



A-9 REPOSITORY  
EROSION AND RILL REPAIR PLAN


LEGEND:

- 2000 AERIAL TOPOGRAPHY  
UPDATED WITH 2006 SURVEYS
- DRAINAGE PATH/PONDED WATER
- UNPAVED ROADS
- UMETCO 1000' SITE GRID
- FINISH GRADE TOPOGRAPHY  
OF THE A-9 REPOSITORY EROSION  
PROTECTION LAYER
- LIMIT OF RADON BARRIER SOILS
- RILL FEATURES IN EXISTING TYPE C RIPRAP
- LIMITS OF TYPE C RIPRAP REMOVAL  
AND REPLACEMENT AFTER PLACEMENT  
OF MIN. 3-INCH LAYER OF TYPE A BEDDING
- LIMITS OF 30/70 BLEND BEDDING LAYER  
VIBRATED INTO EXISTING TYPE C RIPRAP  
PROVIDE MIN. 4-INCH BEDDING LAYER WORKED  
INTO BOTTOM OF 12-INCH THICK RIPRAP LAYER
- LIMITS OF TYPE B RIPRAP REPAIR.  
REMOVE EXISTING TYPE B RIPRAP REPAIR  
SUBGRADE WITH TYPE A BEDDING AS  
REQUIRED TO REESTABLISH CREST AND  
REPLACE TYPE B RIPRAP TO MIN. 6-INCH  
DEPTH.
- LIMITS OF TYPE A BEDDING PLACEMENT  
ON EXISTING TYPE B RIPRAP FOR 20-FOOT WIDE  
ACCESS AND STAGING BANDS ALONG EDGE OF  
EXISTING TYPE B RIPRAP. MINIMUM THICKNESS  
OF 3 INCHES OF TYPE A BEDDING PLATING MATERIAL.
- 6 INCHES OF TYPE B RIPRAP  
 $D_{50} = 3.0$  INCH
- 12 INCHES OF TYPE C RIPRAP  
 $D_{50} = 6.0$  INCH
- 12 INCHES OF TYPE C RIPRAP  
 $D_{50} = 6.0$  INCH  
WITH 6 INCHES OF TYPE A BEDDING  
 $D_{50} = 1.0$  INCH
- 24 INCHES OF TYPE D RIPRAP  
 $D_{50} = 16.0$  INCH  
WITH 6 INCHES OF TYPE A BEDDING  
 $D_{50} = 1.0$  INCH
- BELOW GRADE TOE APRON

NOTES:

- ALL REPAIR WORK AND CONTRACTOR OPERATIONS WERE CONDUCTED WITHIN THE ESTABLISHED GAS HILLS SITE TRANSFER BOUNDARY. NO WORK OR CONSTRUCTION ACTIVITIES WERE CONDUCTED OUTSIDE THE BOUNDARY.
- PRIOR TO INITIATION OF RILL REPAIR ACTIVITIES, TEST EXCAVATIONS WERE MADE TO VERIFY THE INTEGRITY OF THE RADON BARRIER OR CLAY LAYER IN THE VICINITY OF EXISTING RILL FEATURES. ONE EXCAVATION WAS MADE ON THE A-9 REPOSITORY. NO ADDITIONAL EXCAVATIONS WERE REQUIRED. IT WAS DETERMINED THAT THE RADON BARRIER LAYER HAD NOT BEEN DISTURBED. ALL SOIL MATERIAL REMOVED FROM THE TEST EXCAVATIONS WAS REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
- IN AREAS DESIGNATED FOR RIPRAP REMOVAL AND REPLACEMENT, THE EXISTING RIPRAP MATERIAL WAS REMOVED IN PANELS AND/OR SECTIONS NO WIDER THAN 50 FEET AND TEMPORARILY STOCKPILED ON THE ADJOINING COMPLETED PANEL. REMOVED RIPRAP WAS REPLACED AS SOON AS PRACTICABLE AFTER THE MINIMUM 3-INCH THICK TYPE A BEDDING LAYER HAD BEEN PLACED AND APPROVED. IN GENERAL, THE REMOVAL PANELS WERE ORIENTED PERPENDICULAR TO THE SLOPE AND THE ACTUAL WIDTH OF PANELS WERE DETERMINED BY THE CAPABILITIES OF THE CONTRACTOR'S EQUIPMENT. ALL RIPRAP AND BEDDING MATERIALS WERE PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
- IN THE AREAS DESIGNATED TO RECEIVE BEDDING MATERIAL VIBRATED INTO THE EXISTING RIPRAP, THE 30/70 BLEND BEDDING MATERIAL WAS SPREAD UNIFORMLY OVER THE SLOPE FROM THE ACCESS ROUTE. TEST PANELS (ON THE EXISTING SLOPE) WERE PREPARED TO DETERMINE THE MOST ACCEPTABLE METHOD AND AMOUNT OF BEDDING MATERIAL TO BE APPLIED ON THE SLOPE TO ENSURE THAT A MINIMUM OF 4 INCHES OF BEDDING MATERIAL IS VIBRATED INTO THE BOTTOM PORTION OF THE EXISTING 12-INCH LAYER OF TYPE C RIPRAP. THE NUMBER OF PASSES AND SIZE OF VIBRATORY EQUIPMENT WAS ALSO DETERMINED ON THE TEST PANELS. THE ACCESS ROUTE BANDS WERE PLATED WITH A MINIMUM 3-INCH LAYER OF TYPE A BEDDING PLACED ON THE EXISTING TYPE B RIPRAP WHICH ACTED AS A RUNNING AND STAGING SURFACE.

AS-BUILT

				 <b>Umetco Minerals Corporation</b> 2754 COMPASS DRIVE, SUITE 280, GRAND JUNCTION, CO 81506			
				<b>GAS HILLS, WYOMING</b>			
				<b>A-9 REPOSITORY DESIGN ENHANCEMENT EROSION AND RILL REPAIR PLAN</b>			
DESIGN: JHH		DRAWN: JHH		SHEET 6 OF 7			
CHECKED BY:		DATE: 12-8-2010					
ENGINEERING APPROVAL:		HS & EA APPROVAL:					
1		1-2012		AS BUILT		R.W.Q.	
NO.		DATE		REVISION - DESCRIPTION		BY	
						DWG: GH-A9-REPAIR-12-11-AB	

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