Appendix M

Underground Working Observations

Appendix M.1 – Underground Workings Summary and Figures

Appendix M.2 – Underground Workings Record of Construction Drawing

Appendix M.3 – Summary of Underground Workings Concrete Test Results

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Appendix M.5 – Underground Workings CQA Earthworks Laboratory Testing Summary – Coarse Shaft Backfill

Appendix M.6 – Underground Workings Individual Earthworks Test Reports

Appendix M.7 – Geogrid Quality Control Certificates

Appendix M.8 – Third Party Geogrid Conformance Test Results

Appendix M.1

Underground Workings Summary and Figures

Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
Underground Workings Remediation Summary

IDENTIFICATION			LOCATION			WORKING DESCRIPTION									APPROXIMATE QUANTITIES						COMMENTS
HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
462	6003	5095	56,282.2	34,858.6	9,560.0	Collapsed Shaft	Known	10/19/2013	Unknown	None	Yes	Yes	Structural Rock Backfill	None	0	2,171	0	0	0	0	5134 & 5095 - Part of #6003. SITE REMEDIATED.
338	6003	5134	56,300.8	34,953.7	9,510.0	Collapsed Adit	Known	1/31/2014	6x4	Yes	Yes	Yes	Structural Rock Backfill	None	0	199	0	0	0	0	Horizontal 48-inch CMP with Grate, located in cut. 10/19/13, removed 48-inch CMP exposed adit, excavated to approximately 8 feet to competent rock, backfilled approximately 25 to 30 feet of adit. Drilling additional work upslope started 10/25/2013. Additional drilling on 11/16/2013, 01/31/2014 & 02/05/2014. Drill holes blasted and excavated. SITE REMEDIATED.
333	6004	5127	56,156.5	35,344.3	9,535.0	Surface Working	Known	10/15/2013	Unknown	None	Yes	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	5126 & 5127- Part of 6004. SITE REMEDIATED.
372	6004	5126	56,082.0	35,306.4	9,500.0	Collapsed Adit	Known	7/17/2015	7x8	Yes	Yes	Yes	Geogrid	None	0	0	35,235	653	0	0	Excavated across haul road; geogrid installed July 2015. (Figure UG3). SITE REMEDIATED
U	6005	N/A	56,082.0	35,306.4	9,499.5	Surface Working	Unknown	1/16/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 4 to 5 feet into rock, nothing found. SITE REMEDIATED.
335	6011	5130	56,304.5	35,279.1	9,595.0	Timbered Shaft	Known	4/8/2013	10x5	Yes	Yes	Yes	Concrete Cap	None	0	1,752	0	0	70	301	08/15/2013 excavated exposing shaft, approximately 19 to 20 feet to bottom, void, noted trending to east. Site drilled and blasted, excavation of working; concrete plug poured, structural rock backfill. (See Figure UG4). SITE REMEDIATED.
U	6012	N/A	56,385.4	35,259.7	9,578.4	Surface Working	Unknown	3/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled & bucket tamped. SITE REMEDIATED.
U	6015	N/A	56,012.8	35,204.8	9,491.4	Shallow Shaft	Unknown	Apr. 2013	Unknown	None	None	Yes	Removed in Cut	Yes	0	0	0	0	0	0	Working was located next to the Blacksmith Shop, removed during cut, nothing found. SITE REMEDIATED.
56	6018	5260	57,532.1	34,551.5	9,698.0	Shallow Shaft	Known	2/20/2013	Timbered Shaft	Yes	Yes	Yes	Structural Rock Backfill	None	0	1,293	0	0	0	0	Site blasted and excavated to competent rock, backfilled using an excavator, dozer, & roller. FSW quantified the site prior to backfilling. SITE REMEDIATED.
347	6034	5259	57,405.3	34,721.3	9,660.0	Surface Working	Known	Feb. 2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no evidence was found. SITE REMEDIATED.
480	6035	5026	54,754.5	35,601.6	9,625.0	Collapsed Shaft	Known	2/23/2013	12x7	Yes	Yes	Yes	Structural Rock Backfill	None	0	342	0	0	0	0	Collapsed shaft, drilling completed, no voids found, holes grouted, excavated 30 feet to competent rock. Site quantified and backfilled. SITE REMEDIATED.
481	6036	5023	54,602.6	35,559.3	9,640.0	Collapsed Shaft	Known	1/21/2014	Unknown	None	Yes	Yes	Concrete Cap	None	0	0	0	0	15	104	Collapsed shaft, voids found at southwest corner, grouting completed, concrete cap. (Figure UG5). SITE REMEDIATED.
491	6037	5024	54,579.4	35,716.7	9,675.0	Surface Working	Known	2/27/2013	Unknown	None	Yes	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Drilled and blasted. Blast rock removed, exposed working to competent rock, excavated 12 feet to competent rock, structural fill, backfilled. FSW quantified the working prior to backfilling. SITE REMEDIATED.
490	6038	5022	54,485.7	35,639.7	9,670.0	Surface Working	Known	2/27/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working, excavated 10 to 15 feet, nothing found, backfilled, (±10 CY) with 1 excavator. SITE REMEDIATED.
U	6039	N/A	54,383.6	35,363.5	9,648.4	Surface Working	Unknown	2/27/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Prospect pit excavated 17 feet to rock, backfilled (±63 CY). SITE REMEDIATED.

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Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
Underground Workings Remediation Summary

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
U	6040	N/A	54,426.7	35,308.8	9,627.5	Surface Working	Unknown	2/27/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working, excavated 20 feet into rock, site backfilled (± 74 CY). SITE REMEDIATED.
U	6041	N/A	54,378.4	35,386.7	9,648.4	Surface Working	Unknown	2/27/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working, excavated 10 feet into rock, site backfilled (±45 CY). SITE REMEDIATED.
U	6042	N/A	54,260.5	35,236.2	9,657.1	Collapsed Adit	Unknown	2/27/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Collapsed adit, excavated 9 feet to rock, backfilled (±30 CY). SITE REMEDIATED.
TP11	6043	5021	54,676.7	35,281.7	9,565.0	Test Pit	Known	2/28/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working excavated 8 feet to competent rock, backfilled, (±7 CY) using one excavator. SITE REMEDIATED.
U	6044	N/A	54650.9	35274.7	9,568.0	Test Pit	Unknown	2/28/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working excavated to 8 feet to competent rock, backfilled, (±7 CY) 1 excavator. SITE REMEDIATED.
TP12	6045	5020	54,604.4	35,272.6	9,575.0	Test Pit	Known	2/28/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working excavated to 8 feet to competent rock, backfilled,(7+/- CY) 1 excavator. SITE REMEDIATED.
424	6050	5227	56,897.1	34,057.7	9,740.0	Surface Working	Known	4/20/2013	Unknown	None	None	Yes	Geogrid	None	0	0	9,257	171	0	0	Confirmatory drilling performed. Two-layer geogrid deployed and completed with select structural fill. (Figure UG6). SITE REMEDIATED.
55	6051	5299	57,317.8	35,039.2	9,695.0	Timbered Shaft	Known	3/2/2013	Unknown	Yes	Yes	Yes	Concrete Cap	None	0	3,550	0	0	30	72	Site drilled, excavated blast rock. Additional confirmatory drilling above the two found adits, concrete plug, cemented rock fill, quantified structural fill. (Figure UG7). SITE REMEDIATED.
349	6052	5261	57,538.5	34,606.7	9,695.0	Surface Working	Known	2/20/2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated in conjunction with UG #6018 remediation. SITE REMEDIATED.
348	6053	5262	57,550.8	34,659.0	9,695.0	Surface Working	Known	Feb. 2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no additional evidence found. SITE REMEDIATED.
345	6054	5258	57,362.2	34,578.8	9,660.0	Surface Working	Known	Feb. 2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no additional evidence found. SITE REMEDIATED.
354	6055	5257	57,278.1	34,821.7	9,655.0	Surface Working	Known	Feb. 2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no additional evidence found. SITE REMEDIATED.
346	6056	5254	57,151.9	34,543.5	9,625.0	Surface Working	Known	3/2/2013	Timbered Shaft	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Found a timbered shaft, excavated 22 feet to competent rock, site backfilled,(±33 CY) one excavator. SITE REMEDIATED.
U	6057	N/A	56,632.6	34,826.5	9,550.9	Shallow Shaft	Unknown	3/6/2013	None	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Collapsed shaft or deep prospect pit, excavated to a depth of 22 feet into hard rock, backfilled with structural rock fill, (±155 CY). SITE REMEDIATED.
343	6058	5238	56,666.0	34,781.1	9,570.0	Surface Working	Known	3/6/2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no additional evidence found. SITE REMEDIATED.

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342	6059	5237	56,658.5	34,781.1	9,570.0	Surface Working	Known	3/6/2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no additional evidence found. SITE REMEDIATED.
341	6060	5235	56,537.2	34,820.0	9,560.0	Surface Working	Known	3/27/2013	Shallow	Yes	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Removal of approximately ±35 feet of tailings, nothing found, one excavator. SITE REMEDIATED.
339	6061	5135	56,325.0	34,929.8	9,515.0	Timbered Shaft	Known	3/20/2013	Unknown	None	Video	Yes	Concrete Cap	None	140	0	0	0	16	168	Shaft - removed pre-cast concrete slabs, measured 63 feet depth, video shaft to 55+ feet nothing found, backfilled course shaft backfill, ~140 CY, 3' concrete plug, 7 feet cemented rock fill. (Figure UG8). SITE REMEDIATED.
U	6062	N/A	56324.0	34932.2	9,515.0	Shallow Working	Unknown	3/6/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 6 to 8 feet into rock, nothing found. SITE REMEDIATED.
340	6063	5231	56,410.0	34,915.3	9,525.0	Surface Working	Known	3/6/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Remediated shallow working, excavated to a depth of 8 feet into hard rock then backfilled with structural rock fill (±12 CY), one excavator. SITE REMEDIATED.
U	6064	N/A	56536.0	34818.3	9,563.0	Surface Working	Known	3/27/2013	Shallow	Yes	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Removal of approximately ±35 feet of tailings, nothing found, one excavator. SITE REMEDIATED.
371	6065	5239	56,707.8	34,980.8	9,580.0	Surface Working	Known	10/25/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 to 20 feet to competent rock, backfilled. SITE REMEDIATED.
351	6066	5243	56,871.4	34,880.3	9,600.0	Surface Working	Known	3/6/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	The site was excavated and found to be a collapsed shaft. Adit found at 19 to 20 feet, excavated to expose the adit to a depth of 27 feet into hard rock, practical refusal, one excavator,(± 270 CY) backfilled. SITE REMEDIATED.
344	6067	5242	56,802.4	34,666.5	9,580.0	Trench	Known	3/7/2013	Trench	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 20 feet of material, approximately 65 feet in length, and 6 feet in width (average) and daylight to existing surface within ADR2, nothing found, backfilled, (±144 CY), one excavator. SITE REMEDIATED.
370	6068	5232	56,470.7	35,048.3	9,545.0	Surface Working	Known	10/24/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled. SITE REMEDIATED.
353	6069	5255	57,181.0	34,783.9	9,635.0	Surface Working	Known	3/7/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Remediated shallow working, excavated 8 feet into competent rock, backfilled (±7 CY), one excavator. SITE REMEDIATED.
350	6070	5249	57,042.2	34,743.1	9,600.0	Collapsed Adit	Known	3/11/2013	4x6	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 18 to 20 feet, backfilled (±35 CY). SITE REMEDIATED.
U	6071	N/A	57,038.0	34,716.8	9,582.4	Surface Working	Unknown	3/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Part of UG #6070. SITE REMEDIATED.
352	6072	5250	57,023.2	34,865.4	9,630.0	Surface Working	Known	3/11/2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated shallow working, removed during topsoil stripping, no evidence was found. SITE REMEDIATED.
U	6078	N/A	56,996.5	34,698.4	9,582.8	Adit/Shaft	Unknown	3/11/2013	4x7	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Unknown adit and small shaft excavated to competent rock to 18 to 20 feet, site backfilled, one excavator. SITE REMEDIATED.

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97	6094	5391	57,806.5	34,926.1	9,745.0	Timbered Shaft	Known	3/18/2013	15x10	Yes	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Timbered shaft, excavated 30 feet to competent rock, working removed, backfilled (±650 CY). SITE REMEDIATED.
1099	6095	5108	55,490.0	35,770.1	9,575.0	Surface Working	Known	6/11/2013	Unknown	None	None	Yes	Removed in Cut	Yes	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
TTP17	6096	5102	55,247.1	35,671.4	9,550.0	Test Pit	Known	1/6/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
477	6097	5101	55,197.7	35,690.8	9,560.0	Surface Working	Known	1/6/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
478	6098	5100	55,095.0	35,686.3	9,575.0	Trench	Known	1/6/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
493	6099	5032	54,707.2	35,920.4	9,695.0	Surface Working	Known	11/19/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled with native structural fill. SITE REMEDIATED.
492	6100	5025	54,676.0	35,768.5	9,675.0	Surface Working	Known	1/10/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
1016	6101	5031	54,634.5	35,977.8	9,720.0	Surface Working	Known	11/20/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled with native structural fill. SITE REMEDIATED.
1017	6102	5030	54,516.0	35,972.1	9,745.0	Surface Working	Known	1/14/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavation, found timbers, possible shaft, excavated 22 feet, provided drill access, drilled and found no laterals, center of shaft ends at 31 feet, backfilled with structural fill, bucket tamped compaction. SITE REMEDIATED.
1005	6103	5029	54,504.1	35,991.7	9,750.0	Surface Working	Known	11/20/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled with native structural fill. SITE REMEDIATED.
1006	6104	5028	54,490.1	36,050.4	9,765.0	Surface Working	Known	11/20/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled with native structural fill. SITE REMEDIATED.
TP13	6105	5018	54,288.8	35,478.6	9,680.0	Test Pit	Known	11/9/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	SITE REMEDIATED.
488	6106	5016	54,175.1	35,308.7	9,700.0	Collapsed Shaft	Known	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
99	6107	5392	57,898.0	34,957.4	9,785.0	Surface Working	Known	3/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Surface working excavated 10 feet to competent rock, backfilled (±27 CY), one excavator. SITE REMEDIATED.
211	6108	5301	57,508.5	35,144.9	9,750.0	Surface Working	Known	4/12/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated to 13 feet to competent rock, backfilled (± 47 CY), one excavator. SITE REMEDIATED.

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210	6109	5302	57,468.2	35,265.0	9,780.0	Shallow Shaft	Known	4/12/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated to 16 feet to competent rock ,backfilled, (67+/-CY), one excavator. SITE REMEDIATED.
229	6110	5300	57,372.2	35,130.0	9,735.0	Surface Working	Known	4/12/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 13 feet to competent rock, backfilled (±39 CY), one excavator. SITE REMEDIATED.
226	6113	5298	57,325.9	35,321.0	9,790.0	Shallow Shaft	Known	3/28/2013	Shaft	None	Yes	Yes	Structural Rock Backfill	None	0	298	0	0	0	0	Shaft, drilling completed, site blasted, excavated FWS quantified, excavation backfilled. SITE REMEDIATED.
U	6116	N/A	56,147.3	35,573.0	9,567.1	Surface Working	Unknown	4/23/2015	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±6 feet to competent rock. Backfilled and compacted. SITE REMEDIATED.
U	6117	N/A	56,136.0	35,616.7	9,567.7	Timbered Shaft	Unknown	11/20/2014	Unknown	Yes	Yes	Yes	Concrete Cap	None	0	0	0	0	8	50	Unknown timbered shaft, drilled and found no laterals, concrete plug. (Figure UG9). SITE REMEDIATED.
U	6118	N/A	56,155.6	35,497.0	9,550.1	Surface Working	Unknown	4/23/2015	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock. Backfilled and compacted. SITE REMEDIATED.
222	6119	5291	57,196.2	35,482.9	9,845.0	Shaft/Stope	Known	4/11/2013	5x6	None	Yes	No	Geogrid	None	0	0	7,013	130	0	0	Existing stope found, terminated about 15 feet, crown removed exposing stope. Found a shallow shaft about 25 to 30 feet below grade, drilled and blasted. Installed geogrid. (Figure UG10). SITE REMEDIATED.
225	6120	5290	57,169.2	35,461.1	9,835.0	Collapsed Adit	Known	4/11/2013	5x7	None	Yes	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Site drilled and blasted, void found to the east (UG #6119). SITE REMEDIATED.
233	6121	5271	57,135.3	35,535.6	9,850.0	Surface Working	Known	4/11/2013	Shallow	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Remediated/removed providing access to UG #6120. SITE REMEDIATED.
U	6122	N/A	56,822.7	36,379.9	9,870.4	Deep Shaft/Collapsed Adit	Unknown	4/11/2013	8x35x50'+	Yes	Yes	Yes	Structural Rock Backfill	None	0	729	4,149	256	0	0	Site drilled and blasted, excavated, FWS quantified excavation, backfilled, geogrid completed (three layer system), select structural fill, revised structural fill due to grade change to 729 CY. (Figure UG11). SITE REMEDIATED.
228	6124	5296	57,302.7	35,351.6	9,810.0	Trench	Known	4/12/2013	8x9x25	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Trench, excavated 9 feet to competent rock, backfilled (±67 CY), one excavator. SITE REMEDIATED.
U	6125	N/A	57,909.4	34,930.7	9,786.5	Surface Working	Unknown	4/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 6 to 8 feet into rock, nothing found, backfilled (±13 CY). SITE REMEDIATED.
U	6126	N/A	57,918.8	34,950.0	9,791.5	Surface Working	Unknown	4/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 8 to 9 feet into rock, nothing found, backfilled (±15 CY). SITE REMEDIATED.
U	6127	N/A	57,926.3	34,981.2	9,798.6	Timbered Shaft	Unknown	4/12/2013	4x6	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Timbered shaft, ±4x6, excavated 25 feet to competent rock, working backfilled (±25 CY), one excavator. SITE REMEDIATED.
227	6128	5297	57,288.1	35,328.2	9,800.0	Surface Working	Known	4/12/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 8 feet to competent rock, backfilled (±20 CY), one excavator. SITE REMEDIATED.

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Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
Underground Workings Remediation Summary

IDENTIFICATION			LOCATION			WORKING DESCRIPTION									APPROXIMATE QUANTITIES						COMMENTS
HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
224	6129	5294	57,244.0	35,454.5	9,840.0	Surface Working	Known	4/12/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Shallow working, excavated 8 feet to competent rock, backfilled (±25 CY), one excavator. SITE REMEDIATED.
221	6130	5293	57,238.9	35,505.9	9,865.0	Surface Working	Known	7/9/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Nothing found, backfilled. SITE REMEDIATED.
U	6131	N/A	57,777.0	35,118.0	9,755.1	Shallow Working	Unknown	4/24/2013	3x5	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Small working found in the Phase 1 diversion Channel, excavated 8 feet to competent rock, backfilled. SITE REMEDIATED.
8	6132	5190	56,190.8	34,476.6	9,730.0	Surface Working	Known	4/25/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
330	6133	5113	55,927.2	35,949.8	9,545.0	Timbered Shaft	Known	4/25/2013	8x10	Yes	Yes	Yes	Concrete Cap	(No Suggestions) conc. Slab	0	0	0	0	13	65	Confirmatory drilling completed, holes grouted. Site blasted, excavated ±25, concrete plug. (Figure UG12). SITE REMEDIATED.
293	6137	5147	56,803.0	36,093.5	9,870.0	Surface Working	Known	8/13/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	No evidence of an adit was found (as originally thought), excavated to ±9 feet to competent rock, backfilled (±133 CY). SITE REMEDIATED.
292	6138	5146	56,760.1	35,989.0	9,855.0	Surface Working	Known	5/7/2013	Shallow	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Known as a surface working, two workings were within ±20 feet of one another, considered one. Competent rock at 15 feet, site backfilled (±104 CY). SITE REMEDIATED.
322	6139	5167	56,815.5	35,823.7	9,855.0	Collapsed Stope	Known	8/14/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, no evidence of collapsed stope, backfilled (±148 CY). SITE REMEDIATED.
291	6140	5165	56,814.0	35,779.5	9,850.0	Collapsed Adit	Known	8/14/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, no evidence of collapsed adit, backfilled (±59 CY). SITE REMEDIATED.
283	6141	5145	56,690.7	36,202.1	9,825.0	Collapsed Shaft	Known	5/13/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, no evidence of collapsed shaft, backfilled. SITE REMEDIATED.
284	6142	5144	56,668.7	36,128.9	9,820.0	Surface Working	Known	5/6/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Existing surface working excavated 8 feet to competent rock, site backfilled (±67 CY). SITE REMEDIATED.
281	6143	5143	56,609.0	36,184.6	9,795.0	Surface Working	Known	5/6/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Existing surface working excavated 8 feet to competent rock, site backfilled (±30 CY). SITE REMEDIATED.
279	6144	5121	56,445.1	36,065.6	9,735.0	Surface Working	Known	5/16/2013	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Timbers found at 17 to 28 feet, excavated to competent rock. SITE REMEDIATED.
278	6145	5120	56,450.0	35,965.6	9,725.0	Surface Working	Known	5/16/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Existing surface working excavated 16 feet to competent rock, site backfilled (±31 CY). SITE REMEDIATED.
TP26	6146	5119	56,436.0	35,882.1	9,720.0	Test Pit	Known	10/28/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 to 15 feet to competent rock, backfilled (±333 CY). SITE REMEDIATED.

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
274	6147	5118	56,403.2	35,844.6	9,700.0	Timbered Shaft	Known	5/2/2013	10x7	None	Yes	Yes	Geogrid	None	250	0	4,993	94	0	0	Drilling completed, holes grouted, coarse shaft backfill placed, site prep for geogrid (2-layer system). (Figure UG13). SITE REMEDIATED.
273	6148	5117	56,354.1	35,934.4	9,690.0	Surface Working	Known	5/2/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
272	6149	5123	56,377.8	36,076.0	9,705.0	Surface Working	Known	5/6/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Existing working excavated 8 to 12 feet to competent rock, site backfilled (±100 CY). SITE REMEDIATED.
280	6150	5122	56,415.4	36,142.8	9,720.0	Surface Working	Known	5/6/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Existing working excavated 12 feet to competent rock, site backfilled (±33 CY). SITE REMEDIATED.
95	6151	5124	56,302.1	36,143.3	9,665.0	Sample Location	Known	5/2/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
332	6152	5115	56,197.2	35,986.4	9,640.0	Surface Working	Known	5/2/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock, backfilled and compacted. SITE REMEDIATED.
331	6153	5114	56,195.0	35,843.5	9,625.0	Timbered Shaft	Known	11/20/2014	5x5	None	Yes	Yes	Concrete Cap	None	1,103	0	0	0	11	64	Video shaft to 50 feet, no laterals found, measured depth to bottom of shaft, found to be 209 feet. Coarse shaft backfill placed, concrete plug. (Figure UG14). SITE REMEDIATED.
464	6154	5133	56,197.7	34,992.1	9,505.0	Collapsed Adit	Known	5/7/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
373	6155	5125	56,058.8	35,206.7	9,495.0	Surface Working	Known	4/8/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
414	6157	5206	56,439.8	34,091.3	9,820.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
U	6160	N/A	56,899.3	35,834.1	9,887.0	Collapsed Shaft	Unknown	6/11/2013	5x8	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Removed after #6159 was blasted, excavated and backfilled. SITE REMEDIATED.
U	6161	N/A	53,570.6	34,002.1	9,569.1	Surface Working	Unknown	6/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 30 feet to competent rock, site backfilled (±35 CY). SITE REMEDIATED.
U	6162	N/A	53,632.9	33,945.3	9,540.0	Shallow Prospect Pit	Unknown	6/11/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Excavated 12 feet to competent rock, backfilled (no compaction). SITE REMEDIATED.
U	6163	N/A	53,521.6	33,865.0	9,544.8	Collapsed Shaft	Unknown	6/11/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Excavated 20+ feet, verified the working was removed during cut exercise. SITE REMEDIATED.
U	6164	N/A	53,669.1	33,980.7	9,535.6	Shallow Shaft	Unknown	6/11/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled (no compaction). SITE REMEDIATED.

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
U	6165	N/A	53,682.3	33,926.8	9,521.3	Collapsed Adit	Unknown	6/11/2013	Unknown	Yes	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Excavated 8 feet to competent rock, backfilled (no compaction). SITE REMEDIATED.
TP1	6166	5103	55,380.0	35,401.9	9,490.0	Test Pit	Known	6/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled. SITE REMEDIATED.
467	6167	5105	55,488.9	35,479.9	9,510.0	Timbered Shaft	Known	6/11/2013	4x6	Yes	Yes	Yes	Concrete Cap	None	92	10,350	0	0	378	1,822	Connected to #6273, exposed shaft, backfilled with coarse shaft backfill, site blasted, excavation, concrete cap placed in adjoining "room/stopes", cemented rock fill, structural fill placed. (Figure UG15). SITE REMEDIATED.
U	6177	N/A	56,492.2	36,392.3	9,729.9	Shallow Shaft?	Unknown	6/25/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Squaw Gulch clay borrow area. Removed in Cut. SITE REMEDIATED.
230	6178	5251	57,121.4	35,160.0	9,725.0	Surface Working	Known	7/11/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 6 feet, backfilled (±22 CY). SITE REMEDIATED.
231	6179	5252	57,029.3	35,212.0	9,720.0	Surface Working	Known	7/11/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 8 feet rock, approximately 35 in length and 6 feet in width, nothing found, backfilled (±62 CY), one excavator. SITE REMEDIATED.
232	6180	5253	56,986.7	35,327.1	9,745.0	Surface Working	Known	7/10/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 5 feet, backfilled, (±15 CY). SITE REMEDIATED.
289	6181	5162	56,874.1	35,608.0	9,820.0	Surface Working	Known	7/10/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 5 feet to competent rock, backfilled (±25 CY). SITE REMEDIATED.
288	6182	5161	56,809.6	35,548.3	9,785.0	Surface Working	Known	7/10/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 8 feet to competent rock, backfilled (±30 CY). SITE REMEDIATED.
290	6183	5163	56,808.4	35,635.4	9,810.0	Collapsed Adit	Known	4/1/2014	4x6	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated blast rock to competent rock, adit still trending into slope but below 50 foot excavated depth. SITE REMEDIATED.
287	6184	5160	56,715.9	35,685.0	9,795.0	Collapsed Shaft	Known	7/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Small depression, excavated 8 feet to competent rock, backfilled (±26 CY). SITE REMEDIATED.
286	6185	5158	56,625.5	35,737.4	9,775.0	Surface Working	Known	7/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 8 feet to competent rock, backfilled (±35 CY). SITE REMEDIATED.
285	6186	5159	56,637.9	35,803.9	9,790.0	Surface Working	Known	7/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled (±40 CY). SITE REMEDIATED.
277	6187	5157	56,522.2	35,709.2	9,740.0	Timbered Shaft	Known	7/12/2013	4x6	Yes	Yes	Yes	Geogrid	None	0	555	3,817	74	0	0	Excavated to ±35 feet, confirmatory drilling, holes grouted, blasted, excavated FWS quantified working, backfilled, geogrid, select structural fill. (Figure UG 16). SITE REMEDIATED.
275	6188	5116	56,453.8	35,675.5	9,700.0	Collapsed Adit	Known	7/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to ±30 feet to competent rock, no adit found, backfilled (±111 CY). SITE REMEDIATED.

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
276	6189	5139	56,497.4	35,580.9	9,705.0	Surface Working	Known	7/12/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled (±45 CY). SITE REMEDIATED.
94	6190	5138	56,436.6	35,543.0	9,670.0	Sample Location	Known	7/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 4 feet to competent rock, backfilled (±32 CY). SITE REMEDIATED.
54	6191	5142	56,636.3	35,356.8	9,675.0	Sample Location	Known	7/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 8 feet to competent rock, backfilled (±81 CY). SITE REMEDIATED.
TR5	6192	5342	56,717.0	35,309.2	9,675.0	Trench	Known	7/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 12 feet, approximately 57 feet in length and 12 feet in width, nothing found, backfilled (±380 CY), one excavator. SITE REMEDIATED.
358	6193	5246	56,963.1	35,051.2	9,660.0	Surface Working	Known	7/15/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±22 feet to competent rock, backfilled (±147 CY). SITE REMEDIATED.
356	6194	5247	56,933.8	35,112.5	9,670.0	Surface Working	Known	8/9/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled (±296 CY). SITE REMEDIATED.
357	6195	5248	56,866.3	35,141.9	9,665.0	Surface Working	Known	8/9/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 12 feet to competent rock, backfilled (±160 CY). SITE REMEDIATED.
361	6196	5240	56,731.9	35,090.2	9,610.0	Surface Working	Known	7/17/2013	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to ±30 feet to competent rock, backfilled (±333 CY). SITE REMEDIATED.
364	6197	5234	56,606.1	35,262.3	9,635.0	Surface Working/Shaft	Known	8/13/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 15 feet to competent rock, backfilled (±166 CY), one excavator. SITE REMEDIATED.
365	6198	5140	56,551.5	35,296.0	9,630.0	Collapsed Stope/ Shallow working	Known	8/13/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 15 feet to competent rock, backfilled (±67 CY). SITE REMEDIATED.
366	6199	5137	56,466.8	35,356.7	9,630.0	Collapsed Stope	Known	8/14/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, no evidence of a collapsed stope found, backfilled (±222 CY). SITE REMEDIATED.
336	6200	5132	56,365.4	35,363.1	9,605.0	Collapsed Adit	Known	9/16/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±12 feet to competent rock, backfilled, and bucket tamped. SITE REMEDIATED.
337	6201	5131	56,339.1	35,375.7	9,600.0	Depression	Known	10/31/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled, and, bucket tamped. SITE REMEDIATED.
369	6202	5136	56,447.3	35,162.5	9,565.0	Collapsed Adit	Known	8/9/2013	7x4	None	Yes	Yes	Structural Rock Backfill	None	0	2,202	0	0	0	0	Confirmatory drilling, site blasted, blast rock removed, excavation quantified by FWS, backfilled. SITE REMEDIATED.
363	6203	5233	56,556.6	35,138.3	9,590.0	Surface Working	Known	8/10/2013	4x6	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 35 feet to competent hard rock, no Adits or Stopes found, all timbers removed, backfilled (±351 CY). SITE REMEDIATED.

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AD4	6204	5241	56,790.2	35,062.6	9,620.0	Collapsed Adit	Known	7/16/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±30 feet to competent rock, no adit found, backfilled (±111 CY). SITE REMEDIATED.
360	6205	5244	56,902.2	34,989.6	9,630.0	Surface Working	Known	7/16/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 to 18 feet to competent rock, backfilled (±150 CY). SITE REMEDIATED.
U	6206	N/A	56789.0	35,419.5	9,720.6	Timbered Adit; Shaft/Stope	Unknown	7/17/2013	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Adit, shaft, and stope removed, 30 feet deep by 15 feet in width, backfilled (±3,000 CY). SITE REMEDIATED.
425	6207	5228	56,881.1	34,204.8	9,720.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
441	6208	5224	56,723.6	34,329.0	9,715.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
451	6209	5223	56,663.0	34,348.3	9,720.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
13	6210	5222	56,584.5	34,467.5	9,690.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
442	6211	5194	56,376.5	34,439.7	9,725.0	Trench	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
443	6212	5193	56,341.3	34,392.2	9,740.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
438	6213	5198	56,377.1	34,225.6	9,785.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
437	6214	5199	56,407.3	34,177.9	9,800.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
439	6215	5200	56,462.3	34,258.6	9,775.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
440	6216	5201	56,504.8	34,272.7	9,765.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
435	6217	5213	56,565.2	34,163.1	9,795.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	none	0	0	0	0	0	0	SITE REMEDIATED.
434	6218	5212	56,552.9	34,134.6	9,800.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.

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IDENTIFICATION			LOCATION			WORKING DESCRIPTION									APPROXIMATE QUANTITIES						COMMENTS
HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
416	6219	5209	56,485.9	34,077.8	9,820.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
415	6220	5210	56,491.9	34,058.7	9,825.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
414	6221	5206	56,431.2	34,063.7	9,820.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
391	6222	5204	56,425.2	34,082.7	9,820.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
412	6223	5203	56,388.8	34,078.1	9,805.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
413	6224	5205	56,400.7	34,025.8	9,810.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
417	6225	5208	56,449.2	34,016.1	9,825.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
418	6226	5207	56,455.2	33,992.3	9,825.0	Surface Working	Known	7/18/2013	Unknown	None	none	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
433	6227	5211	56,552.5	34,020.4	9,820.0	Surface Working	Known	7/18/2013	Unknown	none	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
423	6228	5226	56,692.0	33,972.4	9,780.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
427	6229	5216	56,637.8	34,091.5	9,785.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
428	6230	5215	56,619.7	34,129.6	9,785.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
436	6231	5214	56,595.5	34,153.5	9,785.0	Surface Working	Known	7/18/2013	Unknown	none	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
426	6232	5225	56,771.3	34,067.2	9,755.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
432	6234	5217	56,662.2	34,134.2	9,770.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
430	6235	5218	56,638.0	34,162.8	9,770.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
431	6236	5219	56,638.1	34,172.4	9,770.0	Surface Working	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
429	6237	5220	56,625.8	34,153.4	9,770.0	Timbered Shaft	Known	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
U	6238	N/A	55,614.5	35,554.9	9,458.7	Collapsed Adit	Unknown	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Removed in Cut. SITE REMEDIATED.
U	6261	N/A	55,081.4	35,343.9	9,504.9	Unknown	Unknown	1/29/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±15 feet to competent rock, backfilled. SITE REMEDIATED.
U	6262	N/A	55,015.5	35,306.4	9,521.5	Surface Working	Unknown	7/30/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 8 to 9 feet to competent rock, nothing found, backfilled (±15 CY). SITE REMEDIATED.
U	6263	N/A	53846.9	33995.5	9,459.0	Collapsed Shaft	Unknown	7/31/2013	Unknown	None	Yes	Yes	Concrete Cap	None	0	0	0	0	5	70	Collapsed shaft, excavated ±28 feet to competent rock, drilled confirmatory borings above working, nothing found, concrete cap and cemented rock fill. (Figure UG17). SITE REMEDIATED.
460	6268	5087	56,069.7	34,868.9	9,555.0	Timbered Shaft	Known	8/1/2013	5x8	Yes	Yes	Yes	Concrete Cap	None	0	2,044	0	0	16	62	Shaft in cut, confirmatory drilling, no adits or stopes found, drilled center of shaft, holes grouted, concrete cap and cemented rock fill. (Figure UG18). SITE REMEDIATED.
U	6269	N/A	56853.7	35806.8	9,860.0	Collapsed Stope/Adit	Known	3/21/2015	8x12 & 8x60+	None	Yes	Yes	Geogrid	None	0	0	12,877	239	0	0	Collapsed stope/adit, drill line voids found, excavated, found trending north into the Anaconda and south down slope. Geogrid installed. (Figure UG19). SITE REMEDIATED.
U	6270	N/A	56396.8	36178.6	9,704.0	Surface Working	Unknown	8/20/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6271	N/A	56476.6	36347.2	9,720.0	Surface Working	Unknown	8/20/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6272	N/A	56516.8	36385.8	9,730.0	Surface Working	Unknown	8/20/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6273	N/A	55,750.5	35,608.1	9,462.0	Shaft/Stope	Unknown	8/22/2013	Unknown	Yes	Yes	Yes	Concrete Cap	None	0	2,406	0	0	541	2,143	Video working, connected upslope, drilling, excavated 25 feet, connected to #6167, located within the ADR Haul route, concrete placed in stope, cemented rock fill, and structural fill. (Figure UG20) SITE REMEDIATED.
U	6274	N/A	56764.0	36183.1	9,838.0	Shaft/Stope	Unknown	8/28/2013	Unknown	Yes	Yes	Yes	Concrete Cap	None	0	0	0	0	8	55	Video working shaft/stope running north to northwest, confirmatory drilling, concrete cap. (Figure UG21). SITE REMEDIATED.
U	6275	N/A	56415.0	35966.9	9,706.0	Stope/Adit	Unknown	10/29/2013	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, removed stope/adit site, backfilled. SITE REMEDIATED.

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421	6276	5040	54,821.3	33,907.8	9,455.0	Collapsed Adit	Known	4/10/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Packed with structural fill, extending into 1/2:1 slope. SITE REMEDIATED.
U	6277	N/A	56,438.6	35,586.5	9,676.9	Surface Working	Unknown	4/10/2014	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	SITE REMEDIATED.
334	6278	5128	56,174.5	35,277.6	9,535.0	Surface Working	Known	6/11/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	SITE REMEDIATED.
U	6279	N/A	55,939.0	34,929.8	9,491.2	Surface Working	Unknown	5/31/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6281	N/A	55,480.6	34,273.9	9,479.0	Shallow Shaft/ Adit	Unknown	10/17/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, adit removed, backfilled. SITE REMEDIATED.
389	6282	5078	55,999.6	34,068.5	9,645.0	Shallow Shaft	Known	10/18/2013	Unknown	None	Yes	Yes	Concrete Cap	None	0	0	0	0	10	45	Drilled, blasted, FWS quantified, concrete cap and cemented rock fill. (Figure UG22). SITE REMEDIATED.
1	6283	5079	56,079.9	34,064.1	9,660.0	Collapsed Adit	Known	10/18/2013	5X6	None	Yes	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, adit was found extending to north, confirmatory drilling, excavated blast rock to competent rock. SITE REMEDIATED.
447	6284	5080	56,144.6	34,079.1	9,690.0	Depression	Known	10/18/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled. SITE REMEDIATED.
408	6285	5083	56,123.0	33,967.7	9,710.0	Surface Working	Known	4/30/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±3 feet to competent rock, backfilled. SITE REMEDIATED.
410	6286	5081	56,176.0	34,031.3	9,715.0	Surface Working	Known	10/18/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled (±45 CY). SITE REMEDIATED.
409	6287	5082	56,181.9	33,993.2	9,725.0	Surface Working	Known	10/18/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 6 feet to competent rock, backfilled (±25 CY). SITE REMEDIATED.
449	6288	5075	56,025.2	34,212.7	9,630.0	Surface Working	Known	10/18/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±12 feet ,to competent rock, nothing found, backfilled (±53 CY). SITE REMEDIATED.
U	6289	N/A	56,080.5	35,042.0	9,472.0	Timbered Shaft	Unknown	1/28/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±8 feet to competent rock, structural rock backfill. SITE REMEDIATED.
U	6290	N/A	55,353.6	34,267.1	9,453.7	Adit/Horz. Drift	Unknown	10/19/2013	6X4	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Adit extends about 30 feet into the slope, removed crown pillar to within 5 feet, hole plugged with structural backfill. SITE REMEDIATED.
402	6291	5076	55,921.9	33,974.4	9,675.0	Surface Working	Known	2/13/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.

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393	6292	5058	55,740.9	34,070.5	9,620.0	Surface Working	Known	3/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 4 feet to competent rock, backfilled, and bucket tamped. SITE REMEDIATED.
U	6293	N/A	55,704.6	34,067.1	9,614.5	Surface Working	Unknown	3/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled, and bucket tamped. SITE REMEDIATED.
U	6294	N/A	55,689.5	34,092.1	9,599.4	Surface Working	Unknown	3/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 2 feet to competent rock, backfilled, and bucket tamped. SITE REMEDIATED.
392	6295	5059	55,830.0	34,070.6	9,625.0	Surface Working	Known	3/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 8 feet to competent rock, backfilled, and bucket tamped. SITE REMEDIATED.
390	6296	5077	55,970.1	34,061.6	9,645.0	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
446	6297	5197	56,310.1	34,164.0	9,765.0	Surface Working	Known	3/7/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Excavated to competent rock, backfilled, and bucket tamped. SITE REMEDIATED.
444	6298	5188	56,201.4	34,340.4	9,715.0	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
445	6299	5189	56,214.1	34,373.5	9,725.0	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
9	6300	5191	56,226.2	34,473.5	9,735.0	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
23	6301	5064	55,752.3	34,422.9	9,545.0	Surface Working	Known	1/20/2014	Unknown	None	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Excavated to competent rock, backfilled with structural fill, bucket tamped. SITE REMEDIATED.
22	6302	5063	55,703.6	34,404.1	6,520.0	Timbered Shaft	Known	1/20/2014	3x8	Yes	Yes	Yes	Concrete Cap	None	0	0	0	0	12	63	Excavated to 25'+, drilled, blasted, concrete, and cemented rock fill. (Figure UG23). SITE REMEDIATED.
376	6303	5062	55,649.3	34,489.9	9,515.0	Sample Location	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
377	6304	5054	55,569.5	34,257.1	9,505.0	Surface Working	Known	10/21/2013	Unknown	Yes, RR timbers	Pending	Yes	Geogrid	None	0	0	4,840	100	0	0	Excavated, railroad timbers removed, drilled, blasted, two-layer geogrid. (Figure UG24). SITE REMEDIATED.
386	6305	5055	55,630.1	34,237.8	9,515.0	Surface Working	Known	10/24/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±8 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
384	6306	5053	55,593.4	34,147.6	9,555.0	Surface Working	Known	5/16/2014	None	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±8 feet to competent rock, backfilled, and compacted. SITE REMEDIATED.

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387	6307	5056	55,672.4	34,171.1	9,555.0	Surface Working	Known	10/24/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±8 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
387	6308	5061	55,721.1	34,199.5	9,545.0	Shallow Shaft	Known	10/24/2013	5x6	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±28 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
398	6309	5060	55,586.4	33,876.5	9,675.0	Timbered Shaft	Known	2/13/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
382	6310	5051	55,483.7	34,048.1	9,590.0	Collapsed Adit	Known	4/30/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±6 feet to competent rock, backfilled. SITE REMEDIATED.
383	6311	5052	55,526.2	34,081.8	9,585.0	Collapsed Stope	Known	4/30/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±6 feet to competent rock, backfilled. SITE REMEDIATED.
407	6312	5046	55,492.4	34,520.9	9,460.0	Collapsed Adit	Known	5/16/2014	None	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±3 feet to competent rock, backfilled, and compacted. SITE REMEDIATED.
U	6313	N/A	56,335.3	35,411.2	9,597.3	Collapsed Shaft	Unknown	7/27/2015	Unknown	Yes	Yes	Yes	Geogrid	None	0	0	17,402	322	0	0	Excavated ±25+ feet, confirmatory drilling performed, two-layer geogrid deployed and completed with select structural fill. (Figure UG25). SITE REMEDIATED.
367	6314	5129	56,289.1	35,429.5	9,600.0	Collapsed Shaft	Known	11/20/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
359	6315	5245	56,926.6	35,022.8	9,645.0	Surface Working	Known	10/25/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 6 to 8 feet to competent rock, backfilled. SITE REMEDIATED.
355	6316	5256	57,252.9	34,903.0	9,680.0	Surface Working	Known	10/28/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 10 feet to competent rock, backfilled. SITE REMEDIATED.
TP25	6317	5141	56,628.8	35,366.0	9,675.0	Test Pit	Known	10/28/2013	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 5 feet to competent rock, backfilled. SITE REMEDIATED.
U	6318	N/A	55,317.8	35,426.4	9,457.8	Stope/Adit	Unknown	10/29/2013	Unknown	Yes	Yes	Yes	Concrete Cap	None	0	1,226	0	0	38	199	Excavation, confirmatory drilling, trending towards UG #6167 blasted, excavated, and FWS quantified. (Figure UG26). SITE REMEDIATED.
468	6319	5034	54,893.2	35,306.1	9,540.0	Sample Location	Known	1/22/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
469	6320	5035	54,924.1	35,235.4	9,525.0	Timbered Shaft	Known	1/11/2014	8x20	None	None	Yes	Concrete Cap	None	6,355	0	0	0	18	63	Estimated depth ~1000 feet, no laterals to 75 feet, coarse shaft backfill, 30 to 15 feet of cut, coned, concrete, coarse shaft rock fill. (Figure UG27). SITE REMEDIATED.
368	6321	5019	54,443.3	35,412.4	9,635.0	Timbered Shaft	Known	2/26/2013	4x6	Yes	Yes	Yes	Structural Rock Backfill	None	0	1,398	0	0	0	0	Excavated, FWS quantified fill volume, backfill, and roller compaction. SITE REMEDIATED.

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
482	6322	5011	54,363.8	35,041.6	9,600.0	Surface Working	Known	10/29/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
476	6323	5012	54,423.3	34,965.8	9,565.0	Surface Working	Known	3/24/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±7 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
484	6324	5009	54,247.7	34,918.8	9,610.0	Surface Working	Known	2/22/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±4 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
483	6325	5010	54,284.5	34,975.5	9,615.0	Collapsed Adit	Known	2/22/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±4 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
U	6326	N/A	54,250.3	34,964.0	9,612.3	Collapsed Adit	Unknown	2/22/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to ±20 feet to competent rock, connected to UG#6428, backfilled. SITE REMEDIATED.
S3	6327	5013	54,196.1	35,076.7	9,660.0	Timbered Shaft	Known	4/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated after UG#6428 was blasted, remediated as part of UG#6428. Removed blast rock. SITE REMEDIATED.
TP10	6328	5014	54,133.9	35,109.9	9,685.0	Test Pit	Known	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
489	6329	5015	54,157.8	35,170.8	9,685.0	Timbered Shaft	Known	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
485	6330	5008	54,120.1	34,823.7	9,635.0	Timbered Shaft	Known	1/28/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6331	N/A	54,614.0	35,917.9	9,709.1	N/A	Unknown	10/29/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Determined to be abandoned drill mud pit, investigation only. SITE REMEDIATED.
U	6332	N/A	56,217.0	35,029.4	9,492.9	Surface Working	Unknown	1/20/2014	Shallow	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 5 feet, backfilled. SITE REMEDIATED.
U	6333	N/A	55,047.4	35,719.3	9,585.7	Surface Working	Unknown	10/29/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock, backfilled with native structural fill. SITE REMEDIATED.
U	6334	N/A	54,907.4	33,820.1	9,503.3	Timbered Drainage	Unknown	2/13/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Partially eliminated during cut, timbers removed, 70+ foot horizontal excavation. SITE REMEDIATED.
U	6335	N/A	54,121.5	35,218.8	9,705.1	Surface Working	Unknown	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6340	N/A	54,145.4	35,214.4	9,690.3	Surface Working	Unknown	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.

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HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
411	6341	5202	56,358.3	34,078.2	9,795.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
10	6342	5192	56,323.5	34,516.0	9,705.0	Collapsed Shaft	Known	1/20/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated to competent rock. SITE REMEDIATED.
11	6343	5196	56,347.9	34,544.4	9,690.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
12	6344	5195	56,451.1	34,529.8	9,685.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
14	6345	5221	56,536.2	34,567.5	9,660.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
16	6346	5099	56,293.7	34,677.8	9,650.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
17	6347	5098	56,275.6	34,701.7	9,645.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
18	6348	5097	56,263.7	34,725.7	9,635.0	Trench	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
19	6349	5093	56,209.0	34,763.7	9,620.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
20	6350	5092	56,178.9	34,769.0	9,615.0	Trench	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
21	6351	5091	56,172.3	34,687.8	9,655.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
7	6352	5090	56,147.7	34,592.7	9,690.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
455	6353	5089	56,081.4	34,745.2	9,610.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
459	6354	5086	55,990.5	34,793.1	9,570.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
454	6355	5088	56,069.4	34,792.8	9,590.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.

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461	6356	5094	56,233.8	34,850.8	9,575.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
453	6357	5096	56,288.1	34,796.8	9,600.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
452	6358	5236	56,579.3	34,705.3	9,600.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
463	6359	5230	56,439.9	34,786.7	9,585.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
15	6360	5229	56,403.2	34,734.5	9,610.0	Surface Working	Known	11/12/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6388	N/A	54,171.2	35,228.0	9,678.5	Surface Working	Unknown	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6389	N/A	54,142.4	35,163.4	9,678.2	Surface Working	Unknown	1/27/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
388	6390	5057	55,745.4	34,180.3	9,560.0	Surface Working	Known	4/30/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±15 feet to competent rock, backfilled. SITE REMEDIATED.
U	6391	N/A	54,844.4	33,920.1	9,452.6	Collapsed Adit	Unknown	4/10/214	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Remediated with UG# 6276. SITE REMEDIATED.
U	6392	N/A	54,492.9	36,131.7	9,776.7	Deep Shaft	Unknown	12/6/2013	Unknown	Yes	Yes	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Grate and Stand Pipe - drilled and determined there are no laterals that extend into perimeter road. SITE REMEDIATED.
U	6394	N/A	54,907.4	33,820.1	9,503.3	Surface Working	Unknown	2/17/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6395	N/A	55,657.7	35,382.5	9,447.4	Surface Working	Unknown	7/18/2013	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	SITE REMEDIATED.
U	6398	N/A	56,007.2	35,761.1	9,536.6	Surface Working	Unknown	2/19/2014	Unknown	None	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Excavated to competent rock, backfilled with structural fill, bucket tamped. SITE REMEDIATED.
479	6400	5033	54,894.3	35,624.6	9,602.8	Trench	Known	1/8/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
S1	6401	5104	55,440.2	35,611.9	9,490.9	Collapsed Shaft	Known	3/6/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.

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465	6402	5107	55,532.2	35,670.0	9,525.0	Sample Location	Known	1/8/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
AD5	6403	5111	55,690.2	35,669.5	9,495.0	Collapsed Adit	Known	1/8/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
1100	6404	5109	55,538.6	35,779.4	9,570.0	Surface Working	Known	1/8/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
5	6405	5070	55,948.3	34,560.2	9,563.4	Collapsed Adit	Known	1/20/2014	Unknown	None	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Excavated to competent rock, backfilled with structural fill, bucket tamped. SITE REMEDIATED.
6	6406	5071	55,953.5	34,621.9	9,549.3	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
4	6407	5072	55,983.7	34,560.0	9,577.4	Shallow Shaft	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
450	6408	5069	55,934.9	34,474.5	9,583.4	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
25	6409	5068	55,904.4	34,460.5	9,575.8	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
26	6410	5073	55,916.3	34,383.7	9,598.7	Collapsed Stope	Known	1/20/2014	Unknown	None	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Excavated to competent rock, backfilled with structural fill, bucket tamped. SITE REMEDIATED.
24	6411	5067	55,861.9	34,441.5	9,564.7	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
456	6412	5065	55,837.6	34,522.5	9,540.6	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
457	6413	5066	55,825.9	34,650.8	9,505.6	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
458	6414	5085	55,893.1	34,750.5	9,498.2	Surface Working	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
375	6415	5084	55,863.3	34,845.7	9,461.1	Sample Location	Known	1/9/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
448	6416	5074	55,964.5	34,241.9	9,606.2	Collapsed Stope	Known	1/20/2014	Unknown	None	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Excavated to competent rock, backfilled with structural fill, bucket tamped. SITE REMEDIATED.

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2	6417	5187	56,068.1	34,383.5	9,656.6	Timbered Shaft	Known	1/20/2014	Unknown	None	None	Yes	Structural Rock Backfill	Yes	0	0	0	0	0	0	Excavated to competent rock, backfilled with structural fill, bucket tamped. SITE REMEDIATED.
3	6418	5186	56,062.4	34,479.0	9,632.7	Surface Working	Known	1/21/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
57	6420	5263	57,135.6	34,042.1	9,720.0	Sample Location	Known	1/14/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
58	6421	5264	57,153.3	33,904.1	9,745.0	Sample Location	Known	1/14/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during CUT. SITE REMEDIATED.
96	6422	5185	56,343.3	36,604.2	9,665.0	Sample Location	Known	1/14/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6428	N/A	54,224.2	34,986.4	9,613.5	Adit	Unknown	1/22/2014	5x6	Yes	Yes	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated, drilled, blasted, excavated 20 feet to competent rock, backfilled, and compacted. SITE REMEDIATED.
U	6429	N/A	56,113.3	35,844.0	9,588.0	Adit	Unknown	12/3/2014	4X6	None	Yes	Yes	Geogrid	None	0	0	4,815	89	0	0	Confirmatory drilling, blasted, geogrid installed. (Figure UG28) SITE REMEDIATED.
U	6430	N/A	56580.78	35801.03	9,757.0	Surface Working	Unknown	1/29/2014	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±14 feet to competent rock, backfilled. SITE REMEDIATED.
395	6431	5049	55,355.7	33,920.1	9,630.0	Surface Working	Known	2/13/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
396	6432	5050	55,349.4	33,839.3	9,645.0	Timbered Shaft	Known	2/13/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6433	N/A	54,827.0	35,223.3	9,522.5	Timbered Shaft	Unknown	1/15/2014	3x6	Yes	None	Yes	Concrete Cap	None	117	0	0	0	9	44	Bridged/caved in, coarse shaft backfill to 20 feet, coned, concrete plug, course shaft backfill. (Figure UG29). SITE REMEDIATED.
379	6434	5041	54,881.4	33,770.2	9,490.0	Collapsed Stope	Known	2/17/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
378	6435	5042	54,899.7	33,803.4	9,500.0	Collapsed Stope	Known	2/17/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
U	6436	N/A	55109.69	35285.91	9,478.0	Surface Working	Unknown	3/6/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±7 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
U	6437	N/A	56,024.1	35,802.6	9,536.0	Surface Working	Unknown	2/19/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±6 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.

Acronyms:
FSW-Foresight West Survey

Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
Underground Workings Remediation Summary

IDENTIFICATION			LOCATION			WORKING DESCRIPTION									APPROXIMATE QUANTITIES						COMMENTS
HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
U	6438	N/A	54,455.7	35,014.0	9,550.0	Surface Working	Unknown	2/22/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±6 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
223	6442	5295	57,268.3	35,463.9	9,845.0	Surface Working	Known	3/3/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 3 feet, nothing found, backfilled. SITE REMEDIATED.
1046	6448	5110	55,623.6	35,779.1	9,520.0	Collapsed Adit	Known	3/6/2014	48-inch CMP	None	Pending	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during cut. SITE REMEDIATED.
466	6449	5106	55,550.0	35,570.1	9,525.0	Surface Working	Known	3/6/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 6 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
TP45	6450	5112	55,646.9	35,597.9	9,465.0	Test Pit	Known	3/6/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated 6 feet to competent rock, nothing found, backfilled. SITE REMEDIATED.
U	6451	N/A	56,220.9	36,155.9	9,647.3	Surface Working	Unknown	6/26/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±20 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6452	N/A	55,310.5	35,193.1	9,414.9	Surface Working	Unknown	4/1/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Part of UG#6115. SITE REMEDIATED.
U	6461	N/A	55,945.8	35,619.5	9,490.9	Surface Working	Unknown	4/25/2015	Unknown	None	None	Yes	Geogrid	None	0	0	0	0	0	0	Remediated as part of #6639. SITE REMEDIATED.
U	6462	N/A	55,925.8	35,641.3	9,497.1	Surface Working	Unknown	8/15/2014	Unknown	None	None	Yes	Removed in Cut	None	0	0	0	0	0	0	Eliminated during CUT. SITE REMEDIATED.
U	6492	N/A	55,839.7	35,668.3	9,472.1	Surface Working	Unknown	8/22/2013	Unknown	None	None	Yes	Concrete Cap	None	0	0	0	0	0	0	Remediated as part of #6273. SITE REMEDIATED.
U	6616	N/A	56,249.9	36,002.0	9,646.7	Surface Working	UNKNOWN	6/26/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6622	N/A	54,549.5	35,321.5	9,599.4	Surface Working	Unknown	6/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±5 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6623	N/A	54,502.3	35,301.5	9,606.7	Surface Working	Unknown	6/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6624	N/A	54,356.2	35,222.8	9,631.1	Surface Working	Unknown	6/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±5 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6625	N/A	54,612.6	35,381.0	9,595.8	Surface Working	Unknown	6/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±18 feet to competent rock, backfilled, compacted. SITE REMEDIATED.

Acronyms:
FSW-Foresight West Survey

Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
Underground Workings Remediation Summary

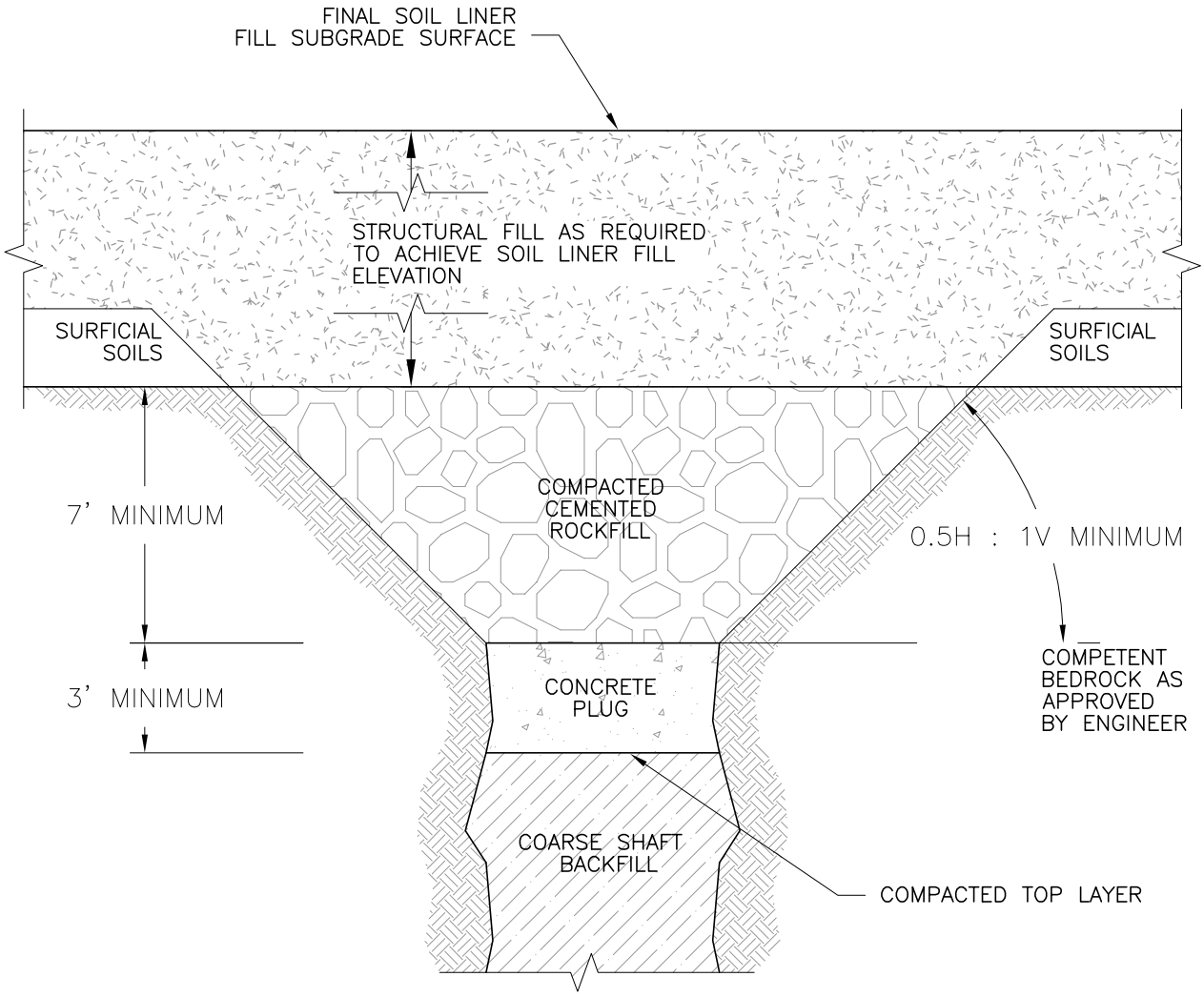
IDENTIFICATION			LOCATION			WORKING DESCRIPTION									APPROXIMATE QUANTITIES						COMMENTS
HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
U	6626	N/A	54,732.9	35,440.6	9,592.9	Surface Working	Unknown	6/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6627	N/A	54,391.2	35,375.0	9,644.1	Surface Working	Unknown	6/7/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6628	N/A	54,427.8	35,387.1	9,636.8	Surface Working	Unknown	6/10/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±7 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6629	N/A	54,433.3	35,294.0	9,622.3	Surface Working	Unknown	6/11/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±8 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6630	N/A	54,350.3	35,325.8	9,647.9	Surface Working	Unknown	6/11/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±8 feet to competent rock, backfilled, compacted. SITE REMEDIATED.
U	6632	N/A	54,525.1	35,820.0	9,707.1	Surface Working	Unknown	8/21/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock, backfilled. SITE REMEDIATED.
U	6633	N/A	54,249.6	34,631.1	9,528.4	Surface Working	Unknown	8/22/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±10 feet to competent rock. Removed lots of organics, trash, and debris, backfilled with structural fill material, compacted. SITE REMEDIATED.
U	6635	N/A	55,742.5	35,849.8	9,508.0	Wooden Box Culvert	Unknown	8/2/2014	Unknown	Yes	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±20 to competent rock, backfilled. SITE REMEDIATED.
U	6637	N/A	54,197.1	35,243.0	9,667.3	Collapsed Adit	Unknown	8/21/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Drilled, blasted, excavated 18 feet to competent rock, backfilled. SITE REMEDIATED.
U	6638	N/A	54,229.5	35,359.9	9,679.0	Collapsed Adit	Unknown	8/21/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Drilled, blasted, excavated 18 feet to competent rock, backfilled. SITE REMEDIATED.
U	6639	N/A	55,881.6	35,697.4	9,477.2	Adit	Unknown	4/25/2015	Unknown	Yes	Yes	Yes	Geogrid	None	0	0	63,821	1,182	0	0	Drilling-connected to #6273, geogrid installed. (Figure UG30). SITE REMEDIATED.
U	6640	N/A	55,892.8	35,738.5	9,485.3	Adit	Unknown	4/25/2015	Unknown	None	None	Yes	Geogrid	None	0	0	0	0	0	0	Remediated as part of #6639. SITE REMEDIATED.
U	6641	N/A	55,061.7	35,334.3	9,493.5	Surface Working	Unknown	9/11/2014	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±15 feet competent rock, backfilled. SITE REMEDIATED.
U	6670	N/A	55,922.4	35,649.4	9,480.2	Adit	Unknown	4/26/2014	Unknown	None	None	Yes	Geogrid	None	0	0	0	0	0	0	Remediated as part of #6639. SITE REMEDIATED.
U	6671	N/A	56,258.4	35,402.1	9,571.6	Collapsed Adit	Unknown	6/1/2015	Unknown	None	None	No	Geogrid	None	0	0	0	0	0	0	Remediated as part of UG# 6004. SITE REMEDIATED.

Acronyms:
FSW-Foresight West Survey

Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
Underground Workings Remediation Summary

IDENTIFICATION			LOCATION			WORKING DESCRIPTION									APPROXIMATE QUANTITIES						COMMENTS
HISTORICAL ID	AMES ID	CC&V WORKING ID	NORTHING	EASTING	ELEV. (feet)	DESCRIPTION	KNOWN OR UNKNOWN	DATE	APPROXIMATE OPENING SIZE	TIMBERS PRESENT	CONFIRMATION DRILLING PERFORMED	REMEDIATION PERFORMED	REMEDIATION TYPE	STRUCTURE PRESENT	COARSE SHAFT BACKFILL (yd^3)	STRUCTURAL FILL (yd^3)	GEOGRID (ft^2)	SELECT STRUCTURAL FILL (yd^3)	CONCRETE (yd^3)	CEMENTED ROCKFILL (yd^3)	
U	6688	N/A	56,378.5	35,393.1	9,606.7	Timbered Shaft	Unknown	6/30/2015	Unknown	Yes	Yes	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Drilling, no voids found, timbers removed, backfilled, compacted. SITE REMEDIATED.
U	6689	N/A	54,620.5	36,156.4	9,748.0	Surface Working	Unknown	7/15/2015	Unknown	None	None	Yes	Structural Rock Backfill	None	0	0	0	0	0	0	Excavated ±20 feet to native ground, nothing found. SITE REMEDIATED.

Acronyms:
FSW-Foresight West Survey



A / UG1 CONCRETE REMEDIATION TYPICAL DETAIL

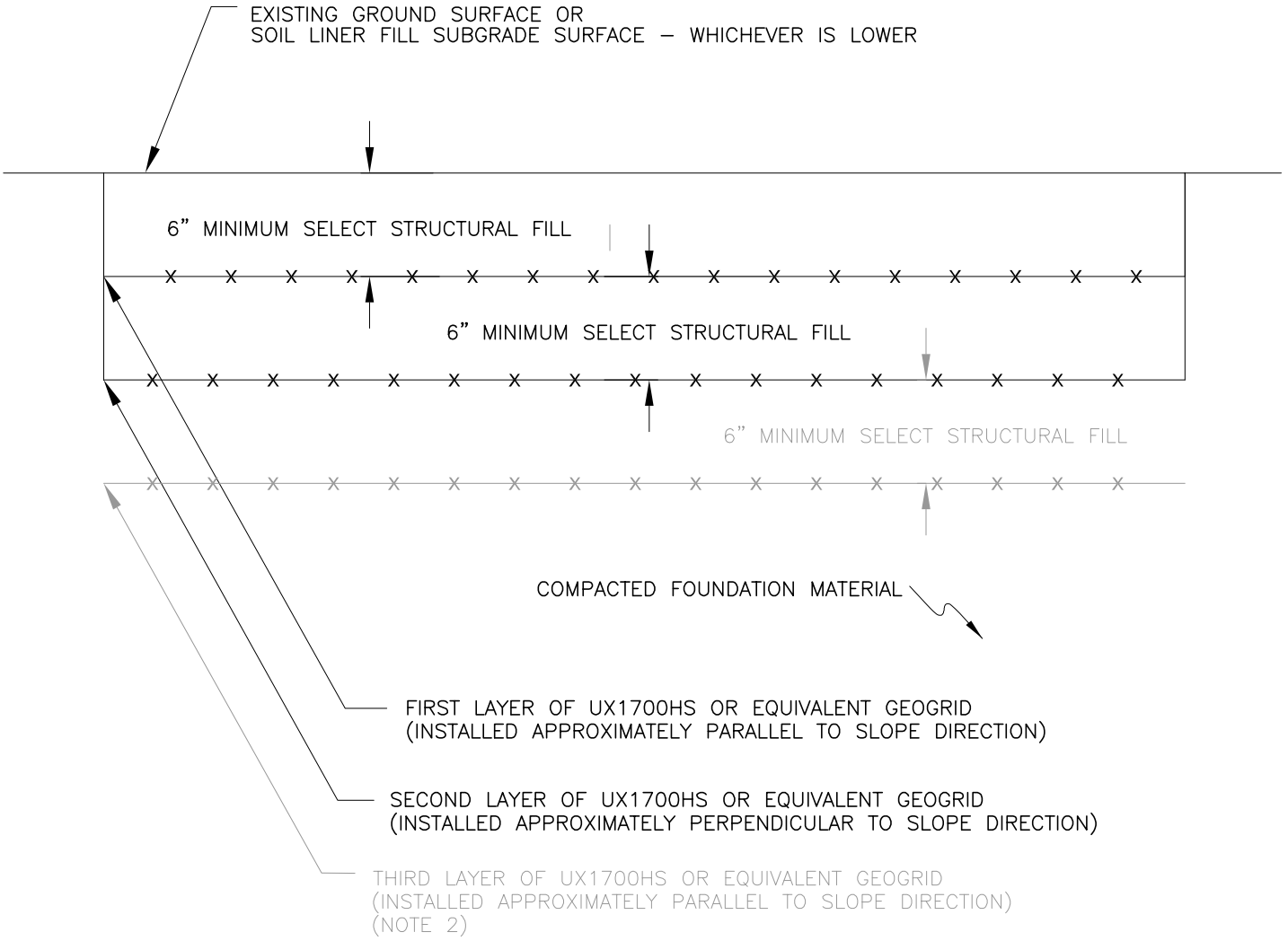
N.T.S.

REMEDIATION NOTES:

1. ROCK SURFACE WITHIN SHAFT SHALL BE SCALED TO REMOVE LOOSE MATERIAL PRIOR TO CONCRETE PLUG AND CEMENTED ROCKFILL PLACEMENT.
2. CONTRACTOR TO CONSTRUCT 7' MINIMUM CEMENTED ROCKFILL IN EITHER COMPETENT BEDROCK OR SURFICIAL SOILS.
3. CONTRACTOR TO EXCAVATE PREVIOUSLY COLLAPSED SHAFTS/STOPES TO APPROXIMATELY 25' BELOW FINAL SOIL LINE FILL SUBGRADE SURFACE.
4. COMPACTION OF TOP LAYER OF COARSE SHAFT BACKFILL TO BE METHOD SPECIFICATION APPROVED BY THE ENGINEER.

amec foster wheeler

CHK BY RBR	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY		ISSUED DATE: 09/28/2015
APR BY ALM	PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1		PROJECT No.: 74201125N0
DRN BY JBB/CS	TITLE: CONCRETE REMEDIATION OF UNDERGROUND WORKING DETAIL SECTION		FIGURE No.: UG1 / REV: 0
DSN BY RBR			

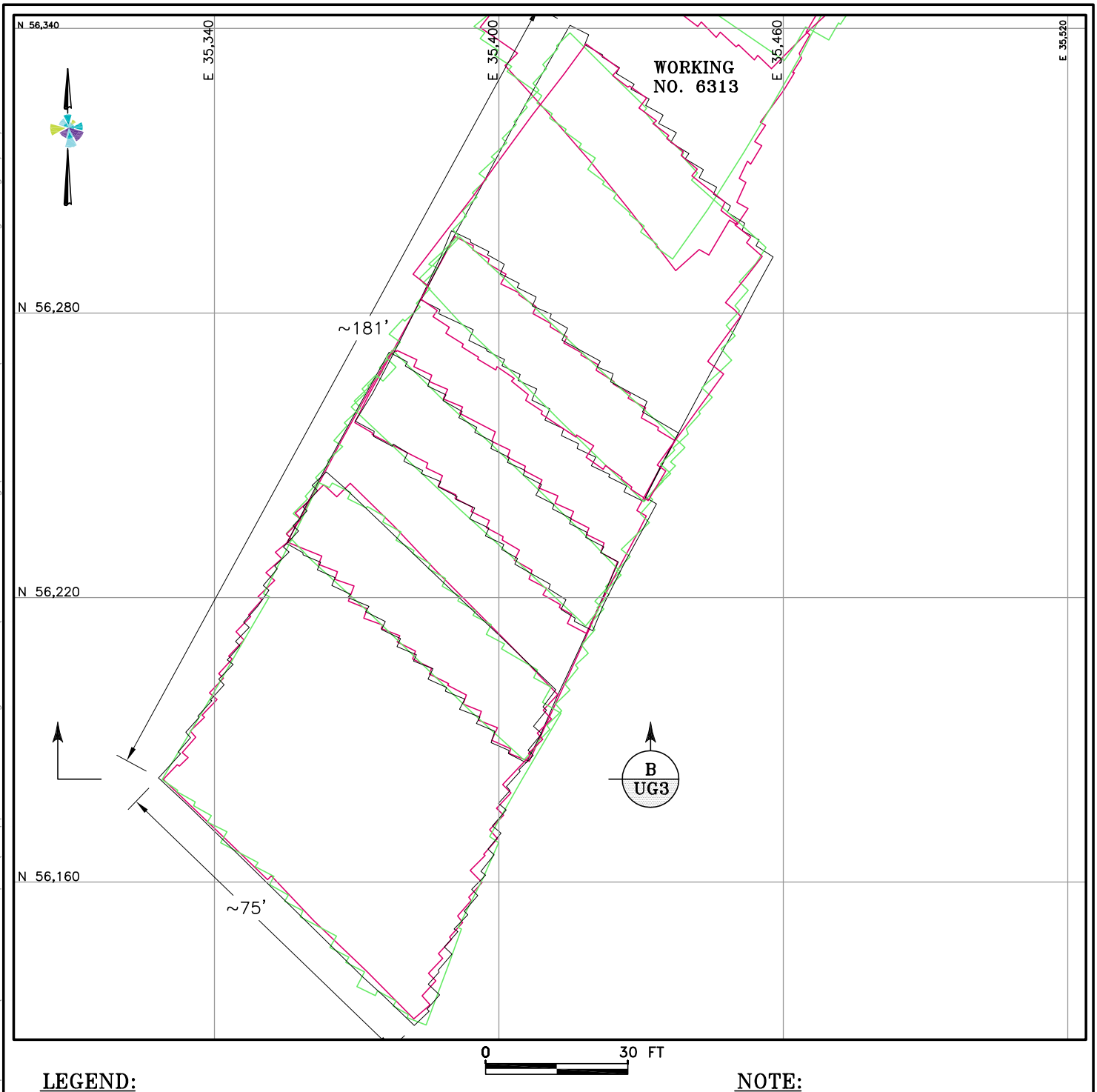


REMEDIATION NOTES:

1. CONTRACTOR TO INSTALL DIRECTION OF MAXIMUM STRENGTH FOR THE SECOND LAYER OF UX1700HS OR EQUIVALENT HS GEOGRID TRANSVERSE TO THE DIRECTION OF MAXIMUM STRENGTH FOR THE FIRST LAYER OF UX1700HS GEOGRID.
2. A THIRD GEOGRID LAYER MAY BE ADDED IN AREAS UNDER HIGH NORMAL LOAD. AREAS REQUIRING THIRD GEOGRID WILL BE DETERMINED DURING REMEDIATION.
3. GEOGRID CAP TO EXTEND MINIMUM 15 FEET BEYOND MINE WORKING LIMIT.

B / UG2 GEOGRID CAP INSTALLATION DETAIL (TYP.)
N.T.S.

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY (SGVLF)–PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING CAP INSTALLATION DETAIL**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG2 REV: 0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

THIRD LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

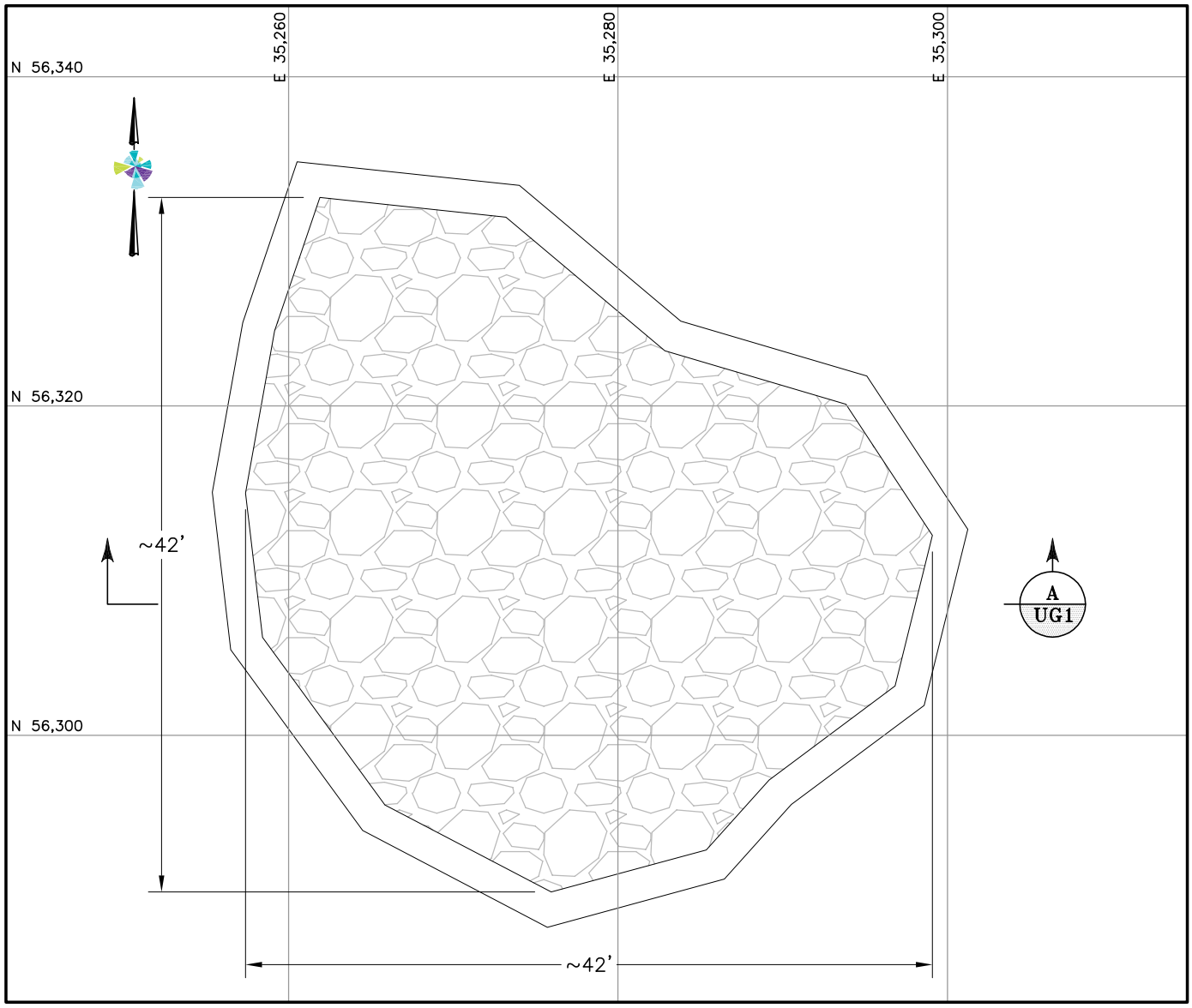
QUANTITIES:

653 CY – SELECT STRUCTURAL FILL

35,235 SF – TOTAL GEOGRID (3–LAYERS)

CHK BY: RBR	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	ISSUED DATE: 09/28/2015
APR BY: ALM	PROJECT: SQUAW GULCH VALLEY LEACH FACILITY (SGVLF)–PHASE 1	PROJECT No.: 74201125N0
DRN BY: JBB/CS	TITLE: GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6004 PLAN VIEW	FIGURE No.: UG3 / REV: 0
DSN BY: JBB		

amec foster wheeler



QUANTITIES:

1,752 CY – STRUCTURAL FILL

301 CY – APPROVED CEMENTED ROCK FILL

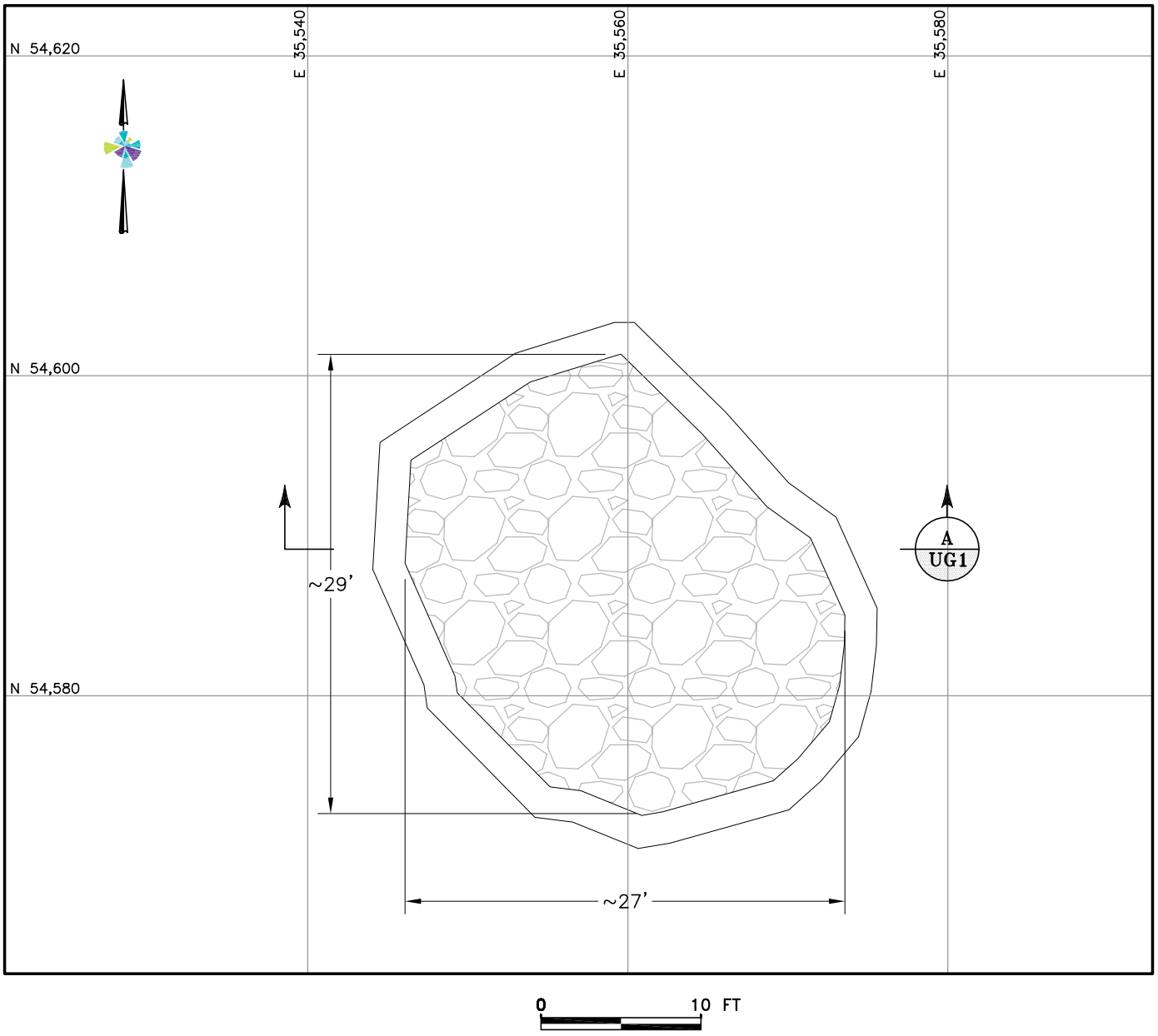
70 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

CHK BY RBR	CLIENT	CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	ISSUED DATE 09/28/2015
APR BY ALM	PROJECT	SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1	PROJECT No. 74201125N0
DRN BY JBB/CS	TITLE	CONCRETE REMEDIATION OF UNDERGROUND WORKING #6011 PLAN VIEW	FIGURE No. UG4 / REV 0
DSN BY RBR			



QUANTITIES:

0 CY – STRUCTURAL FILL

104 CY – APPROVED CEMENTED ROCK FILL

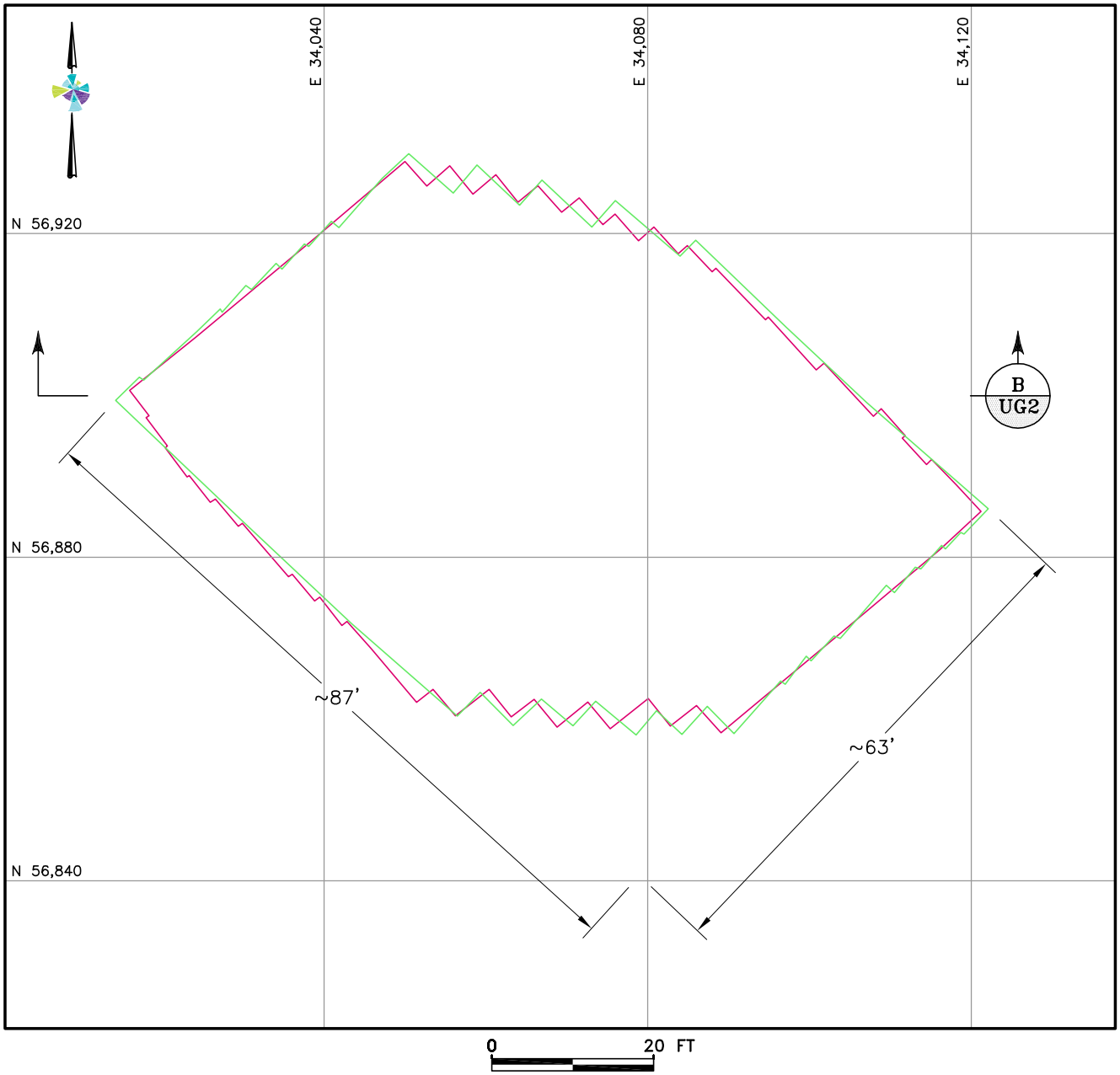
15 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

CHK BY: RBR	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	ISSUED DATE: 09/28/2015	
APR BY: ALM	PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1	PROJECT No.: 74201125N0	
DRN BY: JBB/CS	TITLE: CONCRETE REMEDIATION OF UNDERGROUND WORKING #6036 PLAN VIEW	FIGURE No.: UG5	REV: 0
DSN BY: JBB			



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

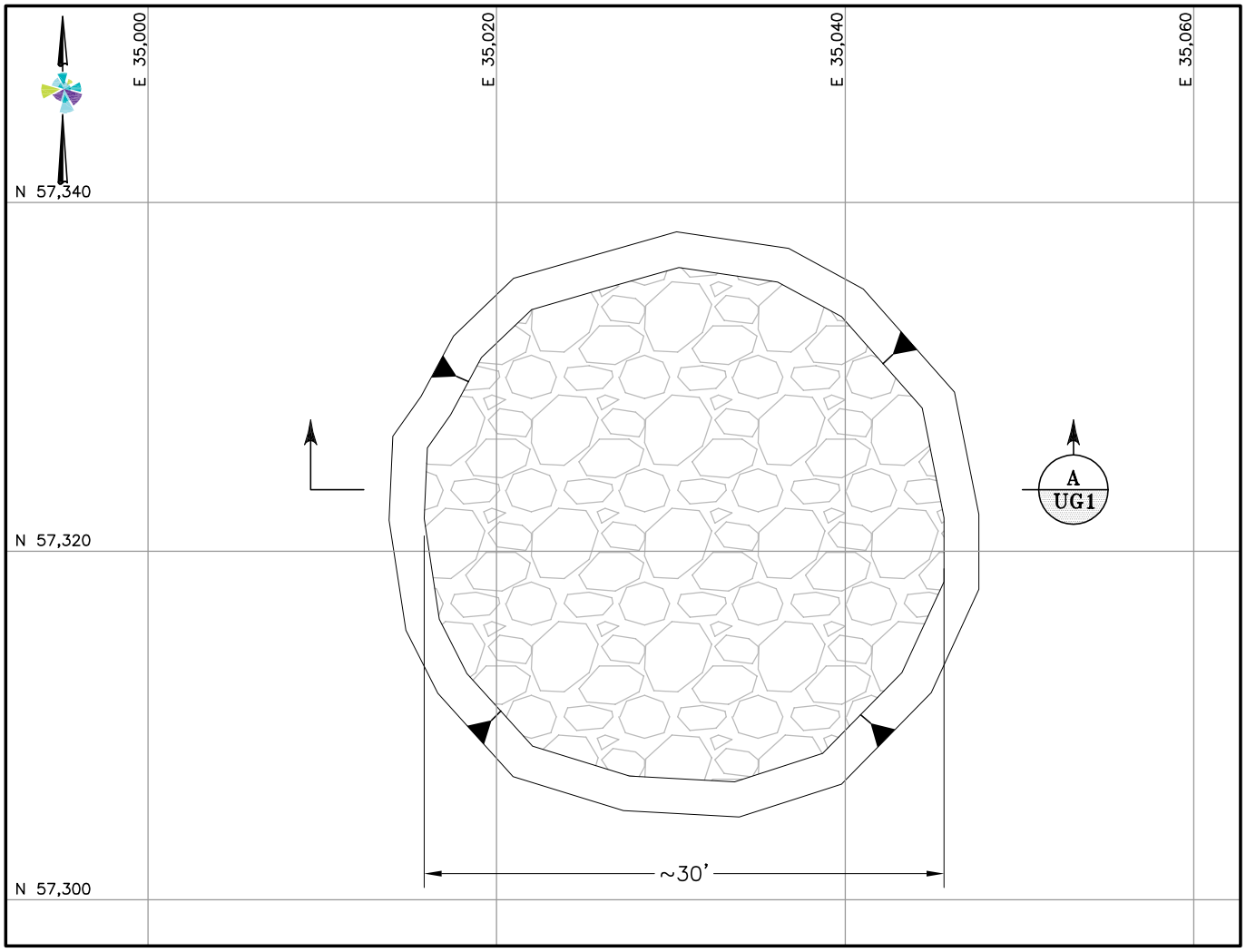
1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

171 CY – SELECT STRUCTURAL FILL

9,257 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6050 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG6 REV: 0



QUANTITIES:

3,550 CY – STRUCTURAL FILL

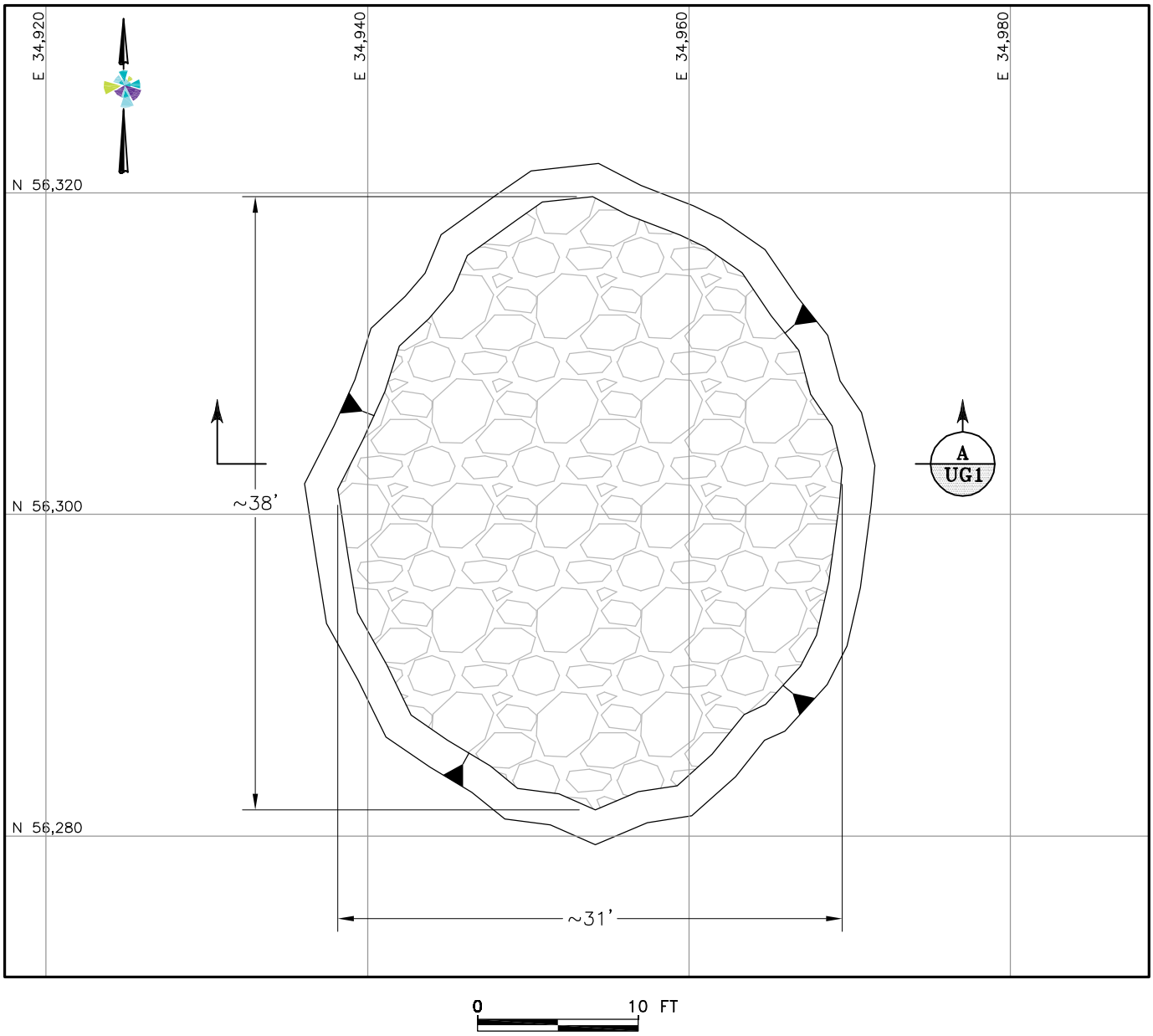
72 CY – APPROVED CEMENTED ROCK FILL

30 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6051 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG7 REV: 0



QUANTITIES:

140 CY – COARSE SHAFT BACKFILL

168 CY – APPROVED CEMENTED ROCK FILL

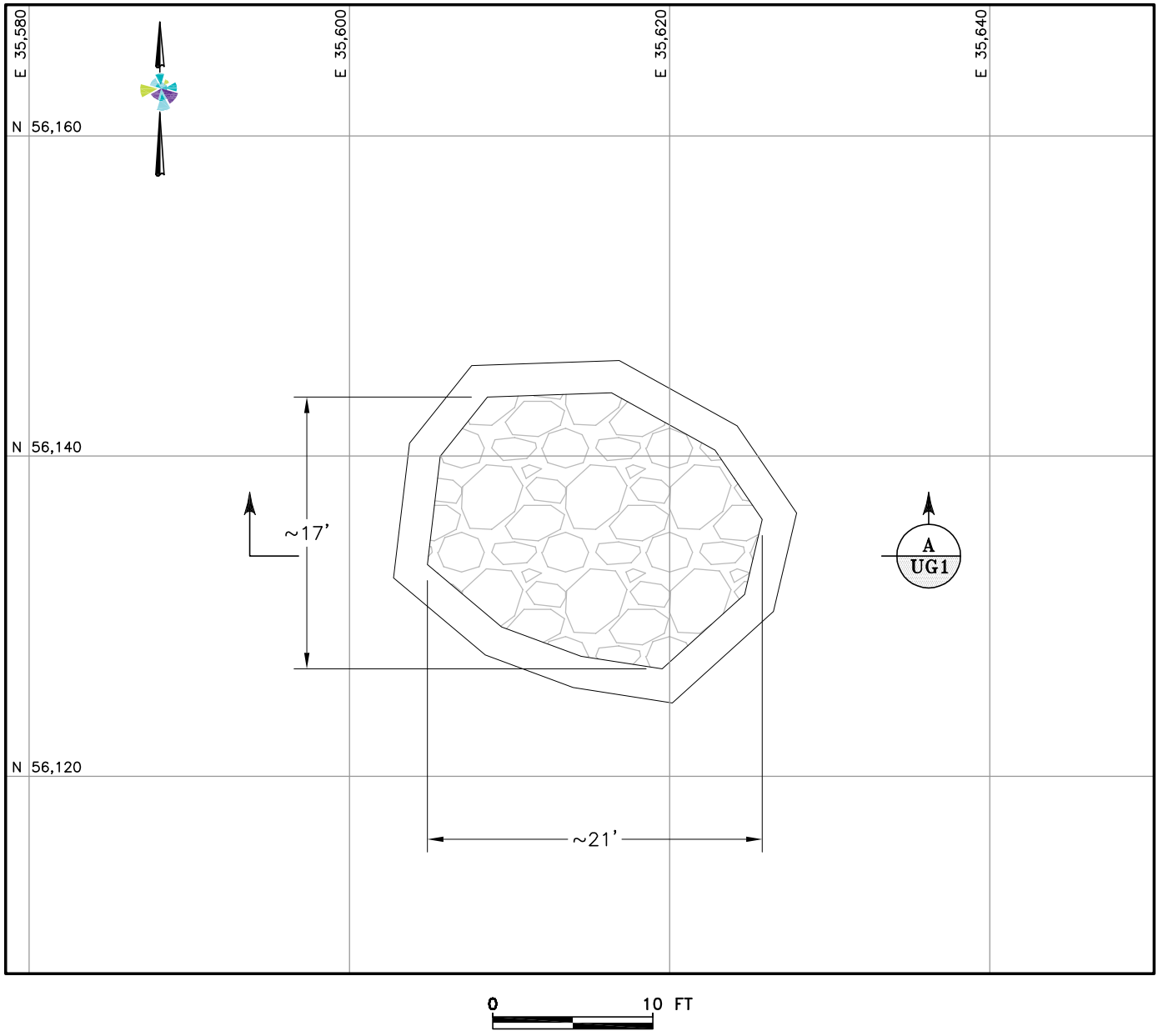
16 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

CHK BY RBR	CLIENT	CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	ISSUED DATE 09/28/2015
APR BY ALM	PROJECT	SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1	PROJECT No. 74201125N0
DRN BY JBB/CS	TITLE	CONCRETE REMEDIATION OF UNDERGROUND WORKING #6061 PLAN VIEW	FIGURE No. UG8 / REV 0
DSN BY JBB			



QUANTITIES:

0 CY – STRUCTURAL FILL

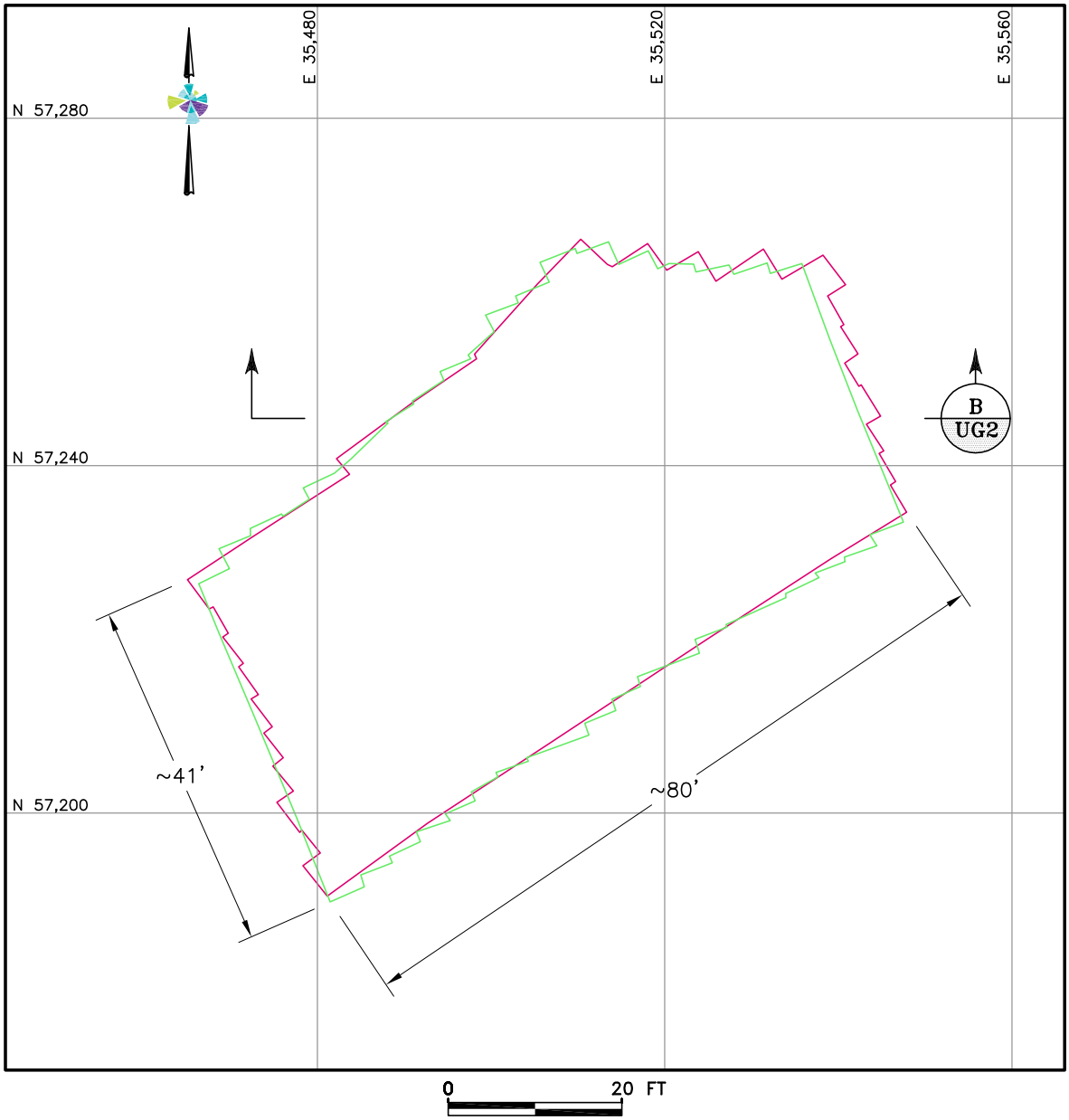
50 CY – APPROVED CEMENTED ROCK FILL

8 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6117 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG9 REV: 0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

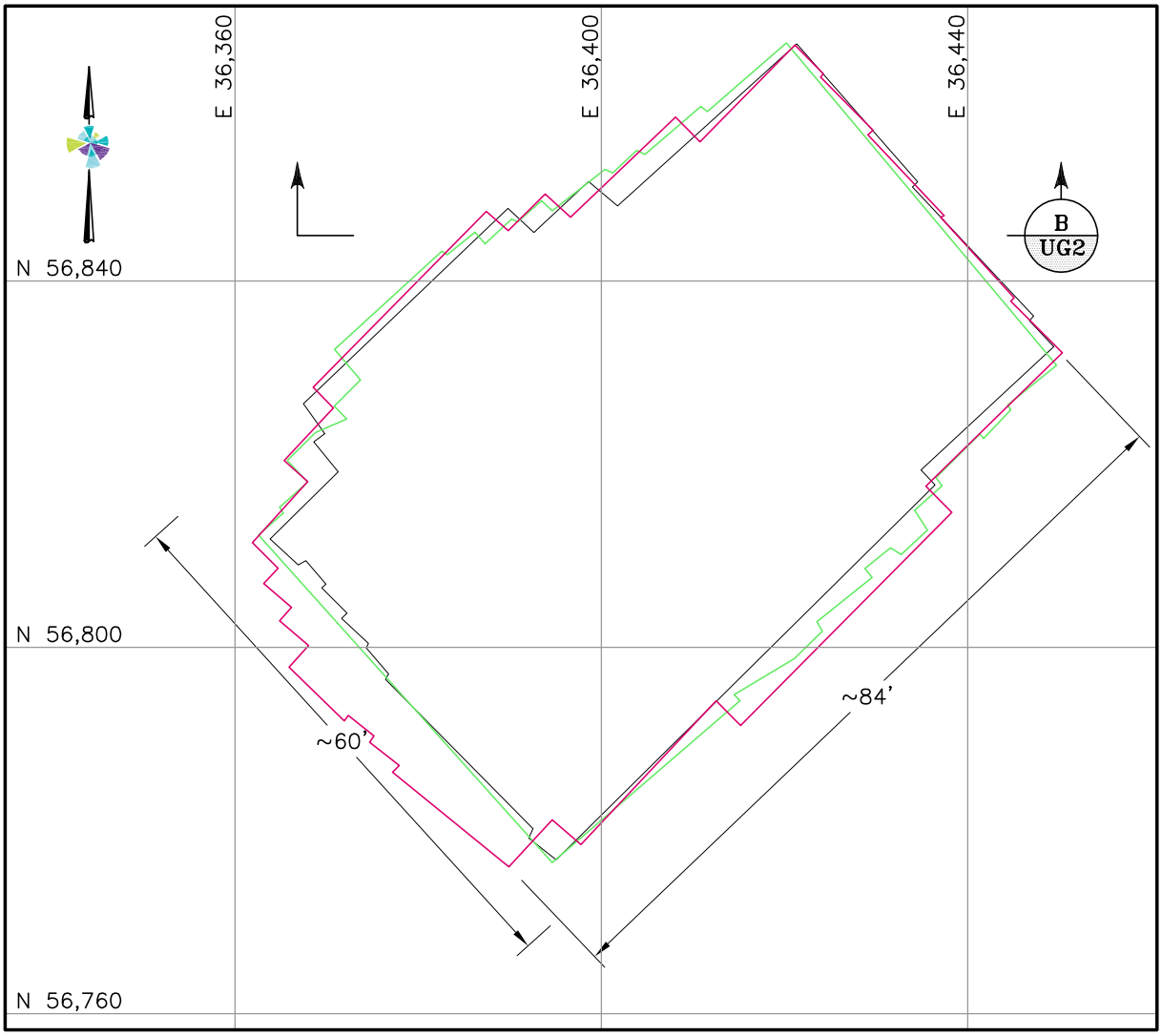
QUANTITIES:

130 CY – SELECT STRUCTURAL FILL

7,013 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY
	APR BY: ALM	PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1
	DRN BY: JBB/CS	TITLE: GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6119 PLAN VIEW
	DSN BY: JBB	

ISSUED DATE	09/28/2015
PROJECT No.	74201125N0
FIGURE No.	UG10
REV	0



LEGEND:

- FIRST LAYER TENSAR UX1800HS GEOGRID
- SECOND LAYER TENSAR UX1800HS GEOGRID
- THIRD LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

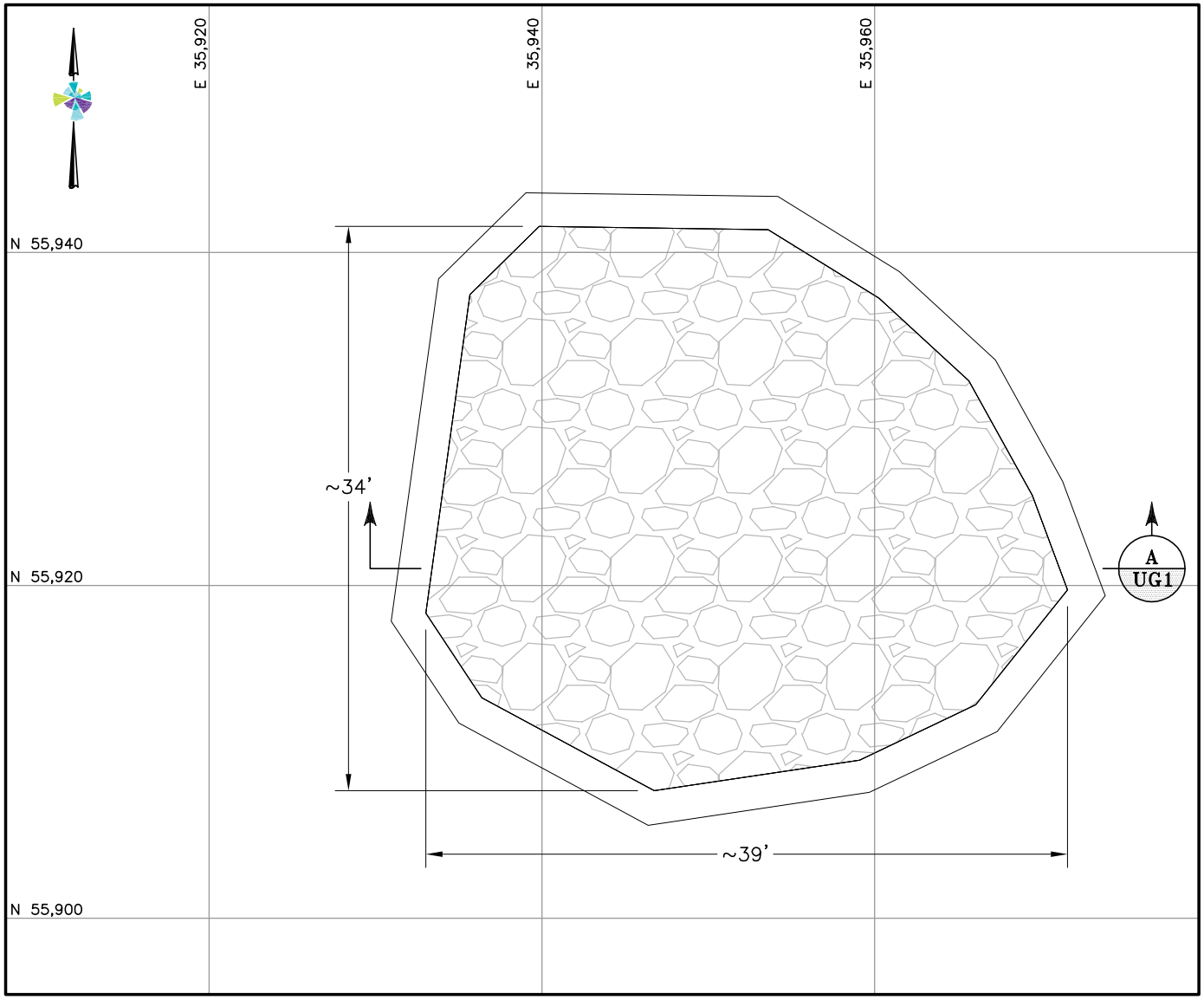
729 CY – STRUCTURAL FILL

256 CY – SELECT STRUCTURAL FILL

4,149 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler

CHK BY	RBR
APR BY	ALM
DRN BY	JBB/CS
DSN BY	JBB
CLIENT	CRIPPLE CREEK & VICTOR GOLD MINING COMPANY
PROJECT	SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1
TITLE	GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6122 PLAN VIEW
ISSUED DATE	09/28/2015
PROJECT No.	74201125N0
FIGURE No.	UG11
REV	0



QUANTITIES:

0 CY – STRUCTURAL FILL

65 CY – APPROVED CEMENTED ROCK FILL

13 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

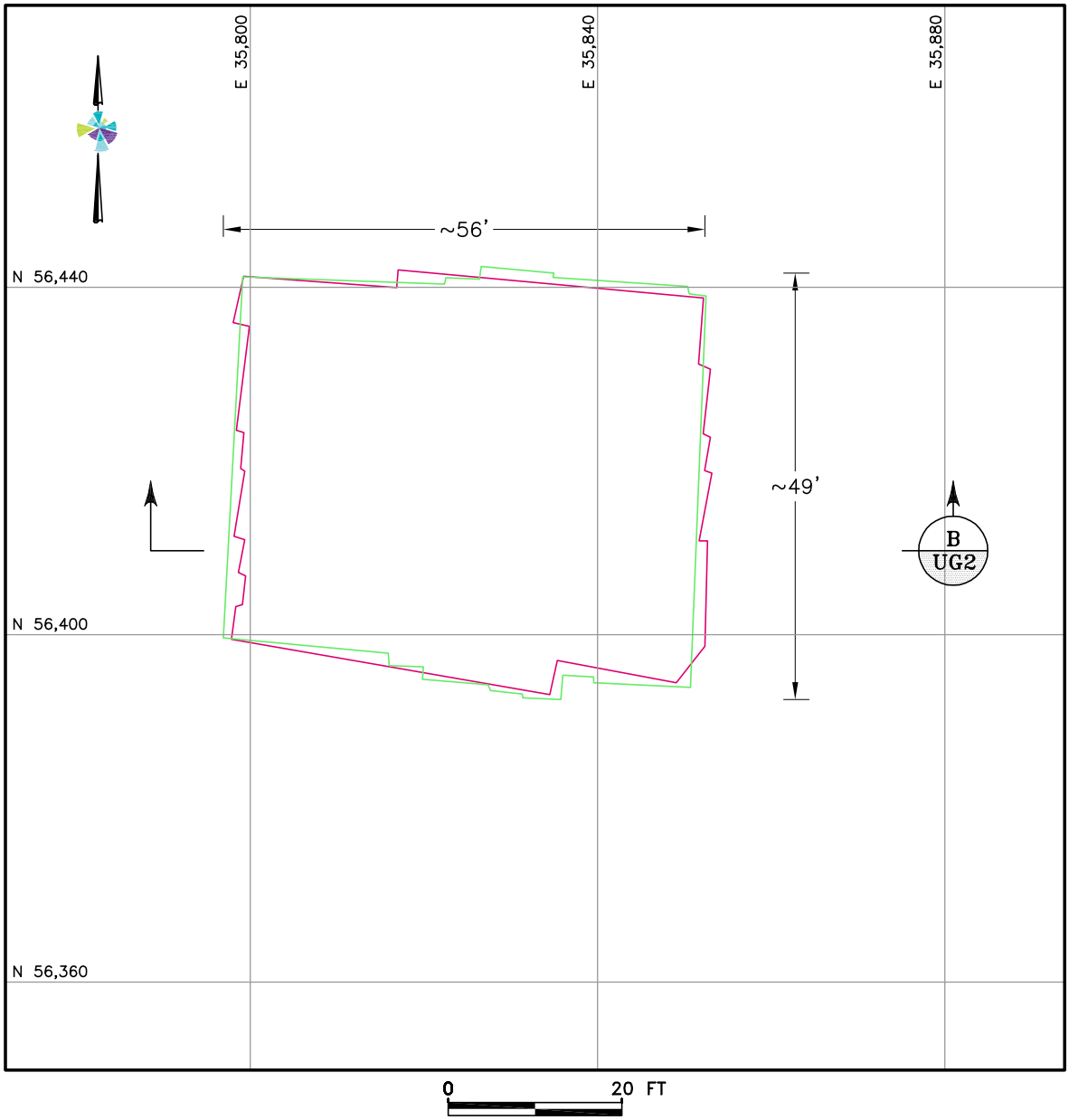
CHK BY	RBR
APR BY	ALM
DRN BY	JBB/CS
DSN BY	JBB

CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1

TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6133 PLAN VIEW**

ISSUED DATE	09/28/2015
PROJECT No.	74201125N0
FIGURE No.	UG12
REV	0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

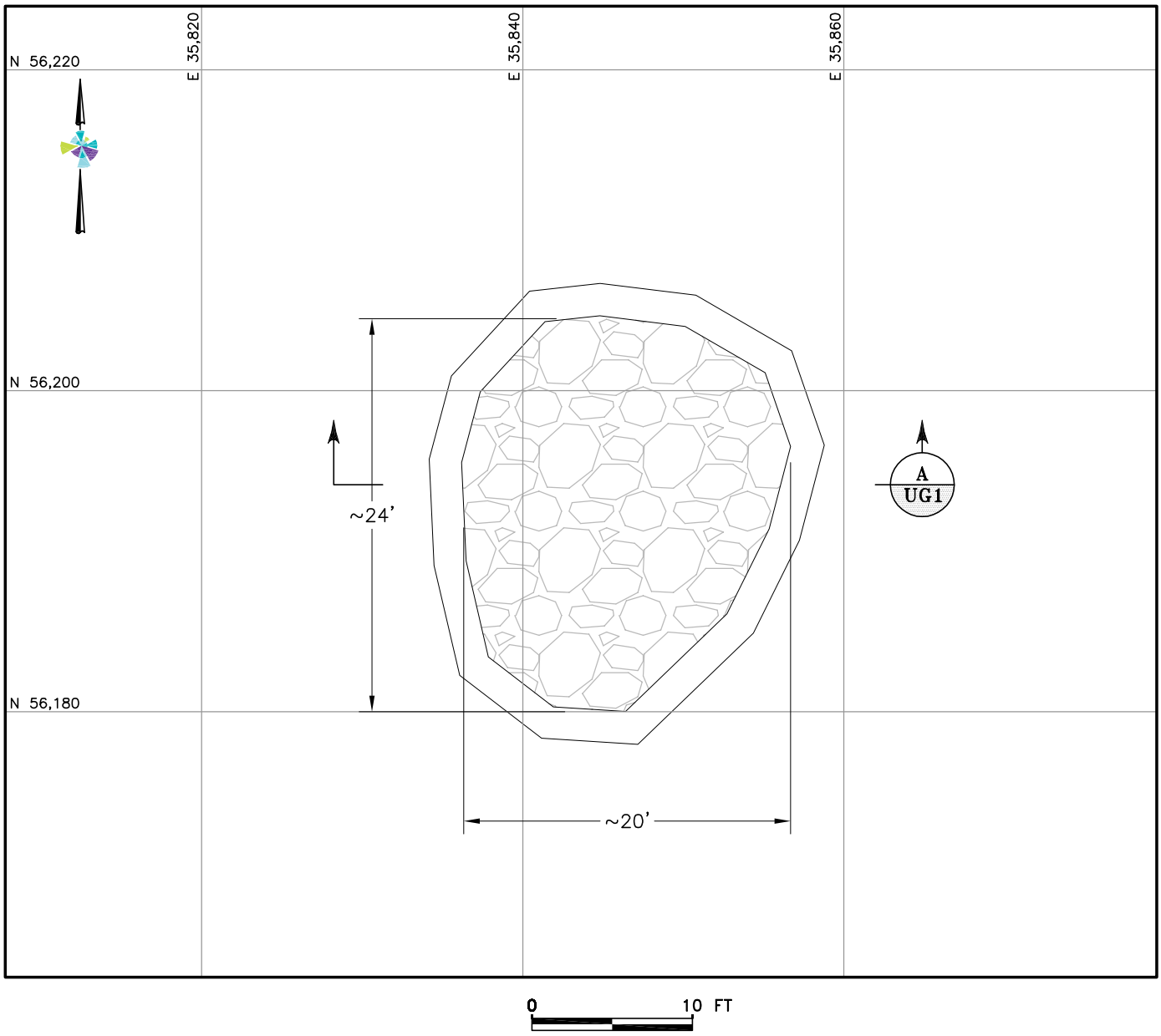
QUANTITIES:

250 CY – COARSE SHAFT BACKFILL

94 CY – SELECT STRUCTURAL FILL

4,993 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6147 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG13 REV: 0



QUANTITIES:

1,103 CY – COARSE SHAFT BACKFILL

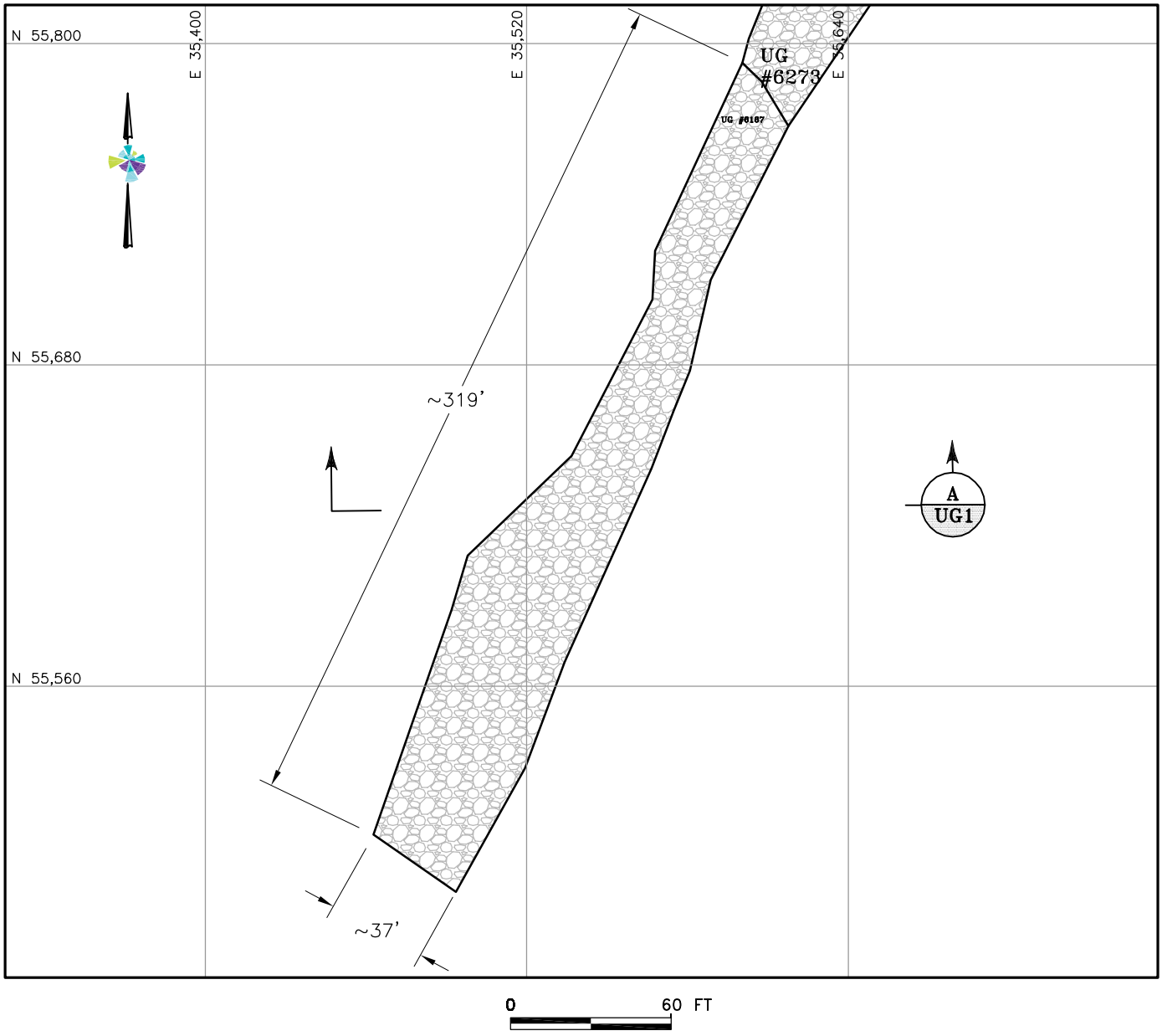
64 CY – APPROVED CEMENTED ROCK FILL

11 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6153 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG14 REV: 0



QUANTITIES:

92 CY – COARSE SHAFT BACKFILL

10,350 CY – STRUCTURAL FILL

1,822 CY – APPROVED CEMENTED ROCK FILL

378 CY – CONCRETE PLUG

NOTE:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

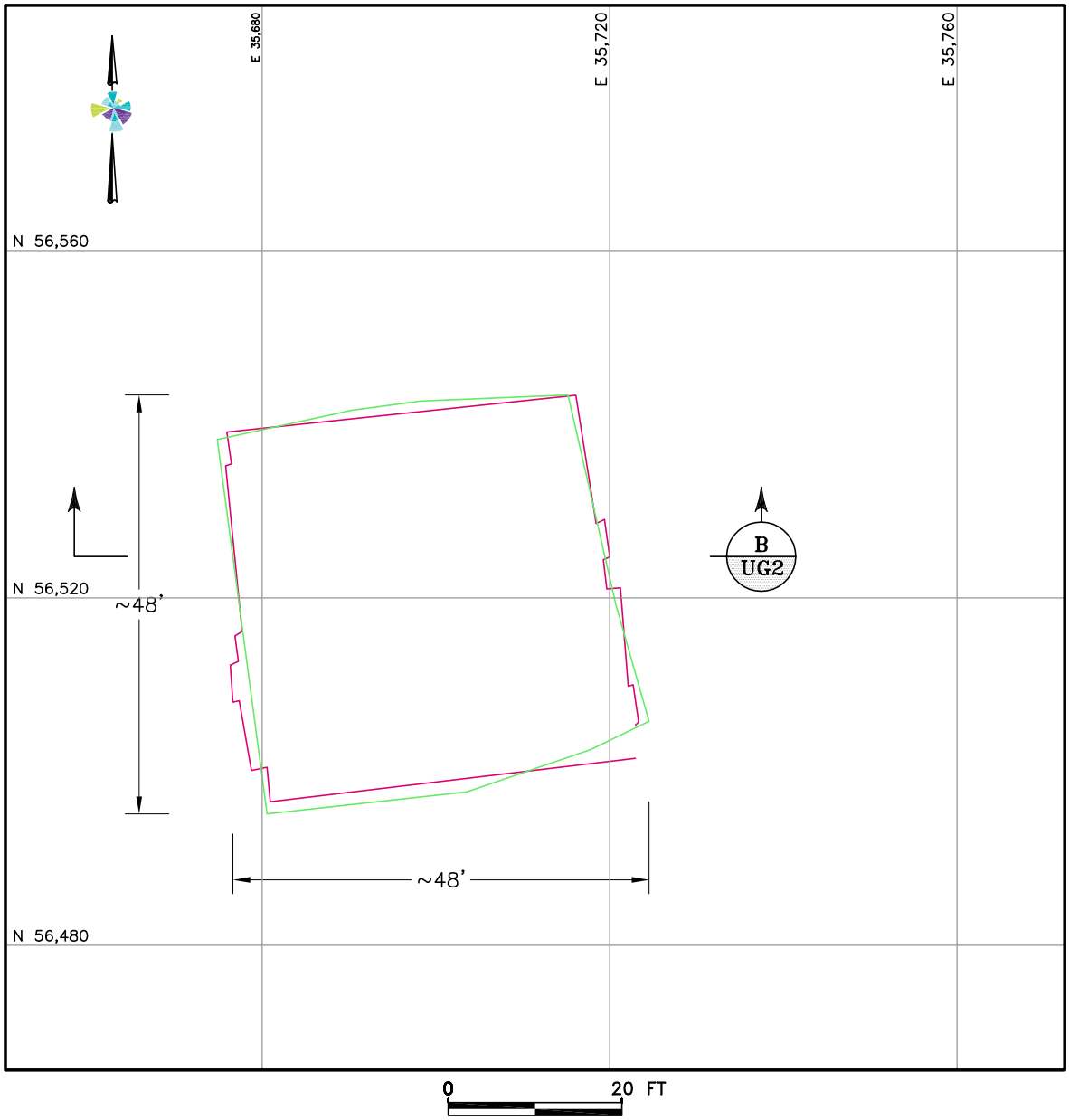
CHK BY	RBR
APR BY	ALM
DRN BY	JBB/CS
DSN BY	JBB

CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1

TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6167 PLAN VIEW**

ISSUED DATE	09/28/2015
PROJECT No.	74201125N0
FIGURE No.	UG15
REV	0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

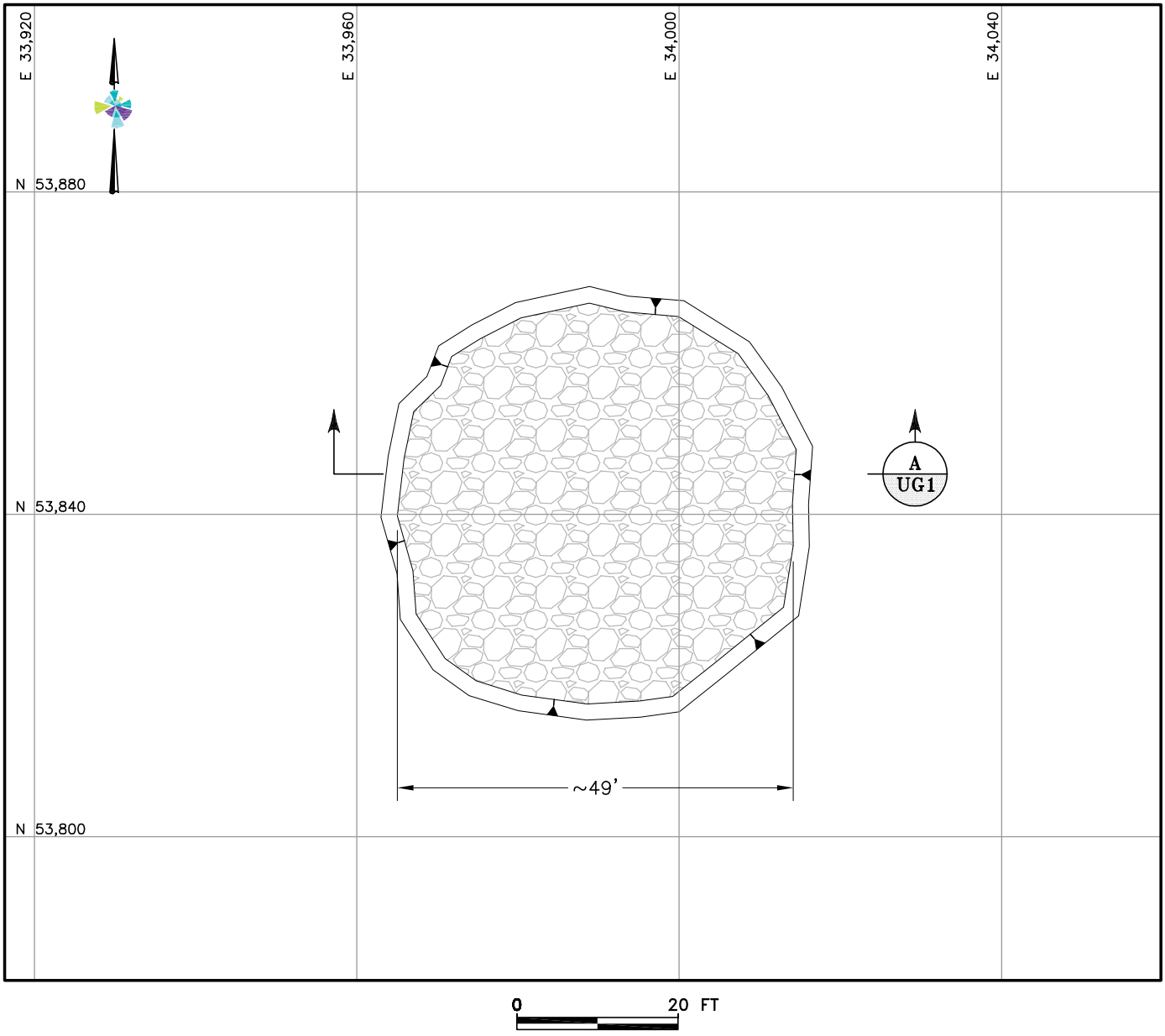
QUANTITIES:

555 CY – STRUCTURAL FILL

74 CY – SELECT STRUCTURAL FILL

3,817 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6187 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG16 REV: 0



QUANTITIES:

0 CY – STRUCTURAL FILL

70 CY – APPROVED CEMENTED ROCK FILL

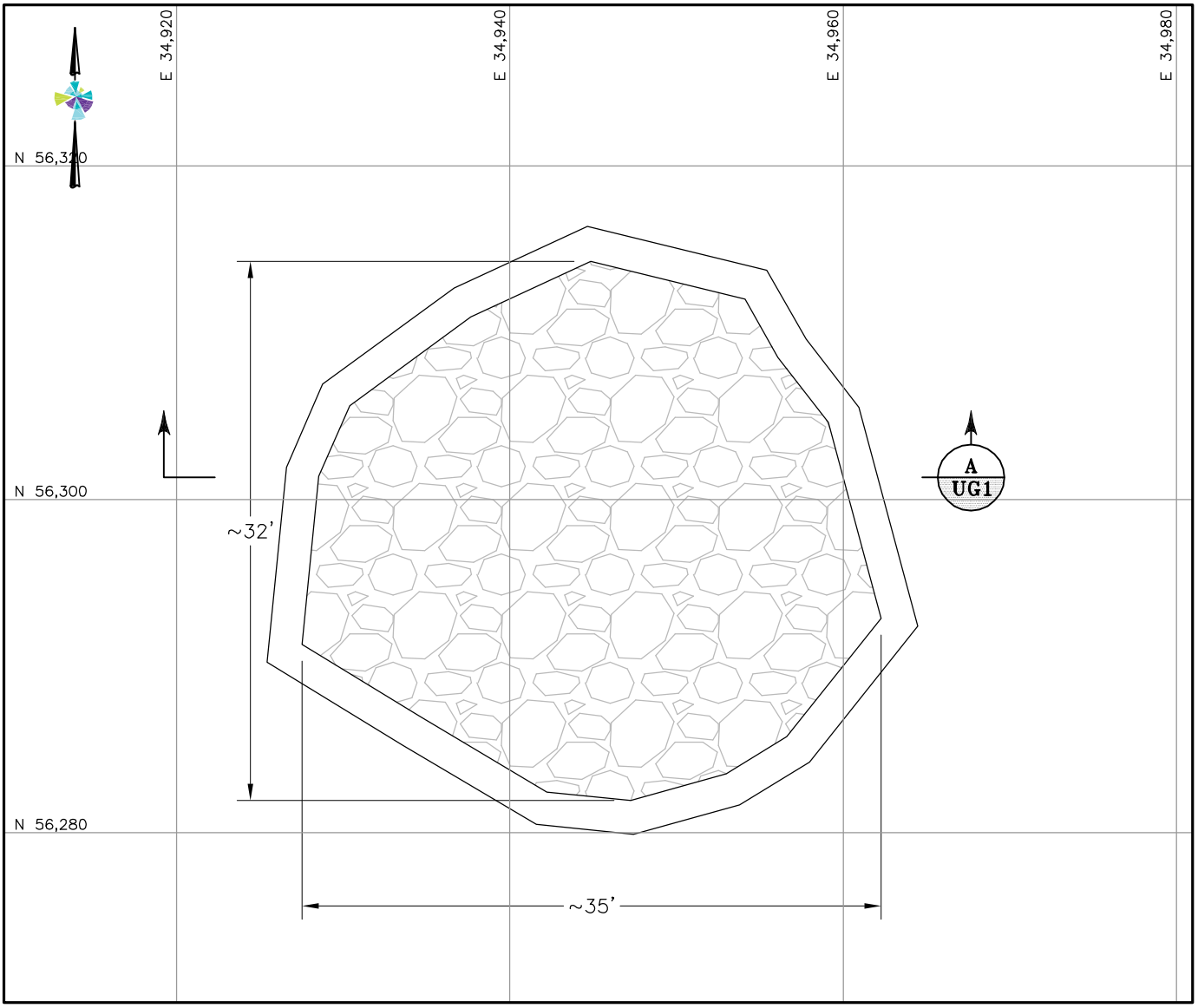
5 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

CHK BY: RBR	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	ISSUED DATE: 09/28/2015	
APR BY: ALM	PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1	PROJECT No.: 74201125N0	
DRN BY: JBB/CS	TITLE: CONCRETE REMEDIATION OF UNDERGROUND WORKING #6263 PLAN VIEW	FIGURE No.: UG17	REV: 0
DSN BY: JBB			



0 10 FT

QUANTITIES:

2,044 CY – STRUCTURAL FILL

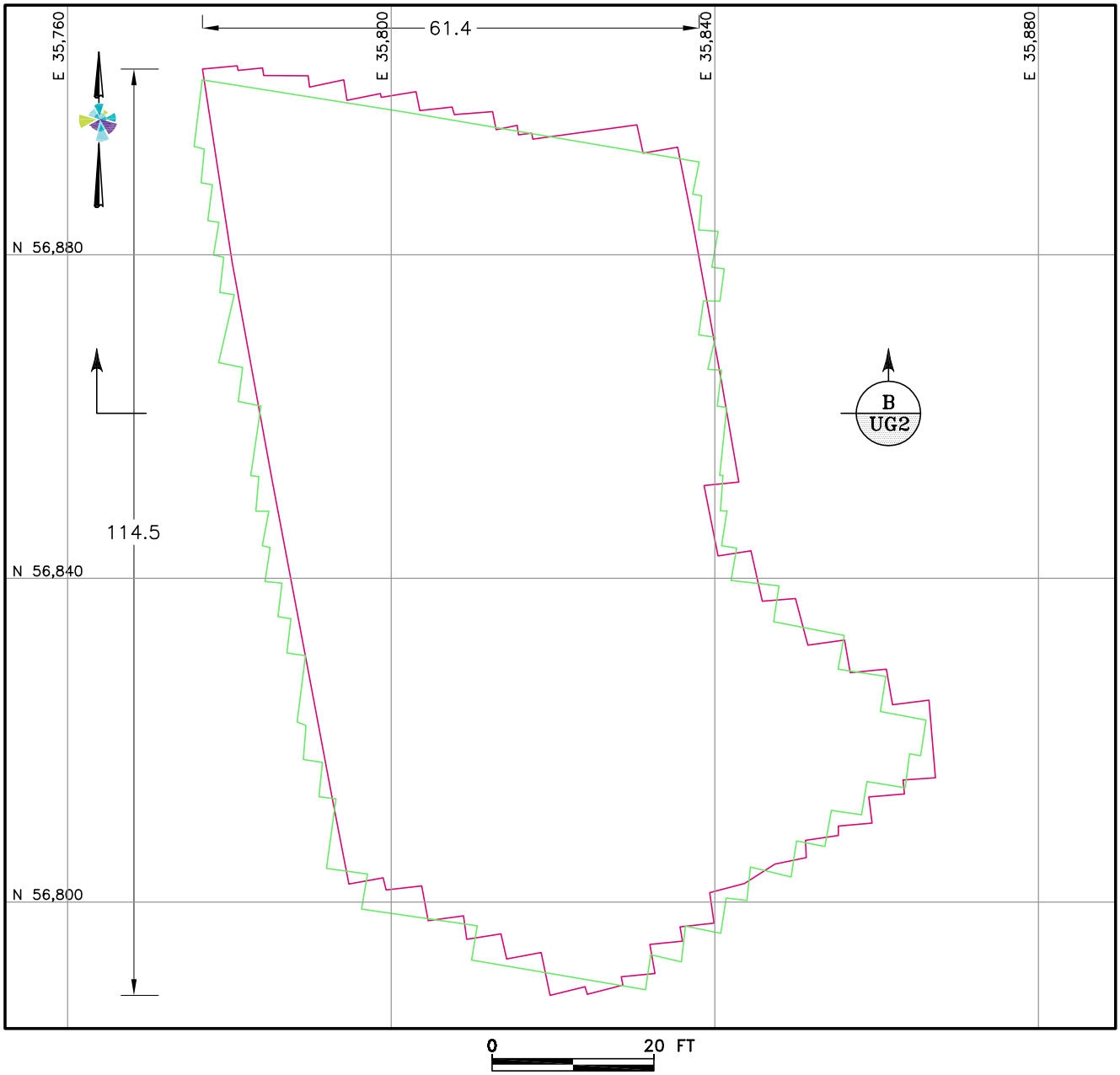
62 CY – APPROVED CEMENTED ROCK FILL

16 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6268 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG18 REV: 0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

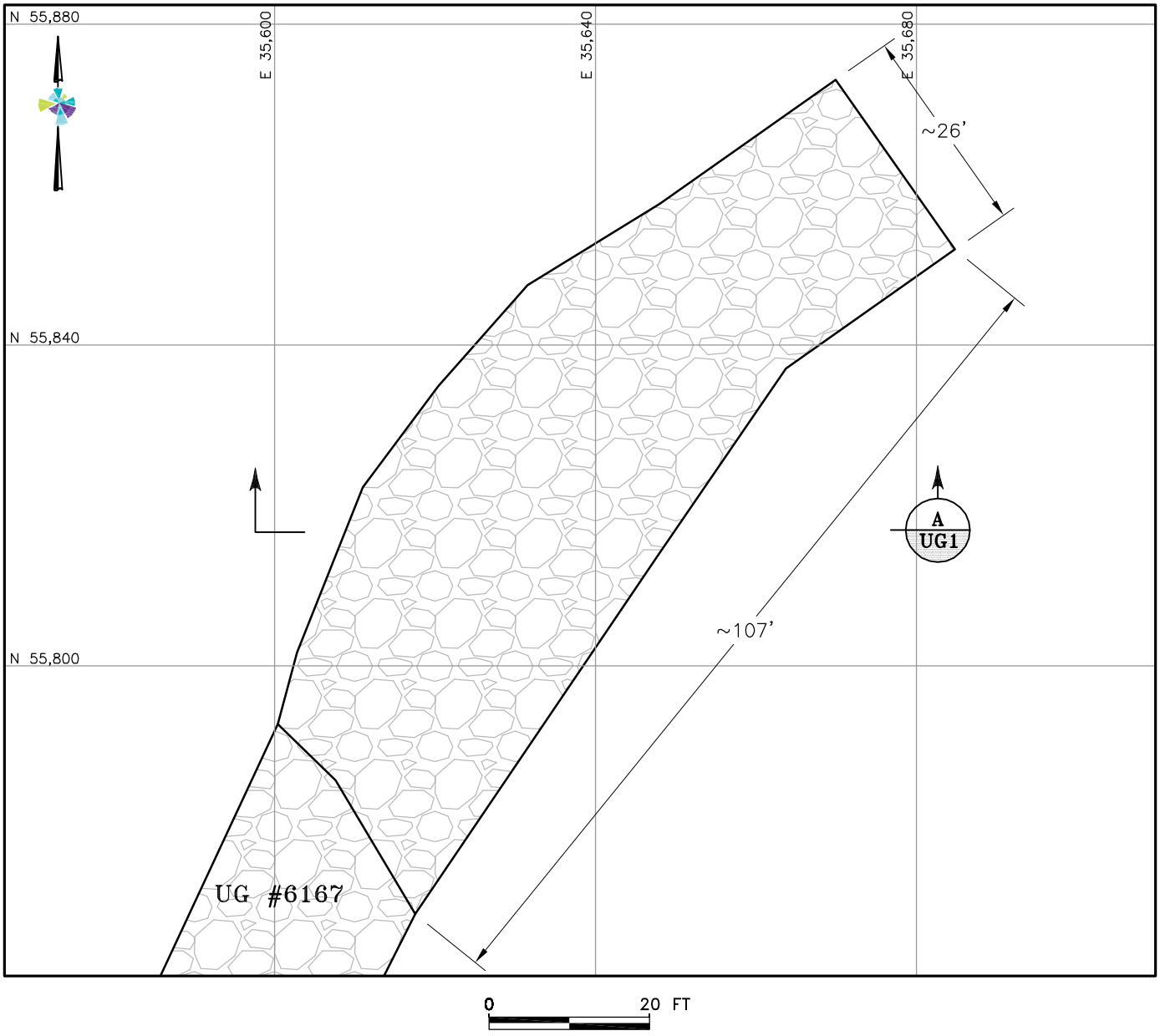
1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

239 CY – SELECT STRUCTURAL FILL

12,877 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6269 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG19 REV: 0



QUANTITIES:

2,406 CY – STRUCTURAL FILL

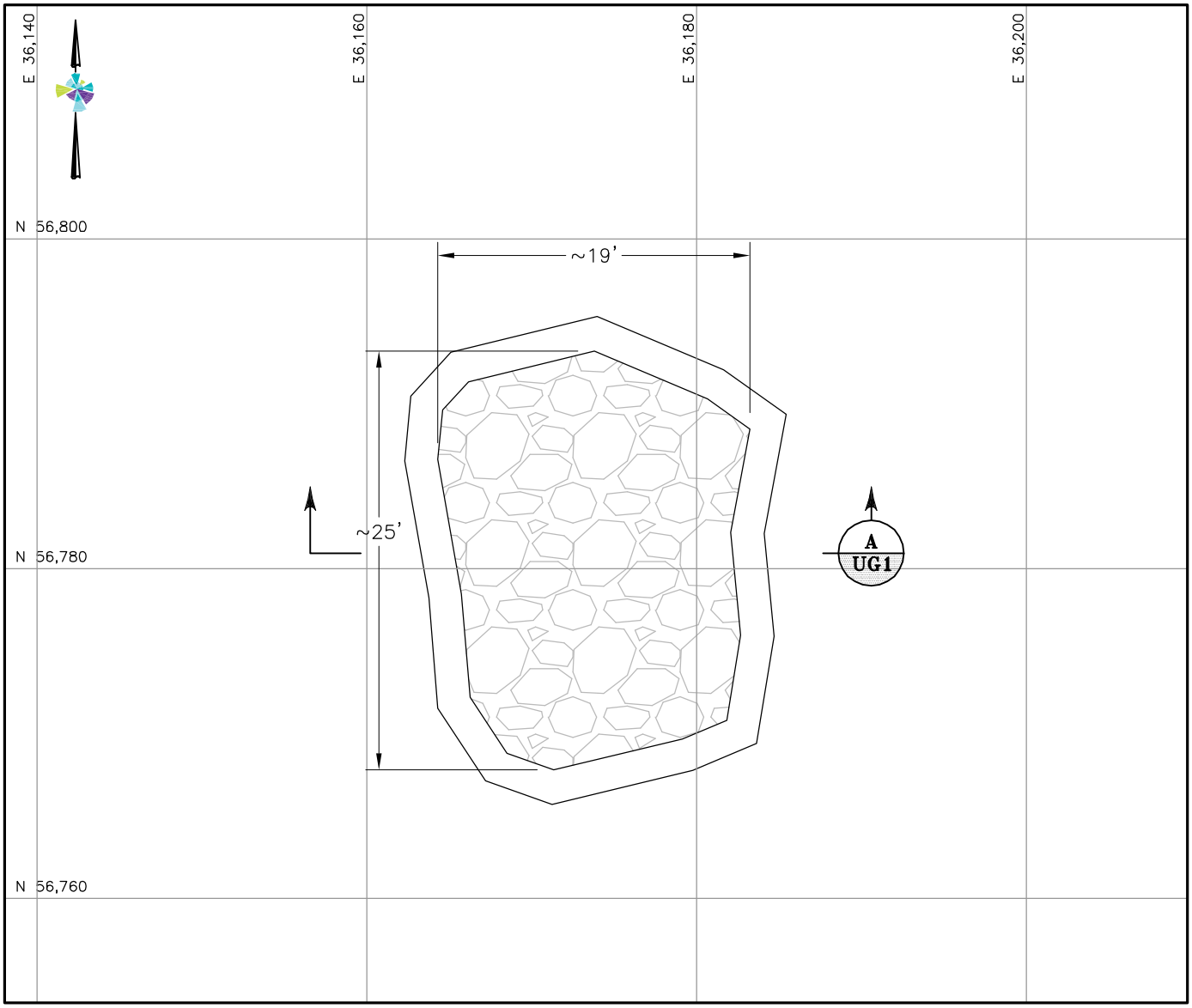
2,143 CY – APPROVED CEMENTED ROCK FILL

541 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6273 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG20 REV: 0



QUANTITIES:

0 CY – STRUCTURAL FILL

55 CY – APPROVED CEMENTED ROCK FILL

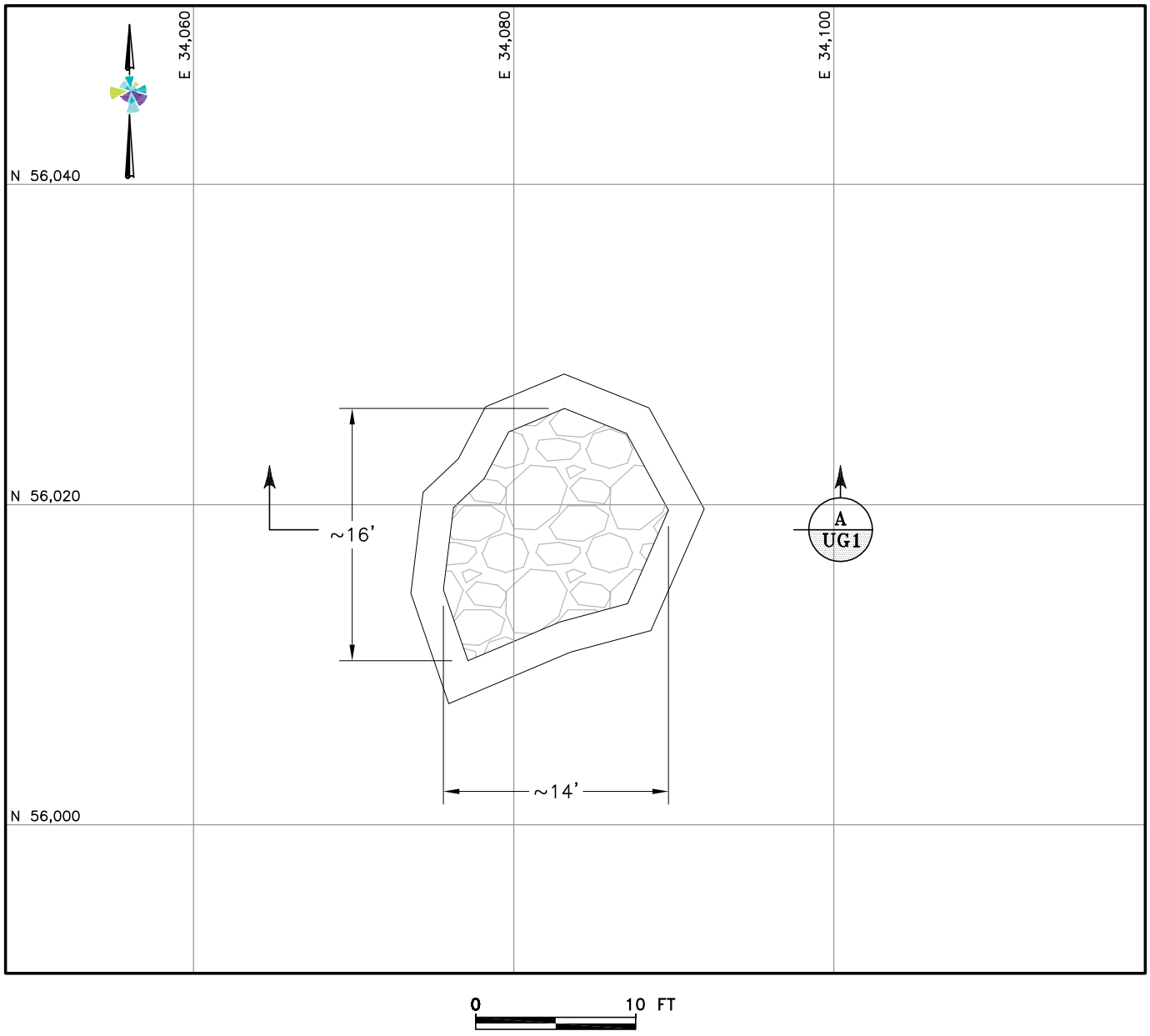
8 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

CHK BY	RBR
APR BY	ALM
DRN BY	JBB/CS
DSN BY	JBB
CLIENT	CRIPPLE CREEK & VICTOR GOLD MINING COMPANY
PROJECT	SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1
TITLE	CONCRETE REMEDIATION OF UNDERGROUND WORKING #6274 PLAN VIEW
ISSUED DATE	09/28/2015
PROJECT No.	74201125N0
FIGURE No.	UG21
REV	0



QUANTITIES:

0 CY – STRUCTURAL FILL

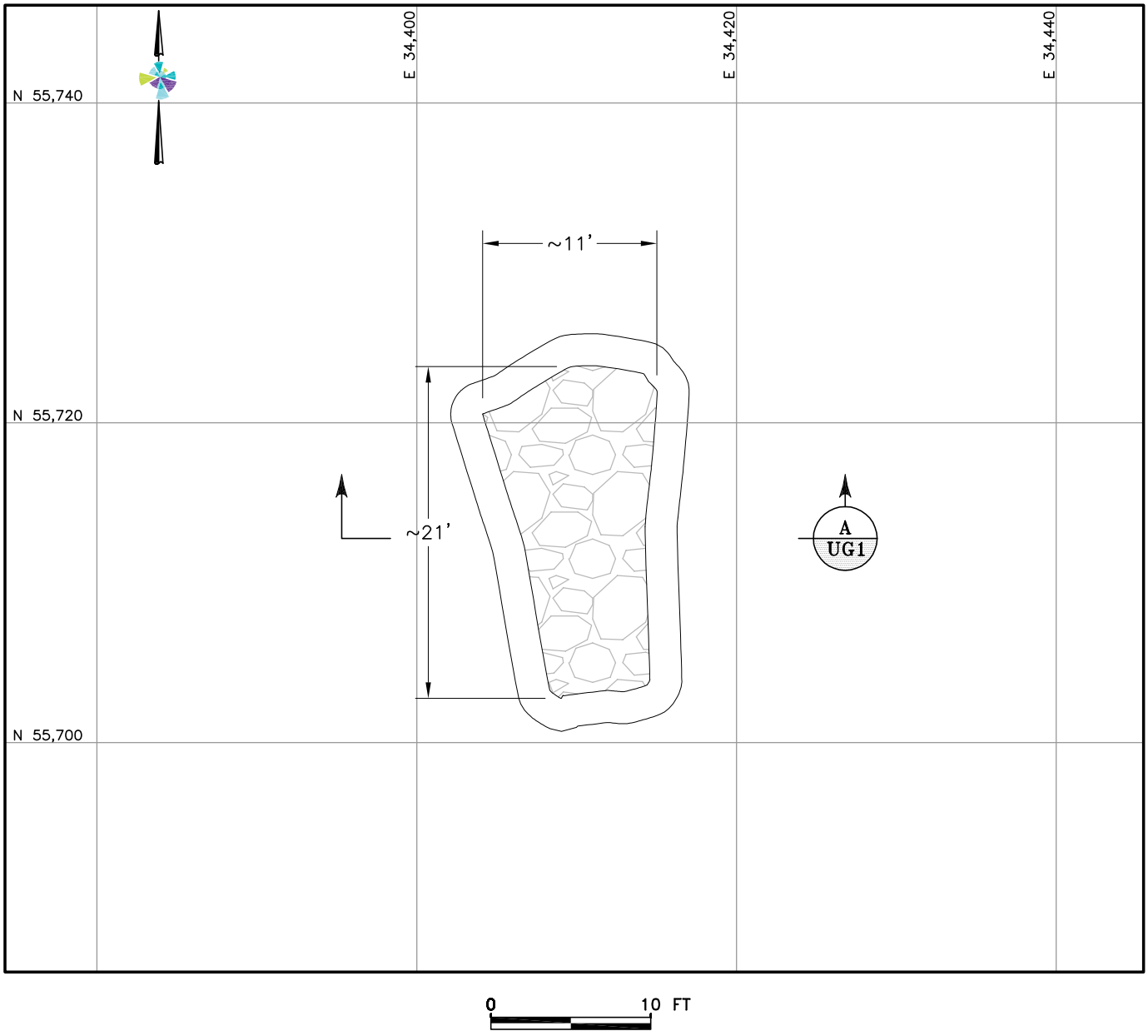
10 CY – CONCRETE

45 CY – CEMENTED ROCK FILL

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT.

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6282 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG22 REV: 0



QUANTITIES:

0 CY – STRUCTURAL FILL

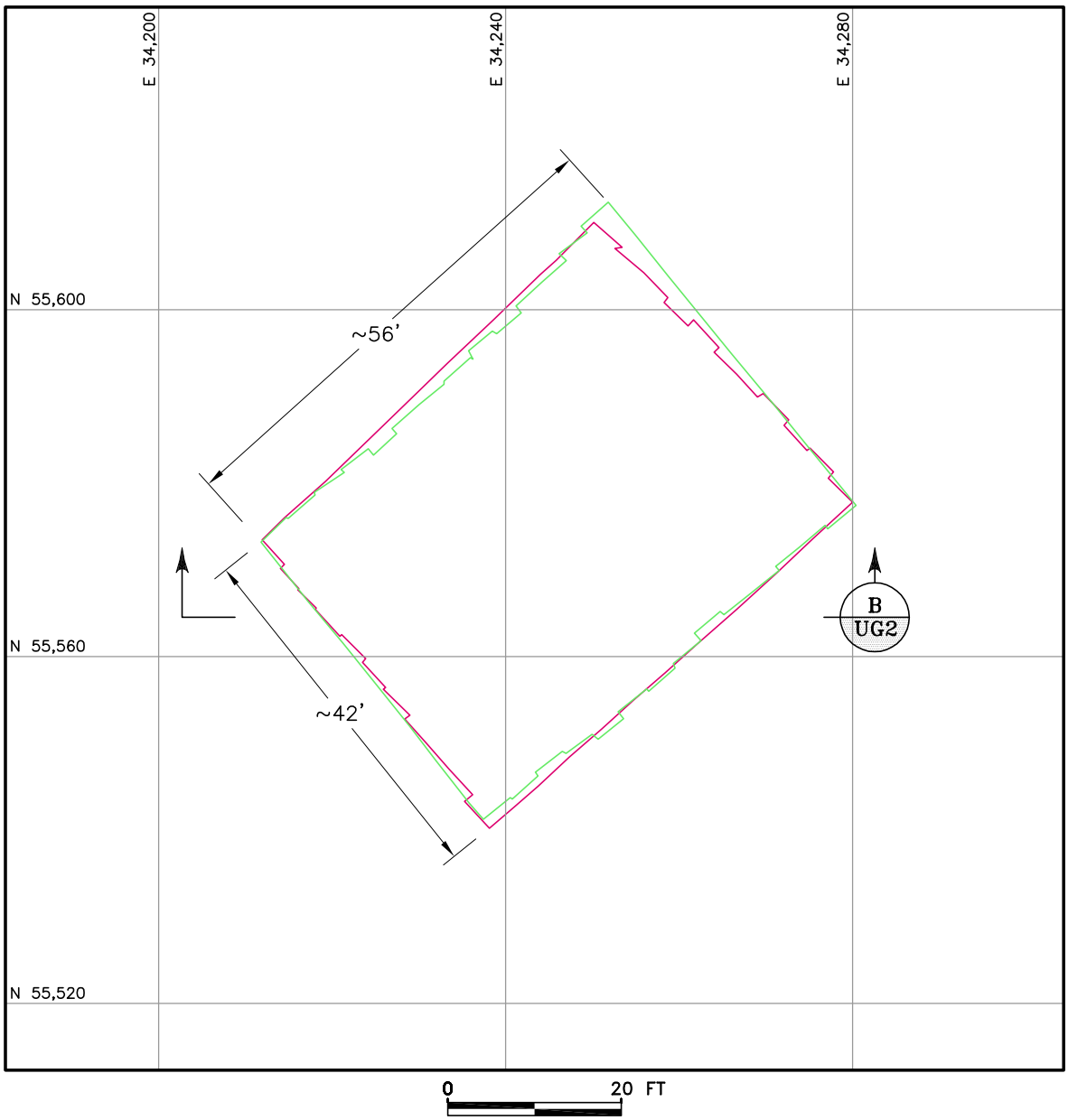
12 CY – CONCRETE

63 CY – CEMENTED ROCK FILL

NOTE:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT.

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6302 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG23 REV: 0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

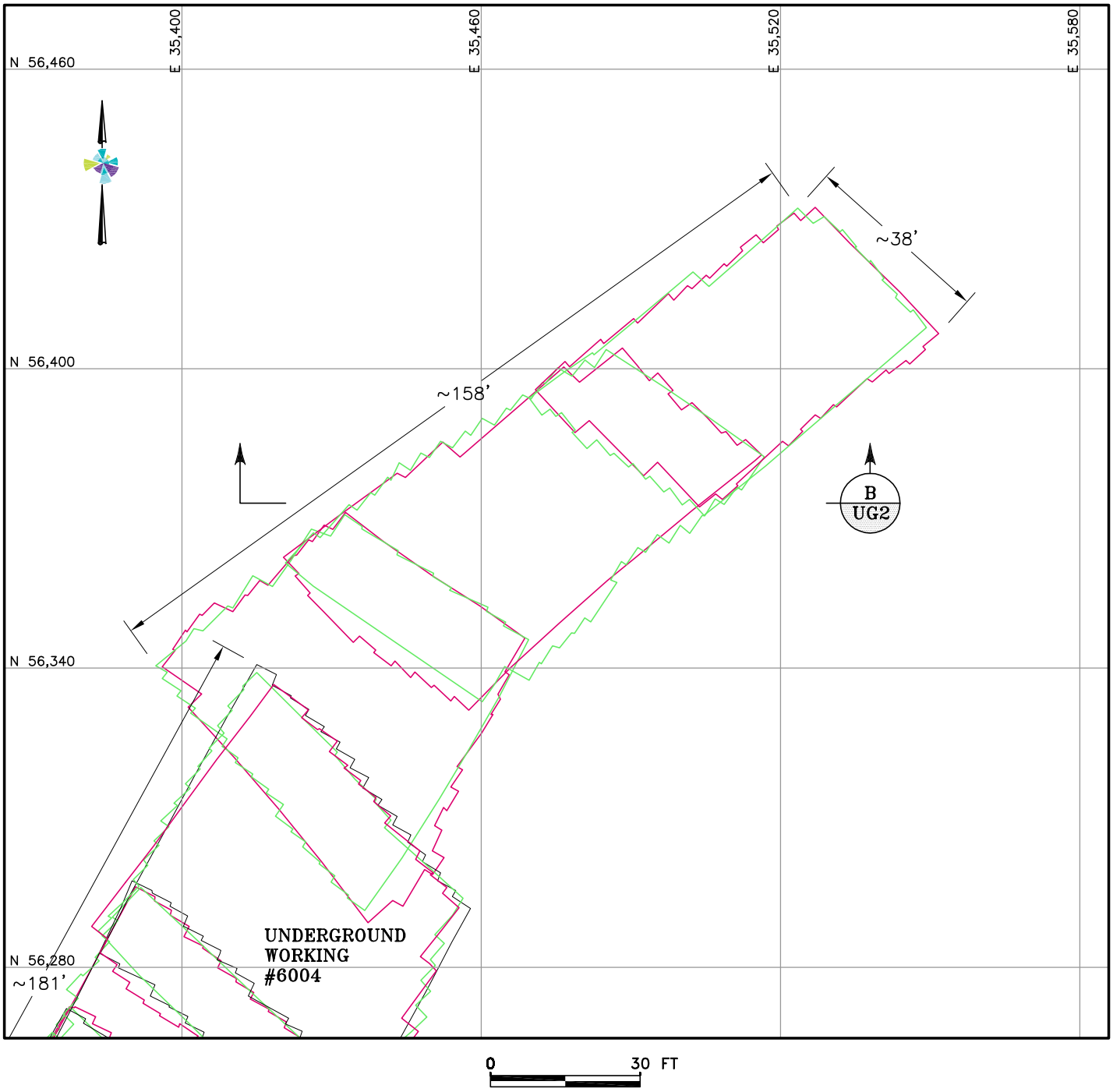
1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

100 CY – SELECT STRUCTURAL FILL

4,840 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6304 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG24 REV: 0



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

THIRD LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

322 CY – SELECT STRUCTURAL FILL

17,402 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6313 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG25 REV: 0

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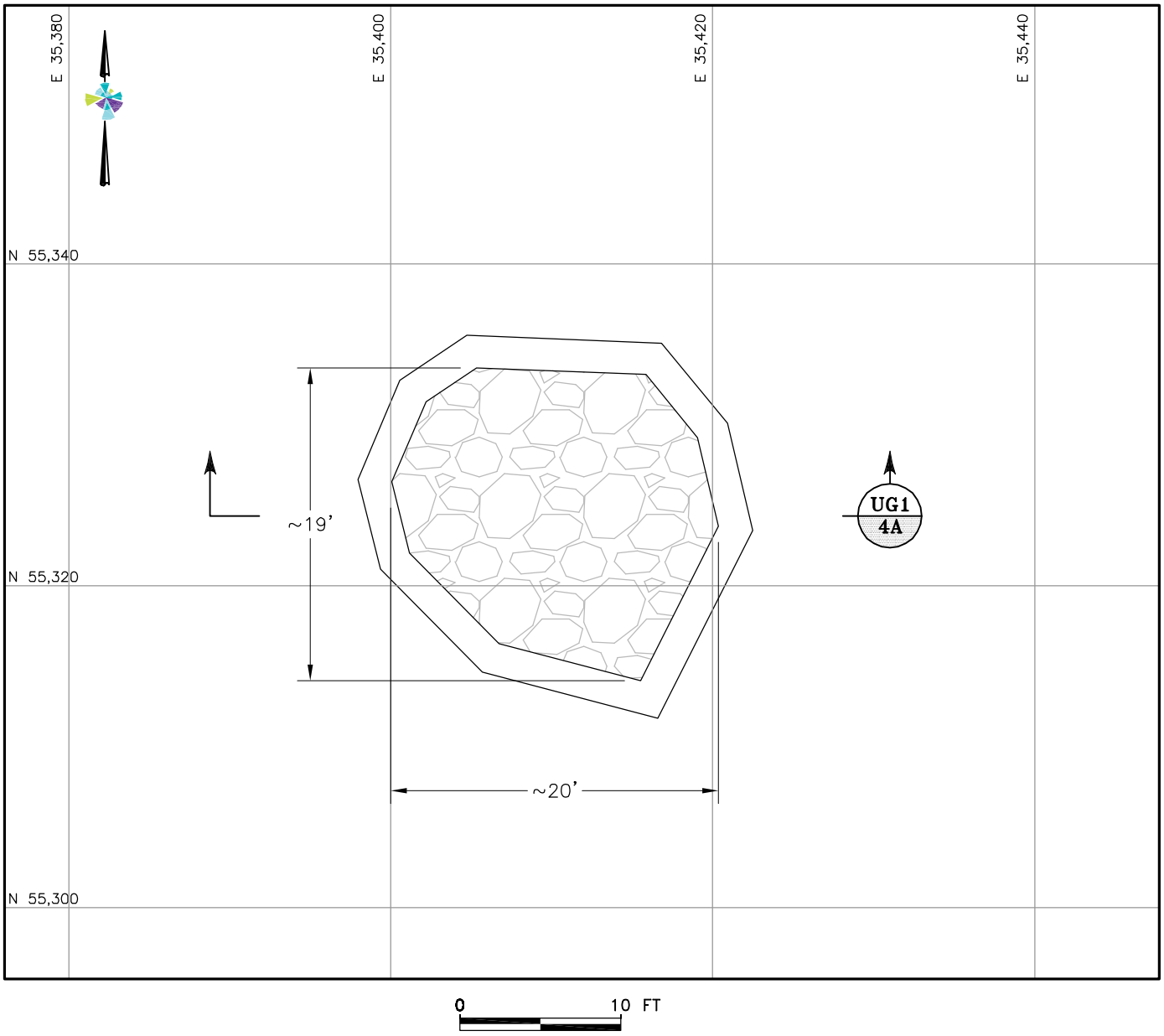


QUANTITIES:

1,226 CY – STRUCTURAL FILL

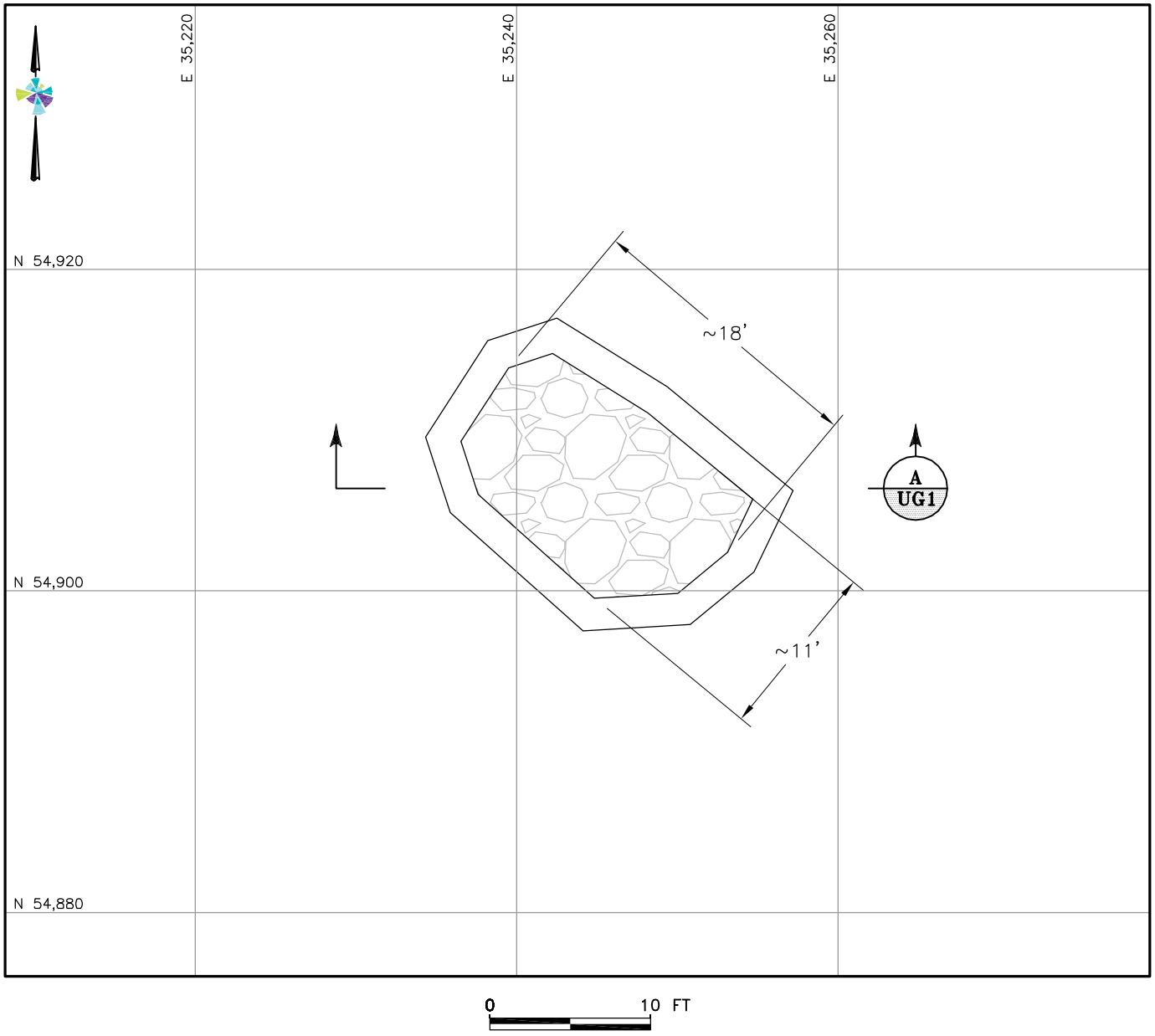
199 CY – APPROVED CEMENTED ROCK FILL

38 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6318 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG26 REV: 0



QUANTITIES:

6,335 CY – COARSE SHAFT BACKFILL

0 CY – STRUCTURAL FILL

63 CY – APPROVED CEMENTED ROCK FILL (SEE NOTE #3)

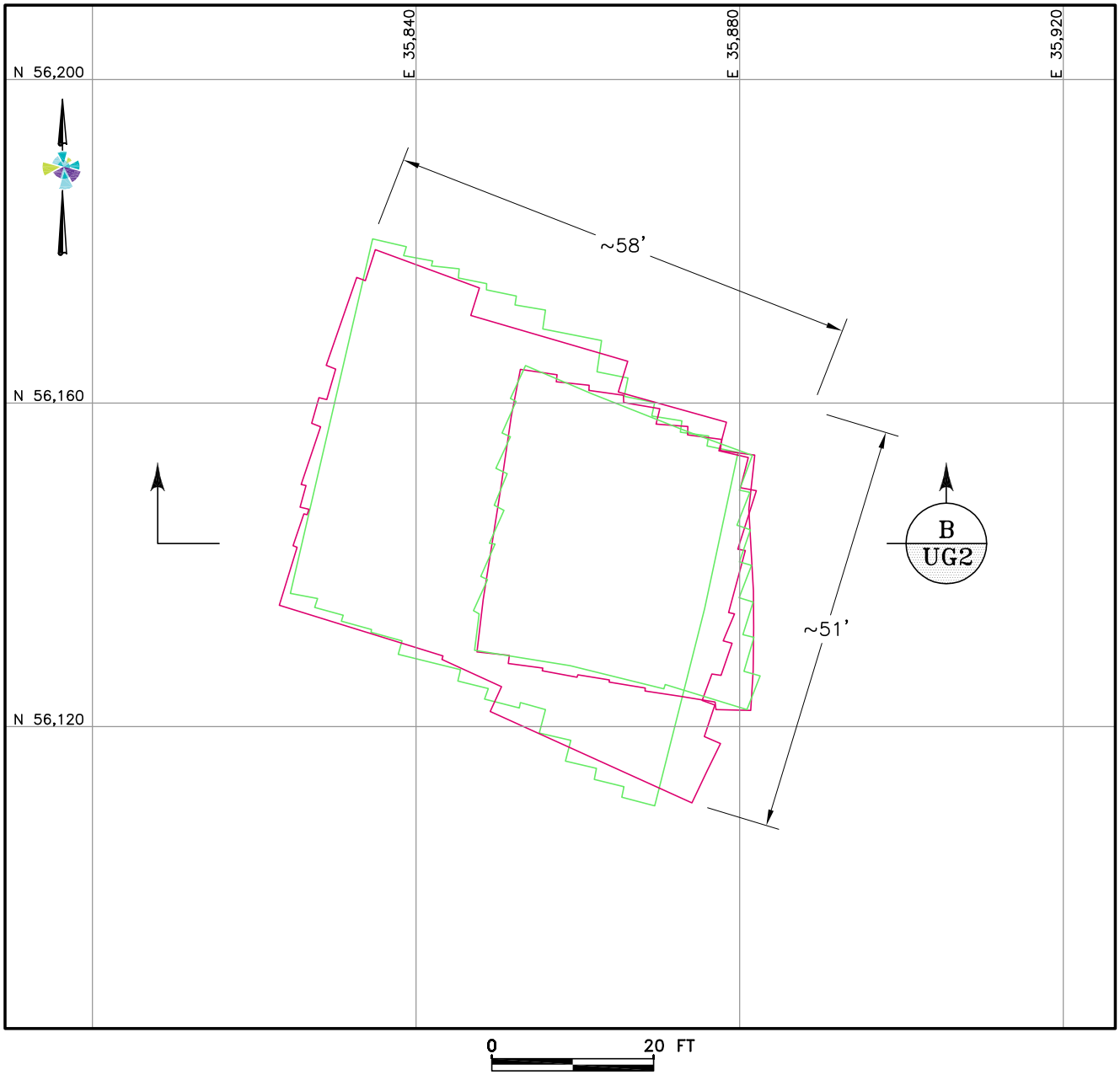
18 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT
3. 25 CY OF APPROVED 4020 MIX CONCRETE AND 45 CY OF 300 PSI MIX CONCRETE WAS PLACED AS SUBSTITUTION FOR CEMENTED ROCK FILL

amec foster wheeler

CHK BY RBR	CLIENT	CRIPPLE CREEK & VICTOR GOLD MINING COMPANY	ISSUED DATE 09/28/2015
APR BY ALM	PROJECT	SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1	PROJECT No. 74201125N0
DRN BY JBB/CS	TITLE	CONCRETE REMEDIATION OF UNDERGROUND WORKING #6320 PLAN VIEW	FIGURE No. UG27 / REV 0
DSN BY JBB			



LEGEND:

FIRST LAYER TENSAR UX1800HS GEOGRID

SECOND LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

89 CY – SELECT STRUCTURAL FILL

4,815 SF – TOTAL GEOGRID (2–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6429 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG28 REV: 0

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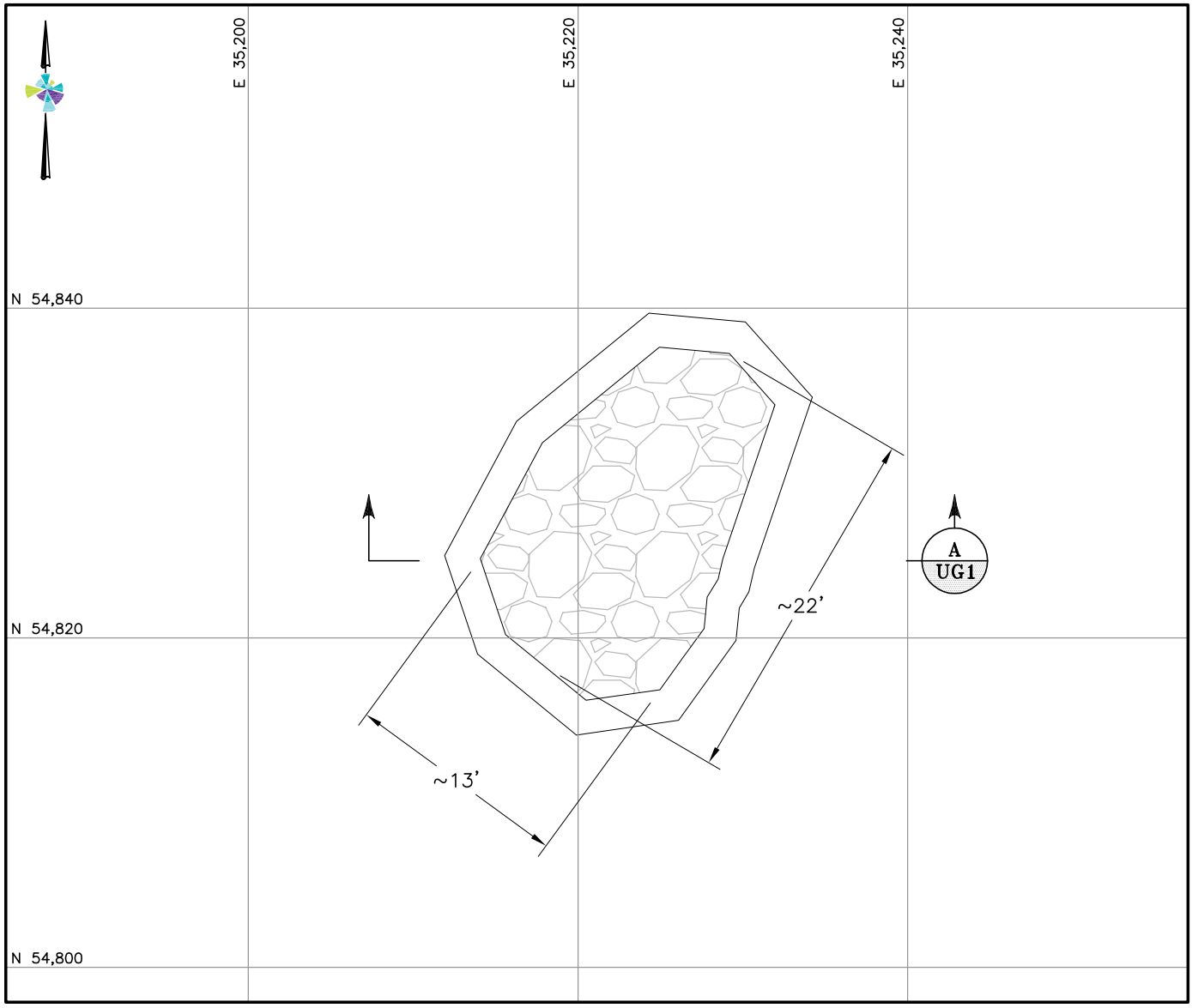


QUANTITIES:

117 CY – COARSE SHAFT BACKFILL

44 CY – APPROVED CEMENTED ROCK FILL

9 CY – CONCRETE PLUG

NOTES:

1. SLOPE = 0.5H:1V MINIMUM.
2. EMBANKMENT FILL USED AS STRUCTURAL FILL IN REMEDIATION EFFORT

amec foster wheeler

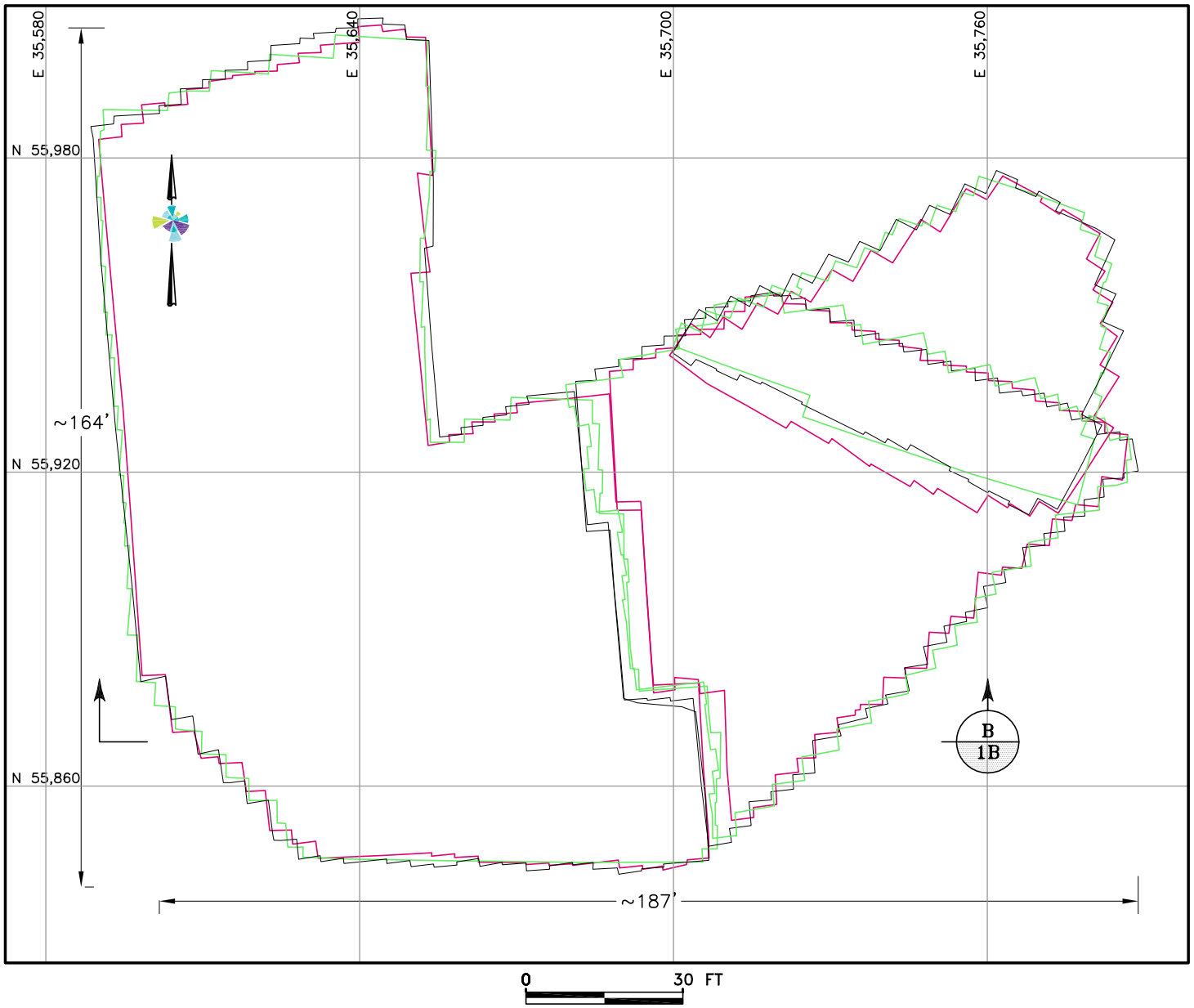
CHK BY	RBR
APR BY	ALM
DRN BY	JBB/CS
DSN BY	JBB

CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1

TITLE: **CONCRETE REMEDIATION OF UNDERGROUND WORKING #6433 PLAN VIEW**

ISSUED DATE	09/28/2015
PROJECT No.	74201125N0
FIGURE No.	UG29
REV	0



LEGEND:

- FIRST LAYER TENSAR UX1800HS GEOGRID
- SECOND LAYER TENSAR UX1800HS GEOGRID
- THIRD LAYER TENSAR UX1800HS GEOGRID

NOTE:

1. SURVEY DATA OF GEOGRID WAS SUPPLIED BY AMES CONSTRUCTION, INC.

QUANTITIES:

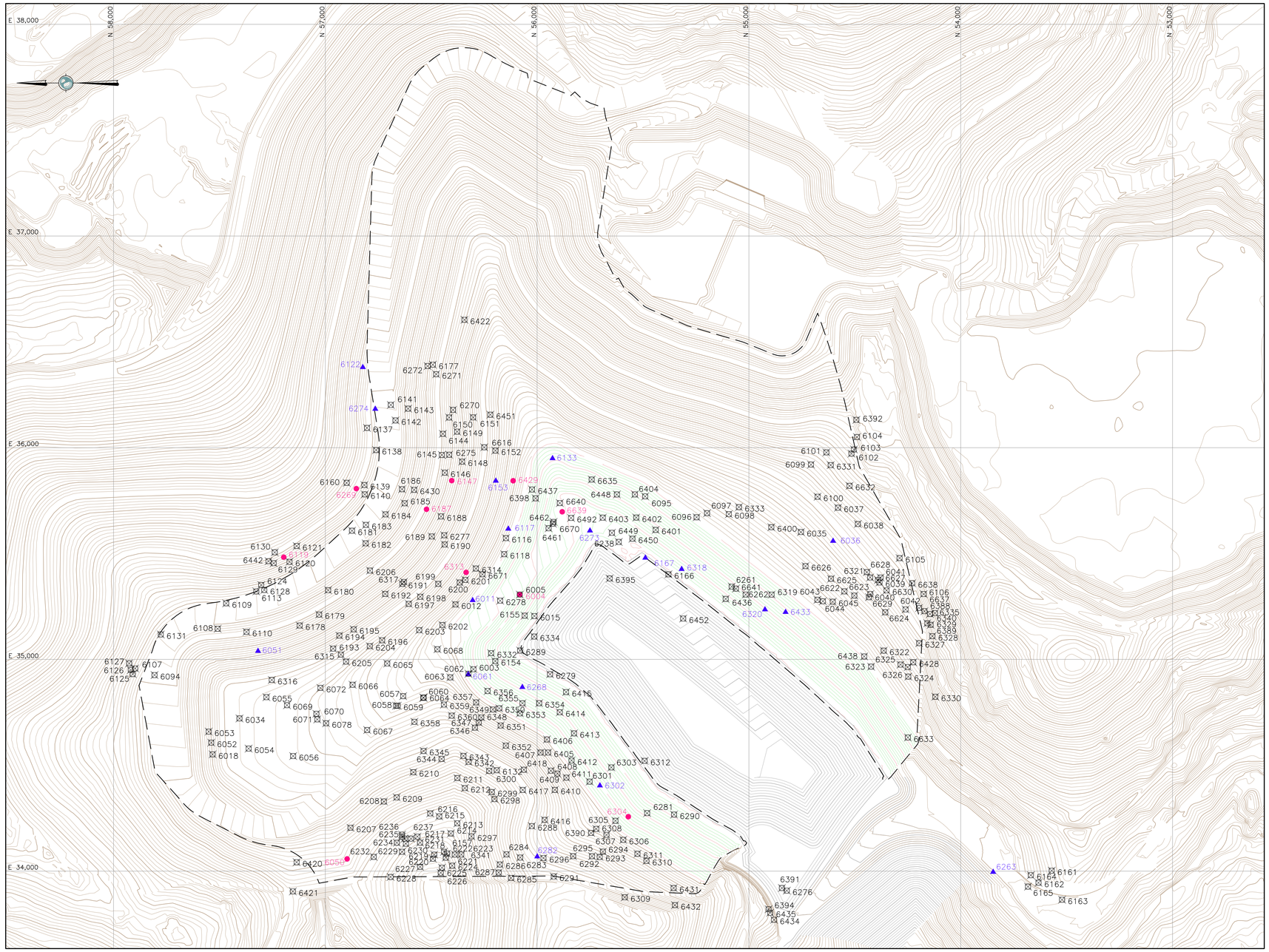
1,182 CY – SELECT STRUCTURAL FILL

63,821 SF – TOTAL GEOGRID (3–LAYERS)

amec foster wheeler	CHK BY: RBR APR BY: ALM DRN BY: JBB/CS DSN BY: JBB	CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY PROJECT: SQUAW GULCH VALLEY LEACH FACILITY – PHASE 1 TITLE: **GEOGRID REMEDIATION OF UNDERGROUND WORKING No. 6639 PLAN VIEW**	ISSUED DATE: 09/28/2015 PROJECT No.: 74201125N0 FIGURE No.: UG30 REV: 0

Appendix M.2

Underground Workings
Record of Construction Drawing



LEGEND:

- 9200 EXISTING GROUND SURFACE CONTOUR AND EL, FEET (LAND SURVEY)
- 9200 EXISTING GROUND SURFACE CONTOUR AND EL, FEET (PSSA)
- 9200 SQUAW GULCH PHASE 1 GROUND SURFACE CONTOUR AND EL. FEET (9,450' BENCH – 9,550')
- PHASE 1 LIMITS
- ⊠ 5000 UNDERGROUND WORKING REMEDIATION LOCATION
- ▲ 5000 UNDERGROUND WORKING REMEDIATION LOCATION – CONCRETE
- ● 5000 UNDERGROUND WORKING REMEDIATION LOCATION – GEOGRID

COLORADO LICENSED
SEAL
Teresa L. Medina
48325
10/12/2015
PROFESSIONAL ENGINEER

250 0 250 500 FT

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REV	DATE	DESCRIPTION	ENGR / CADD

CLIENT
CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

DISCLAIMER

AMEC FOSTER WHEELER PRODUCED THE INFORMATION PRESENTED ON THIS DRAWING THROUGH THE USE OF TECHNICAL INFORMATION AND PRACTICAL EXPERIENCE SPECIFIC TO ITS EFFORTS. RECEIVING THIS DRAWING DOES NOT GUARANTEE ANY RIGHTS TO SUCH TECHNICAL INFORMATION AND PRACTICAL EXPERIENCE. ANY ALTERATION OR ADAPTATION OF THE DATA OR CONTENTS OF THIS DRAWING SHALL BE AT USER'S SOLE RISK AND WITHOUT ANY LIABILITY OR LEGAL RESPONSIBILITY TO AMEC FOSTER WHEELER.

PROVIDED BY
amec foster wheeler

ISSUED FOR
ROC REPORT

DRN BY	CS
DSN BY	ALM
CHK BY	RBR
APR BY	ALM

PROJECT
SQUAW GULCH VALLEY LEACH FACILITY PHASE 1

TITLE
UNDERGROUND WORKING REMEDIATION PHASE 1
RECORD OF CONSTRUCTION

ISSUED DATE	10/01/15
PROJECT No.	74201125N0
DRAWING No.	1 of 1
REV	0

Appendix M.3

Summary of Underground Workings Concrete Test Results

Cripple Creek & Victor Mining Company
Squaw Gulch Vally Leach Facility-Phase 1
Underground Workings Concrete Testing Summary

amec foster wheeler

SPECIMEN NO.	DATE PLACED	TIME BATCHED	TIME SAMPLED	LOCATION	MIX DESIGN NUMBER	FIELD TEST RESULTS				LABORATORY TEST RESULTS						
						SLUMP (in)	AIR CONTENT (%)*	UNIT WEIGHT (pcf)*	SAMPLE TEMP. (ºF)	CURING AGE AT TIME OF TEST (days)	LOAD (pounds)	AREA (in^2)	DESIGN STRENGTH (psi)	COMPRESSIVE STRENGTH (psi)	PERCENT OF DESIGN (%)	FRACTURE TYPE
W1-1	4/4/2013	11:55 AM	2:20 PM	UGT #6061 (Working Area)	224918	1.75	4.0	N/T	72	3	51,625	12.57	4,000	4,107	103%	2
W1-2										7	54,315	12.57	4,000	4,321	108%	6
W1-3										28	69,990	12.57	4,000	5,568	139%	6
W1-4										28	71,250	12.57	4,000	5,668	142%	3
W1-5										H	Discard	12.57	4,000	-	-	-
W3-4	8/7/2013	7:30 AM	1:30 PM	UG #U6263 (Working Area)	74GM2110	4.00	N/T	N/T	83	1	90,855	28.27	4,000	3,214	80%	5
W3-1										7	108,665	28.27	4,000	3,844	96%	5
W3-2										28	128,350	28.27	4,000	4,540	114%	2
W3-3										28	125,271	28.27	4,000	4,431	111%	2
W3-5										H	Discard	28.27	4,000	-	-	-
W4-1	8/16/2013	8:34 AM	9:15 PM	UG #U6051 (Working Area)	4001	4.00	N/T	N/T	78	7	52,105	12.57	4,000	4,145	104%	2
W4-2										28	68,520	12.57	4,000	5,451	136%	2
W4-3										28	64,170	12.57	4,000	5,105	128%	2
W4-4										H	Discard	12.57	4,000	-	-	-
W6-1	10/2/2013	2:05 PM	2:31 PM	UG #U6273 (Working Area)	4000	2.50	N/T	N/T	72	2	41,555	12.57	4,000	3,306	83%	2
W6-2										5	65,155	12.57	4,000	5,183	130%	2
W6-3										28	Discard	12.57	4,000	-	-	-
W6-4										28	Discard	12.57	4,000	-	-	-
W7-1	10/5/2013	8:08 AM	9:10 AM	UG #U6167 (Working Area)	4000	3.00	N/T	N/T	69	2	30,230	12.57	4,000	2,405	60%	2
W7-2										4	33,760	12.57	4,000	2,686	67%	2
W7-3										9	43,535	12.57	4,000	3,463	87%	2
W7-4										28	76,830	12.57	4,000	6,112	153%	2
W9-1	10/15/2013	8:28 AM	9:30 AM	UG #U6011 (Working Area)	4000	2.50	N/T	N/T	64	1	7,005	12.57	4,000	557	14%	2
W9-2										2	23,095	12.57	4,000	1,837	46%	2
W9-3										6	82,640	12.57	4,000	6,574	164%	2
W9-4										28	98,885	12.57	4,000	7,867	197%	2
W10-1	10/23/2013	10:30 AM	10:55 AM	UG #U6268 (Working Area)	4000	3.50	N/T	N/T	68	1	9,040	12.57	4,000	719	18%	2
W10-2										2	19,375	12.57	4,000	1,541	39%	2
W10-3										5	31,540	12.57	4,000	2,509	63%	2
W10-4										5	30,880	12.57	4,000	2,457	61%	2
W10-5										28	52,000	12.57	4,000	4,137	103%	2

* Testing not required per project specifications Section 03320

Cripple Creek & Victor Mining Company
Squaw Gulch Vally Leach Facility-Phase 1
Underground Workings Concrete Testing Summary

amec foster wheeler

SPECIMEN NO.	DATE PLACED	TIME BATCHED	TIME SAMPLED	LOCATION	MIX DESIGN NUMBER	FIELD TEST RESULTS				LABORATORY TEST RESULTS						
						SLUMP (in)	AIR CONTENT (%)*	UNIT WEIGHT (pcf)*	SAMPLE TEMP. (ºF)	CURING AGE AT TIME OF TEST (days)	LOAD (pounds)	AREA (in^2)	DESIGN STRENGTH (psi)	COMPRESSIVE STRENGTH (psi)	PERCENT OF DESIGN (%)	FRACTURE TYPE
W14-1	1/7/2014	1:18 PM	2:55 PM	UG #6282	SL4500EXT	2.00	N/T	N/T	62	3	29,740	12.57	4,000	2,366	59%	1
W14-2										7	48,765	12.57	4,000	3,879	97%	1
W14-3										14	53,650	12.57	4,000	4,268	107%	2
W14-4										28	71,980	12.57	4,000	5,726	143%	3
W14-5										H	Discard	12.57	4,000	-	-	-
W15-1	1/17/2014	3:14 PM	4:37 PM	Working #6036	4001	2.25	N/T	N/T	63	3	43,655	12.57	4,000	3,473	87%	3
W15-2										7	52,355	12.57	4,000	4,165	104%	3
W15-3										14	65,440	12.57	4,000	5,206	130%	2
W15-4										28	70,690	12.57	4,000	5,624	141%	5
W15-5										H	Discard	12.57	4,000	-	-	-
W16-1	2/15/2014	8:26 AM	8:56 AM	UG #6302	4001	2.25	N/T	N/T	62	3	52,875	12.57	4,000	4,206	105%	2
W16-2										7	71,875	12.57	4,000	5,718	143%	3
W16-3										28	Discard	12.57	4,000	-	-	-
W16-4										28	Discard	12.57	4,000	-	-	-
W16-5										H	Discard	12.57	4,000	-	-	-
W17-1	2/21/2014	8:50 AM	9:22 AM	UG #6320	4001	3.00	N/T	N/T	64	3	47,335	12.57	4,000	3,766	94%	3
W17-2										7	62,755	12.57	4,000	4,992	125%	5
W17-3										28	82,615	12.57	4,000	6,572	164%	5
W17-4										28	Fault	12.57	4,000	-	-	-
W17-5										H	83,016	12.57	4,000	6,604	165%	2
W18-1	2/21/2014	10:48 AM	11:19 AM	UG #6433	4001	2.00	N/T	N/T	64	3	44,840	12.57	4,000	3,567	89%	5
W18-2										7	56,375	12.57	4,000	4,485	112%	3
W18-3										28	66,375	12.57	4,000	5,280	132%	2
W18-4										28	70,710	12.57	4,000	5,625	141%	3
W18-5										H	Discard	12.57	4,000	-	-	-
W19-1	4/15/2014	1:09 PM	1:31 PM	UG #6274	4001	3.00	N/T	N/T	63	3	33,980	12.57	4,000	2,703	68%	2
W19-2										7	48,060	12.57	4,000	3,823	96%	2
W19-3										28	54,745	12.57	4,000	4,355	109%	2
W19-4										28	53,845	12.57	4,000	4,284	107%	2
W19-5										H	Discard	12.57	4,000	-	-	-
W20-1	4/25/2014	8:08 AM	8:25 AM	UG #6273	4001	2.00	N/T	N/T	63	3	44,385	12.57	4,000	3,531	88%	2
W20-2										7	53,390	12.57	4,000	4,247	106%	2
W20-3										28	66,885	12.57	4,000	5,321	133%	2
W20-4										28	68,820	12.57	4,000	5,475	137%	2
W20-5										H	Discard	12.57	4,000	-	-	-

* Testing not required per project specifications Section 03320

Cripple Creek & Victor Mining Company
Squaw Gulch Vally Leach Facility-Phase 1
Underground Workings Concrete Testing Summary

amec foster wheeler

SPECIMEN NO.	DATE PLACED	TIME BATCHED	TIME SAMPLED	LOCATION	MIX DESIGN NUMBER	FIELD TEST RESULTS				LABORATORY TEST RESULTS						
						SLUMP (in)	AIR CONTENT (%)*	UNIT WEIGHT (pcf)*	SAMPLE TEMP. (ºF)	CURING AGE AT TIME OF TEST (days)	LOAD (pounds)	AREA (in^2)	DESIGN STRENGTH (psi)	COMPRESSIVE STRENGTH (psi)	PERCENT OF DESIGN (%)	FRACTURE TYPE
W21-1	4/25/2014	2:01 PM	2:46 PM	UG #6273	4001	3.00	N/T	N/T	62	3	47,400	12.57	4,000	3,771	94%	2
W21-2										7	57,955	12.57	4,000	4,611	115%	2
W21-3										28	67,995	12.57	4,000	5,409	135%	5
W21-4										28	69,295	12.57	4,000	5,513	138%	6
W21-5										H	Discard	12.57	4,000	-	-	-
W22-1	4/30/2014	8:21 AM	8:33 AM	UG #6273	4001	3.00	N/T	N/T	62	5	61,495	12.57	4,000	4,892	122%	2
W22-2										7	64,610	12.57	4,000	5,140	129%	2
W22-3										28	77,155	12.57	4,000	6,138	153%	5
W22-4										28	77,880	12.57	4,000	6,196	155%	3
W22-5										H	Discard	12.57	4,000	-	-	-
W23-1	4/30/2014	3:44 PM	4:07 PM	UG #6273	4001	3.00	N/T	N/T	63	5	56,585	12.57	4,000	4,502	113%	2
W23-2										7	54,185	12.57	4,000	4,311	108%	6
W23-3										28	72,115	12.57	4,000	5,737	143%	5
W23-4										28	72,260	12.57	4,000	5,749	144%	2
W23-5										H	Discard	12.57	4,000	-	-	-
W25-1	7/18/2014	10:51 AM	11:15 AM	UG #6318	4000	3.50	N/T	N/T	68	3	26,885	12.57	4,000	2,139	53%	2
W25-2										7	39,645	12.57	4,000	3,154	79%	5
W25-3										28	54,195	12.57	4,000	4,311	108%	6
W25-4										28	54,555	12.57	4,000	4,340	109%	3
W25-5										H	Discard	12.57	4,000	-	-	-
W26-1	9/30/2014	8:46 AM	11:00 AM	UG #6579, UG #6153, UG #6117	74GM2110	3.00	N/T	N/T	77	3	51,190	12.57	4,000	4,072	102%	5
W26-2										7	64,115	12.57	4,000	5,101	128%	2
W26-3										28	74,220	12.57	4,000	5,905	148%	2
W26-4										28	78,675	12.57	4,000	6,259	156%	2
W28-1	4/6/2015	10:46 AM	12:46 PM	UG #6546, UG #6547, UG #6548, UG #6460, UG #6133, UG #6446	74GM2110	4.50	5.6	N/T	75	3	44,110	12.57	4,000	3,509	88%	2
W28-2										8	55,635	12.57	4,000	4,426	111%	3
W28-3										28	69,325	12.57	4,000	5,515	138%	1
W28-4										28	70,980	12.57	4,000	5,647	141%	1
W28-5										H	Discard	12.57	4,000	-	-	-

* Testing not required per project specifications Section 03320

Appendix M.4

Underground Workings Individual Concrete Test Reports

REPORT OF CONCRETE CYLINDER TEST

Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings Report Number: 1
Project: Workings
Client: CC&V
Address:

Attn:

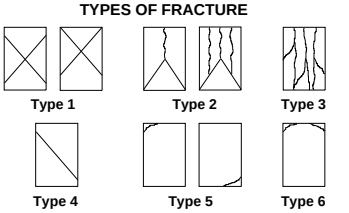
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 4/4/2013
Time Sampled: 2:20 pm
Location of Sample: UGT#6061 (Working Area)
Supplier: TransMix
Truck Number: 72 Ticket Number: 224918
Mix Number: 224918 Time Placed: 2:10 pm
Design Strength: 4000 Time Batched: 11:55 am
Batch Size: 8 yds
Slump: 1.75" Air Content: 4.0% Unit Weight: N/T
Concrete Temp: 72 Ambient Temp: 46
Water Added: 5 gal Technician: RGF
Initial Curing: Final Curing:
Max Field Curing Temp.: Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W1-1	4/7/2013	3	51625	4.00	12.57	4110	103%	2
W1-2	4/11/2013	7	54315	4.00	12.57	4320	108%	6
W1-3	5/2/2013	28	69990	4.00	12.57	5570	139%	6
W1-4	5/2/2013	28	71250	4.00	12.57	5670	142%	3
W1-5		H	Discard					

Remarks:



Copies to:

Reported by: _____
Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 3
Project: Workings
Client: CC&V
Address:

Attn:

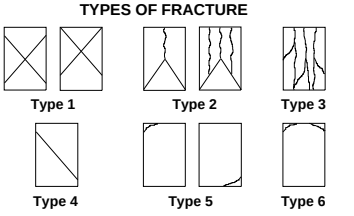
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 8/7/2013
Time Sampled: 1:30 pm
Location of Sample: UG #6263
Supplier: TransMix
Truck Number: 003
Ticket Number: 229740
Mix Number: 74GM2110
Time Placed: 9:00 am
Design Strength: 4000
Time Batched: 7:30 AM
Batch Size: 5 yds
Slump: 4.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 83
Ambient Temp: 68
Water Added: 0
Technician: DK/TB
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W3-1	8/8/2013	1	90855	6.00	28.27	3210	80%	5
W3-2	8/14/2013	7	108665	6.00	28.27	3840	96%	5
W3-3	9/4/2013	28	125271	6.00	28.27	4430	111%	2
W3-4	9/4/2013	28	128350	6.00	28.27	4540	114%	2
W3-5		H	Discard					

Remarks:



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Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 4
Project: Workings
Client: CC&V
Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

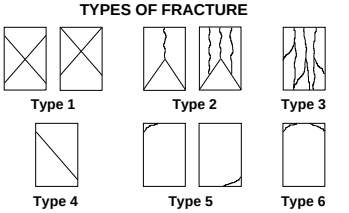
Date Placed: 8/16/2013
Time Sampled: 9:15 am
Location of Sample: UG #U6051 (Working Area)
Supplier: NorthWest Ready Mix
Truck Number: 72
Ticket Number: 178
Mix Number: 4001
Time Placed: 9:10 am
Design Strength: 4000
Time Batched: 8:34 am
Batch Size: 7.5 yds
Slump: 4.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 78
Ambient Temp: 54
Water Added: 0
Technician: TB
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W4-1	8/23/2013	7	52105	4.00	12.57	4150	104%	2
W4-2	9/13/2013	28	68520	4.00	12.57	5450	136%	2
W4-3	9/13/2013	28	64170	4.00	12.57	5110	128%	2
W4-4		H	Discard					

Remarks:

Copies to:



Reported by: _____
Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 5
Project: Workings
Client: CC&V
Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

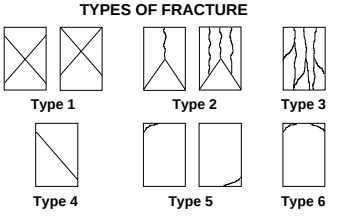
Date Placed: 9/9/2013
Time Sampled:
Location of Sample: Cement Rockfill Test
Supplier:
Truck Number:
Ticket Number:
Mix Number:
Design Strength: 300
Batch Size:
Slump:
Air Content:
Concrete Temp:
Ambient Temp:
Water Added:
Technician: TB
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W5-1	9/12/2013	3	785	4.00	12.57	60	20%	3
W5-2	9/16/2013	7	880	4.00	12.57	70	23%	3

Remarks:

Copies to:



Reported by: _____
Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 6
Project: Workings
Client: CC&V
Address:

Attn:

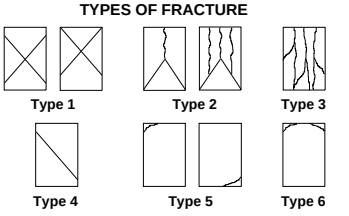
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 10/2/2013
Time Sampled: 2:31 pm
Location of Sample: UG# U6273 (Working Area)
Supplier: NorthWest Ready Mix
Truck Number: 80
Ticket Number: 555
Mix Number: 4000
Time Placed: 2:28 pm
Design Strength: 4000
Time Batched: 2:05 pm
Batch Size: 9 yds
Slump: 2.5"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 72
Ambient Temp: 65
Water Added: 10 gal
Technician: TB
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W6-1	10/4/2013	2	41555	4.00	12.57	3310	83%	2
W6-2	10/7/2013	5	65155	4.00	12.57	5180	130%	2
W6-3	10/30/2013	28	Discard					
W6-4	10/30/2013	28	Discard					

Remarks:



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Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 7
Project: Workings
Client: CC&V
Address:

Attn:

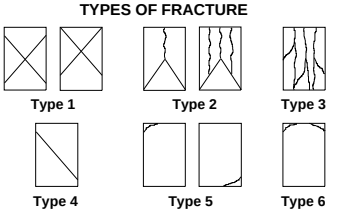
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 10/5/2013
Time Sampled: 9:10 am
Location of Sample: UG# U6167 (Working Area)
Supplier: NorthWest Ready Mix
Truck Number: 72
Ticket Number: 582
Mix Number: 4000
Time Placed: 9:01 am
Design Strength: 4000
Time Batched: 8:08 am
Batch Size: 9 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 49
Ambient Temp: 22
Water Added: 0
Technician: MF
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W7-1	10/7/2013	2	30230	4.00	12.57	2410	60%	2
W7-2	10/9/2013	4	33760	4.00	12.57	2690	67%	2
W7-3	10/14/2013	9	43535	4.00	12.57	3460	87%	2
W7-4	11/2/2013	28	76830	4.00	12.57	6110	153%	2

Remarks: Stored under a concrete blanket



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 9
Project: Workings
Client: CC&V
Address:

Attn:

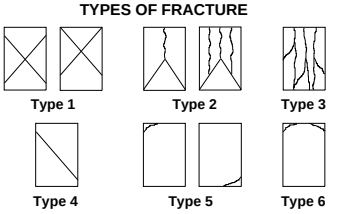
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 10/15/2013
Time Sampled: 9:30 am
Location of Sample: UG# U6011 (Working Area)
Supplier: NorthWest Ready Mix
Truck Number: 71
Ticket Number: 685
Mix Number: 4000
Time Placed: 9:25 am
Design Strength: 4000
Time Batched: 8:28 am
Batch Size: 9 yds
Slump: 2.5"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 64
Ambient Temp: 25
Water Added: 0
Technician: MF
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W9-1	10/16/2013	1	7005	4.00	12.57	560	14%	2
W9-2	10/17/2013	2	23095	4.00	12.57	1840	46%	2
W9-3	10/21/2013	6	82640	4.00	12.57	6580	165%	2
W9-4	11/12/2013	28	98885	4.00	12.57	7870	197%	2

Remarks:



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Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 10
Project: Workings
Client: CC&V
Address:

Attn:

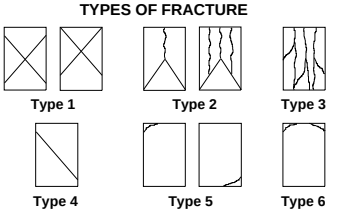
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 10/23/2013
Time Sampled: 10:55 am
Location of Sample: UG# U6268 (Working Area)
Supplier: NorthWest Ready Mix
Truck Number:
Ticket Number:
Mix Number: 4000
Time Placed: 10:50 am
Design Strength: 4000
Time Batched: 10:30 am
Batch Size: 9 yds
Slump: 3.50"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 68
Ambient Temp:
Water Added: 0
Technician: TB
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W10-1	10/24/2013	1	9040	4.00	12.57	720	18%	2
W10-2	10/25/2013	2	19375	4.00	12.57	1540	39%	2
W10-3	10/28/2013	5	31540	4.00	12.57	2510	63%	2
W10-4	10/28/2013	5	30880	4.00	12.57	2460	62%	2
W10-5	11/20/2013	28	52000	4.00	12.57	4140	104%	2

Remarks:



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Project Resident

REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 14
Project: Workings
Client: CC&V
Address:

Attn:

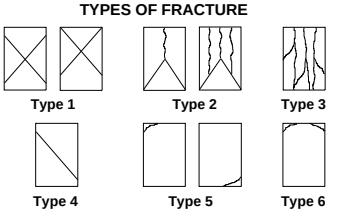
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 1/7/2014
Time Sampled: 2:55 pm
Location of Sample: UG# 6282
Supplier: NorthWest Ready Mix
Truck Number: 81
Ticket Number: 1027/1028
Mix Number: SL4500EXT
Time Placed: 2:48 pm
Design Strength: 4000
Time Batched: 1:18 pm
Batch Size: 6 yds
Slump: 2.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 62
Ambient Temp: 34
Water Added: 10 gal
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W14-1	1/10/2014	3	29740	4.00	12.57	2370	59%	1
W14-2	1/14/2014	7	48765	4.00	12.57	3880	97%	1
W14-3	1/21/2014	14	53650	4.00	12.57	4270	107%	2
W14-4	2/4/2014	28	71980	4.00	12.57	5730	143%	3
W14-5		H	Discard					

Remarks:



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 15
Project: Workings
Client: CC&V
Address:

Attn:

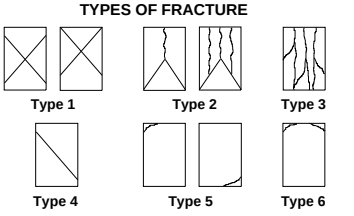
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 1/17/2014
Time Sampled: 4:37 pm
Location of Sample: Working #6036
Supplier: NorthWest Ready Mix
Truck Number: 71
Ticket Number: 1089
Mix Number: 4001
Time Placed: 4:25 pm
Design Strength: 4000
Time Batched: 3:14 pm
Batch Size: 5 yds
Slump: 2.25"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 63
Ambient Temp: 34
Water Added: 5 gal
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W15-1	1/20/2014	3	43655	4.00	12.57	3470	87%	3
W15-2	1/24/2014	7	52355	4.00	12.57	4170	104%	3
W15-3	1/31/2014	14	65440	4.00	12.57	5210	130%	2
W15-4	2/14/2014	28	70690	4.00	12.57	5630	141%	5
W15-5		H	Discard					

Remarks:



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 16
Project: Workings
Client: CC&V
Address:

Attn:

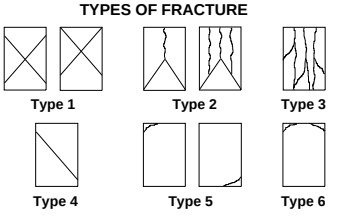
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 2/15/2014
Time Sampled: 8:56 am
Location of Sample: UG# 6302
Supplier: NorthWest Ready Mix
Truck Number: 81
Ticket Number: 1205
Mix Number: 4001
Time Placed: 8:48 am
Design Strength: 4000
Time Batched: 8:26 am
Batch Size: 6 yds
Slump: 2.25"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 62
Ambient Temp: 39
Water Added: 10 gal
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.: 70
Min Field Curing Temp.: 60

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W16-1	2/18/2014	3	52875	4.00	12.57	4210	105%	2
W16-2	2/22/2014	7	71875	4.00	12.57	5720	143%	3
W16-3	3/15/2014	28	Discard					
W16-4	3/15/2014	28	Discard					
W16-5		H	Discard					

Remarks:



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Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 17
Project: Workings
Client: CC&V
Address:

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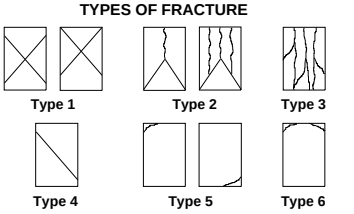
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 2/21/2014
Time Sampled: 9:22 am
Location of Sample: UG #6320
Supplier: NorthWest Ready Mix
Truck Number: 73
Ticket Number: 1234
Mix Number: 4001
Time Placed: 9:15 am
Design Strength: 4000
Time Batched: 8:50 am
Batch Size: 9 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 64
Ambient Temp: 22
Water Added: 10 gal
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W17-1	2/24/2014	3	47335	4.00	12.57	3770	94%	3
W17-2	2/28/2014	7	62755	4.00	12.57	4990	125%	5
W17-3	3/21/2014	28	82615	4.00	12.57	6570	164%	5
W17-4	3/21/2014	28	Fault	4.00	12.57			
W17-5		H	83016	4.00	12.57	6610	165%	2

Remarks:



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Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 18
Project: Workings
Client: CC&V
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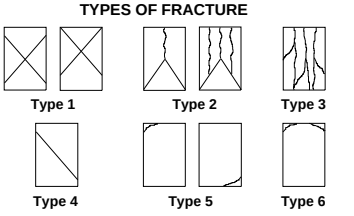
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 2/21/2014
Time Sampled: 11:19 am
Location of Sample: UG #6433
Supplier: NorthWest Ready Mix
Truck Number: 73
Ticket Number: 1239
Mix Number: 4001
Time Placed: 11:13 am
Design Strength: 4000
Time Batched: 10:48 am
Batch Size: 9 yds
Slump: 2.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 64
Ambient Temp: 22
Water Added: 5 gal
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W18-1	2/24/2014	3	44840	4.00	12.57	3570	89%	5
W18-2	2/28/2014	7	56375	4.00	12.57	4490	112%	3
W18-3	3/21/2014	28	66375	4.00	12.57	5280	132%	2
W18-4	3/21/2014	28	70710	4.00	12.57	5630	141%	3
W18-5		H	Discard					

Remarks:



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Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 19
Project: Workings
Client: CC&V
Address:

Attn:

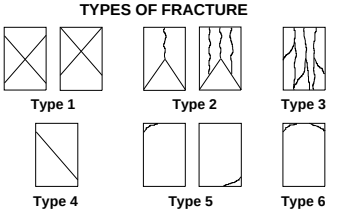
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 4/15/2014
Time Sampled: 1:31 pm
Location of Sample: UG #6274
Supplier: Northwest Ready Mix
Truck Number: 73
Ticket Number: 1505
Mix Number: 4001
Time Placed: 1:29 pm
Design Strength: 4000
Time Batched: 1:09 pm
Batch Size: 7.5 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 63
Ambient Temp: 39
Water Added: 0
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W19-1	4/18/2014	3	33980	4.00	12.57	2700	68%	2
W19-2	4/22/2014	7	48060	4.00	12.57	3820	96%	2
W19-3	5/13/2014	28	54745	4.00	12.57	4360	109%	2
W19-4	5/13/2014	28	53845	4.00	12.57	4280	107%	2
W19-5		H	Discard					

Remarks:



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 20
Project: Workings
Client: CC&V
Address:

Attn:

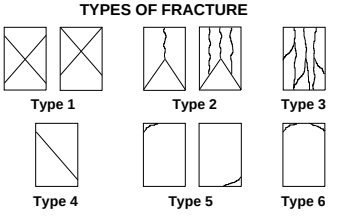
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 4/25/2014
Time Sampled: 8:25 am
Location of Sample: UG #6273
Supplier: NorthWest Ready Mix
Truck Number: 71
Ticket Number: 1559
Mix Number: 4001
Time Placed: 8:23 am
Design Strength: 4000
Time Batched: 8:08 am
Batch Size: 10 gal
Slump: 2.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 63
Ambient Temp: 38
Water Added: 10 gal
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W20-1	4/28/2014	3	44385	4.00	12.57	3530	88%	2
W20-2	5/2/2014	7	53390	4.00	12.57	4250	106%	2
W20-3	5/23/2014	28	66885	4.00	12.57	5320	133%	2
W20-4	5/23/2014	28	68820	4.00	12.57	5480	137%	2
W20-5		H	Discard					

Remarks:



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 21
Project: Workings
Client: CC&V
Address:

Attn:

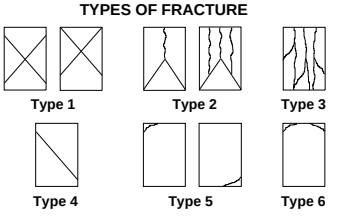
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 4/25/2014
Time Sampled: 2:46 pm
Location of Sample: UG #6273
Supplier: NorthWest Ready Mix
Truck Number: 72
Ticket Number: 1572
Mix Number: 4001
Time Placed: 2:23 pm
Design Strength: 4000
Time Batched: 2:01 pm
Batch Size: 10 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 62
Ambient Temp: 51
Water Added: 10 yds
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W21-1	4/28/2014	3	47400	4.00	12.57	3770	94%	2
W21-2	5/2/2014	7	57955	4.00	12.57	4610	115%	2
W21-3	5/23/2014	28	67995	4.00	12.57	5410	135%	5
W21-4	5/23/2014	28	69295	4.00	12.57	5510	138%	6
W21-5		H	Discard					

Remarks:



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 22
Project: Workings
Client: CC&V
Address:

Attn:

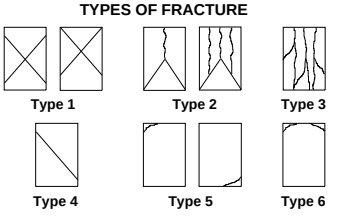
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 4/30/2014
Time Sampled: 8:33 am
Location of Sample: UG #6273
Supplier: NorthWest Ready Mix
Truck Number: 73
Ticket Number: 1594
Mix Number: 4001
Time Placed: 8:31 am
Design Strength: 4000
Time Batched: 8:21 am
Batch Size: 10 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 62
Ambient Temp: 33
Water Added: 0
Technician: TB
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W22-1	5/5/2014	5	61495	4.00	12.57	4890	122%	2
W22-2	5/7/2014	7	64610	4.00	12.57	5140	129%	2
W22-3	5/28/2014	28	77155	4.00	12.57	6140	154%	5
W22-4	5/28/2014	28	77880	4.00	12.57	6200	155%	3
W22-5		H	Discard					

Remarks:



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REPORT OF CONCRETE CYLINDER TEST
Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 23
Project: Workings
Client: CC&V
Address:

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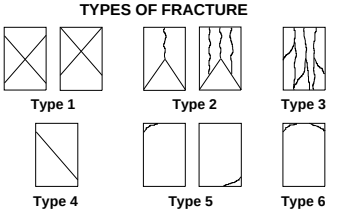
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 4/30/2014
Time Sampled: 4:07 pm
Location of Sample: UG #6273
Supplier: NothWest Ready Mix
Truck Number: 71
Ticket Number: 1610
Mix Number: 4001
Time Placed: 4:05 pm
Design Strength: 4000
Time Batched: 3:44 pm
Batch Size: 10 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 63
Ambient Temp: 39
Water Added: 0
Technician: BR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W23-1	5/5/2014	5	56585	4.00	12.57	4500	113%	2
W23-2	5/7/2014	7	54185	4.00	12.57	4310	108%	6
W23-3	5/28/2014	28	72115	4.00	12.57	5740	144%	5
W23-4	5/28/2014	28	72260	4.00	12.57	5750	144%	2
W23-5		H	Discard					

Remarks:



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Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 25
Project: Workings
Client: CC&V
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FIELD TEST CONDITIONS AND RESULTS

Date Placed: 7/18/2014
Time Sampled: 11:15 am
Location of Sample: UG# 6318
Supplier: NorthWest Ready Mix
Truck Number: 73
Ticket Number: 1713
Mix Number: 4001
Time Placed: 11:12 am
Design Strength: 4000
Time Batched: 10:51 am
Batch Size: 8 yds
Slump: 3.50"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 68
Ambient Temp: 65
Water Added: 0
Technician: RBR
Initial Curing:
Final Curing:
Max Field Curing Temp.: 74
Min Field Curing Temp.: 68

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W25-1	7/21/2014	3	26885	4.00	12.57	2140	54%	2
W25-2	7/25/2014	7	39645	4.00	12.57	3150	79%	5
W25-3	8/15/2014	28	54195	4.00	12.57	4310	108%	6
W25-4	8/15/2014	28	54555	4.00	12.57	4340	109%	3
W25-5		H	Discard					

Remarks:

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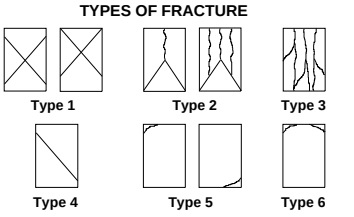

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Project Resident

REPORT OF CONCRETE CYLINDER TEST

Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 26
Project: Workings
Client: CC&V
Address:

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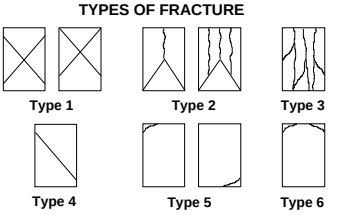
FIELD TEST CONDITIONS AND RESULTS

Date Placed: 9/30/2014
Time Sampled: 11:00 am
Location of Sample: UG #6579, UG #6153 and UG #6117
Supplier: Transit Mix
Truck Number: 373
Ticket Number: 192753
Mix Number: 74GM2110
Time Placed: 10:30 am
Design Strength: 4000
Time Batched: 8:46 am
Batch Size: 10 yds
Slump: 3.00"
Air Content: N/T
Unit Weight: N/T
Concrete Temp: 77
Ambient Temp: 50
Water Added: 5 gal
Technician: RBR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W26-1	10/3/2014	3	51190	4.00	12.57	4070	102%	5
W26-2	10/7/2014	7	64115	4.00	12.57	5100	128%	2
W26-3	10/28/2014	28	74220	4.00	12.57	5910	148%	2
W26-4	10/28/2014	28	78675	4.00	12.57	6260	157%	2

Remarks: Same concrete was used for all three workings



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Amec Foster Wheeler Environment & Infrastructure

Project Number: 74201125N0- Workings
Report Number: 28
Project: Workings
Client: CC&V
Address:

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FIELD TEST CONDITIONS AND RESULTS

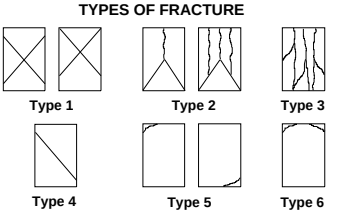
Date Placed: 4/6/2015
Time Sampled: 12:46 pm
Location of Sample: UG#6546,UG#6547,UG#6548,UG#6460,UG#6133 & UG#6446
Supplier: Transit Mix
Truck Number: 022
Ticket Number: 198395
Mix Number: 74GM2110
Time Placed: 12:46 pm
Design Strength: 4000
Time Batched: 10:46 am
Batch Size: 8 yds
Slump: 4.50"
Air Content: 5.6%
Unit Weight: N/T
Concrete Temp: 75
Ambient Temp: 63
Water Added: 0 gal
Technician: RBR
Initial Curing:
Final Curing:
Max Field Curing Temp.:
Min Field Curing Temp.:

LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
W28-1	4/9/2015	3	44110	4.00	12.57	3510	88%	2
W28-2	4/14/2015	8	55635	4.00	12.57	4430	111%	3
W28-3	5/4/2015	28	69325	4.00	12.57	5520	138%	1
W28-4	5/4/2015	28	70980	4.00	12.57	5650	141%	1
W28-5		H	Discard					

Remarks:

Copies to:



Reported by:

Robert Redd
Asst. Project Resident

Appendix M.5

Underground Workings CQA Earthworks Laboratory Testing Summary - Coarse Shaft Backfill

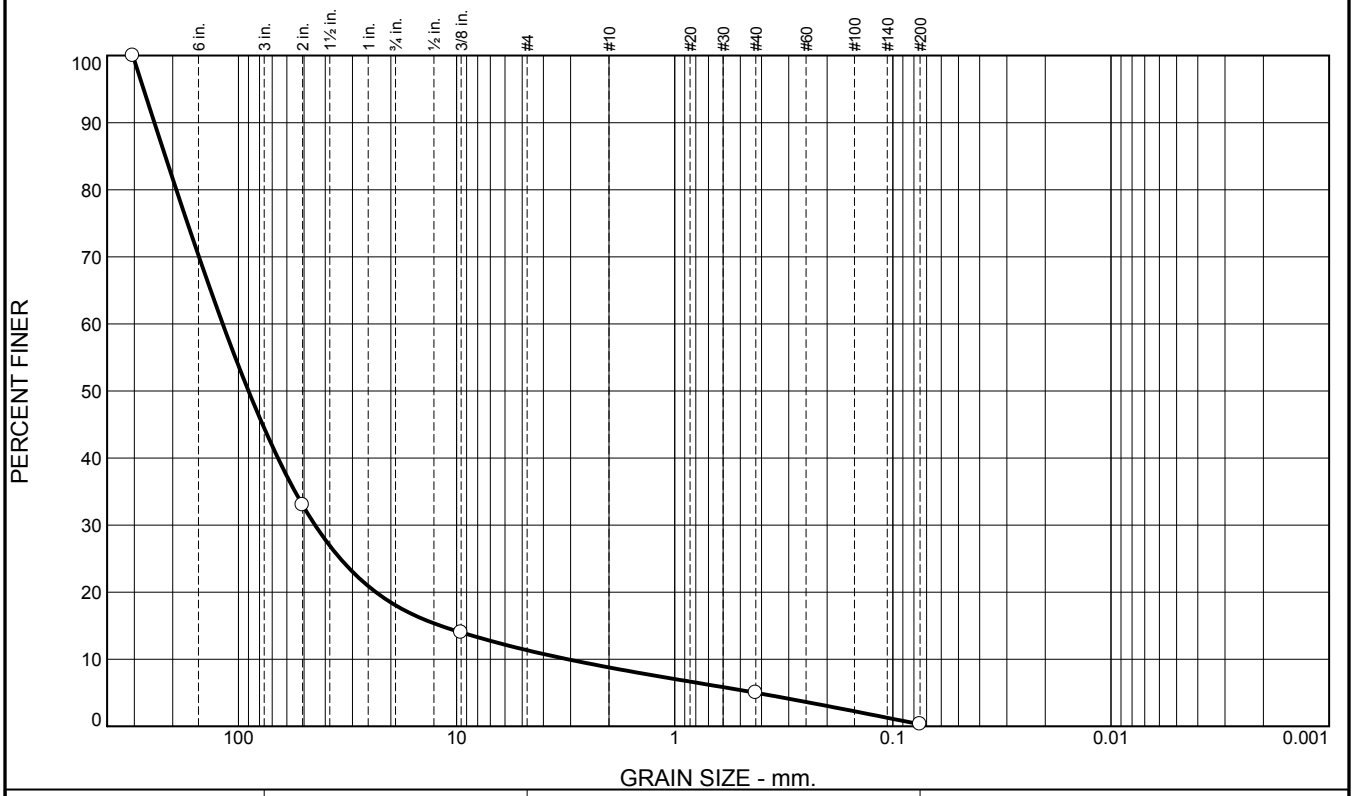
Cripple Creek & Victor Gold Mining Company
Squaw Gulch Valley Leach Facility-Phase 1
CQA Earthworks Labortatory Testing Summary-Coarse Shaft Backfill

SAMPLE NUMBER	DATE TESTED	LOCATION		ELEV. (feet)	NATURAL MOISTURE (%)	GRAINSIZE DISTRIBUTION (PERCENT PASSING)					ATTERBERG		
						12.0"	2.0"	0.375"	No. 40	No. 200	PLASTIC INDEX: 0 MAX.		
						SPECIFICATION (PERCENT PASSING)					LIQUID LIMIT	PLASTIC LIMIT	PLASTIC INDEX
		NORTHING	EASTING			100	-	-	-	0-15			
CSB-1-R	3/5/2014	Underground Working #6320		-	-	100.0	33.0	14.0	5.0	0.3	NV	NP	NP
CSB-2-R	3/5/2014	Underground Working #6321		-	-	100.0	27.0	5.0	1.0	0.1	NV	NP	NP

Appendix M.6

Underground Workings
Individual Earthworks Test Reports

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
55.5	26.5	6.7	2.5	3.8	4.7	0.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
12"	100.0	100.0	
2"	33.0		
.375"	14.0		
#40	5.0		
#200	0.3	0.0 - 15.0	

* CC&V CSB

Material Description

Brown poorly graded gravel with sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{90}= 242.7181 D_{85}= 216.3653 D_{60}= 118.0170
D_{50}= 89.8628 D_{30}= 44.5176 D_{15}= 11.8555
D_{10}= 3.0987 C_u= 38.09 C_c= 5.42

Classification

USCS= GP AASHTO= A-1-a

Remarks

Sample obtained from UG#6320

Source of Sample: Coarse Shaft Backfill
Sample Number: CSB-1-R

Date: 3/5/2014

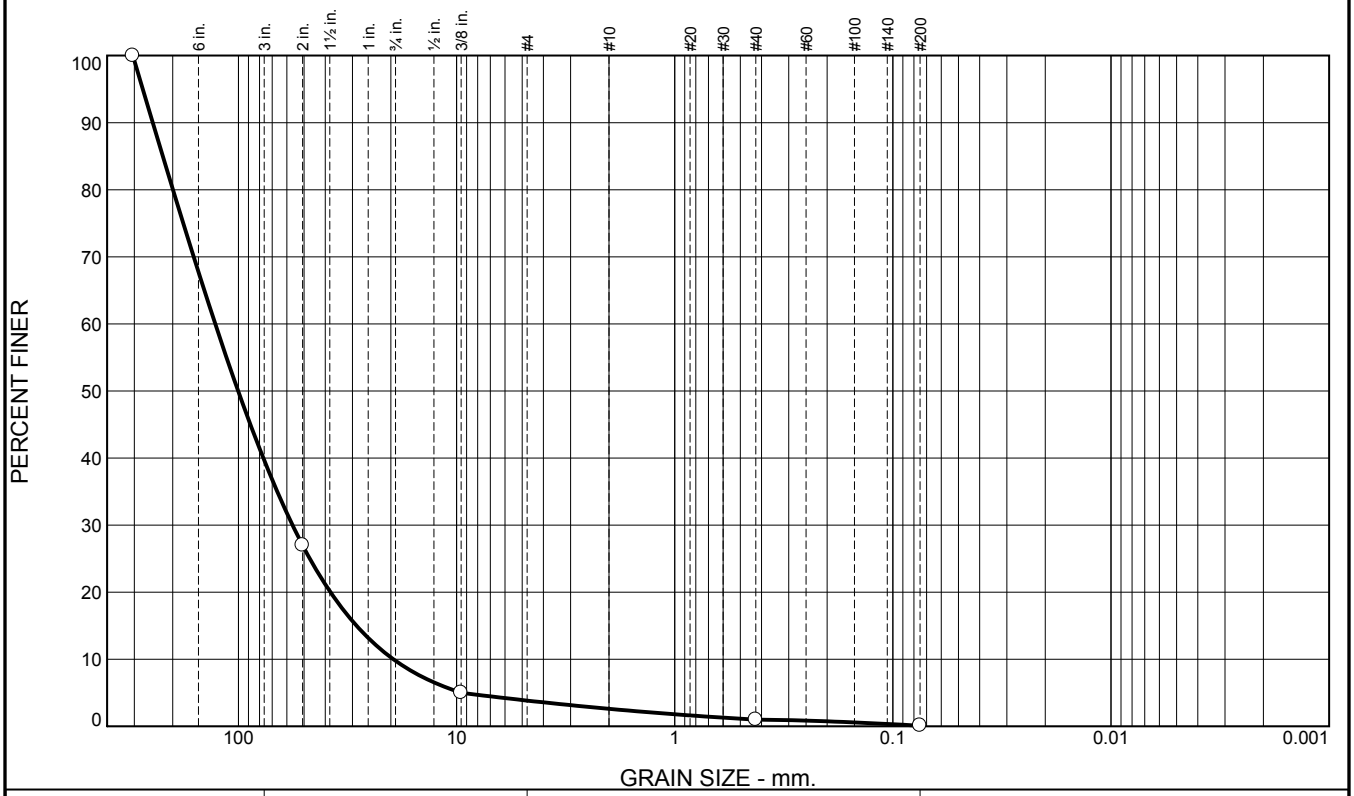
Amec Foster Wheeler

Client: Cripple Creek & Victor Gold Mining Company
Project: VLF Squaw Gulch

Project No: 74201125N0 **Figure** CSB-1-R

Tested By: RM **Checked By:** TB

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
60.3	29.9	6.0	1.2	1.6	0.9	0.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
12"	100.0	100.0	
2"	27.0		
.375"	5.0		
#40	1.0		
#200	0.1	0.0 - 15.0	

* CC&V CSB

Material Description

Brown well-graded gravel

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 246.9576 D_{85}= 222.1162 D_{60}= 127.7411
D_{50}= 100.2585 D_{30}= 56.5028 D_{15}= 28.7420
D_{10}= 19.4889 C_u= 6.55 C_c= 1.28

Classification

USCS= GW AASHTO= A-1-a

Remarks

Sample obtained from UG#6320

Source of Sample: Coarse Shaft Backfill
Sample Number: CSB-2-R

Date: 3/5/2014

Amec Foster Wheeler

Client: Cripple Creek & Victor Gold Mining Company
Project: VLF Squaw Gulch

Project No: 74201125N0 **Figure** CSB-2-R

Tested By: RM **Checked By:** TB

Appendix M.7

Geogrid Quality Control Certificates

Tensar International Corporation
5883 Glenridge Drive, Suite 200
Atlanta, Georgia 30328-5363
Phone: 800-TENSAR-1
www.tensar-international.com

Product Specification - Structural Geogrid UX1800HS

Tensar International Corporation reserves the right to change its product specifications at any time. It is the responsibility of the specifier and purchaser to ensure that product specifications used for design and procurement purposes are current and consistent with the products used in each instance.

Product Type: **Integrally Formed Structural Geogrid**
Polymer: **High Density Polyethylene**
Load Transfer Mechanism: **Positive Mechanical Interlock**
Recommended Applications: **Sierra System (Reinforced Slopes), Prism System (Embankments), Temporary Walls**

Product Properties

Index Properties	**Units**	**MD Values[1]**
▪ Tensile Strength @ 5% Strain[2]	kN/m (lb/ft)	95 (6,510)
▪ Ultimate Tensile Strength[2]	kN/m (lb/ft)	210.0 (14,390)
▪ Junction Strength[3]	kN/m (lb/ft)	180 (12,340)
▪ Flexural Stiffness[4]	mg-cm	9,500,000
Durability		
▪ Resistance to Long Term Degradation[5]	%	100
▪ Resistance to UV Degradation[6]	%	95
Load Capacity		
▪ Maximum Allowable (Design) Strength for 120-year Design Life[7]	kN/m (lb/ft)	74.1 (5,080)
Recommended Allowable Strength Reduction Factors[7]		
▪ Minimum Reduction Factor for Installation Damage (RF_{ID})[8]		1.05
▪ Reduction Factor for Creep for 120-year Design Life (RF_{CR}) [9]		2.7
▪ Minimum Reduction Factor for Durability (RF_D)		1.00

Dimensions and Delivery

The structural geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 1.33 meters (4.36 feet) in width and 61.0 meters (200.0 feet) in length. A typical truckload quantity is 144 rolls.

Notes:

1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes. Complete descriptions of test procedures are available on request from Tensar International Corporation.
2. True resistance to elongation when initially subjected to a load measured via ASTM D6637-01 without deforming test materials under load before measuring such resistance or employing "secant" or "offset" tangent methods of measurement so as to overstate tensile properties.
3. Load transfer capability determined in accordance with GRI-GG2-05.
4. Resistance to bending force determined in accordance with ASTM D5732-01, using specimen dimensions of 864 millimeters in length by one aperture in width.
5. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
6. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.
7. Reduction factors are used to calculate the geogrid strength available for resisting force in long-term load bearing applications. Allowable Strength (T_{allow}) is determined by reducing the ultimate tensile strength (T_{ult}) by reduction factors for installation damage (RF_{ID}), creep (RF_{CR}) and chemical/biological durability ($RF_D = RF_{CD} \cdot RF_{BD}$) per GRI-GG4-05 [$T_{allow} = T_{ult}/(RF_{ID} \cdot RF_{CR} \cdot RF_D)$]. Recommended minimum reduction factors are based on product-specific testing. Project specifications, standard public agency specifications and/or design code requirements may require higher reduction factors. Design of the structure in which the geogrid is used, including the selection of appropriate reduction factors and design life, is the responsibility of the outside licensed professional engineer providing the sealed drawings for the project.
8. Minimum value is based on Installation Damage Testing in Sand, Silt, and Clay soils. Coarser soils require increased RF_{ID} values.
9. Reduction Factor for Creep determined for 120-year design life and in-soil temperature of 20°C using standard extrapolation techniques to creep rupture data obtained following the test procedure in ASTM D5262-04. Actual design life of the completed structure may differ.

This product specification supersedes all prior specifications for the product described above and is not applicable to any products shipped prior to June 1, 2007

Tensar Corporation, LLC Quality Control Test Data
Product Type- Uniaxial Grid

02/03/2012 01:31 PM

Product Code: UX180060
Customer Name: AMES CONSTRUCTION INC
Project Name: CRIPPLE CREEK/VICTOR MINE

Bill of Lading: TMP-413998
Sales Order: TET-208212
Purchase Order: 090601-400

			Finished Product QC Testing					
QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) GRI-GG2
312186005	312186	12	211.8	55.2	2761.5	106.1	2.80	199.6
312229012	312229	44	218.7	56.4	2820.3	109.7	2.60	218.7
312231006	312231	32	217.6	56.6	2828.9	109.8	2.50	218.0

Note: ASTM D 6637 supercedes GRI-GGI and ASTM D 4595 for geogrids

For Tensar Geogrids, results obtained following ASTM D 6637 are equivalent to results obtained following ASTM D 4595 (modified) and GRI-GGI.

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

February 3, 2012
Date

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

04/09/2012 10:28 AM

Product Code:	UX180060	Bill of Lading:	TMP-414691
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TET-208491
Project Name:	CRIPPLE CREEK/VICTOR MINE	Purchase Order:	EMAIL QUOTE/4/16/2012

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) GRI-GG2
312516010	312516	64	216.1	58.4	2918.0	111.6	3.00	226.3
312517011	312517	24	220.4	55.9	2796.3	107.2	3.30	223.5

Note: ASTM D 6637 supercedes GRI-GGI and ASTM D 4595 for geogrids

For Tensar Geogrids, results obtained following ASTM D 6637 are equivalent to results obtained following ASTM D 4595 (modified) and GRI-GGI.

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

April 9, 2012
Date

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

04/16/2012 07:37 AM

Product Code:	UX180060	Bill of Lading:	TMP-414762
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TET-208491
Project Name:	CRIPPLE CREEK/VICTOR MINE	Purchase Order:	EMAIL QUOTE/4/16/2012

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) GRI-GG2
312517011	312517	28	220.4	55.9	2796.3	107.2	3.30	223.5
312518016	312518	44	225.5	59.5	2973.6	115.5	3.00	219.3
312519012	312519	16	225.6	59.7	2987.0	112.6	2.80	225.7

Note: ASTM D 6637 supercedes GRI-GGI and ASTM D 4595 for geogrids

For Tensar Geogrids, results obtained following ASTM D 6637 are equivalent to results obtained following ASTM D 4595 (modified) and GRI-GGI.

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

April 16, 2012
Date

David Hall
Quality Assurance
Laboratory Supervisor

Tensar Corporation, LLC
1210 Citizens Pkwy.
Morrow, GA 30260

Tel. 770.968.3255
Fax 770.960.1734

www.tensarcorp.com

September 17, 2014

AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Reference: TENSAR ORDER NUMBER: TET 214605 PLaw@tensarcorp.com
PURCHASE ORDER NUMBER: D13001
BILL OF LADING NUMBER: TMP- 628867 T6

Sold To:

20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Ship To:

20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
UNITED STATES

This is to certify that the following Tensar Geogrid:

* UX180060 4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK

as manufactured by the Tensar Corporation, LLC in Morrow, Georgia USA, for the project referenced above has been manufactured and tested in accordance with the Tensar Quality Assurance Program.
Quality control test data is enclosed.

Tensar Corporation, LLC Structural Geogrid meets the characteristics and properties per the enclosed material property data sheet.
For technical support contact 1-800-TENSAR 1.

Sincerely,

David Hall

GAI-LAP
Accreditation # :
GAI - LAP - 72 - 12

Tensar

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

09/17/2014 12:03 PM

Product Code:	UX180060	Bill of Lading:	TMP-628867
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TET-214605
Project Name:	CC&V SQUAW GULCH	Purchase Order:	D13001

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
313862005	313862	1	218.0	58.4	2919.0	112.6	2.90	225.1
313863022	313863	28	217.4	56.5	2825.0	112.8	2.50	212.2
313864012	313864	19	214.8	58.1	2904.0	112.7	2.80	206.2
313865015	313865	25	211.4	59.8	2987.9	115.2	2.60	206.0
313867005	313867	31	220.7	57.2	2862.0	109.4	4.40	215.8

Note: ASTM D 6637 Method A supercedes GRI-GGI and ASTM D 4595 for geogrids
ASTM D 7737 supercedes GRI-GG2

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

September 17, 2014
Date

Tensar International Corporation
2500 Northwinds Parkway, Suite 500
Alpharetta, Georgia 30009-2247
Phone: 800-TENSAR-1
www.tensarcorp.com

Product Specification - Structural Geogrid UX1800HS

Tensar International Corporation reserves the right to change its product specifications at any time. It is the responsibility of the specifier and purchaser to ensure that product specifications used for design and procurement purposes are current and consistent with the products used in each instance.

Product Type: **Integrally Formed Structural Geogrid**
Polymer: **High Density Polyethylene**
Load Transfer Mechanism: **Positive Mechanical Interlock**
Recommended Applications: **Sierra System (Reinforced Slopes), Prism System (Embankments), Temporary Walls**

Product Properties

Index Properties	**Units**	**MD Values[1]**
▪ Tensile Strength @ 5% Strain[2]	kN/m (lb/ft)	95 (6,510)
▪ Ultimate Tensile Strength[2]	kN/m (lb/ft)	210.0 (14,390)
▪ Junction Strength[3]	kN/m (lb/ft)	180 (12,340)
▪ Flexural Stiffness[4]	mg-cm	9,500,000
Durability		
▪ Resistance to Long Term Degradation[5]	%	100
▪ Resistance to UV Degradation[6]	%	95
Load Capacity		
▪ Maximum Allowable Strength for 120-year Design Life[7]	kN/m (lb/ft)	74.1 (5,080)
Recommended Allowable Strength Reduction Factors[7]		
▪ Minimum Reduction Factor for Installation Damage (RF_{ID})[8]		1.05
▪ Reduction Factor for Creep for 120-year Design Life (RF_{CR})[9]		2.7
▪ Minimum Reduction Factor for Durability (RF_D)		1.00

Dimensions and Delivery

The structural geogrid shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 1.33 meters (4.36 feet) in width and 61.0 meters (200.0 feet) in length. A typical truckload quantity is 144 rolls.

Notes:

1. Unless indicated otherwise, values shown are minimum average roll values determined in accordance with ASTM D4759-02. Brief descriptions of test procedures are given in the following notes.
2. True resistance to elongation when initially subjected to a load measured via ASTM D6637-10 Method A without deforming test materials under load before measuring such resistance or employing "secant" or "offset" tangent methods of measurement so as to overstate tensile properties.
3. Load transfer capability determined in accordance with ASTM D7737-11.
4. Resistance to bending force determined in accordance with ASTM D7748-12, using one meter (minimum) long specimen.
5. Resistance to loss of load capacity or structural integrity when subjected to chemically aggressive environments in accordance with EPA 9090 immersion testing.
6. Resistance to loss of load capacity or structural integrity when subjected to 500 hours of ultraviolet light and aggressive weathering in accordance with ASTM D4355-05.
7. Reduction factors are used to calculate the geogrid strength available for resisting force in long-term load bearing applications. Allowable Strength (T_{allow}) is determined by reducing the ultimate tensile strength (T_{ult}) by reduction factors for installation damage (RF_{ID}), creep (RF_{CR}) and chemical/biological durability ($RF_D = RF_{CD} \cdot RF_{BD}$) per GRI-GG4-05 [$T_{allow} = T_{ult}/(RF_{ID} \cdot RF_{CR} \cdot RF_D)$]. Recommended minimum reduction factors are based on product-specific testing. Project specifications, standard public agency specifications and/or design code requirements may require higher reduction factors. Design of the structure in which the geogrid is used, including the selection of appropriate reduction factors and design life, is the responsibility of the outside licensed professional engineer providing the sealed drawings for the project.
8. Minimum value is based on Installation Damage Testing in Sand, Silt, and Clay soils. Coarser soils require increased RF_{ID} values.
9. Reduction Factor for Creep determined for 120-year design life and in-soil temperature of 20°C using standard extrapolation techniques to creep rupture data obtained following the test procedure in ASTM D5262-04. Actual design life of the completed structure may differ.

This product specification supersedes all prior specifications for the product described above and is not applicable to any products shipped prior to February 1, 2013.

David Hall
Quality Assurance
Laboratory Supervisor

Tensar Corporation, LLC
1210 Citizens Pkwy.
Morrow, GA 30260

Tel. 770.968.3255
Fax 770.960.1734

www.tensarcorp.com

September 17, 2014

AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Reference: TENSAR ORDER NUMBER: TET 214605 PLaw@tensarcorp.com
PURCHASE ORDER NUMBER: D13001
BILL OF LADING NUMBER: TMP- 628867 T6

Sold To:

20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Ship To:

20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
UNITED STATES

This is to certify that the following Tensar Geogrid:

* UX180060 4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK

as manufactured by the Tensar Corporation, LLC in Morrow, Georgia USA, for the project referenced above has been manufactured and tested in accordance with the Tensar Quality Assurance Program.
Quality control test data is enclosed.

Tensar Corporation, LLC Structural Geogrid meets the characteristics and properties per the enclosed material property data sheet.
For technical support contact 1-800-TENSAR 1.

Sincerely,

David Hall

GAI-LAP
Accreditation # :
GAI - LAP - 72 - 12

Tensar

09/17/2014 12:03 PM

--------- Packing List ---------

BILL TO:
20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
United States

SHIP TO:
20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT
D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
United States

Customer PO: D13001
Customer Contact: 303-363 1000 KERRIE K
Shipment Number: TMP-628867 T6
Sales Order Number: TET-214605

Line	Item Code		Description		
1	UX180060		4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK		
		313863		20	RL
		313864		19	RL
		313865		25	RL
		313867		24	RL

				88	
1	UX180060		4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK		
		313862		1	RL
		313863		8	RL
		313867		7	RL

				16	

Tensar

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

09/17/2014 12:03 PM

Product Code:	UX180060	Bill of Lading:	TMP-628867
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TET-214605
Project Name:	CC&V SQUAW GULCH	Purchase Order:	D13001

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
313862005	313862	1	218.0	58.4	2919.0	112.6	2.90	225.1
313863022	313863	28	217.4	56.5	2825.0	112.8	2.50	212.2
313864012	313864	19	214.8	58.1	2904.0	112.7	2.80	206.2
313865015	313865	25	211.4	59.8	2987.9	115.2	2.60	206.0
313867005	313867	31	220.7	57.2	2862.0	109.4	4.40	215.8

Note: ASTM D 6637 Method A supercedes GRI-GGI and ASTM D 4595 for geogrids
ASTM D 7737 supercedes GRI-GG2

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

September 17, 2014
Date

David Hall
Quality Assurance
Laboratory Supervisor

Tensar Corporation, LLC
1210 Citizens Pkwy.
Morrow, GA 30260

Tel. 770.968.3255
Fax 770.960.1734

www.tensarcorp.com

May 21, 2015

AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Reference: TENSAR ORDER NUMBER: TGS 400107 PLAW@TENSARCORP.COM
PURCHASE ORDER NUMBER: D13001
BILL OF LADING NUMBER: TMP- 728553 TM

Sold To:

20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Ship To:

20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
UNITED STATES

This is to certify that the following Tensar Geogrid:

* UX180060 4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK

as manufactured by the Tensar Corporation, LLC in Morrow, Georgia USA, for the project referenced above has been manufactured and tested in accordance with the Tensar Quality Assurance Program.
Quality control test data is enclosed.

Tensar Corporation, LLC Structural Geogrid meets the characteristics and properties per the enclosed material property data sheet.
For technical support contact 1-800-TENSAR 1.

Sincerely,

David Hall

GAI-LAP
Accreditation # :
GAI - LAP - 72 - 12

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

05/21/2015 08:06 AM

Product Code:	UX180060	Bill of Lading:	TMP-728553
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400107
Project Name:	CC&V SQUAW GULCH	Purchase Order:	D13001

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
116035012	116035	4	210.6	53.7	2686.7	105.2	2.80	211.2
116036014	116036	5	212.1	56.5	2825.0	109.2	2.70	208.6
116042014	116042	4	211.0	56.7	2835.0	110.5	2.50	213.4
116043012	116043	8	212.8	54.4	2721.0	106.7	2.70	211.5
116044012	116044	7	213.2	56.2	2810.0	109.4	2.50	208.4
313074004	313074	7	215.1	55.2	2757.5	111.2	2.50	205.0
313078010	313078	4	215.3	54.2	2708.0	104.5	2.60	216.8

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

05/21/2015 08:06 AM

Product Code:	UX180060	Bill of Lading:	TMP-728553
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400107
Project Name:	CC&V SQUAW GULCH	Purchase Order:	D13001

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
313079012	313079	4	215.1	52.4	2619.0	103.9	2.90	221.9
313082010	313082	1	215.0	53.9	2692.4	105.0	2.80	211.9
313083010	313083	3	211.3	52.4	2618.4	102.9	2.60	205.5
313093014	313093	8	211.5	52.1	2604.9	101.5	2.70	215.7
313094012	313094	13	212.8	51.7	2586.4	100.6	2.70	208.8
313538004	313538	8	217.1	56.9	2845.6	107.0	2.60	217.9
313539004	313539	12	212.4	54.6	2732.0	103.7	2.60	212.9

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

05/21/2015 08:06 AM

Product Code:	UX180060	Bill of Lading:	TMP-728553
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400107
Project Name:	CC&V SQUAW GULCH	Purchase Order:	D13001

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
313541014	313541	16	212.6	55.1	2756.0	103.7	2.40	204.9

Note: ASTM D 6637 Method A supercedes GRI-GGI and ASTM D 4595 for geogrids
ASTM D 7737 supercedes GRI-GG2

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

May 21, 2015
Date

David Hall
Quality Assurance
Laboratory Supervisor

Tensar Corporation, LLC
1210 Citizens Pkwy.
Morrow, GA 30260

Tel. 770.968.3255
Fax 770.960.1734

www.tensarcorp.com

July 24, 2015

AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Reference: TENSAR ORDER NUMBER: TGS 400236 PLAW@TENSARCORP.COM
PURCHASE ORDER NUMBER: 130601
BILL OF LADING NUMBER: TMP- 729930 T1

Sold To:

20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Ship To:

20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
UNITED STATES

This is to certify that the following Tensar Geogrid:

* UX180060 4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK

as manufactured by the Tensar Corporation, LLC in Morrow, Georgia USA, for the project referenced above has been manufactured and tested in accordance with the Tensar Quality Assurance Program.
Quality control test data is enclosed.

Tensar Corporation, LLC Structural Geogrid meets the characteristics and properties per the enclosed material property data sheet.
For technical support contact 1-800-TENSAR 1.

Sincerely,

David Hall

GAI-LAP
Accreditation # :
GAI - LAP - 72 - 12

07/24/2015 08:28 AM

--------- Packing List ---------

BILL TO:
20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
United States

SHIP TO:
20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT
D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
United States

Customer PO: 130601
Customer Contact: 303-363 1000 KERRIE K
Shipment Number: TMP-729930 T1
Sales Order Number: TGS-400236

Line	Item Code	Description		
1	UX180060	4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK		
	314353		4	RL
	314354		3	RL
			7	

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

07/24/2015 08:28 AM

Product Code:	UX180060	Bill of Lading:	TMP-729930
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400236
Project Name:	CC&V SQUAW GULCH	Purchase Order:	130601

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
314353012	314353	4	216.1	57.0	2849.4	112.2	2.60	215.6
314354004	314354	3	219.5	55.5	2774.6	110.4	2.60	221.7

Note: ASTM D 6637 Method A supercedes GRI-GGI and ASTM D 4595 for geogrids
ASTM D 7737 supercedes GRI-GG2

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

July 24, 2015
Date

David Hall
Quality Assurance
Laboratory Supervisor

Tensar Corporation, LLC
1210 Citizens Pkwy.
Morrow, GA 30260

Tel. 770.968.3255
Fax 770.960.1734

www.tensarcorp.com

September 4, 2015

AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Reference: TENSAR ORDER NUMBER: TGS 400337 PLAW@TENSARCORP.COM
PURCHASE ORDER NUMBER: D13001 (TIC QUOTE)
BILL OF LADING NUMBER: TMP- 753375 T1

Sold To:

20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Ship To:

20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
UNITED STATES

This is to certify that the following Tensar Geogrid:

* UX180060 4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK

as manufactured by the Tensar Corporation, LLC in Morrow, Georgia USA, for the project referenced above has been manufactured and tested in accordance with the Tensar Quality Assurance Program.
Quality control test data is enclosed.

Tensar Corporation, LLC Structural Geogrid meets the characteristics and properties per the enclosed material property data sheet.
For technical support contact 1-800-TENSAR 1.

Sincerely,

David Hall

Accreditation # :
GAI - LAP - 72 - 12

09/04/2015 09:40 AM

--------- Packing List ---------

BILL TO:
20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
United States

SHIP TO:
20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT
D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
United States

Customer PO: D13001 (TIC QUOTE)
Customer Contact: 303-363 1000 KERRIE K
Shipment Number: TMP-753375 T1
Sales Order Number: TGS-400337

Line	Item Code		Description		
1	UX180060		4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK		
		314353		2	RL
		314353		1	RL

				3	

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

09/04/2015 09:40 AM

Product Code:	UX180060	Bill of Lading:	TMP-753375
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400337
Project Name:	CC&V SQUAW GULCH	Purchase Order:	D13001 (TIC QUOTE)

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
314353012	314353	3	216.1	57.0	2849.4	112.2	2.60	215.6

Note: ASTM D 6637 Method A supercedes GRI-GGI and ASTM D 4595 for geogrids
ASTM D 7737 supercedes GRI-GG2

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

September 4, 2015
Date

David Hall
Quality Assurance
Laboratory Supervisor

Tensar Corporation, LLC
1210 Citizens Pkwy.
Morrow, GA 30260

Tel. 770.968.3255
Fax 770.960.1734

www.tensarcorp.com

June 3, 2015

AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Reference: TENSAR ORDER NUMBER: TGS 400136 PLAW@TENSARCORP.COM
PURCHASE ORDER NUMBER: 130601-AM-TIC-L003
BILL OF LADING NUMBER: TMP- 728764 TM

Sold To:

20312-AURORA HQ
AMES CONSTRUCTION INC
18450 EAST 28TH AVENUE
AURORA,CO 80011
UNITED STATES

Ship To:

20312-D13001 CC&V SQUAW GULCH
AMES CONSTRUCTION INC
CC&V SQUAW GULCH PROJECT D13001
1632 COUNTY ROAD 82
CRIPPLE CREEK,CO 80813
UNITED STATES

This is to certify that the following Tensar Geogrid:

* UX180060 4.36FTx200FT (1.33Mx61M) UX1800-HS UNIAXIAL HDPE GRID BLACK

as manufactured by the Tensar Corporation, LLC in Morrow, Georgia USA, for the project referenced above has been manufactured and tested in accordance with the Tensar Quality Assurance Program.
Quality control test data is enclosed.

Tensar Corporation, LLC Structural Geogrid meets the characteristics and properties per the enclosed material property data sheet.
For technical support contact 1-800-TENSAR 1.

Sincerely,

David Hall

GAI-LAP
Accreditation # :
GAI - LAP - 72 - 12

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

06/03/2015 02:46 PM

Product Code:	UX180060	Bill of Lading:	TMP-728764
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400136
Project Name:	CC&V SQUAW GULCH	Purchase Order:	130601-AM-TIC-L003

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
116036014	116036	4	212.1	56.5	2825.0	109.2	2.70	208.6
116042014	116042	7	211.0	56.7	2835.0	110.5	2.50	213.4
116043012	116043	13	212.8	54.4	2721.0	106.7	2.70	211.5
116044012	116044	4	213.2	56.2	2810.0	109.4	2.50	208.4
313093014	313093	8	211.5	52.1	2604.9	101.5	2.70	215.7
313538004	313538	20	217.1	56.9	2845.6	107.0	2.60	217.9
313539004	313539	28	212.4	54.6	2732.0	103.7	2.60	212.9

Tensar Corporation, LLC Quality Control Test Data
Product Type-Uniaxial Grid

06/03/2015 02:46 PM

Product Code:	UX180060	Bill of Lading:	TMP-728764
Customer Name:	AMES CONSTRUCTION INC	Sales Order:	TGS-400136
Project Name:	CC&V SQUAW GULCH	Purchase Order:	130601-AM-TIC-L003

Finished Product QC Testing

QC Sample ID	Production Lot Number	Number of Rolls Shipped	Ultimate Tensile Strength (kN/m) ASTM D6637	Tensile @ 2 % Strain (kN/m) ASTM D6637	2% Tensile Modulus (kN/m) ASTM D6637	Tensile @ 5 % Strain (kN/m) ASTM D6637	Carbon Black (%) ASTM D4218	Junction Strength (kN/m) ASTM D7737
313541014	313541	20	212.6	55.1	2756.0	103.7	2.40	204.9

Note: ASTM D 6637 Method A supercedes GRI-GGI and ASTM D 4595 for geogrids
ASTM D 7737 supercedes GRI-GG2

1 kN/m = 68.54 lbs/ft

David Hall
Quality Assurance Laboratory Supervisor

June 3, 2015
Date

Appendix M.8

Third Party Geogrid Conformance Test Results

March 11, 2013

Mail To:

Thorne Clark
AMEC
PO Box 1090
Cripple Creek, CO 80813

Bill To:

<= Same(P.O. # : 74201125NO)

email: Thorne.Clark@amec.com
cc email: Kevin.duarte@amec.com

Dear Mr. Clark:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**CC&V Valley Leach Facility**
TRI Job Reference Number:	E2375-65-05
Material(s) Tested:	10, Tensar UX180060 Geogrid(s)
Test(s) Requested:	Single Rib Tensile Properties (ASTM D 6637, Method A) Junction/Node Strength (GRI GG2) Mass/Unit Area (ASTM D 5261) Aperature Size (Calipers)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

March 20, 2013

Mail To:

Thorne Clark
AMEC
PO Box 1090
Cripple Creek, CO 80813

Bill To:

<= Same(P.O. # : 74201125NO)

email: Thorne.Clark@amec.com
cc email: Kevin.duarte@amec.com

Dear Mr. Clark:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**CC&V Valley Leach Facility**
TRI Job Reference Number:	E2375-71-07
Material(s) Tested:	6, Tensar UX180060 Geogrid(s)
Test(s) Requested:	Single Rib Tensile Properties (ASTM D 6637, Method A) Junction/Node Strength (GRI GG2) Mass/Unit Area (ASTM D 5261) Aperature Size (Calipers)

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

MPatel

Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

June 5, 2015

Mail To:

Andrea Meduna
Amec Foster Wheeler
2000 S. Colorado Blvd., Suite 2-1000
Denver, CO 80222

email: andrea.meduna@amecfw.com

Bill To:

<= Same

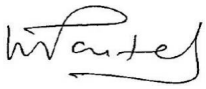
Dear Ms. Meduna:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report of the laboratory testing for the sample(s) listed below.

Project:	**Cripple Creek / Squaw Gulch / CALIPROJECT7755**
TRI Job Reference Number:	E2400-74-01
Material(s) Tested:	Two, 80 mil Microspike LLDPE Geomembrane(s)
Test(s) Requested:	Thickness (ASTM D 5994) Density (ASTM D 1505) Carbon Content (ASTM D 1603, mod.) Tensile (ASTM D 638/GRI GM13)

If you have any questions or require any additional information, please call us at 1-800-880-8378

Sincerely,



Mansukh Patel
Laboratory Manager
Geosynthetic Services Division
www.GeosyntheticTesting.com

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GEOMEMBRANE TEST RESULTS
TRI Client: Amec Foster Wheeler
Project: Cripple Creek / Squaw Gulch / CALIPROJECT7755

Material: 80 mil Microspike LLDPE Geomembrane
Sample Identification: P - 65 **Roll: 242028** **Lot: 810120**
TRI Log #: E2400-74-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	84.9	86.6	81.2	88.2	86.1	86.2	87.1	81.6	86.9	88.2	**85.7**	2
											81.2	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.938	0.938	0.938								**0.938**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.34	2.36									**2.35**	0.01
Tensile Properties (ASTM D 638/GRI GM 13, 2 ipm strain rate, Type IV specimen - HDPE)												
MD Yield Strength (ppi)	156	157	160	159	158						**158**	2
TD Yield Strength (ppi)	166	169	176	175	172						**172**	4
MD Break Strength (ppi)	273	259	268	281	260						**268**	9
TD Break Strength (ppi)	264	239	263	271	259						**259**	12
MD Yield Elongation (%)	30	29	26	26	26						**27**	2
TD Yield Elongation (%)	21	20	18	20	19						**20**	1
MD Break Elongation (%)	529	496	507	546	508						**517**	20
TD Break Elongation (%)	573	522	571	592	569						**565**	26

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GEOMEMBRANE TEST RESULTS
TRI Client: Amec Foster Wheeler
Project: Cripple Creek / Squaw Gulch / CALIPROJECT7755

Material: 80 mil Microspike LLDPE Geomembrane
Sample Identification: P - 103 **Roll: 251011** **Lot: 810110**
TRI Log #: E2400-74-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Thickness (ASTM D 5994)												
Thickness (mils)	88.3	81.9	82.8	81.5	82.2	81.6	83.2	87.4	88.5	89.0	**84.6**	3
											81.5	<< min
Density (ASTM D 1505)												
Density (g/cm3)	0.938	0.938	0.938								**0.938**	0.000
Carbon Black Content (ASTM D 1603, mod.)												
% Carbon Black	2.42	2.43									**2.43**	0.01
Tensile Properties (ASTM D 638/GRI GM 13, 2 ipm strain rate, Type IV specimen - HDPE)												
MD Yield Strength (ppi)	177	180	178	171	164						**174**	7
TD Yield Strength (ppi)	178	177	177	175	169						**175**	4
MD Break Strength (ppi)	256	207	243	278	283						**253**	31
TD Break Strength (ppi)	277	266	261	260	270						**267**	7
MD Yield Elongation (%)	20	22	21	22	21						**21**	1
TD Yield Elongation (%)	23	24	21	23	24						**23**	1
MD Break Elongation (%)	542	428	507	597	606						**536**	73
TD Break Elongation (%)	546	523	514	516	538						**527**	14

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116034 **Roll #: 004**
TRI Log #: E2375-71-07

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Strength (lbs)	968	1004	987	999	971						**986**	16
MD Maximum Strength (lbs/ft)	14376	14910	14662	14847	14432						**14645**	239
MD Maximum Strength (kN/m)	210	218	214	217	211						**214**	3
MD Strength @ 2% Strain (lbs)	278	289	292	285	281						**285**	6
MD Strength @ 2% Strain (lbs/ft)	4131	4290	4334	4230	4173						**4232**	83
MD Strength @ 2% Strain (kN/m)	60.3	62.6	63.3	61.8	60.9						**61.8**	1.2
MD Strength @ 5% Strain (lbs)	520	531	533	523	526						**527**	6
MD Strength @ 5% Strain (lbs/ft)	7726	7896	7922	7770	7816						**7826**	83
MD Strength @ 5% Strain (kN/m)	113	115	116	113	114						**114**	1
MD Strength @ 10% Strain (lbs)	942	965	963	963	968						**960**	10
MD Strength @ 10% Strain (lbs/ft)	13996	14332	14306	14307	14377						**14264**	152
MD Strength @ 10% Strain (kN/m)	204	209	209	209	210						**208**	2
MD Break Elongation (%)	10.5	11.0	11.0	11.3	10.3						**10.8**	0.4
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Junction Strength (lbsf)	1012	986	906	936	1008	990	982	966	979	945	**971**	33
MD Maximum Junction Strength (lbs/ft)	15038	14642	13468	13908	14981	14711	14590	14349	14538	14039	**14426**	494
MD Maximum Junction Strength (kN/m)	220	214	197	203	219	215	213	209	212	205	**211**	7
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.1	29.8	29.6	29.5	30.1	29.8	29.5	30.0	30.0	29.4	**29.8**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.4	14.4	14.5	14.3	14.4	14.3	14.3	14.1	14.4	14.2	**14.3**	0.1
TD - Aperature Size (in)	0.42	0.68	0.68	0.57	0.57	0.51	0.63	0.65	0.65	0.51	**0.59**	0.09

MD - Machine Direction TD - Transverse/Cross Machine Direction
Sample received exhhibited some splitting between the apertures and removal of the Black tape caused some feathering of the ribs may bias test results..

GeosyntheticTesting.com
9063 Bee Caves Road / Austin, TX 78733 / 512 263 2101 / fax: 512 263 2558

GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116035 **Roll #: 023**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	1020	981	981	990	1007						**996**	17
MD Maximum Strength (lbs/ft)	14976	14406	14416	14538	14786						**14624**	249
MD Maximum Strength (kN/m)	219	210	210	212	216						**214**	4
MD Strength @ 2% Strain (lbs)	284	284	280	289	277						**283**	5
MD Strength @ 2% Strain (lbs/ft)	4175	4170	4111	4243	4063						**4152**	68
MD Strength @ 2% Strain (kN/m)	60.9	60.9	60.0	61.9	59.3						**60.6**	1.0
MD Strength @ 5% Strain (lbs)	532	529	511	537	518						**525**	11
MD Strength @ 5% Strain (lbs/ft)	7810	7768	7502	7886	7603						**7714**	157
MD Strength @ 5% Strain (kN/m)	114	113	110	115	111						**113**	2
MD Strength @ 10% Strain (lbs)	969	954	911	979	966						**956**	27
MD Strength @ 10% Strain (lbs/ft)	14232	14018	13377	14376	14191						**14039**	391
MD Strength @ 10% Strain (kN/m)	208	205	195	210	207						**205**	6
MD Break Elongation (%)	11.1	10.5	11.7	10.5	10.9						**10.9**	0.5
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	969	798	946	1036	1054	1066	987	1003	1086	950	**989**	83
MD Maximum Junction Strength (lbs/ft)	14230	11719	13891	15213	15483	15652	14498	14728	15957	13958	**14533**	1222
MD Maximum Junction Strength (kN/m)	208	171	203	222	226	229	212	215	233	204	**212**	18
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	29.4	29.4	29.9	29.7	29.6	29.9	29.8	29.6	30.2	29.6	**29.7**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.6	14.5	14.5	14.4	14.6	14.5	14.5	14.3	14.3	14.5	**14.5**	0.1
TD - Aperature Size (in)	0.66	0.72	0.69	0.63	0.54	0.66	0.59	0.70	0.55	0.61	**0.63**	0.06

MD - Machine Direction TD - Transverse/Cross Machine Direction
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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116036 **Roll #: 016**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	938	1013	1029	999	998						**995**	35
MD Maximum Strength (lbs/ft)	13823	14931	15178	14726	14708						**14673**	512
MD Maximum Strength (kN/m)	202	218	222	215	215						**214**	7
MD Strength @ 2% Strain (lbs)	283	291	291	293	292						**290**	4
MD Strength @ 2% Strain (lbs/ft)	4177	4285	4286	4315	4300						**4273**	55
MD Strength @ 2% Strain (kN/m)	61.0	62.6	62.6	63.0	62.8						**62.38**	0.80
MD Strength @ 5% Strain (lbs)	532	547	543	549	548						**544**	7
MD Strength @ 5% Strain (lbs/ft)	7847	8067	8009	8090	8075						**8018**	100
MD Strength @ 5% Strain (kN/m)	115	118	117	118	118						**117**	1
MD Strength @ 10% Strain (lbs)		1010	991								**1001**	13
MD Strength @ 10% Strain (lbs/ft)		14897	14618								**14758**	197
MD Strength @ 10% Strain (kN/m)		217	213								**215**	3
MD Break Elongation (%)	9.30	10.1	11.0	9.69	9.79						**9.97**	0.63
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	1054	917	1057	1010	1037	983	836	979	941	990	**980**	68
MD Maximum Junction Strength (lbs/ft)	15542	13526	15580	14888	15284	14501	12324	14435	13880	14594	**14456**	1004
MD Maximum Junction Strength (kN/m)	227	197	227	217	223	212	180	211	203	213	**211**	15
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	31.1	28.2	31.6	29.2	30.8	28.6	28.2	35.0	32.5	34.3	**30.9**	2.5
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.4	14.5	14.4	14.4	14.4	14.4	14.4	14.5	14.5	14.2	**14.4**	0.1
TD - Aperature Size (in)	0.667	0.687	0.643	0.617	0.647	0.625	0.649	0.628	0.674	0.663	**0.650**	0.023

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116037 **Roll #: 004**
TRI Log #: E2375-71-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	15.0											
MD Maximum Strength (lbs)	998	994	979	958	1002						**986**	18
MD Maximum Strength (lbs/ft)	14975	14909	14685	14373	15026						**14793**	269
MD Maximum Strength (kN/m)	219	218	214	210	219						**216**	4
MD Strength @ 2% Strain (lbs)	282	286	277	279	279						**281**	4
MD Strength @ 2% Strain (lbs/ft)	4235	4293	4158	4181	4189						**4211**	53
MD Strength @ 2% Strain (kN/m)	61.8	62.7	60.7	61.0	61.2						**61.5**	0.8
MD Strength @ 5% Strain (lbs)	526	532	522	524	523						**525**	4
MD Strength @ 5% Strain (lbs/ft)	7889	7975	7823	7858	7840						**7877**	60
MD Strength @ 5% Strain (kN/m)	115	116	114	115	114						**115**	1
MD Strength @ 10% Strain (lbs)	977	986	938		980						**970**	22
MD Strength @ 10% Strain (lbs/ft)	14649	14783	14067		14696						**14549**	326
MD Strength @ 10% Strain (kN/m)	214	216	205		215						**212**	5
MD Break Elongation (%)	10.5	10.5	10.6	9.84	10.4						**10.3**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	15.0											
MD Maximum Junction Strength (lbsf)	953	997	998	1016	851	987	889	976	955	1064	**969**	62
MD Maximum Junction Strength (lbs/ft)	14289	14957	14964	15240	12759	14810	13331	14644	14322	15967	**14528**	925
MD Maximum Junction Strength (kN/m)	209	218	218	223	186	216	195	214	209	233	**212**	14
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.9	30.5	30.5	30.5	30.8	30.6	30.4	30.4	31.0	30.8	**30.7**	0.2
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.7	14.6	14.6	14.4	14.5	14.5	14.8	14.7	14.7	14.7	**14.6**	0.1
TD - Aperature Size (in)	0.62	0.80	0.34	0.53	0.48	0.60	0.62	0.61	0.66	0.43	**0.57**	0.13

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116038 **Roll #: 010**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	987	1010	999	1009	1019						**1005**	12
MD Maximum Strength (lbs/ft)	14500	14832	14673	14819	14965						**14758**	177
MD Maximum Strength (kN/m)	212	217	214	216	218						**215**	3
MD Strength @ 2% Strain (lbs)	280	281	283	278	281						**280**	2
MD Strength @ 2% Strain (lbs/ft)	4113	4122	4150	4088	4122						**4119**	22
MD Strength @ 2% Strain (kN/m)	60.1	60.2	60.6	59.7	60.2						**60.14**	0.32
MD Strength @ 5% Strain (lbs)	517	517	518	514	517						**517**	1
MD Strength @ 5% Strain (lbs/ft)	7598	7595	7607	7554	7599						**7591**	21
MD Strength @ 5% Strain (kN/m)	111	111	111	110	111						**111**	0
MD Strength @ 10% Strain (lbs)	947	955	939	955	953						**950**	7
MD Strength @ 10% Strain (lbs/ft)	13914	14029	13789	14024	13992						**13949**	101
MD Strength @ 10% Strain (kN/m)	203	205	201	205	204						**204**	1
MD Break Elongation (%)	11.3	11.4	11.8	11.3	11.6						**11.5**	0.2
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	785	1035	816	905	1018	1051	1005	919	966	1053	**955**	96
MD Maximum Junction Strength (lbs/ft)	11533	15204	11990	13292	14961	15432	14765	13493	14187	15462	**14032**	1416
MD Maximum Junction Strength (kN/m)	168	222	175	194	218	225	216	197	207	226	**205**	21
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.9	31.1	31.3	31.9	31.5	31.5	31.4	31.6	32.1	32.1	**31.5**	0.4
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.6	13.5	13.5	13.6	13.4	13.7	13.8	13.6	13.6	13.5	**13.6**	0.1
TD - Aperature Size (in)	0.65	0.68	0.59	0.61	0.63	0.69	0.65	0.59	0.58	0.66	**0.63**	0.04

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116039 **Roll #: 002**
TRI Log #: E2375-71-07

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.4											
MD Maximum Strength (lbs)	992	1009	986	983	971						**988**	14
MD Maximum Strength (lbs/ft)	14248	14498	14170	14118	13942						**14195**	203
MD Maximum Strength (kN/m)	208	212	207	206	204						**207**	3
MD Strength @ 2% Strain (lbs)	285	294	303	297	288						**293**	7
MD Strength @ 2% Strain (lbs/ft)	4088	4220	4349	4261	4137						**4211**	103
MD Strength @ 2% Strain (kN/m)	59.7	61.6	63.5	62.2	60.4						**61.5**	1.5
MD Strength @ 5% Strain (lbs)	535	541	556	546	540						**544**	8
MD Strength @ 5% Strain (lbs/ft)	7686	7767	7992	7845	7761						**7810**	116
MD Strength @ 5% Strain (kN/m)	112	113	117	115	113						**114**	2
MD Strength @ 10% Strain (lbs)	991	985	984	982							**986**	
MD Strength @ 10% Strain (lbs/ft)	14242	14155	14141	14110							**14162**	
MD Strength @ 10% Strain (kN/m)	208	207	206	206							**207**	
MD Break Elongation (%)	10.1	10.7	10.0	10.0	9.83						**10.1**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.4											
MD Maximum Junction Strength (lbsf)	1030	1020	957	1056	1035	1037	1043	1002	1017	985	**1018**	30
MD Maximum Junction Strength (lbs/ft)	14792	14646	13744	15163	14866	14900	14989	14392	14608	14156	**14626**	426
MD Maximum Junction Strength (kN/m)	216	214	201	221	217	218	219	210	213	207	**214**	6
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.4	30.7	30.4	30.7	30.4	30.4	30.5	30.9	30.4	31.4	**30.6**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.0	13.7	13.7	13.7	13.7	13.6	13.7	13.7	13.6	13.7	**13.7**	0.1
TD - Aperature Size (in)	0.656	0.698	0.670	0.611	0.632	0.597	0.529	0.515	0.706	0.644	**0.626**	0.065

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116040 **Roll #: 009**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	1003	973	1005	1000	1011						**998**	15
MD Maximum Strength (lbs/ft)	14730	14296	14760	14691	14848						**14665**	214
MD Maximum Strength (kN/m)	215	209	215	214	217						**214**	3
MD Strength @ 2% Strain (lbs)	296	282	280	287	280						**285**	7
MD Strength @ 2% Strain (lbs/ft)	4349	4143	4117	4213	4119						**4188**	98
MD Strength @ 2% Strain (kN/m)	63.5	60.5	60.1	61.5	60.1						**61.15**	1.44
MD Strength @ 5% Strain (lbs)	547	526	524	534	522						**530**	10
MD Strength @ 5% Strain (lbs/ft)	8029	7724	7697	7841	7664						**7791**	149
MD Strength @ 5% Strain (kN/m)	117	113	112	114	112						**114**	2
MD Strength @ 10% Strain (lbs)	966	967	953	980	959						**965**	10
MD Strength @ 10% Strain (lbs/ft)	14195	14198	13992	14392	14089						**14173**	149
MD Strength @ 10% Strain (kN/m)	207	207	204	210	206						**207**	2
MD Break Elongation (%)	10.8	10.1	11.6	10.9	11.7						**11.0**	0.7
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	982	823	987	1018	947	1013	976	985	944	991	**967**	56
MD Maximum Junction Strength (lbs/ft)	14418	12096	14494	14960	13916	14879	14336	14472	13870	14550	**14199**	817
MD Maximum Junction Strength (kN/m)	210	177	212	218	203	217	209	211	203	212	**207**	12
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	28.4	32.3	34.9	28.5	27.5	30.4	26.9	27.1	35.1	28.5	**30.0**	3.1
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.0	14.3	14.0	14.3	13.9	14.2	14.0	14.2	14.1	14.2	**14.1**	0.1
TD - Aperature Size (in)	0.58	0.53	0.58	0.64	0.64	0.47	0.57	0.44	0.62	0.56	**0.56**	0.07

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116041 **Roll #: 013**
TRI Log #: E2375-71-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Strength (lbs)	991	968	1014	975	1017						**993**	22
MD Maximum Strength (lbs/ft)	14415	14081	14756	14194	14794						**14448**	322
MD Maximum Strength (kN/m)	210	206	215	207	216						**211**	5
MD Strength @ 2% Strain (lbs)	285	307	298	303	293						**297**	9
MD Strength @ 2% Strain (lbs/ft)	4145	4469	4340	4407	4260						**4324**	127
MD Strength @ 2% Strain (kN/m)	60.5	65.2	63.4	64.3	62.2						**63.1**	1.9
MD Strength @ 5% Strain (lbs)	539	575	564	573	552						**561**	15
MD Strength @ 5% Strain (lbs/ft)	7850	8369	8206	8340	8030						**8159**	219
MD Strength @ 5% Strain (kN/m)	115	122	120	122	117						**119**	3
MD Strength @ 10% Strain (lbs)			1013		999						**1006**	
MD Strength @ 10% Strain (lbs/ft)			14736		14540						**14638**	
MD Strength @ 10% Strain (kN/m)			215		212						**214**	
MD Break Elongation (%)	9.86	9.19	10.0	9.32	10.4						**9.76**	0.50
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Junction Strength (lbsf)	1006	1062	996	1068	1043	1004	986	840	1042	996	**1004**	65
MD Maximum Junction Strength (lbs/ft)	14638	15448	14495	15538	15180	14611	14354	12223	15169	14487	**14614**	943
MD Maximum Junction Strength (kN/m)	214	226	212	227	222	213	210	178	221	212	**213**	14
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.5	30.7	30.4	30.4	30.0	30.6	30.6	29.9	30.0	30.6	**30.4**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.1	14.0	14.1	14.2	14.3	14.4	14.3	14.3	14.3	14.3	**14.2**	0.1
TD - Aperature Size (in)	0.70	0.67	0.64	0.67	0.65	0.64	0.65	0.60	0.57	0.48	**0.63**	0.06

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116042 **Roll #: 029**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	998	1025	1008	969	969						**994**	25
MD Maximum Strength (lbs/ft)	14688	15083	14839	14264	14253						**14625**	364
MD Maximum Strength (kN/m)	214	220	217	208	208						**214**	5
MD Strength @ 2% Strain (lbs)	290	298	300	296	301						**297**	5
MD Strength @ 2% Strain (lbs/ft)	4262	4381	4414	4349	4434						**4368**	67
MD Strength @ 2% Strain (kN/m)	62.2	64.0	64.4	63.5	64.7						**63.8**	1.0
MD Strength @ 5% Strain (lbs)	542	554	556	550	560						**553**	7
MD Strength @ 5% Strain (lbs/ft)	7984	8157	8182	8097	8240						**8132**	98
MD Strength @ 5% Strain (kN/m)	117	119	119	118	120						**119**	1
MD Strength @ 10% Strain (lbs)	984	1010	1001								**998**	13
MD Strength @ 10% Strain (lbs/ft)	14488	14870	14724								**14694**	192
MD Strength @ 10% Strain (kN/m)	212	217	215								**215**	3
MD Break Elongation (%)	10.5	10.4	10.4	9.52	9.51						**10.1**	0.5
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	918	977	1022	866	990	944	1000	1032	1028	998	**978**	53
MD Maximum Junction Strength (lbs/ft)	13503	14381	15044	12747	14567	13899	14719	15181	15136	14687	**14387**	786
MD Maximum Junction Strength (kN/m)	197	210	220	186	213	203	215	222	221	214	**210**	11
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	31.2	30.3	30.1	29.4	29.8	29.7	29.8	31.0	30.6	30.7	**30.3**	0.6
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.4	14.4	14.4	14.2	14.1	14.5	14.5	14.4	14.3	14.5	**14.4**	0.1
TD - Aperature Size (in)	0.66	0.60	0.67	0.54	0.65	0.42	0.64	0.46	0.65	0.63	**0.59**	0.09

MD - Machine Direction TD - Transverse/Cross Machine Direction
Sample received exhhibited some splitting between the apertures and removal of the duct tape caused some feathering of the ribs may bias test results..

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116043 **Roll #: 025**
TRI Log #: E2375-71-07

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	978	990	995	964	971						**979**	13
MD Maximum Strength (lbs/ft)	14387	14570	14636	14180	14286						**14412**	191
MD Maximum Strength (kN/m)	210	213	214	207	209						**210**	3
MD Strength @ 2% Strain (lbs)	275	271	261	272	271						**270**	5
MD Strength @ 2% Strain (lbs/ft)	4043	3984	3842	4001	3983						**3971**	76
MD Strength @ 2% Strain (kN/m)	59.0	58.2	56.1	58.4	58.2						**58.0**	1.1
MD Strength @ 5% Strain (lbs)	511	506	491	507	504						**504**	8
MD Strength @ 5% Strain (lbs/ft)	7517	7448	7221	7467	7420						**7415**	114
MD Strength @ 5% Strain (kN/m)	110	109	105	109	108						**108**	2
MD Strength @ 10% Strain (lbs)	641	652	936	956	942						**825**	164
MD Strength @ 10% Strain (lbs/ft)	9427	9592	13777	14069	13865						**12146**	2410
MD Strength @ 10% Strain (kN/m)	138	140	201	205	202						**177**	35
MD Break Elongation (%)	10.7	10.8	11.5	10.1	10.5						**10.7**	0.5
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	973	990	912	1005	941	1038	983	1027	1044	891	**980**	52
MD Maximum Junction Strength (lbs/ft)	14318	14573	13421	14787	13845	15279	14460	15112	15360	13111	**14426**	768
MD Maximum Junction Strength (kN/m)	209	213	196	216	202	223	211	221	224	191	**211**	11
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	29.3	28.9	28.7	28.4	29.0	28.5	28.9	28.7	28.8	29.5	**28.9**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.3	14.4	14.4	14.4	14.4	14.4	14.3	14.5	14.4	14.6	**14.4**	0.1
TD - Aperature Size (in)	0.67	0.68	0.65	0.65	0.60	0.65	0.64	0.70	0.63	0.67	**0.65**	0.03

MD - Machine Direction TD - Transverse/Cross Machine Direction
Sample received exhhibited some splitting between the apertures and removal of the Black tape caused some feathering of the ribs may bias test results..

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 116044 **Roll #: 039**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Strength (lbs)	1031	1023	991	991	989						**1005**	20
MD Maximum Strength (lbs/ft)	15030	14915	14450	14451	14421						**14653**	294
MD Maximum Strength (kN/m)	219	218	211	211	211						**214**	4
MD Strength @ 2% Strain (lbs)	298	297	300	296	287						**296**	5
MD Strength @ 2% Strain (lbs/ft)	4350	4330	4372	4313	4190						**4311**	71
MD Strength @ 2% Strain (kN/m)	63.5	63.2	63.8	63.0	61.2						**62.9**	1.0
MD Strength @ 5% Strain (lbs)	557	555	562	551	546						**554**	6
MD Strength @ 5% Strain (lbs/ft)	8123	8091	8190	8028	7954						**8077**	90
MD Strength @ 5% Strain (kN/m)	119	118	120	117	116						**118**	1
MD Strength @ 10% Strain (lbs)	1023	989									**1006**	23
MD Strength @ 10% Strain (lbs/ft)	14909	14425									**14667**	342
MD Strength @ 10% Strain (kN/m)	218	211									**214**	5
MD Break Elongation (%)	10.2	10.7	9.89	9.72	9.76						**10.0**	0.4
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Junction Strength (lbsf)	984	944	955	995	1015	964	1013	972	994	929	**976**	29
MD Maximum Junction Strength (lbs/ft)	14340	13761	13930	14505	14802	14048	14763	14166	14496	13547	**14236**	419
MD Maximum Junction Strength (kN/m)	209	201	203	212	216	205	216	207	212	198	**208**	6
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	29.0	29.3	29.2	29.2	29.3	29.2	29.3	29.2	28.6	28.9	**29.1**	0.2
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.6	14.6	14.7	14.6	14.6	14.5	14.6	14.4	14.4	14.5	**14.5**	0.1
TD - Aperature Size (in)	0.61	0.68	0.71	0.65	0.63	0.69	0.60	0.63	0.67	0.65	**0.65**	0.04

MD - Machine Direction TD - Transverse/Cross Machine Direction
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GEOGRID TEST RESULTS
TRI Client: Amec Foster Wheeler
Project: Cripple Creek & Victor SQVLF - Phase 1

Material: Uniaxial Geogrid
Sample Identification: Lot 314353, Roll 010
TRI Log #: E2401-49-09

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.5											
MD Maximum Strength (lbs)	1001	995	1006	1006	1005						**1003**	5
MD Maximum Strength (lbs/ft)	14560	14468	14635	14637	14621						**14584**	72
MD Maximum Strength (kN/m)	213	211	214	214	213						**213**	1
MD Strength @ 2% Strain (lbs)	274	274	286	281	278						**278**	5
MD Strength @ 2% Strain (lbs/ft)	3985	3989	4153	4081	4041						**4050**	70
MD Strength @ 2% Strain (kN/m)	58.2	58.2	60.6	59.6	59.0						**59.1**	1.0
MD Strength @ 5% Strain (lbs)	497	502	527	512	507						**509**	11
MD Strength @ 5% Strain (lbs/ft)	7229	7295	7659	7449	7370						**7400**	166
MD Strength @ 5% Strain (kN/m)	106	107	112	109	108						**108**	2
MD Strength @ 10% Strain (lbs)	914	926	947	924	926						**927**	12
MD Strength @ 10% Strain (lbs/ft)	13295	13462	13771	13439	13474						**13488**	174
MD Strength @ 10% Strain (kN/m)	194	197	201	196	197						**197**	3
MD Break Elongation (%)	12.3	11.9	12.1	12.8	12.3						**12.3**	0.3
Junction/Node Strength (GRI GG2)												
MD Maximum Junction Strength (lbs)	974	973	1068	954	1022	1044	968	1034	1015	1024	**1008**	38
MD Maximum Junction Strength (lb/ft)	14167	14153	15535	13876	14865	15185	14080	15040	14764	14895	**14656**	552
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	28.39	32.76	26.87	27.89	27.42	27.27	27.75	27.10	28.20	31.08	**28.47**	1.92
Aperature Size (Calipers)												
Between MD Ribs - Aperature Size (in)	0.515	0.666	0.606	0.669	0.655	0.654	0.592	0.478	0.586	0.668	**0.609**	0.068
Between TD Ribs - Aperature Size (in)	13.48	13.14	13.91	13.56	13.71	13.85	13.70	13.64	13.78	13.56	**13.63**	0.22

MD Machine Direction TD Transverse Direction

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313862 **Roll #: 17**
TRI Log #: E2398-15-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Strength (lbs)	956	990	984	1016	1038						**997**	32
MD Maximum Strength (lbs/ft)	13987	14493	14393	14873	15194						**14588**	463
MD Maximum Strength (kN/m)	204	212	210	217	222						**213**	7
MD Strength @ 2% Strain (lbs)	296	297	295	293	306						**298**	5
MD Strength @ 2% Strain (lbs/ft)	4333	4349	4324	4287	4480						**4355**	74
MD Strength @ 2% Strain (kN/m)	63.3	63.5	63.1	62.6	65.4						**63.6**	1.1
MD Strength @ 5% Strain (lbs)	530	535	530	528	548						**534**	8
MD Strength @ 5% Strain (lbs/ft)	7754	7824	7763	7734	8022						**7819**	118
MD Strength @ 5% Strain (kN/m)	113	114	113	113	117						**114**	2
MD Strength @ 10% Strain (lbs)		972	972		983						**975**	
MD Strength @ 10% Strain (lbs/ft)		14227	14218		14380						**14275**	
MD Strength @ 10% Strain (kN/m)		208	208		210						**208**	
MD Break Elongation (%)	9.58	10.0	11.2	9.82	10.1						**10.1**	0.6
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Junction Strength (lbsf)	969	1056	987	956	1089	1026	1029	982	998	951	**1004**	45
MD Maximum Junction Strength (lbs/ft)	14174	15456	14441	13983	15944	15008	15056	14373	14600	13919	**14696**	660
MD Maximum Junction Strength (kN/m)	207	226	211	204	233	219	220	210	213	203	**215**	10
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	33.1	32.0	31.1	30.4	31.8	31.7	30.3	30.4	36.5	38.3	**32.5**	2.7
Aperature Size (Calipers)												
MD - Aperature Size (in)	12.50	12.40	12.62	12.62	12.55	12.45	12.42	12.37	12.12	11.82	**12.39**	0.25
TD - Aperature Size (in)	0.65	0.67	0.59	0.59	0.65	0.66	0.60	0.60	0.66	0.66	**0.63**	0.03

MD - Machine Direction

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313863 **Roll #: 38**
TRI Log #: E2398-15-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Strength (lbs)	1036	1000	989	1036	1033						**1019**	23
MD Maximum Strength (lbs/ft)	15079	14547	14389	15077	15028						**14824**	331
MD Maximum Strength (kN/m)	220	212	210	220	219						**216**	5
MD Strength @ 2% Strain (lbs)	298	304	303	293	300						**300**	4
MD Strength @ 2% Strain (lbs/ft)	4338	4430	4404	4268	4373						**4363**	63
MD Strength @ 2% Strain (kN/m)	63.3	64.7	64.3	62.3	63.8						**63.7**	0.9
MD Strength @ 5% Strain (lbs)	548	556	551	542	551						**549**	5
MD Strength @ 5% Strain (lbs/ft)	7969	8084	8012	7881	8012						**7992**	74
MD Strength @ 5% Strain (kN/m)	116	118	117	115	117						**117**	1
MD Strength @ 10% Strain (lbs)	991			990	1004						**995**	
MD Strength @ 10% Strain (lbs/ft)	14419			14405	14612						**14479**	
MD Strength @ 10% Strain (kN/m)	211			210	213						**211**	
MD Break Elongation (%)	11.0	9.93	9.80	11.8	10.8						**10.6**	0.8
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Junction Strength (lbsf)	1038	1054	1051	1034	1047	978	1008	983	1003	993	**1019**	29
MD Maximum Junction Strength (lbs/ft)	15107	15341	15289	15049	15232	14226	14669	14309	14589	14454	**14826**	424
MD Maximum Junction Strength (kN/m)	221	224	223	220	222	208	214	209	213	211	**216**	6
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	32.6	35.1	28.9	28.7	28.7	27.8	29.0	29.9	29.1	27.9	**29.8**	2.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.16	13.38	13.36	12.91	13.49	13.09	13.07	13.37	13.07	13.40	**13.23**	0.19
TD - Aperature Size (in)	0.62	0.49	0.70	0.65	0.62	0.61	0.59	0.43	0.69	0.63	**0.60**	0.08

MD - Machine Direction

GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313864 **Roll #: 12**
TRI Log #: E2398-15-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Strength (lbs)	975	966	977	970	1012						**980**	19
MD Maximum Strength (lbs/ft)	14397	14263	14430	14327	14951						**14473**	274
MD Maximum Strength (kN/m)	210	208	211	209	218						**211**	4
MD Strength @ 2% Strain (lbs)	309	304	305	304	305						**305**	2
MD Strength @ 2% Strain (lbs/ft)	4559	4497	4502	4486	4505						**4510**	29
MD Strength @ 2% Strain (kN/m)	66.6	65.7	65.7	65.5	65.8						**65.8**	0.4
MD Strength @ 5% Strain (lbs)	567	556	559	555	560						**560**	5
MD Strength @ 5% Strain (lbs/ft)	8382	8208	8257	8202	8280						**8266**	73
MD Strength @ 5% Strain (kN/m)	122	120	121	120	121						**121**	1
MD Strength @ 10% Strain (lbs)					1010						**1010**	
MD Strength @ 10% Strain (lbs/ft)					14919						**14919**	
MD Strength @ 10% Strain (kN/m)					218						**218**	
MD Break Elongation (%)	9.17	9.31	9.55	9.32	10.0						**9.48**	0.34
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Junction Strength (lbsf)	988	1075	980	996	978	1020	971	1035	972	1009	**1003**	33
MD Maximum Junction Strength (lbs/ft)	14598	15880	14471	14719	14453	15074	14341	15297	14359	14909	**14810**	492
MD Maximum Junction Strength (kN/m)	213	232	211	215	211	220	209	223	210	218	**216**	7
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	28.8	29.5	28.4	28.9	30.9	29.9	29.5	29.8	33.9	36.5	**30.6**	2.6
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.30	13.20	12.90	13.30	13.30	12.90	13.40	13.20	12.80	13.30	**13.16**	0.21
TD - Aperature Size (in)	0.64	0.66	0.70	0.48	0.67	0.49	0.64	0.66	0.62	0.67	**0.62**	0.08

MD - Machine Direction

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313864 **Roll #: 27**
TRI Log #: E2398-15-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Strength (lbs)	961	970	990	1008	948						**975**	24
MD Maximum Strength (lbs/ft)	14215	14337	14635	14912	14018						**14423**	353
MD Maximum Strength (kN/m)	208	209	214	218	205						**211**	5
MD Strength @ 2% Strain (lbs)	296	304	304	310	302						**303**	5
MD Strength @ 2% Strain (lbs/ft)	4383	4501	4497	4579	4462						**4484**	71
MD Strength @ 2% Strain (kN/m)	64.0	65.7	65.7	66.9	65.2						**65.5**	1.0
MD Strength @ 5% Strain (lbs)	547	561	557	566	554						**557**	7
MD Strength @ 5% Strain (lbs/ft)	8094	8301	8236	8366	8198						**8239**	103
MD Strength @ 5% Strain (kN/m)	118	121	120	122	120						**120**	2
MD Strength @ 10% Strain (lbs)	961			978							**969**	12
MD Strength @ 10% Strain (lbs/ft)	14210			14455							**14332**	173
MD Strength @ 10% Strain (kN/m)	207			211							**209**	3
MD Break Elongation (%)	10.0	9.27	9.76	10.7	9.12						**9.77**	0.63
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Junction Strength (lbsf)	1001	904	999	1001	930	1001	1011	994	934	946	**972**	39
MD Maximum Junction Strength (lbs/ft)	14802	13367	14768	14794	13750	14799	14949	14692	13815	13994	**14373**	576
MD Maximum Junction Strength (kN/m)	216	195	216	216	201	216	218	215	202	204	**210**	8
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	33.3	35.3	28.5	27.0	27.2	27.7	27.1	26.9	27.8	28.0	**28.9**	2.9
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.25	13.47	13.47	13.27	13.62	13.33	13.46	13.52	3.09	13.39	**12.39**	3.27
TD - Aperature Size (in)	0.65	0.68	0.65	0.50	0.62	0.67	0.66	0.68	0.60	0.67	**0.64**	0.05

MD - Machine Direction

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313865 **Roll #: 26**
TRI Log #: E2398-15-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Strength (lbs)	981	980	961	977	960						**972**	11
MD Maximum Strength (lbs/ft)	14511	14495	14217	14453	14189						**14373**	157
MD Maximum Strength (kN/m)	212	212	208	211	207						**210**	2
MD Strength @ 2% Strain (lbs)	301	297	304	302	303						**301**	3
MD Strength @ 2% Strain (lbs/ft)	4450	4388	4489	4460	4481						**4453**	40
MD Strength @ 2% Strain (kN/m)	65.0	64.1	65.5	65.1	65.4						**65.0**	0.6
MD Strength @ 5% Strain (lbs)	559	555	563	558	560						**559**	3
MD Strength @ 5% Strain (lbs/ft)	8258	8209	8327	8258	8284						**8267**	43
MD Strength @ 5% Strain (kN/m)	121	120	122	121	121						**121**	1
MD Break Elongation (%)	9.92	9.52	9.11	9.49	9.20						**9.4**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Junction Strength (lbsf)	940	993	999	926	1012	1008	948	1046	1046	1038	**996**	44
MD Maximum Junction Strength (lbs/ft)	13905	14689	14773	13693	14971	14908	14013	15471	15462	15348	**14723**	652
MD Maximum Junction Strength (kN/m)	203	214	216	200	219	218	205	226	226	224	**215**	10
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	32.9	34.3	28.0	27.7	28.8	27.5	27.7	26.8	26.7	26.9	**28.7**	2.7
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.64	13.75	13.45	13.76	13.06	13.55	13.83	13.61	13.74	13.81	**13.62**	0.23
TD - Aperature Size (in)	0.67	0.68	0.66	0.58	0.71	0.64	0.54	0.65	0.59	0.60	**0.63**	0.05

MD - Machine Direction

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313867 **Roll #: 59**
TRI Log #: E2398-15-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Strength (lbs)	946	960	1020	929	975						**966**	35
MD Maximum Strength (lbs/ft)	14055	14263	15154	13806	14487						**14353**	514
MD Maximum Strength (kN/m)	205	208	221	202	212						**210**	7
MD Strength @ 2% Strain (lbs)	269	290	289	279	275						**281**	9
MD Strength @ 2% Strain (lbs/ft)	3991	4314	4300	4148	4092						**4169**	138
MD Strength @ 2% Strain (kN/m)	58.3	63.0	62.8	60.6	59.7						**60.9**	2.0
MD Strength @ 5% Strain (lbs)	490	517	517	497	491						**503**	14
MD Strength @ 5% Strain (lbs/ft)	7285	7688	7685	7377	7299						**7467**	204
MD Strength @ 5% Strain (kN/m)	106	112	112	108	107						**109**	3
MD Strength @ 10% Strain (lbs)	887	927	937	891	906						**909**	22
MD Strength @ 10% Strain (lbs/ft)	13171	13776	13916	13234	13453						**13510**	328
MD Strength @ 10% Strain (kN/m)	192	201	203	193	196						**197**	5
MD Break Elongation (%)	11.7	10.72	12.29	10.72	11.63						**11.4**	0.7
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Junction Strength (lbsf)	983	835	947	947	963	903	1086	926	906	898	**939**	66
MD Maximum Junction Strength (lbs/ft)	14600	12411	14068	14066	14309	13410	16129	13754	13461	13338	**13955**	980
MD Maximum Junction Strength (kN/m)	213	181	205	205	209	196	235	201	197	195	**204**	14
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	28.8	28.8	28.7	27.4	29.2	29.5	28.7	28.5	38.8	33.8	**30.2**	3.5
Aperature Size (Calipers)												
MD - Aperature Size (in)	12.84	13.04	13.00	12.85	13.06	12.92	12.69	12.98	12.79	13.06	**12.92**	0.13
TD - Aperature Size (in)	0.59	0.43	0.64	0.62	0.67	0.67	0.66	0.67	0.63	0.49	**0.61**	0.08

MD - Machine Direction

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313079 **Roll #: 051**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Strength (lbs)	1024	1044	983	1049	1030						**1026**	26
MD Maximum Strength (lbs/ft)	15145	15440	14537	15514	15233						**15174**	386
MD Maximum Strength (kN/m)	221	225	212	227	222						**222**	6
MD Strength @ 2% Strain (lbs)	288	282	285	284	280						**284**	3
MD Strength @ 2% Strain (lbs/ft)	4262	4177	4219	4196	4139						**4198**	46
MD Strength @ 2% Strain (kN/m)	62.2	61.0	61.6	61.3	60.4						**61.30**	0.67
MD Strength @ 5% Strain (lbs)	543	536	580	578	529						**553**	24
MD Strength @ 5% Strain (lbs/ft)	8026	7926	8581	8540	7824						**8179**	355
MD Strength @ 5% Strain (kN/m)	117	116	125	125	114						**119**	5
MD Strength @ 10% Strain (lbs)	992	1018		1038	999						**1012**	21
MD Strength @ 10% Strain (lbs/ft)	14666	15058		15344	14776						**14961**	304
MD Strength @ 10% Strain (kN/m)	214	220		224	216						**218**	4
MD Break Elongation (%)	10.7	10.8	9.83	10.4	10.7						**10.5**	0.4
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Junction Strength (lbsf)	1078	932	1064	1022	1010	1077	1020	1090	1058	1080	**1043**	48
MD Maximum Junction Strength (lbs/ft)	15947	13783	15731	15114	14941	15921	15081	16123	15649	15971	**15426**	714
MD Maximum Junction Strength (kN/m)	233	201	230	221	218	232	220	235	228	233	**225**	10
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	34.5	33.3	30.4	28.0	28.2	28.4	28.6	29.2	29.2	29.2	**29.9**	2.2
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.9	15.0	14.9	14.9	14.9	15.0	15.0	14.9	14.8	14.9	**14.9**	0.1
TD - Aperature Size (in)	0.67	0.62	0.54	0.59	0.62	0.67	0.66	0.53	0.44	0.58	**0.59**	0.07

MD - Machine Direction TD - Transverse/Cross Machine Direction
Sample received exhhibited some splitting between the apertures and removal of the duct tape caused some feathering of the ribs may bias test results..

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 313080 **Roll #: 026**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Strength (lbs)	1042	1046	1049	1061	1036						**1047**	9
MD Maximum Strength (lbs/ft)	15244	15310	15345	15527	15158						**15317**	137
MD Maximum Strength (kN/m)	223	224	224	227	221						**224**	2
MD Strength @ 2% Strain (lbs)	284	279	286	280	280						**282**	3
MD Strength @ 2% Strain (lbs/ft)	4155	4090	4181	4101	4100						**4126**	40
MD Strength @ 2% Strain (kN/m)	60.7	59.7	61.0	59.9	59.9						**60.2**	0.6
MD Strength @ 5% Strain (lbs)	528	524	533	524	524						**527**	4
MD Strength @ 5% Strain (lbs/ft)	7721	7670	7795	7675	7664						**7705**	55
MD Strength @ 5% Strain (kN/m)	113	112	114	112	112						**112**	1
MD Strength @ 10% Strain (lbs)	982	988	986	990	980						**985**	4
MD Strength @ 10% Strain (lbs/ft)	14368	14462	14436	14484	14343						**14419**	61
MD Strength @ 10% Strain (kN/m)	210	211	211	211	209						**211**	1
MD Break Elongation (%)	11.1	11.2	11.8	11.5	11.1						**11.3**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Junction Strength (lbsf)	817	1046	957	977	1023	804	711	986	1017	1061	**940**	120
MD Maximum Junction Strength (lbs/ft)	11953	15310	14000	14303	14966	11768	10399	14433	14881	15533	**13755**	1751
MD Maximum Junction Strength (kN/m)	175	224	204	209	219	172	152	211	217	227	**201**	26
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	29.6	28.8	32.2	34.9	28.6	28.2	27.5	30.4	28.3	28.0	**29.7**	2.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.4	14.4	14.2	14.4	14.3	14.3	14.3	14.3	14.5	14.4	**14.4**	0.1
TD - Aperature Size (in)	0.59	0.62	0.65	0.54	0.56	0.55	0.66	0.62	0.60	0.64	**0.60**	0.04

MD - Machine Direction TD - Transverse/Cross Machine Direction
Sample received exhhibited some splitting between the apertures and removal of the duct tape caused some feathering of the ribs may bias test results..

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GEOGRID TEST RESULTS
TRI Client: AMEC Foster Wheeler
Project: Cripple Creek

Material: Uniaxial Geogrid
Sample Identification: Lot #: 313078 **Roll #: 005**
TRI Log #: E2400-72-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Strength (lbs)	980	979	1016	1002	993						**994**	16
MD Maximum Strength (lbs/ft)	14310	14302	14837	14638	14504						**14518**	227
MD Maximum Strength (kN/m)	209	209	217	214	212						**212**	3
MD Strength @ 2% Strain (lbs)	292	289	290	289	301						**292**	5
MD Strength @ 2% Strain (lbs/ft)	4259	4227	4235	4225	4390						**4267**	70
MD Strength @ 2% Strain (kN/m)	62.2	61.7	61.8	61.7	64.1						**62.3**	1.0
MD Strength @ 5% Strain (lbs)	528	522	523	523	541						**527**	8
MD Strength @ 5% Strain (lbs/ft)	7709	7631	7637	7644	7901						**7704**	114
MD Strength @ 5% Strain (kN/m)	113	111	112	112	115						**112**	2
MD Strength @ 10% Strain (lbs)	951	940	943	948	961						**949**	8
MD Strength @ 10% Strain (lbs/ft)	13898	13731	13774	13843	14042						**13858**	121
MD Strength @ 10% Strain (kN/m)	203	200	201	202	205						**202**	2
MD Break Elongation (%)	10.7	10.9	11.8	11.3	10.8						**11.1**	0.5
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.6											
MD Maximum Junction Strength (lbsf)	1038	1055	1151	1044	1080	1016	1062	1078	983	1072	**1058**	44
MD Maximum Junction Strength (lbs/ft)	15168	15405	16813	15255	15775	14837	15505	15750	14358	15652	**15452**	648
MD Maximum Junction Strength (kN/m)	221	225	245	223	230	217	226	230	210	229	**226**	9
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	27.2	27.8	27.5	28.6	28.6	28.9	28.8	31.4	29.9	27.9	**28.6**	1.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.19	12.70	13.18	13.14	13.28	13.35	13.23	13.26	13.28	13.23	**13.18**	0.18
TD - Aperature Size (in)	0.57	0.48	0.61	0.64	0.66	0.64	0.63	0.63	0.68	0.57	**0.61**	0.06

MD Machine Direction TD Transverse Direction

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GEOGRID TEST RESULTS
TRI Client: AMEC Foster Wheeler
Project: Cripple Creek

Material: Uniaxial Geogrid
Sample Identification: Lot #: 313082 **Roll #: 001**
TRI Log #: E2400-72-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Strength (lbs)	970	985	972	990	1006						**985**	15
MD Maximum Strength (lbs/ft)	14472	14683	14492	14772	15001						**14684**	218
MD Maximum Strength (kN/m)	211	214	212	216	219						**214**	3
MD Strength @ 2% Strain (lbs)	291	298	297	294	308						**298**	7
MD Strength @ 2% Strain (lbs/ft)	4337	4442	4434	4379	4593						**4437**	97
MD Strength @ 2% Strain (kN/m)	63.3	64.9	64.7	63.9	67.1						**64.8**	1.4
MD Strength @ 5% Strain (lbs)	533	535	536	529	548						**536**	7
MD Strength @ 5% Strain (lbs/ft)	7942	7981	7995	7896	8177						**7998**	107
MD Strength @ 5% Strain (kN/m)	116	117	117	115	119						**117**	2
MD Strength @ 10% Strain (lbs)	944	950	950	939	963						**949**	9
MD Strength @ 10% Strain (lbs/ft)	14074	14167	14170	14001	14357						**14154**	134
MD Strength @ 10% Strain (kN/m)	205	207	207	204	210						**207**	2
MD Break Elongation (%)	10.6	11.1	10.8	11.3	11.4						**11.0**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Junction Strength (lbsf)	1026	1086	1038	1081	1014	920	1068	1041	1034	1051	**1036**	47
MD Maximum Junction Strength (lbs/ft)	15298	16191	15481	16120	15128	13720	15924	15522	15421	15680	**15449**	699
MD Maximum Junction Strength (kN/m)	223	236	226	235	221	200	232	227	225	229	**226**	10
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.6	30.3	30.5	29.1	28.3	28.1	28.1	28.5	28.3	29.6	**29.1**	1.1
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.17	12.26	13.22	13.08	13.39	13.36	13.23	12.95	13.23	13.24	**13.11**	0.33
TD - Aperature Size (in)	0.58	0.39	0.63	0.56	0.68	0.61	0.64	0.64	0.69	0.55	**0.60**	0.09

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
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GEOGRID TEST RESULTS
TRI Client: AMEC Foster Wheeler
Project: Cripple Creek

Material: Uniaxial Geogrid
Sample Identification: Lot #: 313083 **Roll #: 048**
TRI Log #: E2400-72-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.5											
MD Maximum Strength (lbs)	1021	1001	1015	1010	1018						**1013**	8
MD Maximum Strength (lbs/ft)	14822	14528	14723	14651	14768						**14698**	114
MD Maximum Strength (kN/m)	216	212	215	214	216						**215**	2
MD Strength @ 2% Strain (lbs)	286	289	286	291	289						**288**	2
MD Strength @ 2% Strain (lbs/ft)	4157	4200	4144	4222	4196						**4184**	32
MD Strength @ 2% Strain (kN/m)	60.7	61.3	60.5	61.6	61.3						**61.1**	0.5
MD Strength @ 5% Strain (lbs)	518	521	515	524	521						**520**	3
MD Strength @ 5% Strain (lbs/ft)	7523	7567	7480	7610	7557						**7548**	49
MD Strength @ 5% Strain (kN/m)	110	110	109	111	110						**110**	1
MD Strength @ 10% Strain (lbs)	949	939	936	939	943						**941**	5
MD Strength @ 10% Strain (lbs/ft)	13772	13633	13585	13633	13690						**13663**	71
MD Strength @ 10% Strain (kN/m)	201	199	198	199	200						**199**	1
MD Break Elongation (%)	11.9	11.7	12.5	12.4	12.0						**12.1**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.5											
MD Maximum Junction Strength (lbsf)	1107	1044	975	827	1099	1104	1144	1082	1144	940	**1047**	102
MD Maximum Junction Strength (lbs/ft)	16060	15144	14153	12001	15952	16021	16601	15695	16604	13645	**15188**	1487
MD Maximum Junction Strength (kN/m)	234	221	207	175	233	234	242	229	242	199	**222**	22
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	28.3	27.8	28.1	28.7	27.0	29.5	29.7	29.1	27.8	30.2	**28.6**	1.0
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.02	13.43	13.47	13.51	13.58	13.41	13.63	13.52	13.46	13.57	**13.46**	0.17
TD - Aperature Size (in)	0.63	0.47	0.68	0.62	0.67	0.57	0.66	0.68	0.66	0.70	**0.63**	0.07

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
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GEOGRID TEST RESULTS
TRI Client: AMEC Foster Wheeler
Project: Cripple Creek

Material: Uniaxial Geogrid
Sample Identification: Lot #: 313093 Roll #: 016
TRI Log #: E2400-72-01

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Strength (lbs)	969	983	999	987	981						**984**	11
MD Maximum Strength (lbs/ft)	14363	14569	14810	14641	14540						**14585**	162
MD Maximum Strength (kN/m)	210	213	216	214	212						**213**	2
MD Strength @ 2% Strain (lbs)	281	281	279	280	282						**281**	1
MD Strength @ 2% Strain (lbs/ft)	4174	4160	4132	4157	4187						**4162**	21
MD Strength @ 2% Strain (kN/m)	60.9	60.7	60.3	60.7	61.1						**60.8**	0.3
MD Strength @ 5% Strain (lbs)	502	502	499	502	505						**502**	2
MD Strength @ 5% Strain (lbs/ft)	7450	7445	7403	7451	7494						**7449**	32
MD Strength @ 5% Strain (kN/m)	109	109	108	109	109						**109**	0
MD Strength @ 10% Strain (lbs)	896	911	898	909	910						**905**	7
MD Strength @ 10% Strain (lbs/ft)	13280	13516	13312	13475	13489						**13414**	110
MD Strength @ 10% Strain (kN/m)	194	197	194	197	197						**196**	2
MD Break Elongation (%)	11.7	11.6	12.4	11.8	11.8						**11.9**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Junction Strength (lbsf)	989	1093	1097	1073	981	1056	1072	1062	1027	1066	**1052**	40
MD Maximum Junction Strength (lbs/ft)	14669	16202	16266	15911	14540	15662	15893	15755	15231	15805	**15593**	595
MD Maximum Junction Strength (kN/m)	214	237	237	232	212	229	232	230	222	231	**228**	9
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.5	30.4	28.2	30.2	28.5	28.2	26.9	29.1	28.3	29.9	**29.0**	1.2
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.02	11.94	13.05	12.99	13.18	13.18	13.23	13.30	13.19	13.10	**13.02**	0.39
TD - Aperature Size (in)	0.52	0.67	0.52	0.64	0.66	0.64	0.67	0.63	0.69	0.60	**0.62**	0.06

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
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GEOGRID TEST RESULTS
TRI Client: AMEC Foster Wheeler
Project: Cripple Creek

Material: Uniaxial Geogrid
Sample Identification: Lot #: 313094 **Roll #: 054**
TRI Log #: E2400-72-01

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Strength (lbs)	988	982	964	968	970						**974**	10
MD Maximum Strength (lbs/ft)	14598	14502	14239	14304	14335						**14396**	149
MD Maximum Strength (kN/m)	213	212	208	209	209						**210**	2
MD Strength @ 2% Strain (lbs)	276	275	277	280	281						**278**	3
MD Strength @ 2% Strain (lbs/ft)	4084	4057	4095	4141	4156						**4107**	41
MD Strength @ 2% Strain (kN/m)	59.6	59.2	59.8	60.5	60.7						**60.0**	0.6
MD Strength @ 5% Strain (lbs)	496	492	498	502	502						**498**	4
MD Strength @ 5% Strain (lbs/ft)	7325	7268	7358	7413	7415						**7356**	62
MD Strength @ 5% Strain (kN/m)	107	106	107	108	108						**107**	1
MD Strength @ 10% Strain (lbs)	905	897	898	906	891						**899**	6
MD Strength @ 10% Strain (lbs/ft)	13369	13246	13260	13382	13162						**13284**	92
MD Strength @ 10% Strain (kN/m)	195	193	194	195	192						**194**	1
MD Break Elongation (%)	12.3	12.0	11.7	11.5	11.6						**11.8**	0.3
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.8											
MD Maximum Junction Strength (lbsf)	904	1035	1100	1120	916	1072	1123	1079	1126	907	**1038**	93
MD Maximum Junction Strength (lbs/ft)	13353	15295	16254	16549	13536	15842	16596	15941	16629	13393	**15339**	1380
MD Maximum Junction Strength (kN/m)	195	223	237	242	198	231	242	233	243	196	**224**	20
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	32.1	32.5	28.8	29.7	28.5	28.8	27.8	27.8	29.0	25.9	**29.1**	2.0
Aperature Size (Calipers)												
MD - Aperature Size (in)	13.10	12.60	13.26	13.14	13.29	13.25	12.91	13.18	13.12	13.22	**13.11**	0.21
TD - Aperature Size (in)	0.63	0.51	0.64	0.61	0.69	0.64	0.65	0.56	0.68	0.67	**0.63**	0.06

MD Machine Direction TD Transverse Direction

TRI ENVIRONMENTAL, INC.
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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 312870 **Roll #: 024**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Strength (lbs)	982	978	1007	1015	1013						**999**	18
MD Maximum Strength (lbs/ft)	14584	14532	14961	15076	15056						**14842**	263
MD Maximum Strength (kN/m)	213	212	218	220	220						**217**	4
MD Strength @ 2% Strain (lbs)	297	294	298	294	297						**296**	2
MD Strength @ 2% Strain (lbs/ft)	4407	4372	4420	4372	4417						**4398**	24
MD Strength @ 2% Strain (kN/m)	64.3	63.8	64.5	63.8	64.5						**64.21**	0.35
MD Strength @ 5% Strain (lbs)	546	545	547	542	547						**545**	2
MD Strength @ 5% Strain (lbs/ft)	8112	8090	8120	8059	8126						**8101**	27
MD Strength @ 5% Strain (kN/m)	118	118	119	118	119						**118**	0
MD Strength @ 10% Strain (lbs)	969	917	974	1001	1008						**974**	36
MD Strength @ 10% Strain (lbs/ft)	14399	13624	14470	14869	14979						**14468**	534
MD Strength @ 10% Strain (kN/m)	210	199	211	217	219						**211**	8
MD Break Elongation (%)	9.86	9.73	10.7	10.5	10.1						**10.2**	0.4
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Junction Strength (lbsf)	1053	968	1027	992	1046	950	994	1027	939	984	**998**	40
MD Maximum Junction Strength (lbs/ft)	15649	14378	15264	14738	15544	14110	14768	15261	13946	14614	**14827**	589
MD Maximum Junction Strength (kN/m)	228	210	223	215	227	206	216	223	204	213	**216**	9
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	30.9	30.7	30.8	31.0	31.2	30.7	31.0	30.4	30.5	31.2	**30.8**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.2	14.1	14.1	14.1	14.0	14.2	14.0	14.3	14.1	14.1	**14.1**	0.1
TD - Aperature Size (in)	0.52	0.45	0.64	0.54	0.56	0.52	0.62	0.58	0.56	0.63	**0.56**	0.06

MD - Machine Direction TD - Transverse/Cross Machine Direction
Sample received exhhibited some splitting between the apertures and removal of the duct tape caused some feathering of the ribs may bias test results..

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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 312873 **Roll #: 052**
TRI Log #: E2375-65-05

PARAMETER	TEST REPLICATE NUMBER 1	2	3	4	5	6	7	8	9	10	MEAN	STD. DEV.
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Strength (lbs)	988	983	980	1021	1008						**996**	18
MD Maximum Strength (lbs/ft)	14516	14434	14388	14993	14810						**14628**	262
MD Maximum Strength (kN/m)	212	211	210	219	216						**214**	4
MD Strength @ 2% Strain (lbs)	295	297	297	300	298						**297**	2
MD Strength @ 2% Strain (lbs/ft)	4336	4366	4362	4402	4377						**4369**	24
MD Strength @ 2% Strain (kN/m)	63.3	63.7	63.7	64.3	63.9						**63.8**	0.4
MD Strength @ 5% Strain (lbs)	554	556	557	560	557						**557**	2
MD Strength @ 5% Strain (lbs/ft)	8144	8171	8179	8233	8186						**8182**	32
MD Strength @ 5% Strain (kN/m)	119	119	119	120	120						**119**	0
MD Strength @ 10% Strain (lbs)	964	979		1014	998						**989**	22
MD Strength @ 10% Strain (lbs/ft)	14160	14379		14890	14666						**14524**	320
MD Strength @ 10% Strain (kN/m)	207	210		217	214						**212**	5
MD Break Elongation (%)	9.93	10.3	9.38	10.1	10.3						**10.0**	0.4
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.7											
MD Maximum Junction Strength (lbsf)	923	955	983	959	992	991	962	951	968	937	**962**	22
MD Maximum Junction Strength (lbs/ft)	13555	14035	14446	14090	14568	14556	14136	13970	14226	13767	**14135**	330
MD Maximum Junction Strength (kN/m)	198	205	211	206	213	213	206	204	208	201	**206**	5
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	29.6	29.5	29.8	29.5	29.9	29.8	29.5	29.9	28.9	29.2	**29.6**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.5	14.4	14.2	14.2	14.4	14.4	14.4	14.5	14.5	14.4	**14.4**	0.1
TD - Aperature Size (in)	0.68	0.66	0.65	0.62	0.61	0.65	0.56	0.62	0.66	0.62	**0.63**	0.03

MD - Machine Direction TD - Transverse/Cross Machine Direction
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GEOGRID TEST RESULTS

TRI Client: AMEC
Project: CC&V Valley Leach Facility

Material: Tensar UX180060 Geogrid
Lot #: 312874 **Roll #: 055**
TRI Log #: E2375-71-07

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.
	1	2	3	4	5	6	7	8	9	10		
Single Rib Tensile Properties (ASTM D 6637, Method A)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Strength (lbs)	1023	976	978	996	992						**993**	19
MD Maximum Strength (lbs/ft)	15200	14498	14529	14794	14741						**14752**	281
MD Maximum Strength (kN/m)	222	212	212	216	215						**215**	4
MD Strength @ 2% Strain (lbs)	300	298	292	295	284						**294**	6
MD Strength @ 2% Strain (lbs/ft)	4456	4434	4342	4380	4217						**4366**	94
MD Strength @ 2% Strain (kN/m)	65.1	64.7	63.4	63.9	61.6						**63.7**	1.4
MD Strength @ 5% Strain (lbs)	557	553	548	549	535						**548**	8
MD Strength @ 5% Strain (lbs/ft)	8270	8209	8141	8161	7955						**8147**	118
MD Strength @ 5% Strain (kN/m)	121	120	119	119	116						**119**	2
MD Strength @ 10% Strain (lbs)	1003.3			987	980						**990**	
MD Strength @ 10% Strain (lbs/ft)	14906			14664	14553						**14708**	
MD Strength @ 10% Strain (kN/m)	218			214	212						**215**	
MD Break Elongation (%)	10.7	9.96	9.82	10.5	10.3						**10.3**	0.4
Junction/Node Strength (GRI GG2-87)												
MD - Number of Ribs per foot:	14.9											
MD Maximum Junction Strength (lbsf)	1021	1050	1065	1039	1001	1044	1033	1052	1014	1053	**1037**	20
MD Maximum Junction Strength (lbs/ft)	15176	15600	15818	15434	14872	15511	15353	15636	15067	15639	**15411**	295
MD Maximum Junction Strength (kN/m)	222	228	231	225	217	226	224	228	220	228	**225**	4
Mass/Unit Area (ASTM D 5261)												
Mass/unit area (oz/sq.yd)	29.1	28.5	28.3	28.1	28.1	28.1	28.2	27.9	28.0	28.0	**28.2**	0.3
Aperature Size (Calipers)												
MD - Aperature Size (in)	14.8	14.8	14.9	14.9	14.9	14.9	14.9	14.8	14.8	14.9	**14.9**	0.0
TD - Aperature Size (in)	0.63	0.68	0.61	0.55	0.51	0.42	0.65	0.51	0.68	0.51	**0.58**	0.09

MD - Machine Direction TD - Transverse/Cross Machine Direction
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