

Working UG #6117 was partially excavated, prepared for confirmatory drilling, and drilled.

# C) Geomembrane:

# PSSA

# Primary 100-mil DSMS LLDPE Liner Installation

ECA installed 100-mil LLDPE smooth geomembrane in the PSSA. Panels P-214 through P-313 were deployed on approved LVSCF. Fifty one (51) full rolls and multiple partial rolls of 100-mil LLDPE smooth geomembrane were deployed yielding 21,784 lineal feet of fusion welds for an approximate installed weekly total of 322,860 square feet. A wrinkle was removed from panels P-11 to P-17 by cutting out excess material and fusion welding the liner back together. Quality control was performed using two extrusion guns. All seams were fusion welded per project technical specifications. All work performed was observed by AMEC QA personnel.

Approximately 460 lineal feet of anchor trench was backfilled over primary liner and compacted per project specifications.

Destructive samples PDF-81 through PDF-121 and PDX-3 were marked for testing. PDF-34; PDF-79 through PDF-102; PDF-104 through PDF-107; PDF-109 through PDF-115 and PDX-3 were tested and passed per project technical specifications. PDF-103 failed; the seam was delineated with passing results and capped.

# D) Low Volume Solution Collection Fill (LVSCF):

# PSSA

Cat 740 trucks hauled LVSCF to the PSSA. Haul roads for the trucks were maintained at least 4 feet above secondary geomembrane.

Ames continued placing LVSCF on approved secondary liner in minimum 3-foot lifts with Cat GPS D6 and D8 wide pad dozers between panels. S248 to S254; S268; S270 to S273; S275; S284 to S287; S294 to S299; S321 to S324; S354; S355; S359; S361 to S363; S365; S366; and S368; S380 to S382; and S390 to S392.

See the attached LVSCF map for all placement locations.

# E) Drain Cover Fill (DCF):

Cat 740 trucks hauled drain cover fill (DCF) to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane.

Drain cover fill was placed on approved primary liner in minimum 2-foot lifts in the PSSA on panels P1 to P3; P8 to P10; P17 to P20; P159 to P213; and P218 to P225. HVSCS piping was also laid out on the ADR ramp per the design drawings.

# II) Storm Water Management

Best Management Practices (BMPs) are being performed.

# **CQA ACTIVITIES:**

I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; underground working remediation and confirmatory drilling; geomembrane deployment, testing, repair monitoring, and certification; LVSCF acceptance for primary liner deployment; and LVSCF and DCF sampling.



II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Drain Cover Fill samples DCF 107 through DCF 109 (control samples)
- > Drain Cover Fill sample DCF 1-R (Record sample.)
- Low Volume Solution Collection Fill samples LVSCF 17A-R and 17B-R (Record samples)

### General Project Items

### Meetings and Discussions:

- Weekly Contractor Meeting September 17, 2014 (CC&V, AMEC, Ames)
- Weekly CC&V Safety Meeting September 18, 2014
- ECA daily safety meetings
- Ames daily safety meetings

#### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

# Miscellaneous:

> Ames crusher operations re-continued drain cover fill production.

#### **Deliveries:**

104 rolls of UX1800 Geogrid was delivered to Ames. AMEC is waiting instruction prior to conformance sampling.

Submitted by: Eric Lorenson	Date: September 23, 2014
Reviewed by:	Date: September 23, 2014
Project Resident Phone: 719-689-2986	
CC&V Projects Reviewed By:	<b>D</b>
neviewed by not a la sub	Date: <u>/8/3/14</u>
Reviewed By: Sutt Ruda kill	Date: 10 - 3 - 14



# ATTACHMENT A

Name	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Sept. 14	Sept. 15	Sept. 16	Sept. 17	Sept. 18	Sept. 19	Sept. 20
Tim Burkhard		PR	PR	PR	PR	PR	PR
Steve Rice		UG	UG	UG	UG	UG	UG
Ben Melly	GL						
Robert Redd		LS	LS	LS	LS	LS	LS
Tyler Browning	GT	GT	GT	GT	GT		
Eric Lorenson		ST	ST	ST	ST	ST	
Denis Koval		ST	ST	ST	ST	ST	
Razi Molloy		LT	LT	LT	LT	LT	LT
Chad Schreiner		GT	GT	GT			
Al Frias	GT						
Rick Buxton		ST	ST	ST	ST	ST	ST
Mel Ford		ST	ST	ST	ST	ST	ST
Nick Anderson	ST						
Rex Harrison			ST	ST	ST	ST	ST
John Roberts			GT	GT	GT	GT	
Andrea Meduna				PE			

# AMEC - 2014 CQA Field Staff Schedule MLE2

# LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician
- GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# Photographs of Activities



Photo 1: Anchor Trench Compaction and SLF Placement on and above Bench B



Photo 2: Removing a Wrinkle on the Primary Liner





Photo 3: PSSA Overview



Photo 4: Riprap Placement in the Phase 2 Diversion Channel









# CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) & HWY 67 RE-ALIGNMENT MONITORING WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	September 27, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
<b>Contractor:</b>	Ames Construction, Inc.		

### Reporting Period: 09.21.2014 through 09.27.2014

Days	S	М	Т	W	Т	F	S
Work Shifts	-	D	D	D	D	D	D
Work Shifts	-	Ν	Ν	Ν	Ν	Ν	Ν
D=Day Shift N	N=Night Shift			H=	Holi	day	

Ambier	t Temperature Ranges During Week	Weather Conditions During Week:			
Highs:	62°F to 70°F	Cloud Cover:	Partly cloudy to overcast		
Lows:	39°F to 42°F	Precipitation:	Rain: Monday and Saturday		
		Wind:	Variable		

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

# CONSTRUCTION ACTIVITIES AND PROGRESS:

# I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: No production drilling occurred in the VLF.

**Production Blasting:** No production blasting took place within the VLF; however, blasting for underground remediation occurred.

#### **Structural Fill:**

All structural fill material discussed below was placed and compacted per the project technical specifications unless otherwise stated.

Stockpiled structural fill material located near ADR Haul Road station 15+00 was transported between Bench F and H and placed as structural fill upslope of stations H8+00 to H10+00. Some material was also delivered to the buttress fill area upslope of stations J12+00 to J14+00. The material will be used for structural fill at a later date.



A Cat excavator was used to remove and regrade structural fill material washed down by rain at and above Bench A between stations A14+00 to A16+00.

An excavator was observed in the Phase 2 diversion channel cutting in rough grade.

### Subgrade:

A Cat dozer graded downslope of stations D10+00 to DD0+00 at the base of the Ball Mill fill in the Phase 1 area while a Cat hammer hoe broke oversized rock within the subgrade. A Cat smooth drum roller compacted the finished subgrade.

Cat dozers graded the subgrade near stations I8+00 to I10+00 above the former riprap processing area realigning the haul road. A Cat smooth drum roller was observed compacting in the area.

No new subgrade was approved during this reporting period. See the attached figure of approved subgrade in the Phase 1 area.

### Soil Liner Fill:

Cat dozers spread soil liner fill in the Phase 1 area between Bench DD and Bench B between approximate stations B2+00 to B6+00. A Cat 312 excavator formed the 9,550' bench between stations DD00+00 to DD01+00.

A Cat excavator removed excess soil liner fill (SLF) washed down from rain near station B12+00.

### SLF Processing:

Cameron Site: SLF processing resumed at the Cameron Site.

#### **Underdrain System:**

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

**Tertiary Underdrain:** Complete within the PSSA footprint.

#### B) Underground Workings:

Underground working UG #6313 was blasted. Additional remediation is required.

Workings UG #6117, UG #6153, UG #6651, and UG #6579 were prepared for a concrete plug. Additional remediation is required.

### C) Geomembrane:

#### PSSA

### Primary 100-mil DSMS LLDPE Liner Installation

ECA installed 100-mil LLDPE smooth geomembrane in the PSSA. Panels P-314 through P-372 were deployed on approved LVSCF. Twenty one (21) full rolls and multiple partial rolls of 100-mil LLDPE smooth geomembrane were deployed yielding 7,539 lineal feet of fusion welds for an approximate installed weekly total of 132,024 square feet. A wrinkle was removed from panels P-73 to P-76 by cutting out excess material and fusion welding the liner back together. Quality control was performed using two extrusion guns. All seams were fusion welded per project technical specifications. All work performed was observed by AMEC QA personnel.

Approximately 383 lineal feet of anchor trench was backfilled over primary liner and compacted per project specifications.



Destructive samples PDF-122 through PDF-138 were marked for testing. PDF-116 through PDF-126 and PDF-132 through PDF-138 were tested and passed per project technical specifications.

Primary geomembrane was approved for drain cover placement at: 20' east of west end of seam at panels P-278 through P-234, P-250 through P-291 and east slope panels P-267 through P-235.

Areas of previously approved primary geomembrane that were silted over on the floor of the PSSA were washed and swept. Amec inspectors confirmed that there was no damage to the primary liner prior to overliner placement.

See the attached Primary Liner Map for approved primary liner.

#### Secondary 100-mil DSMS LLDPE Liner Installation

A rain event on the evening of September 20, 2014 washed out a small section of the ADR road and slope into the northwest corner of the PSSA; subsequently, causing washout of finished LVSCF, tearing, and damage of underlying secondary geomembrane and SLF material. The damaged secondary liner was removed during the course of this reporting period from the northwest corner of the PSSA to expose the underlining soil liner fill for repair, re-compaction, and reconditioning.

# D) Low Volume Solution Collection Fill (LVSCF):

### PSSA

A Cat mini excavator was used to clean silty material washed down by rain from the low volume fill. Cat GPS dozers worked previously finished LVSCS grade. Rock and debris that was washed into the LVSCF was pushed by dozers into a temporary stockpile on the north floor of the PSSA.

A Cat excavator, a dozer, and laborers removed washed out low volume material, debris, and structural fill from the northwest corner of the PSSA to expose the liner for repair work.

The following low volume solution collection fill (LVSCF) areas in the PSSA were placed to finished grade per project specifications, inspected, and approved for primary geomembrane placement:

Between Bench A stations A19+00 to A22+00 to the PSSA floor.

See the attached LVSCF map for all placement and accepted locations for primary geomembrane deployment.

#### E) Drain Cover Fill (DCF):

Cat 740 trucks hauled drain cover fill (DCF) to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane.

Drain cover fill was placed on approved primary liner in minimum 2-foot lifts in the PSSA on panels P1 to P6; P12 to P18; P23 to P25; P29 to P36; P37 to P48; P50; P52 to P60; P62; P64; P66; P69 to P71; P73; P164 to P169; P173 to P176; P187 to P193; P251 to P253; P257 to P259; P263 to P265; P266 to P275; P277; P280 to P284; P296; P297; P301 to P308; P309 to P311; P313; P314; P317; P320; P321; P323 and P325.

4-inch and 12-inch ADS HVSCS piping was also laid out on the on the PSSA inboard slopes.

# II) Storm Water Management



Best Management Practices (BMPs) are being performed. Surface water runoff sumps were cleaned out and additional sumps were placed along the haul roads.

# CQA ACTIVITIES:

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; underground working remediation; geomembrane deployment, testing, repair monitoring, and certification; LVSCF acceptance for primary liner deployment; and SLF, SF, and DCF sampling.
- II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Drain Cover Fill samples DCF 110 and DCF 111 (control samples)
- Drain Cover Fill samples DCF 2-R through DCF 5-R and DCF 3A-R, 3B-R, 4A-R, 4B-R, 5A-R, 5B-R (Record samples.)
- Structural Fill samples SF 95-R and SF 96-R (Record samples)
- Soil liner Fill sample SLF-1R from Phase 1 Area 1(Record sample)

### General Project Items

#### **Meetings and Discussions:**

- Weekly Contractor Meeting September 24, 2014 (CC&V, AMEC, Ames)
- ECA daily safety meetings
- Ames daily safety meetings

#### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

#### Miscellaneous:

- > Ames crusher operations continued drain cover fill production
- Surface water pumped from the sump of the PSSA
- > The Highway 67 slope near the overlook was seeded by Miete Landscaping

Deliveries: Miscellaneous HVCSC piping was delivered to Ames

Submitted by: Eric Lorenson	Date: October 1, 2014
Reviewed by:	Date: October 1, 2014
Tim Burkhard	
Project Resident	
Phone: 719-689-2986	
CC&V Projects	
Reviewed By:	Date:
Reviewed By:	Date:



# ATTACHMENT A

Nome	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Sept. 21	Sept. 22	Sept. 23	Sept. 24	Sept. 25	Sept. 26	Sept. 27
Tim Burkhard		PR	PR	PR	PR	PR	PR
Steve Rice			UG	UG	UG		
Ben Melly		GL	GL				GL
Robert Redd		LS	LS	LS	LS		
Tyler Browning				GT	GT	GT	GT
Eric Lorenson		ST	ST	ST	ST	ST	ST
Denis Koval		ST	ST	ST	ST	ST	ST
Razi Molloy		LT	LT	LT	LT	LT	LT
Chad Schreiner			GT	GT	GT		
Al Frias		GT	GT	GT	GT	GT	GT
Rick Buxton		ST	ST	ST	ST	ST	ST
Mel Ford		ST	ST	ST	ST	ST	ST
Nick Anderson		ST	ST	ST	ST	ST	ST
Rex Harrison		ST	ST	ST	ST	ST	ST
Rich Weber				PL			

# AMEC - 2014 CQA Field Staff Schedule MLE2

# LEGEND:

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- PM = Project Manager
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- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# Photographs of Activities



Photo 1: Slope Grading and Rock Hammering at the Base of the Ball Mill Fill



Photo 2: Drain Cover Fill Placement





Photo 3: PSSA Overview



Photo 4: Secondary Liner Cut Back for Removal of Deleterious Material, SLF Removal and Reconditioning, and Finish Grading











# CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) & HWY 67 RE-ALIGNMENT MONITORING WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	October 4, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
Contractor:	Ames Construction, Inc.		

# Reporting Period: 09.28.2014 through 10.4.2014

Days	S	М	Т	W	Т	F	S
Work Shifts	D	D	D	D	D	D	D
work Shifts			Ν	Ν	Ν	Ν	
D=Day Shift N	N=Night Shift			H=	Holio	day	

Ambient Temperature Ranges During Week		Weather Conditions During Week:		
Highs:	50°F to 70°F	Cloud Cover:	Partly cloudy to overcast	
Lows:	28°F to 42°F	Precipitation:	Rain: Tuesday through Wednesday	
		Wind:	Variable	

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

# CONSTRUCTION ACTIVITIES AND PROGRESS:

# I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: No production drilling occurred in the VLF.

**Production Blasting:** No production blasting took place within the VLF; however, blasting for underground remediation occurred.

#### Structural Fill:

An AMEC field professional monitored fill material temperatures placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed and compacted per the project technical specifications unless otherwise stated.

Low volume material that was mixed with structural fill washed down from heavy rain was removed from the north end of the PSSA floor and hauled to the ADR haul road and placed as structural fill in an approximate 12-inch lift from stations 45+00 to 60+00.

Material was transported from the Phase 2 Diversion Channel alignment on Dump 4 near stations 32+00 to 46+00 in Cat 777 haul trucks to area located between the CC&V Projects office and



station 85+00 of the ADR haul road. The material was placed as structural fill on the former Ball Mill access road by a Cat dozer and compacted with a smooth drum roller.

Two Cat dozers were cutting the slope at the Ball Mill crossing south of the ADR Haul Road at station 87+00. The material was pushed down slope and spread as structural fill upslope of stations J12+00 to J14+00. The structural fill was placed per project specifications but still requires compaction.

Processed undersized riprap material was transported between stations 20+00 and 25+00 on the ADR haul road. Some washed out low volume fill material was also hauled from the PSSA floor to the area. The material was placed as structural fill by a Cat dozer and compacted with a smooth drum roller.

Stockpiled cut material from slope grading near ADR Haul Road station 15+00 was transported to Bench F near station F20+00 and placed as structural fill.

### Subgrade:

No new subgrade was accepted during this reporting period. See the attached figure of accepted subgrade in the Phase 1 area.

### Soil Liner Fill:

Excess soil liner fill was removed from Bench B.

Soil liner fill (SLF) was spread by a Cat dozer in an approximate nominal 1.2 to 1.3 foot loose-lift above Bench B between stations B2+00 to B8+00. Portions of the SLF surface were compacted by a smooth drum roller per project specification.

### SLF Processing:

**Cameron Site:** There was no SLF processing activity at the Cameron Site during this reporting period.

#### Underdrain System:

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

**Tertiary Underdrain:** A Cat excavator and hammer hoe worked on trenching for tertiary underdrain above Bench B station B16+00 in the Phase 1 area.

#### B) Underground Workings:

Underground working UG #6588 was blasted. Additional remediation is required.

Workings UG #6117, UG #6153, UG #6551, and UG #6579 were plugged with concrete. Concrete cylinders were cast for strength testing. Additional remediation is required.

#### C) Geomembrane:

# PSSA

#### Primary 100-mil DSMS LLDPE Liner Installation

ECA installed 100-mil LLDPE smooth geomembrane in the PSSA. Panels P-373 through P-429 were deployed on accepted LVSCF. Twenty full rolls and multiple partial rolls of 100-mil LLDPE smooth geomembrane were deployed yielding 7,236 lineal feet of fusion welds for an approximate installed weekly total of 129,553 square feet. Quality control was performed using



two extrusion guns. All seams were fusion welded per project technical specifications. All work performed was observed by AMEC QA personnel.

Approximately 652 lineal feet of anchor trench was backfilled over primary liner and compacted per project specifications.

Destructive samples PDF-139 through PDF-155 were marked for testing. PDF-139 through PDF-143 were tested and passed per project technical specifications. Note that PDF-127 through PDF-131 were tested and passed per project technical specifications during the previous week.

The anchor trench associated with the newly installed liner was backfilled and compacted per project specification with structural fill material.

Areas of previously accepted primary geomembrane that were silted over on the floor of the PSSA were washed and swept. AMEC inspectors confirmed that there was no damage to the primary liner prior to overliner placement.

See the attached Primary Liner Map for accepted primary liner.

#### Secondary 100-mil DSMS LLDPE Liner Installation

ECA repaired the secondary 100-mil LLDPE single-side textured geomembrane in the PSSA. The geomembrane was damaged from a rain event that washed material onto the liner on the northwest corner. Damaged geomembrane was removed and replaced using 100-mil LLDPE single-side textured geomembrane on 20 Sep 2014. Panels S-398 through S-409 were deployed on accepted soil liner fill, panels installed replaced existing panels S-251A through S-255A and S-259 and S-260 were removed and partial panels of S-250A, S-250 through S-256 and S-261 through S-275 were removed during the replacement of the damaged liner. One full roll and multiple partial rolls of 100-mil LLDPE single-side textured geomembrane were deployed yielding 968 lineal feet of fusion welds for an approximate installed weekly total of 9,695 square feet. Quality control was performed using two extrusion guns. All seams were fusion welded per project technical specifications. All work performed was observed by AMEC QA personnel. All secondary liner within the PSSA including the aforementioned liner repair work was accepted for drain cover fill.

See the attached figure depicting the secondary liner panels affected by the repair area.

Approximately 50 lineal feet of anchor trench was backfilled over secondary liner and was compacted per project specifications.

Destructive samples DF-161 through DF-164 and DX-4 were marked and tested. Destructive samples that were tested passed per project technical specifications.

Boot skirts penetrating the primary liner were welded on the LVSCS riser pipes at the 9,450 elevation at the southeast corner of the PSSA and were spark tested with passing results.

#### D) Low Volume Solution Collection Fill (LVSCF):

#### PSSA

Low volume fill that was impacted by debris and deleterious material washed down by a rain event on the evening of September 20, 2014 was removed and replaced in the northwest corner of the PSSA. The new fill was finish graded and accepted for Primary liner.

The following LVSCF areas in the PSSA were placed to finished grade per project specifications, inspected, and accepted for primary geomembrane placement:

Between Bench A stations A14+00 to A19+00 to the PSSA floor.



See the attached LVSCF map for all placement and accepted locations for primary geomembrane deployment.

### E) Drain Cover Fill (DCF):

Cat 740 trucks hauled drain cover fill (DCF) to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane.

Drain cover fill was placed on accepted primary liner in minimum 2-foot lifts in the PSSA on panels P20 to P22; P24 to P27; P31to P34; P67 to P68; P72 to P74; P77 to P79; P158 to P159; P161 to P163; P193 to P198; P219 to P224; P254 to P256; P260; P264; P266; P285 to P286; and P288 to P290

Silt, mud, and deleterious material in the drain cover fill were removed from the from PSSA floor near the HVSCS header pipe.

The DCF ramp on the north end of the PSSA floor was removed for subsequent primary liner tie in.

### F) High Volume Solution Collection System Piping (HVSCS):

Four-inch and 12-inch ADS HVSCS piping was laid out on the on the PSSA inboard slopes.

Ames performed 28-inch HDPE pipe perforation drilling at the Dump 4 pad; ½-inch holes, 12 inch spacing, 8 holes in the pipes circumference, as per project plans. After the pipes were perforated they were transported to the PSSA ADR ramp.

Fusion welding occurred on the HVSCS HDPE piping header in the PSSA sump.

# II) Storm Water Management

Best Management Practices (BMPs) are being performed.

# **CQA ACTIVITIES:**

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; underground working remediation; geomembrane deployment, material sampling and testing, repair monitoring, and acceptance;; HVSCS HDPE piping perforation and fusion, ADS HVSCS piping layout; LVSCF acceptance for primary liner deployment; and DCF sampling.
- II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Drain Cover Fill sample DCF 112 (control sample)
- Drain Cover Fill samples DCF 6-R (Record sample.)
- Concrete cylinders from the underground workings

Geogrid samples were collected and sent to an off-site laboratory for analysis.



# **General Project Items**

#### **Meetings and Discussions:**

- Weekly Contractor Meeting October 1, 2014 (CC&V, AMEC, Ames)
- > ECA daily safety meetings
- > Ames daily safety meetings

#### Summary of Concerns: None.

CC&V: Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

#### Miscellaneous:

- > Ames crusher operations continued drain cover fill production
- Surface water pumped from the sump of the PSSA

Deliveries: Miscellaneous HVCSC piping was delivered to Ames including 8 loads (71 pieces~3,550 LF) of 28-inch-diameter HDPE piping.

Submitted by: E	ric Lorenson			
Reviewed by:	14	=	$\bigcirc$	

Tim Burkhard Project Resident Phone: 719-689-2986

**CC&V** Projects Reviewed By:

Date: 10/9/14

Reviewed By: Sinth Rudaluk

Date: 10-9-14

Date: October 7, 2014

Date: October 7, 2014



# ATTACHMENT A

Name	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Sept. 28	Sept. 29	Sept. 30	Oct. 1	Oct. 2	Oct. 3	Oct. 4
Tim Burkhard		PR	PR	PR	PR	PR	PR
Ben Melly	GL	GL	GL	GL	GL	GL	GL
Robert Redd		LS	LS	LS	LS	LS	
Tyler Browning	GT	GT	GT	GT	GT	GT	GT
Eric Lorenson		ST	ST	ST	ST	ST	ST
Denis Koval		ST	ST	ST	ST	ST	
Razi Molloy		LT	LT	LT	LT	LT	LT
Chad Schreiner			GT	GT	GT	GT	GT
Al Frias		GT	GT	GT	GT	GT	GT
Rick Buxton		ST	ST	ST	ST	ST	ST
Mel Ford			ST	ST	ST	ST	
Nick Anderson	GT	GT	GT	GT	GT		
Rex Harrison			ST	ST	ST	ST	
John Roberts		GT	GT				
David Woolley					GT	GT	GT
Patrick Feliz					ST	ST	ST
Shawn Wisely					ST	ST	ST

# AMEC - 2014 CQA Field Staff Schedule MLE2

# LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician
- GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# **Photographs of Activities**



Photo 1: Primary Liner Silt Cleanup on the PSSA Floor



Photo 2: Structural Fill Placement





Photo 3: PSSA Overview



Photo 4: Secondary Liner Repair













# CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) & HWY 67 RE-ALIGNMENT MONITORING WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	October 11, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
Contractor:	Ames Construction, Inc.		

# Reporting Period: 10.5.2014 through 10.11.2014

Days	S	Μ	Т	W	Т	F	S
Work Shifts		D	D	D	D	D	D
Work Shifts		Ν	Ν	Ν		Ν	Ν
D=Day Shift N	N=Night Shift			H=	Holio	day	

Ambient Temperature Ranges During Week		Weather Conditions During Week:		
Highs:	50°F to 68°F	Cloud Cover:	Partly cloudy to overcast	
Lows:	25°F to 34°F	Precipitation:	Rain: Thursday and Friday	
		Wind:	Variable	

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

# CONSTRUCTION ACTIVITIES AND PROGRESS:

# I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: No production drilling occurred in the VLF.

Production Blasting: No production blasting took place within the VLF.

#### **Structural Fill:** (Day and Night Shift)

An AMEC field professional monitored fill material temperatures placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed in maximum nominal thickness of 3-feet and compacted per the project technical specifications unless otherwise stated.

Material was transported from the Phase 2 Diversion Channel alignment on Dump 4 near station 36+00 to 38+00 in Cat 777 haul trucks to stations 85+00 and 87+00 of the ADR haul road. The material was placed as structural fill on the former Ball Mill access road by a Cat dozer and compacted with a smooth drum roller.



Cat 740 haul trucks transported material pushed down from the slope above ADR Haul Road stations 52+00 to 55+00 to stations 88+00 to 92+00 and to Bench K stations K30+00 to K32+00 where it was placed and compacted as structural fill.

Two Cat dozers were cutting the slope at the Ball Mill crossing south of the ADR Haul Road station 87+00. The material was pushed down slope and spread as structural fill upslope of Bench J stations J12+00 to J14+00.

Cat 740 haul trucks transported material from the Phase 2 Diversion Channel alignment on Dump 4 near station 38+00 to 46+00 to Bench K stations K30+00 to K40+00 where it was placed and compacted as structural fill.

Stockpiled cut material from slope grading near ADR Haul Road station 15+00 was transported to Bench F near station F20+00 and placed and compacted as structural fill.

A Cat excavator and dozer placed cut to fill near Bench I station I10+00 to I12+00 in the Midway area.

A Cat excavator and a dozer excavated the outbound haul lane near Ames' Gate 2 where it crosses the Phase 2 Diversion Channel alignment to place temporary piping allowing surface water to flow from the upper Phase 2 channel under the haul road to the Phase 2 pond.

#### Subgrade:

No new subgrade was accepted during this reporting period. See the attached figure of accepted subgrade in the Phase 1 area.

#### Soil Liner Fill (SLF):

A Cat 330 excavator with a plate tamper attachment was used to build and compact berms using SLF material on the south perimeter road near Bench P between stations P0+00 to P2+25.

Soil liner fill was spread by a Cat dozer in a minimum 1-foot-loose lift above Bench B between stations B2+00 to B10+00. A Cat smooth drum roller compacted the finished grade. The soil liner fill was moisture conditioned.

Soil Liner Fill was accepted for liner deployment from Bench DD to Bench B between approximate stations B0+00 to B4+00.

See the attached Soil Liner Fill Map for accepted SLF in the Phase 1 area.

**Cameron Site:** There was no SLF processing activity at the Cameron Site during this reporting period.

#### Underdrain System:

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

**Tertiary Underdrain:** Approximately 400 lineal feet of tertiary underdrain was excavated, lined with non-woven geofabric, filled with underdrain material, and covered with select structural fill above Bench B station B16+00 in the Phase 1 area. This section of underdrain tied into existing secondary underdrain at the northeast corner of the PSSA crossing the ADR haul road.

### B) Underground Workings:

No underground remediation or confirmatory drilling occurred during this reported period.



# C) Geomembrane:

# PSSA

# Primary 100-mil DSMS (double sided microspike) LLDPE Liner Installation

ECA completed 100-mil LLDPE smooth geomembrane installation in the PSSA. No additional Panels were deployed during this reporting period, as all primary liner was completely installed during the previous week. Only QA/QC and repair work occurred. Quality control was performed using two extrusion guns. All seams were fusion welded per project technical specifications. All work performed was observed by AMEC QA personnel.

Destruct samples PDF-144 through PDF-155 were tested and passed per project technical specifications.

See the attached Primary Liner Map for accepted primary liner.

# Secondary 100-mil SSMS LLDPE Liner Installation Complete.

# Phase 1 80-mil DSMS LLDPE Liner Installation

ECA began installation of 80-mil DSMS LLDPE Liner on the east slope from 9,550 foot bench down to the 9,450 foot bench. Panels P-1 through P-10 were deployed on approved soil liner fill material. Five full rolls of 80-mil LLDPE DSMS geomembrane were deployed yielding 1,316 lineal feet of fusion welds and 135 lineal feet of extrusion weld for an approximate installed weekly total of 33,503 square feet. All seams were welded per project technical specifications. All work performed was observed by AMEC QA personnel.

DF-1 through DF-3 and DX-1 were marked but not tested.

Approximately 135 lineal feet of anchor trench was backfilled over primary liner at 9,550 foot bench and compacted per project specifications.

# D) Low Volume Solution Collection Fill (LVSCF):

# PSSA

The following LVSCF areas in the PSSA were placed to finished grade per project specifications, inspected, and accepted for primary geomembrane placement:

All areas within the PSSA have been accepted primary geomembrane placement. LVSCF finished and accepted grade is considered complete by the end of this reporting period.

See the attached LVSCF map for all placement and accepted locations for primary geomembrane deployment.

# E) Drain Cover Fill (DCF)—Day and Night Shift:

Ames crusher operations continued drain cover fill production.

Light readings during the Night Shift ranged between 2.7 to 3.5 foot candles.

Cat 740 trucks hauled drain cover fill to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane.

Drain cover fill was placed on accepted primary liner in minimum 2-foot lifts in the PSSA on panels P1 to P4; P7 to P10; P13 to P15; P18 to P20; P67 to P68; P80 to P84; P87; P194 to P198; P237 to P239; P241 to P243; P246 to P249; P271 to P273; P277; P280; P282; P284;



P285 to P286; P288 to P290; P292; P320 to P331; P377 to P382; P369 to P372; P384 to P388; P401; P412 to P413; and P429 to P430

See the attached DCF map for all placement.

# F) High Volume Solution Collection System Piping (HVSCS):

4, 12, and 24-inch ADS HVSCS piping was laid out on the on the PSSA inboard slopes.

Ames performed 28-inch HDPE pipe perforation drilling at the Dump 4 pad; ½-inch holes, 12 inch spacing, 8 holes in the pipes circumference, as per project plans. After the pipes were perforated they were transported to the PSSA ADR ramp.

Fusion welding occurred on the HVSCS HDPE 28-inch piping in the PSSA floor.

The HVSCS vertical riser bases were cleaned and realigned to plan positioning.

DCF material inside the HVSCS manifold was cleaned. Temporary geotextile fabric was placed over the T-section openings of the pipe to prevent rock from entering the manifold.

# II) Storm Water Management

Best Management Practices (BMPs) are being performed.

# **CQA ACTIVITIES:**

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; Phase 1 geomembrane deployment; material sampling and testing; geomembrane repair monitoring, and acceptance; nuclear density and moisture testing; depth checks; and acceptance on the Phase 1 SLF, HVSCS pipe cleaning; HVSCS HDPE piping perforation and fusion, ADS HVSCS piping layout; LVSCF acceptance for primary liner deployment; and DCF sampling.
- II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- > Drain Cover Fill sample DCF 113 (Control sample)
- Drain Cover Fill samples DCF 7-R through DCF 11-R (Record samples)
- Select Structural Fill sample 1SSF 2-R (Record sample)
- Underdrain Fill sample 1UF 3-R (Record sample)
- Structural Fill sample SF 97-R (Record sample)
- Cylinders of grout were cast from the grouted riprap on the ends of the MSE wall adjacent to Highway 67.


## General Project Items

#### Meetings and Discussions:

- > Weekly Contractor Meeting October 8, 2014 (CC&V, AMEC, Ames)
- > Weekly CC&V Health and Safety Meeting October 9, 2014
- ECA daily safety meetings
- Ames daily safety meetings

#### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

#### Miscellaneous:

- Riprap on the ends of the MSE wall was grouted
- > Surface water pumped from the sump of the PSSA

**Deliveries:** Miscellaneous HVCSC piping and geofabric was delivered to Ames throughout this reporting period.

Submitted by: Eric Lorenson Reviewed by: Tim Burkhard **Project Resident** Phone: 719-689-2986 **CC&V** Projects **Reviewed By:** 

Date: 10/20/14

Date: October 14, 2014

Date: October 14, 2014

Scott Redulangh **Reviewed By:** 

Date: 10 - 20 - 14



# ATTACHMENT A

Nome	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Oct. 5	Oct. 6	Oct. 7	Oct. 8	Oct. 9	Oct. 10	Oct. 11
Tim Burkhard		PR	PR	PR	PR	PR	
Ben Melly	GL	GL	GL	GL	GL	GL	GL
Robert Redd		LS	LS	LS	LS	LS	
Tyler Browning	GT	GT	GT	GT	GT	GT	
Eric Lorenson		ST	ST	ST	ST	ST	ST
Denis Koval			ST	ST	ST	ST	ST
Chad Schreiner	GT	GT	GT	GT	GT		
Al Frias	GT	GT	GT	GT	GT	GT	GT
Mel Ford		ST	ST	ST		ST	ST
Rick Buxton		ST	ST	ST	ST	ST	ST
Nick Anderson				GT	GT	GT	GT
Rex Harrison		ST	ST	ST		ST	ST
David Woolley		GT	GT	GT	GT	GT	GT
Shawn Wisely		ST	ST	ST	ST	ST	ST
Patrick Feliz		ST	ST	ST	ST	ST	
Razi Molloy		LT	LT	LT	LT	LT	LT
Andrea Meduna				PM			

# AMEC - 2014 CQA Field Staff Schedule MLE2

## LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician
- GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# Photographs of Activities



Photo 1: HVSCS HDPE Manifold Pipe Fusing



Photo 2: ADS HVSCS piping in the northern PSSA





Photo 3: Tertiary Underdrain Installation



Photo 4: Phase 1 Liner Deployment











# CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) & HWY 67 RE-ALIGNMENT MONITORING WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	October 18, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
Contractor:	Ames Construction, Inc.		

# Reporting Period: 10.12.2014 through 10.18.2014

Days	S	М	Т	W	Т	F	S
Work Shifts		D	D	D	D	D	D
work Shifts		Ν	Ν	Ν	Ν	Ν	
D=Day Shift N	N=Night Shift			H=	Holio	day	

Ambient Temperature Ranges During Week		Weather Conditions During Week:		
Highs:	44°F to 63°F	Cloud Cover:	Partly cloudy to overcast	
Lows:	26°F to 37°F	Precipitation:	None	
		Wind:	Variable	

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

# CONSTRUCTION ACTIVITIES AND PROGRESS:

## I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: No production drilling occurred in the VLF.

Production Blasting: No production blasting took place within the VLF.

#### **Structural Fill:** (Day and Night Shift)

An AMEC field professional monitored fill material temperatures placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed in a maximum nominal thickness of 3 feet and compacted per the project technical specifications unless otherwise stated.

Haul trucks transported material from the Surge Area near station 50+00 on the Phase 2 Diversion Channel alignment to the Buttress Fill Area upslope of Bench J stations J6+00 to J14+00. The material was placed as structural fill by dozers. An excavator with a rock hammer attachment broke apart any oversized material encountered. (Day and Night)



Haul trucks transported material pushed down from the slope above ADR Haul Road stations 52+00 to 55+00 to Bench K stations K30+00 to K32+00 where it was placed as structural fill. A Cat excavator with a rock hammer attachment broke apart any oversized material encountered (Day and Night Shift).

Material was cut from Dump 4 at the Phase 2 Diversion Channel alignment near station 38+00 and was hauled to the ADR road between stations 84+00 to 88+00 where it was placed as structural fill (Day and Night Shift).

Cat dozers were rough grading and pushing down excess material above ADR Haul road station 15+00. The material was placed as structural fill above Bench A stations A20+00 to A22+00.

Cat 740 haul trucks transported stockpiled structural fill material from near ADR Haul road station 15+00 to Bench F stations F16+00 to F24+00 and Bench H stations H14+00 to H16+00. Oversized material was broken with a hammer hoe (Day and Night Shift).

Non-woven geotextile and riprap were placed in the Phase 2 Diversion Channel from approximate stations 6+00 to 8+00.

A Cat dozer placed cut to fill near Bench H stations H14+00 to H16+00.

#### Subgrade:

No new subgrade was accepted during this reporting period. See the attached figure of accepted subgrade in the Phase 1 area.

#### Soil Liner Fill (SLF):

Soil liner fill was scarified by a Cat dozer for reconditioning purposes from Bench B to Bench DD between stations B2+00 to B8+00.

No new soil liner fill was accepted during this reporting period.

See the attached Soil Liner Fill Map for accepted SLF in the Phase 1 area.

Cameron Site: SLF processing resumed at the Cameron Site.

#### **Underdrain System:**

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

**Tertiary Underdrain:** Approximately 100 lineal feet of tertiary underdrain was excavated, lined with non-woven geotextile, filled with underdrain material, and covered with select structural fill above Bench B station B16+00 in the Phase 1 area. This section of underdrain tied into existing secondary underdrain at the northeast corner of the PSSA crossing the ADR haul road.

## B) Underground Workings:

No underground remediation or confirmatory drilling occurred during this reported period.

#### C) Geomembrane:

#### **PSSA**

**Primary and Secondary Geomembrane Liner Installation** Complete.



# Phase 1 80-mil DSMS LLDPE Liner Installation

No new liner was deployed this week.

## D) Drain Cover Fill (DCF)

Ames crusher operations continued drain cover fill production.

Cat 740 trucks hauled drain cover fill to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane and HVSCS piping.

Drain cover fill was placed on accepted primary liner in minimum 2-foot lifts in the PSSA on panels P116 to P123; P154 to P156; P288 to P294; P331 to P353; 355 to P370; P372; P385 to P396; P398 to P405; and P403 to P426.

Drain cover fill was placed around the HVSCF risers and manifold with a Cat 330 track hoe after the Primary geomembrane was approved for DCF placement on the PSSA sump area.

See the attached DCF map for all placement.

## E) High Volume Solution Collection System Piping (HVSCS):

Four, 12, and 24-inch ADS HVSCS piping was laid out on the on the PSSA inboard slopes.

Fusion welding occurred on the HVSCS HDPE 28-inch piping in the PSSA floor.

The HVSCS vertical riser bases were cleaned and realigned to plan position.

All four sections of HVSCS vertical louvered screen and compression sections on the vertical riser base plate were installed in the PSSA sump as well as a section of 28-inch HDPE pipe from the manifold on the PSSA floor.

## II) Storm Water Management

Best Management Practices (BMPs) are being performed.

## **CQA ACTIVITIES:**

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; nuclear density and moisture testing; HVSCS pipe cleaning; HVSCS HDPE piping fusion; HVSCS vertical louvered and compression section installation; ADS HVSCS piping layout; and DCF sampling.
- **II)** <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- > Drain Cover Fill sample DCF 114 (Control sample)
- Drain Cover Fill sample DCF 12-R (Record sample)
- Structural Fill sample SF 98-R (Record sample)
- Soil Liner Fill sample SLF-156C (Control sample from the Cameron Site)



# **General Project Items**

### **Meetings and Discussions:**

- Weekly Contractor Meeting October 15, 2014 (CC&V, AMEC, Ames)
- Weekly CC&V Health and Safety Meeting was cancelled and rescheduled for the first Thursday of each month.
- > Ames daily safety meetings

#### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

#### **Miscellaneous:**

Phone: 719-689-2986

> Surface water pumped from the sump of the PSSA.

Deliveries: Miscellaneous HVCSC piping was delivered to Ames throughout this reporting period.

Submitted by: Eric Lorenson
Reviewed by:

CC&V Projects Reviewed By: Kol C C C C C

Date: 10/29/14

Date: October 21, 2014

Date: October 21, 2014

Sinte Pulartuk Reviewed By:

Date: 10 - 29 - 14



# ATTACHMENT A

Name	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Oct. 12	Oct. 13	Oct. 14	Oct. 15	Oct. 16	Oct. 17	Oct. 18
Tim Burkhard		PR	PR	PR	PR	PR	
Ben Melly		GL	GL	GL	GL	GL	
Robert Redd		LS	LS	LS	LS	LS	
Tyler Browning			GT		GT		
Eric Lorenson		ST	ST	ST	ST	ST	ST
Denis Koval			ST	ST	ST	ST	ST
Chad Schreiner			ST	ST	ST		
Al Frias		ST	ST	ST	ST	ST	
Rick Buxton			ST	ST	ST	ST	ST
Nick Anderson		ST	ST	ST	ST	ST	ST
Rex Harrison		ST	ST		ST		
David Woolley		ST	ST	ST	ST	ST	
Shawn Wisely			ST	ST		ST	
Razi Molloy		LT	LT	LT	LT	LT	
Andrea Meduna				PM			

## AMEC - 2014 CQA Field Staff Schedule MLE2

## LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# Photographs of Activities



Photo 1: Tertiary Underdrain Installation



Photo 2: High Volume Riser Pipe Installation





Photo 3: 28-inch HDPE pipe installation in the PSSA



Photo 4: PSSA Overview









# CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	October 25, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
Contractor:	Ames Construction, Inc.		

### Reporting Period: 10.19.2014 through 10.25.2014

Days	S	М	Т	W	Т	F	S
Work Shifts		D	D	D	D	D	D
work Shins		Ν	Ν	Ν	Ν	Ν	
D=Day Shift N	N=Night Shift			H=	Holi	day	

Ambient Temperature Ranges During Week		Weather Conditions During Week:		
Highs:	53°F to 66°F	Cloud Cover:	Partly cloudy to overcast	
Lows:	34°F to 41°F	Precipitation:	None	
		Wind:	Variable	

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

# CONSTRUCTION ACTIVITIES AND PROGRESS:

## I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: No production drilling occurred in the VLF.

Production Blasting: No production blasting took place within the VLF.

#### Structural Fill:

An AMEC field professional monitored fill material temperature placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed in a maximum nominal thickness of 3 feet and compacted per the project technical specifications unless otherwise stated.

Material was hauled from the Surge area located east of Phase 2 Diversion Channel Station 50+00 and placed and compacted as structural fill upslope of Bench K stations K38+00 to K40+00 and upslope of Bench J stations J10+00 to J12+00. A Cat hammer hoe was utilized to break any oversized rock encountered. (Day and Night Shift).

Cat dozers were slope grading above ADR haul road station 15+00. Excess material was hauled



upslope of Bench J stations J10+00 to J12+00 where it was placed and compacted as structural fill.

### Subgrade:

No new subgrade was accepted during this reporting period. See the attached figure of accepted subgrade in the Phase 1 area.

### Soil Liner Fill (SLF):

SLF was hauled from the VLF stockpile below Bench F stations F0+00 to F10+00 to ADR haul road station 15+00 were it was placed on the slope above Bench B stations B10+00 to B16+00 and compacted per project specification.

The SLF surface was reconditioned from Bench B to Bench DD between approximate stations B4+00 to B12+00. Nuclear density and moisture testing was also conducted and the area was accepted for liner placement.

See the attached Soil Liner Fill Map for accepted SLF in the Phase 1 area.

Cameron Site: SLF processing continued at the Cameron Site.

### **Underdrain System:**

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

Tertiary Underdrain: No work was performed during this reporting period.

#### B) Underground Workings:

No underground remediation or confirmatory drilling occurred during this reported period.

#### C) Geomembrane:

### Phase 1 80-mil DSMS LLDPE Liner Installation

Twenty-two rolls of 80-mil DSMS geomembrane liner were deployed. Panels P11 through P54 were installed totaling 166,714 square feet with 8,011 lineal feet of welded seams.

Destructs DX-2 and DF-1 through DF-13 were marked, cut, and tested with passing results. DX-3 and Destructs DF-14 through DF-20 were marked but not yet tested.

Approximately 462 lineal feet of anchor trench was excavated and 653 feet was backfilled over the installed liner per project technical specifications.

## D) Drain Cover Fill (DCF)

Ames' crusher operations continued with drain cover fill production.

Cat 740 trucks hauled drain cover fill to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane and HVSCS piping.

Drain cover fill was placed on accepted primary liner in minimum 2-foot lifts in the PSSA on panels P19 to P20; P64 to P66; P76; P80 to P92; P122 to P130; P142 to P155; P157 to P162; P193 to P195; P214 to P217; P219 to P221; P338 to P344; P347 to P353; P355 to P360; P362 to P364; P366; P368; P370 to P372; and P398 to P400. (Days and 1 night shift—Night shift light reading = 4.5 foot candles).



Areas of DCF were as-built surveyed to confirm 2-feet minimum coverage above primary geomembrane between Bench A stations A0+00 to A17+00 to approximately 15 feet above the PSSA floor.

See the attached DCF map for all placement.

## E) High Volume Solution Collection System Piping (HVSCS):

Twenty-eight-inch HDPE piping was transported from the Surge area laydown to the PSSA floor.

Fusion welding continued on the HVSCS 28-inch HDPE piping in the PSSA floor.

Twenty-eight-inch HDPE HVSCS piping was being fused on the PSSA floor and placed extending the 28-inch HVSCS primary piping from the HVSCS manifold onto the PSSA floor.

Level indicator piping was installed on the steel riser pipes.

## II) Storm Water Management

Best Management Practices (BMPs) are being performed.

# CQA ACTIVITIES:

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; nuclear density and moisture testing; HVSCS pipe fusion and layout; level indicator piping installation on the southwest side of steel riser pipes; Phase 1 surface acceptance; DCF, SLF, and SF sampling.
- II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Drain Cover Fill sample DCF 115 (Control sample)
- Structural Fill sample SF 99-R through SF 101-R (Record sample)
- Soil Liner Fill samples SLF-157C through SLF-159C (Control sample from the Cameron Site)



### **General Project Items**

#### **Meetings and Discussions:**

- > Weekly Contractor Meeting October 22, 2014 (CC&V, AMEC, Ames)
- > Ames daily safety meetings
- ECA daily safety meetings

### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

#### Miscellaneous: None

#### **Deliveries:**

- > Miscellaneous HVCSC piping was delivered to Ames throughout this reporting period.
- ECA received seven rolls of 40-mil smooth geomembrane liner and four rolls of 80-mil DSMS geomembrane liner.

Submitted by: Eric Lorenson Date: October 28, 2014 Reviewed by: -Date: October 28, 2014 Tim Burkhard Project Resident Phone: 719-689-2986

**CC&V** Projects **Reviewed By:** 6

Date: 10/31/14

**Reviewed By:** 

Date: 10-31-14



# ATTACHMENT A

Nome	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Oct. 19	Oct. 20	Oct. 21	Oct. 22	Oct. 23	Oct. 24	Oct. 25
Tim Burkhard		PR	PR	PR	PR	PR	PR
Ben Melly		GL	GL	GL	GL	GL	GL
Robert Redd		LS	LS	LS	LS	LS	
Tyler Browning		GT	GT	GT			
Eric Lorenson		ST	ST	ST	ST	ST	ST
Denis Koval		ST	ST	ST	ST	ST	
Al Frias			ST	ST	ST	ST	ST
Mel Ford		ST	ST	ST	ST	ST	
Rick Buxton		ST	ST	ST	ST	ST	ST
Nick Anderson				ST	ST	ST	ST
Rex Harrison			ST	ST	ST	ST	
David Woolley		ST	ST	ST	ST	ST	ST
Shawn Wisely			ST	ST	ST	ST	
Razi Molloy		LT	LT	LT	LT	LT	
Andrea Meduna				PM			

## AMEC - 2014 CQA Field Staff Schedule MLE2

## LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# Photographs of Activities



Photo 1: PSSA Overview



Photo 2: Structural Fill Placement





Photo 3: HVSCS Pipe Installation Extending from the HVSCS Manifold



Photo 4: Anchor Trench Excavation









# CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	November 1, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
Contractor:	Ames Construction, Inc.		

### Reporting Period: 10.26.2014 through 11.01.2014

Days	S	М	Т	W	Т	F	S
Work Shifts		D	D	D	D	D	D
Work Shifts			Ν	Ν	Ν	Ν	
D=Day Shift N	N=Night Shift			H=	Holid	day	

Ambient Temperature Ranges During Week		Weather Conditions During Week:		
Highs:	45°F to 60°F	Cloud Cover:	Partly cloudy to overcast	
Lows:	22°F to 30°F	Precipitation:	None	
		Wind:	Variable	

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

# CONSTRUCTION ACTIVITIES AND PROGRESS:

## I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

**Production Drilling:** Production drilling occurred for road widening between ADR haul road stations 17+00 to 20+00.

Production Blasting: No production blasting took place within the VLF.

#### Structural Fill:

An AMEC field professional monitored fill material temperature placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed in a maximum nominal thickness of 3 feet and compacted per the project technical specifications unless otherwise stated.

Cat dozers graded upslope of ADR haul road stations 15+00 to 17+00 and downslope of stations L6+00 to L8+00. Excess material was transported to the Buttress fill upslope of station J10+00 to J12+00 and placed and compacted as structural fill.



Stockpiled material from ADR station 20+00 and 40+00 to 45+00 was hauled to ADR haul road stations 65+00 to 75+00 and placed and compacted as structural fill (Day and night shift).

Materials originating from the Surge area east of Phase 2 Diversion Channel Station 50+00 and above ADR haul road stations 15+00 to 17+00 and 55+00 to 60+00 were hauled upslope of K Bench stations K38+00 to K40+00 where they were placed and compacted as structural fill. (Day and night shift).

A Cat dozer performed slope contouring and finish grading between stations D2+00 and D4+00. Excess material was stockpiled for subsequent haul and placement.

The ADR haul road berms were built up for Cat 793 haul truck use from stations 30+00 to 75+00 (night shift).

A Cat dozer and a loader relocated the access road between the rip rap processing plant and ADR haul road station 44+00.

#### Subgrade:

New subgrade was accepted during this reporting period upslope of ADR haul stations 15+00. See the attached figure of accepted subgrade in the Phase 1 area.

### Soil Liner Fill (SLF):

SLF was hauled from the Cameron borrow area and stockpiled below stations F0+00 to F10+00.

SLF hauled from the VLF stockpile located downslope of stations F0+00 to F10+00 was spread with Cat dozers in an approximate 1-foot thick loose lift between stations B10+00 to B17+00. The SLF surface was compacted and checked for density and moisture and was accepted for liner placement.

See the attached Soil Liner Fill Map for accepted SLF in the Phase 1 area.

Cameron Site: SLF processing continued at the Cameron Site.

#### **Underdrain System:**

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

Tertiary Underdrain: No work was performed during this reporting period.

### B) Underground Workings:

No underground remediation or confirmatory drilling occurred during this reported period.

#### C) Geomembrane:

#### Phase 1 80-mil DSMS LLDPE Liner Installation

Forty-eight rolls of 80-mil DSMS geomembrane liner were deployed. Panels P55 through P114 were installed totaling 248,663 square feet with 10,986 lineal feet of welded seams and 1,492 lineal feet of extrusion welded seams.

Panels C-1 through C-7 were deployed to cap the insufficient overlap between the PSSA and Phase 1 liners (P-140 to P-148) totaling 276 lineal feet of extrusion welded seams.



Destructs DX-1, DX-3 through DX-8, and DF-14 through DF-39 were cut and tested with passing results. Destructs DF-40 through DF-43 were marked but not yet tested.

Approximately 938 lineal feet of anchor trench was excavated and 715 feet was backfilled over the installed liner per project technical specifications.

## D) Drain Cover Fill (DCF)

Ames' crusher operations continued with drain cover fill production.

Cat 740 trucks hauled drain cover fill to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane and HVSCS piping.

Ames continued placing and finish-grading DCF on approved primary liner with Cat GPS dozers on panels P80 to P93; P100 to P112; P115 to P118; P126 to P140; and P154 to P156. A track hoe placed DCF material on the 28" HVSCS piping that was placed on the floor of the PSSA.

See the attached DCF map for all placement.

## E) High Volume Solution Collection System Piping (HVSCS):

Fusion welding continued on the HVSCS 28-inch HDPE piping in the PSSA floor.

28" HDPE piping was inserted over the 28" slip joint on the central primary 28" HVSCS pipe and approximately 400' was placed on primary geomembrane and as-built surveyed.

### II) Storm Water Management

Best Management Practices (BMPs) are being performed.

# CQA ACTIVITIES:

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; nuclear density and moisture testing; HVSCS pipe fusion and layout; Phase 1 surface acceptance; DCF, SLF, and SF sampling.
- **II)** <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Drain Cover Fill sample DCF 116 (Control sample)
- Structural Fill sample SF 102-R through SF 104-R (Record sample)
- Soil Liner Fill samples 1SLF-2R and 1SLF-3R (Record samples)
- Soil Liner Fill samples SLF-160C (Control sample from the Cameron site)



#### General Project Items

### Meetings and Discussions:

- Weekly Contractor Meeting October 29, 2014 (CC&V, AMEC, Ames)
- > Ames daily safety meetings
- > ECA daily safety meetings

#### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

Miscellaneous: None

#### **Deliveries: None**

Submitted by: Eric Lore	enson	
,	> /	
Reviewed by:	B/1	
Tim Burkhard		
Project Resident		
Phone: 719-689-2986		

Date: November 5, 2014

Date: November 5, 2014

**CC&V** Projects Reviewed By: Kont t

Reviewed By: 5 cott Pada lagh

Date: 11/7/14

Date:	1	1-	7-14	1
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# ATTACHMENT A

Name	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
	Oct. 26	Oct. 27	Oct. 28	Oct. 29	Oct. 30	Oct. 31	Nov. 1
Tim Burkhard		PR		PR	PR	PR	PR
Ben Melly		GL	GL	GL	GL	GL	
Robert Redd		LS	LS	LS		LS	LS
Tyler Browning				GT	GT	GT	GT
Eric Lorenson		ST	ST	ST	ST		
Denis Koval		ST	ST	ST	ST	ST	
Al Frias		ST	ST	ST	ST		
Mel Ford			ST	ST	ST	ST	
Rick Buxton				ST	ST	ST	ST
Nick Anderson		ST	ST	ST	ST	ST	ST
Rex Harrison		ST	ST	ST	ST	ST	ST
David Woolley		ST	ST	ST	ST	ST	ST
Shawn Wisely		ST	ST	ST	ST	ST	ST
Razi Molloy		LT	LT	LT	LT	LT	
Andrea Meduna				PM			

# AMEC - 2014 CQA Field Staff Schedule MLE2

## LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
- PR = Project Resident
- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# Photographs of Activities



Photo 1: Geomembrane Repairs at the PSSA to Phase 1 Tie-in



Photo 2: Air Testing on Welded Seams





Photo 3: HVSCS Pipe Installation



Photo 4: Phase 1 SLF Placement and Conditioning








## CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	November 8, 2014
Location:	Cripple Creek & Victor Gold Mine, CO		
Contractor:	Ames Construction, Inc.		

## Reporting Period: 11.02.2014 through 11.08.2014

Days	S	М	Т	w	Т	F	S
Work Shifts		D	D	D	D	D	D
WORK Shifts		Ν		Ν	Ν	Ν	
D=Day Shift N:	N=Night Shift H= Holiday						

Ambient Temperature Ranges During Week	Weather Conditions During Week:
Highs: 41°F to 57°F	Cloud Cover: Partly cloudy to overcast
Lows: 18°F to 31°F	Precipitation: Snow Sunday and Friday night
	Wind: Variable

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

## CONSTRUCTION ACTIVITIES AND PROGRESS:

#### I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: None.

**Production Blasting:** Production blasting occurred near Squaw Gulch VLF Haul Road stations 18+00 to 20+00.

#### Structural Fill:

An AMEC field professional monitored fill material temperature placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed in a maximum nominal thickness of 3 feet and compacted per the project technical specifications unless otherwise stated.

Cat dozers pushed down material from the Ball Mill Crossing area and placed the excess material as structural fill upslope of Bench J stations J12 +00 to J14+00 in Phase 1. Structural fill was placed and compacted per project specification.

Structural fill was placed upslope from K-Bench stations K34+00 to K38+00. The structural fill



material placed in this area came from the following locations:

- The Surge area east of the Phase 2 Diversion Channel station 50+00 (day and night shift)
- Stockpiled material from Squaw Gulch Valley Leach Facility (SGVLF) haul road station 16+00 to 20+00 (dayshift)
- excess material graded upslope of SGVLF haul road station 55+00 to 60+00 (day and night shift)

Any oversized material encountered was broken apart by a hammer hoe.

Material was removed from the upslope side of the SGVLF haul road between stations 84+00 to 85+00 to widen the road. The removed material was placed as structural fill between stations 70+00 to 75+00 on the SGVLF haul road. The structural fill was placed and compacted per project specification.

Material was removed from the riprap processing area near SGVLF haul road stations 37+00 to 38+00 and was hauled to SGVLF haul road stations 25+00 to 27+00 where it was placed as structural fill.

A Cat dozer and loader partially relocated the riprap stockpile to widen the SGVLF road near stations 40+00 to 42+00.

Cat dozers were re-contouring the SGVLF haul road at stations 19+00 to 21+00 and 55+00 to 63+00.

#### Subgrade:

No new Phase 1 subgrade was accepted during this reporting period. See the attached figure of accepted subgrade in the Phase 1 area.

The subgrade was rough graded by a Cat dozer above Bench A stations A14+00 to A16+00 and SGVLF haul road stations 16+00 to 17+00.

A Cat dozer and smooth drum roller prepared the subgrade for soil liner fill (SLF) placement upslope of SGVLF haul road station 15+00 between Bench DD stations DD9+00 to DD18+00.

#### Soil Liner Fill (SLF):

SLF was hauled from the Cameron Clay Pit area and stockpiled below Bench F between stations F0+00 and F10+00.

A Cat 312 excavator was used to finish the containment berm on Bench P between stations P0+00 and P2+00. The berm and the SLF surface upslope of stations B0+00 to B2+00 was accepted for liner placement. The berm was also extended beyond the limits of the PSSA to the west to ensure containment of the lined area of the VLF.

See the attached Soil Liner Fill Map for accepted SLF in the Phase 1 area.

Cameron Site: SLF processing continued at the Cameron Site.

#### Underdrain System:

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

Tertiary Underdrain: No work was performed during this reporting period.



## Leak Detection:

Approximately 720 lineal feet of leak detection trench was excavated down slope of stations FF3+00 to FF9+00 in the Phase 1 VLF. About 520 feet of the trench was completed and covered with SLF. A leak detection fill record sample was collected from this area.

## B) Underground Workings:

No underground remediation or confirmatory drilling occurred during this reported period.

## C) Geomembrane:

## PSSA 100-mil SSMS LLDPE Liner

100-mil liner in the PSSA was exposed in various places along the backfilled anchor trench on Bench A, the Highway 67 embankment, and SGVLF pad for repairs.

## Phase 1 80-mil DSMS LLDPE Liner Installation

Two rolls of 80-mil DSMS geomembrane liner were deployed. Panels P115 through P123 were installed totaling 11,011 square feet with 728 lineal feet of fusion welded seams and 216 lineal feet of extrusion welded seams. ECA also extrude welded a piece of liner above the PSSA shoulder for additional berm containment from Phase 1 slope into the PSSA.

Destructs DX-9 and DX-10, and DF-40 through DF-45 were cut and tested with passing results.

Approximately 235 lineal feet of anchor trench was backfilled over the installed liner.

Panels P1 through P123 were approved for drain cover fill placement.

## D) Drain Cover Fill (DCF)

Cat 740 trucks hauled drain cover fill to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane and HVSCS piping.

Ames continued placing and finish-grading DCF on approved primary liner with Cat GPS dozers on panels P17 to P22; P77 to P82; P90 to P91; P102 to P124; P141; P143 to P144; P146 to P148; P151 to P152; P154 to P155; P221 to P227; P248 to P299; and P321 to P324. A Cat excavator placed DCF material on the 28-inch HVSCS piping that was placed on the floor of the PSSA.

See the attached DCF map for all placement.

## E) High Volume Solution Collection System Piping (HVSCS):

Fusion welding continued on the HVSCS 28-inch HDPE piping in the PSSA floor and was completed.

24-inch-diameter ADS and 28-inch-diameter HDPE piping was placed for tie-in at the north end of the PSSA floor.

Approximately 800 feet of 28-inch HDPE HVSCS piping was installed of the PSSA floor (400 feet on the central piping and 400 feet on the eastern portion). The 28-inch HDPE piping was placed on primary geomembrane and as-built surveyed completing the 28-inch HDPE piping.

## II) Storm Water Management

Best Management Practices (BMPs) are being performed.



## **CQA ACTIVITIES:**

- I) <u>Field Activities:</u> Field activities and observation during this reporting period included: Slope grading and fill placement; HVSCS pipe fusion, layout, and backfilling; Phase 1 SLF surface acceptance; geomembrane liner installation, repair, and acceptance; LVSCS, LDF, and SLF sampling; and leak detection trench installation.
- II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Low Volume Solution Collection System fill sample LVSCS-90C (Control sample)
- Soil Liner Fill samples SLF-161C and SLF-162C (Control samples from the Cameron site)
- Leak Detection Fill sample 1LDF-1R (Record Sample)

#### **General Project Items**

Meetings and Discussions:

- Weekly Contractor Meeting November 5, 2014 (CC&V, AMEC, and Ames)
- CC&V Monthly Health and Safety Meeting November 6, 2014
- Ames daily safety meetings
- ECA daily safety meetings

#### Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

**Miscellaneous:** Ames' crusher changed from drain cover fill production and resumed low volume solution collection fill production operations.

Deliveries: None

Submitted by: Eric Lorenson **Reviewed by:** Tim/Burkhard

Date: November 11, 2014

Date: November 11, 2014

**CC&V** Projects **Reviewed By:** 

**Reviewed By:** 

Project Resident Phone: 719-689-2986

Sutt Del

Date: 11/12/14

Date: 11-12-14



# ATTACHMENT A

News	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Nov. 2	Nov. 3	Nov. 4	Nov. 5	Nov. 6	Nov. 7	Nov. 8
Tim Burkhard		PR	PR	PR	PR	PR	PR
Ben Melly				GL	GL	GL	GL
Robert Redd		LS	LS		LS		
Tyler Browning		GT	GT	GT	GT	GT	
Eric Lorenson			ST	ST	ST	ST	ST
Denis Koval		ST	ST	ST	ST	ST	
Al Frias				ST	ST	ST	
Mel Ford		ST		ST	ST	ST	
Rick Buxton		ST	ST	ST	ST	ST	ST
Nick Anderson		ST	ST	ST	ST	ST	
Rex Harrison		ST	ST				
David Woolley		ST	ST	ST	ST	ST	ST
Shawn Wisely		ST	ST	ST	ST	ST	ST
Razi Molloy		LT	LT	LT	LT	LT	
Andrea Meduna				PM			
Rich Weber				PM			

## AMEC - 2014 CQA Field Staff Schedule MLE2

## LEGEND:

- PL = Project Lead
- PM = Project Manager
- PCE = Project Certifying Engineer
- PE = Project Engineer
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- LG = Lead Geosynthetics Engineer
- LS = Lead Soils Technician
- ST = Soil Technician
- LT = Laboratory Technician
- GL = Geosynthetics Lead
- GT = Geosynthetics Technician
- FLM= Field/Laboratory Manager
- UG = Underground Working Remediation
- SE = Senior Engineer
- GS = Geophysics Survey Geologist
- HY = Highway Design Engineer



# **Photographs of Activities**



Photo 1: Structural Fill Placement Upslope of K Bench Station K38+00



Photo 2: Drain Cover Fill Placement at the PSSA Embankment





Photo 3: North Termination of the 28-inch HDPE pipe with HDPE Flat Stock Cap



Photo 4: Leak Detection Trench Downslope of Bench FF Station FF8+00











## CRIPPLE CREEK & VICTOR GOLD MINING Co. ANGLOGOLD ASHANTI (COLORADO) SQUAW GULCH (VLF) WEEKLY REPORT

Owner:	Cripple Creek & Victor Gold Mining Co.	Project Number:	74201125N0
Project:	Squaw Gulch Valley Leach Fill (VLF)	Week Ending:	November 15, 2014
Location: Cripple Creek & Victor Gold Mine, CO			
Contractor:	Ames Construction, Inc.		

## Reporting Period: 11.09.2014 through 11.15.2014

Days	S	М	Т	W	Т	F	S
Work Shifts		D	D	D	D	D	D
work Shins		Ν	Ν	Ν	Ν	Ν	
D=Day Shift N	N=Night Shift			H=	Holi	day	

Ambient Temperature Ranges During Week		Weather Conditions During Week:			
Highs:	7°F to 49°F	Cloud Cover:	Partly cloudy to overcast		
Lows:	-8°F to 19°F	Precipitation:	Light intermittent snow every day except Thursday		
		Wind:	Variable		

Ames: Continuing construction tasks for the Valley Leach Facility (VLF).

Planning: Continuing construction activities and scheduling for the VLF.

## CONSTRUCTION ACTIVITIES AND PROGRESS:

## I) <u>Earthworks</u>

A) VLF (PSSA, Phase 1, and 2)

Topsoil/Overburden Stripping: None.

Tree Grubbing and Clearing, Chipping: None.

Production Drilling: None.

Production Blasting: None.

#### Structural Fill:

An AMEC field professional monitored fill material temperature placed within the fill areas. Average structural fill temperatures were above 32°F. All structural fill material discussed below was placed in a maximum nominal thickness of 3 feet and compacted per the project technical specifications. Any excess snow was removed prior to placement.

Structural fill was placed upslope from K-Bench stations K34+00 to K41+00. The structural fill material placed in this area came from the following locations:

- The Surge area east of the Phase 2 Diversion Channel station 50+00 (day and night shift)
- Stockpiled material from Squaw Gulch Valley Leach Facility (SGVLF) haul road station 16+00 to 20+00 (dayshift)



 Excess material graded to the toe of the Ball Mill slope northwest of the Load Out Bin (LOB) (day shift)

Any oversized material encountered was reduced in size by a hammer hoe.

Material was transported from the Surge area to SGVLF haul road stations 71+00 to 73+00 where it was placed and compacted as structural fill.

Structural fill was placed and compacted downslope of Bench D stations D6+00 to D8+00 and on SGLVF haul road between stations 15+00 to 20+00 per project specifications. The material was hauled to the area from a stockpile located at SGLVF haul road stations 52+00 to 54+00.

Slope grading occurred in the Phase 1 area at the following locations:

- Above Bench A stations A14+00 to A18+00.
- Above SGVLF haul road stations 48+00 and 51+00.
- Above SGVLF haul road stations 55+00 and 59+00.
- Down slope of Bench L stations L28+00 and L36+00.

Any excess material generated from slope grading activities was stockpiled for subsequent removal and use as structural fill.

A Cat loader built berms to accommodate 793 haul trucks along the SGVLF haul road at stations 15+00 to 20+00, 54+00 to 80+00, and 85+00 to 87+00.

Cat dozers were re-contouring the SGVLF haul road at stations 15+00 to 20+00 and 54+00 to 56+00.

Material was hauled from various locations along the SGVLF haul road between stations 38+00 to 54+00 and placed upslope of Bench A stations A20+00 to A22+00 to create a temporary loading ramp between stations A20+00 and SGVLF haul road station 15+00.

#### Subgrade:

No new Phase 1 subgrade was accepted during this reporting period. Refer to the figure in the MLE2 weekly report for November 8, 2014 for accepted subgrade in the Phase 1 area.

#### Soil Liner Fill (SLF):

SLF was hauled from the Cameron Clay Pit area and stockpiled below Bench F between stations F0+00 and F10+00.

No new Phase 1 SLF was accepted during this reporting period. Refer to the figure in the MLE2 weekly report for November 8, 2014 for accepted SLF in the Phase 1 area.

**Cameron Site:** SLF processing continued at the Cameron Site.

#### Underdrain System:

Primary Underdrain: Complete.

Secondary Underdrain: No work was performed during this reporting period.

Tertiary Underdrain: No work was performed during this reporting period.

#### Leak Detection:

Approximately 160 lineal feet of leak detection trench was completed per project specification and covered with soil liner fill downslope of Bench F station FF6+50 to FF8+00.



## B) Underground Workings:

No underground remediation or confirmatory drilling occurred during this reported period.

## C) Geomembrane:

#### Phase 1 80-mil DSMS LLDPE Liner Installation

80-mil liner installation is suspended at this time due to inclement weather. Refer to the figure in the MLE2 weekly report for November 8, 2014 for accepted geomembrane in the Phase 1 area.

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

Note: AMEC performed continuous monitoring of DCF fill temperatures in the stockpile as well as the fill during placement.

Cat 740 trucks hauled drain cover fill to the PSSA. Haul roads for the Cat 740s were maintained at least 4 feet above the secondary geomembrane and HVSCS piping.

Ames completed covering accepted liner with drain cover fill within the PSSA.

Drain cover fill was pushed down to the vertical riser pipe area from SGLFV haul road stations 8+00 to 0+00. Ames used the material to backfilled over the 6-inch HVSCS PCPE piping that was placed around the vertical riser sections at the 9,352 elevation.

Drain cover fill placement began in the Phase 1 area on accepted 80-mil liner along Bench B. The drain cover fill was placed according to project specifications.

See the attached DCF map for all placement within the PSSA and Phase 1 area.

#### E) High Volume Solution Collection System Piping (HVSCS):

Six-inch-diameter PCPE HVSCS piping, 6-inch 90-degree elbows, and perforated end caps, were installed at the 9,352 elevation around the vertical riser piping and backfilled in the PSSA per project specifications.

Ames placed 4-inch and 12-inch ADS HVSCS piping on approved liner in the Phase 1 area.

#### II) Storm Water Management

Best Management Practices (BMPs) are being performed.



## CQA ACTIVITIES:

- Field Activities: Field activities and observation during this reporting period included: Slope grading and fill placement; HVSCS layout and covering with DCF; and LVSCS and SLF sampling.
- II) <u>Laboratory Activities:</u> Permeability, Atterberg limits, moisture, and sieve analysis laboratory testing continued.

The following samples were collected and returned to AMEC's laboratory for analysis:

- Low Volume Solution Collection System fill sample LVSCS-91C (Control sample)
- > Soil Liner Fill samples SLF-163C and SLF-164C (Control samples from the Cameron site)

#### **General Project Items**

#### **Meetings and Discussions:**

- Weekly Contractor Meeting November 12, 2014 (CC&V, AMEC, and Ames)
- Ames daily safety meetings
- ECA daily safety meetings

## Summary of Concerns: None.

**CC&V:** Daily updates, reporting, and scheduling are some of the tasks occurring between CC&V Projects, AMEC, and Ames.

#### Miscellaneous:

- Ames' crusher changed from low volume solution collection fill production to drain cover fill production.
- An 80-mil geomembrane roll inventory was performed at Ames' gate 2.

#### Deliveries: None.

Submitted by: Eric Lorenson Reviewed by: Tim Burkbard Project Resident Phone: 719-689-2986

Date: November 17, 2014

Date: November 17, 2014

**CC&V** Projects Reviewed By:

Date: 11/18/14

Switt Rula Long K **Reviewed By:** 

Date: 11-18-14



# ATTACHMENT A

## AMEC - 2014 CQA Field Staff Schedule MLE2

Name	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Name	Nov. 9	Nov. 10	Nov. 11	Nov. 12	Nov. 13	Nov. 14	Nov. 15
Tim Burkhard		PR	PR	PR	PR	PR	
Ben Melly		GL	GL	GL	GL	GL	GL
Robert Redd		LS	LS	LS	LS	LS	
Tyler Browning		GT	GT	GT	GT		
Eric Lorenson		ST	ST	ST	ST	ST	ST
Denis Koval		ST	ST	ST	ST	ST	
Al Frias		ST	ST	ST	ST	ST	
Mel Ford		ST	ST	ST	ST	ST	
Rick Buxton		ST	ST	ST	ST	ST	ST
David Woolley		ST	ST				
Razi Molloy			LT	LT	LT	LT	LT

## LEGEND:

PL = Project Lead

PM = Project Manager

PCE = Project Certifying Engineer

PE = Project Engineer

PR = Project Resident

LG = Lead Geosynthetics Engineer

LS = Lead Soils Technician

ST = Soil Technician

LT = Laboratory Technician

GL = Geosynthetics Lead

GT = Geosynthetics Technician

FLM= Field/Laboratory Manager

UG = Underground Working Remediation

SE = Senior Engineer

GS = Geophysics Survey Geologist

HY = Highway Design Engineer



# **Photographs of Activities**



Photo 2: ADS HVSCS Pipe Installation in Phase 1







Photo 4: Grading DCF Material down the SGVLF Ramp

