Umetco Minerals Corporation
Exploration & Mining Departments

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DIV OF OIL, GAS & MINING

M/037/023

December 12, 1995

Anthony A. Gallegos
Department of Natural Resources
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1204

Re: Reclamation - M/037/25 (Deremo - Peterson Mine), M/037/023 (Calliham Mine) and M/037/027 (Wilson - Silverbell Mines)

Dear Mr. Gallegos:

We would like to start reclamation of the vent holes, portals, shafts and access roads on Deremo -Peterson, Wilson - Silverbell and Calliham Mines.

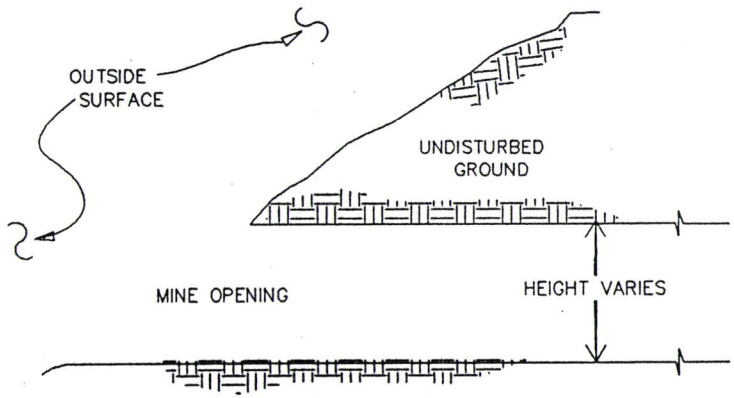
Enclosed you will find drawings and procedures we use for portals, unlined vent holes, wood lined shafts, concrete lined shafts, lined vent holes, and steel lined shafts closures. Also there is drawing of erosion prevention of waste piles and monument construction plan for capped vent holes, shafts and portals.

If you have any questions or need additional information, please call me at 1-970-677-2711.

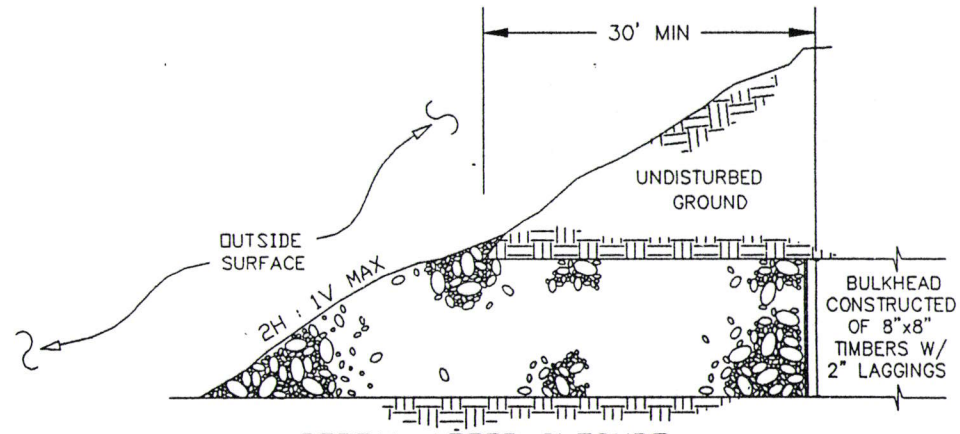
Sincerely,

Robert F Barnett

R. F. Barnett
Superintendent of Mine Rec.



PORTAL PRIOR TO CLOSURE



PORTAL AFTER CLOSURE

Closure Procedure

1. Remove loose rock and earth, air lines, water lines, electrical lines, sets, and any other improvements from the surface to 30 feet into the mine opening.

2. If the portal is a decline, construct a bulkhead utilizing 8' x 8' timbers and 2' lagging. The purpose of the bulkhead is to allow the placement of fill material close to the back or roof. The bulkhead should be located at least 30 feet inside the portal, and strong enough to allow the placement of the fill material.

3. Fill the mine opening with mine waste rock or other fill material. Compact the material to the original contours, or to a maximum slope of 1 vertical to 2 horizontal.

4. Cover the work area with topsoil if it is available. Revegetate in accordance to the Revegetation Procedure. Construct a monument in accordance to the Monument Construction Procedure.

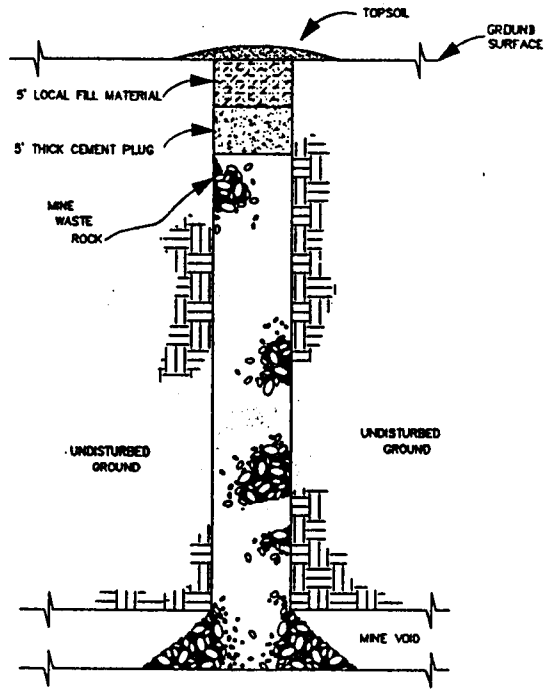
SCALE: NOT TO SCALE

NOTES:

1. Construction specifications shall be conducted in accordance to the Umetco Minerals Corporation Safety Manual, and the Union Carbide Corporation Responsible Care Standards.

2. Unforseen field conditions will likely be encountered requiring modifications to limits and/or locations of design details.

Umetco / Union Carbide	Umetco Minerals Corporation	
	MINE RECLAMATION CLOSURE DETAILS	
	PORTAL CLOSURE	
DESIGN: TB	DRAWN: DRB	SHEET 1 OF 5
CHECKED BY:	DATE: 11-03-95	
UMETCO APPROVAL		
DWG MS-018A.DWG		



Closure Procedure

1. Remove surface improvements. Remove and stockpile any available top soil from the work area.
2. Remove the concrete pad at the vent hole collar. Break the concrete pad into pieces smaller than the vent hole diameter and dump the pieces into the vent hole.
3. Fill the vent hole with mine waste rock or other fill material to within 10 feet of the surface.
4. Let the mine waste rock in the vent hole settle for at least 3 weeks.
5. Pour a 5-foot thick, 5-bag mix concrete cap into the vent hole.
6. Fill the remaining 5 feet of the vent hole with local fill material. Mound up the surface above the vent hole with topsoil. Revegetate in accordance to the Revegetation Procedure.

NOTES:

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SCALE: NOT TO SCALE

Umetco	Umetco Minerals Corporation
	MINE RECLAMATION CLOSURE DETAILS
	CLOSURE PLAN FOR UNLINED VENT HOLES, WOOD LINED SHAFTS AND CONCRETE LINED SHAFTS
DESIGN TB	DRAWN DRB
CHECKED BY	DATE 11-03-95
UMETCO APPROVAL	SHEET 2 OF 5
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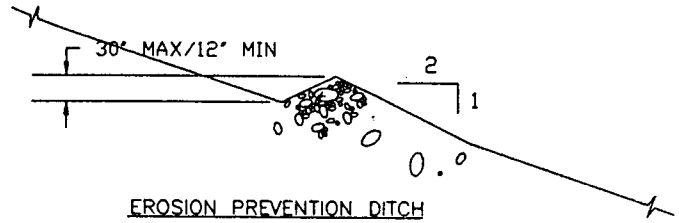
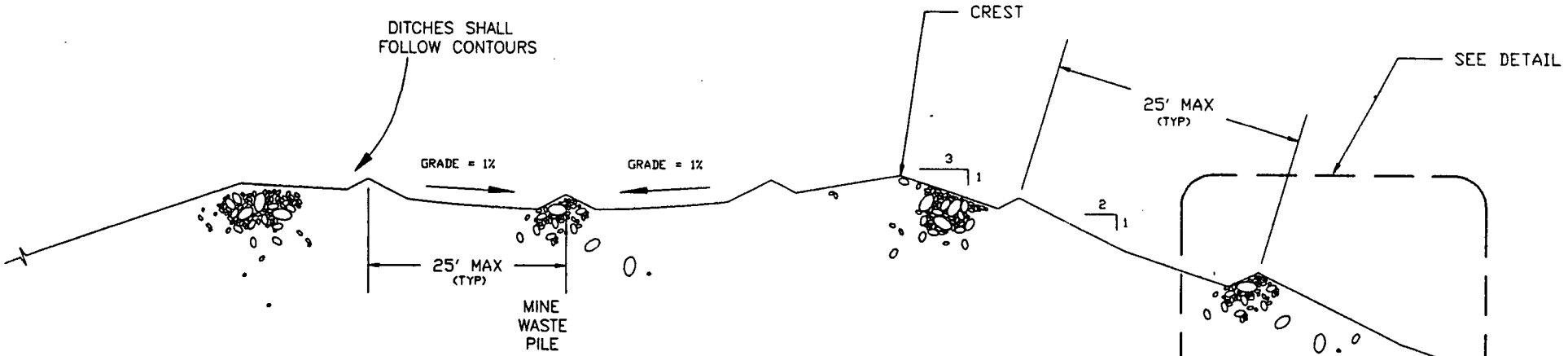


EROSION PREVENTION DITCH DETAIL



TOP	: SLOPE 1% DOWN TOWARDS CENTER
SIDES	: SLOPE 3H : 1V MAXIMUM
DITCH ENCROCHMENT	: SLOPE 2H : 1V MAXIMUM

NOTES:

1. Construction specifications shall be conducted in accordance to the Umetco Minerals Corporation Safety Manual, and the Union Carbide Corporation Responsible Care Standards.
2. Unforseen field conditions will likely be encountered requiring modifications to limits and/or locations of design details.
3. Erosion prevention ditches shall be constructed at least 10 feet from the base of the mine waste pile.

SCALE: NOT TO SCALE

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DWG MS-018D.DWG

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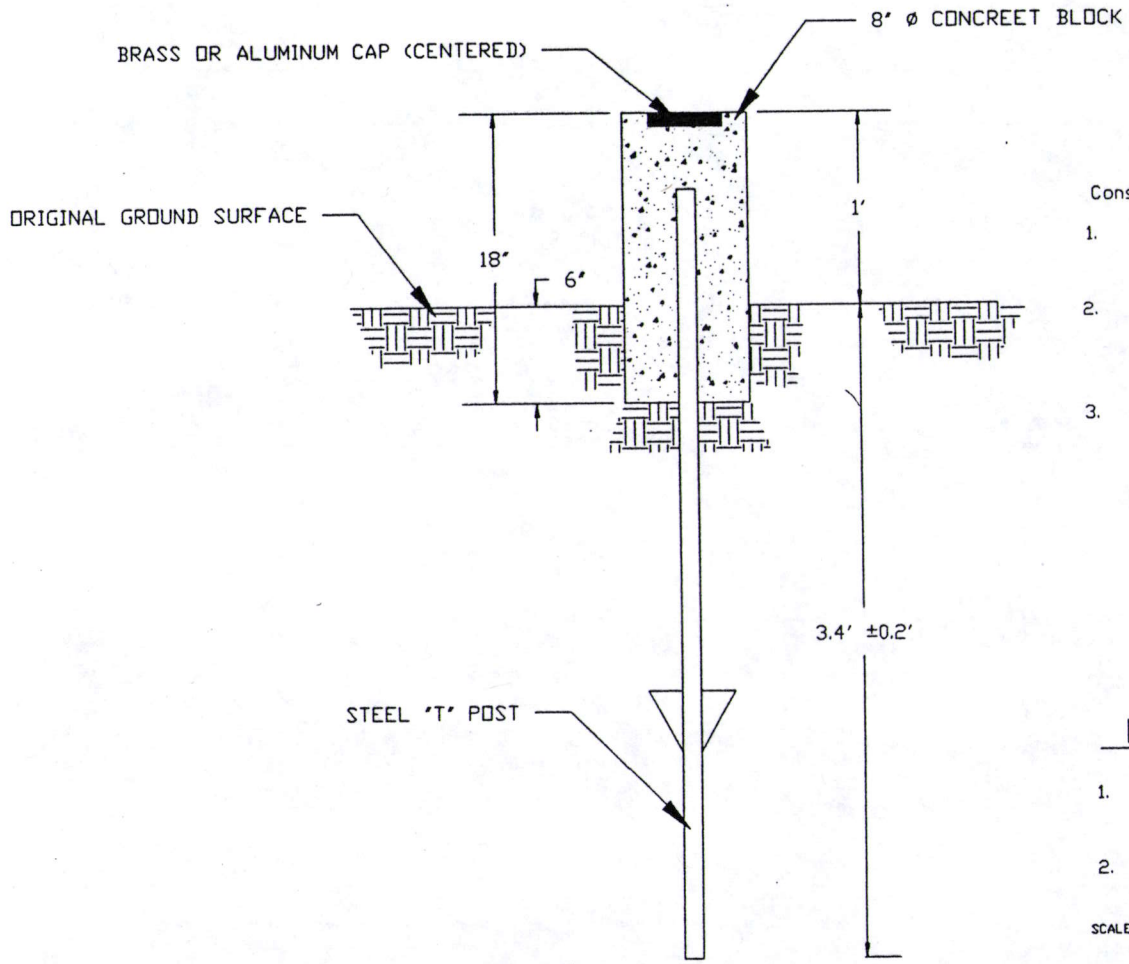
MINE RECLAMATION CLOSURE DETAILS

EROSION PREVENTION DITCH CONSTRUCTION PLAN

DESIGN: TB	DRAWN: DRB	SHEET 4 OF 5
CHECKED BY:	DATE: 11-03-95	
UMETCO APPROVAL		



Construction Procedure

1. To anchor the concrete block a steel 'T' fence post 4 feet in length shall be driven into undisturbed ground or recompacted soils to a depth of 3.4 feet, with a tolerance of ±0.2 feet.
2. A concrete block shall be formed and poured around the steel 'T' fence post. The dimensions for this block shall be 8 inches in diameter and 18 inches in height. The block shall be seated in the ground 6 inches.
3. Prior to the concrete setting, a brass or aluminum cap shall be placed in the top center of the block. The cap shall contain the following:

   Umetco Minerals Corp.
   Date of closure
   Name of opening
   B.L.M. case number

NOTES:

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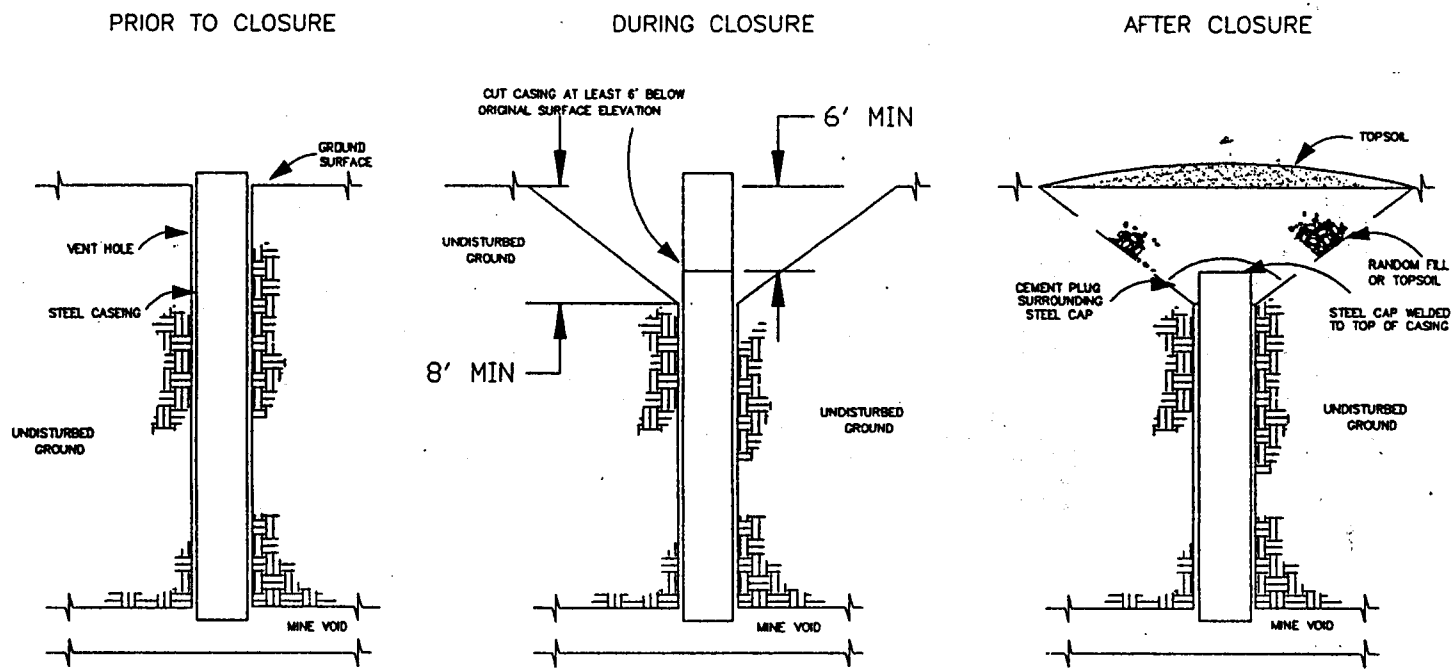
SCALE: NOT TO SCALE

Umetco	Umetco Minerals Corporation	
	MINE RECLAMATION CLOSURE DETAILS	
	MONUMENT CONSTRUCTION PLAN	
DWG MS-018E.DWG	DESIGN TB / DRAWN DRB	SHEET 5 OF 5
	CHECKED BY: / DATE 11-03-95	
	UMETCO APPROVAL	



Closure Procedure

1. Remove surface improvements. Remove and stockpile any available top soil or other suitable growth media from the work area to respread after closure.
2. Excavate around the casing to a depth of 8 feet or until hard rock is encountered. Precautions should be made to insure the ground is stable.
3. Cut off the casing at least 6 feet below the original surface elevation. Cap the casing by welding an iron plate to the end.
4. Pour at least 1 yard of 5 bag mix concrete onto the casing cap area. Fill the excavated area with random fill or top soil.
5. Mound up the surface above the vent hole with topsoil. Revegetate in accordance to the Revegetation Procedure.
6. Construct a monument in accordance to the Monument Construction Procedure.

NOTES:

1. Construction specifications shall be conducted in accordance to the Umetco Minerals Corporation Safety Manual and the Union Carbide Corporation Responsible Care Standards.
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SCALE: NOT TO SCALE

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DWG MS-018C.DWG

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MINE RECLAMATION CLOSURE DETAILS

CLOSURE PLAN FOR LINED VENT HOLES AND STEEL LINED SHAFTS

DESIGN TB	DRAWN DRB	SHEET 3 OF 5
CHECKED BY:	DATE 11-03-95	
UMETCO APPROVAL		