

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

01733127

#05-067-08317

DRAINAGE PLAN INSTALLATION

LOCATED AT:

SOUTHERN UTE 26-5
LA PLATA COUNTY, COLORADO

FOR:

MR. MIKE ARCHER
CHEVRON NORTH AMERICA
EXPLORATION AND PRODUCTION COMPANY
P.O. Box 730
AZTEC, NEW MEXICO 87410



PROJECT No. 92270-203
DECEMBER 2007

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

December 31, 2007

RECEIVED

JAN 14 2008

COGCC

Project No. 92270-203

Mr. Mike Archer
Chevron North America
Exploration and Production Company
P.O. Box 730
Aztec, New Mexico 87410

Phone (405) 282-8510

RE: DRAINAGE PLAN INSTALLATION AT THE SOUTHERN UTE 26-5, LA PLATA COUNTY, COLORADO.

Dear Mr. Archer,

Enclosed please find two (2) originals and one (1) copy of the report entitled *Drainage Plan Installation at the Southern Ute 26-5, La Plata County, Colorado*.

We appreciate the opportunity to be of service. Should you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,
ENVIROTECH, INC.



Robin Kibler
Staff Geologist
rkibler@envirotech-inc.com

Enclosure: Two (2) original
One (1) copy

CC: Client File 92270

CHEVRON NORTH AMERICA EXPLORATION AND PRODUCTION COMPANY
DRAINAGE PLAN INSTALLATION
SOUTHERN UTE 26-5
LA PLATA COUNTY, COLORADO

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INTRODUCTION

Envirotech, Inc. was contracted to install a drainage system to address significant erosion at Chevron North America's Southern Ute 26-5 well site; see **Figure 1, Vicinity Map**. Drainage off of the well pad caused gullies to be formed on the north and west side of the pad where construction of the pad caused steep slopes; see **Figure 2, Structure Map**. These gullies down cut rapidly due to the slopes' angle and soil characteristics. A cobble lined ditch was constructed to direct pad runoff to a juniper-reinforced rock rundown leading to the reserve pit; see **Appendix A, Site Photography**. This re-routing of runoff will prevent further erosion in the heavily gullied areas.

WORK PERFORMED

November 29, 2007

An environmental scientist, backhoe and operator, and a field technician arrived at the site along with a 12 yard dump truck loaded with cobble. Installation began with the construction of a cobble lined ditch along the north and west sides of the well pad; see **Figure 2, Structure Map**. A channel was shaped using the backhoe; see **Appendix A, Site Photography**. Cobble was then delivered by the backhoe and placed by hand to produce a channel liner with maximum coverage and minimum resistance to flow.

November 30, 2007

A field technician and environmental scientist returned to begin the rock rundown. The rundown was constructed in an existing eroded channel of appropriate size and cross section. This was done to minimize disturbance to the fragile slope soils and vegetation. Green juniper stakes were harvested by selective limbing of surrounding trees. These limbs were turned into usable pickets by sharpening one end with a chain saw. The pickets were driven 2-4 feet into the channel with a sledge hammer and trimmed to approximately one foot above ground surface. The slash produced was then woven between the pickets to anchor the structure; see **Appendix A, Site Photography**. Cobble was delivered down the slope with the backhoe then placed by hand.

The planned installation of the Zuni bowl near the road was prevented by the presence of buried pipelines. Because the excavation required for a Zuni bowl could not be safely performed, a cobble channel liner was installed to address the erosion without excavation.

Between November 30, 2007 and December 4, 2007

A significant runoff event occurred, leading to a premature testing of the not yet completed structures. A cobble liner needs overlain with smaller gravel sized rocks to be stable. The gravel serves to fill gaps between the larger rocks and can more easily shift position due to flow or gravity to maintain the integrity of the structure. This gravel layer was not in place when the runoff event occurred. The design of the ditch led to low flow velocities and no damage resulted from the runoff. Damage to the rock rundown did occur, the large cobbles alone were unable to maintain integrity and some erosion of the rundown channel occurred. This erosion was controlled by the juniper pickets and woven slash which kept the shifting of the cobbles from causing the structure to fail. Standing water was in place in the low (south) end of the reserve pit, indicating that it functioned successfully as a runoff catchment.

December 4, 2007

An environmental scientist and field technician returned with a 12 yard truckload of gravel. Repairs to the rundown were completed by hand and placement of the gravel in the ditch and rundown began. Gravel was delivered with the backhoe then raked or hoed across the cobble to facilitate incorporation into the structure. A layer of gravel was placed on the surface of the rundown to provide material for the structure to be self-repairing if shifting of the cobble occurred due to settling or thawing of the soil.


The cobble channel liner near the road was also graveled.

STATEMENT OF LIMITATIONS

Envirotech has completed the installation of a drainage plan at Chevron North America's Southern Ute 26-5 well site. All observations and conclusions provided here are based on the information and the current conditions found at the site. The undersigned has conducted this service at the above referenced site. This work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry, and hydrogeology. We appreciate the opportunity to be of service.


Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Sincerely,
ENVIROTECH, INC.



Robin Kibler
Staff Geologist
rkibler@envirotech-inc.com

Reviewed By:

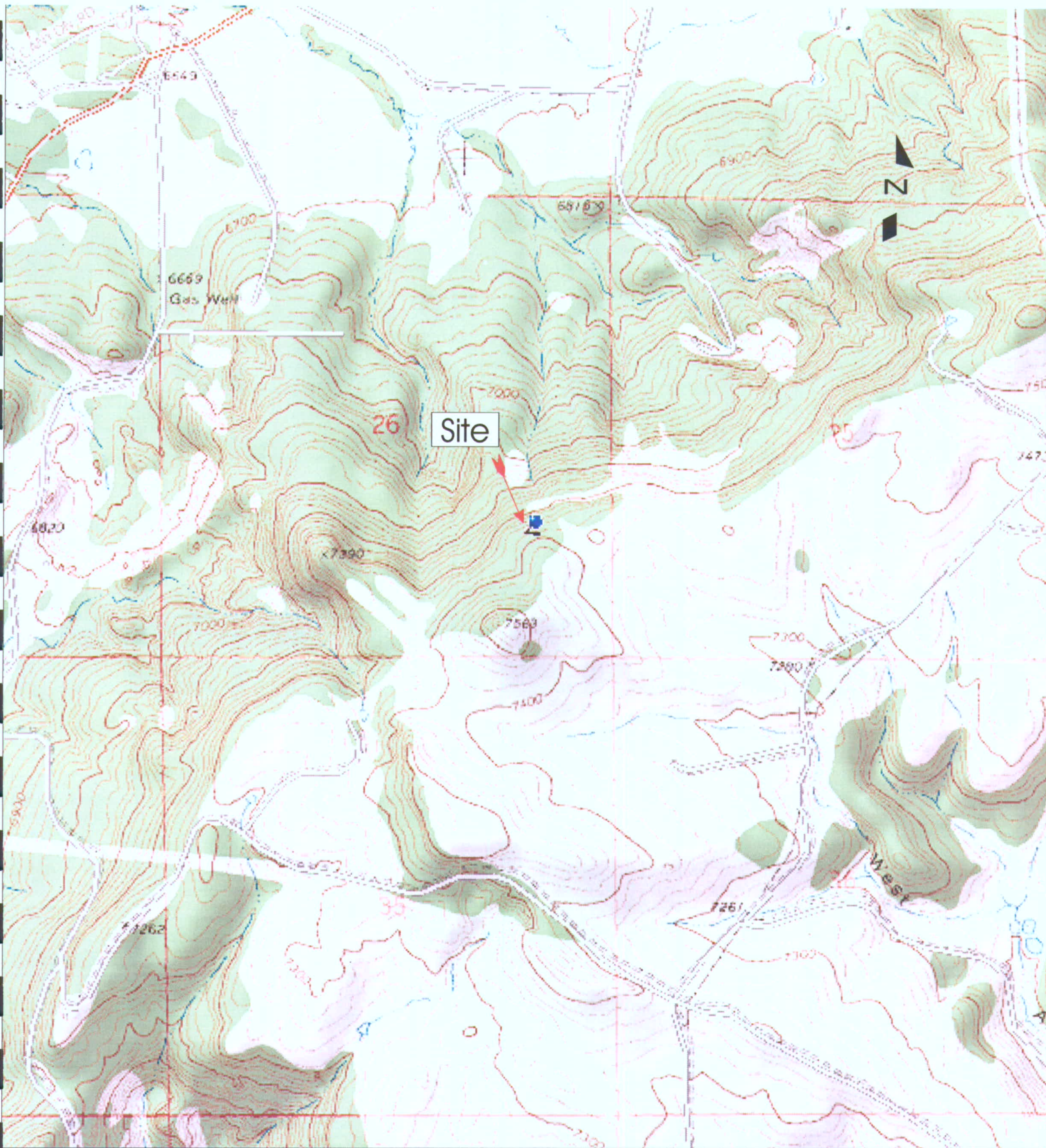


Kyle P. Kerr
Chief Environmental Scientist/Manager
Co Reg No #6162
kpkerr@envirotec-inc.com

FIGURES

Figure 1, Vicinity Map

Figure 2, Structure Map



Source: Bondad Hill, Colorado 7.5 Minute U.S.G.S. Topographic Quadrangle Maps
 Scale: 1:24,000 1" = 2000'

Southern Ute 26-5
 La Plata County, Colorado

ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS & ENGINEERS

5796 U.S. HIGHWAY 64
 FARMINGTON, NEW MEXICO 87401

Vicinity Map

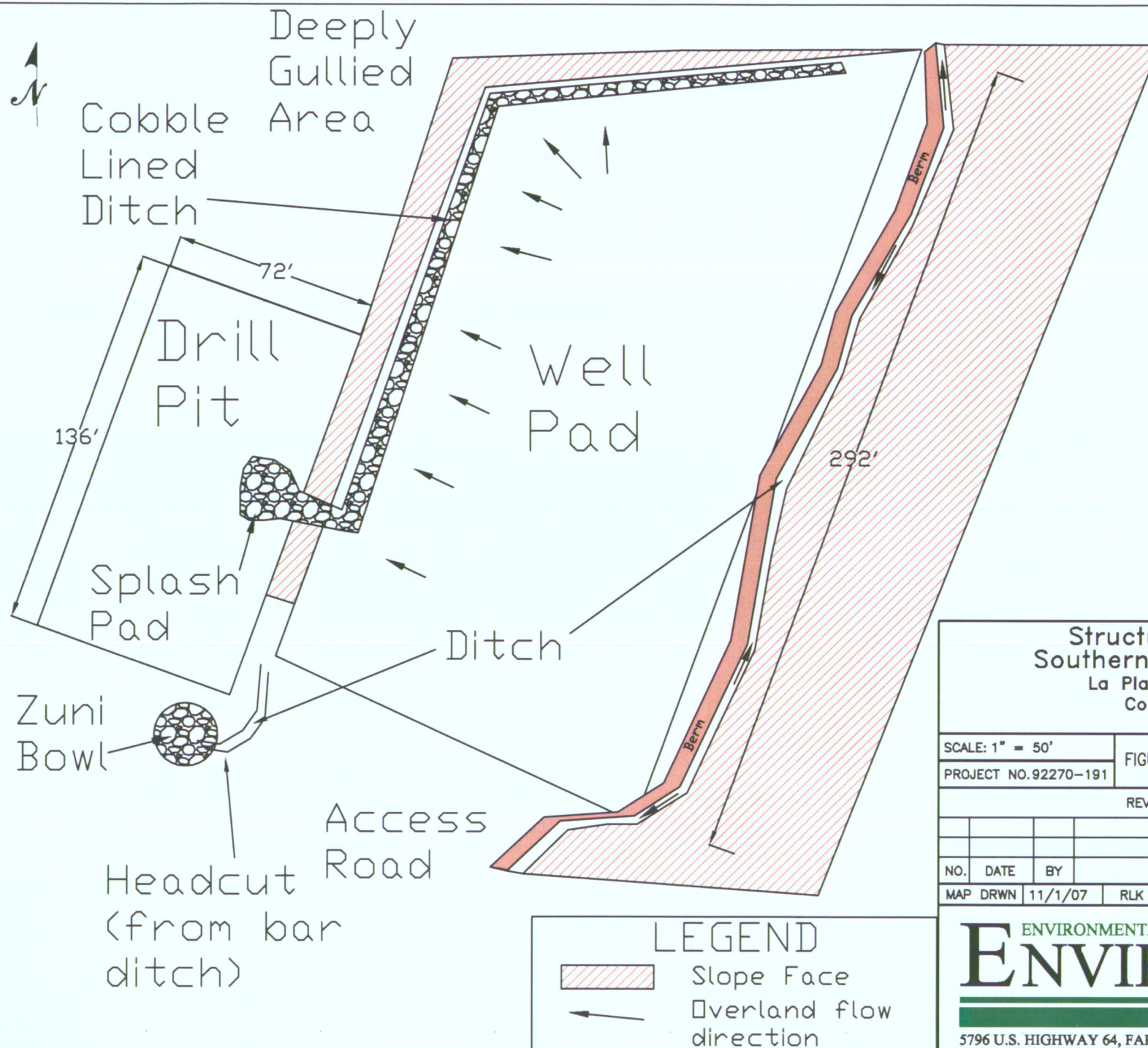
Figure 1

Project# 92270-203

Date Drawn: 12/06/07

Drawn By:
 Robin Kibler

Project Manager:
 Kyle P. Kerr



Structure Map
Southern Ute 26-5
La Plata County
Colorado

SCALE: 1" = 50'

PROJECT NO. 92270-191

FIGURE NO. 3

REV

REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	11/1/07	RLK	BASE DRWN

ENVIRONMENTAL SCIENTISTS & ENGINEERS
ENVIROTECH

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

APPENDIX A

Site Photography

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PROJECT NO. 92270-203**



Photo 1: Construction of the ditch channel.

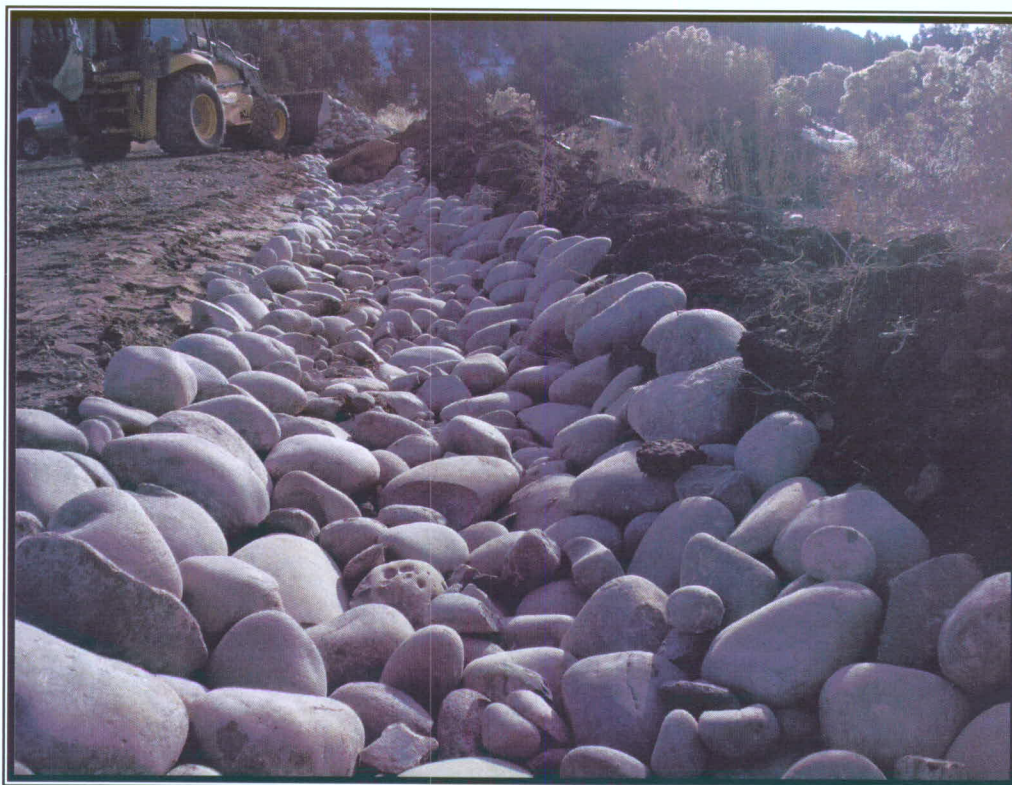


Photo 2: The cobble liner.

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Photo 3: Trimming the pickets in the rundown.



Photo 4: Pickets woven with juniper slash.

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Photo 5: Gravel being placed on rock rundown.



Photo 6: Looking up completed rock rundown.