)

Bifaces

No. Specimens: seven (two complete and five fragments)

Description: Complete specimens are roughly triangular in form. All examples display wide, deep bifacial flake scars. Only one specimen has fine secondary retouch. Thickness varies markedly. Degree of finish equal on both faces. Bi-convex in cross section.

Measurements: (complete specimens only) Length, 5.5 to 6.0 cm.; width 3.5 to 4.0 cm.; thickness, 1.5 to 2.0 cm.; weight, 38.1 to 39.7 gms.

Material: Chert-chalcedony

Provenience: 42Em625 (5); 42Em626 (1); 42Em627 (1)

Unifaces

No. Specimens: two

Description: Amorphous flakes with unifacial flaking on one longitudinal edge. Edge is convex in one case, concave in the other.

Measurements: Length, 6.5 to 7.0 cm.; width, 4.0 to 5.0 cm.; thickness, 1.1 to 1.5 cm.; weight, 31.6 to 34.3 gms.

Material: Chert-chalcedony

Provenience: 42Em625 (2)

Cores

No. Specimens: six

Description: Oblong nodules of various form and size from which flakes were struck. Flake scars show prominent negative bulb of percussion. A portion of the cortex is visible on two specimens.

Measurements: Length, 7.5 to 10.0 cm.; width, 4.2 to 6.1 cm.; maximum thickness, 2.5 to 4.0 cm.; weight, 72.6 to 248.0 gms.

Material: Chert-chalcedony

Provenience: 42Em625 (4); 42Em626 (2)

Retouched Flakes

No. Specimens: three

Description: Flakes that show minimal evidence of edge modification.

Material: Chert-chalcedony

Provenience: 42Em625 (2); 42Em627 (1)

Unmodified Flakes

No. Specimens: thirty-nine

Description: Flakes showing no evidence of edge modification or utilization.

Material: Chert-chalcedony

Provenience: 42Em625 (15); 42Em626 (6); 42Em627 (18)

Milling Stones

No. Specimens: two

Description: Corner fragments of flat sandstone milling slabs. Edges are undressed. In each case, one face of the slab is pecked and ground.

Measurements: Length, unknown; width, unknown; thickness, 2.8 to 3.0 cm.

Material: Sandstone

Provenience: 42Em626 (2)



0 1 2 3 cm.

FIGURE 2

developed by cooperative agreement by:
 Bureau of Land Management
 Division of State History
 University of Utah Archeological Center

1. Site No. (I/1-10) 42Em1311
 2. County Emery
 3. Temp. No. 488N/1

4. Class: x Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Rock shelter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6000 ft. X .3048 = 1830 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12 ; 477290 mE.; 4300290 mN.
 9. (II/I-16) SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 32 T. 22S. , R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: Rock overhang on NW bank of wash, along sandstone formation, 1800 feet SW of Browning Mine coal dump yard located in the mouth of the wash near the confluence of Quitchupah Creek.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19):

14. Site Name/Previous Designations: None

15. Description of Site: Two rock overhangs, side by side, are at the base of a sandstone formation 30 feet above the NW side of the wash. The southern component was the main shelter, 15 feet across and 10 feet deep, with a depth potential of about one foot. The other shelter, about the same size, is eroded out except for the back left side.

CLASS	QUANTITY	TYPE	QUANTITY
Artifacts		Ceramics (III/10-21)	3
Debitage (II/30)	50	Proj Pnt (III/1-9)	
Bifaces (III/1-9)		Gnd Stn (II/22-29)	
Scrapers (III/1-9)		Glass (II/22-29)	
Utilized Flakes	1	Metal (II/22-29)	
		Nails (II/22-29)	
		Cans (II/22-29)	
		Wood (II/22-29)	
		Other (II/22-29)	

Description: Varied chert and mudstone primary and secondary flakes; one red chert utilized flake; two rim sherds and one body sherd of plain gray ware.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <u> </u> hearth/firepit (HE) | <u> </u> rubble mound (RM) | <u> </u> earthen mound (EM) | <u> </u> trail/road (TR) |
| <u> </u> midden (MD) | <u> </u> stone circle (SC) | <u> </u> burial (BU) | <u> </u> RR grade (RG) |
| <u> </u> depression (DE) | <u> </u> rock alignment (RA) | <u> </u> pictograph (PI) | <u> </u> tram way/road (TW) |
| <u> </u> water control (WC) | <u> </u> mine tailings (MT) | <u> </u> petroglyph (PE) | <u> </u> other (OT) |

Description: None

Site No. 488N/1 42Em 311

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: Rockshelter (2 component)(see #15 above).
There are no structural features added to the shelter.

19. Cultural Affiliation (IV/7-14) Fremont
 How Determined? Emery Gray ware

20. Site Dimensions: 15 m.X 15 m; Area(IV/17-21) 225 sq m

21. Were surface artifacts collected? x Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used. 3 sherds.

22. Estimated depth of fill (IV/23): 1 foot no sampling. Random pickup.
 Subsurface test? Yes; x No (Include location of test on site map)

Description:

23. Site Condition (IV/25): Excellent; x Good; Fair; Poor
 Agent of Impact: Erosion

24. Nat.Register Potential(V/1): Significant(C); x Non-Significant(D)
 Justification: No structural remains

25. Research Potential: Good depth potential for excavation

26. Recommended Mitigation: Avoidance

27. Direction/Distance to Permanent Water (V/5-10): NE / 650 m

Type/Name of Water Source (V/11): Quitcupah Creek tributary wash

Distance to nearest other Water Source (V/2-4): 2000 ft. NE

Type of other Water Source: perennial

Distance to Cultivable Soil (V/12-14): unknown

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<u> </u> mountain spine(A)	<u> </u> top/crest/peak(A)	<u> </u> fan(A)	<u> </u> top/crest/ridge(A)
<u> </u> hill/burra(B)	<u> </u> edge(B)	<u> </u> talus(B)	<u> </u> edge(B)
<u> </u> tableland/mesa(C)	<u>x</u> slope(C)	<u> </u> dune(C)	<u>x</u> slope(C)
<u> </u> ridge(D)	<u> </u> toe/foot/bottom(D)	<u> </u> stream terrace(D)	<u> </u> toe/foot(D)
<u> </u> valley(E)	<u> </u> saddle/pass(E)	<u> </u> playa(E)	<u> </u> cutbank(Z)
<u> </u> plain(Y)	<u> </u> bench/ledge(F)	<u> </u> shore facure	<u> </u> detached monolith(F)
<u>x</u> canyon(G)	<u> </u> rimrock(G)	<u> </u> extinct lake(F)	<u> </u> interior(G)
	<u> </u> interior(H)	<u> </u> extant lake(G)	<u> </u> step(H)
		<u> </u> alluvial plain(H)	<u> </u> riser(I)
		<u> </u> coluvium(I)	<u> </u> port. geo. facure(J)
		<u> </u> moraine(J)	<u> </u> spring mound/bqg(I)
		<u> </u> flood plain(X)	<u> </u> cave(L)
			<u> </u> alcove/shelter(N)
			<u> </u> patterned ground(O)

Description: The canyon is about 50 meters wide. The sandstone rimrock is about 10 meters high and the rockshelter is at the base of this formation where the talus slope extends 15 meters to the

29. Degree/Aspect of slope (V/19-23): 20 degrees/ SE

30. Vegetation COMMUNITY and association (V/24-25):

- | | | | | |
|------------------------------|----------------------------|-------------------------------|------------------------------|------------------------------|
| <u>ALPINE GRASSLAND(AA)</u> | <u>YELLOW PINE-OAK(BZ)</u> | <u>GOLD DESERT SHRUB(FZ)</u> | <u>SALT DESERT SHRUB(GZ)</u> | <u>WASH DESERT SHRUB(E)</u> |
| <u>SPRUCE FIR(BX)</u> | <u>ponderosa pine(DA)</u> | <u>sagebrush(FA)</u> | <u>greasewood(GA)</u> | <u>desert saltbrush(EA)</u> |
| <u>trumbols(BA)</u> | <u>oakbrush(DX)</u> | <u>small sagebrush(FB)</u> | <u>Yucca-shadscl(GB)</u> | <u>creosote bush(EB)</u> |
| <u>white fir-spruce(BB)</u> | <u>mountain brush(DC)</u> | <u>little rabbitbrush(FC)</u> | <u>seepweed(GC)</u> | <u>creosote/burrsage(EC)</u> |
| <u>ASPEN DOUGLAS FIR(CX)</u> | <u>maple(DD)</u> | <u>shadscale(FD)</u> | <u>pickled/sapphire(GD)</u> | <u>joshua tree(ED)</u> |
| <u>limber pine(CA)</u> | <u>screamside(DY)</u> | <u>horsebrush(FE)</u> | <u>saltgrass(GZ)</u> | <u>MARSH COMMUNITY(LA)</u> |
| <u>douglas fir(CB)</u> | | <u>winter-fat(FY)</u> | <u>alkali sacaton(GT)</u> | |
| <u>lodgepole pine(CC)</u> | <u>PLAINS/PRAIRIE(IZ)</u> | <u>hop-sage/silkbrush(FG)</u> | <u>rabbitbrush(GC)</u> | <u>ALKALI FLATS/MUD</u> |
| <u>bristlecone pine(CD)</u> | <u>grasslands(ZA)</u> | <u>bud sagebrush(FH)</u> | | <u>FLATS/DRY LAKE/</u> |
| <u>aspen(CZ)</u> | <u>pinon-juniper(ZB)</u> | <u>mat saltbrush(FI)</u> | | <u>WASTELAND(XZ)</u> |
| <u>screamside(CB)</u> | <u>screamside(ZC)</u> | <u>gray molly(FJ)</u> | | |
| <u>meadow grassland(CC)</u> | | <u>screamside(FK)</u> | | <u>CULTIVATED LAND(JZ)</u> |

Description: Juniper is located in the wash, and pinyon is mostly above the rim. Other vegetation is scattered sparsely in the general area.

31. Next nearest plant association/distance: Desert shrub extends west.

32. Photograph Numbers (V/26): 488N-1 (3)

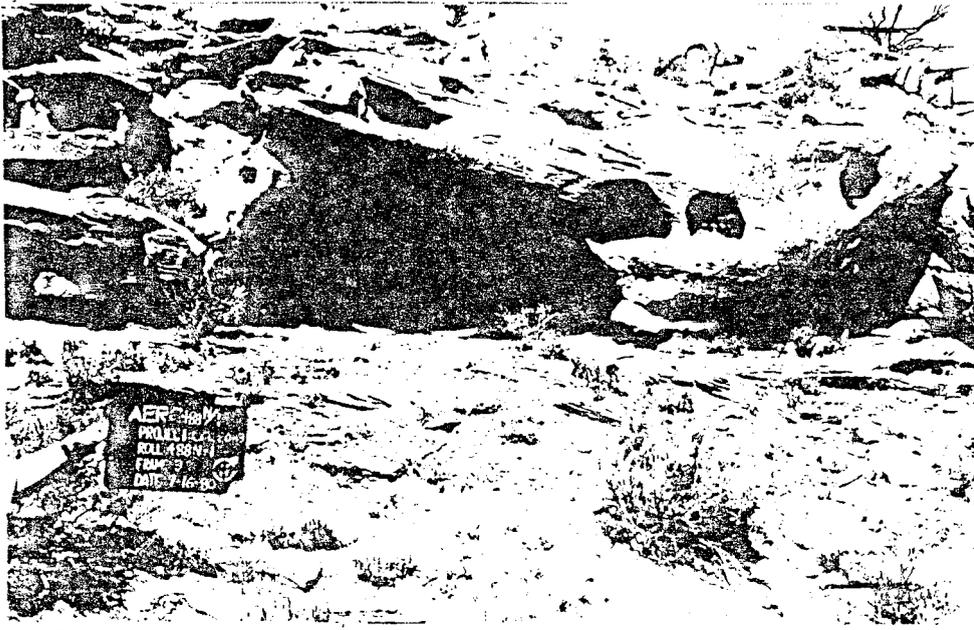
33. Recorded by: V. Garth Norman and Michael Sloan

Survey Org. (V/27-28): AERC Date: 9-16-80

Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA

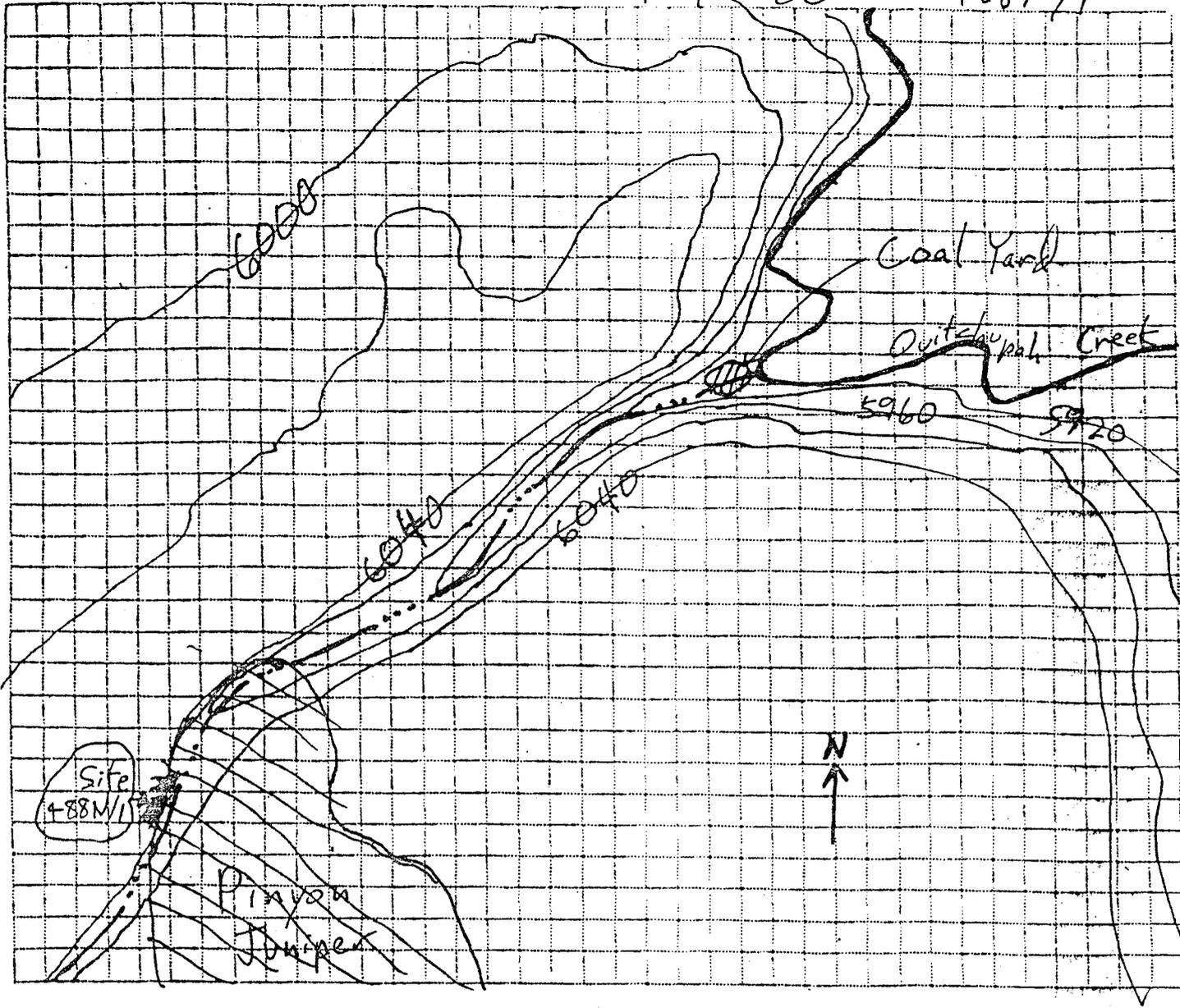


CCC 80-3

9-16-80

488N/11

N
↑



35. Encoding Form: (all entries are right justified)

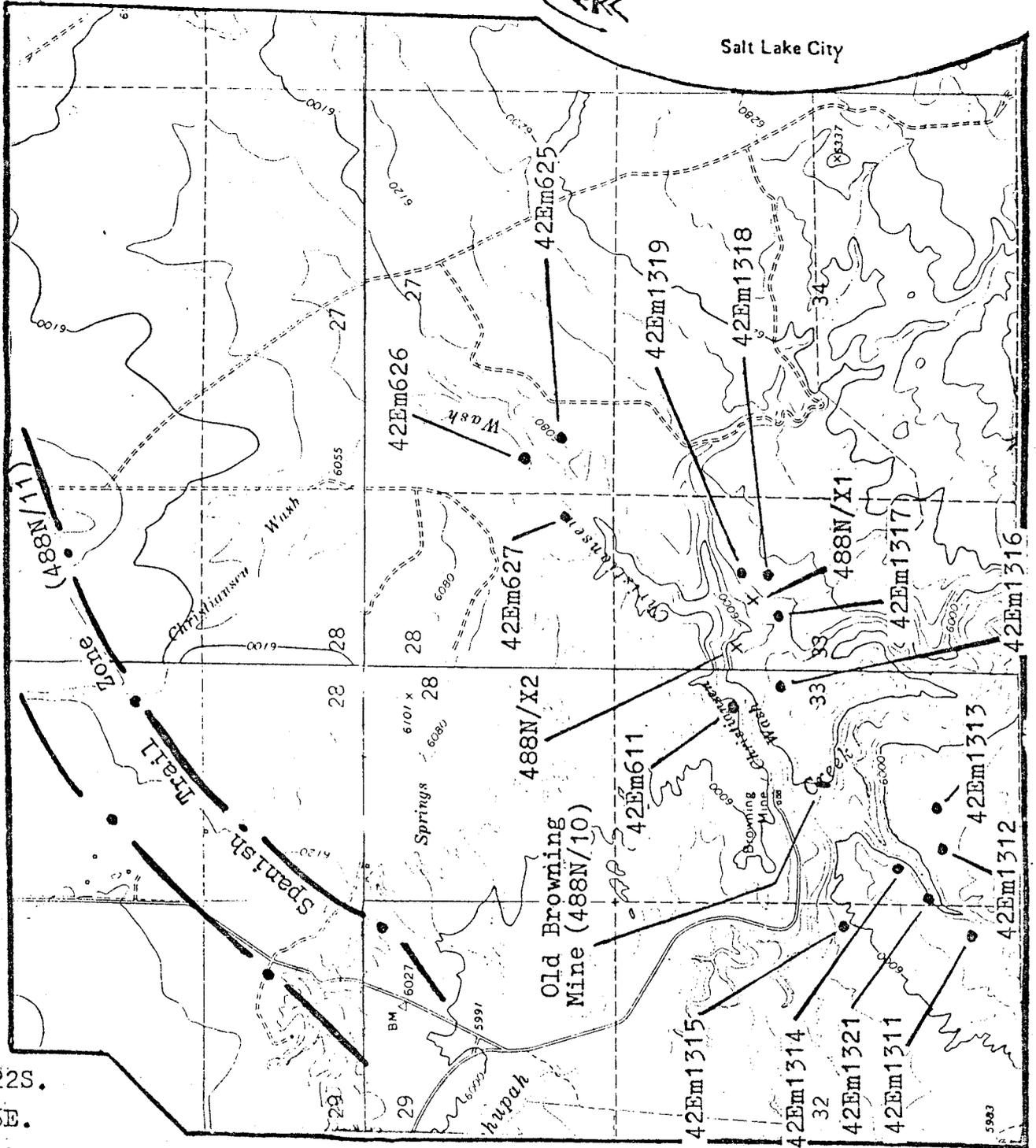
site type "rock shelter" doesn't code

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
I	4	2	E	M				1	3	1	1	6	0	0	0	1	2	4	7	7	2	9	0	4	3	0	0	2	9	0	
II	S	E	S	E	S	E	3	2	2	2	S	G	E	L	M	6	A	R	C	S	L	S									D
III	I	Z									B	B	E																		
IV							F	R								G						2	2	5	B	C	Z	B	E	R	
V	D			0		A	S				7	B	9	9	9	G	C	P	C	2	0	1	3	5	E	B	B	A	E		
VI																															

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).



Salt Lake City



T. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

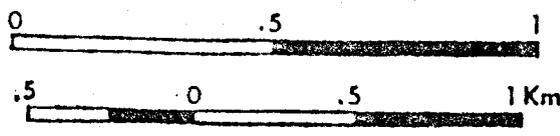
Quad:

Project: CCC-80-3
Series: Central Utah
Date: 10-9-80

Figure 3
Cultural Resources
in the
General Locality

Walker Flat, Utah
Composite Map
7.5 Minute - USGS

Legend:
Archeological Site ●
Isolated Artifact x



Scale

developed by cooperative agreement by:
 Bureau of Land Management
 Division of State History
 University of Utah Archeological Center

1. Site No. (I/1-10) 42Em1312
 2. County Emery
 3. Temp. No. 488N/2

4. Class: x Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Lithic scatter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6060 ft. X .3048 = 1850 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12 ; 477600 mE.; 4300415 mN.
 9. (II/I-16) NE of SW of SW of Section 33 T. 22S., R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: The site is situated on a flat low ridge point on the west side of a wash, about 1000 feet due south of the Browning Mine coal dump in the mouth of a major wash confluence with Quitchupah Creek. An abandoned drill location, capped, is 75 meters due south.
 13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19):
 14. Site Name/Previous Designations: NA
 15. Description of Site: The lithic scatter covers a small area and was of limited activity. It was probably a hunting station associated with the adjacent wash. There are no diagnostic remains and there is no depth potential.

16. Artifacts: Artifacts should be described/drawn on a continuation sheet and their locations plotted on the site map.

CLASS	QUANTITY	CLASS	TYPE	QUANTITY
Debitage (II/30)	<u>40</u>	Ceramics (III/10-21)	<u> </u>	<u> </u>
Bifaces (III/1-9)	<u> </u>	Proj Pnt (III/1-9)	<u> </u>	<u> </u>
Scrapers (III/1-9)	<u> </u>	Gnd Stn (II/22-29)	<u> </u>	<u> </u>
Utilized Flakes	<u> </u>	Glass (II/22-29)	<u> </u>	<u> </u>
		Metal (II/22-29)	<u> </u>	<u> </u>
		Nails (II/22-29)	<u> </u>	<u> </u>
		Cans (II/22-29)	<u> </u>	<u> </u>
		Wood (II/22-29)	<u> </u>	<u> </u>
		Other (II/22-29)	<u> </u>	<u> </u>

Description: White, brown, red, gray primary and secondary flakes of chert.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <u> </u> hearth/firepit (HE) | <u> </u> rubble mound (RM) | <u> </u> earthen mound (EM) | <u> </u> trail/road (TR) |
| <u> </u> midden (MD) | <u> </u> stone circle (SC) | <u> </u> burial (BU) | <u> </u> RR grade (RG) |
| <u> </u> depression (DE) | <u> </u> rock alignment (RA) | <u> </u> pictograph (PI) | <u> </u> tram way/road (TW) |
| <u> </u> water control (WC) | <u> </u> mine tailings (MT) | <u> </u> petroglyph (PE) | <u> </u> other (OT) |
- Description: NA

Site No. 42Em1312 (488N/2)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Unknown
 How Determined? _____
20. Site Dimensions: 5 m. X 5 m; Area(IV/17-21) 25 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): None
 Subsurface test? Yes; No (Include location of test on site map)
- Description: _____
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Erosion
24. Nat. Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: Limited activity; no diagnostic or structural remains and no depth potential.
-
25. Research Potential: Hunting station comparative analysis
26. Recommended Mitigation: Avoidance
27. Direction/Distance to Permanent Water (V/5-10): NNE / 400 m
 Type/Name of Water Source (V/11): Quitcupah Creek
 Distance to nearest other Water Source (V/2-4): Wash 10 m.
 Type of other Water Source: Intermittent 100 m. NW
 Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<u>mountain spine(A)</u>	<u>top/crest/peak(A)</u>	<u>fan(A)</u>	<u>top/crest/ridge(A)</u>
<u>hill/butte(B)</u>	<u>edge(B)</u>	<u>talus(B)</u>	<input checked="" type="checkbox"/> <u>edge(B)</u>
<u>tableland/mesa(C)</u>	<input checked="" type="checkbox"/> <u>slope(C)</u>	<u>dune(C)</u>	<u>slope(C)</u>
<u>ridge(D)</u>	<u>toe/foot/bottom(D)</u>	<u>stream terrace(D)</u>	<u>toe/foot(D)</u>
<u>valley(E)</u>	<u>saddle/pass(E)</u>	<u>playa(E)</u>	<u>cutbank(E)</u>
<input checked="" type="checkbox"/> <u>plain(F)</u>	<u>bench/ledge(F)</u>	<u>shore feature</u>	<u>detached monolith(F)</u>
<u>canyon(G)</u>	<u>finrock(G)</u>	<u>extinct lake(F)</u>	<u>interior(G)</u>
	<u>interior(H)</u>	<u>extant lake(G)</u>	<u>step(H)</u>
		<input checked="" type="checkbox"/> <u>alluvial plain(H)</u>	<u>riser(I)</u>
		<u>coluvium(I)</u>	<u>port. geo. feature(J)</u>
		<u>moraine(J)</u>	<u>spring mound/bog(I)</u>
		<u>flood plain(X)</u>	<u>cave(L)</u>
			<u>alcove/shelter(M)</u>
			<u>pattered ground(S)</u>

Description: See #12 above. The site is situated on a low ridge point overlooking a shallow dry wash.

30. Vegetation COMMUNITY and association (V/24-25):

<u>WET GRASSLAND(LA)</u>	<u>YELLOW PINE-OAK(DZ)</u>	<u>COLD DESERT SHRUB(FZ)</u>	<u>SALT DESERT SHRUB(GZ)</u>	<u>WASH DESERT SHRUB(E)</u>
<u>SPRUCE FIR(SZ)</u>	<u>ponderosa pine(DA)</u>	<u>sagebrush(FA)</u>	<u>Shadscale(GA)</u>	<u>desert saltbrush(EA)</u>
<u>trumpets(LA)</u>	<u>oakbrush(DB)</u>	<u>small sagebrush(FB)</u>	<u>Yucca-shadscl(GB)</u>	<u>creosote bush(EJ)</u>
<u>white fir-spruce(SX)</u>	<u>mountain brush(DC)</u>	<u>little rabbitbrush(FC)</u>	<u>sageweed(GC)</u>	<u>creosote/burrsage(EC)</u>
<u>ASTER DOUGLAS FIR(CZ)</u>	<u>maple(DD)</u>	<u>shadscale(FD)</u>	<u>Pickled/samphira(GD)</u>	<u>joshua tree(ED)</u>
<u>limber pine(CA)</u>	<u>streamside(DE)</u>	<u>horsebrush(FE)</u>	<u>saltgrass(GE)</u>	<u>MARSH COMMUNITY(LA)</u>
<u>douglas fir(CB)</u>	<u>FLAINS/PRAIRIES(M)</u>	<u>winter-fat(FE)</u>	<u>alkali sacaton(GF)</u>	<u>ALKALI FLATS/MUD</u>
<u>lodgepole pine(CC)</u>	<u>grasslands(LA)</u>	<u>hop-sage/bkbrush(FG)</u>	<u>rabbitbrush(GG)</u>	<u>FLATS/DRY LAKE/</u>
<u>bristlecone pine(CD)</u>	<u>Xpinyon-juniper(EJ)</u>	<u>bud sagebrush(FH)</u>		<u>WASTELAND(KZ)</u>
<u>aspen(CZ)</u>	<u>streamside(EC)</u>	<u>mat saltbrush(FI)</u>		
<u>streamside(CD)</u>		<u>gray molly(FJ)</u>		
<u>meadow grassland(CC)</u>		<u>streamside(FK)</u>		<u>CULTIVATED LAND(JZ)</u>

Description: Sparse pinyon and juniper are scattered on a slope
of predominantly bud and small sage.

31. Next nearest plant association/distance? unknown

32. Photograph Numbers (V/26): 488N-1 (4)

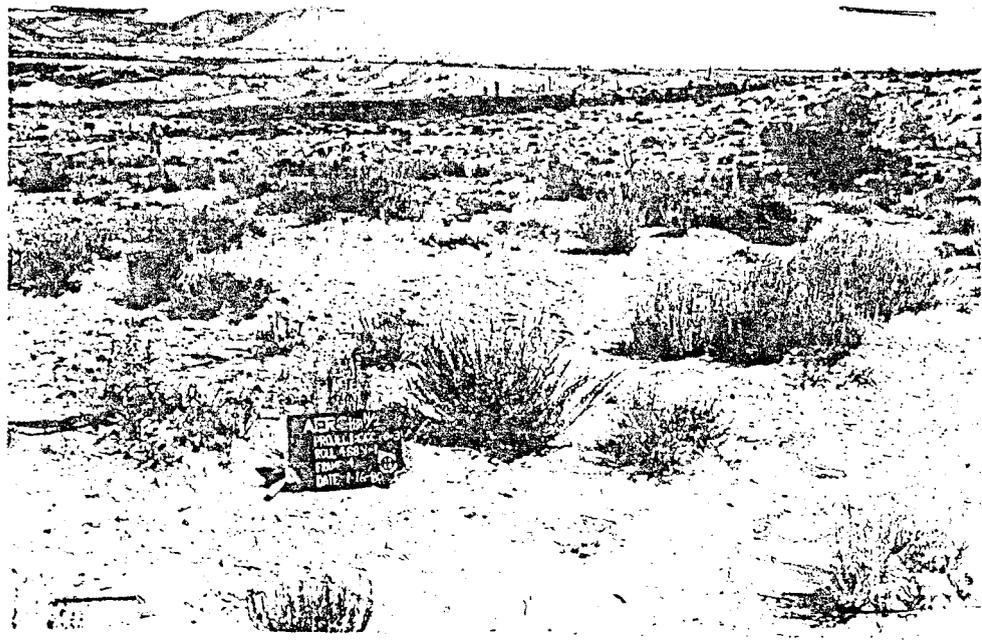
33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-16-80

Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

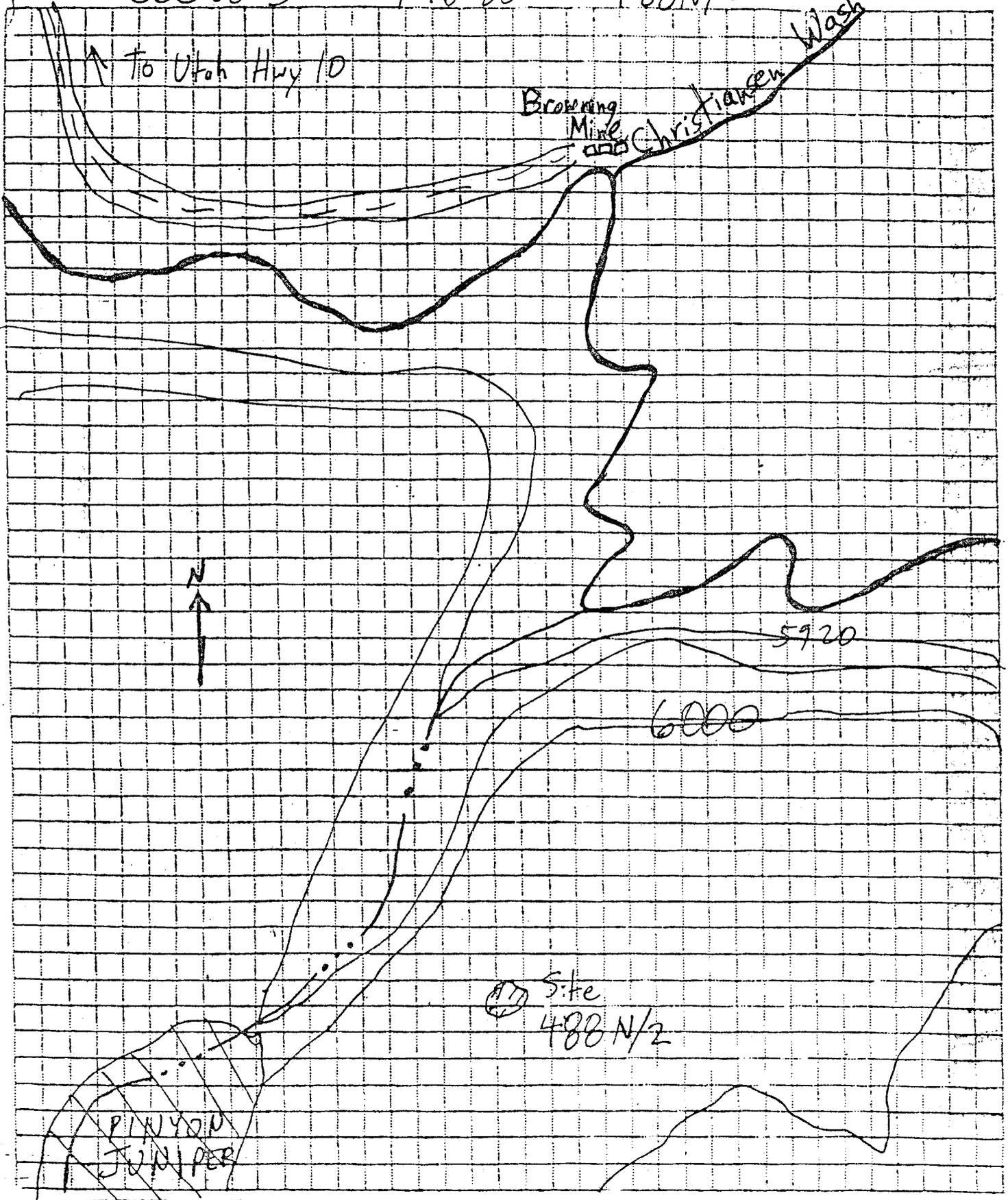
Contract No. NA



CCC 80-3

9-16-80

488N/2



developed by cooperative agreement by: 1. Site No. (I/1-10) 42Em1313
 Bureau of Land Management 2. County Emery
 Division of State History 3. Temp. No. 488N/3
 University of Utah Archeological Center

4. Class: x Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Lithic scatter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6070 ft. X .3048 = 1850 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12; 477790 mE.; 4300440 mN.
 9. (II/I-16) NW of SE of SW of Section 33 T. 22S., R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: 60 meters east of wash and 80 meters due east of
site 42Em1312 (488N/2); 300 meters due south of Quitchupah Creek
confluence at west tributary wash by coal stock pile dumpyard.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19):

14. Site Name/Previous Designations: NA

15. Description of Site: The site is a small lithic scatter, probably
a hunting, chipping station associated with a game trail in the wash
and site 42Em1312 on the opposite side of the wash due west. There
are no diagnostic remains and no depth potential except for possible
erosion cover of lithics.

16. Artifacts: Artifacts should be described/drawn on a continuation sheet and their locations plotted on the site map.

CLASS	QUANTITY	CLASS	TYPE	QUANTITY
Debitage (II/30)	<u>25</u>	Ceramics (III/10-21)	<u> </u>	<u> </u>
Bifaces (III/1-9)	<u> </u>	Proj Pnt (III/1-9)	<u> </u>	<u> </u>
Scrapers (III/1-9)	<u> </u>	Gnd Stn (II/22-29)	<u> </u>	<u> </u>
Utilized Flakes	<u> </u>	Glass (II/22-29)	<u> </u>	<u> </u>
		Metal (II/22-29)	<u> </u>	<u> </u>
		Nails (II/22-29)	<u> </u>	<u> </u>
		Cans (II/22-29)	<u> </u>	<u> </u>
		Wood (II/22-29)	<u> </u>	<u> </u>
		Other (II/22-29)	<u> </u>	<u> </u>

Description: Brown, gray, white, pink, and red-white chert, gray and brown mudstone primary and secondary flakes.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <u> </u> hearth/firepit (HZ) | <u> </u> rubble mound (RM) | <u> </u> earthen mound (EM) | <u> </u> trail/road (TR) |
| <u> </u> midden (MD) | <u> </u> stone circle (SC) | <u> </u> burial (BU) | <u> </u> RR grade (RG) |
| <u> </u> depression (DE) | <u> </u> rock alignment (RA) | <u> </u> pictograph (PI) | <u> </u> tram way/road (TW) |
| <u> </u> water control (WC) | <u> </u> mine tailings (MT) | <u> </u> petroglyph (PE) | <u> </u> other (OT) |
- Description: NA

Site No. 42Em1313 (488N/3)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Unknown
 How Determined? _____
20. Site Dimensions: EW 10 m. X 5 m; Area(IV/17-21) 50 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): unknown
 Subsurface test? Yes; No (Include location of test on site map)
 Description: _____
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Erosion; road construction passes through site
24. Nat. Register Potential (V/1): Significant(C); Non-Significant(D)
 Justification: Limited activity; no diagnostic or structural remains and little or no depth potential.
-
25. Research Potential: Hunting station comparative study
26. Recommended Mitigation: Avoidance
27. Direction/Distance to Permanent Water (V/5-10): N / 300 m
 Type/Name of Water Source (V/11): Quitcupah Creek
 Distance to nearest other Water Source (V/2-4): Wash
 Type of other Water Source: Intermittent 200 meters NW
 Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> top/crest/ridge(A)
<input checked="" type="checkbox"/> hill/butte(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input checked="" type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	shore feature	<input type="checkbox"/> detached monolith(F)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(G)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input checked="" type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port. geo. feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/bog(I)
		<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: The site is situated on a gently sloping hillside overlooking a shallow dry wash to the west.

29. Degree/slope of slope (V/19-23): 4 degrees/ west

30. Vegetation COMMUNITY and association (V/24-25):

SITE NO. 42EM1215 (488)

<input type="checkbox"/> PINE GRASSLAND(AA)	<input type="checkbox"/> YELLOW PINE-OAK(DZ)	<input type="checkbox"/> COLD DESERT SHRUB(FZ)	<input type="checkbox"/> SALT DESERT SHRUB(GZ)	<input type="checkbox"/> WARM DESERT SHRUB(E)
<input type="checkbox"/> SPRUCE FIR(XZ)	<input type="checkbox"/> ponderosa pine(DA)	<input type="checkbox"/> sagebrush(FA)	<input type="checkbox"/> creosote(GA)	<input type="checkbox"/> desert saltbrush(EA)
<input type="checkbox"/> Humboldt(ZA)	<input type="checkbox"/> oakbrush(DB)	<input checked="" type="checkbox"/> small sagebrush(FB)	<input checked="" type="checkbox"/> creosote-shadscl(GB)	<input type="checkbox"/> creosote bush(ZB)
<input type="checkbox"/> white fir-spruce(XB)	<input type="checkbox"/> mountain brush(DC)	<input checked="" type="checkbox"/> little rabbitbrush(FC)	<input type="checkbox"/> seepweed(GC)	<input type="checkbox"/> creosote/bursage(EC)
<input type="checkbox"/> ASPEN DOUGLAS FIR(CZ)	<input type="checkbox"/> maple(DB)	<input type="checkbox"/> shadscale(FD)	<input type="checkbox"/> pickleweed/samphire(GD)	<input type="checkbox"/> joshua tree(ED)
<input type="checkbox"/> limber pine(CA)	<input type="checkbox"/> screamside(DE)	<input type="checkbox"/> horsebrush(FE)	<input type="checkbox"/> saltgrass(GE)	<input type="checkbox"/> MARSH COMMUNITY(FA)
<input type="checkbox"/> douglas fir(CB)	<input type="checkbox"/> FLAINS/PRAIRIE(XY)	<input type="checkbox"/> winter-lac(FY)	<input type="checkbox"/> alkali sacaton(GF)	<input type="checkbox"/> ALKALI FLATS/MUD FLATS/DRY LAKE/ WASTELAND(XZ)
<input type="checkbox"/> lodgepole pine(CC)	<input type="checkbox"/> grasslands(YA)	<input checked="" type="checkbox"/> hop-sage/bkbrush(FC)	<input type="checkbox"/> rabbitbrush(GG)	<input type="checkbox"/> CULTIVATED LAND(JZ)
<input type="checkbox"/> bristlecone pine(CD)	<input type="checkbox"/> pinyon-juniper(YB)	<input type="checkbox"/> bud sagebrush(FH)		
<input type="checkbox"/> aspen(CZ)	<input type="checkbox"/> screamside(EG)	<input type="checkbox"/> mat saltbrush(FI)		
<input type="checkbox"/> screamside(CD)		<input type="checkbox"/> gray dolly(FJ)		
<input type="checkbox"/> meadow grassland(CG)		<input type="checkbox"/> screamside(FK)		

Description: Sparse pinyon and juniper are scattered along a wash.
The site area on the slope is predominantly bud and small sage.

31. Next nearest plant association/distance? unknown

32. Photograph Numbers (V/26): 488N-1 (5)

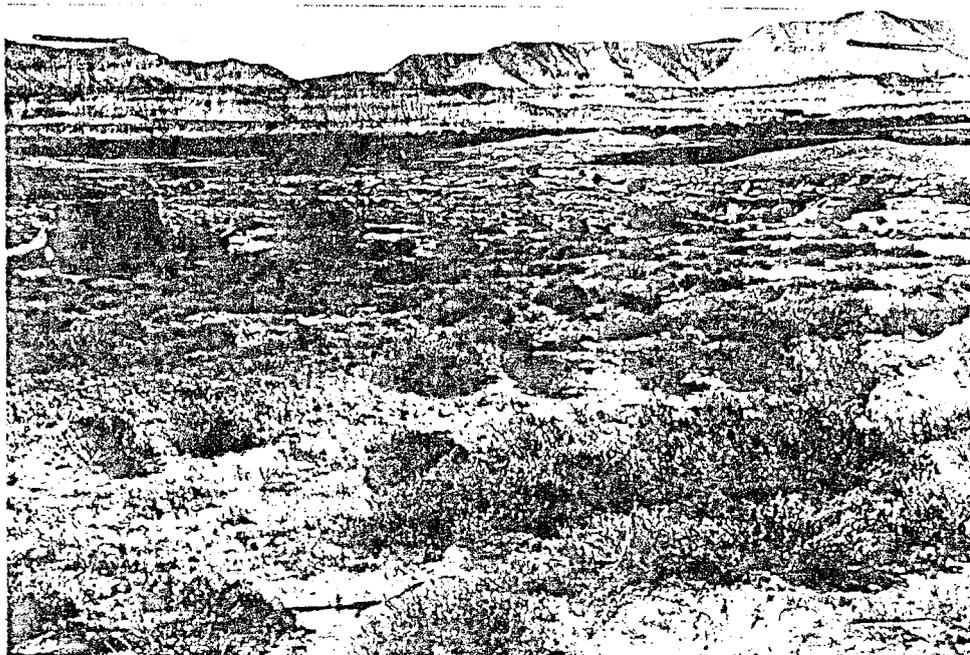
33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-16-80

Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

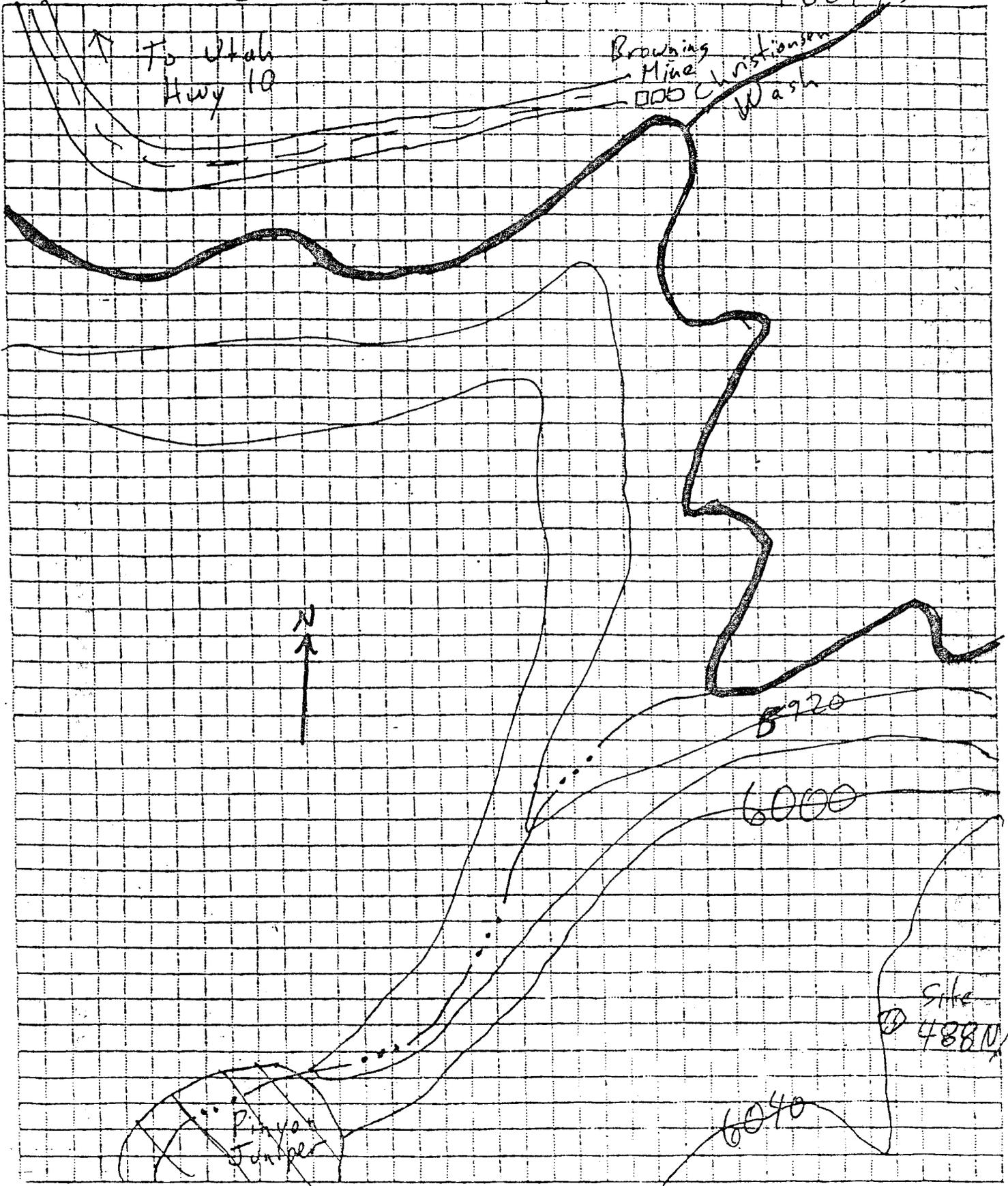
Contract No. NA



CCC 80-3

9-16-80

488N/3



developed by cooperative agreement by:
 Bureau of Land Management
 Division of State History
 University of Utah Archeological Center

1. Site No. (I/1-10) 42Em1314
 2. County Emery
 3. Temp. No. 488N/4

4. Class: X Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Rockshelter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6000 ft. X .3048= 1828 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12 ; 477520 mE.; 4300555 mN.
 9. (II/I-16) SW of NW of SW of Section 33 T. 22S. , R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: Rock overhang on west bank of wash 300 meters SW of
confluence of Quitchupah Creek by coal dump yard of Browning Mine.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19):
 14. Site Name/Previous Designations: NA
 15. Description of Site: The rockshelter is against the base of a
sandstone cliff in the bottom of a narrow canyon.

CLASS	QUANTITY	CLASS	TYPE	QUANTITY
Artifacts		Ceramics (III/10-21)		
Debitage (II/30)	<u>18</u>	Proj Pnt (III/1-9)		
Bifaces (III/1-9)		Gnd Stn (II/22-29)		
Scrapers (III/1-9)		Glass (II/22-29)		
Utilized Flakes		Metal (II/22-29)		
		Nails (II/22-29)		
		Cans (II/22-29)		
		Wood (II/22-29)		
		Other (II/22-29)		

Description: Red, white, gray, and brown primary, secondary and
tertiary flakes of chert.

17. Non-Structural Features: (describe and locate on site map)(III/22-27)
- | | | | |
|--------------------------------|--------------------------------|-------------------------------|-------------------------------|
| <u> </u> hearth/firepit(HZ) | <u> </u> rubble mound(RM) | <u> </u> earthen mound(EM) | <u> </u> trail/road(TR) |
| <u> </u> midden(MD) | <u> </u> stone circle(SC) | <u> </u> burial(BU) | <u> </u> RR grade(RG) |
| <u> </u> depression(DE) | <u> </u> rock alignment(RA) | <u> </u> pictograph(PI) | <u> </u> tram way/road(TW) |
| <u> </u> water control(WC) | <u> </u> mine tailings(MT) | <u> </u> petroglyph(PE) | <u> </u> other(OT) |
- Description: NA

Site No. 42Em1314 (488N/4)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Unknown

How Determined? _____

20. Site Dimensions: NS 10 m. X 10 m; Area(IV/17-21) 100 sq m

21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.

22. Estimated depth of fill (IV/23): 1 foot

Subsurface test? Yes; No (Include location of test on site map)

Description: _____

23. Site Condition (IV/25): Excellent; Good; Fair; Poor

Agent of Impact: Erosion

24. Nat. Register Potential(V/1): Significant(C); Non-Significant(D)

Justification: No indication of structural or diagnostic remains; extreme erosion

25. Research Potential: Depth potential for excavation

26. Recommended Mitigation: Avoidance

27. Direction/Distance to Permanent Water (V/5-10): NE / 300 m

Type/Name of Water Source (V/11): Quitcupah Creek

Distance to nearest other Water Source (V/2-4): 15 meters

Type of other Water Source: Intermittent wash

Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> top/crest/ridge(A)
<input type="checkbox"/> hill/bucca(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input checked="" type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input checked="" type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input checked="" type="checkbox"/> cliff(P)
<input type="checkbox"/> plain(Y)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> shore feature	<input type="checkbox"/> outcrop(Q)
<input checked="" type="checkbox"/> canyon(G)	<input type="checkbox"/> fissure(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> stream bed(R)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> interior(G)
		<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> scarp(H)
		<input type="checkbox"/> moraine(I)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> port. geo. feature(J)
		<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> spring mound/bog(K)
			<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: The canyon is about 30 meters wide. The cliff extends from the rim to a depth of about 50 feet. Aeolian slopes to the wash.

29. Degree/Aspect of slope (V/19-23): 5 degrees/SE

30. Vegetation COMMUNITY and association (V/24-25):

- | | | | | |
|------------------------------|----------------------------|-------------------------------|------------------------------|-----------------------------|
| <u>ALPINE GRASSLAND(AA)</u> | <u>YELLOW PINE-OAK(DZ)</u> | <u>GOLD DESERT SHRUB(FZ)</u> | <u>SALT DESERT SHRUB(GZ)</u> | <u>WASH DESERT SHRUB(E)</u> |
| <u>SPRUCE FIR(BX)</u> | <u>ponderosa pine(DA)</u> | <u>sagebrush(FA)</u> | <u>Xgreasewood(GA)</u> | <u>desert saltbrush(EA)</u> |
| <u>frambolx(LA)</u> | <u>oakbrush(DB)</u> | <u>Xsmall sagebrush(FB)</u> | <u>Ywood-shadscl(GZ)</u> | <u>creosote bush(EB)</u> |
| <u>white fir-spruce(BZ)</u> | <u>mountain brush(DC)</u> | <u>little rabbitbrush(FC)</u> | <u>seepweed(GC)</u> | <u>creosote/bursage(EC)</u> |
| <u>ASPEN DOUGLAS FIR(CZ)</u> | <u>apple(DD)</u> | <u>Xshadscale(FD)</u> | <u>pickled/samphire(CD)</u> | <u>joshua tree(ED)</u> |
| <u>limber pine(CA)</u> | <u>screamside(DZ)</u> | <u>horsebrush(FE)</u> | <u>saltgrass(GZ)</u> | <u>MARSH COMMUNITY(LA)</u> |
| <u>douglas fir(CB)</u> | | <u>vinec-lac(FE)</u> | <u>alkali sacaton(GF)</u> | |
| <u>lodgepole pine(CC)</u> | <u>FLAINS/PRAIRIE(IZ)</u> | <u>hop-sage/blkbush(FG)</u> | <u>rabbitbrush(GG)</u> | <u>ALKALI FLATS/MUD</u> |
| <u>bristlecone pine(CD)</u> | <u>grasslands(LA)</u> | <u>Xbud sagebrush(FH)</u> | | <u>FLATS/DRY LAKE/</u> |
| <u>aspen(CZ)</u> | <u>Xpinyon-juniper(LB)</u> | <u>lac saltbrush(FI)</u> | | <u>WASTELAND(LZ)</u> |
| <u>screamside(CD)</u> | <u>screamside(IC)</u> | <u>gray molly(FJ)</u> | | |
| <u>meadow grassland(CG)</u> | | <u>screamside(IK)</u> | | <u>CULTIVATED LAND(JZ)</u> |

Description: Sparse pinyon and juniper are located in the wash area with other vegetation scattered sparsely in the wash and along the lower aeolian slopes.

31. Next nearest plant association/distance: Desert shrub extends west

32. Photograph Numbers (V/26): 488N-1 (6)

33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-16-80

Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA

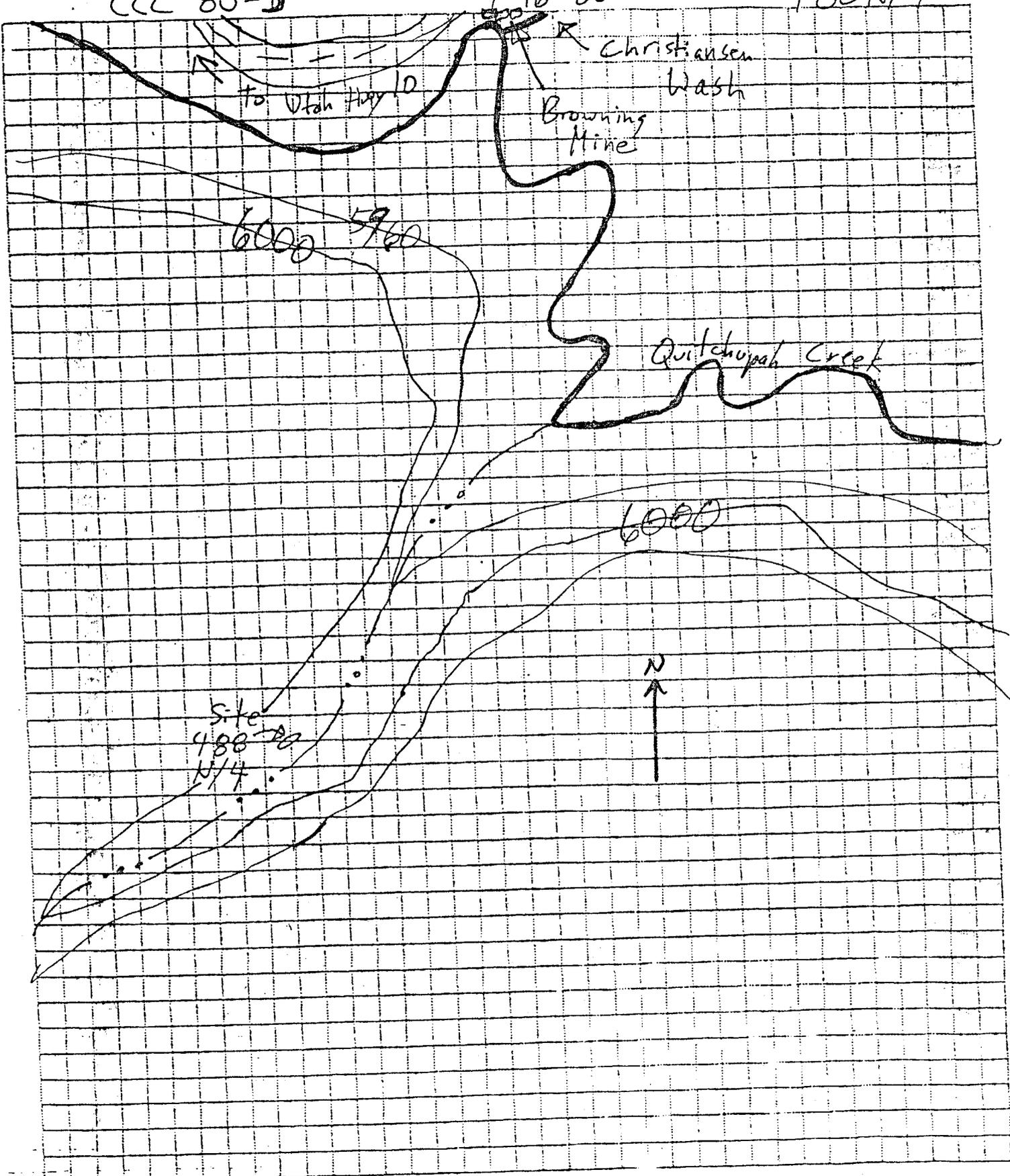


DATE NO. 42EM1214 (488N)

CCC 80-3

9-16-80

488 N/4



developed by cooperative agreement by: 1. Site No. (I/1-10) 42Em1315
 Bureau of Land Management 2. County Emery
 Division of State History 3. Temp. No. 488N/5
 University of Utah Archeological Center

4. Class: X Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Rockshelter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 5960 ft. X .3048 = 1816 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12; 477290 mE.; 4300812 mN.
 9. (II/I-16) NE of NE of SE of Section 32 T. 22S., R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: The site is located on the north side of a shallow draw 200 meters SW of Quitchupah Creek. The Browning Mine facility is visible from the site to the NE of the creek.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19): NA

14. Site Name/Previous Designations: NA

15. Description of Site: The site is on a point of a sandstone outcropping facing south at the base of a low knoll. The rockshelter projects ten feet out under a rock overhang and is about 30 feet long. Three depressions are due to vandalization. Flakes and core shatter, charcoal and fire red-lined rock were observed. The entire shelter area has been heavily impacted by cattle.

16. Artifacts:	Artifacts	CLASS	TYPE	QUANTITY
should be described/drawn on a continuation sheet and their locations plotted on the site map.		Ceramics (III/10-21)		
		Proj Pnt (III/1-9)		
		Gnd Stn (II/22-29)		
		Glass (II/22-29)		
CLASS	QUANTITY	Metal (II/22-29)		
Debitage (II/30)	<u>30</u>	Nails (II/22-29)		
Bifaces (III/1-9)	<u>1</u>	Cans (II/22-29)		
Scrapers (III/1-9)	<u> </u>	Wood (II/22-29)	<u>charcoal</u>	<u>2 hearth</u>
Utilized Flakes	<u>1</u>	Other (II/22-29)		

Description: White, gray, brown, black, and pink chert and gray mudstone primary and secondary flakes and core shatter.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---|--|---|---|
| <input checked="" type="checkbox"/> hearth/firepit (HZ) | <input type="checkbox"/> rubble mound (RM) | <input type="checkbox"/> earthen mound (EM) | <input type="checkbox"/> trail/road (TR) |
| <input type="checkbox"/> midden (MD) | <input type="checkbox"/> stone circle (SC) | <input type="checkbox"/> burial (BU) | <input type="checkbox"/> RR grade (RG) |
| <input checked="" type="checkbox"/> depression (DE) | <input type="checkbox"/> rock alignment (RA) | <input type="checkbox"/> pictograph (PI) | <input type="checkbox"/> tram way/road (TW) |
| <input type="checkbox"/> water control (WC) | <input type="checkbox"/> mine tailings (MT) | <input type="checkbox"/> petroglyph (PE) | <input type="checkbox"/> other (OT) |
- Description: Three depressions are the result of vandalization, two of which have exposed hearth remains with charcoal and fire-reddened rock.

Site No. 42Em1315 (488N/5)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Unknown
 How Determined? _____

20. Site Dimensions: 10 m.X 7 m; Area(IV/17-21) 70 sq m

21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.

22. Estimated depth of fill (IV/23): 1 foot
 Subsurface test? Yes; No (Include location of test on site map
 Description: _____

23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Vandalism, cattle

24. Nat.Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: No structural or diagnostic remains observed.

25. Research Potential: Depth potential for excavation

26. Recommended Mitigation: Avoidance

27. Direction/Distance to Permanent Water (V/5-10): NE / 200 m

Type/Name of Water Source (V/11): Quitcupah Creek

Distance to nearest other Water Source (V/2-4): NA

Type of other Water Source: Wash

Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> top/crest/ridge(A)
<input checked="" type="checkbox"/> hill/butte(B)	<input checked="" type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> plays(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> shore facure	<input type="checkbox"/> detached monolith(F)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(F)	<input checked="" type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port-geo.facure(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/hog(I)
		<input type="checkbox"/> flood plain(I)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> factured ground(N)

Description: The site is under a sandstone outcrop on the edge of a low hill.

29. Degree/Aspect of slope (V/19-23): Flat/south

30. Vegetation COMMUNITY and association (V/24-25):

<u>SPINY GRASSLAND(AA)</u>	<u>YELLOW PINE-OAK(DZ)</u>	<u>COLD DESERT SHRUBS(FZ)</u>	<u>SALT DESERT SHRUBS(GZ)</u>	<u>WARM DESERT SHRUBS(HZ)</u>
<u>SPRUCE FIR(BX)</u>	<u>ponderosa pine(DA)</u>	<u>sagebrush(FA)</u>	<u>greasewood(GA)</u>	<u>desert saltbrush(EA)</u>
<u>trumboltz(BA)</u>	<u>oakbrush(DB)</u>	<u>small sagebrush(FB)</u>	<u>greasewood-shadscl(GB)</u>	<u>creosote bush(EB)</u>
<u>white fir-spruce(BX)</u>	<u>mountain brush(DC)</u>	<u>little rabbitbrush(FC)</u>	<u>seepweed(GC)</u>	<u>creosote/burrsage(EC)</u>
<u>ASPEN DOUGLAS FIR(CZ)</u>	<u>maple(DB)</u>	<u>shadscale(FD)</u>	<u>pickled/samphire(GD)</u>	<u>joshua tree(ED)</u>
<u>limber pine(CA)</u>	<u>streamside(DE)</u>	<u>horsebrush(FE)</u>	<u>saltgrass(GZ)</u>	<u>MARSH COMMUNITY(LA)</u>
<u>douglas fir(CB)</u>		<u>winter-fac(FE)</u>	<u>alkali sacaton(GF)</u>	
<u>lodgepole pine(CC)</u>	<u>FLAINS/PRAIRIES(HZ)</u>	<u>hop-sage/blkbrsh(FG)</u>	<u>rabbitbrush(GG)</u>	<u>ALKALI FLATS/RUD</u>
<u>bristlecone pine(CD)</u>	<u>grasslands(IA)</u>	<u>bud sagebrush(FH)</u>		<u>FLATS/DRY LAKE/</u>
<u>aspen(CZ)</u>	<u>pinyon-juniper(IB)</u>	<u>acc saltbrush(FI)</u>		<u>WASTELAND(IZ)</u>
<u>streamside(CD)</u>	<u>streamside(IC)</u>	<u>gray dolly(FJ)</u>		
<u>meadow grassland(CC)</u>		<u>streamside(FK)</u>		<u>CULTIVATED LAND(JZ)</u>

Description: Vegetation, mostly sagebrush, covers the bottoms alluvial flood plain extending across the wash between two hills.

31. Next nearest plant association/distance: Pinyon-juniper .5 km. south

32. Photograph Numbers (V/26): 488N-2 (1) (Lost in processing)

33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-16-80

Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

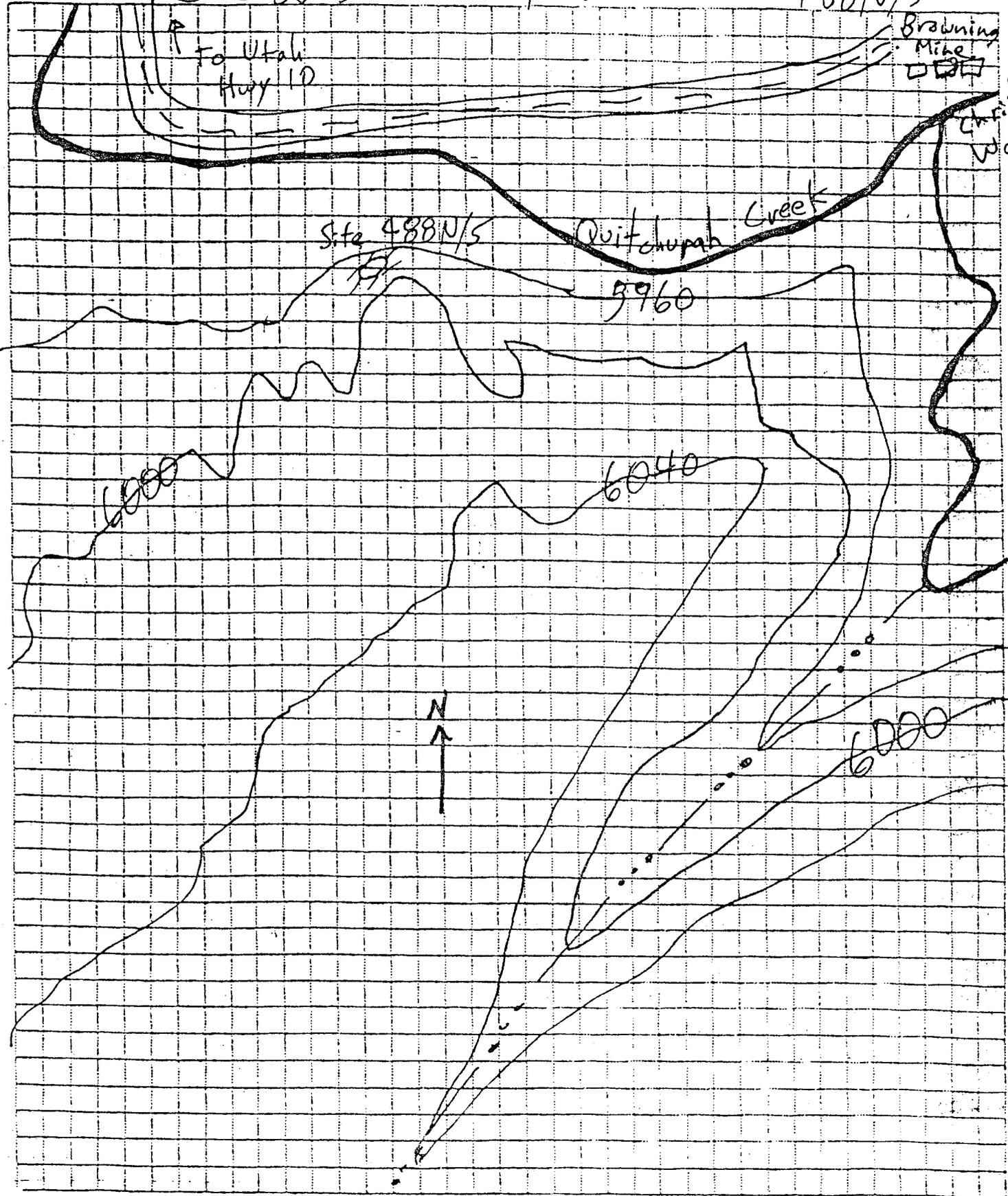
Contract No. NA

SITE NO. 422811215

CCC 80-3

9-16-80

488N/5



developed by cooperative agreement by:
 Bureau of Land Management
 Division of State History
 University of Utah Archeological Center

1. Site No. (I/1-10) 42Em1316
 2. County Emery
 3. Temp. No. 488N/6

4. Class: Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Rockshelter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6040 ft. X .3048 = 1840 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12; 478250 mE.; 4300100 mN.
 9. (II/I-16) SW of SW of NE of Section 33 T. 22S., R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: The site is located 150 meters south of Christensen Creek and 500 meters east of Quitchupah Creek by the Browning Coal Mine.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19): NA

14. Site Name/Previous Designations: NA

15. Description of Site: The rockshelter is a sandstone overhang projecting ten feet to the east on a NE point of an outcropping on a ridge. The outer roof is six feet high and tapers straight back to ground level. It is 14 feet long. Three pot holes are of recent origin, one exposing a hearth. Debitage extends downslope to the east for 30 meters.

CLASS	QUANTITY	TYPE	QUANTITY	
Artifacts		Ceramics (III/10-21)	Emery gray	2
should be described/drawn on a continuation sheet and their locations plotted on the site map.		Proj Pnt (III/1-9)		
		Gnd Stn (II/22-29)		
		Glass (II/22-29)		
		Metal (II/22-29)		
Debitage (II/30)	150	Nails (II/22-29)		
Bifaces (III/1-9)	2	Cans (II/22-29)		
Scrapers (III/1-9)		Wood (II/22-29)	charcoal	much
Utilized Flakes	2	Other (II/22-29)		

Description: White, red, brown and gray chert, and brown and gray mudstone primary, secondary and tertiary flakes, 3 hammer stones.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---|--|---|---|
| <input checked="" type="checkbox"/> hearth/firepit (HE) | <input type="checkbox"/> rubble mound (RM) | <input type="checkbox"/> earthen mound (EM) | <input type="checkbox"/> trail/road (TR) |
| <input type="checkbox"/> midden (MD) | <input type="checkbox"/> stone circle (SC) | <input type="checkbox"/> burial (BU) | <input type="checkbox"/> RR grade (RG) |
| <input type="checkbox"/> depression (DE) | <input type="checkbox"/> rock alignment (RA) | <input type="checkbox"/> pictograph (PI) | <input type="checkbox"/> tram way/road (TW) |
| <input type="checkbox"/> water control (WC) | <input type="checkbox"/> mine tailings (MT) | <input type="checkbox"/> petroglyph (PE) | <input type="checkbox"/> other (OT) |

Description: A firepit is partially exposed in a pothole exposing charcoal.

Site No. 42Em1316 (488N/6)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Fremont
 How Determined? Emery Gray sherd
20. Site Dimensions: 30 m.X 6 m; NS Area(IV/17-21) 180 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): 1 foot
 Subsurface test? Yes; No (Include location of test on site map)
 Description: Vandalization holes observed
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Natural erosion; cattle; vandalization
24. Nat. Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: No structural remains

25. Research Potential: Good depth potential for excavation
26. Recommended Mitigation: Avoidance
27. Direction/Distance to Permanent Water (V/5-10): N / 150 m
 Type/Name of Water Source (V/11): Christiansen Creek/perennial
 Distance to nearest other Water Source (V/2-4): W/500 m.
 Type of other Water Source: Perennial/Quitcupah Creek
 Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> cop/crest/ridge(A)
<input type="checkbox"/> hill/butte(B)	<input checked="" type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input checked="" type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input checked="" type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	shore feature	<input type="checkbox"/> detached monolith(F)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> flintrock(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port-geo. feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/bog(K)
		<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: Sandstone outcropping overhang is located on the east edge of a low ridge in the rolling foothills of the San Rafael swell.

29. Degree/Aspect of slope (V/19-23): 5 degrees/east

30. Vegetation COMMUNITY and association (V/24-25):

42Bm1316
site NO.

ALPINE GRASSLAND(AA)	YELLOW PINE-OAK(DZ)	GOLD DESERT SHRUB(FZ)	SALT DESERT SHRUB(GZ)	WASH DESERT SHRUB(E)
SPRUCE FIR(MZ)	ponderosa pine(DA)	sagebrush(FA)	Yucca wood(GA)	desert saltbrush(EA)
Krummholz(LA)	oakbrush(DB)	small sagebrush(FB)	Yucca wood-shadscl(GB)	creosote bush(EB)
white fir-spruce(BB)	mountain brush(DC)	X little rabbitbrush(FC)	seepweed(GC)	creosote/bursage(EC)
ASPEN DOUGLAS FIR(CZ)	maple(DB)	shadscale(FD)	X pickleweed/samphire(GD)	joshua tree(ED)
limber pine(CA)	scree-side(DZ)	horsebrush(FE)	X saltgrass(GZ)	MARSH COMMUNITY(LA)
douglas fir(CB)		winter-fac(FE)	alkali sacaton(GF)	
lodgepole pine(CC)	PLAINS/PRAIRIES(MZ)	hop-sage/blkbush(FG)	rabbitbrush(GG)	ALKALI FLATS/MUD FLATS/DRY LAKE/ WASTELAND(XZ)
bristlecone pine(CD)	grasslands(LA)	X bud sagebrush(FH)		
aspen(CZ)	X pinyon-juniper(LB)	rac saltbrush(FI)		
scree-side(CD)	scree-side(EC)	gray molly(FJ)		
meadow grassland(CC)		scree-side(FI)		CULTIVATED LAND(JZ)

Description: The area is mostly open desert shrub environment
downslope and Pinyon-Juniper on the hill adjacent and behind the
rockshelter.

31. Next nearest plant association/distance: unknown

32. Photograph Numbers (V/26): 488N-2 (2) (Lost in processing)

33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-17-80

Assisting Crew Members: Michael Sloan

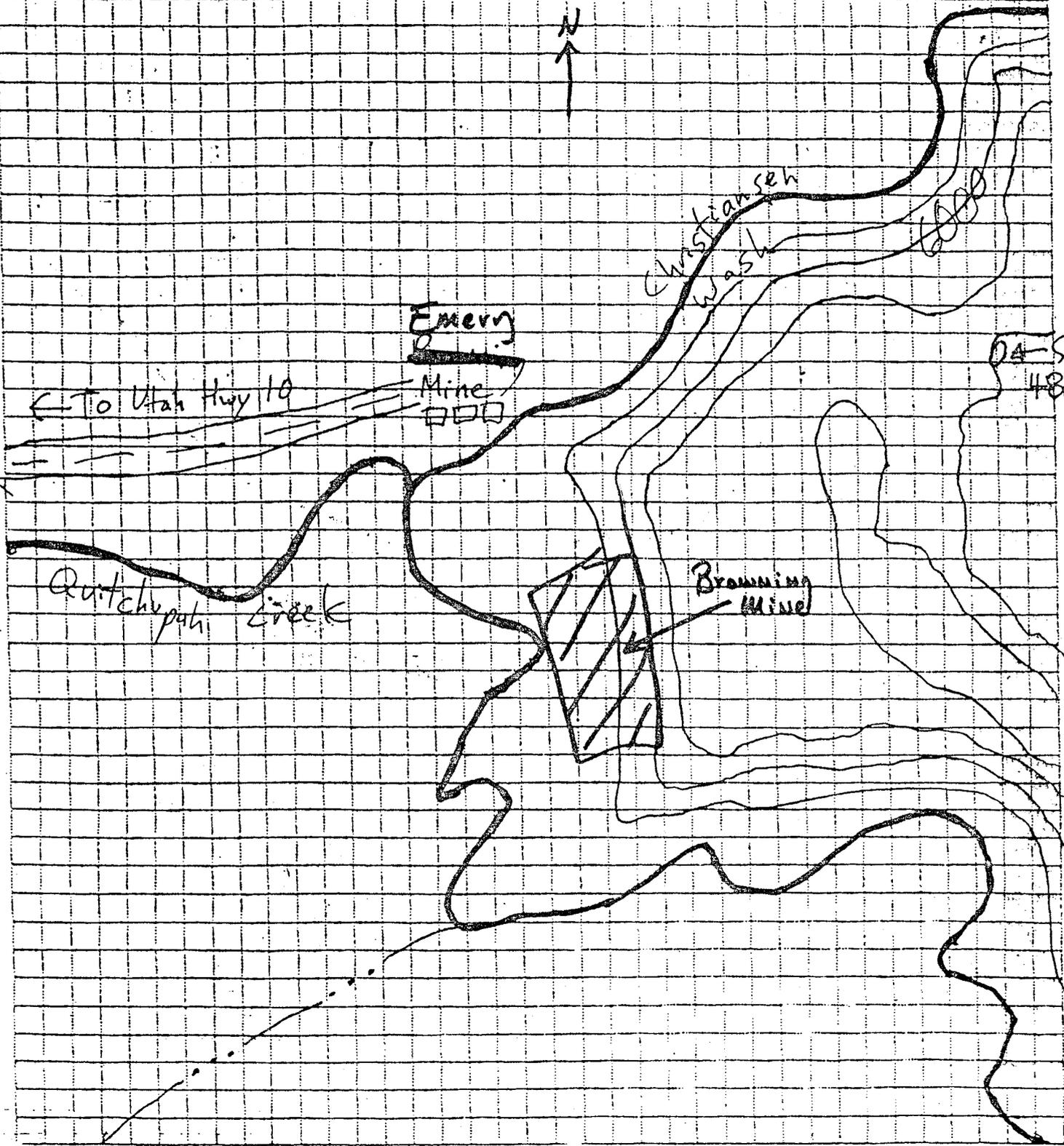
34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA

CCC 80-3

9-17-80

488N/6



2. County Emery
 3. Temp. No. 488N/7

4. Class: X Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Lithic scatter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6060 ft. X .3048 = 1847 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12; 478540 mE.; 4301100 mN.
 9. (II/I-16) SE of SW of NE of Section 33 T. 22S., R. 6E.
 10. Map Reference: Mesa Butte, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: The site is situated at the base of sandstone boulders overlooking a wash 30 meters to the SW which drains into Christiansen Creek 175 meters NNW

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19): NA

14. Site Name/Previous Designations: NA

15. Description of Site: The site is a small, concentrated lithic scatter situated at the south base of sandstone boulders overlooking a wash to the SW. There are no diagnostic remains and there is no depth potential except for 3 or 4 inches of sand erosion on bedrock on the upper end of the site. The site is probably a hunting station associated with the wash which could be a game trail.

16. Artifacts: Artifacts should be described/drawn on a continuation sheet and their locations plotted on the site map.

CLASS	QUANTITY	CLASS	TYPE	QUANTITY
Debitage (II/30)	<u>60</u>	Ceramics (III/10-21)	<u>square base</u>	<u>1</u>
Bifaces (III/1-9)	<u>1</u>	Proj Pnt (III/1-9)		
Scrapers (III/1-9)		Gnd Stn (II/22-29)		
Utilized Flakes		Glass (II/22-29)		
		Metal (II/22-29)		
		Nails (II/22-29)		
		Cans (II/22-29)		
		Wood (II/22-29)		
		Other (II/22-29)		



Description: Primary and secondary flakes of red, white, brown, black, and gray chert, and gray and brown mudstone; square base of point and midsection; chert biface

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---------------------------------|---------------------------------|--------------------------------|--------------------------------|
| <u> </u> hearth/firepit (HE) | <u> </u> rubble mound (RM) | <u> </u> earthen mound (EM) | <u> </u> trail/road (TR) |
| <u> </u> midden (MD) | <u> </u> stone circle (SC) | <u> </u> burial (BU) | <u> </u> RR grade (RG) |
| <u> </u> depression (DE) | <u> </u> rock alignment (RA) | <u> </u> pictograph (PI) | <u> </u> tram way/road (TW) |
| <u> </u> water control (WC) | <u> </u> mine tailings (MT) | <u> </u> petroglyph (PE) | <u> </u> other (OI) |

Description: NA

Site No. 42Em1317 (48EN/7)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Unknown
 How Determined? _____
20. Site Dimensions: 6 m.X 8 m; Area(IV/17-21) 48 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): 3 inches
 Subsurface test? Yes; No (Include location of test on site map)
 Description: _____
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Erosion
24. Nat.Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: Small scattering of non-diagnostic lithics only.

25. Research Potential: Limited
26. Recommended Mitigation: Avoidance
27. Direction/Distance to Permanent Water (V/5-10): NNW / 175 m
 Type/Name of Water Source (V/11): Perennial/Christiansen Creek
 Distance to nearest other Water Source (V/2-4): 30 meters to SW
 Type of other Water Source: Intermittent wash
 Distance to Cultivable Soil (V/12-14): 100 meters

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> cop/crest/ridge(A)
<input checked="" type="checkbox"/> hill/butte(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input checked="" type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> shore feature	<input type="checkbox"/> detached angular(F)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port. geo. feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/bog(K)
		<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: The hill is a sandstone formation with a dry wash at its SW side.

29. Degree/Aspect of slope (V/19-25): 2 degrees/SW

30. Vegetation COMMUNITY and association (V/24-25):

- | | | | | |
|------------------------------|----------------------------|-------------------------------|------------------------------|-----------------------------|
| <u>ALPINE GRASSLAND(AA)</u> | <u>YELLOW PINE-OAK(DZ)</u> | <u>COLD DESERT SHRUB(FI)</u> | <u>SALT DESERT SHRUB(GZ)</u> | <u>WARM DESERT SHRUB(E)</u> |
| <u>SPRUCE FIR(BX)</u> | <u>ponderosa pine(DA)</u> | <u>sagebrush(FA)</u> | <u>greasewood(GA)</u> | <u>desert saltbrush(EA)</u> |
| <u>YUMBEL(BA)</u> | <u>oakbrush(DB)</u> | <u>small sagebrush(FB)</u> | <u>greewood-shadsal(GB)</u> | <u>creosote bush(EB)</u> |
| <u>white fir-spruce(BB)</u> | <u>mountain brush(DC)</u> | <u>little rabbitbrush(FC)</u> | <u>seepweed(GC)</u> | <u>creosote/bursage(EC)</u> |
| <u>ASPEN DOUGLAS FIR(CZ)</u> | <u>maple(DD)</u> | <u>shadsals(FD)</u> | <u>pickled/samphire(GD)</u> | <u>joshua tree(ED)</u> |
| <u>limber pine(CA)</u> | <u>streamside(DE)</u> | <u>horsebrush(FE)</u> | <u>saltgrass(GZ)</u> | <u>MARSH COMMUNITY(LA)</u> |
| <u>douglas fir(CB)</u> | | <u>winter-ac(FE)</u> | <u>alkali sacaton(GF)</u> | |
| <u>lodgepole pine(CC)</u> | <u>FLAINS/PRAIRIE(EZ)</u> | <u>hop-sage/bkbrush(FC)</u> | <u>rabbitbrush(GG)</u> | <u>ALKALI FLATS/MUD</u> |
| <u>bristlecone pine(CD)</u> | <u>grasslands(LA)</u> | <u>Xbud sagebrush(FE)</u> | | <u>FLATS/DRY LAKE/</u> |
| <u>aspen(CZ)</u> | <u>Xpinon-juniper(EZ)</u> | <u>nat saltbrush(FI)</u> | | <u>WASTELAND(KZ)</u> |
| <u>streamside(CD)</u> | <u>streamside(EC)</u> | <u>gray nolly(FJ)</u> | | |
| <u>meadow grassland(CG)</u> | | <u>streamside(FI)</u> | | <u>CULTIVATED LAND(JZ)</u> |

Description: The site is in a Pinyon-Juniper zone.

31. Next nearest plant association/distance: Desert shrub/100 meters west

32. Photograph Numbers (V/26): 488N-2 (3) (Lost in processing)

33. Recorded by: V. Garth Norman

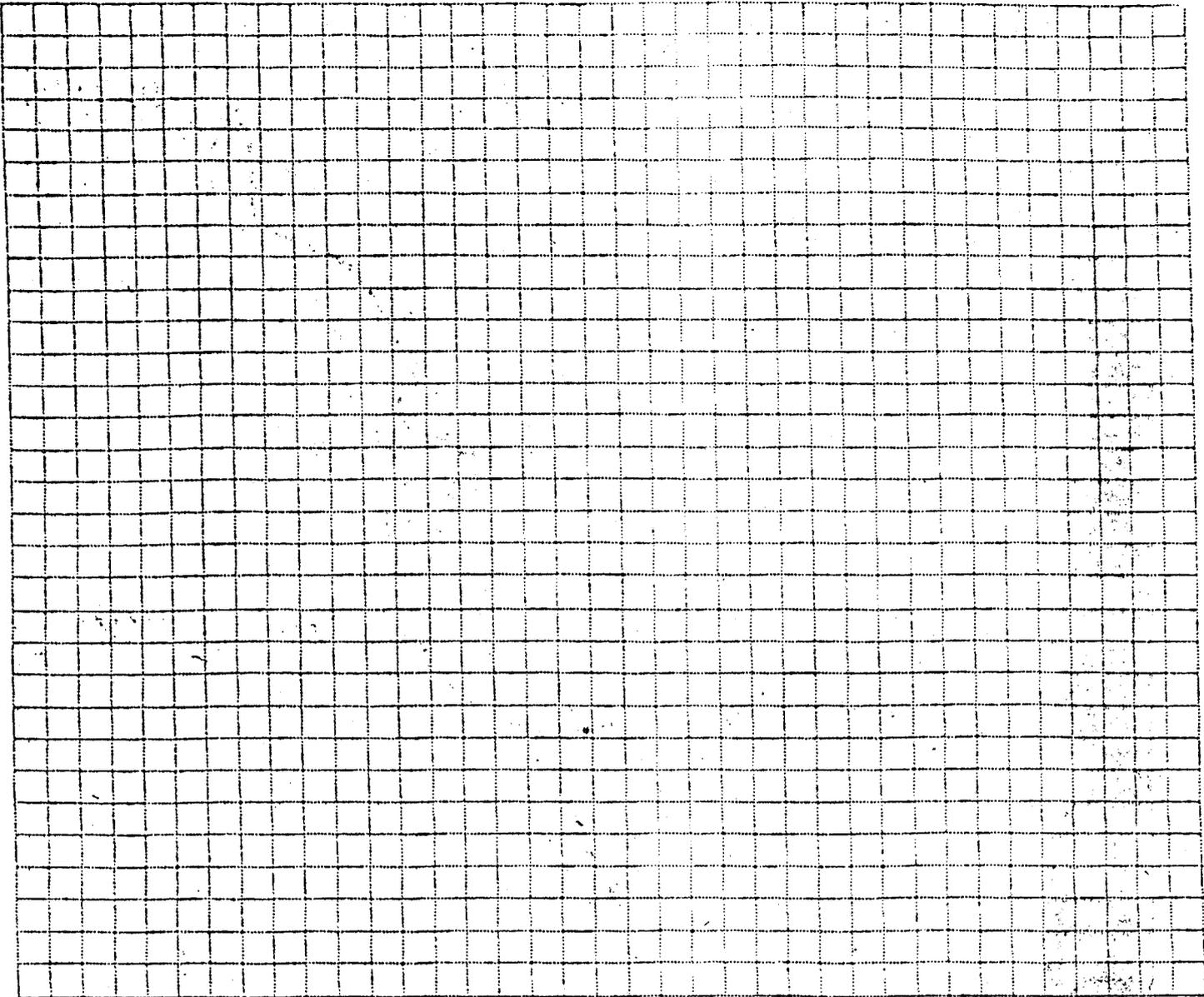
Survey Org. (V/27-28): AERC Date: 9-17-80

Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA

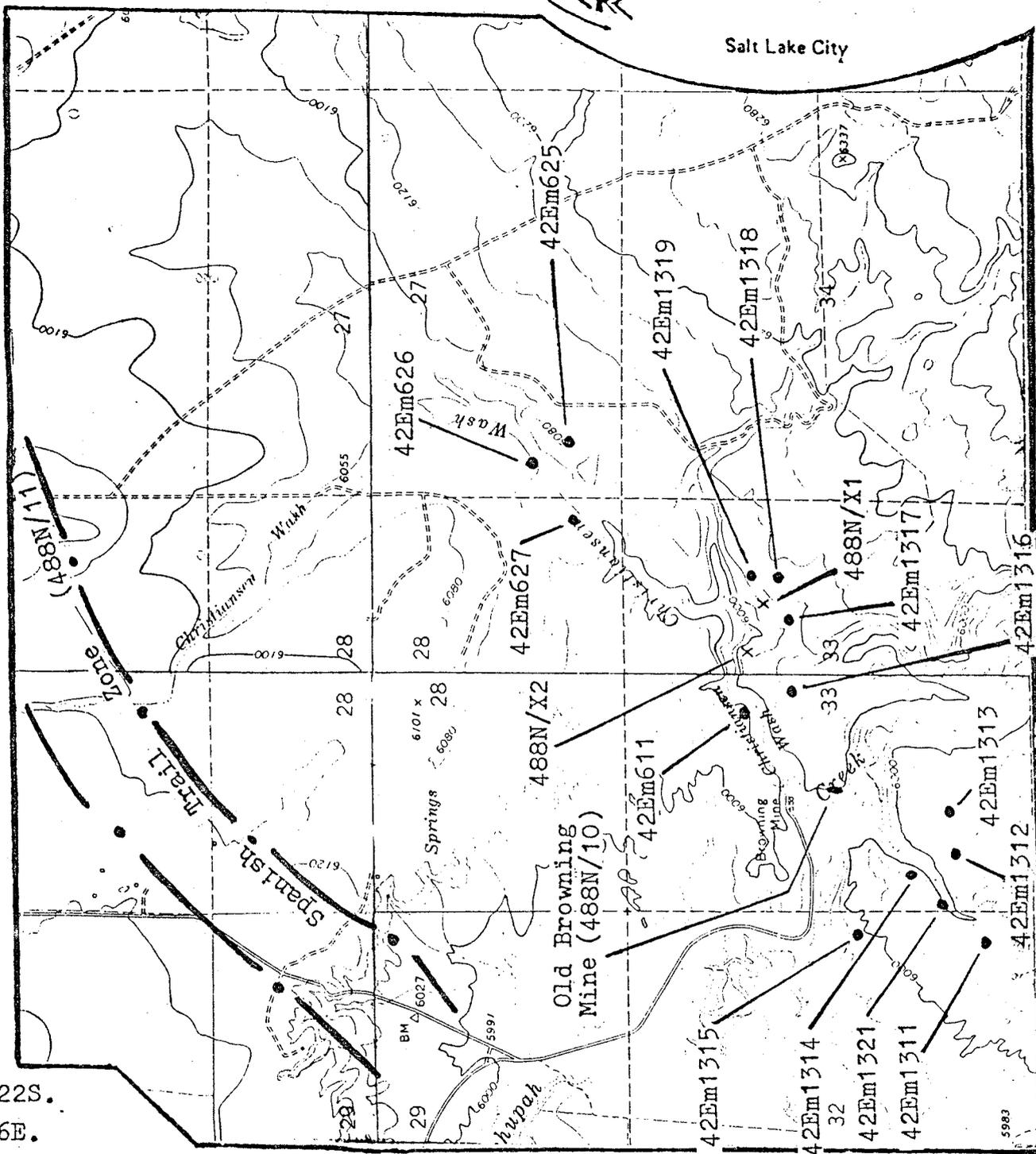
DATE NO. 488N-2 (3)



35. Encoding Form: (all entries are right justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
I	4	2	E	M					1	3	.	1	7			6	0	6	0	1	2	4	7	8	5	4	0	4	3	0	1	1	0	0	
II	S	E	S	W	N	E	3	3	2	2	S	6	E	P	R	6	A	R	L	S														D	
III	2	2	Z																																
IV							2	2	Z	Z					Z						4	8	A	B	A	C	E	R							
V	D		0	3	1	5			2	B			1	B	C	R				5	1	2	5	F	B	B	A	E							
VI																																			

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).

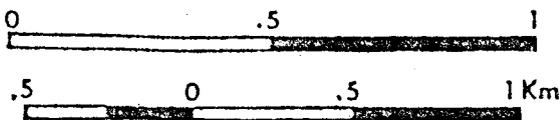


T. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

Quad:

Project: CCC-80-3	Figure 3	Walker Flat, Utah Composite Map
Series: Central Utah	Cultural Resources in the General Locality	
Date: 10-9-80		7.5 Minute - USGS
		Legend:
		Archeological Site ●
		Isolated Artifact x



Scale

developed by cooperative agreement by:
 Bureau of Land Management
 Division of State History
 University of Utah Archeological Center

1. Site No. (I/1-10) 42Em1318
 2. County Emery
 3. Temp. No. 488N/8

4. Class: x Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Rockshelter
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6100 ft. X .3048 = 1860 m.
 elevation source: contour map
 8. UTM Grid: (I/16-30) zone 12; 478690 mE.; 4301150 mN.
 9. (II/I-16) NW of SE of NE of Section 33 T. 22S., R. 6E.
 10. Map Reference: Mesa Butte, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: 225 meters SE of Christiansen Wash at north and east
tributaries junction which is located one-half mile ENE of
Browning Mine.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19): NA

14. Site Name/Previous Designations: NA

15. Description of Site: A rockshelter ten feet wide, six feet deep, and
six feet high at the front faces south on the south rim of a
sandstone knoll adjacent to a shallow dry wash. The floor of the
shelter has been 90% dugout by vandals. A lithic scatter/ceramic
scatter component (A) lies across the wash to the west. A second
component (B) lies NW at the end of the sandstone outcropping about
30 meters distance. A firepit was exposed by the potting of the
rockshelter.

16. Artifacts: Artifacts CLASS TYPE QUANTITY
 should be described/drawn on a continuation sheet and their locations plotted on the site map.
 CLASS QUANTITY CLASS TYPE QUANTITY
 Debitage (II/30) 150 Ceramics (III/10-21) Emery Gray 20
 Bifaces (III/1-9) 8 Proj Pnt (III/1-9) " " Fugitive Red
 Scrapers (III/1-9) 3 Gnd Stn (II/22-29) Pinto, Elko Corner 2
 Utilized Flakes 5 Glass (II/22-29)
 Metal (II/22-29)
 Nails (II/22-29)
 Cans (II/22-29)
 Wood (II/22-29)
 Other (II/22-29) Charcoal much

Description: Varied colored chert and gray mudstone primary and
secondary flakes, bifaces and scrapers. The rockshelter has
Emery Gray ware and a Pinto point.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|---|---|---|---|
| <input checked="" type="checkbox"/> search/firepit (HE) | <input checked="" type="checkbox"/> rubble mound (RM) | <input type="checkbox"/> earthen mound (EM) | <input type="checkbox"/> trail/road (TR) |
| <input type="checkbox"/> midden (MD) | <input type="checkbox"/> stone circle (SC) | <input type="checkbox"/> burial (BU) | <input type="checkbox"/> RR grade (RG) |
| <input type="checkbox"/> depression (DE) | <input type="checkbox"/> rock alignment (RA) | <input type="checkbox"/> pictograph (PI) | <input type="checkbox"/> tram way/road (TW) |
| <input type="checkbox"/> water control (WC) | <input type="checkbox"/> mine tailings (MT) | <input type="checkbox"/> petroglyph (PE) | <input type="checkbox"/> other (OT) |

Description: A firepit is indicated by charcoal in the rubble
mound left by vandalization of the rockshelter.

42Em1318 (488N/8)
Site No.

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Archaic and Fremont
 How Determined? artifacts on site
20. Site Dimensions: 60 m.X 40 m; Area(IV/17-21) 240 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used. Rim sherd and diagnostic points.
22. Estimated depth of fill (IV/23): ?
 Subsurface test? Yes; No (Include location of test on site map)
 Description: Completely vandalized
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Vandalization, erosion
24. Nat.Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: No structural remains. Rockshelter 90% destroyed.
25. Research Potential: Limited
26. Recommended Mitigation: Avoidance or testing
27. Direction/Distance to Permanent Water (V/5-10): NW / 225 m
 Type/Name of Water Source (V/11): Perennial/Christiansen Wash
 Distance to nearest other Water Source (V/2-4): at site
 Type of other Water Source: Intermittent wash
 Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> cop/crest/ridge(A)
<input checked="" type="checkbox"/> hill/butte(B)	<input checked="" type="checkbox"/> ledge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input checked="" type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	shore feature	<input type="checkbox"/> detached monolith(F)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port-geo. feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/bog(K)
		<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: The shelter is an overhang of sandstone outcropping on a low hill rim overlooking a dry shallow wash and flat gentle slope beyond to the south.

30. Vegetation COMMUNITY and association (V/24-25):

<u>ALPINE GRASSLAND(AA)</u>	<u>YELLOW PINE-OAK(DZ)</u>	<u>GOLD DESERT SHRUB(FZ)</u>	<u>SALT DESERT SHRUB(GZ)</u>	<u>WARM DESERT SHRUB(E)</u>
<u>SPRUCE FIR(BZ)</u>	<u>ponderosa pine(DA)</u>	<u>sagebrush(FA)</u>	<u>tree-wood(GA)</u>	<u>desert saltbrush(EA)</u>
<u>Artemisia(LA)</u>	<u>oakbrush(DB)</u>	<u>small sagebrush(FB)</u>	<u>tree-wood-shadsal(GB)</u>	<u>creosote bush(EB)</u>
<u>white fir-spruce(BX)</u>	<u>mountain brush(DC)</u>	<u>little rabbitbrush(FC)</u>	<u>seepweed(GC)</u>	<u>creosote/burrsage(EC)</u>
<u>ASPEX DOUGLAS FIR(CZ)</u>	<u>aspen(DD)</u>	<u>shadscale(FD)</u>	<u>pickled/samphire(GD)</u>	<u>joshua tree(ED)</u>
<u>limber pine(CA)</u>	<u>streamside(DE)</u>	<u>horsebrush(FE)</u>	<u>saltgrass(GZ)</u>	<u>MARSH COMMUNITY(LA)</u>
<u>douglas fir(CB)</u>		<u>winter-ac(FE)</u>	<u>alkali sacaton(GT)</u>	
<u>lodgepole pine(CC)</u>	<u>PLAINS/PRAIRIE(LZ)</u>	<u>hop-sage/bkbrush(FC)</u>	<u>rabbitbrush(CC)</u>	<u>ALKALI FLATS/MUD</u>
<u>bristlecone pine(CD)</u>	<u>grasslands(LA)</u>	<u>bud sagebrush(FB)</u>		<u>FLATS/DRY LAKE/</u>
<u>aspen(CZ)</u>	<u>pinyon-juniper(LB)</u>	<u>ac saltbrush(FE)</u>		<u>WASTELAND(LZ)</u>
<u>streamside(CD)</u>	<u>streamside(EC)</u>	<u>gray molly(FJ)</u>		
<u>meadow grassland(CC)</u>		<u>streamside(FI)</u>		<u>CULTIVATED LAND(LZ)</u>

Description The site is in a pinyon-juniper stand between
the wash and sandstone rim. Desert shrub, mostly bud sage,
extends along the flats to the south of the wash.

31. Next nearest plant association/distance: unknown

32. Photograph Numbers (V/26): 488N-2 (4-5)

33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-17-80

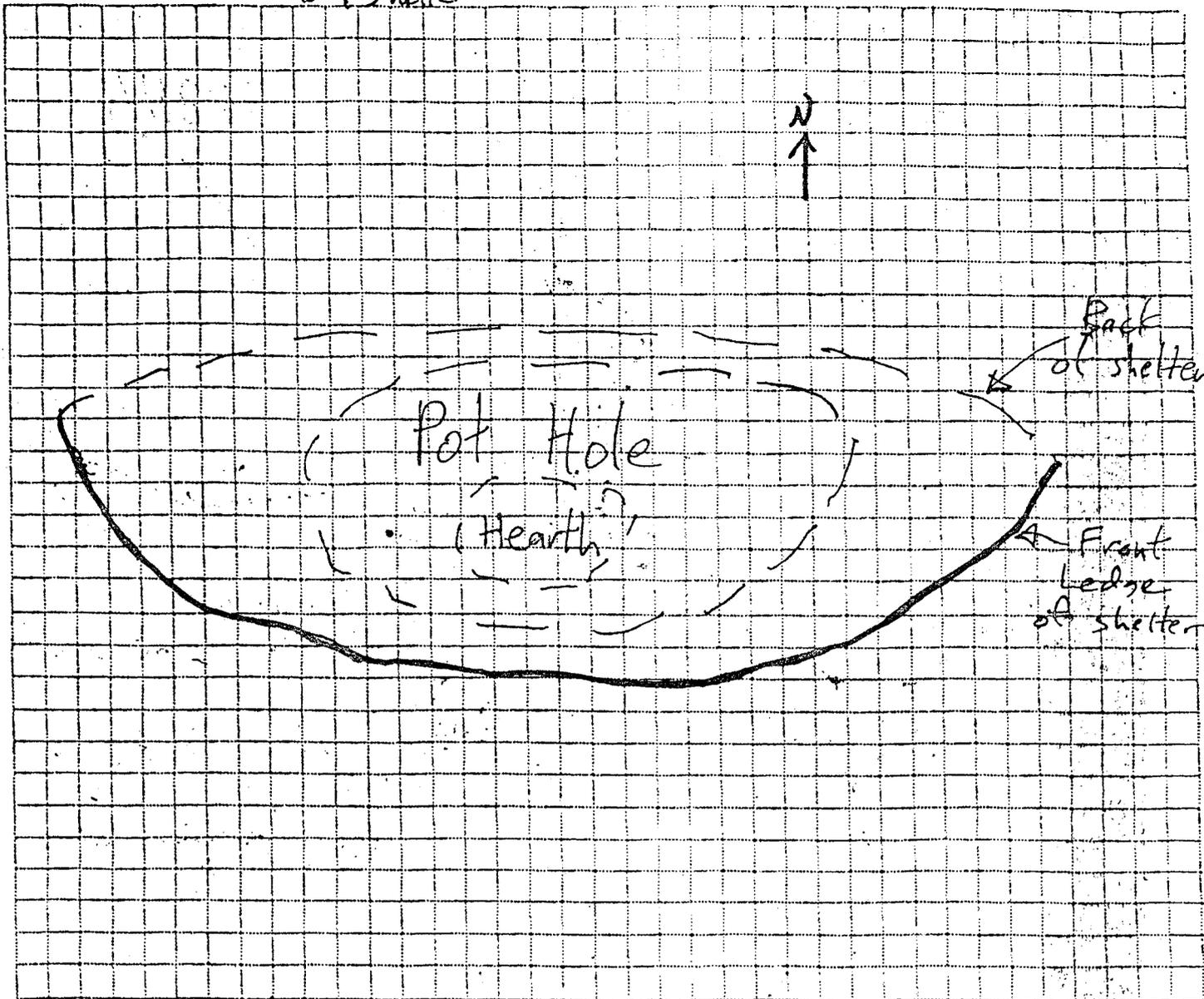
Assisting Crew Members: Michael Sloan

34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA



Rockshelter

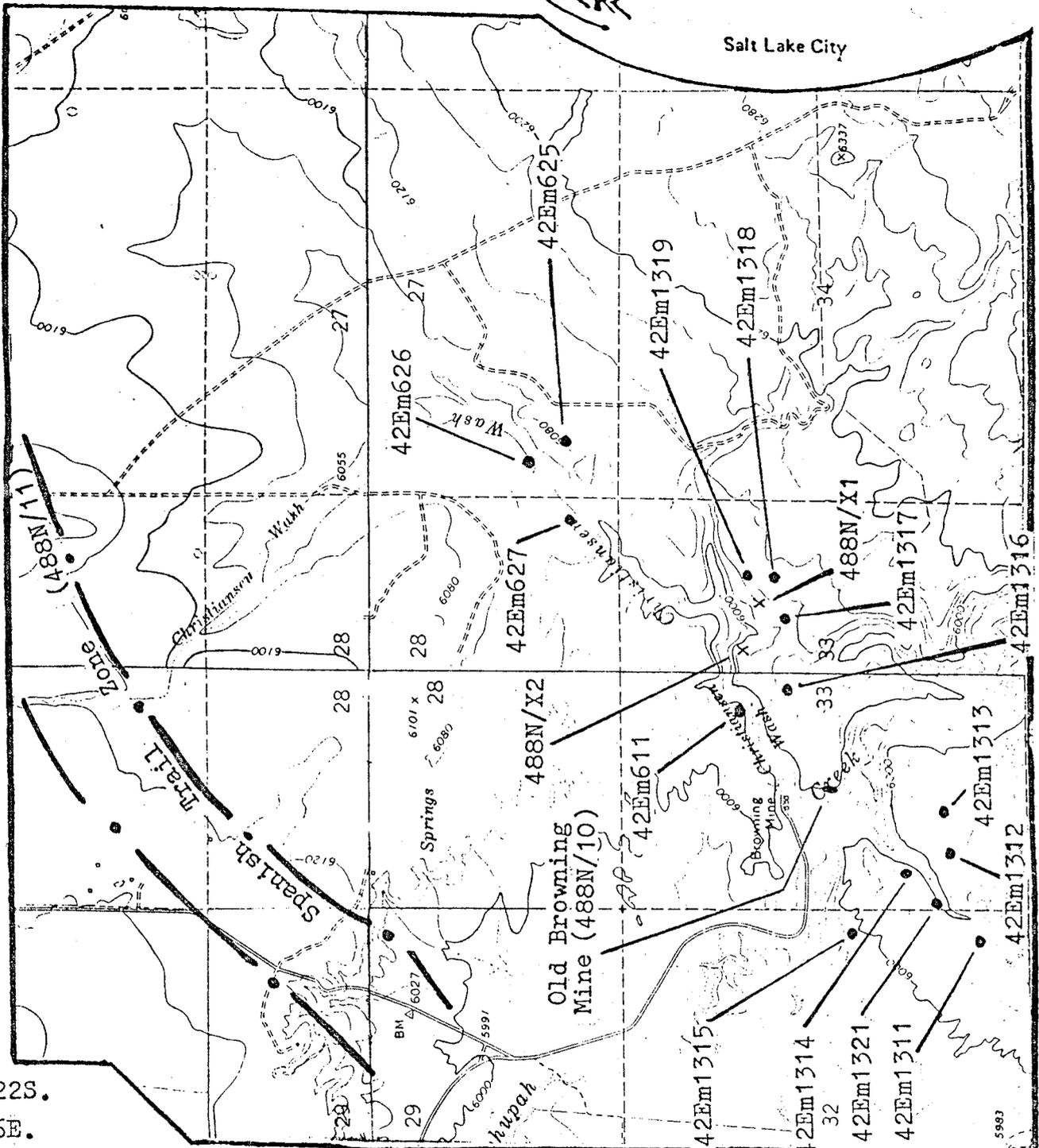


6 squares = 1 meter

35. Encoding Form: (all entries are right-justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
I																																		
II																																		
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VI																																		

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).



I. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

Quad:

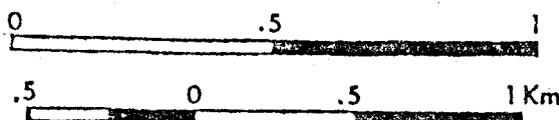
Project: CCC-80-3
Series: Central Utah
Date: 10-9-80

Figure 3
Cultural Resources
in the
General Locality

Walker Flat, Utah
Composite Map
7.5 Minute - USGS

Legend:

- Archeological Site ●
- Isolated Artifact x



Scale

developed by cooperative agreement by:
 Bureau of Land Management
 Division of State History
 University of Utah Archeological Center

1. Site No. (I/1-10) 42Em1319
2. County Emery
3. Temp. No. 488N/9

4. Class: Prehistoric Historic Paleontologic
5. Cultural Site Type (interpreted function): Rockshelter
6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
7. Elevation (I/11-15) 6080 ft. X .3048 = 1853 m.
 elevation source: contour map
8. UTM Grid: (I/16-30) zone 12; 478700 mE.; 4301250 mN.
9. (II/I-16) NW of SE of NE of Section 33 T. 22S., R. 6E.
10. Map Reference: Mesa Butte, Utah USGS Series: 7.5' Date: 1968
11. Aerial Photo Data: NA
12. Site Location: 500 feet ESE of north and east tributaries junction of Christiansen Wash, one-half mile ENE of Browning Mine.

13. Land Owner (II/17-18): Private
- BLM District/Forest (II/19): NA

14. Site Name/Previous Designations: NA

15. Description of Site: Two rockshelters are eroded; the west one (A) has a foot of wind-blown sand; the east one (B) is eroded away so that the sandstone overhang has collapsed. Lithic debitage and biface scrapers are scattered downhill around the two shelters and to the north.

16. Artifacts: Artifacts should be described/drawn on a continuation sheet and their locations plotted on the site map.

CLASS	QUANTITY	CLASS	TYPE	QUANTITY
Debitage (II/30)	<u>150</u>	Ceramics (III/10-21)	Emery Gray	<u>6</u>
Bifaces (III/1-9)	<u>6</u>	Proj Pnt (III/1-9)	Elko Corner	<u>3</u>
Scrapers (III/1-9)	<u>2</u>	Gnd Stn (II/22-29)	Gypsum serrated	
Utilized Flakes		Glass (II/22-29)	Triangle concave base	
		Metal (II/22-29)		
		Nails (II/22-29)		
		Cans (II/22-29)		
		Wood (II/22-29)		
		Other (II/22-29)		

Description: Varied colored chert and gray mudstone primary and secondary flakes; six broken bifaces; one turtle back scraper

17. Non-Structural Features: (describe and locate on site map) (III/22-27)
- | | | | |
|--|--|---|---|
| <input type="checkbox"/> hearth/firepit (HE) | <input type="checkbox"/> rubble mound (RM) | <input type="checkbox"/> earthen mound (EM) | <input type="checkbox"/> trail/road (TR) |
| <input type="checkbox"/> midden (MD) | <input type="checkbox"/> stone circle (SC) | <input type="checkbox"/> burial (BU) | <input type="checkbox"/> RR grade (RG) |
| <input type="checkbox"/> depression (DE) | <input type="checkbox"/> rock alignment (RA) | <input type="checkbox"/> pictograph (PI) | <input type="checkbox"/> tram way/road (TW) |
| <input type="checkbox"/> water control (WC) | <input type="checkbox"/> mine tailings (MT) | <input type="checkbox"/> petroglyph (PE) | <input type="checkbox"/> other (OT) |
- Description: NA

Site No. 42Em1319 (488N/9)

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm			Cairn		
Granary			Corral		
Cist			Dugout		
Pithouse			Kiln		
Kiva			Monument		
Well			Mine		

Description: NA

19. Cultural Affiliation (IV/7-14) Fremont
 How Determined? Ceramics, points
20. Site Dimensions: 50 m.X 30 m; Area(IV/17-21) 1500 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): About 1 foot. Diagnostic points & sherd sample only.
 Subsurface test? Yes; No (Include location of test on site map)
- Description: _____
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Erosion
24. Nat.Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: No structural remains

25. Research Potential: Rockshelter A has depth potential for excavation
26. Recommended Mitigation: Avoidance or testing
27. Direction/Distance to Permanent Water (V/5-10): NNW / 175 m
 Type/Name of Water Source (V/11): Perennial/Christiansen Wash
 Distance to nearest other Water Source (V/2-4): 75 meters N.
 Type of other Water Source: Dry wash
 Distance to Cultivable Soil (V/12-14): Local

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input checked="" type="checkbox"/> top/crest/ridge(A)
<input checked="" type="checkbox"/> hill/burca(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input checked="" type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input checked="" type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	shore feature	<input type="checkbox"/> detached monolith(F)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> scarp(H)
		<input checked="" type="checkbox"/> alluvial plain(B)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port-guo.feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/bog(K)
		<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: The site area is in association with a low sandstone outcropping on a ridge and adjacent alluvial flats.

29. Degree/Aspect of slope (V/19-23): 4 degrees/W

30. Vegetation COMMUNITY and association (V/24-25):

<u>ALPINE GRASSLAND(AA)</u>	<u>YELLOW PINE-OAK(DZ)</u>	<u>GOLD DESERT SHRUB(FZ)</u>	<u>SALT DESERT SHRUB(GZ)</u>	<u>WASH DESERT SHRUB(E)</u>
<u>SPRUCE FIR(BZ)</u>	<u>ponderosa pine(DA)</u>	<u>sagebrush(FA)</u>	<u>greasewood(GA)</u>	<u>desert saltbrush(EA)</u>
<u>hemlock(LA)</u>	<u>oakbrush(DB)</u>	<u>small sagebrush(FB)</u>	<u>firwood-shadsal(GB)</u>	<u>creosote bush(HB)</u>
<u>white fir-spruce(BX)</u>	<u>mountain brush(DC)</u>	<u>little rabbitbrush(FC)</u>	<u>seepweed(GC)</u>	<u>creosote/bursage(IC)</u>
<u>ASPEN DOUGLAS FIR(CZ)</u>	<u>maple(DB)</u>	<u>shadsala(FD)</u>	<u>pickleweed/sarcophora(GD)</u>	<u>joshua tree(ID)</u>
<u>limber pine(CA)</u>	<u>streamsides(DX)</u>	<u>horsebrush(FE)</u>	<u>saltgrass(GZ)</u>	<u>MARSH COMMUNITY(LA)</u>
<u>douglas fir(CB)</u>		<u>winter-ac(FY)</u>	<u>alkali sacaton(GY)</u>	
<u>lodgepole pine(CC)</u>	<u>FLATS/PRAIRIES(M)</u>	<u>hop-sage/blkbush(FG)</u>	<u>rabbitbrush(GG)</u>	<u>ALKALI FLATS/MUD</u>
<u>bristlecone pine(CD)</u>	<u>grasslands(LA)</u>	<u>bud sagebrush(FH)</u>		<u>FLATS/DRY LAKE/</u>
<u>aspen(CZ)</u>	<u>pinyon-juniper(MB)</u>	<u>mat saltbrush(FI)</u>		<u>WASTELAND(KZ)</u>
<u>streamsides(CB)</u>	<u>streamsides(IC)</u>	<u>gray molly(FJ)</u>		
<u>meadow grassland(CC)</u>		<u>streamsides(FI)</u>		<u>CULTIVATED LAND(JZ)</u>

Description: Sparse pinyon and juniper extend through the site area which is heavily eroded and virtually free of other vegetation.

31. Next nearest plant association/distance: Small sage, 50 meters

32. Photograph Numbers (V/26): 488N-2 (6-7)

33. Recorded by: V. Garth Norman

Survey Org. (V/27-28): AERC Date: 9-17-80

Assisting Crew Members: Michael Sloan

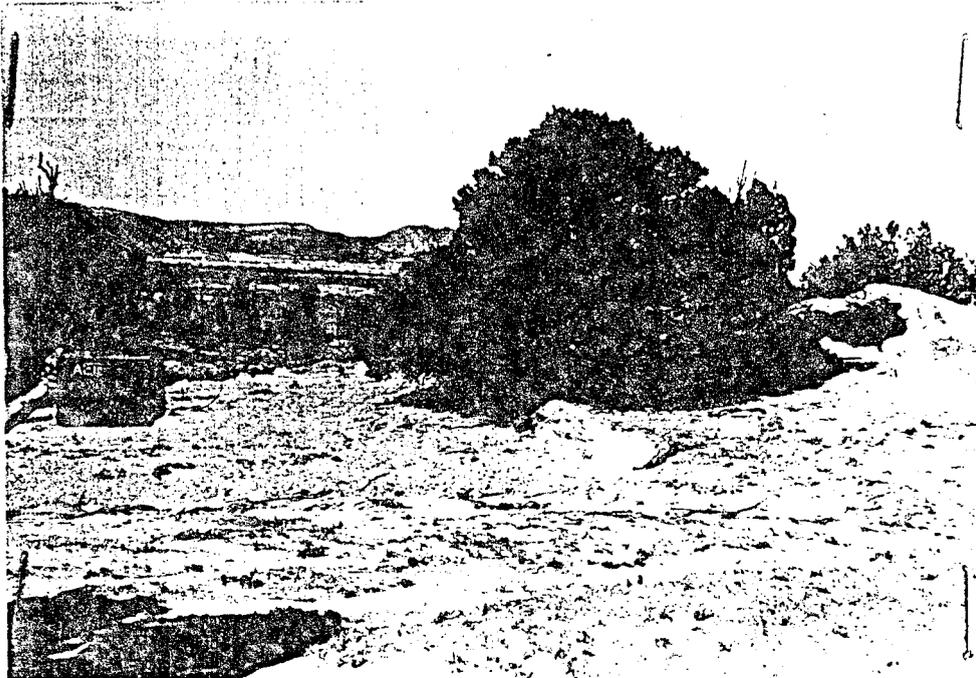
34. Sponsoring Agency: Consolidation Coal Company

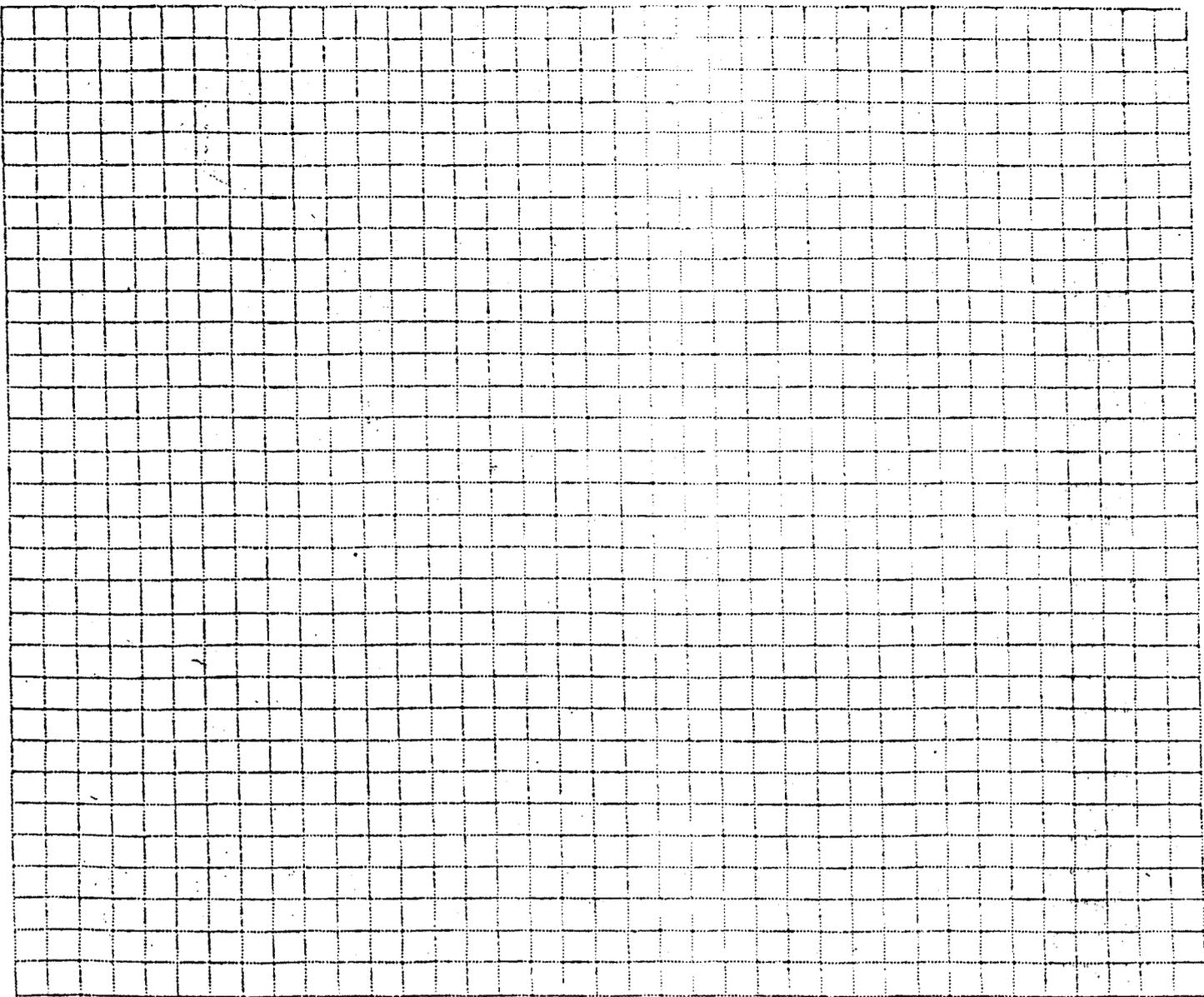
Contract No. NA

42Em1319

488N/9

9-17-80

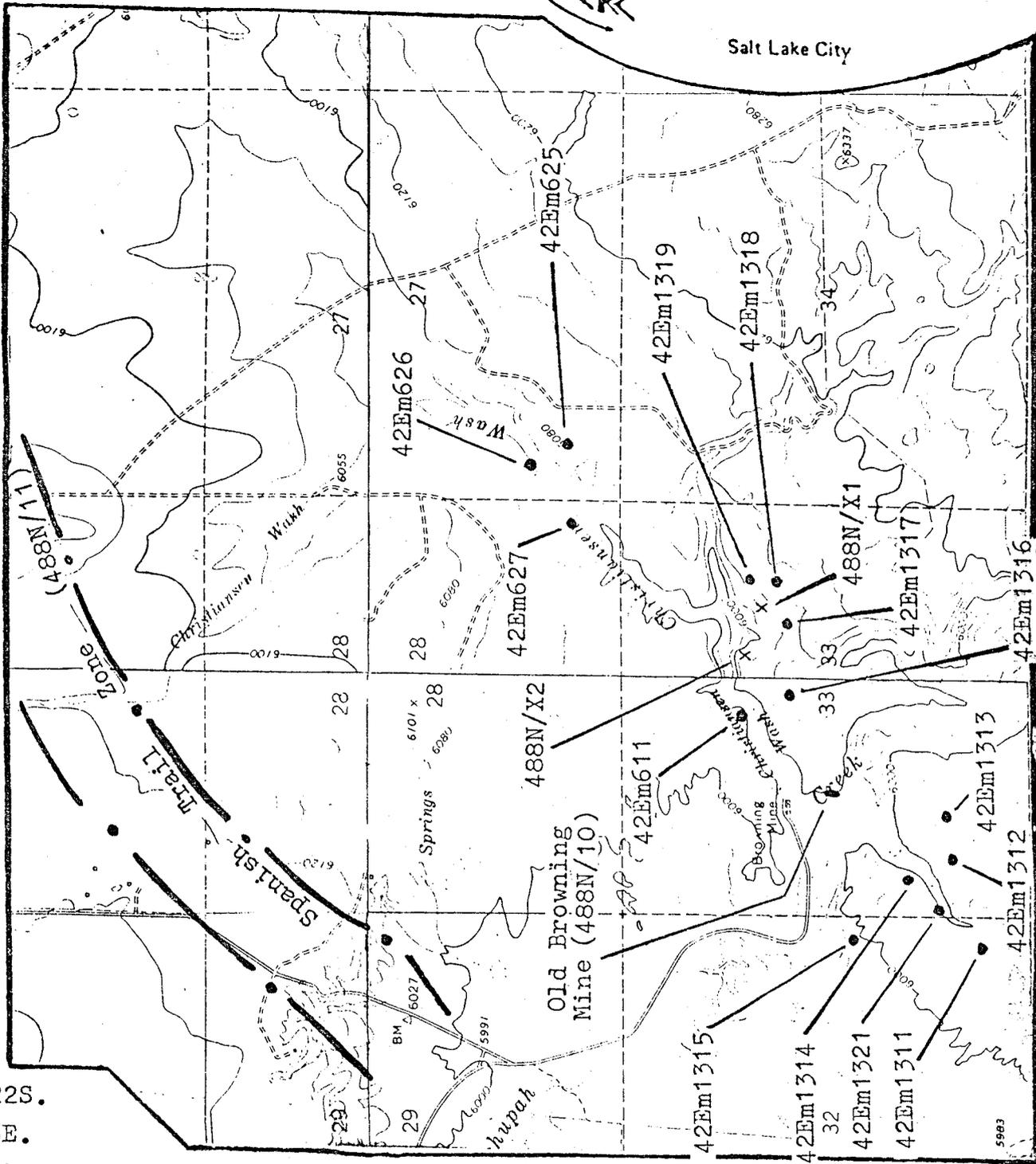




35. Encoding Form: (all entries are right justified)

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I																																						
II																																						
III																																						
IV																																						
V																																						
VI																																						

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).



T. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

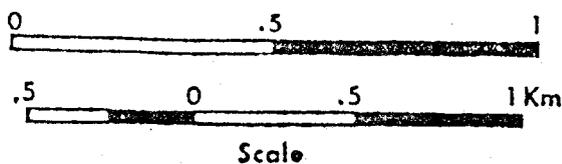
Quad:

Project: CCC-80-3	Figure 3 Cultural Resources in the General Locality
Series: Central Utah	
Date: 10-9-80	

Walker Flat, Utah
Composite Map
7.5 Minute - USGS

Legend:

- Archeological Site ●
- Isolated Artifact x



developed by cooperative agreement by: 1. Site No. (I/1-10) ---
 Bureau of Land Management 2. County Emery
 Division of State History 3. Temp. No. 488N/10
 University of Utah Archeological Center

4. Class: Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Coal mine portal
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 5920 ft. X .3048 = 1804 m.
 elevation source: topographic map
 8. UTM Grid: (I/16-30) zone 12; 477850 mE.; 4300900 mN.
 9. (II/I-16) SW of SE of NW of Section 33 T. 22S., R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: Site is located on east side of Quitchupah Creek
directly south of the mouth of Christiansen Creek.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19): NA

14. Site Name/Previous Designations: Browning Mine

15. Description of Site: The site consists of a mine portal, now covered
by cliff fall, a sandstone road embankment north of the portal, and the
remnants of a bridge crossing the creek. Tracks are still visible
at the mouth of the portal and the remains of a metal-lined wooden
ore car are below the portal. Other historic portals evidently
existed in the immediate locality and are now the sites of the
Emery Mine portals. Information on these portals is available in
Doelling 1972:456 and Lupton 1916:85.

16. Artifacts: Artifacts CLASS TYPE QUANTITY

CLASS	QUANTITY	TYPE	QUANTITY
Ceramics(III/10-21)			
Proj Pnt(III/1-9)			
Gnd Stn(II/22-29)			
Glass (II/22-29)		X	
Metal (II/22-29)			
Nails (II/22-29)			
Cans (II/22-29)			
Wood (II/22-29)			
Other (II/22-29)			

Description: Mine complex was first opened in 1881 by Philip Fugsley
and operated intermittently until 1936. Operation in the locality
at the Emery mine portals has been steady since 1936.

17. Non-Structural Features: (describe and locate on site map)(III/22-27)
- | | | | |
|---------------------------|---------------------------|--------------------------|--------------------------|
| <u>hearth/firepit(HE)</u> | <u>rubble mound(EM)</u> | <u>earthen mound(EM)</u> | <u>trail/road(TR)</u> |
| <u>hidden(MD)</u> | <u>stone circle(SC)</u> | <u>burial(BU)</u> | <u>RR grade(RG)</u> |
| <u>depression(DE)</u> | <u>rock alignment(RA)</u> | <u>pictograph(PI)</u> | <u>tram way/road(TW)</u> |
| <u>vacar control(WC)</u> | <u>mine tailings(MT)</u> | <u>Xpetroglyph(PE)</u> | <u>other(OT)</u> |

Description: Historic engraving stating: "Joseph Broderick 1924"
located on rock directly above the old Browning portal.

Browning Mine
 NA (488N/10)
 Site No.

Single rm _____	Tower _____
Multiple rm _____	Cairn _____
Granary _____	Corral _____
Cist _____	Dugout _____ x _____
Pithouse _____	Kiln _____
Kiva _____	Monument _____
Well _____	Mine _____ x _____

Description: Sandstone block and cedar post retaining wall for road below and to the north of portal. The bridge was constructed of wooden pilings and boards. A small dugout, probably an explosives magazine, is located south of the portal. The dugout is constructed of wood.

19. Cultural Affiliation (IV/7-14) Euro-American
 How Determined? Construction
20. Site Dimensions: 150 m.X 20 m; Area(IV/17-21) 3000 sq m
21. Were surface artifacts collected? Yes x No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): 2 meters
 Subsurface test? Yes; x No (Include location of test on site map)

Description: _____

23. Site Condition (IV/25): Excellent; Good; Fair; x Poor
 Agent of Impact: Erosion and purposeful demolition of mine portal
24. Nat.Register Potential(V/1): Significant(C); x Non-Significant(D)
 Justification: Site has been largely destroyed by erosion and rock fall.

25. Research Potential: Minimal
26. Recommended Mitigation: Avoidance
27. Direction/Distance to Permanent Water (V/5-10): Local m
 Type/Name of Water Source (V/11): Permanent/Quitchpah Creek
 Distance to nearest other Water Source (V/2-4): 1.4 km.
 Type of other Water Source: Spring
 Distance to Cultivable Soil (V/12-14): 1 mile west

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> top/crest/ridge(A)
<input type="checkbox"/> hill/butte(B)	<input type="checkbox"/> edge(B)	<input checked="" type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input checked="" type="checkbox"/> toe/fooc/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/fooc(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> shore feature	<input type="checkbox"/> detached moraine(F)
<input checked="" type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input type="checkbox"/> alluvial plain(B)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> coluvium(I)	<input type="checkbox"/> port. gap/feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/bog(K)
		<input type="checkbox"/> flood plain(X)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(N)

Description: The site is located at the base of a cliff about 2 meters above the creek and on the east side of the creek and east of the road.

29. Degree/Aspect of slope (V/19-25): 30 degrees/west

30. Vegetation COMMUNITY and association (V/24-25):

<u>ALPINE GRASSLAND(LA)</u>	<u>YELLOW PINE-OAK(DZ)</u>	<u>COLD DESERT SHRUB(FE)</u>	<u>SALT DESERT SHRUB(GZ)</u>	<u>WASH DESERT SHRUB(E)</u>
<u>SPRUCE FIR(XZ)</u>	<u>ponderosa pine(DA)</u>	<u>sagebrush(FA)</u>	<u>Yucca wood(CA)</u>	<u>desert saltbrush(EA)</u>
<u>Krumholz(XA)</u>	<u>oakbrush(DB)</u>	<u>small sagebrush(FB)</u>	<u>Pinewood-shadsal(CB)</u>	<u>creosote bush(EB)</u>
<u>white fir-spruce(XB)</u>	<u>mountain brush(DC)</u>	<u>little rabbitbrush(FC)</u>	<u>seepweed(GC)</u>	<u>creosote/bur sage(EC)</u>
<u>ASPEN DOUGLAS FIR(CZ)</u>	<u>apple(DD)</u>	<u>shadscale(FD)</u>	<u>pickled/samphire(GD)</u>	<u>joshua tree(ED)</u>
<u>limber pine(CA)</u>	<u>streamside(DE)</u>	<u>horsetruebrush(FE)</u>	<u>saltgrass(GZ)</u>	<u>MARSH COMMUNITY(LA)</u>
<u>douglas fir(CB)</u>	<u>FLAINS/PRAIRIE(XZ)</u>	<u>vinec-fac(FE)</u>	<u>alkali sacaton(GF)</u>	<u>ALKALI FLATS/MUD</u>
<u>lodgepole pine(CC)</u>	<u>grasslands(LA)</u>	<u>hop-sage/bixbrush(FG)</u>	<u>rabbitbrush(GG)</u>	<u>FLATS/DRY LAKE/</u>
<u>bristlecone pine(CD)</u>	<u>pinon-juniper(XB)</u>	<u>bud sagebrush(FH)</u>		<u>WASTELAND(XZ)</u>
<u>aspen(CZ)</u>	<u>streamside(EC)</u>	<u>mat saltbrush(FI)</u>		
<u>streamside(CD)</u>		<u>gray nolly(FJ)</u>		
<u>meadow grassland(CC)</u>		<u>streamside(FK)</u>		<u>CULTIVATED LAND(XZ)</u>

Description: Sarcobatus vermiculatus, tamarix ramosissima,
Phragmites communis, Atriplex corrugata, Salix sp., Chrysothamnus
nauseosus, Salsola kali, Populus fremontii, Pinus edulis and
Juniperus osteosperma nearby.

31. Next nearest plant association/distance: Pinon-Juniper within 1 km.

32. Photograph Numbers (V/26): 458A-7 (6, 7, 8)

33. Recorded by: Dennis G. Weder

Survey Org. (V/27-28): AERC Date: 10-6-80

Assisting Crew Members: F. R. Hauck

34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA

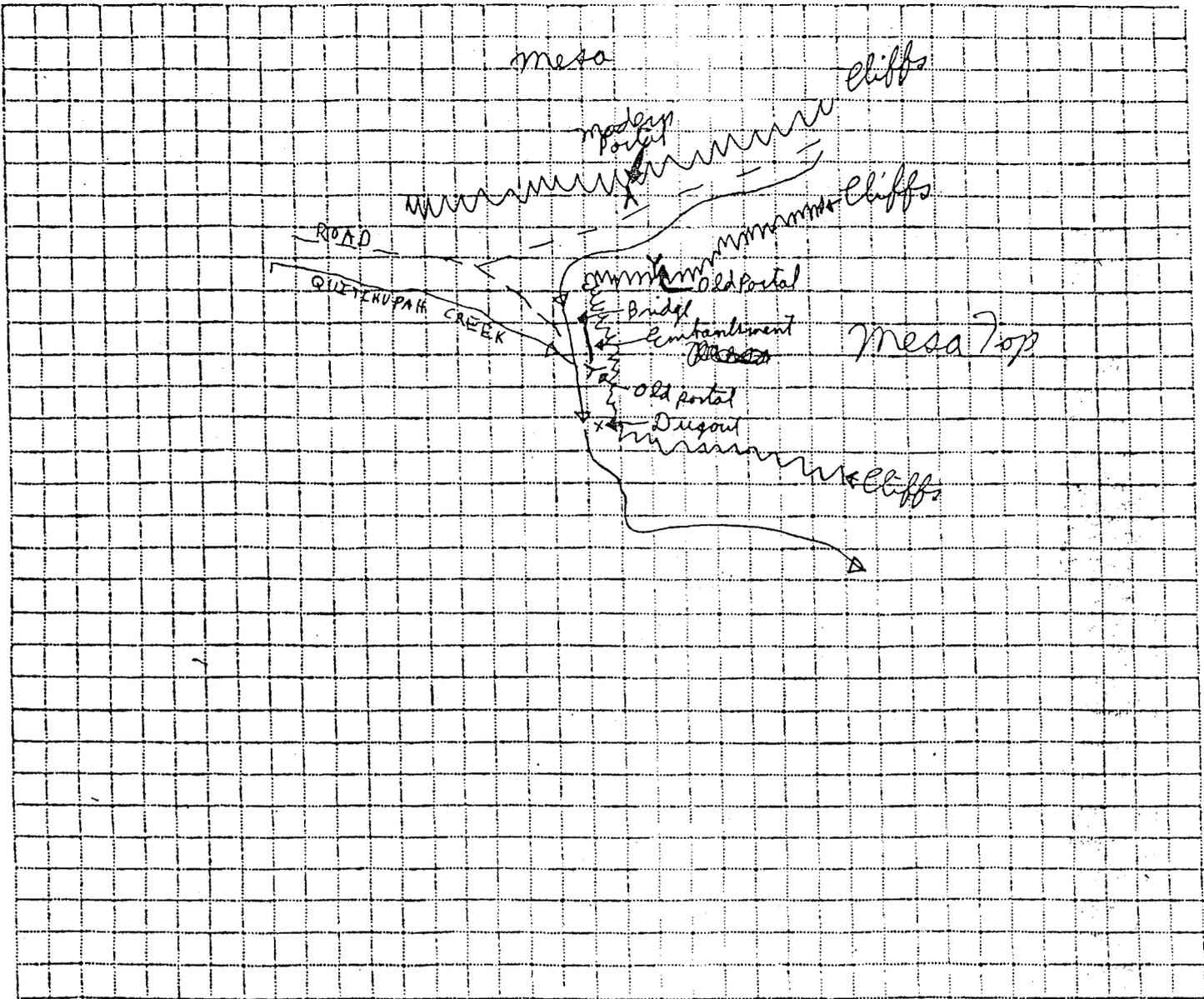
SITE NO. 14004

Browning Mine Site
Permanent No. NA

488N/10

10-6-80



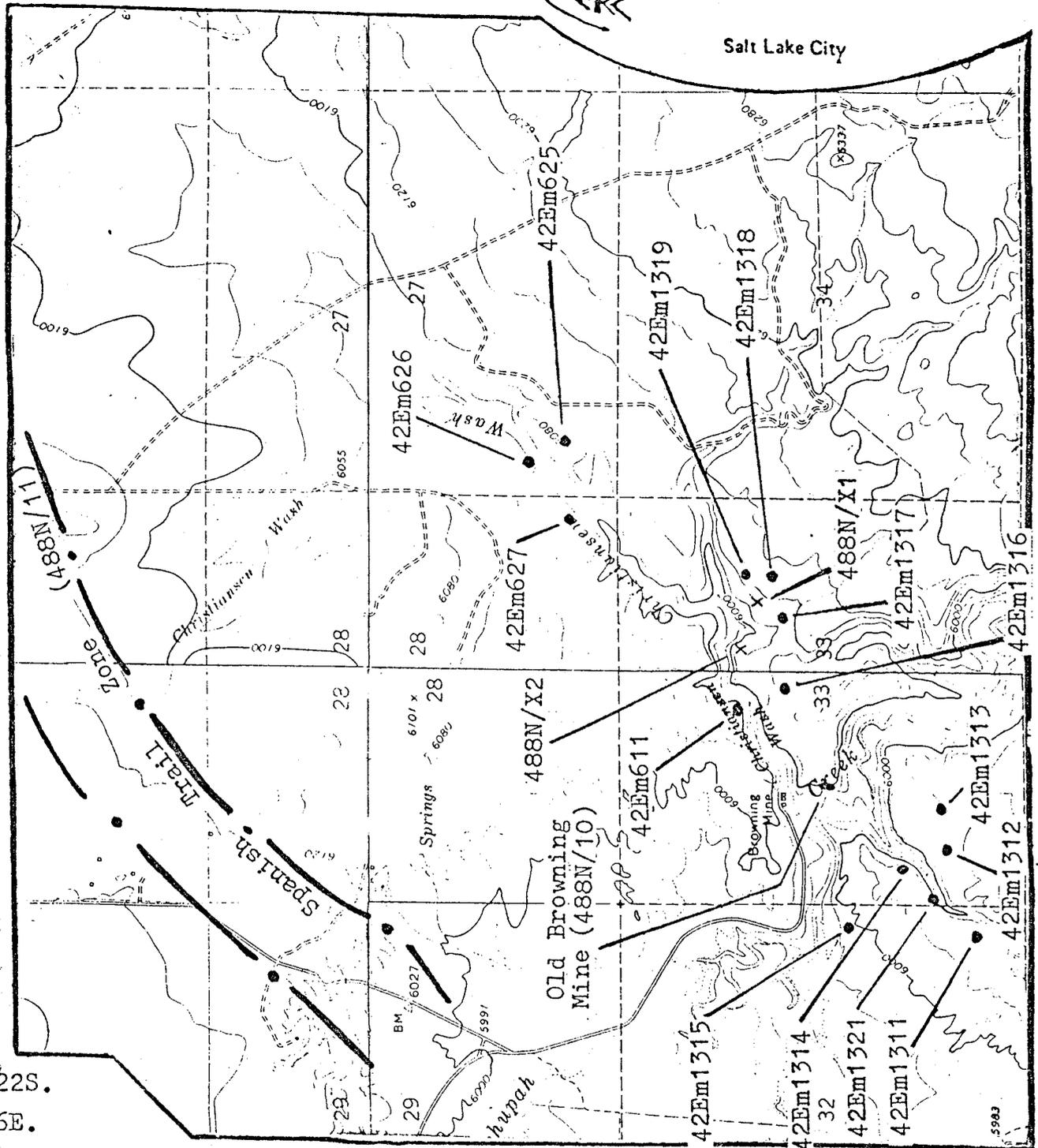


No Encoding without permanent site No.

35. Encoding Form: (all entries are right justified)

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I																																
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IV																																
V																																
VI																																

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).



T. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

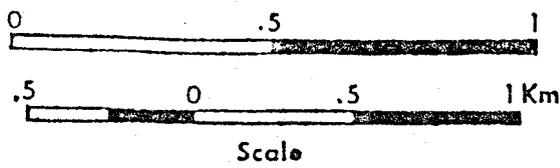
Quad:

Project: CCC-80-3
Series: Central Utah
Date: 10-9-80

Figure 3
Cultural Resources
in the
General Locality

Walker Flat, Utah
Composite Map
7.5 Minute - USGS

Legend:
Archeological Site ●
Isolated Artifact x



developed by cooperative agreement by: 1. Site No. (I/1-10) 42Em1321
 Bureau of Land Management 2. County Emery
 Division of State History
 University of Utah Archeological Center 3. Temp. No. 488N/12

4. Class: x Prehistoric Historic Paleontologic
 5. Cultural Site Type (interpreted function): Temporary camp
 6. Paleontological Site Type: Invertebrate; Vertebrate; Flora
 7. Elevation (I/11-15) 6000 ft. X .3048 = 1829 m.
 elevation source: Topographic map
 8. UTM Grid: (I/16-30) zone 12; 477350 mE.; 4300450 mN.
 9. (II/I-16) NE of SE of SE of Section 32 T. 22S., R. 6E.
 10. Map Reference: Walker Flat, Utah USGS Series: 7.5' Date: 1968
 11. Aerial Photo Data: NA
 12. Site Location: The site is located on the north rim of the canyon and on the talus slope below as far down as the stream bed.

13. Land Owner (II/17-18): Private
 BLM District/Forest (II/19):

14. Site Name/Previous Designations: NA

15. Description of Site: The site is a lithic scatter and ceramic scatter with hammerstones and a slab metate. The metate is located on the rim rock.

16. Artifacts: Artifacts should be described/drawn on a continuation sheet and their locations plotted on the site map.

CLASS	QUANTITY	CLASS	TYPE	QUANTITY
Debitage (II/30)	<u>x</u>	Ceramics (III/10-21)	<u>Emery Gray, Snake Valley</u>	<u>6</u>
Bifaces (III/1-9)	<u> </u>	Proj Pnt (III/1-9)	<u> </u>	<u> </u>
Scrapers (III/1-9)	<u> </u>	Gnd Stn (II/22-29)	<u>metate</u>	<u>1</u>
Utilized Flakes	<u> </u>	Glass (II/22-29)	<u> </u>	<u> </u>
		Metal (II/22-29)	<u> </u>	<u> </u>
		Nails (II/22-29)	<u> </u>	<u> </u>
		Cans (II/22-29)	<u> </u>	<u> </u>
		Wood (II/22-29)	<u> </u>	<u> </u>
		Other (II/22-29)	<u> </u>	<u> </u>

Description: Debitage consists of red chert and brown/tan local chert, mostly core flakes. Numerous quartzite hammerstones are also present.

17. Non-Structural Features: (describe and locate on site map) (III/22-27)

<u> </u> hearth/firepit (HE)	<u> </u> rubble mound (RM)	<u> </u> earthen mound (EM)	<u> </u> trail/road (TR)
<u> </u> midden (MD)	<u> </u> stone circle (SC)	<u> </u> burial (BU)	<u> </u> RR grade (RG)
<u> </u> depression (DE)	<u> </u> rock alignment (RA)	<u> </u> pictograph (PI)	<u> </u> tram way/road (TW)
<u> </u> water control (WC)	<u> </u> mine tailings (MT)	<u> </u> petroglyph (PE)	<u> </u> other (OT)

Description: NA

(488N/12)

42Em1321

Site No.

Single rm	Tower
Multiple rm	Cairn
Granary	Corral
Cist	Dugout
Pithouse	Kiln
Kiva	Monument
Well	Mine

Description: None

19. Cultural Affiliation (IV/7-14) Fremont
 How Determined? Ceramics
20. Site Dimensions: 30 m. X 40 m; Area(IV/17-21) 1200 sq m
21. Were surface artifacts collected? Yes No; (IV/22) If yes, attach a continuation sheet describing sampling method used.
22. Estimated depth of fill (IV/23): negligible
 Subsurface test? Yes; No (Include location of test on site map)
 Description: _____
23. Site Condition (IV/25): Excellent; Good; Fair; Poor
 Agent of Impact: Erosion
24. Nat.Register Potential(V/1): Significant(C); Non-Significant(D)
 Justification: Small size, sparse artifact concentration, negligible depth potential.
25. Research Potential: Minimal
26. Recommended Mitigation: Avoidance
27. Direction/Distance to Permanent Water (V/5-10): NE / 500 m
 Type/Name of Water Source (V/11): Quitchipah Creek
 Distance to nearest other Water Source (V/2-4): 1.9 km.
 Type of other Water Source: Spring
 Distance to Cultivable Soil (V/12-14): 1 km.

28. Topographic Location (check one under each heading) (V/15-18)

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> fan(A)	<input type="checkbox"/> top/crest/ridge(A)
<input type="checkbox"/> hill/butte(B)	<input checked="" type="checkbox"/> edge(B)	<input type="checkbox"/> talus(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input checked="" type="checkbox"/> slope(C)	<input type="checkbox"/> dune(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom(D)	<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> toe/foot(D)
<input type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> playa(E)	<input type="checkbox"/> cutbank(E)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	shore facure	<input type="checkbox"/> detached monolith(F)
<input checked="" type="checkbox"/> canyon(G)	<input checked="" type="checkbox"/> rimrock(G)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> interior(G)
	<input type="checkbox"/> interior(H)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> step(H)
		<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> riser(I)
		<input checked="" type="checkbox"/> colluvium(I)	<input type="checkbox"/> port. geo. feature(J)
		<input type="checkbox"/> moraine(J)	<input type="checkbox"/> spring mound/hog(I)
		<input type="checkbox"/> flood plain(I)	<input type="checkbox"/> cave(L)
			<input type="checkbox"/> alcove/shelter(M)
			<input type="checkbox"/> patterned ground(J)

Description: The site is located on the rimrock and on the colluvium below.

50. Vegetation COMMUNITY and association (V/24-25):

<u>YELLOW PINE GRASSLAND(LA)</u>	<u>YELLOW PINE-OAK(DZ)</u>	<u>COLD DESERT SHRUB(FI)</u>	<u>SALT DESERT SHRUB(GZ)</u>	<u>HASH DESERT SHRUB(E)</u>
<u>SPRUCE FIR(DZ)</u>	<u>ponderosa pine(DA)</u>	<u>sagebrush(FA)</u>	<u>greasewood(GA)</u>	<u>desert saltbrush(EA)</u>
<u>Artemisia(LA)</u>	<u>oakbrush(DB)</u>	<u>small sagebrush(FB)</u>	<u>X-triwood-shadac(GZ)</u>	<u>creosote bush(EB)</u>
<u>white fir-spruce(JE)</u>	<u>mountain brush(DC)</u>	<u>little rabbitbrush(FC)</u>	<u>seepweed(GC)</u>	<u>creosote/bursage(EC)</u>
<u>ASPEN DOUGLAS FIR(CI)</u>	<u>maple(DD)</u>	<u>shadscale(FD)</u>	<u>pickled/samphira(GD)</u>	<u>joshua tree(ED)</u>
<u>limber pine(CA)</u>	<u>screamside(DZ)</u>	<u>horsebrush(FE)</u>	<u>saltgrass(GZ)</u>	<u>MARSH COMMUNITY(LI)</u>
<u>douglas fir(CB)</u>		<u>winter-fac(FE)</u>	<u>alkali sacacou(GF)</u>	
<u>lodgepole pine(CC)</u>	<u>PLAINS/PRAIRIE(IZ)</u>	<u>hop-sage/blkbush(FG)</u>	<u>rabbitbrush(GG)</u>	<u>ALKALI FLATS/MUD</u>
<u>bristlecone pine(CD)</u>	<u>grasslands(LA)</u>	<u>bud sagebrush(FH)</u>		<u>FLATS/DRY LAKE/</u>
<u>aspen(CZ)</u>	<u>pinon-juniper(EB)</u>	<u>mat saltbrush(FI)</u>		<u>WASTELAND(KZ)</u>
<u>screamside(CD)</u>	<u>screamside(IC)</u>	<u>gray molly(FJ)</u>		
<u>meadow grassland(CC)</u>		<u>screamside(FK)</u>		<u>CULTIVATED LAND(JZ)</u>

Description: Amelanchier utahensis, Sarcobatus vermiculatus,
Atriplex confertifolia, Yucca sp., Ephedra sp., Oryzopsis
hymenoides, Chrysothamnus nauseosus, Atriplex canescens

31. Next nearest plant association/distance: small sage, 150 m.

32. Photograph Numbers (V/26): 458A-7 (9)

33. Recorded by: Dennis G. Weder

Survey Org. (V/27-28): AERC Date: 10-6-80

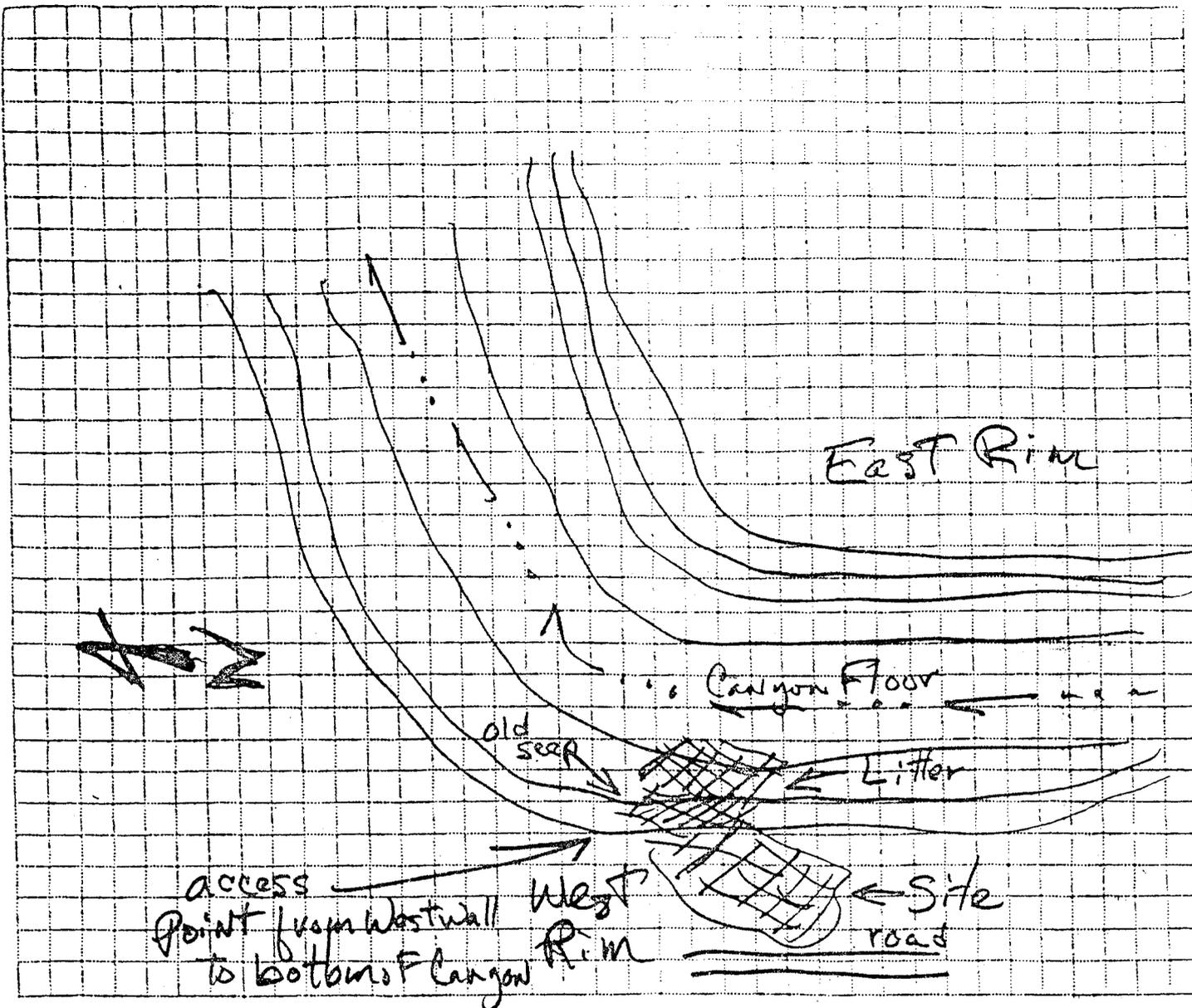
Assisting Crew Members: F. R. Hauck

34. Sponsoring Agency: Consolidation Coal Company

Contract No. NA



Site No. 42511321

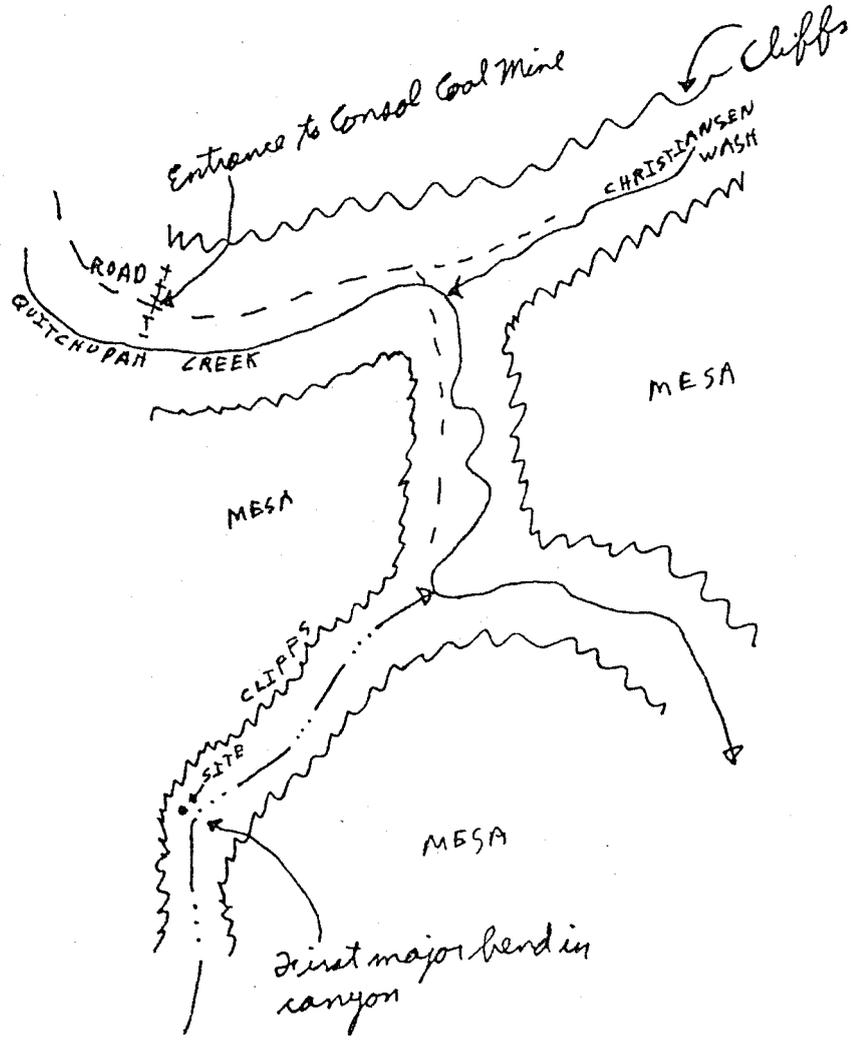


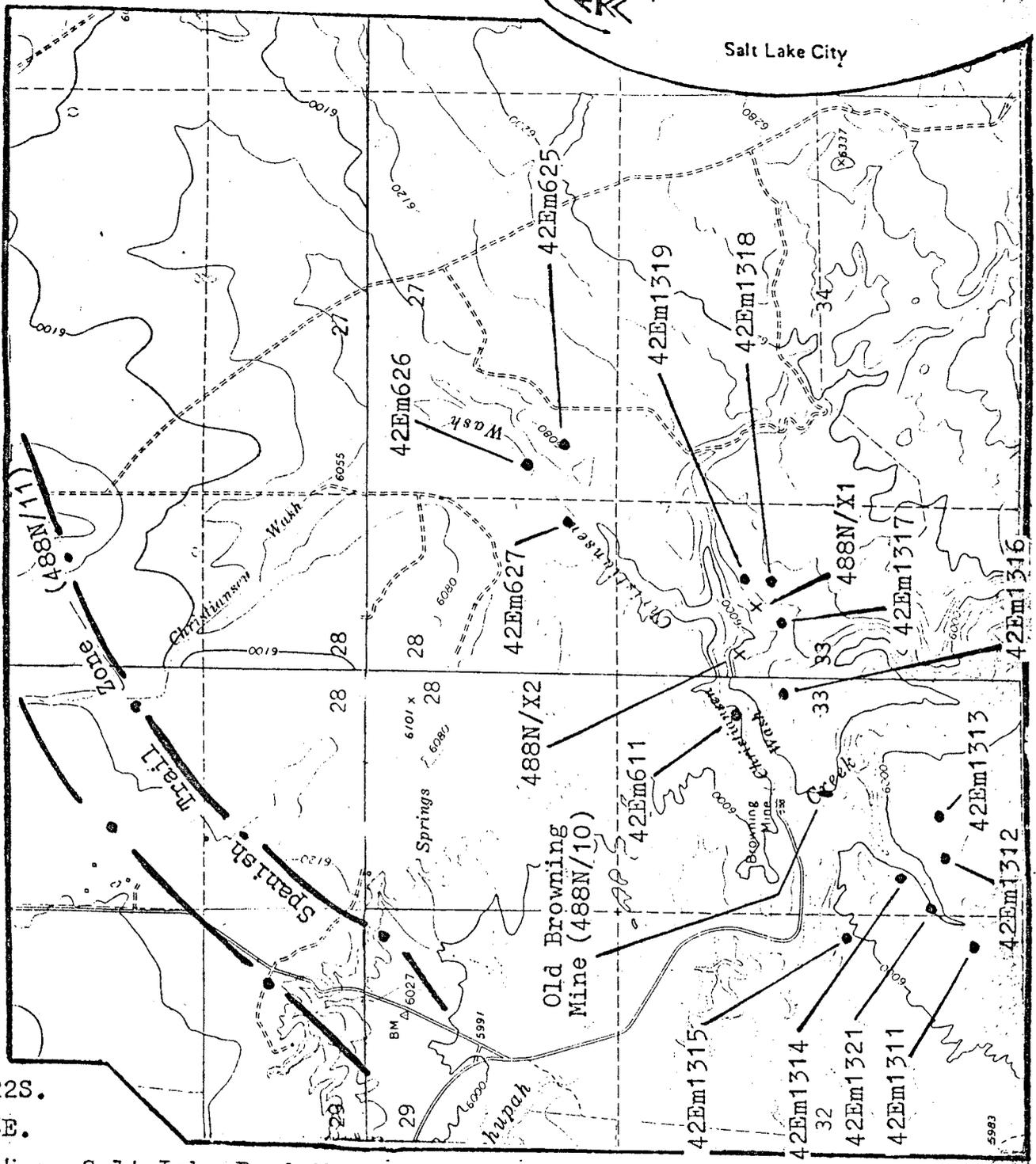
35. Encoding Form: (all entries are right justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
I	A	E	E	M				1	3	2	1	6	0	0	0	1	2	7	7	3	5	0	4	3	0	0	4	5	0			
II	N	E	S	E	S	E	3	2	2	2	S	G	E	P	R	6	A	M	L	S	C	S	L	C							D	
III											B	B	E	B	B	F								G	S							
IV										F	R					F						1	2	0	0	A	A	D	E	R		
V	D		0	3	5					1	5	B			1	0	C	G	B	C	3	0	1	3	5	G	B	B	A	E		
VI																																

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).

Site Sketch
488 N/12





T. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

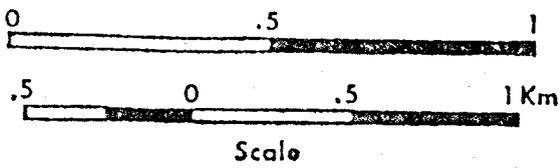
Quad:

Project: CCC-80-3
Series: Central Utah
Date: 10-9-80

Figure 3
Cultural Resources
in the
General Locality

Walker Flat, Utah
Composite Map
7.5 Minute - USGS

Legend:
Archeological Site ●
Isolated Artifact x



1a. State _____
Site No. [I/1-10] 42Em1386
b. Agency No. _____
2a. County Emery
b. Temp. No. 596J/1

3. Project: Consolidation Coal Company Extension to Emery Mine Permit
4. Site Name/Previous Designations: NA Area
5. Class: Prehistoric Historic Paleontologic
6. Site Type: Lithic scatter
7. Elevation [I/11-15] 6040 ft. X.3048= 1841 m.
8. UTM Grid: [I/16-30] zone 12; 478650 m E; 4301350 m N
9. [II/1-16] SW of SE of NW of Section 28 T. 22S., R. 6E.
10. Map Reference: Mesa Butte, Utah, 7.5 Minute, USGS
11. Aerial Photo Data: NA
12. General Location and Access: From Emery, Utah, travel approximately 3.0 miles south. Turn to the west and proceed 0.2 mile. The site is located on the north side of the road about 50 meters.

Informant/Address: NA

13. Land Owner [II/17-18]: Private land
Federal Administrative Units [II/19-20]: NA

14. Description of Site: The site consists of a small lithic scatter situated on a secondary stream terrace.

15. Site Condition [II/21]: Excellent; Good; Fair; Poor
Agent of Impact [II/22-27]: NA

16. Nat. Register Potential [II/28]:
 Significant(C) Non-Significant(D)
Justify: Very limited activity lithic scatter with no diagnostic artifacts, but is significant since very few sites have been found in this locality.

17. Disposition of Photo Negative [II/29]: AERC, Bountiful, Utah
Photo Numbers: 559K/15 (8-9)

18. Recorded by: Jacki Montgomery, Keith Montgomery
Survey Org. [II/30-31]: AERC Date: 6-26-81
Assisting Crew Members: NA

19. Degree/Aspect of slope [III/1-5] : 0-3°/to 45°
 20. Direction/Distance to Permanent Water [III/6-11] : NE / 420 m
 Type/Name of Water Source [III/12] : Unnamed drainage
 Distance to nearest other Water Source: NA
 Type of other water source: NA
 21. Physiographic Region [III/13-14]: Mancos shale lowlands
 22. Topographic Location (check one under each heading) [III/15-18]:

PRIMARY LANDFORM	POSITION ON LANDFORM	SECONDARY LANDFORM	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> alluvial fan(A)	<input checked="" type="checkbox"/> top/crest/peak(A)
<input type="checkbox"/> hill(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> alcove(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> arroyo(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom/mouth(D)	<input type="checkbox"/> basin(D)	<input type="checkbox"/> toe/foot/bottom/mouth(D)
<input checked="" type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> cave(E)	<input type="checkbox"/> interior(G)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> cliff(F)	<input type="checkbox"/> step(H)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> delta(G)	<input type="checkbox"/> riser(I)
	<input checked="" type="checkbox"/> interior(H)	<input type="checkbox"/> detached monolith(H)	<input type="checkbox"/> patterned ground(H)
		<input type="checkbox"/> dune(I)	<input type="checkbox"/> face(O)
		<input type="checkbox"/> floodplain(J)	<input type="checkbox"/> terrace/bench(R)
		<input type="checkbox"/> ledge(K)	<input type="checkbox"/> talus slope(S)
		<input type="checkbox"/> mesa/butte(L)	<input type="checkbox"/> island(T)
			<input type="checkbox"/> outcrop(U)
			<input type="checkbox"/> spring mound/bog(V)
			<input type="checkbox"/> valley(W)
			<input type="checkbox"/> cutbank(X)
			<input type="checkbox"/> riser(Y)

Describe: The site is situated near a secondary drainage on top of a NW/SE terrace.

23. Depositional Environment [III/19]

<input type="checkbox"/> fan(A)	<input type="checkbox"/> shore features	<input type="checkbox"/> moraine(J)	<input type="checkbox"/> cliff(P)
<input type="checkbox"/> talus(B)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> outcrop(Q)
<input type="checkbox"/> dune(C)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> marsh(L)	<input type="checkbox"/> stream bed(R)
<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> landslide/slump(M)	<input type="checkbox"/> aeolian(S)
<input type="checkbox"/> playa(E)	<input type="checkbox"/> colluvium(I)	<input type="checkbox"/> delta(N)	<input type="checkbox"/> none(T)
			<input checked="" type="checkbox"/> residual(U)

24. Vegetation Community [III/20-21]:

- Alpine Grassland(AZ) Pinyon/Juniper(EZ) Warm Desert Shrub(HZ)
 Montane Conifer(BZ) Cold Desert Shrub(FZ) Marsh Community(IZ)
 Oak Shrub(DZ) Salt Desert Shrub(GZ) Alkali Flats(KZ)
 List species in order of dominance:
 On Site: Shadscale, sagebrush, prickly pear, greasewood

Off Site: _____

25. Encoding Form: (all entries are right justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
I	4	2	E	m			1	3	8	6		6	0	4	0	1	2	3	7	8	6	5	0	4	3	0	1	3	5	0				
II	S	E	S	W	N	E	2	8	2	2	0	S	0	6	0	E	P	R			B	E	R					D	B	A	E			
III		3		4	5		4	5	0	4	0	D	A	C	E	H	R	A	U			Z	Z									A		
IV				1	3	A	A		L	G						A										C	1	2	0	0				
V	A																			1	A	A	C	1	P	A	B	3	C	A	J			
VI																																		

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).

Site Summary

PH-1. Site Type: Lithic scatter

PH-2. Cultural Affiliation [III/22-29]: Unknown
How Determined ? [III/30]: _____

PH-3. Site Dimensions : 4 m X 4 m; Area [IV/1-5]: 16 sq m

PH-4. Were surface artifacts collected? Yes; No; [IV/6] If yes, attach a continuation sheet describing sampling method used .

PH-5. Estimated depth of fill [IV/7] : Slight potential
Subsurface test? [IV/8] Yes; No (Include location of test on site map)

Describe: _____

PH-6. Summary of Artifacts and Debris [IV/9-16]:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Lithic Scatter(LS) | <input type="checkbox"/> Burned Bone(CB) | <input type="checkbox"/> Burned Stone(BS) |
| <input type="checkbox"/> Ceramic Scatter(CS) | <input type="checkbox"/> Isolated Artifact(IA) | <input type="checkbox"/> Ground Stone(GS) |
| <input type="checkbox"/> Basketry/Textiles(BT) | <input type="checkbox"/> Organic Remains(VR) | <input type="checkbox"/> Corn Cobs(CC) |
| <input type="checkbox"/> Source: General(LG) | <input type="checkbox"/> Rubble/Shaped Stone(RS) | <input type="checkbox"/> Shell(SL) |
| <input type="checkbox"/> Source: Obsidian(LO) | <input type="checkbox"/> Bedrock Mortar, etc.(BG) | <input type="checkbox"/> Trade Beads(TB) |
| <input type="checkbox"/> Source: Ignimbrite(LI) | <input type="checkbox"/> Figurine:non-ceramic(FC) | <input type="checkbox"/> Worked Bone(WB) |
| <input type="checkbox"/> Source: Chert(LC) | <input type="checkbox"/> Jacal Fragments(JA) | <input type="checkbox"/> Other(OT) |

Describe: Small, low density chert scatter with approximately 12 flakes and one small irregularly shaped core.

Specific Artifact Classes

PH-7. Lithic Tools [IV/17-25]:

QUANTITY	TYPE
_____	<u>None</u>
_____	_____
_____	_____

Describe: _____

PH-8. Lithic Debitage [IV/26-30]: Estimated Total Quantity 12+

Material Type: Grayish white chert
Stages: rate as - (0)Not present (1)Rare (2)Common (3)Dominant
I. Decortification: 1 IV.Final Shaping: 0
II. Primary Thinning: 2
III. Secondary Thinning/Shaping: 0

PH-9. Maximum Density/meter sq.(all lithics): 1 per square meter

PREHISTORIC SITES
=====

Page 4 of 7
State Site No. 42Em1386
Agency No. _____
Temp. No. 596J/1

PH-10. Ceramic Artifacts [V/1-12]:

QUANTITY	TYPE
_____	None
_____	_____
_____	_____
_____	_____
Describe: _____	_____
_____	_____
_____	_____

PH-11. Maximum Density/meter sq.(ceramics): None

Features

PH-12. Non-Architectural Features [V/13-18]: (locate on site map)

- | | | |
|---|---|--|
| <input type="checkbox"/> hearth/firepit(HE) | <input type="checkbox"/> rubble mound(RM) | <input type="checkbox"/> earthen mound(EM) |
| <input type="checkbox"/> midden(MD) | <input type="checkbox"/> stone circle(SC) | <input type="checkbox"/> burial(BU) |
| <input type="checkbox"/> depression(DE) | <input type="checkbox"/> rock alignment(RA) | <input type="checkbox"/> trail/road(TR) |
| <input type="checkbox"/> water control(WC) | <input type="checkbox"/> petroglyph(PE) | <input type="checkbox"/> pictograph(PI) |

Describe: None

PH-13. Architectural Features [V/19-30]: (locate on site map)

CLASS	QUANTITY	MATERIAL	CLASS	QUANTITY	MATERIAL
Single rm	_____	_____	Tower	_____	_____
Multiple rm	_____	_____	Cairn	_____	_____
Granary	_____	_____	Kiva	_____	_____
Cist	_____	_____	Pithouse	_____	_____

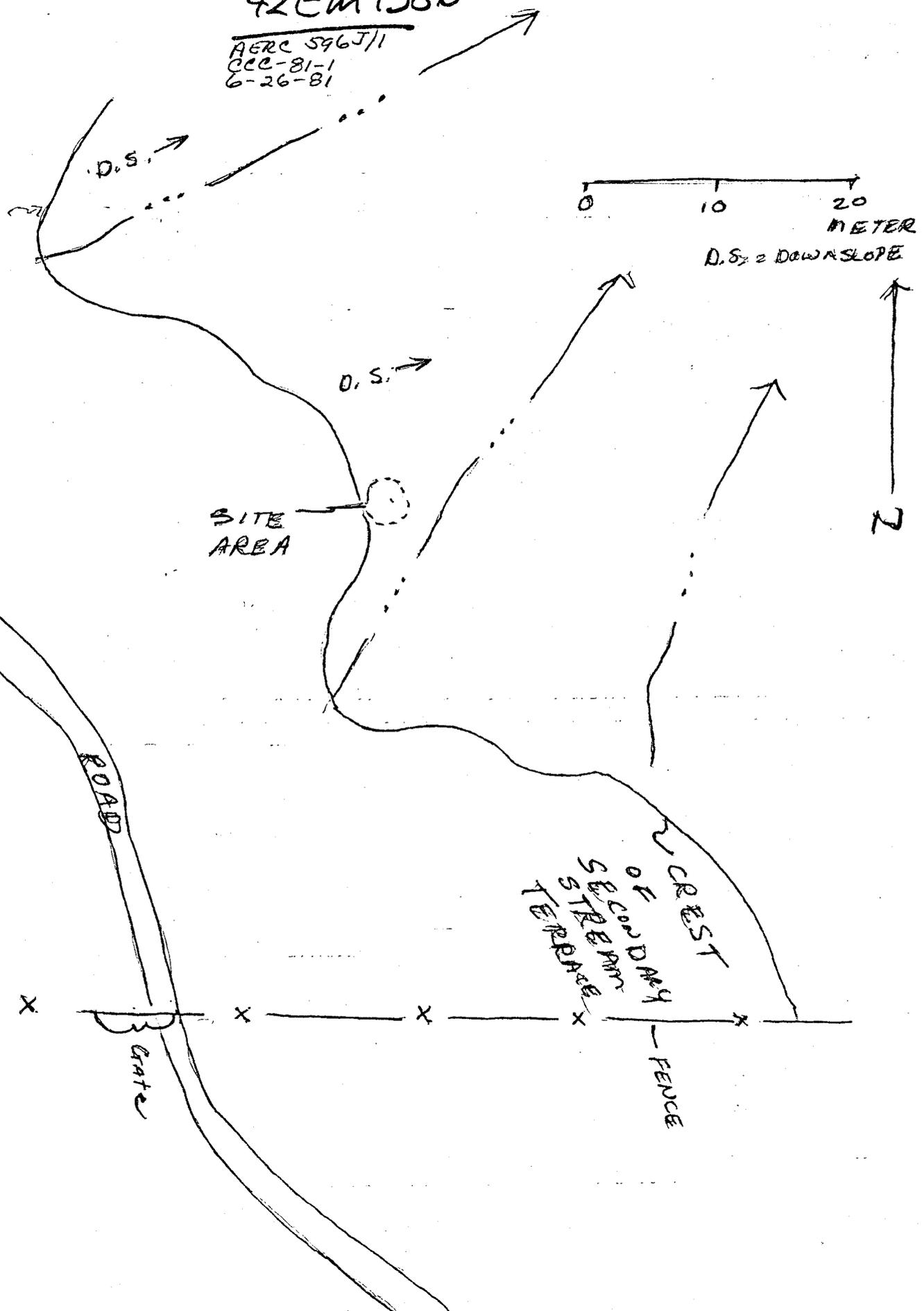
Describe: None

CONTINUATIONS:

5965/2

42Em 1386

AERC 596J/1
CEC-81-1
6-26-81



0 10 20
METER

D.S. = DOWNSLOPE

2

SITE AREA

D.S.

D.S.

ROAD

Gate

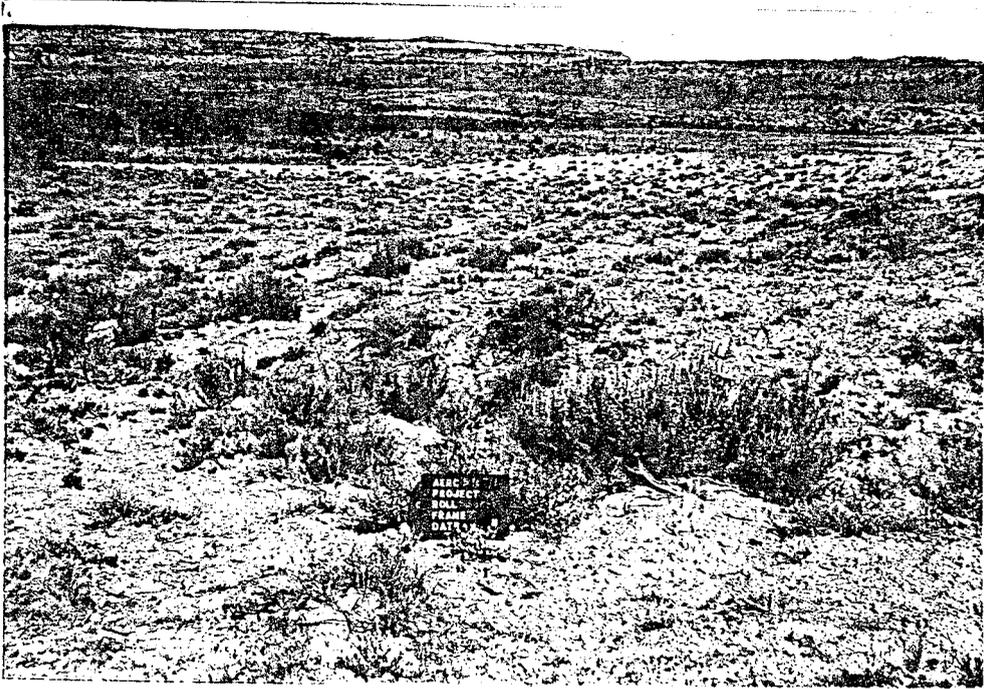
CREST

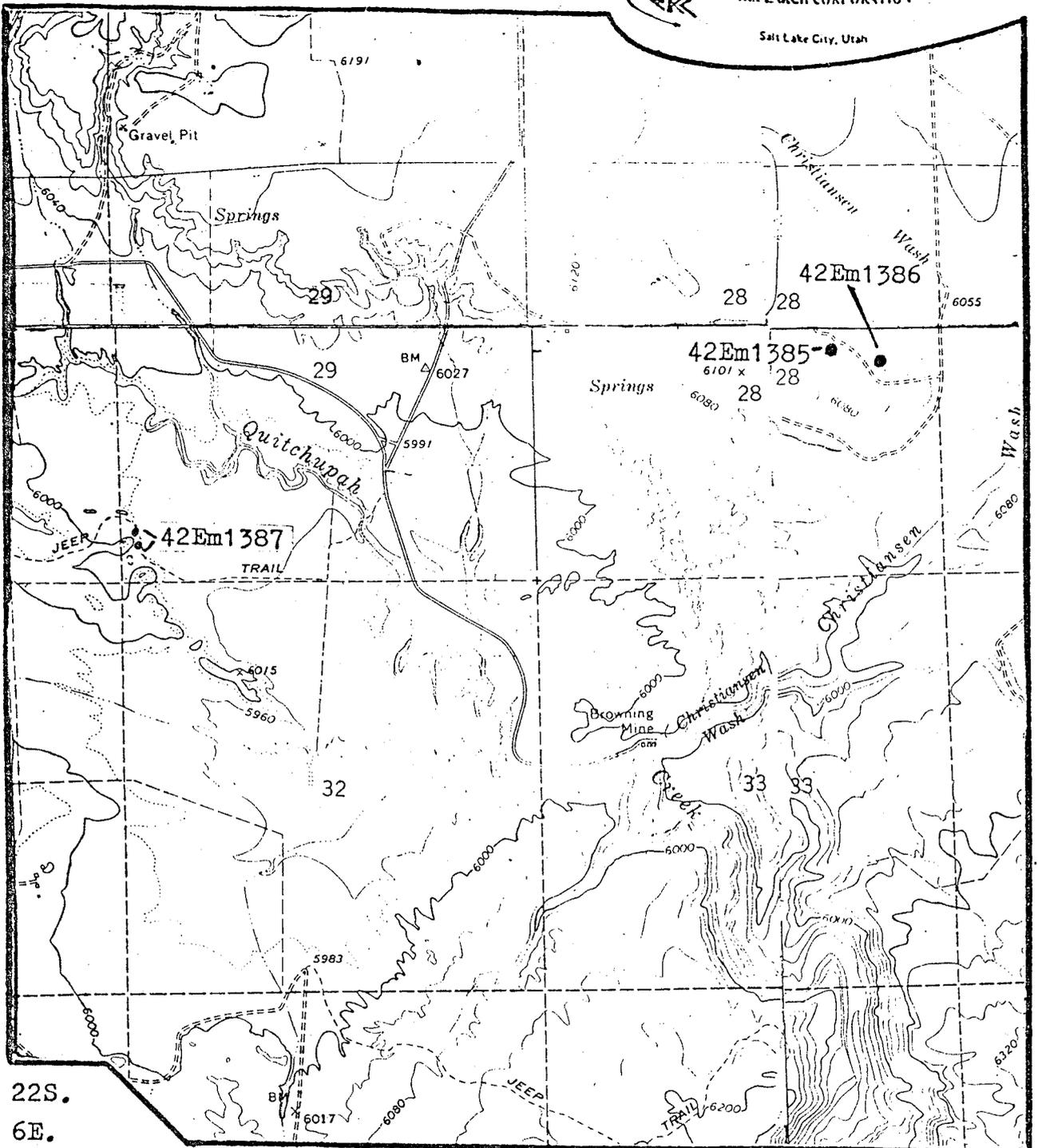
FENCE

OF CON DARY
S. B. B. AM
S. T. B. B. A. E.
T. E. R. R. A. E. S.

N TO 5965/2

42Em1387
AERC 596J/1
CCC-81-1
6-26-81





T. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

Quad:

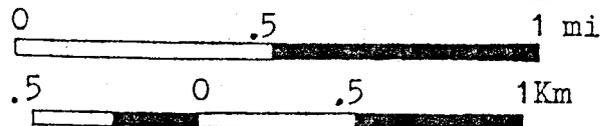
Project: CCC-81-1
Series: Central Utah
Date: 7-6-81

Figure 3
Cultural Resources
in the
General Locality

Walker Flat
Composite Map
7.5 Minute USGS

Legend:

Archeological site ●



Scale

UTAH ANTIQUITIES SITE FORM

developed by cooperative agreement by:
Bureau of Land Management
Division of State History
U.S. Forest Service
University of Utah Archeological Center

1a. State _____
Site No. [I/1-10] 42Em1385
b. Agency No. _____
2a. County Emery
b. Temp. No. 596J/2

- 3. Project: Consolidation Coal Company Extension to Emery Mine
- 4. Site Name/Previous Designations: NA Permit Area
- 5. Class: Prehistoric Historic Paleontologic
- 6. Site Type: Farmstead/ranch
- 7. Elevation [I/11-15] 6080 ft. X.3048= 1853 m.
- 8. UTM Grid: [I/16-30] zone 12; 478600 m E; 4301350 m N
- 9. [II/1-16] SE of SW of NE of Section 28 T. 22S., R. 6E.
- 10. Map Reference: Mesa Butte, Utah, 7.5 Minute, USGS
- 11. Aerial Photo Data: NA
- 12. General Location and Access: From the town of Emery, travel approximately 3.0 miles south, turn to the west and go .3 mile. The site is located through a gate, on top of a terrace. It is designated by a cabin and several corrals.

Informant/Address: A. Olson, Emery, Utah

- 13. Land Owner [II/17-18]: Private land
Federal Administrative Units [II/19-20]: NA
- 14. Description of Site: This is an historic site, probably dating before 1914. It consists of a small tack shed, loafing shed, and several corrals. The earliest mention of the land documented in county records (Castle Dale) lists ownership at 1902 (John Lewis).

15. Site Condition [II/21]: Excellent; Good; Fair; Poor
Agent of Impact [II/22-27]: Natural delapidation of structures

16. Nat. Register Potential [II/28]:
 Significant(C) Non-Significant(D)
Justify: Representative of early historic land-use and architectural style

17. Disposition of Photo Negative [II/29]: AERC, Bountiful, UT
Photo Numbers: 593R-1 (6-11)

18. Recorded by: Jacki Montgomery, Keith Montgomery
Survey Org. [II/30-31]: AERC Date: 6-26-81
Assisting Crew Members: NA

19. Degree/Aspect of slope [III/1-5] : 0°
 20. Direction/Distance to Permanent Water [III/6-11] : SW / 75 m
 Type/Name of Water Source [III/12] : Unnamed pond
 Distance to nearest other Water Source: NE/300 m.
 Type of other water source: Secondary drainage of Christiansen Wash
 21. Physiographic Region [III/13-14]: Mancos shale lowlands
 22. Topographic Location (check one under each heading) [III/15-18]:

PRIMARY LANDFORM	POSITION ON LANDFORM	SECONDARY LANDFORM	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> alluvial fan(A)	<input checked="" type="checkbox"/> top/crest/peak(A)
<input type="checkbox"/> hill(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> alcove(B)	<input type="checkbox"/> edge(B)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> arroyo(C)	<input type="checkbox"/> slope(C)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom/mouth(D)	<input type="checkbox"/> basin(D)	<input type="checkbox"/> toe/foot/bottom/mou
<input checked="" type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> cave(E)	<input type="checkbox"/> interior(G)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> cliff(F)	<input type="checkbox"/> step(H)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input checked="" type="checkbox"/> terrace/bench(R)	<input type="checkbox"/> riser(I)
	<input checked="" type="checkbox"/> interior(H)	<input type="checkbox"/> delta(G)	<input type="checkbox"/> riser(I)
		<input type="checkbox"/> detached monolith(H)	<input type="checkbox"/> patterned ground(N)
		<input type="checkbox"/> dune(I)	<input type="checkbox"/> face(O)
		<input type="checkbox"/> floodplain(J)	
		<input type="checkbox"/> ledge(K)	
		<input type="checkbox"/> mesa/butte(L)	
		<input type="checkbox"/> playa(M)	
		<input type="checkbox"/> port.geo.feature(N)	
		<input type="checkbox"/> plain(O)	
		<input type="checkbox"/> ridge/knoll(P)	
		<input type="checkbox"/> slope(Q)	
		<input type="checkbox"/> talus slope(S)	
		<input type="checkbox"/> island(T)	
		<input type="checkbox"/> outcrop(U)	
		<input type="checkbox"/> spring mound/bog(V)	
		<input type="checkbox"/> valley(W)	
		<input type="checkbox"/> cutbank(X)	
		<input type="checkbox"/> riser(Y)	

Describe: The site is situated on a terrace on top of a small rise.

23. Depositional Environment [III/19]

<input type="checkbox"/> fan(A)	<input type="checkbox"/> shore features	<input type="checkbox"/> moraine(J)	<input type="checkbox"/> cliff(P)
<input type="checkbox"/> talus(B)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> outcrop(Q)
<input type="checkbox"/> dune(C)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> marsh(L)	<input type="checkbox"/> stream bed(R)
<input type="checkbox"/> stream terrace(D)	<input type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> landslide/slump(H)	<input type="checkbox"/> aeolian(S)
<input type="checkbox"/> playa(E)	<input type="checkbox"/> colluvium(I)	<input type="checkbox"/> delta(N)	<input type="checkbox"/> none(T)
			<input checked="" type="checkbox"/> residual(U)

24. Vegetation Community [III/20-21]:

Alpine Grassland(AZ) Pinyon/Juniper(EZ) Warm Desert Shrub(HZ)
 Montane Conifer(BZ) Cold Desert Shrub(FZ) Marsh Community(IZ)
 Oak Shrub(DZ) Salt Desert Shrub(GZ) Alkali Flats(KZ)

List Species in order of dominance:

On Site: Cottonwood, greasewood, shadscale, big sagebrush, various grasses

Off Site: _____

25. Encoding Form: (all entries are right justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
I	4	2	E	m			1	3	8	5		6	0	8	0	1	2	3	7	8	6	0	0	4	3	0	1	3	5	0				
II	S	E	S	W	N	E	2	8	2	2	O	S	0	6	0	E	P	R				B	O	T					D	B	A	E		
III		0	9	9	8	2	1	0	0	0	1	D	A	C	E	H	R	A	U				E	A								I		
IV	1	7	5	9	3	A	A	C	F	M	T	C	N	W	M	4																		
V			A										D	I					2	C	A	J	1	P	A	C	1	C	A	T				
VI	A	A	A	A																														

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).

HISTORIC SITES
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Page 3 of 9
State Site No. 42Em1385
Agency No. _____
Temp. No. 596J/2

Site Summary

H-1. Site Type: Cabin and farm/ranch (cont'd.)

H-2. Cultural Affiliation/Date [III/22-29]: Pre-1930s
How Determined ? [III/30]: Land ownership records and architectural style as well as informant

H-3. Site Dimensions: 160 m X 140 m; Area [IV/1-5]: 17,593 sq m
(cont'd.)

H-4. Were surface artifacts collected? xYes; No; [IV/6] If yes, attach a continuation sheet describing sampling method used.
Random pickup

H-5. Estimated depth of fill [IV/7] : None
Subsurface test? [IV/8] Yes; xNo (Include location of test on site map)
Describe: _____

H-6. Summary of Artifacts and Debris [IV/9-16]:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> Historic Trash(HT) | <input type="checkbox"/> Leather(LE) | <input type="checkbox"/> Mill Stone(MS) | <input type="checkbox"/> Tin Cans-Soldered(TS) |
| <input checked="" type="checkbox"/> Building Hardware(BH) | <input type="checkbox"/> Paper(PA) | <input type="checkbox"/> Water Pump(WP) | <input type="checkbox"/> Tin Cans-Transition(TT) |
| <input type="checkbox"/> Mining/Milling Machinery(MM) | <input checked="" type="checkbox"/> Tractor(TC) | <input type="checkbox"/> Mining Tools(MT) | <input type="checkbox"/> Tin Cans-Crimped(IC) |
| <input type="checkbox"/> Saw Mill/Logging Machinery(LM) | <input checked="" type="checkbox"/> Wagon(WA) | <input type="checkbox"/> Ore Cars(OC) | <input type="checkbox"/> Ammunition(AM) |
| <input checked="" type="checkbox"/> Farming Machinery(FM) | <input type="checkbox"/> Truck(TK) | <input type="checkbox"/> Insulators(IN) | <input type="checkbox"/> Electrical(EL) |
| <input type="checkbox"/> Rails/Ties/Spikes(RR) | <input type="checkbox"/> Car(CR) | <input type="checkbox"/> Tableware(TB) | <input type="checkbox"/> Clothing Items(CL) |
| <input type="checkbox"/> Sheep Camp Wagon(SW) | <input checked="" type="checkbox"/> Metal(ME) | <input checked="" type="checkbox"/> Animal Shoes(AS) | <input type="checkbox"/> Toys/Games/Miscelany(TE) |
| <input checked="" type="checkbox"/> Farm Tools(FT) | <input type="checkbox"/> Fabric(FA) | <input type="checkbox"/> Nails-cut(NC) | <input type="checkbox"/> Synthetic/Plastic(SP) |
| <input type="checkbox"/> Plumbing Hardware(PH) | <input type="checkbox"/> Glass(GL) | <input checked="" type="checkbox"/> Nails-wire(HW) | <input type="checkbox"/> Rubber(RB) |
| <input type="checkbox"/> Furniture Hardware(FH) | <input checked="" type="checkbox"/> Wood(WD) | <input type="checkbox"/> Screws(SC) | <input type="checkbox"/> Aircraft(AC) |
| <input checked="" type="checkbox"/> Staples(ST) | <input checked="" type="checkbox"/> Bone(BO) | <input type="checkbox"/> Bolts(BO) | <input type="checkbox"/> R.R.Car(RC) |
| <input checked="" type="checkbox"/> Domestic Items(DI) | <input checked="" type="checkbox"/> Wire(WI) | <input type="checkbox"/> Other(OT) | |

Describe: Farming machinery: horse-drawn tractor with pulled rake (McCormick-Derrring), thrashing machine (McCormick-Derrring), horse-drawn single sheer plow with metal wheels, chassis for a wagon

Specific Artifact Classes

H-7. Ceramic Artifacts [V/1-12]:

QUANTITY TYPE
3 fragments porcelain (white)

Describe: _____

H-8. Glass [VI/1-16]:

QUANTITY	MANUFACTURE	COLOR	FUNCTION
<u>4 fragments</u>	_____	<u>purple glass</u>	_____
_____	_____	_____	_____
_____	_____	_____	_____
Describe: _____			

H-9. Maximum Density/meter sq.(glass and ceramics): 7 fragments to a square meter

Features

H-10. Non-Architectural Features [V/13-18]: (locate on site map)

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> Trail/Road(TR) | <input type="checkbox"/> Wagon Ruts (WR) | <input type="checkbox"/> R.R.Grade(RG) |
| <input type="checkbox"/> Mine Tailings(MT) | <input type="checkbox"/> Tram way/road(TW) | <input type="checkbox"/> Dump(DU) |
| <input type="checkbox"/> Rock Alignment(RA) | <input type="checkbox"/> Depression(DE) | <input type="checkbox"/> Dam, Earthen(DA) |
| <input type="checkbox"/> Canal(CN) | <input checked="" type="checkbox"/> Ditch(DI) | <input type="checkbox"/> Mill Tailings(ML) |
| <input type="checkbox"/> Smelter Slag(SS) | <input type="checkbox"/> Cemetary/Burial(CB) | <input type="checkbox"/> Inscriptions(IN) |
| <input type="checkbox"/> Hearth/Campfire(HE) | <input type="checkbox"/> Quarry(QU) | <input type="checkbox"/> Arrastra(AP) |
| <input type="checkbox"/> Landing Strips(LA) | <input type="checkbox"/> Other (describe) | |

Describe: Primary road up to farm/ranch. Several irrigation ditches running E/W. Several water ponds to south.

H-11. Architectural Features [V/19-30]: (locate on site map)

QUANTITY	MATERIAL	TYPE
<u>1</u>	<u>Wood logs and planks</u>	<u>Hewn and ax cut logs</u>
<u>1</u>	<u>Planks, wire mesh</u>	<u>Loafing shed</u>
<u>3</u>	<u>Rough-cut planks and logs, split railing</u>	<u>Adjoining corrals</u>

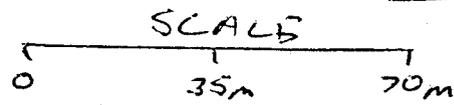
Describe: Tack shed is 5x4.5 meters raised upon logs. Building is constructed with hand-hewn logs with axed and saw cut ends. Roof is gabled, manufactured from rough cut wooded planks and tin. Inside shed are three grain bins. Interior has plank bottom and aluminum sheeting on inside walls. Loafing shed is east of tack shed, rectangular in construction with rough cut planks with a wire and mesh roof, bedded with straw. Adjoining corrals are constructed of boards, split railing and barbed wire.

CONTINUATIONS:

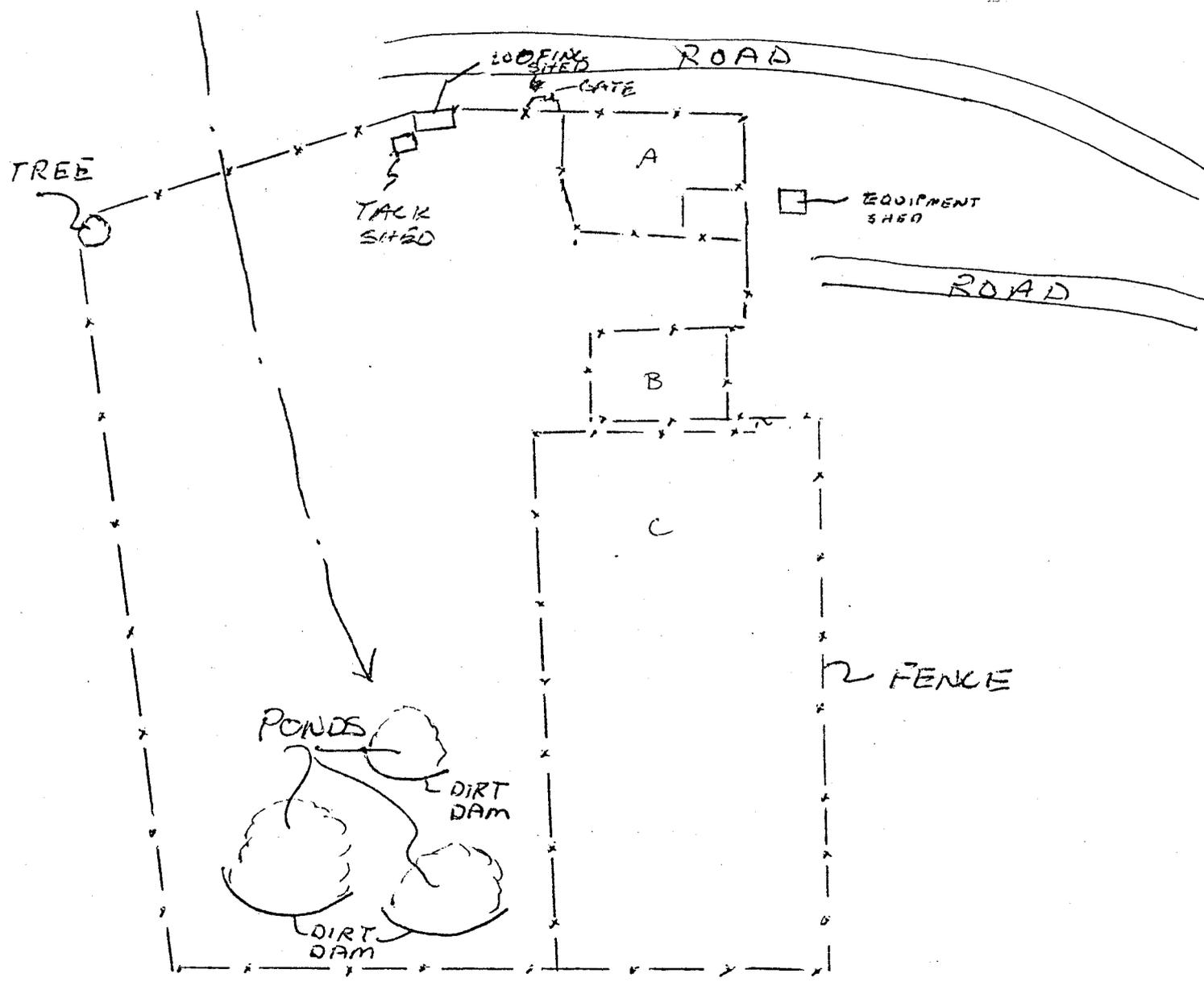
- H-1 Small fallen tack shed, east of corrals (4.5 x 4.5 meters)
- H-3 Adjoining corrals A) is 70x40 meters; B) is 25 x 12 meters; C) is 105 x 70 meters.

596J/2

42E 1385

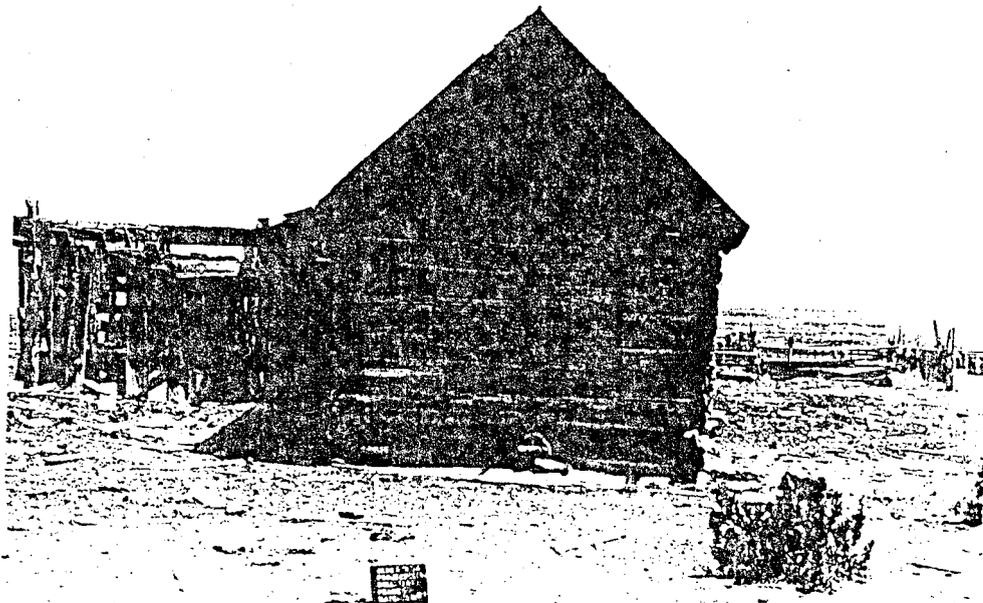
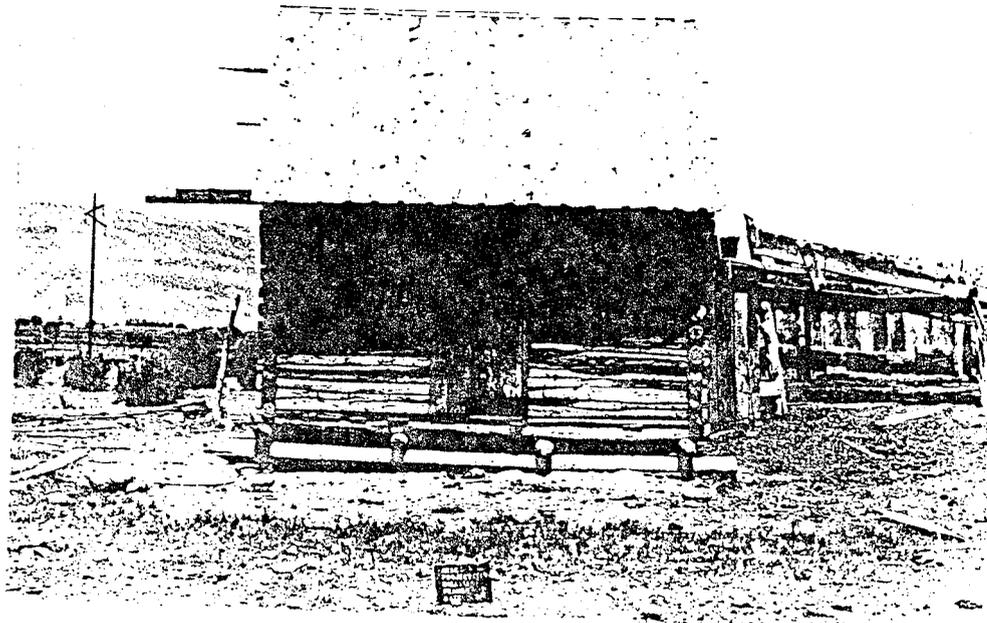


AERC 596J/2
CCC-81-1
6-26-81

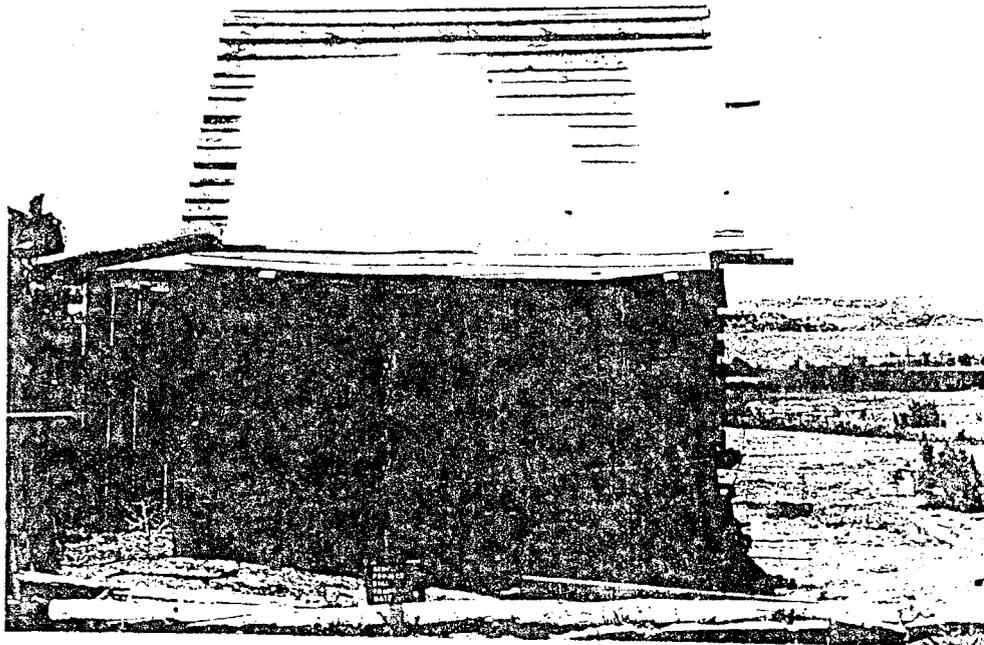
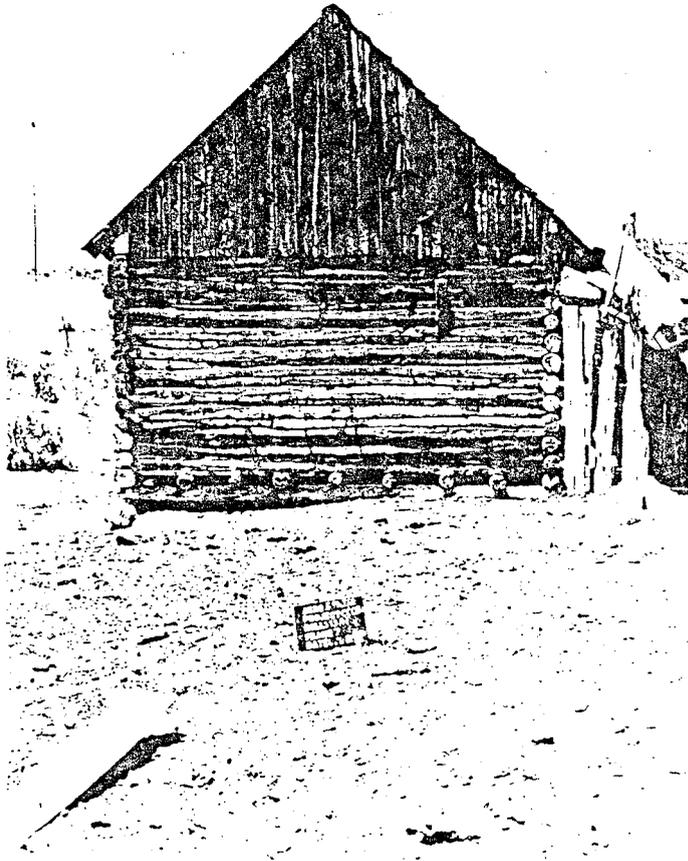


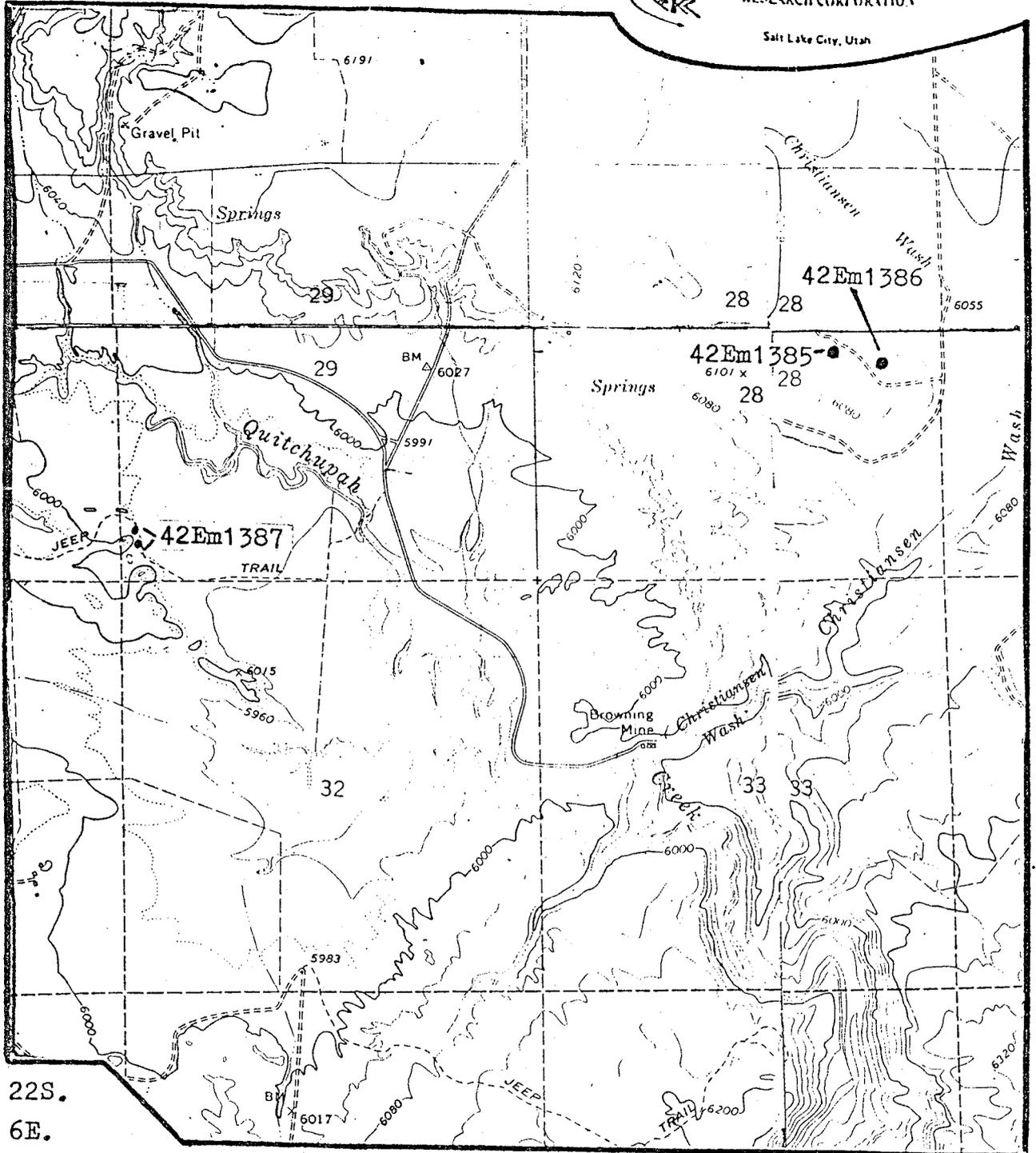
NOTE: FOR EXACT MEASUREMENTS OF BUILDINGS SEE SITE RECORDS.

42Em1385
AERC 596J/2
CCC-81-1
6-26-81



42Em1587
AERC 596J/2
CCC-81-1
6-26-81





I. 22S.
R. 6E.

Meridian: Salt Lake B. & M.

Quad:

Project: CCC-81-1
Series: Central Utah
Date: 7-6-81

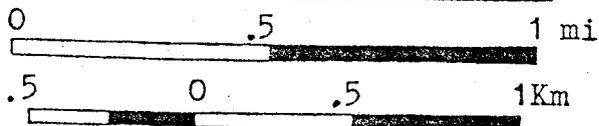
Figure 3
Cultural Resources
in the
General Locality

Walker Flat
Composite Map
7.5 Minute USGS



Legend:

Archeological site



Scale

1a. State _____
Site No. [I/1-10] 42Em1387
b. Agency No. _____
c. County Emery
d. Temp. No. 596J/3

3. Project: Consolidation Coal Company Extension to Emery Mine Permit
4. Site Name/Previous Designations: NA Area _____
5. Class: Prehistoric Historic Paleontologic
6. Site Type: Cabin, farm/ranch
7. Elevation [I/11-15] 6000 ft. X.3048 = 1828.9 m.
8. UTM Grid: [I/16-30] zone 12; 475820 m E; 4310910 m N
9. [II/1-16] W $\frac{1}{2}$ of SW of SW of Section 29 T. 22S., R. 6E.
10. Map Reference: Walker Flat, Utah, 7.5 Minute, USGS
11. Aerial Photo Data: None
12. General Location and Access: From Emery, Utah, travel south for approximately 5.3 miles. Turn east onto designated Spanish Trail Road and go about 3/4 mile to section marker (Sections 30, 29, 31, 32). The farmstead is situated just north of the marker and large pond.

Informant/Address: Mr. John Lewis III, Emery, Utah and A. Olson, Emery, Utah.

13. Land Owner [II/17-18]: Private land
Federal Administrative Units [II/19-20]: NA
14. Description of Site: This is an historic cabin, shed, and farm dating early 1900s. According to informant, A. Olson, the farm stood in 1914 when he lived at the farmstead to the northwest. The earliest mention of the land from county records (Castle Dale) was in 1904 when it was owned by E. Larsen. It was later patented in 1908.
15. Site Condition [II/21]: Excellent; Good; Fair; Poor
Agent of Impact [II/22-27]: Natural delapidation
16. Nat. Register Potential [II/28]:
 Significant(C) Non-Significant(D)
Justify: Building marks an early era of Utah settlement architecture and land-use; however, it does not meet any of the National Register criteria.
17. Disposition of Photo Negative [II/29]: AERC, Bountiful, Utah
Photo Numbers: 593R-1 (13-20); 559K-15 (10-15)
18. Recorded by: Jacki Montgomery, Keith Montgomery
Survey Org. [II/30-31]: AERC Date: 6-26-81
Assisting Crew Members: NA

19. Degree/Aspect of slope [III/1-5] : 0°

20. Direction/Distance to Permanent Water [III/6-11] : 360° / 900 m

Type/Name of Water Source [III/12] : Quitchupah Creek

Distance to nearest other Water Source: SW/60 meters

Type of other water source: Dammed pond

21. Physiographic Region [III/13-14]: Mancos shale lowlands

22. Topographic Location (check one under each heading) [III/15-18]:

PRIMARY LANDFORM	POSITION ON LANDFORM	SECONDARY LANDFORM	SECONDARY POSITION
<input type="checkbox"/> mountain spine(A)	<input type="checkbox"/> top/crest/peak(A)	<input type="checkbox"/> alluvial fan(A)	<input type="checkbox"/> playa(H)
<input type="checkbox"/> hill(B)	<input type="checkbox"/> edge(B)	<input type="checkbox"/> alcove(B)	<input type="checkbox"/> port.geo.feature(N)
<input type="checkbox"/> tableland/mesa(C)	<input type="checkbox"/> slope(C)	<input type="checkbox"/> arroyo(C)	<input type="checkbox"/> plain(O)
<input type="checkbox"/> ridge(D)	<input type="checkbox"/> toe/foot/bottom/mouth(D)	<input type="checkbox"/> basin(D)	<input type="checkbox"/> ridge/knoll(P)
<input checked="" type="checkbox"/> valley(E)	<input type="checkbox"/> saddle/pass(E)	<input type="checkbox"/> cave(E)	<input type="checkbox"/> slope(Q)
<input type="checkbox"/> plain(F)	<input type="checkbox"/> bench/ledge(F)	<input type="checkbox"/> cliff(F)	<input type="checkbox"/> terrace/bench(R)
<input type="checkbox"/> canyon(G)	<input type="checkbox"/> rimrock(G)	<input type="checkbox"/> delta(G)	<input type="checkbox"/> talus slope(S)
	<input checked="" type="checkbox"/> interior(H)	<input type="checkbox"/> detached monolith(H)	<input type="checkbox"/> island(T)
		<input type="checkbox"/> dune(I)	<input type="checkbox"/> outcrop(U)
		<input checked="" type="checkbox"/> floodplain(J)	<input type="checkbox"/> spring mound/bog(V)
		<input type="checkbox"/> ledge(K)	<input type="checkbox"/> valley(W)
		<input type="checkbox"/> mesa/butte(L)	<input type="checkbox"/> cutbank(X)
			<input type="checkbox"/> riser(Y)
			<input checked="" type="checkbox"/> interior(G)
			<input type="checkbox"/> step(H)
			<input type="checkbox"/> riser(I)
			<input type="checkbox"/> patterned ground(N)
			<input type="checkbox"/> face(O)

Describe: The historic farm/ranch is in the floodplain of Quitchupah Creek on a raised terrace.

23. Depositional Environment [III/19]

<input type="checkbox"/> fan(A)	<input type="checkbox"/> shore features	<input type="checkbox"/> moraine(J)	<input type="checkbox"/> cliff(P)
<input type="checkbox"/> talus(B)	<input type="checkbox"/> extinct lake(F)	<input type="checkbox"/> flood plain(K)	<input type="checkbox"/> outcrop(Q)
<input type="checkbox"/> dune(C)	<input type="checkbox"/> extant lake(G)	<input type="checkbox"/> marsh(L)	<input type="checkbox"/> stream bed(R)
<input type="checkbox"/> stream terrace(D)	<input checked="" type="checkbox"/> alluvial plain(H)	<input type="checkbox"/> landslide/slump(M)	<input type="checkbox"/> aeolian(S)
<input type="checkbox"/> playa(E)	<input type="checkbox"/> colluvium(I)	<input type="checkbox"/> delta(N)	<input type="checkbox"/> none(T)
			<input checked="" type="checkbox"/> residual(U)

24. Vegetation Community [III/20-21]:

- Alpine Grassland(AZ) Pinyon/Juniper(EZ) Warm Desert Shrub(HZ)
- Montane Conifer(BZ) Cold Desert Shrub(FZ) Marsh Community(IZ)
- Oak Shrub(DZ) Salt Desert Shrub(GZ) Alkali Flats(KZ)

List Species in order of dominance:

On Site: Greasewood, big sagebrush, various grasses

Off Site: Alfalfa fields

25. Encoding Form: (all entries are right justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
I	4	2	E	m			1	3	8	7	6	0	0	0	1	2	4	7	5	8	2	0	4	3	1	0	9	1	0				
II	C	T	S	W	S	W	2	9	2	2	0	S	0	6	0	E	P	R			B	O	T						D	B	A	E	
III		0	9	9	8	3	6	0	0	0	1	D	A	C	E	H	J	G	U			E	A								H		
IV		7	5	4	0	B	A	C	G	I	F	H	M	4																			
V	B	H	Z									D	I	T	R																		
VI	B	D	G	K																													

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).

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HISTORIC SITES
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Page 3 of 16
State Site No. 42Em1387
Agency No. _____
Temp. No. 596J/3

Site Summary

- H-1. Site Type: Historic cabin, shed, and corral
- H-2. Cultural Affiliation/Date [III/22-29]: Approximately 1900-1914 or
How Determined ? [III/30]: Informants and county land before
purchase records
- H-3. Site Dimensions: 120 m X 80 m; Area [IV/1-5]: 9600 sq m
- H-4. Were surface artifacts collected? Yes; No; [IV/6] If yes,
attach a continuation sheet describing sampling method used.
- H-5. Estimated depth of fill [IV/7] : NA
Subsurface test? [IV/8] Yes; No (Include location of
test on site map)
Describe: ---

H-6. Summary of Artifacts and Debris [IV/9-16]:

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> Historic Trash(HT) | <input checked="" type="checkbox"/> Leather(LE) | <input type="checkbox"/> Mill Stone(MS) | <input type="checkbox"/> Tin Cans-Soldered(TS) |
| <input checked="" type="checkbox"/> Building Hardware(BH) | <input type="checkbox"/> Paper(PA) | <input type="checkbox"/> Water Pump(WP) | <input type="checkbox"/> Tin Cans-Transition(TT) |
| <input type="checkbox"/> Mining/Milling Machinery(MM) | <input type="checkbox"/> Tractor(TC) | <input type="checkbox"/> Mining Tools(MT) | <input checked="" type="checkbox"/> Tin Cans-Crimped(TC) |
| <input type="checkbox"/> Saw Mill/Logging Machinery(LM) | <input type="checkbox"/> Wagon(WA) | <input type="checkbox"/> Ore Cars(OC) | <input type="checkbox"/> Ammunition(AM) |
| <input type="checkbox"/> Farming Machinery(FM) | <input type="checkbox"/> Truck(TK) | <input type="checkbox"/> Insulators(IN) | <input type="checkbox"/> Electrical(EL) |
| <input type="checkbox"/> Rails/Ties/Spikes(RR) | <input type="checkbox"/> Car(CR) | <input checked="" type="checkbox"/> Tableware(TD) | <input checked="" type="checkbox"/> Clothing Items(CL) |
| <input type="checkbox"/> Sheep Camp Wagon(SW) | <input type="checkbox"/> Metal(ME) | <input checked="" type="checkbox"/> Animal Shoes(AS) | <input checked="" type="checkbox"/> Toys/Games/Miscelany(TE) |
| <input checked="" type="checkbox"/> Farm Tools(FT) | <input checked="" type="checkbox"/> Fabric(FA) | <input type="checkbox"/> Nails-cut(NC) | <input type="checkbox"/> Synthetic/Plastic(SP) |
| <input type="checkbox"/> Plumbing Hardware(PH) | <input checked="" type="checkbox"/> Glass(GL) | <input checked="" type="checkbox"/> Nails-wire(HW) | <input type="checkbox"/> Rubber(RB) |
| <input checked="" type="checkbox"/> Furniture Hardware(FH) | <input checked="" type="checkbox"/> Wood(WD) | <input type="checkbox"/> Screws(SC) | <input type="checkbox"/> Aircraft(AC) |
| <input checked="" type="checkbox"/> Staples(ST) | <input checked="" type="checkbox"/> Bone(BO) | <input checked="" type="checkbox"/> Bolts(BO) | <input type="checkbox"/> R.R. Car(RC) |
| <input checked="" type="checkbox"/> Domestic Items(DI) | <input checked="" type="checkbox"/> Wire(WI) | <input type="checkbox"/> Other(OT) | |

Describe: See attached sheet

Nails are wire-cut machine made (round)

Specific Artifact Classes

H-7. Ceramic Artifacts [V/1-12]:

QUANTITY	TYPE
<u>1</u>	<u>Bowl (floral design) "Shenandoah ware" (USA)</u>
_____	<u>Blue on white ceramic bowl</u>
_____	_____
_____	_____

Describe: Various tableware, probably dating post-depression or
1930. 1940 was the last time the cabin was occupied, according
to informants.

HISTORIC SITES
 =====

Page 4 of 11
 State Site No. 42Em1387
 Agency No. _____
 Temp. No. 596J/3

H-8. Glass [VI/1-16]:

QUANTITY	MANUFACTURE	COLOR	FUNCTION
<u>1</u>	<u>Hoppes No. 9</u>	<u>Green</u>	<u>Medicine</u>
<u>1</u>	<u>Franklin Product</u>	<u>Brown</u>	<u>Medicine</u>
	<u>1845</u>		

Describe: The "Franklin Product 1845" medicine bottle has a machine made bottom and is post-1918.

H-9. Maximum Density/meter sq.(glass and ceramics): Approximately six artifacts per meter

Features

H-10. Non-Architectural Features [V/13-18]: (locate on site map)

- Trail/Road(TR) Wagon Ruts (WR) R.R.Grade(RG)
- Mine Tailings(MT) Tram way/road(TW) Dump(DU)
- Rock Alignment(RA) Depression(DE) Dam, Earthen(DA)
- Canal(CN) Ditch(DI) Mill Tailings(ML)
- Smelter Slag(SS) Cemetary/Burial(CB) Inscriptions(IN)
- Hearth/Campfire(HE) Quarry(QU) Arrastra(AP)
- Landing Strips(LA) Other (describe)

Describe: Various irrigation ditches in vicinity of farmstead.
An earthen dam south of farm blocks large pond.

H-11. Architectural Features [V/19-30]: (locate on site map)

QUANTITY	MATERIAL	TYPE
<u>1</u>	<u>Hand-hewn logs</u>	<u>Three-room house</u>
<u>1</u>	<u>" " "</u>	<u>Tack shed</u>
<u>2</u>	<u>Split board</u>	<u>Cellars</u>
<u>1</u>	<u>Split board</u>	<u>Outhouse</u>

Describe: See attached sheet

CONTINUATIONS:

Structural Descriptions:

1. Cabin

Main cabin is approximately 7 x 7 meters. The front addition (Kitchen) is 9 x 4 meters. The cellar is 5 x 3 meters. Cabin is a log building with chinking. End logs are both axe and later sawed off cuts on ends when cellar was built. Roof is rough cut planks and was probably re-roofed several times, evidenced by sealed off living room chimney vent. Front porch (kitchen) was a later addition constructed of rough cut boards. Original porch was most likely tin, manufactured.

Interior - Has rough cut board partition dividing largest room (living room) from small rectangular bedroom. Interior walls in living room are of plaster and chicken wire. Chimney was added onto front addition (kitchen).

A. Artifact Inventory in House

Kitchen and porch: Most items are post-1930, dating last occupation of house. These include "Maytag" wringer washer; "Malleable Stewart" wood stove; various coffee (1 lb.) cans; "Bliss & Schilling", "Hewlitts" pure syrup; "Fisher" beer; and various crockery, tin cans and assorted miscellaneous items.

Living room: Woven cotton back rug with border print, probably American made; several wood chairs.

Bedroom: Single mattress spring bed; imitation fur coat; miscellaneous items

2. Tack Shed

Axe cut logs with chinking set up on sandstone corner supports. Building has rough cut board ceiling (2x4s). Door is rough cut lumber. Building is approximately 5.5 x 5.5 meters. Interior divided into four bins with hallway.

3. Cellars

Rectangular cellar adjoins front of house. It has been caved in and is water logged. A second cellar south of the house is rectangular and also caved in.

4. Outhouse

Approximately 1.3 x 1.3 meters built of rough cut 1 x 10 planks with shingle roof.

Continuation Sheet #2 for 42Em1387 (AERC 596J/3)

Structural Descriptions:

5. Corrals and Loafing Shed

Corral constructed from railing with rough cut lumber and wire. Various sections of corral are impaired.

6. Well

Situated near porch is recent addition. It is rounded with heavy cement lid.

7. Ditches and Roads

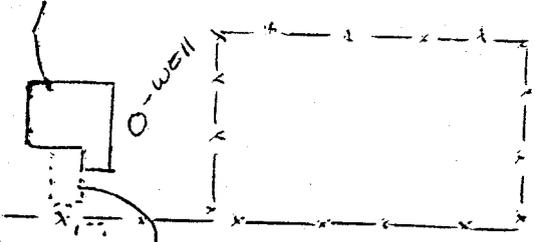
Various water ditches situated west of house. May have been contemporaneous with occupation of farmstead; however, area around structures is presently being cultivated. Several roads led into farm. Oldest entrance was probably to the northwest of buildings.

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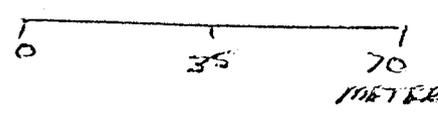
HOUSE



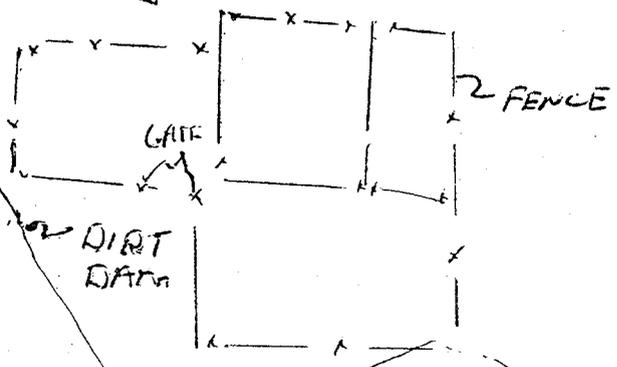
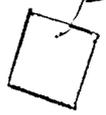
CELLARS OUT HOUSE



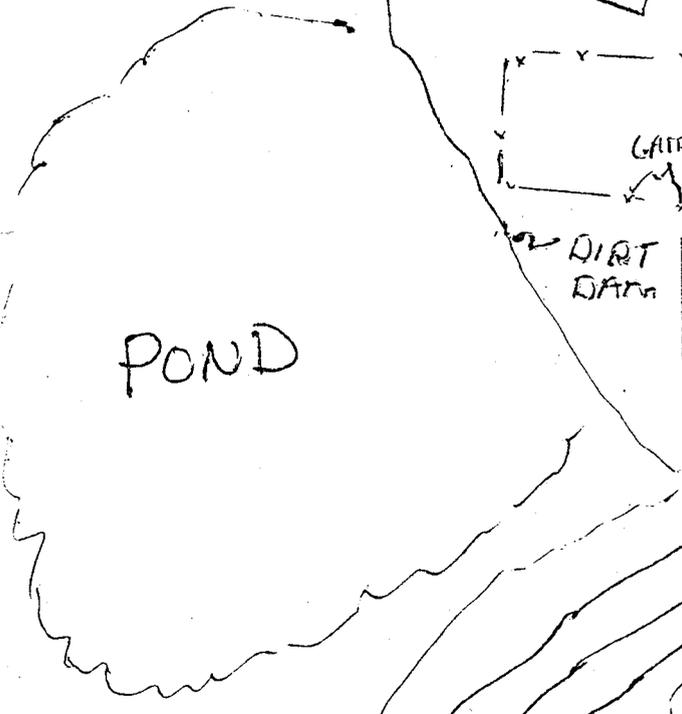
CONTOUR INTERVAL
ABOUT 3 METERS



TACK SHED

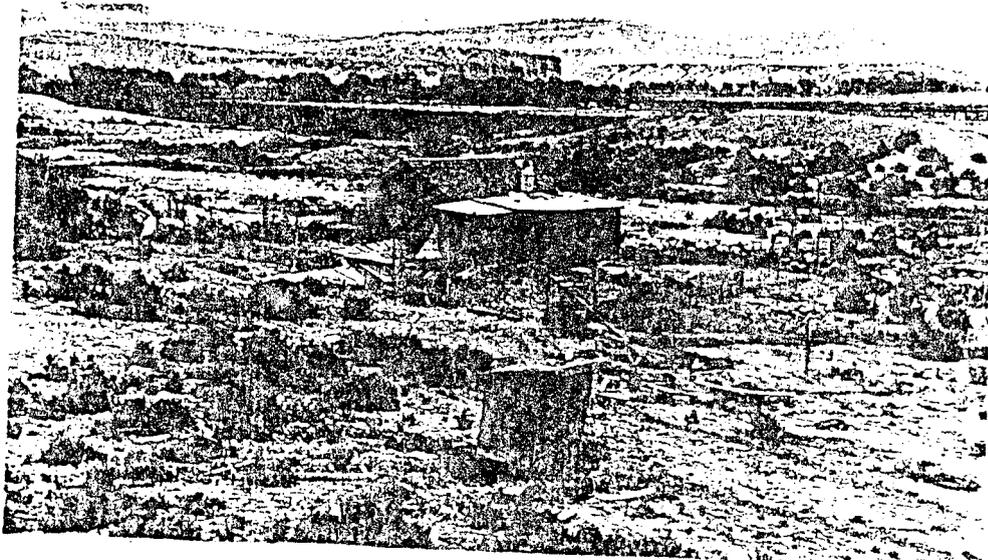
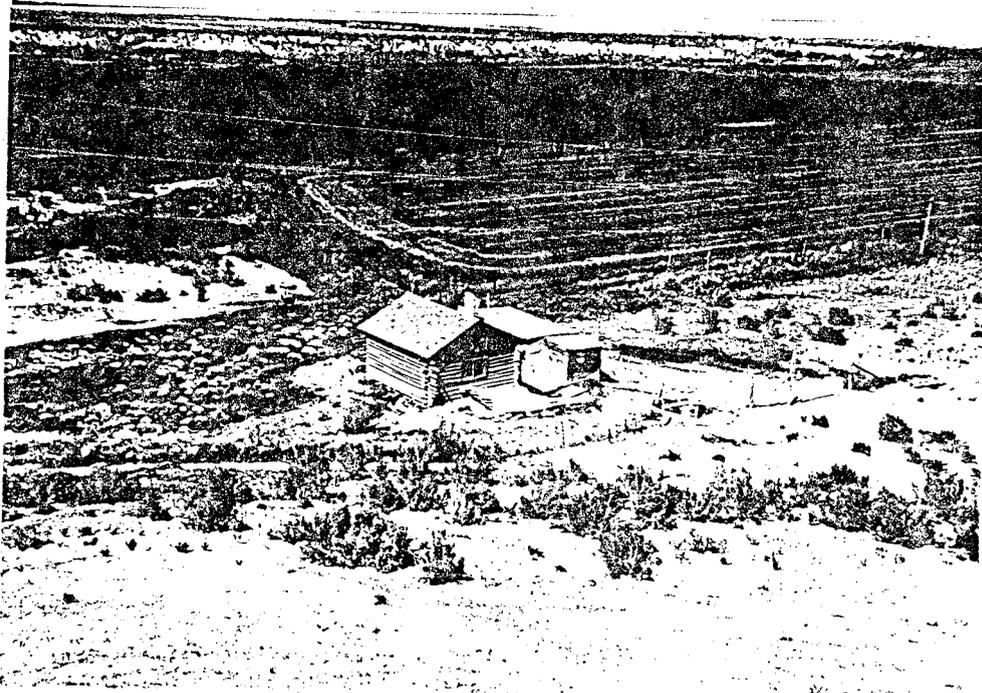


POND

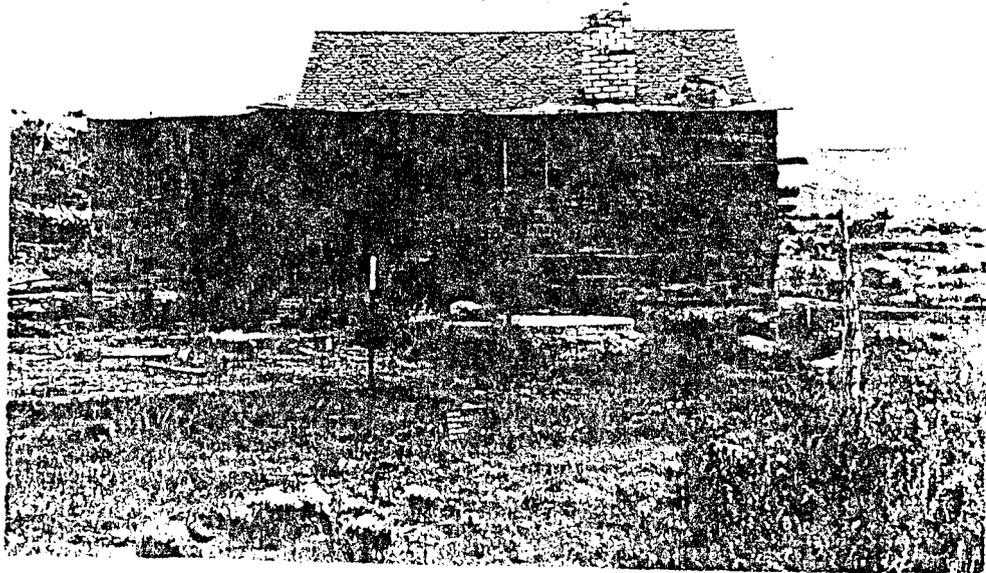
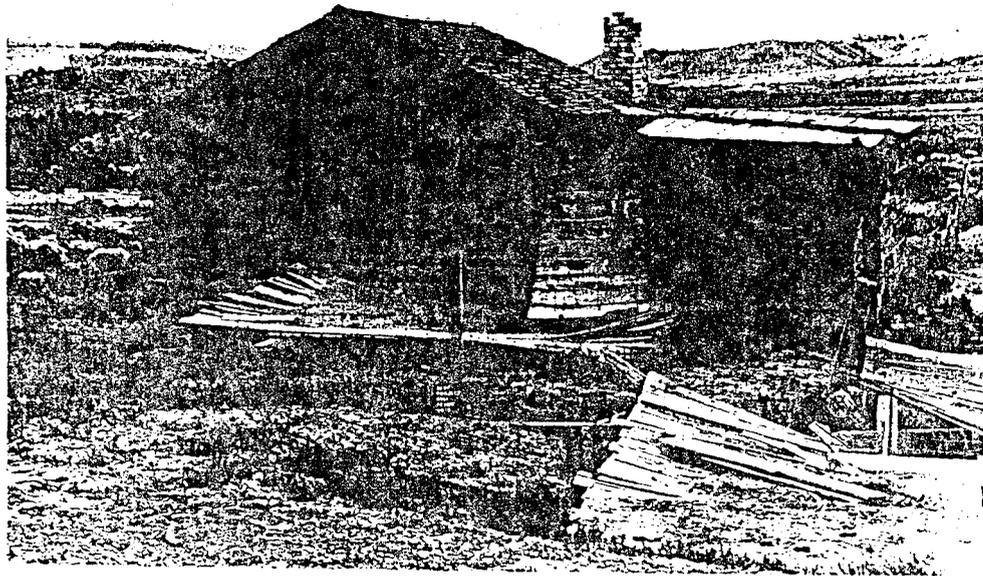


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