July 27, 2010

Tom Shelley
Freeport McMoRan, Tyrone Inc.
P.O. Box 571
Tyrone, New Mexico 88065

Subject: Tyrone Open Pit Waiver Area Cost Estimate Summary

Dear Mr. Shelley:

The cost estimates presented herein are one part of the justification that Freeport McMoRan, Tyrone Inc. (Tyrone) is assembling for the open pit reclamation waiver. This letter presents a cost summary for complete and partial backfilling of the Main, Savanna, Gettysburg, and Copper Mountain Pits along with a concise explanation of the underlying assumptions. This work was completed in coordination with MWH who developed the reclamation designs and the quantity take-offs based on September 2009 topography. Telesto developed the unit costs and compiled the cost estimate. The estimate includes costs for reclamation earthwork and 100 years of post reclamation water management and monitoring. The complete backfill reclamation and water management costs are summarized in Table C-1a with additional detail provided in Tables C-1b and C-1c. Likewise, the partial backfill reclamation and water management costs are summarized in Tables C-2a with additional detail provided in Tables C-2b and C-2c. Detailed cost estimate summaries and partial backfill plan view (Drawing C-1) and cross-sections (Drawings C-2, C-3 and C-3) are attached to the end of this document.

Earthwork Cost Estimate

The earthwork reclamation portion of the cost estimate has been developed based on a template created by the New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division (MMD). The cost estimate is based on 2010 unit costs and is consistent with the cost estimation method used for the Tyrone Mine Closure/Closeout Plan Update (Golder, 2007). A summary of the complete backfill cost estimate is included in Table C-1a. A summary of the partial backfill cost estimate is included in Table C-2ab.

The areas under consideration herein include the Main Pit, Savanna Pit, Gettysburg Pit, and Copper Mountain Pit.

The main activities that will occur in complete backfill scenario include: hauling and grading backfill material from the closest stockpile source; hauling and grading cover material; ripping and revegetation of covered areas; installing three pit dewatering wells; sampling and monitoring one pit dewatering well; and completing surface water channels to route storm water.

The main activities that will occur in partial backfill scenario include: hauling and grading backfill material from the closest stockpile source; hauling and grading cover material;

constructing top, terrace/outslope channels, and downdrains/spillways for water collection on backfilled surface; ripping and revegetation of covered areas; installing three pit dewatering wells; installing pit sumps, pumps, pipelines, and electrical infrastructure; sampling and monitoring each of the pit sumps and one of the three pit dewatering wells.

The major assumptions for the earthwork reclamation cost estimate include:

- **Engineering (partial backfill scenario)**: interbench outslope gradient of 2.5H:1V, approximate 25-foot wide terrace benches, maximum 175-foot inter-bench slope lengths (overall outslope gradient of 2.88H:1V).
- **Cover**: 36" cover thickness – tops and outslopes.
- **Pullback**: Trucks and loaders with dozer assist perform required pullback of stockpile material.
- **Cover Placement:** Trucks and loaders with dozer assist perform all cover loading and distribution. The economic optimum number of trucks per loader is used for each haul route.
- **Ripping:** Ripping (scarifying) of the final surface is performed at the same time as the revegetation and is included in the revegetation quote.
- **Dust Suppression/Road Maintenance:** Full time water truck and motor grader during reclamation.
- **Channels:** In order to make the environmental result for the reclamation of the partially backfilled pit comparable to exterior areas, surface water runoff from reclaimed surfaces will be captured and pumped to an external drainage.

Water Management Cost Estimate

The water management portion of the cost estimate includes 100 years of operations and maintenance (O&M). The cost estimate summaries are presented in Table C-1a and C-2a. Water management costs were estimated by: (1) establishing the quantity of water to be managed, (2) identifying collection and conveyance system infrastructure requirements, (3) estimating infrastructure replacement frequency, and (4) estimating costs of infrastructure construction, O&M, and removal.

The water management cost estimate is divided into six components: (1) ponds, (2) pumps, (3) pipelines, (4) electrical infrastructure, (5) water quality monitoring, and (6) channels. Each component includes any infrastructure required during post-reclamation. Costs are included for construction, equipment replacement and removal (as needed). The major assumptions for the water management cost estimate include:

- **Water Quantity:** The average annual storm water runoff from reclaimed top and outslope areas was estimated using the SCS Curve Number Method (USDA, 2004a) applied to 100 years of daily data with 16 inches of average annual precipitation.
- **Surface Water Quality:** Surface water captured in the partially backfilled pit will meet applicable standards and will not require treatment.

- **Pit Dewatering:** Water captured with the pit dewatering wells will require treatment. Treatment costs are assumed to be included in the estimate provided in the Tyrone Mine Closure/Closeout Plan Update (Golder, 2007)
- **Infrastructure:** Infrastructure will be built during reclamation.
- **New / Replacements Costs:** New and replacement costs were taken from R.S. Means (2010).
- **Life Expectancy:** Ponds 30 yrs; Pumps 20 yrs; Pipelines 100 yrs (replace at 85 yrs) ; Electrical 100 yrs; Channels 100 yrs; pit dewatering wells 60 yrs; pit pumps 20 yrs.
- **Annual O&M cost (% of replacement costs):** Ponds 2%; Pumps 5%; Pipelines 1%; Electrical 1%; Channels 15.39% (same as earthwork estimate); pit dewatering wells 34% of total construction cost.
- **Electricity Costs:** $0.06/kWh.
- **Pipelines:** Chezy head loss coefficient for all pipelines is 150.
- **Pumps:** Average pump/motor efficiency is 70 percent.
- **Main Pit Dewatering Wells:** 3, 24-in wells with 12-inch stainless steel inner casings.
- **Water Quality Monitoring:** Quarterly for years 1-12; semi-annual for years 13-20; and annually for years 21-100. It is assumed that the sampling will be a routine duty for site personnel.
- **Analytical costs:** Based on laboratory pricing guide (Energy Laboratories Inc., 2009) and includes packaging, handling, shipping, QA/QC, and lab report preparation.

The water management cost estimate reflects the cost to construct, operate, and maintain the interior area water management system during the post-reclamation period. Annual costs for each subsystem were summed to generate a total cost for operational years 1 through 100.

Summary

This letter presents the reclamation earthwork and water management cost estimate for complete and partial backfilling of the Main, Savanna, Gettysburg, and Copper Mountain Pits. The estimate includes costs for reclamation earthwork and 100 years of post reclamation water management and monitoring. The method used for cost estimation is consistent with the method used for the Tyrone Mine Closure/Closeout Plan Update (Golder, 2007) and includes 2010 unit costs.

Sincerely,

Telesto Solutions, Inc.

Terence M. Fairbanks
Senior Hydrologist
TF:at
Enclosure

TABLES

Table C-1a Complete Backfill Cost Estimate Summary

Item	Subtotal, Direct Costs	Subtotal, Indirect Costs 39.6%	Total Current Dollar Cost
EARTHWORK			
Main Pit	$700,315,268	$277,324,846	$977,640,115
Savanna	$87,403,880	$34,611,937	$122,015,817
Gettysburg	$116,027,166	$45,946,758	$161,973,924
Copper Mountain	$65,022,547	$25,748,928	$90,771,475
Total Capital Earthwork	**$968,768,861**	**$383,632,469**	**$1,352,401,330**
Total Earthwork Operations and Maintenance	**$149,093,528**	**$59,041,037**	**$208,134,565**
Total Earthwork	**$1,117,862,389**	**$442,673,506**	**$1,560,535,895**
WATER MANAGEMENT			
Environmental Sampling	**$38,680**	**$0**	**$38,680**
Pit Dewatering Wells			
Construction	$7,522,720	$0	$7,522,720
Maintenance	$10,230,445	$0	$10,230,445
Total Wells	**$17,753,165**	**$0**	**$17,753,165**
Total Capital Water Management	**$7,522,720**	**$0**	**$7,522,720**
Total Replacement and Maintenance	**$10,269,125**	**$0**	**$10,269,125**
Total Water Management	**$17,791,845**	**$0**	**$17,791,845**
TOTAL	**$1,135,654,234**	**$442,673,506**	**$1,578,327,739**

Table C-1b Water Management - Complete Backfill

Water Management Area	Capital Costs	Cost Removal and Replacement	Operations & Maintenance	Water Sampling	Subtotal, Direct Costs
Main Pit (Pit Dewatering Wells and Sampling)	$7,522,720	$7,672,720	$2,557,725	$38,680	$17,791,845

Table C-1c Earthwork, Operations and Maintenance, Water Management Cost Summary (Complete Backfill)

Pits	Reclamation Area (acres)	Earthwork Direct Cost	Earthwork Operations and Maintenance	Direct Water Management Cost	Total Directs	Total Indirect Costs* (39.6%)	Total	Total $/acre (rounded)
Main Pit	809	$700,315,268	$107,778,520	$17,791,845	$825,885,633	$320,005,140	$1,145,890,772	$1,416,400
Savanna	167	$87,403,880	$13,451,457	$0	$100,855,337	$39,938,714	$140,794,051	$843,100
Gettysburg	231	$116,027,166	$17,856,581	$0	$133,883,747	$53,017,964	$186,901,711	$809,100
Copper Mountain	164	$65,022,547	$10,006,970	$0	$75,029,517	$29,711,689	$104,741,206	$638,700
Total	**1371**	**$968,768,861**	**$149,093,528**	**$17,791,845**	**$1,135,654,234**	**$442,673,506**	**$1,578,327,739**	**$1,151,200**

Table C-2a Partial Backfill Cost Estimate Summary

Item	Subtotal, Direct Costs	Subtotal, Indirect Costs 39.6%	Total Current Dollar Cost
EARTHWORK			
Main Pit	$367,970,021	$145,716,128	$513,686,149
Savanna	$38,528,168	$15,257,155	$53,785,323
Gettysburg	$40,991,199	$16,232,515	$57,223,714
Copper Mountain	$29,044,520	$11,501,630	$40,546,150
Total Capital Earthwork	**$476,533,908**	**$188,707,428**	**$665,241,335**
Total Earthwork Operations and Maintenance	**$73,338,568**	**$29,042,073**	**$102,380,642**
Total Earthwork	**$549,872,476**	**$217,749,501**	**$767,621,977**
WATER MANAGEMENT			
Pit Sumps			
Capital Costs	$218,920	$86,693	$305,613
Replacement Costs	$656,761	$260,078	$916,839
Operations & Maintenance	$437,841	$173,385	$611,226
Total Ponds	**$1,313,523**	**$520,155**	**$1,833,678**
Pumps			
Capital Costs	$147,461	$58,395	$205,856
Replacement Costs	$468,653	$185,586	$654,239
Operations & Maintenance	$1,695,054	$671,241	$2,366,295
Total Pumps	**$2,311,167**	**$915,222**	**$3,226,390**
Pipelines			
Capital Costs	$369,425	$146,292	$515,717
Cost Removal and Replacement	$436,070	$172,684	$608,754
Operations & Maintenance	$805,495	$318,976	$1,124,471
Total Pipelines	**$1,610,991**	**$637,952**	**$2,248,943**
Electrical Infrastructure			
Capital Costs	$575,032	$227,713	$802,745
Cost Removal and Replacement	$0	$0	$0
Operations & Maintenance	$575,032	$227,713	$802,745
Total Electrical Infrastructure	**$1,150,065**	**$455,426**	**$1,605,491**
Environmental Sampling	**$193,400**	**$0**	**$193,400**
Pit Dewatering Wells			
Construction	$2,947,270	$0	$2,947,270
Maintenance	$4,099,342	$0	$4,099,342
Total Wells	**$7,046,612**	**$0**	**$7,046,612**
Total Capital Water Management	**$4,258,109**	**$519,092**	**$4,777,201**
Total Replacement and Maintenance	**$9,367,649**	**$2,009,663**	**$11,377,312**
Total Water Management	**$13,625,757**	**$2,528,755**	**$16,154,513**
TOTAL	**$563,498,233**	**$220,278,256**	**$783,776,490**

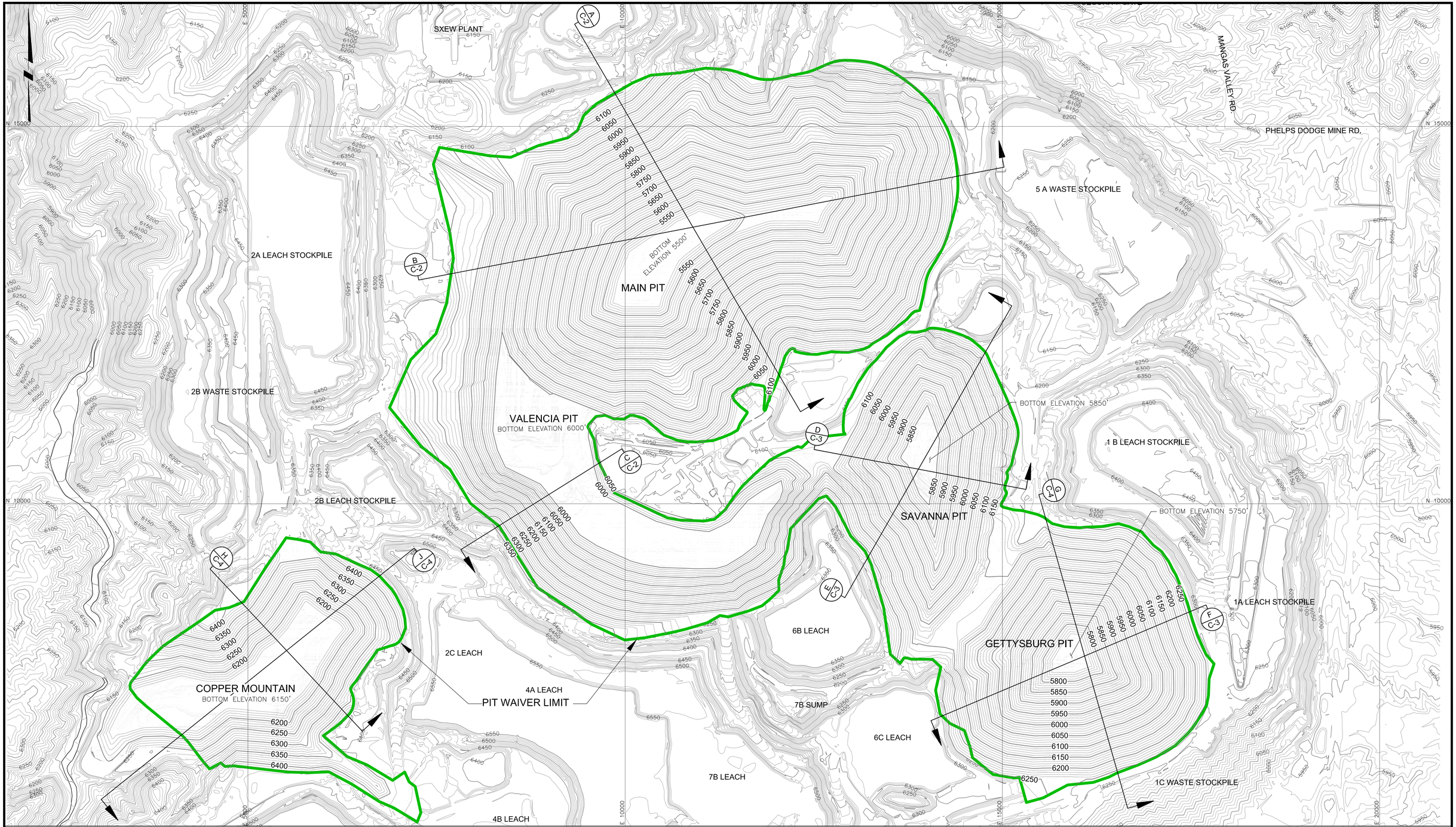
Table C-2b Water Management Partial Backfill

Water Management Area	Capital Costs	Cost Removal and Replacement	Operations & Maintenance	Water Sampling	Subtotal, Direct Costs
Main Pit	$363,627	$379,630	$878,793	$38,680	$1,660,730
Main Pit Dewatering Wells	$2,947,270	$3,097,270	$1,002,072	$38,680	$7,085,292
Savanna	$417,281	$415,866	$990,291	$38,680	$1,862,118
Gettysburg	$347,663	$506,360	$1,172,993	$38,680	$2,065,695
Copper Mountain	$182,268	$259,629	$471,346	$38,680	$951,923
Total	**$4,258,109**	**$4,658,754**	**$4,515,494**	**$193,400**	**$13,625,757**

Table C-2c Earthwork, Operations and Maintenance, Water Management Cost Summary (Partial Backfill)

Pits	Reclamation Area (acres)	Earthwork Direct Cost	Earthwork Operations and Maintenance	Direct Water Management Cost	Water Sampling	Total Directs	Total Indirect Costs* (39.6%)	Total	Total $/acre (rounded)
Main Pit	809	$367,970,021	$56,630,586	$8,746,022	$77,360	$433,346,629	$168,784,172	$602,130,801	$744,300
Savanna	167	$38,528,168	$5,929,485	$1,862,118	$38,680	$46,319,771	$18,327,312	$64,647,083	$387,100
Gettysburg	231	$40,991,199	$6,308,546	$2,065,695	$38,680	$49,365,440	$19,533,397	$68,898,837	$298,300
Copper Mountain	164	$29,044,520	$4,469,952	$951,923	$38,680	$34,466,394	$13,633,375	$48,099,769	$293,300
Total	**1371**	**$476,533,908**	**$73,338,568**	**$13,625,757**	**$193,400**	**$563,498,234**	**$220,278,256**	**$783,776,490**	**$571,682**

DRAWINGS



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APPROVED BY		
PROJECT MANAGER	T. LEIDICH	07/10
CLIENT APPROVAL		
CLIENT REFERENCE NO.		

FREEPORT-McMoRAN COPPER & GOLD INC.

PROJECT LOCATION: TYRONE MINE SITE

PROJECT: PARTIAL BACKFILL CONCEPT

TITLE: PLAN VIEW - PARTIAL PIT BACKFILL FOR PIT WAIVER ANALYSIS

MWH

DRAWING: C-1 REVISION: A

FILE NAME: 1008011D003

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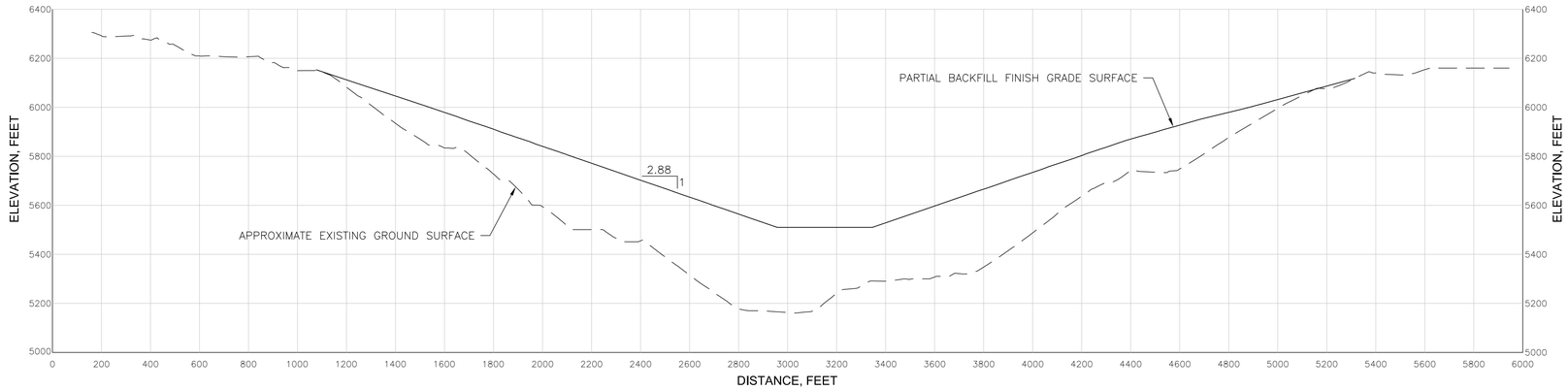

A C-1 **MAIN PIT**

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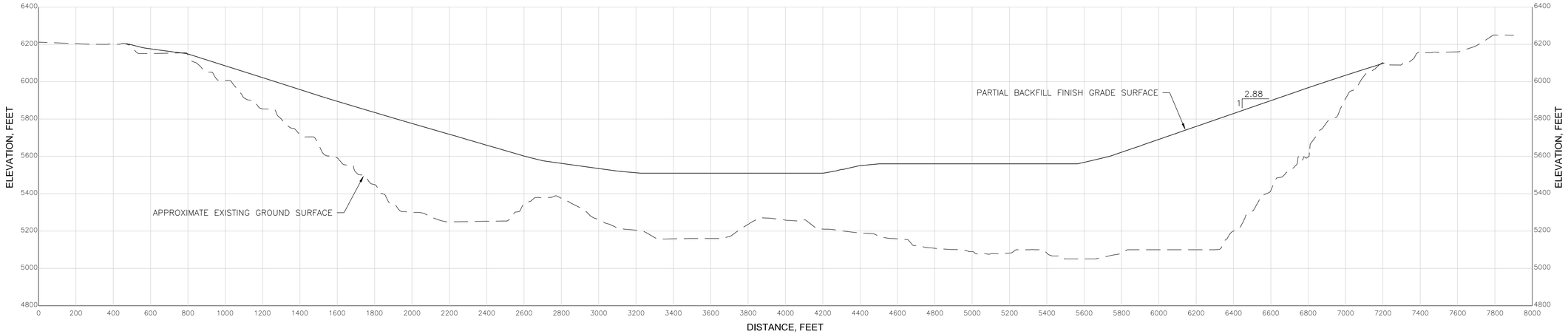

B C-1 **MAIN PIT**

(LOOKING NORTHWEST)

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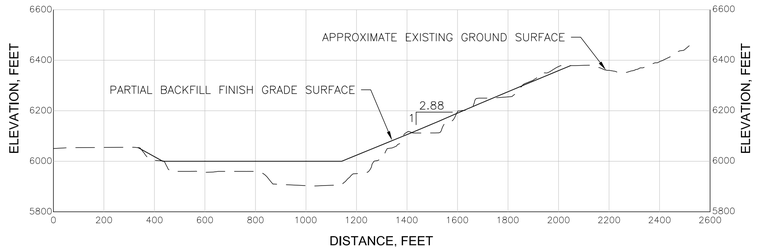

C C-1 **MAIN PIT (VALENCIA)**

(LOOKING SOUTHEAST)

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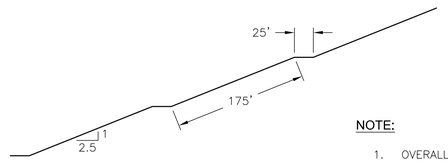

NOTE:

1. OVERALL SLOPE 2.88H:1V

SLOPE CONFIGURATION

(TYPICAL)

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PROJECT: PARTIAL BACKFILL CONCEPT

TITLE: CROSS SECTIONS - PARTIAL PIT BACKFILL FOR PIT WAIVER ANALYSIS

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FILE NAME: 1008011D004

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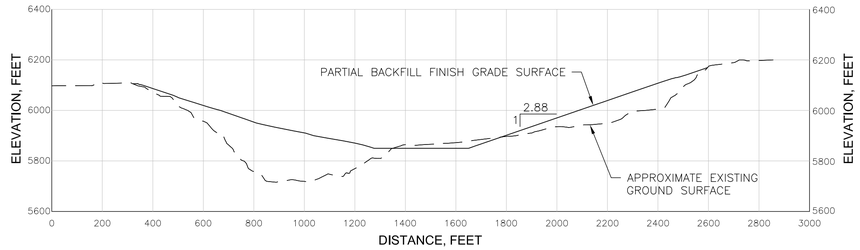

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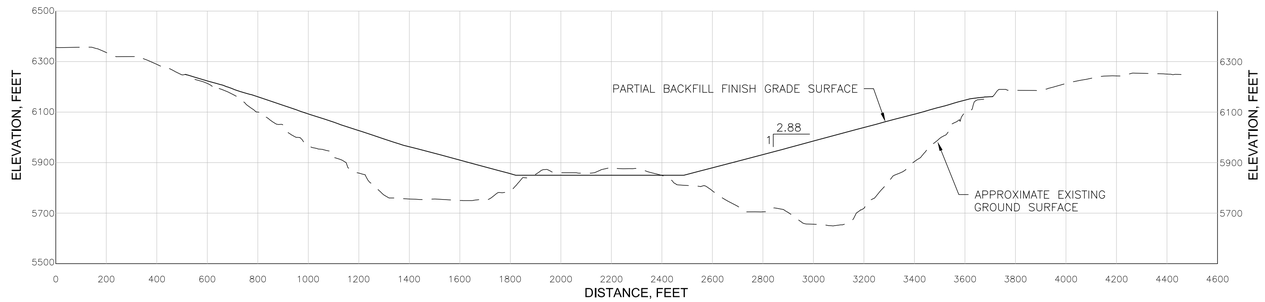

E C-1 **SAVANNA PIT**
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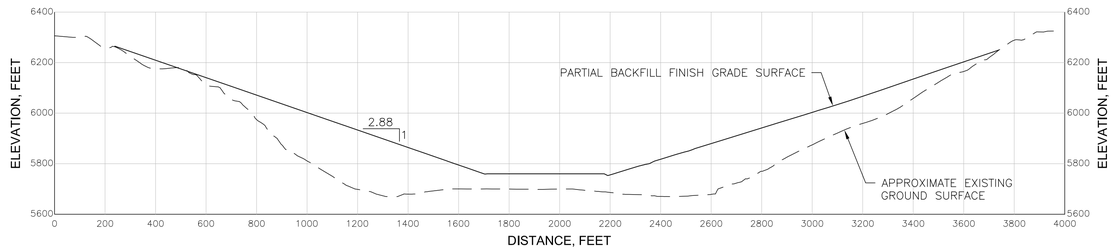

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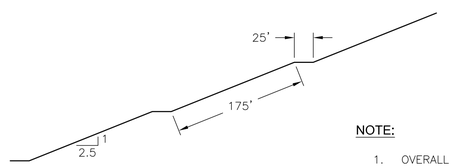

NOTE:

1. OVERALL SLOPE 2.88H:1V

SLOPE CONFIGURATION
(TYPICAL)

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PROJECT: PARTIAL BACKFILL CONCEPT
TITLE: CROSS SECTIONS - PARTIAL PIT BACKFILL FOR PIT WAIVER ANALYSIS

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REVISION: A
FILE NAME: 1008011D005

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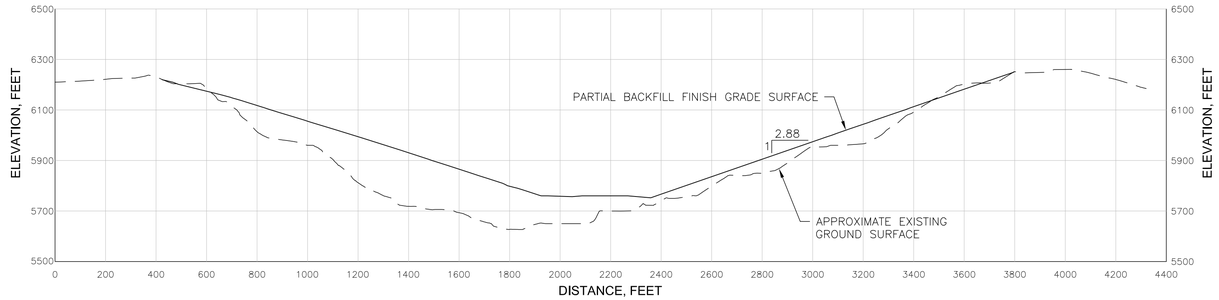

G C-1 GETTYSBURG PIT

(LOOKING NORTHEAST)

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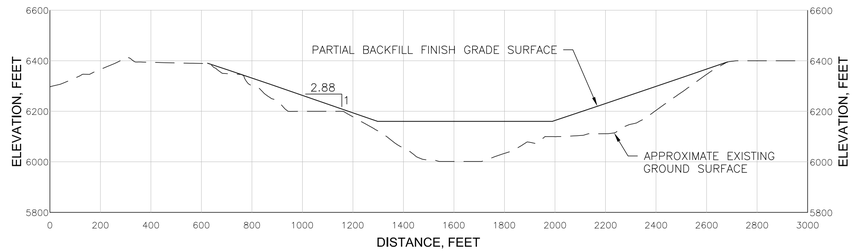

H C-1 COPPER MOUNTAIN PIT

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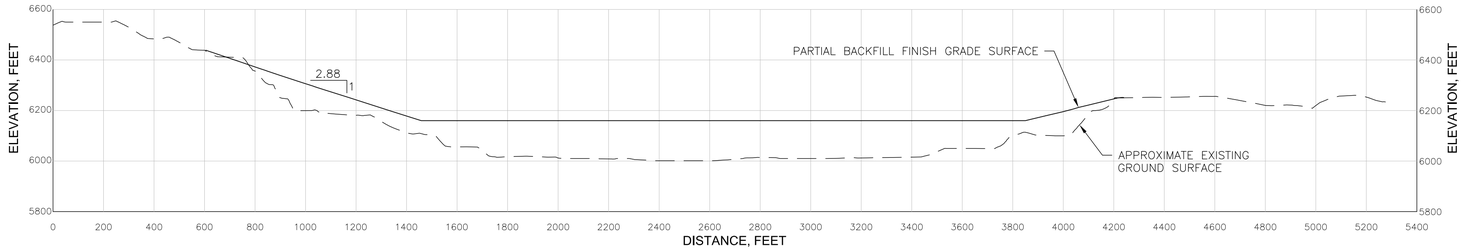

J C-1 COPPER MOUNTAIN PIT

(LOOKING SOUTHEAST)

SCALE

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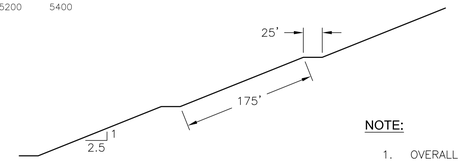

NOTE:

1. OVERALL SLOPE 2.88H:1V

SLOPE CONFIGURATION

(TYPICAL)

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PROJECT LOCATION: TYRONE MINE SITE

PROJECT: PARTIAL BACKFILL CONCEPT

TITLE: CROSS SECTIONS - PARTIAL PIT BACKFILL FOR PIT WAIVER ANALYSIS

MWH

DRAWING: C-4 REVISION: A

FILE NAME: 1008011D006