February 28, 2011

REPORT ON

2010 Annual Geotechnical Dam Inspection, Faro Mine Complex, Faro, Yukon

Submitted to:
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REPORT

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APPENDICES

APPENDIX A

Table A-1: Faro Mine Complex, Geotechnical Dam Inspection Summary, September 2010

APPENDIX B

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1.0 INTRODUCTION

As requested by Denison Environmental Services (DES), Golder Associates Ltd. (Golder) on behalf of Keyeh Nejeh Golder Corporation (KNG) carried out a geotechnical site inspection of the Faro Mine Complex. The purpose of the geotechnical site inspection was to conduct an annual dam inspection of the mine facilities as defined in the DES proposal request dated August 24, 2010. Upon completion of the dam inspection, preliminary results were shared with DES and Yukon Government representatives.

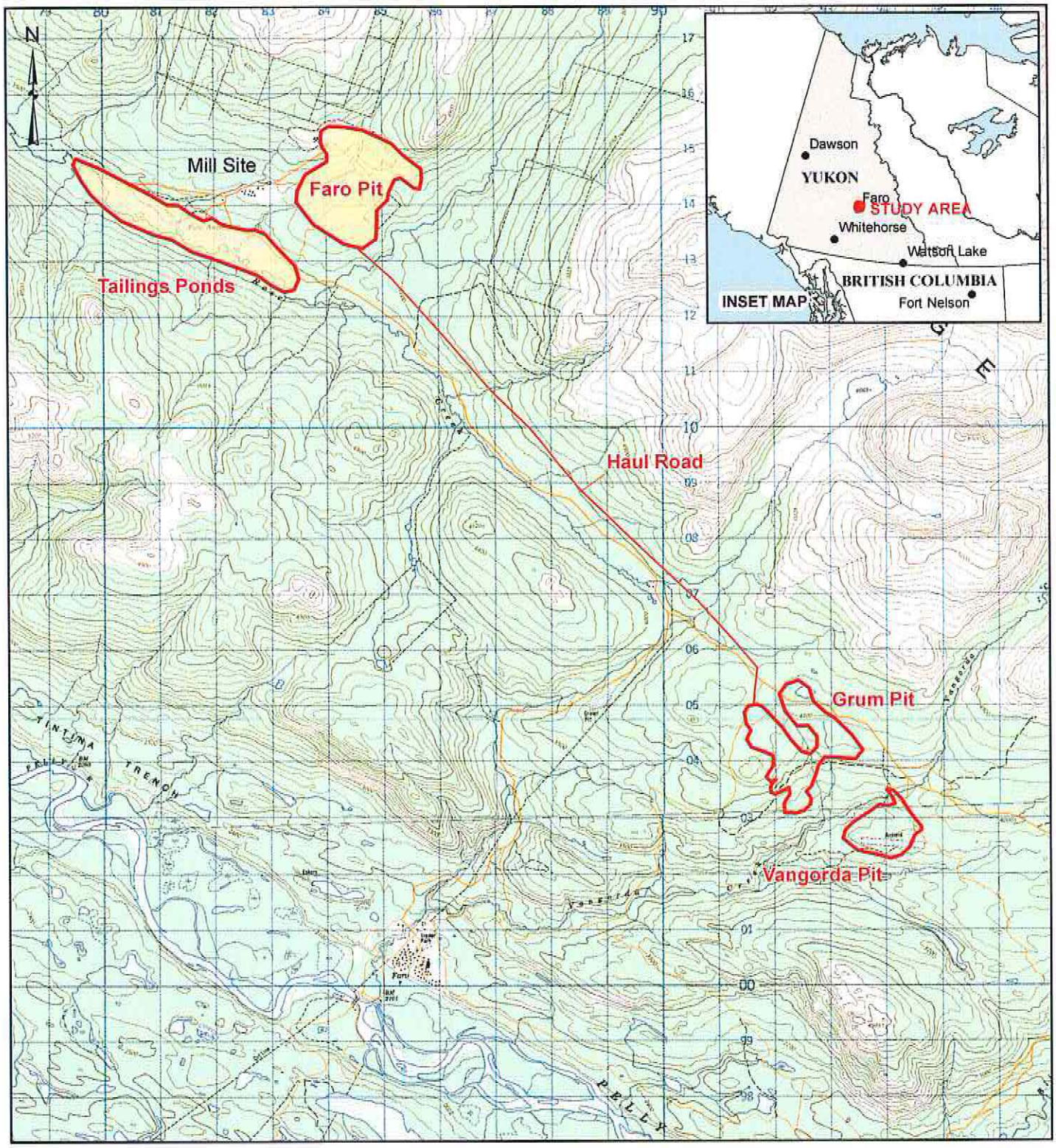
The site inspection was carried out in accordance with the scope of work, terms and conditions as defined in our proposal dated September 2, 2010. Authorization to proceed with the work was issued by DES on September 13, 2010.

This annual report summarizes the results of our geotechnical site inspection as summarized in Golder (2010b), geotechnical review of site data provided by DES and provides our geotechnical comments and recommendations. It is understood that the results of this geotechnical review will be summarized into the Faro Mine 2010 overall annual report to the Yukon Government.

1.1 Background

Golder has been involved with design and construction of the tailings facilities at the Faro Mine since 1980 and provided annual inspection and instrumentation review until 1999. The annual inspections from 2000 to 2009 were carried out by BGC Engineering Inc. (BGC).

As part of a care and maintenance contract awarded by Yukon Government, Energy, Mines, and Resources (YGEMR) to DES in 2009, BGC carried out the most recent annual inspection in July 2009. The annual inspection results and data monitoring review are summarized in BGC (2009).



LEGEND

- Mine Development
- Study Area
- Haul Road

2 0 2

SCALE 1:100,000 KILOMETRES

NOTE

Refer to Figure 2-1 for Faro Mine Complex general arrangement location details.

REFERENCE

NTS Mapsheets 105K03 / 06 obtained from Geogratis.
Projection: UTM Zone 8 Datum: NAD 83

PROJECT: DENISON ENVIRONMENTAL SERVICES
FARO MINE COMPLEX
YUKON

TITLE: **KEY PLAN**

Golder Associates
Greater Vancouver Office, B.C.

PROJECT No. 10-1427-0032			PHASE No. 2000	
DESIGN	WJP	03FEB11	SCALE AS SHOWN	REV. 0
GIS	AL	03FEB11		
CHECK	WJP	28FEB11		
REVIEW	JAH	28FEB11		

FIGURE 1-1

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2.0 SITE INSPECTION

2.1 Site Observations

The annual geotechnical dam inspection was carried out by Mr. W.J. (Bill) Purdy, P.Eng. of Golder on September 21 and 22, 2010. An introductory tour of the Faro Mine Complex infrastructure was conducted by Mr. Purdy in the presence of Ms. Cherian and independent follow-up inspections of selected structures were then completed by Mr. Purdy. Site observations of specific structures were recorded by camera and field notes.

In general, the fall dam inspection was carried out during relatively low flow conditions, which is considered typical for this time of year. As indicated in advance of the site inspection by Mr. John Brodie, P.Eng. as a geotechnical advisor to YGEMR for the Faro Mine Complex, the operating water levels in the tailings facility were drawn down well below normal operating conditions prior to shutting down and winterizing the pump back system to the water treatment plant on August 30, 2010.

The weather conditions were sunny and warm on September 21st and overcast and cool on September 22nd, with daily temperatures ranging between about +2°C and +10°C during the day and -5°C over night. The ground conditions were bare and dry with no snow.

Site observations from the dam inspection are summarized on the attached Table A-1 in Appendix A and details for each structure inspected are provided below. Site conditions at selected structure locations are illustrated in the attached photographs (Photos B-01 to B-10, inclusive) in Appendix B.

2.1.1 Rose Creek Diversion Channel

The full 3.8 km length of the Rose Creek Diversion Channel (RCDC) was inspected and in general found to have stable channel bottom and side slope conditions. The channel gradient is relatively shallow and below the Secondary Tailings Impoundment, the channel gradient remains relatively flat and transitions above the tailings facility level until well down gradient of the Cross Valley Dam where the flow passes through a section of steeper gradient, rapid flow before returning to low gradient passive flow by the end of the diversion channel and returns to the natural Rose Creek channel.

In areas where the channel side slopes comprise granular soils, the channel side slopes are surfaced with rip rap comprising rounded cobble and boulder field stone. In general, the armour rock appears to be in satisfactory condition.

At about Stn. 2+700, the RCDC transitions to a steeper gradient with more rapid flow and the channel is founded primarily in fractured to intact bedrock (Photo B-01). The channel incorporates rock weirs comprising large blast rock placed across the channel width at regular intervals to help dissipate the rapid flow conditions in the steeper gradients. The rock weirs appear stable and the channel returns to slow flow conditions at the end of the RCDC.

DES is proceeding to remove vegetation from the diversion channel side slopes along the length of the RCDC to improve channel flow conditions. Channel vegetation removal operations were in progress at about Stn. 2+250 and appear satisfactory.

Minor seepage was observed from the RCDC at base of spoil piles and flowing into the Cross Valley Dam (CVD) Polishing Pond. The spoil piles appeared stable at the time of inspection.

2.1.2 North Wall Interceptor Ditch

The North Wall Interceptor Ditch (NWID) inspection completed with DES was limited to the upper portion located above the mill site due to vegetation growth along the middle and lower portions of the diversion channel. The NWID receives flow from the Upper Guardhouse Creek and appears to be founded in fractured to intact bedrock at beginning of the diversion channel.

The channel gradient varies from relatively flat to moderate conditions, with ponded water developing in areas where the channel bottom undulates or is obstructed. Sedimentation is developing down gradient of the new water supply well access road crossing due to uncontrolled sediment erosion (Photo B-02). Consideration should be given to address the erosion conditions that are developing along the new fresh water supply access road which crosses the NWID, as defined in Section 4.

In general, the NWID channel bottom and side slope conditions within the upper channel portion appear stable at time of inspection.

2.1.3 Intermediate Dam

The Intermediate Dam (ID) is an internal tailings dam designed to retain tailings, supernatant water and run-off water within the tailings facility. At the time of inspection, the impoundment water level was operating below the rip rap protection provided on the upstream slope. There was at the time of the inspection no apparent evidence of upstream slope instability of the underlying sand and gravel shell material or rip rap degradation (Photo B-03).

Apart from some minor evidence of surface cracking, the dam crest appears stable and intact at the time of inspection.

The downstream slope is experiencing extensive surficial soil erosion, with no apparent movements of underlying downstream shell material (Photo B-04). The surficial soil erosion conditions comprises a series of shallow soil rills across the entire dam width from the base of slope up to at least two-thirds of the dam's downstream slope height. In addition, there are shallow soil scarps developing on the lower dam slope across the southern portion of the dam length. The shallow soil scarps extend from the base of slope up to at least half of the dam slope height across the southern two-thirds of the dam length. The shallow soil rills and shallow scarps have eroded the downstream surface to a depth of less than 0.3 m and the deeper soil scarps range between about 0.3 m and 1 m deep.

The back scarp and eroded soil conditions appear to comprise silty sand and gravel. The eroded soil has been transported down slope and deposited at the toe of slope on the downstream bench. Evidence of the underlying drainage blanket was not observed.

Further geotechnical evaluation of the downstream slope conditions should be considered to address the observed soil erosion slope conditions. Short and long term recommendations are summarized in Section 4.

2.1.4 Cross Valley Dam

The Cross Valley Dam (CVD) is designed for a 60-day retention capacity polishing pond comprising seepage and discharge water from the tailings storage facility. Similar to the operating water level in the pond of the Intermediate Dam, the polishing pond water level was operating below the CVD rip rap surface at the time of the fall inspection. There was no apparent evidence at the time of the inspection of upstream slope instability of the underlying sand and gravel shell material or rip rap degradation (Photo B-05).

The dam crest is in satisfactory condition. However, three longitudinal tension cracks were observed along the southern portion of the dam crest, indicative of differential movement of the underlying soil conditions resulting from the zoned dam construction. The downstream slope appears stable and in satisfactory condition (Photo B-06).

2.1.5 Secondary Tailings Impoundment

The Secondary Tailings Impoundment (STI) area was inspected. The dam crest, upstream and downstream slopes conditions appear stable at the time of inspection. The lower road conditions appear satisfactory. There was no evidence of seepage along the Secondary Dam downstream toe towards the RCDC (Photo B-07).

2.1.6 Faro Creek Diversion Channel

The Faro Creek Diversion Channel (FCDC) diverts creek channel flow from head waters north of the Faro Pit around the east side of the mine site. At the time of the site inspection, the seasonally, low flow conditions enable good access to view the diversion channel bottom and side slope conditions. In general, the side slopes are armoured with rip rap material comprising rounded cobble and boulder field stone. A portion of the rip rap channel near the head water diversion is underlain by a layer of synthetic liner and appears intact to limit seepage flow from the diversion channel, which is marked by white poles (Photo B-08).

Minor seepage from the FCDC was observed to occur at the base of access road dyke and flows into the drainage basin above waste rock dumps.

There is evidence that a lower channel portion was previously underlain with a synthetic liner adjacent to the Faro Pit, but is no longer functioning to limit seepage flow from the diversion channel.

There is evidence along the length of the diversion channel that the soil back slope has experienced unstable conditions and repaired with blast rock to maintain stable channel side slope conditions (Photo B-09).

In general, the existing rock armour and lined channel conditions observed along the length of the FCDC are satisfactory.

2.1.7 North Fork Rock Drain

The North Fork Rock Drain (NFRD) was inspected and the head pond water level condition was found to be well below the wood debris on slope (Photo B-10). The embankment crest and side slope conditions appeared stable at time of inspection. The downstream drainage conditions comprised three drainage channels which braided into one channel downstream at the water monitor and sample location. The head pond conditions and rock drain performance appeared satisfactory at time of inspection.

2.1.8 K8 Creek Rock Drain

The K8 Creek Rock Drain (K8CRD) is situated about 2.5 km east of the NFRD. The road embankment has stable crest and side slope conditions. Rock drain performance and downstream drainage conditions were acceptable at time of inspection.

2.2 Client Discussions

The following notes summarize the key client discussions carried out during the site inspection between DES and Golder representatives:

- Golder representative conducted a site orientation upon arrive to site.
- DES confirmed that there has been low snow pack during the 2009 / 2010 winter and the site is currently experiencing low flow runoff conditions in all creeks and diversion channels.
- DES confirmed critical annual monitoring periods are May, June and September.
- DES is going to submit monthly monitoring data for review and comment by Golder starting in September 2010.
- DES provided the following site data at the time of the inspection:
  - Water level elevation records including Intermediate Pond and Polishing Pond to September 20, 2010.
  - Past project correspondence regarding Intermediate and Cross Valley Dams.
  - Bathymetric image in PDF format of the Intermediate and Cross Valley impoundments.
  - Typical monthly inspection report for the Tailings Management Area (TMA) and Faro Pit and Waste Rock areas.

- For historical reference, DES confirmed remedial repairs at the Faro Mine Complex during the last decade have been minimal and included:
  - Vegetation removal and re-grading of the Intermediate Dam downstream slope;
  - Regrading of longitudinal surface cracks on crest of Cross Valley Dam;
  - Liner installation and channel repair in upper portion of FCDC as delineated by staff gauges;
  - Back slope instability repair of FCDC at channel bend down gradient of Flow Monitoring Station FDC-3 and adjacent to the Faro Pit;
  - Regrading of Lower Road down gradient of Secondary Tailings Impoundment; and
  - Minor channel rip rap maintenance of FCDC and RCDC.

Upon completion of the site inspection, Golder met with DES and Yukon Government representatives to review the site observation and preliminary geotechnical assessment. The results of the meeting are summarized in Section 4.

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579000 580000 581000 582000 583000 584000 585000 586000

6916000 6915000 6914000 6913000

N

Faro Creek Diversion

North Wall Interceptor Ditch

Cross Valley Pond

Faro Pit

Mill

Cross Valley Dam

Intermediate Tailings

Secondary Tailings

Intermediate Dam

Original Tailings

Waste Rock Dumps

North Fork Rose Creek

Rose Creek
Diversion Channel

Secondary Dam

Original Dam

500 0 500

SCALE 1:20,000 METRES

LEGEND

- Pit
- Tailings
- Pond
- Diversion

NOTE

Refer to Figures 3-1 and 3-2 for Down Valley Tailings Containment instrument location details.

REFERENCE

Ortho-image obtained from Google © 2007 Data SIO, NOAA, U.S. Navy, NGA, GEBCO Image © 2011 DigitalGlobe.
Projection: UTM Zone 8 Datum: NAD 83

PROJECT
DENISON ENVIRONMENTAL SERVICES
FARO MINE COMPLEX
YUKON

TITLE
GENERAL ARRANGEMENT PLAN

Golder Associates
Greater Vancouver Office, B.C.

PROJECT No. 10-1427-0032			PHASE No. 2000	
DESIGN	WJP	08FEB11	SCALE AS SHOWN	REV. 0
GIS	AL	08FEB11		
CHECK	WJP	28FEB11		
REVIEW	JAH	28FEB11		

FIGURE 2-1

3.0 SITE DATA RESULTS

This section provides a summary of the historical (pre-2010) and current (2010) site data as gathered and tabulated by DES from seventy-seven (77) survey, instrumentation and/or monitoring locations, as follows:

- Four (4) tailings pond water levels;
- Six (6) staff gauge water levels and three (3) in-stream flow monitoring locations for interpreted channel flow conditions;
- Four (4) weir water levels and interpreted channel flow conditions;
- Twenty-three (23) standpipe piezometers;
- Sixteen (16) pneumatic piezometers;
- Fourteen (14) slope inclinometer; and
- Seven (7) thermistors.

A summary of each type of survey or instrument measurement and current results relative to historic results, where available, is provided below. Additional geotechnical comments and recommendations as pertaining to the site data review are summarized in Section 4. The site data reviewed by Golder for this annual reporting is summarized by DES and reported in Appendix H of DES (2011).

3.1 Water Levels

Water level readings obtained at the North Fork Rock Drain, Intermediate Pond and Polishing Pond are summarized on Table 3-1.

Table 3-1: Water Level Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Max	Min	Max	Min	
NF-1	North Fork Rock Drain, Upstream	n/a	n/a	1091.87	1088.97	New water levels
NF-2	North Fork Rock Drain, Downstream	n/a	n/a	1086.66	1085.76	New water levels
IP	Intermediate Pond Level	1047.28	1045.48	1045.20	1043.55	Pump down target 1043 m
PP	Polishing Pond Level	1030.25	1026.96	1028.36	1027.06	Pump down target 1027 m

Note: all units in meters.

DES commenced water level readings upstream and downstream of the North Fork Rock Drain (NFRD) in 2010. The current water levels indicate a change in flow through the NFRD which has water levels that range between about 6.1 m and 2.3 m. As this is the first year of water level readings at the NFRD, there is no historical data to compare the current results.

The historic and current water levels in the Intermediate Pond range between about 1.8 m and 1.7 m, respectively. DES has drawn the Intermediate Pond water level down to a target elevation of about 1043 m prior to winter shut down during the last two operating seasons in 2009 and 2010.

The historic and current water levels in the Polishing Pond range between about 3.3 m and 1.3 m, respectively. DES has drawn the Polishing Pond water level down to a target elevation of about 1027 m prior to winter shut down during the last two operating seasons in 2009 and 2010.

3.2 Staff Gauges and In-Stream Flow Monitoring

Historic and current peak flow conditions as summarized from six (6) staff gauge and three (3) in-stream flow monitoring locations including four (4) locations along the Faro Creek Diversion Channel (FCDC), three (3) locations along the North Fork of Rose Creek (NFRC) and two (2) other channel locations, including Rose Creek Diversion Channel (RCDC) and North Wall Interceptor Ditch (NWID), are summarized on Table 3-2.

Table 3-2: Staff Gauge and Flow Monitoring Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Max	Min	Max	Min	
Staff Gauge Locations						
FCD-1	Faro Creek Diversion Channel	2213	76	430	69	Low flow conditions, within acceptable limits
FCD-2	Faro Creek Diversion Channel	6178	15	264	7	Low flow conditions, within acceptable limits
FCD-3	Faro Creek Diversion Channel	n/a	n/a	129	47	Historic flows not available
FCD-4	Faro Creek Diversion Channel	n/a	n/a	151	47	Historic flows not available
NFRC-23	North Fork of Rose Creek	$8x10^3$	$1x10^3$	318	0	Low flow conditions, within acceptable limits
RCSG4	Rose Creek Diversion Channel	$38x10^3$	$10x10^3$	2248	1858	Low flow conditions, within acceptable limits
In-stream Flow Monitor Locations						
NF2	North Fork of Rose Creek	1275	909	2713	613	Peak flow exceed historic conditions
X2	North Fork of Rose Creek	757	595	1538	207	Peak flow exceed historic conditions
NWID	North Wall Interceptor Ditch	32	3	5	1	Low flow conditions, within acceptable limits

Notes: all units in litres/second.

The current flow conditions in the FCDC range between a maximum flow of between about 430 to 130 litres/sec and a minimum flow of about 70 to less than 10 litres/sec. Historic data was not available for FCD-3 and FCD-4. Based on limited historical records, the current low flow conditions in the FCDC are considered to be within acceptable limits.

The current flow conditions in the NFRC include in-stream flow monitoring at NF2 and X2 range between about 2700 litres/sec and 200 litres/sec, while staff gauge readings at NFRC-23 indicate flow conditions range between about 320 litres/sec and 0 litres/sec. Based on historical staff gauge records at NFRC-23, the current low flow conditions in the NFDC are considered to be within acceptable limits. Additional in-stream flow monitoring is required to assess the flow conditions at NF2 and X2.

The current flow conditions in the RCDC range between about 2200 litres/sec and 1800 litres/sec. Based on historical records, the current low flow conditions in the RCDC are considered to be within acceptable limits.

The current in-stream flow monitoring conditions in the NWID are less than 5 litres/sec. Based on historical records, the low flow conditions in the NWID are considered to be within acceptable limits.

3.3 Weirs

Historic and current peak flow conditions as summarized from weir readings obtained at four (4) locations downstream of the Cross Valley Dam (and tailings facility) are summarized on Table 3-3.

The observed channel flow conditions in 2010 indicate there was an increase in maximum flow conditions at Weirs X11 and X13, while a decrease in channel flow conditions at Weirs X12 and 3, relative to historic channel flow conditions downstream of the Cross Valley Dam.

Table 3-3: Weir Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Max	Min	Max	Min	
X11	Downstream of Cross Valley Dam	15.6	6.1	20.9	3.8	Increased flow conditions
X12	Downstream of Cross Valley Dam	1.0	0.2	0.4	0.1	Reduced flow conditions
Weir 3	Downstream of Cross Valley Dam	7.1	1.7	3.3	1.7	Reduced flow conditions
X13	Downstream of Cross Valley Dam	30.4	16.6	43.9	10.1	Increased flow conditions

Note: all units in litres/second.

3.4 Standpipe Piezometers

Water levels obtained at a total of twenty-three (23) standpipe piezometer locations, including seven (7) locations on the Cross Valley Dam (CVD), nine (9) locations on the Intermediate Dam (ID) and seven (7) locations on the Secondary Dam (SD) are summarized on Table 3-4.

The seven CVD standpipe piezometers include four (4) dam crest and three (3) dam toe locations. Three of four dam crest piezometers include shallow and deep tip nested standpipe piezometers. Similarly, the nine ID standpipe piezometers include five (5) dam crest and four (4) dam toe locations. Three of four dam toe piezometers include one shallow, two mid-depth and one deep tip nested standpipe piezometers. The seven SD standpipe piezometers include four (4) dam crest and three (3) located within the secondary tailings pond.

In general, most 2010 CVD standpipe piezometer water levels, except at CVDC-7, are plotting within the current range of historical water levels with constant to downward trending water level conditions. Similarly, most 2010 ID standpipe piezometer water levels, except at BH96-4, are plotting within the current range of historical water levels, with constant to downward trending water level conditions. There is no evidence to state why the above two instruments recorded spring conditions greater than normal in 2010. Three (3) ID standpipe piezometers (BH94-IDC-1, BKS04-06 and BKS04-07) are dry to the bottom of each installation. Most 2010 SD standpipe piezometer water levels, except at P03-01, are plotting within the current range of historical water levels, with constant to downward trending water level conditions. There are no current water level readings for P03-04.

Table 3-4: Standpipe Piezometer Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Max	Min	Max	Min	
CVDC-4	Cross Valley Dam, dam crest, shallow tip Cross Valley Dam, dam crest, deep tip	1018.44 1019.05	1016.86 1016.72	n/a 1018.88	n/a 1018.53	Plotting within current range, level trend
CVDC-7	Cross Valley Dam, dam crest, shallow tip Cross Valley Dam, dam crest, deep tip	1015.98 1019.21	1015.23 1017.19	1017.74 1015.33	1017.40 1015.27	Plotting outside current range, level trend
94 CVDC-1	Cross Valley Dam, dam crest	1024.58	1022.75	1023.29	1022.81	Plotting within current range, trending down
CVDT-1	Cross Valley Dam, dam toe	1018.31	1017.82	1017.93	1017.82	Plotting within current range, level trend
CVDT-2	Cross Valley Dam, dam toe	1016.23	1015.43	1015.68	1015.54	Plotting within current range, level trend
CVDC-9	Cross Valley Dam, dam crest, shallow tip Cross Valley Dam, dam crest, deep tip	1021.68 1024.19	1020.16 1022.63	1020.82 1023.67	1020.39 1023.64	Plotting within current range, trending down
CVDP01-11	Cross Valley Dam, dam toe	1017.37	1016.79	1016.95	1016.65	Plotting within current range, level trend
P01-3	Intermediate Dam, dam toe	1030.43	1027.75	1029.36	1027.74	Plotting within current range, trending down
P01-4A P01-4B	Intermediate Dam, dam toe, shallow tip Intermediate Dam, dam toe, deep tip	1032.09 1032.17	1029.92 1029.06	1031.18 1030.72	1029.27 1029.82	Plotting within current range, trending down
BH96-1	Intermediate Dam, dam crest	1030.14	1028.01	1029.24	1027.63	Plotting within current range, level trend
BH96-2	Intermediate Dam, dam crest	1030.33	1028.44	1029.67	1028.91	Plotting within current range, trending down
BH96-3A BH96-3B	Intermediate Dam, dam toe, shallow tip Intermediate Dam, dam toe, deep tip	1029.98 1030.06	1027.37 1027.48	1029.18 1029.22	1026.62 1028.31	Plotting within current range, trending down
BH96-4A BH96-4B BH96-4C BH96-4D	Intermediate Dam, dam toe, shallow tip Intermediate Dam, dam toe, mid-hi tip Intermediate Dam, dam toe, mid-low tip Intermediate Dam, dam toe, deep tip	1029.96 1029.94 1029.96 1030.06	1028.08 1028.39 1027.74 1027.73	1033.11 1032.16 1033.07 1029.38	1033.11 1032.16 1033.07 1027.76	Plotting outside current range, level trend, constant current values for upper three tips
BH94-IDC-1	Intermediate Dam, dam crest	dry	Dry	dry	dry	Dry at bottom of hole
BKSO4-06	Intermediate Dam, dam crest	dry	Dry	dry	dry	Dry at bottom of hole
BKSO4-07	Intermediate Dam, dam crest	dry	Dry	dry	dry	Dry at bottom of hole
P81-06	Secondary Dam, dam crest	1054.74	1054.71	1054.73	1054.72	Plotting within current range, level trend
P81-07	Secondary Dam, dam crest	1057.18	1057.17	1057.18	1057.16	Plotting within current range, level trend
P81-08	Secondary Dam, dam crest	1055.81	1055.80	1055.81	1055.79	Plotting within current range, level trend
P03-01	Secondary Dam, within tailings pond	1055.25	1054.54	1059.30	1054.70	Plotting outside current range, level trend
P03-02	Secondary Dam, within tailings pond	1058.35	1053.72	1054.60	1054.43	Plotting within current range, level trend
P03-03	Secondary Dam, within tailings pond	1060.27	1054.54	1054.59	1054.48	Plotting within current range, trending down
P03-04	Secondary Dam, dam crest	1059.55	1055.70	n/a	n/a	No current readings

Note: all units in meters.

3.5 Pneumatic Piezometers

Hydrostatic conditions obtained at a total of sixteen (16) pneumatic piezometer locations, including six (6) locations on the Diversion Canal Dyke (DCD) (as part of the Rose Creek Diversion Channel), five (5) Intermediate Dam locations and five (9) Cross Valley Dam locations, are summarized on Table 3-5.

Table 3-5: Pneumatic Piezometer Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Max	Min	Max	Min	
CD-13	Diversion Canal Dyke, shallow tip Diversion Canal Dyke, deep tip	1051.64 1051.07	1048.98 1048.20	1050.87 1050.30	1050.17 1049.81	Plotting within current range, trending down
CD-15	Diversion Canal Dyke, shallow tip Diversion Canal Dyke, deep tip	1051.25 1050.97	1048.10 1045.26	1049.49 1050.02	1048.45 1043.93	Plotting outside current range, level trend
CD-21	Diversion Canal Dyke, shallow tip Diversion Canal Dyke, deep tip	1052.26 1046.41	1048.13 1042.28	1048.55 n/a	1048.20 n/a	Plotting within current range, level trend
CD-26	Diversion Canal Dyke, shallow tip Diversion Canal Dyke, deep tip	1049.11 1043.61	1048.20 1042.21	1048.90 1042.91	1048.55 1042.35	Plotting outside current range, level trend
BGC05-02 BGC05-03	Diversion Canal Dyke, shallow tip Diversion Canal Dyke, deep tip	1046.75 1050.99	1045.21 1050.64	1046.54 1051.62	1044.72 1050.92	Plotting outside current range, level trend
BGC05-06	Diversion Canal Dyke, shallow tip Diversion Canal Dyke, deep tip	1046.99 1041.78	1046.78 1041.50	1047.62 1042.20	1046.85 1041.57	Plotting outside current range, level trend
BH91-ID3	Intermediate Dam, south abutment, shallow tip Intermediate Dam, south abutment, deep tip	1036.89 1034.50	1036.82 1030.93	1043.89 1034.15	1036.89 1030.79	Plotting outside current range, trending down
BH91-ID4	Intermediate Dam, dam toe, shallow tip Intermediate Dam, dam toe, deep tip	1030.66 1029.75	1028.28 1027.23	1035.91 1028.91	1028.91 1026.74	Plotting outside current range, trending down
BH91-ID5	Intermediate Dam, dam toe, shallow tip Intermediate Dam, dam toe, deep tip	1024.86 1017.43	1024.30 1017.08	1024.37 1017.36	1024.30 1017.08	Minimum water levels below tips
BH91-ID6	Intermediate Dam, dam toe, shallow tip Intermediate Dam, dam toe, deep tip	1029.35 1030.27	1027.18 1028.17	1040.90 1029.71	1027.11 1020.82	Plotting outside current range, trending down
BH91-ID7	Intermediate Dam, dam toe	1031.06	1029.17	1030.50	1028.96	Plotting within current range, trending down
CVDP-1	Cross Valley Dam, dam toe	1019.55	1017.38	1019.83	1018.36	Plotting outside current range, trending down
CVDP-2	Cross Valley Dam, dam toe	1019.44	1015.07	1018.50	1015.17	Plotting outside current range, trending down
CVDP-3	Cross Valley Dam, dam toe	1017.51	1016.88	1017.09	1016.95	Plotting outside current range, trending down
CVDP-5	Cross Valley Dam, dam toe	1021.21	1019.53	1022.05	1020.02	Plotting outside current range, trending down
CVDP-6	Cross Valley Dam, dam toe	1017.87	1017.38	1019.55	1017.59	Plotting outside current range, level trend

Note: all units in meters.

All of the DCD and four of five ID pneumatic piezometers are dual-tip installations, and all remaining pneumatic piezometers are single tip installations.

Only two (2) of six (6) 2010 DCD pneumatic piezometer levels are plotting within the current range of historical water levels, while the remaining four (4) pneumatic piezometers are plotting outside the current range of historical water levels, with constant to downward trending water level conditions. Similarly, most 2010 ID, except at BH91-ID7, and all CVD pneumatic piezometer water levels are plotting outside the current range of historical water levels, with constant to downward trending water level conditions. There is no evidence to state why the majority of the pneumatic piezometer instruments recorded spring conditions greater than normal in 2010. One (1) ID dual-tip pneumatic piezometer (BH91-ID5) is dry to the bottom of the installation.

3.6 Slope Inclinometers

DES completed instrumentation readings at fourteen (14) inclinometer locations along the Diversion Canal, including nine (9) dyke locations, two (2) spoil pile locations and three (3) back slope locations, as summarized in Table 3-6. However, the current field data is not converted to depth and displacement formats for geotechnical review.

Based on previous reporting, most 2009 inclinometer results were indicating negligible to no movement along the Diversion Canal with minor movements occurring at three (3) locations (CD-21, 94CD-1 and SP-8).

Table 3-6: Slope Inclinometer Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Depth	Displace	Depth	Displace	
CD-10	Diversion Canal Dyke	< -5.0	n/a	n/a	n/a	No movement in 2009.
CD-15	Diversion Canal Dyke	n/a	n/a	n/a	n/a	Negligible movement in 2009.
91CD-1	Diversion Canal Dyke	n/a	n/a	n/a	n/a	Negligible movement in 2009.
CD-19	Diversion Canal Dyke	n/a	n/a	n/a	n/a	Negligible movement in 2009.
CD-21	Diversion Canal Dyke	< -2.0	n/a	n/a	n/a	Minor movement in 2009.
BGC01-01	Diversion Canal Dyke	n/a	n/a	n/a	n/a	Negligible movement in 2009.
94CD-1	Diversion Canal Dyke	< -2.0	n/a	n/a	n/a	Minor movement in 2009.
BGC05-05	Diversion Canal Dyke	n/a	n/a	n/a	n/a	Negligible movement in 2009.
BGC05-08	Diversion Canal Dyke	n/a	n/a	n/a	n/a	Negligible movement in 2009.
SP-2	Diversion Canal Spoil Pile	< -2.0	n/a	n/a	n/a	Minor movement in 2009.
SP-8	Diversion Canal Spoil Pile	-6.7 < -2.0	n/a n/a	n/a	n/a	Minor movements at depth and near surface in 2009.
BS-5	Diversion Canal Back Slope	n/a	n/a	n/a	n/a	No movement since 2004.
BS-9	Diversion Canal Back Slope	n/a	n/a	n/a	n/a	No movement since 2004.
BS-10	Diversion Canal Back Slope	n/a	n/a	n/a	n/a	No results in 2009.

Notes: Field data provided by DES was not reduced to depth and displacement formats for geotechnical review.
All depth and displacement units in meters, respectively, where reported.

3.7 Thermistors

Thermal ground conditions are being monitored at a total of seven (7) thermistor locations, including five (5) locations on the Diversion Canal Dyke (DCD) (as part of the Rose Creek Diversion Channel) and two (2) Cross Valley Dam locations. The estimated ground temperatures as reported in late summer season to determine the season ground thaw conditions, typically referred as the active layer, and thermal conditions to the bottom of each installation for historical and current conditions are summarized on Table 3-7.

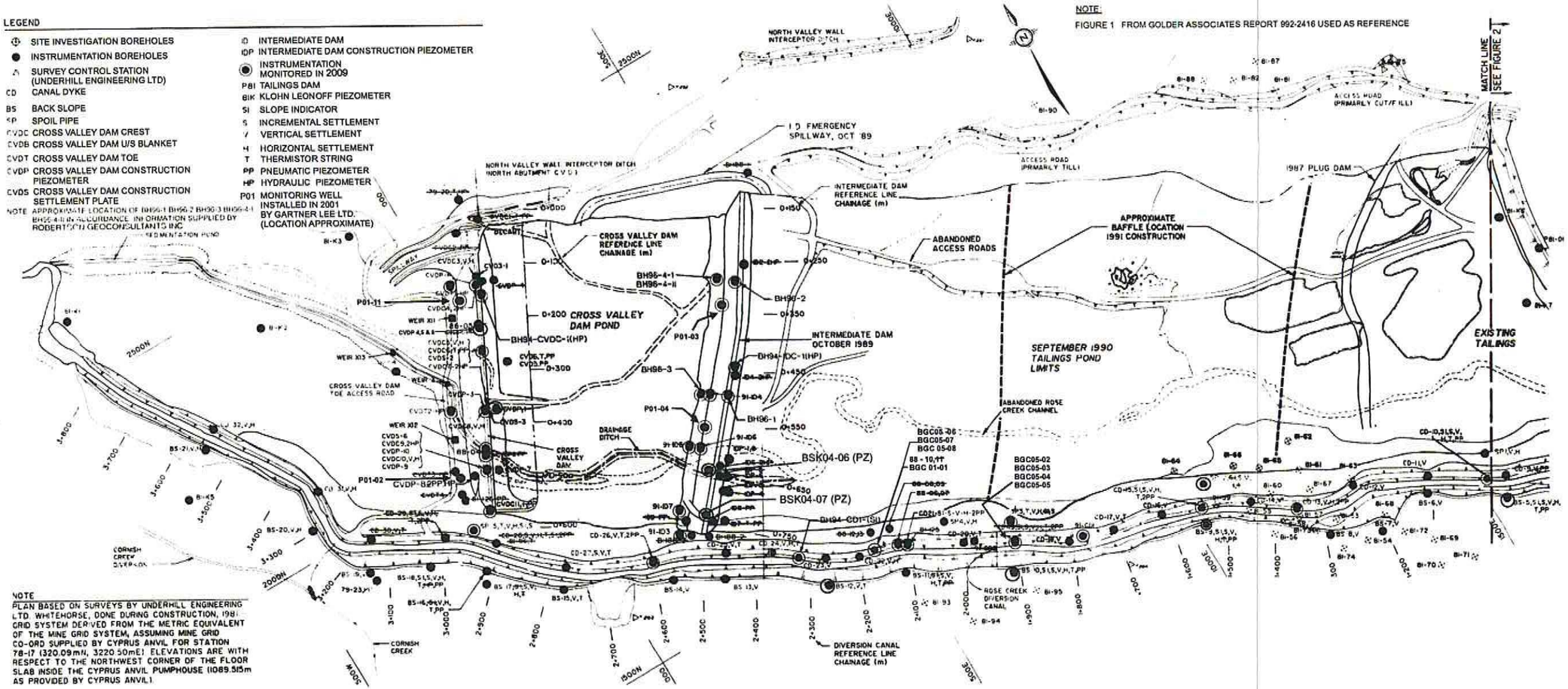
Table 3-7: Thermistor Summary

NAME	LOCATION	HISTORICAL		CURRENT		COMMENTS
		Depth	Temp	Depth	Temp	
SP-3	Diversion Canal Spoil Pile, thaw depth Diversion Canal Spoil Pile, bottom of hole	-4.1 -10.1	-0.02 -1.36	-6.1 -10.1	0.58 -2.27	Seasonal active layer increasing, warming trend to bottom of hole
SP-5	Diversion Canal Spoil Pile, thaw depth Diversion Canal Spoil Pile, bottom of hole	-7.1 -10.1	-0.94 -0.63	-7.1 -10.1	-0.25 1.19	Seasonal active layer increasing, warming trend to bottom of hole
BH88-4	Cross Valley Dam, thaw depth Cross Valley Dam, bottom of hole	-4.2 -4.2	6.74 6.74	-4.2 -4.2	3.57 3.57	Seasonal active layer below bottom of hole
CVDC-6	Cross Valley Dam, thaw depth Cross Valley Dam, bottom of hole	-15.0 -27.0	0.63 1.06	-27.0 -27.0	2.52 2.52	Seasonal active layer below bottom of hole
CD-15	Diversion Canal Dyke, thaw depth Diversion Canal Dyke, bottom of hole	-10.1 -9.1	-0.56 1.61	-9.1 -9.1	-0.12 -0.12	Seasonal active layer increasing, warming trend to bottom of hole
CD-21	Diversion Canal Dyke, thaw depth Diversion Canal Dyke, bottom of hole	-8.0 -13.0	-0.22 -0.56	-13.0 -13.0	1.80 1.80	Seasonal active layer increasing, warming trend below bottom of hole
CD-26	Diversion Canal Dyke, thaw depth Diversion Canal Dyke, bottom of hole	-9.6 -9.6	1.37 2.04	-9.6 -9.6	0.71 0.71	Seasonal active layer increasing, warming trend below bottom of hole

Note: all depth and ground temperature units in meters and degrees Celsius, respectively.

The depth of thermal ground monitoring conducted in 2010 at the 7 locations ranges between about 5 m and 27 m below existing ground surface and typically less than 10 m below existing ground surface.

In general, most thermistor results identify warm ground conditions in late summer and/or year round to the bottom of each installation, except at SP-3 and CD-15 where sub-zero thermal ground conditions are reported about 9 to 10 m below existing ground surface. Historically, the depth of seasonal thaw has increased with time and most thermistor installations are warm year-round at the bottom of each installation for the periods or times of the monitoring events.



REFERENCES

1. ORIGINAL DRAWING BY BGC ENGINEERING INC.
   PROJECT: 0762-002-05, FIGURE 2
   DATED: FEB. 2010

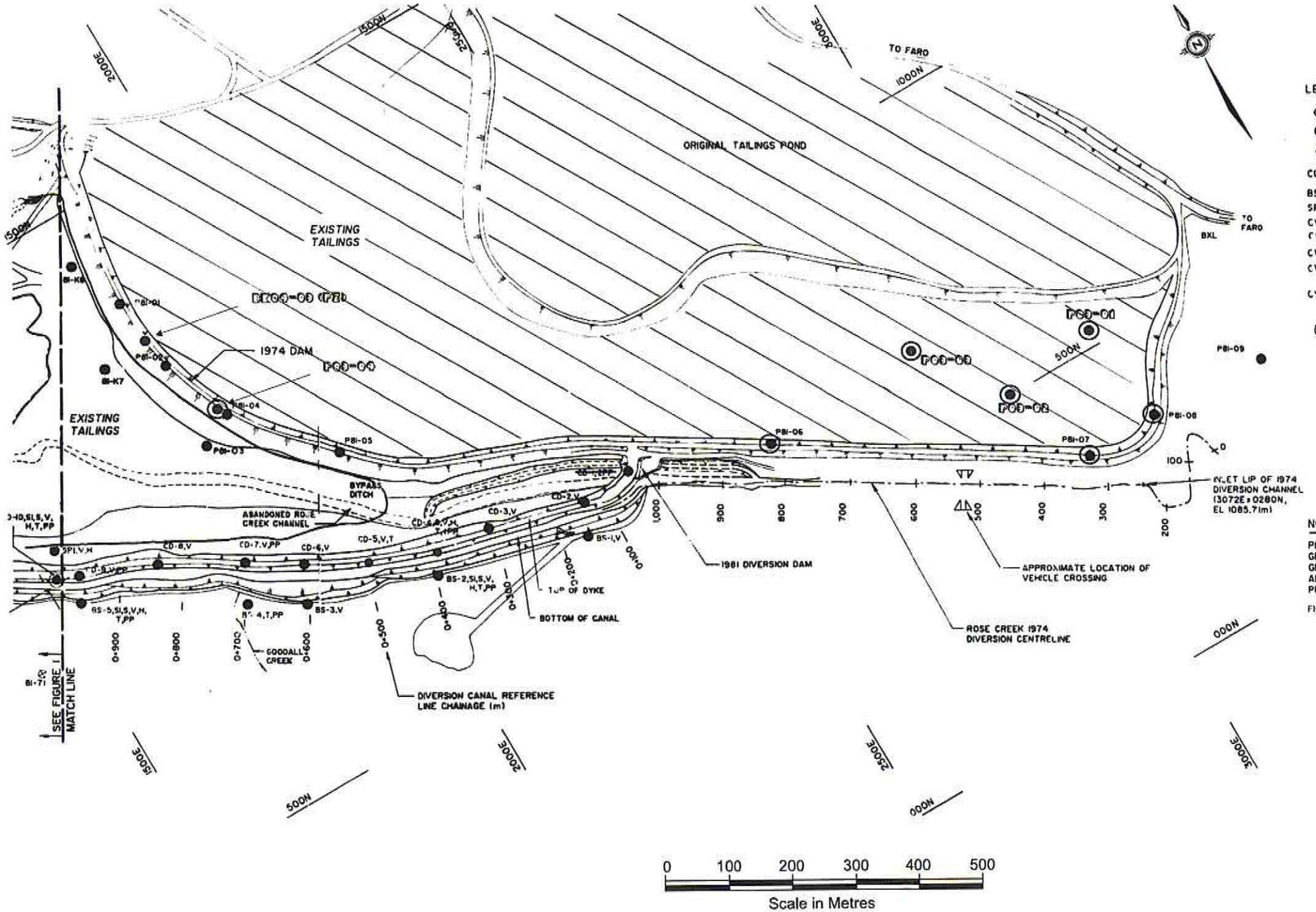
PROJECT: DENISON ENVIRONMENTAL SERVICES
FARO MINE COMPLEX
YUKON

TITLE: DOWN VALLEY TAILINGS CONTAINMENT INSTRUMENT LOCATIONS 1 OF 2

Golder Associates

PROJECT No.	10-1427-0032	PHASE No. 1000		
DESIGN	WJP	04FEB11	SCALE NTS	REV.
CADD	GG	04FEB11		
CHECK	WJP	28FEB11	FIGURE 3-1	
REVIEW	JAH	28FEB11		

DRAWING DATE: 04-Feb-11 COREL FILE: N:\Bur-Graphics\Projects\2010\1427\10-1427-0032\Drafting\1000\101427003 2-1000-01.cdr



LEGEND

- SITE INVESTIGATION BOREHOLES
- INSTRUMENTATION BOREHOLES
- SURVEY CONTROL STATION (UNDERHILL ENGINEERING LTD)
- CD CANAL DYKE
- BS BACK SLOPE
- SP SPOIL PIPE
- CVDC CROSS VALLEY DAM CREST
- CVDB CROSS VALLEY DAM U/S BLANKET
- CVDT CROSS VALLEY DAM TOE
- CVDP CROSS VALLEY DAM CONSTRUCTION PIEZOMETER
- CVDS CROSS VALLEY DAM CONSTRUCTION SETTLEMENT PLATE
- INSTRUMENTATION MONITORED IN 2009
- ID INTERMEDIATE DAM
- IDP INTERMEDIATE DAM CONSTRUCTION PIEZOMETER
- PBI TAILINGS DAM
- BIK KLOHN LEONOFF PIEZOMETER
- SI SLOPE INDICATOR
- S INCREMENTAL SETTLEMENT
- V VERTICAL SETTLEMENT
- H HORIZONTAL SETTLEMENT
- T THERMISTOR STRING
- PP PNEUMATIC PIEZOMETER
- HP HYDRAULIC PIEZOMETER
- P01 MONITORING WELL INSTALLED IN 2001 BY GARTNER LEE LTD. (LOCATION APPROXIMATE)
- P03 MONITORING WELL INSTALLED IN 2003 BY GARTNER LEE LTD. (LOCATION APPROXIMATE)

NOTE

PLAN BASED ON SURVEYS BY UNDERHILL ENGINEERING LTD. WHITEHORSE, DONE DURING CONSTRUCTION, 1981. GRID SYSTEM DERIVED FROM THE METRIC EQUIVALENT OF THE MINE GRID SYSTEM, ASSUMING MINE GRID CO-ORD SUPPLIED BY CYPRUS ANVIL FOR STATION 78-17 (320.09mN, 3220.50mE). ELEVATIONS ARE WITH RESPECT TO THE NORTHWEST CORNER OF THE FLOOR SLAB INSIDE THE CYPRUS ANVIL PUMPHOUSE (1089.515m AS PROVODED BY CYPRUS ANVIL).

FIGURE 2 FROM GOLDER ASSOCIATES REPORT 992-2416 USED AS REFERENCE

REFERENCES

1. ORIGINAL DRAWING BY BGC ENGINEERING INC.
   PROJECT: 0762-002-05, FIGURE 3
   DATED: FEB. 2010

PROJECT
DENISON ENVIRONMENTAL SERVICES
FARO MINE COMPLEX
YUKON

TITLE
DOWN VALLEY TAILINGS CONTAINMENT INSTRUMENT LOCATIONS 2 OF 2

Golder Associates

PROJECT No. 10-1427-0032			PHASE No. 1000		
DESIGN	WJP	04FEB11	SCALE NTS		REV.
CADD	GG	04FEB11			
CHECK	WJP	28FEB11			
REVIEW	JAH	28FEB11			

FIGURE 3-2

DRAWING DATE: 04-Feb-11 COREL FILE: N:\Bur-Graphics\Projects\2010\1427\10-1427-0032\Drafting\1000\10142700032-1000-01.cdr

4.0 GEOTECHNICAL COMMENTS AND RECOMMENDATIONS

Based on the results of the fall dam inspection, data review and client discussions, our geotechnical comments and recommendations are summarized as follows:

4.1 General Comments

- In general, the Faro Mine Complex tailings management and water management infrastructure which are covered by this inspection effort including tailings dams and diversion channels are considered geotechnically stable and are performing satisfactorily during the current low storage impoundment and low creek and diversion channel flow conditions.

4.2 Secondary Dam

- In general, the Secondary Dam and Secondary Tailings Pond standpipe piezometer water levels indicate that the current water level results are plotting within the historic range and the water levels are consistently level or are on a downward trend based on the historical data. Water levels at P03-01 experienced one current reading outside the historical range, current water levels at P03-02 remain within the historic range after a slight drop in 2009, and there are no current water level readings at P03-04.
- It is recommended that DES should continue to monitor all of the Secondary Dam piezometers.

4.3 Intermediate Dam

- The Intermediate Pond water level upstream of the Intermediate Dam was drawn down by DES to a target level of 1043 m, which is about 2 m below historic low water level conditions. The lower operating water level conditions in the Intermediate Pond should improve the long term stability and performance of the Intermediate Dam.
- The current operating impoundment water level conditions upstream of the Intermediate Dam and Cross Valley Dam should be monitored for potential soil erosion of the upstream shell material below rip rap surface and rip rap degradation if the new operating water levels are to be maintained.
- It is recommended that the soil erosion conditions observed on the downstream slope of the Intermediate Dam should be assessed by an experienced geotechnical engineer. The soil erosion conditions should continue to be monitored for potential further erosion, slope creep and/or possible slope instability. The work to regrade the observed unstable soil conditions on the downstream slope of the Intermediate Dam should be reviewed by the Engineer of Record and consideration should be given to addressing the observed instability conditions within the next few years. As part of the geotechnical review of the Intermediate Dam conditions, it is recommended that short term and long term dam remediation measures are identified. As input for further geotechnical evaluation of the Intermediate Dam downstream slope conditions, the following items should be considered:
    - The actual cause of the instabilities can not be determined without further geotechnical testing and analysis.

- In the short term, consideration should be given to delineate the extent of the existing soil erosion conditions now and monitor the downstream slope for any potential change in slope conditions through next spring and summer.
- DES should continue to monitor the collection of unstable sediment deposition conditions overlying the existing drainage measures on the lower bench of the Intermediate Dam.

- Based on available site data information, the majority of current standpipe and pneumatic piezometer results at the Intermediate Dam indicate that the current results are plotting within level to downward trending historical conditions. However, most of spring time pneumatic piezometer results plotted well above the historical conditions. In general, DES should continue to monitor the Intermediate Dam piezometers. Subject to YGEMR direction, DES should consider discontinuing the monitoring of three (3) Intermediate Dam standpipe piezometers (BH94-IDC-1, BKS04-06 and BKS04-07) after a reasonable time period of consistent dry response.

4.4 Cross Valley Dam

- The Cross Valley Pond water level upstream of the Cross Valley Dam was drawn down by DES to a target level of 1027 m, which is consistent with the historic low water level conditions. It is desirable to maintain low operating water level conditions in the Cross Valley Pond to improve the long term stability and performance of the Cross Valley Dam.
- It is recommended that the longitudinal tension cracks observed on the crest of the Cross Valley Dam should continue to be monitored and re-grading of the granular surface is carried out during seasonably warm conditions to minimize surface water infiltration.
- Based on available site data information, the majority of current standpipe and pneumatic piezometer results at the Cross Valley Dam indicate that the current results are plotting within level to downward trending historical conditions. However, all of spring time pneumatic piezometer results plotted well above the historical conditions. DES should continue to monitor all of the Cross Valley Dam piezometers.
- Based on available site data information, the thermistor results at the two Cross Valley Dam locations indicate that the thermal ground conditions remain warm to the bottom of the monitoring depths at both locations. Subject to YGEMR direction, DES should consider discontinuing the monitoring the Cross Valley Dam thermistors after a reasonable time period of consistent seasonally warm response.

4.5 Channels and Creeks

- In general, the rock armour and lined channel conditions observed in the Rose Creek and the Faro Creek Diversion Channels appear stable and are performing satisfactorily. It is recommended that visual monitoring for any change in rip rap and / or seepage loss conditions are recorded and instrumentation monitoring activities are continued.
- Based on draft pit slope assessment results as summarized in Golder (2010a), it is understood that ongoing performance of the Faro Creek Diversion Channel (FCDC) is subject to the long term stability of the Faro Pit East Wall. During the last 10 years of pit slope inspections carried out by Golder, some seepage and erosion is observed at the overburden-bedrock interface. It is concluded that the undermining of the FCDC appears to be progressing at a very slow to negligible rate.
- The vegetation removal activities, which were underway within the Rose Creek Diversion Channel, appear reasonable and should be carried out to the end of the channel. It is understood that the vegetation removal activities were completed by DES in 2010.
- The sedimentation and ponded channel conditions observed in the upper portion of the North Wall Interceptor Ditch should continue to be monitored. Consideration should be given to address the erosion conditions that are developing along the new fresh water supply access road which crosses the NWID, such as ditch lining and/or rip rap protection to limit further sedimentation degradation of the diversion channel. Furthermore, the observed ponded water conditions should be monitored as there is evidence of toe erosion occurring along the channel side slopes, which may require regrading of the drainage channel gradient in the upper channel portion.
- The middle and lower portions of the NWID are becoming overgrown with vegetation which should be monitored for channel flow obstructions and repaired, if required.
- Based on available site data information, the pneumatic piezometer results at the Diversion Canal Dyke indicate that the current results are plotting within level to downward trending historical conditions. However, most of spring time pneumatic piezometer results plotted well above the historical conditions. DES should continue to monitor all of the Diversion Canal Dyke piezometers.
- DES was unable to provide Golder with current reduced inclinometer data from the Diversion Canal Dyke, Spoil Pipe and Back Slope locations for geotechnical review. Based on historic data results, it appears that most of the ground conditions have stabilized with negligible to no reported ground movements. Subject to YGEMR direction, DES should consider discontinuing the monitoring of all of the Diversion Canal Dyke inclinometers after a reasonable time period of consistent inactivity.
- Based on available site data information, the thermistor results along the Diversion Canal Dyke, Spoil Pipe and Back Slope locations indicate that the thermal ground conditions remain warm to the bottom of the monitoring depths at most locations, except at SP-3 and CD-15 where sub-zero thermal ground conditions are reported about 9 to 10 m below existing ground surface. Subject to YGEMR direction, DES should consider discontinuing the monitoring of all of the Diversion Canal Dyke thermistors after a reasonable time period of consistent seasonally warm response.

4.6 Summary Comments

- It is recommended that DES continue to monitor the structures by way of visual inspections and collection of instrumentation readings on a regular basis and in accordance with the current monitoring schedule.
- It is recommended that the upstream slope, head pond and downstream drainage conditions are monitored at the Faro Creek and K8 Creek Rock Drains locations for potential change in embankment slope erosion, blocked and/or changed drainage conditions are observed.
- It is recommended that an inspection of the Faro Mine Complex infrastructure including tailings dams and diversion channels, should be carried out next spring by a geotechnical engineer to assess the geotechnical performance of the structures during the annual seasonally high flow and runoff conditions.
- As a long term measure, it is recommended that a geotechnical review of the Intermediate Dam should be carried out as input to the care and maintenance operating conditions and annual monitoring program for this structure.

The above information is based on our site observations and client discussions during the September 2010 dam inspection and data review of the information provided by DES.

5.0 CLOSURE

We trust that the above information is sufficient for your present needs. We would be please to review the result of our site inspection with your project team at your convenience. Should you have any questions or require additional information, please do not hesitate to contact us.

Yours very truly,

GOLDER ASSOCIATES LTD.

PROFESSIONAL ENGINEER YUKON W.J. (BILL) PURDY TERRITORY

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Associate, Geotechnical Engineer

John A. Hull, P.Eng. (YT)
Principal, Mining Division

WJP/JAH/ja

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APPENDIX A

Table A-1: Faro Mine Complex, Geotechnical Dam Inspection Summary, September 2010

Golder Associates

Table A-1: Faro Mine Complex, Geotechnical Dam Inspection Summary, September 2010

Structure	Description	Observations	Recommendations
Rose Creek Diversion Channel (RCDC)	■ Diverts creek channel flow around south side of tailings impoundment area. ■ Approximately 3,800 m long with relatively flat to moderate stream channel gradients.	■ Seasonally, low flow conditions. ■ Stable channel and side slope conditions. ■ Satisfactory rock armour conditions. ■ Channel vegetation removal operations in progress and satisfactory. ■ Minor seepage apparent from RCDC at base of spoil piles into CVD Polishing Pond.	■ Complete vegetation removal activities. ■ Document seepage locations from RCDC into tailings impoundment area after fresh snow fall conditions. ■ Continue to monitor instrumentation. ■ Conduct geotechnical inspection of RCDC next spring during peak flow conditions.
North Valley Wall Interceptor Ditch (NVWID)	■ Diverts creek channel flow from north side of valley around tailings impoundment area. ■ Approximately 3,000 m long with relatively flat stream channel gradients in upper channel portion.	■ Seasonally, low flow conditions. ■ Stable channel and side slope conditions. ■ Sedimentation developing down gradient from well access road crossing. ■ Ponded water in upper channel portion due to varied channel gradients. ■ Moderate vegetation growth in central to lower channel portion. ■ Unable to view lower channel portion.	■ Monitor channel sedimentation conditions down gradient from well access road crossing. ■ Review channel gradients to limit side slope erosion from ponding conditions. ■ Monitor channel vegetation conditions in lower portion, may require thinning or removal if stream flow is compromised.
Intermediate Dam (ID)	■ Internal tailings dam, retains tailings, supernatant water and run-off water. ■ Crest approximately 650 m long, 7 m wide and 32 m high. ■ Dam crest at El. 1049.2 m and spillway channel at El. 1047.7 m.	■ Stable crest, upstream slope and spillway channel conditions. ■ Impoundment water level operating below rip rap protection. ■ Downstream slope experiencing extensive surficial soil erosion, with no apparent movements of underlying downstream shell material.	■ Continue to monitor instrumentation. ■ Monitor upstream slope for potential soil erosion of upstream shell material below rip rap surface and rip rap degradation. ■ Delineate extent of existing soil erosion on downstream slope and monitor for potential change in slope conditions.

Table A-1 (cont'd): Faro Mine Complex, Geotechnical Dam Inspection Summary, September 2010

Structure	Description	Observations	Recommendations
Intermediate Dam (ID) (cont'd)		■ Sediment from downstream slope erosion is covering drainage measures on lower bench.	■ Monitor sediment deposition over drainage measures on lower bench. ■ Update geotechnical stability analysis based on current dam conditions, including resultant downstream slope and operating water levels.
Cross Valley Dam (CVD)	■ Polishing pond dam designed for 60 day retention capacity of seepage and discharge water from tailings storage facility. ■ Crest approximately 500 m long, 7 m wide and 17 m high. ■ Dam crest at El. 1033.1 m and spillway channel at El. 1031.7 m.	■ Stable crest, upstream and downstream slopes and spillway channel conditions. ■ Tension cracks evident on the dam crest. ■ Impoundment water level operating below rip rap protection.	■ Continue to monitor instrumentation. ■ Monitor tension cracks in dam crest. ■ Monitor upstream slope for potential soil erosion of upstream shell material below rip rap surface and rip rap degradation.
Secondary Tailings Impoundment (STI)	■ Perimeter tailings dam, retains tailings, supernatant water and run-off water. ■ Crest approximately 1120 m long, 6 m wide and 28 m high. ■ Dam crest varies from El. 1060.2 m to El. 1063.3 m.	■ Stable crest, upstream and downstream slopes conditions. ■ No evidence of seepage along the Secondary Dam downstream toe. ■ Lower road conditions are satisfactory.	■ Continue to monitor instrumentation.
Faro Creek Diversion Channel (FCDC)	■ Diverts creek channel flow from head waters north of the Faro Pit around the east side of the mine site.	■ Seasonally, low flow conditions. ■ Stable channel and side slope conditions. ■ Satisfactory rock armour and lined channel conditions.	■ Continue to monitor instrumentation. ■ Continue to monitor rip rap and lined channel conditions.

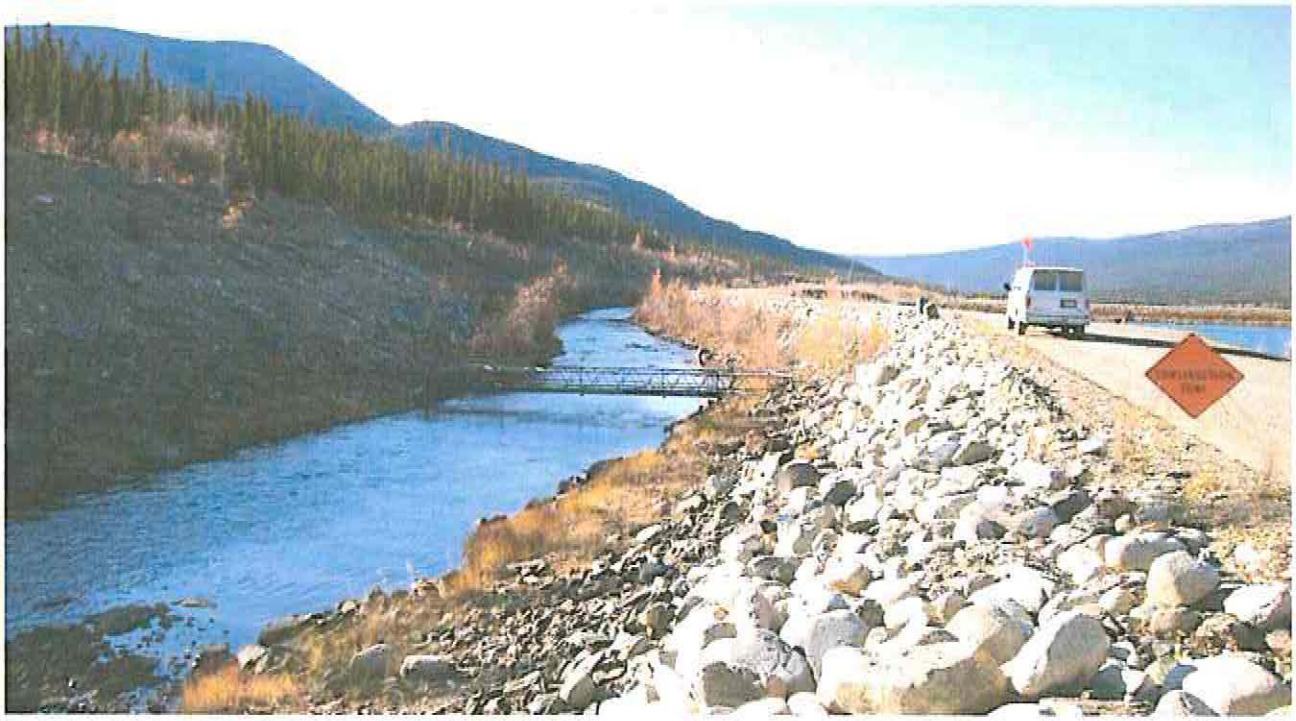
Table A-1 (cont'd): Faro Mine Complex, Geotechnical Dam Inspection Summary, September 2010

Structure	Description	Observations	Recommendations
Faro Creek Diversion Channel (FCDC) (cont'd)	■ Approximately 1,500 m long with relatively flat to moderate stream channel gradient conditions.	■ Minor seepage apparent at base of dyke from FCDC into valley above waste rock dumps.	■ Continue to monitor seepage conditions.
North Fork Rock Drain (NFRD)	■ Mine haul road stream crossing constructed from coarse waste rock fill and rock drain. ■ Embankment approximately 55 m high and 25 m crest width.	■ Seasonally, low flow conditions. ■ Stable crest and side slope conditions. ■ Head pond water level well below wood debris on slope. ■ Downstream drainage conditions acceptable with three drainage channels observed braiding to one channel downstream at water monitor and sample location.	■ Continue to monitor pond level and downstream flow conditions. ■ Continue to monitor instrumentation.
K8 Creek Rock Drain (K8CRD)	■ Mine haul road stream crossing constructed from coarse waste rock fill and rock drain. ■ Embankment approximately 55 m high and 25 m crest width.	■ Seasonally, low flow conditions. ■ Stable crest and side slope conditions. ■ Downstream drainage conditions acceptable.	■ Rock drain performance satisfactory. ■ Continue to monitor drainage performance.

APPENDIX B

Site Inspection Photographs B-01 to B-10

Golder Associates

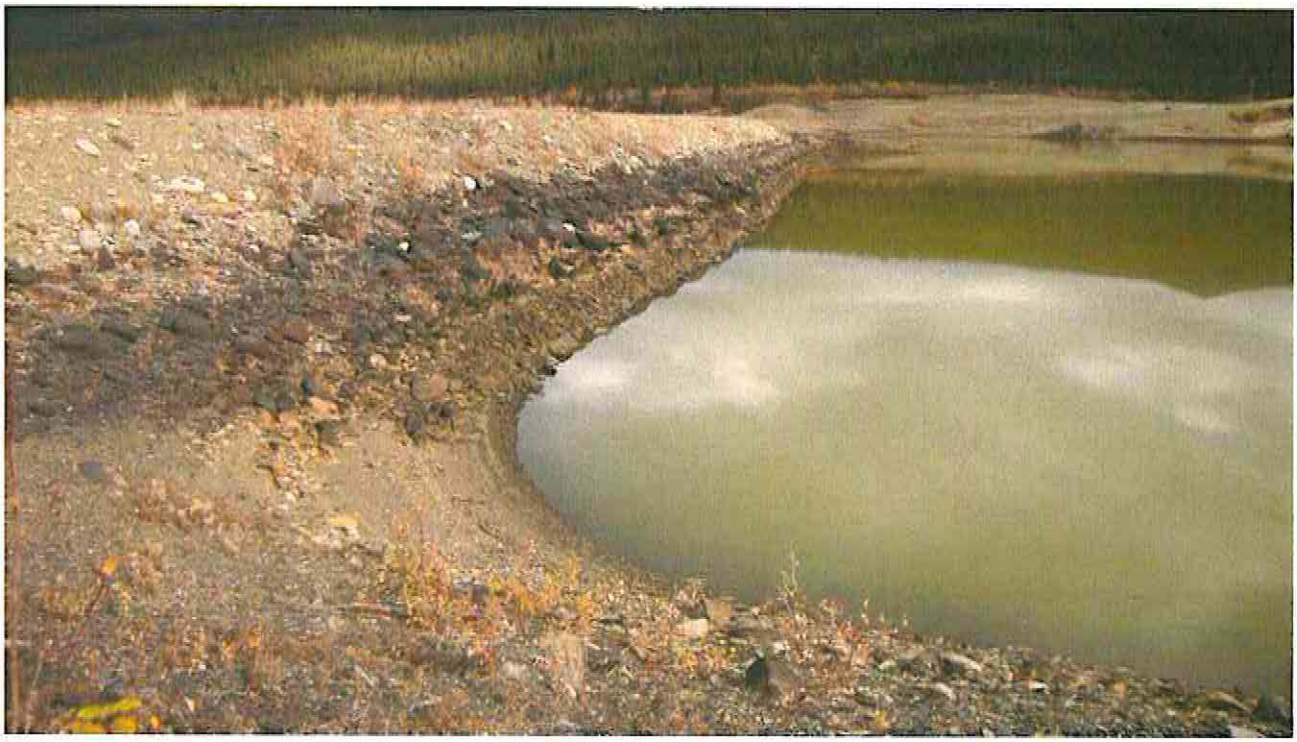


Photograph B-01: Vegetation removal progress near Stn. 2+500 of Rose Creek Diversion Channel

Photograph B-02: Sedimentation downstream of well access crossing of North Valley Wall Interceptor Ditch

Photograph B-03: Upstream drawdown operating conditions at Intermediate Dam

Photograph B-04: Downstream drawdown operating conditions at Intermediate Dam



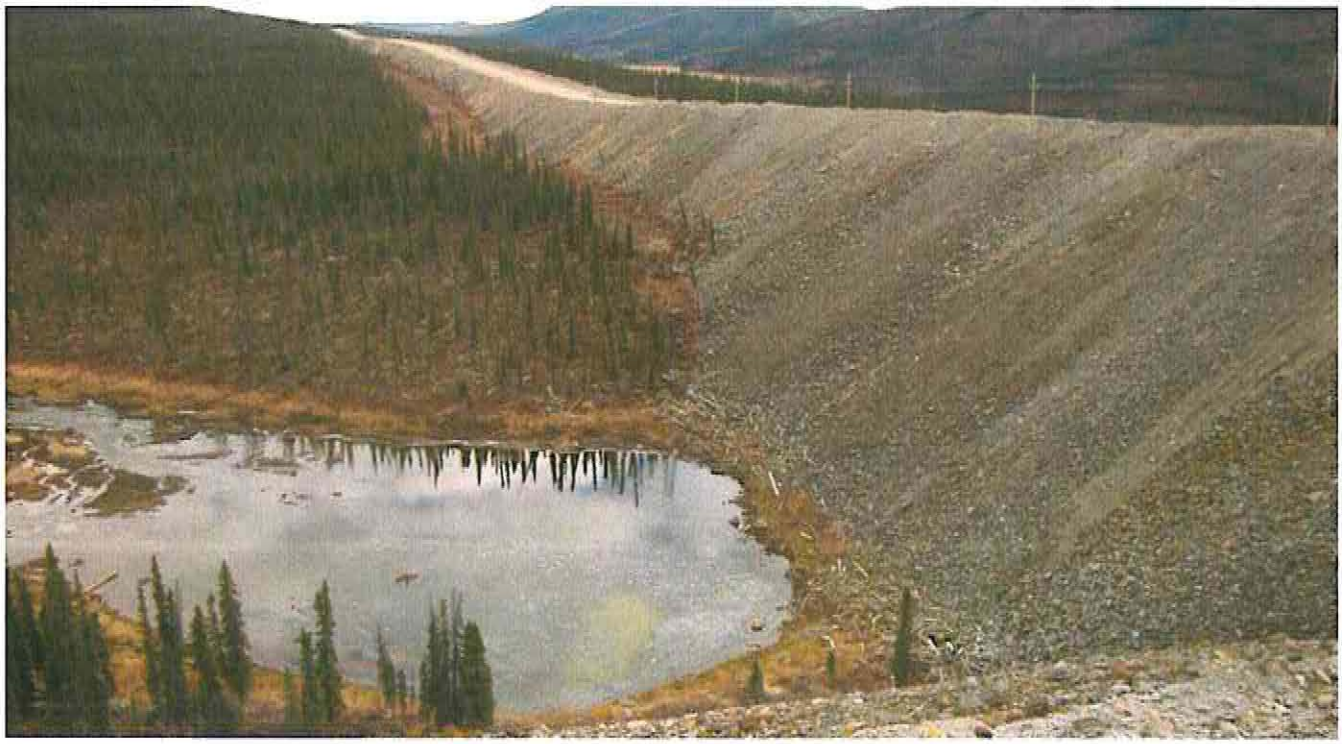
Photograph B-05: Upstream drawdown operating conditions at Cross Valley Dam

Photograph B-06: Downstream conditions at Cross Valley Dam

Photograph B-07: Downstream conditions at Secondary Tailings Impoundment at Diversion Dam

Photograph B-08: Downstream view of lined channel conditions of Faro Creek Diversion Channel

Photograph B-09: Downstream view of stabilized channel conditions of Faro Creek Diversion Channel



Photograph B-10: Upstream view of head pond conditions at North Fork Rock Drain

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