

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SOUTHERN ILLINOIS POWER)	
COOPERATIVE,)	
)	
Petitioner,)	
)	
v.)	PCB 18-75
)	(Thermal Demonstration)
)	
ILLINOIS ENVIRONMENTAL PROTECTION)	
AGENCY,)	
)	
Respondent.)	

NOTICE OF FILING

To: ALL PARTIES ON THE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that today I have electronically filed with the Office of the Clerk of the Illinois Pollution Control Board, SIPC'S RESPONSES TO THE BOARD'S TECHNICAL QUESTIONS, a copy of which is herewith served upon you.

SOUTHERN ILLINOIS POWER COOPERATIVE

By: /s/ Amy Antonioli

Dated: February 7, 2019

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CERTIFICATE OF SERVICE

I, the undersigned, certify that on this 7th day of February 2019, I have served electronically the attached SIPC'S RESPONSES TO THE BOARD'S TECHNICAL QUESTIONS, upon all parties on the attached service list.

My e-mail address is aantoniolli@schiffhardin.com

The number of pages in the e-mail transmission is 130.

The e-mail transmission took place by 5:00pm.

/s/ Amy Antonioli

Amy Antonioli

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ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	Respondent.

SIPC’S RESPONSES TO THE BOARD’S TECHNICAL QUESTIONS

Southern Illinois Power Cooperative (“SIPC”) submits responses to the Illinois Pollution Control Board’s (“Board’s”) technical questions issued on December 7, 2018. SIPC sets forth each of the questions below in italics, followed by SIPC’s response.

The first six questions below refer to USEPA's "Interagency 316(a) Technical Guidance Manual and Guide for Thermal Effects Sections of Nuclear Facilities Environmental Impact Statements (DRAFT)" (May 1, 1977) (USEPA Manual).

The Supplemental Data Collection states that Illinois Natural History Survey (INHS) researchers "used the slow speed side-scan imaging in concert with the transect data to draw a vegetation map of the different areas of the Lake. INHS then extrapolated the transect data coupled with the entire lake side-scan profile to estimate the coverage and species composition of SAVs

[submerged aquatic vegetation] in Lake of Egypt." Exh. B, App. B at B-13; see USEPA Manual at 22-23 (§ 3.3.3: Habitat Formers).

- 1) *Please provide the vegetation map and estimate of coverage and species composition for the record.*

Response: A habitat formers vegetation map of physical transects coupled with slow speed side-scan sonar transects is included in Exh B, App. B at B-55, Figure 7-15. Figure 7-15 also provides information on species composition and percent coverage and composition.

The 2017 Updated Demonstration states that "[n]o threatened or endangered fish species are present in the LOE [Lake of Egypt] thus no adverse impact would be expected to species of concern even if the thermal discharge had a negative effect on habitat formers." Exh. B at 4-9; see USEPA Manual at 22-23 (§ 3.3.3: Habitat Formers).

- 2) *Please explain how ASA Analysis & Communication, Inc. (ASA) determined that no threatened or endangered fish are present in Lake of Egypt. If ASA also determined whether other threatened or endangered species such as macroinvertebrates are present in Lake of Egypt, please provide the results of that determination.*

Response: ASA relied on information from the *Evaluation of Site-Specific Thermal Standards at Marion Power Plant* (Exhibit B, Appendix C and referred to as "2013 Demonstration") as well as internet searches of the Illinois Department of Natural Resources and the Fish and Wildlife Service threatened and endangered species websites in determining that there were no fish threatened and endangered species in the Lake of Egypt. The same websites were used to determine that no threatened and endangered species of macroinvertebrates were present in Lake of Egypt.

- 3) *For Table 3-2 in the 2013 Demonstration (Exh. B, App. C at 9), please indicate which column is for the upper lake and which is for the lower lake. See USEPA Manual at 28-32 (§ 3.3.5: Fish).*

Response: For Table 3-2 in the 2013 Demonstration, the first column is for the upper lake and the second column is for the lower lake.

For white and black crappie, the 2013 Demonstration states that surface waters may be limiting

under stressed conditions, but deeper waters would provide suitable habitat. Exh. B, App. C at 44. The updated 2017 Demonstration indicates that under stressed conditions gizzard shad would need to descend to depths of up to 35 feet in the lower one third of the lake. Pet. Exh. B at 42-43. "The average depth in Lake of Egypt is 18 feet, with a maximum depth of 52 feet." Pet. at 11, Exh. B, App. C at 1-2.

The petition states that "EIU performed temperature and dissolved oxygen monitoring weekly from June through September 2016 to evaluate the availability of thermal refuge habitat and an age-growth study to compare Dr. Heidinger's historical results to evaluate the age-class structure and condition of White and Black Crappie populations." Pet. at 20. The 2016 supplemental data provide graphs of dissolved oxygen concentrations and temperature across depths from the areas of the lake. Exh. B, App. B at B-43 to B-46 (Figures 7-3 - 7-6). The supplemental data also includes the location of sampling sites in the three zones of the lake. Exh. B, App. B at B-40 (Figure 1).

- 4) *Please clarify whether the key to Figures 7-3 – 7-6 should describe dissolved oxygen as a "solid" line instead of "solid and dotted." Also, since each of the four figures includes a separate graph for each of the three lake zones, please clarify what is represented by the three dashed lines indicating temperature in each of the twelve graphs.*

Response: There is a solid line representing the average measured DO and dotted lines on either side representing the 95% confidence limits as described in the figure caption. In reviewing the petition, SIPC noticed that by viewing Figures 7-3 through 7-6 of the pdf electronically at 100% scale, the dotted lines are viewable, but increasing the scale causes the dotted lines to disappear. We are resubmitting the figures showing all the lines as Attachment A. The middle line for temperature represents the average measured temperature and the dotted lines on either side represent the 95% confidence limits.

- 5) *In Figures 7-3 – 7-6, dissolved oxygen levels appear to approach 0 mg/L at depths of approximately 8 feet in all three lake zones and each of the four months sampled. Please comment on the conclusion cited above that "deeper waters would be suitable" and that gizzard shad would need to descend to depths of up to 35 feet in the lower half of the lake. Pet. Exh. B, App. C at 42-43.*

Response: The depth on the y-axis of the graphs in Figures 7-3 through 7-6 is in meters, not feet, so the area cited above where DO approaches 0 is at 8 meters (~26.4 feet). The conclusion cited from Exh. B, App. C at 42-43 was made considering temperature only based on the modeling results conducted by AMEC. Based on the empirical data collected during the 2016 survey year, an average temperature of 30° C (86° F), well below both the mean weekly average temperature for growth (MWAT) and upper incipient lethal temperature (UILT) endpoints cited in the 2013 demonstration (89° F and 96° F, respectively), was reached at a water depth of approximately 16 feet in the lower lake zone during July (Figure 7-4) and approximately 13 feet in the lower and middle lake zones during August (Figure 7-5). Therefore, gizzard shad would need to descend to depths greater than only 16 feet to reach acceptable temperatures in the lower lake zone.

The average DO levels at the depths where temperatures were 30° C or below in the lower lake in July and August were approximately 3 mg/l. But DO levels at depths with temperatures of 30° F or below in the middle and upper lake zones were above 5 mg/l. Based on the empirical data collected during 2016, gizzard shad would have ample areas of thermal refuge with acceptable levels of dissolved oxygen in the middle and upper lake zones during the hottest times of the year.

The 2013 Demonstration states that, “[w]ithin and beyond the mixing zone the thermal plume is mostly surficial. . . .” Exh. B, App. C at 19. SIPC’s petition states that “[t]he heated water flows into the lake mixing zone where it settles into an upper layer of heated water over the existing lake water with some amount of mixing at the boundary between the two layers.” Pet. at 12.

- 6) *Please address the outfall configuration and operation under Section 3.5.3.4 of the USEPA Manual.*

Response:

The outfall is configured as follows:

1. Length of discharge pipe or canal: 91 feet based on the dimensions of the concrete weir where the discharge occurs.
2. Area and dimensions of discharge port(s): There are two ports with diameters of 72 inches; they have an area of 28.3 ft².
3. Number of discharge port(s): There are two discharge ports.
4. Spacing (on centers) of discharge ports: 16’ 6”.
5. Depth (mean and extremes): Mean Lake height EL 500’ Bottom of weir EL 487.7’, top of weir EL 512’.
6. Angle of discharge as a function of:
 - A. Horizontal axis: slope of weir is 10:1 (one foot of drop for every 10 feet of length).
 - B. Vertical axis: See Attachment B.
 - C. Current directions: Lake of Egypt does not have an inherent current other than what is created by the discharge.

To illustrate these responses, we have included a drawing, “CIRCULATING WATER 1, 2, 3 & 4 SEALING WEIR & OUTFALL PLAN & ELEVATION,” as Attachment B.

The Petition states that “projected load factors should follow past load factors for each unit for the life of the plant.” Pet. at 8 (emphasis added); see 35 Ill. Adm. Code 106.1130(a)(5).

- 7) *Does SIPC foresee any factors that may cause projected load factors to vary from past load factors instead of following them? If so, what are those factors?*

Response: Projected load factors are lower than past load factors. The factors affecting projected load are decreased demand (for coal sources) as a result of lower market prices due to lower natural gas prices. The U.S. Energy Information Administration Annual Energy Outlook 2019¹ also predicts lower capacities for coal-fired units in general.

SIPC reports that the Marion Generating Station consists of two coal-fired units (Units 4 and 123) and two additional combined-cycle units (Units 5 and 6). Petition at 7; Exhibit B at i, 1-3. Units 5 and 6 are not included in the discussion of heated effluent, method for heat dissipation, load factor, or shutdowns. Pet. at 8-11; see 35 Ill. Adm. Code 106.1130(a).

- 8) *Please address whether Units 5 and 6 contribute to the thermal loading of the heated effluent to Lake of Egypt. If so, please include information for Units 5 and 6 on the associated heated effluent, method for heat dissipation, load factor, or shutdowns.*

Response: Units 5 and 6 are natural gas-fired simple cycle turbines which do not require cooling water to operate. Therefore, they do not contribute to the heated effluent discharged to Lake of Egypt.

The 2013 Demonstration states that “[t]he additional boiler than became operational in 2003 resulted in increases of water use and volume of thermal water discharged into the lake.” Exh. B, App. C at 1. The petition states that the operation of Unit 123 beginning in 2003 did not appreciably increase effluent volume but dramatically increased “the frequency of thermal discharges.” Pet. at 7.

- 9) *Would SIPC clarify the effect that operation of Unit 123 beginning in 2003 had on the frequency and volume of thermal discharges to the lake?*

Response: Neither the addition of the Foster Wheeler fluidizing boiler nor the repowering project for U123 in 2003 changed the original design that would change the volume of thermal discharge into the lake. The effluent discharge still operated within the original design of the plant circulation water system. There were no modifications to the circulating water pumps or the three condensers. The three turbines are still original.

The repowering changed the discharge frequency as evidenced by the change in capacity factor (CF) from immediately prior to the repowering and immediately after the repowering. In 2001 and 2002, the CF was 33% and 23%, respectively. In 2004 and

¹ The U.S. Energy Information Administration Annual Energy Outlook 2019 is viewable at: <https://www.eia.gov/todayinenergy/detail.php?id=38112>.

2005, the CF was 87% and 92%, respectively. We estimate from these increases that the discharge was two to three times more frequent after the repowering.

In the 2013 demonstration (Exhibit B, Appendix C), Table 6-2 cites a 2010 study and indicates that the UILT for threadfin shad is 91.9°F. However, at page 40, the demonstration cites a 1975 study and states that the UILT tolerance range of threadfin shad is 93 to 97°F.

10) *Please clarify the temperature constituting UILT for this species.*

Response: Both UILT values apply to threadfin shad. Table 6.2 (Exhibit B, Appendix C), therefore, could cite both sources (Wren (1975) and Monirian et al. (2010)) for the UILT for threadfin shad resulting in a UILT tolerance range of 92 to 97° F. With a 1°F change in the lower boundary of the UILT tolerance range and using the values in Table 6.1 (Exhibit B, Appendix C), under “stressed” summer conditions, approximately 1,606 acres would be under the upper range UILT value (97° F) and 737 acres of the lake would be below the lower UILT range on the surface, rather than 884 acres with 93° F as the lower boundary. Under “normal” summer conditions, all of the lake surface would be under the upper range UILT value (97° F) and 1,812 acres would be under the lower range UILT value (92° F).

In the 2013 Demonstration, AMEC used the Generalized Longitudinal Lateral Vertical Hydrodynamic Transport (GLLVHT) model “to predict potential lake temperatures during both summer and winter worst case conditions.” Pet. at 24. Tables 5-5 and 5-6 of AMEC’s report summarize modeling inputs for the summer and winter, normal and stressed conditions. Exh. B, App. C at 34-35. Figures 5-10 through 5-17 depict the modeling results graphically. Exh. B, App. C at 81-88.

11) *Provide directly from the model a printout showing inputs used and outputs obtained for summer and winter normal and stressed conditions. In the printout, please highlight the numbers used in the summaries of the modeling inputs and the numbers used to produce the figures.*

Response: Model input and output information for Winter and Summer “normal” and “stressed” conditions are provided in Attachment C.

Table F-2 of AMEC’s “Supplemental Spring and Fall Hydrothermal Modeling” presents the “Summary of Model Inputs for Lake of Egypt Thermal Simulations” for spring (May 31) and fall (October 1) conditions. Exh. B, App. C, App. F at 5. AMEC’s report states that

Maximum surface temperature resulting from the spring condition simulation for a May 31 date was 29.9° C (85.8° F). Under fall conditions (October 1) a maximum surface temperature of 32.6° C (90.7° F) was simulated from the model. At the edge of the proposed mixing zone, the spring water temperature is 29.8° C (86° F) and the fall water temperature is 32.5° C (91° F).” Exh. B, App. C, App. F at 2.

- 12) *Provide directly from the model a printout showing inputs used and outputs obtained from the Supplemental Spring and Fall Hydrothermal Modeling. In the printout, please highlight the numbers used in the summaries of the modeling inputs and the numbers reported above as the maximum surface temperatures and the temperatures at the edge of the mixing zone from the simulation of the spring and fall conditions.*

Response: Model input and output information for Spring and Fall surface temperature conditions are provided Attachment D. Cross section output could not be located for these model runs. During review of input data for the Spring and Fall events, it was also determined that the wind directions used in the model were different than those in Table F-2. The wind direction used in the model input was reversed from the actual wind direction. Low wind speeds and direction do not have a significant effect on model predictions.

In the 2013 Demonstration, Figures 5-10 through 5-17 illustrate lake surface temperatures generated by the model. Exh. B, App. C at 81-99. Figures 5-14 through 5-17 specifically show the model results at the cross sections. Id. at 85-88. Transect A appears to pass through the mixing zone, while Transect B appears to pass approximately 700 feet east of the edge of the mixing zone shown in Figures 5-10 through 5-13. Id. at 81-84.

- 13) *Please explain the reason for locating Transect B beyond the edge of the mixing zone.*

Response: Model profiles can be generated along an x grid row or along a y grid column. Grid cells were 500 ft. by 500 ft. Transect A was placed through the plant's cooling water outfall to the Lake. Transect B was chosen to run north-south through the dam at the downstream end of the Lake and intended to provide a cross section through the main, deeper part of the lower Lake. The cross section is beyond the edge of the mixing zone because AMEC first selected the transects, then after collecting and analyzing the data, determined the edge of the mixing zone. A thermal mixing zone is not a fixed area, but rather changes with flow and lake conditions. Therefore, while the average edge of the mixing zone is depicted in the figures referenced above, the edge of the mixing zone may change depending on conditions at any given time, including lake inflow and outflow over the spillway, cooling water discharge, wind speed and direction, etc.

- 14) *Address whether a north-south cross section otherwise similar to Transect B at the eastern edge of the mixing zone would show temperatures greater than those along Transect B.*

Response: Based on the model output in Figures 5-10 through 5-17, it does not appear that temperatures would be higher if the transect was moved to the eastern edge of the mixing zone based on the model data. The modeled stressed condition shows the same surface temperature across the whole isotherm depicted in the lower lake. Therefore, moving the transect within the same isotherm would result in the same basic temperature profile.

One could infer from water temperature profiles taken in 2006 (App. C, p. 24, Figures 5-4 through 5-6) that temperatures along a transect located more proximal to the mixing zone edge under some conditions could produce higher temperatures. An approximation of temperatures at the edge of the mixing zone can be seen by drawing a vertical line through the mixing zone identified in transect A-A' in Figures 5-14 and 5-16.

15) *For Figures 5-14 through 5-17, please provide a scale for depth and surface distance.*

Response: A scale for depth and for horizontal distance has been added to each figure. Revised figures are provided in Attachment E.

16) *For Figures 5-14 through 5-17, please show the location of the edge of the mixing zone.*

Response: The width of the mixing zone has been added to Transects A-A' in Figures 5-14 and 5-16. The depicted mixing zone boundary does not intersect Transect B-B'. Revised figures are included in Attachment E.

The 2013 Demonstration states that “[s]urface temperatures for the simulation for stressed winter conditions are presented in Figure 5-13.” Exh. B, App. C at 37. The warmest isotherm in Figure 5-13 is 68.1 – 69° F. Id. at 84.

The 2013 Demonstration also states that “[c]ross-sectional diagrams of model results under ‘normal’ and ‘stressed’ conditions are illustrated in Figures 5-14 and 5-15 for the summer period and in Figures 5-16 and 5-17 for the winter period.” Exh. B, App. C at 37. The warmest isotherm in Figure 5-16 is 69.1 – 70° F at cross section A, which passes through the mixing zone. Id. at 87.

17) *Please identify the modeled winter maximum temperature at the edge of the mixing zone.*

Response: The modeled maximum temperature (or isotherm) at the edge of the mixing zone is shown in the figures provided. In Figure 5-10, the edge of the mixing zone is within the 94.5° F isotherm (summer, normal). In Figure 5-11, the maximum temperature is within the 99° F isotherm (summer, maximum). In Figure 5-12, the maximum temperature is within the 52.5° F isotherm (winter normal), and in Figure 5-13, the maximum temperature is within the 69° F isotherm.

18) *SIPC stated that the hydrothermal modeling “forms the basis for SIPC’s requested alternate thermal limits.” Pet. at 28. Please explain why SIPC proposed 72° F as the winter maximum instead of the highest modeled result of 70° F which passes through the mixing zone or the highest temperature at the edge of the mixing zone as indicated by the hydrothermal model.*

Response: Modeled conditions for the “stressed” scenario were based on an estimate of 95% annual non-exceedance of ambient parameters from historic climate and lake data. The output predictions from an accurate model would, therefore, be interpreted as

infrequently occurring, but having a reasonable risk of occurring at least once during an extended number of years. Applying the binomial probability distribution with an outcome having a 5% annual chance of exceedance, the probability of having at least one exceedance during a 5-year period is 23% and the probability of at least one exceedance during a 20-year period is 64%. With consideration of these risks, and other considerations not factored into the modeling such as climate change (i.e., historic climate data potentially underestimating future temperatures and related climate data), model uncertainty, and real-time operational limitations as thermal limits are approached as discussed in response to #20, SIPC requested variance temperatures slightly elevated from the modeled “stressed” condition predictions.

- 19) *The 2013 Demonstration states that model inputs “were based on the 95% [annual probability of] non-exceedance event corresponding to an average occurrence frequency of approximately once in 20 years,” except where 98% was used for winter. Exh. B, App. C at 28. Given that the winter results from the hydrothermal modeling of 70° F are representative of the 98th percentile, please explain whether the proposed excursion temperatures (3° F) and hours (1% of 12-month period) would provide an adequate range for the alternative thermal effluent limitation for winter temperatures that might exceed 70° F during conditions that would occur above the 98th percentile.*

Response: Measured temperatures during the month of March (2014-2018) have exceeded 75°F, so the proposed excursion temperatures (+3°F) and hours would not provide an adequate range if the alternative thermal effluent limit were set at 70°F during winter months (which currently include March).

The Board has granted alternative thermal effluent limitations based on the highest values in the modeled extreme-case scenarios. See Exelon Generation v. IEPA, PCB 15-204, slip op. at 82 (Mar. 3, 2016). To address the possibility of temperatures above modeled extreme-cases, the Board has provided excursion temperatures and hours, which SIPC has also requested.

- 20) *If SIPC complies with a winter maximum of 70° F instead of 72° F, please explain whether allowable excursion temperatures and hours would require SIPC to take other measures, such as curtailing operations or derating.*

Response: Yes, if the maximum allowable temperature limit were set at 70°F during winter months, as SIPC approached that temperature (which has only occurred during the month of March), SIPC could be forced to curtail operations to prevent exceeding those limits. This could impact SIPC’s ability to respond when called upon to meet demand and the cooperative would lose money as a result.

- 21) *Comment on proposing 70°F for the maximum temperature at the edge of the mixing zone as indicated by the hydrothermal model as the winter (December – March) limit instead of 72°F as requested in the petition.*

Response: SIPC could not comply with a maximum temperature limit of 70°F from

December through March. However, SIPC could comply with a 70°F maximum temperature limit for the months of December through February. SIPC would then propose setting the maximum temperature limit for the month of March at 74°F with the same excursion temperatures (no more than +3°F) and hours (1% of 12-month period).

According to AMEC's "Supplemental Spring and Fall Hydrothermal Modeling," "[m]aximum surface temperature resulting from the spring condition simulation for a May 31 date was 29.9° C (85.8° F). Under fall conditions (October 1) a maximum surface temperature of 32.6° C (90.7° F) was simulated from the model. At the edge of the proposed mixing zone, the spring water temperature is 29.8° C (86° F) and the fall water temperature is 32.5° C (91° F)." Pet. Exh. B, App. C, App. F at 2.

- 22) *For fall (October – November), SIPC proposed the maximum surface temperature of 91° F that was simulated from the model at the edge of the mixing zone as the alternative thermal effluent limitation. Explain why SIPC proposed 90° F as the spring alternative thermal effluent limitation instead of 86° F as the maximum indicated by the hydrothermal model at the edge of the mixing zone.*

Response: See response to question 18, which provides considerations applicable to model predictions for any period of the year.

- 23) *If spring results of the supplemental hydrothermal modeling are representative of the 95th percentile (Exh. B, App. C, App. F at 2), once in 20-year frequency (Exh. B, App. C at 28), please explain whether the proposed excursion temperatures and hours would provide an adequate range for the alternative thermal effluent limitation for spring temperatures that might exceed 86°F during conditions above the 95th percentile.*

Response: No, the excursion temperatures and hours would not provide an adequate range. A maximum temperature limit of 86°F would result in several exceedences of the +3°F limit.

- 24) *If SIPC complies with a spring maximum of 86° F instead of 90° F, please explain whether allowable excursion temperatures and hours would require SIPC to take other measures, such as curtailing operations or derating.*

Response: Based on an analysis of the Lake of Egypt temperature buoy data, SIPC would likely be required to take necessary measures to reduce discharge temperatures in order to comply with a maximum limit of 86° F.

- 25) *Please comment on proposing 86° F or the maximum temperature at the edge of the mixing zone as indicated by the hydrothermal model as the spring (April – May) limit instead of 90° F as requested in the petition.*

Response: SIPC cannot comply with a maximum temperature limit of 86°F at the edge of the mixing zone. Rather, SIPC proposes a spring maximum temperature limit of 90°F together with the proposed 1% excursion hours and excursion temperature of no more than +3°F. SIPC is requesting to maintain the 90° F maximum temperature limit for the spring based on temperatures recorded in May of 2018 at the edge of the mixing zone that reached a

maximum of 92.2 ° F.

The 2013 Demonstration states that the eastern (downstream) boundary of the 26-acre mixing zone “generally corresponds to the 101° F isotherm as predicted in the summer stressed condition modeling scenario.” Exh. B, App. C at 55. Results for summer stressed condition modeling are shown in Figures 5-11, 5-14, and 5-15. Id. at 82, 85-86. The highest isotherm in these figures appears to be 99.1 – 100° F. Figures 5-11, 5-14, and 5-15 do not appear to include a 101° F isotherm. Table 5-1 of the 2013 Demonstration shows the highest water temperature recorded in the chart as 100.6° F taken on August 17, 2010. Note b to the table states that the “[m]easurement was taken inside the mixing zone, near the discharge outfall.” Exh. B, App. C at 25.

- 26) *Clarify the modeled summer maximum temperature at the edge of the mixing zone.*
- 27) *Explain why SIPC proposes 101° F as the summer maximum, corresponding to a measurement taken near the discharge outfall, instead of the highest modeled result of 100° F or the highest temperature at the edge of the mixing zone as indicated by the hydrothermal model.*
- 28) *If summer results of the hydrothermal modeling represent the 95th percentile (Exh. B, App. C, App. F at 2), once in 20-year frequency (Exh. B, App. C at 28), explain whether the proposed excursion temperatures and hours would provide an adequate range for the alternative thermal effluent limitation for summer temperatures that might exceed 100°F during conditions that would occur above the 95th percentile.*

Responses 26-28: The modeled summer maximum temperature is within the 100°F isotherm at the edge of the mixing zone. Recent data show that temperatures have approached (and would be rounded up to) 101°F for short periods of time, totaling less than an hour. However, SIPC could comply with a summer maximum of 100°F given the proposed excursion temperatures and hours.

- 29) *If SIPC complies with a summer maximum of 100° F, please explain whether allowable excursion temperatures and hours would require SIPC to take other measures, such as curtailing operations or derating.*

Response: Based on AMEC’s modeling results and recently measured summer temperatures at the edge of the mixing zone, SIPC should not need to take other measures such as curtailing operations.

- 30) *Please comment on proposing 100° F or the maximum temperature at the edge of the mixing zone as indicated by the hydrothermal model as the summer (June – September) limit instead of 101° F as requested in the petition.*

Response: SIPC can comply with a summer maximum temperature limit of 100°F at the edge of the mixing zone together with the proposed 1% excursion hours and no more than +3°F.

SIPC appears to request relief from all of Section 302.211 by proposing the alternative thermal

effluent limitations be worded “[i]n lieu of the temperature water quality standards defined by Section 302.211...” Pet. at 12. Only the numeric standards derived from Section 302.211(d) and (e) are currently imposed in the NPDES permit. Relief from the entire Section 302.211 would include the requirements to perform studies as required by IEPA (Section 302.211(h)), to take corrective measures if the thermal effluent causes significant ecological damage (Section 302.211(i)), and to comply with other requirements in Section 302.211.

- 31) *Please explain whether SIPC intends also to request relief from the entirety of Section 302.211. If so, please justify each provision other than subsections (d) and (e) from which SIPC seeks relief.*
- 32) *If not, please indicate each provision from which it does not seek relief.*

Responses 31-32: As explained in Section G of SIPC’s petition, SIPC specifically requests that the proposed alternative thermal effluent limits apply to SIPC’s discharge to Lake of Egypt in lieu of the temperature limits in 35 Ill. Adm. Code 302.211(d). The temperature limits in Section 302.211(e) do not apply to lakes and SIPC also requests that Condition 4(B) not be included in SIPC’s renewed NPDES permit. SIPC does not seek relief from the remaining subsections of Section 302.211.

Respectfully submitted,

SOUTHERN ILLINOIS POWER COOPERATIVE

By: /s/ Amy Antonioli

Dated: February 7, 2019

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ATTACHMENT A

Southern Illinois Power – Marion Generating
Station Temperature-Dissolved Oxygen Figures

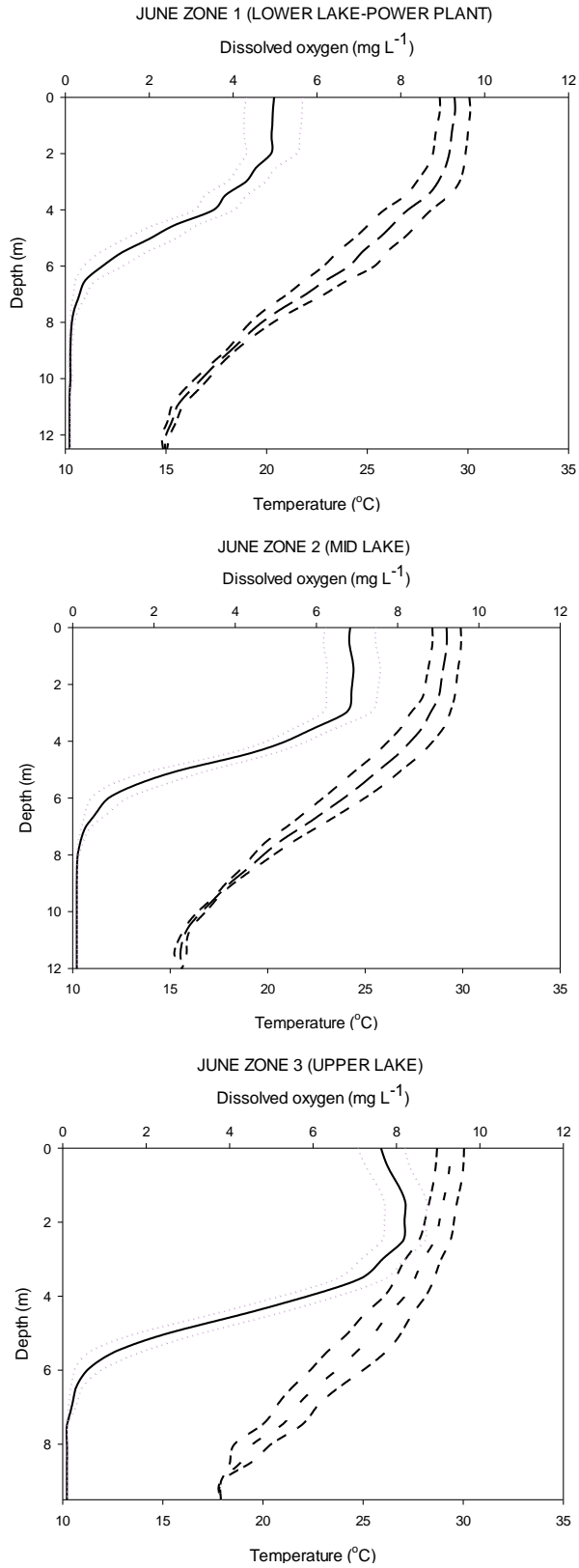


Figure 1. Average +/- 95% confidence intervals for temperature (dashed) and DO (solid and dotted) from the upper (top), mid (middle), and upper (bottom) during June 2016.

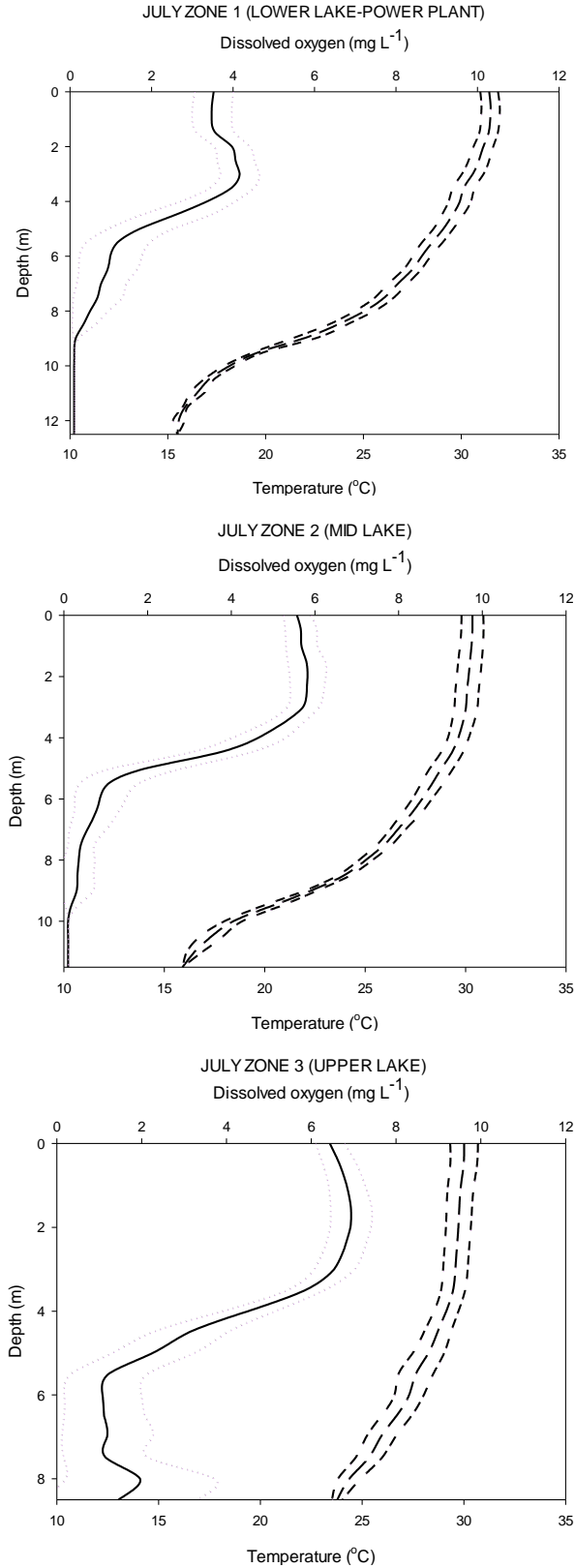


Figure 2. Average \pm 95% confidence intervals for temperature (dashed) and DO (solid and dotted) from the upper (top), mid (middle), and upper (bottom) during July 2016.

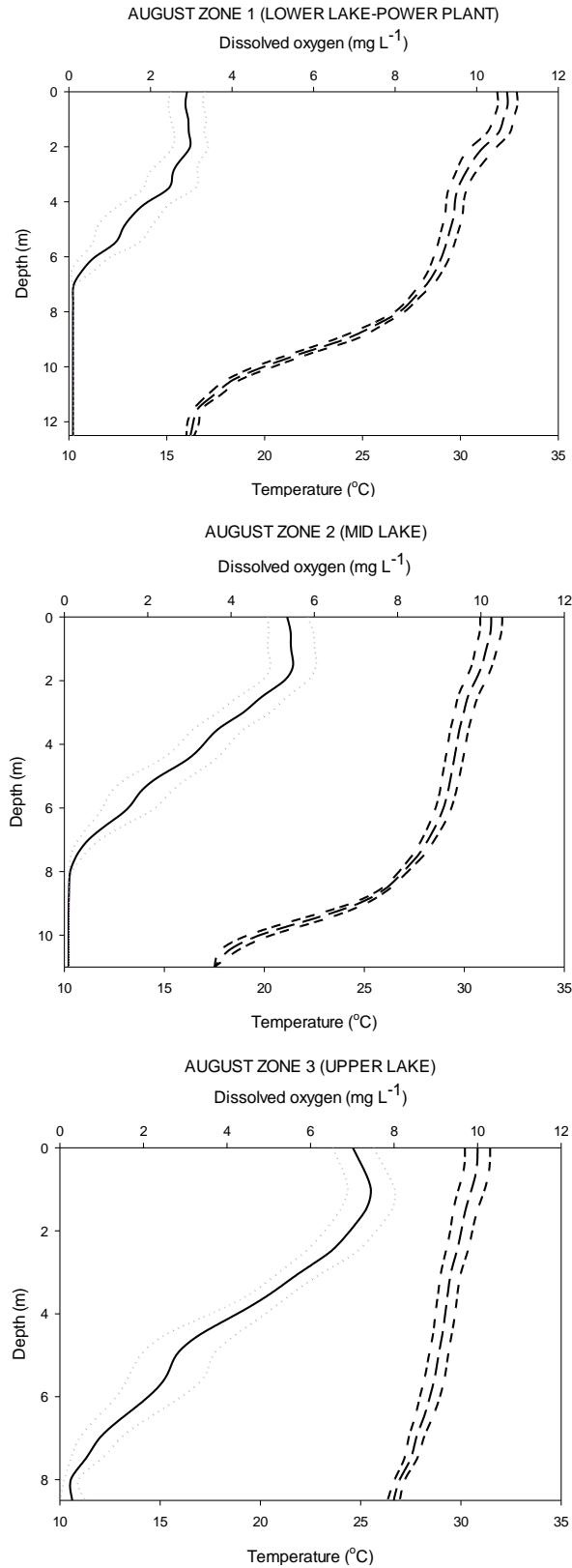


Figure 3 Average +/- 95% confidence intervals for temperature (dashed) and DO (solid and dotted) from the upper (top), mid (middle), and upper (bottom) during August 2016.

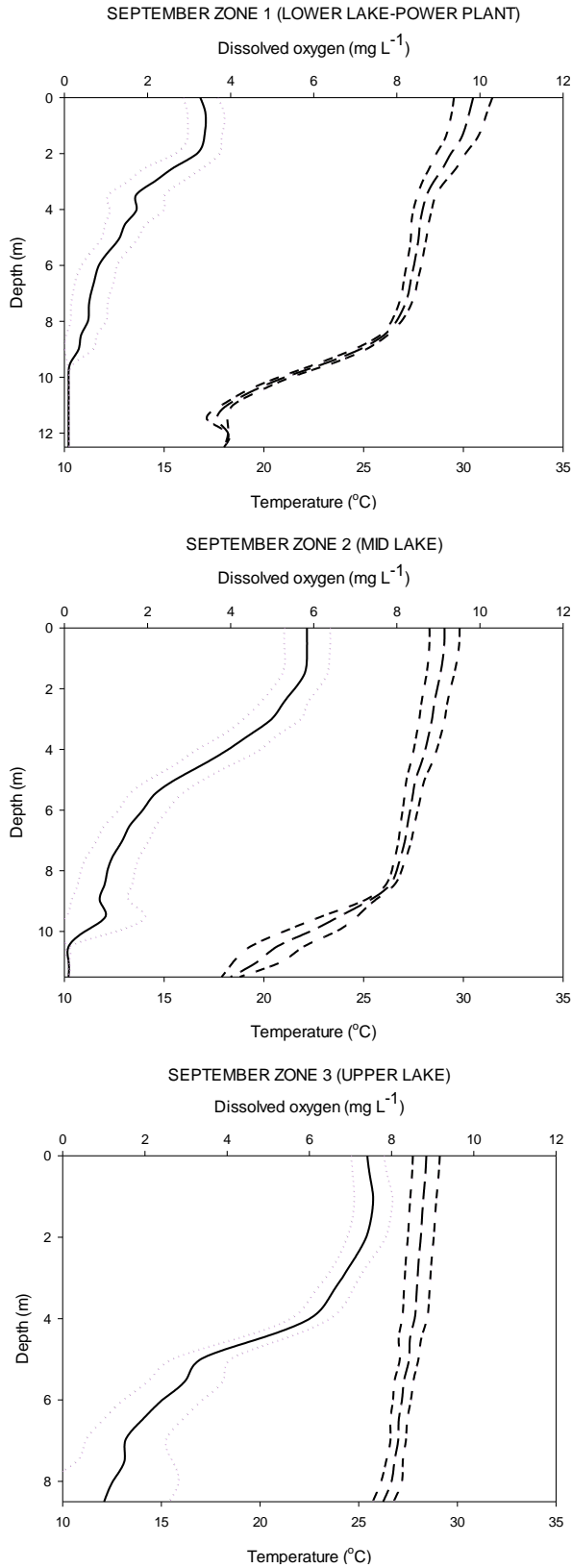


Figure 4. Average \pm 95% confidence intervals for temperature (dashed) and DO (solid and dotted) from the upper (top), mid (middle), and upper (bottom) during September 2016.

ATTACHMENT C
SUMMER AND WINTER MODEL INPUT AND OUTPUT DATA

9/26/2012

Summer/Normal

LEgypt_500ft_INPSummerD

C:\GLLVHT\SIPC 500ft\LEgypt_500ftSummerD.dat

\$1.nwqm 1
 \$2.Inflow Conditions
 \$ninflows 2
 \$qinflow,iinflow,jinflow,kinflow
 \$intake,iintake,jintake,kintake
 \$temp saln const
 6.371 3 45 19
 1 2 44 8
 11.4 0.00 100.00
 6.371 3 45 20
 1 2 44 9
 11.4 0 100

Bothey 4

$\Delta T = 11.4^\circ C$

$Q = 6.371 \times 2 = 12.742 \text{ m}^3/\text{s}$

$12.742 \text{ m}^3/\text{s} \times 11.4^\circ C \times 4.184 \text{ J/g}^\circ C \times 998.2 \text{ Kg/m}^3 = 606.7 \text{ MW Heat Load}$

\$3. Outflow Conditions
 \$noutflows 2
 \$qoutflow,ioutflow,joutflow,koutflow
 6.372 2 44 8
 6.372 2 44 9
 \$4.Elevation Boundary Conditions
 \$elevation kts 0 2
 \$iewest,ieeast,jesouth,jenorth
 zmean,zamp,tmelag,tideper
 k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
 \$5.Initialize water Quality Profiles
 \$ninitial 1
 k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2

2	29.2	0	0
3	28.7	0	0
4	28.4	0	0
5	28.2	0	0
6	27.8	0	0
7	27.5	0	0
8	27.3	0	0
9	26.8	0	0
10	26.4	0	0
11	25.6	0	0
12	24.8	0	0
13	23.4	0	0
14	22.0	0	0
15	20.8	0	0
16	19.6	0	0
17	19.1	0	0
18	18.5	0	0
19	18.0	0	0
20	17.4	0	0
21	16.7	0	0
22	16.1	0	0
23	15.5	0	0
24	15.2	0	0
25	14.9	0	0
26	14.6	0	0
27	14.3	0	0
28	14.0	0	0

30, 30

\$6.External Parameters
 Chezy, Wx,Wy,CSHE, TEQ, Rdecay, Lat.
 35.00 0.0 2.14 28.8 30.2 0.00 37.6

\$7.Output Profiles
 \$nprofiles 3
 \$ipwest,ipest,jpsouth,jpnorth
 \$u-vel, v-vel, w-vel
 \$nconstituents
 \$I-const(1),I-const(2), I-const(3), etc
 7 7 33 47

LEgypt_500ft_INPSummerD

```
0 0 0
1
1 3
2 11 45 45
0 0 0
2
1 3
16 16 15 36
0 0 0
2
1 3
```

\$8. Output Surfaces

```
$nsurfaces $nconstituents 2 2
$U-vel V-vel 1.000000E+00 1.000000E+00
$I-const(1), I-const(2), I-const(3), etc.
1 3
```

\$9. Output Time Series

```
$ntimser 6
$nconst, iconst, jconst, kconst
1 2 45 2
1 8 46 2
1 9 44 2
1 2 44 8
1 17 27 2
1 8 41 26
```

\$10. Simulation time conditions

```
$dtm tmend 360.00 722.0
$timeout tmeserout 720.0 24.0
```

\$11. Internal Boundary Locations

```
$nintbnd 1
$ibwest, ibeast, jbsouth, jbnorth, ktop, kbottom
3 5 44 44 2 30
```

\$12. Constituent Averages

```
$nconarv 0
$nconstarvs
```

\$13. Groundwater Inflow

```
$ngrndwtr 0
```

Summer Normal Conditions / Surface

x	y	Temp C°	Temp °F
7469.5	2439.0	30.20	86.36
7469.5	2591.5	30.20	86.36
7317.1	2591.5	30.20	86.36
7164.6	2591.5	30.20	86.36
7164.6	2743.9	30.20	86.36
7012.2	2743.9	30.20	86.35
6859.8	2743.9	30.19	86.35
6859.8	2896.3	30.19	86.35
6707.3	2591.5	30.19	86.35
6707.3	2743.9	30.19	86.35
6707.3	2896.3	30.19	86.35
6554.9	2439.0	30.19	86.33
6554.9	2591.5	30.19	86.34
6554.9	2743.9	30.19	86.34
6402.4	2286.6	30.18	86.32
6402.4	2439.0	30.18	86.32
6402.4	2591.5	30.18	86.32
6250.0	2439.0	30.17	86.31
6250.0	2591.5	30.17	86.31
6097.6	762.2	30.19	86.34
6097.6	914.6	30.19	86.34
6097.6	1067.1	30.19	86.33
6097.6	1676.8	30.17	86.30
6097.6	1829.3	30.17	86.30
6097.6	1981.7	30.17	86.30
6097.6	2439.0	30.17	86.30
6097.6	2591.5	30.17	86.30
5945.1	1067.1	30.18	86.32
5945.1	1219.5	30.17	86.31
5945.1	1372.0	30.17	86.30
5945.1	1524.4	30.17	86.30
5945.1	1676.8	30.17	86.30
5945.1	1829.3	30.17	86.30
5945.1	1981.7	30.17	86.30
5945.1	2134.1	30.17	86.30
5945.1	2286.6	30.17	86.30
5945.1	2439.0	30.17	86.30
5945.1	2591.5	30.17	86.30
5792.7	1981.7	30.18	86.32
5792.7	2439.0	30.16	86.29
5792.7	2591.5	30.16	86.30
5792.7	2743.9	30.17	86.30
5640.2	2591.5	30.17	86.30
5640.2	2743.9	30.17	86.30
5640.2	2896.3	30.17	86.30
5487.8	2439.0	30.17	86.30
5487.8	2591.5	30.17	86.31
5487.8	2743.9	30.17	86.31
5335.4	2439.0	30.17	86.31
5335.4	2591.5	30.18	86.33
5335.4	2743.9	30.19	86.35
5182.9	2591.5	30.21	86.37
5182.9	2743.9	30.22	86.40
5030.5	2591.5	30.25	86.45
5030.5	2743.9	30.26	86.47
5030.5	2896.3	30.28	86.50

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4878.0	2286.6	30.26	86.47
4878.0	2439.0	30.27	86.49
4878.0	2591.5	30.28	86.51
4878.0	2743.9	30.30	86.53
4878.0	2896.3	30.32	86.58
4878.0	3048.8	30.33	86.59
4725.6	2134.1	30.26	86.46
4725.6	2286.6	30.26	86.48
4725.6	2439.0	30.29	86.52
4725.6	2591.5	30.31	86.55
4725.6	2743.9	30.34	86.62
4725.6	2896.3	30.39	86.71
4725.6	3048.8	30.43	86.78
4573.2	2591.5	30.38	86.69
4573.2	2743.9	30.39	86.71
4573.2	2896.3	30.47	86.84
4573.2	3048.8	30.52	86.94
4420.7	2591.5	30.51	86.92
4420.7	2743.9	30.51	86.91
4420.7	2896.3	30.59	87.06
4420.7	3048.8	30.62	87.12
4268.3	2591.5	30.61	87.09
4268.3	2743.9	30.68	87.23
4268.3	2896.3	30.80	87.44
4268.3	3048.8	30.76	87.36
4115.9	2439.0	30.63	87.13
4115.9	2591.5	30.63	87.14
4115.9	2743.9	30.80	87.43
4115.9	2896.3	30.95	87.71
3963.4	914.6	30.18	86.32
3963.4	1067.1	30.18	86.32
3963.4	2743.9	30.95	87.71
3963.4	2896.3	31.08	87.95
3963.4	3048.8	31.12	88.02
3963.4	3201.2	31.14	88.04
3811.0	304.9	30.19	86.34
3811.0	457.3	30.19	86.34
3811.0	1067.1	30.19	86.35
3811.0	1219.5	30.20	86.35
3811.0	1372.0	30.20	86.37
3811.0	1524.4	30.20	86.37
3811.0	2896.3	31.15	88.08
3811.0	3048.8	31.20	88.15
3811.0	3201.2	31.26	88.26
3811.0	3963.4	31.34	88.41
3811.0	4115.9	31.26	88.26
3658.5	457.3	30.18	86.33
3658.5	609.8	30.18	86.33
3658.5	762.2	30.18	86.33
3658.5	914.6	30.18	86.33
3658.5	1067.1	30.18	86.33
3658.5	1372.0	30.23	86.41
3658.5	1524.4	30.22	86.40
3658.5	1676.8	30.25	86.45
3658.5	1829.3	30.29	86.53
3658.5	1981.7	30.31	86.57
3658.5	2134.1	30.32	86.57
3658.5	2286.6	30.39	86.71

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3658.5	2439.0	30.46	86.83
3658.5	2591.5	30.72	87.30
3658.5	2896.3	31.19	88.13
3658.5	3048.8	31.25	88.25
3658.5	3201.2	31.37	88.47
3658.5	3353.7	31.48	88.66
3658.5	3506.1	31.53	88.76
3658.5	3658.5	31.57	88.83
3658.5	3811.0	31.62	88.92
3658.5	3963.4	31.50	88.71
3658.5	4115.9	31.37	88.47
3658.5	4268.3	31.28	88.30
3506.1	1829.3	30.36	86.64
3506.1	1981.7	30.36	86.66
3506.1	2134.1	30.37	86.67
3506.1	2286.6	30.39	86.70
3506.1	2591.5	30.91	87.64
3506.1	2743.9	31.01	87.81
3506.1	2896.3	31.11	88.00
3506.1	3048.8	31.23	88.22
3506.1	3201.2	31.44	88.58
3506.1	3353.7	31.56	88.81
3506.1	3506.1	31.65	88.97
3506.1	3658.5	31.73	89.11
3506.1	3811.0	31.80	89.24
3353.7	2743.9	30.99	87.78
3353.7	2896.3	31.02	87.83
3353.7	3048.8	31.03	87.85
3353.7	3353.7	31.61	88.91
3353.7	3506.1	31.72	89.10
3353.7	3658.5	31.84	89.31
3353.7	3811.0	31.96	89.53
3353.7	3963.4	32.05	89.69
3353.7	5182.9	32.35	90.23
3353.7	5335.4	32.25	90.05
3201.2	1981.7	30.18	86.32
3201.2	3506.1	31.79	89.21
3201.2	3658.5	31.91	89.44
3201.2	3811.0	32.07	89.73
3201.2	3963.4	32.19	89.95
3201.2	4115.9	32.30	90.14
3201.2	4268.3	32.29	90.11
3201.2	5182.9	32.50	90.50
3201.2	5335.4	32.33	90.20
3048.8	1524.4	30.16	86.29
3048.8	1676.8	30.17	86.30
3048.8	1829.3	30.17	86.30
3048.8	1981.7	30.18	86.32
3048.8	2134.1	30.19	86.35
3048.8	2286.6	30.21	86.37
3048.8	2439.0	30.21	86.37
3048.8	3658.5	31.94	89.50
3048.8	3811.0	32.08	89.74
3048.8	3963.4	32.24	90.02
3048.8	4115.9	32.39	90.30
3048.8	4268.3	32.40	90.31
3048.8	4420.7	32.29	90.13
3048.8	4573.2	32.18	89.92

Electronic Filing: Received, Clerk's Office 02/07/2019

3048.8	5030.5	32.49	90.49
3048.8	5182.9	32.61	90.71
2896.3	1372.0	30.15	86.26
2896.3	1524.4	30.15	86.27
2896.3	1676.8	30.15	86.27
2896.3	1829.3	30.15	86.27
2896.3	2134.1	30.23	86.42
2896.3	2286.6	30.26	86.47
2896.3	2439.0	30.24	86.43
2896.3	3048.8	31.02	87.83
2896.3	3201.2	31.16	88.09
2896.3	3353.7	31.27	88.28
2896.3	3506.1	31.56	88.81
2896.3	3658.5	31.85	89.33
2896.3	3811.0	31.94	89.49
2896.3	4115.9	32.46	90.42
2896.3	4268.3	32.46	90.43
2896.3	5030.5	32.57	90.62
2896.3	5182.9	32.75	90.96
2743.9	914.6	30.14	86.24
2743.9	1067.1	30.14	86.24
2743.9	1219.5	30.14	86.25
2743.9	1372.0	30.14	86.25
2743.9	2286.6	30.31	86.56
2743.9	2439.0	30.33	86.59
2743.9	2591.5	30.36	86.66
2743.9	2743.9	30.42	86.75
2743.9	2896.3	30.47	86.84
2743.9	3048.8	30.68	87.23
2743.9	3201.2	30.90	87.62
2743.9	3353.7	31.02	87.84
2743.9	3506.1	31.27	88.29
2743.9	3658.5	31.67	89.01
2743.9	4115.9	32.50	90.50
2743.9	4268.3	32.52	90.54
2743.9	5182.9	32.88	91.19
2743.9	5335.4	32.89	91.19
2743.9	5487.8	32.74	90.93
2591.5	762.2	30.14	86.25
2591.5	914.6	30.14	86.24
2591.5	1067.1	30.14	86.25
2591.5	1219.5	30.14	86.25
2591.5	2439.0	30.38	86.69
2591.5	2591.5	30.42	86.75
2591.5	2743.9	30.50	86.89
2591.5	2896.3	30.57	87.03
2591.5	3048.8	30.63	87.13
2591.5	3201.2	30.70	87.27
2591.5	3963.4	32.37	90.26
2591.5	4115.9	32.51	90.53
2591.5	4268.3	32.59	90.66
2591.5	5030.5	32.91	91.23
2591.5	5182.9	32.95	91.31
2591.5	5335.4	32.99	91.37
2439.0	609.8	30.16	86.28
2439.0	762.2	30.15	86.27
2439.0	2439.0	30.31	86.56
2439.0	2591.5	30.32	86.57

Electronic Filing: Received, Clerk's Office 02/07/2019

2439.0	4115.9	32.58	90.64
2439.0	4268.3	32.67	90.81
2439.0	4420.7	32.75	90.96
2439.0	4573.2	32.78	91.01
2439.0	4878.0	32.91	91.23
2439.0	5030.5	32.97	91.35
2439.0	5182.9	33.04	91.47
2439.0	5335.4	33.09	91.57
2439.0	5487.8	33.08	91.55
2286.6	2439.0	30.25	86.45
2286.6	2591.5	30.25	86.45
2286.6	3963.4	32.43	90.37
2286.6	4115.9	32.52	90.54
2286.6	4268.3	32.70	90.87
2286.6	4420.7	32.83	91.10
2286.6	4573.2	32.90	91.23
2286.6	4725.6	32.94	91.29
2286.6	4878.0	33.00	91.41
2286.6	5030.5	33.07	91.53
2286.6	5182.9	33.13	91.63
2286.6	5335.4	33.19	91.75
2286.6	5487.8	33.22	91.80
2286.6	5640.2	33.20	91.76
2134.1	2439.0	30.20	86.36
2134.1	2591.5	30.21	86.37
2134.1	2743.9	30.20	86.37
2134.1	3963.4	32.45	90.42
2134.1	4115.9	32.56	90.61
2134.1	4268.3	32.74	90.93
2134.1	4420.7	32.86	91.15
2134.1	4573.2	32.93	91.27
2134.1	4725.6	32.99	91.39
2134.1	4878.0	33.06	91.52
2134.1	5030.5	33.13	91.63
2134.1	5182.9	33.18	91.73
2134.1	5335.4	33.27	91.89
2134.1	5487.8	33.34	92.02
2134.1	5640.2	33.37	92.06
2134.1	6554.9	33.51	92.31
2134.1	6707.3	33.33	92.00
1981.7	2286.6	30.17	86.30
1981.7	2439.0	30.17	86.31
1981.7	2591.5	30.18	86.32
1981.7	3658.5	31.90	89.41
1981.7	3811.0	31.93	89.47
1981.7	3963.4	32.28	90.11
1981.7	4115.9	32.38	90.29
1981.7	4268.3	32.49	90.49
1981.7	4878.0	33.10	91.57
1981.7	5030.5	33.17	91.70
1981.7	5182.9	33.22	91.80
1981.7	5335.4	33.33	91.99
1981.7	5487.8	33.42	92.16
1981.7	5640.2	33.48	92.27
1981.7	6402.4	33.40	92.13
1981.7	6554.9	33.66	92.59
1829.3	1981.7	30.15	86.27
1829.3	2134.1	30.15	86.27

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1829.3	2286.6	30.16	86.28
1829.3	2591.5	30.17	86.31
1829.3	5030.5	33.21	91.78
1829.3	5182.9	33.25	91.86
1829.3	5335.4	33.39	92.10
1829.3	5487.8	33.50	92.30
1829.3	5640.2	33.61	92.49
1829.3	5792.7	33.67	92.60
1829.3	5945.1	33.67	92.60
1829.3	6097.6	33.60	92.48
1829.3	6402.4	33.55	92.38
1829.3	6554.9	33.95	93.10
1676.8	1829.3	30.15	86.27
1676.8	1981.7	30.15	86.27
1676.8	5030.5	33.22	91.80
1676.8	5182.9	33.28	91.90
1676.8	5335.4	33.45	92.22
1676.8	5487.8	33.58	92.45
1676.8	5640.2	33.71	92.69
1676.8	5792.7	33.81	92.86
1676.8	5945.1	33.84	92.91
1676.8	6097.6	33.69	92.65
1676.8	6554.9	34.19	93.54
1676.8	6707.3	33.96	93.12
1676.8	6859.8	33.85	92.93
1524.4	1981.7	30.17	86.30
1524.4	5030.5	33.23	91.82
1524.4	5182.9	33.31	91.96
1524.4	5335.4	33.52	92.34
1524.4	5487.8	33.66	92.58
1524.4	5640.2	33.82	92.88
1524.4	5792.7	33.95	93.11
1524.4	5945.1	34.03	93.26
1524.4	6250.0	34.07	93.32
1524.4	6554.9	34.32	93.78
1372.0	5335.4	33.58	92.44
1372.0	5487.8	33.71	92.68
1372.0	5640.2	33.90	93.03
1372.0	5792.7	34.06	93.30
1372.0	5945.1	34.17	93.51
1372.0	6097.6	34.25	93.66
1372.0	6250.0	34.32	93.78
1372.0	6402.4	34.38	93.88
1372.0	6554.9	34.44	93.99
1372.0	6707.3	34.49	94.08
1372.0	6859.8	34.59	94.25
1219.5	5335.4	33.55	92.40
1219.5	5487.8	33.67	92.61
1219.5	5640.2	33.85	92.92
1219.5	5792.7	33.98	93.16
1219.5	5945.1	34.09	93.36
1219.5	6097.6	34.19	93.54
1219.5	6250.0	34.28	93.70
1219.5	6402.4	34.37	93.86
1219.5	6554.9	34.45	94.01
1219.5	6707.3	34.53	94.16
1219.5	6859.8	34.66	94.39
1219.5	7012.2	34.55	94.20

Electronic Filing: Received, Clerk's Office 02/07/2019

1067.1	5182.9	33.34	92.01
1067.1	5335.4	33.47	92.25
1067.1	5487.8	33.54	92.37
1067.1	5640.2	33.68	92.62
1067.1	5792.7	33.82	92.88
1067.1	5945.1	33.93	93.07
1067.1	6097.6	34.02	93.23
1067.1	6250.0	34.14	93.44
1067.1	6402.4	34.25	93.65
1067.1	6554.9	34.38	93.88
1067.1	6707.3	34.54	94.17
1067.1	6859.8	34.72	94.49
1067.1	7012.2	34.62	94.32
1067.1	7164.6	34.48	94.07
914.6	4725.6	31.60	88.88
914.6	4878.0	32.03	89.65
914.6	5030.5	32.62	90.72
914.6	5182.9	33.14	91.66
914.6	5487.8	33.39	92.10
914.6	5640.2	33.46	92.23
914.6	5792.7	33.55	92.39
914.6	6250.0	34.08	93.35
914.6	6402.4	34.14	93.45
914.6	6554.9	34.21	93.58
914.6	6707.3	34.14	93.44
914.6	6859.8	34.76	94.56
914.6	7012.2	34.66	94.38
762.2	4420.7	31.07	87.93
762.2	4573.2	31.14	88.06
762.2	4725.6	31.42	88.56
762.2	4878.0	31.79	89.23
762.2	5030.5	32.26	90.06
762.2	5487.8	33.13	91.64
762.2	6250.0	34.00	93.20
762.2	6402.4	34.03	93.25
762.2	6554.9	34.05	93.29
762.2	6707.3	34.00	93.20
762.2	6859.8	34.78	94.61
762.2	7012.2	34.67	94.41
609.8	4268.3	30.83	87.49
609.8	4420.7	30.96	87.73
609.8	4573.2	31.02	87.83
609.8	4725.6	31.18	88.12
609.8	4878.0	31.42	88.56
609.8	6097.6	33.61	92.50
609.8	6250.0	33.82	92.87
609.8	6402.4	33.86	92.95
609.8	6554.9	33.88	92.98
609.8	6707.3	33.86	92.94
609.8	6859.8	34.81	94.65
609.8	7012.2	34.68	94.42
457.3	4115.9	30.52	86.94
457.3	4268.3	30.60	87.08
457.3	6554.9	33.74	92.73
457.3	6707.3	33.73	92.71
457.3	6859.8	34.83	94.70
304.9	4115.9	30.42	86.75
304.9	6554.9	33.63	92.53

Electronic Filing: Received, Clerk's Office 02/07/2019

304.9 6707.3 33.61 92.49

Maximum 34.83 94.70

Minimum 30.14 86.24

Electronic Filing: Received, Clerk's Office 02/07/2019

Summer Normal Condition - Transect A-A'

x (m)	z (m)	Temp °C	Temp °F	
457.3	12.34	34.83	94.70	
457.3	11.88	34.87	94.77	
457.3	11.43	34.89	94.80	
457.3	10.97	34.89	94.80	
457.3	10.51	34.89	94.81	
457.3	10.05	34.89	94.81	
457.3	9.60	34.89	94.80	
457.3	9.14	34.89	94.81	
457.3	8.68	34.89	94.80	
457.3	8.23	34.90	94.81	
457.3	7.77	34.89	94.80	
457.3	7.31	34.90	94.82	
457.3	6.86	34.89	94.80	
457.3	6.40	34.92	94.85	
457.3	5.94	34.96	94.93	
457.3	5.48	35.05	95.09	
457.3	5.03	35.21	95.38	
457.3	4.57	35.48	95.87	
457.3	4.11	35.94	96.68	
457.3	3.66	36.67	98.01	Outfall location
457.3	3.20	36.17	97.11	Outfall location
457.3	2.74	32.26	90.08	
609.8	12.34	34.81	94.65	
609.8	11.88	34.85	94.73	
609.8	11.43	34.87	94.77	
609.8	10.97	34.88	94.78	
609.8	10.51	34.87	94.77	
609.8	10.05	34.86	94.75	
609.8	9.60	34.84	94.71	
609.8	9.14	34.80	94.64	
609.8	8.68	34.73	94.51	
609.8	8.23	34.63	94.33	
609.8	7.77	34.42	93.95	
609.8	7.31	34.23	93.61	
609.8	6.86	33.92	93.06	
609.8	6.40	33.69	92.64	
609.8	5.94	33.41	92.15	
609.8	5.48	33.15	91.66	
609.8	5.03	32.84	91.10	
609.8	4.57	32.57	90.63	
609.8	4.11	32.38	90.28	
609.8	3.66	32.23	90.01	
609.8	3.20	32.17	89.90	
609.8	2.74	32.12	89.82	
762.2	12.34	34.78	94.61	
762.2	11.88	34.83	94.69	
762.2	11.43	34.85	94.73	
762.2	10.97	34.85	94.74	
762.2	10.51	34.84	94.72	
762.2	10.05	34.82	94.68	
762.2	9.60	34.79	94.62	
762.2	9.14	34.74	94.54	
762.2	8.68	34.68	94.43	
762.2	8.23	34.62	94.31	
762.2	7.77	34.55	94.19	
762.2	7.31	33.94	93.09	

Electronic Filing: Received, Clerk's Office 02/07/2019

762.2	6.86	33.81	92.86
762.2	6.40	33.57	92.43
762.2	5.94	33.21	91.78
762.2	5.48	32.76	90.98
762.2	5.03	32.36	90.25
762.2	4.57	32.16	89.89
762.2	4.11	32.03	89.66
762.2	3.66	31.96	89.54
762.2	3.20	31.94	89.49
762.2	2.74	31.92	89.46
762.2	2.29	31.92	89.45
762.2	1.83	31.91	89.43
914.6	12.34	34.76	94.56
914.6	11.88	34.80	94.64
914.6	11.43	34.82	94.67
914.6	10.97	34.82	94.67
914.6	10.51	34.80	94.63
914.6	10.05	34.77	94.58
914.6	9.60	34.73	94.51
914.6	9.14	34.68	94.42
914.6	8.68	34.63	94.33
914.6	8.23	34.56	94.21
914.6	7.77	34.43	93.97
914.6	7.31	34.34	93.82
914.6	6.86	33.80	92.84
914.6	6.40	33.49	92.28
914.6	5.94	33.17	91.70
914.6	5.48	32.75	90.96
914.6	5.03	32.29	90.12
914.6	4.57	32.12	89.82
914.6	4.11	32.01	89.62
914.6	3.66	31.96	89.52
914.6	3.20	31.93	89.47
914.6	2.74	31.91	89.44
914.6	2.29	31.90	89.41
914.6	1.83	31.89	89.41
914.6	1.37	31.89	89.41
1067.1	12.34	34.72	94.49
1067.1	11.88	34.76	94.56
1067.1	11.43	34.76	94.57
1067.1	10.97	34.74	94.53
1067.1	10.51	34.71	94.47
1067.1	10.05	34.66	94.39
1067.1	9.60	34.61	94.30
1067.1	9.14	34.56	94.20
1067.1	8.68	34.49	94.08
1067.1	8.23	34.41	93.94
1067.1	7.77	34.31	93.76
1067.1	7.31	33.64	92.56
1067.1	6.86	33.46	92.24
1067.1	6.40	33.23	91.82
1067.1	5.94	32.96	91.33
1067.1	5.48	32.67	90.81
1067.1	5.03	32.40	90.31
1067.1	4.57	32.28	90.10
1067.1	4.11	32.12	89.82
1067.1	3.66	32.02	89.63
1067.1	3.20	31.95	89.51

Electronic Filing: Received, Clerk's Office 02/07/2019

1067.1	2.74	31.92	89.46
1067.1	2.29	31.90	89.42
1067.1	1.83	31.89	89.41
1067.1	1.37	31.89	89.41
1219.5	12.34	34.66	94.39
1219.5	11.88	34.70	94.45
1219.5	11.43	34.70	94.45
1219.5	10.97	34.67	94.41
1219.5	10.51	34.64	94.36
1219.5	10.05	34.61	94.30
1219.5	9.60	34.57	94.23
1219.5	9.14	34.53	94.15
1219.5	8.68	34.46	94.03
1219.5	8.23	34.34	93.81
1219.5	7.77	34.07	93.33
1219.5	7.31	33.87	92.97
1219.5	6.86	33.31	91.96
1219.5	6.40	32.99	91.38
1219.5	5.94	32.67	90.81
1219.5	5.48	32.47	90.44
1219.5	5.03	32.42	90.35
1372.0	12.34	34.59	94.25
1372.0	11.88	34.62	94.32
1372.0	11.43	34.64	94.35
1372.0	10.97	34.64	94.36
1372.0	10.51	34.64	94.35
1372.0	10.05	34.63	94.34
1372.0	9.60	34.62	94.32
1372.0	9.14	34.61	94.30
1372.0	8.68	34.59	94.27
1372.0	8.23	34.56	94.21
1372.0	7.77	34.27	93.68
1372.0	7.31	33.46	92.23
1372.0	6.86	33.08	91.55
1372.0	6.40	32.82	91.08
1372.0	5.94	32.61	90.69
1372.0	5.48	32.42	90.35
1676.8	12.34	33.85	92.93
1676.8	11.88	33.87	92.97
1676.8	11.43	33.88	92.98
1676.8	10.97	33.88	92.98
1676.8	10.51	33.88	92.98
1676.8	10.05	33.88	92.98
1676.8	9.60	33.88	92.98
1676.8	9.14	33.87	92.97
1676.8	8.68	33.87	92.97
1676.8	8.23	33.87	92.97
1676.8	7.77	33.87	92.97
1676.8	7.31	33.87	92.96
1676.8	6.86	33.86	92.94
1676.8	6.40	33.85	92.93
	Maximum	36.67	98.01
	Minimum	31.89	89.41

Electronic Filing: Received, Clerk's Office 02/07/2019

Summer Normal Condition - Transect B-B'

x (m)	z (m)	Temp °C	Temp °F	
7164.6	12.34	34.48	94.07	Dam
7164.6	11.88	34.52	94.13	
7164.6	11.43	34.54	94.17	
7164.6	10.97	34.54	94.18	
7164.6	10.51	34.55	94.18	
7164.6	10.05	34.55	94.18	
7164.6	9.60	34.55	94.18	
7164.6	9.14	34.54	94.18	
7164.6	8.68	34.54	94.18	
7164.6	8.23	34.54	94.17	
7164.6	7.77	34.52	94.13	
7164.6	7.31	34.35	93.82	
7164.6	6.86	33.32	91.97	
7164.6	6.40	32.70	90.86	
7164.6	5.94	32.50	90.51	
7164.6	5.48	32.44	90.39	
7164.6	5.03	32.36	90.25	
7164.6	4.57	32.28	90.10	
7164.6	4.11	32.19	89.94	
7164.6	3.66	32.17	89.90	
7164.6	3.20	32.15	89.86	
7164.6	2.74	32.11	89.81	
7164.6	2.29	32.05	89.69	
7164.6	1.83	31.91	89.45	
7164.6	1.37	31.85	89.32	
7012.2	12.34	34.62	94.32	
7012.2	11.88	34.66	94.40	
7012.2	11.43	34.68	94.43	
7012.2	10.97	34.69	94.44	
7012.2	10.51	34.68	94.43	
7012.2	10.05	34.67	94.40	
7012.2	9.60	34.64	94.36	
7012.2	9.14	34.61	94.30	
7012.2	8.68	34.58	94.25	
7012.2	8.23	34.55	94.18	
7012.2	7.77	34.35	93.82	
7012.2	7.31	34.21	93.58	
7012.2	6.86	33.24	91.84	
7012.2	6.40	32.96	91.33	
7012.2	5.94	32.77	90.99	
7012.2	5.48	32.58	90.64	
7012.2	5.03	32.39	90.30	
7012.2	4.57	32.29	90.12	
7012.2	4.11	32.11	89.79	
7012.2	3.66	32.01	89.63	
7012.2	3.20	31.99	89.58	
7012.2	2.74	31.97	89.54	
7012.2	2.29	31.96	89.53	
6859.8	12.34	34.72	94.49	
6859.8	11.88	34.76	94.56	
6859.8	11.43	34.76	94.57	
6859.8	10.97	34.74	94.53	
6859.8	10.51	34.71	94.47	
6859.8	10.05	34.66	94.39	
6859.8	9.60	34.61	94.30	
6859.8	9.14	34.56	94.20	

Electronic Filing: Received, Clerk's Office 02/07/2019

6859.8	8.68	34.49	94.08
6859.8	8.23	34.41	93.94
6859.8	7.77	34.31	93.76
6859.8	7.31	33.64	92.56
6859.8	6.86	33.46	92.24
6859.8	6.40	33.23	91.82
6859.8	5.94	32.96	91.33
6859.8	5.48	32.67	90.81
6859.8	5.03	32.40	90.31
6859.8	4.57	32.28	90.10
6859.8	4.11	32.12	89.82
6859.8	3.66	32.02	89.63
6859.8	3.20	31.95	89.51
6859.8	2.74	31.92	89.46
6859.8	2.29	31.90	89.42
6859.8	1.83	31.89	89.41
6859.8	1.37	31.89	89.41
6707.3	12.34	34.54	94.17
6707.3	11.88	34.58	94.25
6707.3	11.43	34.58	94.25
6707.3	10.97	34.51	94.13
6707.3	10.51	34.44	94.00
6707.3	10.05	34.38	93.88
6707.3	9.60	34.30	93.74
6707.3	9.14	34.22	93.59
6707.3	8.68	34.11	93.40
6707.3	8.23	34.00	93.20
6707.3	7.77	33.68	92.62
6707.3	7.31	33.60	92.47
6707.3	6.86	33.27	91.89
6707.3	6.40	33.03	91.46
6707.3	5.94	32.80	91.04
6707.3	5.48	32.55	90.59
6707.3	5.03	32.26	90.06
6707.3	4.57	32.12	89.81
6707.3	4.11	32.03	89.65
6707.3	3.66	31.97	89.55
6707.3	3.20	31.96	89.53
6707.3	2.74	31.91	89.43
6707.3	2.29	31.87	89.36
6707.3	1.83	31.85	89.34
6554.9	12.34	34.38	93.88
6554.9	11.88	34.43	93.98
6554.9	11.43	34.46	94.02
6554.9	10.97	34.45	94.01
6554.9	10.51	34.38	93.88
6554.9	10.05	34.27	93.69
6554.9	9.60	34.18	93.53
6554.9	9.14	34.07	93.32
6554.9	8.68	33.94	93.09
6554.9	8.23	33.78	92.81
6554.9	7.77	33.73	92.71
6554.9	7.31	33.38	92.08
6554.9	6.86	33.27	91.89
6554.9	6.40	33.07	91.53
6554.9	5.94	32.85	91.12
6554.9	5.48	32.57	90.62
6554.9	5.03	32.22	90.00

Electronic Filing: Received, Clerk's Office 02/07/2019

6554.9	4.57	32.05	89.69
6554.9	4.11	31.99	89.58
6554.9	3.66	31.95	89.52
6554.9	3.20	31.95	89.50
6554.9	2.74	31.88	89.39
6554.9	2.29	31.85	89.33
6554.9	1.83	31.85	89.32
6402.4	12.34	34.25	93.65
6402.4	11.88	34.31	93.76
6402.4	11.43	34.35	93.83
6402.4	10.97	34.36	93.85
6402.4	10.51	34.35	93.83
6402.4	10.05	34.24	93.64
6402.4	9.60	34.11	93.40
6402.4	9.14	34.01	93.22
6402.4	8.68	33.91	93.04
6402.4	8.23	33.80	92.85
6402.4	7.77	33.55	92.40
6402.4	7.31	33.45	92.21
6402.4	6.86	33.23	91.82
6402.4	6.40	33.04	91.47
6402.4	5.94	32.83	91.09
6402.4	5.48	32.50	90.49
6402.4	5.03	32.15	89.87
6402.4	4.57	32.01	89.62
6402.4	4.11	31.96	89.53
6402.4	3.66	31.95	89.50
6250.0	12.34	34.14	93.44
6250.0	11.88	34.20	93.56
6250.0	11.43	34.25	93.64
6250.0	10.97	34.27	93.68
6250.0	10.51	34.27	93.69
6250.0	10.05	34.23	93.62
6250.0	9.60	34.10	93.38
6250.0	9.14	33.97	93.14
6250.0	8.68	33.83	92.90
6250.0	8.23	33.73	92.71
6250.0	7.77	33.61	92.50
6250.0	7.31	33.33	91.99
6250.0	6.86	33.12	91.62
6250.0	6.40	32.89	91.20
6250.0	5.94	32.64	90.75
6250.0	5.48	32.27	90.09
6250.0	5.03	32.03	89.65
6250.0	4.57	31.92	89.45
6250.0	4.11	31.88	89.38
6250.0	3.66	31.86	89.34
6250.0	3.20	31.85	89.33
6250.0	2.74	31.82	89.28
6250.0	2.29	31.81	89.25
6250.0	1.83	31.78	89.21
6250.0	1.37	31.75	89.14
6250.0	0.91	31.70	89.06
6250.0	0.46	31.64	88.95
6097.6	12.34	34.02	93.23
6097.6	11.88	34.08	93.34
6097.6	11.43	34.12	93.41
6097.6	10.97	34.15	93.47

Electronic Filing: Received, Clerk's Office 02/07/2019

6097.6	10.51	34.16	93.49
6097.6	10.05	34.16	93.49
6097.6	9.60	34.12	93.42
6097.6	9.14	33.99	93.18
6097.6	8.68	33.88	92.99
6097.6	8.23	33.61	92.50
6097.6	7.77	33.40	92.11
6097.6	7.31	33.24	91.83
6097.6	6.86	32.91	91.25
6097.6	6.40	32.71	90.87
6097.6	5.94	32.52	90.54
6097.6	5.48	32.35	90.22
6097.6	5.03	32.17	89.91
6097.6	4.57	32.01	89.62
6097.6	4.11	31.91	89.45
6097.6	3.66	31.87	89.36
6097.6	3.20	31.87	89.36
6097.6	2.74	31.86	89.35
6097.6	2.29	31.85	89.34
6097.6	1.83	31.84	89.32
6097.6	1.37	31.83	89.29
6097.6	0.91	31.81	89.26
6097.6	0.46	31.80	89.24
5945.1	12.34	33.93	93.07
5945.1	11.88	33.98	93.17
5945.1	11.43	34.03	93.25
5945.1	10.97	34.06	93.30
5945.1	10.51	34.07	93.33
5945.1	10.05	34.07	93.33
5945.1	9.60	34.01	93.22
5945.1	9.14	33.87	92.97
5945.1	8.68	33.72	92.69
5945.1	8.23	33.60	92.49
5945.1	7.77	33.31	91.95
5945.1	7.31	33.08	91.54
5945.1	6.86	32.90	91.21
5945.1	6.40	32.68	90.83
5945.1	5.94	32.51	90.52
5945.1	5.48	32.35	90.23
5945.1	5.03	32.20	89.97
5945.1	4.57	32.05	89.69
5945.1	4.11	31.92	89.46
5945.1	3.66	31.88	89.38
5945.1	3.20	31.88	89.38
5945.1	2.74	31.88	89.38
5945.1	2.29	31.87	89.37
5945.1	1.83	31.87	89.37
5945.1	1.37	31.86	89.35
5945.1	0.91	31.85	89.32
5945.1	0.46	31.80	89.25
5792.7	12.34	33.82	92.88
5792.7	11.88	33.88	92.99
5792.7	11.43	33.92	93.06
5792.7	10.97	33.95	93.11
5792.7	10.51	33.96	93.12
5792.7	10.05	33.93	93.07
5792.7	9.60	33.78	92.80
5792.7	9.14	33.68	92.63

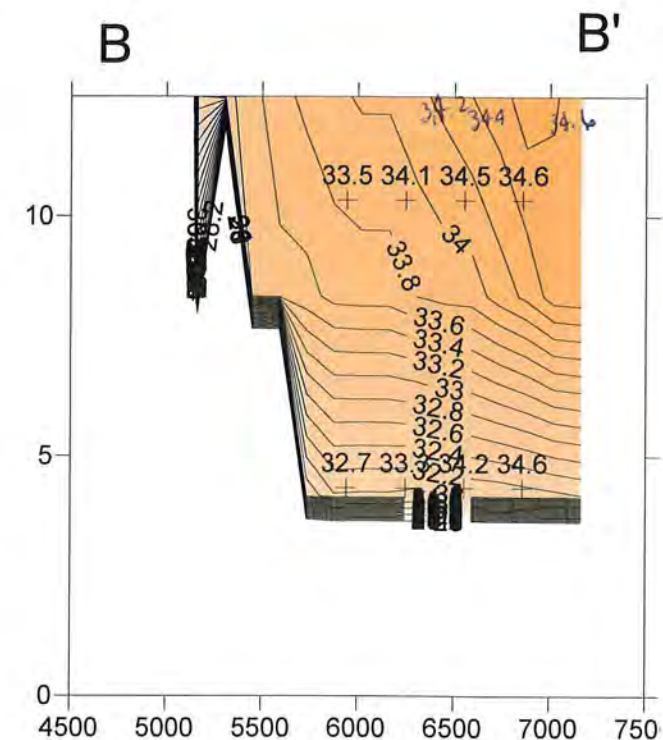
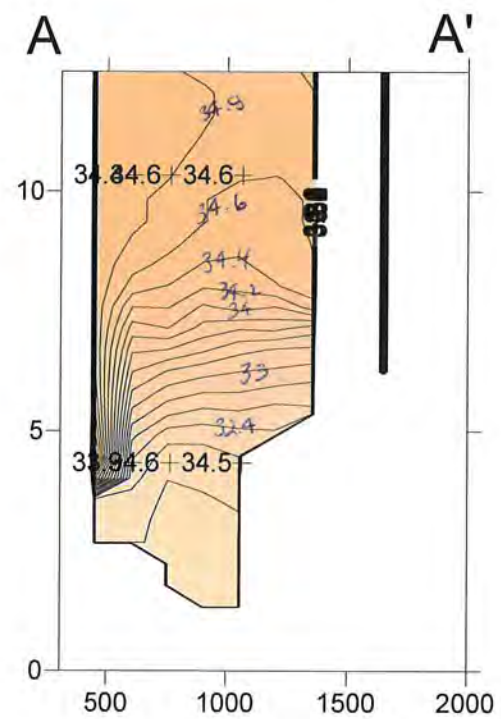
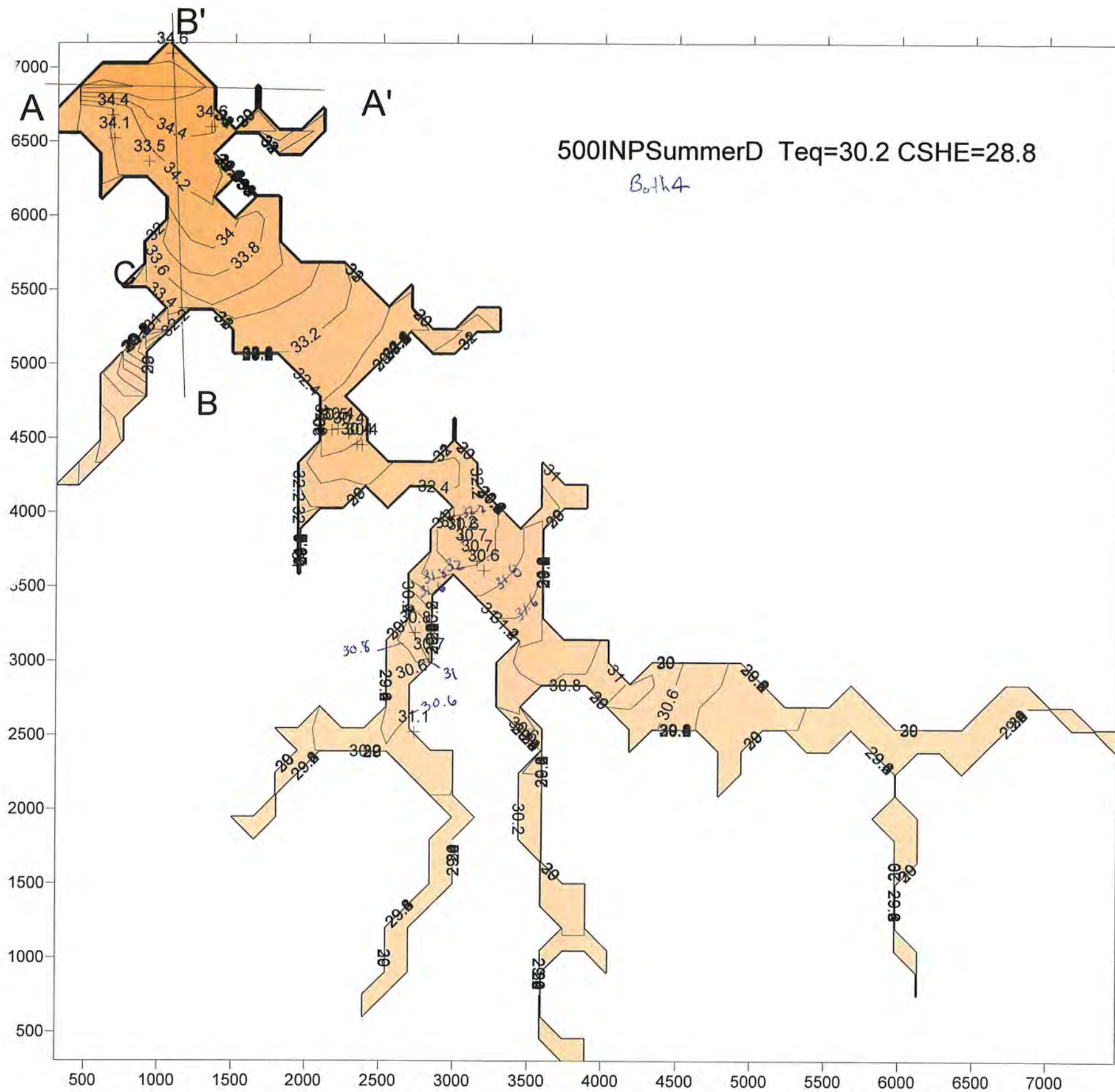
Electronic Filing: Received, Clerk's Office 02/07/2019

5792.7	8.68	33.60	92.48
5792.7	8.23	33.45	92.20
5792.7	7.77	33.34	92.02
5792.7	7.31	33.14	91.65
5792.7	6.86	32.89	91.19
5792.7	6.40	32.68	90.82
5792.7	5.94	32.44	90.39
5792.7	5.48	32.24	90.03
5792.7	5.03	32.03	89.65
5792.7	4.57	31.76	89.16
5792.7	4.11	31.58	88.84
5792.7	3.66	31.55	88.79
5640.2	12.34	33.68	92.62
5640.2	11.88	33.74	92.73
5640.2	11.43	33.79	92.82
5640.2	10.97	33.82	92.88
5640.2	10.51	33.83	92.90
5640.2	10.05	33.83	92.89
5640.2	9.60	33.70	92.67
5640.2	9.14	33.62	92.51
5640.2	8.68	33.51	92.32
5640.2	8.23	33.49	92.28
5640.2	7.77	33.07	91.53
5640.2	7.31	33.02	91.44
5640.2	6.86	32.87	91.17
5640.2	6.40	32.71	90.87
5487.8	12.34	33.54	92.37
5487.8	11.88	33.60	92.48
5487.8	11.43	33.65	92.56
5487.8	10.97	33.68	92.62
5487.8	10.51	33.70	92.65
5487.8	10.05	33.69	92.65
5487.8	9.60	33.56	92.41
5487.8	9.14	33.55	92.39
5487.8	8.68	33.52	92.34
5487.8	8.23	33.14	91.64
5487.8	7.77	33.09	91.56
5487.8	7.31	32.98	91.36
5487.8	6.86	32.92	91.26
5487.8	6.40	32.89	91.19
5335.4	12.34	33.47	92.25
5335.4	11.88	33.52	92.33
5335.4	11.43	33.55	92.40
5335.4	10.97	33.58	92.44
5335.4	10.51	33.59	92.45
5335.4	10.05	33.55	92.38
5335.4	9.60	33.48	92.27
5335.4	9.14	33.31	91.97
5335.4	8.68	33.16	91.69
5335.4	8.23	33.07	91.53
5335.4	7.77	33.00	91.41
5335.4	7.31	33.00	91.41
5335.4	6.86	32.99	91.39
5335.4	6.40	32.98	91.37
5182.9	12.34	33.34	92.01
5182.9	11.88	33.39	92.10
5182.9	11.43	33.42	92.15
5182.9	10.97	33.43	92.18

Electronic Filing: Received, Clerk's Office 02/07/2019

5182.9	10.51	33.40	92.13
5182.9	10.05	32.96	91.33
5182.9	9.60	32.70	90.85
5182.9	9.14	32.70	90.86
5182.9	8.68	32.70	90.86
5182.9	8.23	32.70	90.87
5182.9	7.77	32.71	90.87

Maximum	34.76	94.57
Minimum	31.55	88.79



LEgypt_500ft_INPSumMax2

C:\GLLVHT\SIPC 500ft\LEgypt_500ft_SumMax2.dat

```
$1.nwqm 1
$2.Inflow Conditions
$ninflows 2
$qinflow,iinflow,jinflow,kinflow
$intake,inintake,jintake,kintake
$temp saln const
6.372 3 45 19
1 2 44 8
13.6 0.00 100.00
6.372 3 45 20
1 2 44 9
13.6 0 100
$3. outflow Conditions
$noutflows 2
$qoutflow,ioutflow,joutflow,koutflow
6.372 2 44 8
6.372 2 44 9
$4.Elevation Boundary Conditions
$nelevation kts 0 2
$iewest,ieeast,jesouth,jenorth
zmean,zamp,tmelag,tideper
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
$5.Initialize water Quality Profiles
$ninitial 1
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
2 29.2 0 0
3 28.7 0 0
4 28.4 0 0
5 28.2 0 0
6 27.8 0 0
7 27.5 0 0
8 27.3 0 0
9 26.8 0 0
10 26.4 0 0
11 25.6 0 0
12 24.8 0 0
13 23.4 0 0
14 22.0 0 0
15 20.8 0 0
16 19.6 0 0
17 19.1 0 0
18 18.5 0 0
19 18.0 0 0
20 17.4 0 0
21 16.7 0 0
22 16.1 0 0
23 15.5 0 0
24 15.2 0 0
25 14.9 0 0
26 14.6 0 0
27 14.3 0 0
28 14.0 0 0
$6.External Parameters
Chezy, wx,Wy,CSHE, TEQ, Rdecay, Lat.
35.00 0.0 1.73 28.6 32.7 0.00 37.6
$7.Output Profiles
$nprofiles 3
$ipwest,ipest,jpsouth,jpnorth
$u-vel, v-vel, w-vel
$nconstituents
$I-const(1),I-const(2), I-const(3), etc
7 7 33 47
```

5/18/12

$\Delta T = 13.6^\circ C$
 $Q = 12.744 \text{ m}^3/s$
724 MW

req = 32.7

LEgypt_500ft_INPSumMax2

0 0 0
1
1 3
2 11 45 45
0 0 0
2
1 3
16 16 15 36
0 0 0
2
1 3

\$8.Output Surfaces

\$nsurfaces \$nconstituents 1 2

\$U-vel V-vel 1.0000000E+00 1.0000000E+00

\$I-const(1), I-const(2), I-const(3), etc.

1 3

\$9.output Time Series

\$ntimser 4

\$nconst, iconst, jconst,kconst

1 2 45 19

1 5 44 2

1 2 44 8

1 16 28 2

\$10.Simulation time conditions

\$dtm tmend 360.00 722.0

\$tmeout tmeserout 720.0 24.0

\$11.Internal Boundary Locations

\$nintbnd 1

\$ibwest, ibeast, jbsouth, jbnorth, ktop, kbottom

2 5 44 44 2 30

\$12. Constituent Averages

\$nconarv 0

\$nconstarvs

\$13. Groundwater Inflow

\$ngrndwtr 0

Electronic Filing: Received, Clerk's Office 02/07/2019

Summer Stressed Model Output

Summer Stressed - Surface

X Easting (m)	Y Northing (m)	Temp (°C)	Temp (°F)	
304.9	6707.3	36.41	97.54	Summer Stressed Lake Surface Temper:
304.9	6554.9	36.40	97.51	
304.9	4115.9	33.77	92.78	
457.3	6859.8	37.70	99.86	
457.3	6707.3	36.55	97.78	
457.3	6554.9	36.57	97.82	
457.3	4268.3	34.39	93.91	
457.3	4115.9	33.97	93.15	
609.8	7012.2	37.52	99.54	
609.8	6859.8	37.67	99.81	Cooling Water Outfall
609.8	6707.3	36.66	97.99	
609.8	6554.9	36.72	98.10	
609.8	6402.4	36.76	98.16	
609.8	6250.0	36.76	98.17	
609.8	6097.6	36.33	97.40	
609.8	4878.0	35.44	95.80	
609.8	4725.6	35.35	95.64	
609.8	4573.2	35.17	95.30	
609.8	4420.7	35.00	94.99	
609.8	4268.3	34.71	94.48	
762.2	7012.2	37.51	99.52	
762.2	6859.8	37.65	99.76	
762.2	6707.3	36.74	98.14	
762.2	6554.9	36.85	98.32	
762.2	6402.4	36.88	98.38	
762.2	6250.0	36.87	98.37	
762.2	5487.8	36.05	96.90	
762.2	5030.5	35.82	96.47	
762.2	4878.0	35.66	96.19	
762.2	4725.6	35.49	95.88	
762.2	4573.2	35.26	95.48	
762.2	4420.7	35.08	95.15	
914.6	7012.2	37.49	99.49	
914.6	6859.8	37.62	99.71	
914.6	6707.3	36.86	98.35	
914.6	6554.9	37.00	98.61	
914.6	6402.4	36.99	98.58	
914.6	6250.0	36.96	98.52	
914.6	5792.7	36.52	97.73	
914.6	5640.2	36.42	97.55	
914.6	5487.8	36.33	97.40	
914.6	5182.9	36.20	97.16	
914.6	5030.5	36.03	96.85	
914.6	4878.0	35.82	96.48	
914.6	4725.6	35.57	96.03	
1067.1	7164.6	37.27	99.09	
1067.1	7012.2	37.45	99.41	
1067.1	6859.8	37.58	99.64	
1067.1	6707.3	37.30	99.14	
1067.1	6554.9	37.18	98.93	
1067.1	6402.4	37.11	98.79	
1067.1	6250.0	37.04	98.67	
1067.1	6097.6	36.93	98.47	
1067.1	5945.1	36.84	98.31	
1067.1	5792.7	36.76	98.17	
1067.1	5640.2	36.65	97.98	

Electronic Filing: Received, Clerk's Office 02/07/2019

1067.1	5487.8	36.53	97.75
1067.1	5335.4	36.43	97.57
1067.1	5182.9	36.31	97.35
1219.5	7012.2	37.36	99.25
1219.5	6859.8	37.52	99.53
1219.5	6707.3	37.36	99.25
1219.5	6554.9	37.29	99.11
1219.5	6402.4	37.22	98.99
1219.5	6250.0	37.15	98.87
1219.5	6097.6	37.08	98.74
1219.5	5945.1	37.00	98.60
1219.5	5792.7	36.91	98.44
1219.5	5640.2	36.81	98.26
1219.5	5487.8	36.69	98.04
1219.5	5335.4	36.53	97.75
1372.0	6859.8	37.45	99.40
1372.0	6707.3	37.35	99.24
1372.0	6554.9	37.30	99.14
1372.0	6402.4	37.25	99.05
1372.0	6250.0	37.20	98.95
1372.0	6097.6	37.14	98.85
1372.0	5945.1	37.06	98.71
1372.0	5792.7	36.97	98.55
1372.0	5640.2	36.87	98.36
1372.0	5487.8	36.74	98.13
1372.0	5335.4	36.58	97.85
1524.4	6554.9	37.16	98.89
1524.4	6250.0	36.87	98.36
1524.4	5945.1	36.89	98.40
1524.4	5792.7	36.85	98.33
1524.4	5640.2	36.78	98.21
1524.4	5487.8	36.68	98.02
1524.4	5335.4	36.55	97.79
1524.4	5182.9	36.38	97.49
1524.4	5030.5	36.18	97.12
1524.4	1981.7	32.91	91.23
1676.8	6859.8	36.61	97.90
1676.8	6707.3	36.76	98.16
1676.8	6554.9	36.99	98.59
1676.8	6097.6	36.42	97.55
1676.8	5945.1	36.63	97.94
1676.8	5792.7	36.70	98.07
1676.8	5640.2	36.67	98.01
1676.8	5487.8	36.60	97.88
1676.8	5335.4	36.50	97.69
1676.8	5182.9	36.34	97.41
1676.8	5030.5	36.17	97.11
1676.8	1981.7	32.86	91.16
1676.8	1829.3	32.86	91.14
1829.3	6554.9	36.80	98.25
1829.3	6402.4	36.43	97.57
1829.3	6097.6	36.37	97.47
1829.3	5945.1	36.48	97.67
1829.3	5792.7	36.56	97.80
1829.3	5640.2	36.56	97.81
1829.3	5487.8	36.51	97.73
1829.3	5335.4	36.43	97.58
1829.3	5182.9	36.29	97.32

Electronic Filing: Received, Clerk's Office 02/07/2019

1829.3	5030.5	36.16	97.08
1829.3	2591.5	32.95	91.31
1829.3	2286.6	32.88	91.19
1829.3	2134.1	32.87	91.17
1829.3	1981.7	32.87	91.16
1981.7	6554.9	36.56	97.81
1981.7	6402.4	36.21	97.18
1981.7	5640.2	36.43	97.58
1981.7	5487.8	36.42	97.56
1981.7	5335.4	36.36	97.45
1981.7	5182.9	36.24	97.24
1981.7	5030.5	36.14	97.05
1981.7	4268.3	35.54	95.96
1981.7	4115.9	35.45	95.81
1981.7	3963.4	35.36	95.64
1981.7	3811.0	35.00	95.00
1981.7	3658.5	34.69	94.45
1981.7	2591.5	32.94	91.30
1981.7	2439.0	32.93	91.27
1981.7	2286.6	32.91	91.24
2134.1	6707.3	36.16	97.09
2134.1	6554.9	36.38	97.48
2134.1	5640.2	36.31	97.36
2134.1	5487.8	36.33	97.39
2134.1	5335.4	36.29	97.33
2134.1	5182.9	36.20	97.17
2134.1	5030.5	36.12	97.01
2134.1	4878.0	36.05	96.88
2134.1	4725.6	35.98	96.77
2134.1	4573.2	35.92	96.66
2134.1	4420.7	35.85	96.54
2134.1	4268.3	35.77	96.38
2134.1	4115.9	35.62	96.12
2134.1	3963.4	35.45	95.81
2134.1	2743.9	33.02	91.44
2134.1	2591.5	33.03	91.46
2134.1	2439.0	33.00	91.39
2286.6	5640.2	36.15	97.07
2286.6	5487.8	36.21	97.17
2286.6	5335.4	36.21	97.18
2286.6	5182.9	36.15	97.07
2286.6	5030.5	36.08	96.94
2286.6	4878.0	35.98	96.77
2286.6	4725.6	35.93	96.68
2286.6	4573.2	35.89	96.60
2286.6	4420.7	35.83	96.50
2286.6	4268.3	35.76	96.37
2286.6	4115.9	35.64	96.14
2286.6	3963.4	35.46	95.83
2286.6	2591.5	33.11	91.59
2286.6	2439.0	33.05	91.49
2439.0	5487.8	36.07	96.92
2439.0	5335.4	36.11	97.00
2439.0	5182.9	36.08	96.94
2439.0	5030.5	36.00	96.80
2439.0	4878.0	35.88	96.59
2439.0	4573.2	35.77	96.38
2439.0	4420.7	35.74	96.34

Electronic Filing: Received, Clerk's Office 02/07/2019

2439.0	4268.3	35.71	96.27
2439.0	4115.9	35.62	96.12
2439.0	2591.5	33.23	91.81
2439.0	2439.0	33.12	91.61
2439.0	762.2	32.85	91.14
2439.0	609.8	32.85	91.13
2591.5	5335.4	36.01	96.82
2591.5	5182.9	35.97	96.75
2591.5	5030.5	35.88	96.59
2591.5	4878.0	35.76	96.37
2591.5	4268.3	35.64	96.15
2591.5	4115.9	35.58	96.04
2591.5	3963.4	35.30	95.54
2591.5	3201.2	34.17	93.51
2591.5	3048.8	34.01	93.22
2591.5	2896.3	33.80	92.85
2591.5	2743.9	33.61	92.50
2591.5	2591.5	33.38	92.08
2591.5	2439.0	33.18	91.72
2591.5	1219.5	32.83	91.09
2591.5	1067.1	32.82	91.08
2591.5	914.6	32.82	91.07
2591.5	762.2	32.82	91.08
2743.9	5487.8	35.70	96.26
2743.9	5335.4	35.90	96.62
2743.9	5182.9	35.89	96.60
2743.9	4268.3	35.56	96.01
2743.9	4115.9	35.53	95.96
2743.9	3658.5	34.82	94.67
2743.9	3506.1	34.68	94.42
2743.9	3353.7	34.58	94.24
2743.9	3201.2	34.42	93.95
2743.9	3048.8	34.18	93.53
2743.9	2896.3	33.94	93.09
2743.9	2743.9	33.69	92.65
2743.9	2591.5	33.42	92.16
2743.9	2439.0	33.15	91.67
2743.9	2286.6	33.02	91.44
2743.9	1372.0	32.83	91.09
2743.9	1219.5	32.82	91.08
2743.9	1067.1	32.82	91.08
2743.9	914.6	32.82	91.07
2896.3	5182.9	35.80	96.43
2896.3	5030.5	35.57	96.03
2896.3	4268.3	35.49	95.89
2896.3	4115.9	35.48	95.86
2896.3	3811.0	34.99	94.98
2896.3	3658.5	34.92	94.86
2896.3	3506.1	34.75	94.54
2896.3	3353.7	34.61	94.31
2896.3	3201.2	34.45	94.02
2896.3	3048.8	34.21	93.59
2896.3	2439.0	33.02	91.43
2896.3	2286.6	32.97	91.35
2896.3	2134.1	32.93	91.27
2896.3	1829.3	32.83	91.10
2896.3	1676.8	32.83	91.09
2896.3	1524.4	32.82	91.08

Electronic Filing: Received, Clerk's Office 02/07/2019

2896.3	1372.0	32.82	91.08
3048.8	5182.9	35.67	96.21
3048.8	5030.5	35.47	95.84
3048.8	4573.2	35.14	95.25
3048.8	4420.7	35.29	95.52
3048.8	4268.3	35.42	95.75
3048.8	4115.9	35.42	95.76
3048.8	3963.4	35.29	95.53
3048.8	3811.0	35.15	95.27
3048.8	3658.5	34.99	94.99
3048.8	2439.0	32.92	91.25
3048.8	2286.6	32.91	91.23
3048.8	2134.1	32.88	91.18
3048.8	1981.7	32.85	91.13
3048.8	1829.3	32.84	91.11
3048.8	1676.8	32.83	91.10
3048.8	1524.4	32.83	91.09
3201.2	5335.4	35.31	95.57
3201.2	5182.9	35.55	95.98
3201.2	4268.3	35.31	95.56
3201.2	4115.9	35.34	95.61
3201.2	3963.4	35.27	95.49
3201.2	3811.0	35.18	95.33
3201.2	3658.5	35.07	95.13
3201.2	3506.1	34.89	94.79
3201.2	1981.7	32.89	91.20
3353.7	5335.4	35.24	95.44
3353.7	5182.9	35.38	95.68
3353.7	3963.4	35.16	95.29
3353.7	3811.0	35.10	95.17
3353.7	3658.5	34.99	94.99
3353.7	3506.1	34.85	94.72
3353.7	3353.7	34.71	94.47
3353.7	3048.8	34.23	93.61
3353.7	2896.3	34.14	93.45
3353.7	2743.9	34.06	93.30
3506.1	3811.0	34.96	94.93
3506.1	3658.5	34.88	94.79
3506.1	3506.1	34.78	94.61
3506.1	3353.7	34.68	94.42
3506.1	3201.2	34.58	94.24
3506.1	3048.8	34.44	93.99
3506.1	2896.3	34.29	93.72
3506.1	2743.9	34.15	93.46
3506.1	2591.5	34.05	93.30
3506.1	2286.6	33.42	92.16
3506.1	2134.1	33.25	91.85
3506.1	1981.7	33.20	91.77
3506.1	1829.3	33.17	91.71
3658.5	4268.3	34.32	93.78
3658.5	4115.9	34.46	94.03
3658.5	3963.4	34.64	94.36
3658.5	3811.0	34.80	94.63
3658.5	3658.5	34.75	94.55
3658.5	3506.1	34.69	94.45
3658.5	3353.7	34.63	94.33
3658.5	3201.2	34.56	94.21
3658.5	3048.8	34.46	94.02

Electronic Filing: Received, Clerk's Office 02/07/2019

3658.5	2896.3	34.33	93.80
3658.5	2591.5	33.97	93.14
3658.5	2439.0	33.81	92.86
3658.5	2286.6	33.56	92.41
3658.5	2134.1	33.19	91.74
3658.5	1981.7	33.13	91.63
3658.5	1829.3	33.09	91.57
3658.5	1676.8	33.03	91.45
3658.5	1524.4	32.99	91.38
3658.5	1372.0	32.99	91.38
3658.5	1067.1	32.96	91.33
3658.5	914.6	32.96	91.33
3658.5	762.2	32.96	91.34
3658.5	609.8	32.97	91.34
3658.5	457.3	32.97	91.34
3811.0	4115.9	34.33	93.80
3811.0	3963.4	34.46	94.03
3811.0	3201.2	34.46	94.03
3811.0	3048.8	34.38	93.89
3811.0	2896.3	34.29	93.73
3811.0	1524.4	32.97	91.34
3811.0	1372.0	32.96	91.33
3811.0	1219.5	32.95	91.32
3811.0	1067.1	32.95	91.31
3811.0	457.3	32.98	91.36
3811.0	304.9	32.98	91.37
3963.4	3201.2	34.34	93.81
3963.4	3048.8	34.31	93.77
3963.4	2896.3	34.26	93.66
3963.4	2743.9	34.13	93.43
3963.4	1067.1	32.95	91.30
3963.4	914.6	32.94	91.30
4115.9	2896.3	34.18	93.53
4115.9	2743.9	34.06	93.30
4115.9	2591.5	33.82	92.87
4115.9	2439.0	33.70	92.65
4268.3	3048.8	33.93	93.08
4268.3	2896.3	34.03	93.25
4268.3	2743.9	33.93	93.08
4268.3	2591.5	33.79	92.82
4420.7	3048.8	33.81	92.86
4420.7	2896.3	33.82	92.88
4420.7	2743.9	33.75	92.75
4420.7	2591.5	33.69	92.64
4573.2	3048.8	33.69	92.64
4573.2	2896.3	33.65	92.57
4573.2	2743.9	33.61	92.49
4573.2	2591.5	33.57	92.42
4725.6	3048.8	33.59	92.46
4725.6	2896.3	33.53	92.36
4725.6	2743.9	33.47	92.25
4725.6	2591.5	33.41	92.14
4725.6	2439.0	33.25	91.85
4725.6	2286.6	33.19	91.74
4725.6	2134.1	33.16	91.68
4878.0	3048.8	33.48	92.26
4878.0	2896.3	33.43	92.17
4878.0	2743.9	33.35	92.03

Electronic Filing: Received, Clerk's Office 02/07/2019

4878.0	2591.5	33.27	91.89
4878.0	2439.0	33.20	91.76
4878.0	2286.6	33.17	91.71
5030.5	2896.3	33.35	92.03
5030.5	2743.9	33.27	91.89
5030.5	2591.5	33.22	91.80
5182.9	2743.9	33.21	91.78
5182.9	2591.5	33.17	91.71
5335.4	2743.9	33.14	91.66
5335.4	2591.5	33.10	91.57
5335.4	2439.0	33.05	91.49
5487.8	2743.9	33.08	91.55
5487.8	2591.5	33.05	91.50
5487.8	2439.0	33.04	91.47
5640.2	2896.3	33.01	91.41
5640.2	2743.9	33.02	91.44
5640.2	2591.5	33.01	91.43
5792.7	2743.9	32.97	91.34
5792.7	2591.5	32.95	91.32
5792.7	2439.0	32.94	91.28
5792.7	1981.7	32.95	91.32
5945.1	2591.5	32.94	91.28
5945.1	2439.0	32.93	91.27
5945.1	2286.6	32.92	91.26
5945.1	2134.1	32.92	91.26
5945.1	1981.7	32.92	91.26
5945.1	1829.3	32.92	91.26
5945.1	1676.8	32.92	91.26
5945.1	1524.4	32.93	91.27
5945.1	1372.0	32.93	91.27
5945.1	1219.5	32.94	91.28
5945.1	1067.1	32.94	91.30
6097.6	2591.5	32.94	91.29
6097.6	2439.0	32.93	91.28
6097.6	1981.7	32.92	91.26
6097.6	1829.3	32.92	91.26
6097.6	1676.8	32.92	91.26
6097.6	1067.1	32.97	91.34
6097.6	914.6	32.97	91.35
6097.6	762.2	32.97	91.35
6250.0	2591.5	32.94	91.29
6250.0	2439.0	32.94	91.29
6402.4	2591.5	32.95	91.31
6402.4	2439.0	32.95	91.30
6402.4	2286.6	32.95	91.31
6554.9	2743.9	32.97	91.35
6554.9	2591.5	32.97	91.34
6554.9	2439.0	32.96	91.34
6707.3	2896.3	32.98	91.37
6707.3	2743.9	32.98	91.37
6707.3	2591.5	32.98	91.36
6859.8	2896.3	32.99	91.38
6859.8	2743.9	32.99	91.38
7012.2	2743.9	32.99	91.39
7164.6	2743.9	32.99	91.39
7164.6	2591.5	32.99	91.39
7317.1	2591.5	33.00	91.39
7469.5	2591.5	33.00	91.39

Electronic Filing: Received, Clerk's Office 02/07/2019

7469.5

2439.0

33.00

91.39

Electronic Filing: Received, Clerk's Office 02/07/2019

Summer Stressed - West to East Transect A-A'

X Easting (m)	Depth (m)	Temp (°C)
457.3	4.11	39.13
457.3	4.57	38.57
457.3	5.03	38.22
457.3	3.66	38.06
457.3	5.48	38.00
457.3	5.94	37.87
457.3	6.40	37.80
457.3	7.31	37.77
457.3	8.23	37.76
457.3	9.14	37.76
457.3	6.86	37.76
457.3	10.05	37.76
457.3	10.51	37.76
457.3	10.97	37.76
457.3	9.60	37.75
457.3	8.68	37.75
457.3	7.77	37.75
457.3	11.43	37.75
457.3	11.88	37.74
609.8	10.97	37.74
609.8	11.43	37.73
609.8	10.51	37.73
609.8	11.88	37.72
609.8	10.05	37.71
762.2	11.43	37.71
762.2	10.97	37.71
457.3	12.34	37.70
762.2	10.51	37.69
762.2	11.88	37.69
609.8	9.60	37.68
914.6	11.43	37.67
609.8	12.34	37.67
914.6	10.97	37.67
762.2	10.05	37.66
914.6	11.88	37.66
762.2	12.34	37.65
914.6	10.51	37.64
914.6	12.34	37.62
609.8	9.14	37.62
762.2	9.60	37.61
1067.1	11.43	37.61
1067.1	11.88	37.61
914.6	10.05	37.59
1067.1	10.97	37.59
1067.1	12.34	37.58
1219.5	11.88	37.55
762.2	9.14	37.55
1219.5	11.43	37.54
1067.1	10.51	37.54
914.6	9.60	37.53
1219.5	12.34	37.52
1219.5	10.97	37.51
609.8	8.68	37.51
1372.0	11.43	37.49
1372.0	10.97	37.49
1372.0	10.51	37.49

Electronic Filing: Received, Clerk's Office 02/07/2019

1372.0	11.88	37.48
1067.1	10.05	37.48
1219.5	10.51	37.47
1372.0	10.05	37.47
762.2	8.68	37.46
914.6	9.14	37.46
1372.0	12.34	37.45
1372.0	9.60	37.45
1219.5	10.05	37.42
1372.0	9.14	37.42
1067.1	9.60	37.40
1372.0	8.68	37.39
1219.5	9.60	37.37
914.6	8.68	37.36
609.8	8.23	37.35
762.2	8.23	37.34
1219.5	9.14	37.31
1067.1	9.14	37.30
1372.0	8.23	37.28
914.6	8.23	37.26
762.2	7.77	37.22
1219.5	8.68	37.20
1067.1	8.68	37.17
914.6	7.77	37.12
1219.5	8.23	37.05
609.8	7.77	37.00
914.6	7.31	37.00
1067.1	8.23	36.95
609.8	7.31	36.74
1067.1	7.77	36.69
1676.8	10.97	36.65
1676.8	11.43	36.65
1676.8	10.51	36.65
1372.0	7.77	36.65
1676.8	10.05	36.65
1676.8	9.60	36.64
1676.8	9.14	36.64
1676.8	11.88	36.64
1676.8	8.68	36.64
1676.8	8.23	36.62
1676.8	12.34	36.61
1676.8	7.77	36.56
1219.5	7.77	36.54
762.2	7.31	36.43
609.8	6.86	36.40
1067.1	7.31	36.28
762.2	6.86	36.27
1676.8	7.31	36.27
1219.5	7.31	36.22
914.6	6.86	36.21
609.8	6.40	36.17
1067.1	6.86	36.02
762.2	6.40	36.00
1676.8	6.86	35.93
914.6	6.40	35.93
1372.0	7.31	35.92
609.8	5.94	35.90
1676.8	6.40	35.79

Electronic Filing: Received, Clerk's Office 02/07/2019

1219.5	6.86	35.75
1067.1	6.40	35.74
762.2	5.94	35.64
609.8	5.48	35.63
914.6	5.94	35.60
1372.0	6.86	35.59
1219.5	6.40	35.50
1067.1	5.94	35.44
1372.0	6.40	35.37
609.8	5.03	35.32
1219.5	5.94	35.22
762.2	5.48	35.20
1372.0	5.94	35.19
1067.1	5.48	35.17
914.6	5.48	35.15
609.8	4.57	35.08
1219.5	5.48	35.03
1372.0	5.48	35.01
1219.5	5.03	34.98
1067.1	5.03	34.92
609.8	4.11	34.89
762.2	5.03	34.86
1067.1	4.57	34.81
914.6	5.03	34.79
609.8	3.66	34.73
457.3	3.20	34.69
762.2	4.57	34.68
609.8	3.20	34.66
457.3	2.74	34.66
1067.1	4.11	34.65
914.6	4.57	34.64
609.8	2.74	34.62
762.2	4.11	34.55
1067.1	3.66	34.54
914.6	4.11	34.52
762.2	3.66	34.47
914.6	3.66	34.46
1067.1	3.20	34.46
762.2	3.20	34.43
914.6	3.20	34.43
1067.1	2.74	34.42
762.2	2.74	34.42
762.2	2.29	34.41
914.6	2.74	34.40
762.2	1.83	34.40
1067.1	2.29	34.39
914.6	2.29	34.38
1067.1	1.83	34.38
914.6	1.83	34.38
1067.1	1.37	34.38
914.6	1.37	34.38

Electronic Filing: Received, Clerk's Office 02/07/2019

Summer Stressed - South to North Profile

Y Northing (m)	Depth (m)	Temp (°C)	Temp (°F)	
7164.6	12.34	37.27	99.09	
7164.6	11.88	37.31	99.15	
7164.6	11.43	37.33	99.19	
7164.6	10.97	37.34	99.20	
7164.6	10.51	37.34	99.21	
7164.6	10.05	37.34	99.21	Cooling water discharge
7164.6	9.60	37.34	99.20	Cooling water discharge
7164.6	9.14	37.33	99.20	
7164.6	8.68	37.33	99.19	
7164.6	8.23	37.31	99.16	
7164.6	7.77	37.13	98.83	
7164.6	7.31	36.17	97.10	
7164.6	6.86	35.45	95.81	
7164.6	6.40	35.23	95.42	
7164.6	5.94	35.17	95.30	
7164.6	5.48	35.07	95.13	
7164.6	5.03	34.93	94.87	
7164.6	4.57	34.85	94.72	
7164.6	4.11	34.76	94.57	
7164.6	3.66	34.73	94.51	
7164.6	3.20	34.70	94.46	
7164.6	2.74	34.66	94.38	
7164.6	2.29	34.56	94.22	
7164.6	1.83	34.38	93.88	
7164.6	1.37	34.28	93.70	
7012.2	12.34	37.45	99.41	
7012.2	11.88	37.49	99.48	
7012.2	11.43	37.51	99.51	
7012.2	10.97	37.51	99.52	
7012.2	10.51	37.50	99.50	
7012.2	10.05	37.48	99.47	
7012.2	9.60	37.45	99.40	
7012.2	9.14	37.40	99.32	
7012.2	8.68	37.34	99.22	
7012.2	8.23	37.30	99.14	
7012.2	7.77	36.95	98.50	
7012.2	7.31	36.07	96.93	
7012.2	6.86	35.73	96.31	
7012.2	6.40	35.53	95.95	
7012.2	5.94	35.33	95.59	
7012.2	5.48	35.13	95.24	
7012.2	5.03	34.94	94.89	
7012.2	4.57	34.84	94.71	
7012.2	4.11	34.68	94.42	
7012.2	3.66	34.55	94.20	
7012.2	3.20	34.51	94.12	
7012.2	2.74	34.48	94.07	
7012.2	2.29	34.47	94.04	
6859.8	12.34	37.58	99.64	
6859.8	11.88	37.61	99.70	
6859.8	11.43	37.61	99.70	
6859.8	10.97	37.59	99.65	
6859.8	10.51	37.54	99.57	
6859.8	10.05	37.48	99.46	
6859.8	9.60	37.40	99.32	
6859.8	9.14	37.30	99.15	

Electronic Filing: Received, Clerk's Office 02/07/2019

6859.8	8.68	37.17	98.91
6859.8	8.23	36.95	98.51
6859.8	7.77	36.69	98.05
6859.8	7.31	36.28	97.30
6859.8	6.86	36.02	96.83
6859.8	6.40	35.74	96.33
6859.8	5.94	35.44	95.79
6859.8	5.48	35.17	95.31
6859.8	5.03	34.92	94.85
6859.8	4.57	34.81	94.66
6859.8	4.11	34.65	94.38
6859.8	3.66	34.54	94.18
6859.8	3.20	34.46	94.03
6859.8	2.74	34.42	93.96
6859.8	2.29	34.39	93.91
6859.8	1.83	34.38	93.89
6859.8	1.37	34.38	93.88
6707.3	12.34	37.30	99.14
6707.3	11.88	37.33	99.19
6707.3	11.43	37.32	99.17
6707.3	10.97	37.24	99.04
6707.3	10.51	37.17	98.90
6707.3	10.05	37.09	98.76
6707.3	9.60	36.99	98.58
6707.3	9.14	36.87	98.37
6707.3	8.68	36.68	98.03
6707.3	8.23	36.59	97.85
6707.3	7.77	36.22	97.20
6707.3	7.31	36.09	96.97
6707.3	6.86	35.80	96.44
6707.3	6.40	35.59	96.05
6707.3	5.94	35.34	95.62
6707.3	5.48	35.08	95.15
6707.3	5.03	34.80	94.65
6707.3	4.57	34.67	94.40
6707.3	4.11	34.56	94.20
6707.3	3.66	34.49	94.09
6707.3	3.20	34.48	94.06
6707.3	2.74	34.40	93.92
6707.3	2.29	34.34	93.81
6707.3	1.83	34.33	93.79
6554.9	12.34	37.18	98.93
6554.9	11.88	37.22	98.99
6554.9	11.43	37.23	99.01
6554.9	10.97	37.14	98.86
6554.9	10.51	37.05	98.68
6554.9	10.05	36.95	98.50
6554.9	9.60	36.83	98.29
6554.9	9.14	36.71	98.08
6554.9	8.68	36.65	97.97
6554.9	8.23	36.32	97.38
6554.9	7.77	36.27	97.28
6554.9	7.31	35.97	96.74
6554.9	6.86	35.83	96.49
6554.9	6.40	35.59	96.06
6554.9	5.94	35.38	95.69
6554.9	5.48	35.09	95.15
6554.9	5.03	34.76	94.58

Electronic Filing: Received, Clerk's Office 02/07/2019

6554.9	4.57	34.60	94.28
6554.9	4.11	34.52	94.14
6554.9	3.66	34.48	94.06
6554.9	3.20	34.46	94.04
6554.9	2.74	34.37	93.87
6554.9	2.29	34.33	93.80
6554.9	1.83	34.33	93.79
6402.4	12.34	37.11	98.79
6402.4	11.88	37.15	98.87
6402.4	11.43	37.17	98.90
6402.4	10.97	37.15	98.87
6402.4	10.51	37.01	98.62
6402.4	10.05	36.91	98.44
6402.4	9.60	36.81	98.27
6402.4	9.14	36.73	98.12
6402.4	8.68	36.49	97.69
6402.4	8.23	36.44	97.59
6402.4	7.77	36.16	97.10
6402.4	7.31	36.02	96.84
6402.4	6.86	35.79	96.42
6402.4	6.40	35.58	96.04
6402.4	5.94	35.36	95.64
6402.4	5.48	35.04	95.07
6402.4	5.03	34.70	94.45
6402.4	4.57	34.55	94.18
6402.4	4.11	34.49	94.08
6402.4	3.66	34.47	94.05
6250.0	12.34	37.04	98.67
6250.0	11.88	37.09	98.75
6250.0	11.43	37.11	98.80
6250.0	10.97	37.11	98.81
6250.0	10.51	37.04	98.67
6250.0	10.05	36.90	98.42
6250.0	9.60	36.80	98.24
6250.0	9.14	36.70	98.06
6250.0	8.68	36.64	97.96
6250.0	8.23	36.32	97.38
6250.0	7.77	36.17	97.10
6250.0	7.31	35.90	96.62
6250.0	6.86	35.68	96.22
6250.0	6.40	35.44	95.79
6250.0	5.94	35.22	95.40
6250.0	5.48	34.90	94.81
6250.0	5.03	34.62	94.31
6250.0	4.57	34.46	94.02
6250.0	4.11	34.39	93.90
6250.0	3.66	34.36	93.85
6250.0	3.20	34.34	93.82
6250.0	2.74	34.29	93.71
6250.0	2.29	34.21	93.58
6250.0	1.83	34.05	93.29
6250.0	1.37	33.66	92.59
6250.0	0.91	33.36	92.05
6250.0	0.46	33.16	91.68
6097.6	12.34	36.93	98.47
6097.6	11.88	36.97	98.55
6097.6	11.43	37.01	98.61
6097.6	10.97	37.02	98.64

Electronic Filing: Received, Clerk's Office 02/07/2019

6097.6	10.51	37.02	98.63
6097.6	10.05	36.96	98.53
6097.6	9.60	36.88	98.38
6097.6	9.14	36.79	98.23
6097.6	8.68	36.53	97.75
6097.6	8.23	36.39	97.51
6097.6	7.77	35.96	96.74
6097.6	7.31	35.74	96.33
6097.6	6.86	35.50	95.90
6097.6	6.40	35.31	95.56
6097.6	5.94	35.14	95.26
6097.6	5.48	34.96	94.92
6097.6	5.03	34.77	94.58
6097.6	4.57	34.58	94.25
6097.6	4.11	34.45	94.00
6097.6	3.66	34.39	93.89
6097.6	3.20	34.38	93.88
6097.6	2.74	34.36	93.85
6097.6	2.29	34.31	93.76
6097.6	1.83	34.16	93.50
6097.6	1.37	33.73	92.72
6097.6	0.91	33.33	91.99
6097.6	0.46	33.11	91.60
5945.1	12.34	36.84	98.31
5945.1	11.88	36.89	98.40
5945.1	11.43	36.92	98.46
5945.1	10.97	36.94	98.50
5945.1	10.51	36.95	98.51
5945.1	10.05	36.91	98.44
5945.1	9.60	36.83	98.30
5945.1	9.14	36.68	98.02
5945.1	8.68	36.52	97.74
5945.1	8.23	36.15	97.06
5945.1	7.77	35.95	96.70
5945.1	7.31	35.63	96.14
5945.1	6.86	35.46	95.82
5945.1	6.40	35.28	95.50
5945.1	5.94	35.13	95.23
5945.1	5.48	34.96	94.93
5945.1	5.03	34.80	94.64
5945.1	4.57	34.62	94.32
5945.1	4.11	34.46	94.02
5945.1	3.66	34.40	93.91
5945.1	3.20	34.40	93.91
5945.1	2.74	34.39	93.90
5945.1	2.29	34.38	93.88
5945.1	1.83	34.29	93.73
5945.1	1.37	33.81	92.85
5945.1	0.91	33.31	91.95
5945.1	0.46	33.09	91.55
5792.7	12.34	36.76	98.17
5792.7	11.88	36.81	98.26
5792.7	11.43	36.84	98.31
5792.7	10.97	36.85	98.33
5792.7	10.51	36.83	98.30
5792.7	10.05	36.74	98.14
5792.7	9.60	36.64	97.96
5792.7	9.14	36.56	97.82

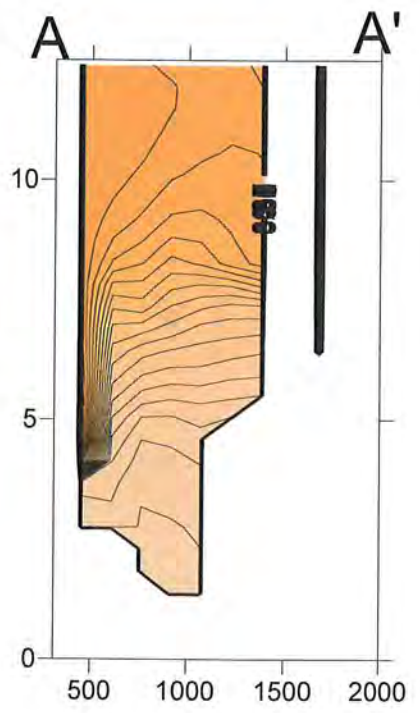
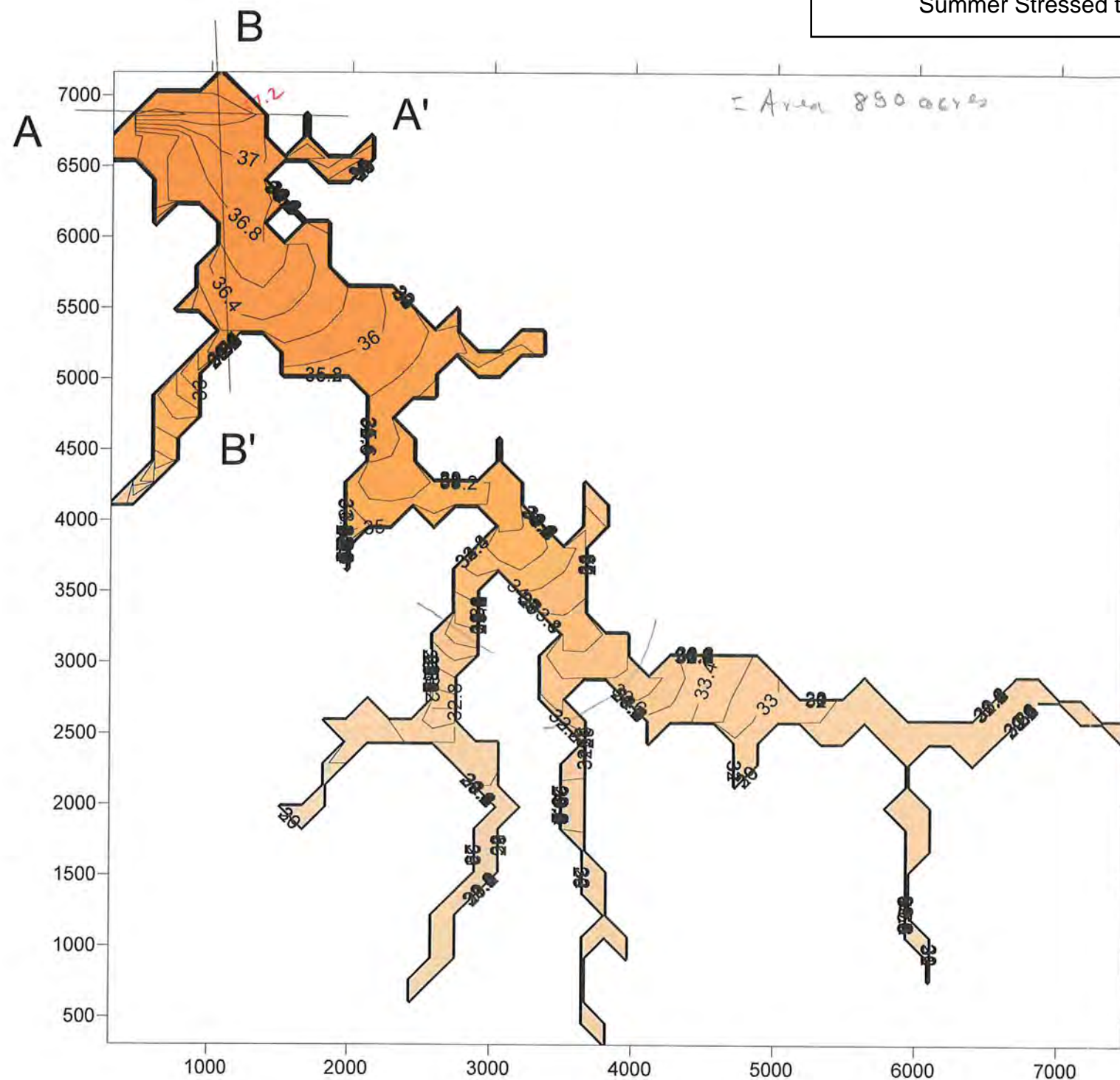
Electronic Filing: Received, Clerk's Office 02/07/2019

5792.7	8.68	36.47	97.64
5792.7	8.23	36.23	97.21
5792.7	7.77	35.88	96.58
5792.7	7.31	35.59	96.06
5792.7	6.86	35.45	95.80
5792.7	6.40	35.28	95.51
5792.7	5.94	35.08	95.14
5792.7	5.48	34.87	94.76
5792.7	5.03	34.64	94.35
5792.7	4.57	34.34	93.81
5792.7	4.11	34.09	93.36
5792.7	3.66	33.99	93.18
5640.2	12.34	36.65	97.98
5640.2	11.88	36.70	98.06
5640.2	11.43	36.73	98.11
5640.2	10.97	36.74	98.14
5640.2	10.51	36.74	98.13
5640.2	10.05	36.64	97.95
5640.2	9.60	36.59	97.86
5640.2	9.14	36.46	97.64
5640.2	8.68	36.33	97.40
5640.2	8.23	36.26	97.26
5640.2	7.77	35.80	96.45
5640.2	7.31	35.59	96.06
5640.2	6.86	35.48	95.86
5640.2	6.40	35.34	95.61
5487.8	12.34	36.53	97.75
5487.8	11.88	36.58	97.84
5487.8	11.43	36.61	97.89
5487.8	10.97	36.62	97.92
5487.8	10.51	36.62	97.92
5487.8	10.05	36.57	97.82
5487.8	9.60	36.46	97.62
5487.8	9.14	36.44	97.59
5487.8	8.68	36.40	97.51
5487.8	8.23	35.95	96.71
5487.8	7.77	35.78	96.40
5487.8	7.31	35.62	96.11
5487.8	6.86	35.57	96.03
5487.8	6.40	35.53	95.96
5335.4	12.34	36.43	97.57
5335.4	11.88	36.47	97.65
5335.4	11.43	36.51	97.71
5335.4	10.97	36.53	97.75
5335.4	10.51	36.53	97.76
5335.4	10.05	36.52	97.74
5335.4	9.60	36.46	97.63
5335.4	9.14	36.31	97.35
5335.4	8.68	36.04	96.87
5335.4	8.23	35.81	96.45
5335.4	7.77	35.66	96.19
5335.4	7.31	35.66	96.19
5335.4	6.86	35.65	96.17
5335.4	6.40	35.64	96.16
5182.9	12.34	36.31	97.35
5182.9	11.88	36.35	97.43
5182.9	11.43	36.38	97.48
5182.9	10.97	36.40	97.51

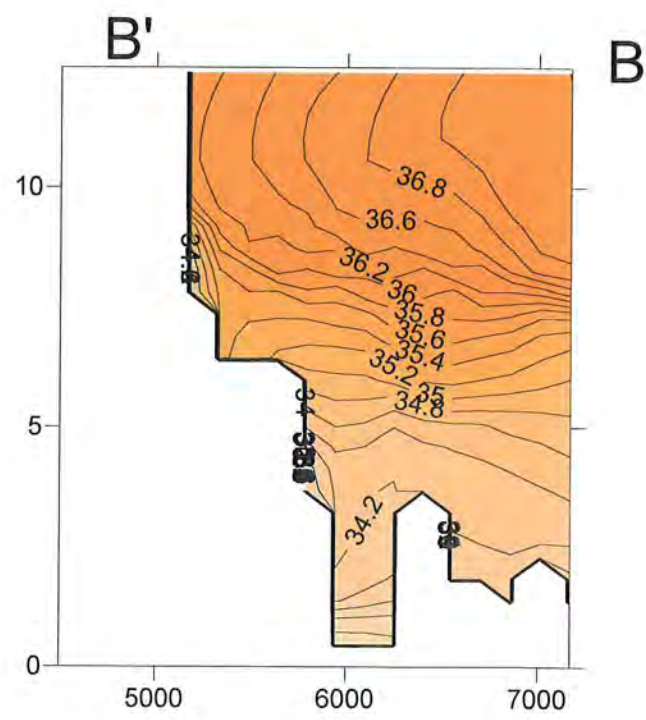
Electronic Filing: Received, Clerk's Office 02/07/2019

5182.9	10.51	36.40	97.51
5182.9	10.05	36.31	97.35
5182.9	9.60	36.14	97.05
5182.9	9.14	35.55	95.99
5182.9	8.68	35.25	95.45
5182.9	8.23	35.06	95.11
5182.9	7.77	35.03	95.05

Summer Stressed thermal plots



West-East Cross Section through discharge J=45



South-North Cross Section I=7

Teq=32.7 deg C CSHE=28.6 W/m² Wind from South @ 1.73 m/s
Heat Input 724 MW: 12.744 cu m/s @ 13.6 deg C Temp Rise
Distance in meters, contours in deg C
500ft Grid SumMax2

Winter Normal

LEgypt_500ft_winterINI4

C:\GLLVHT\SIPC 500ft\OLEgypt_500ft_winterINI4.dat

```
$1.nwqm 1
$2.Inflow Conditions
$ninflows 2
$qinflow,iinflow,jinflow,kinflow
$intake,inintake,jintake,kintake
$temp saln const
4.095 3 45 19
 1 2 44 9
19.3 0.00 100.00
4.095 3 45 20
 1 2 44 10
19.3 0 100
$3. Outflow Conditions
$noutflows 2
$qoutflow,ioutflow,joutflow,koutflow
4.095 2 44 9
4.095 2 44 10
$4.Elevation Boundary Conditions
$nelevation kts 0 2
$iewest,ieeast,jesouth,jenorth
zmean,zamp,tmelag,tideper
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
$5.Initialize Water Quality Profiles
$ninitial 1
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
 2 2.9 0 0
 3 3.0 0 0
 4 3.1 0 0
 5 3.2 0 0
 6 3.3 0 0
 7 3.4 0 0
 8 3.5 0 0
 9 3.6 0 0
10 3.7 0 0
11 3.8 0 0
12 3.9 0 0
13 3.98 0 0
14 3.98 0 0
15 3.98 0 0
16 3.98 0 0
17 3.98 0 0
18 3.98 0 0
19 3.98 0 0
20 3.98 0 0
21 3.98 0 0
22 3.98 0 0
23 3.98 0 0
24 3.98 0 0
25 3.98 0 0
26 3.98 0 0
27 3.98 0 0
28 3.98 0 0
$6.External Parameters
Chezy, Wx,Wy,CSHE, TEQ, Rdecay, Lat.
 35.00 3.46 0.0 16.9 5.0 0.00 37.6
$7.Output Profiles
$nprofiles 3
$ipwest,ipest,jpsouth,jpnorth
$u-vel, v-vel, w-vel
$nconstituents
$I-const(1),I-const(2), I-const(3), etc
 7 7 33 47
```

$8.19 \text{ m}^3/\text{s} \times 19.3 \times 4.186 \text{ kJ}/\text{kg} \cdot \text{C} \times 1000 \text{ kg}/\text{m}^3$
 $= 661.7 \text{ MW}$

Inflow at nodes 19+20
 $4.095 \times 2 = 8.19 \text{ m}^3/\text{s}$
 $\Delta T = 19.3 \text{ C}$

Initial Lake Temperatures

LEgypt_500ft_winterINI4

```
0 0 0
1
1 3
2 12 45 45
0 0 0
2
1 3
15 15 15 37
0 0 0
2
1 3
```

\$8. Output Surfaces

```
$nsurfaces $nconstituents 2 2
$U-vel V-vel 1.0000000E+00 1.0000000E+00
$I-const(1), I-const(2), I-const(3), etc.
1 3
```

\$9. Output Time Series

```
$ntimser 4
$nconst, iconst, jconst, kconst
1 3 45 2
1 8 46 2
1 9 44 2
1 2 44 8
```

\$10. Simulation time conditions

```
$dtm tmend 360.00 722.0
$timeout tmeserout 720.0 24.0
```

\$11. Internal Boundary Locations

```
$nintbnd 1
$ibwest, ibeast, jbsouth, jbnorth, ktop, kbottom
2 5 44 44 2 30
```

\$12. Constituent Averages

```
$nconarv 0
$nconstarvs
```

\$13. Groundwater Inflow

```
$ngrndwtr 0
```

Winter Normal Conditions / Surface

Winter Normal Model Output

x (m)	y (m)	Temp C°	Temp °F	
304.9	6707.3	9.92	49.85	
304.9	6554.9	9.86	49.75	
304.9	4115.9	6.06	42.90	
457.3	6859.8	11.56	52.82	Outfall Location
457.3	6707.3	9.92	49.86	
457.3	6554.9	9.85	49.74	
457.3	4268.3	6.40	43.51	
457.3	4115.9	6.08	42.95	
609.8	7012.2	11.19	52.14	
609.8	6859.8	11.54	52.77	
609.8	6707.3	9.96	49.92	
609.8	6554.9	9.92	49.86	
609.8	6402.4	10.16	50.28	
609.8	6250.0	10.09	50.16	
609.8	6097.6	9.87	49.76	
609.8	4878.0	7.14	44.84	
609.8	4725.6	7.09	44.75	
609.8	4573.2	7.00	44.61	
609.8	4420.7	6.82	44.28	
609.8	4268.3	6.49	43.67	
762.2	7012.2	11.22	52.19	
762.2	6859.8	11.50	52.71	
762.2	6707.3	10.05	50.09	
762.2	6554.9	9.98	49.97	
762.2	6402.4	10.20	50.35	
762.2	6250.0	10.11	50.19	
762.2	5487.8	9.71	49.48	
762.2	5030.5	7.28	45.10	
762.2	4878.0	7.18	44.93	
762.2	4725.6	7.12	44.82	
762.2	4573.2	7.02	44.64	
762.2	4420.7	6.85	44.32	
914.6	7012.2	11.20	52.17	
914.6	6859.8	11.45	52.61	
914.6	6707.3	10.58	51.05	
914.6	6554.9	10.16	50.29	
914.6	6402.4	10.26	50.46	
914.6	6250.0	10.14	50.25	
914.6	5792.7	9.88	49.79	
914.6	5640.2	9.85	49.72	
914.6	5487.8	9.74	49.54	
914.6	5182.9	8.66	47.59	
914.6	5030.5	7.75	45.95	
914.6	4878.0	7.34	45.22	
914.6	4725.6	7.18	44.92	
1067.1	7164.6	10.75	51.35	
1067.1	7012.2	11.17	52.10	
1067.1	6859.8	11.38	52.48	
1067.1	6707.3	10.84	51.51	
1067.1	6554.9	10.42	50.75	
1067.1	6402.4	10.38	50.69	
1067.1	6250.0	10.25	50.45	
1067.1	6097.6	10.32	50.58	
1067.1	5945.1	10.29	50.52	
1067.1	5792.7	10.14	50.25	
1067.1	5640.2	10.00	49.99	

Electronic Filing: Received, Clerk's Office 02/07/2019

1067.1	5487.8	9.83	49.70
1067.1	5335.4	9.79	49.62
1067.1	5182.9	9.44	48.99
1219.5	7012.2	11.13	52.03
1219.5	6859.8	11.29	52.33
1219.5	6707.3	10.97	51.75
1219.5	6554.9	10.65	51.17
1219.5	6402.4	10.55	50.99
1219.5	6250.0	10.42	50.76
1219.5	6097.6	10.42	50.75
1219.5	5945.1	10.38	50.68
1219.5	5792.7	10.27	50.49
1219.5	5640.2	10.14	50.25
1219.5	5487.8	9.96	49.92
1219.5	5335.4	9.85	49.74
1372.0	6859.8	11.24	52.23
1372.0	6707.3	11.03	51.85
1372.0	6554.9	10.81	51.47
1372.0	6402.4	10.67	51.20
1372.0	6250.0	10.56	51.01
1372.0	6097.6	10.49	50.89
1372.0	5945.1	10.44	50.80
1372.0	5792.7	10.36	50.65
1372.0	5640.2	10.24	50.43
1372.0	5487.8	10.07	50.12
1372.0	5335.4	9.92	49.85
1524.4	6554.9	10.79	51.43
1524.4	6250.0	10.53	50.95
1524.4	5945.1	10.28	50.51
1524.4	5792.7	10.28	50.51
1524.4	5640.2	10.22	50.39
1524.4	5487.8	10.10	50.17
1524.4	5335.4	9.95	49.91
1524.4	5182.9	9.76	49.57
1524.4	5030.5	9.63	49.33
1524.4	1981.7	5.31	41.57
1676.8	6859.8	10.37	50.67
1676.8	6707.3	10.51	50.91
1676.8	6554.9	10.75	51.35
1676.8	6097.6	9.60	49.29
1676.8	5945.1	10.09	50.17
1676.8	5792.7	10.17	50.30
1676.8	5640.2	10.16	50.28
1676.8	5487.8	10.08	50.15
1676.8	5335.4	9.96	49.93
1676.8	5182.9	9.80	49.64
1676.8	5030.5	9.65	49.38
1676.8	1981.7	5.33	41.59
1676.8	1829.3	5.29	41.53
1829.3	6554.9	10.69	51.25
1829.3	6402.4	10.48	50.86
1829.3	6097.6	9.63	49.34
1829.3	5945.1	10.01	50.02
1829.3	5792.7	10.09	50.17
1829.3	5640.2	10.10	50.18
1829.3	5487.8	10.05	50.09
1829.3	5335.4	9.96	49.93
1829.3	5182.9	9.82	49.68

Electronic Filing: Received, Clerk's Office 02/07/2019

1829.3	5030.5	9.68	49.43
1829.3	2591.5	5.82	42.48
1829.3	2286.6	5.60	42.09
1829.3	2134.1	5.51	41.93
1829.3	1981.7	5.35	41.63
1981.7	6554.9	10.62	51.12
1981.7	6402.4	10.43	50.77
1981.7	5640.2	10.03	50.05
1981.7	5487.8	10.01	50.02
1981.7	5335.4	9.95	49.90
1981.7	5182.9	9.83	49.70
1981.7	5030.5	9.70	49.47
1981.7	4878.0	9.65	49.37
1981.7	4268.3	8.86	47.95
1981.7	4115.9	8.85	47.92
1981.7	3963.4	8.76	47.78
1981.7	3811.0	8.58	47.45
1981.7	3658.5	8.36	47.04
1981.7	2591.5	5.83	42.49
1981.7	2439.0	5.86	42.54
1981.7	2286.6	5.68	42.22
2134.1	6707.3	10.13	50.23
2134.1	6554.9	10.55	50.99
2134.1	5640.2	9.97	49.95
2134.1	5487.8	9.97	49.95
2134.1	5335.4	9.93	49.87
2134.1	5182.9	9.84	49.71
2134.1	5030.5	9.73	49.51
2134.1	4878.0	9.66	49.39
2134.1	4725.6	9.61	49.30
2134.1	4573.2	9.54	49.18
2134.1	4420.7	9.44	49.00
2134.1	4268.3	9.15	48.47
2134.1	4115.9	8.97	48.15
2134.1	3963.4	8.83	47.89
2134.1	2743.9	5.70	42.27
2134.1	2591.5	5.83	42.50
2134.1	2439.0	5.88	42.58
2286.6	5640.2	9.93	49.87
2286.6	5487.8	9.93	49.88
2286.6	5335.4	9.90	49.83
2286.6	5182.9	9.84	49.70
2286.6	5030.5	9.74	49.54
2286.6	4878.0	9.68	49.42
2286.6	4725.6	9.62	49.32
2286.6	4573.2	9.57	49.23
2286.6	4420.7	9.50	49.09
2286.6	4268.3	9.32	48.77
2286.6	4115.9	9.12	48.42
2286.6	3963.4	8.89	48.00
2286.6	2591.5	5.84	42.52
2286.6	2439.0	5.89	42.60
2439.0	5487.8	9.90	49.81
2439.0	5335.4	9.88	49.78
2439.0	5182.9	9.83	49.70
2439.0	5030.5	9.76	49.56
2439.0	4878.0	9.68	49.43
2439.0	4573.2	9.53	49.16

Electronic Filing: Received, Clerk's Office 02/07/2019

2439.0	4420.7	9.49	49.07
2439.0	4268.3	9.38	48.88
2439.0	4115.9	9.21	48.58
2439.0	2591.5	5.90	42.62
2439.0	2439.0	5.90	42.62
2439.0	762.2	4.95	40.92
2439.0	609.8	4.96	40.93
2591.5	5335.4	9.85	49.72
2591.5	5182.9	9.81	49.66
2591.5	5030.5	9.74	49.54
2591.5	4268.3	9.29	48.73
2591.5	4115.9	9.21	48.58
2591.5	3963.4	9.04	48.28
2591.5	3201.2	6.58	43.84
2591.5	3048.8	6.54	43.77
2591.5	2896.3	6.40	43.51
2591.5	2743.9	6.22	43.20
2591.5	2591.5	6.04	42.86
2591.5	2439.0	5.94	42.70
2591.5	1219.5	5.00	40.99
2591.5	1067.1	4.98	40.97
2591.5	914.6	4.97	40.94
2591.5	762.2	4.96	40.92
2743.9	5487.8	9.40	48.92
2743.9	5335.4	9.80	49.64
2743.9	5182.9	9.78	49.61
2743.9	4268.3	9.20	48.56
2743.9	4115.9	9.18	48.53
2743.9	3658.5	7.99	46.37
2743.9	3506.1	7.91	46.23
2743.9	3353.7	7.77	45.99
2743.9	3201.2	7.21	44.98
2743.9	3048.8	6.84	44.31
2743.9	2896.3	6.54	43.78
2743.9	2743.9	6.35	43.42
2743.9	2591.5	6.14	43.06
2743.9	2439.0	5.97	42.75
2743.9	2286.6	5.78	42.40
2743.9	1372.0	5.06	41.11
2743.9	1219.5	5.00	41.01
2743.9	1067.1	4.98	40.97
2743.9	914.6	4.97	40.94
2896.3	5182.9	9.74	49.53
2896.3	5030.5	9.59	49.26
2896.3	4268.3	9.12	48.42
2896.3	4115.9	9.15	48.48
2896.3	3811.0	8.25	46.85
2896.3	3658.5	8.12	46.62
2896.3	3506.1	7.98	46.37
2896.3	3353.7	7.84	46.11
2896.3	3201.2	7.46	45.43
2896.3	3048.8	7.06	44.71
2896.3	2439.0	5.95	42.72
2896.3	2286.6	5.79	42.41
2896.3	2134.1	5.70	42.26
2896.3	1829.3	5.42	41.76
2896.3	1676.8	5.32	41.57
2896.3	1524.4	5.25	41.45

Electronic Filing: Received, Clerk's Office 02/07/2019

2896.3	1372.0	5.09	41.15
3048.8	5182.9	9.70	49.46
3048.8	5030.5	9.56	49.21
3048.8	4573.2	8.58	47.45
3048.8	4420.7	8.81	47.85
3048.8	4268.3	9.07	48.32
3048.8	4115.9	9.12	48.41
3048.8	3963.4	8.82	47.88
3048.8	3811.0	8.49	47.29
3048.8	3658.5	8.29	46.92
3048.8	2439.0	5.93	42.68
3048.8	2286.6	5.84	42.51
3048.8	2134.1	5.74	42.34
3048.8	1981.7	5.65	42.17
3048.8	1829.3	5.48	41.86
3048.8	1676.8	5.34	41.62
3048.8	1524.4	5.26	41.47
3201.2	5335.4	9.40	48.91
3201.2	5182.9	9.61	49.30
3201.2	4268.3	9.02	48.23
3201.2	4115.9	9.07	48.33
3201.2	3963.4	8.92	48.05
3201.2	3811.0	8.72	47.70
3201.2	3658.5	8.49	47.28
3201.2	3506.1	8.41	47.14
3201.2	1981.7	5.63	42.14
3353.7	5335.4	9.40	48.92
3353.7	5182.9	9.55	49.19
3353.7	3963.4	8.88	47.99
3353.7	3811.0	8.77	47.78
3353.7	3658.5	8.59	47.46
3353.7	3506.1	8.46	47.22
3353.7	3353.7	8.35	47.03
3353.7	3048.8	7.95	46.32
3353.7	2896.3	7.87	46.17
3353.7	2743.9	7.83	46.09
3506.1	3811.0	8.63	47.54
3506.1	3658.5	8.57	47.42
3506.1	3506.1	8.47	47.24
3506.1	3353.7	8.37	47.06
3506.1	3201.2	8.25	46.85
3506.1	3048.8	8.06	46.50
3506.1	2896.3	7.95	46.31
3506.1	2743.9	7.84	46.11
3506.1	2591.5	7.74	45.93
3506.1	2286.6	6.68	44.02
3506.1	2134.1	6.49	43.67
3506.1	1981.7	6.30	43.33
3506.1	1829.3	6.12	43.02
3658.5	4268.3	7.61	45.69
3658.5	4115.9	7.91	46.23
3658.5	3963.4	8.19	46.74
3658.5	3811.0	8.57	47.42
3658.5	3658.5	8.53	47.36
3658.5	3506.1	8.46	47.23
3658.5	3353.7	8.39	47.10
3658.5	3201.2	8.31	46.96
3658.5	3048.8	8.18	46.73

Electronic Filing: Received, Clerk's Office 02/07/2019

3658.5	2896.3	8.05	46.48
3658.5	2591.5	7.70	45.86
3658.5	2439.0	7.58	45.65
3658.5	2286.6	7.03	44.66
3658.5	2134.1	6.60	43.89
3658.5	1981.7	6.40	43.53
3658.5	1829.3	6.19	43.14
3658.5	1676.8	6.09	42.97
3658.5	1524.4	5.82	42.48
3658.5	1372.0	5.64	42.15
3658.5	1067.1	5.39	41.70
3658.5	914.6	5.25	41.44
3658.5	762.2	5.18	41.32
3658.5	609.8	5.12	41.22
3658.5	457.3	5.06	41.10
3811.0	4115.9	7.84	46.11
3811.0	3963.4	8.08	46.54
3811.0	3201.2	8.29	46.91
3811.0	3048.8	8.20	46.76
3811.0	2896.3	8.07	46.53
3811.0	1524.4	5.79	42.43
3811.0	1372.0	5.67	42.21
3811.0	1219.5	5.62	42.12
3811.0	1067.1	5.44	41.80
3811.0	457.3	5.05	41.09
3811.0	304.9	5.03	41.05
3963.4	3201.2	8.25	46.85
3963.4	3048.8	8.19	46.73
3963.4	2896.3	8.08	46.55
3963.4	2743.9	7.84	46.11
3963.4	1067.1	5.43	41.77
3963.4	914.6	5.34	41.62
4115.9	2896.3	7.99	46.37
4115.9	2743.9	7.82	46.08
4115.9	2591.5	7.57	45.63
4115.9	2439.0	7.46	45.42
4268.3	3048.8	7.10	44.78
4268.3	2896.3	7.83	46.09
4268.3	2743.9	7.75	45.96
4268.3	2591.5	7.59	45.66
4420.7	3048.8	7.14	44.85
4420.7	2896.3	7.43	45.37
4420.7	2743.9	7.55	45.59
4420.7	2591.5	7.52	45.54
4573.2	3048.8	7.13	44.84
4573.2	2896.3	7.28	45.10
4573.2	2743.9	7.38	45.28
4573.2	2591.5	7.45	45.40
4725.6	3048.8	7.11	44.80
4725.6	2896.3	7.21	44.97
4725.6	2743.9	7.25	45.06
4725.6	2591.5	7.38	45.28
4725.6	2439.0	7.14	44.85
4725.6	2286.6	6.81	44.26
4725.6	2134.1	6.59	43.86
4878.0	3048.8	7.09	44.76
4878.0	2896.3	7.15	44.86
4878.0	2743.9	7.20	44.96

Electronic Filing: Received, Clerk's Office 02/07/2019

4878.0	2591.5	7.32	45.18
4878.0	2439.0	7.09	44.77
4878.0	2286.6	6.81	44.25
5030.5	2896.3	7.12	44.81
5030.5	2743.9	7.16	44.89
5030.5	2591.5	7.26	45.07
5182.9	2743.9	7.11	44.80
5182.9	2591.5	7.17	44.90
5335.4	2743.9	7.07	44.73
5335.4	2591.5	7.10	44.78
5335.4	2439.0	6.88	44.39
5487.8	2743.9	7.04	44.67
5487.8	2591.5	7.05	44.68
5487.8	2439.0	6.89	44.40
5640.2	2896.3	6.59	43.86
5640.2	2743.9	6.97	44.55
5640.2	2591.5	6.97	44.54
5792.7	2743.9	6.89	44.40
5792.7	2591.5	6.54	43.77
5792.7	2439.0	6.01	42.82
5792.7	1981.7	5.74	42.34
5945.1	2591.5	6.38	43.48
5945.1	2439.0	6.03	42.85
5945.1	2286.6	5.99	42.78
5945.1	2134.1	5.94	42.69
5945.1	1981.7	5.81	42.45
5945.1	1829.3	5.69	42.24
5945.1	1676.8	5.57	42.02
5945.1	1524.4	5.50	41.90
5945.1	1372.0	5.41	41.74
5945.1	1219.5	5.32	41.57
5945.1	1067.1	5.18	41.32
6097.6	2591.5	6.31	43.36
6097.6	2439.0	6.10	42.98
6097.6	1981.7	5.79	42.42
6097.6	1829.3	5.68	42.23
6097.6	1676.8	5.58	42.04
6097.6	1067.1	5.16	41.29
6097.6	914.6	5.08	41.15
6097.6	762.2	5.05	41.09
6250.0	2591.5	6.23	43.21
6250.0	2439.0	6.12	43.01
6402.4	2591.5	6.13	43.04
6402.4	2439.0	6.06	42.91
6402.4	2286.6	5.85	42.53
6554.9	2743.9	5.60	42.07
6554.9	2591.5	5.88	42.58
6554.9	2439.0	6.01	42.82
6707.3	2896.3	5.55	42.00
6707.3	2743.9	5.64	42.14
6707.3	2591.5	5.83	42.50
6859.8	2896.3	5.54	41.97
6859.8	2743.9	5.57	42.02
7012.2	2743.9	5.52	41.94
7164.6	2743.9	5.49	41.89
7164.6	2591.5	5.33	41.59
7317.1	2591.5	5.31	41.55
7469.5	2591.5	5.29	41.52

Electronic Filing: Received, Clerk's Office 02/07/2019

7469.5 2439.0 5.22 41.39

Maximum 11.56 52.82

Minimum 4.95 40.92

Electronic Filing: Received, Clerk's Office 02/07/2019

Winter Normal Condition - Transect A-A'

x (m)	z (m)	Temp °C	Temp °F
457.3	2.74	9.05	48.28
457.3	3.20	9.05	48.30
457.3	3.66	9.08	48.35
457.3	4.11	11.54	52.78
457.3	12.34	11.56	52.82
457.3	11.88	11.59	52.87
457.3	11.43	11.60	52.88
457.3	7.77	11.60	52.88
457.3	8.68	11.60	52.88
457.3	9.60	11.60	52.88
457.3	10.51	11.60	52.89
457.3	10.97	11.60	52.89
457.3	10.05	11.61	52.89
457.3	9.14	11.61	52.89
457.3	8.23	11.61	52.90
457.3	7.31	11.61	52.91
457.3	6.86	11.63	52.94
457.3	6.40	11.69	53.05
457.3	5.94	11.80	53.23
457.3	5.48	11.97	53.55
457.3	5.03	12.25	54.05
457.3	4.57	12.67	54.81
609.8	2.74	9.04	48.27
609.8	3.20	9.05	48.30
609.8	3.66	9.08	48.34
609.8	4.11	9.14	48.46
609.8	4.57	9.22	48.59
609.8	5.03	9.33	48.79
609.8	5.48	9.48	49.07
609.8	5.94	9.68	49.43
609.8	6.40	9.90	49.82
609.8	6.86	10.07	50.13
609.8	7.31	10.26	50.48
609.8	7.77	10.46	50.83
609.8	8.23	10.83	51.49
609.8	8.68	11.05	51.89
609.8	9.14	11.22	52.20
609.8	9.60	11.35	52.43
609.8	10.05	11.44	52.60
609.8	10.51	11.50	52.70
609.8	12.34	11.54	52.77
609.8	10.97	11.54	52.77
609.8	11.43	11.56	52.81
609.8	11.88	11.56	52.81
762.2	1.83	8.96	48.12
762.2	2.29	8.96	48.13
762.2	2.74	8.96	48.13
762.2	3.20	8.97	48.15
762.2	3.66	8.98	48.17
762.2	4.11	9.00	48.19
762.2	4.57	9.02	48.23
762.2	5.03	9.05	48.29
762.2	5.48	9.11	48.40
762.2	5.94	9.33	48.80
762.2	6.40	9.67	49.41
762.2	6.86	9.94	49.90

Electronic Filing: Received, Clerk's Office 02/07/2019

762.2	7.31	10.31	50.56
762.2	7.77	10.53	50.95
762.2	8.23	10.69	51.24
762.2	8.68	10.85	51.53
762.2	9.14	11.00	51.81
762.2	9.60	11.15	52.06
762.2	10.05	11.27	52.29
762.2	10.51	11.37	52.47
762.2	10.97	11.45	52.61
762.2	11.43	11.50	52.70
762.2	12.34	11.50	52.71
762.2	11.88	11.52	52.74
914.6	1.83	8.95	48.11
914.6	1.37	8.95	48.11
914.6	2.29	8.95	48.12
914.6	2.74	8.96	48.13
914.6	3.20	8.98	48.16
914.6	3.66	9.00	48.19
914.6	4.11	9.02	48.23
914.6	4.57	9.04	48.27
914.6	5.03	9.07	48.33
914.6	5.48	9.13	48.43
914.6	5.94	9.31	48.76
914.6	6.40	9.58	49.25
914.6	6.86	9.85	49.73
914.6	7.31	10.10	50.18
914.6	7.77	10.33	50.60
914.6	8.23	10.50	50.90
914.6	8.68	10.61	51.10
914.6	9.14	10.74	51.33
914.6	9.60	10.88	51.58
914.6	10.05	11.03	51.85
914.6	10.51	11.17	52.10
914.6	10.97	11.29	52.32
914.6	11.43	11.38	52.49
914.6	11.88	11.44	52.60
914.6	12.34	11.45	52.61
1067.1	1.37	8.97	48.14
1067.1	1.83	8.97	48.15
1067.1	2.29	8.98	48.16
1067.1	2.74	8.98	48.17
1067.1	3.20	9.00	48.19
1067.1	3.66	9.01	48.22
1067.1	4.11	9.03	48.25
1067.1	4.57	9.06	48.31
1067.1	5.03	9.08	48.35
1067.1	5.48	9.14	48.46
1067.1	5.94	9.35	48.84
1067.1	6.40	9.57	49.23
1067.1	6.86	9.81	49.66
1067.1	7.31	10.12	50.21
1067.1	7.77	10.35	50.62
1067.1	8.23	10.65	51.17
1067.1	8.68	10.78	51.40
1067.1	9.14	10.84	51.52
1067.1	9.60	10.89	51.61
1067.1	10.05	10.97	51.74
1067.1	10.51	11.07	51.92

Electronic Filing: Received, Clerk's Office 02/07/2019

1067.1	10.97	11.18	52.12
1067.1	11.43	11.28	52.31
1067.1	11.88	11.36	52.44
1067.1	12.34	11.38	52.48
1219.5	5.03	9.08	48.35
1219.5	5.48	9.11	48.39
1219.5	5.94	9.21	48.57
1219.5	6.40	9.47	49.04
1219.5	6.86	9.80	49.64
1219.5	7.31	10.35	50.64
1219.5	7.77	10.67	51.21
1219.5	8.23	10.87	51.57
1219.5	8.68	10.98	51.76
1219.5	9.14	11.02	51.84
1219.5	9.60	11.04	51.88
1219.5	10.05	11.07	51.92
1219.5	10.51	11.10	51.98
1219.5	10.97	11.15	52.07
1219.5	11.43	11.22	52.19
1219.5	11.88	11.28	52.30
1219.5	12.34	11.29	52.33
1372.0	5.48	9.10	48.38
1372.0	5.94	9.19	48.54
1372.0	6.40	9.39	48.90
1372.0	6.86	9.80	49.64
1372.0	7.31	10.92	51.66
1372.0	7.77	11.16	52.09
1372.0	8.23	11.18	52.12
1372.0	8.68	11.18	52.13
1372.0	9.14	11.18	52.13
1372.0	9.60	11.19	52.14
1372.0	10.05	11.19	52.14
1372.0	10.51	11.20	52.16
1372.0	10.97	11.21	52.19
1372.0	11.43	11.23	52.22
1372.0	12.34	11.24	52.23
1372.0	11.88	11.25	52.24
1676.8	12.34	10.37	50.67
1676.8	11.88	10.41	50.73
1676.8	6.40	10.42	50.76
1676.8	11.43	10.43	50.77
1676.8	6.86	10.43	50.78
1676.8	7.31	10.44	50.79
1676.8	7.77	10.44	50.80
1676.8	10.97	10.44	50.80
1676.8	8.23	10.45	50.80
1676.8	8.68	10.45	50.80
1676.8	9.14	10.45	50.81
1676.8	10.51	10.45	50.81
1676.8	9.60	10.45	50.81
1676.8	10.05	10.45	50.81
	Maximum	12.67	54.81
	Minimum	8.95	48.11

Electronic Filing: Received, Clerk's Office 02/07/2019

Winter Normal Condition - Transect B-B'

x (m)	z (m)	Temp °C	Temp °F
5182.9	9.60	9.19	48.54
5182.9	9.14	9.19	48.54
5182.9	8.68	9.19	48.54
5182.9	8.23	9.19	48.54
5182.9	7.77	9.19	48.54
5182.9	12.34	9.44	48.99
5182.9	10.05	9.46	49.03
5182.9	11.88	9.51	49.12
5182.9	10.51	9.54	49.18
5182.9	11.43	9.55	49.19
5182.9	10.97	9.56	49.21
5335.4	6.40	9.35	48.84
5335.4	6.86	9.36	48.84
5335.4	7.31	9.36	48.85
5335.4	7.77	9.36	48.85
5335.4	8.23	9.39	48.91
5335.4	8.68	9.44	49.00
5335.4	9.14	9.48	49.06
5335.4	9.60	9.74	49.53
5335.4	10.05	9.78	49.61
5335.4	12.34	9.79	49.62
5335.4	10.51	9.81	49.66
5335.4	11.88	9.82	49.67
5335.4	10.97	9.82	49.68
5335.4	11.43	9.83	49.69
5487.8	6.40	9.34	48.81
5487.8	6.86	9.34	48.82
5487.8	7.31	9.36	48.86
5487.8	7.77	9.43	48.97
5487.8	8.23	9.49	49.09
5487.8	8.68	9.57	49.22
5487.8	9.14	9.76	49.57
5487.8	9.60	9.80	49.64
5487.8	12.34	9.83	49.70
5487.8	10.05	9.87	49.76
5487.8	11.88	9.88	49.78
5487.8	10.51	9.90	49.83
5487.8	11.43	9.91	49.84
5487.8	10.97	9.92	49.85
5640.2	6.40	9.32	48.78
5640.2	6.86	9.33	48.79
5640.2	7.31	9.34	48.82
5640.2	7.77	9.45	49.02
5640.2	8.23	9.58	49.25
5640.2	8.68	9.64	49.35
5640.2	9.14	9.70	49.46
5640.2	9.60	9.87	49.77
5640.2	10.05	9.97	49.95
5640.2	12.34	10.00	49.99
5640.2	10.51	10.03	50.06
5640.2	11.88	10.05	50.08
5640.2	10.97	10.07	50.12
5640.2	11.43	10.07	50.13
5792.7	3.66	8.76	47.76
5792.7	4.11	8.77	47.78
5792.7	4.57	8.85	47.94

Electronic Filing: Received, Clerk's Office 02/07/2019

5792.7	5.03	9.00	48.20
5792.7	5.48	9.17	48.51
5792.7	5.94	9.31	48.75
5792.7	6.40	9.32	48.78
5792.7	6.86	9.40	48.92
5792.7	7.31	9.46	49.03
5792.7	7.77	9.59	49.27
5792.7	8.23	9.66	49.39
5792.7	8.68	9.77	49.58
5792.7	9.14	9.91	49.84
5792.7	9.60	10.00	50.00
5792.7	10.05	10.10	50.17
5792.7	12.34	10.14	50.25
5792.7	10.51	10.16	50.29
5792.7	11.88	10.19	50.34
5792.7	10.97	10.20	50.36
5792.7	11.43	10.21	50.38
5945.1	0.46	8.98	48.16
5945.1	0.91	8.98	48.16
5945.1	1.37	8.98	48.17
5945.1	1.83	8.98	48.17
5945.1	2.29	8.98	48.17
5945.1	2.74	8.99	48.17
5945.1	3.20	8.99	48.18
5945.1	3.66	8.99	48.18
5945.1	4.11	9.01	48.23
5945.1	4.57	9.08	48.35
5945.1	5.03	9.17	48.50
5945.1	5.48	9.26	48.67
5945.1	5.94	9.34	48.81
5945.1	6.40	9.41	48.94
5945.1	6.86	9.50	49.11
5945.1	7.31	9.60	49.28
5945.1	7.77	9.67	49.40
5945.1	8.23	9.87	49.77
5945.1	8.68	9.96	49.92
5945.1	9.14	10.04	50.07
5945.1	9.60	10.15	50.27
5945.1	10.05	10.23	50.41
5945.1	10.51	10.28	50.51
5945.1	12.34	10.29	50.52
5945.1	10.97	10.31	50.57
5945.1	11.88	10.32	50.57
5945.1	11.43	10.33	50.59
6097.6	0.46	8.98	48.16
6097.6	0.91	8.98	48.16
6097.6	1.37	8.98	48.16
6097.6	1.83	8.98	48.16
6097.6	2.29	8.98	48.17
6097.6	2.74	8.98	48.17
6097.6	3.20	8.98	48.17
6097.6	3.66	8.98	48.17
6097.6	4.11	9.01	48.22
6097.6	4.57	9.06	48.31
6097.6	5.03	9.13	48.44
6097.6	5.48	9.24	48.63
6097.6	5.94	9.34	48.80
6097.6	6.40	9.42	48.96

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6097.6	6.86	9.57	49.22
6097.6	7.31	9.65	49.37
6097.6	7.77	9.88	49.79
6097.6	8.23	9.95	49.92
6097.6	8.68	10.11	50.21
6097.6	9.14	10.24	50.44
6097.6	12.34	10.32	50.58
6097.6	9.60	10.33	50.60
6097.6	11.88	10.37	50.67
6097.6	10.05	10.40	50.72
6097.6	11.43	10.41	50.74
6097.6	10.97	10.43	50.77
6097.6	10.51	10.43	50.77
6250.0	0.46	8.97	48.15
6250.0	0.91	8.97	48.15
6250.0	1.37	8.97	48.15
6250.0	1.83	8.97	48.15
6250.0	2.29	8.98	48.16
6250.0	2.74	8.98	48.16
6250.0	3.20	8.98	48.16
6250.0	3.66	8.98	48.17
6250.0	4.11	8.99	48.18
6250.0	4.57	9.01	48.21
6250.0	5.03	9.04	48.26
6250.0	5.48	9.09	48.37
6250.0	5.94	9.19	48.54
6250.0	6.40	9.36	48.84
6250.0	6.86	9.58	49.25
6250.0	7.31	9.88	49.78
6250.0	7.77	10.02	50.04
6250.0	12.34	10.25	50.45
6250.0	11.88	10.33	50.59
6250.0	8.23	10.33	50.60
6250.0	11.43	10.41	50.74
6250.0	8.68	10.42	50.76
6250.0	10.97	10.49	50.88
6250.0	9.14	10.52	50.93
6250.0	10.51	10.55	50.99
6250.0	9.60	10.57	51.02
6250.0	10.05	10.58	51.04
6402.4	3.66	9.02	48.23
6402.4	4.11	9.03	48.25
6402.4	4.57	9.05	48.28
6402.4	5.03	9.08	48.35
6402.4	5.48	9.17	48.51
6402.4	5.94	9.39	48.90
6402.4	6.40	9.60	49.29
6402.4	6.86	9.81	49.67
6402.4	7.31	10.02	50.03
6402.4	7.77	10.23	50.41
6402.4	8.23	10.33	50.60
6402.4	12.34	10.38	50.69
6402.4	11.88	10.47	50.84
6402.4	11.43	10.56	51.00
6402.4	8.68	10.61	51.09
6402.4	10.97	10.63	51.13
6402.4	9.14	10.67	51.20
6402.4	10.51	10.68	51.22

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6402.4	9.60	10.70	51.26
6402.4	10.05	10.70	51.26
6554.9	1.83	8.93	48.08
6554.9	2.29	8.94	48.09
6554.9	2.74	8.96	48.12
6554.9	3.20	9.01	48.21
6554.9	3.66	9.01	48.22
6554.9	4.11	9.03	48.25
6554.9	4.57	9.05	48.28
6554.9	5.03	9.08	48.35
6554.9	5.48	9.16	48.49
6554.9	5.94	9.48	49.06
6554.9	6.40	9.68	49.42
6554.9	6.86	9.89	49.80
6554.9	7.31	10.09	50.15
6554.9	7.77	10.20	50.36
6554.9	12.34	10.42	50.75
6554.9	11.88	10.50	50.89
6554.9	11.43	10.58	51.04
6554.9	10.97	10.65	51.16
6554.9	8.23	10.65	51.17
6554.9	8.68	10.70	51.25
6554.9	10.51	10.70	51.27
6554.9	9.14	10.74	51.33
6554.9	10.05	10.75	51.34
6554.9	9.60	10.76	51.36
6707.3	1.83	8.96	48.13
6707.3	2.29	8.96	48.14
6707.3	2.74	8.98	48.16
6707.3	3.20	8.99	48.19
6707.3	3.66	9.00	48.20
6707.3	4.11	9.01	48.22
6707.3	4.57	9.03	48.26
6707.3	5.03	9.07	48.33
6707.3	5.48	9.13	48.43
6707.3	5.94	9.39	48.90
6707.3	6.40	9.60	49.29
6707.3	6.86	9.82	49.67
6707.3	7.31	10.07	50.12
6707.3	7.77	10.34	50.62
6707.3	8.23	10.47	50.84
6707.3	8.68	10.64	51.16
6707.3	9.14	10.77	51.39
6707.3	12.34	10.84	51.51
6707.3	9.60	10.84	51.52
6707.3	10.05	10.88	51.59
6707.3	11.88	10.91	51.63
6707.3	10.51	10.92	51.65
6707.3	10.97	10.94	51.69
6707.3	11.43	10.94	51.69
6859.8	1.37	8.97	48.14
6859.8	1.83	8.97	48.15
6859.8	2.29	8.98	48.16
6859.8	2.74	8.98	48.17
6859.8	3.20	9.00	48.19
6859.8	3.66	9.01	48.22
6859.8	4.11	9.03	48.25
6859.8	4.57	9.06	48.31

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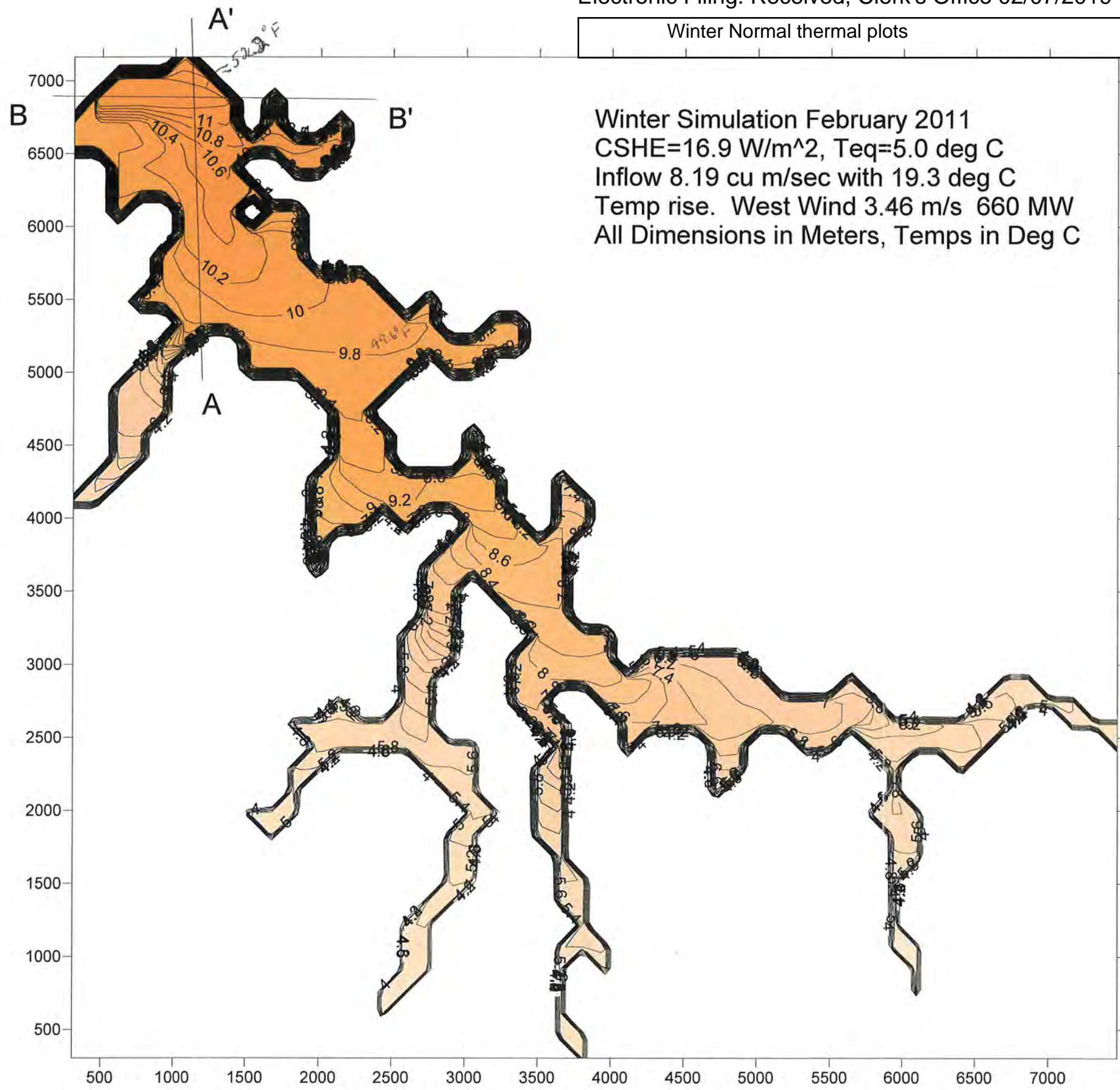
6859.8	5.03	9.08	48.35
6859.8	5.48	9.14	48.46
6859.8	5.94	9.35	48.84
6859.8	6.40	9.57	49.23
6859.8	6.86	9.81	49.66
6859.8	7.31	10.12	50.21
6859.8	7.77	10.35	50.62
6859.8	8.23	10.65	51.17
6859.8	8.68	10.78	51.40
6859.8	9.14	10.84	51.52
6859.8	9.60	10.89	51.61
6859.8	10.05	10.97	51.74
6859.8	10.51	11.07	51.92
6859.8	10.97	11.18	52.12
6859.8	11.43	11.28	52.31
6859.8	11.88	11.36	52.44
6859.8	12.34	11.38	52.48
7012.2	2.29	8.94	48.09
7012.2	2.74	8.99	48.18
7012.2	3.20	9.02	48.23
7012.2	3.66	9.03	48.26
7012.2	4.11	9.05	48.29
7012.2	4.57	9.07	48.33
7012.2	5.03	9.10	48.37
7012.2	5.48	9.15	48.47
7012.2	5.94	9.30	48.74
7012.2	6.40	9.45	49.02
7012.2	6.86	9.63	49.33
7012.2	7.31	10.06	50.11
7012.2	7.77	10.43	50.78
7012.2	8.23	10.70	51.25
7012.2	8.68	10.81	51.47
7012.2	9.14	10.87	51.56
7012.2	9.60	10.92	51.66
7012.2	10.05	10.98	51.77
7012.2	10.51	11.05	51.90
7012.2	10.97	11.12	52.01
7012.2	11.43	11.16	52.09
7012.2	12.34	11.17	52.10
7012.2	11.88	11.18	52.13
7164.6	1.37	8.77	47.78
7164.6	1.83	8.83	47.89
7164.6	2.29	8.94	48.09
7164.6	2.74	9.01	48.22
7164.6	3.20	9.06	48.31
7164.6	3.66	9.09	48.36
7164.6	4.11	9.12	48.41
7164.6	4.57	9.15	48.46
7164.6	5.03	9.18	48.53
7164.6	5.48	9.22	48.59
7164.6	5.94	9.29	48.72
7164.6	6.40	9.38	48.89
7164.6	6.86	9.51	49.12
7164.6	7.31	9.92	49.85
7164.6	7.77	10.46	50.83
7164.6	8.23	10.70	51.27
7164.6	12.34	10.75	51.35
7164.6	8.68	10.78	51.41

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7164.6	11.88	10.79	51.41
7164.6	11.43	10.80	51.45
7164.6	9.14	10.81	51.45
7164.6	10.97	10.81	51.46
7164.6	9.60	10.81	51.46
7164.6	10.51	10.81	51.47
7164.6	10.05	10.81	51.47

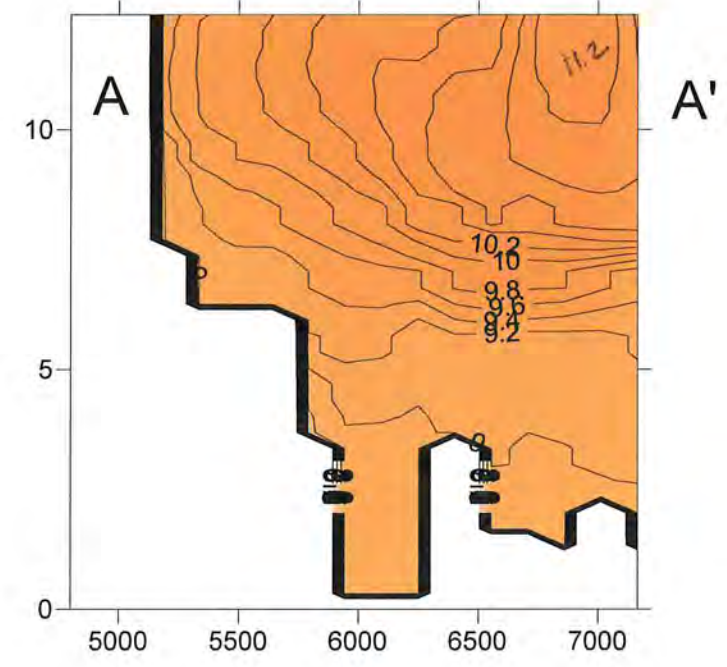
Maximum	11.38	52.48
Minimum	8.76	47.76

Winter Normal thermal plots

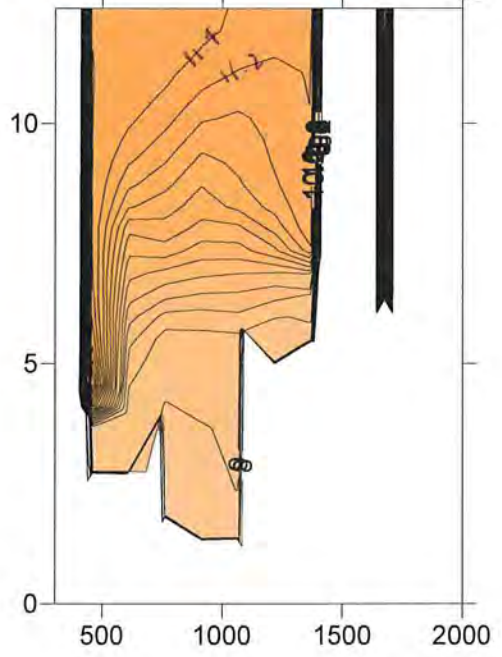


500ft_winterlni4

Cross Sections



B (cooling water discharge) B'



Winter Stressed Model Data

Stressed

5/30

LEgypt_500ft_WinterFuture4

C:\GLLVHT\SIPC 500ft\LEgypt_500ft_WinterFuture4.dat

```

$1.nwqm 1
$2.Inflow Conditions
$ninflows 2
$qinflow, iinflow, jinflow, kinflow
$intake, inintake, jintake, kintake
$temp saln const
4.094 2 45 19
1 2 44 8
19.7 0.00 100.00
4.094 2 45 20
1 2 44 9
19.7 0 100
$3. Outflow Conditions
$noutflows 2
$qoutflow, ioutflow, joutflow, koutflow
4.094 2 44 8
4.094 2 44 9
$4.Elevation Boundary Conditions
$nelevation kts 0 2
$iewest, ieeast, jesouth, jenorth
zmean, zamp, tmelag, tideper
k, temp, saln, const, cbod, on, nh3, do(d), no3, op, po4, phyt for k=2, km-2
$5.Initialize Water Quality Profiles
$ninitial 1
k, temp, saln, const, cbod, on, nh3, do(d), no3, op, po4, phyt for k=2, km-2
2 2.9 0 0
3 3.0 0 0
4 3.1 0 0
5 3.2 0 0
6 3.3 0 0
7 3.4 0 0
8 3.5 0 0
9 3.6 0 0
10 3.7 0 0
11 3.8 0 0
12 3.9 0 0
13 3.98 0 0
14 3.98 0 0
15 3.98 0 0
16 3.98 0 0
17 3.98 0 0
18 3.98 0 0
19 3.98 0 0
20 3.98 0 0
21 3.98 0 0
22 3.98 0 0
23 3.98 0 0
24 3.98 0 0
25 3.98 0 0
26 3.98 0 0
27 3.98 0 0
28 3.98 0 0
$6.External Parameters
Chezy, wx, wy, CSHE, TEQ, Rdecay, Lat.
35.00 2.61 0.0 19 21.0 0.00 37.6
$7.Output Profiles CSHE TEQ
$nprofiles 3
$ipwest, ipest, jpsouth, jpnorth
$u-vel, v-vel, w-vel
$nconstituents
$I-const(1), I-const(2), I-const(3), etc
7 7 33 47

```

8.188 m³/s x 19.7 °C x 4.184 x 1,000 kg/m³
 = 674.9 MW

5/13/2012

Initial Lake Temperatures

LEgypt_500ft_WinterFuture4

```
0 0 0
1
1 3
2 11 45 45
0 0 0
2
1 3
20 20 9 35
0 0 0
2
1 3
$8.Output Surfaces
$nsurfaces $nconstituents 2 2
$U-vel V-vel 1.0000000E+00 1.0000000E+00
$I-const(1), I-const(2), I-const(3), etc.
1 3
$9.Output Time Series
$ntimser 4
$nconst, iconst, jconst,kconst
1 2 45 19
1 8 46 2
1 9 44 2
1 2 44 8
$10.Simulation time conditions
$dtm tmend 200.00 722.0
$timeout tmeserout 720.0 24.0
$11.Internal Boundary Locations
$nintbnd 1
$ibwest, ibeast, jbsouth, jbnorth, ktop, kbottom
2 5 44 44 2 30
$12. Constituent Averages
$nconarv 0
$nconstarvs
$13. Groundwater Inflow
$ngrndwtr 0
```

Winter Stressed Conditions / Surface

x (m)	y (m)	Temp C°	Temp °F
457.3	6859.8	20.61	69.10
609.8	6859.8	20.59	69.07
762.2	6859.8	20.57	69.03
914.6	6859.8	20.53	68.95
1067.1	6859.8	20.47	68.85
1219.5	6859.8	20.40	68.72
762.2	7012.2	20.36	68.65
1372.0	6859.8	20.36	68.64
609.8	7012.2	20.35	68.63
914.6	7012.2	20.34	68.61
1067.1	7012.2	20.29	68.53
1219.5	7012.2	20.25	68.46
1372.0	6707.3	20.17	68.31
1219.5	6707.3	20.09	68.17
1372.0	6554.9	20.06	68.10
1067.1	7164.6	20.01	68.02
1524.4	6554.9	20.01	68.01
1372.0	6402.4	19.98	67.96
1067.1	6707.3	19.95	67.91
1676.8	6554.9	19.95	67.90
1219.5	6554.9	19.93	67.87
1372.0	6250.0	19.92	67.86
1372.0	6097.6	19.88	67.78
1829.3	6554.9	19.87	67.77
1524.4	6250.0	19.87	67.77
1219.5	6402.4	19.86	67.76
1372.0	5945.1	19.82	67.68
1219.5	6250.0	19.80	67.64
1219.5	6097.6	19.77	67.59
1981.7	6554.9	19.77	67.59
1676.8	6707.3	19.74	67.54
1372.0	5792.7	19.74	67.54
1067.1	6554.9	19.74	67.53
1219.5	5945.1	19.73	67.51
1067.1	6402.4	19.71	67.48
1829.3	6402.4	19.71	67.47
2134.1	6554.9	19.70	67.46
914.6	6707.3	19.69	67.44
1067.1	6097.6	19.65	67.38
1219.5	5792.7	19.65	67.37
1981.7	6402.4	19.65	67.36
1372.0	5640.2	19.64	67.36
1524.4	5792.7	19.64	67.34
1676.8	6859.8	19.63	67.33
1524.4	5945.1	19.63	67.33
1067.1	5945.1	19.62	67.32
1067.1	6250.0	19.62	67.32
1524.4	5640.2	19.59	67.27
914.6	6402.4	19.57	67.23
1219.5	5640.2	19.55	67.19
1067.1	5792.7	19.53	67.15
1676.8	5640.2	19.52	67.13
1372.0	5487.8	19.51	67.12
1524.4	5487.8	19.51	67.12
1676.8	5792.7	19.51	67.12
762.2	6402.4	19.50	67.10

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914.6	6554.9	19.50	67.09
1676.8	5487.8	19.48	67.06
1829.3	5640.2	19.45	67.01
609.8	6402.4	19.44	67.00
914.6	6250.0	19.44	66.99
1829.3	5792.7	19.44	66.99
1676.8	5945.1	19.43	66.98
1829.3	5487.8	19.43	66.97
1067.1	5640.2	19.42	66.96
1219.5	5487.8	19.42	66.95
2134.1	6707.3	19.41	66.95
1524.4	5335.4	19.41	66.94
1676.8	5335.4	19.40	66.92
1372.0	5335.4	19.39	66.91
762.2	6250.0	19.38	66.89
1981.7	5487.8	19.38	66.88
1981.7	5640.2	19.38	66.88
1829.3	5335.4	19.38	66.88
762.2	6554.9	19.38	66.88
1829.3	5945.1	19.35	66.83
1981.7	5335.4	19.35	66.83
609.8	6250.0	19.35	66.83
2134.1	5487.8	19.34	66.81
1219.5	5335.4	19.34	66.80
2134.1	5640.2	19.33	66.79
2134.1	5335.4	19.31	66.77
609.8	6554.9	19.29	66.73
2286.6	5487.8	19.29	66.73
1829.3	5182.9	19.29	66.72
1676.8	5182.9	19.29	66.72
2286.6	5335.4	19.28	66.71
1981.7	5182.9	19.28	66.70
914.6	5792.7	19.28	66.70
2286.6	5640.2	19.28	66.70
1067.1	5487.8	19.28	66.70
1524.4	5182.9	19.28	66.70
1067.1	5335.4	19.27	66.68
2134.1	5182.9	19.26	66.67
762.2	6707.3	19.26	66.66
2439.0	5487.8	19.26	66.66
914.6	5640.2	19.25	66.65
2439.0	5335.4	19.25	66.65
2286.6	5182.9	19.24	66.63
2439.0	5182.9	19.22	66.59
2591.5	5335.4	19.20	66.57
609.8	6707.3	19.20	66.56
609.8	6097.6	19.20	66.55
1981.7	5030.5	19.19	66.55
2134.1	5030.5	19.19	66.54
1829.3	5030.5	19.19	66.54
2591.5	5182.9	19.19	66.54
2286.6	5030.5	19.18	66.53
1676.8	5030.5	19.18	66.52
2439.0	5030.5	19.17	66.51
457.3	6554.9	19.17	66.51
304.9	6554.9	19.17	66.50
2743.9	5335.4	19.16	66.49
304.9	6707.3	19.15	66.48

Electronic Filing: Received, Clerk's Office 02/07/2019

1524.4	5030.5	19.15	66.48
457.3	6707.3	19.15	66.47
1067.1	5182.9	19.15	66.47
2743.9	5182.9	19.15	66.47
2591.5	5030.5	19.15	66.47
914.6	5487.8	19.13	66.44
2286.6	4878.0	19.12	66.42
2439.0	4878.0	19.12	66.42
2134.1	4878.0	19.11	66.40
2591.5	4878.0	19.11	66.39
2896.3	5182.9	19.10	66.38
1829.3	6097.6	19.09	66.35
2286.6	4725.6	19.08	66.34
762.2	5487.8	19.08	66.34
2134.1	4725.6	19.05	66.30
3048.8	5182.9	19.05	66.29
1676.8	6097.6	19.04	66.27
2286.6	4573.2	19.02	66.24
914.6	5182.9	18.99	66.18
2134.1	4573.2	18.99	66.18
2439.0	4573.2	18.99	66.17
3201.2	5182.9	18.96	66.13
2896.3	5030.5	18.96	66.13
2286.6	4420.7	18.96	66.12
2439.0	4420.7	18.95	66.10
3048.8	5030.5	18.94	66.10
2134.1	4420.7	18.91	66.04
3353.7	5182.9	18.90	66.02
2743.9	5487.8	18.89	66.01
2439.0	4268.3	18.87	65.97
2286.6	4268.3	18.84	65.92
2591.5	4268.3	18.79	65.83
914.6	5030.5	18.78	65.80
3353.7	5335.4	18.77	65.78
2439.0	4115.9	18.76	65.77
2591.5	4115.9	18.74	65.74
3201.2	5335.4	18.74	65.73
2134.1	4268.3	18.72	65.70
2743.9	4115.9	18.72	65.69
2743.9	4268.3	18.72	65.69
2286.6	4115.9	18.70	65.66
2896.3	4115.9	18.69	65.64
2896.3	4268.3	18.65	65.57
3048.8	4115.9	18.65	65.56
2591.5	3963.4	18.62	65.52
3201.2	4115.9	18.60	65.49
3048.8	4268.3	18.60	65.47
914.6	4878.0	18.56	65.42
2134.1	4115.9	18.56	65.41
3201.2	4268.3	18.56	65.40
2286.6	3963.4	18.52	65.33
3201.2	3963.4	18.51	65.32
762.2	5030.5	18.51	65.32
3353.7	3963.4	18.48	65.26
3048.8	3963.4	18.47	65.24
2134.1	3963.4	18.42	65.16
3048.8	4420.7	18.42	65.16
1981.7	4268.3	18.41	65.14

Electronic Filing: Received, Clerk's Office 02/07/2019

3353.7	3811.0	18.40	65.12
3201.2	3811.0	18.39	65.10
1981.7	4115.9	18.38	65.08
914.6	4725.6	18.38	65.08
762.2	4878.0	18.36	65.04
1981.7	3963.4	18.31	64.96
3048.8	4573.2	18.30	64.94
3353.7	3658.5	18.29	64.92
3506.1	3811.0	18.27	64.88
3201.2	3658.5	18.25	64.86
3506.1	3658.5	18.24	64.83
3048.8	3811.0	18.23	64.82
762.2	4725.6	18.23	64.82
609.8	4878.0	18.23	64.81
3658.5	3811.0	18.21	64.77
3658.5	3658.5	18.20	64.76
1981.7	3811.0	18.20	64.76
3353.7	3506.1	18.19	64.74
3506.1	3506.1	18.18	64.72
3201.2	3506.1	18.17	64.71
3658.5	3506.1	18.16	64.69
609.8	4725.6	18.13	64.63
3658.5	3353.7	18.11	64.60
3048.8	3658.5	18.10	64.59
3506.1	3353.7	18.10	64.58
3353.7	3353.7	18.09	64.57
762.2	4573.2	18.09	64.57
1981.7	3658.5	18.08	64.55
3658.5	3201.2	18.05	64.49
609.8	4573.2	18.02	64.43
3811.0	3201.2	18.02	64.43
3506.1	3201.2	18.00	64.41
3963.4	3201.2	17.99	64.37
3658.5	3963.4	17.97	64.35
3658.5	3048.8	17.96	64.32
3811.0	3048.8	17.96	64.32
2896.3	3811.0	17.95	64.32
3963.4	3048.8	17.94	64.30
762.2	4420.7	17.92	64.26
2896.3	3658.5	17.90	64.22
3811.0	3963.4	17.89	64.21
3963.4	2896.3	17.87	64.17
3811.0	2896.3	17.87	64.17
3658.5	2896.3	17.86	64.14
3506.1	3048.8	17.85	64.13
609.8	4420.7	17.85	64.13
2896.3	3506.1	17.80	64.04
4115.9	2896.3	17.78	64.01
3658.5	4115.9	17.78	64.00
3506.1	2896.3	17.76	63.96
2743.9	3658.5	17.75	63.95
3963.4	2743.9	17.74	63.93
3811.0	4115.9	17.74	63.92
3353.7	3048.8	17.72	63.89
2743.9	3506.1	17.71	63.88
4115.9	2743.9	17.70	63.86
2896.3	3353.7	17.70	63.85
3353.7	2896.3	17.67	63.80

Electronic Filing: Received, Clerk's Office 02/07/2019

3506.1	2743.9	17.66	63.79
4268.3	2896.3	17.64	63.75
3658.5	4268.3	17.64	63.74
3353.7	2743.9	17.63	63.74
2743.9	3353.7	17.63	63.73
4268.3	2743.9	17.62	63.72
3506.1	2591.5	17.60	63.68
3658.5	2591.5	17.57	63.63
609.8	4268.3	17.56	63.61
4115.9	2591.5	17.53	63.56
4268.3	2591.5	17.53	63.56
3658.5	2439.0	17.51	63.51
4115.9	2439.0	17.48	63.46
2896.3	3201.2	17.48	63.46
4420.7	2591.5	17.47	63.44
4420.7	2743.9	17.44	63.39
457.3	4268.3	17.43	63.37
4573.2	2591.5	17.40	63.32
4725.6	2591.5	17.34	63.22
4420.7	2896.3	17.32	63.18
4573.2	2743.9	17.30	63.14
4878.0	2591.5	17.30	63.14
2743.9	3201.2	17.29	63.12
5030.5	2591.5	17.26	63.07
2896.3	3048.8	17.24	63.03
4573.2	2896.3	17.23	63.02
3658.5	2286.6	17.22	62.99
4725.6	2743.9	17.21	62.98
4725.6	2439.0	17.21	62.97
5182.9	2591.5	17.19	62.94
4725.6	2896.3	17.19	62.93
4878.0	2743.9	17.18	62.93
4878.0	2439.0	17.18	62.93
4268.3	3048.8	17.18	62.92
457.3	4115.9	17.17	62.91
5030.5	2743.9	17.17	62.91
4420.7	3048.8	17.17	62.90
4573.2	3048.8	17.16	62.88
4878.0	2896.3	17.15	62.88
5335.4	2591.5	17.15	62.86
5030.5	2896.3	17.14	62.85
4725.6	3048.8	17.14	62.85
5182.9	2743.9	17.14	62.85
304.9	4115.9	17.13	62.84
4878.0	3048.8	17.13	62.83
5335.4	2743.9	17.12	62.81
5487.8	2591.5	17.11	62.80
5487.8	2743.9	17.10	62.78
5640.2	2743.9	17.06	62.71
5640.2	2591.5	17.06	62.71
4878.0	2286.6	17.05	62.69
4725.6	2286.6	17.05	62.68
5487.8	2439.0	17.03	62.66
5335.4	2439.0	17.03	62.65
2743.9	3048.8	17.03	62.65
5792.7	2743.9	17.02	62.64
4725.6	2134.1	17.00	62.61
3506.1	2286.6	16.99	62.58

Electronic Filing: Received, Clerk's Office 02/07/2019

3658.5	2134.1	16.98	62.57
5640.2	2896.3	16.96	62.54
3506.1	2134.1	16.91	62.44
3658.5	1981.7	16.89	62.40
7469.5	2439.0	16.88	62.38
3811.0	304.9	16.87	62.37
5792.7	2591.5	16.86	62.35
6097.6	762.2	16.86	62.35
6097.6	914.6	16.85	62.33
7469.5	2591.5	16.84	62.31
7317.1	2591.5	16.83	62.30
3658.5	762.2	16.83	62.30
7164.6	2591.5	16.83	62.29
3811.0	457.3	16.82	62.28
3658.5	609.8	16.82	62.28
3506.1	1981.7	16.82	62.28
3658.5	914.6	16.81	62.26
3658.5	457.3	16.81	62.26
2743.9	2896.3	16.81	62.26
5945.1	2591.5	16.81	62.25
7164.6	2743.9	16.79	62.22
3658.5	1829.3	16.79	62.22
6097.6	2591.5	16.78	62.21
3658.5	1676.8	16.78	62.21
7012.2	2743.9	16.78	62.21
6859.8	2896.3	16.78	62.21
2591.5	3201.2	16.78	62.20
6707.3	2896.3	16.78	62.20
6859.8	2743.9	16.78	62.20
6402.4	2286.6	16.77	62.19
5945.1	1372.0	16.77	62.19
5945.1	1219.5	16.77	62.18
6250.0	2591.5	16.77	62.18
2591.5	3048.8	16.77	62.18
6707.3	2743.9	16.77	62.18
6097.6	1067.1	16.76	62.18
6554.9	2743.9	16.76	62.17
6402.4	2591.5	16.75	62.16
6707.3	2591.5	16.75	62.15
5945.1	1067.1	16.75	62.15
3963.4	914.6	16.75	62.15
6554.9	2591.5	16.75	62.15
3506.1	1829.3	16.75	62.15
6250.0	2439.0	16.74	62.12
6554.9	2439.0	16.73	62.12
6402.4	2439.0	16.73	62.12
6097.6	2439.0	16.72	62.10
5945.1	2134.1	16.72	62.09
5945.1	1524.4	16.72	62.09
5945.1	2286.6	16.71	62.08
3811.0	1219.5	16.70	62.06
5945.1	2439.0	16.69	62.04
3963.4	1067.1	16.68	62.03
3658.5	1067.1	16.68	62.03
3811.0	1067.1	16.68	62.02
5792.7	2439.0	16.68	62.02
3658.5	1524.4	16.68	62.02
3811.0	1524.4	16.67	62.01

Electronic Filing: Received, Clerk's Office 02/07/2019

2439.0	609.8	16.66	61.99
2743.9	2743.9	16.66	61.99
3811.0	1372.0	16.65	61.98
2591.5	2896.3	16.65	61.97
5792.7	1981.7	16.65	61.96
5945.1	1981.7	16.64	61.96
6097.6	1981.7	16.64	61.96
3658.5	1372.0	16.64	61.95
6097.6	1829.3	16.62	61.92
6097.6	1676.8	16.62	61.91
5945.1	1829.3	16.62	61.91
5945.1	1676.8	16.61	61.90
2591.5	2743.9	16.52	61.74
2743.9	2591.5	16.50	61.71
2591.5	762.2	16.50	61.70
2439.0	762.2	16.50	61.70
2743.9	914.6	16.42	61.56
2134.1	2743.9	16.42	61.56
2591.5	914.6	16.41	61.54
2743.9	1067.1	16.40	61.52
2591.5	2591.5	16.39	61.50
2591.5	1067.1	16.38	61.49
2743.9	1219.5	16.38	61.49
1676.8	1829.3	16.38	61.48
2591.5	1219.5	16.37	61.47
2896.3	1372.0	16.37	61.47
3048.8	2439.0	16.37	61.46
2743.9	2439.0	16.37	61.46
2896.3	2439.0	16.36	61.46
2743.9	1372.0	16.36	61.45
1829.3	2134.1	16.35	61.43
3048.8	2286.6	16.35	61.43
2896.3	2286.6	16.33	61.39
3048.8	2134.1	16.32	61.38
3048.8	1524.4	16.32	61.38
2591.5	2439.0	16.32	61.37
2743.9	2286.6	16.32	61.37
2896.3	1524.4	16.31	61.36
3201.2	1981.7	16.30	61.35
3048.8	1676.8	16.30	61.34
2896.3	2134.1	16.30	61.34
3048.8	1981.7	16.30	61.33
3048.8	1829.3	16.29	61.32
2896.3	1676.8	16.29	61.32
2439.0	2591.5	16.28	61.31
2896.3	1829.3	16.28	61.30
2439.0	2439.0	16.28	61.30
2286.6	2439.0	16.26	61.26
1829.3	1981.7	16.25	61.26
1524.4	1981.7	16.25	61.25
1676.8	1981.7	16.24	61.23
2134.1	2439.0	16.24	61.23
2286.6	2591.5	16.23	61.22
1981.7	2286.6	16.23	61.21
1981.7	2439.0	16.22	61.20
1829.3	2286.6	16.21	61.19
2134.1	2591.5	16.21	61.18
1981.7	2591.5	16.19	61.15

1829.3

2591.5

16.17

61.11

Electronic Filing: Received, Clerk's Office 02/07/2019

Winter Stressed Condition - Transect A-A'

x (m)	z (m)	Temp °C	Temp °F
457.3	4.57	21.67	71.01
457.3	5.03	21.26	70.26
457.3	5.48	20.99	69.79
457.3	5.94	20.83	69.49
457.3	6.40	20.72	69.30
457.3	6.86	20.67	69.21
457.3	7.77	20.65	69.17
457.3	8.68	20.65	69.17
457.3	9.60	20.65	69.16
457.3	10.51	20.64	69.16
457.3	7.31	20.64	69.16
457.3	10.05	20.64	69.15
457.3	9.14	20.64	69.15
457.3	8.23	20.64	69.15
457.3	10.97	20.64	69.15
457.3	11.43	20.64	69.15
457.3	11.88	20.63	69.14
457.3	12.34	20.61	69.10
609.8	11.88	20.61	69.10
609.8	11.43	20.61	69.10
609.8	10.97	20.60	69.07
609.8	12.34	20.59	69.07
762.2	11.88	20.58	69.05
762.2	12.34	20.57	69.03
609.8	10.51	20.57	69.02
762.2	11.43	20.57	69.02
762.2	10.97	20.53	68.96
914.6	12.34	20.53	68.95
914.6	11.88	20.52	68.94
609.8	10.05	20.52	68.94
914.6	11.43	20.48	68.87
1067.1	12.34	20.47	68.85
762.2	10.51	20.47	68.85
457.3	4.11	20.47	68.84
1067.1	11.88	20.46	68.82
609.8	9.60	20.45	68.80
914.6	10.97	20.41	68.74
1067.1	11.43	20.40	68.73
1219.5	12.34	20.40	68.72
1219.5	11.88	20.39	68.70
762.2	10.05	20.39	68.70
1372.0	11.88	20.36	68.65
1372.0	12.34	20.36	68.64
1372.0	11.43	20.35	68.62
1219.5	11.43	20.34	68.62
609.8	9.14	20.33	68.59
1372.0	10.97	20.33	68.59
1067.1	10.97	20.32	68.58
914.6	10.51	20.31	68.56
1372.0	10.51	20.31	68.56
1372.0	10.05	20.30	68.53
1219.5	10.97	20.29	68.52
1372.0	9.60	20.29	68.51
1372.0	9.14	20.28	68.50
762.2	9.60	20.28	68.50
1372.0	8.68	20.27	68.49

Electronic Filing: Received, Clerk's Office 02/07/2019

1372.0	8.23	20.27	68.48
1219.5	10.51	20.23	68.42
1067.1	10.51	20.23	68.41
1219.5	10.05	20.19	68.34
914.6	10.05	20.19	68.34
609.8	8.68	20.18	68.32
1372.0	7.77	20.18	68.32
1219.5	9.60	20.16	68.29
762.2	9.14	20.14	68.25
1219.5	9.14	20.14	68.25
1067.1	10.05	20.13	68.24
1219.5	8.68	20.10	68.19
914.6	9.60	20.05	68.09
1067.1	9.60	20.05	68.08
1219.5	8.23	20.00	68.00
762.2	8.68	19.99	67.98
1067.1	9.14	19.96	67.93
609.8	8.23	19.92	67.86
914.6	9.14	19.90	67.82
1067.1	8.68	19.87	67.76
762.2	8.23	19.80	67.63
1219.5	7.77	19.77	67.59
914.6	8.68	19.74	67.54
1067.1	8.23	19.71	67.48
1676.8	10.51	19.66	67.40
1676.8	10.97	19.66	67.39
1676.8	10.05	19.66	67.39
1676.8	11.43	19.66	67.39
1676.8	9.60	19.65	67.38
1676.8	9.14	19.65	67.37
1676.8	11.88	19.65	67.37
1676.8	8.68	19.64	67.35
1676.8	8.23	19.63	67.34
1676.8	12.34	19.63	67.33
1676.8	7.77	19.62	67.32
762.2	7.77	19.62	67.31
1676.8	7.31	19.60	67.28
914.6	8.23	19.58	67.25
609.8	7.77	19.58	67.25
1676.8	6.86	19.57	67.22
1067.1	7.77	19.53	67.16
1676.8	6.40	19.52	67.13
914.6	7.77	19.40	66.93
762.2	7.31	19.40	66.92
1372.0	7.31	19.35	66.83
609.8	7.31	19.30	66.74
914.6	7.31	19.16	66.48
609.8	6.86	19.12	66.41
1219.5	7.31	19.02	66.24
1067.1	7.31	19.02	66.24
762.2	6.86	18.99	66.19
609.8	6.40	18.94	66.09
914.6	6.86	18.91	66.03
1067.1	6.86	18.82	65.87
609.8	5.94	18.77	65.79
1372.0	6.86	18.77	65.78
1219.5	6.86	18.77	65.78
762.2	6.40	18.74	65.73

Electronic Filing: Received, Clerk's Office 02/07/2019

914.6	6.40	18.66	65.59
1067.1	6.40	18.64	65.56
609.8	5.48	18.56	65.42
1219.5	6.40	18.56	65.40
762.2	5.94	18.51	65.31
1372.0	6.40	18.48	65.26
1067.1	5.94	18.47	65.24
914.6	5.94	18.44	65.19
609.8	5.03	18.35	65.03
1219.5	5.94	18.33	64.99
1372.0	5.94	18.28	64.91
762.2	5.48	18.20	64.76
914.6	5.48	18.19	64.74
1067.1	5.48	18.18	64.72
609.8	4.57	18.18	64.72
1372.0	5.48	18.15	64.68
1219.5	5.48	18.14	64.66
1219.5	5.03	18.09	64.56
1067.1	5.03	18.06	64.50
609.8	4.11	18.04	64.47
914.6	5.03	18.02	64.44
1067.1	4.57	17.99	64.38
762.2	5.03	17.99	64.37
914.6	4.57	17.91	64.24
1067.1	4.11	17.90	64.22
609.8	3.66	17.90	64.22
457.3	3.66	17.87	64.17
762.2	4.57	17.87	64.16
609.8	3.20	17.83	64.10
914.6	4.11	17.83	64.10
1067.1	3.66	17.82	64.08
457.3	3.20	17.82	64.08
457.3	2.74	17.81	64.06
609.8	2.74	17.80	64.03
762.2	4.11	17.79	64.02
914.6	3.66	17.77	63.99
1067.1	3.20	17.77	63.99
914.6	3.20	17.72	63.89
762.2	3.66	17.72	63.89
1067.1	2.74	17.71	63.88
762.2	3.20	17.65	63.77
914.6	2.74	17.63	63.74
1067.1	2.29	17.63	63.74
762.2	2.74	17.62	63.71
762.2	2.29	17.60	63.68
762.2	1.83	17.58	63.64
914.6	2.29	17.57	63.62
1067.1	1.83	17.56	63.61
1067.1	1.37	17.55	63.59
914.6	1.83	17.54	63.58
914.6	1.37	17.54	63.57

Electronic Filing: Received, Clerk's Office 02/07/2019

Winter Stressed Condition - Transect B-B'

y (m)	z (m)	Temp °C	Temp °F
7164.6	12.34	20.01	68.02
7164.6	11.88	20.03	68.05
7164.6	11.43	20.04	68.07
7164.6	10.97	20.05	68.08
7164.6	10.51	20.05	68.08
7164.6	10.05	20.04	68.06
7164.6	9.60	20.02	68.04
7164.6	9.14	20.01	68.01
7164.6	8.68	19.97	67.95
7164.6	8.23	19.85	67.73
7164.6	7.77	19.43	66.98
7164.6	7.31	18.83	65.90
7164.6	6.86	18.56	65.41
7164.6	6.40	18.44	65.20
7164.6	5.94	18.34	65.01
7164.6	5.48	18.24	64.83
7164.6	5.03	18.17	64.70
7164.6	4.57	18.10	64.58
7164.6	4.11	18.02	64.44
7164.6	3.66	17.94	64.30
7164.6	3.20	17.86	64.14
7164.6	2.74	17.74	63.94
7164.6	2.29	17.55	63.59
7164.6	1.83	17.23	63.01
7164.6	1.37	17.06	62.71
7012.2	12.34	20.29	68.53
7012.2	11.88	20.30	68.54
7012.2	11.43	20.28	68.51
7012.2	10.97	20.25	68.46
7012.2	10.51	20.21	68.38
7012.2	10.05	20.17	68.31
7012.2	9.60	20.13	68.23
7012.2	9.14	20.09	68.16
7012.2	8.68	20.04	68.08
7012.2	8.23	19.87	67.76
7012.2	7.77	19.36	66.85
7012.2	7.31	18.84	65.91
7012.2	6.86	18.67	65.60
7012.2	6.40	18.54	65.37
7012.2	5.94	18.40	65.13
7012.2	5.48	18.19	64.74
7012.2	5.03	18.09	64.57
7012.2	4.57	18.03	64.45
7012.2	4.11	17.95	64.31
7012.2	3.66	17.88	64.18
7012.2	3.20	17.81	64.06
7012.2	2.74	17.73	63.91
7012.2	2.29	17.58	63.64
6859.8	12.34	20.47	68.85
6859.8	11.88	20.46	68.82
6859.8	11.43	20.40	68.73
6859.8	10.97	20.32	68.58
6859.8	10.51	20.23	68.41
6859.8	10.05	20.13	68.24
6859.8	9.60	20.05	68.08
6859.8	9.14	19.96	67.93

Electronic Filing: Received, Clerk's Office 02/07/2019

6859.8	8.68	19.87	67.76
6859.8	8.23	19.71	67.48
6859.8	7.77	19.53	67.16
6859.8	7.31	19.02	66.24
6859.8	6.86	18.82	65.87
6859.8	6.40	18.64	65.56
6859.8	5.94	18.47	65.24
6859.8	5.48	18.18	64.72
6859.8	5.03	18.06	64.50
6859.8	4.57	17.99	64.38
6859.8	4.11	17.90	64.22
6859.8	3.66	17.82	64.08
6859.8	3.20	17.77	63.99
6859.8	2.74	17.71	63.88
6859.8	2.29	17.63	63.74
6859.8	1.83	17.56	63.61
6859.8	1.37	17.55	63.59
6707.3	12.34	19.95	67.91
6707.3	11.88	19.98	67.97
6707.3	11.43	19.99	67.99
6707.3	10.97	19.99	67.98
6707.3	10.51	19.97	67.94
6707.3	10.05	19.94	67.90
6707.3	9.60	19.92	67.85
6707.3	9.14	19.89	67.80
6707.3	8.68	19.81	67.66
6707.3	8.23	19.75	67.56
6707.3	7.77	19.28	66.70
6707.3	7.31	19.13	66.43
6707.3	6.86	18.88	65.99
6707.3	6.40	18.71	65.67
6707.3	5.94	18.51	65.33
6707.3	5.48	18.18	64.72
6707.3	5.03	18.03	64.45
6707.3	4.57	17.94	64.28
6707.3	4.11	17.86	64.14
6707.3	3.66	17.80	64.04
6707.3	3.20	17.78	64.01
6707.3	2.74	17.73	63.91
6707.3	2.29	17.61	63.70
6707.3	1.83	17.50	63.50
6554.9	12.34	19.74	67.53
6554.9	11.88	19.79	67.63
6554.9	11.43	19.84	67.72
6554.9	10.97	19.88	67.78
6554.9	10.51	19.89	67.80
6554.9	10.05	19.89	67.80
6554.9	9.60	19.87	67.77
6554.9	9.14	19.82	67.68
6554.9	8.68	19.76	67.57
6554.9	8.23	19.40	66.91
6554.9	7.77	19.32	66.77
6554.9	7.31	19.09	66.36
6554.9	6.86	18.93	66.08
6554.9	6.40	18.75	65.75
6554.9	5.94	18.56	65.40
6554.9	5.48	18.20	64.76
6554.9	5.03	18.01	64.42

Electronic Filing: Received, Clerk's Office 02/07/2019

6554.9	4.57	17.91	64.24
6554.9	4.11	17.85	64.12
6554.9	3.66	17.80	64.03
6554.9	3.20	17.77	63.99
6554.9	2.74	17.66	63.79
6554.9	2.29	17.64	63.76
6554.9	1.83	17.63	63.74
6402.4	12.34	19.71	67.48
6402.4	11.88	19.76	67.56
6402.4	11.43	19.80	67.64
6402.4	10.97	19.84	67.70
6402.4	10.51	19.86	67.74
6402.4	10.05	19.86	67.75
6402.4	9.60	19.84	67.72
6402.4	9.14	19.80	67.64
6402.4	8.68	19.62	67.31
6402.4	8.23	19.55	67.19
6402.4	7.77	19.21	66.57
6402.4	7.31	19.08	66.35
6402.4	6.86	18.91	66.03
6402.4	6.40	18.73	65.71
6402.4	5.94	18.48	65.27
6402.4	5.48	18.18	64.73
6402.4	5.03	18.00	64.40
6402.4	4.57	17.90	64.22
6402.4	4.11	17.86	64.15
6402.4	3.66	17.84	64.12
6250.0	12.34	19.62	67.32
6250.0	11.88	19.67	67.41
6250.0	11.43	19.73	67.51
6250.0	10.97	19.77	67.59
6250.0	10.51	19.80	67.64
6250.0	10.05	19.80	67.65
6250.0	9.60	19.79	67.61
6250.0	9.14	19.72	67.49
6250.0	8.68	19.67	67.40
6250.0	8.23	19.35	66.84
6250.0	7.77	19.24	66.64
6250.0	7.31	19.00	66.20
6250.0	6.86	18.83	65.90
6250.0	6.40	18.60	65.49
6250.0	5.94	18.36	65.05
6250.0	5.48	18.15	64.67
6250.0	5.03	17.97	64.35
6250.0	4.57	17.86	64.15
6250.0	4.11	17.79	64.03
6250.0	3.66	17.77	63.98
6250.0	3.20	17.75	63.94
6250.0	2.74	17.68	63.82
6250.0	2.29	17.60	63.67
6250.0	1.83	17.43	63.38
6250.0	1.37	17.06	62.72
6250.0	0.91	16.72	62.09
6250.0	0.46	16.46	61.63
6097.6	12.34	19.65	67.38
6097.6	11.88	19.68	67.43
6097.6	11.43	19.71	67.48
6097.6	10.97	19.72	67.50

Electronic Filing: Received, Clerk's Office 02/07/2019

6097.6	10.51	19.72	67.50
6097.6	10.05	19.70	67.46
6097.6	9.60	19.66	67.39
6097.6	9.14	19.62	67.31
6097.6	8.68	19.29	66.71
6097.6	8.23	19.24	66.63
6097.6	7.77	18.96	66.12
6097.6	7.31	18.88	65.98
6097.6	6.86	18.74	65.74
6097.6	6.40	18.57	65.42
6097.6	5.94	18.47	65.24
6097.6	5.48	18.32	64.98
6097.6	5.03	18.16	64.69
6097.6	4.57	18.00	64.39
6097.6	4.11	17.86	64.15
6097.6	3.66	17.81	64.05
6097.6	3.20	17.80	64.03
6097.6	2.74	17.77	63.99
6097.6	2.29	17.72	63.89
6097.6	1.83	17.57	63.62
6097.6	1.37	17.20	62.96
6097.6	0.91	16.66	61.99
6097.6	0.46	16.39	61.50
5945.1	12.34	19.62	67.32
5945.1	11.88	19.64	67.36
5945.1	11.43	19.65	67.37
5945.1	10.97	19.64	67.35
5945.1	10.51	19.61	67.29
5945.1	10.05	19.55	67.19
5945.1	9.60	19.48	67.06
5945.1	9.14	19.30	66.75
5945.1	8.68	19.26	66.68
5945.1	8.23	18.96	66.13
5945.1	7.77	18.93	66.07
5945.1	7.31	18.81	65.85
5945.1	6.86	18.69	65.64
5945.1	6.40	18.58	65.45
5945.1	5.94	18.51	65.33
5945.1	5.48	18.37	65.07
5945.1	5.03	18.22	64.79
5945.1	4.57	18.04	64.48
5945.1	4.11	17.88	64.19
5945.1	3.66	17.83	64.09
5945.1	3.20	17.82	64.08
5945.1	2.74	17.82	64.07
5945.1	2.29	17.81	64.05
5945.1	1.83	17.74	63.93
5945.1	1.37	17.31	63.15
5945.1	0.91	16.64	61.96
5945.1	0.46	16.35	61.43
5792.7	12.34	19.53	67.15
5792.7	11.88	19.56	67.20
5792.7	11.43	19.57	67.22
5792.7	10.97	19.56	67.21
5792.7	10.51	19.52	67.14
5792.7	10.05	19.44	66.99
5792.7	9.60	19.31	66.77
5792.7	9.14	19.24	66.64

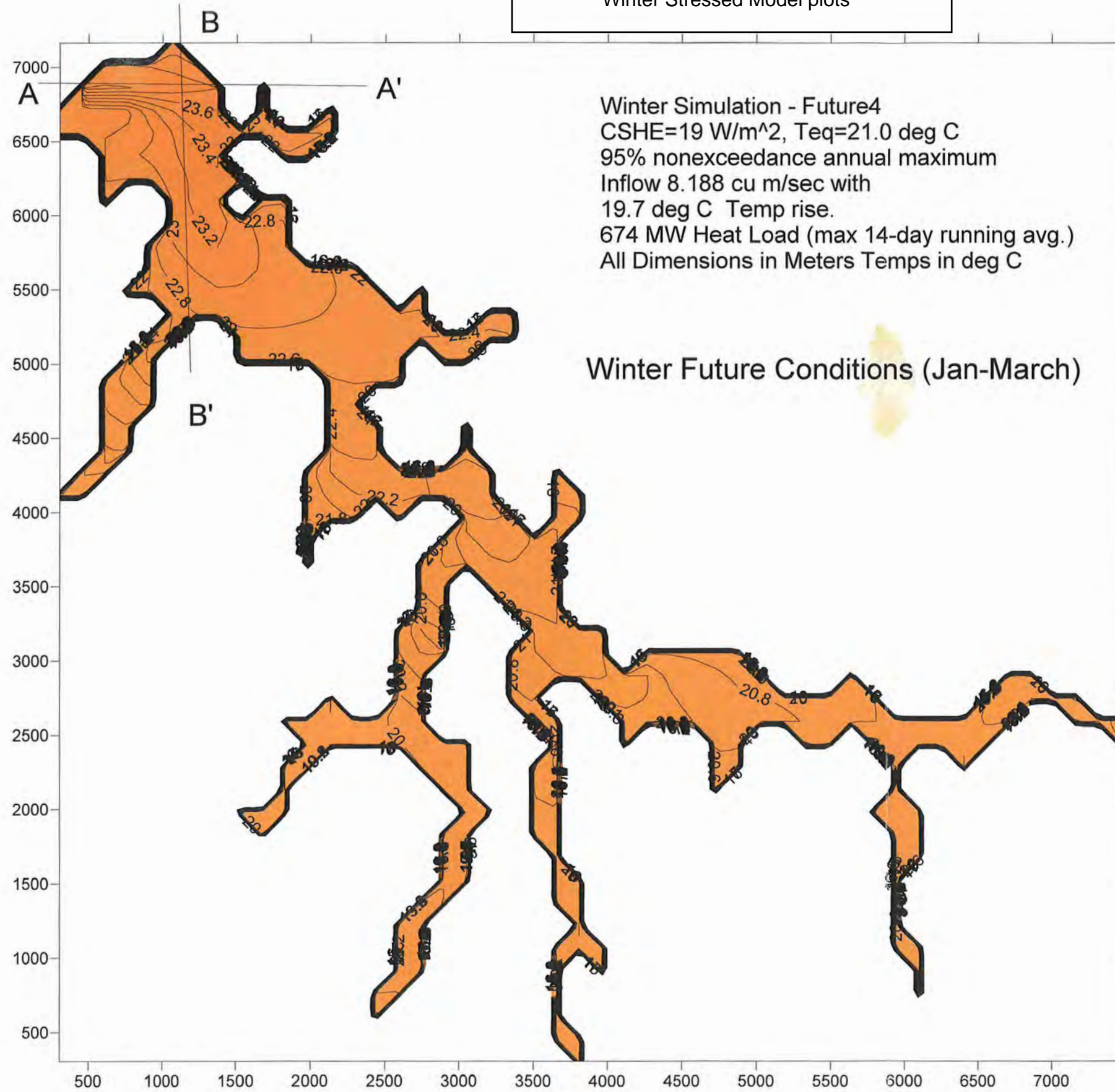
Electronic Filing: Received, Clerk's Office 02/07/2019

5792.7	8.68	19.04	66.26
5792.7	8.23	19.00	66.19
5792.7	7.77	18.86	65.94
5792.7	7.31	18.74	65.73
5792.7	6.86	18.66	65.58
5792.7	6.40	18.56	65.42
5792.7	5.94	18.54	65.38
5792.7	5.48	18.30	64.94
5792.7	5.03	18.05	64.48
5792.7	4.57	17.76	63.96
5792.7	4.11	17.49	63.48
5792.7	3.66	17.44	63.40
5640.2	12.34	19.42	66.96
5640.2	11.88	19.45	67.02
5640.2	11.43	19.47	67.05
5640.2	10.97	19.48	67.06
5640.2	10.51	19.45	67.02
5640.2	10.05	19.41	66.93
5640.2	9.60	19.35	66.83
5640.2	9.14	19.06	66.31
5640.2	8.68	19.02	66.24
5640.2	8.23	18.92	66.06
5640.2	7.77	18.80	65.85
5640.2	7.31	18.64	65.55
5640.2	6.86	18.58	65.44
5640.2	6.40	18.57	65.42
5487.8	12.34	19.28	66.70
5487.8	11.88	19.31	66.76
5487.8	11.43	19.34	66.81
5487.8	10.97	19.36	66.84
5487.8	10.51	19.36	66.84
5487.8	10.05	19.34	66.82
5487.8	9.60	19.30	66.74
5487.8	9.14	19.27	66.69
5487.8	8.68	19.00	66.20
5487.8	8.23	18.89	66.00
5487.8	7.77	18.73	65.72
5487.8	7.31	18.64	65.55
5487.8	6.86	18.58	65.44
5487.8	6.40	18.57	65.43
5335.4	12.34	19.27	66.68
5335.4	11.88	19.29	66.72
5335.4	11.43	19.30	66.75
5335.4	10.97	19.31	66.76
5335.4	10.51	19.31	66.76
5335.4	10.05	19.31	66.75
5335.4	9.60	19.29	66.72
5335.4	9.14	19.18	66.52
5335.4	8.68	19.02	66.23
5335.4	8.23	18.75	65.75
5335.4	7.77	18.59	65.47
5335.4	7.31	18.59	65.46
5335.4	6.86	18.58	65.45
5335.4	6.40	18.57	65.43
5182.9	12.34	19.15	66.47
5182.9	11.88	19.18	66.52
5182.9	11.43	19.19	66.54
5182.9	10.97	19.20	66.56

Electronic Filing: Received, Clerk's Office 02/07/2019

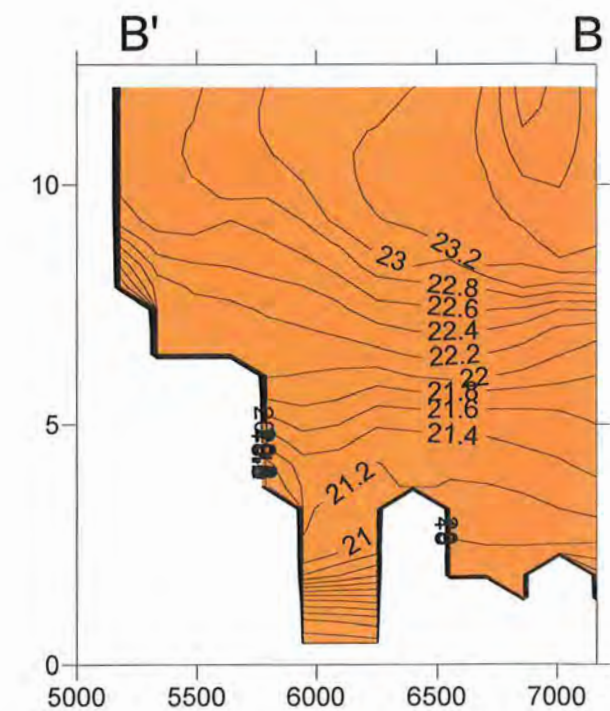
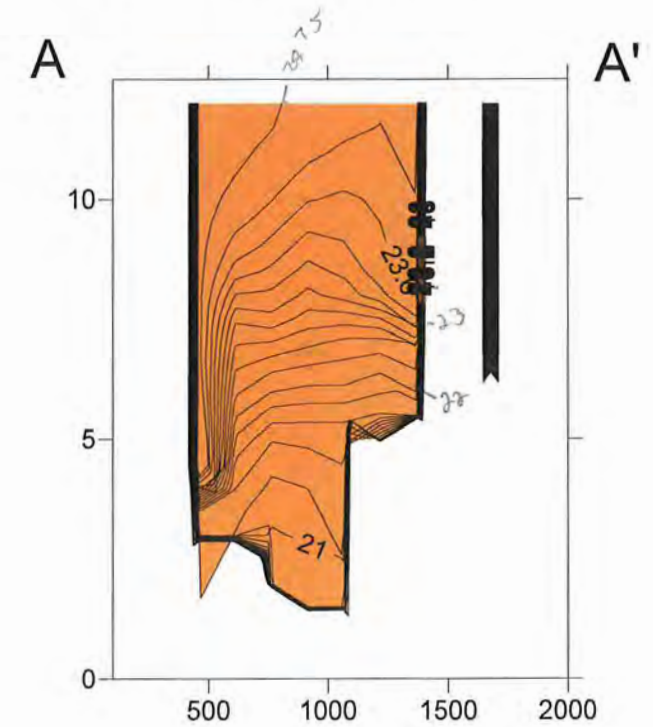
5182.9	10.51	19.20	66.56
5182.9	10.05	19.18	66.52
5182.9	9.60	19.10	66.39
5182.9	9.14	18.98	66.17
5182.9	8.68	18.47	65.24
5182.9	8.23	18.04	64.46
5182.9	7.77	17.81	64.06

Winter Stressed Model plots



500ft_WinterFuture4

Cross Sections



ATTACHMENT D

SPRING AND FALL MODEL INPUT AND OUTPUT DATA

Final

```

LEgypt_500ft_INPSpring6.dat
C:\GLLVHT\SIPC 500ft\Spring-Fall\LEgypt_500ft_Spring6.dat
$1.nwqm 1
$2.Inflow Conditions
$ninflows 2
$ Qinflow,iinflow,jinflow,kinflow
$ intake,intake,jintake,kintake
$temp saln const
4.095 2 44 19
 1 2 43 7
19.1 0.00 100.00
4.095 2 44 20
 1 2 43 8
19.1 0 100
$3. Outflow Conditions
$noutflows 2
$ Qoutflow,ioutflow,joutflow,koutflow
4.093 2 43 7
4.093 2 43 8
$4.Elevation Boundary Conditions
$nelevation kts 0 2
$iewest,ieeast,jesouth,jenorth
zmean,zamp,tmelag,tideper
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
$5.Initialize Water Quality Profiles
$ninitial 1
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
 2 15.0 0 0
 3 15.0 0 0
 4 14.9 0 0
 5 14.8 0 0
 6 14.7 0 0
 7 14.6 0 0
 8 14.5 0 0
 9 14.4 0 0
10 14.3 0 0
11 14.2 0 0
12 14.1 0 0
13 14.0 0 0
14 13.9 0 0
15 13.8 0 0
16 13.7 0 0
17 13.6 0 0
18 13.5 0 0
19 13.4 0 0
20 13.3 0 0
21 13.2 0 0
22 13.1 0 0
23 13.0 0 0
24 12.5 0 0
25 12.4 0 0
26 12.3 0 0
27 12.2 0 0
28 12.1 0 0
$6.External Parameters
Chezy, Wx,Wy,CSHE, TEQ, Rdecay, Lat.
35.00 1.47 -1.47 25.0 26.4 0.00 37.6
$7.Output Profiles
$nprofiles 2
$ipwest,ipest,jpsouth,jpnorth
$u-vel, v-vel, w-vel
$nconstituents
$I-const(1),I-const(2), I-const(3), etc
 5 5 28 47
 1 0 1
 1
 1 3

```

May 31

$4.095 \times 2 = 8.19 \text{ m}^3/\text{s}$
 $19.1^\circ\text{C } \Delta T$

$8.19 \text{ m}^3/\text{s} \times 19.1^\circ\text{C} \times 4185 \text{ J/g}^\circ\text{C} \times 999.1 \text{ kg/m}^3 = 653.3 \text{ MW}$
 Heat Load to Lake

LEgypt_500ft_INPSpring6.dat

```
2 15 44 44
0 1 1
2
1 3
$8.Output Surfaces
$nsurfaces $nconstituents 2 2
$U-vel V-vel 1.0000000E+00 1.0000000E+00
$I-const(1), I-const(2), I-const(3), etc.
1 3
$9.Output Time Series
$ntimser 6
$nconst, iconst, jconst,kconst
1 5 44 2
3 5 44 2
1 2 43 8
3 2 43 8
1 7 41 20
3 7 41 20
$10.Simulation time conditions
$dtm tmend 300.00 722.0
$timeout tmeserout 720.0 24.0
$11.Internal Boundary Locations
$nintbnd 1
$ibwest, ibeast, jbsouth, jbnorth, ktop, kbottom
2 5 43 43 2 28
$12. Constituent Averages
$nconarv 0
$nconstarvs
$13. Groundwater Inflow
$ngrndwtr 0
```


SPRING SIMULATION

Output

Row	x (m)	y (m)	temp (°C)
24	3811.0	304.9	26.38
71	3658.5	457.3	26.38
72	3811.0	457.3	26.38
111	2439.0	609.8	26.28
119	3658.5	609.8	26.38
159	2439.0	762.2	26.27
160	2591.5	762.2	26.26
167	3658.5	762.2	26.38
183	6097.6	762.2	26.36
208	2591.5	914.6	26.24
209	2743.9	914.6	26.24
215	3658.5	914.6	26.38
217	3963.4	914.6	26.39
231	6097.6	914.6	26.35
256	2591.5	1067.1	26.23
257	2743.9	1067.1	26.23
263	3658.5	1067.1	26.39
264	3811.0	1067.1	26.42
265	3963.4	1067.1	26.40
278	5945.1	1067.1	26.32
279	6097.6	1067.1	26.34
304	2591.5	1219.5	26.23
305	2743.9	1219.5	26.23
312	3811.0	1219.5	26.46
326	5945.1	1219.5	26.30
353	2743.9	1372.0	26.23
354	2896.3	1372.0	26.27
359	3658.5	1372.0	26.52
360	3811.0	1372.0	26.48
374	5945.1	1372.0	26.27
402	2896.3	1524.4	26.31
403	3048.8	1524.4	26.36
407	3658.5	1524.4	26.56
408	3811.0	1524.4	26.51
422	5945.1	1524.4	26.25
450	2896.3	1676.8	26.31
451	3048.8	1676.8	26.38
455	3658.5	1676.8	26.66
470	5945.1	1676.8	26.24
471	6097.6	1676.8	26.24
490	1676.8	1829.3	26.17
498	2896.3	1829.3	26.31
499	3048.8	1829.3	26.42
502	3506.1	1829.3	26.66
503	3658.5	1829.3	26.74
518	5945.1	1829.3	26.23
519	6097.6	1829.3	26.23
537	1524.4	1981.7	26.18
538	1676.8	1981.7	26.16
539	1829.3	1981.7	26.16
547	3048.8	1981.7	26.49
548	3201.2	1981.7	26.47
550	3506.1	1981.7	26.68
551	3658.5	1981.7	26.80
565	5792.7	1981.7	26.24

Teq=26.8 deg C
 CSHE=23.6
 Δ T = 12.22 deg C
 Flow = 12.744 cu m/sec
 ΔX = 152.44 m
 ΔY = 152.44 m
 19 layers

Note: rows with zero water depth
 deleted to abbreviate output listing

Electronic Filing: Received, Clerk's Office 02/07/2019

566	5945.1	1981.7	26.23
567	6097.6	1981.7	26.23
587	1829.3	2134.1	26.15
594	2896.3	2134.1	26.56
595	3048.8	2134.1	26.54
598	3506.1	2134.1	26.66
599	3658.5	2134.1	26.86
606	4725.6	2134.1	26.53
614	5945.1	2134.1	26.22
635	1829.3	2286.6	26.15
636	1981.7	2286.6	26.15
641	2743.9	2286.6	26.69
642	2896.3	2286.6	26.62
643	3048.8	2286.6	26.59
646	3506.1	2286.6	26.65
647	3658.5	2286.6	26.94
654	4725.6	2286.6	26.56
655	4878.0	2286.6	26.58
662	5945.1	2286.6	26.22
665	6402.4	2286.6	26.26
684	1981.7	2439.0	26.15
685	2134.1	2439.0	26.18
686	2286.6	2439.0	26.30
687	2439.0	2439.0	26.43
688	2591.5	2439.0	26.60
689	2743.9	2439.0	26.73
690	2896.3	2439.0	26.65
691	3048.8	2439.0	26.61
695	3658.5	2439.0	27.07
698	4115.9	2439.0	26.98
702	4725.6	2439.0	26.65
703	4878.0	2439.0	26.63
706	5335.4	2439.0	26.49
707	5487.8	2439.0	26.47
709	5792.7	2439.0	26.26
710	5945.1	2439.0	26.23
711	6097.6	2439.0	26.23
712	6250.0	2439.0	26.23
713	6402.4	2439.0	26.25
714	6554.9	2439.0	26.27
720	7469.5	2439.0	26.38
731	1829.3	2591.5	26.13
732	1981.7	2591.5	26.14
733	2134.1	2591.5	26.17
734	2286.6	2591.5	26.33
735	2439.0	2591.5	26.46
736	2591.5	2591.5	26.64
737	2743.9	2591.5	26.86
742	3506.1	2591.5	27.19
743	3658.5	2591.5	27.14
746	4115.9	2591.5	27.02
747	4268.3	2591.5	26.97
748	4420.7	2591.5	26.87
749	4573.2	2591.5	26.80
750	4725.6	2591.5	26.73
751	4878.0	2591.5	26.66
752	5030.5	2591.5	26.61
753	5182.9	2591.5	26.56

Electronic Filing: Received, Clerk's Office 02/07/2019

754	5335.4	2591.5	26.52
755	5487.8	2591.5	26.47
756	5640.2	2591.5	26.40
757	5792.7	2591.5	26.31
758	5945.1	2591.5	26.24
759	6097.6	2591.5	26.23
760	6250.0	2591.5	26.23
761	6402.4	2591.5	26.25
762	6554.9	2591.5	26.29
763	6707.3	2591.5	26.31
766	7164.6	2591.5	26.37
767	7317.1	2591.5	26.37
768	7469.5	2591.5	26.37
781	2134.1	2743.9	26.16
784	2591.5	2743.9	26.69
785	2743.9	2743.9	26.94
789	3353.7	2743.9	27.13
790	3506.1	2743.9	27.22
793	3963.4	2743.9	27.20
794	4115.9	2743.9	27.13
795	4268.3	2743.9	27.00
796	4420.7	2743.9	26.82
797	4573.2	2743.9	26.70
798	4725.6	2743.9	26.61
799	4878.0	2743.9	26.54
800	5030.5	2743.9	26.50
801	5182.9	2743.9	26.46
802	5335.4	2743.9	26.44
803	5487.8	2743.9	26.42
804	5640.2	2743.9	26.37
805	5792.7	2743.9	26.33
810	6554.9	2743.9	26.31
811	6707.3	2743.9	26.33
812	6859.8	2743.9	26.34
813	7012.2	2743.9	26.35
814	7164.6	2743.9	26.36
832	2591.5	2896.3	26.74
833	2743.9	2896.3	27.02
837	3353.7	2896.3	27.17
838	3506.1	2896.3	27.30
839	3658.5	2896.3	27.35
840	3811.0	2896.3	27.30
841	3963.4	2896.3	27.25
842	4115.9	2896.3	27.14
843	4268.3	2896.3	26.92
844	4420.7	2896.3	26.70
845	4573.2	2896.3	26.57
846	4725.6	2896.3	26.51
847	4878.0	2896.3	26.46
848	5030.5	2896.3	26.45
852	5640.2	2896.3	26.32
859	6707.3	2896.3	26.34
860	6859.8	2896.3	26.34
880	2591.5	3048.8	26.80
881	2743.9	3048.8	27.11
882	2896.3	3048.8	27.21
885	3353.7	3048.8	27.18
886	3506.1	3048.8	27.37

Electronic Filing: Received, Clerk's Office 02/07/2019

887	3658.5	3048.8	27.38
888	3811.0	3048.8	27.31
889	3963.4	3048.8	27.25
891	4268.3	3048.8	26.46
892	4420.7	3048.8	26.45
893	4573.2	3048.8	26.45
894	4725.6	3048.8	26.45
895	4878.0	3048.8	26.44
928	2591.5	3201.2	26.76
929	2743.9	3201.2	27.20
930	2896.3	3201.2	27.28
934	3506.1	3201.2	27.45
935	3658.5	3201.2	27.44
936	3811.0	3201.2	27.32
937	3963.4	3201.2	27.26
977	2743.9	3353.7	27.30
978	2896.3	3353.7	27.37
981	3353.7	3353.7	27.58
982	3506.1	3353.7	27.53
983	3658.5	3353.7	27.47
1025	2743.9	3506.1	27.37
1026	2896.3	3506.1	27.46
1028	3201.2	3506.1	27.68
1029	3353.7	3506.1	27.63
1030	3506.1	3506.1	27.55
1031	3658.5	3506.1	27.48
1068	1981.7	3658.5	27.80
1073	2743.9	3658.5	27.43
1074	2896.3	3658.5	27.55
1075	3048.8	3658.5	27.71
1076	3201.2	3658.5	27.74
1077	3353.7	3658.5	27.67
1078	3506.1	3658.5	27.56
1079	3658.5	3658.5	27.48
1116	1981.7	3811.0	27.91
1122	2896.3	3811.0	27.53
1123	3048.8	3811.0	27.78
1124	3201.2	3811.0	27.83
1125	3353.7	3811.0	27.74
1126	3506.1	3811.0	27.56
1127	3658.5	3811.0	27.46
1164	1981.7	3963.4	28.03
1165	2134.1	3963.4	28.17
1166	2286.6	3963.4	28.21
1168	2591.5	3963.4	28.12
1171	3048.8	3963.4	27.92
1172	3201.2	3963.4	27.91
1173	3353.7	3963.4	27.83
1175	3658.5	3963.4	27.18
1176	3811.0	3963.4	27.05
1201	304.9	4115.9	27.05
1202	457.3	4115.9	27.25
1212	1981.7	4115.9	28.02
1213	2134.1	4115.9	28.24
1214	2286.6	4115.9	28.28
1215	2439.0	4115.9	28.26
1216	2591.5	4115.9	28.22
1217	2743.9	4115.9	28.17

Electronic Filing: Received, Clerk's Office 02/07/2019

1218	2896.3	4115.9	28.13
1219	3048.8	4115.9	28.06
1220	3201.2	4115.9	27.98
1223	3658.5	4115.9	26.91
1224	3811.0	4115.9	26.90
1250	457.3	4268.3	27.47
1251	609.8	4268.3	27.77
1260	1981.7	4268.3	28.01
1261	2134.1	4268.3	28.32
1262	2286.6	4268.3	28.34
1263	2439.0	4268.3	28.31
1264	2591.5	4268.3	28.22
1265	2743.9	4268.3	28.14
1266	2896.3	4268.3	28.07
1267	3048.8	4268.3	27.99
1268	3201.2	4268.3	27.93
1271	3658.5	4268.3	26.79
1299	609.8	4420.7	27.89
1300	762.2	4420.7	27.99
1309	2134.1	4420.7	28.39
1310	2286.6	4420.7	28.40
1311	2439.0	4420.7	28.34
1315	3048.8	4420.7	27.61
1347	609.8	4573.2	27.97
1348	762.2	4573.2	28.08
1357	2134.1	4573.2	28.45
1358	2286.6	4573.2	28.45
1359	2439.0	4573.2	28.36
1363	3048.8	4573.2	27.41
1395	609.8	4725.6	28.01
1396	762.2	4725.6	28.17
1397	914.6	4725.6	28.33
1405	2134.1	4725.6	28.51
1406	2286.6	4725.6	28.49
1443	609.8	4878.0	27.98
1444	762.2	4878.0	28.17
1445	914.6	4878.0	28.41
1453	2134.1	4878.0	28.56
1454	2286.6	4878.0	28.52
1455	2439.0	4878.0	28.44
1456	2591.5	4878.0	28.38
1492	762.2	5030.5	28.20
1493	914.6	5030.5	28.52
1497	1524.4	5030.5	28.74
1498	1676.8	5030.5	28.73
1499	1829.3	5030.5	28.70
1500	1981.7	5030.5	28.66
1501	2134.1	5030.5	28.62
1502	2286.6	5030.5	28.56
1503	2439.0	5030.5	28.48
1504	2591.5	5030.5	28.40
1506	2896.3	5030.5	28.15
1507	3048.8	5030.5	28.10
1541	914.6	5182.9	28.63
1542	1067.1	5182.9	28.74
1545	1524.4	5182.9	28.81
1546	1676.8	5182.9	28.78
1547	1829.3	5182.9	28.73

Electronic Filing: Received, Clerk's Office 02/07/2019

1548	1981.7	5182.9	28.68
1549	2134.1	5182.9	28.62
1550	2286.6	5182.9	28.55
1551	2439.0	5182.9	28.47
1552	2591.5	5182.9	28.39
1553	2743.9	5182.9	28.31
1554	2896.3	5182.9	28.24
1555	3048.8	5182.9	28.15
1556	3201.2	5182.9	27.99
1557	3353.7	5182.9	27.89
1590	1067.1	5335.4	28.80
1591	1219.5	5335.4	28.90
1592	1372.0	5335.4	28.93
1593	1524.4	5335.4	28.89
1594	1676.8	5335.4	28.82
1595	1829.3	5335.4	28.75
1596	1981.7	5335.4	28.68
1597	2134.1	5335.4	28.61
1598	2286.6	5335.4	28.52
1599	2439.0	5335.4	28.45
1600	2591.5	5335.4	28.37
1601	2743.9	5335.4	28.29
1604	3201.2	5335.4	27.69
1605	3353.7	5335.4	27.72
1636	762.2	5487.8	28.35
1637	914.6	5487.8	28.64
1638	1067.1	5487.8	28.85
1639	1219.5	5487.8	28.96
1640	1372.0	5487.8	29.00
1641	1524.4	5487.8	28.92
1642	1676.8	5487.8	28.82
1643	1829.3	5487.8	28.72
1644	1981.7	5487.8	28.64
1645	2134.1	5487.8	28.56
1646	2286.6	5487.8	28.48
1647	2439.0	5487.8	28.43
1649	2743.9	5487.8	27.95
1685	914.6	5640.2	28.74
1686	1067.1	5640.2	28.93
1687	1219.5	5640.2	29.04
1688	1372.0	5640.2	29.07
1689	1524.4	5640.2	28.94
1690	1676.8	5640.2	28.80
1691	1829.3	5640.2	28.67
1692	1981.7	5640.2	28.59
1693	2134.1	5640.2	28.50
1694	2286.6	5640.2	28.43
1733	914.6	5792.7	28.79
1734	1067.1	5792.7	29.00
1735	1219.5	5792.7	29.10
1736	1372.0	5792.7	29.15
1737	1524.4	5792.7	28.94
1738	1676.8	5792.7	28.75
1739	1829.3	5792.7	28.62
1782	1067.1	5945.1	29.06
1783	1219.5	5945.1	29.16
1784	1372.0	5945.1	29.21
1785	1524.4	5945.1	28.93

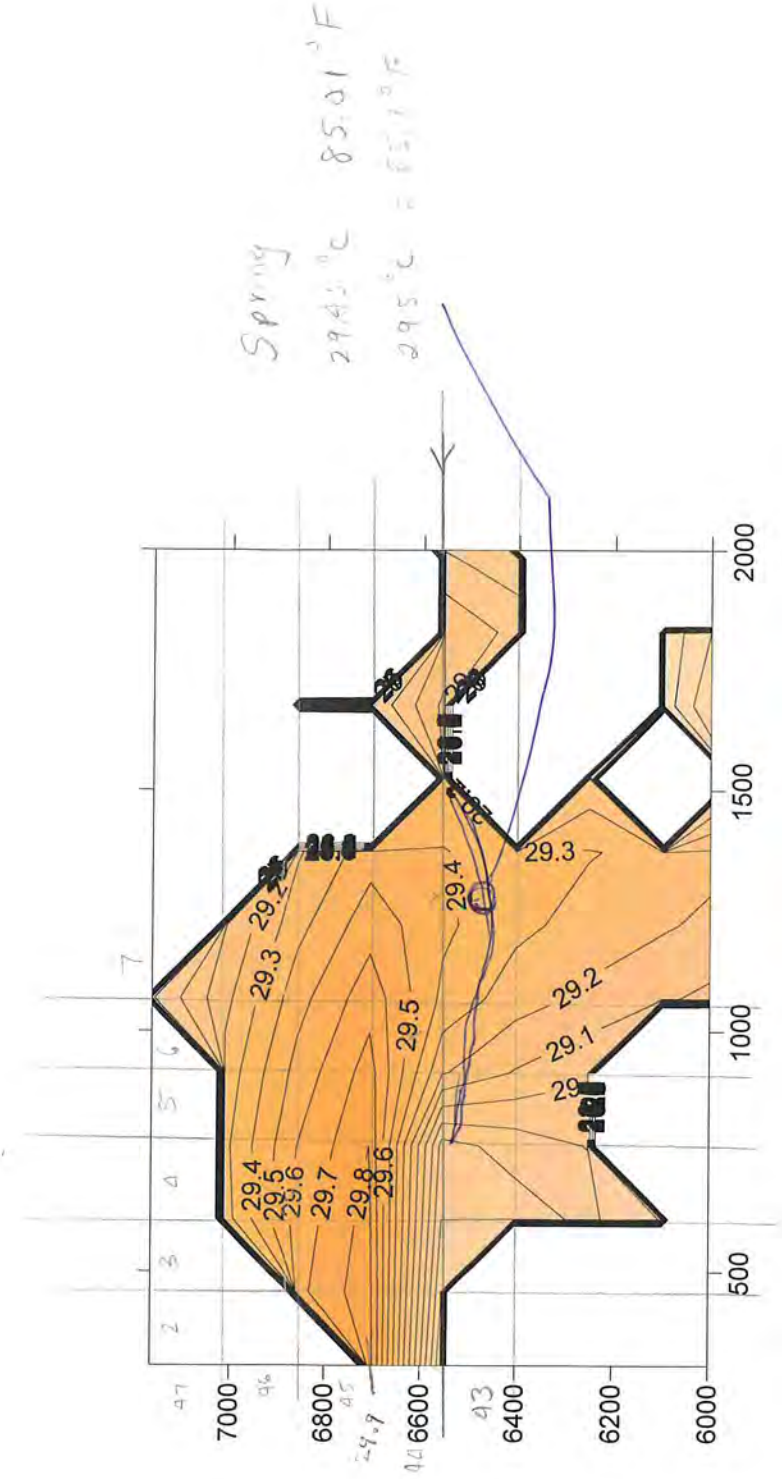
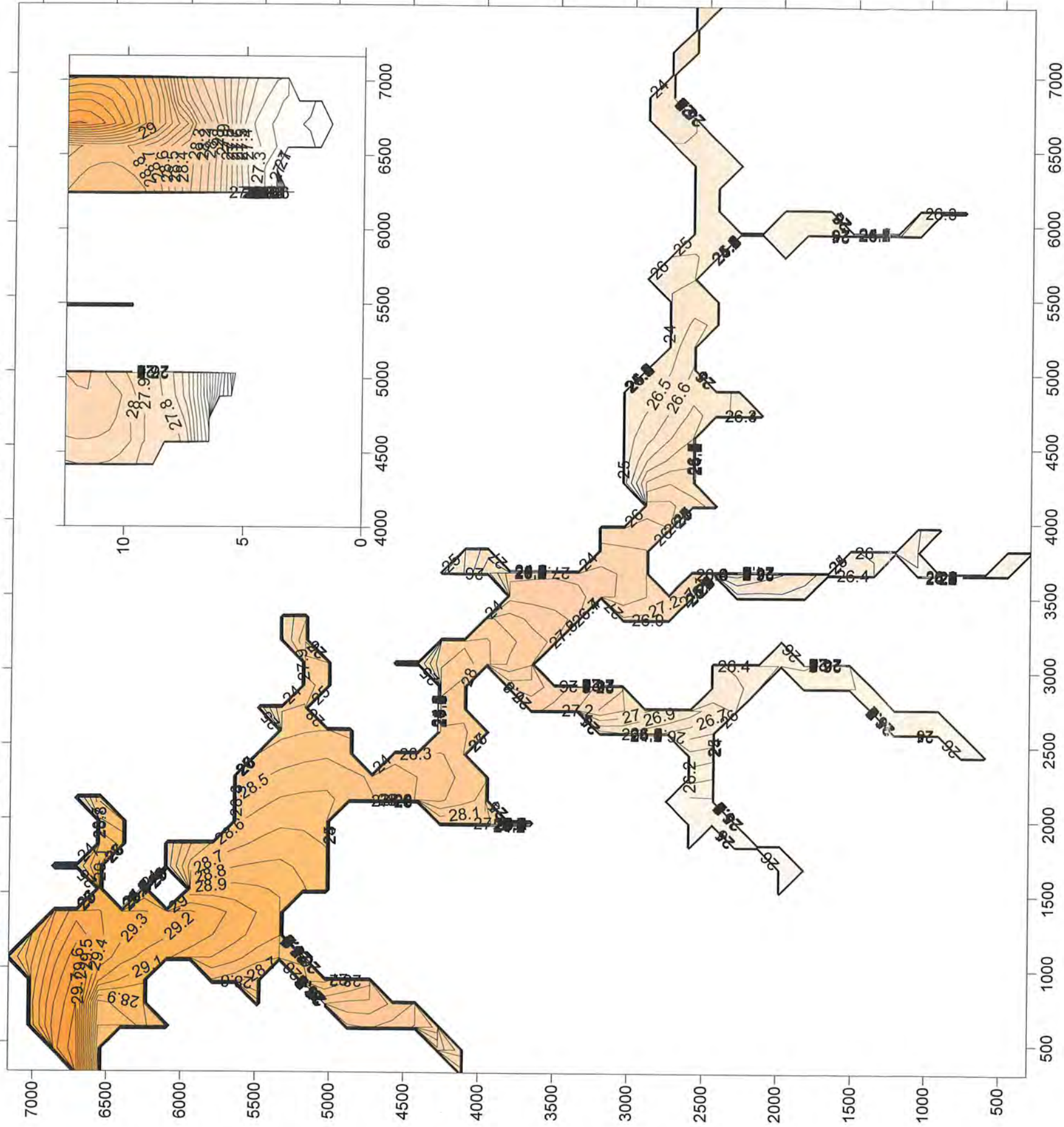
Electronic Filing: Received, Clerk's Office 02/07/2019

1786	1676.8	5945.1	28.64	
1787	1829.3	5945.1	28.50	
1827	609.8	6097.6	28.70	
1830	1067.1	6097.6	29.11	
1831	1219.5	6097.6	29.21	
1832	1372.0	6097.6	29.27	
1834	1676.8	6097.6	28.24	
1835	1829.3	6097.6	28.23	
1875	609.8	6250.0	28.82	
1876	762.2	6250.0	28.90	
1877	914.6	6250.0	29.02	
1878	1067.1	6250.0	29.17	
1879	1219.5	6250.0	29.26	
1880	1372.0	6250.0	29.31	
1881	1524.4	6250.0	29.13	
1923	609.8	6402.4	28.75	
1924	762.2	6402.4	28.84	
1925	914.6	6402.4	29.09	
1926	1067.1	6402.4	29.24	
1927	1219.5	6402.4	29.33	
1928	1372.0	6402.4	29.35	
1931	1829.3	6402.4	28.96	
1932	1981.7	6402.4	28.84	
1969	304.9	6554.9	28.52	Cooling Water Intake to Plant
1970	457.3	6554.9	28.61	
1971	609.8	6554.9	28.70	
1972	762.2	6554.9	28.76	
1973	914.6	6554.9	29.21	
1974	1067.1	6554.9	29.38	
1975	1219.5	6554.9	29.42	
1976	1372.0	6554.9	29.41	
1977	1524.4	6554.9	29.32	
1978	1676.8	6554.9	29.23	
1979	1829.3	6554.9	29.10	
1980	1981.7	6554.9	28.91	
1981	2134.1	6554.9	28.78	
2017	304.9	6707.3	29.89	Discharge Cell
2018	457.3	6707.3	29.86	A-A'
2019	609.8	6707.3	29.84	East-West Cross Section
2020	762.2	6707.3	29.80	through cooling water discharge
2021	914.6	6707.3	29.74	
2022	1067.1	6707.3	29.66	
2023	1219.5	6707.3	29.56	
2024	1372.0	6707.3	29.46	
2026	1676.8	6707.3	28.92	
2029	2134.1	6707.3	28.39	
2066	457.3	6859.8	29.66	
2067	609.8	6859.8	29.64	
2068	762.2	6859.8	29.60	
2069	914.6	6859.8	29.53	
2070	1067.1	6859.8	29.46	
2071	1219.5	6859.8	29.37	
2072	1372.0	6859.8	29.29	
2074	1676.8	6859.8	28.73	
2115	609.8	7012.2	29.25	
2116	762.2	7012.2	29.27	
2117	914.6	7012.2	29.23	
2118	1067.1	7012.2	29.17	

Electronic Filing: Received, Clerk's Office 02/07/2019

2119	1219.5	7012.2	29.09
2166	1067.1	7164.6	28.89

Spring 6 Teq=26.4 deg C, Heat Load 650 Mw



Final

LEgypt_500ft_INPFall14.dat

C:\GLLVHT\SIPC 500ft\Spring-Fall\LEgypt_500ft_Fall14.dat

```

$1.nwqm 1
$2.Inflow Conditions
$ninflows 2
$qinflow,iinflow,jinflow,kinflow
$intake,intake,jintake,kintake
$temp saln const
6.372 2 44 17
1 2 43 8
12.22 0.00 100.00
6.372 2 44 18
1 2 43 9
12.22 0 100
$3. Outflow Conditions
$noutflows 2
$qoutflow,ioutflow,joutflow,koutflow
6.372 2 43 8
6.372 2 43 9
$4.Elevation Boundary Conditions
$nelevation kts 0 2
$iewest,ieeast,jesouth,jenorth
zmean,zamp,tmelag,tideper
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2
$5.Initialize Water Quality Profiles
$ninitial 1
k,temp,saln,const,cbod,on,nh3,do(d),no3,op,po4,phyt for k=2,km-2

```

Inflows split to 2 layers

October 1
 $6.372 \times 2 = 12.744 \text{ m}^3/\text{s}$ coolant effluent
 $\Delta T = 12.22^\circ\text{C}$

@ 28.5°C
 $12.744 \text{ m}^3/\text{s} \times 12.22^\circ\text{C} \times 4.184 \text{ J/g}^\circ\text{C} \times 996.1 \text{ kg/m}^3 = 649 \text{ MW}$
 Heat Load to Lake

2	28.9	0	0
3	28.9	0	0
4	28.8	0	0
5	28.8	0	0
6	28.7	0	0
7	28.7	0	0
8	28.6	0	0
9	28.6	0	0
10	28.5	0	0
11	28.4	0	0
12	28.4	0	0
13	28.3	0	0
14	28.3	0	0
15	28.2	0	0
16	28.2	0	0
17	28.1	0	0
18	28.1	0	0
19	28.0	0	0
20	27.9	0	0
21	27.8	0	0
22	27.7	0	0
23	27.6	0	0
24	27.5	0	0
25	27.4	0	0
26	27.3	0	0
27	27.2	0	0
28	27.1	0	0

```

$6.External Parameters
Chezy, Wx,Wy,CSHE, TEQ, Rdecay, Lat.
35.00 0.0 -1.68 23.6 26.8 0.00 37.6

```

```

$7.Output Profiles
$nprofiles 2
$ipwest,ipest,jpsouth,jpnorth
$u-vel, v-vel, w-vel
$nconstituents
$I-const(1),I-const(2), I-const(3), etc
5 5 28 47
1 0 1
1
1 3

```

LEgypt_500ft_INPFa114.dat

```
2 15 44 44
0 1 1
2
1 3
$8.Output Surfaces
$nsurfaces $nconstituents 2 2
$U-vel V-vel 1.000000E+00 1.000000E+00
$I-const(1), I-const(2), I-const(3), etc.
1 3
$9.Output Time Series
$ntimser 6
$nconst, iconst, jconst,kconst
1 5 44 2
3 5 44 2
1 2 43 8
3 2 43 8
1 7 41 20
3 7 41 20
$10.Simulation time conditions
$dtm tmend 300.00 722.0
$timeout tmeserout 720.0 24.0
$11.Internal Boundary Locations
$nintbnd 1
$ibwest,ibeast,jbsouth,jbnorth,ktop,kbottom
2 5 43 43 2 28
$12. Constituent Averages
$nconarv 0
$nconstarvs
$13. Groundwater Inflow
$ngrndwtr 0
```

FALL SIMULATION

Output

Row	x (m)	y (m)	temp (°C)
24	3811.0	304.9	26.91
71	3658.5	457.3	27.08
72	3811.0	457.3	26.94
111	2439.0	609.8	27.02
119	3658.5	609.8	27.14
159	2439.0	762.2	27.07
160	2591.5	762.2	27.18
167	3658.5	762.2	27.25
183	6097.6	762.2	26.82
208	2591.5	914.6	27.23
209	2743.9	914.6	27.28
215	3658.5	914.6	27.39
217	3963.4	914.6	27.47
231	6097.6	914.6	26.83
256	2591.5	1067.1	27.22
257	2743.9	1067.1	27.31
263	3658.5	1067.1	27.57
264	3811.0	1067.1	27.71
265	3963.4	1067.1	27.54
278	5945.1	1067.1	26.88
279	6097.6	1067.1	26.84
304	2591.5	1219.5	27.22
305	2743.9	1219.5	27.35
312	3811.0	1219.5	27.78
326	5945.1	1219.5	26.90
353	2743.9	1372.0	27.45
354	2896.3	1372.0	27.60
359	3658.5	1372.0	28.07
360	3811.0	1372.0	27.86
374	5945.1	1372.0	26.93
402	2896.3	1524.4	27.68
403	3048.8	1524.4	27.78
407	3658.5	1524.4	28.17
408	3811.0	1524.4	27.90
422	5945.1	1524.4	26.95
450	2896.3	1676.8	27.71
451	3048.8	1676.8	27.84
455	3658.5	1676.8	28.35
470	5945.1	1676.8	26.98
471	6097.6	1676.8	26.96
490	1676.8	1829.3	27.46
498	2896.3	1829.3	27.78
499	3048.8	1829.3	27.96
502	3506.1	1829.3	28.41
503	3658.5	1829.3	28.52
518	5945.1	1829.3	27.01
519	6097.6	1829.3	26.97
537	1524.4	1981.7	27.33
538	1676.8	1981.7	27.50
539	1829.3	1981.7	27.61
547	3048.8	1981.7	28.06
548	3201.2	1981.7	27.85
550	3506.1	1981.7	28.49
551	3658.5	1981.7	28.68
565	5792.7	1981.7	26.94

Fall Simulation October 1
 Temp rise = 12.22 deg C
 Flow = 12.744 cu m/sec
 Teq = 26.8 deg C
 CSHE = 23.6 W/m^2
 ΔX = 152.44 m
 ΔY = 152.44 m
 19 layers

Note: rows with zero water depth
 deleted to abbreviate output listing

Electronic Filing: Received, Clerk's Office 02/07/2019

566	5945.1	1981.7	27.03
567	6097.6	1981.7	26.98
587	1829.3	2134.1	27.68
594	2896.3	2134.1	28.30
595	3048.8	2134.1	28.15
598	3506.1	2134.1	28.51
599	3658.5	2134.1	28.82
606	4725.6	2134.1	27.98
614	5945.1	2134.1	27.05
635	1829.3	2286.6	27.83
636	1981.7	2286.6	27.98
641	2743.9	2286.6	28.57
642	2896.3	2286.6	28.39
643	3048.8	2286.6	28.21
646	3506.1	2286.6	28.52
647	3658.5	2286.6	28.92
654	4725.6	2286.6	28.09
655	4878.0	2286.6	28.07
662	5945.1	2286.6	27.08
665	6402.4	2286.6	26.90
684	1981.7	2439.0	28.04
685	2134.1	2439.0	28.21
686	2286.6	2439.0	28.42
687	2439.0	2439.0	28.56
688	2591.5	2439.0	28.68
689	2743.9	2439.0	28.65
690	2896.3	2439.0	28.42
691	3048.8	2439.0	28.28
695	3658.5	2439.0	29.05
698	4115.9	2439.0	28.86
702	4725.6	2439.0	28.28
703	4878.0	2439.0	28.17
706	5335.4	2439.0	27.90
707	5487.8	2439.0	27.82
709	5792.7	2439.0	27.27
710	5945.1	2439.0	27.11
711	6097.6	2439.0	27.01
712	6250.0	2439.0	26.95
713	6402.4	2439.0	26.91
714	6554.9	2439.0	26.87
720	7469.5	2439.0	26.80
731	1829.3	2591.5	27.79
732	1981.7	2591.5	27.91
733	2134.1	2591.5	28.04
734	2286.6	2591.5	28.32
735	2439.0	2591.5	28.53
736	2591.5	2591.5	28.75
737	2743.9	2591.5	28.75
742	3506.1	2591.5	29.26
743	3658.5	2591.5	29.16
746	4115.9	2591.5	28.94
747	4268.3	2591.5	28.84
748	4420.7	2591.5	28.71
749	4573.2	2591.5	28.57
750	4725.6	2591.5	28.41
751	4878.0	2591.5	28.25
752	5030.5	2591.5	28.13
753	5182.9	2591.5	28.04

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754	5335.4	2591.5	27.95
755	5487.8	2591.5	27.83
756	5640.2	2591.5	27.64
757	5792.7	2591.5	27.32
758	5945.1	2591.5	27.05
759	6097.6	2591.5	27.01
760	6250.0	2591.5	26.97
761	6402.4	2591.5	26.93
762	6554.9	2591.5	26.87
763	6707.3	2591.5	26.84
766	7164.6	2591.5	26.81
767	7317.1	2591.5	26.81
768	7469.5	2591.5	26.80
781	2134.1	2743.9	27.86
784	2591.5	2743.9	28.83
785	2743.9	2743.9	28.86
789	3353.7	2743.9	29.23
790	3506.1	2743.9	29.33
793	3963.4	2743.9	29.15
794	4115.9	2743.9	29.06
795	4268.3	2743.9	28.92
796	4420.7	2743.9	28.71
797	4573.2	2743.9	28.51
798	4725.6	2743.9	28.32
799	4878.0	2743.9	28.15
800	5030.5	2743.9	28.04
801	5182.9	2743.9	27.95
802	5335.4	2743.9	27.87
803	5487.8	2743.9	27.79
804	5640.2	2743.9	27.62
805	5792.7	2743.9	27.40
810	6554.9	2743.9	26.85
811	6707.3	2743.9	26.83
812	6859.8	2743.9	26.82
813	7012.2	2743.9	26.81
814	7164.6	2743.9	26.81
832	2591.5	2896.3	28.92
833	2743.9	2896.3	29.03
837	3353.7	2896.3	29.31
838	3506.1	2896.3	29.42
839	3658.5	2896.3	29.40
840	3811.0	2896.3	29.31
841	3963.4	2896.3	29.21
842	4115.9	2896.3	29.09
843	4268.3	2896.3	28.86
844	4420.7	2896.3	28.60
845	4573.2	2896.3	28.33
846	4725.6	2896.3	28.14
847	4878.0	2896.3	28.02
848	5030.5	2896.3	27.98
852	5640.2	2896.3	27.47
859	6707.3	2896.3	26.83
860	6859.8	2896.3	26.82
880	2591.5	3048.8	29.01
881	2743.9	3048.8	29.22
882	2896.3	3048.8	29.32
885	3353.7	3048.8	29.34
886	3506.1	3048.8	29.51

Electronic Filing: Received, Clerk's Office 02/07/2019

887	3658.5	3048.8	29.45
888	3811.0	3048.8	29.33
889	3963.4	3048.8	29.20
891	4268.3	3048.8	28.09
892	4420.7	3048.8	28.09
893	4573.2	3048.8	28.06
894	4725.6	3048.8	28.03
895	4878.0	3048.8	27.99
928	2591.5	3201.2	29.05
929	2743.9	3201.2	29.41
930	2896.3	3201.2	29.45
934	3506.1	3201.2	29.59
935	3658.5	3201.2	29.51
936	3811.0	3201.2	29.34
937	3963.4	3201.2	29.20
977	2743.9	3353.7	29.58
978	2896.3	3353.7	29.57
981	3353.7	3353.7	29.74
982	3506.1	3353.7	29.67
983	3658.5	3353.7	29.55
1025	2743.9	3506.1	29.68
1026	2896.3	3506.1	29.71
1028	3201.2	3506.1	29.92
1029	3353.7	3506.1	29.82
1030	3506.1	3506.1	29.69
1031	3658.5	3506.1	29.55
1068	1981.7	3658.5	30.21
1073	2743.9	3658.5	29.76
1074	2896.3	3658.5	29.87
1075	3048.8	3658.5	30.00
1076	3201.2	3658.5	30.00
1077	3353.7	3658.5	29.86
1078	3506.1	3658.5	29.69
1079	3658.5	3658.5	29.52
1116	1981.7	3811.0	30.39
1122	2896.3	3811.0	29.90
1123	3048.8	3811.0	30.11
1124	3201.2	3811.0	30.11
1125	3353.7	3811.0	29.93
1126	3506.1	3811.0	29.71
1127	3658.5	3811.0	29.48
1164	1981.7	3963.4	30.56
1165	2134.1	3963.4	30.67
1166	2286.6	3963.4	30.67
1168	2591.5	3963.4	30.49
1171	3048.8	3963.4	30.28
1172	3201.2	3963.4	30.21
1173	3353.7	3963.4	30.02
1175	3658.5	3963.4	29.11
1176	3811.0	3963.4	28.79
1201	304.9	4115.9	29.31
1202	457.3	4115.9	29.65
1212	1981.7	4115.9	30.60
1213	2134.1	4115.9	30.76
1214	2286.6	4115.9	30.75
1215	2439.0	4115.9	30.69
1216	2591.5	4115.9	30.63
1217	2743.9	4115.9	30.57

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1218	2896.3	4115.9	30.50
1219	3048.8	4115.9	30.41
1220	3201.2	4115.9	30.29
1223	3658.5	4115.9	28.59
1224	3811.0	4115.9	28.56
1250	457.3	4268.3	29.91
1251	609.8	4268.3	30.19
1260	1981.7	4268.3	30.63
1261	2134.1	4268.3	30.84
1262	2286.6	4268.3	30.82
1263	2439.0	4268.3	30.73
1264	2591.5	4268.3	30.65
1265	2743.9	4268.3	30.54
1266	2896.3	4268.3	30.45
1267	3048.8	4268.3	30.34
1268	3201.2	4268.3	30.25
1271	3658.5	4268.3	28.46
1299	609.8	4420.7	30.36
1300	762.2	4420.7	30.42
1309	2134.1	4420.7	30.92
1310	2286.6	4420.7	30.87
1311	2439.0	4420.7	30.76
1315	3048.8	4420.7	29.77
1347	609.8	4573.2	30.47
1348	762.2	4573.2	30.56
1357	2134.1	4573.2	30.97
1358	2286.6	4573.2	30.92
1359	2439.0	4573.2	30.78
1363	3048.8	4573.2	29.46
1395	609.8	4725.6	30.54
1396	762.2	4725.6	30.68
1397	914.6	4725.6	30.79
1405	2134.1	4725.6	31.02
1406	2286.6	4725.6	30.95
1443	609.8	4878.0	30.55
1444	762.2	4878.0	30.73
1445	914.6	4878.0	30.91
1453	2134.1	4878.0	31.07
1454	2286.6	4878.0	30.99
1455	2439.0	4878.0	30.85
1456	2591.5	4878.0	30.74
1492	762.2	5030.5	30.81
1493	914.6	5030.5	31.07
1497	1524.4	5030.5	31.30
1498	1676.8	5030.5	31.26
1499	1829.3	5030.5	31.21
1500	1981.7	5030.5	31.15
1501	2134.1	5030.5	31.11
1502	2286.6	5030.5	31.03
1503	2439.0	5030.5	30.92
1504	2591.5	5030.5	30.80
1506	2896.3	5030.5	30.47
1507	3048.8	5030.5	30.37
1541	914.6	5182.9	31.27
1542	1067.1	5182.9	31.38
1545	1524.4	5182.9	31.39
1546	1676.8	5182.9	31.33
1547	1829.3	5182.9	31.26

Electronic Filing: Received, Clerk's Office 02/07/2019

1548	1981.7	5182.9	31.19
1549	2134.1	5182.9	31.12
1550	2286.6	5182.9	31.02
1551	2439.0	5182.9	30.91
1552	2591.5	5182.9	30.81
1553	2743.9	5182.9	30.68
1554	2896.3	5182.9	30.59
1555	3048.8	5182.9	30.46
1556	3201.2	5182.9	30.26
1557	3353.7	5182.9	30.02
1590	1067.1	5335.4	31.47
1591	1219.5	5335.4	31.53
1592	1372.0	5335.4	31.52
1593	1524.4	5335.4	31.46
1594	1676.8	5335.4	31.37
1595	1829.3	5335.4	31.27
1596	1981.7	5335.4	31.18
1597	2134.1	5335.4	31.09
1598	2286.6	5335.4	30.98
1599	2439.0	5335.4	30.90
1600	2591.5	5335.4	30.80
1601	2743.9	5335.4	30.67
1604	3201.2	5335.4	29.74
1605	3353.7	5335.4	29.82
1636	762.2	5487.8	31.02
1637	914.6	5487.8	31.31
1638	1067.1	5487.8	31.54
1639	1219.5	5487.8	31.61
1640	1372.0	5487.8	31.60
1641	1524.4	5487.8	31.48
1642	1676.8	5487.8	31.36
1643	1829.3	5487.8	31.23
1644	1981.7	5487.8	31.13
1645	2134.1	5487.8	31.05
1646	2286.6	5487.8	30.94
1647	2439.0	5487.8	30.89
1649	2743.9	5487.8	30.21
1685	914.6	5640.2	31.45
1686	1067.1	5640.2	31.62
1687	1219.5	5640.2	31.69
1688	1372.0	5640.2	31.68
1689	1524.4	5640.2	31.51
1690	1676.8	5640.2	31.33
1691	1829.3	5640.2	31.16
1692	1981.7	5640.2	31.08
1693	2134.1	5640.2	30.99
1694	2286.6	5640.2	30.89
1733	914.6	5792.7	31.51
1734	1067.1	5792.7	31.69
1735	1219.5	5792.7	31.76
1736	1372.0	5792.7	31.76
1737	1524.4	5792.7	31.52
1738	1676.8	5792.7	31.27
1739	1829.3	5792.7	31.08
1782	1067.1	5945.1	31.75
1783	1219.5	5945.1	31.83
1784	1372.0	5945.1	31.84
1785	1524.4	5945.1	31.52

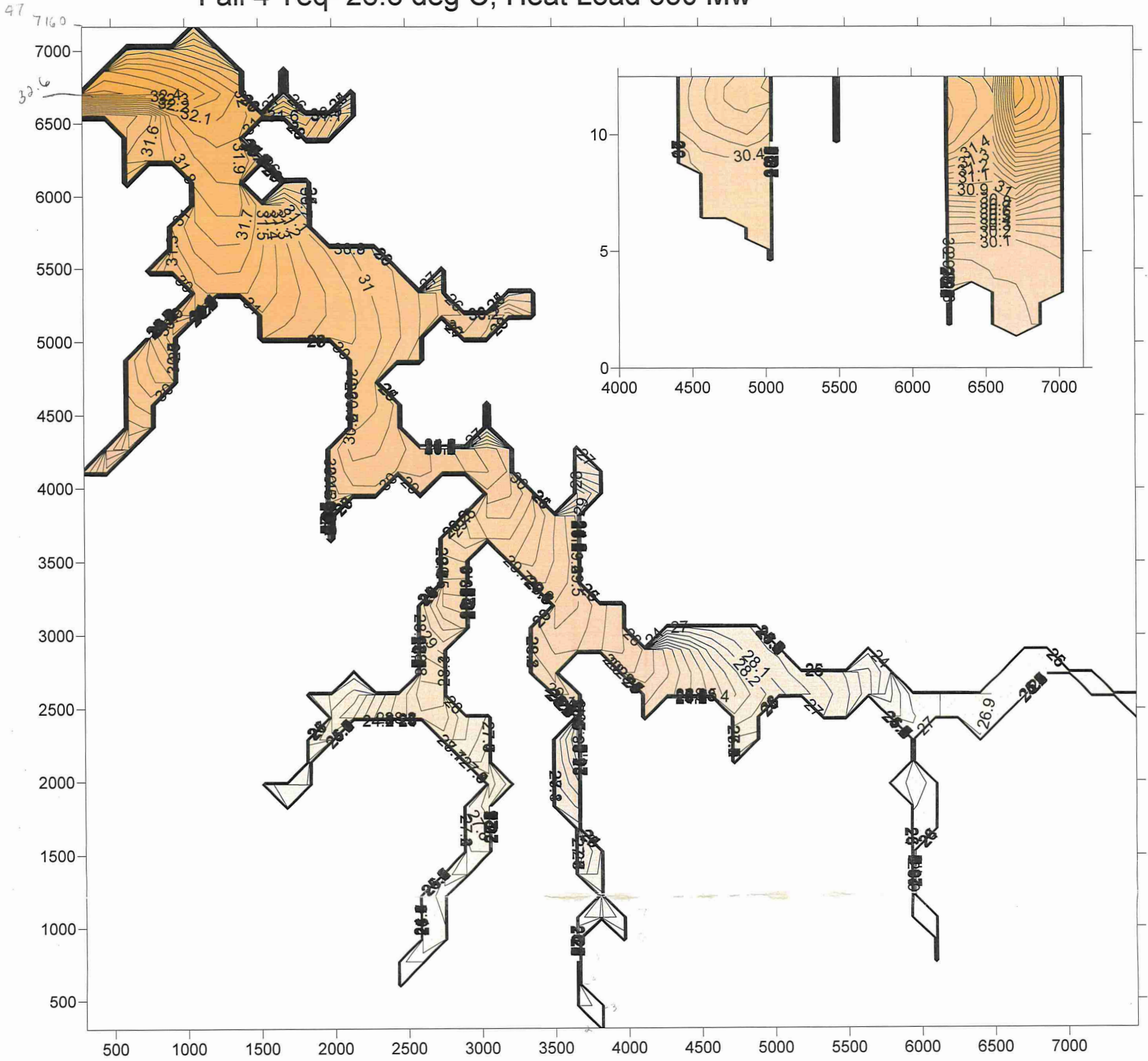
Electronic Filing: Received, Clerk's Office 02/07/2019

1786	1676.8	5945.1	31.15	
1787	1829.3	5945.1	30.86	
1827	609.8	6097.6	31.33	
1830	1067.1	6097.6	31.81	
1831	1219.5	6097.6	31.90	
1832	1372.0	6097.6	31.91	
1834	1676.8	6097.6	30.69	
1835	1829.3	6097.6	30.72	
1875	609.8	6250.0	31.52	
1876	762.2	6250.0	31.62	
1877	914.6	6250.0	31.74	
1878	1067.1	6250.0	31.89	
1879	1219.5	6250.0	31.96	
1880	1372.0	6250.0	31.95	
1881	1524.4	6250.0	31.60	
1923	609.8	6402.4	31.43	
1924	762.2	6402.4	31.57	
1925	914.6	6402.4	31.82	
1926	1067.1	6402.4	31.98	
1927	1219.5	6402.4	32.03	
1928	1372.0	6402.4	32.00	
1931	1829.3	6402.4	31.40	
1932	1981.7	6402.4	31.19	
1969	304.9	6554.9	31.20	Cooling Water Intake to Pla
1970	457.3	6554.9	31.30	
1971	609.8	6554.9	31.37	
1972	762.2	6554.9	31.44	
1973	914.6	6554.9	31.97	
1974	1067.1	6554.9	32.11	
1975	1219.5	6554.9	32.12	
1976	1372.0	6554.9	32.05	
1977	1524.4	6554.9	31.91	
1978	1676.8	6554.9	31.78	
1979	1829.3	6554.9	31.58	
1980	1981.7	6554.9	31.32	
1981	2134.1	6554.9	31.07	
2017	304.9	6707.3	32.67	Discharge Cell
2018	457.3	6707.3	32.63	A-A'
2019	609.8	6707.3	32.59	East-West Cross Section
2020	762.2	6707.3	32.55	through cooling water disch
2021	914.6	6707.3	32.47	
2022	1067.1	6707.3	32.36	
2023	1219.5	6707.3	32.23	
2024	1372.0	6707.3	32.08	
2026	1676.8	6707.3	31.35	
2029	2134.1	6707.3	30.59	
2066	457.3	6859.8	32.41	
2067	609.8	6859.8	32.37	
2068	762.2	6859.8	32.32	
2069	914.6	6859.8	32.24	
2070	1067.1	6859.8	32.13	
2071	1219.5	6859.8	32.00	
2072	1372.0	6859.8	31.87	
2074	1676.8	6859.8	31.08	
2115	609.8	7012.2	31.88	
2116	762.2	7012.2	31.95	
2117	914.6	7012.2	31.88	
2118	1067.1	7012.2	31.77	

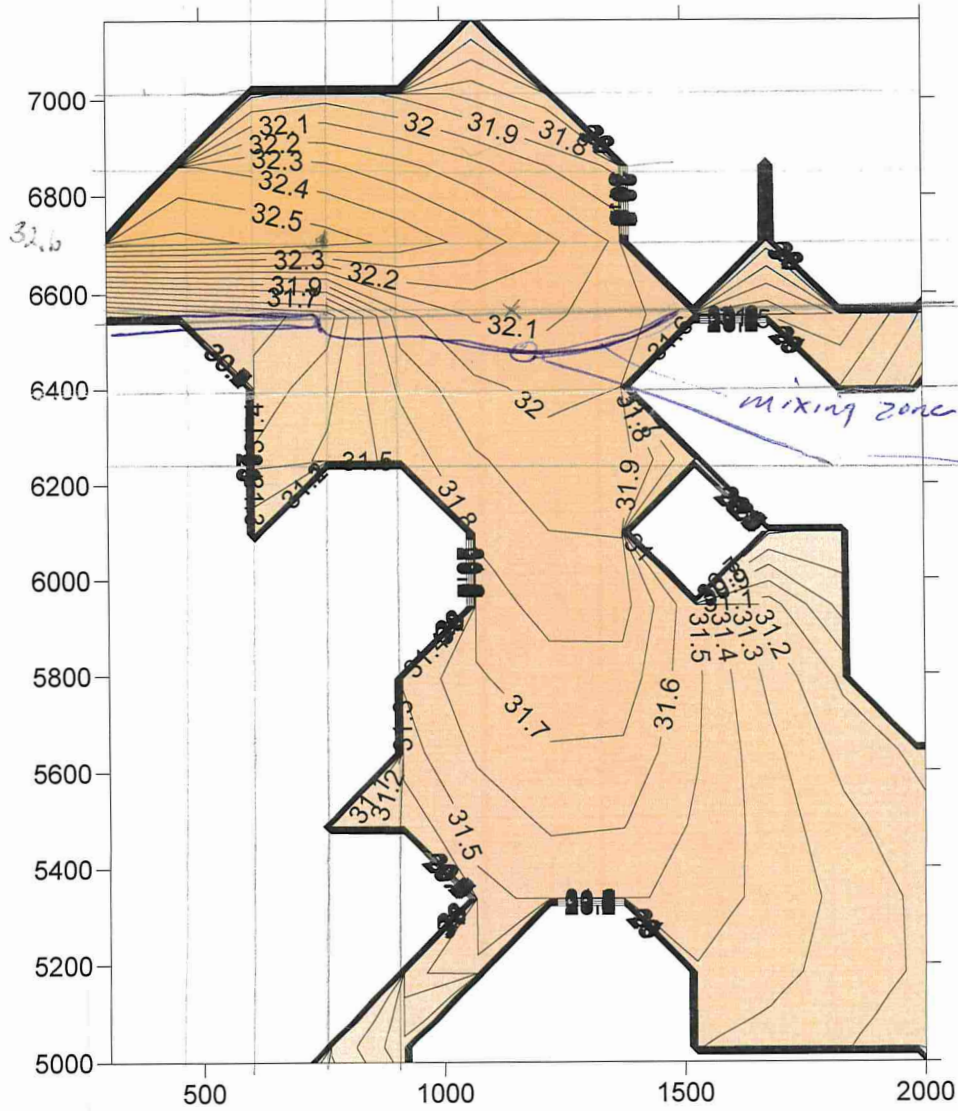
Electronic Filing: Received, Clerk's Office 02/07/2019

2119	1219.5	7012.2	31.62
2166	1067.1	7164.6	31.41

Fall 4 Teq=26.8 deg C, Heat Load 650 Mw



152.439



ATTACHMENT E

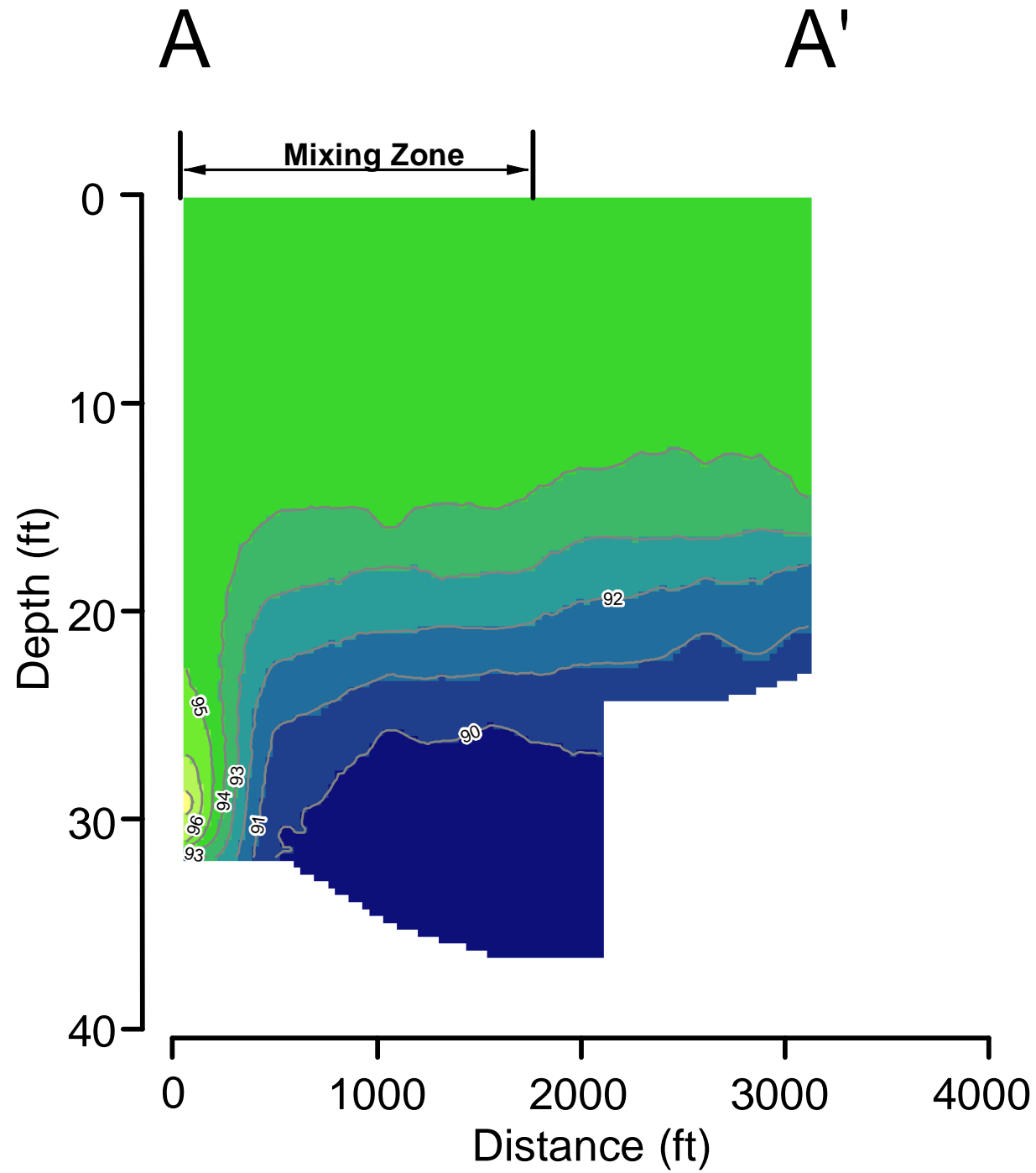
REVISED REPORT FIGURES 5-14, 5-15, 5-16, AND 5-17

(ADDED HORIZONTAL AND VERTICAL SCALES)

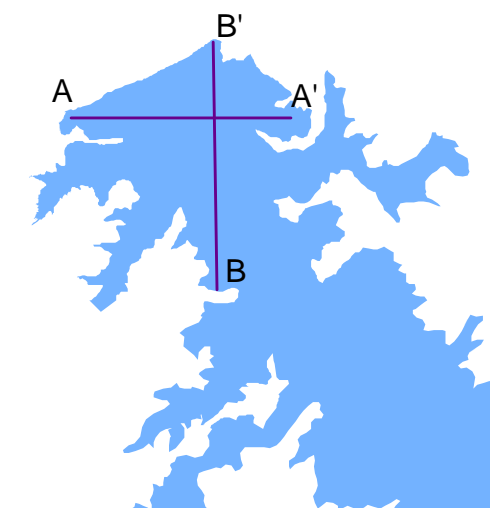
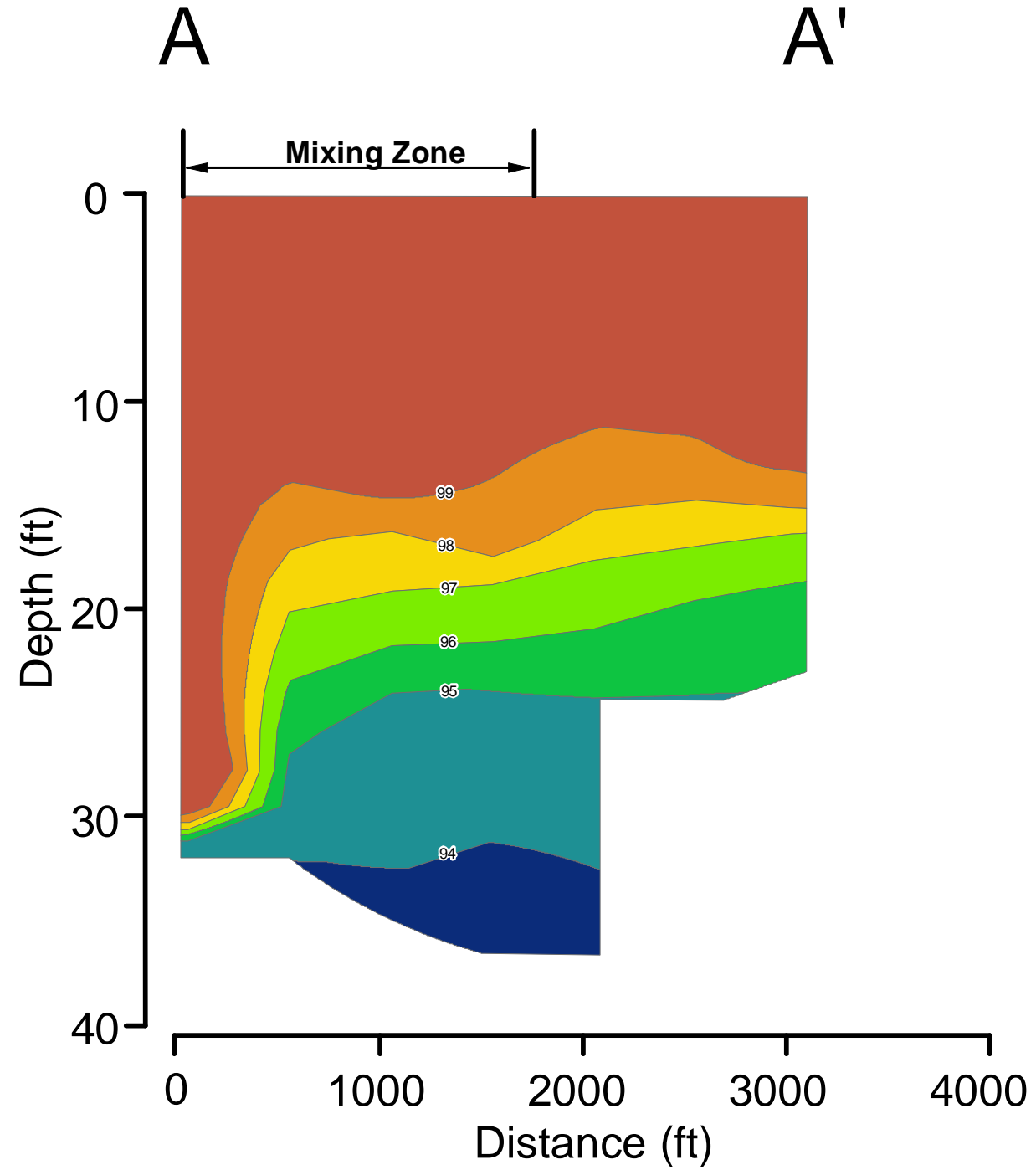
Figure 5-14:
Results of Summer "Normal"
and "Stressed" Hydrothermal
Model Conditions at Cross Section A

- Legend**
- Transect A - Summer Period Normal
Temp F
- 89.4 - 90
 - 90.1 - 91
 - 91.1 - 92
 - 92.1 - 93
 - 93.1 - 94
 - 94.1 - 95
 - 95.1 - 96
 - 96.1 - 97
 - 97.1 - 98
- Transect A - Summer Period Stressed
Temp F
- 93.1 - 94
 - 94.1 - 95
 - 95.1 - 96
 - 96.1 - 97
 - 97.1 - 98
 - 98.1 - 99
 - 99.1 - 100

"Normal" Conditions



"Maximum" Conditions



**Figure 5-15:
Results of Summer "Normal"
and "Stressed" Hydrothermal
Model Conditions at Cross Section B**

Legend

Transect B - Summer Period Normal

Temp F

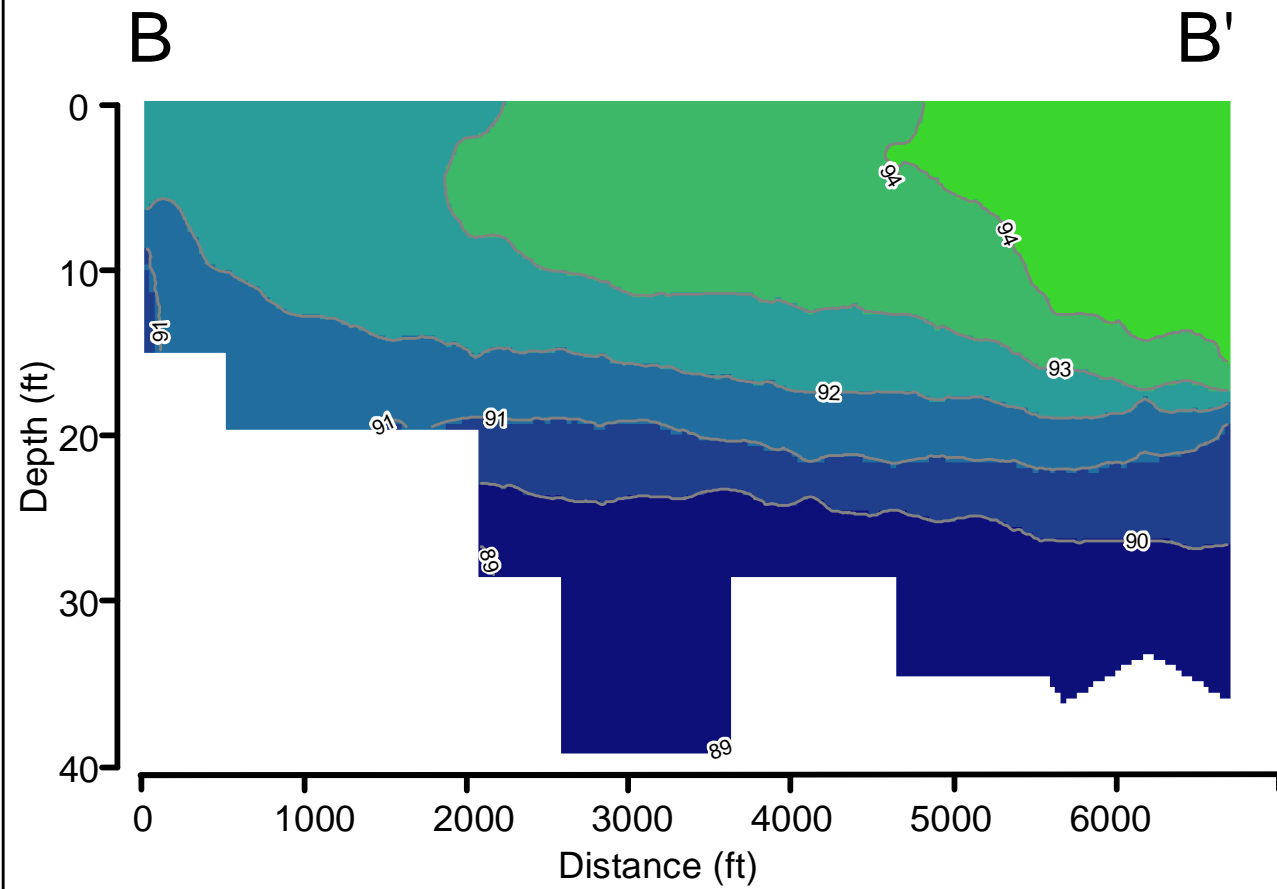
- 89.4 - 90
- 90.1 - 91
- 91.1 - 92
- 92.1 - 93
- 93.1 - 94
- 94.1 - 95
- 95.1 - 96
- 96.1 - 97
- 97.1 - 98

Transect B - Summer Period Stressed

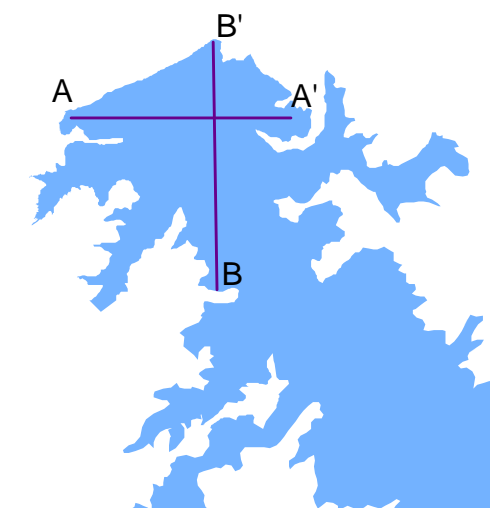
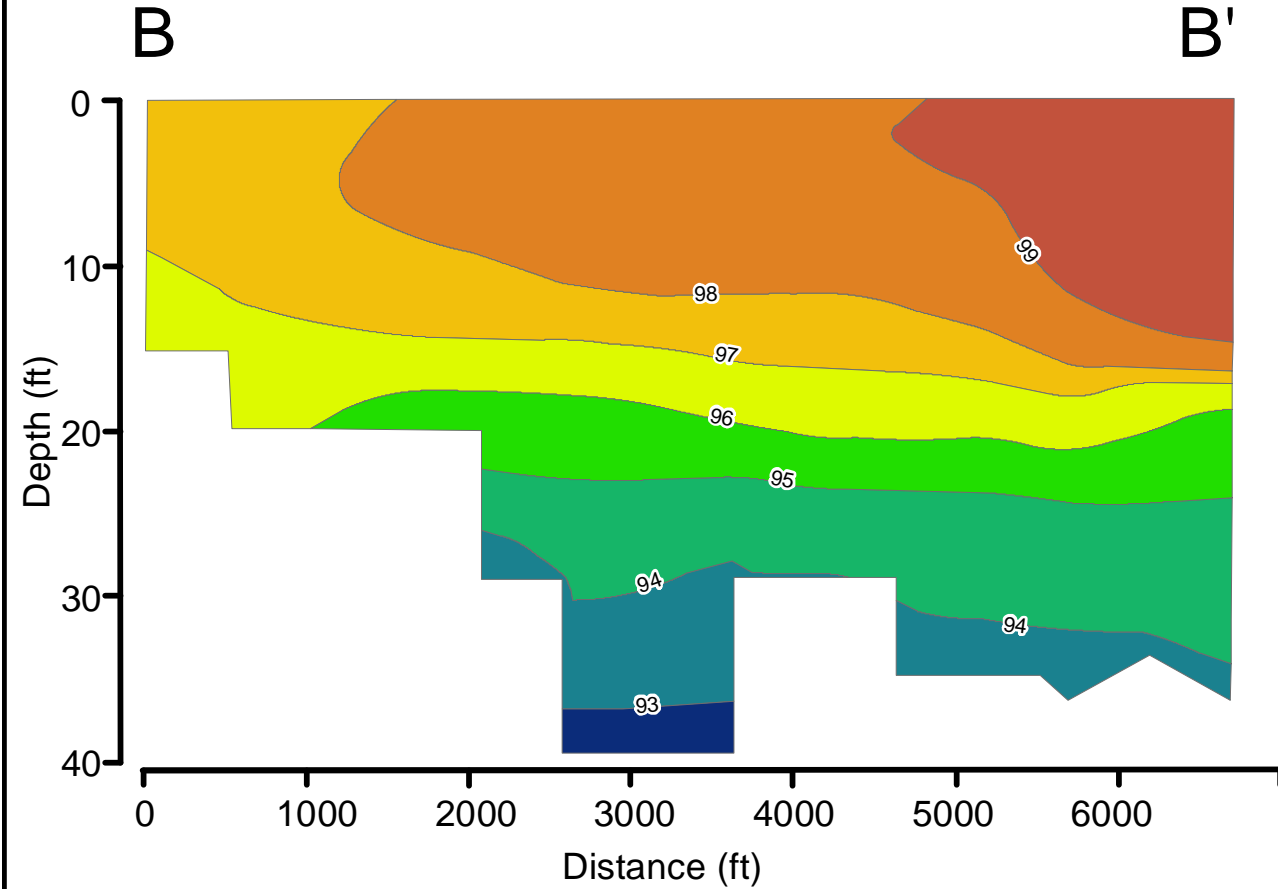
Temp_F

- 92.1 - 93
- 93.1 - 94
- 94.1 - 95
- 95.1 - 96
- 96.1 - 97
- 97.1 - 98
- 98.1 - 99
- 99.1 - 100

"Normal" Conditions



"Maximum" Conditions

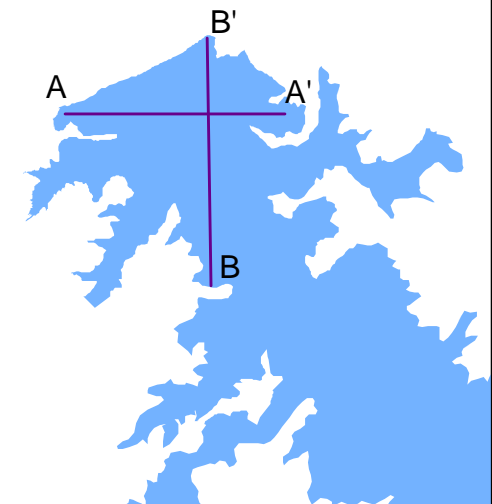


Created by: BSM Approved by: WJE

Checked by: MCB Date: 1/23/2019

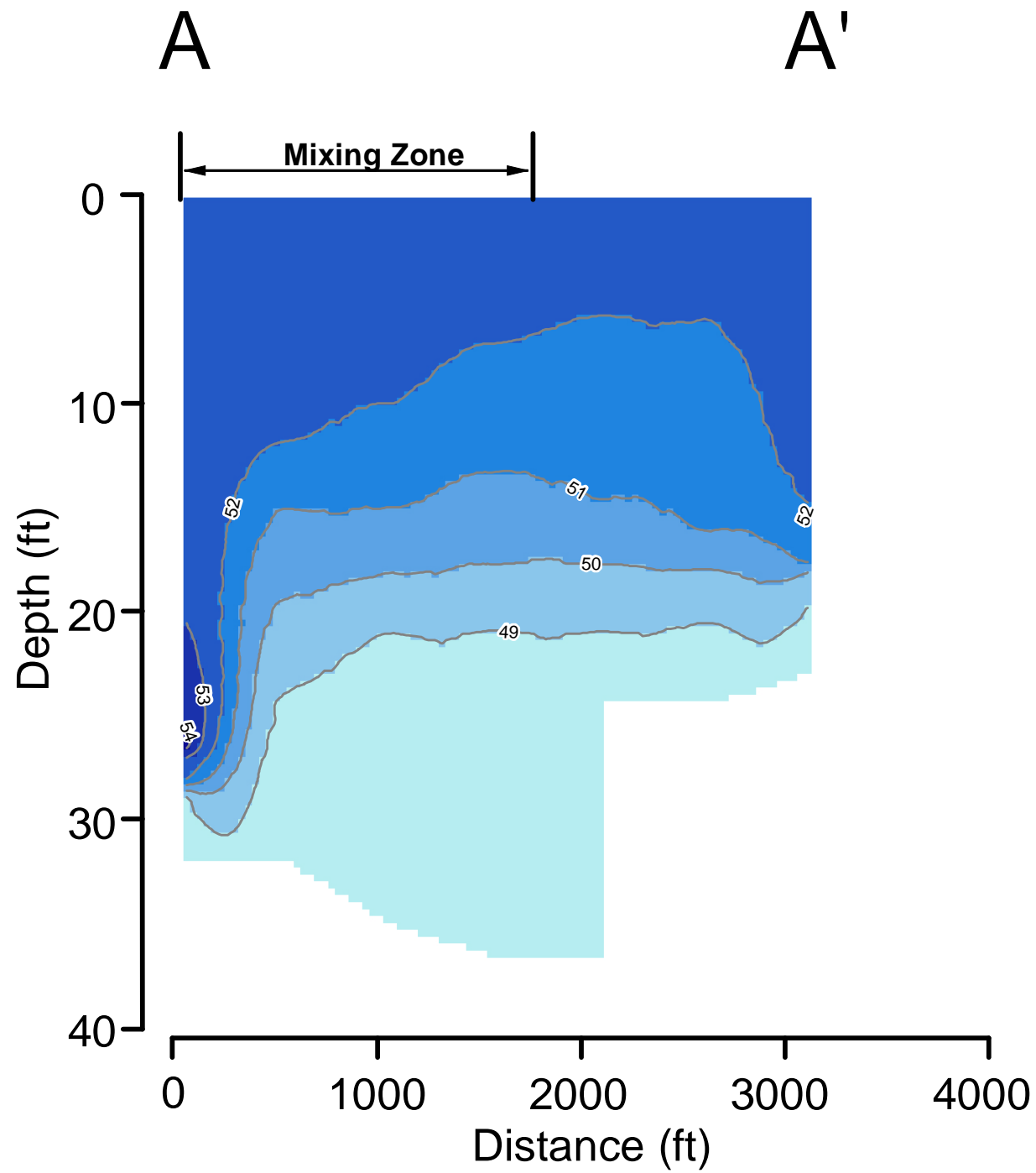
**Figure 5-16:
Results of Winter "Normal"
and "Maximum" Hydrothermal
Model Conditions at Cross Section A**

- Legend**
- Transect A - Winter Period Normal
Temp F
- 48.1 - 49
 - 49.1 - 50
 - 50.1 - 51
 - 51.1 - 52
 - 52.1 - 53
 - 53.1 - 54
 - 54.1 - 55
- Transect A - Winter Period Max
Temp F
- 63.1 - 64
 - 64.1 - 65
 - 65.1 - 66
 - 66.1 - 67
 - 67.1 - 68
 - 68.1 - 69
 - 69.1 - 70

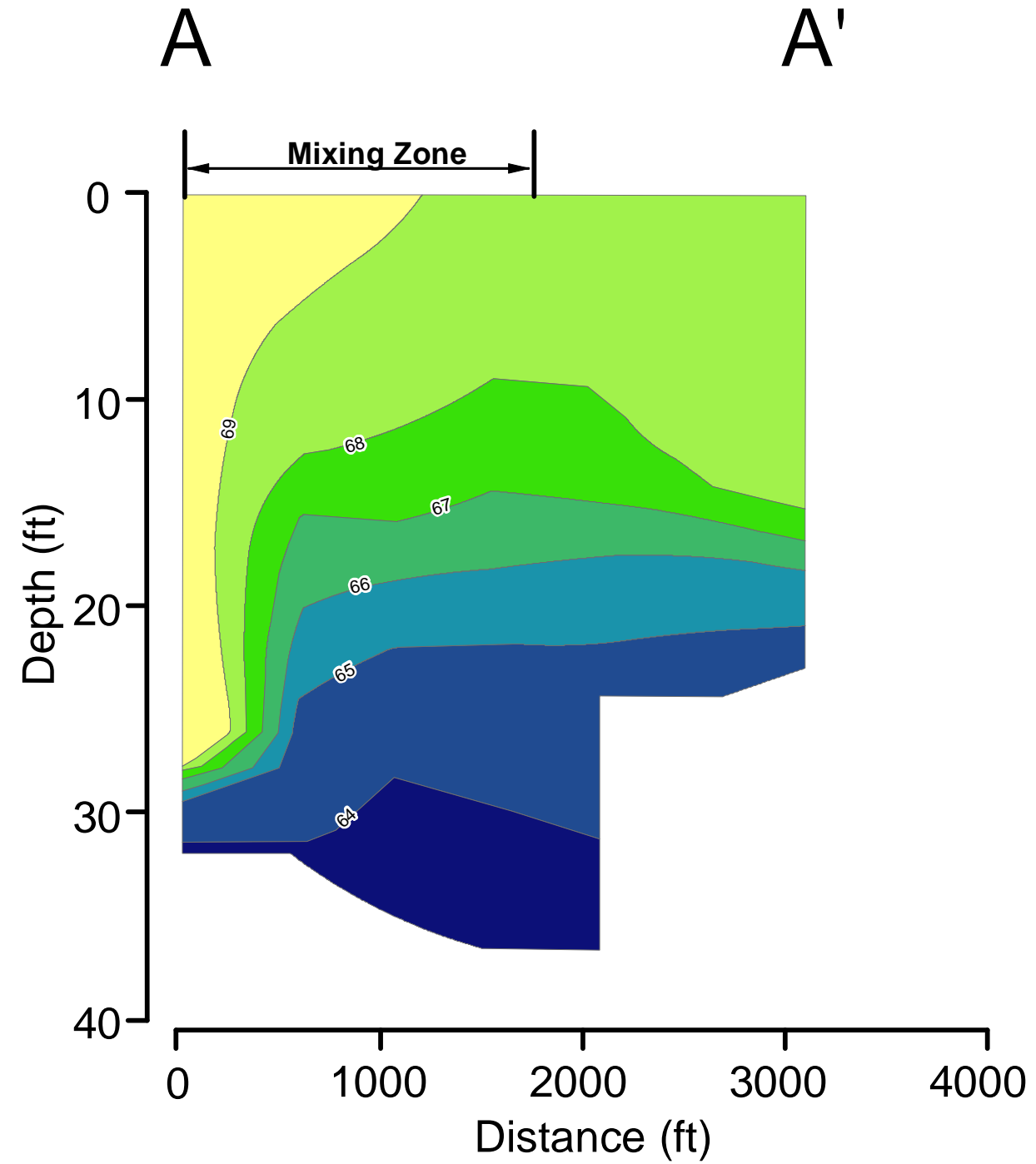


Created by: BSM Approved by: WJE
Checked by: MCB Date: 1/23/2019

"Normal" Conditions



"Maximum" Conditions



**Figure 5-17:
Results of Winter "Normal"
and "Maximum" Hydrothermal
Model Conditions at Cross Section B**

Legend

Transect B - Winter Period Normal

Temp F

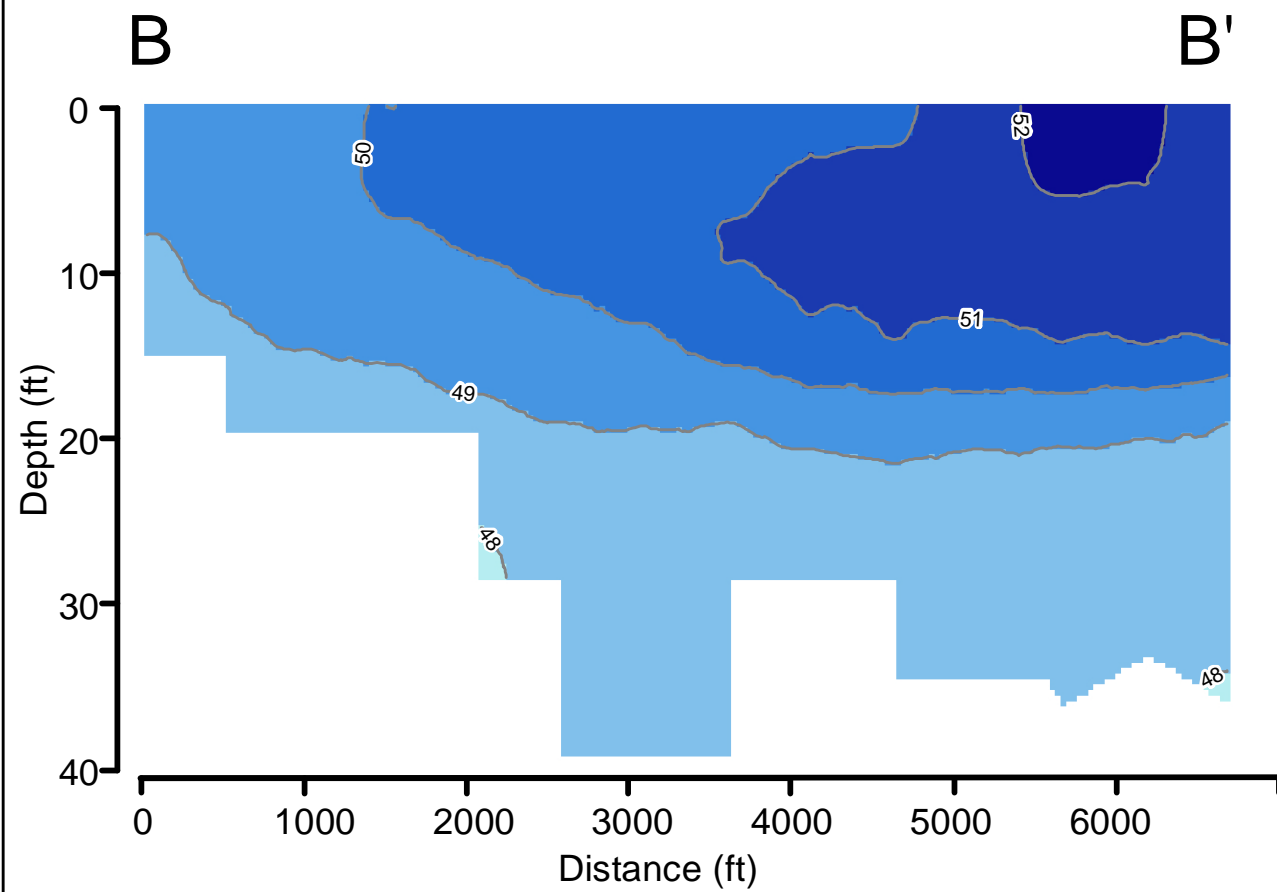
- 47.8 - 48
- 48.1 - 49
- 49.1 - 50
- 50.1 - 51
- 51.1 - 52
- 52.1 - 53

Transect B - Winter Period Max

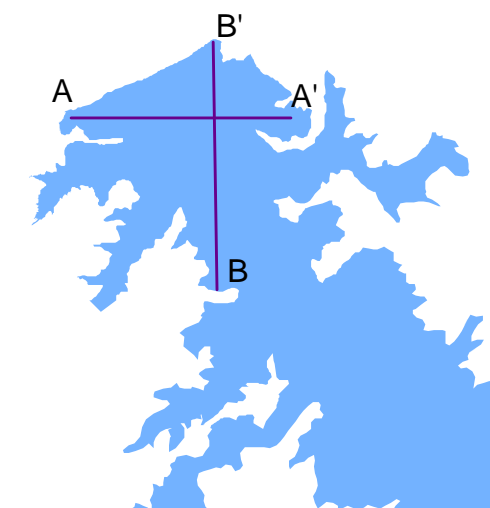
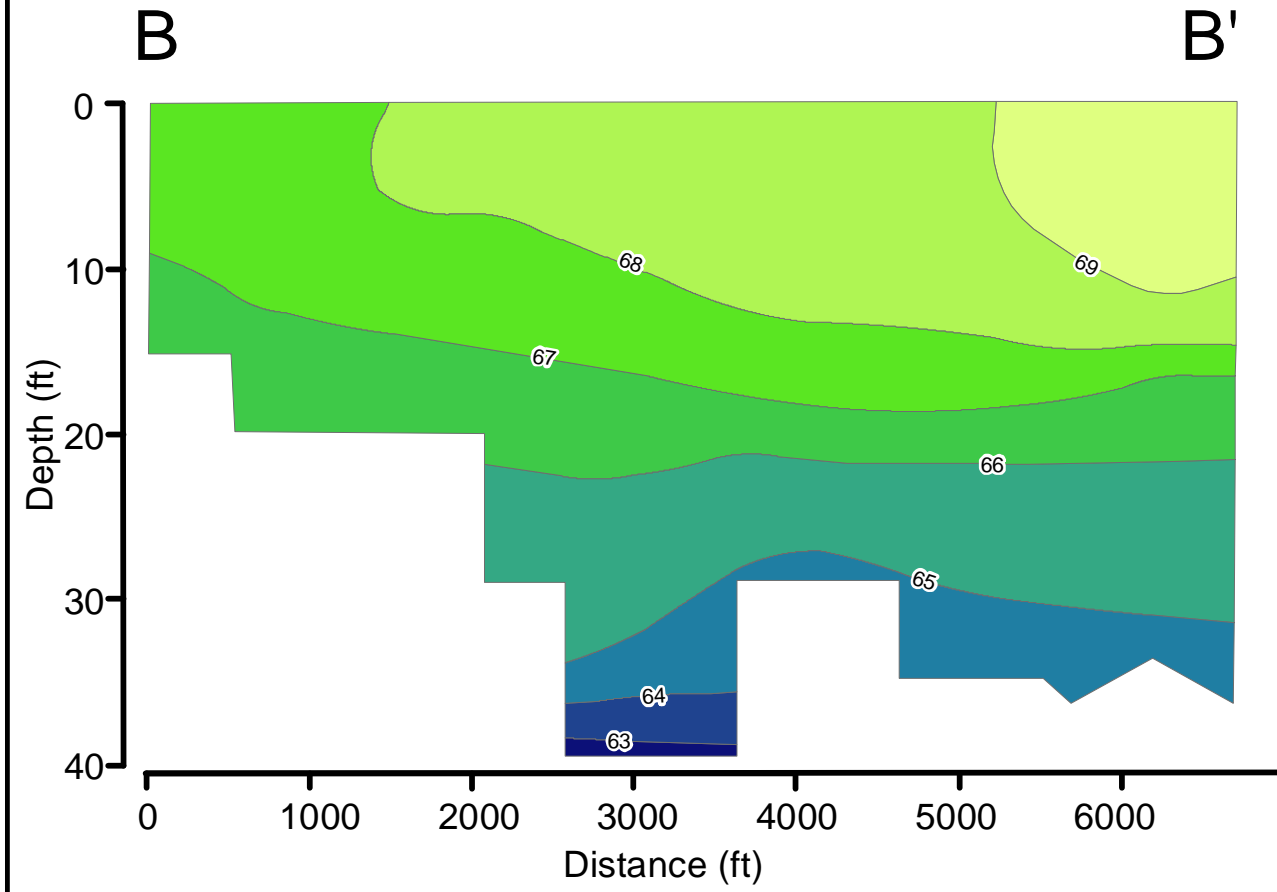
Temp F

- 62.1 - 63
- 63.1 - 64
- 64.1 - 65
- 65.1 - 66
- 66.1 - 67
- 67.1 - 68
- 68.1 - 69
- 69.1 - 70

"Normal" Conditions



"Maximum" Conditions



SERVICE LIST

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