APPENDIX 4-10

ARCHEOLOGY REPORT, U-68082 LEASE MOD AREA
SENCO-PHINIX, 2004

INCORPORATED

FEB 2 8 2005

DIV OF OIL GAS & MINING

SENCO-PHENIX

AN INTENSIVE AND INTUITIVE CULTURAL RESOURCE SURVEY AND INVENTORY OF THE CRANDALL CANYON MINE SUBSIDENCE AREA

Price Ranger District
Manti - La Sal National Forest

Emery County, Utah

PERFORMED FOR
Genwal Resources, Inc.

In Accordance with Forest Service and
Utah State Guidelines
Antiquities Permit #U04SC0360f

SPUT-471
June 22, 2004

John A. Senulis

Direct Charge of Fieldwork

CULTURAL RESOURCE SUMMARY FORM **USFS# ML-00**
MANTI-LA SAL NATIONAL FOREST USHPO# U02SC0286f
(Attach Narrative Report Form)

FS PROJECT NO.: ML- _ - _ Name: **AN INTENSIVE AND INTUITIVE CULTURAL RESOURCE SURVEY AND INVENTORYOF THE CRANDALL CANYON MINE SUBSIDENCE AREA**

Manti-La Sal — **Forest Name**
Price — **District**
T.15S, R. 7E Sec. 32 — **T/R/Sec(s)**

June 21, 2004 — **Report Date**
SENCO-PHENIX/John Senulis — **Organization/PI**

Benefitting Function:
__Heritage Project x 106 Compliance Project __Assessment or Resource Assistance (Not a 106 undertaking)

Project Cost: Vehicle/Gas NA
Supplies
Salary 0
USFS Amt. $ 0
Proponent Amt. $
Contributed Amt. $

(2xvol) Per Diem/Vol_____ TOTAL $ 0
Other_____
Overhead

Nature of Work (Check all that apply):
x Survey
__ Monitoring /Docum.
__ Evaluation or Test Excavation
__ Interpretation
__ Site Protection/ Stabilization
__ Other (Explained below)
__ MOU/Clearance (No new surv)
__ Assessment/Plan
__ Mitigation: Excavation or Documentation
__ Discovery
__ DamageAssessment/ Vandalism

Total Project Acres: 75
Acres Surveyed: 45
New Sites Recorded: 0
Sites Monitored W/ Documentation: 0

Project Photographs Catalog #s:
Artirfacts (isolates) Collection #s: None
Location of Curation:

Tracking Dates (N/A if not required):
To SHPO_____
Concurrence Rec'd_____
Mylar Updated_____
GIS Digitized_____
Proj. Database Entry_____
Accomplishment Report : FY00

_ Not a 106 Undertaking/No ground disturbance
x_No Effect; No Sites
No Effect Through Design or Mitigation Rec's
_ Other Effect (See Detail Report)

0 sites located

Determination of Effects on Sites

Certification:
John A Senulis
Reporter's Signature Date 06/21/2004 Reviewer Signature Date

COMMENTS:

FSM 2360 MLNF/4-98

UTAH SHPO

COVER SHEET

Project Name: AN INTENSIVE CULTURAL RESOURCE SURVEY AND INVENTORY OF SEVEN DRILL LOCATIONS FOR THE 2001 MILL FORK HELICOPTER ASSISTED DRILLING PROGRAM

Energy West Mining Company

State #U00SC0724f

Report Date: June 21, 2001 County (ies): Emery

Principal Investigator/ Field Supervisor: John A. Senulis/John Senulis

Records Search/Location/Dates: January 26, 2001, Manti-LaSal National Forest, Price

Acreage Surveyed: 7 acres

Intensive Acres: 7 Recon/Intuitive Acres: 0

U.S.G.S. 7.5 Quad: Rilda Canyon, Utah (1976)

Sites Reported	Number	Smithsonian Site #(s):
Archeological Sites:	0	
Revisit (No IMACS update)	0	
Revisit (IMACS update attch.)	0	
New Sites (IMACS attached)	0	
Archeological Site Total:	0	
Historic Structures:		
(USHS Site Form Attached)		
Total NRHP Eligible Sites,	0	

Checklist of Required Items:

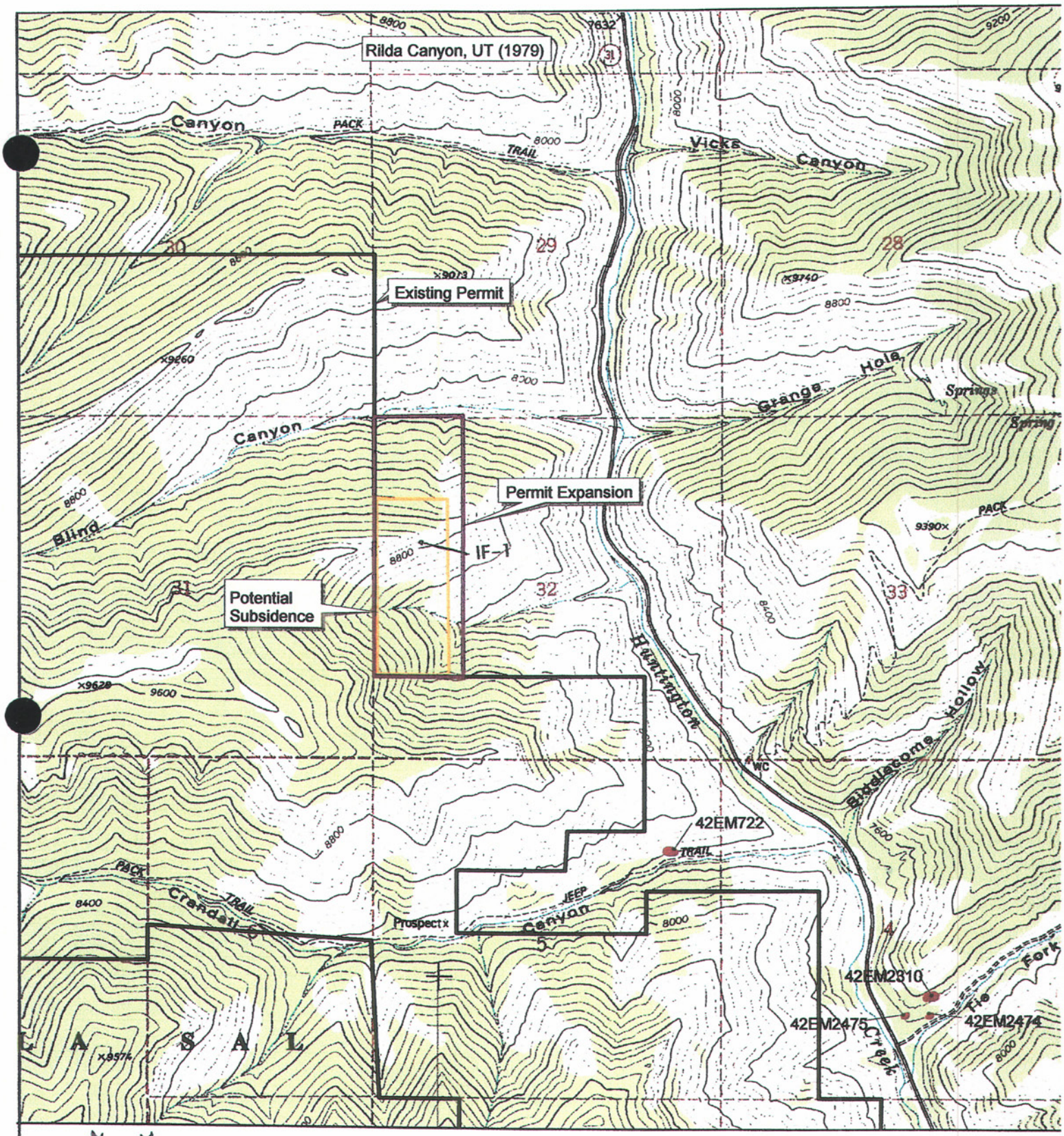
1. X 1 Copy of Final Report
2. X Copy of U.S.G.S. 7.5' map showing surveyed/excavated area
3. Completed IMACS Site Inventory Forms Including
   - _____Parts A and B or C
   - _____IMACS Encoding Form
   - _____Site Sketch Map
   - _____Photographs
   - _____Copy of USGS 7.5' Quad with Smithsonian site Number
4. X Completed Cover Sheet

Abstract

SENCO-PHENIX performed a combination intensive and intuitive cultural resource survey of the potential subsidence area within the proposed Crandall Canyon Mine permit extension area for Genwal Resources, Inc. The project area included the sandstone cliff faces that may subside when the pillars for the underlying Crandall Canyon mine are removed. The focus was on cliff faces because during subsidence, cliff faces tend to shear off and collapse while there is a minimal effect on other ground. The survey was undertaken at the request of Forest Archeologist, Bruce Ellis, who wanted the areas of the cliff faces examined for possible archeological remains such as rock art, rock shelters, burials or other cliff face type sites. The project area is in the Price Ranger District of the Manti-La Sal National Forest. The purpose of the survey was to identify and evaluate cultural resources that may exist within the project area.

One isolated cultural resource was located. IF-1 is a gray chalcedony biface with inclusions. It measures 51 x 36 x 8 mms. and has only minor edge retouch. It was located at an elevation of 8830 feet, in the SW/SW/NE/SW/NW ¼ of Section 32, T15S, R7E, Emery County, Utah (12-485570-4369471). No other artifacts or features were located and the single artifact is not recommended for nomination to the National Register of Historic Places.

No other cultural resources were located and the potential for undetected remains is remote. A finding of no effect is appropriate and archeological clearance without stipulations is recommended.



SENCO-PHENIX

N

Current Survey

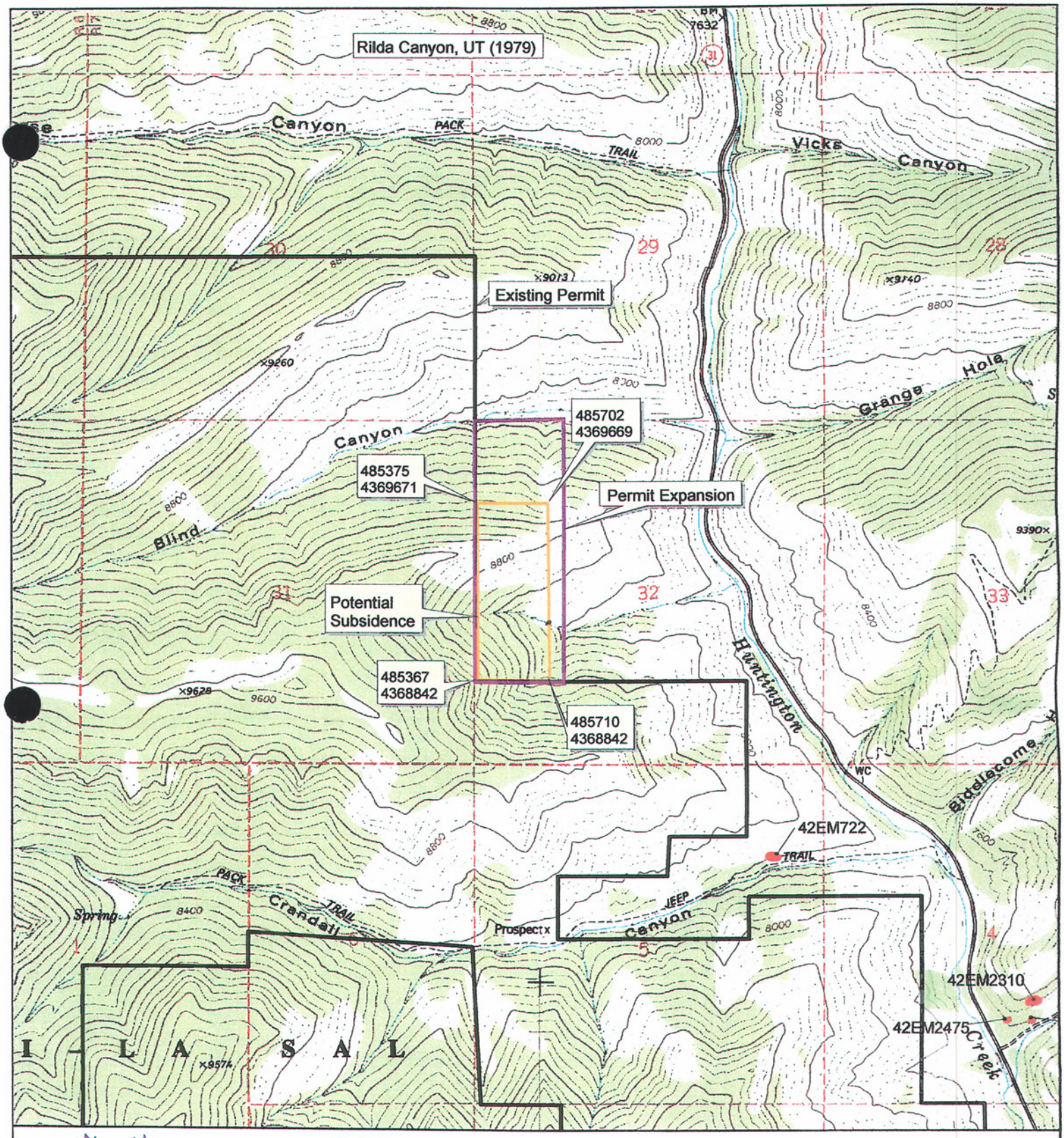
Previous Survey

Eligible Sites

Ineligible Sites

Scale 1:24,000
1"= 2,000'

Subsidence Survey
Crandall Canyon Mine
Genwal Resources, Inc.
Emery County, Utah
Section 32, T15S, R7E
June, 2004
SPUT-471



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SENCO-PHENIX

Subsidence Survey
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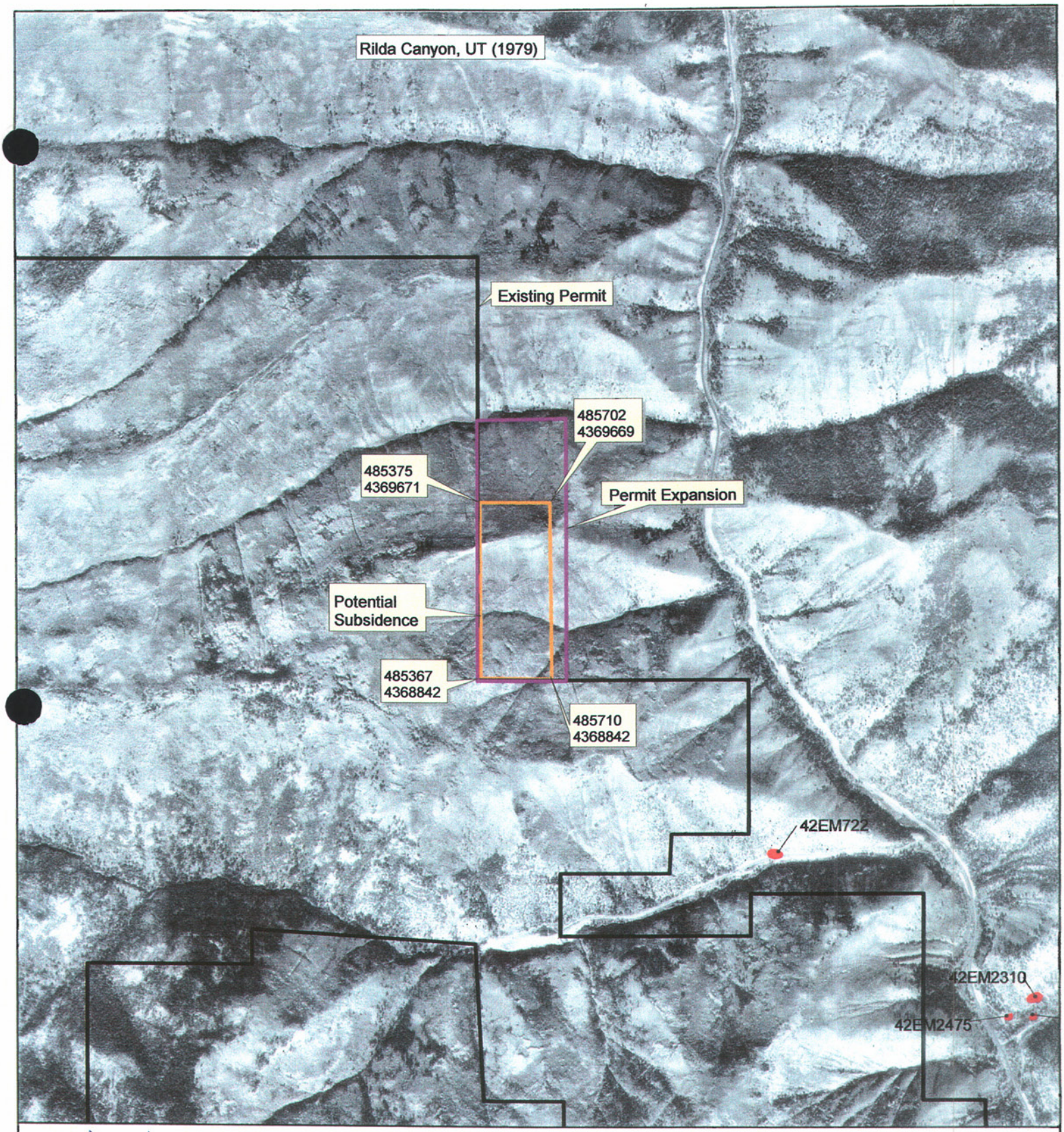

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Subsidence Survey
Crandall Canyon Mine
Genwal Resources, Inc.
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Project Location

The survey area is the steep side slopes on either side of an un-named west to east flowing perennial tributary of Huntington Creek. The project area was located using GIS data on the maps and GPS units in the field. The project area is in the Price Ranger District of the Manti-LaSal National Forest. The potential subsidence area is in Section 32, T15S, R7E, Emery County, Utah. The project area is shown on the enclosed copy of U.S.G.S. 7.5' Quad: **Rilda Canyon, Utah (1979)**.

Environment

The project area is within the Wasatch Plateau, which is part of the Colorado Plateau Province. The Wasatch Plateau is a north to south trending highland that overlooks the Castle Valley to the east and the Sanpete Valley to the west. The project area is a very steep sided valley and ridge at elevations of 8,000 to 9,100 feet. An un-named perennial creek, in the southern portion of the project area, drains the project area.

The diversified vegetation consists of grassy sagebrush meadows interspersed with aspen groves and conifer forests, including White and Ponderosa Pine. Some of the understory species included wheat grass, bluegrass, common juniper, shrubby cinquefoil, strawberry, penstemon, mules-ear, needle grass, lupine, manzanita, sagebrush, sedge, currant, and gooseberry.

Previous Research

John Senulis of SENCO-PHENIX performed a file search in the Forest Service Office on April 30, 2004. The following are the previous studies within or near to the project area which meet professional standards:

- 1975, The archeologist for the Manti La-Sal National Forest surveyed the road through Crandall Canyon for mine development. One cultural resource was located:
    - 42EM722 is the "Sherman" rockshelter, which has apparent depth and was recommended for the National Register of Historic Places. The shelter was beyond the projects impact area.

- 1977, AERC surveyed several sample blocks in the general area. No cultural resources were located. (ML 77-138)

- 1980, UTARC surveyed a 200-foot road corridor and the mine site. No new cultural resource sites were located. (ML 80-228)

- 1981, The Forest Service tested 42EM722 and found it had good depth potential and was eligible for the NRHP. (ML 81-1)

- 1984, SENCO-PHENIX conducted a sample survey just south of the current project area. No cultural resources were located. (ML 84-392)

- 1988, The Forest Service conducted a sample survey, which includes the south 40 acres of the current project area. No cultural resources were located. (ML 88-491)

- 1989, AERC conducted sample surveys west of the current project area. No cultural resources were located. (ML 89-622)

- 1992, AERC surveyed sample units south and west of the current project area. No cultural resources were located.

- 1995, AERC surveyed sample units south of the project area. No cultural resources were located. (ML 95-753)

- 2002, SENCO-PHENIX surveyed drill hole locations south of the current project area. No cultural resources were located. (ML 02-1027)

There are several additional archeological sites ca. 1½ mile south of the project area. All are at the mouth of Tie Fork Canyon and all have been recommended for nomination to the NRHP. They also confirm the model that significant cultural resources within the Huntington Creek drainage tend to be at or near the mouths of the sub-drainages of Huntington Creek.

- 42EM2310 is a rockshelter located ca. ½ mile up the canyon. It has a polychrome pictograph within.
- 42EM2311 is an historic dugout and trail that may have been associated with early logging operations.
- 42EM 2474 is a rockshelter with lithics and groundstone.
- 42EM2475 is a small cave with a possible Ute rock art panel

Methodology

John and Jeanne Senulis and Robert Evans of SENCO-PHENIX performed a combination Class III intensive walkover and intuitive survey on June 19, 2004 of the sandstone cliff faces in the potential subsidence area. The project area was located using GIS data on the maps and GPS units in the field. The policy of the Manti-La Sal National Forest is to survey sandstone cliff faces in areas of potential subsidence, because the cliff faces often collapse when the pillars are removed from the underlying mine. The sandstone cliff faces were examined for the presence of rockshelters, rock art, burials, or other site types that could occur in these outcroppings. Because of the sheer steepness of the outcrop facings, walkover was limited to the areas where foot travel was possible. Some of the rock faces were examined utilizing both binoculars and a camera with a telephoto lens. There were rock outcrops both along the drainage and on the ridge north of the drainage. These were examined thoroughly as was the intervening steep sloping side hills. All field notes and photographs are on file at the offices of SENCO-PHENIX in Price, Utah.

Findings and Recommendations

One isolated cultural resource was located. IF-1 is a gray chalcedony biface with inclusions. It measures 51 x 36 x 8 mms. and has only minor edge retouch. It was located at an elevation of 8830 feet, in the SW/SW/NE/SW/NW ¼ of Section 32, T15S, R7E, Emery County, Utah (12-485570-4369471). No other artifacts or features were located and the single artifact is not recommended for nomination to the National Register of Historic Places.

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These recommendations are subject to modification and review by the Manti La Sal Forest Ranger and the Utah SHPO.

View of the Upper Face looking Northeast

An Example of the Upper Slope Steepness

IF-1 Biface *in situ*