OZ MINERALS CANADA LTD.
LUPIN OPERATION

2008 GEOTECHNICAL INSPECTION
PERIMETER TAILINGS DAMS

LUPIN MINE
NUNAVUT

FINAL

PROJECT NO.: 0385-007-03
DATE: DECEMBER 17, 2008

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Project No. 0385-007-03
December 17, 2008

Ms. Lindsay Menard, P.Eng.
OZ Minerals Canada Ltd.
Lupin Operation
Suite 200
1159 Alloy Drive
Thunder Bay, ON P7B 6M8

RE: 2008 REPORT ON ANNUAL GEOTECHNICAL INSPECTION
PERIMETER TAILINGS DAMS, LUPIN MINE, NUNAVUT

Dear Ms. Menard:

Please find attached our report on the Annual Geotechnical Inspection of the Perimeter Tailings Dams, which was carried out on August 12 and 13, 2008. A site inspection memo was previously emailed to yourself outlining items requiring maintenance following the inspection visit.

Thank you for the hospitality shown during the site visit. If there are any questions regarding this report, please contact the undersigned at your convenience.

Yours truly,
BGC ENGINEERING INC.
per:

Gerry Ferris, M.Sc., P.Eng
Senior Geotechnical Engineer
(direct line 403/250-5185 ext. 101)

encl.: Final Report

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LIMITATIONS OF REPORT

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1.0 INTRODUCTION

Lupin Mine is located 285 km south-east of Kugluktuk and 400 km north-east of Yellowknife on Contwoyto Lake, as illustrated on Figure 1. The Lupin site operates under the authorization of the Nunavut Water Board License (2AM-LUP0008) which was transferred from the previous owner to Lupin Mines Inc. a subsidiary of Wolfden. Following from that transfer, Zinifex Canada Inc. then acquired Wolfden in May 2007. In 2008, Zinifex and Oxiana Ltd. merged to form OZ Minerals Ltd., which now owns the Lupin mine.

The Water Licence for the site requires that the tailings containment area (TCA) be inspected annually by a qualified Geotechnical Engineer. As such, Ms. Lindsay Menard from OZ requested that BGC Engineering Inc. (BGC) conduct such an inspection of the tailings facility perimeter embankments. This inspection and the preparation of a report provided herein are required in partial satisfaction of the Lupin Mine Water License obligations. Conditions in the Water License that apply to the annual inspection are as follows:

- a freeboard limit of 1.0 m should be maintained at all times;
- seepage from the TCA be minimized;
- any seepage that occurs should be collected and returned to the TCA immediately;
- any erosion of the facilities should be addressed immediately;
- inspection of the dams and related infrastructure shall be carried out weekly; and
- the annual inspection report should be forwarded to the Water Board within 60 days of the inspection date.

The Geotechnical performance of the perimeter dams was assessed based on the visual inspection and a review of the geothermal monitoring data. Any deficiencies and points of concern were brought to the attention of OZ immediately during the field visit and in a follow-up memo summarizing maintenance requirements.

Previous design, as-built and annual inspection reports by Geocon Inc., Golder Associates Ltd. and BGC Engineering Inc. should be reviewed for information, observations and recommendations made prior to 2008.

Geocon (1982) provides as-built information for Dams 1A, 1B, 1C, 2 and 4A (later a portion of the much larger Dam 4) that were all built to a crest elevation of 485 m during the 1981 construction period. The dam embankments were constructed of silty sand till with a liner on the upstream side. The liner is keyed into the underlying permafrost.

Golder Associates (1992) provides dam design information for Dams 4, 5 and 6 and the End Lake Dam (which was never constructed). For these dams, a geosynthetic liner is installed within the upstream portion of the embankment and then anchored into the frozen foundation, except for Dam 4. On Dam 4, the liner extends 15 m upstream from the upstream toe. For each

of these dams, the top of the liner was situated 0.5 m below the physical crest of the dams. Dam 4 has a rockfill toe drain to collect embankment seepage, should it occur.

Golder Associates (Golder 2004) performed a Dam Safety Review of the perimeter tailings dams. Within that work, a failure consequence classification for each perimeter dam was determined in accordance with the 1999 CDA guidelines, as follows:

- Low consequence – Dams 1A, 2 and 4.
- Very low consequence – Dams 1B, 1C, 3, 5 and 6.

In 2007, the Canadian Dam Association published new dam safety guidelines which have changed both the dam classification criteria and some of the design criteria based on this classification. The 2004 dam classification appears to be appropriate within the new 2007 classification scheme. The assessment should be formally reviewed as part of the next dam safety review.

Slope stability analyses were undertaken for Dams 1A, 2 and 4 as part of Golder's 2004 Dam Safety Review. Factors of safety for static conditions were greater than 1.6 and greater than 1.3 for conservative seismic loadings. As a result, Golder concluded that all three noted dams satisfy the dam safety stability requirements. A brief Operations, Maintenance and Surveillance (OMS) Manual was also prepared as an appendix to the 2004 Dam Safety Report.

2.0 TAILINGS CONTAINMENT AREA OPERATION DESCRIPTION

As illustrated on Figure 2, the tailings containment area (TCA) at Lupin Mine utilises a number of low embankments which are arranged to provide five cells for solids accumulation, some supernatant water storage within these cells, supernatant runoff storage accumulation (Pond 1) and an adjacent area (Pond 2) for transport water conditioning and staged release. In that none of the tailings water is being recycled to the mill, aged water is typically transferred from Pond 2 to the environment once every second year following the confirmation of water quatlity (usually beginning mid-July). Following this discharge, tailings water is transferred from Pond 1 to Pond 2 for subsequent ageing. During the transfer, water treatment chemicals are added, if required. In a typical year, compliant water within Pond 2 is discharged to the environment via the siphons over Dam 1A. When storage capacity is created in Pond 2, Pond 1 water is transferred in using the siphons over J-Dam.

Processing and tailings deposition ceased in February 2005 as Lupin Mine went into closure. Staff from the previous site operator, Kinross, left the site in October 2006. Water treatment was occurring during the 2008 site visit. Dams 1A and 2 retain Pond 2 and these dams were built to a crest elevation of approximately 486.3 m. The water level during the time of the inspection was approximately 3 m below the dam crest indicating a water level of approximately 483.3 m at that time. The Lupin site is in a closed state at the current time. The site activities currently

consist of occasional visits to site to obtain fuel or other supplies or to complete the water treatment activities as described above.

3.0 CLIMATIC CONDITIONS

Climatic conditions were recorded at the Lupin manned weather station until October 2006. Since that time, some climatic information has been collected at an automated station at the Lupin site. Figure 3 indicates that the 2007 temperature values were typical to historical data for the year (MAAT of –10.6^{o}C versus –11.0^{o}C long term). Values for 2008 (to November) were relatively typical values with a cooler than average summer. Figure 4 provides a plot of mean annual air temperature (MAAT) values recorded at Lupin Mine since 1982. It indicates that the 2007 MAAT was close to the same MAAT value for the length of time that the weather has been tracked. Temperatures for July 2007 to November 2008 were taken from weather station data from Kugluktuk, NU due to the fact that Lupin weather data was unavailable. Kugluktuk is located approximately 250 km northwest of the Ulu site.

4.0 INSPECTION CONDITIONS AND APPROACH

Mr. Gerry Ferris, P. Eng., conducted the inspection on August 12 and 13 2008. The temperature during the inspection was approximately 10^{o}C with overcast conditions.

Each of the embankments was inspected on foot. A digital camera and field notes were used to record pertinent observations concerning both the physical conditions and seepage. In general, the crest and upstream slope of a given embankment were inspected first, followed by inspection of the downstream slope by walking along the toe of the slope. The field notes and photographs constitute the field record and provides the basis for this formal report. A summary memo regarding tailings area maintenance items was prepared and emailed to Mr. Andrew Mitchell and Ms. Lindsay Menard of OZ, following the site inspection. During the site inspection, Mr. Ferris provided a verbal summary of the key observations and maintenance recommendations to Ms. Menard who was on site during the inspection.

The thermistor cables were not read during this inspection, because the switch box was not available. During the inspection by Mr. Ferris it was recommended that OZ locate the switch box and obtain readings from the thermistors. Subsequently, the switch box required for reading the thermistors was located and staff from AECOM (formerly Gartner Lee) used it to obtain readings for six thermistors installed in inspection structures. This data was forwarded to BGC for interpretation and inclusion within this report.

5.0 FINDINGS AND CONCLUSIONS

The inspection results for each of the structures are presented on the following pages in standardised format, and are complemented by a selection of site photographs. Refer to Figure 2 for the location of each structure. Specific maintenance requirements are documented on each of the individual sheets.

Overall, the crests of the dams are in good shape, but there is an on-going trend on all the dams that erosion of the crest and downstream face is occurring. These erosion gullys appear to have gotten larger and more numerous since the 2007 inspection. A program to repair these erosion locations should be undertaken. The repair should include placement of angular gravel in the erosion locations.

Clause D.6.f of the Water Licence notes that weekly inspections of tailings dams (and associated infrastructure) are to be undertaken by site staff and records kept on these inspections. This has proved to be practically difficult to do given that the site is closed.

Given the closed status of the site, the low water levels in the TCA, OZ may wish to apply to the Water Board to modify the water license inspection requirements. Twice monthly inspections during open water season should suffice (weekly during spring freshet). However, if water levels are allowed to rise, then inspections should be carried out weekly.

Continued vigilance with regards to thermistor monitoring should be undertaken, especially when summer pond levels are high. Hence, it is recommended all thermistors within tailings dams should be read according to the following frequency:

- November to April – monthly would be helpful but not critical
- May to June – twice monthly
- July to October – monthly

The objective of collecting this data is to provide proactive assessment of potentially deteriorating performance of the dams. Instrumentation data from the various dams should be forwarded to BGC immediately after collection for review and interpretation.

In addition to thermistor readings, all pond levels should be recorded at least monthly and perhaps bi-weekly as water transfer events occur. Installation of gauges or pore pressure transducers with data loggers should be considered to record water levels in the TCA.

DAM 1A

LOCATION:	West side of Pond 2.
FUNCTION:	Major perimeter closure for water retention; siphon pipes for water decant system on the crest of the dam. See photos in Figure 5.
LENGTH:	250 +/- m
MAX HEIGHT:	8 m +/- above d/s tundra.
AS-BUILT CREST ELEVATION:	486.27 m
CREST WIDTH AND CONDITION:	7 to 8 m; surfaced with esker material, but not travelled because of the siphons. No significant cracking evident; condition is good.
RIPRAP:	Run of Mine rockfill; broadly graded; good condition. Previously noted disturbed area (due to construction traffic possibly) in riprap at the crest edge.
BACKSLOPE:	Approx. 1.5H:1V; variably armoured with cobbles and boulders; no evidence of cracking.
TOE BERM:	Longitudinal cracking, associated settlement and sinkhole formation is occurring on the downstream edge of the downstream access road berm, just proximal to the siphon valves. Place addition granular fill in this area and re-grade the surface of the road.
SEEPAGE:	No evidence of seepage.
INSTRUMENTATION:	Thermistor D1A-00-1 is located in the crest, just south of the mid-point of the dam. 2008 readings are provided in Appendix I.
MAINTENANCE RECOMMENDATIONS:	Place additional granular fill in the area of cracking on the toe berm and re-grade the surface of the road. Once this is complete, monitor the downstream edge of the toe for additional cracking.
CONCLUSIONS:	The dam is in good condition with no evidence of seepage passing through or beneath the dam. Monitor instrumentation regularly and visually inspect downstream toe as Pond 2 level increases.

DAM 1B

LOCATION: West side of Pond 2.

FUNCTION: Minor perimeter closure for water retention; pond level is below dam base elevation thus currently functioning only as a road embankment. See photos in Figure 6.

LENGTH: 200 +/- m

MAX HEIGHT: 2.5 +/- m above d/s tundra.

AS-BUILT CREST ELEVATION: 485.83 m

CREST WIDTH AND CONDITION: 5 to 6 m wide; surfaced with esker material so that this dam may also function as a roadway for access around the perimeter of the area. Crest condition is good.

RIPRAP: Run of Mine rockfill; variable sizes; undulating; disturbed in areas but in good condition overall.

BACKSLOPE: Approx. 1.5H:1V with minor runoff erosion rills and a toe-of-slope roadway berm. No cracking observed. Animals are starting to burrow into the dam body.

SEEPAGE: No seepage observed but no water head being retained by the structure.

MAINTENANCE RECOMMENDATIONS: None currently required.

CONCLUSIONS: The structure is in good condition; it should be monitored for seepage if Pond 2 rises sufficiently to place a water head against the dam.

DAM 1C

LOCATION: West side of Pond 2.

FUNCTION: Minor perimeter closure for water retention: currently retaining no water other than small puddles. Currently functioning only as a road embankment. See photos in Figure 7.

LENGTH: 230 +/- m

MAX HEIGHT: 2.0 +/- m above d/s tundra.

AS-BUILT CREST ELEVATION: 485.88 m

CREST WIDTH AND CONDITION: 9 +/- m wide; surfaced with esker material, so that this dam may also function as a roadway, although the downstream toe roadway appears more commonly used. Crest condition is good. Animals are starting to burrow into the dam body.

RIPRAP: Run of Mine rockfill; some minor disturbances noted; some minor longitudinal cracking noted, overall condition satisfactory.

BACKSLOPE: Approx. 3H:1V, smooth slope. Access road berm appears in good condition.

SEEPAGE: No seepage observed, but there is also no significant amount of water currently being retained by the structure.

MAINTENANCE RECOMMENDATIONS: None currently required.

CONCLUSIONS: The structure is in good condition; it should be monitored for seepage if Pond 2 rises sufficiently to place a water head against the dam.

DAM 2

LOCATION: North end of Pond 2.

FUNCTION: Major perimeter closure for water retention; natural pond downstream of the dam. See photos in Figure 8.

LENGTH: 350 +/- m

MAX HEIGHT: 5.5 +/- m above d/s tundra.

AS-BUILT CREST ELEVATION: 486.30 m

CREST WIDTH AND CONDITION: Approx. 6 m; surfaced with esker material and used as the primary traffic route. Crest condition is good; no cracking is evident. Near the right abutment the crest of the dam is sloped towards the downstream, the crest should be sloped to the upstream side.

RIPRAP: Run of Mine rock forms convex-upward, gently sloped upstream face. A small scarp has formed on the upstream side of the dam near the waterline, this scarp continues to get larger.

BACKSLOPE: Variable materials but comprised mostly of esker granular material with minor rills; good condition.

SEEPAGE: No seepage observed this year: toe area dry.

INSTRUMENTATION: Thermistor D2-00-02 is located at the north end of the crest. 2008 readings are shown in Appendix I.

MAINTENANCE RECOMMENDATIONS: The areas of erosion should be backfilled using angular gravel to cobble sized material. The scarp that has formed on the upstream side of the dam should be filled in with appropriately sized rip rap to prevent further erosion. Re-grade the area on the crest near the right abutment so it slopes towards the downstream side.

CONCLUSIONS: The dam is in satisfactory condition. Continue with vigilant monitoring of instrumentation and visual condition assessment, especially at higher pond levels.

DAM 3

LOCATION: East end of now-covered tailings storage area, east of Cells 1 and 2.

FUNCTION: Minor perimeter closure for tailings retention; Boomerang Lake downstream of the dam. The dam retains tailings covered with an esker material cap, thickened in 1995 by one metre using esker material. See photos in Figure 9.

LENGTH: 600 +/- m

MAX HEIGHT: 2.5 +/- m above d/s tundra.

AS-BUILT CREST ELEVATION: 488.4 m

CREST WIDTH AND CONDITION: Approx. 8 m; surfaced with esker material. A perpendicular crack was noted near the right abutment of this dam. Erosion is continuing in this crack. A ditch was constructed along the upstream edge of the crest of the dam, which directs surface water to the rip rap lined area on the downstream face. This ditch has experienced some erosion and deposition of sediment in the ditch.

RIPRAP: Inside slope buried with tailings cover comprised of esker sand and gravel.

BACKSLOPE: Variable in inclination; locally meets the shoreline of Boomerang Lake.

SEEPAGE: None observed near the toe of the east arm of the dam.

MAINTENANCE RECOMMENDATIONS: The cracking on the crest of the dam should be re-graded and the ditch should also be re-graded to remove the accumulated material. The gully in this ditch also needs to be repaired and relined.

CONCLUSIONS: The dam is in satisfactory condition but repair work to the cracking area and surface water conveyance ditch should be completed. Continue to conduct visual monitoring of cracking.

DAM 4

LOCATION: South end of Cell 4 for K Dam sub-pond.

FUNCTION: Perimeter closure for water retention at present; natural pond downstream of the dam at its west end. See photos in Figure 10.

LENGTH: 900 +/- m

MAX HEIGHT: 6 +/- m above u/s native ground elevation.

AS-BUILT CREST ELEVATION: 489.59 m

CREST WIDTH AND CONDITION: Approximately 12 m wide crest width in generally good condition. Minor crest grading required at west abutment to prevent channelization of run-off.

RIPRAP: Run of Mine rockfill in generally good condition on upstream slope.

BACKSLOPE: Esker sand; slope steeper in upper portion and flattens in the lower portion, approximately 2H:1V. Several small erosional gullies located near the right abutment on the downstream slope. This area is also experiencing wave erosion on the downstream face in the area with the downstream pond adjacent to the toe. A slump has occurred in the downstream face of the dam as a result of this erosion.

SEEPAGE: No signs of seepage.

INSTRUMENTATION: Three of the original four thermistors are currently monitored in Dam 4. From east to west across the crest, the four cables are numbered TD4-1 to 4. Thermistor TD4-2 was destroyed in summer 2003. See Appendix I for 2008 thermistor readings.

MAINTENANCE RECOMMENDATIONS: The erosional gullies on the downstream slope should be backfilled to prevent any additional erosion, this will require placement of additional granular fill on the slope. Repair slump on the West end of the downstream face.

CONCLUSIONS: The dam is in good condition and is functioning without apparent seepage.

DAM 5

LOCATION:	Southeast corner of Cell 3, just northwest of Dam 4.
FUNCTION:	Minor perimeter closure intended for future tails and water retention; currently functioning as a road embankment. See photos in Figure 11.
LENGTH:	250 +/- m
MAX HEIGHT:	1.5 +/- m above d/s tundra.
AS-BUILT CREST ELEVATION:	491.54 m
CREST WIDTH AND CONDITION:	Approximately 8 m wide and esker surfaced so that the dam may also function as roadway. Crest is in generally good condition.
RIPRAP:	Angular rockfill, maximum particle size from 20 to 30 cm, has been placed on the upstream face. Approximate slope of 3H:1V and in good condition.
BACKSLOPE:	About 1.5 to 2H:1V with till and esker sand. No cracking observed.
SEEPAGE:	No seepage observed. No water head being retained by the structure.
MAINTENANCE RECOMMENDATIONS:	None required.
CONCLUSIONS:	The dam is in good condition and should be inspected for seepage when pond levels place a water head against it.

DAM 6

LOCATION: West side of Cell 3 retaining tailings placed behind K-dam.

FUNCTION: Minor perimeter closure. Retaining some tailings beach and ponded water on the northern portion of the dam. See photos in Figure 12.

LENGTH: 300 +/- m

MAX HEIGHT: 2.5 +/- m above d/s tundra.

AS-BUILT CREST ELEVATION: 490.25 m previously but some minor fill placement may have occurred.

CREST WIDTH AND CONDITION: Approximately 10 m wide and esker surfaced so that dam also function as a roadway. Crest in good condition.

RIPRAP: Upstream side tailings been covered with esker sand and gravel so not possible to observe the upstream side of this dam. No pond located behind the dam now.

BACKSLOPE: About 2H:1V with till and esker sand; no erosional gullies observed on the downstream toe.

SEEPAGE: No seepage observed.

INSTRUMENTATION: None.

MAINTENANCE RECOMMENDATIONS: None currently required.

CONCLUSIONS: The dam is in good condition, windblown sand is evident in the area but is likely a result of wind erosion of the adjacent cover material.

6.0 CLOSURE

We trust the enclosed meets your present requirements and we thank OZ Minerals Canada Ltd. for the opportunity to be of service at Lupin Mine. If you have any questions or require additional information, please contact the undersigned.

Respectfully submitted,
BGC ENGINEERING INC.
per:

Reviewed by:

Original Signed By:

Original Signed By:

Gerry W. Ferris, M.Sc., P.Eng.
Senior Geotechnical Engineer

Geoff Claypool, M.Eng., P.Eng.
Geotechnical Engineer

Original Signed By:

Travis Wierenga, E.I.T.
Mining Geotechnical Engineer

REFERENCES

BGC Engineering Inc. 2000. Thermistor Installation Program, Dam 1A, Dam 2, M Dam, Cell 1 and Esker, Lupin Mine, Nunavut. Report submitted to Echo Bay Mines Ltd., Project No. 0256-002-01, December 11, 2000, 7 pages plus figures and appendices.

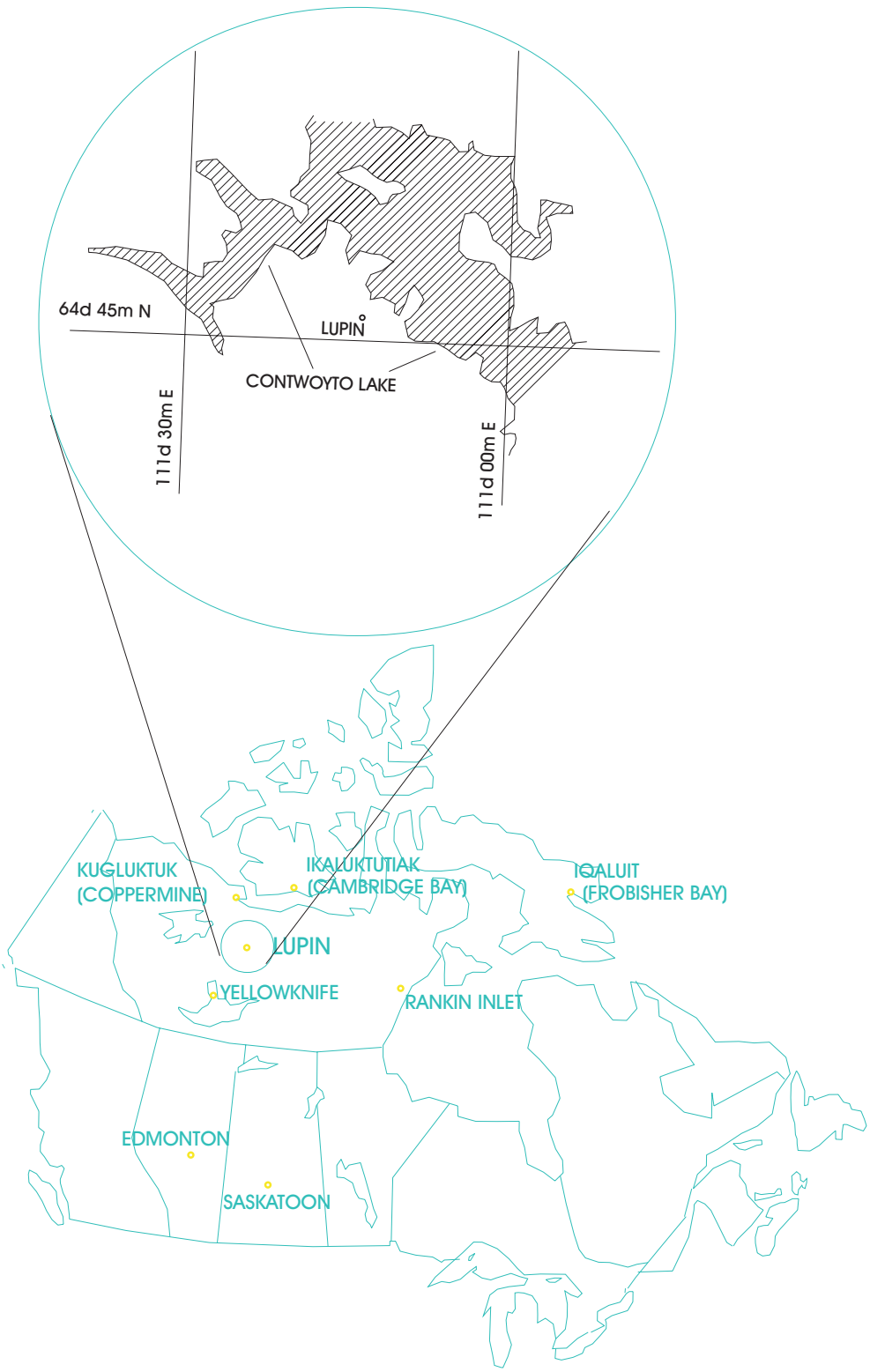
BGC Engineering Inc. 2003. Dam 6 Site Investigation and Raise Design, Lupin Mine, Nunavut. Report submitted to Kinross Gold Corporation, Project No. 0256-006, July 25, 2003, 31 pages plus figures and appendices.

Geocon Inc. 1982. As-Built Tailings Containment Area, Lupin Project. Report submitted to Echo Bay Mines Ltd., Project No. A1207/01186-3, December 15, 1982, 26 pages plus figures and appendices.

Golder Associates Ltd. 1992. 1992 Perimeter Dam Construction Drawings. Issued for tender to Echo Bay Mines Ltd., February 1992, 4 sheets.

Golder Associates Ltd. 2004. 2004 Dam Safety Review, Perimeter Tailings Dams, Lupin Mine, Nunavut. Report submitted to Kinross Gold Corporation, Project No. 04-1321-022, December 2004, 36 pages plus figures and appendix.

FIGURES



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DRAWN:	SLF	APPROVED:	GKC

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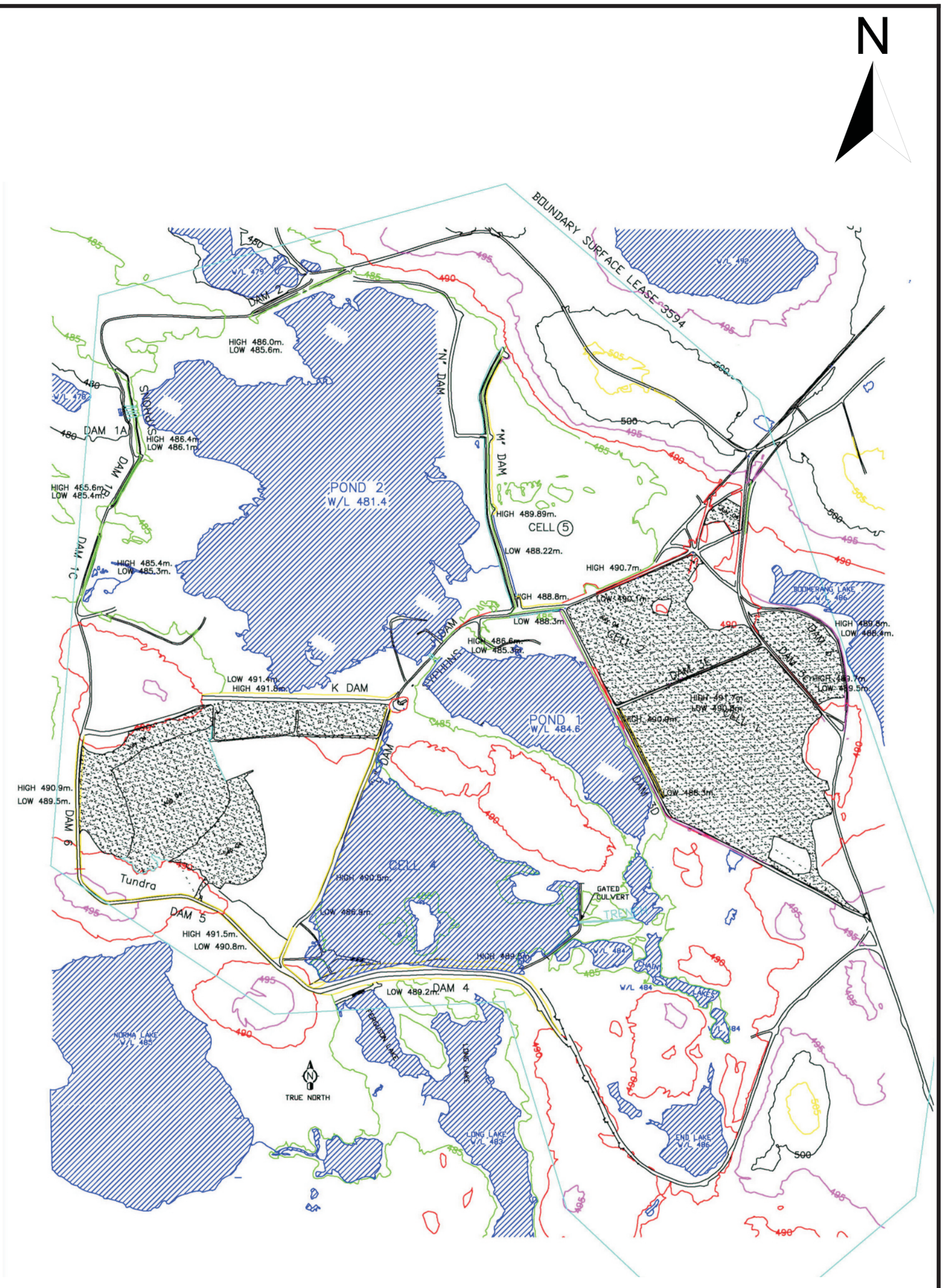
PROJECT:
ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER TAILINGS DAMS

TITLE:
LUPIN MINE LOCATION MAP

CLIENT: OZ

PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	1	0



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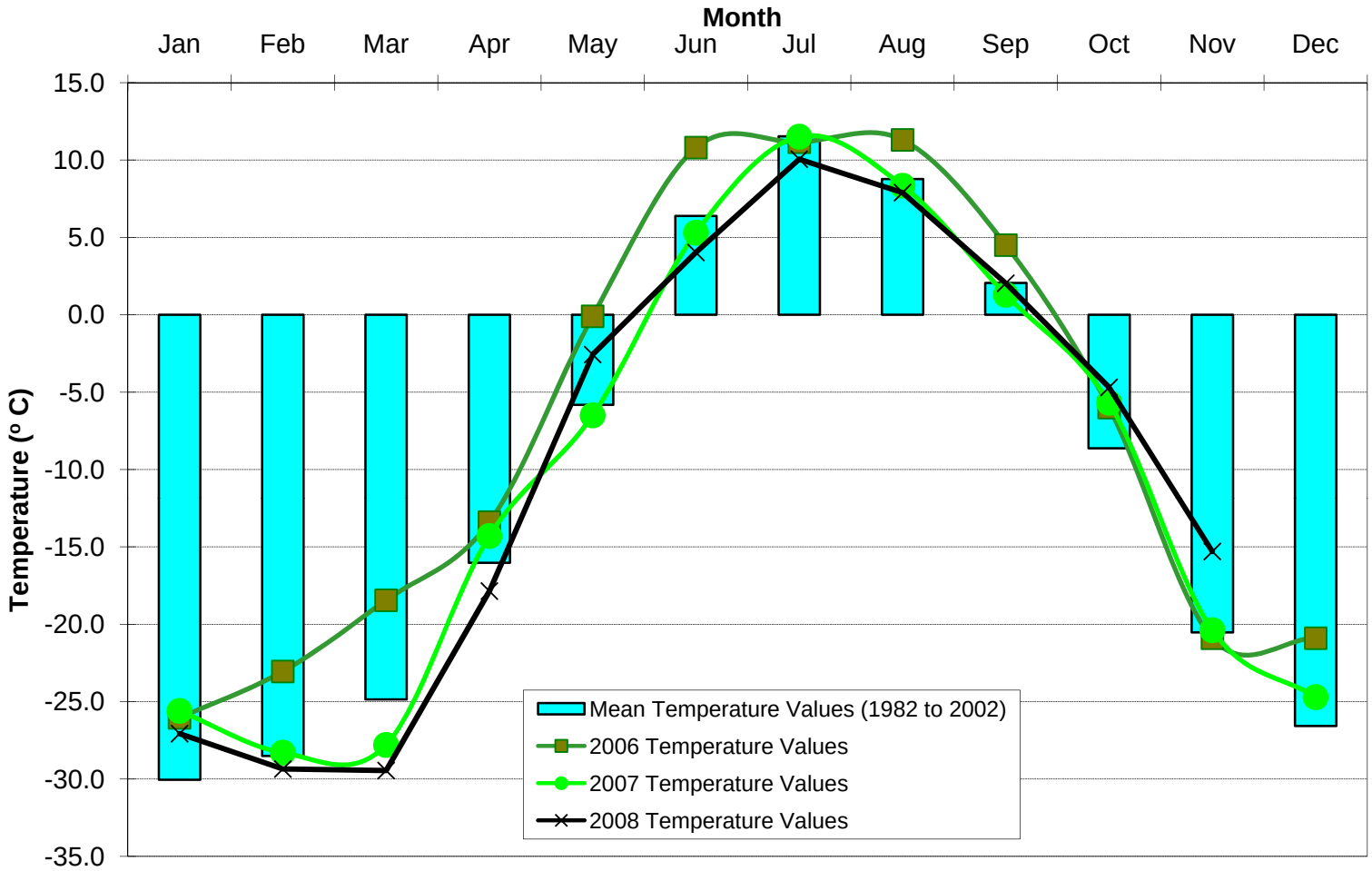
PROJECT: ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER DAMS

TITLE: TAILINGS CONTAINMENT AREA

PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	2	0



-Mean Temperature Values Based on Lupin Station Data from 1982 to 2002
-January 2006 to June 2007 data taken from High Lake Project weather station
-July 2007 to November 2008 data is taken from the Kugluktuk, NU weather staion

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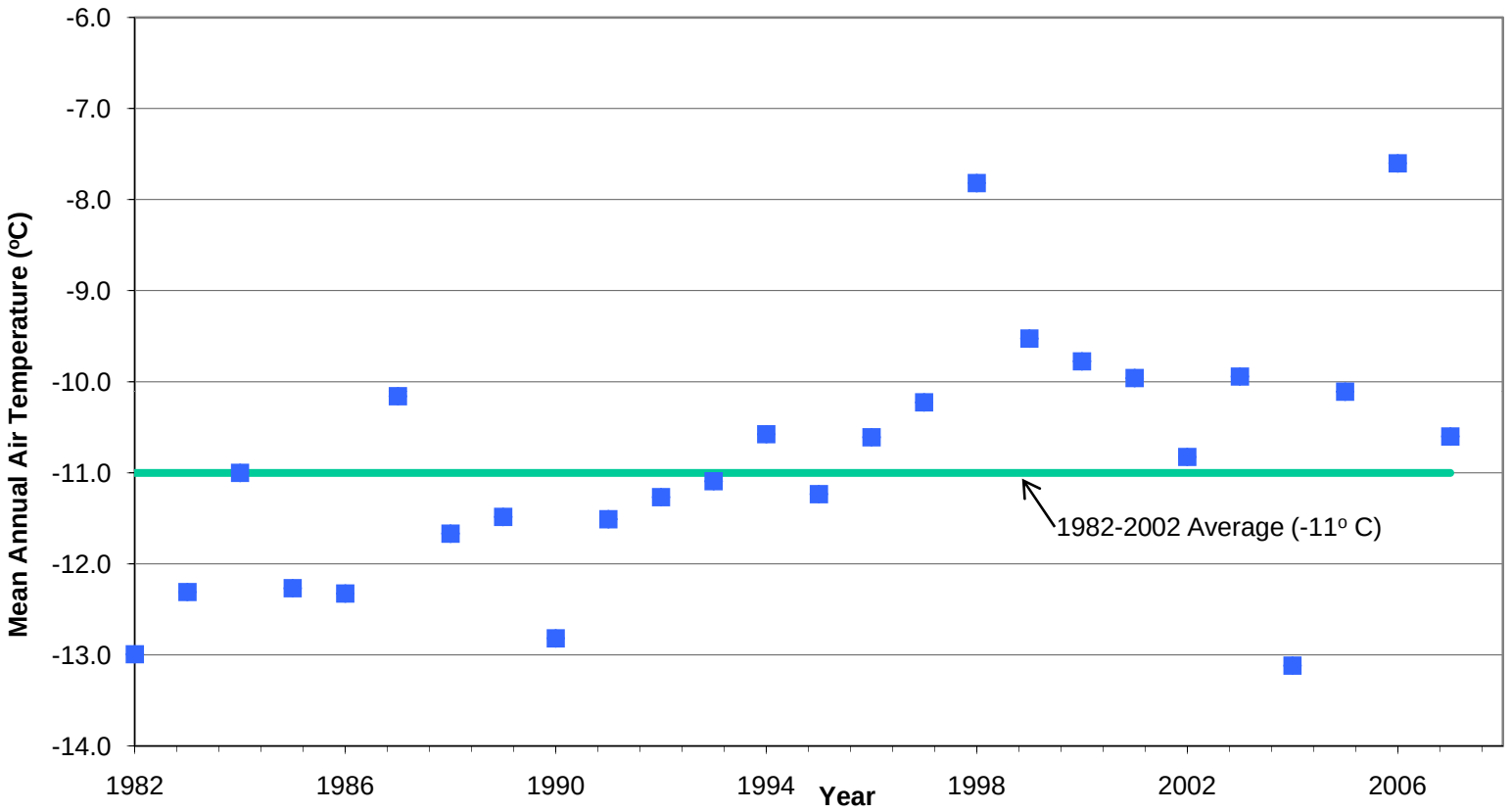
Title: MEAN MONTHLY AIR TEMPERATURE VALUES

Project #:	Date:	Scale:	Drawn:	Approved:	Figure:
0385-007-03	DEC 2008	NA	TMW	GWF	3

Lupin MAAT Values Since 1982



-See Notes on Figure 3 Concerning 2006 and 2007 Temperature Data

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Title: LUPIN MEAN ANNUAL TEMPERATURE (1982-2007)

Project #:	Date:	Scale:	Drawn:	Approved:	Figure:
0385-007-03	DEC 2008	NA	TMW	GWF	4

A view of a crack forming on the downstream side of the lower road. The outside shoulder is approximately 1.5 m to 2 m long and is softened from slumping due to erosion of the toe of the road.

A view of a settlement spot that was noted during the 2007 inspection. It does not appear that any further movement has occurred in this area.

An overview of the upstream face of Dam 1A. There is currently about 3 m of freeboard and the upstream face shows no signs of distress.

A close-up of the downstream face in the siphon area. Note the steep face and some minor erosion that is occurring on the face.

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

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PROJECT: ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER DAMS

TITLE: DAM 1A INSPECTION PHOTOS

PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	5	0

A view of the upstream face of Dam 1B, showing that no water is retained by this dam. The upstream face and crest appear to be in good condition.

A view of the downstream face of Dam 1B taken from the right abutment. Note the vegetation that is beginning to take hold on the downstream face the dam. A number of animal burrows are evident on the downstream face.

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TITLE: DAM 1B INSPECTION PHOTOS

CLIENT: OZ

PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	6	0

The upstream side and crest of Dam 1C showing the generally good condition and that there is no tailing water retained by this structure.

A view of the downstream face of the Dam 1C with a small pond of water adjacent to it, near the left abutment.

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TITLE:
DAM 1C INSPECTION PHOTOS

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PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	7	0

The upstream face of Dam 2 showing the grey riprap on the face of the dam.

An overview of the upstream face of Dam 2 as seen from the left abutment. Note that the crest and upstream face are in good shape. A small wave erosion scarp is evident near the edge of the water.

The crest of Dam 2 looking towards the right Abutment .

The crest of Dam 2 where a small sinkhole was noted directly above an erosion zone.

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

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PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

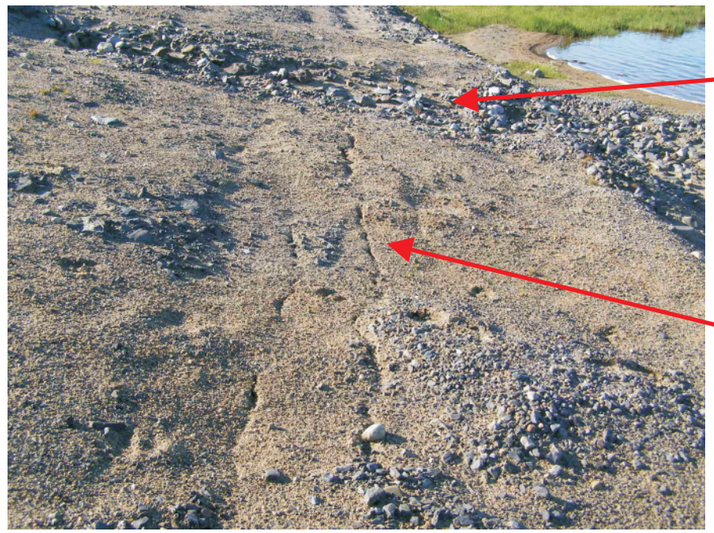
CLIENT: OZ

PROJECT: ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER DAMS

TITLE: DAM 2 INSPECTION PHOTOS

PROJECT No.: 0385-007-03
FIGURE No.: 8
REV.: 0

An overview of the downstream side of Dam 3. Note Boomerang Lake located downstream of Dam 3.



Tension cracks in the toe of Dam 3 near Boomerang Lake. These cracks are located directly adjacent to the erosion gully that can be seen towards the top of the photo.

An armoured ditch which collects the run-off coming off the covered tailings area. This ditch is eroding in some sections and needs maintenance.

The downstream face of Dam 3. Generally the downstream face is in good condition.

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: NA
DATE: DEC 2008
DRAWN: SLF
DESIGNED: TMW
CHECKED: GWF
APPROVED: GKC

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TITLE: DAM 3 INSPECTION PHOTOS

PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	9	0

The crest of Dam 4 as seen from the right abutment. The crest is in good condition.

An area of erosion on the upstream face of Dam 4.

A view of the pond and dam interface on the upstream side of Dam 4. Note that the water level here appears to be about 0.5 m lower than seen in previous years, as evidenced by discolouration of the rock on the face of the dam.

Wave erosion of the toe of Dam 4 near the right abutment.

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE: NA
DATE: DEC 2008
DRAWN: SLF
DESIGNED: TMW
CHECKED: GWF
APPROVED: GKC

PROFESSIONAL SEAL:

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PROJECT: ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER DAMS

TITLE: DAM 4 INSPECTION PHOTOS

PROJECT No.: 0385-007-03
FIGURE No.: 10
REV.: 0

An overview of Dam 5 as seen from the right abutment.

An overview of the maximum section of Dam 5. Note this dam does not currently hold any water.

SCALE:	NA	DESIGNED:	TMW
DATE:	DEC 2008	CHECKED:	GWF
DRAWN:	SLF	APPROVED:	GKC

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

PROJECT:
ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER DAMS

TITLE:
DAM 5 INSPECTION PHOTOS

CLIENT: OZ

PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	11	0

The crest of Dam 6 as seen from the right abutment. Note that the left side of the photo shows covered tailings and on the right some wind blown sand from the cover.

The downstream edge of Dam 6 with some minor erosion gullys Note the sand deposited along the face of the dam after being blown over the crest from the tailings cover.

The surface of the tailings cover adjacent to Dam 6.

A view of the intersection of Dam 6 and the left abutment. Note that a small pond of water exists on the left side of this photo.

REV.	DATE	REVISION NOTES	DRAWN	CHECK	APPR.

SCALE:	NA
DATE:	DEC 2008
DRAWN:	SLF
DESIGNED:	TMW
CHECKED:	GWF
APPROVED:	GKC

PROFESSIONAL SEAL:

BGC ENGINEERING INC.
AN APPLIED EARTH SCIENCES COMPANY

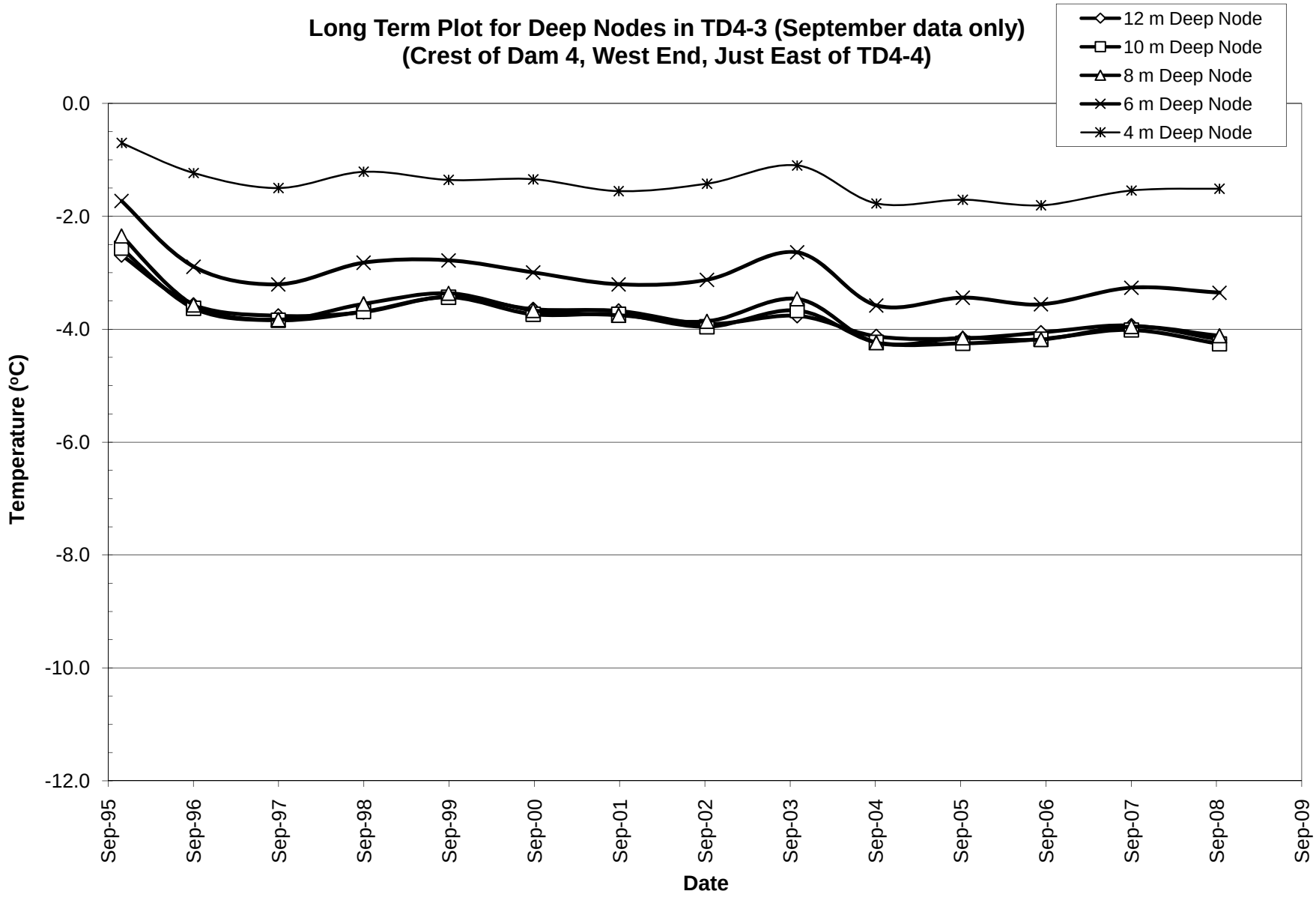
CLIENT: OZ

PROJECT: ANNUAL GEOTECHNICAL INSPECTION OF PERIMETER DAMS

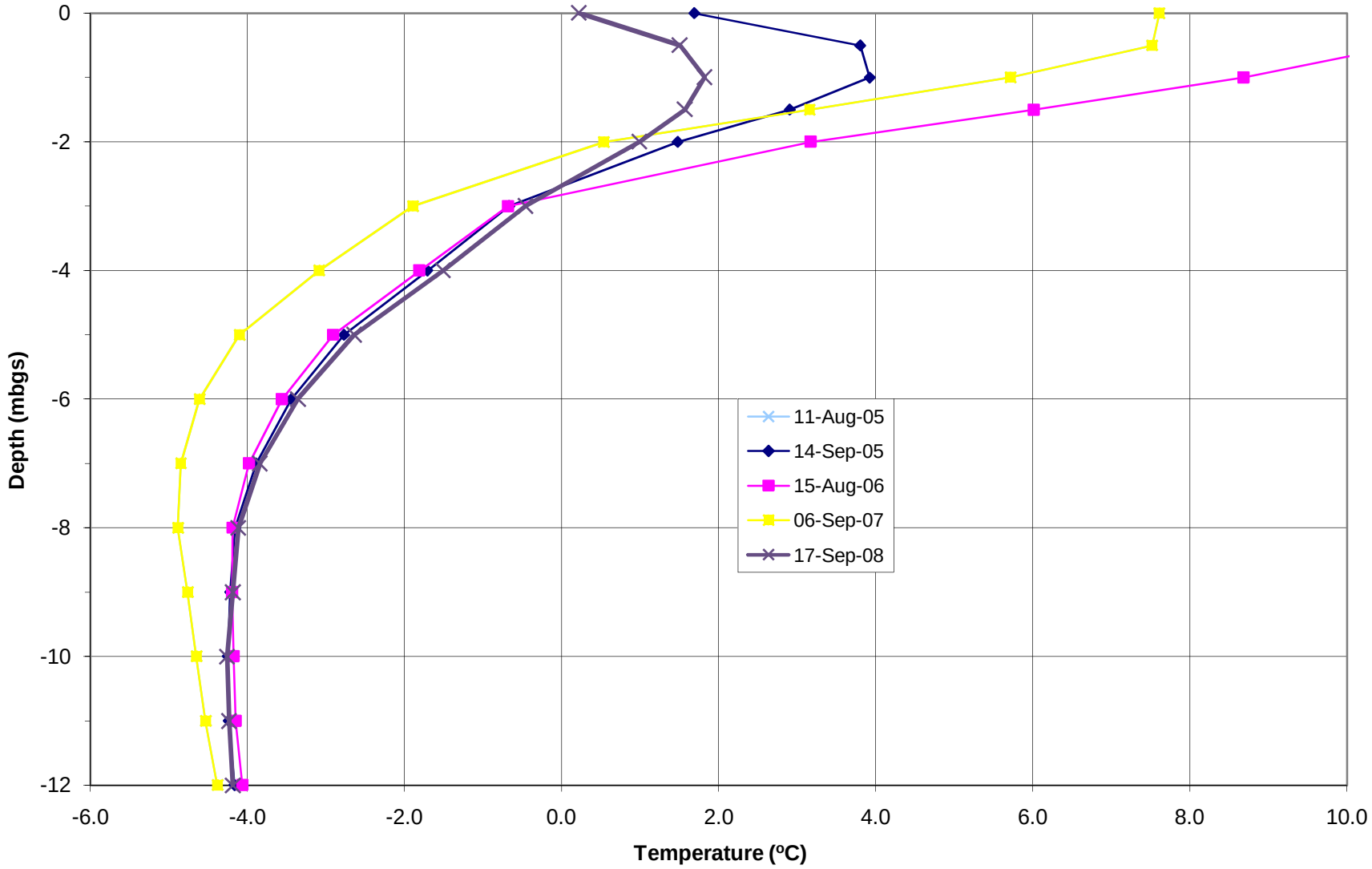
TITLE: DAM 6 INSPECTION PHOTOS

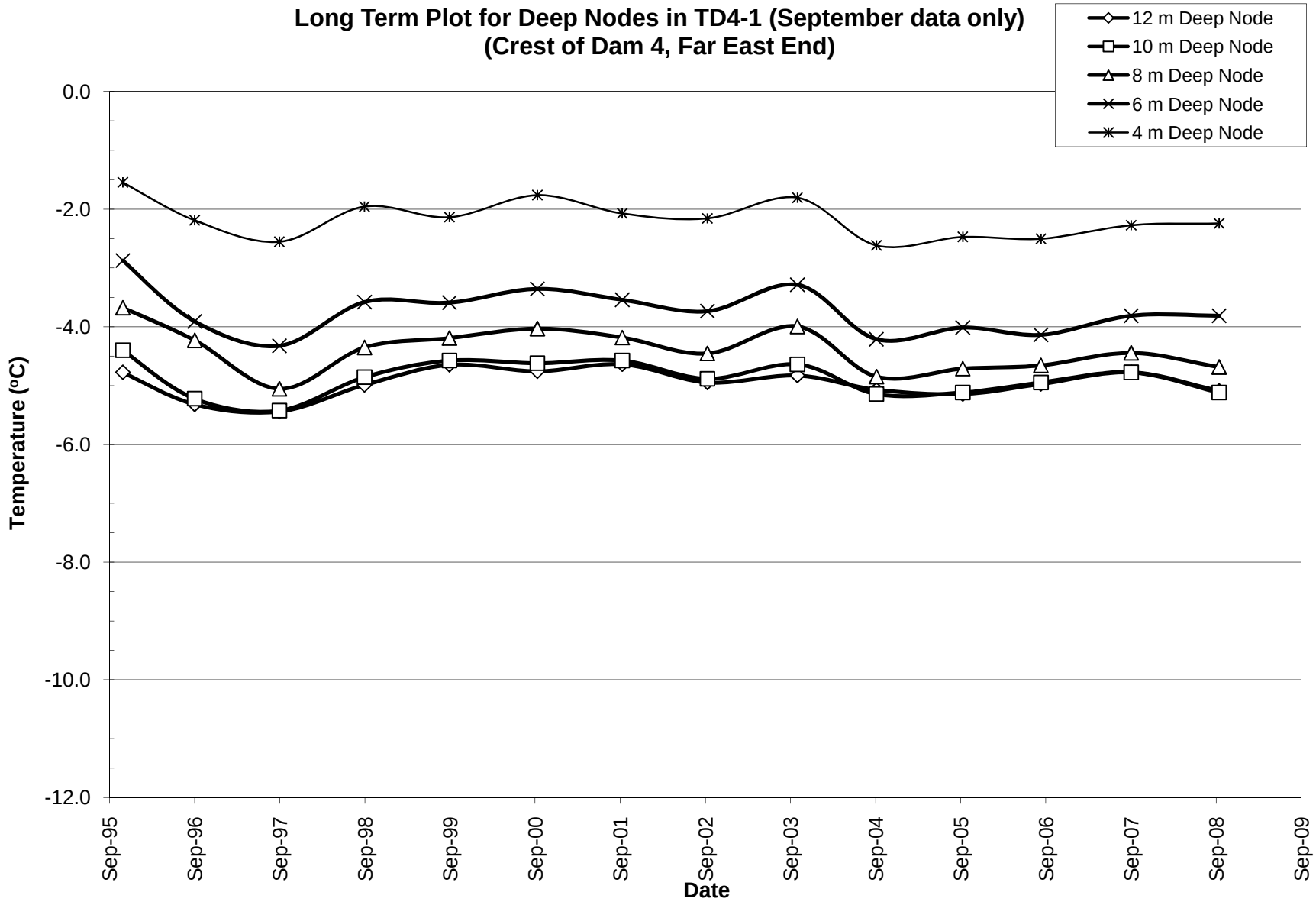
PROJECT No.:	FIGURE No.:	REV.:
0385-007-03	12	0

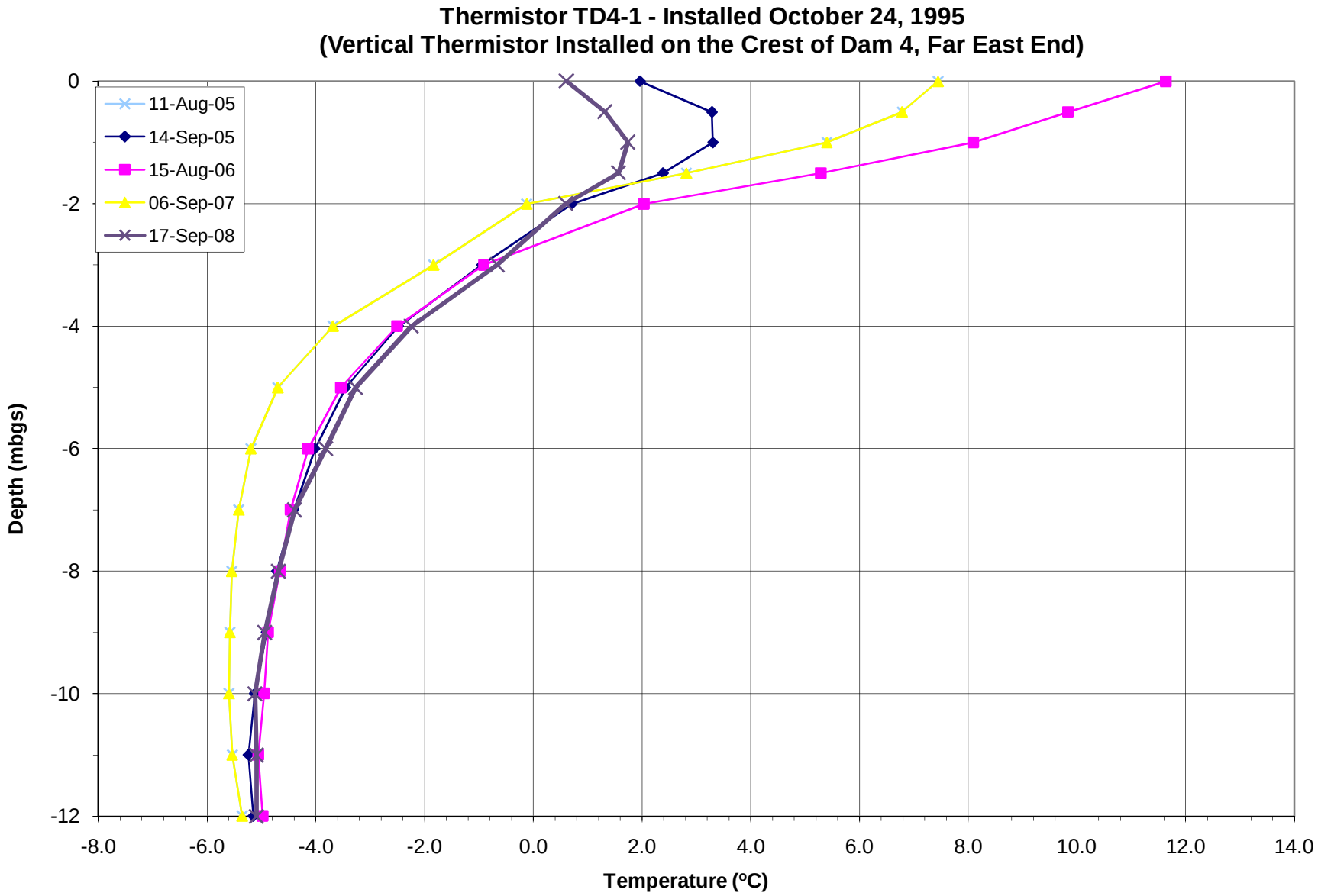
APPENDIX I


Long Term Plot for Deep Nodes in TD4-3 (September data only)
(Crest of Dam 4, West End, Just East of TD4-4)
12 m Deep Node
10 m Deep Node
8 m Deep Node
6 m Deep Node
4 m Deep Node
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
Temperature (ºC)
Sep-95
Sep-96
Sep-97
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date

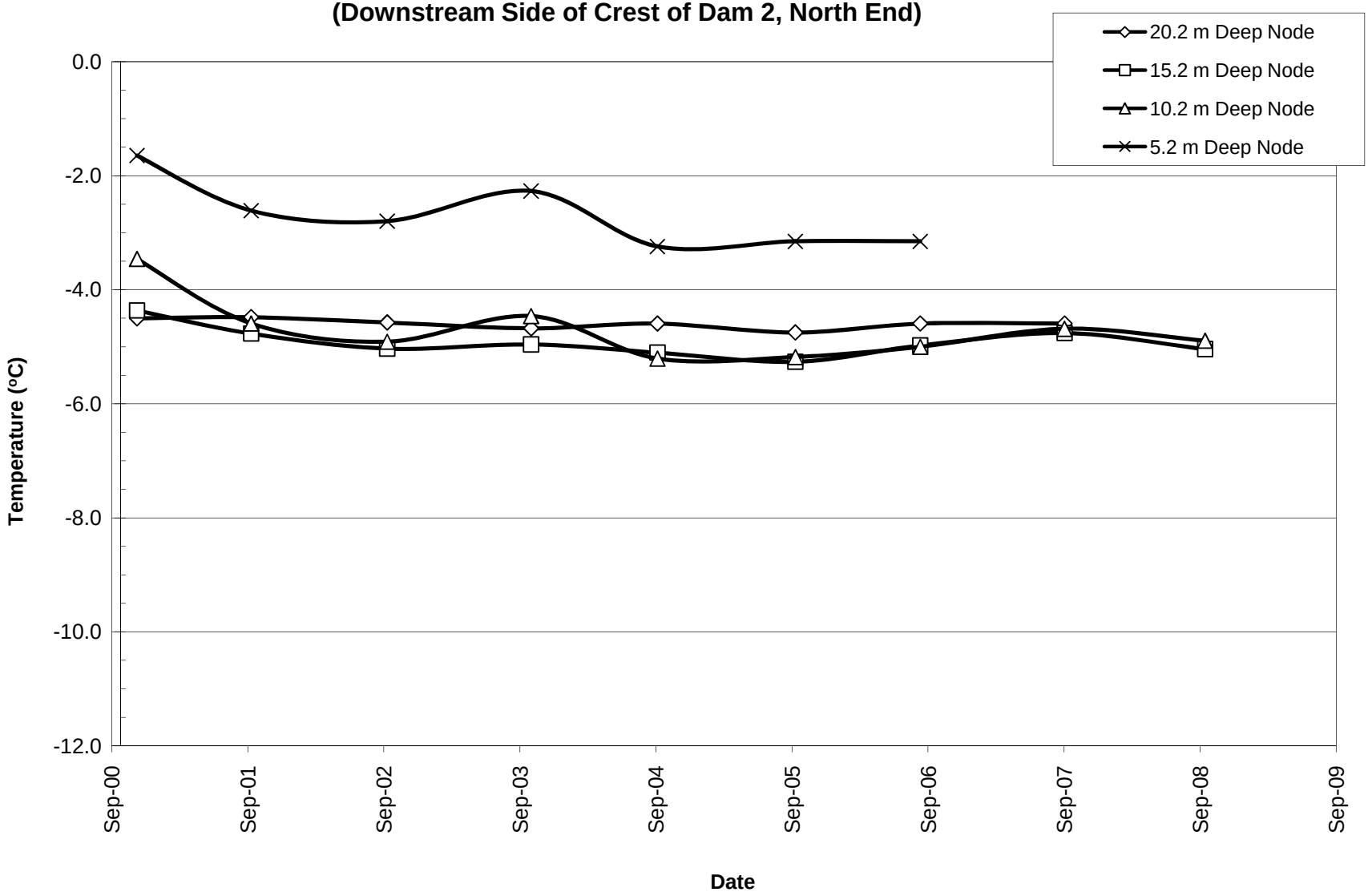
Thermistor TD4-3 - Installed October 28, 1995
(Vertical Thermistor Installed on the Crest of Dam 4, West End, Just East of TD4-4)



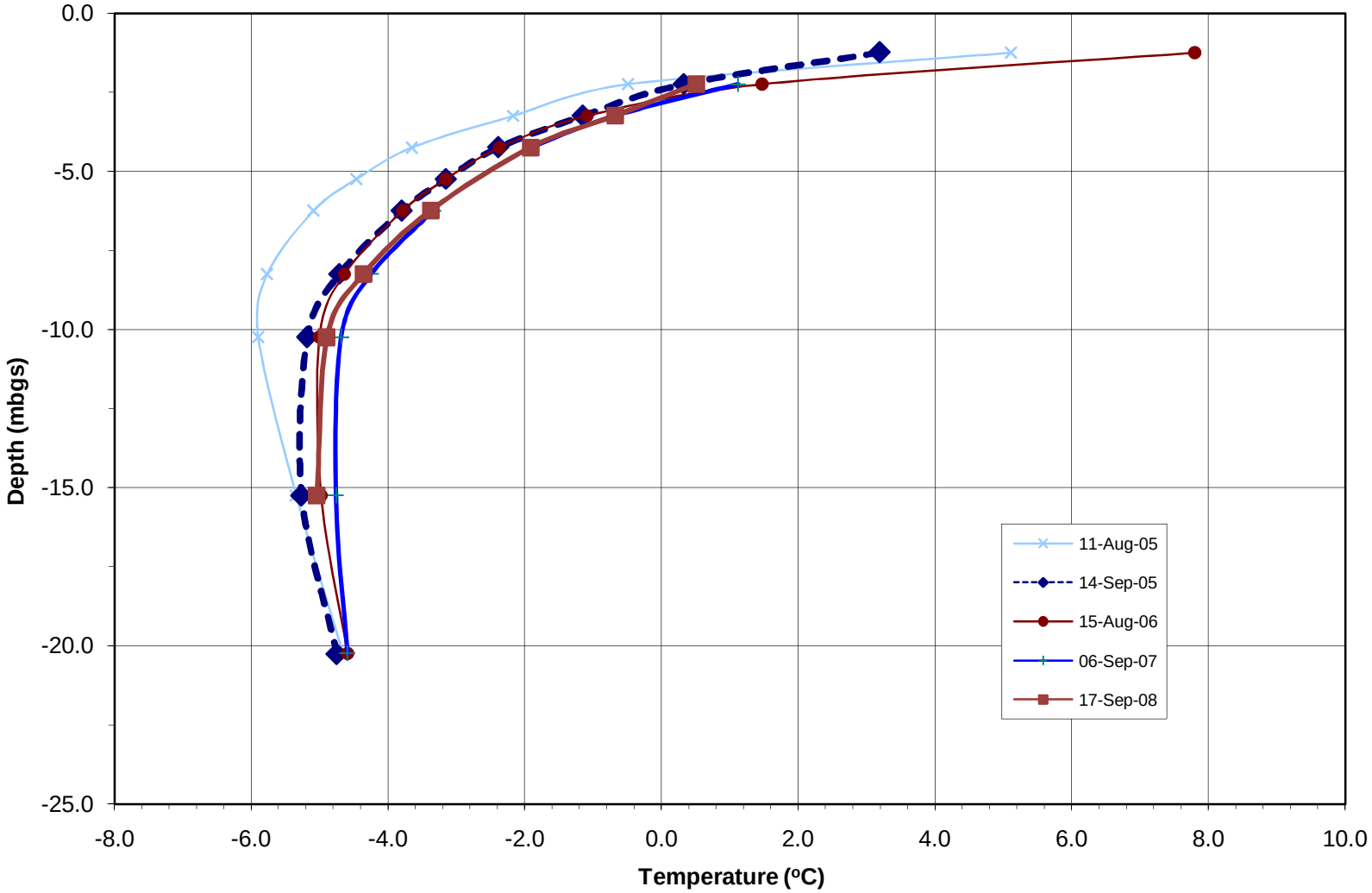

Long Term Plot for Deep Nodes in TD4-1 (September data only)
(Crest of Dam 4, Far East End)
12 m Deep Node
10 m Deep Node
8 m Deep Node
6 m Deep Node
4 m Deep Node
0.0
-2.0
-4.0
-6.0
-8.0
-10.0
-12.0
Temperature (°C)
Sep-95
Sep-96
Sep-97
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Sep-07
Sep-08
Sep-09
Date


Thermistor TD4-1 - Installed October 24, 1995
(Vertical Thermistor Installed on the Crest of Dam 4, Far East End)
11-Aug-05
14-Sep-05
15-Aug-06
06-Sep-07
17-Sep-08
Depth (mbgs)
0
-2
-4
-6
-8
-10
-12
-8.0
-6.0
-4.0
-2.0
0.0
2.0
4.0
6.0
8.0
10.0
12.0
14.0
Temperature (ºC)

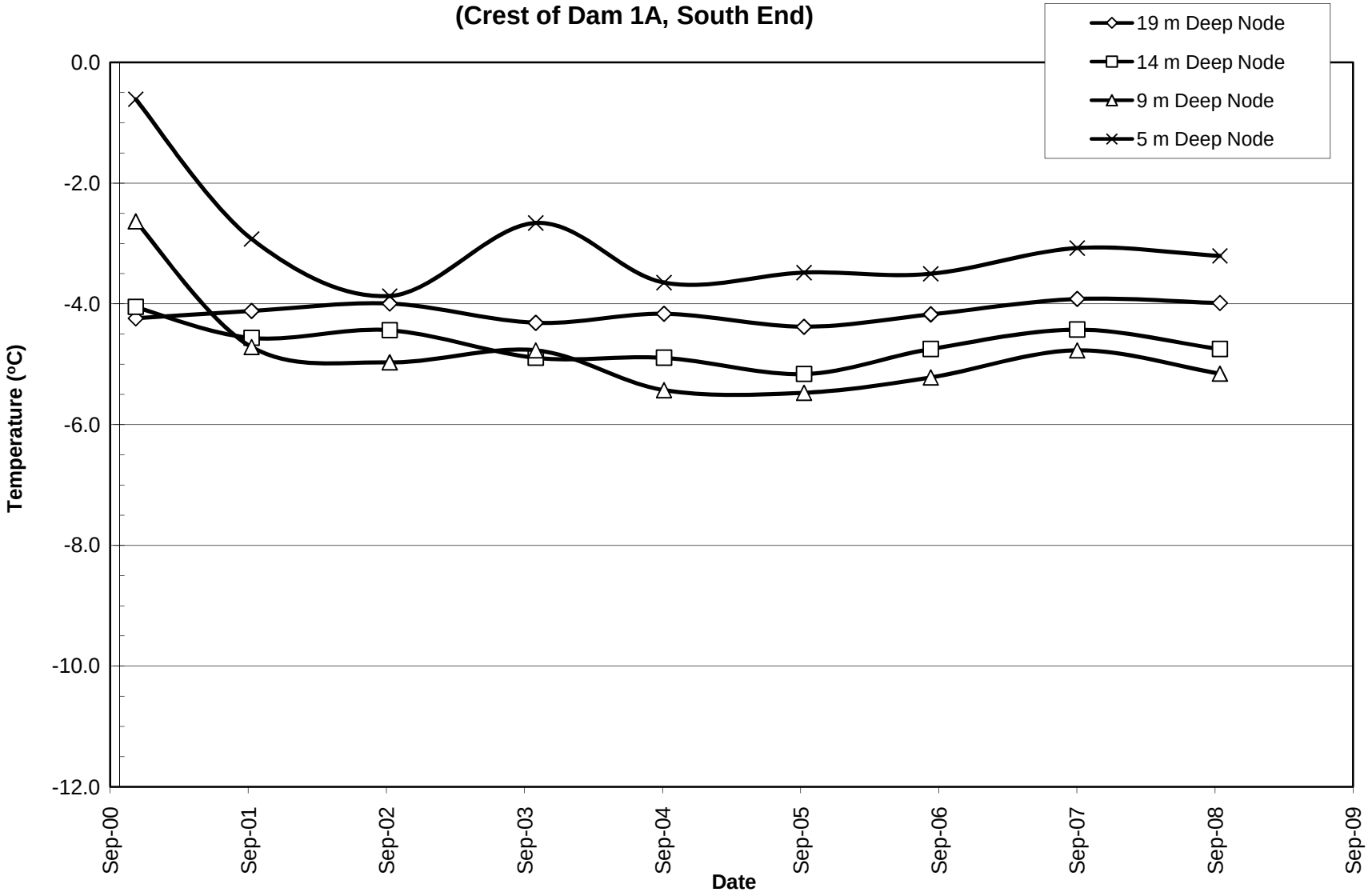
Long Term Plot for Deep Nodes in D2-00-2 (September data only)
(Downstream Side of Crest of Dam 2, North End)



Thermistor D2-00-2 - Installed November 8, 2000
(Vertical Termistor Installed on the crest of Dam 2, at the north end)



Long Term Plot for Deep Nodes in D1A-00-01 (September data only) (Crest of Dam 1A, South End)



Thermistor D1A-00-01 - Installed November 9, 2000
(Vertical Thermistor installed on the crest of Dam 1A, south of Syphons)