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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Kathleen Clarke
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

October 30, 2001

TO: Internal File

THRU: Daron Haddock, Permit Supervisor DRH

FROM: PB Priscilla Burton, Sr. Reclamation Specialist/Soils

RE: Technical Field Visit, Adit #1 Reclamation Plan Appendix 3-2, Castle Gate Holding Co., Castle Gate Mine, C/007/004-01A

Other Attendees: Johnny Pappas, Castle Gate Holding Co.

Date & Time: October 26, 2001, 10:00am – 1:30pm

PURPOSE:

The purpose of the site visit was to evaluate and sample the soils for reclamation potential at Adit #1.

OBSERVATIONS:

The area to be graded is 1.5 acres. There are three portals to be covered and an ephemeral drainage to be recreated during the grading. A sediment pond and a road will be taken out. A steel transfer tower will be removed.

Photographs of the site are in O:/007004.cg/IMAGES/10262001.jpg. Photo P0002110.jpg corresponds to pit #1. Photo P0002111.jpg corresponds to Pit #2. Photo P0002112.jpg corresponds to Pit #3. A fourth pit (directly in front of Portal #1) was not photographed or sampled, because the soils will be buried at this location.

All soils were previously disturbed with no natural horizonation. Soils were grouped for sampling and description, based upon color. In each pit, there was a reddish/orange soil, and a grayish/brown soil. A layer of coal was also noted in all the pits. Samples were composited from each color group and from the coal.

Field notes for each pit are attached.

RECOMMENDATIONS/CONCLUSIONS:

Mr. Pappas will send three composite samples to Intermountain Laboratories in New Mexico to be analyzed for pH, Electrical Conductivity, Saturation Percentage, particle size analysis, Calcium, Magnesium, Sodium, Selenium, Total Nitrogen, Nitrate Nitrogen, Boron, Total Organic Carbon, Maximum Acid Potential (based upon pyritic sulfur), and Neutralization Potential, as described in Appendix 3-2, section 3.1, page 3.5-13 of the revised Adit#1 Reclamation Plan (received 05/01/2001). Laboratory analyses will be included in Appendix 3-2 as soon as they become available.

cc: All Attendees
Price Field Office

SCS-SOILS-232G
REV. 12-70
FILE CODE SOILS-11

U.S. DEPARTMENT OF AGRICULTU
SOIL CONSERVATION SERVICE

SOIL DESCRIPTION

Soil type: Shupert Series. Priscilla Burton — File No

Area: Castle Gate Adit #1 — Date: 10/26/2001 — Stop No. Pit #1

Classification: fine-loamy, mixed (calcareous), frigid. Typic Ustifluvent

Location: Pit #1 along access road.

N. veg. (or crop): rabbitbrush, wild rye — Climate: Sunny 50°F

Parent material: Sandstone + Shale

Physiography: Scarp

Relief	Drainage: well drained.	Salt or alkali
Elevation: 6210	Gr. water: no	Stoniness: extremely stony
Slope: 10h:1v ≅ 10%	Moisture: none	
Aspect: east	Root distrib.	% Clay *
Erosion	% Coarse fragments *	% Coarser than V.F.S. * 15-20%
Permeability		

Additional notes: Observations made on trench wall, 2.5M photo # P0002110.jpg

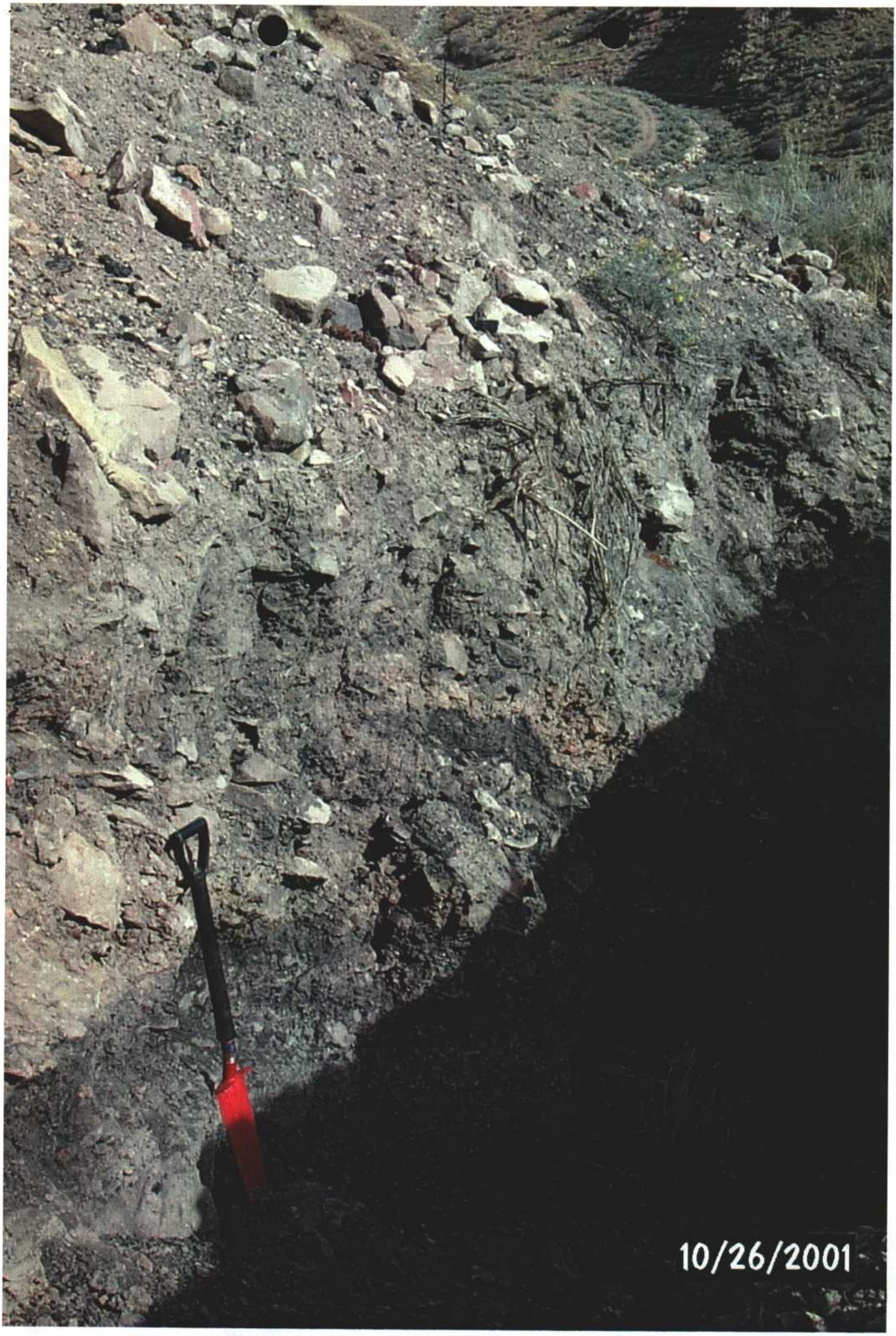
extremely coarse fragments above coal layer
25-35% coarse to very coarse below the coal layer

Soil #107 in the Carbon County Order III Survey.

* Control section average

Horizon	Depth	Color Dry	Color Moist	Texture *	Grade/Size Type Structure	Consistence Dry	Consistence Moist	Consistence Wet	Reaction	Boundary	
C	0-4'	7.5YR 6/2		Stoney	Single grain	EH			SE	Abrupt Broken	15-20% stones disturbed soil
Coal	4'-4'8"	10YR 2/1		gravelly	sg	MH					weathered coal some evidence of jarosite
C'	4'8" down	7.5YR/62		gravelly	sg	EH			SE	Abrupt Broken	25-35% gravels disturbed soil

* texture of fine fraction to be verified by lab analysis.



PIT #1

SCS-SOILS-232G
REV. 12-70
FILE CODE SOILS-11

SOIL DESCRIPTION

U.S. DEPARTMENT OF AGRICULTU
SOIL CONSERVATION SERVICE

Soil type Shupert series. Priscilla Burton File No

Area Castle Gate Adit #1 Date 10/26/2001 Stop No. Pit #2

Classification fine-loamy mixed (calcareous), frigid Typic Ustifluvent

Location Pit #2 by Portal #3

N. veg. (or crop) rabbit brush, wild rye Climate sunny 50°F

Parent material sandstone + shale

Physiography scarp

Relief Drainage well drained Salt or alkali

Elevation 6220' Gr. water Stoniness extremely stony

Slope 10% Moisture none

Aspect east Root distrib. % Clay *

Erosion % Coarse fragments * 35 stones on the surface % Coarser than V.F.S. * ~45%

Permeability

Additional notes observations made on trench wall, 2.5m.
photo # P0002111.jpg

Soil #107 in the 1988 Carbon County Soil Survey.

* Control section average

Horizon	Depth feet	Color Dry	Color Moist	Texture *	GRADE/SIZE TYPE Structure	Consistence Dry	Consistence Moist	Consistence Wet	Reaction	BOUNDARY	
C1	1-2	7.5YR 6/2		gravelly stony		EH	friable		SE	Diffuse broken	25% stones 20% gravels
C2	2-4	7YR 6/3		stony		EH			SE	Abrupt	reddish 5-15% gravels 25% stones
coal	4-6.5	10YR 2/1				MH				Abrupt	coal
C1'	6.5-8'	7.5YR 6/2		gravelly stony		EH			SE		25% stones 20% gravels disturbed soil

* texture of fine fraction to be verified by lab analysis

PIT #2

SCS-SOILS-232G
REV. 12-70
FILE CODE SOILS-11

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOIL DESCRIPTION

Soil type: Winetti series

Priscilla Burton — File No.

Date: 10/26/2001 — Stop No.: Pit #3

Classification: loamy-skeletal, mixed (calcareous), frigid Typic Ustifluvent

Location: Pit #3 by State Hwy 6

N. veg. (or crop): rabbitbrush, wild rye — Climate: sunny 50°F

Parent material: shale, sandstone

Physiography: scarp

Relief: — Drainage: well-drained — Salt or alkali:

Elevation: 6140' — Gr. water: — Stoniness: extremely stony

Slope: 10% — Moisture: none

Aspect: — Root distrib.: — % Clay*:

Erosion: — % Coarse fragments*: 25-30% surface stones — % Coarser than V.F.S.*: 70%

Permeability:

Additional notes: observations made on northwest side trench wall, 2.5m
photo # P0002112.jpg

Southwest side of trench wall had zone of ash colored soil that was sampled and composited with the grey/brown soils.

soil # 107 in the 1988, Carbon County Soil Series

* Control section average

disturbed Horizon	Depth feet	Color Dry	Color Moist	* Texture	Structure	Consistence Dry	Consistence Moist	Consistence Wet	Reaction	Boundary			
C1	0-2'	7.5YR 6/2		gravelly stoney	single grain	EH			SE	Diffuse broken		35% gravel 35% stones grey/brown	
C2	2-3'	5YR 5/1		gravelly	single grain	EH			SE	gradual broken		grey	
C1'	3-5'	7.5YR 6/2		stoney	single grain	EH			SE	diffuse gradual		grey/brown	
C3	5-8'	5YR 4/3		stoney	single grain	EH			SE			25-35% stone reddish	

* texture to be verified by lab analysis

PIT #3