

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW



SITE ASSESSMENT

AND

DRAINAGE PLAN

LOCATED AT:

SOUTHERN UTE 26-5

LA PLATA COUNTY, COLORADO

FOR: *± 05-067-08317*

MR. MIKE ARCHER

CHEVRON NORTH AMERICA

EXPLORATION AND PRODUCTION COMPANY

P.O. Box 730

AZTEC, NEW MEXICO 87410



PROJECT No. 92270-191

NOVEMBER 2007

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

November 26, 2007

RECEIVED

JAN 14 2008

COGCC

Project No. 92270-191

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

Phone (405) 282-8510

RE: SITE ASSESSMENT AND DRAINAGE PLAN 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 *Site Assessment and Drainage Plan 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 by CB

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
SITE ASSESSMENT AND DRAINAGE PLAN
SOUTHERN UTE 26-5
LA PLATA COUNTY, COLORADO

TABLE OF CONTENTS

INTRODUCTION	1
RECOMMENDATIONS.....	1
STATEMENT OF LIMITATIONS.....	2

Figures:	Figure 1, Vicinity Map
	Figure 2, Site Map
	Figure 3, Structure Map
	Figure 4, Structure Detail

Appendix:	Appendix A, Site Photography
-----------	------------------------------

INTRODUCTION

Envirotech, Inc. was contracted to do a site assessment and drainage plan 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 is causing gullies to be formed on the north and west side of the pad where construction of the pad has caused steep slopes; see **Figure 2, Site Map**. There gullies are down cutting rapidly due to the slopes' angle and soil characteristics; see **Appendix A, Site Photography**.

RECOMMENDATIONS

The steep slope to the north and west of the pad causes the runoff to gain velocity very quickly, leading to significant incising. The soil type is easily eroded, as demonstrated by gullies and tunneling apparent at the edge of the pad. An abandoned reserve pit is to the west of the well pad at the bottom of a steep slope approximately 20 feet high; see **Figure 2, Site Map**. This reserve pit is revegetating well and could serve as a kinetic energy sink for the runoff. The structure constructed for achieving this must be appropriate to the soil type. Because of the observed tunneling it is believed that installation of a berm to redirect the runoff would be undercut and fail due to water tunneling underneath it and creating a new channel. The remaining berm would continue to concentrate the flow into the new channel created by the berm failure and a new arroyo would be created. A cobble lined ditch along the north and west sides of the drill pad would be a more stable solution under these conditions; see **Figure 3, Structure Map**. The channel constructed from the well pad down to the reserve pit would also need to be cobble lined (a rock rundown); see **Figure 4, Structure Detail**. Due to slope angle this rock rundown should be reinforced with green juniper pickets and heavily seeded with a site appropriate mix of grasses and shrubs. The juniper pickets will keep the cobble in place until vegetation is established. The size of picket required does not necessitate the cutting down of entire live trees. If such action is approved the needed pickets could be harvested near the site by limbing surrounding juniper trees with a chain saw. A cobble splash pad at the bottom of the rock rundown will prevent the structure from failure caused by undercutting. A pipe or culvert installation here is not recommended as it is likely that water would tunnel around it in this soil type, causing failure and creation of a new arroyo in place of the pipe or culvert.

The existing gullies at the north and west edges of the pad are being prevented from revegetating by continuous erosion. Construction of the cobble lined ditch would essentially stop the erosion by redirecting the water away from them. The steepness of these arroyos will make it difficult for vegetation to reestablish itself here. This process could be facilitated by the construction of juniper wicker dams to increase retention of soil moisture and fine sediment.

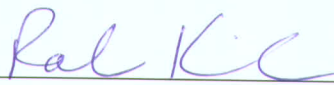
The access road is drained by a bar ditch immediately west of the road. This bar ditch is causing a migrating headcut which could eventually reach the road and create an arroyo through it. Installation of a stone Zuni bowl would stabilize this headcut, preventing deepening of the existing arroyo and protecting the access road; see **Figure 4, Structure Detail**.

STATEMENT OF LIMITATIONS

Envirotech has completed a site assessment and 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.

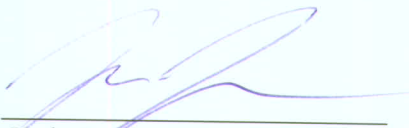
Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Sincerely,
ENVIROTECH, INC.



Robin Kibler
Staff Geologist
rkibler@envirotech-inc.com

Reviewed By:



Kyle P. Kerr
Chief Environmental Scientist/Manager
CoRegNo #6162
kpkerr@envirotec-inc.com

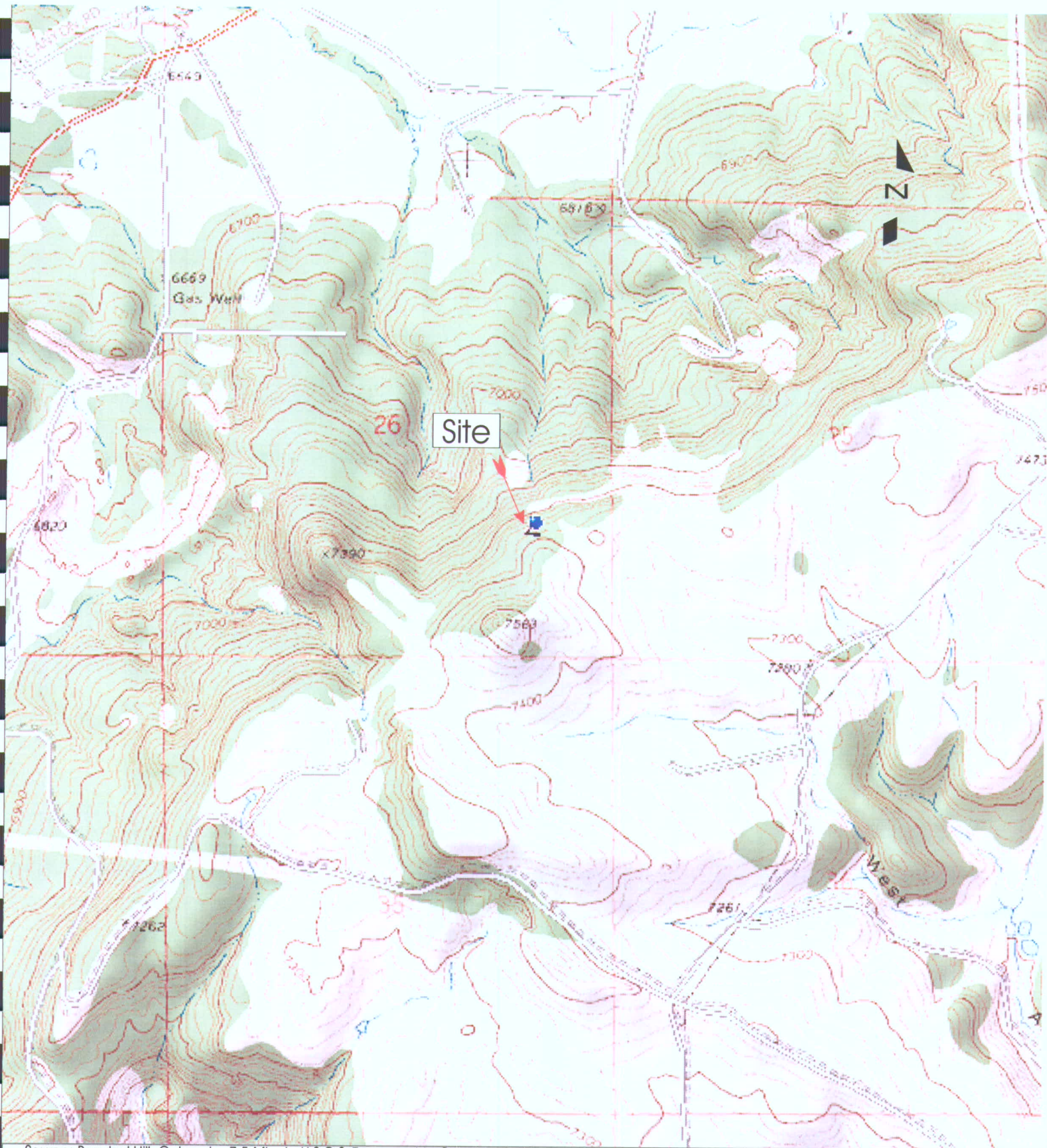
FIGURES

Figure 1, Vicinity Map

Figure 2, Site Map

Figure 3, Structure Map

Figure 4, Structure Detail



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

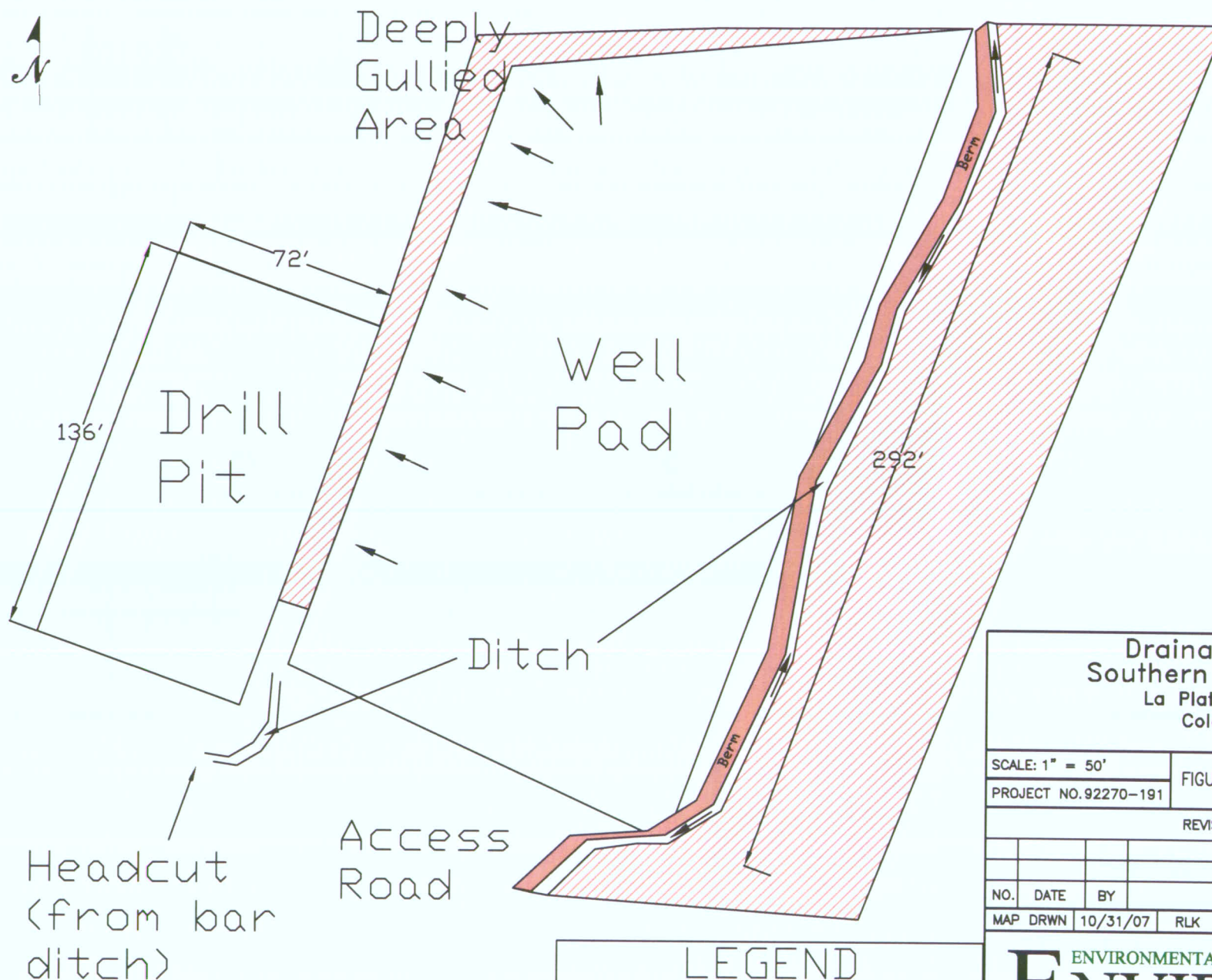
Figure 1

Drawn By:
 Robin Kibler


Project Manager:
 Kyle P. Kerr


Project# 92270-191

Date Drawn: 10/31/07

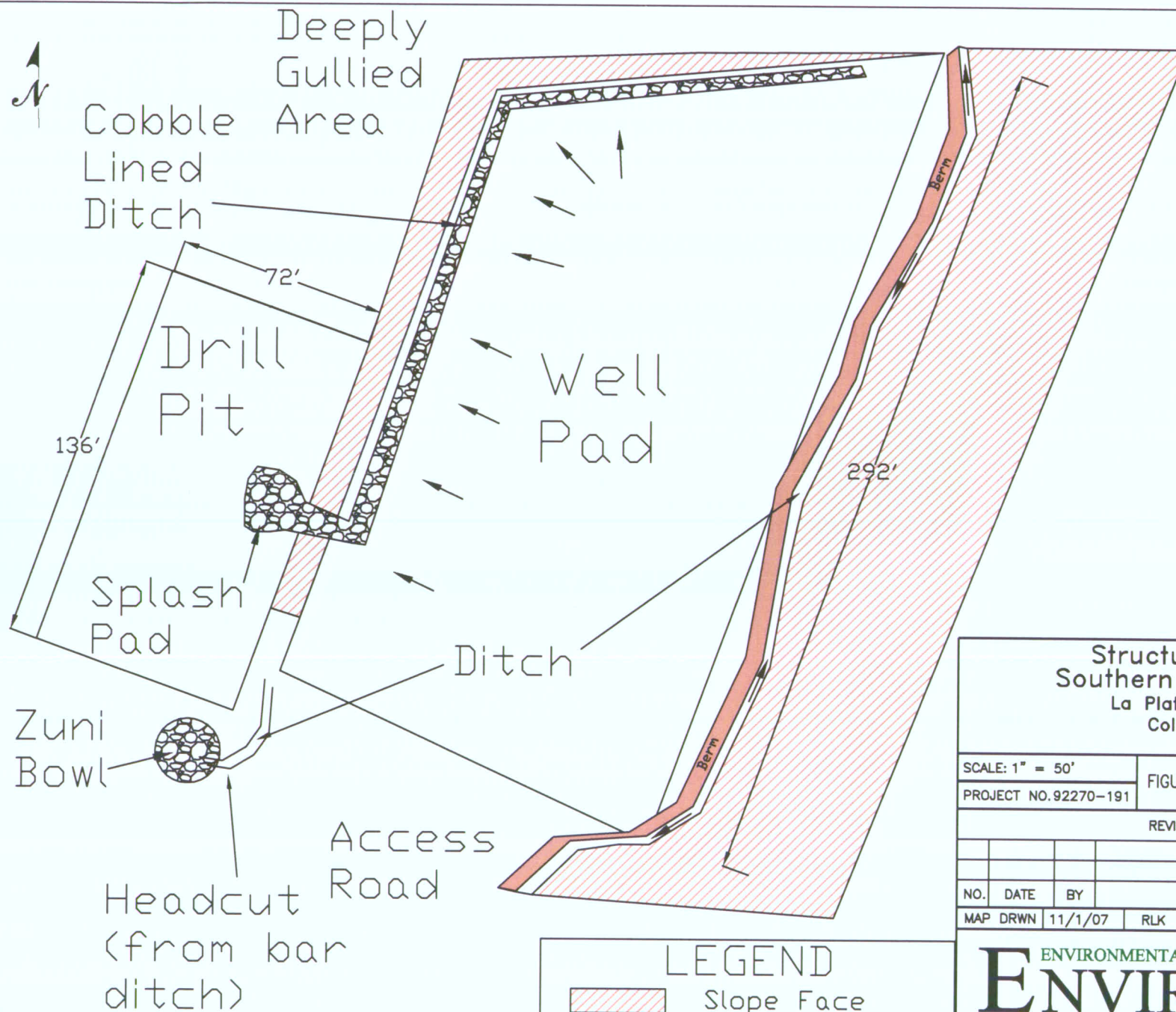


LEGEND

 Slope Face

 Overland flow direction

Drainage Map Southern Ute 26-5 La Plata County Colorado			
SCALE: 1" = 50'		FIGURE NO. 2	REV
PROJECT NO. 92270-191			
REVISIONS			
NO.	DATE	BY	DESCRIPTION
MAP DRWN	10/31/07	RLK	BASE DRWN
ENVIRONMENTAL SCIENTISTS & ENGINEERS ENVIROTECH 5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615			



Structure Map
Southern Ute 26-5
La Plata County
Colorado

SCALE: 1" = 50'

PROJECT NO. 92270-191

FIGURE NO. 3

REV

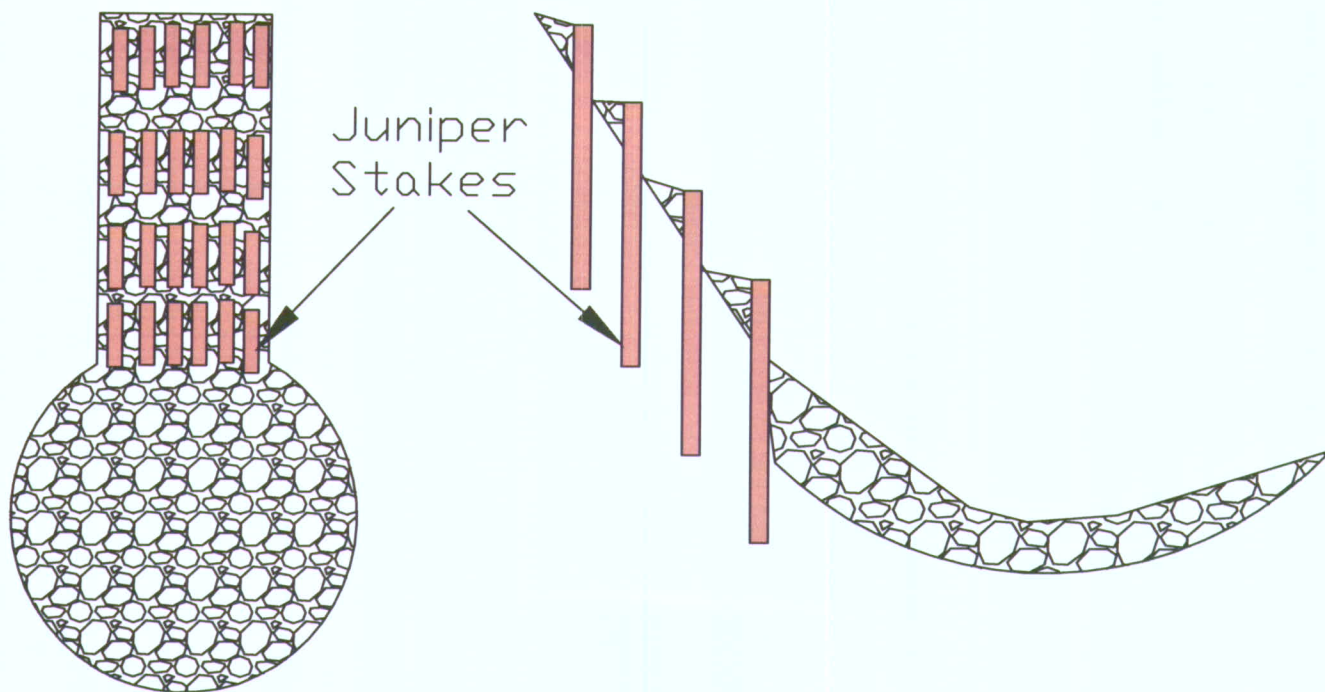
REVISIONS

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

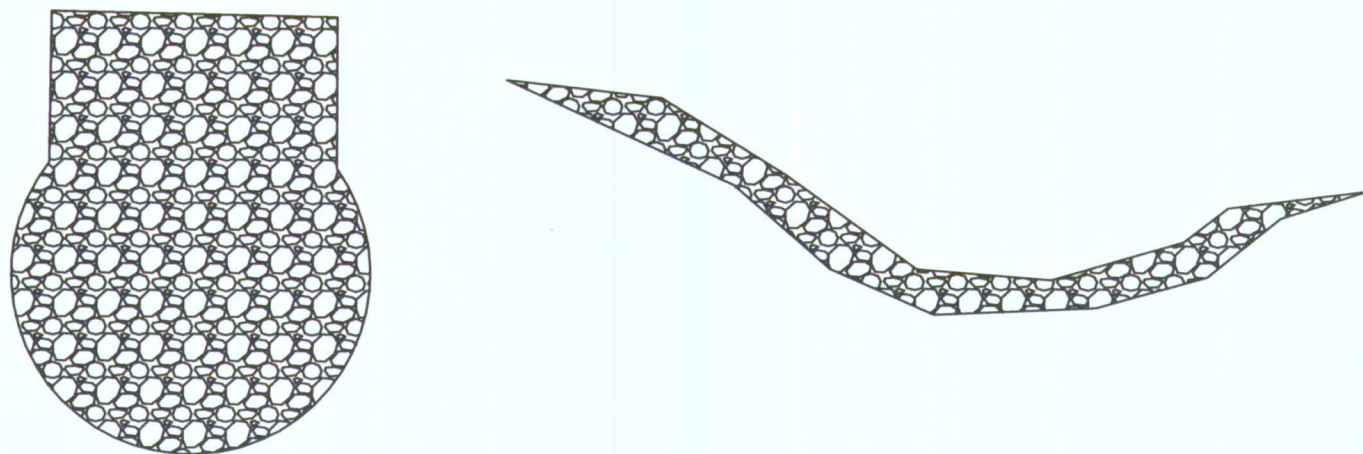
ENVIRONMENTAL SCIENTISTS & ENGINEERS
ENVIROTECH

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

Rock Rundown



Zuni Bowl



Southern Ute 26-5

ENVIROTECH INC.

Structure Detail

REVISIONS
BY _____ DATE _____
BY _____ DATE _____

92270-191

ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64
FARMINGTON, NEW MEXICO 87401
(505) 632-0615

DATE 11/01/07

DRAWN RLK

FIGURE

SCALE NTS

APPROVED

4

APPENDIX A

Site Photography

**CHEVRON NORTH AMERICA
EXPLORATION AND PRODUCTION COMPANY
SITE ASSESSMENT AND DRAINAGE PLAN SJ 26-5
PROJECT NO. 92270-191**



Photo 1: The slope as viewed from the reserve pit.



Photo 2: A typical arroyo on the northwest corner of the pad.

**CHEVRON NORTH AMERICA
EXPLORATION AND PRODUCTION COMPANY
SITE ASSESSMENT AND DRAINAGE PLAN SJ 26-5
PROJECT NO. 92270-191**



Photo 3: The reserve pit.



Photo 4: Downcutting bar ditch west of the access road.