2009 Annual Inspection
Waste and Water Management Facilities
Vangorda/Grum

Faro Mine Complex, Yukon

Prepared for:

Denison Environmental Services

Prepared by:

SRK Consulting
Engineers and Scientists

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Table of Contents

List of Tables

List of Figures

List of Appendices

1 Introduction

At the request of Denison Environmental Services (DES), Mr. Peter Healey of SRK Consulting (Canada) Inc. (SRK) completed an inspection of the Vangorda/Grum waste and water management facilities at Faro Mine Complex the week of June 1 to June 5, 2009. The Vangorda/Grum mine is located 16 km south of the Faro Mine, Yukon as shown on Figure 1. The annual inspection of this area focuses on the geotechnical performance and stability of the following structures:

- Vangorda Waste Rock Containment Facility including the seepage collection system ;
- Little Creek Dam;
- Vangorda Creek Diversion;
- Sludge Pond Embankments at the Water Treatment Plant;
- Grum Settling Pond;
- V-15 Seepage Collection System;
- The Grum Interceptor Ditch; and
- The Sheep Pad Sediment Ponds below the Overburden Stockpile.

A plan which identifies the above components is shown in Figures 2 and 3.

This report presents our observations and comments on the performance and stability of the structures and provides recommendations for any remedial action, where appropriate.

2 Vangorda Waste Rock Pile

2.1 Observations

2.1.1 Seepage Collection System

Transverse Drains and Weirs

During construction of the original till starter dyke, six transverse drains were installed beneath the dyke to allow seepage to drain from the waste dump. These drains discharge into the seepage collection channel built during the 1994 upgrading of the channel around the dump. V-Notch weirs were installed by mine personnel in four of the drains to monitor the seepage.

During this year's inspection, seepage flow was observed at Weir #6 (Photo 1), Weir #5 (Photo 2), Weir #3 (Photo 4), Drain #4 (Photo 3) and Weir #2 (Photo 5). The flow in each of these drains varied from a trace to about 0.5L/min.

Seepage Collection Channel

As seen in the Photos 6, 7 and 8, seepage is collected in the Vangorda seepage collection channel around the Waste dump and discharges into Little Creek Pond. During the 2008 inspection, SRK had observed that an HDPE culvert that was installed several years ago to permit vehicles to cross the channel was restricting the flow to Little Creek Pond. The care and maintenance contractor has since removed this culvert and seepage is now allowed to flow freely into the pond.

SRK inspected this ditch at a number of locations and did not find any areas of instability.

2.1.2 Till Starter Dyke and 1994 Trial Till Cover

In 2006, a previous care and maintenance contractor resloped sections of the till dyke at the western end of the waste rock dump. During the 2008 inspection, a small shallow subsidence was observed on the sideslope of these resloped areas as shown to right of Photo 8. In addition to this subsidence, a number of wet spots and salt depositions were also noted near the crest of the dyke. SRK is of the opinion that a possible cause of the wet areas and the shallow subsidence is an elevated water table within the waste rock behind the dyke. The latter may also be a source of the salt deposits. However, another source of the deposits is runoff from the uncovered sulphide waste above the till dyke.

Photo 9 shows the area of the resloped till dyke above drains #5 and #6. These slopes show some signs of erosion but not significant enough to warrant any immediate remedial action. The remaining unresloped sections of the Starter Dyke along the southern side of the dump and the 1994 Trial Till cover continue to experience some erosion (Photo 10). However, there are no signs of major instability. DES continues to monitor the upper reaches of the ditch for infill by sediment caused by erosion of the cover.

2.1.3 Instrumentation

Water level readings in the standpipe piezometers located in the till dyke have normally been recorded twice a year since they were installed in 1994. A summary of the water level readings taken to date in the piezometers are presented in Table 1. No water levels were recorded in 2009 from Piezometers P94-01A, 01B, 02A and 02B shown in Figures 4 and 7. DES did however take a set of readings in February 2010. These levels are shown on the sections.

The 2008 levels recorded in these piezometers showed increases varying from 1 to 4m. However based on the recent set of levels taken by DES in February 2010, the water levels in the two piezometers above Weir 3 show a drop back to near the 2007 levels. This drop may, however, be a result of normal seasonal variations within the dump which one would expect in the winter. DES and YG continue their investigation to quantify seepage losses within the Vangorda Waste Rock Dump. A plot of the water levels in the two piezometers above Weir 3 over time is shown in Figure 5. The water level in a groundwater well (V35) located below the weir is also shown on Figure 5 to determine whether there is any hydraulic connection between the piezometers and the groundwater well. A similar comparison of Piezometers V44 and V45 and the groundwater well V37 is shown on Figure 6. The results do not show any clear trend at this stage.

Table 1: Water Levels in Piezometers and Groundwater Wells – Vangorda Rock Pile

Measured Static Water Level (meters)

underlined readings (begin in 1998) indicate that no water was identified (hole was dry or frozen).
readings post Sep/98 given as metres below top of plastic piezometer pipe.
readings prior to Nov/98 could be metres below to top of piezo. pipe or steel casing.

Date	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47
	GW-94-01	GW-94-02	GW-94-03	GW-94-04	GW-94-05*	P-94-01A	P-94-01B	P-94-02A	P-94-02B	P-94-02C	P-94-03A	P-94-03B	P-94-04A	P-94-04B
3-May-94	8.28	14.33	11.28	14.33	11.56	12.37	6.05	10.57	6.12	13.08	14.10	9.80	12.17	8.99
21-Jun-94	7.45	8.65	9.15	9.65		NR	NR	NR	NR	NR	NR	NR	NR	NR
30-Jun-95						7.79	5.62	8.02	6.11	9.02	13.91	9.80	11.35	8.99
13-Jul-95						7.80	5.59	NR	NR	NR	NR	NR	NR	NR
30-Jul-95						7.86	5.48	7.99	6.12	8.81	13.68	9.80	11.83	8.99
26-Aug-95	6.89	8.47		9.05		NR	NR	NR	NR	NR	NR	NR	NR	NR
31-Aug-95	7.36					7.93	4.85	7.97	6.06	8.66	13.62	NR	12.60	NR
17-Oct-95	7.14	8.26		9.37		7.90	4.23	8.70	5.76	8.54	13.41	NR	11.88	NR
20-Nov-95	7.10	8.18		9.19		NR	NR	NR	NR	NR	NR	NR	NR	NR
13-Mar-96	7.44	9.23		9.39		NR	NR	NR	NR	NR	NR	NR	NR	NR
28-May-96	7.50	9.34	10.00	10.25		8.34	5.38	9.94	6.12	9.37	14.12	NR	12.77	NR
24-Sep-96	7.50	7.43	7.95	9.17		10.40	5.30	8.30	6.12	8.66	13.68	9.88	12.80	8.99
13-May-97	6.84	9.42	9.96	9.53		9.17	5.67	7.74	6.40	9.51	12.78	9.96	12.78	9.62
11-Jul-97						9.80	5.90	7.92	6.12	8.97	14.10	9.80	9.97	9.00
11-Aug-97	6.75	8.38	8.41	8.81	1.99	9.59	5.25	8.10	6.25	8.77	12.84	9.96	12.62	9.21
14-Oct-97	6.76	8.58	9.15	8.99		9.51	4.96	7.99	6.23	8.94	12.96	9.96	12.73	9.21
23-Dec-97	6.70	9.05	9.53	9.13		9.25	4.76	7.68	6.07	8.95	12.70	9.81	12.66	9.02
31-May-98	6.72	8.60	9.73	9.59	1.86	9.52	5.25	8.05	6.24	9.20	12.87	9.95	12.77	9.20
25-Jul-98						10.20	5.22	8.04	6.20	9.11	12.58	9.92	12.79	9.18
15-Sep-98	6.67	8.85	9.52	9.10	2.40	10.02	5.22	7.98	6.20	9.22	12.54	9.92	12.83	9.19
16-Nov-98						10.32	5.11	7.93	6.11	9.06	12.45	9.78	12.70	8.99
31-Dec-98	6.70	9.06	9.91	9.23		NR	NR	NR	NR	NR	NR	NR	NR	NR
18-Jun-99	6.88	9.24	10.24	10.18		9.96	5.09	8.35	6.11	9.48	12.48	9.77	12.70	8.99
12-Oct-99	6.61	7.58	8.81	8.79		10.01	5.10	8.16	5.73	8.82	12.49	9.78	12.71	8.97
31-May-00	5.75	8.68	8.26	9.33	1.84	10.20	5.10	7.85	5.93	8.97	12.48	9.78	12.66	8.88
5-Sep-00	6.66					NR	NR	NR	NR	NR	NR	NR	NR	NR
9-Oct-00	4.98	3.96	6.90	8.35	0.93	NR	NR	NR	NR	NR	NR	NR	NR	NR
9-Jul-01						10.42	4.84	8.86	7.72	5.46	12.84	9.78	10.84	8.88
4-Sep-02						10.75	5.30	7.99	6.02	9.33	13.53	9.78	NR	8.91
27-May-03						10.57	5.06	7.82	5.87	9.20	14.08	9.78	NR	8.93
9-Sep-03						10.65	5.04	7.84	5.87	9.15	13.86	9.78	NR	8.93
8-May-04						10.61	5.26	8.03	5.94	9.21	14.08	9.78	NR	8.98
8-Sep-04						10.72	5.20	7.79	5.77	9.44	14.08	9.78	NR	8.99
19-May-05						10.27	5.08	7.48	5.62	8.88	12.85	9.78	NR	8.99
9-Sep-05						10.37	4.88	7.44	5.45	8.91	13.28	9.78	NR	8.99
16-May-06						10.70	5.39	8.09	6.11	9.35	14.08	9.78	NR	NR
11-Sep-06						11.04	5.54	7.99	5.84	9.17	13.89	9.78	NR	NR
10-May-07						10.62	5.89	7.95	6.12	9.57	14.07	9.77	NR	8.99
29-May-07	6.52	9.16	9.989											
3-Jun-07				9.275										
27-Aug-07						10.94	6.04	8.21	6.12	8.88	14.04	9.78	NR	8.99
11-Oct-07	6.21	6.2	9.06	8.82										
4-Jun-08	6.037	7.44	7.802	8.754										
18-Sep-08	5.079	5.1	8.352	8.303		6.86	4.41	7.32	5.01	8.60	12.47	9.82	NR	8.89
30-May-09		7.606	8.152											
31-May-09	5.717			8.77										
12-Sep-09	5.536	7.521	9	8.658										
3-Feb-10						10.31	5.11	5.94	7.62	NR	10.87	9.78	NR	8.89

NR Not recorded

*: depth to bottom of hole GW-94-05 (V38) checked as 14.7m on Sep 15/98.

Table 1: Water Levels in Piezometers and Groundwater Wells – Vangorda Rock Pile (Cont'd)

Top of Pipe Elevations (masl)

V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47
GW-94-01	GW-94-02	GW-94-03	GW-94-04	GW-94-05	P-94-01A	P-94-01B	P-94-02A	P-94-02B	P-94-02C	P-94-03A	P-94-03B	P-94-04A	P-94-04B
1117.445	1117.405	1118.431	1116.165	1101.673	1136.555	1136.493	1138.41	1138.332	1129.84	1134.373	1134.459	1134.609	1134.327

Piezometric Elevation (masl)

Date	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47
	GW-94-01	GW-94-02	GW-94-03	GW-94-04	GW-94-05	P-94-01A	P-94-01B	P-94-02A	P-94-02B	P-94-02C	P-94-03A	P-94-03B	P-94-04A	P-94-04B
3-May-94	1109.165	1103.075	1107.151	1101.835	1090.113	1124.185	1130.443	1127.840	1132.212	1116.760	1120.273	1124.659	1122.439	1125.337
21-Jun-94	1109.995	1108.755	1109.281	1106.515										
30-Jun-95						1128.765	1130.873	1130.390	1132.222	1120.820	1120.463	1124.659	1123.259	1125.337
13-Jul-95						1128.755	1130.903							
30-Jul-95						1128.695	1131.013	1130.420	1132.212	1121.030	1120.693	1124.659	1122.779	1125.337
26-Aug-95	1110.555	1108.935		1107.115										
31-Aug-95	1110.085					1128.625	1131.643	1130.440	1132.272	1121.180	1120.753		1122.009	
17-Oct-95	1110.305	1109.145		1106.795		1128.655	1132.263	1129.710	1132.572	1121.300	1120.963		1122.729	
20-Nov-95	1110.345	1109.225		1106.975										
13-Mar-96	1110.005	1108.175		1106.775										
28-May-96	1109.945	1108.065	1108.431	1105.915		1128.215	1131.113	1128.470	1132.212	1120.470	1120.253		1121.839	
24-Sep-96	1109.945	1109.975	1110.481	1106.995		1126.155	1131.193	1130.110	1132.212	1121.180	1120.693	1124.579	1121.809	1125.337
13-May-97	1110.605	1107.990	1108.476	1106.635		1127.385	1130.823	1130.670	1131.932	1120.330	1121.593	1124.499	1121.829	1124.707
11-Jul-97						1126.755	1130.593	1130.490	1132.212	1120.870	1120.273	1124.659	1124.639	1125.327
11-Aug-97	1110.695	1109.025	1110.021	1107.355	1099.683	1126.965	1131.243	1130.310	1132.082	1121.070	1121.533	1124.499	1121.989	1125.117
14-Oct-97	1110.685	1108.825	1109.281	1107.175		1127.045	1131.533	1130.420	1132.102	1120.900	1121.413	1124.499	1121.879	1125.117
23-Dec-97	1110.745	1108.355	1108.901	1107.035		1127.305	1131.733	1130.730	1132.262	1120.890	1121.673	1124.649	1121.949	1125.307
31-May-98	1110.725	1108.805	1108.701	1106.575	1099.813	1127.035		1130.360		1120.640		1124.509	1121.839	1125.127
25-Jul-98						1126.355		1130.370		1120.730			1121.819	
15-Sep-98	1110.775	1108.555	1108.911	1107.065	1099.273	1126.535		1130.430		1120.620			1121.779	
16-Nov-98						1126.235		1130.480		1120.780				
31-Dec-98	1110.745	1108.345	1108.521	1106.935										
18-Jun-99	1110.565	1108.165	1108.191	1105.985		1126.595		1130.060		1120.360				
12-Oct-99	1110.835	1109.825	1109.621	1107.375		1126.545		1130.250		1121.020				
31-May-00	1111.695	1108.725	1110.171	1106.835	1099.833	1126.355		1130.560	1132.402	1120.870			1121.949	1125.447
5-Sep-00	1110.785													
9-Oct-00	1112.465	1113.445	1111.531	1107.815	1100.743									
9-Jul-01						1126.135	1131.653	1129.550	1130.612	1124.380	1121.533	1124.679	1123.769	1125.447
4-Sep-02						1125.805	1131.193	1130.420	1132.312	1120.515	1120.848	1124.679		1125.417
27-May-03						1125.985	1131.433	1130.590	1132.462	1120.640	1120.298	1124.679		1125.397
9-Sep-03						1125.910	1131.453	1130.570	1132.462	1120.690	1120.513	1124.679		1125.397
8-May-04						1125.945	1131.233	1130.380	1132.397	1120.635	1120.298	1124.679		1125.352
8-Sep-04						1125.835	1131.293	1130.620	1132.562	1120.400	1120.293	1124.679		1125.337
19-May-05						1126.290	1131.412	1130.930	1132.712	1120.959	1121.528	1124.679		1125.337
9-Sep-05						1126.185	1131.609	1130.970	1132.887	1120.930	1121.098	1124.679		1125.337
16-May-06						1125.855	1131.103	1130.320	1132.222	1120.490	1120.293	1124.679		
11-Sep-06						1125.515	1130.953	1130.420	1132.492	1120.670	1120.483	1124.679		
10-May-07						1125.940	1130.603	1130.465	1132.212	1120.270	1120.303	1124.689		1125.337
29-May-07	1110.925	1108.245	1108.442											
3-Jun-07				1106.890										
27-Aug-07						1125.615	1130.458	1130.200	1132.212	1120.960	1120.333	1124.679		1125.337
11-Oct-07	1111.235	1111.205		1107.345										
4-Jun-08	1111.408	1109.965	1110.629	1107.411										
18-Sep-08	1112.366	1112.305	1110.079	1107.862		1129.700	1132.088	1131.095	1133.322	1121.240	1121.908	1124.639		1125.442
30-May-09		1109.799	1110.279											
31-May-09	1111.728			1107.395										
12-Sep-09	1111.909	1109.884	1109.431	1107.507										
3-Feb-10						1126.241	1131.383	1132.470	1130.715		1123.503	1124.679		1125.442

2.1.4 Vangorda Waste Rock Dump

Old tension cracks are still evident in places along the crest at the northeast end of the dump. However there have been no changes to these cracks for several years.

2.2 Recommendations

2.2.1 Transverse Drains

The outlet of these drains should be inspected monthly for any signs of damage or deterioration of the steel v-notch weirs. The inspection should include recording of any flow or seepage rates.

2.2.2 Seepage Collection Channel

In the upper reaches of the seepage collection channel at the location of the till cover, DES should continue to monitor any sediment build-up and periodically remove the sediment that accumulates in the channel.

2.2.3 Till Starter Dyke and 1994 Trial Till Cover

DES should inspect the resloped areas of the Till Starter dyke for any signs of instability or the development of significant erosion gullies. DES should also identify any wet or soft areas on the slopes. These inspections should be carried out on a monthly basis and any unusual observation should be forwarded to SRK.

2.2.4 Instrumentation

Water level readings should continue to be taken from standpipe piezometers in the till berm around the rock pile. These readings should be taken at least twice a year

As the till dyke in the vicinity of P94-04A has been regraded to a flatter configuration, replacement of this piezometer is not a high priority. However, if a drillrig is in the area for other reasons, then a replacement piezometer(s) could be installed.

Biannual monitoring of the 1994 Piezometers along the crest of the till dyke and the levels in the wells below the collection ditch is recommended to establish whether there is a trend or pattern in the water table behind the dyke and whether there is any hydraulic connection. Results should be forwarded to SRK.

2.2.5 Rock Pile

DES should continue to inspect, monthly, the surface of the Vangorda rock fill for any signs of widening of the old tension cracks.

3 Little Creek Dam

3.1 Observations

Water level in the pond (Photo 11) during our inspection on June 2, 2009 was recorded at about 1109.110m. No cracks or major settlement of the dam were observed and no seepage was observed along the downstream toe. Erosion rills are evident on both the upstream and downstream slopes of the dam (Photos 12 and 14).

The upstream and downstream faces of the dam show no evidence of surficial movement, bulging or instability.

In 1994, six pneumatic piezometers and three thermistors were installed along the crest of the Little Creek dam. The six piezometers are located at three separate locations; two piezometers, one deep and one shallow, at each location. The location of the piezometers and thermistors are shown on Figure 6 and the 2009 piezometric levels are shown in section on Figures 7, 8 & 9. Actual readings are presented in Appendix B. In 2007 abnormal fluctuations were noted in the piezometers and so in 2007 report SRK requested that in 2008, readings be taken twice a week over the period April to September last year. However, in 2009 no unusual behaviour was noted in the readings.

The 900mm CMP emergency spillway (Photo 13) was inspected and is in good condition.

3.2 Recommendations

DES should continue to regularly monitor the crest of the dam for any cracks, settlement or surficial movement of the slope.

As the water levels in LCD 2 and 3 now correlate with pond water levels, SRK recommends that the frequency of readings of the pneumatic piezometers be semi-annual. Monitoring of the thermistors can remain on a semi-annual basis and the results compiled and forwarded to SRK.

DES should also continue to remove any build-up of debris at the inlet end of the culvert spillway.

If the Little Creek pond is to become a long-term structure to collect seepage from the Vangorda Dump or to function as a polishing pond for the new treatment plant, the spillway would need to be modified to accommodate a larger flood event and should possibly be relocated to the north end of the dam in an open channel.

4 Vangorda Creek Diversion

4.1 Observations

In accordance with a recommendation from SRK, an emergency overflow spillway (2x1m diameter CSP's) was installed at the headworks of the diversion in August 2005 (Photo 15). DES continues to maintain the trash rack at the headworks (Photo 16) and the 2.4m diameter flume (Photos 17) to ensure safe passage of flow in Vangorda Creek. Boulders that fall into the flume are periodically removed. There are no signs of instability or settlement of the embankment at the headworks (Photos 16 and 17) of the diversion. However, the cross braces that support the flume continue to deteriorate and water continues to escape through openings in the flume joints (Photos 18, 19 and 20).

DES continues to pump water from a small seepage collection pond in the old Vangorda Creek ditch back into the flume. This is part of an overall plan to reduce flow of clean water into the Vangorda Pit.

The 2m diameter CMP culvert in the plunge pool shows signs of wear and tear around the entrance to the pipe. A trash rack has been installed at the entrance.

The exit culvert and the drop box structure remain intact and functioning satisfactorily.

4.2 Recommendations

DES should continue to monitor the sideslopes above the flume for sloughing and areas of instability and should top-up riprap along the flume where the material has settled below the rim of the culvert sections. Any debris or rock that accumulates in the flume, at the entrance to the 2m CMP or at the headwork's trashrack should be removed. SRK should be notified of any excessive seepage from the flume and increase of discharge into the pit. If any damage to the cross braces and if the structural integrity of any of the flume sections is compromised by ice formation or slides, DES should replace the impacted sections.

In 2009, SRK began work on a design of a permanent upgrade to the diversion. Work for this upgrade was scheduled for 2010. Because of complication with the design and a shortfall in the available funds this project was postponed. SRK anticipates that design will be picked up sometime in 2010 with the expectation of construction of the new diversion in 2011.

5 Sludge Pond Embankment-Vangorda Water Treatment Plant

5.1 Observations

At the time of our inspection, the sludge pond was almost empty (Photo 21). SRK inspected the downstream slopes and crests of the four embankments that make up the sludge pond. Neither subsidence of the slopes, nor settlement of the crest and no tension cracks were observed (Photo 22 and 23).

5.2 Recommendations

- Ensure that the pond level does not exceed 2m. below crest; and
- Continue to monitor on a monthly basis, the crest and sideslopes for cracking or any signs of sloughing.

6 Grum Settling Pond

6.1 Observations

SRK inspected the riprapped open channel spillway (Photo 30), which conveys flow from the Grum settling pond to the Grum Interceptor Ditch (GID). The spillway is functioning normally. There was no sign or any instability or cracking in the surrounding dyke. No seepage was observed along the toe of the dyke.

6.2 Recommendations

The crest of the embankment around the pond should be monitored monthly for cracks and any seepage into and out of the pond.

7 Grum Interceptor Ditch and Sheep Pad Settling Pond

7.1 Observations

In the upper reaches of the GID, the ditch slopes remain stable and the vegetation continues to provide effective erosion control of the ditch sideslopes (Photo 24 and 25). However, debris and the odd boulder are beginning to partly block culvert outlets and entrances along the route.

SRK inspected the Sheep Pad Pond dyke and found no sign of slope instability, settlement or cracking.

7.2 Recommendations

- Monitor monthly the crest of the settling pond dykes for any cracks;
- Monitor monthly the toe of the dykes for any seeps; and
- Clear any debris that accumulates at either end of the GID culverts and the settling pond spillway.

8 Grum Dump and V-15 Seepage Collection Ditch

8.1 Observations

SRK inspected the diversion ditch along the main haul road adjacent to the Grum Dump, which was constructed to divert runoff away from the dump and into the Vangorda Pit. Since the construction of the haul road ditch, erosion on the dump slopes has diminished and significantly less sediment has accumulated in the sediment trap at V15 (Photo 26). The ditch is performing satisfactorily.

In 2006, increasing concentrations of zinc were observed at the outlet of the V15 sedimentation pond upstream of Tributary A. In response to this finding, a Bentomat lined diversion ditch was constructed in August, 2007 (Photo 27) to divert outflow from this pond to a naturally formed Kettle called Moose Pond. A siphon pipeline from the pond to the V2 sampling station, which was installed during the operation of the mine in the mid 90's to drain any water that may accumulate in the pond, is still fully functional. However, SRK understands that the pipe has never been used because there has not been any significant accumulation of water in the pond.

SRK also understands that the Grum seepage will continue to be diverted from station V15 (the sedimentation pond) into Moose Pond as short term mitigation to minimize the impact of zinc concentrations at station V2, until rising levels trigger action in accordance with the Adaptive Management Plan (see AMP Event #4 Response: SRK 2009 Status Report).

During SRK's inspection in 2008, we observed that a small subsidence had occurred above the lined ditch which was restricting flow in the ditch. SRK noted this in our 2008 inspection report. DES was able to remove the debris and restore the sideslope during SRK's 2009 inspection (Photo 28).

8.2 Recommendations

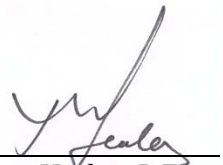
DES should continue to monitor any sediment build-up in the V15 pond and clean it out when necessary.

DES should conduction an inspection of the pipeline that is in place to drain the Moose Pad Pond to ensure that it remains functional.

The culverts and pipes should be inspected monthly to ensure there are no blockages or restrictions to the flow.

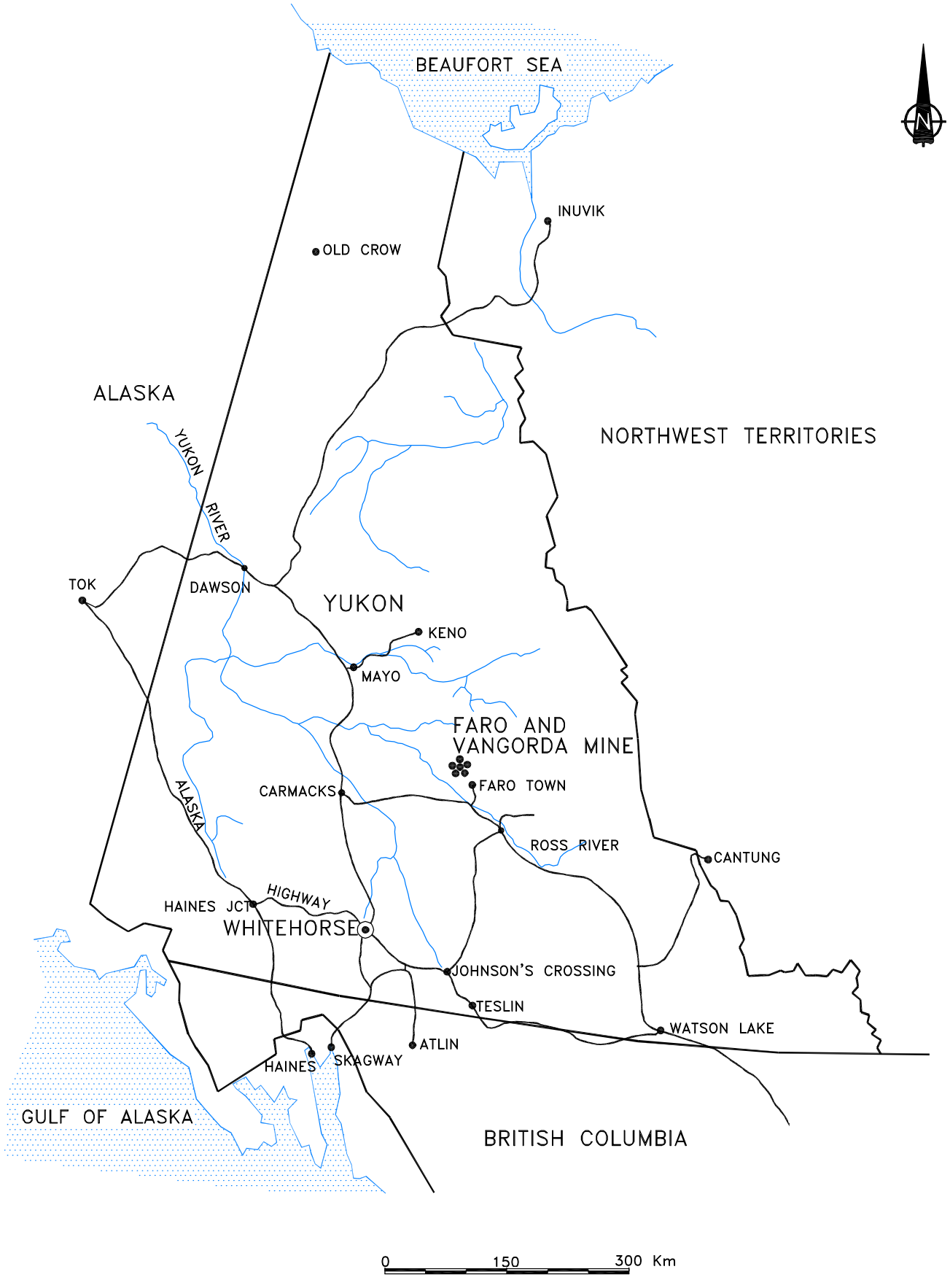
This report, **"2009 Annual Inspection Waste and Water Management Facilities – Vangorda/Grum, Faro Mine Complex, Yukon",** has been prepared by SRK Consulting (Canada) Inc.

Prepared by



Peter Healey, P.Eng.

Figures



SRK Consulting
Engineers and Scientists
Vancouver

Denison Environmental Services

2009 Vangorda/Grum Annual Inspection

LOCATION MAP

SRK JOB NO.: 1CD009.000

FILE NAME: yukon.dwg

FARO MINE COMPLEX

DATE:	APPROVED:	FIGURE:
Feb. 2010		1

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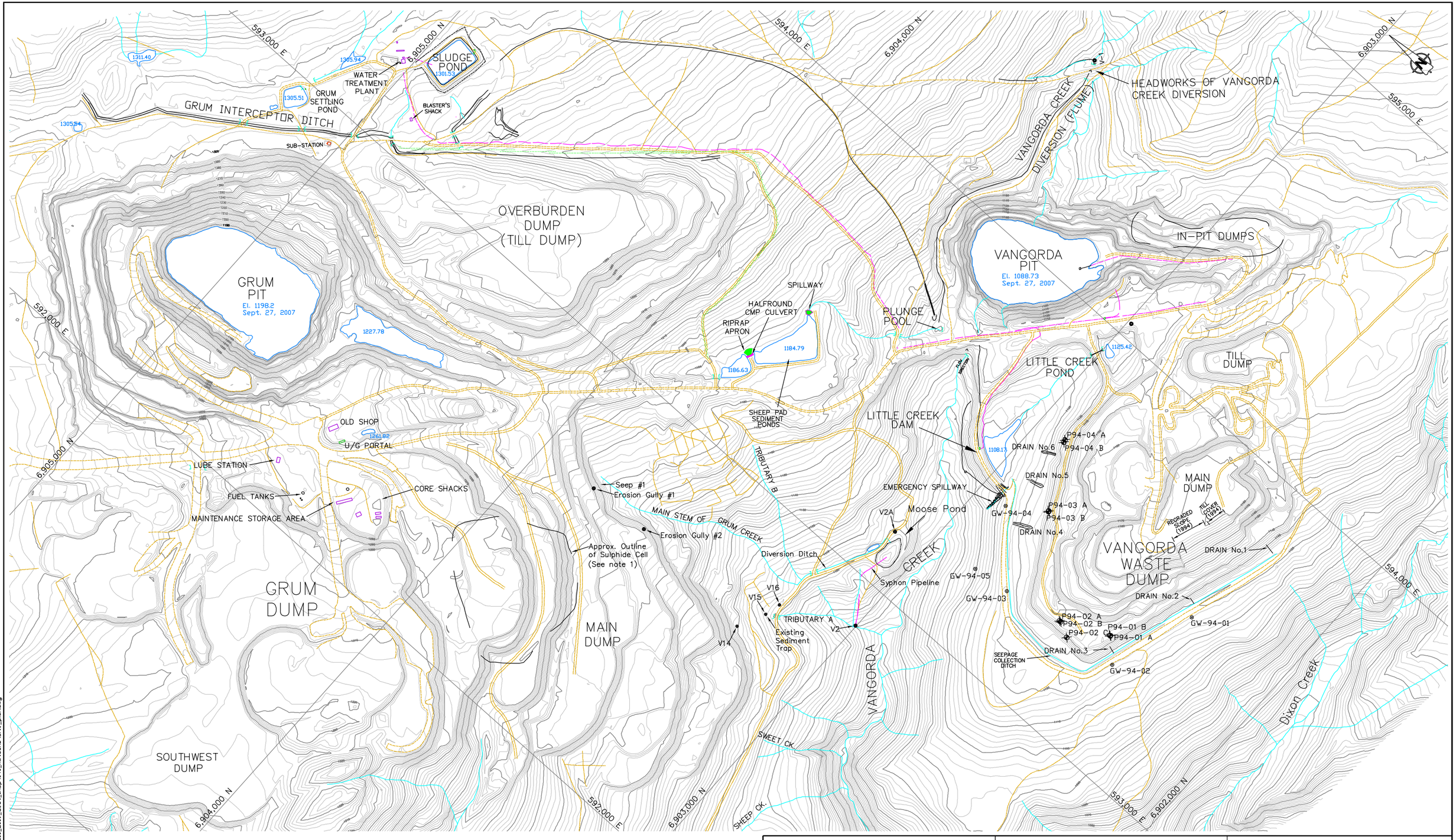

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Survey control based on: UTM Projection, NAD27
Compiled by The ORTHOSHOP, Calgary, September 2003
WO 8856

0 100 200 300 400 500
Scale 1:10,000

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Vancouver

SRK JOB NO.: 1CD009.000
FILE NAME: site_plan.dwg

Denison Environmental Services

FARO MINE COMPLEX

2009 Vangorda/Grum Annual Inspection

GENERAL ARRANGEMENT PLAN

DATE:	APPROVED:	FIGURE:
Feb. 2010		2

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Map Scale: 1:2500
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Survey control derived from existing 1:20000 photography
Survey control based on: UTM Projection, NAD27

0 100 200 300 400 500
Scale 1:10,000

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Vancouver

SRK JOB NO.: 1CD009.000
FILE NAME: site_plan_photo.dwg

Denison Environmental Services

FARO MINE COMPLEX

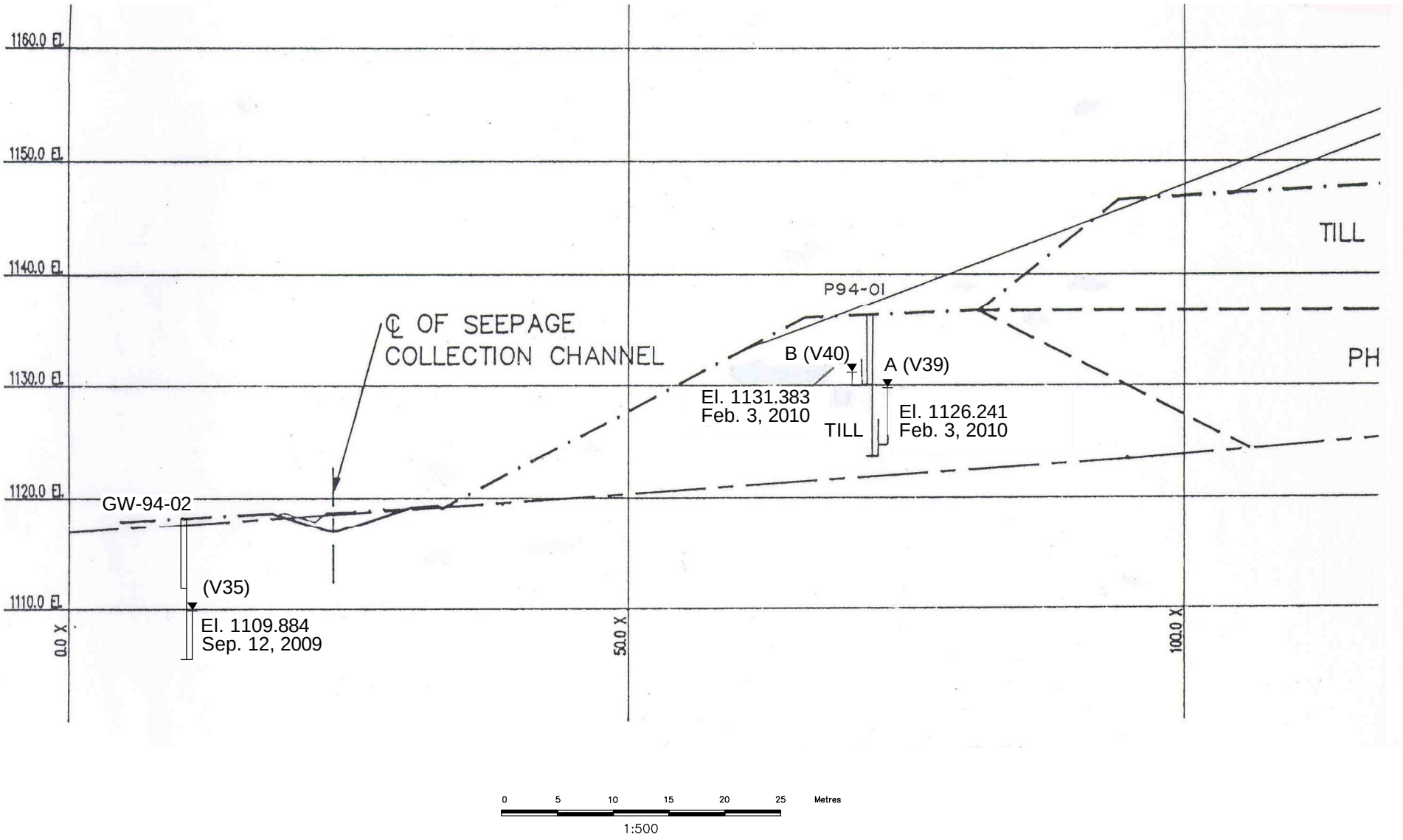
2009 Vangorda/Grum Annual Inspection

ORTHO-RECTIFIED MOSAIC, WITH CONTOURS, OF VANGORDA PLATEAU AREA

DATE:	APPROVED:	FIGURE:
Feb. 2010	PLH	3

J:\01_SITES\FARO\100_1CD009.000_2009_Geot_Insp\040_AutoCAD\site_plan_photo.dwg

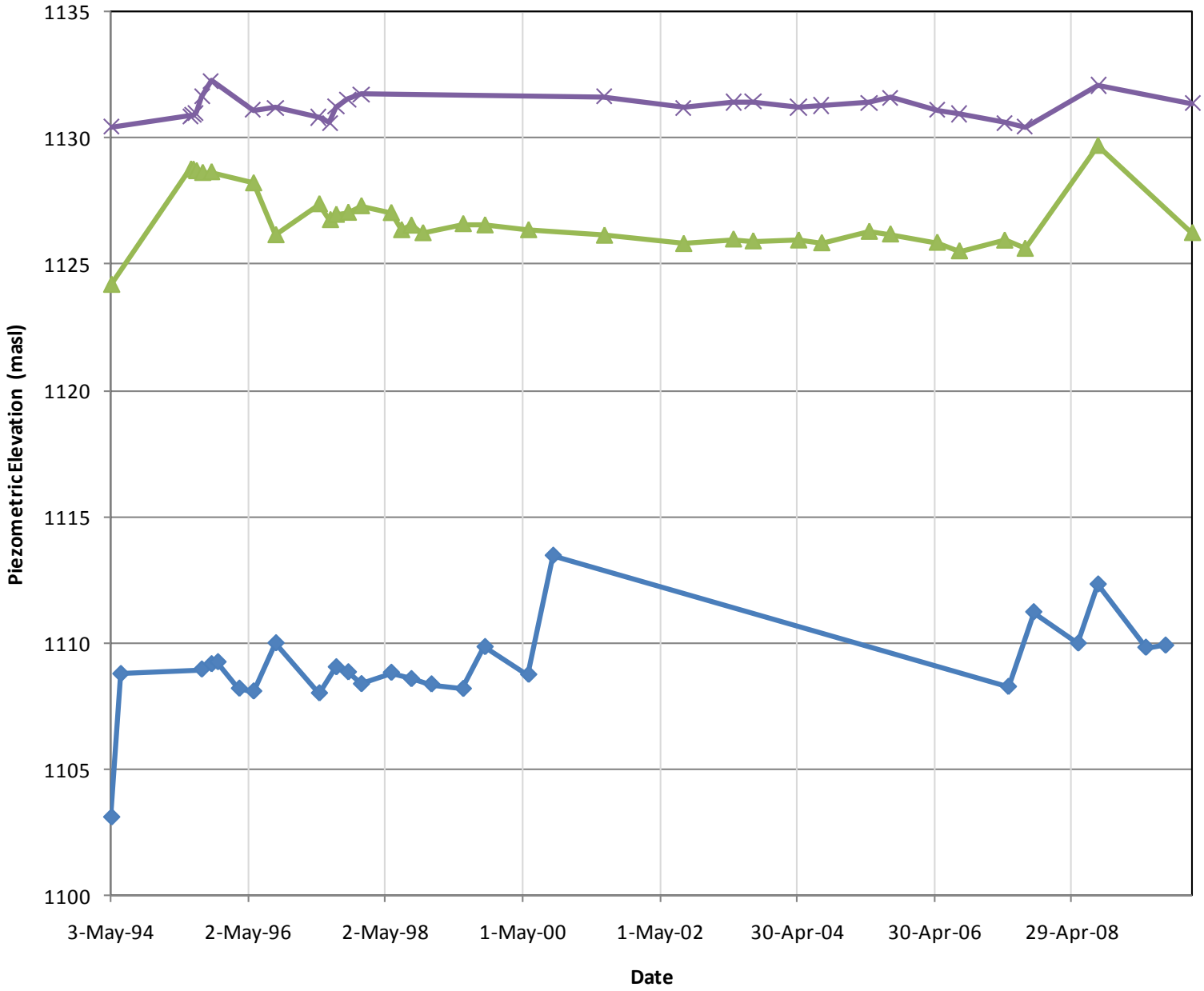
J:\01_SITES\FARO\1100_1CD009.000_2009_Geot_Insp\040_AutoCAD\FIG-4.dwg



0 5 10 15 20 25 Metres

1:500

SRK Consulting Engineers and Scientists, Vancouver	Denison Environmental Services	2009 Vangorda/Grum Annual Inspection
SRK JOB NO.: 1CD009.000 FILE NAME: FIG-4.dwg	FARO MINE COMPLEX	SECTION D-3 CHANNEL STA. 4+80
		DATE: Feb. 2010 / APPROVED: PLH / FIGURE: 4



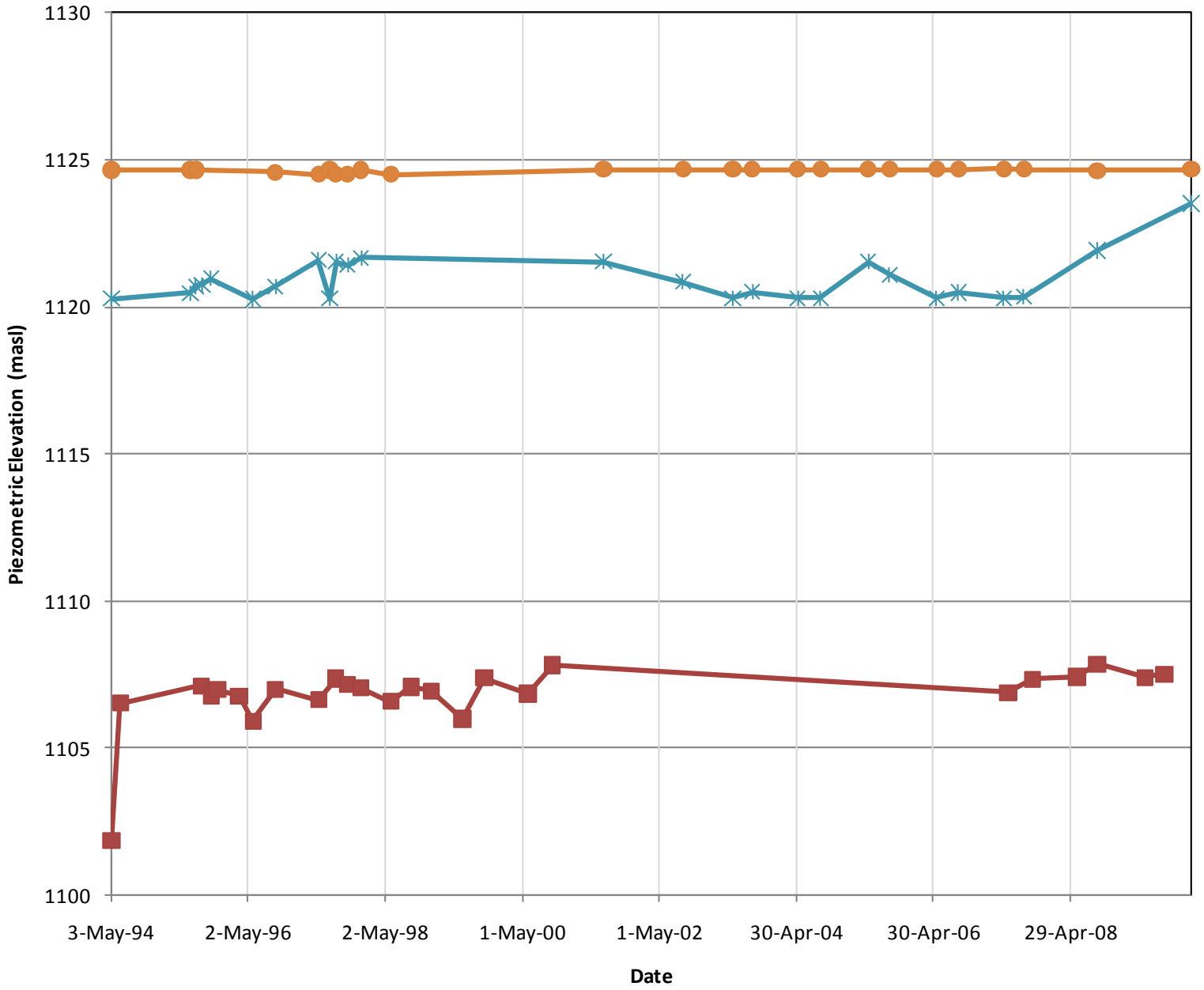
LEGEND

- GW-94-02 (V35)
- P-94-01A (V39)
- P-94-01B (V40)

NOTE

See Figure 2 for location of piezometers and groundwater wells.

SRK Consulting Engineers and Scientists VANCOUVER	Denison Environmental Services	2009 Vangorda/Grum Annual inspection
Job No: 1CD009.000 Filename: Figure 5_6_Graphs_20100218.ppt	Faro Mine Complex	**Piezometer and Well Levels at Drain #3** Date: February 2010 / Approved: / Figure: **5**



LEGEND

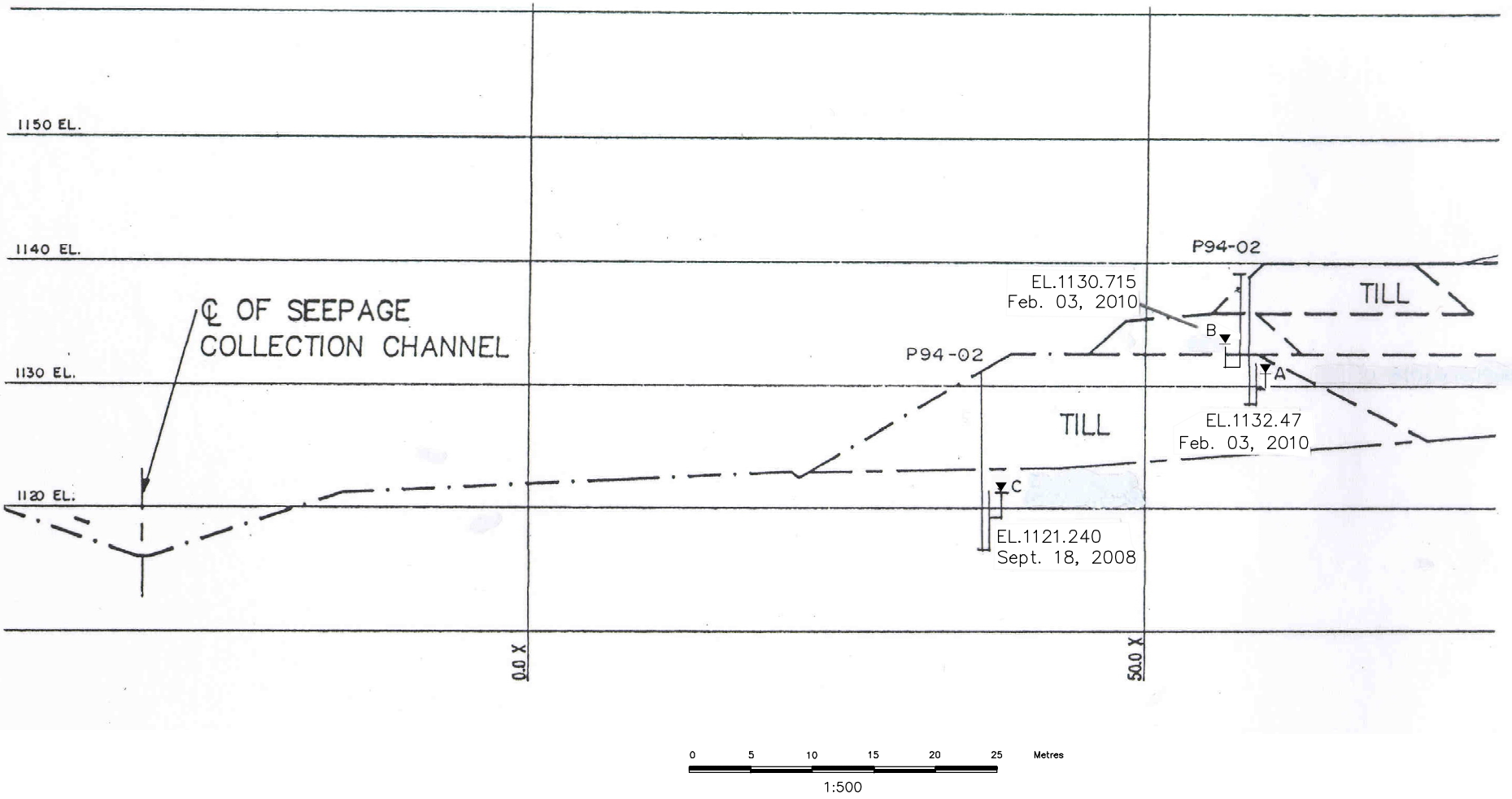
- GW-94-04 (V37)
- P-94-03A (V44)
- P-94-03B (V45)

NOTE

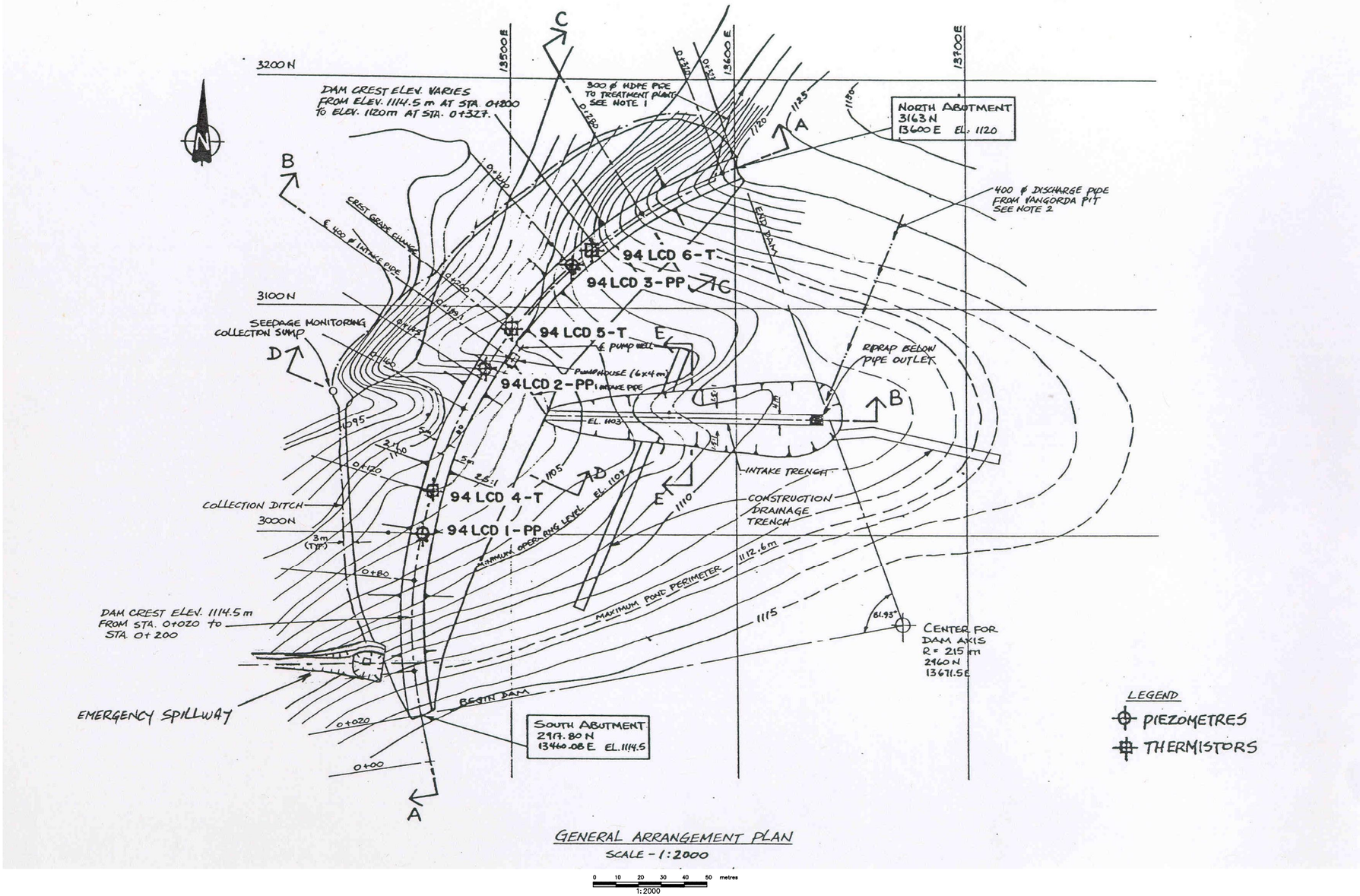
See Figure 2 for location of piezometers and groundwater wells.

SRK Consulting Engineers and Scientists VANCOUVER	Denison Environmental Services	2009 Vangorda/Grum Annual inspection
		Piezometer and Well Levels at Drain #4
Job No: 1CD009.000 Filename: Figure 5_6_Graphs_20100218.ppt	Faro Mine Complex	Date: February 2010 / Approved: / Figure: 6

J:\01_SITES\FARO\1100_1CD009.000_2009_Geot_Insp\040_AutoCAD\FIG-7.dwg



SRK Consulting Engineers and Scientists, Vancouver	Denison Environmental Services	2009 Vangorda/Grum Annual Inspection
SRK JOB NO.: 1CD009.000	FARO MINE COMPLEX	SECTION D-4 CHANNEL STA. 9+00
FILE NAME: FIG-7.dwg		DATE: Feb. 2010 / APPROVED: PLH / FIGURE: 7

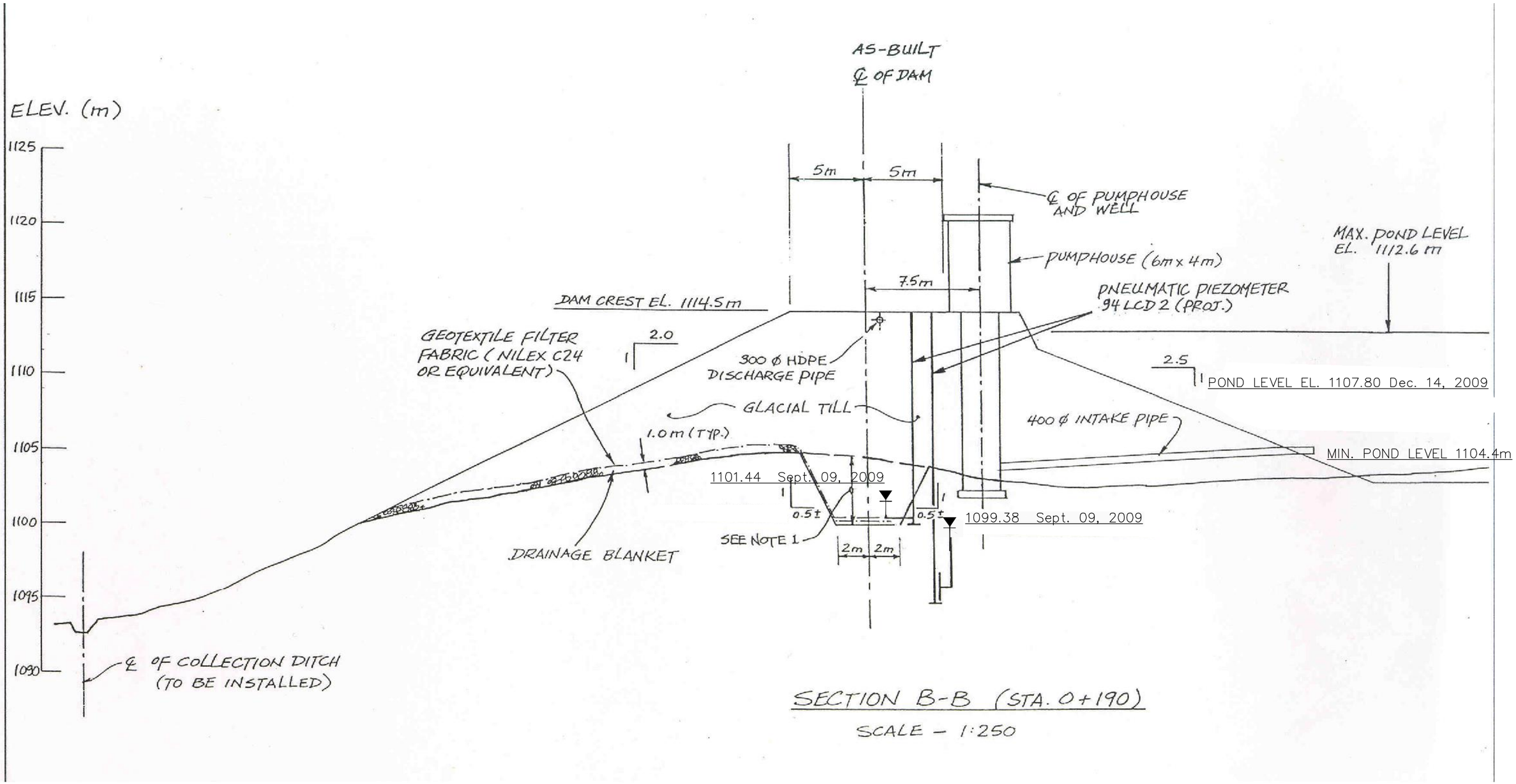


GENERAL ARRANGEMENT PLAN
SCALE - 1:2000

0 10 20 30 40 50 metres
1:2000

J:\01_SITES\FARO\11100_1CD009.000_2009_Geot_Insp\040_AutoCAD\FIG-8.dwg

SRK Consulting Engineers and Scientists, Vancouver	Denison Environmental Services	2009 Vangorda/Grum Annual Inspection
SRK JOB NO.: 1CD009.000	FARO MINE COMPLEX	LITTLE CREEK DAM GENERAL ARRANGEMENT PLAN
FILE NAME: FIG-8.dwg		DATE: Feb. 2010 / APPROVED: PLH / FIGURE: 8



SECTION B-B (STA. 0+190)

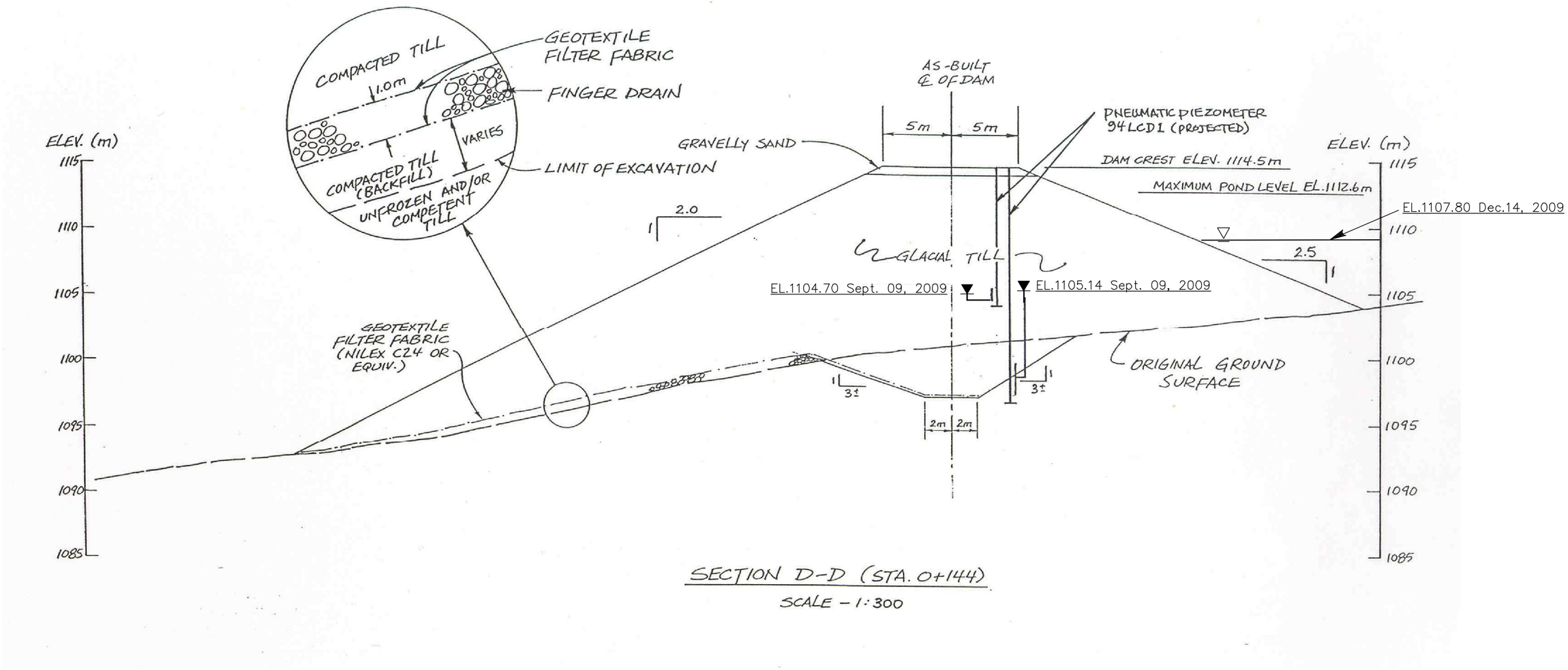
SCALE – 1:250

0 2 4 6 8 10 METRES

1: 250

J:\01_SITES\FARO\1100_1CD009.000_2009_Geot_Insp\040_AutoCAD\FIG-9.dwg

SRK Consulting Engineers and Scientists, Vancouver	Denison Environmental Services	2009 Vangorda/Grum Annual Inspection
SRK JOB NO.: 1CD009.000	FARO MINE COMPLEX	LITTLE CREEK DAM SECTION B-B
FILE NAME: FIG-9.dwg		DATE: Feb. 2010 / APPROVED: PLH / FIGURE: 9



SECTION D-D (STA. 0+144)

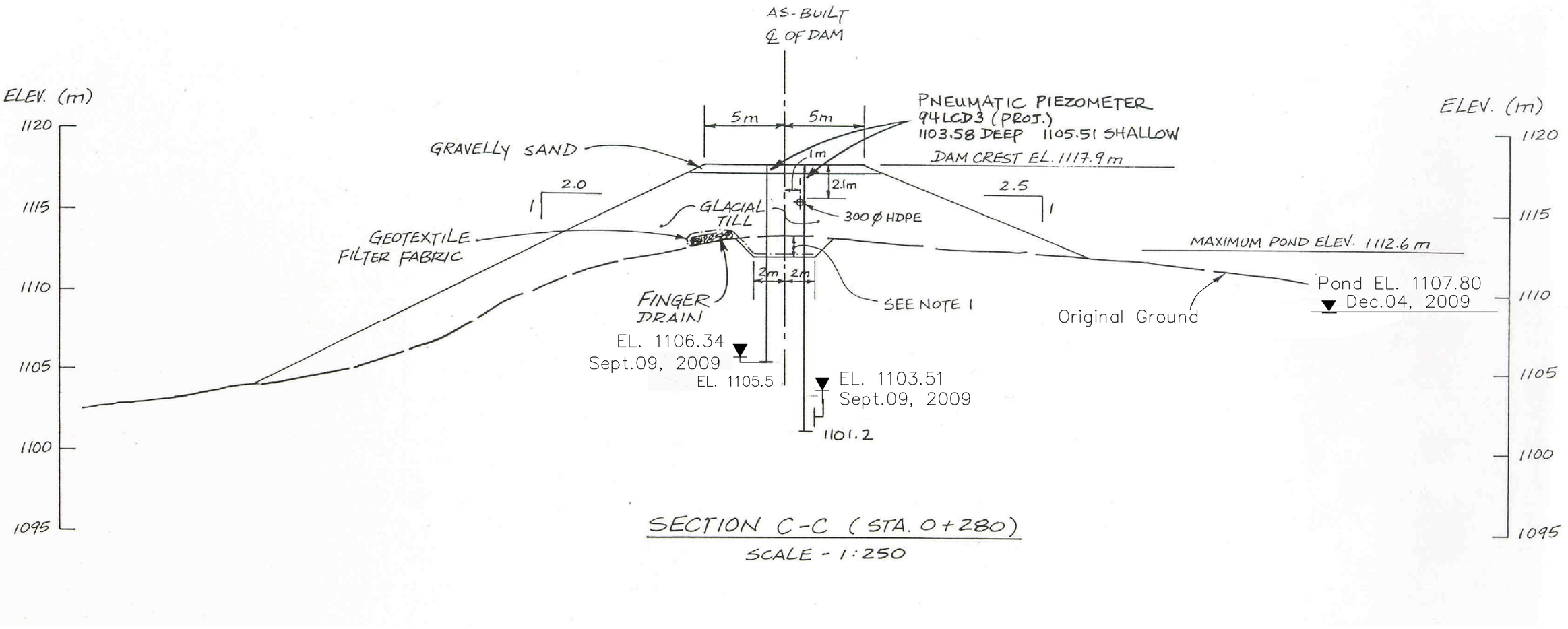
SCALE – 1:300

0 2 4 6 8 10 METRES

1:300

SRK Consulting Engineers and Scientists, Vancouver	Denison Environmental Services	2009 Vangorda/Grum Annual Inspection
SRK JOB NO.: 1CD009.000	FARO MINE COMPLEX	LITTLE CREEK DAM SECTION D-D
FILE NAME: FIG–10.dwg		DATE: Feb. 2010 / APPROVED: PLH / FIGURE: 10

J:\01_SITES\FARO\1100_1CD009.000_2009_Geol_Insp\040_AutoCAD\FIG-10.dwg



SECTION C-C (STA. 0+280)

SCALE - 1:250

0 2 4 6 8 10 METRES

1:250

J:\01_SITES\FARO\1100_1CD009.000_2009_Geot_Insp\040_AutoCAD\FIG-11.dwg

SRK Consulting Engineers and Scientists, Vancouver	Denison Environmental Services	2009 Vangorda/Grum Annual Inspection
SRK JOB NO.: 1CD009.000	FARO MINE COMPLEX	LITTLE CREEK DAM SECTION C-C
FILE NAME: FIG-11.dwg		DATE: Feb. 2010 / APPROVED: PLH / FIGURE: 11

Appendix A
Photos

Photo 1: Vangorda Waste Dump, Weir #6

Photo 2: Vangorda Waste Dump, Weir #5

Photo 3: Vangorda Waste Dump, Weir #4

Photo 4: Vangorda Waste Dump, Weir #3

Photo 5: Vangorda Waste Dump, Weir #2

Photo 6: Seepage Collection Channel along toe of Vangorda Waste Dump

Photo 7: Seepage Collection Ditch along south toe of Vangorda Waste Rock Dump

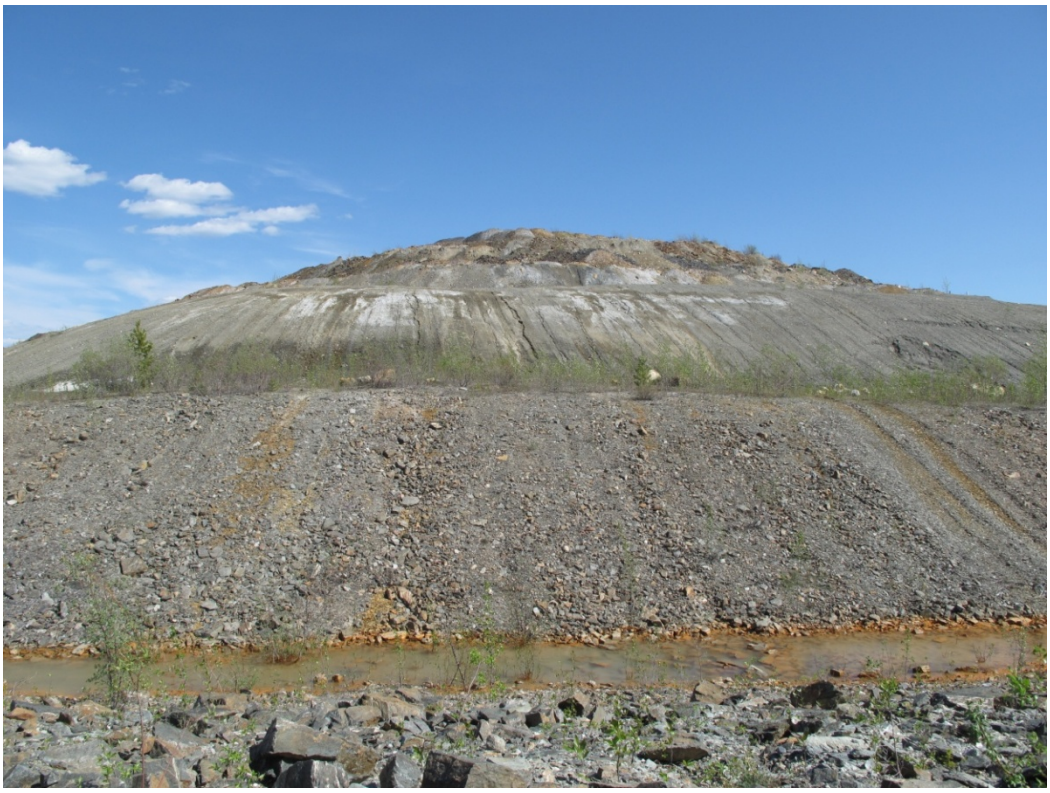


Photo 8: Wet spots and shallow subsidence on resloped surface of till starter dyke at Vangorda Waste Rock Dump

Photo 9: Till Slope above Weirs #5 and #6

Photo 10: Erosion Gullies in the till cover on Vangorda Dump

Photo 11: Little Creek Pond

Photo 12: Upstream slope of Little Creek Dam

Photo 13: Emergency Spillway (outlet) from Little Creek Pond

Photo 14: Erosion Gullies on downstream face of Little Creek Dam

Photo 15: Entrance to emergency spillway on Vangorda Creek Diversion

Photo 16: Trash rack at inlet to Vangorda Creek Diversion

Photo 17: Vangorda Creek Diversion (upper reaches)

Photo 18: Outlets of the Vangorda Creek Diversion into Plunge Pool

Photo 19: Half round culvert flume in Vangorda Creek Diversion

Photo 20: Flume in the Vangorda Creek Diversion

Photo 21: Upstream view of the dyke around the Sludge Pont at Water Treatment Plant

Photo 22: Downstream slopes of Dyke around Sludge Pond at Vangorda (south end)

Photo 23: Downstream slopes of Dyke around Sludge Pond at Vangorda Water Treatment Plant

Photo 24: Upper reach of the Grum Interceptor ditch

Photo 25: Middle reach of the Grum Interceptor ditch (above WTP)

Photo 26: Pond at V-15 below Grum Dump

Photo 27: Bentamat lined Diversion ditch from V-15 to main stem of Grum Creek

Photo 28: Area of subsidence noted during the 2008 inspection. The slide debris has been removed and the side slope was repaired

Photo 29: V-notch Weir on main stem of Grum Creek

Photo 30: Grum Settling Pond (Groucho Pond) – Spillway Entrance

Appendix B

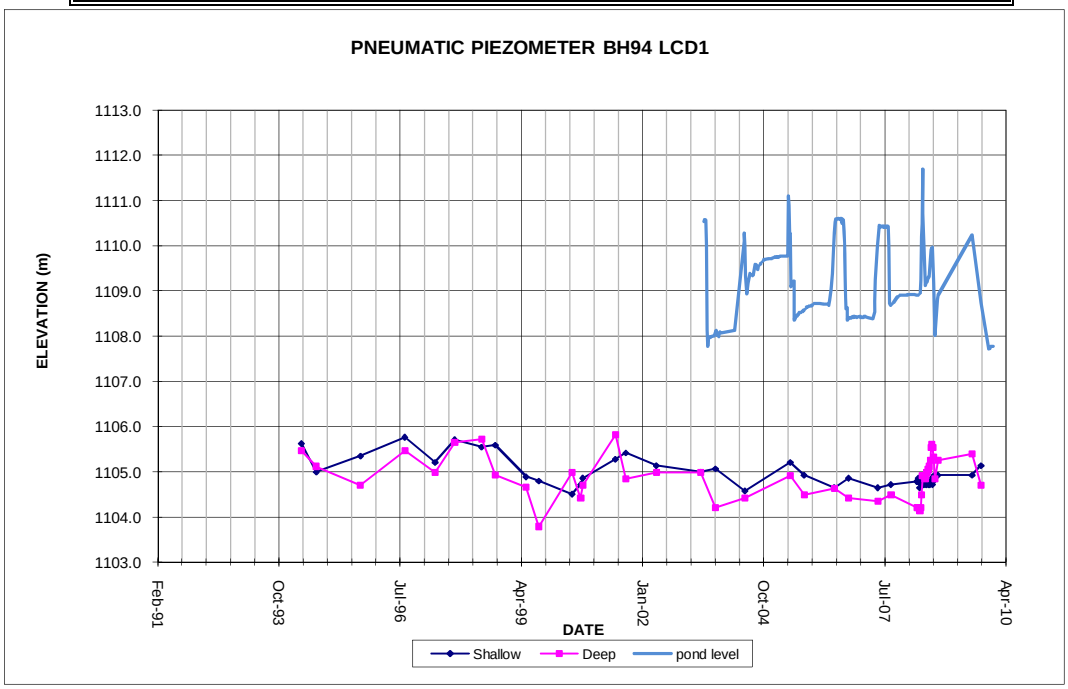
Pneumatic Piezometer and Thermistor Readings – Little Creek Dam

Little Creek Dam Pneumatic Piezometers

BH94 LCD1 **Location:** Little Creek Dam Crest **Ground Elevation:** 1114.5m **Coordinates:** 3000N, 13460E

Date Installed: June '94 **Shallow Tip Elevation:** 1103.6 **Deep Tip Elevation :** 1097.0 **Surface Protector:** yes

Date	Reading (psi)		Piezometric Elevation (m)		Pond
	Shallow	Deep	Shallow	Deep	Level
May-94	2.9	12.1	1105.63	1105.47	
Sep-94	2.0	11.6	1105.00	1105.12	
Sep-95	2.5	11.0	1105.35	1104.70	
Sep-96	3.1	12.1	1105.77	1105.47	
May-97	2.3	11.4	1105.21	1104.98	
Oct-97	3.02	12.36	1105.71	1105.65	
May-98	2.79	12.46	1105.55	1105.72	
Sep-98	2.85	11.33	1105.60	1104.93	~1109.5
May-99	1.85	10.95	1104.90	1104.67	
Sep-99	1.71	9.70	1104.80	1103.79	~1105
Jun-00	1.30	11.40	1104.51	1104.98	
Aug-00	1.60	10.60	1104.72	1104.42	
Sep-00	1.80	11.00	1104.86	1104.70	
5-Jun-01	2.40	12.60	1105.28	1105.82	1109.33
30-Aug-01	2.60	11.20	1105.42	1104.84	1108.55
9-May-02	2.20	11.40	1105.14	1104.98	1109.78
10-May-03	2.00	11.40	1105.00	1104.98	1110.54
9-Sep-03	2.10	10.30	1105.07	1104.21	1108.13
8-May-04	1.40	10.60	1104.58	1104.42	1110.01
19-May-05	2.30	11.30	1105.21	1104.91	1110.27
9-Sep-05	1.90	10.70	1104.93	1104.49	1108.57
16-May-06	1.50	10.90	1104.65	1104.63	1109.99
11-Sep-06	1.80	10.60	1104.86	1104.42	1108.40
10-May-07	1.50	10.50	1104.65	1104.35	1110.18
27-Aug-07	1.60	10.70	1104.72	1104.49	1108.69
27-Mar-08	1.7	10.3	1104.79	1104.21	1108.91
4-Apr-08	1.70	10.30	1104.79	1104.21	1108.90
10-Apr-08	1.80	10.30	1104.86	1104.21	1108.90
21-Apr-08	1.50	10.20	1104.65	1104.14	1108.94
28-Apr-08	1.70	10.30	1104.79	1104.21	1109.225
5-May-08	1.60	10.70	1104.72	1104.49	1110.191
12-May-08	1.80	11.30	1104.86	1104.91	1111.696
15-May-08	1.70	11.30	1104.79	1104.91	1110.697
20-May-08	1.60	11.30	1104.72	1104.91	1110.311
26-May-08	1.60	11.30	1104.72	1104.91	1109.919
2-Jun-08	1.80	11.20	1104.86	1104.84	1109.116
11-Jun-08	1.60	11.30	1104.72	1104.91	1109.176
18-Jun-08	1.60	11.40	1104.72	1104.98	1109.213
24-Jun-08	1.70	11.50	1104.79	1105.05	1109.272
2-Jul-08	1.60	11.50	1104.72	1105.05	1109.295
7-Jul-08	1.60	11.60	1104.72	1105.12	1109.323
15-Jul-08	1.60	11.80	1104.72	1105.26	1109.732
22-Jul-08	1.70	12.20	1104.79	1105.54	1109.903
29-Jul-08	1.80	12.30	1104.86	1105.61	1109.948
4-Aug-08	1.60	12.20	1104.72	1105.54	1109.968
11-Aug-08	1.70	11.90	1104.79	1105.33	1109.181
21-Aug-08	1.90	11.20	1104.93	1104.84	1108.010
18-Sep-08	1.90	11.80	1104.93	1105.26	1108.909
26-Jun-09	1.90	12.00	1104.93	1105.40	1110.237
9-Sep-09	2.20	11.00	1105.14	1104.70	1108.731

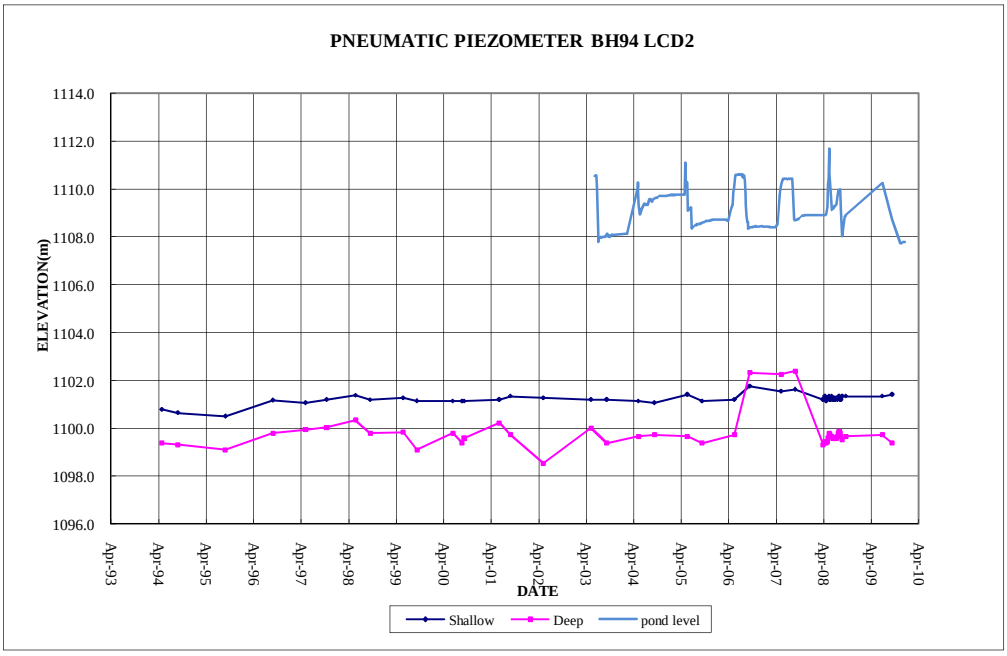


Little Creek Dam Pneumatic Piezometers

BH94 LCD2 **Location:** Little Creek Dam Crest **Ground Elevation:** 1114.5m **Coordinates:** 3065N,13485E

Date Installed: June '94 **Shallow Tip Elevation:** 1100.5 **Deep Tip Elevation :** 1094.9 **Surface Protector:** yes

Date	Reading (psi)		Piezometric Elevation (m)		Pond
	Shallow	Deep	Shallow	Deep	Level
May-94	0.4	6.4	1100.78	1099.38	
Sep-94	0.2	6.3	1100.64	1099.31	
Sep-95	0.0	6.0	1100.50	1099.10	
Sep-96	0.95	7.0	1101.17	1099.80	
May-97	0.8	7.2	1101.06	1099.94	
Oct-97	1.00	7.34	1101.20	1100.04	
May-98	1.25	7.78	1101.38	1100.35	
Sep-98	0.98	7.00	1101.19	1099.80	~1109.5
May-99	1.10	7.05	1101.27	1099.84	
Sep-99	0.91	6.00	1101.14	1099.10	~1105
12-Jun-00	0.90	7.00	1101.13	1099.80	
23-Aug-00	0.90	6.40	1101.13	1099.38	
8-Sep-00	0.90	6.70	1101.13	1099.59	
5-Jun-01	1.00	7.60	1101.20	1100.22	1109.33
30-Aug-01	1.20	6.90	1101.34	1099.73	1108.55
9-May-02	1.10	5.20	1101.27	1098.54	1109.78
10-May-03	1.00	7.30	1101.20	1100.01	1110.538
9-Sep-03	1.00	6.40	1101.20	1099.38	1108.127
8-May-04	0.90	6.80	1101.13	1099.66	1109.323
8-Sep-04	0.80	6.90	1101.06	1099.73	
19-May-05	1.30	6.80	1101.41	1099.66	
9-Sep-05	0.9	6.4	1101.13	1099.38	
16-May-06	1.00	6.90	1101.20	1099.73	1110.293
11-Sep-06	1.80	10.60	1101.76	1102.32	1108.403
10-May-07	1.50	10.50	1101.55	1102.25	
27-Aug-07	1.60	10.7	1101.62	1102.39	
27-Mar-08	1	6.3	1101.2	1099.31	1108.909
4-Apr-08	1.10	6.40	1101.27	1099.38	1108.904
10-Apr-08	1.20	6.50	1101.34	1099.45	1108.904
21-Apr-08	0.90	6.40	1101.13	1099.38	1108.943
28-Apr-08	1.10	6.50	1101.27	1099.45	1109.225
5-May-08	1.10	6.70	1101.27	1099.59	1110.191
12-May-08	1.20	7.00	1101.34	1099.80	1111.696
15-May-08	1.10	6.90	1101.27	1099.73	1110.697
20-May-08	1.00	6.90	1101.20	1099.73	1110.311
26-May-08	1.00	6.80	1101.20	1099.66	1109.919
2-Jun-08	1.20	6.80	1101.34	1099.66	1109.116
11-Jun-08	1.00	6.70	1101.20	1099.59	1109.176
18-Jun-08	1.00	6.70	1101.20	1099.59	1109.213
24-Jun-08	1.10	6.70	1101.27	1099.59	1109.272
2-Jul-08	1.00	6.70	1101.20	1099.59	1109.295
7-Jul-08	1.10	6.70	1101.27	1099.59	1109.323
15-Jul-08	1.00	6.80	1101.20	1099.66	1109.732
22-Jul-08	1.10	7.00	1101.27	1099.80	1109.903
29-Jul-08	1.20	7.10	1101.34	1099.87	1109.948
4-Aug-08	1.00	7.00	1101.20	1099.80	1109.968
11-Aug-08	1.00	6.80	1101.20	1099.66	1109.181
21-Aug-08	1.20	6.60	1101.34	1099.52	1108.010
18-Sep-08	1.20	6.80	1101.34	1099.66	1108.909
26-Jun-09	1.20	6.90	1101.34	1099.73	1110.237
9-Sep-09	1.30	6.40	1101.41	1099.38	1108.731



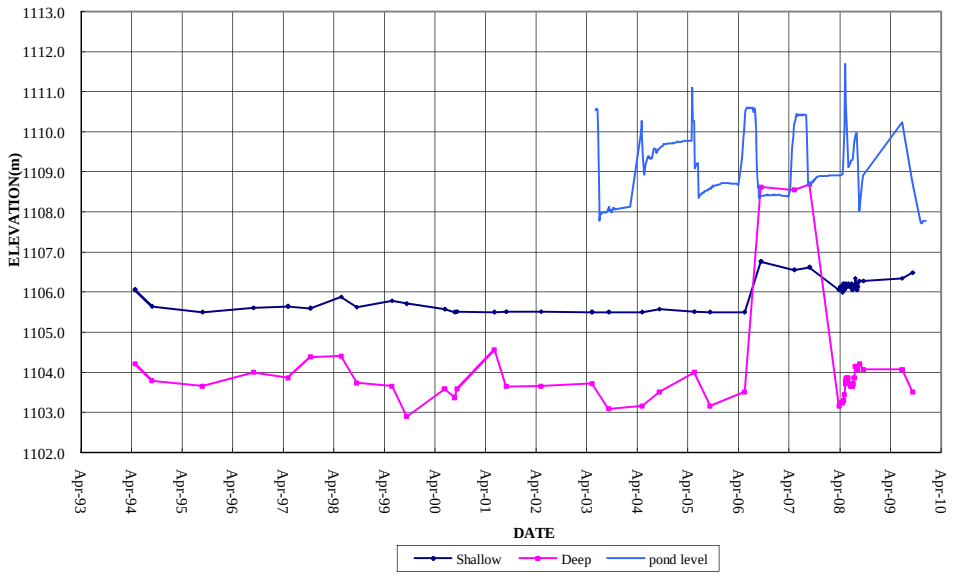
Little Creek Dam Pneumatic Piezometers

BH94 LCD3 **Location:** Little Creek Dam Crest **Ground Elevation:** 1114.5m **Coordinates:** 3115N, 13525E

Date Installed: June '94 **Shallow Tip Elevation:** 1105.5 **Deep Tip Elevation :** 1101.2 **Surface Protector:** yes

Date	Reading (psi) Shallow	Deep	Piezometric Elevation (m) Shallow	Deep	Pond Level
May-94	0.8	4.3	1106.06	1104.21	
Sep-94	0.2	3.7	1105.64	1103.79	
Sep-95	0.0	3.5	1105.50	1103.65	
Sep-96	0.15	4.0	1105.61	1104.00	
May-97	0.2	3.8	1105.64	1103.86	
Oct-97	0.14	4.54	1105.60	1104.38	
May-98	0.54	4.58	1105.88	1104.41	
17-Sep-98	0.17	3.62	1105.62	1103.73	~1109.5
29-May-99	0.40	3.50	1105.78	1103.65	
12-Sep-99	0.30	2.42	1105.71	1102.89	~1105
12-Jun-00	0.10	3.40	1105.57	1103.58	
23-Aug-00	0.00	3.10	1105.50	1103.37	
8-Sep-00	0.01	3.40	1105.51	1103.58	
5-Jun-01	0.00	4.80	1105.50	1104.56	1109.33
30-Aug-01	0.01	3.49	1105.51	1103.64	1108.55
9-May-02	0.01	3.50	1105.51	1103.65	1109.78
10-May-03	0.00	3.60	1105.50	1103.72	1110.538
9-Sep-03	0.00	2.70	1105.50	1103.09	1108.127
8-May-04	0.00	2.80	1105.50	1103.16	1109.323
8-Sep-04	0.10	3.30	1105.57	1103.51	
19-May-05	0.01	4.00	1105.51	1104.00	
9-Sep-05	0.00	2.80	1105.50	1103.16	
16-May-06	0.00	3.30	1105.50	1103.51	1110.293
11-Sep-06	1.80	10.60	1106.76	1108.62	1108.403
10-May-07	1.50	10.50	1106.55	1108.55	
27-Aug-07	1.60	10.70	1106.62	1108.69	
27-Mar-08	0.8	2.8	1106.06	1103.16	1108.909
4-Apr-08	0.90	2.90	1106.13	1103.23	1108.904
10-Apr-08	0.90	2.90	1106.13	1103.23	1108.904
21-Apr-08	0.70	2.90	1105.99	1103.23	1108.943
28-Apr-08	1.00	3.00	1106.20	1103.30	1109.225
5-May-08	0.80	3.20	1106.06	1103.44	1110.191
12-May-08	0.90	3.60	1106.13	1103.72	1111.696
15-May-08	1.00	3.70	1106.20	1103.79	1110.697
20-May-08	0.90	3.80	1106.13	1103.86	1110.311
26-May-08	0.90	3.80	1106.13	1103.86	1109.919
2-Jun-08	1.00	3.80	1106.20	1103.86	1109.116
11-Jun-08	0.90	3.60	1106.13	1103.72	1109.176
18-Jun-08	0.90	3.50	1106.13	1103.65	1109.213
25-Jun-08	1.00	3.60	1106.20	1103.72	1109.272
2-Jul-08	0.80	3.50	1106.06	1103.65	1109.295
7-Jul-08	0.90	3.60	1106.13	1103.72	1109.323
15-Jul-08	0.90	3.80	1106.13	1103.86	1109.732
22-Jul-08	1.20	4.20	1106.34	1104.14	1109.903
29-Jul-08	1.00	4.20	1106.20	1104.14	1109.948
4-Aug-08	0.80	4.10	1106.06	1104.07	1109.968
11-Aug-08	0.90	4.10	1106.13	1104.07	1109.181
21-Aug-08	1.10	4.30	1106.27	1104.21	1108.010
18-Sep-08	1.10	4.10	1106.27	1104.07	1108.909
26-Jun-09	1.20	4.10	1106.34	1104.07	1110.237
9-Sep-09	1.40	3.30	1106.48	1103.51	1108.731

PNEUMATIC PIEZOMETER BH94 LCD3



Little Creek Dam Thermistors

BH94 LCD-4 **Location:** Little Creek Dam Crest **Elevation:** 1114.5m **Coordinates:** 3015N, 13465E

Date Installed: 8-Jun-94 **Thermistor Type:** SINCA RTD's **Ice-Bath Calibration:** not applied **Surface Protector:** yes

Depth Correction 0 Ro (Ohms)= 1854

Resistivity (Ohms)

Depth on String (m)	Actual Depth (m)	15-Jun-94	16-Sep-94	22-Sep-95	25-Sep-96	8-May-97	17-Oct-97	28-May-98	17-Sep-98	4-Jun-99	12-Sep-99	6-Jun-00	8-Sep-00	9-May-02	4-Sep-02	10-May-03	9-Sep-03	8-Sep-04	19-May-05	9-Sep-05	16-May-06	11-Sep-06	10-May-07	27-Aug-07	Mar. 27/08 (1)	Mar. 27/08 (2)
1.0	-1.0	1893	1908	1909	1896	1847	1872	1872	1909	1867	1914	1873	1900	1842	1912	1851	1921	1921	1862	1921	1849	1915	1849	1937	1843	1839
1.5	-1.5	1869	1913	1906	1898	1845	1881	1854	1911	1853	1913	1854	1902	1841	1909	1850	1919	1925	1852	1980	1848	1915	1847	1929	1906	1857
2.0	-2.0	1852	1911	1900	1894	1840	1884	1849	1908	1848	1906	1849	1898	1838	1900	1846	1913	1921	1848	1915	1845	1910	1842	1917	1837	1835
2.5	-2.5	1851	1909	1898	1892	1841	1888	1850	1906	1848	1902	1850	1897	1841	1896	1848	1909	1918	1849	1912	1847	1909	1845	1910	1896	1857
14.5	-14.5	1873	1871	1872	1874	1874	1873	1873	1872	1874	1873	1874	1873	1876	1874	1876	1875	1875	1878	1877	1878	1878	1879	1878	2012	1880
15.0	-15.0	1872	1870	1871	1872	1872	1871	1871	1871	1873	1872	1873	1872	1874	1873	1874	1873	1874	1876	1876	1877	1876	1877	1876	1884	1877
15.5	-15.5	1874	1873	1875	1876	1876	1875	1875	1875	1877	1876	1876	1876	1878	1877	1878	1877	1878	1880	1880	1880	1880	1881	1881	1992	1901
16.0	-16.0	1870	1868	1870	1871	1871	1870	1870	1870	1871	1871	1871	1871	1873	1872	1873	1872	1873	1875	1875	1875	1875	1876	1876	1887	1878
16.5	-16.5	1870	1869	1869	1871	1871	1871	1870	1871	1872	1871	1871	1871	1873	1872	1873	1873	1873	1875	1875	1875	1875	1876	1876	1877	1875
17.0	-17.0	1870	1870	1871	1872	1872	1872	1872	1871	1873	1872	1873	1872	1874	1873	1874	1874	1874	1876	1876	1876	1877	1879	1900	1929	1877

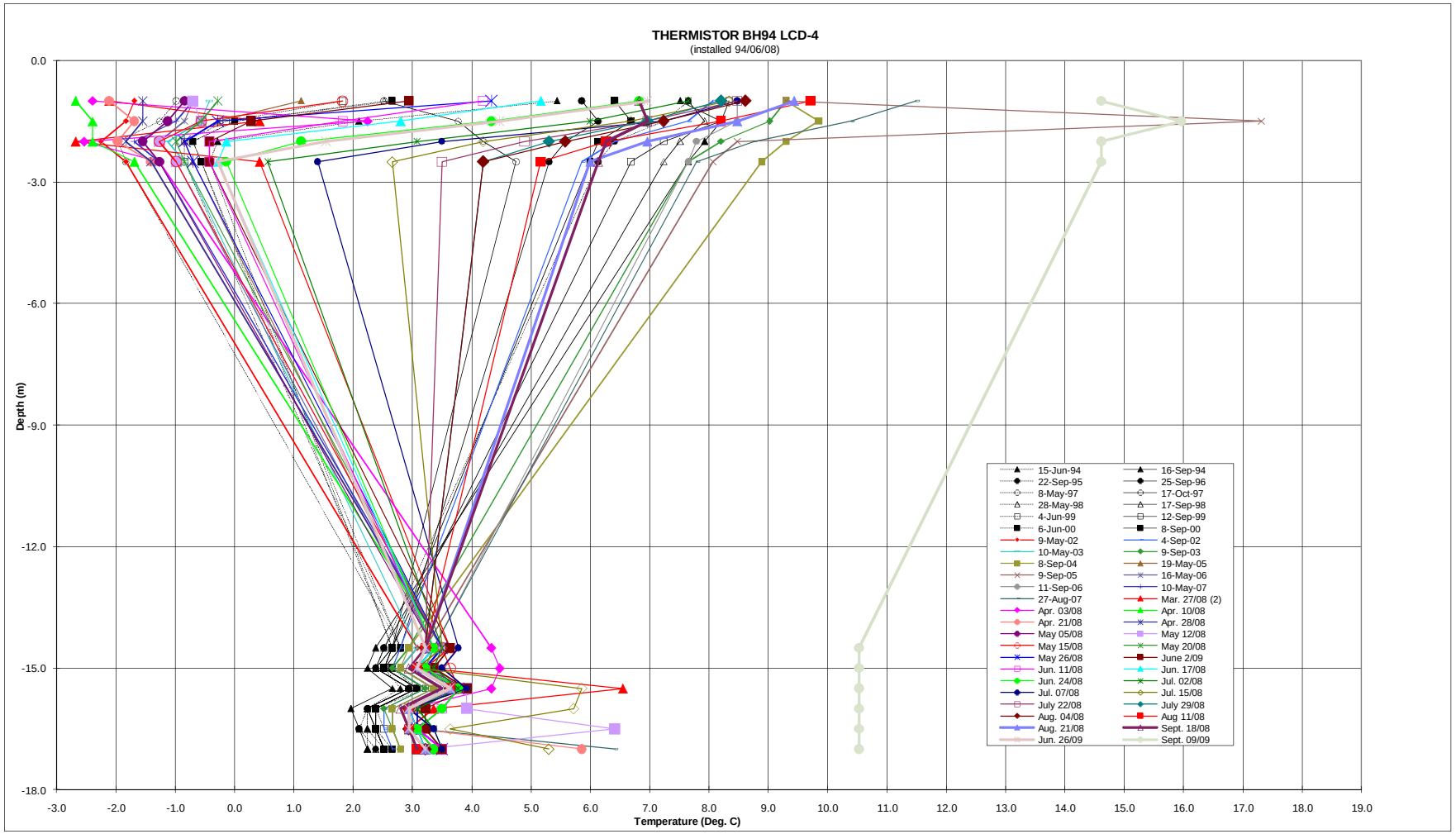
Depth on String (m)	Actual Depth (m)	Apr. 03/08	Apr. 10/08	Apr. 21/08	Apr. 28/08	May 05/08	May 12/08	May 15/08	May 20/08	May 26/08	June 2/09	Jun. 11/08	Jun. 17/08	Jun. 24/08	Jul. 02/08	Jul. 07/08	Jul. 15/08	July 22/08	July 29/08	Aug. 04/08	Aug 11/08	Aug. 21/08	Sept. 18/08	Jun. 26/09	Sept. 09/09
1.0	-1.0	1837	1835	1839	1843	1848	1849	1867	1852	1885	1875	1884	1891	1903	1909	1915	1914	1915	1913	1916	1924	1922	1903	1904	1960
1.5	-1.5	1870	1837	1842	1843	1846	1850	1850	1850	1852	1856	1867	1874	1885	1897	1906	1902	1904	1904	1906	1913	1915	1904	1886	1970
2.0	-2.0	1836	1837	1840	1841	1843	1845	1845	1847	1848	1851	1851	1853	1862	1876	1879	1884	1889	1892	1894	1899	1904	1899	1865	1960
2.5	-2.5	1845	1842	1844	1844	1845	1847	1847	1848	1849	1851	1851	1852	1853	1858	1864	1873	1879	1884	1884	1891	1897	1898	1852	1960
14.5	-14.5	1885	1879	1879	1879	1878	1879	1879	1879	1879	1880	1878	1878	1878	1879	1881	1879	1877	1877	1877	1877	1877	1877	1877	1930
15.0	-15.0	1886	1877	1877	1877	1877	1878	1880	1877	1877	1878	1877	1876	1877	1878	1879	1876	1876	1876	1876	1876	1876	1875	1876	1930
15.5	-15.5	1885	1881	1881	1881	1882	1882	1881	1880	1881	1882	1881	1880	1881	1881	1882	1896	1880	1880	1880	1880	1880	1879	1880	1930
16.0	-16.0	1875	1876	1876	1875	1875	1882	1876	1876	1876	1877	1879	1875	1879	1876	1875	1895	1875	1875	1875	1875	1875	1874	1875	1930
16.5	-16.5	1876	1876	1876	1876	1876	1900	1876	1876	1876	1877	1876	1876	1876	1878	1878	1880	1875	1875	1875	1875	1875	1875	1875	1930
17.0	-17.0	1877	1878	1896	1877	1878	1877	1877	1877	1879	1879	1879	1877	1878	1879	1879	1892	1877	1877	1877	1876	1877	1876	1877	1930

Temperature (°C)

Depth on String (m)	Actual Depth (m)	15-Jun-94	16-Sep-94	22-Sep-95	25-Sep-96	8-May-97	17-Oct-97	28-May-98	17-Sep-98	4-Jun-99	12-Sep-99	6-Jun-00	8-Sep-00	9-May-02	4-Sep-02	10-May-03	9-Sep-03	8-Sep-04	19-May-05	9-Sep-05	16-May-06	11-Sep-06	10-May-07	27-Aug-07	Mar. 27/08 (1)	Mar. 27/08 (2)
1.0	-1.0	5.4	7.5	7.7	5.9	-1.0	2.5	2.5	7.7	1.8	8.3	2.7	6.4	-1.7	8.1	-0.4	9.3	9.3	1.1	9.3	-0.7	8.5	-0.7	11.5	-1.5	-2.1
1.5	-1.5	2.1	8.2	7.2	6.1	-1.3	3.8	0.0	7.9	-0.1	8.2	0.0	6.7	-1.8	7.7	-0.6	9.0	9.8	-0.3	17.3	-0.8	8.5	-1.0	10.4	7.2	0.4
2.0	-2.0	-0.3	7.9	6.4	5.6	-2.0	4.2	-0.7	7.5	-0.8	7.2	-0.7	6.1	-2.3	6.4	-1.1	8.2	9.3	-0.8	8.5	-1.3	7.8	-1.7	8.8	-2.4	-2.7
2.5	-2.5	-0.4	7.7	6.1	5.3	-1.8	4.7	-0.6	7.2	-0.8	6.7	-0.6	6.0	-1.8	5.9	-0.8	7.7	8.9	-0.7	8.1	-1.0	7.7	-1.3	7.8	5.9	0.4
14.5	-14.5	2.7	2.4	2.5	2.8	2.8	2.7	2.7	2.5	2.8	2.7	2.8	2.7	3.1	2.8	3.1	2.9	2.9	3.4	3.2	3.4	3.4	3.5	3.4	21.6	3.6
15.0	-15.0	2.5	2.2	2.4	2.5	2.5	2.4	2.4	2.4	2.7	2.5	2.7	2.5	2.8	2.7	2.8	2.7	2.8	3.1	3.1	3.2	3.1	3.2	3.1	4.2	3.2
15.5	-15.5	2.8	2.7	2.9	3.1	3.1	2.9	2.9	2.9	3.2	3.1	3.1	3.1	3.4	3.2	3.4	3.2	3.4	3.6	3.6	3.6	3.6	3.8	3.8	18.9	6.5
16.0	-16.0	2.2	2.0	2.2	2.4	2.4	2.2	2.2	2.2	2.4	2.4	2.4	2.4	2.7	2.5	2.7	2.5	2.7	2.9	2.9	2.9	2.9	3.1	3.1	4.6	3.4
16.5	-16.5	2.2	2.1	2.1	2.4	2.4	2.4	2.2	2.4	2.5	2.4	2.4	2.4	2.7	2.5	2.7	2.7	2.7	2.9	2.9	2.9	2.9	3.1	3.1	3.2	2.9
17.0	-17.0	2.2	2.2	2.4	2.5	2.5	2.5	2.5	2.4	2.7	2.5	2.7	2.5	2.8	2.7	2.8	2.8	2.8	3.1	3.1	3.1	3.2	3.5	6.4	10.4	3.2

Depth on String (m)	Actual Depth (m)	Apr. 03/08	Apr. 10/08	Apr. 21/08	1843	May 05/08	May 12/08	May 15/08	May 20/08	May 26/08	June 2/09	Jun. 11/08	Jun. 17/08	Jun. 24/08	Jul. 02/08	Jul. 07/08	Jul. 15/08	July 22/08	July 29/08	Aug. 04/08	Aug 11/08	Aug. 21/08	Sept. 18/08	Jun. 26/09	Sept. 09/09
1.0	-1.0	-2.4	-2.7	-2.1	-1.5	-0.8	-0.7	1.8	-0.3	4.3	2.9	4.2	5.2	6.8	7.7	8.5	8.3	8.5	8.2	8.6	9.7	9.4	6.8	7.0	14.6
1.5	-1.5	2.2	-2.4	-1.7	-1.5	-1.1	-0.6	-0.6	-0.6	-0.3	0.3	1.8	2.8	4.3	6.0	7.2	6.7	7.0	7.0	7.2	8.2	8.5	7.0	4.5	16.0
2.0	-2.0	-2.5	-2.4	-2.0	-1.8	-1.5	-1.3	-1.3	-1.0	-0.8	-0.4	-0.4	-0.1	1.1	3.1	3.5	4.2	4.9	5.3	5.6	6.3	7.0	6.3	1.5	14.6
2.5	-2.5	-1.3	-1.7	-1.4	-1.4	-1.3	-1.0	-1.0	-0.8	-0.7	-0.4	-0.4	-0.3	-0.1	0.6	1.4	2.7	3.5	4.2	4.2	5.2	6.0	6.1	-0.3	14.6
14.5	-14.5	4.3	3.5	3.5	3.5	3.4	3.5	3.5	3.5	3.5	3.6	3.4	3.4	3.4	3.5	3.8	3.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	10.5
15.0	-15.0	4.5	3.2	3.2	3.2	3.2	3.4	3.6	3.2	3.2	3.4	3.2	3.1	3.2	3.4	3.5	3.1	3.1	3.1	3.1	3.1	3.1	2.9	3.1	10.5
15.5	-15.5	4.3	3.8	3.8	3.8	3.9	3.9	3.8	3.6	3.8	3.9	3.8	3.6	3.8	3.8	3.9	5.9	3.6	3.6	3.6	3.6	3.6	3.5	3.6	10.5
16.0	-16.0	2.9	3.1	3.1	2.9	2.9	3.9	3.1	3.1	3.1	3.2	3.5	2.9	3.5	3.1	2.9	5.7	2.9	2.9	2.9	2.9	2.9	2.8	2.9	10.5
16.5	-16.5	3.1	3.1	3.1	3.1	3.1	6.4	3.1	3.1	3.1	3.2	3.1	3.1	3.1	3.4	3.4	3.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	10.5
17.0	-17.0	3.2	3.4	5.9	3.2	3.4	3.2	3.2	3.2	3.5	3.5	3.5	3.2	3.4	3.5	3.5	5.3	3.2	3.2	3.2	3.1	3.2	3.1	3.2	10.5

Little Creek Dam Thermistors



Little Creek Dam Thermistors

BH94 LCD-5 **Location:** Little Creek Dam Crest **Elevation:** 1114.5m **Coordinates:** 3090N, 13500E
Date Thermistor SINCA **Ice-Bath** **Surface**
Installed: 8-Jun-94 **Type:** RTD's **Calibration:** not applied **Protector:** yes

Depth Correction 0 Ro (Ohms)= 1854

Resistivity (Ohms)

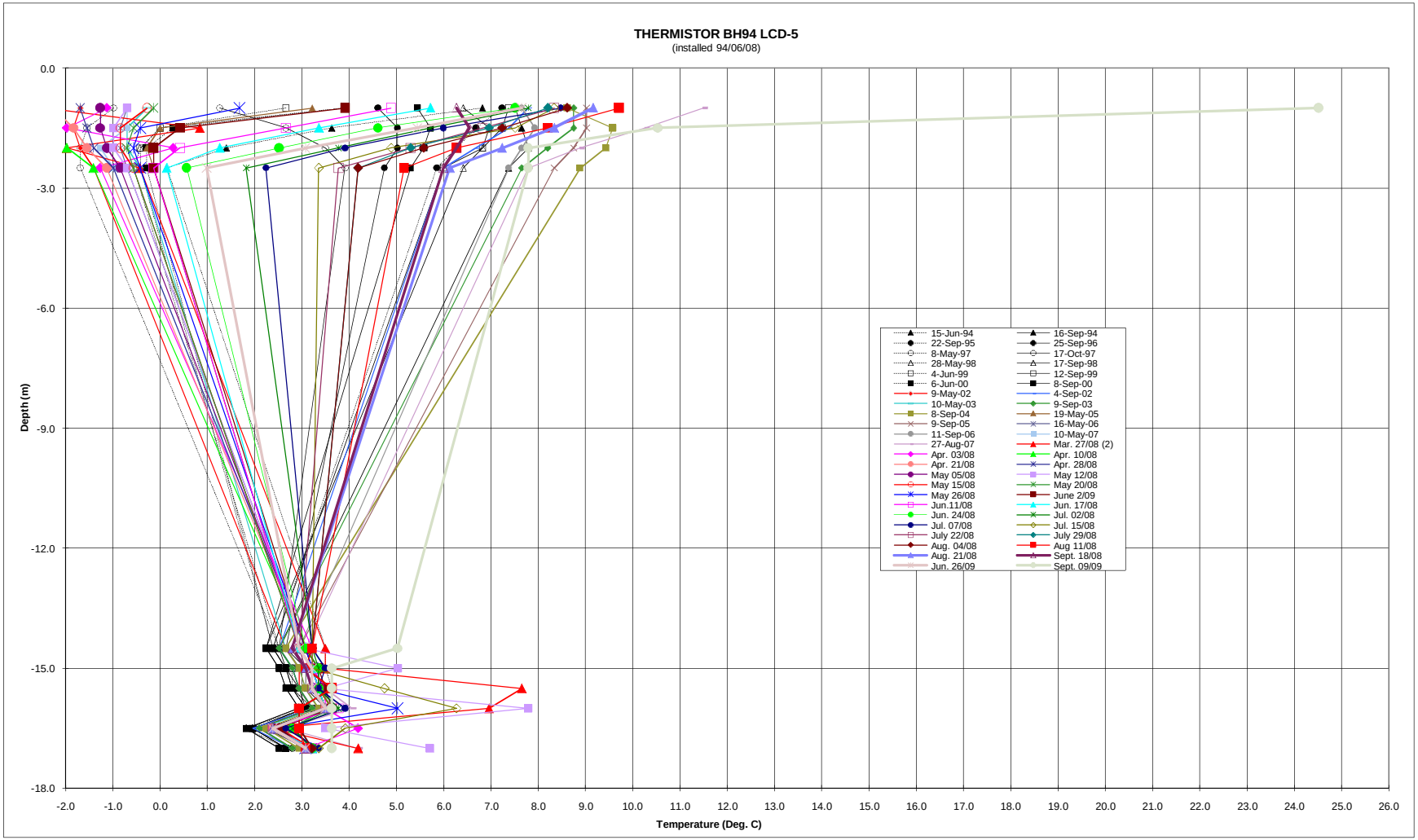
Depth on String (m)	Actual Depth (m)	15-Jun-94	16-Sep-94	22-Sep-95	25-Sep-96	8-May-97	17-Oct-97	28-May-98	17-Sep-98	4-Jun-99	12-Sep-99	6-Jun-00	8-Sep-00	9-May-02	4-Sep-02	10-May-03	9-Sep-03	8-Sep-04	19-May-05	9-Sep-05	16-May-06	11-Sep-06	10-May-07	27-Aug-07	Mar. 27/08 (1)	Mar. 27/08 (2)
1.0	-1.0	1903	1908	1906	1887	1847	1863	1882	1900	1873	1907	1882	1893	1842	1910	1852	1917	1916	1877	1919	1849	1909	1849	1937	1827	1837
1.5	-1.5	1880	1909	1902	1890	1843	1873	1854	1904	1854	1906	1856	1895	1841	1907	1849	1917	1923	1854	1919	1848	1911	1849	1928	1836	1860
2.0	-2.0	1864	1910	1899	1890	1842	1879	1851	1903	1851	1903	1852	1894	1842	1902	1849	1913	1922	1852	1917	1848	1909	1845	1918	1839	1840
2.5	-2.5	1855	1907	1896	1888	1842	1882	1851	1900	1850	1897	1852	1892	1844	1897	1851	1909	1918	1853	1914	1849	1907	1847	1910	1852	1851
14.5	-14.5	1879	1872	1871	1873	1872	1872	1871	1870	1872	1871	1871	1870	1873	1872	1873	1872	1873	1875	1875	1876	1875	1876	1876	1968	1879
15.0	-15.0	1879	1873	1873	1876	1874	1874	1873	1872	1874	1873	1873	1872	1875	1874	1875	1874	1875	1877	1877	1878	1877	1878	1877	1877	1879
15.5	-15.5	1880	1875	1874	1876	1875	1875	1874	1873	1874	1874	1874	1873	1875	1875	1876	1875	1876	1878	1877	1878	1878	1879	1879	1896	1909
16.0	-16.0	1878	1876	1877	1879	1877	1877	1876	1875	1877	1876	1876	1875	1877	1877	1878	1877	1878	1879	1879	1880	1880	1880	1883	1885	1904
16.5	-16.5	1868	1868	1868	1870	1869	1869	1867	1867	1868	1868	1868	1867	1869	1868	1869	1869	1870	1871	1871	1871	1871	1872	1873	1871	1871
17.0	-17.0	1873	1873	1874	1876	1874	1874	1873	1872	1873	1873	1873	1872	1874	1874	1874	1874	1875	1876	1876	1877	1877	1877	1884	1881	1884

Depth on String (m)	Actual Depth (m)	Apr. 03/08	Apr. 10/08	Apr. 21/08	Apr. 28/08	May 05/08	May 12/08	May 15/08	May 20/08	May 26/08	June 2/09	Jun.11/08	Jun. 17/08	Jun. 24/08	Jul. 02/08	Jul. 07/08	Jul. 15/08	July 22/08	July 29/08	Aug. 04/08	Aug 11/08	Aug. 21/08	Sept. 18/08	Jun. 26/09	Sept. 09/09
1.0	-1.0	1846	1834	1838	1842	1845	1849	1852	1853	1866	1882	1889	1895	1908	1910	1915	1914	1914	1913	1916	1924	1920	1899	1909	2034
1.5	-1.5	1840	1837	1841	1843	1845	1847	1848	1850	1851	1857	1873	1878	1887	1895	1897	1908	1903	1904	1906	1913	1914	1901	1893	1930
2.0	-2.0	1856	1840	1843	1844	1846	1847	1848	1849	1850	1853	1857	1863	1872	1881	1882	1889	1892	1892	1894	1899	1906	1899	1876	1910
2.5	-2.5	1845	1844	1846	1847	1848	1849	1850	1850	1851	1853	1853	1855	1858	1867	1870	1878	1881	1884	1884	1891	1898	1897	1861	1910
14.5	-14.5	1877	1876	1876	1876	1876	1876	1875	1875	1876	1876	1875	1875	1876	1877	1877	1877	1875	1877	1877	1877	1874	1874	1875	1890
15.0	-15.0	1877	1877	1877	1877	1877	1890	1877	1877	1877	1878	1877	1877	1878	1878	1879	1877	1876	1876	1876	1876	1876	1876	1877	1880
15.5	-15.5	1879	1878	1878	1878	1878	1879	1878	1878	1878	1879	1878	1878	1878	1878	1878	1888	1877	1880	1880	1880	1877	1877	1877	1880
16.0	-16.0	1879	1879	1879	1879	1880	1910	1880	1879	1890	1880	1881	1879	1880	1881	1882	1899	1879	1875	1875	1875	1879	1879	1879	1880
16.5	-16.5	1884	1871	1871	1871	1874	1879	1872	1874	1872	1872	1871	1871	1874	1874	1873	1882	1871	1875	1875	1875	1871	1871	1871	1880
17.0	-17.0	1876	1876	1876	1877	1877	1895	1877	1877	1876	1876	1877	1877	1877	1877	1878	1878	1876	1877	1877	1876	1876	1876	1876	1880

Temperature (°C)

Depth on String (m)	Actual Depth (m)	15-Jun-94	16-Sep-94	22-Sep-95	25-Sep-96	8-May-97	17-Oct-97	28-May-98	17-Sep-98	4-Jun-99	12-Sep-99	6-Jun-00	8-Sep-00	9-May-02	4-Sep-02	10-May-03	9-Sep-03	8-Sep-04	19-May-05	9-Sep-05	16-May-06	11-Sep-06	10-May-07	27-Aug-07	Mar. 27/08 (1)	Mar. 27/08 (2)
1.0	-1.0	6.8	7.5	7.2	4.6	-1.0	1.3	3.9	6.4	2.7	7.4	3.9	5.4	-1.7	7.8	-0.3	8.8	8.6	3.2	9.0	-0.7	7.7	-0.7	11.5	-3.8	-2.4
1.5	-1.5	3.6	7.7	6.7	5.0	-1.5	2.7	0.0	7.0	0.0	7.2	0.3	5.7	-1.8	7.4	-0.7	8.8	9.6	0.0	9.0	-0.8	7.9	-0.7	10.3	-2.5	0.8
2.0	-2.0	1.4	7.8	6.3	5.0	-1.7	3.5	-0.4	6.8	-0.4	6.8	-0.3	5.6	-1.7	6.7	-0.7	8.2	9.4	-0.3	8.8	-0.8	7.7	-1.3	8.9	-2.1	-2.0
2.5	-2.5	0.1	7.4	5.9	4.7	-1.7	3.9	-0.4	6.4	-0.6	6.0	-0.3	5.3	-1.4	6.0	-0.4	7.7	8.9	-0.1	8.3	-0.7	7.4	-1.0	7.8	-0.3	-0.4
14.5	-14.5	3.5	2.5	2.4	2.7	2.5	2.5	2.4	2.2	2.5	2.4	2.4	2.2	2.7	2.5	2.7	2.5	2.7	2.9	2.9	3.1	2.9	3.1	3.1	15.7	3.5
15.0	-15.0	3.5	2.7	2.7	3.1	2.8	2.8	2.7	2.5	2.8	2.7	2.7	2.5	2.9	2.8	2.9	2.8	2.9	3.2	3.2	3.4	3.2	3.4	3.2	3.2	3.5
15.5	-15.5	3.6	2.9	2.8	3.1	2.9	2.9	2.8	2.7	2.8	2.8	2.8	2.7	2.9	2.9	3.1	2.9	3.1	3.4	3.2	3.4	3.4	3.5	3.5	5.9	7.7
16.0	-16.0	3.4	3.1	3.2	3.5	3.2	3.2	3.1	2.9	3.2	3.1	3.1	2.9	3.2	3.2	3.4	3.2	3.4	3.5	3.5	3.6	3.6	3.6	4.1	4.3	7.0
16.5	-16.5	2.0	2.0	2.0	2.2	2.1	2.1	1.8	1.8	2.0	2.0	2.0	1.8	2.1	2.0	2.1	2.1	2.2	2.4	2.4	2.4	2.4	2.5	2.7	2.4	2.4
17.0	-17.0	2.7	2.7	2.8	3.1	2.8	2.8	2.7	2.5	2.7	2.7	2.7	2.5	2.8	2.8	2.8	2.8	2.9	3.1	3.1	3.2	3.2	3.2	4.2	3.8	4.2

Depth on String (m)	Actual Depth (m)	Apr. 03/08	Apr. 10/08	Apr. 21/08	Apr. 28/08	May 05/08	May 12/08	May 15/08	May 20/08	May 26/08	June 2/09	Jun.11/08	Jun. 17/08	Jun. 24/08	Jul. 02/08	Jul. 07/08	Jul. 15/08	July 22/08	July 29/08	Aug. 04/08	Aug 11/08	Aug. 21/08	Sept. 18/08	Jun. 26/09	Sept. 09/09
1.0	-1.0	-1.1	-2.8	-2.3	-1.7	-1.3	-0.7	-0.3	-0.1	1.7	3.9	4.9	5.7	7.5	7.8	8.5	8.3	8.3	8.2	8.6	9.7	9.2	6.3	7.7	24.5
1.5	-1.5	-2.0	-2.4	-1.8	-1.5	-1.3	-1.0	-0.8	-0.6	-0.4	0.4	2.7	3.4	4.6	5.7	6.0	7.5	6.8	7.0	7.2	8.2	8.3	6.5	5.4	10.5
2.0	-2.0	0.3	-2.0	-1.5	-1.4	-1.1	-1.0	-0.8	-0.7	-0.6	-0.1	0.4	1.3	2.5	3.8	3.9	4.9	5.3	5.3	5.6	6.3	7.2	6.3	3.1	7.8
2.5	-2.5	-1.3	-1.4	-1.1	-1.0	-0.8	-0.7	-0.6	-0.6	-0.4	-0.1	-0.1	0.1	0.6	1.8	2.2	3.4	3.8	4.2	4.2	5.2	6.1	6.0	1.0	7.8
14.5	-14.5	3.2	3.1	3.1	3.1	3.1	3.1	2.9	2.9	3.1	3.1	2.9	2.9	3.1	3.2	3.2	3.2	2.9	3.2	3.2	3.2	2.8	2.8	2.9	5.0
15.0	-15.0	3.2	3.2	3.2	3.2	3.2	5.0	3.2	3.2	3.2	3.4	3.2	3.2	3.4	3.4	3.5	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.6
15.5	-15.5	3.5	3.4	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.4	4.7	3.2	3.6	3.6	3.6	3.2	3.2	3.2	3.6
16.0	-16.0	3.5	3.5	3.5	3.5	3.6	7.8	3.6	3.5	5.0	3.6	3.8	3.5	3.6	3.8	3.9	6.3	3.5	2.9	2.9	2.9	3.5	3.5	3.5	3.6
16.5	-16.5	4.2	2.4	2.4	2.4	2.8	3.5	2.5	2.8	2.5	2.5	2.4	2.4	2.8	2.8	2.7	3.9	2.4	2.9	2.9	2.9	2.4	2.4	2.4	3.6
17.0	-17.0	3.1	3.1	3.1	3.2	3.2	5.7	3.2	3.2	3.1	3.1	3.2	3.2	3.2	3.2	3.4	3.4	3.1	3.2	3.2	3.1	3.1	3.1	3.1	3.6


THERMISTOR BH94 LCD-5
(installed 94/06/08)
Depth (m)
0.0
-3.0
-6.0
-9.0
-12.0
-15.0
-18.0
-2.0 -1.0 0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0 21.0 22.0 23.0 24.0 25.0 26.0
Temperature (Deg. C)
15-Jun-94
16-Sep-94
22-Sep-95
25-Sep-96
8-May-97
17-Oct-97
28-May-98
17-Sep-98
4-Jun-99
12-Sep-99
6-Jun-00
8-Sep-00
9-May-02
4-Sep-02
10-May-03
9-Sep-03
8-Sep-04
19-May-05
9-Sep-05
16-May-06
11-Sep-06
10-May-07
27-Aug-07
Mar. 27/08 (2)
Apr. 03/08
Apr. 10/08
Apr. 21/08
Apr. 28/08
May 05/08
May 12/08
May 15/08
May 20/08
May 26/08
June 2/09
Jun.11/08
Jun. 17/08
Jun. 24/08
Jul. 02/08
Jul. 07/08
Jul. 15/08
July 22/08
July 29/08
Aug. 04/08
Aug 11/08
Aug. 21/08
Sept. 18/08
Jun. 26/09
Sept. 09/09

Little Creek Dam Thermistors

BH94 LCD-6 **Location:** Little Creek Dam Crest **Elevation:** 1114.5m **Coordinates:** 3125N, 13535E

Date Installed: 10-Jun-94 **Thermistor Type:** SINCA RTD's **Ice-Bath Calibration:** not applied **Surface Protector:** yes

Depth Correction 0.4 Ro (Ohms)= 1854

Resistivity (Ohms)

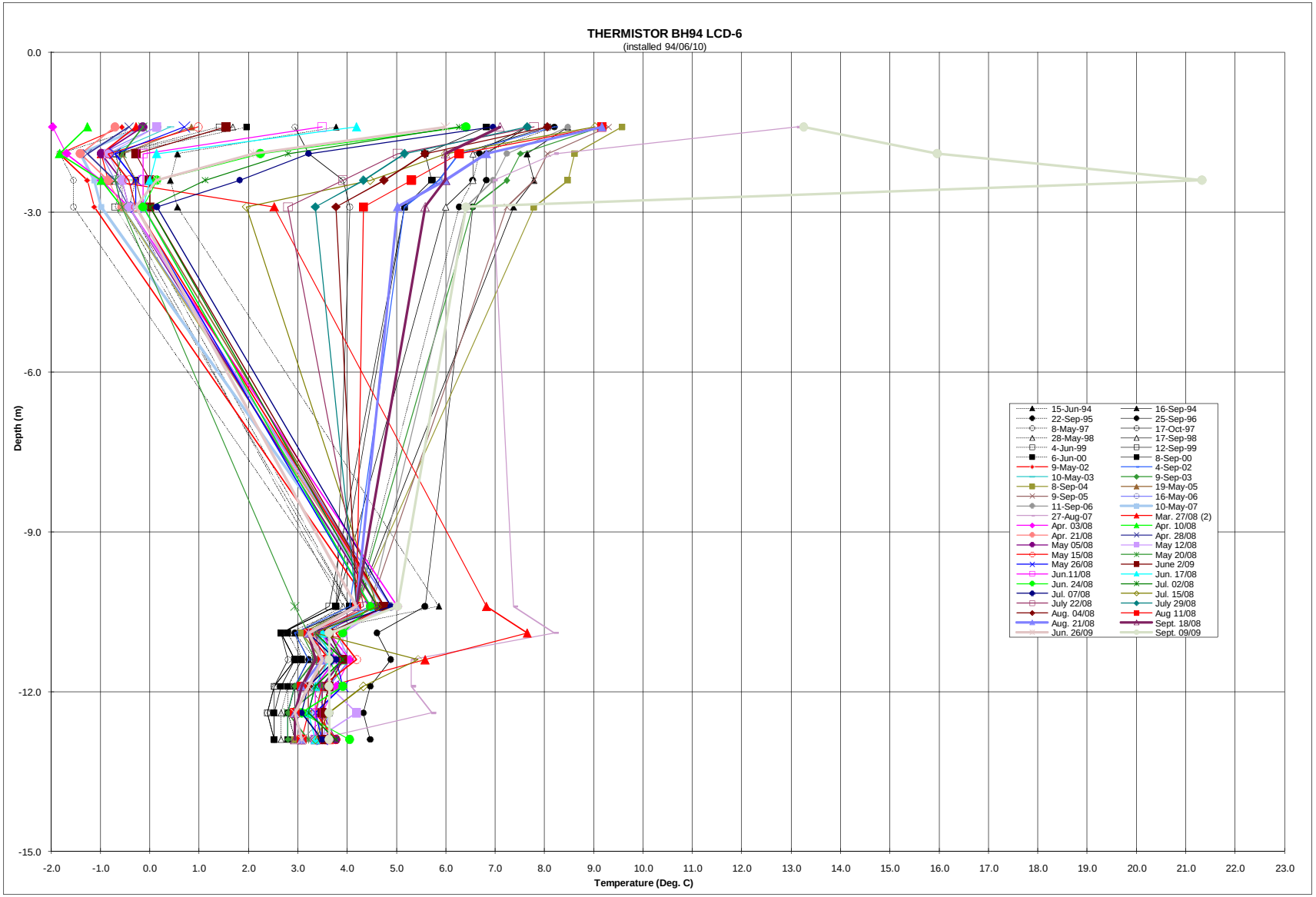
Depth on String (m)	Actual Depth (m)	15-Jun-94	16-Sep-94	22-Sep-95	25-Sep-96	8-May-97	17-Oct-97	28-May-98	17-Sep-98	4-Jun-99	12-Sep-99	6-Jun-00	8-Sep-00	9-May-02	4-Sep-02	10-May-03	9-Sep-03	8-Sep-04	19-May-05	9-Sep-05	16-May-06	11-Sep-06	10-May-07	27-Aug-07	Mar. 27/08 (1)	Mar. 27/08 (2)
1.0	-1.4	1881	1915	1913	1909	1853	1875	1866	1909	1864	1912	1868	1903	1850	1913	1857	1920	1923	1860	1921	1855	1915	1853	1949	1841	1852
1.5	-1.9	1858	1909	1902	1903	1841	1877	1849	1901	1849	1899	1850	1894	1841	1899	1848	1908	1916	1850	1912	1847	1906	1844	1913	1842	1847
2.0	-2.4	1857	1910	1901	1903	1843	1882	1850	1901	1850	1896	1852	1895	1845	1896	1851	1906	1915	1852	1910	1849	1904	1846	1904	1850	1848
2.5	-2.9	1858	1907	1899	1901	1843	1883	1850	1897	1849	1891	1851	1891	1846	1891	1852	1901	1910	1853	1906	1850	1900	1847	1904	1856	1872
10.0	-10.4	1896	1884	1884	1894	1883	1881	1882	1881	1883	1880	1883	1881	1886	1883	1886	1884	1884	1888	1886	1889	1886	1888	1907	1922	1903
10.5	-10.9	1877	1875	1875	1887	1875	1873	1875	1873	1876	1873	1874	1873	1877	1875	1878	1876	1876	1880	1878	1881	1878	1880	1913	1894	1909
11.0	-11.4	1880	1877	1877	1889	1878	1874	1876	1875	1878	1875	1876	1875	1880	1877	1881	1878	1879	1882	1880	1883	1880	1882	1892	1894	1894
11.5	-11.9	1877	1875	1875	1886	1875	1872	1874	1872	1875	1872	1874	1873	1877	1875	1878	1875	1876	1880	1877	1880	1878	1879	1892	1893	1880
12.0	-12.4	1880	1875	1875	1885	1874	1871	1873	1872	1874	1871	1874	1872	1877	1874	1877	1874	1875	1879	1877	1880	1877	1878	1895	1893	1879
12.5	-12.9	1876	1875	1875	1886	1875	1872	1873	1872	1875	1872	1874	1872	1876	1874	1877	1874	1875	1879	1877	1879	1877	1879	1878	1880	1880

Depth on String (m)	Actual Depth (m)	Apr. 03/08	Apr. 10/08	Apr. 21/08	Apr. 28/08	May 05/08	May 12/08	May 15/08	May 20/08	May 26/08	June 2/09	Jun.11/08	Jun. 17/08	Jun. 24/08	Jul. 02/08	Jul. 07/08	Jul. 15/08	July 22/08	July 29/08	Aug. 04/08	Aug 11/08	Aug. 21/08	Sept. 18/08	Jun. 26/09	Sept. 09/09
1.0	-1.4	1840	1845	1849	1851	1853	1855	1861	1853	1859	1865	1879	1884	1900	1899	1904	1919	1910	1909	1912	1920	1920	1905	1897	1950
1.5	-1.9	1842	1841	1844	1845	1847	1848	1848	1850	1849	1852	1853	1855	1870	1874	1877	1897	1890	1891	1894	1899	1903	1897	1869	1970
2.0	-2.4	1847	1847	1848	1849	1850	1850	1851	1849	1852	1854	1853	1854	1855	1862	1867	1886	1882	1885	1888	1892	1897	1897	1855	2010
2.5	-2.9	1851	1850	1850	1851	1851	1851	1852	1850	1852	1854	1853	1853	1853	1854	1855	1868	1874	1878	1881	1885	1890	1894	1852	1900
10.0	-10.4	1890	1888	1888	1888	1887	1888	1888	1875	1886	1888	1886	1886	1886	1887	1889	1887	1885	1884	1884	1884	1884	1884	1884	1890
10.5	-10.9	1880	1880	1880	1880	1879	1882	1881	1877	1879	1880	1879	1879	1882	1878	1877	1878	1878	1877	1877	1877	1877	1877	1877	1880
11.0	-11.4	1883	1882	1882	1882	1882	1882	1884	1878	1881	1882	1881	1880	1880	1882	1881	1893	1879	1879	1879	1879	1879	1878	1879	1880
11.5	-11.9	1881	1879	1879	1880	1879	1880	1879	1879	1882	1880	1878	1878	1882	1878	1877	1885	1877	1877	1877	1876	1876	1876	1877	1880
12.0	-12.4	1879	1879	1879	1879	1879	1884	1878	1874	1878	1879	1878	1877	1876	1877	1876	1880	1875	1875	1875	1875	1875	1875	1875	1880
12.5	-12.9	1879	1878	1878	1879	1881	1878	1881	1877	1879	1879	1878	1878	1883	1881	1879	1878	1876	1876	1876	1876	1876	1875	1876	1880

Temperature (°C)

Depth on String (m)	Actual Depth (m)	15-Jun-94	16-Sep-94	22-Sep-95	25-Sep-96	8-May-97	17-Oct-97	28-May-98	17-Sep-98	4-Jun-99	12-Sep-99	6-Jun-00	8-Sep-00	9-May-02	4-Sep-02	10-May-03	9-Sep-03	8-Sep-04	19-May-05	9-Sep-05	16-May-06	11-Sep-06	10-May-07	27-Aug-07	Mar. 27/08 (1)	Mar. 27/08 (2)
1.0	-1.4	3.8	8.5	8.2	7.7	-0.1	2.9	1.7	7.7	1.4	8.1	2.0	6.8	-0.6	8.2	0.4	9.2	9.6	0.8	9.3	0.1	8.5	-0.1	13.1	-1.8	-0.3
1.5	-1.9	0.6	7.7	6.7	6.8	-1.8	3.2	-0.7	6.5	-0.7	6.3	-0.6	5.6	-1.8	6.3	-0.8	7.5	8.6	-0.6	8.1	-1.0	7.2	-1.4	8.2	-1.7	-1.0
2.0	-2.4	0.4	7.8	6.5	6.8	-1.5	3.9	-0.6	6.5	-0.6	5.9	-0.3	5.7	-1.3	5.9	-0.4	7.2	8.5	-0.3	7.8	-0.7	7.0	-1.1	7.0	-0.6	-0.8
2.5	-2.9	0.6	7.4	6.3	6.5	-1.5	4.1	-0.6	6.0	-0.7	5.2	-0.4	5.2	-1.1	5.2	-0.3	6.5	7.8	-0.1	7.2	-0.6	6.4	-1.0	7.0	0.3	2.5
10.0	-10.4	5.9	4.2	4.2	5.6	4.1	3.8	3.9	3.8	4.1	3.6	4.1	3.8	4.5	4.1	4.5	4.2	4.2	4.7	4.5	4.9	4.5	4.7	7.4	9.4	6.8
10.5	-10.9	3.2	2.9	2.9	4.6	2.9	2.7	2.9	2.7	3.1	2.7	2.8	2.7	3.2	2.9	3.4	3.1	3.1	3.6	3.4	3.8	3.4	3.6	8.2	5.6	7.7
11.0	-11.4	3.6	3.2	3.2	4.9	3.4	2.8	3.1	2.9	3.4	2.9	3.1	2.9	3.6	3.2	3.8	3.4	3.5	3.9	3.6	4.1	3.6	3.9	5.3	5.6	5.6
11.5	-11.9	3.2	2.9	2.9	4.5	2.9	2.5	2.8	2.5	2.9	2.5	2.8	2.7	3.2	2.9	3.4	2.9	3.1	3.6	3.2	3.6	3.4	3.5	5.3	5.4	3.6
12.0	-12.4	3.6	2.9	2.9	4.3	2.8	2.4	2.7	2.5	2.8	2.4	2.8	2.5	3.2	2.8	3.2	2.8	2.9	3.5	3.2	3.6	3.2	3.4	5.7	5.4	3.5
12.5	-12.9	3.1	2.9	2.9	4.5	2.9	2.5	2.7	2.5	2.9	2.5	2.8	2.5	3.1	2.8	3.2	2.8	2.9	3.5	3.2	3.5	3.2	3.5	3.4	3.6	3.6

Depth on String (m)	Actual Depth (m)	Apr. 03/08	Apr. 10/08	Apr. 21/08	Apr. 28/08	May 05/08	May 12/08	May 15/08	May 20/08	May 26/08	June 2/09	Jun.11/08	Jun. 17/08	Jun. 24/08	Jul. 02/08	Jul. 07/08	Jul. 15/08	July 22/08	July 29/08	Aug. 04/08	Aug 11/08	Aug. 21/08	Sept. 18/08	Jun. 26/09	Sept. 09/09
1.0	-1.4	-2.0	-1.3	-0.7	-0.4	-0.1	0.1	1.0	-0.1	0.7	1.5	3.5	4.2	6.4	6.3	7.0	9.0	7.8	7.7	8.1	9.2	9.2	7.1	6.0	13.3
1.5	-1.9	-1.7	-1.8	-1.4	-1.3	-1.0	-0.8	-0.8	-0.6	-0.7	-0.3	-0.1	0.1	2.2	2.8	3.2	6.0	5.0	5.2	5.6	6.3	6.8	6.0	2.1	16.0
2.0	-2.4	-1.0	-1.0	-0.8	-0.7	-0.6	-0.6	-0.4	-0.7	-0.3	0.0	-0.1	0.0	0.1	1.1	1.8	4.5	3.9	4.3	4.7	5.3	6.0	6.0	0.1	21.3
2.5	-2.9	-0.4	-0.6	-0.6	-0.4	-0.4	-0.4	-0.3	-0.6	-0.3	0.0	-0.1	-0.1	-0.1	0.0	0.1	2.0	2.8	3.4	3.8	4.3	5.0	5.6	-0.3	6.4
10.0	-10.4	5.0	4.7	4.7	4.7	4.6	4.7	4.7	2.9	4.5	4.7	4.5	4.5	4.5	4.6	4.9	4.6	4.3	4.2	4.2	4.2	4.2	4.2	4.2	5.0
10.5	-10.9	3.6	3.6	3.6	3.6	3.5	3.9	3.8	3.2	3.5	3.6	3.5	3.5	3.9	3.4	3.2	3.4	3.4	3.2	3.2	3.2	3.2	3.2	3.2	3.6
11.0	-11.4	4.1	3.9	3.9	3.9	3.9	3.9	4.2	3.4	3.8	3.9	3.8	3.6	3.6	3.9	3.8	5.4	3.5	3.5	3.5	3.5	3.5	3.4	3.5	3.6
11.5	-11.9	3.8	3.5	3.5	3.6	3.5	3.6	3.5	3.5	3.9	3.6	3.4	3.4	3.9	3.4	3.2	4.3	3.2	3.2	3.2	3.1	3.1	3.1	3.2	3.6
12.0	-12.4	3.5	3.5	3.5	3.5	3.5	4.2	3.4	2.8	3.4	3.5	3.4	3.2	3.1	3.2	3.1	3.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.6
12.5	-12.9	3.5	3.4	3.4	3.5	3.8	3.4	3.8	3.2	3.5	3.5	3.4	3.4	4.1	3.8	3.5	3.4	3.1	3.1	3.1	3.1	3.1	2.9	3.1	3.6


THERMISTOR BH94 LCD-6
(installed 94/06/10)
Depth (m)
0.0
-3.0
-6.0
-9.0
-12.0
-15.0
-2.0
-1.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
16.0
17.0
18.0
19.0
20.0
21.0
22.0
23.0
Temperature (Deg. C)
15-Jun-94
16-Sep-94
22-Sep-95
25-Sep-96
8-May-97
17-Oct-97
28-May-98
17-Sep-98
4-Jun-99
12-Sep-99
6-Jun-00
8-Sep-00
9-May-02
4-Sep-02
10-May-03
9-Sep-03
8-Sep-04
19-May-05
9-Sep-05
16-May-06
11-Sep-06
10-May-07
27-Aug-07
Mar. 27/08 (2)
Apr. 03/08
Apr. 10/08
Apr. 21/08
Apr. 28/08
May 05/08
May 12/08
May 15/08
May 20/08
May 26/08
June 2/09
Jun.11/08
Jun. 17/08
Jun. 24/08
Jul. 02/08
Jul. 07/08
Jul. 15/08
July 22/08
July 29/08
Aug. 04/08
Aug 11/08
Aug. 21/08
Sept. 18/08
Jun. 26/09
Sept. 09/09