

Appendix R

Underdrain Pond

Appendix R.1 – Summary of Underdrain Pond Concrete Test Results

Appendix R.2 – Underdrain Pond Individual Concrete Test Reports

Appendix R.3 – Underdrain Pond As-built Drawing

Appendix R.1
Summary of Underdrain Pond
Concrete Test Results

**Cripple Creek & Victor Mining Company
Squaw Gulch VLF Pregnant Solution Storage Area
Underdrain Pond Concrete Testing Summary**



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. (°F)	CURING AGE AT TIME OF TEST (days)	LOAD (pounds)	AREA (in ²)	DESIGN STRENGTH (psi)	COMPRESSIVE STRENGTH (psi)	PERCENT OF DESIGN (%)	FRACTURE TYPE
UD-1	5/14/2013	11:53 AM	2:00 PM	Underdrain Ponds	925466	3.75	7.5	-	-	7	40,188	12.57	4,000	3,200	80%	3
UD-2										14	48,880	12.57	4,000	3,890	97%	2
UD-3										28	60,675	12.57	4,000	4,830	121%	2
UD-4										28	62,295	12.57	4,000	4,960	124%	3
UD-5										H						
UD-6										H						
UD-7	5/16/2013	7:50 AM	9:40 AM	Underdrain Ponds	925467	3.75	7.5	-	-	7	31,770	12.57	4,000	2,530	63%	2
UD-8										14	67,675	12.57	4,000	5,390	135%	3
UD-9										28	74,960	12.57	4,000	5,970	149%	1
UD-10										28	76,445	12.57	4,000	6,080	152%	1
UD-11										H						
UD-12										H						
UD-13	5/16/2013	7:50 AM	9:40 AM	Underdrain Ponds	925467	3.75	7.5	-	-	7	31,770	12.57	4,000	2,530	63%	3
UD-14										14	39,425	12.57	4,000	3,140	79%	2
UD-15										28	44,395	12.57	4,000	3,530	88%	2
UD-16										28	50,165	12.57	4,000	3,990	100%	2
UD-17										H						
UD-18										H						
UD-19	5/17/2013	5:00 AM	6:37 AM	Underdrain Ponds	925467	3.75	7.5	-	-	7	50,095	12.57	4,000	3,990	100%	3
UD-20										14	57,400	12.57	4,000	4,570	114%	2
UD-21										28	64,505	12.57	4,000	5,130	128%	1
UD-22										28	66,665	12.57	4,000	5,310	133%	1
UD-23										H						
UD-24										H						
UD-25	5/17/2013	11:40 AM	1:54 PM	Underdrain Ponds	925467	3.75	7.5	-	-	7	51,590	12.57	4,000	4,110	103%	3
UD-26										14	59,030	12.57	4,000	4,700	118%	2
UD-27										28	62,530	12.57	4,000	4,980	125%	1
UD-28										28	62,515	12.57	4,000	4,970	124%	1
UD-29										H						
UD-30										H						
UD-31	5/17/2013	1:04 AM	3:45 PM	Underdrain Ponds	925467	3.75	7.5	-	-	7	52,090	12.57	4,000	4,150	104%	3
UD-32										14	54,100	12.57	4,000	4,310	108%	3
UD-33										28	66,040	12.57	4,000	5,260	132%	1
UD-34										28	67,395	12.57	4,000	5,360	134%	1
UD-35										H						
UD-36										H						

Appendix R.2

**Underdrain Pond Individual
Concrete Test Reports**

REPORT OF CONCRETE CYLINDER TEST

AMEC Environment & Infrastructure

Licensee Address

Project Number: 74201125N0- Underdrain Ponds

Report Number: 1

Project: Underdrain Ponds

Client: CC&V

Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

Date Placed: 5/14/2013

Time Sampled: 2:00 pm

Location of Sample: Underdrain Ponds

Supplier: Transit Mix

Truck Number: 058

Ticket Number: 175074

Mix Number: 64092110

Time Placed: 1:24 pm

Design Strength: 4000

Time Batched: 11:53 am

Batch Size: 10 yds

Slump: 3.75"

Air Content: 7.5%

Unit Weight: 138.4

Concrete Temp: 74

Ambient Temp: 53

Water Added: 10 gal

Technician: DK

Initial Curing:

Final Curing:

Max Field Curing Temp.:

Min Field Curing Temp.:

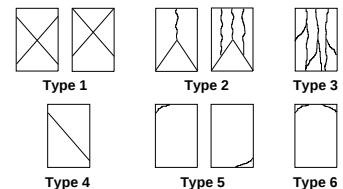
LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
UD-1	5/21/2013	7	40188	4.00	12.57	3200	80%	3
UD-2	5/28/2013	14	48880	4.00	12.57	3890	97%	2
UD-3	6/11/2013	28	60675	4.00	12.57	4830	121%	2
UD-4	6/11/2013	28	62295	4.00	12.57	4960	124%	3
UD-5		H	Discard					
UD-6		H	Discard					

Remarks:

Copies to:

TYPES OF FRACTURE



Reported by:

Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST

AMEC Environment & Infrastructure

Licensee Address

Project Number: 74201125N0- Underdrain Ponds

Report Number: 2

Project: Underdrain Ponds

Client: CC&V

Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

Date Placed: 5/16/2013

Time Sampled: 9:40 am

Location of Sample: Underdrain Ponds

Supplier: Transit Mix

Truck Number: 022

Ticket Number: 175167

Mix Number: 64092110

Time Placed: 9:15 am

Design Strength: 4000

Time Batched: 7:50 am

Batch Size: 8 yds

Slump: 1.00"

Air Content: 4.0%

Unit Weight: 144.0

Concrete Temp: 72

Ambient Temp: 59

Water Added: 5 gal

Technician: RF

Initial Curing:

Final Curing:

Max Field Curing Temp.:

Min Field Curing Temp.:

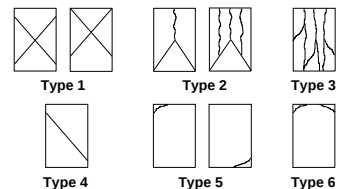
LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
UD-7	5/23/2013	7	31770	4.00	12.57	2530	63%	2
UD-8	5/30/2013	14	67675	4.00	12.57	5390	135%	3
UD-9	6/13/2013	28	74960	4.00	12.57	5970	149%	1
UD-10	6/13/2013	28	76445	4.00	12.57	6080	152%	1
UD-11		H	Discard					
UD-12		H	Discard					

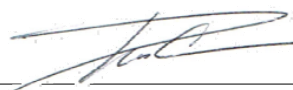
Remarks:

Copies to:

TYPES OF FRACTURE



Reported by:


Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST

AMEC Environment & Infrastructure

Licensee Address

Project Number: 74201125N0- Underdrain Ponds

Report Number: 3

Project: Underdrain Ponds

Client: CC&V

Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

Date Placed: 5/16/2013

Time Sampled: 11:00 am

Location of Sample: Underdrain Ponds

Supplier: Transit Mix

Truck Number: 007

Mix Number: 64092110

Design Strength: 4000

Batch Size: 7 yds

Slump: 4.00"

Air Content: 8.0%

Unit Weight: 134.0

Concrete Temp: 76

Water Added: 3 gal

Initial Curing:

Max Field Curing Temp.:

Ticket Number: 175173

Time Placed: 9:15 am

Time Batched: 10:50 am

Ambient Temp: 63

Technician: RF

Final Curing:

Min Field Curing Temp.:

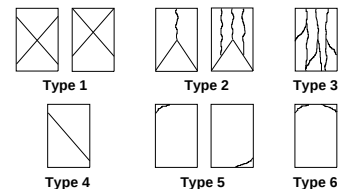
LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
UD-13	5/23/2013	7	31770	4.00	12.57	2530	63%	3
UD-14	5/30/2013	14	39425	4.00	12.57	3140	79%	2
UD-15	6/13/2013	28	44395	4.00	12.57	3530	88%	2
UD-16	6/13/2013	28	50165	4.00	12.57	3990	100%	2
UD-17		H	Discard					
UD-18		H	Discard					

Remarks:

Copies to:

TYPES OF FRACTURE



Reported by:

Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST

AMEC Environment & Infrastructure

Licensee Address

Project Number: 74201125N0- Underdrain Ponds

Report Number: 4

Project: Underdrain Ponds

Client: CC&V

Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

Date Placed: 5/17/2013

Time Sampled: 6:37 am

Location of Sample: Underdrain Ponds

Supplier: Transit Mix

Truck Number: 007

Mix Number: 64092110

Design Strength: 4000

Batch Size: 8 yds

Slump: 4.50"

Concrete Temp: 69

Water Added: 0

Initial Curing:

Max Field Curing Temp.:

Ticket Number: 175213

Time Placed: 6:25 am

Time Batched: 5:00 am

Air Content: 7.5%

Unit Weight: 138.4

Ambient Temp: 47

Technician: DK

Final Curing:

Min Field Curing Temp.:

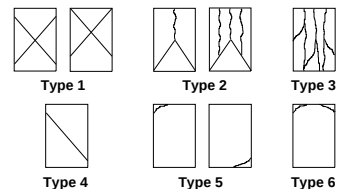
LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
UD-19	5/24/2013	7	50095	4.00	12.57	3990	100%	3
UD-20	5/31/2013	14	57400	4.00	12.57	4570	114%	2
UD-21	6/14/2013	28	64505	4.00	12.57	5130	128%	1
UD-22	6/14/2013	28	66665	4.00	12.57	5310	133%	1
UD-23		H	Discard					
UD-24		H	Discard					

Remarks:

Copies to:

TYPES OF FRACTURE



Reported by:

Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST

AMEC Environment & Infrastructure

Licensee Address

Project Number: 74201125N0- Underdrain Ponds

Report Number: 5

Project: Underdrain Ponds

Client: CC&V

Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

Date Placed: 5/17/2013

Time Sampled: 1:54 pm

Location of Sample: Underdrain Ponds

Supplier: Transit Mix

Truck Number: 367

Mix Number: 64092110

Design Strength: 4000

Batch Size: 10 yds

Slump: 1.50"

Concrete Temp: 80

Water Added: 15 gal

Initial Curing:

Max Field Curing Temp.:

Ticket Number: 175250

Time Placed: 1:25 pm

Time Batched: 11:40 am

Air Content: 4.5%

Unit Weight: 143.2

Ambient Temp: 71

Technician: DK

Final Curing:

Min Field Curing Temp.:

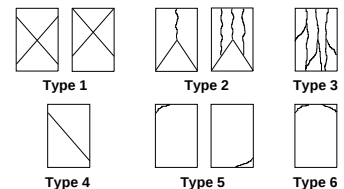
LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
UD-25	5/24/2013	7	51590	4.00	12.57	4110	103%	3
UD-26	5/31/2013	14	59030	4.00	12.57	4700	118%	2
UD-27	6/14/2013	28	62530	4.00	12.57	4980	125%	1
UD-28	6/14/2013	28	62515	4.00	12.57	4970	124%	1
UD-29		H	Discard					
UD-30		H	Discard					

Remarks:

Copies to:

TYPES OF FRACTURE



Reported by:

Thorne Clark
Project Resident

REPORT OF CONCRETE CYLINDER TEST

AMEC Environment & Infrastructure

Licensee Address

Project Number: 74201125N0- Underdrain Ponds

Report Number: 6

Project: Underdrain Ponds

Client: CC&V

Address:

Attn:

FIELD TEST CONDITIONS AND RESULTS

Date Placed: 5/17/2013

Time Sampled: 3:45 pm

Location of Sample: Underdrain Ponds

Supplier: Transit Mix

Truck Number: 093

Mix Number: 64092110

Design Strength: 4000

Batch Size: 10 yds

Slump: 2.50"

Air Content: 2.5%

Unit Weight: 140.8

Concrete Temp: 78

Ambient Temp: 67

Water Added: 15 gal

Technician: DK

Initial Curing:

Final Curing:

Max Field Curing Temp.:

Min Field Curing Temp.:

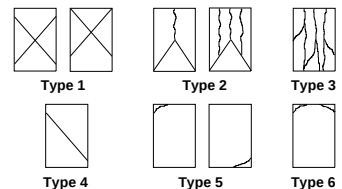
LABORATORY TEST RESULTS

Specimen	Test Date	Age	Load	Diameter	Area	Strength	Percent of Design	Type of Fracture
UD-31	5/24/2013	7	52090	4.00	12.57	4150	104%	3
UD-32	5/31/2013	14	54100	4.00	12.57	4310	108%	3
UD-33	6/14/2013	28	66040	4.00	12.57	5260	132%	1
UD-34	6/14/2013	28	67395	4.00	12.57	5360	134%	1
UD-35		H	Discard					
UD-36		H	Discard					

Remarks:

Copies to:

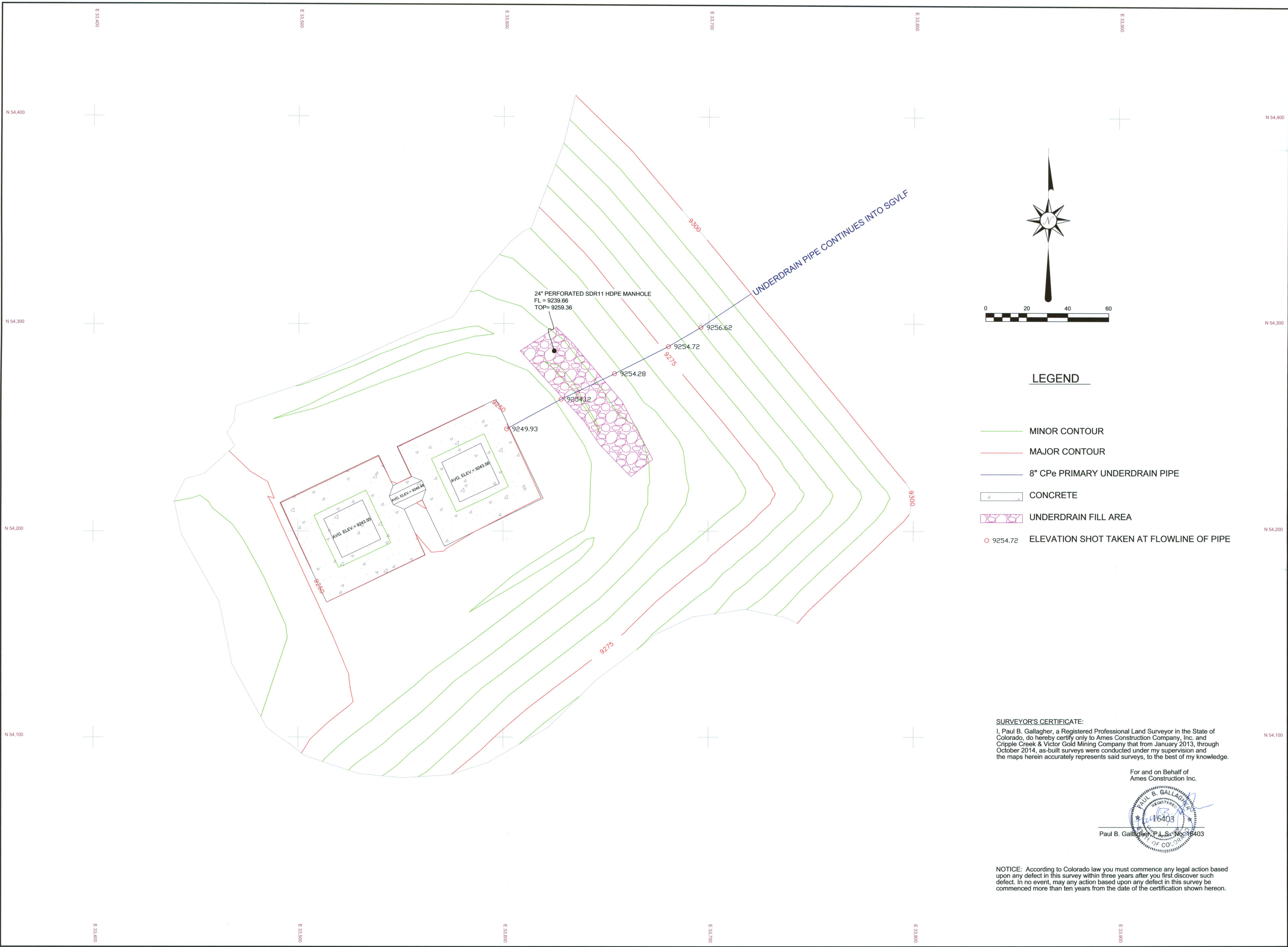
TYPES OF FRACTURE



Reported by:

Thorne Clark
Project Resident

Appendix R.3
Underdrain Pond As-built Drawing



LEGEND

- MINOR CONTOUR
- MAJOR CONTOUR
- 8" CPe PRIMARY UNDERDRAIN PIPE
- CONCRETE
- UNDERDRAIN FILL AREA
- ELEVATION SHOT TAKEN AT FLOWLINE OF PIPE

SURVEYOR'S CERTIFICATE:
I, Paul B. Gallagher, a Registered Professional Land Surveyor in the State of Colorado, do hereby certify only to Ames Construction Company, Inc. and Cripple Creek & Victor Gold Mining Company that from January 2013, through October 2014, as-built surveys were conducted under my supervision and the maps herein accurately represents said surveys, to the best of my knowledge.

For and on Behalf of
Ames Construction Inc.



NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.



AMES CONSTRUCTION INC.
18450 East 28th Ave.
Aurora, Colorado 80011
(303) 363-1000
PROJECT NO. 130601

DATE: 10-06-2014
SCALE: 1"=20'
DRAWN BY: BF,RS
CHK'D:
APP'D:

REVISIONS:

CRIPPLE CREEK & VICTOR GOLD MINING COMPANY
SQUAW GULCH VALLEY LEACH FACILITY
PREGNANT SOLUTION STORAGE AREA
UNDERDRAIN PONDS

PROJECT NO.
130601

SHEET NO.
1-1