



**BIGHORN ARCHAEOLOGICAL
CONSULTANTS, LLC**

3790 NICHOLAS DR., SANTA CLARA, UTAH 84769
(435) 686-1647 (435) 632-8290 CELL

Report Number 05-03

**Historic Context and Detailed Documentation of the Main Canyon
Ditch, Town Ditch, Comanche Dam (42WS4376), and Comanche
Ditch (42WS2507), New Harmony, Washington County, Utah**

by

Dale R. Gourley
and
Jon Baxter

for

The Town of New Harmony
and
Bureau of Land Management, St. George Field Office

Utah Project Authorization Number U05-HO-0009b
Federal Antiquities Permit Number 04UT84316

August 2005

Abstract

At the request of the Town of New Harmony, Bighorn Archaeological Consultants, LLC (Bighorn), has completed the Historic Context and Detailed Documentation of the Main Canyon Ditch, Town Ditch, Comanche Dam (42WS4376), and Comanche Ditch (42WS2507) in Washington County, Utah. Cross section drawings were completed for each of the ditches, photographs taken, and historic research completed to better understand when and why the ditches were constructed and who constructed them. In the process of locating and documenting these ditches, a new prehistoric site (42WS4691) was discovered along the western edge of the project boundary. The site is considered eligible for the National Register of Historic Places. Bighorn recommends the site be avoided in the plans for the New Harmony Nature Park.

Table of Contents

Abstract ii
Table of Contents iii
List of Figures iii
Introduction 1
Scope of Work 1
Previous Inventories 4
Historic Research 4
Descriptions of the Ditches and Comanche Dam 5
 Comanche Ditch 5
 Main Canyon Ditch 7
 Town Ditch 10
 Comanche Dam 12
History of New Harmony and its Ditches 13
New Cultural Resource Site 20
 42WS4691 20
Summary and Project Recommendations 21
References Cited 22
Appendix A - Photographs

List of Figures

Figure 1- Project and Site Location Map 2
Figure 2- Map of Ditch Features 3
Figure 3- Comanche Ditch (42WS2507) 5
Figure 4- Aerial Photograph of the Comanche Ditch (42WS2507) 6
Figure 5- Cross-section of the Comanche Ditch (42WS2507) 7
Figure 6- Cross-section of the Comanche Ditch (42WS2507) near its joining with the Town Ditch (42WS4376) 7
Figure 7- Main Canyon Ditch (42WS4376) with large rocks along its sides 8
Figure 8- Cross-section of the Main Canyon Ditch (42WS4376) 8
Figure 9- Aerial Photograph of the Main Canyon Ditch (42WS4376) 9
Figure 10- Concrete lined Town Ditch (42WS4376) 10
Figure 11- Aerial Photograph of the Town Ditch (42WS4376) 11
Figure 12- Cross-section of the concrete lined Town Ditch (42WS4376) 12
Figure 13- Comanche Dam 13
Figure 14- Overview of Site 42WS4691 looking east 21

Introduction

At the request of the Town of New Harmony, Bighorn Archaeological Consultants, LLC (Bighorn), has completed the Historic Context and Detailed Documentation of the Main Canyon Ditch, Town Ditch, Comanche Dam (42WS4376), and Comanche Ditch (42WS2507) in Washington County, Utah. This project was completed under Utah State Project Authorization Number U05-HO-0009b as mitigation for adverse effects that may result from the development of the proposed New Harmony Nature Park. The proposed park is to include non-motorized hiking, equestrian, and mountain biking trails, picnic areas, a group use pavilion, a softball field and archery range, and small community center.

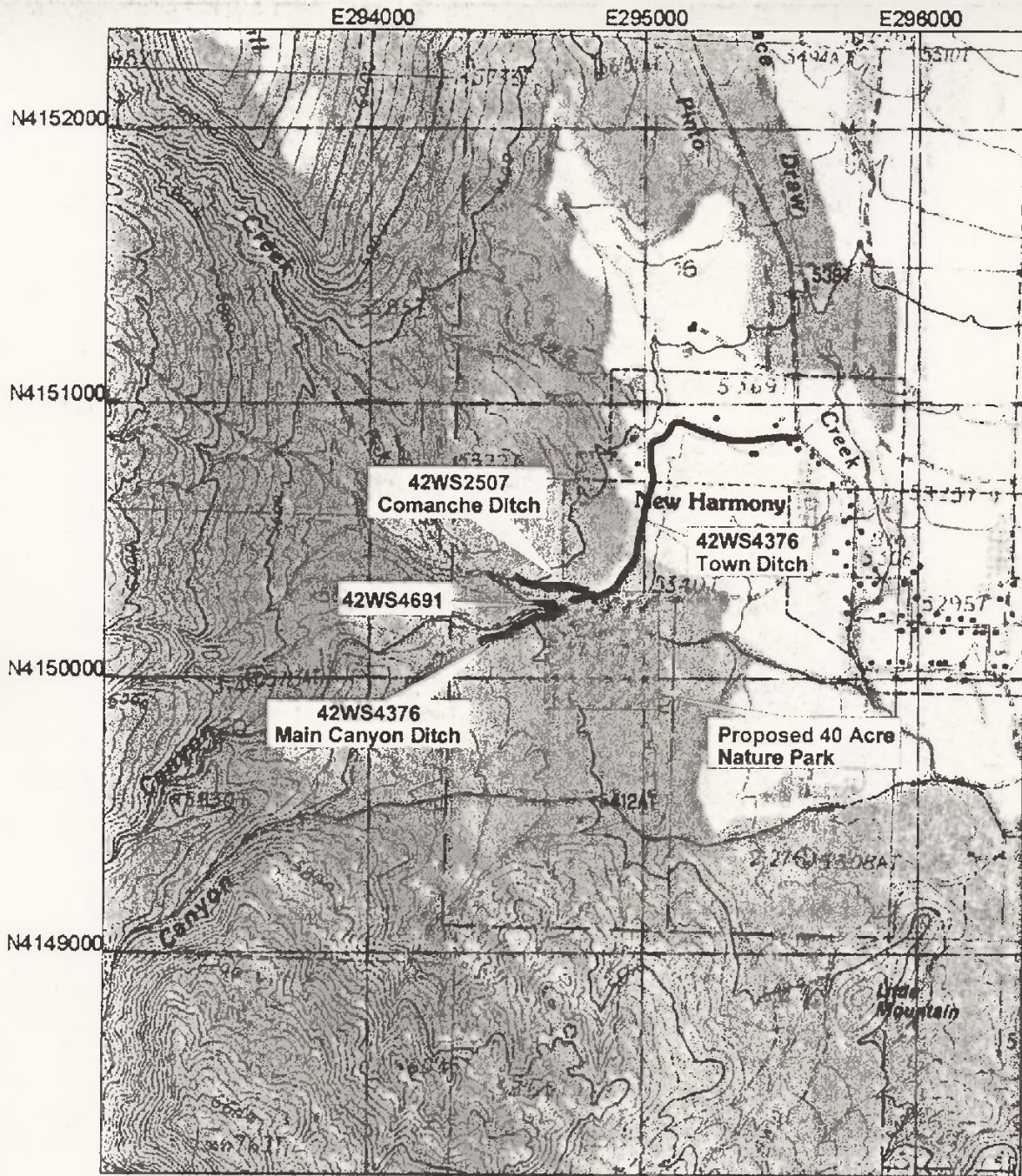
The project area is located on land administered by the Bureau of Land Management (BLM) in Washington County, Utah (Figure 1), and is currently under lease to the Town of New Harmony under the authority of the Recreation and Public Purposes Act of 1934, as amended. The proposed nature park is situated on 40 acres of land within the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 21, T 38S, R 13W. When the town has made substantial progress toward the completion of the proposed Nature Park, the BLM may patent the 40 acre parcel to the Town of New Harmony, thereby releasing this tract from federal control. The special protections afforded by the National Historic Preservation act, as amended, would no longer be in effect, also resulting in an adverse effect to the sites.

In the process of locating and documenting these ditches, a new prehistoric site (42WS4691) was discovered along the western edge of the project boundary. The site is considered eligible for the National Register of Historic Places. Bighorn recommends the site be avoided in the plans for the New Harmony Nature Park.

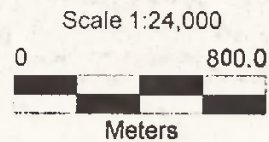
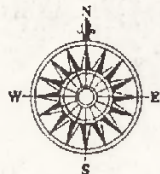
Scope of Work

To lessen the adverse effect, to the extent possible, to sites 42WS2507 and 42WS4376 within the area of potential effect the following plan was developed by the BLM and adhered to for this project. First, an historic context for the ditches was established using available primary site records, archival sources, including published histories, official records of ditches and water rights from the State Engineer's Office, historic maps and photographs, other achieves, and interviews with local informants knowledgeable about this subject.

Second, data collection in the form of locus-specific surveys of the ditches was performed. Photo-recordation, using black-and-white film, digital images, and measured cross-sections of the ditches will augment data contained in the initial Archaeological Survey Report (Dalley and McEwen 2003) and the primary site records (IMACS forms) for these historic features. This material will be submitted to the Utah State Historic Preservation Office, BLM – St. George Field Office, U.S. Forest Service - Dixie National Forest, Special Collections of the Sherratt Library at Southern Utah University, and the Town of New Harmony.

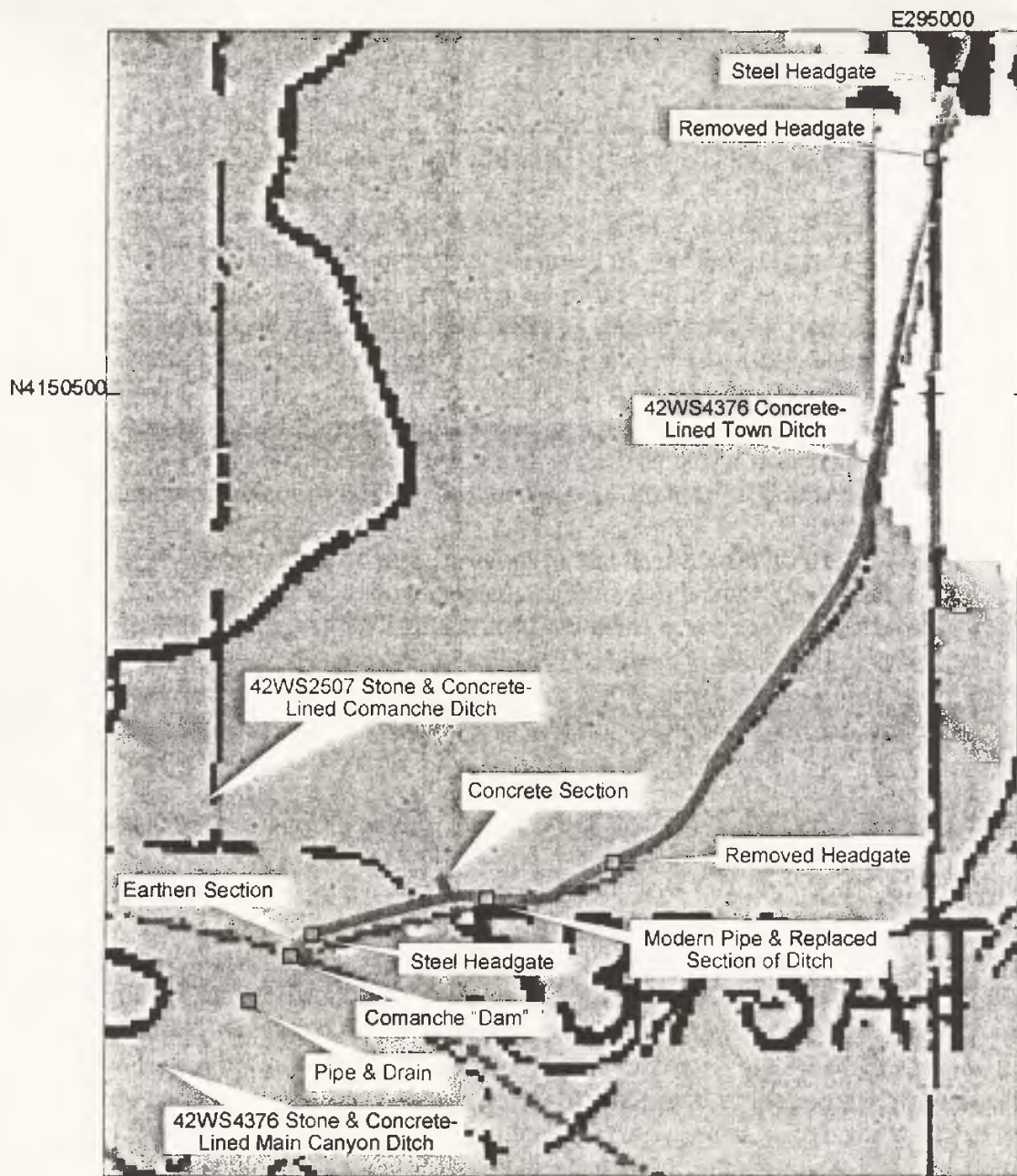


UTM
12 North
NAD 1927 (Western US)

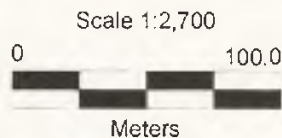


**BIGHORN
ARCHAEOLOGICAL
CONSULTANTS, LLC**

**Figure 1. Project & Site Location Map. USGS 7.5' Series
Quadrangle: New Harmony, Utah 1986, T 38S, R 13W**



UTM
12 North
NAD 1987 (Western US)



**BIGHORN
ARCHAEOLOGICAL
CONSULTANTS, LLC**

Figure 2. Map of Ditch Features. USGS 7.5' Series Quadrangles:
New Harmony, Utah 1986, T 38S, R 13W, Section 21

Previous Inventories

Files at the BLM, St. George Field Office indicate three cultural resource inventories have been conducted within or adjacent to the proposed New Harmony Nature Park. These projects and their results are briefly described below.

In 1981, the Dixie National Forest completed a survey of the New Harmony-Comanche Trail Easement and Trailhead. This project covered 1.4 miles of trail and a 3.5 acre area for the trailhead. Two prehistoric lithic scatters, 42WS1513 and 42WS1514, were documented and considered not eligible for the National Register of Historic Places (Snedeker 1981).

In 1989, the Dixie National Forest inventoried an irrigation waterline from Comanche Spring to the Town of New Harmony. One new historic site, the Comanche Ditch (42WS2507), was documented and recommended eligible for the National Register of Historic Places (Pack 1989).

In 2003, the BLM surveyed the 40 acre parcel of public land for the proposed New Harmony Nature Park. Four new sites were documented, including an historic trash scatter (42WS4372), two prehistoric lithic scatters (42WS4273 and 42WS4274), and three segments of an historic ditch system and earthen/rock dam (42WS4376). The historic trash scatter and two prehistoric lithic scatters were determined to be not eligible for the National Register of Historic Places. The historic ditch system, site 42WS4376, was determined eligible for the National Register (Dalley and McEwen 2003) and is the subject of the current report.

Historic Research

Research on the history of New Harmony and its irrigation systems was conducted at the Harold B. Lee Library at Brigham Young University, Gerald R. Sherratt Library at Southern Utah University, and St. George Branch of the Washington County Library. Records at the Cedar City Engineers Office, Utah Division of Water Rights, Washington County Records Office, and Government Land Office (GLO) maps were also checked. Results of the research indicate that most of the historical accounts and descriptions of New Harmony and its irrigation systems stem from anecdotal accounts and memories of the area by long-term residents of the community. Very little information was available from written records on the history of the ditches. No ditches or canals were indicated on the GLO maps, and no information was retrieved from the Engineers Office in Cedar City or the Washington County Records Office. However, records with the Utah Division of Water Rights did provide some useful information and personal interviews with two of New Harmony's long-term residents concerning their knowledge about the irrigation systems in the town were extremely helpful. These individuals were Sheldon Grant and Gordon Pace. Sheldon Grant is an ex-"Water Master" for the town and Gordon Pace is the current "Water Master." Gordon also provided a video taped interview he conducted in 1994 with Marion Pace, another former resident of the town, prior to his death, concerning the town ditches.

Two field visits were made to the project area, one on 23 June 2005 and a second on 7 July 2005. During these visits, cross section drawings of the ditches were made and sections photographed and documented with a Trimble GeoXT global positioning system. A total length recorded for the ditches at this time are 1,350 m for the Town Ditch, 340 m for the Main Canyon Ditch, and 302 m for the Comanche Ditch (Figures 1 & 2).

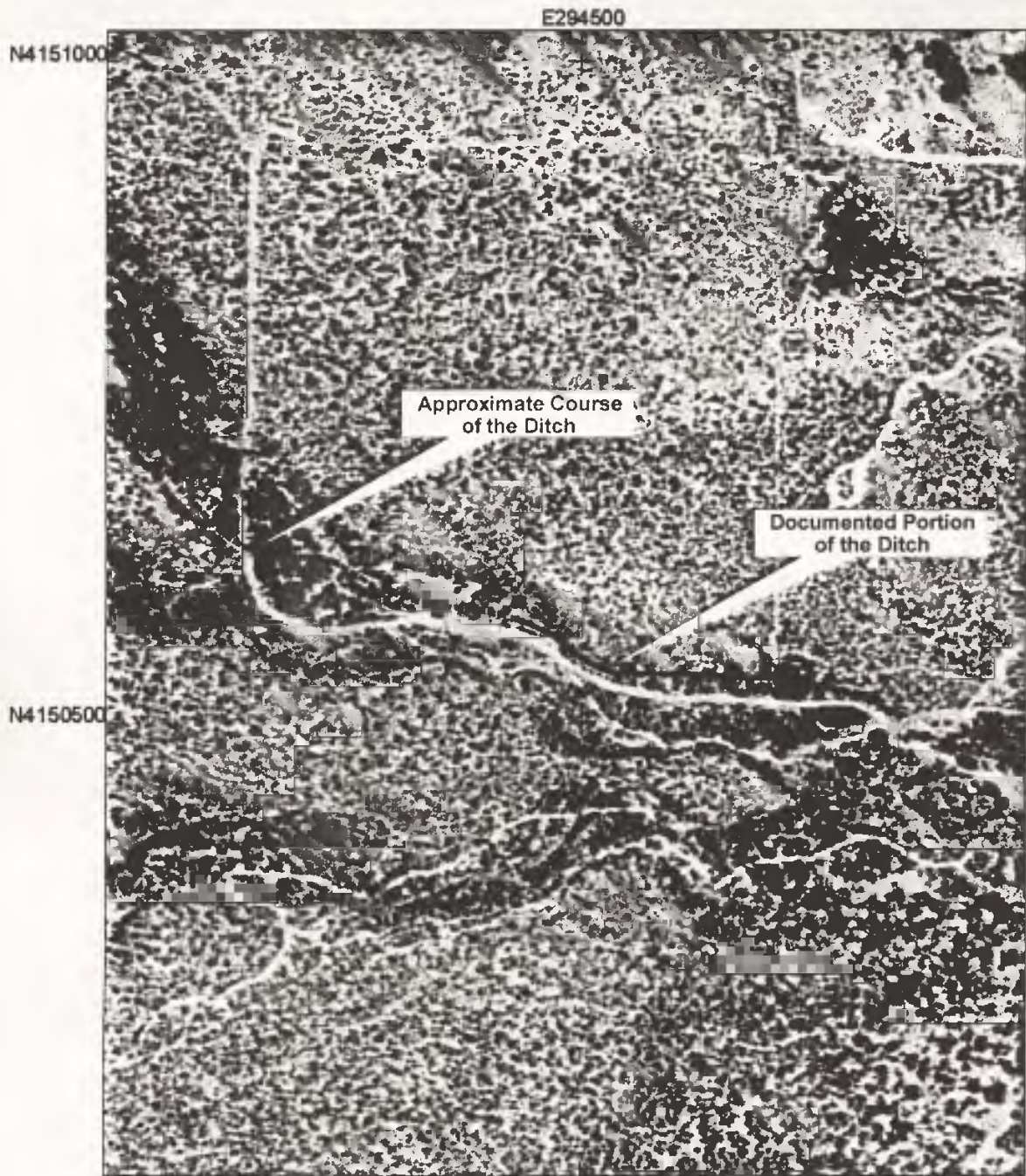
Descriptions of the Ditches and Comanche Dam

Comanche Ditch (42WS2507)

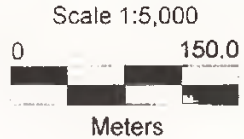
The Work Projects Administration (WPA) constructed the Comanche Ditch most likely in 1935 / 1936 to bring water from Comanche Spring, located along the eastern foothills of the Pine Valley Mountains, to the Town of New Harmony. The ditch originates at Comanche Spring within T 38S, R 13W, Section 17 on land administered by the U.S. Forest Service – Dixie National Forest at an elevation of approximately 5790 ft. From this point the ditch proceeds southeast onto the proposed project area within T 38S, R 13W, Section 21 to an elevation of about 5379 ft. where it joins the Town Ditch. A total length for the ditch is roughly 2350 m (1.46 mile). The ditch is not depicted on the New Harmony 7.5' topographic quadrangle map dated 1986 and was not indicated on GLO maps of the area, however it is visible on aerial photos (Figure 4).



Figure 3. Comanche Ditch (42WS2507)



UTM
12 North
NAD 1983 (Contus)



**BIGHORN
ARCHAEOLOGICAL
CONSULTANTS, LLC**

**Figure 4. Aerial Photograph of the Comanche Ditch (42WS2507). USGS
7.5' Digital Orthophoto Quadrangle: New Harmony, Utah 5/10/1997**

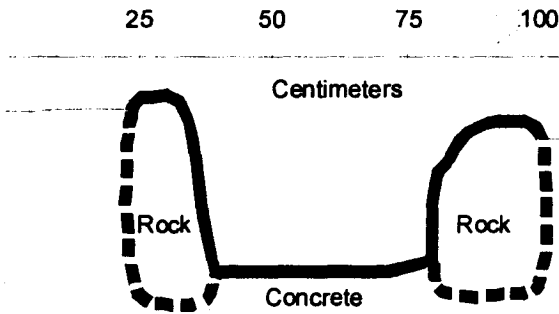


Figure 5. Cross-section of the Comanche Ditch (42WS2507)

Examination of this ditch included 302 m (991 ft.) from its junction with the Town Ditch and extended west (Figures 1 & 2). The ditch near its junction with the Town Ditch is concrete lined with a “V” or “U” shaped profile (Figure 6, Appendix A). This section is about 11.75 m (38.55 ft.) long. Beyond this, to the west, the ditch has a flat concrete bottom with shaped stone sides that have been cemented together (Figures 3 & 5; Appendix A). Most of the ditch, approximately 1800 m (1.12 mile), lies within the Dixie National Forest and has been documented and reported by Marion Jacklin and Gina Pack (1989). They indicate the presence of several metal culvert features. The ditch is in fairly good condition and continues to transport water into the Town Ditch, although a diversion has been installed not

far from Comanche Spring, placing most of the water within modern pipe. The original special use permit issued by the U.S. Forest Service for this ditch was granted in 1935.

Main Canyon Ditch

The Main Canyon ditch was also constructed by the WPA around 1935 / 1936. This ditch was constructed prior to the Comanche Ditch, as indicated by personal interviews with local informants (see below), to bring water from the Pine Valley Mountains to the Town of New Harmony. An origination point for the ditch is up Main Canyon, however its exact origin is not known and it is not depicted on topographic / GLO maps of the area. The ditch is visible on aerial photographs of the area and is indicated in Figure 9.

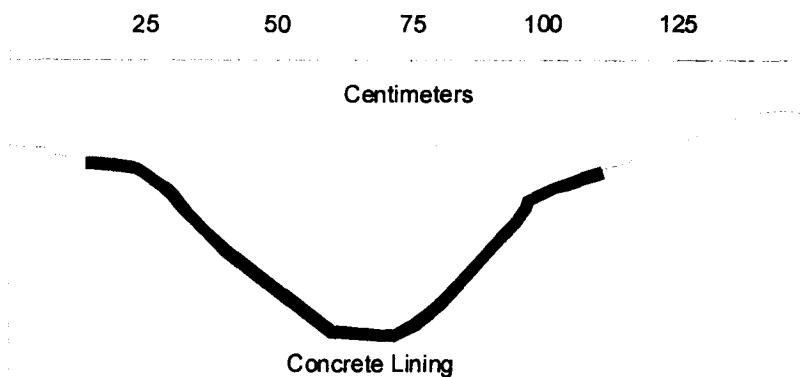


Figure 6. Cross-section of the Comanche Ditch (42WS2507) near its joining with the Town Ditch (42WS4376)



Figure 7. Main Canyon Ditch (42WS4376) with large rocks along its sides

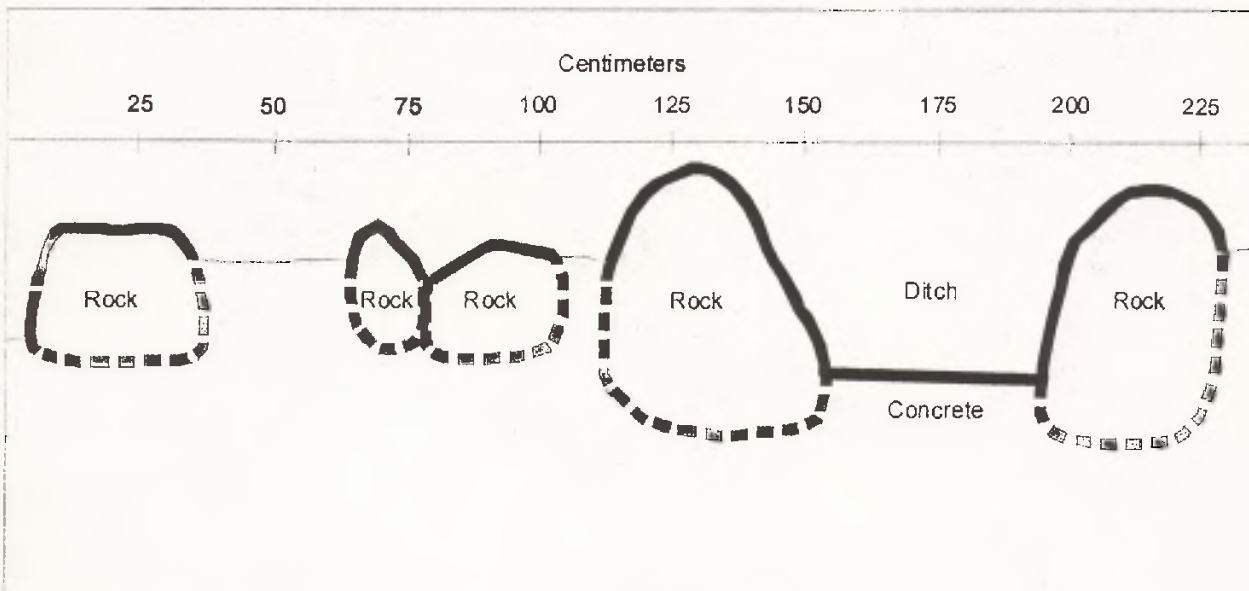


Figure 8. Cross-section of the Main Canyon Ditch (42WS4376)