



**Cripple Creek & Victor Gold Mining Company**

A Joint Venture · ANGLOGOLD ASHANTI (COLORADO) CORP., Manager

**Operations Office**

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Victor, Colorado 80860  
(719) 689-2977 – Fax (719) 689-3254



SENT CERTIFIED, RETURN RECEIPT REQUESTED  
7011-1150-0001-4439-7642

November 19, 2012

M-80-244

Mr. Timothy Cazier  
Environmental Protection Specialist  
Colorado Department of Natural Resources  
Division of Reclamation, Mining and Safety  
Office of Mined Land Reclamation  
1313 Sherman Street, Room 215  
Denver, Colorado 80203

AM 10

**RECEIVED**

NOV 20 2012

Division of Reclamation,  
Mining & Safety

Reference: Cripple Creek & Victor Gold Mining Company,  
Cresson Project Mill Site Construction

Subject: Weekly Construction Quality Assurance ("CQA") Report:  
AMEC Mill Site Earthworks Field Monitoring Summary: Week ending 11/10/2012.

Dear Mr. Cazier:

Cripple Creek & Victor Gold Mining Company ("CC&V") is hereby providing the weekly Construction activity and Progress report prepared by AMEC, reporting the CQA services performed for the Mill Site Construction during the week ending November 10, 2012.

Should you have any questions, please do not hesitate to contact me at (719) 689-4055.

Sincerely,

Timm Comer  
Manager, Environmental Resources

Enclosures: AMEC Mill Site Earthworks Monitoring Summary (Weekly Report). Week ending 11/10/2012.



## MILL SITE EARTHWORKS FIELD MONITORING SUMMARY (WEEKLY REPORT)

**Project Title:** Mill Site Earthworks

**Project No.:** 74201125K0

**Owner:** Cripple Creek & Victor Gold Mining Co.

**Contractor:** Ames Construction Co., Inc.

**Location:** Cripple Creek & Victor Gold Mine

**Shift:** Day/Night

**Work Element:** Mill Site Earthworks

**Date:** November 10, 2012

**Reporting Period:** 11/4/2012 through 11/10/2012

Days	S	M	T	W	T	F	S
Work Shifts	-	D	D	D	D	D	D
	-	N	N	N	N	N	-
D = Day Shift    N = Night Shift							

Ambient Temperature Range (°F):

Low: 15°F to 35°F (+/-)

High: 25°F to 57°F (+/-)

**AMEC CQA:** Personnel On-site through the Reporting Period (See Attachment A).

**Ames:** Work activities were paused on Saturday the 10<sup>th</sup> of November at approximately 8:30am due to weather conditions. Work will resume Monday the November 13, 2012.

### CONSTRUCTION ACTIVITIES and PROGRESS:

#### I) Earthworks

##### A) Overburden Fill Placement

Overburden fill material was delivered from CC&V Mine Operations throughout the day shift. An Ames CAT D-10 dozer was used to maintain the borrow area. A CAT 992 and CAT 988 front-end loader were used to load overburden fill material into CAT 40-ton articulating haul trucks.

Overburden fill was placed in the areas shown on Figure 1. DCF depth was checked by survey and the area was approved prior to fill placement above DCF. Overburden fill was placed in 36" to 40" lifts using various CAT dozers. Each lift was moisture conditioned using a tandem axle water truck (when necessary) and compacted using a 10-ton vibratory smooth drum compactor, passing over the entire fill surface at least 4 times (method compaction technique was applicable).

Subgrade temperatures were monitored by an AMEC field representative prior to fill placement when ambient temperatures were below 32°F. Fill material was not placed until the entire fill area was at or above 32°F. Fill temperatures averaged between 49°F and 53°F.

##### B) Slope Contouring

Slope contouring of placed overburden fill was performed using a CAT 330 excavator. Material generated during slope contouring was placed as overburden fill at the top of the slope.

##### C) Soil Liner Fill (SLF)

Soil liner fill (SLF) placement was performed in the areas shown on Figure 2. Subgrade was approved and moisture conditioned prior to placement using a tandem-axle water truck. Placement was performed using various CAT dozers. SLF material was hauled to the Mill Platform





from the temporary SLF stockpile previously located from the East Cresson stockpile using CAT 40-ton articulating haul trucks loaded by a CAT 980 front-end loader. Moisture conditioning of SLF material was performed in place using a tandem-axle water truck and compaction was achieved using a 10-ton vibratory smooth drum compactor. Nuclear density testing, moisture verification, and depth check testing was performed with results within project specifications. Test locations were surveyed by Ames. Soil liner fill placement is complete for the Mill Site Earthworks project. This figure will be removed from the proceeding weekly reports.

Location	This Week (tons)	Cumulative (tons)	Comments
E.Cresson Clay Process	0	81,150	SLF processing is temporarily paused
Total	0	81,510	SLF processing is temporarily paused

#### D) Drain Cover Fill (DCF)

Drain cover fill (DCF) placement performed in the area shown on Figure 5. The DCF was hauled from the processing area to the placement area using 40-ton articulating haul trucks loaded by a CAT 988 front-end loader. The DCF was placed in a 2-foot lift using various CAT dozers except where haul routes were established. Haul routes consisted of four-foot lifts to be spread into 2-foot lifts later. Laborers were present at all times during placement removing debris/sandbags and assisting the dozer operator with lift thickness. All DCF was placed on previously approved primary geomembrane. Ambient temperatures remained above 32°F during all shifts. AMEC field representatives monitored the DCF placement constantly.

Location	This Week (tons)	Cumulative (tons)	Comments
DCF Process	0	228,613	DCF processing is temporarily paused
Total	0	228,613	DCF processing is temporarily paused

## II) Geosynthetics

### A) Geomembrane Installation

Geomembrane installation continued in the area shown on Figure 3 performing deployment, seaming, and repair/QC activities. Approximately 192,894 square feet of 80mil LLDPE was deployed using a John Deere 544 front-end loader with spreader-bar attachments and a John Deere 200 excavator. Subgrade was inspected and approved by AMEC and Lonestar representatives prior to geomembrane deployment. Approximately 11,599 linear feet of seam was fusion welded using five fusion welding machine/welding technician combinations. Twenty-eight destructive test samples were marked during fusion seaming. All destructive tests performed were within project specifications. Non-destructive testing was performed for fusion welded seams. Repairs were performed using the extrusion welding method for all marked defects. Vacuum testing was performed for all extrusion welded seams and repairs.

### B) Anchor Trench

Approximately 680 feet of anchor trench was excavated using a CAT 304 and John Deere 120 excavator and laborers. The anchor trench was inspected by an AMEC field representative and found to be constructed in accordance with design drawings and project specifications.





Approximately 900 feet of anchor trench backfill was performed using a CAT 312 excavator, a vibratory plate compactor and laborers. An AMEC field representative observed the backfill and it was found to be constructed in accordance with design drawings and project specifications.

**C) Geomembrane Exposure**

No work performed during the week.

**D) Geomembrane Acceptance**

Primary 80mil geomembrane shown on Figure 4 (P381-P410) was inspected by AMEC and Lonestar representatives and found to be installed within project specifications and acceptable for continued construction activities.

**III) Storm Water Management**

**A) Best Management Practices (BMP)**

Best Management Practices are being observed throughout the Mill Site Earthworks project.

**IV) MSE Wall Construction**

**A) Wall #3**

Nuclear density testing for Mat #1 wall backfill was performed with passing results. Mat #1 was inspected and accepted by an AMEC field representative. Approval for installation of Mat #2 was given and installation of Mat #2 wall components was performed.

**CQA ACTIVITIES:**

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**SUMMARY:**

The CQA activities performed consisted of observing, documenting and recording the construction activities of the contractor.

AMEC observed and assisted with SLF placement within the Mill Site Earthworks project, including ambient and fill temperature monitoring when necessary.

AMEC observed, logged data, and assisted in the installation of geomembrane within the Mill Site Earthworks project.

AMEC inspected and approved 80mil primary geomembrane within the Mill Site Earthworks project.

AMEC observed anchor trench excavation and backfill for the Mill Site Earthworks project.

AMEC observed DCF placement within the Mill Site Earthworks project, including ambient and fill temperature monitoring when necessary.

AMEC observed overburden fill placement for the Mill Site Earthworks project, including ambient and fill temperature monitoring when necessary.

AMEC observed construction of MSE Wall #3.



**Testing Summary**

Laboratory testing continued (Particle Size Distribution, Atterberg Limits, Moisture-Density Relations, Specific Gravity, Permeability, and Point Load testing) for sampled materials.

**Samples Obtained**

DCF – 1  
SLF – 2  
OVF – 1

**Testing Performed**

SLF Moisture/Density – 16  
SLF Depth Checks – 4  
MSE Moisture/Density – 4

**GENERAL PROJECT ITEMS**

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**Summary of Concerns:**

No concerns

**Summary of Planning Items:**

Continue subgrade acceptance prior to geomembrane deployment.  
Continue anchor trench excavation.  
Continue geomembrane installation.  
Continue anchor trench backfill.  
Continue geomembrane acceptance prior to DCF placement.  
Continue overburden fill placement.  
Continue MSE wall construction.

**Summary of Non-conformances:**

None Issued

**Summary of Meetings and Discussions:****CC&V:**

CC&V held a weekly construction meeting on November 6, 2012. Items discussed included Safety, Environmental, Schedule, QC documentation, and CQA.

**AMEC:**

Daily toolbox safety meeting were attended by AMEC personnel.

**Summary of Incidents/Accidents/Health & Safety Issues:**

None

We trust the information provided clearly represents our findings and observations for the week ending November 10, 2012.

Joseph Hickey, CQA Monitor

Date: November 10, 2012

Approved By:

Date: 16 NOV 12

## ATTACHMENT A

### 2012 CQA FIELD STAFF SCHEDULE FOR AMEC PERSONNEL MILL SITE EARTHWORKS

Name	NOV 4	NOV 5	NOV 6	NOV 7	NOV 8	NOV 9	NOV 10
Joseph Hickey	-	PR	PR	PR	PR	PR	-
Thorne Clark	-	LS	LS	LS	LS	LS	LS
Uwe Kelley	-	-	ST	ST	ST	ST	ST
Melvin Chester	-	ST	ST	-	-	-	-
Dennis Koval*	-	ST	ST	ST	ST	ST	-
Ben Melly	-	LG	LG	LG	LG	LG	LG
Robert Redd	-	-	-	GT	GT	GT	GT
Madison Crouch	-	LT	LT	LT	LT	-	-
Ryan Fesler	-	GT	GT	GT	GT	GT	GT
Alyssa Wagner	-	LT	LT	LT	LT	LT	LT
Jay Moore	-	-	-	-	-	-	-
Ron Arlian	-	-	-	-	-	-	-

\*Night Shift

#### LEGEND

PS = Project Sponsor

PCE = Project Certifying Engineer

PM = Project Manager

PR = Project Resident

LS = Lead Soils Engineer

LG = Lead Geosynthetics Engineer

ST = Soil Technician

LT = Laboratory Technician

GT = Geosynthetics Technician

FLM= Field/Laboratory Manager

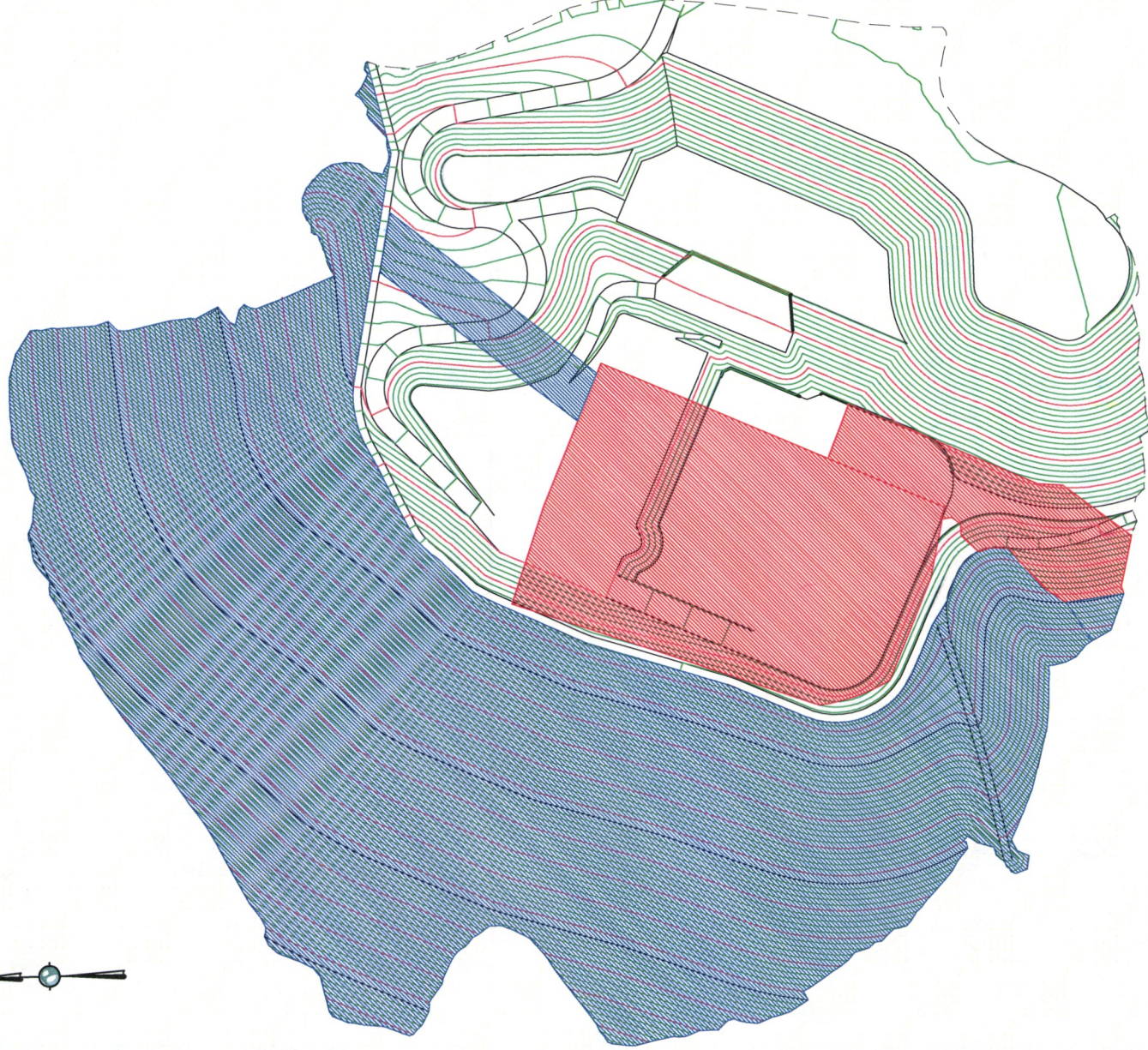
SE = Senior Engineer





**LEGEND:**

- PROPOSED GROUND SURFACE CONTOUR EL. FEET
- OVERBURDEN FILL PLACEMENT
- PREVIOUS OVERBURDEN FILL PLACEMENT



CLIENT Cripple Creek & Victor  
Gold Mining Company

PROJECT MILL SITE Earthworks

TITLE OVERBURDEN FILL  
Placement



DESIGNED BY	JDH	CHECKED BY	JDH	DATE	
DRAWN BY	JDH	APPROVED BY	JDH	11/10/12	
CADD FILENAME				FIGURE No.	1
				REV	—





**LEGEND:**

- PROPOSED GROUND SURFACE CONTOUR EL, FEET
- SOIL LINER FILL PLACEMENT
- PREVIOUS SOIL LINER FILL PLACEMENT

**NOTES:**

1. APPROXIMATELY 6,840 SQUARE FEET OF SOIL LINER FILL WAS PLACED DURING THE WEEK ENDING 11/10/2012. SOIL LINER FILL PLACEMENT COMPLETE AS OF 11/5/2012. FINISH GRADING WAS PERFORMED THROUGHOUT THE WEEK.
2. TOTAL SOIL LINER FILL PLACED TO DATE FOR THE MILL SITE EARTHWORKS PROJECT = 1,431,194 SQUARE FEET.



CLIENT Cripple Creek & Victor  
GOLD MINING COMPANY  
PROJECT MILL SITE EARTHWORKS  
TITLE

**SOIL LINER FILL PLACEMENT**



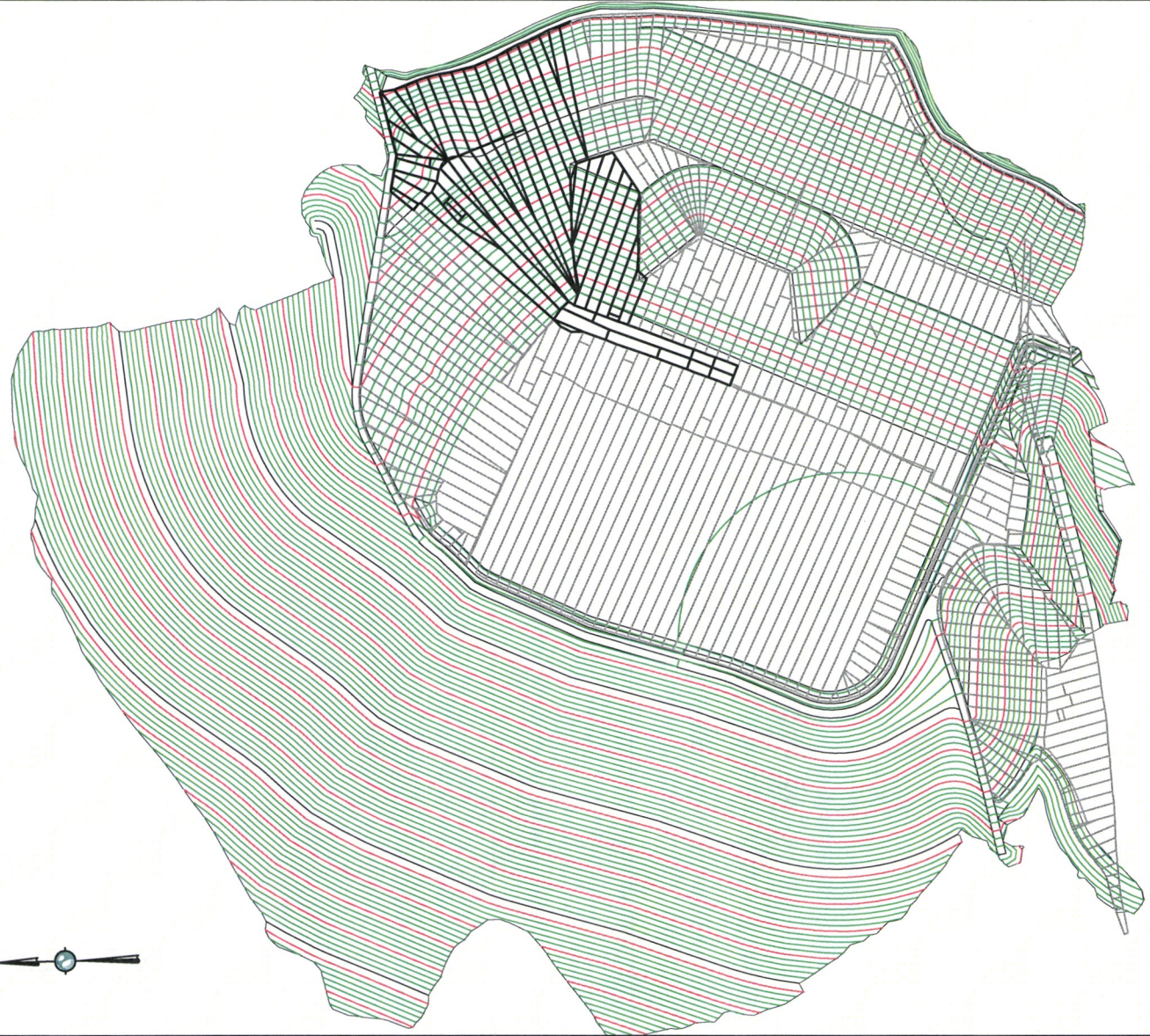
DESIGNED BY	JDH	CHECKED BY	JDH	DATE
DRAWN BY	JDH	APPROVED BY	JDH	11/10/12
CADD FILENAME				FIGURE No. 2
				REV -





**LEGEND:**

- PROPOSED GROUND SURFACE CONTOUR EL, FEET
- PREVIOUSLY DEPLOYED GEOMEMBRANE
- DEPLOYED GEOMEMBRANE



**NOTES:**

1. APPROXIMATELY 192,894 SQUARE FEET OF PRIMARY 80 MIL GEOMEMBRANE WAS DEPLOYED DURING THE WEEK ENDING 11/10/2012.
2. TOTAL GEOMEMBRANE DEPLOYED FOR THE MILL SITE EARTHWORKS PROJECT = 1,511,144 SQUARE FEET.



CLIENT Cripple Creek & Victor  
GOLD MINING COMPANY  
PROJECT MILL SITE EARTHWORKS  
TITLE





**GEOMEMBRANE INSTALLATION**

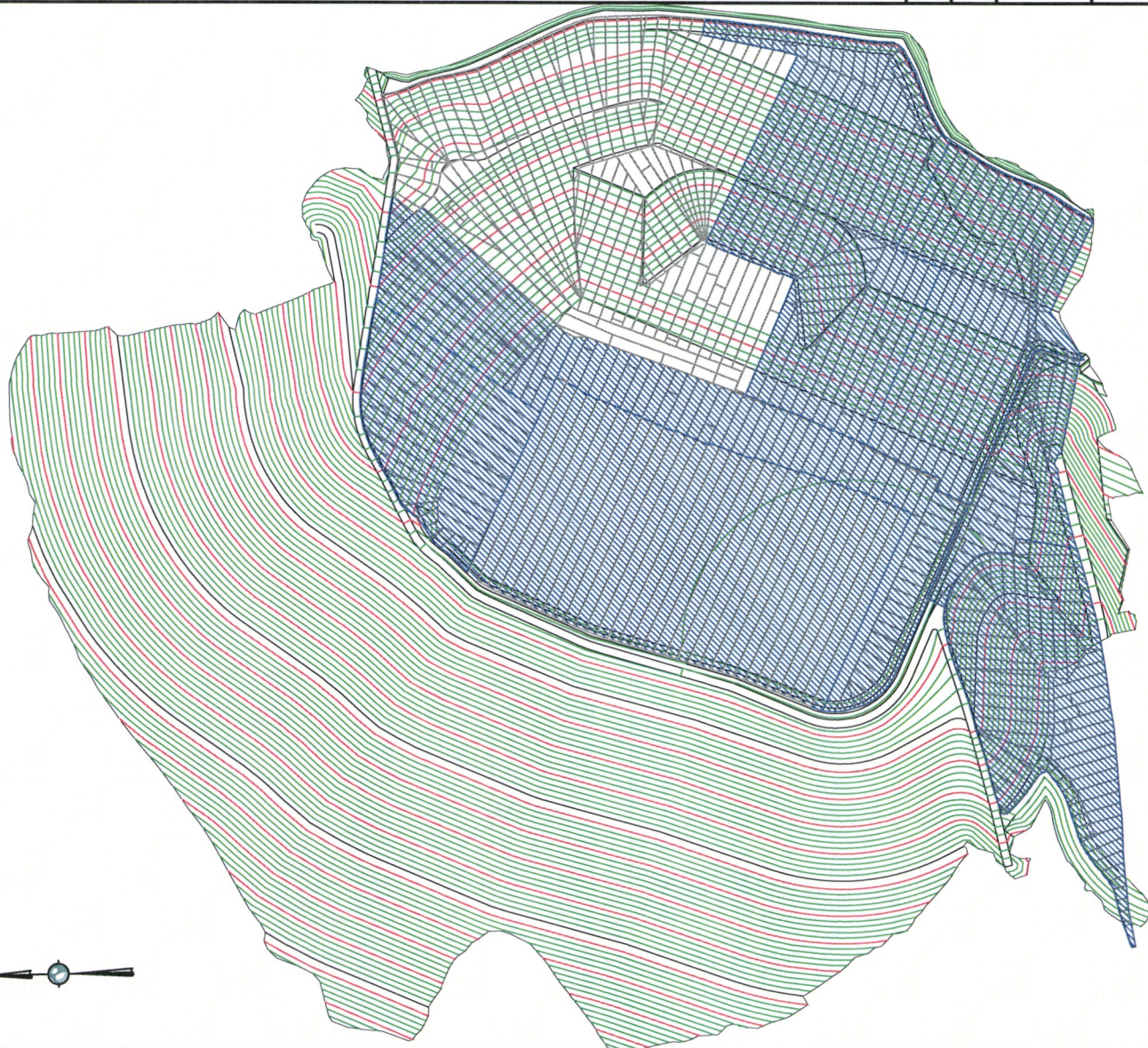


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CADD FILENAME				FIGURE No.	3
				REV	—



**LEGEND:**

-  PROPOSED GROUND SURFACE CONTOUR EL., FEET
-  PREVIOUSLY DEPLOYED GEOMEMBRANE
-  ACCEPTED GEOMEMBRANE
-  PREVIOUSLY ACCEPTED GEOMEMBRANE



CLIENT  
CRIPPLE CREEK & VICTOR  
GOLD MINING COMPANY

PROJECT  
MILL SITE EARTHWORKS

TITLE

**GEOMEMBRANE ACCEPTANCE**







DESIGNED BY	JDH	CHECKED BY	JDH	DATE
DRAWN BY	JDH	APPROVED BY	JDH	11/10/12
CADD FILENAME				FIGURE No.
---				4
				REV
				---



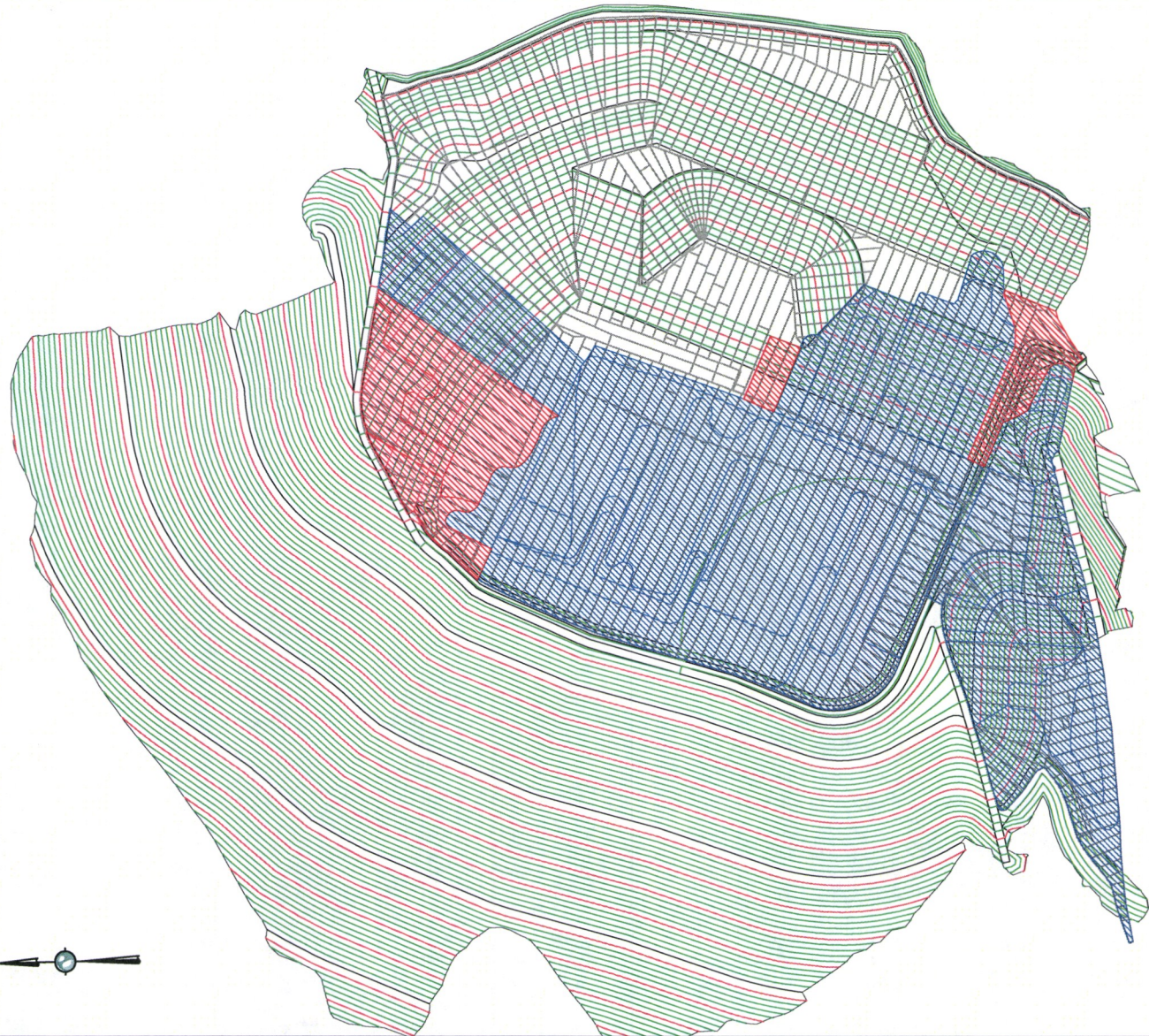


**LEGEND:**

-  PROPOSED GROUND SURFACE CONTOUR EL. FEET
-  PREVIOUSLY DEPLOYED GEOMEMBRANE
-  DRAIN COVER FILL PLACEMENT
-  PREVIOUS DRAIN COVER FILL PLACEMENT

**NOTES:**

1. APPROXIMATELY 127,568 SQUARE FEET OF DRAIN COVER FILL WAS PLACED DURING THE WEEK ENDING 11/10/2012.
2. TOTAL DRAIN COVER FILL PLACED TO DATE FOR THE MILL SITE EARTHWORKS PROJECT = 970,635 SQUARE FEET.



CLIENT  
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PROJECT  
MILL SITE EARTHWORKS

TITLE

**DRAIN COVER FILL PLACEMENT**



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CADD FILENAME				FIGURE No.	5
				REV	—



**PHOTOGRAPHS WEEK ENDING NOVEMBER 10, 2012**



**Photo #1; November 5, 2012; TMC; DCF placement**



**Photo #2; November 8, 2012; TMC; SF placement and Geomembrane Deployment**





**Photo #3; November 9, 2012; TMC; Overall site activities**



**Photo #4; November 10, 2012; TMC; Overall site activities prior to shutdown due to weather**