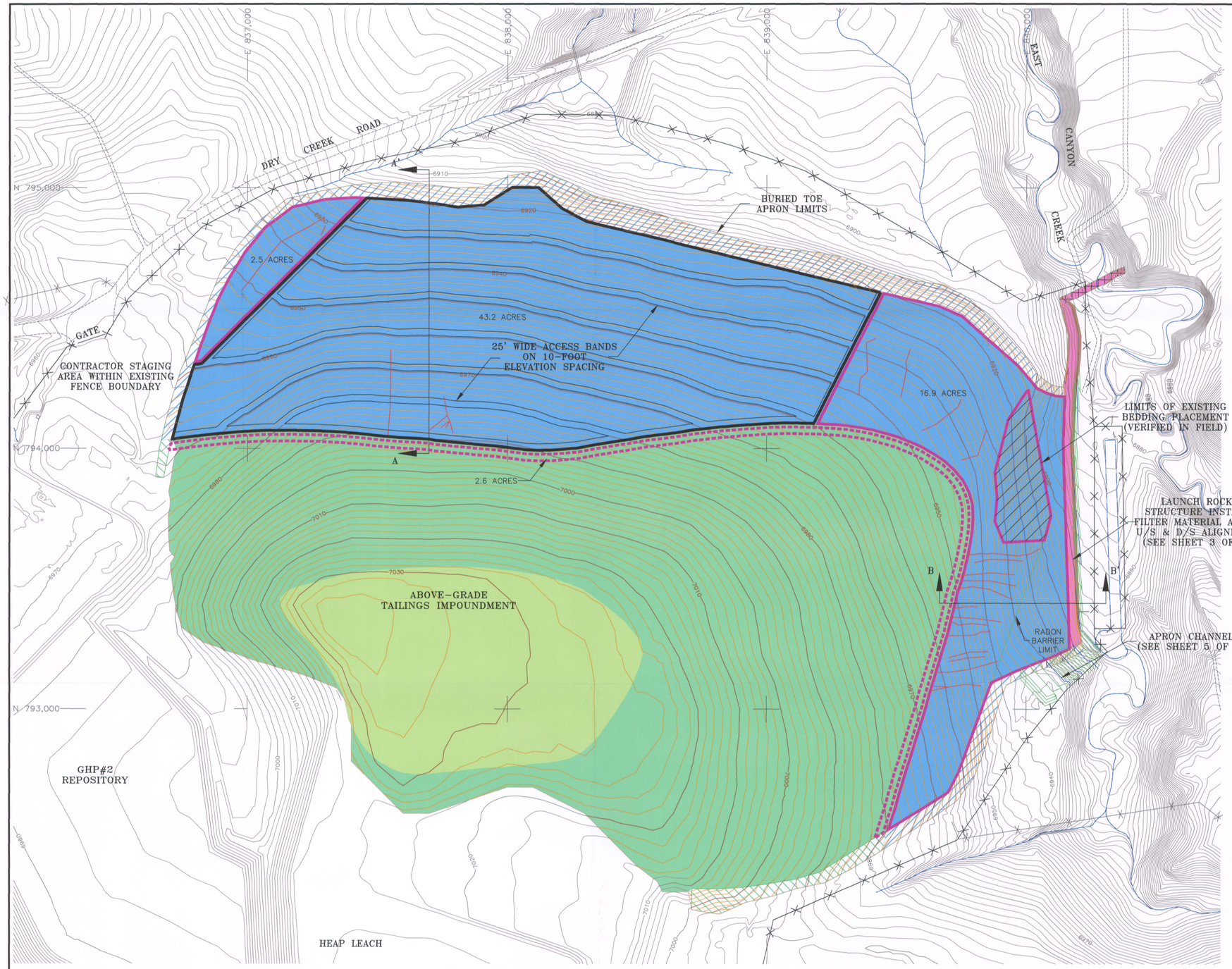

LEGEND:

- 2000 AERIAL TOPOGRAPHY UPDATED WITH 2006 SURVEYS
- DRAINAGE PATH/PONDED WATER
- UNPAVED ROADS
- UMETCO 1000' SITE GRID
- FINISH GRADE TOPOGRAPHY ABOVE-GRADE TAILINGS IMPOUNDMENT RIPRAP AND TOE APRON BACKFILL
- LIMITS OF TYPE C RIPRAP REMOVAL AND REPLACEMENT AFTER PLACEMENT OF MIN. 3-INCH LAYER TYPE A BEDDING MATERIAL
- 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 REMOVAL AND REPLACEMENT AFTER PLACEMENT OF MIN. 3-INCH LAYER TYPE 30/70 BLEND BEDDING MATERIAL
- EXISTING RESTRICTED AREA FENCE
- RILL FEATURES IN EXISTING TYPE C RIPRAP
- NEW DESIGN CONTOURS
- 6 INCHES OF TYPE A RIPRAP D_{50} = 1.0 INCH
- 6 INCHES OF TYPE B RIPRAP D_{50} = 3.0 INCH
- 6 INCHES OF TYPE B RIPRAP BELOW GRADE TOE APRON
- 12 INCHES OF TYPE C RIPRAP D_{50} = 6.0 INCH
- 12 INCHES OF TYPE C RIPRAP BELOW GRADE TOE APRON
- LAUNCHED STONE EMBANKMENT TYPE E D_{50} = 30.0 INCH
- SCOUR APRON (22' WIDE & 6' DEEP) TYPE E D_{50} = 30.0 INCH
- 12 INCHES OF TYPE C RIPRAP ON 3 INCHES TYPE A BEDDING MATERIAL

NOTES:

1.) 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.

2.) 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 ABOVE-GRADE TAILINGS IMPOUNDMENT. 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.

3.) 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.

4.) IN THE AREA DESIGNATED TO RECEIVE BEDDING MATERIAL VIBRATED INTO THE EXISTING RIPRAP, THE 30/70 BLENDED BEDDING MATERIAL WAS SPREAD UNIFORMLY OVER THE SLOPE BETWEEN THE ACCESS ROUTE BANDS. 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 WAS 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 WHICH ACTED AS A RUNNING SURFACE AND BEDDING LAYER FOR THE RIPRAP REMOVED TO CONSTRUCT THE ACCESS BAND.

5.) FILTER LAYERS WERE CONSTRUCTED ALONG THE U/S AND D/S SIDES OF THE EXISTING LAUNCH ROCK STRUCTURE. THE FILTER SECTIONS WERE INSTALLED ALONG THE ENTIRE LENGTH OF THE STRUCTURE. FILTER DETAILS AND ABOVE-GRADE TAILINGS IMPOUNDMENT CROSS-SECTIONS ARE SHOWN ON SHEET 3 OF 7.

6.) AN APRON CHANNEL WAS CONSTRUCTED ON THE SOUTHEAST SIDE OF THE ABOVE-GRADE TAILINGS IMPOUNDMENT. DETAILS OF THE APRON CHANNEL ARE ARE SHOWN ON SHEET 5 OF 7.

7.) FOR DETAILS OF SECTIONS A-A' AND SECTION B-B', SEE SHEET 3 OF 7.

ABOVE-GRADE TAILINGS IMPOUNDMENT EROSION AND RILL REPAIR PLAN

N

200' 0 200'

SCALE IN FEET
CONTOUR INTERVAL : 2'

AS-BUILT

NO.	DATE	REVISION - DESCRIPTION	BY
1	1-2012	AS BUILT	R.W.Q.

DWG: GH-AG-REPAIR-12-11-AB

Umetco Minerals Corporation
2754 COMPASS DRIVE, SUITE 280, GRAND JUNCTION, CO 81506

GAS HILLS, WYOMING

ABOVE-GRADE TAILINGS IMPOUNDMENT DESIGN ENHANCEMENT EROSION AND RILL REPAIR PLAN

DESIGN: JHH	DRAWN: JHH	SHEET	2
CHECKED BY:	DATE: 12-8-2010	OF	7
ENGINEERING APPROVAL:	HS & EA APPROVAL:		

D02