ONONDAGA LAKE 2011
PRE-DESIGN INVESTIGATION
PHASE VII
DATA SUMMARY REPORT

Prepared For:

Honeywell

301 Plainfield Road, Suite 330
Syracuse, NY 13212

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, New York 13212
Phone: (315) 451-9560
Fax: (315) 451-9570

JANUARY 2013

TABLE OF CONTENTS

Page

LIST OF ACRONYMS iii

SECTION 1 INTRODUCTION 1-1

1.1 ONONDAGA LAKE 2011 PDI OBJECTIVES 1-1

1.2 REPORT ORGANIZATION 1-1

SECTION 2 WATER QUALITY INVESTIGATION 2-1

2.1 FIELD ACTIVITIES 2-1

2.2 LABORATORY ANALYSIS 2-1

SECTION 3 LITTORAL ZONE SEDIMENT PECQ SAMPLING 3-1

3.1 FIELD ACTIVITIES 3-1

3.2 LABORATORY ANALYSIS 3-1

SECTION 4 SMU 8 SEDIMENT INVESTIGATION 4-1

4.1 FIELD ACTIVITIES 4-1

4.2 RESULTS 4-1

SECTION 5 SHORELINE INVESTIGATIONS 5-1

5.1 UTILITY/ANOMALY INVESTIGATION 5-1

5.2 SUPPLEMENTAL SHORELINE SURVEY 5-2

5.3 DOT TURN AROUND AREA PROBING 5-3

SECTION 6 METEOROLOGICAL STATION MONITORING 6-1

6.1 METEOROLOGICAL STATIONS 6-1

SECTION 7 REFERENCE DOCUMENTS 7-1

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

Table 1 Summary of Vibracore Analytical Results

Table 2 Summary of Mercury Measured During 2011 in SMU 8 Sediment

Table 3 Summary of PECQ Parameters Measured During 2011

LIST OF FIGURES

Figure 1 Phase VII Remediation Area A Delineation Sample Locations

Figure 2 Phase VII Remediation Area B Delineation Sample Locations

Figure 3 Mercury in Top 6 Inches of Sediment in South Portion of Lake (mg/kg)

Figure 4 Mercury in Top 6 Inches of Sediment in North Portion of Lake (mg/kg)

Figure 5 SMU 8 Surface Sediment Sample Locations with Mean PECQ Results in the South Half of Onondaga Lake (0 to 4 cm)

Figure 6 Shoreline Structure Investigation

LIST OF APPENDICES

APPENDIX A WATER QUALITY FOR CONSTRUCTION BASELINE DATA SUMMARY REPORT

APPENDIX B LITTORAL ZONE SEDIMENT PECQ SAMPLING BORING LOGS

APPENDIX C SEDIMENT DATA USABILITY SUMMARY REPORT

APPENDIX D SMU 8 SEDIMENT CORE DESCRIPTIONS

APPENDIX E SHORELINE SURVEY

APPENDIX F DOT TURNAROUND PROBING INVESTIGATION

APPENDIX G MET TOWER DATA

LIST OF ACRONYMS

CLP	Contract Laboratory Program
cm	Centimeter
CPOIs	Chemical parameters of interest
DOT	Department of Transportation
DUSR	Data Usability Summary Report
ft	Foot or feet
LCMM-MRI	Lake Champlain Maritime Museum's Maritime Research Institute
NYSDEC	New York State Department of Environmental Conservation
PCB	Polychlorinated biphenyl
PDI	Pre-Design Investigation
PEC	Probable effect concentration
PECQ	Probable effects concentration quotient
QA/QC	Quality assurance/quality control
QAPP	Quality Assurance Project Plan
SAP	Sampling and Analysis Plan
SMU	Sediment management unit
SVOC	Semivolatile organic compounds
USEPA	United States Environmental Protection Agency
VOC	Volatile organic compound
WD	Wind direction

SECTION 1

INTRODUCTION

This Data Summary Report describes the information collected and the sample locations, data collection methods, analyses and testing performed during the Onondaga Lake 2011 Pre-Design Investigation (PDI) conducted from May to November 2011. The report also summarizes the investigation results. Sampling and analyses were conducted pursuant to the following New York State Department of Environmental Conservation (NYSDEC)-approved work plans:

- Onondaga Lake Pre-Design Investigation: Water Quality Monitoring for Construction Baseline Work Plan (Parsons, Anchor QEA and UFI, 2011)
- 2011 Lake Field Work Proposed Sediment Sampling Scope (Parsons, 2011)
- *Phase 1B Underwater Archaeological Report for the Onondaga Lake Bottom* (Lake Champlain Maritime Museum and Parsons, 2010)

In addition to the above referenced documents, several shoreline and SMU 8 investigations/surveys were completed to delineate abandoned utilities and potential obstructions to the dredging operations and to further assess natural recovery in SMU 8, respectively. These investigations were not completed as part of a specific work plan, but the results of these investigations are included in this report.

Baseline monitoring work conducted in Onondaga Lake during 2011 has been summarized separately (Parsons, Exponent and Anchor QEA, 2012).

1.1 ONONDAGA LAKE 2011 PDI OBJECTIVES

Each of the three documents listed above had a primary objective, as follows:

- Onondaga Lake Water Quality Monitoring for Construction Baseline Work Plan - obtain an understanding of baseline chemical and optical water quality characteristics (e.g., turbidity, water clarity) near proposed dredging and capping remediation areas where water quality monitoring during construction activities may occur
- 2011 Lake Field Work Proposed Sediment and Cultural Resource Sampling Scope - delineate remedial boundaries within Remediation Areas A and B where historic sediment samples exceed the mercury probable effect concentration (PEC) and/or probable effects concentration quotient (PECQ)
- Archaeological Survey - identify each anomaly near the proposed dredging and capping remediation area where historically significant properties may impact the remedial activities in Onondaga Lake

1.2 REPORT ORGANIZATION

This report is organized into the following sections:

- Section 1: Introduction
- Section 2: Water Quality Investigation
- Section 3: Littoral Zone Sediment PECQ Sampling

- Section 4: Sediment Management Unit (SMU) 8 Sediment Investigation
- Section 5: Shoreline Investigations
- Section 6: Meteorological Station Monitoring
- Section 7: References

SECTION 2

WATER QUALITY INVESTIGATION

The primary objective of this 2011 sampling program was to obtain a further understanding of baseline chemical and optical water quality conditions (e.g., turbidity, water clarity) near proposed dredging and capping remediation areas. Data was collected over a range of natural forcing conditions (e.g., tributary runoff, wind-driven waves, and typical lake currents) to understand how these forcing conditions affect water quality within Onondaga Lake.

2.1 FIELD ACTIVITIES

The 2011 field program consisted of: (1) six discrete sampling events with a focus on water quality conditions near the primary sediment remediation areas; (2) 24 weekly lake-wide monitoring events that included rapid profiling instrumentation; and (3) continuous measurement of turbidity at three locations within the lake. Complete details of the water quality investigation are described in the Anchor QEA *Onondaga Lake 2011 Water Quality for Construction Baseline Data Summary Report* included as Appendix A.

2.2 LABORATORY ANALYSIS

Analytical data generated during the investigation activities were reviewed and validated in accordance with the approved Phase I Sampling Analysis Plan (SAP) (Parsons, 2005) and revised Quality Assurance Project Plan (QAPP) (Parsons, 2010b). Level II through Level IV analytical data deliverables was validated (task dependent) in accordance with guidance provided by the U.S. Environmental Protection Agency (USEPA) and adapted to the quality assurance/quality control (QA/QC) criteria in the USEPA Contract Laboratory Program (CLP) and USEPA SW-846. Following validation, the results were incorporated into the Locus Focus data management system. Results of this investigation are presented in the Anchor QEA *Onondaga Lake 2011 Water Quality for Construction Baseline Data Summary Report* included as Appendix A.

SECTION 3

LITTORAL ZONE SEDIMENT PECQ SAMPLING

The littoral zone sediment PECQ scope of work focused on collecting additional data to advance the conceptual design. The objective of the sediment PECQ scope was to further delineate remedial boundaries within Remediation Areas A and B where historic sediment samples exceeded the mercury PEC and/or PECQ.

3.1 FIELD ACTIVITIES

As shown on Figures 1 and 2, sediment samples were collected from five locations to delineate the vertical and horizontal extents of contamination around the potential cultural resource located within Remediation Area A (OL-VC-40316 and OL-VC-40317) and the southeastern boundary of Remediation Area B (OL-VC-30187 through OL-VC-30189). Locations OL-VC-30187 and OL-VC-30188 were difficult to reach because the water was too shallow, prohibiting the vessel from being exactly on target; however, the vessel was able to get within 10 ft. of the intended location.

Sediment samples were collected to a depth of 5 ft. using a vibracore. Cores were sectioned into 1-ft. intervals, capped and sealed on the sampling vessel, and submitted for laboratory analysis. The cores were brought to the on-shore support zone where they were processed for lithology. Boring logs are presented in Appendix B.

In addition, Lake Champlain Maritime Museum's Maritime Research Institute (LCMM-MRI) collected two sediment samples from Anomaly A20 (OL-SB-40318 and OL-SB-40319). A20 sits west to east, from Ninemile Creek towards the Liverpool Marina. These samples were taken from the two corners closest to the shoreline west to east, the first at the west corner and the second at the east corner.

The diver used a core tube that was pushed into the sediment that was inside Anomaly A20. The cores were capped at the bottom of the anomaly and brought to the vessel where the samples were taped. Once the vessel arrived at the marina, the core was composited and transferred into sample bottles.

3.2 LABORATORY ANALYSIS

The sediment vibracore samples were shipped to the laboratory for analysis of chemical parameters of interest (CPOIs) including total mercury, volatile organic compounds (VOCs - benzene, toluene, ethylbenzene, xylenes, chlorinated benzenes), semivolatile organic compounds (SVOCs – polycyclic aromatic hydrocarbons (PAHs), phenol), and polychlorinated biphenyls (PCBs). Laboratory results are presented on Table 1. Sediment samples were field screened, logged, analyzed, and reported as described in the *Onondaga Lake Pre-Design Investigation: Phase VI Work Plan* (Parsons, 2010a). Data management, validation, and reporting were conducted in accordance with the Phase VI PDI Work Plan. A USEPA Level IV data validation was conducted on 10 percent of the chemical samples (i.e., full data validation) and a USEPA Level III data validation was conducted on the remaining 90% of the samples, as described in the DUSR, which is provided in Appendix C of this report.

SECTION 4

SMU 8 SEDIMENT INVESTIGATION

4.1 FIELD ACTIVITIES

Sediment sampling in SMU 8 during the 2011 Phase VII PDI included the following three efforts:

1. Sediment cores were collected at 10 locations throughout SMU 8 to measure total mercury at the 0 to 2 centimeter (cm), 2 to 4 cm and 4 to 10 cm sediment depth intervals. These 10 locations were widespread and at a distance from prior sediment sampling locations. Approximately half of the 10 cores were collected in areas where prior results indicated mercury levels were close to or exceeding the mercury PEC for Onondaga Lake of 2.2 parts per million in the top six inches of sediment.
2. A sediment core was collected at previous sampling location S57/80079 to measure the PECQ parameters in a sediment sample from the 0 to 4 cm depth interval.
3. Five sediment cores were collected from the sediment surface to at least 12 inches below the sediment surface to assess vertical layering in SMU 8 sediment at three different water depths. Two of the sediment cores were collected from a water depth of approximately 35 (feet) ft.; two cores were collected at a water depth of approximately 45 ft.; and one core was collected from a water depth of approximately 55 ft. These five cores were collected from the South Basin/South Corner and from the North Basin. Following collection, the cores were maintained in a vertical position, frozen quickly using dry ice, and split open vertically down the center of each core within one week of collection to assess the extent of varves / laminations. Observations of the sliced frozen cores were made initially after the cores were sliced and also one day following and two days following initial observations.

4.2 RESULTS

Table 2 presents mercury analytical results from the first sampling effort described above. Figures 3 and 4 present mercury results from the first sampling effort described above along with results for mercury in SMU 8 surface sediment from prior years. SMU 8 sediment mercury results from 2011 are all less than the mercury PEC in the top 4 cm of sediment and are in line with the expectations associated with the natural recovery that is ongoing in SMU 8. The mercury results also in general show lower concentrations in the top 2 cm of sediment than in the 2 to 4 cm interval, which suggests layering or differentiation within the top 4 cm of SMU 8 sediment.

Table 3 and Figure 5 present analytical results for PECQ parameters from the second sampling effort described above. Figure 5 also includes PECQ results for SMU 8 sediment from prior years. PECQ calculations were completed for the 2011 sampling location consistent with the calculation methodology agreed previously upon with NYSDEC. 2011 PECQ results from the single location OL-STA-80224 show a mean PECQ significantly less than one which is consistent with the OL-VC-80169 mean PECQ of 0.26 measured at an adjacent location during

2010. This most recent PECQ result indicates that thin-layer capping is not needed in that portion of SMU 8.

Each of the SMU 8 sediment cores collected from the third sediment sampling efforts described above showed layering within the top approximately 3 cm. Descriptions and photographs for each of these sediment cores are presented in Appendix D. Data validation was completed as described in the DUSR, which is provided in Appendix C.

SECTION 5

SHORELINE INVESTIGATIONS

Several shoreline investigations/surveys were completed to delineate abandoned utilities and potential obstructions to the dredging operations within the lake. The scope descriptions and results of the investigation are included below.

5.1 UTILITY/ANOMALY INVESTIGATION

A number of live or abandoned utilities and structural anomalies exist in the remediation footprint of the Onondaga Lake project. Where possible, utility profiles have previously been established in relation to the dredge/cap profiles through historic as-built drawings and a current survey. However, three abandoned pipelines known to be in existence required additional investigation. Another five utilities outfall into Onondaga Lake and are currently in use. The outfall and apron details for these utilities warranted further investigation to ensure that the remediation activities will not undermine their function. An on-water investigation was completed to document and survey the utilities and structural anomalies. Investigation methods included review of historical information, review of aerial photographs, surface and underwater camera visual inspections, and sediment probing. As shown on Figure 6, the investigation focused on the areas described below.

Remediation Area A

Two pipelines were tentatively identified at shallow depths using historical aerial photos. The intent of the investigation was to establish the existence of each pipeline and viability of removing these pipelines prior to dredging in this area. It was assumed that these were drain lines from Wastebed 8 and are abandoned; however, research has failed to retrieve any historic information regarding these two pipelines, and survey crews were unable to locate the pipelines due to turbidity from Ninemile Creek.

Remediation Area C

Three off-shore utilities outfall in close proximity to each other near to the Westside Pump Station. The investigation of these utilities was completed to establish the extents of the headwall, apron, and depth of the outlet protection. The three utilities include:

1. The culvert from the Westside pump station is a 42-inch reinforced concrete pipe with unknown headwall and apron details.
2. The outlet for Tributary 5A is a 60-inch steel culvert. The design drawings indicated that the pipe itself extended approximately 20 ft. from the shoreline. The outlet protection extends a further 20 ft. into the lake with a final width of approximately 60 ft.
3. The outfall to MH-1 (for storm water drainage from I-690) is a 24-inch smooth interior corrugated polypropylene pipe encased in concrete.

Remnants of pile foundations from a destroyed yacht club also lie in the vicinity of these utilities in Remediation Area C. Further investigation was required to delineate the full extent of

the pile field, the number of piles, and the actual pile construction because the remnants lie in the dredge footprint. Results of the Remediation Area C investigation are also found in the CAD files included in Appendix E.

Remediation Area D

A linear anomaly, assumed to be a baffle wall, was identified from aerial photography. No historic data has been found regarding this element. The investigation was unable to establish the location and construction of a baffle wall but recorded what appears to be the interface between the Solvay Waste and the original lake bottom as noted in the CAD files included in Appendix E.

Remediation Area D and E

Little detail is known regarding this utility except that it was thought to be an abandoned 6- or 8-inch diameter, cast iron force main owned by Sun Oil. The investigation found the remains of an 8-inch diameter cast iron pipeline in poor condition and was to establish the actual locations of the changes in direction of this pipeline and the elevations at which these directional changes occur. The pipeline appears eventually to completely disintegrate as depicted in the CAD files included in Appendix E.

Remediation Area E

Two active utilities associated with the Metro water treatment facility exist in Remediation Area E. One is a 24-inch storm drain of reinforced concrete construction that extends approximately 82 ft. from the shoreline. The other is a 96-inch outfall, also of reinforced concrete construction, that extends approximately 75 ft. from the shoreline. The investigation determined the actual location and elevation of these utilities at the shoreline and at their outfalls.

Additionally, a stone breakwater exists slightly southeast of the Syracuse Inner Harbor. The structure is approximately 20 ft. wide and extends 250 ft. from the shoreline. The investigation established the location and base dimensions of this feature. Results of the Remediation Area E investigation are also found in the CAD files included in Appendix E.

5.2 SUPPLEMENTAL SHORELINE SURVEY

Supplemental bathymetric and topographic surveying was also completed along the southeast corner of Onondaga Lake adjacent to the CSX tracks to support evaluation of remedial approaches in this area. The bathymetric survey area extended 200 ft. from the shoreline into Onondaga Lake along approximately 2,700 ft. of shoreline. Topographic information upland of the shoreline was collected to overlap with the topographic mapping prepared in February 2011. Specific tasks completed include the following:

- Established transects perpendicular to the shoreline at 25-ft. intervals.
- Obtained spot elevations of the lake bottom at approximate 10-ft. intervals and at breaks in grade along each transect. A survey rod with a flat plate fixed to the bottom was used to minimize the depth the rod penetrated the soft sediment.
- Obtained spot elevations at observed high and low points within the survey area.
- Established transects perpendicular to the flow of Onondaga Creek at 25-ft. intervals. The transects extended into Onondaga Lake approximately 200 ft. from the westerly face of the railroad bridge.

- Obtained spot elevations of the bottom of Onondaga Creek at approximate 10-ft. intervals and at breaks in grade along each transect. A survey rod with a flat plate fixed to the bottom was used to minimize the depth the rod penetrated the soft sediment.
- Obtained spot elevations upland of the shoreline to integrate the upland topographic mapping prepared in February 2011.
- Determined the horizontal extent of the rip-rap armor layer extending from the shoreline into the lake.
- Obtained sufficient bathymetric information around each of the Metro outfalls.
- Located the abutments and wing walls of the railroad bridge; determined the elevations of the top and bottom of the abutments and walls

As noted previously, results of the supplemental survey are included in Appendix E.

5.3 DOT TURNAROUND AREA PROBING

Anchor QEA performed an investigation to delineate the extent of the slag extending into the lake along the slope of the Department of Transportation (DOT) turnaround area to determine slope stability. Probing was conducted along four transects perpendicular to the shore. A sampling vessel was anchored as close to shore as possible, water depths recorded, and probing conducted with a 1-inch diameter steel rod pushing to refusal four to six times along each transect. Results of this investigation can be found in Appendix F.

SECTION 6

METEOROLOGICAL STATION MONITORING

6.1 METEOROLOGICAL STATIONS

A meteorological station was installed in 2007 as part of the Phase II PDI in the area near SMU 1 to collect site-specific data near the dredge area. The station is a 10-meter meteorological tower similar to the one currently operating at Wastebed 13 (installed as part of the Phase I PDI). The solar-powered tower at Wastebed 13 was installed in November 2006 and began collecting continuous data (measurements collected every five minutes) on December 1, 2006. The table below summarizes the parameters that are currently being measured by the station, and the results for this tower and the Wastebed 13 tower to date are presented in Appendix G. These data will be used in the air quality evaluation that is being conducted for the project.

2-Meter Level Measurements	**10-Meter Level Measurements**
Temperature	Horizontal Wind Speed
Relative Humidity	Horizontal Wind Direction (WD)
Dew Point Temperature	Standard Deviation of Horizontal WD or
Solar Radiation	Sigma-Theta (computed)
Barometric Pressure	Orthogonal Wind Components
	Standard Deviation of Wind Components or
	Vertical/Lateral Turbulence (computed)
	Temperature
	Temperature Difference (10m vs. 2m)

Sensory instrumentation and data acquisition hardware have been used with software that fully meets the performance and operating specifications in USEPA's guidelines for air quality modeling applications, including *Meteorological Monitoring Program Guidance for Regulatory Modeling Applications* (USEPA 2000).

SECTION 7

REFERENCE DOCUMENTS

The activities described in this report were conducted in accordance with the following:

Lake Champlain Maritime Museum and Parsons, 2010. *Phase 1B Underwater Archaeological Report for the Onondaga Lake Bottom*. Prepared for Honeywell, December 2010.

Parsons, 2005. Onondaga Lake Phase I Pre-Design Investigation: Sampling and Analysis Plan. Prepared for Honeywell, Morristown, New Jersey and Syracuse, New York.

Parsons, 2010a. Onondaga Lake Pre-Design Investigation: Revised Quality Assurance Project Plan. Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York.

Parsons, 2010b. Onondaga Lake Pre-Design Investigation: Phase VI Work Plan. Prepared for Honeywell, Morristown, New Jersey and Syracuse, New York.

Parsons, 2011. Lake Field Work Proposed Sediment Sampling Scope. Prepared for Honeywell. July 2011.

Parsons, Anchor QEA, and UFI, 2011. Onondaga Lake Pre-Design Investigation: Water Quality Monitoring for Construction Baseline Work Plan. Prepared for Honeywell. May 2011.

Parsons, Exponent, and Anchor QEA, 2012. Onondaga Lake Baseline Monitoring Report for 2011. Prepared for Honeywell. Syracuse, NY. February 2012. Draft for agency review.

USEPA, 2000. Meteorological Monitoring Program Guidance for Regulatory Modeling Applications. EPA-450/R-99-005, United States Environmental Protection Agency, Washington DC, USA.

TABLES

		Location	OL-VC-30187		OL-VC-30187		OL-VC-30187		OL-VC-30187		OL-VC-30187		OL-VC-30188		OL-VC-30188	
		Sample Depth	0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft		0.00-1.00 Ft		1.00-2.00 Ft	
		Field Sample ID	OL-1525-12		OL-1525-13		OL-1525-14		OL-1525-15		OL-1525-16		OL-1525-06		OL-1525-07	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011	
		SDG	JA81766		JA81766		JA81766		JA81766		JA81766		JA81766		JA81766	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	14200	J	8210		6670		6650		6290		5320		7050	
SM2540G	SOLIDS, PERCENT	%	36.5		58.1		59.6		55.3		56.3		57.7		60.5	
SW7471	MERCURY	mg/kg	0.053	J	0.16		0.023	U	0.025	U	0.024	U	0.024	U	0.023	J
SW8082	AROCLOR-1248	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1254	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1260	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1268	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	PCBS, N.O.S.	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8260	1,2-DICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,3-DICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,4-DICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	BENZENE	ug/kg	5250	J	1160		894		1740		2400		2990		5830	
SW8260	CHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	ETHYLBENZENE	ug/kg	2040	J	519		348		566		484		585		238	
SW8260	NAPHTHALENE	ug/kg	105000	J	56200		38400		54900		44600		28200		5860	
SW8260	O-XYLENE	ug/kg	11200	J	3160		2260		3460		2990		394		521	
SW8260	TOLUENE	ug/kg	22300	J	5240		3740		6670		6480		179		90.9	
SW8260	XYLENES, M & P	ug/kg	38800	J	10700		7400		11600		9970		2100		900	
SW8260	XYLENES, TOTAL	ug/kg	50000	J	13900		9660		15000		13000		2490		1420	
SW8270	ACENAPHTHENE	ug/kg	7.8	UJ	4.9	U	4.8	U	5.2	U	5.1	U	11.6		4.7	U
SW8270	ACENAPHTHYLENE	ug/kg	90.6	J	76.5		4.8	U	5.2	U	5.1	U	25.6		4.7	U
SW8270	ANTHRACENE	ug/kg	222	J	154		4.8	U	5.2	U	5.1	U	52.3		4.7	U
SW8270	BENZO(A)ANTHRACENE	ug/kg	243	J	208		4.8	U	5.2	U	5.1	U	122		4.7	U
SW8270	BENZO(A)PYRENE	ug/kg	113	J	113		4.8	U	5.2	U	5.1	U	80.5		4.7	U
SW8270	BENZO(B)FLUORANTHENE	ug/kg	134	J	145		4.8	U	5.2	U	5.1	U	139		4.7	U
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	77	J	68.8		4.8	U	5.2	U	5.1	U	57.9		4.7	U
SW8270	BENZO(K)FLUORANTHENE	ug/kg	101	J	64.8		4.8	U	5.2	U	5.1	U	19.3		4.7	U
SW8270	CHRYSENE	ug/kg	328	J	201		4.8	U	5.2	U	5.1	U	110		4.7	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	24.6	J	4.9	U	4.8	U	5.2	U	5.1	U	5	U	4.7	U
SW8270	FLUORANTHENE	ug/kg	560	J	616		4.8	U	5.2	U	5.1	U	229		4.7	U
SW8270	FLUORENE	ug/kg	7.8	UJ	281		4.8	U	5.2	U	5.1	U	86.1		4.7	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	63.1	J	63.6		4.8	U	5.2	U	5.1	U	54.6		4.7	U
SW8270	PHENANTHRENE	ug/kg	596	J	456		4.8	U	5.2	U	5.1	U	113		4.7	U
SW8270	PHENOL	ug/kg	366	J	153		122		155		193		54		47	U
SW8270	PYRENE	ug/kg	298	J	448		4.8	U	5.2	U	5.1	U	210		4.7	U
SW9045	pH	S.U.	11.15	J	11.54		11.68		11.76		11.61		8.21		7.4	

		Location	OL-VC-30188		OL-VC-30188		OL-VC-30188		OL-VC-30188		OL-VC-30189		OL-VC-30189		OL-VC-30189	
		Sample Depth	1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft		0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft	
		Field Sample ID	OL-1525-08		OL-1525-09		OL-1525-10		OL-1525-11		OL-1525-01		OL-1525-02		OL-1525-03	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011	
		SDG	JA81766		JA81766		JA81766		JA81766		JA81766		JA81766		JA81766	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Field duplicate		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	7170		7950		7090		6930		9120	J	4710	J	1600	J
SM2540G	SOLIDS, PERCENT	%	57		54.1		55		52.1		35.7		31.1		26.8	
SW7471	MERCURY	mg/kg	0.024	U	0.025	U	0.025	U	0.027	U	0.76	J	0.14	J	0.24	J
SW8082	AROCLOR-1248	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1254	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1260	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1268	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	PCBS, N.O.S.	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8260	1,2-DICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	0.83	J	16	UJ	19	UJ
SW8260	1,3-DICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	1,4-DICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	1.1	J	0.79	J	1.5	J
SW8260	BENZENE	ug/kg	6880		9060		9680		7040		112	J	218	J	646	J
SW8260	CHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	ETHYLBENZENE	ug/kg	238		212		143		78		1.4	J	1.5	J	0.91	J
SW8260	NAPHTHALENE	ug/kg	5060		2170		1840		1310		54.5	J	19.5	J	19.6	J
SW8260	O-XYLENE	ug/kg	667		706		437		259		6	J	2.8	J	3.9	J
SW8260	TOLUENE	ug/kg	211		2890		6280		2910		8.8	J	6.8	J	12.3	J
SW8260	XYLENES, M & P	ug/kg	930		1250		1220		789		12.4	J	6.3	J	3.8	J
SW8260	XYLENES, TOTAL	ug/kg	1600		1960		1660		1050		18.4	J	9.1	J	7.8	J
SW8270	ACENAPHTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	32.1	J	12	J	11	UJ
SW8270	ACENAPHTHYLENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	29.3	J	36.1	J	11	UJ
SW8270	ANTHRACENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	25.4	J	34.1	J	15.6	J
SW8270	BENZO(A)ANTHRACENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	78.9	J	45.5	J	50.7	J
SW8270	BENZO(A)PYRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	39.9	J	22.3	J	36.6	J
SW8270	BENZO(B)FLUORANTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	44.3	J	19.4	J	41.4	J
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	27.4	J	13.2	J	23.7	J
SW8270	BENZO(K)FLUORANTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	29.1	J	14.4	J	26.3	J
SW8270	CHRYSENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	106	J	35.3	J	39.6	J
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	8	UJ	9.2	UJ	11	UJ
SW8270	FLUORANTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	179	J	91.2	J	86.3	J
SW8270	FLUORENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	102	J	19.3	J	11	UJ
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	21.2	J	10.8	J	22.3	J
SW8270	PHENANTHRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	159	J	142	J	111	J
SW8270	PHENOL	ug/kg	50	U	53	U	414		1030		3920	J	1670	J	1940	J
SW8270	PYRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	272	J	144	J	82	J
SW9045	pH	S.U.	7.27		7.08		7.03		7.1		11.45	J	12.03	J	11.97	J

		Location	OL-VC-30189		OL-VC-30189		OL-VC-40316		OL-VC-40316		OL-VC-40316		OL-VC-40316		OL-VC-40316	
		Sample Depth	3.00-4.00 Ft		4.00-5.00 Ft		0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft	
		Field Sample ID	OL-1525-04		OL-1525-05		OL-1526-02		OL-1526-03		OL-1526-04		OL-1526-05		OL-1526-06	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011	
		SDG	JA81766		JA81766		JA81765		JA81765		JA81765		JA81765		JA81765	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	2760	J	1580	J	10800		18800		65800		57300		27600	
SM2540G	SOLIDS, PERCENT	%	23.5		31.1		61.6		59.7		58.6		56.8		56	
SW7471	MERCURY	mg/kg	0.31	J	0.27	J	14.9		35.7		2.3		0.87		0.49	
SW8082	AROCLOR-1248	ug/kg	13	UJ	9.5	UJ	48.3	J	62.2		19.2		10.1	J	5.3	U
SW8082	AROCLOR-1254	ug/kg	13	UJ	9.5	UJ	27		36.4	J	48	J	14.1	J	5.3	U
SW8082	AROCLOR-1260	ug/kg	13	UJ	9.5	UJ	4.7	U	4.8	U	11.4	J	5	U	5.3	U
SW8082	AROCLOR-1268	ug/kg	13	UJ	9.5	UJ	313	J	392	J	5	U	5	U	5.3	U
SW8082	PCBS, N.O.S.	ug/kg	13	UJ	9.5	UJ	388		491	J	78.6		24.2	J	5.3	U
SW8260	1,2-DICHLOROBENZENE	ug/kg	22	UJ	17	UJ	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	1,3-DICHLOROBENZENE	ug/kg	22	UJ	17	UJ	2	J	1.8	J	9.5	U	9.4	U	8.9	U
SW8260	1,4-DICHLOROBENZENE	ug/kg	2.3	J	1.5	J	1.3	J	0.87	J	9.5	U	9.4	U	8.9	U
SW8260	BENZENE	ug/kg	1670	J	881	J	1.7	U	1.7	U	1.9	U	1.9	U	1.8	U
SW8260	CHLOROBENZENE	ug/kg	22	UJ	17	UJ	1.3	J	0.89	J	9.5	U	9.4	U	8.9	U
SW8260	ETHYLBENZENE	ug/kg	1	J	3.5	UJ	1.7	U	1.7	U	1.9	U	1.9	U	1.8	U
SW8260	NAPHTHALENE	ug/kg	22.3	J	12.2	J	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	O-XYLENE	ug/kg	5.2	J	3.3	J	0.36	J	0.37	J	1.9	U	1.9	U	1.8	U
SW8260	TOLUENE	ug/kg	13.5	J	9.5	J	1.7	U	1.7	U	1.9	U	1.9	U	1.8	U
SW8260	XYLENES, M & P	ug/kg	3.9	J	2.5	J	0.92	J	0.59	J	1.9	U	1.9	U	1.8	U
SW8260	XYLENES, TOTAL	ug/kg	9.1	J	5.8	J	1.3	J	0.96	J	1.9	U	1.9	U	1.8	U
SW8270	ACENAPHTHENE	ug/kg	12	UJ	9.2	UJ	4.6	U	4.8	U	5.59		5.69		12.8	
SW8270	ACENAPHTHYLENE	ug/kg	12	UJ	10.3	J	6.63		6.76		19.6		20.7		16.3	
SW8270	ANTHRACENE	ug/kg	16.6	J	27.1	J	10.3		10.8		24.2		23		76.8	
SW8270	BENZO(A)ANTHRACENE	ug/kg	24.6	J	49.7	J	58.3		32.1		84.6		79.8		240	
SW8270	BENZO(A)PYRENE	ug/kg	12	UJ	31.1	J	36.2		17		49.2		44.6		136	
SW8270	BENZO(B)FLUORANTHENE	ug/kg	12	UJ	59.3	J	41.1		18.3		60.2		57.7		173	
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	12	UJ	12.8	J	26.6		11.5		31.5		28.3		89.1	
SW8270	BENZO(K)FLUORANTHENE	ug/kg	12	UJ	9.2	UJ	36.7		19.1		36.9		33.3		149	
SW8270	CHRYSENE	ug/kg	12.6	J	53	J	61.2		35.2		89.3		81.9		253	
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	12	UJ	9.2	UJ	8.48		4.8	U	11.8		10.8		36.6	
SW8270	FLUORANTHENE	ug/kg	55.7	J	140	J	106		70.8		150		141		615	
SW8270	FLUORENE	ug/kg	12	UJ	9.2	UJ	4.6	U	10.1		12.2		12.5		22.3	
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	12	UJ	20.2	J	24.4		10.5		29.3		26.8		89.3	
SW8270	PHENANTHRENE	ug/kg	141	J	91.5	J	38.3		47.6		103		99.2		267	
SW8270	PHENOL	ug/kg	2270	J	1410	J	46	U	48	U	49	U	54.6		51	U
SW8270	PYRENE	ug/kg	45.7	J	115	J	103		71.3		159		141		464	
SW9045	pH	S.U.	11.98	J	12.01	J	7.48		7.25		7.16		7.14		7.22	

		Location	OL-VC-40317		OL-VC-40317		OL-VC-40317		OL-VC-40317		OL-VC-40317		OL-SB-40318		OL-SB-40319	
		Sample Depth	0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft		0-1 Ft		0-1 Ft	
		Field Sample ID	OL-1525-17		OL-1525-18		OL-1525-19		OL-1525-20		OL-1526-01		OL-1523-01		OL-1523-02	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		6/28/2011		6/28/2011	
		SDG	JA81766		JA81766		JA81766		JA81766		JA81765		JA79653R		JA79653R	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	14400		30000		14000		25700		71900	J				
SM2540G	SOLIDS, PERCENT	%	60.8		55.1		59.4		52.4		37.5		67.3		63	
SW7471	MERCURY	mg/kg	12.9		3		0.21		0.037	J	0.044	J	0.26	J	1.6	J
SW8082	AROCLOR-1248	ug/kg	25.3		5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1254	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1260	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1268	ug/kg	60.2	J	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	PCBS, N.O.S.	ug/kg	85.5		5.3	U	5	U	5.6	U	7.8	UJ				
SW8260	1,2-DICHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,3-DICHLOROBENZENE	ug/kg	1.6	J	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,4-DICHLOROBENZENE	ug/kg	1	J	9.1	U	9.4	U	10	U	15	UJ				
SW8260	BENZENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	CHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	ETHYLBENZENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	NAPHTHALENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	O-XYLENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	TOLUENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	XYLENES, M & P	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	XYLENES, TOTAL	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8270	ACENAPHTHENE	ug/kg	15.4		7.62		8.24		5.5	U	7.6	UJ				
SW8270	ACENAPHTHYLENE	ug/kg	30.6		28.7		15.5		5.5	U	7.6	UJ				
SW8270	ANTHRACENE	ug/kg	63		22.9		23.9		5.5	U	7.6	UJ				
SW8270	BENZO(A)ANTHRACENE	ug/kg	215		67.6		96.3		5.5	U	7.6	UJ				
SW8270	BENZO(A)PYRENE	ug/kg	173		76.2		70.9		5.5	U	7.6	UJ				
SW8270	BENZO(B)FLUORANTHENE	ug/kg	228		74.9		123		5.5	U	7.6	UJ				
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	118		50.5		44.5		5.5	U	7.6	UJ				
SW8270	BENZO(K)FLUORANTHENE	ug/kg	96.5		43.7		28.6		5.5	U	7.6	UJ				
SW8270	CHRYSENE	ug/kg	195		68.3		90.1		5.5	U	7.6	UJ				
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	4.7	U	17.6		4.8	U	5.5	U	7.6	UJ				
SW8270	FLUORANTHENE	ug/kg	401		116		190		5.5	U	7.6	UJ				
SW8270	FLUORENE	ug/kg	15.5		5.2	U	9.67		5.5	U	7.6	UJ				
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	111		42.3		45		5.5	U	7.6	UJ				
SW8270	PHENANTHRENE	ug/kg	155		81.5		74.9		5.5	U	7.6	UJ				
SW8270	PHENOL	ug/kg	47	U	52	U	48	U	55	U	76	UJ				
SW8270	PYRENE	ug/kg	317		142		212		5.5	U	7.6	UJ				
SW9045	pH	S.U.	7.45		7.34		7.27		7.57		7.32	J				

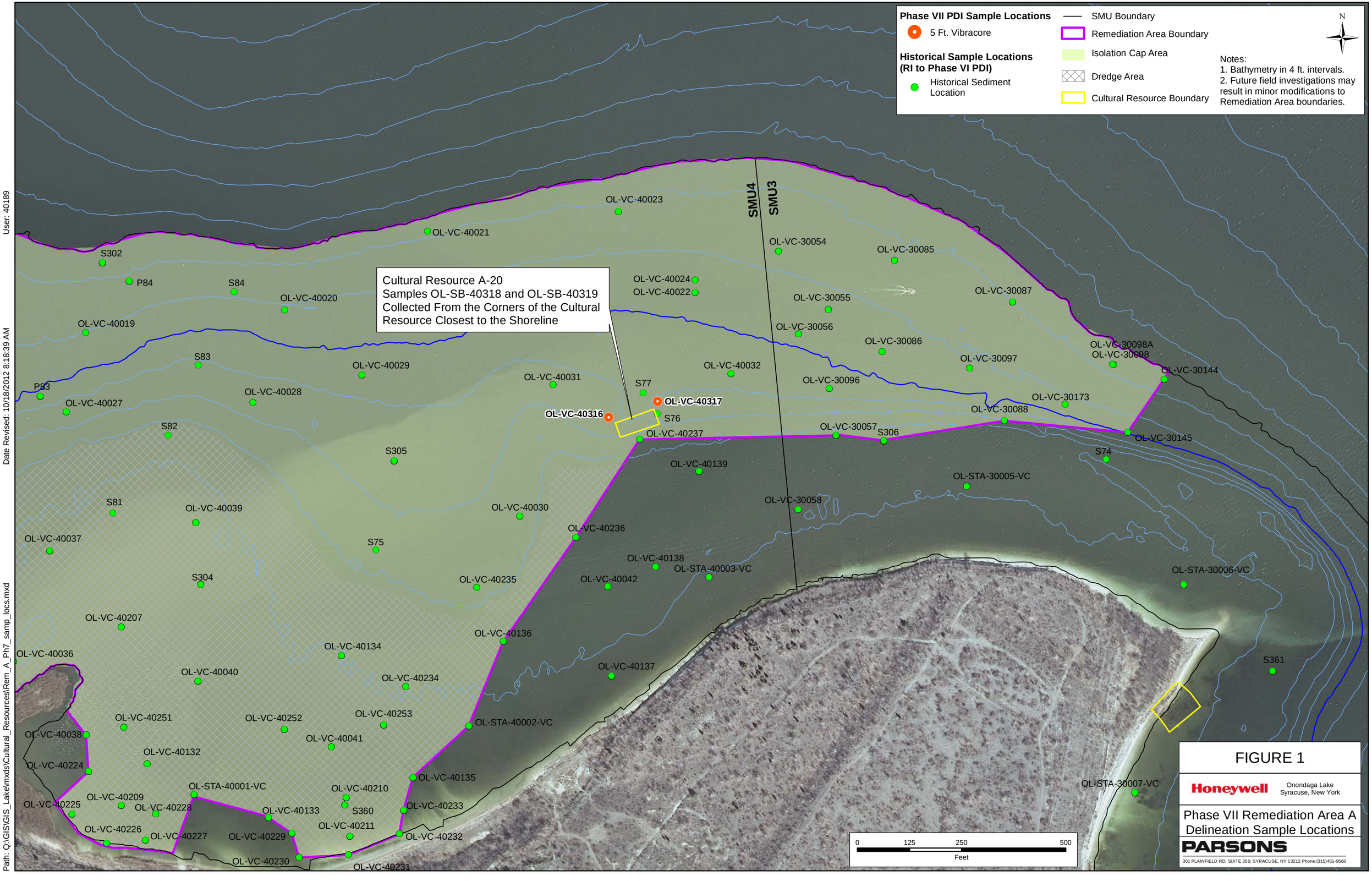
Table 2

Summary of Mercury Measured During 2011 in SMU 8 Sediment

										PERCENT		SOLIDS,
							Parameter	MERCURY		MOISTURE		PERCENT
							Units	mg/kg		%		%
Location ID	Sample Depth	Field Sample ID	Sample Date	Sample Delivery Group	Matrix	Purpose	Samp Type					
OL-STA-80225	0-0.066 FT	OL-1536-01	9/23/2011	180-4306-1	SOIL	REG	SED	1	J	84		16
OL-STA-80225	0.066-0.133 FT	OL-1536-02	9/23/2011	180-4306-1	SOIL	REG	SED	1.1	J	77		23
OL-STA-80225	0.133-0.33 FT	OL-1536-03	9/23/2011	180-4306-1	SOIL	REG	SED	1.9	J	73		27
OL-STA-80226	0-0.066 FT	OL-1536-04	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	75		25
OL-STA-80226	0.066-0.133 FT	OL-1536-05	9/23/2011	180-4306-1	SOIL	REG	SED	1.6	J	71		29
OL-STA-80226	0.133-0.33 FT	OL-1536-06	9/23/2011	180-4306-1	SOIL	REG	SED	2.1	J	69		31
OL-STA-80227	0-0.066 FT	OL-1536-07	9/23/2011	180-4306-1	SOIL	REG	SED	1.4	J	72		28
OL-STA-80227	0.066-0.133 FT	OL-1536-08	9/23/2011	180-4306-1	SOIL	REG	SED	1.9	J	71		29
OL-STA-80227	0.133-0.33 FT	OL-1536-09	9/23/2011	180-4306-1	SOIL	REG	SED	2.6	J	69		31
OL-STA-80228	0-0.066 FT	OL-1536-10	9/23/2011	180-4306-1	SOIL	REG	SED	0.96	J	79		21
OL-STA-80228	0.066-0.133 FT	OL-1536-11	9/23/2011	180-4306-1	SOIL	REG	SED	0.92	J	79		21
OL-STA-80228	0.133-0.33 FT	OL-1536-12	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	78		22
OL-STA-80229	0-0.066 FT	OL-1536-13	9/23/2011	180-4306-1	SOIL	REG	SED	1.1	J	81		19
OL-STA-80229	0.066-0.133 FT	OL-1536-14	9/23/2011	180-4306-1	SOIL	REG	SED	1.1	J	80		20
OL-STA-80229	0.133-0.33 FT	OL-1536-15	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	77		23
OL-STA-80230	0-0.066 FT	OL-1536-16	9/23/2011	180-4306-1	SOIL	REG	SED	0.87	J	79		21
OL-STA-80230	0.066-0.133 FT	OL-1536-17	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	78		22
OL-STA-80230	0.133-0.33 FT	OL-1536-18	9/23/2011	180-4306-1	SOIL	REG	SED	1.6	J	68		32
OL-STA-80230	0.133-0.33 FT	OL-1536-19	9/23/2011	180-4306-1	SOIL	FD	SED	1.7	J	67		33
OL-STA-80231	0-0.066 FT	OL-1536-20	9/23/2011	180-4306-1	SOIL	REG	SED	0.9	J	77		23
OL-STA-80231	0.066-0.133 FT	OL-1537-01	9/23/2011	180-4306-2	SOIL	REG	SED	1.4	J	78		22
OL-STA-80231	0.133-0.33 FT	OL-1537-02	9/23/2011	180-4306-2	SOIL	REG	SED	2.1	J	73		27
OL-STA-80232	0-0.066 FT	OL-1537-03	9/23/2011	180-4306-2	SOIL	REG	SED	1	J	77		23
OL-STA-80232	0.066-0.133 FT	OL-1537-04	9/23/2011	180-4306-2	SOIL	REG	SED	1.2	J	78		22
OL-STA-80232	0.133-0.33 FT	OL-1537-05	9/23/2011	180-4306-2	SOIL	REG	SED	2.2	J	74		26
OL-STA-80233	0-0.066 FT	OL-1537-06	9/23/2011	180-4306-2	SOIL	REG	SED	1.7	J	73		27
OL-STA-80233	0.066-0.133 FT	OL-1537-07	9/23/2011	180-4306-2	SOIL	REG	SED	1.9	J	75		25
OL-STA-80233	0.133-0.33 FT	OL-1537-08	9/23/2011	180-4306-1	SOIL	REG	SED	2.4	J	74		26
OL-STA-80234	0-0.066 FT	OL-1537-09	9/23/2011	180-4306-2	SOIL	REG	SED	0.92	J	77		23
OL-STA-80234	0.066-0.133 FT	OL-1537-10	9/23/2011	180-4306-2	SOIL	REG	SED	1.3	J	76		24
OL-STA-80234	0.133-0.33 FT	OL-1537-11	9/23/2011	180-4306-2	SOIL	REG	SED	1.8	J	70		30

Table 3						
Summary of SMU 8 Sediment PECQ Parameters Measured During 2011						
		Location	OL-STA-80224		OL-STA-80224	
		Sample Depth	0.00-0.13 Ft		0.00-0.13 Ft	
		Field Sample ID	OL-1535-01		OL-1535-02	
		Sample Date	9/23/2011		9/23/2011	
		SDG	JA87094		JA87094	
		Matrix	SOIL		SOIL	
		Sample Purpose	Regular sample		Field duplicate	
		Sample Type	Sediment		Sediment	
Method	Parameter Name	Units				
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	36800	J	33900	J
SM2540G	SOLIDS, PERCENT	%	22.4		22.1	
SW7471	MERCURY	mg/kg	1.1	J	0.86	J
SW8082	AROCLOR-1016	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1221	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1232	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1242	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1248	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1254	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1260	ug/kg	280	J	110	UJ
SW8082	AROCLOR-1268	ug/kg	110	UJ	110	UJ
SW8082	PCBS, N.O.S.	ug/kg	280	J	110	UJ
SW8260	1,2,3-TRICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,2,4-TRICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,2-DICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,3,5-TRICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,3-DICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,4-DICHLOROBENZENE	ug/kg	2.7	J	2.2	J
SW8260	BENZENE	ug/kg	3.1	J	2.2	J
SW8260	CHLOROBENZENE	ug/kg	3.5	J	3	J
SW8260	ETHYLBENZENE	ug/kg	4.9	UJ	4.9	UJ
SW8260	NAPHTHALENE	ug/kg	24	UJ	25	UJ
SW8260	O-XYLENE	ug/kg	4.9	UJ	4.9	UJ
SW8260	TOLUENE	ug/kg	4.9	UJ	4.9	UJ
SW8260	XYLENES, M & P	ug/kg	4.9	UJ	4.9	UJ
SW8260	XYLENES, TOTAL	ug/kg	4.9	UJ	4.9	UJ
SW8270	ACENAPHTHENE	ug/kg	410	UJ	320	UJ
SW8270	ACENAPHTHYLENE	ug/kg	410	UJ	320	UJ
SW8270	ANTHRACENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(A)ANTHRACENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(A)PYRENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(B)FLUORANTHENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(K)FLUORANTHENE	ug/kg	410	UJ	320	UJ
SW8270	CHRYSENE	ug/kg	410	UJ	320	UJ
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	410	UJ	320	UJ
SW8270	FLUORANTHENE	ug/kg	410	UJ	320	UJ
SW8270	FLUORENE	ug/kg	410	UJ	320	UJ
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	410	UJ	320	UJ
SW8270	PHENANTHRENE	ug/kg	410	UJ	320	UJ
SW8270	PHENOL	ug/kg	4100	UJ	3200	UJ
SW8270	PYRENE	ug/kg	410	UJ	320	UJ
SW9045	pH	S.U.	7.53	J	7.48	J

FIGURES


Phase VII PDI Sample Locations
5 Ft. Vibracore
Historical Sample Locations (RI to Phase VI PDI)
Historical Sediment Location
SMU Boundary
Remediation Area Boundary
Isolation Cap Area
Dredge Area
Cultural Resource Boundary
N
Notes:
1. Bathymetry in 4 ft. intervals.
2. Future field investigations may result in minor modifications to Remediation Area boundaries.
Cultural Resource A-20
Samples OL-SB-40318 and OL-SB-40319
Collected From the Corners of the Cultural Resource Closest to the Shoreline
SMU4
SMU3
OL-VC-40023
OL-VC-40021
S302
P84
S84
OL-VC-40020
OL-VC-40019
S83
OL-VC-40029
P83
OL-VC-40028
OL-VC-40027
S82
S305
S81
OL-VC-40039
OL-VC-40037
S75
S304
OL-VC-40207
OL-VC-40036
OL-VC-40040
OL-VC-40251
OL-VC-40252
OL-VC-40253
OL-VC-40038
OL-VC-40041
OL-VC-40132
OL-VC-40224
OL-STA-40001-VC
OL-VC-40209
OL-VC-40225
OL-VC-40228
OL-VC-40133
OL-VC-40210
S360
OL-VC-40226
OL-VC-40227
OL-VC-40229
OL-VC-40211
OL-VC-40230
OL-VC-40231
OL-VC-40024
OL-VC-40022
OL-VC-40031
OL-VC-40032
S77
OL-VC-40317
OL-VC-40316
S76
OL-VC-40237
OL-VC-40139
OL-VC-40030
OL-VC-40236
OL-VC-40235
OL-VC-40042
OL-VC-40138
OL-STA-40003-VC
OL-VC-40136
OL-VC-40134
OL-VC-40234
OL-VC-40137
OL-STA-40002-VC
OL-VC-40135
OL-VC-40233
OL-VC-40232
OL-VC-30054
OL-VC-30085
OL-VC-30055
OL-VC-30087
OL-VC-30056
OL-VC-30086
OL-VC-30098A
OL-VC-30098
OL-VC-30097
OL-VC-30144
OL-VC-30096
OL-VC-30173
OL-VC-30088
OL-VC-30057
S306
OL-VC-30145
S74
OL-STA-30005-VC
OL-VC-30058
OL-STA-30006-VC
S361
OL-STA-30007-VC
0
125
250
500
Feet
FIGURE 1
Honeywell
Onondaga Lake
Syracuse, New York
Phase VII Remediation Area A
Delineation Sample Locations
PARSONS
301 PLAINFIELD RD, SUITE 350; SYRACUSE, NY 13212 Phone:(315)451-9560
User: 40189
Date Revised: 10/18/2012 8:18:39 AM
Path: Q:\GIS\GIS_Lake\mxds\Cultural_Resources\Rem_A_Ph7_samp_locs.mxd

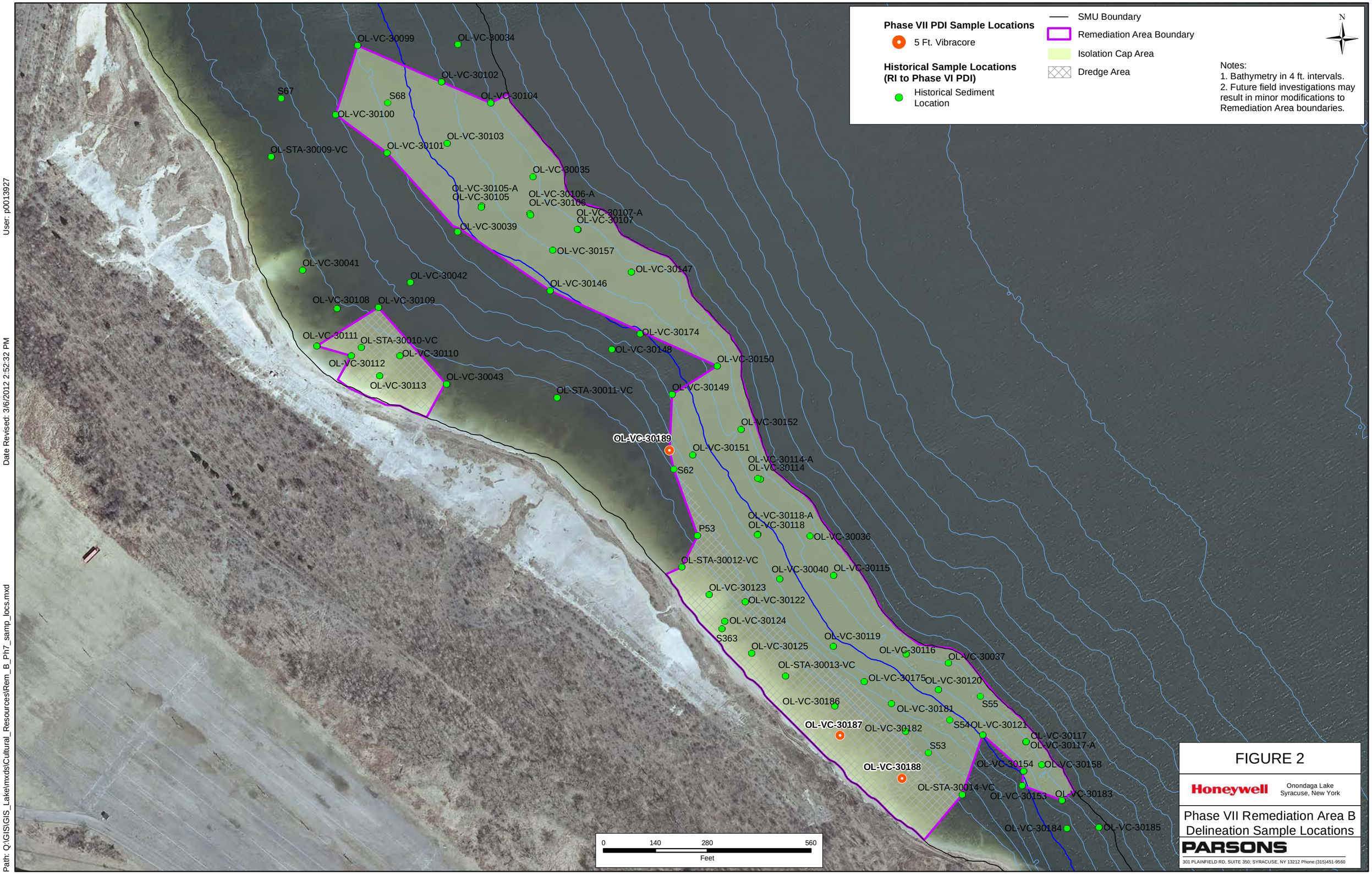


FIGURE 2

Honeywell

Onondaga Lake
Syracuse, New York

Phase VII Remediation Area B
Delineation Sample Locations

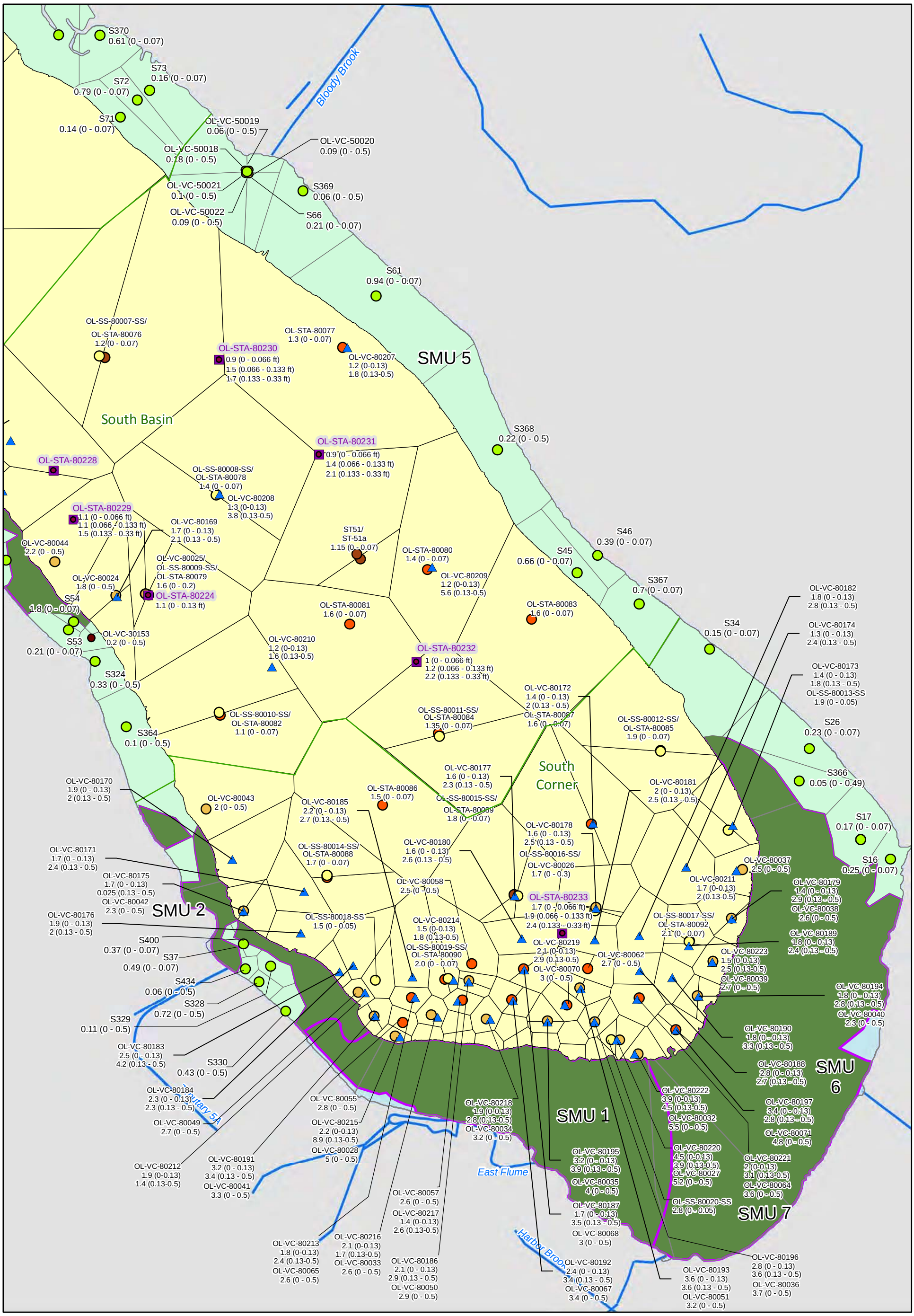
PARSONS

301 PLAINFIELD RD, SUITE 350; SYRACUSE, NY 13212 Phone:(315)451-9560

User: p0013927

Date Revised: 3/6/2012 2:52:32 PM

Path: Q:\GIS\GIS_Lake\mxds\Cultural_Resources\Rem_B_Ph7_samp_locs.mxd



Path: Q:\GIS\GIS_Lake\Phase_VI_PDI\MXDs\Phase_VI_SMU8S_Hg_11x17.mxd

Date Saved: 11/22/2011 4:55:15 PM

Legend

- RI (1992 and 2000)
- PDI Phase 1 (2005)
- PDI Phase 2 (2006)
- PDI Phase 3 (2007)
- PDI Phase 4 (2008)
- PDI Phase 5 (2009)
- PDI Phase 6 (2010)
- PDI Phase 7 (2011)

- Remediation Area Boundaries
- SMU 8 zone polygons based on PDI Phases 1 through 6
- Littoral zone polygons
- NYSDEC Demarcation for SMU 8
- OL-VC-80023 2.2 (0 - 0.3) Sediment Sample Location ID with mercury result and depth interval.

NOTES

1. The 30-foot water depth contour is the boundary between the littoral zone and SMU 8.
2. Water depth is based on average lake elevation of 362.82 feet.
3. 0.X is total mercury concentration in mg/kg (ppm).
   0.Y is the sample bottom depth in feet.
4. RI results are included for the littoral zone but not for SMU 8 because of natural recovery ongoing in SMU 8.

0 250 500 1,000 1,500 2,000 2,500

Feet

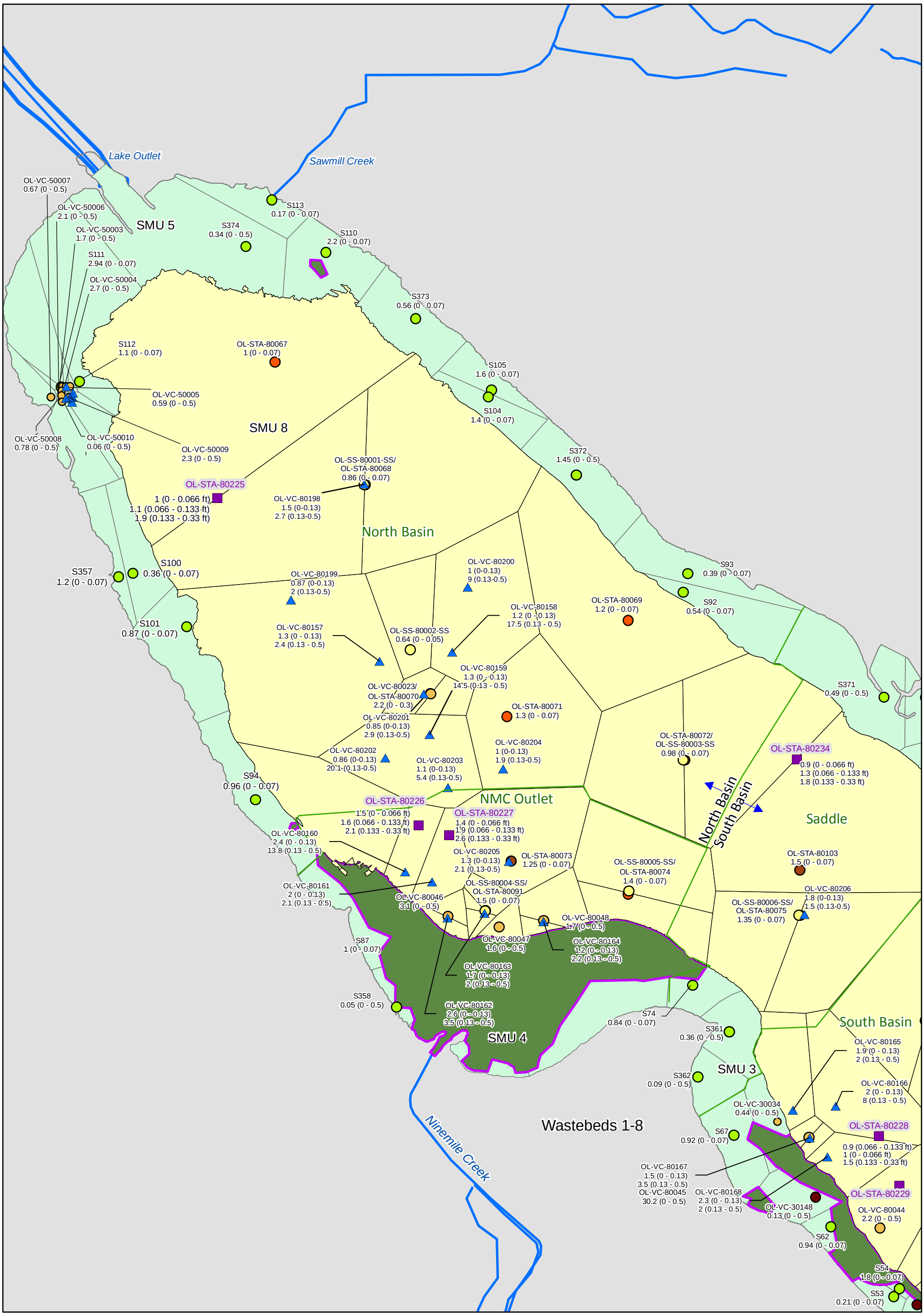
FIGURE 3

Honeywell

Onondaga Lake
Syracuse, New York

Mercury in Top 6 Inches of Sediment in South Portion of Lake (mg/kg)

PARSONS
301 PLAINFIELD RD, SUITE 350, SYRACUSE, NY 13212 Phone:(315)451-9560



Path: Q:\GIS\GIS_Lake\Phase_VI_PDI\MXDs\Phase VI SMU8N_Hg_11x17.mxd

Date Saved: 11/22/2011 4:38:00 PM

Legend

- RI (1992 and 2000)
- PDI Phase 1 (2005)
- PDI Phase 2 (2006)
- PDI Phase 3 (2007)
- PDI Phase 4 (2008)
- PDI Phase 5 (2009)
- PDI Phase 6 (2010)
- PDI Phase 7 (2011)

- Remediation Area Boundaries
- SMU 8 zone polygons bases on PDI Phases 1 through 6
- Littoral zone polygons
- NYSDEC Demarcation for SMU 8

OL-VC-80023 2.2 (0 - 0.3) — Sediment Sample Location ID with mercury result and depth interval.

NOTES

1. The 30-foot water depth contour is the boundary between the littoral zone and SMU 8.
2. Water depth is based on average lake elevation of 362.82 feet.
3. 0.X is total mercury concentration in mg/kg (ppm). 0.Y is the sample bottom depth in feet.
4. RI results are included for the littoral zone but not for SMU 8 because of natural recovery ongoing in SMU 8.

0 200 400 800 1,200 1,600 2,000
Feet

FIGURE 4

Honeywell

Onondaga Lake
Syracuse, New York

Mercury in Top 6 Inches of Sediment in North Portion of Lake (mg/kg)

PARSONS
301 PLAINFIELD RD, SUITE 350, SYRACUSE, NY 13212 Phone:(315)451-9560

80224 September 2011 Location ID
(Mean PECQ for 0 to 0.13 ft (4 cm) Sample Depth)

80211 August 2010 Location ID
(Mean PECQ for 0 to 0.13 ft (4 cm) Sample Depth)

80157 May 2010 Location ID
(Mean PECQ for 0 to 0.13 ft (4 cm) Sample Depth)

Historical PECQ Sediment Sample Locations

Year Depth

1992 Location ID
(Mean PECQ for 0 to 0.07 ft (2 cm) Sample Depth)

2000 Location ID
(Mean PECQ for 0 to 0.49 ft (15 cm) Sample Depth)

2006 Location ID
(Mean PECQ for 0 to 0.49 ft (15 cm) Sample Depth)

2007 Location ID
(0 to 0.13 ft (4 cm) for OL-STA locations and
0 to 0.49 ft (15 cm) for OL-VC locations)

Note:
Numbers in parentheses are mean probable effects concentration quotients (mean PECQs).

Saddle
South Basin
South Corner
SMU 1
SMU 2
SMU 3
SMU 5
SMU 6
SMU 7
SMU 8
Rem. Area C
Rem. Area C
Remediation Area B
Remediation Area D
Remediation Area E
Bloody Brook
Tributary 5A
East Flume
Harbor Brook
Onondaga Creek

S70 (0.51)
S65 (0.42)
S64 (0.45)
S60 (0.85)
S59 (0.65)
OL-VC-80207 (0.27)
S63 (0.81)
OL-VC-80166 (0.28)
OL-VC-80167 (0.33)
OL-VC-80045 (7.4)
OL-VC-80168 (0.44)
OL-VC-80208 (0.36)
S58 (0.84)
OL-VC-80044 (0.86)
S57 (1.1)
OL-VC-80025 (0.67)
OL-STA-80079 (1.0)
S56 (1.1)
OL-STA-80224 (0.49)
OL-VC-80209 (0.5)
S52 (0.77)
S51 (0.56)
S44 (0.67)
OL-VC-80169 (0.26)
OL-VC-80024 (0.85)
S50 (0.88)
OL-VC-80210 (0.51)
S49 (0.67)
S43 (0.64)
S33 (0.47)
OL-VC-80043 (0.86)
S42 (0.67)
OL-VC-80171 (0.46)
OL-VC-80181 (0.42)
OL-VC-80062 (0.96)
OL-VC-80051 (1.6)
S32 (0.5)
OL-VC-80172 (0.43)
OL-VC-80193 (0.79)
OL-VC-80219 (0.49)
OL-VC-80173 (0.45)
OL-VC-80211 (1.27)*
OL-VC-80037 (1.2)
S40 (0.78)
S31 (0.68)
OL-VC-80177 (0.51)
OL-VC-80174 (0.34)
OL-VC-80180 (0.47)
S41 (0.78)
OL-VC-80170 (0.47)
OL-VC-80068 (1.2)
S27 (1.1)
OL-VC-80026 (1)
OL-VC-80187 (0.41)
OL-VC-80178 (0.40)
S355 (0.92)
OL-VC-80192 (0.78)
OL-VC-80038 (1.9)
OL-VC-80067 (1.5)
OL-VC-80179 (0.40)
OL-VC-80058 (0.84)
OL-VC-80182 (0.45)
OL-VC-80176 (0.51)
OL-VC-80175 (0.37)
OL-VC-80042 (1.3)
OL-VC-80186 (0.68) *
OL-VC-80050 (1.1)
OL-VC-80189 (0.33)
S25 (0.94)
S30 (0.7)
S354 (0.87)
OL-VC-80039 (1.7)
OL-VC-80185 (0.66)
OL-VC-80188 (0.55)
OL-VC-80223 (0.34)*
OL-VC-80183 (0.41)
OL-VC-80190 (0.48)
OL-VC-80194 (0.50)
OL-VC-80184 (0.53)
OL-VC-80065 (1.5)
OL-VC-80057 (1.1)
OL-VC-80040 (1.6)
OL-VC-80049 (1.1)
S24 (1.1)
OL-VC-80064 (1.6)
OL-VC-80212 (0.33)
OL-VC-80221 (0.51)
OL-VC-80041 (1)
OL-VC-80197 (0.77)
OL-VC-80191 (1.21)*
OL-VC-80071 (2.2)
OL-VC-80213 (0.42)
OL-VC-80027 (1.7)
OL-VC-80055 (0.89)
OL-VC-80032 (1.8)
OL-VC-80028 (1.3)
OL-VC-80222 (0.59)
OL-VC-80215 (0.33)
OL-VC-80220 (0.54)
OL-VC-80033 (0.99)
OL-VC-80036 (1.6)
OL-VC-80216 (0.43)
OL-VC-80196 (0.59)
OL-VC-80066 (1.4)
OL-VC-80063 (1.8)
OL-VC-80034 (1.5)
OL-VC-80214 (0.32)
OL-VC-80059 (1.2)
OL-VC-80070 (1.1)
OL-VC-80217 (0.26)
OL-VC-80218 (0.38)
OL-VC-80056 (0.96)
OL-VC-80061 (1.8)
OL-VC-80029 (13)
OL-VC-80060 (1.2)
OL-VC-80030 (14)
OL-VC-80031 (27)
OL-VC-80069 (1.5)
OL-VC-80035 (1.6)
OL-VC-80195 (0.63)*

1 inch = 1,000 feet
0 250 500 1,000 1,500 2,000
Feet

Path: Q:\GIS\GIS_Lake\SMU8\MXDs\PECQslabeled_South.mxd Date Revised: 1/9/2012 4:17:45 PM User: p0013927

4 ft. Bathymetric Contour
NYSDEC Demarcation for SMU 8
SMU Boundary
Remediation Area Boundary
(1.2) OL-VC-80030 Sample Locations Where Mean PECQ is 1 or Higher

NOTES

1. Bathymetry in 4 ft. intervals, labeled only in SMU 8.
2. Water depth based on average lake elevation of 362.82 feet.
3. * Indicates a duplicate sample location. May and August 2010 maximum PECQ values posted.

Figure 5

Honeywell

Onondaga Lake
Syracuse, New York

SMU 8 Surface Sediment Sample Locations with Mean PECQ Results in the South Half of Onondaga Lake (0 to 4 cm)

PARSONS
301 Plainfield Road, Suite 350; Syracuse NY 13212 Phone:(315)451-9560



Remediation Area Boundary

Isolation Cap Area

Dredge Area

N

850 425 0 850

Feet

Note: 2009 Aerial Photos obtained from NYS GIS Clearinghouse

FIGURE 6

Honeywell

Onondaga Lake
Syracuse, New York

Shoreline Structure Investigation

PARSONS

301 Plainfield Road, Suite 350; Syracuse, NY, 13212

Date Revised: 3/6/2012 1:55:17 PM

Path: Q:\GIS\GIS_Lake\utilities\Erk_Debris\Shoreline Structures_fig1.mxd

APPENDIX A

WATER QUALITY FOR CONSTRUCTION BASELINE DATA SUMMARY REPORT

ONONDAGA LAKE 2011 WATER QUALITY MONITORING FOR CONSTRUCTION BASELINE DATA SUMMARY REPORT

Prepared For:

Honeywell

301 Plainfield Road, Suite 330
Syracuse, NY 13212

Prepared By:

PARSONS
301 Plainfield Road, Suite 350
Syracuse, New York 13212
Phone: (315) 451-9560

ANCHOR QEA

UPSTATE FRESHWATER INSTITUTE

FEBRUARY 2012

TABLE OF CONTENTS

Page

LIST OF ACRONYMS iii

EXECUTIVE SUMMARY ES-1

SECTION 1 INTRODUCTION 1-1

1.1 2011 BASELINE WATER QUALITY MONITORING 1-1

1.2 REPORT ORGANIZATION 1-1

SECTION 2 2011 FIELD ACTIVIITES 2-1

2.1 DISCRETE WATER COLUMN SAMPLING 2-1

2.2 DISCRETE OPTICAL/TURBIDITY MONITORING USING RAPID PROFILING INSTRUMENATION 2-3

2.3 CONTINUOUS TURBIDITY MONITORING 2-4

SECTION 3 DATA MANAGEMENT & QA/QC 3-1

3.1 DATA MANAGEMENT 3-1
- 3.1.1 Field Database 3-1
- 3.1.2 Quality Assurance/Quality Control 3-1
- 3.1.3 Sample Holding 3-1
- 3.1.4 Sample Collection and Recordkeeping 3-1
- 3.1.5 Data Validation 3-1

3.2 QUALITY ASSURANCE/QUALITY CONTROL 3-1

SECTION 4 REFERENCES 3-1

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

Table 1 Water Quality Sampling Locations and Analysis Conducted

Table 2 Laboratory Analytical Data Summary

LIST OF FIGURES

Figure 1 2011 Baseline Water Quality Monitoring Locations Onondaga Lake

Figure 2 2011 Baseline Water Quality Monitoring Locations Onondaga Lake - Rapid Profiling Locations

LIST OF APPENDICES

APPENDIX A FIELD PROBE DATA

APPENDIX B DISCRETE WATER COLUMN SAMPLING PLOTS

APPENDIX C 2011 SEABIRD PROFILES PRE-DREDGE MONITORING TRANSECTS

APPENDIX D *IN SITU* ULTRAVIOLET SPECTROPHOTOMETER (ISUS) PROFILES

APPENDIX E CONTINUOUS TURBIDITY MONITORING PLOTS

APPENDIX F DATA USABILITY SUMMARY REPORT (DUSR)

LIST OF ACRONYMS

C_P	beam attenuation coefficient
CLP	Contract Laboratory Program
cfs	cubic feet per second
DUSR	Data Usability Summary Report
CPOI	chemical parameter of interest
mph	miles per hour
nm	Nanometer
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation/reduction potential
PCB	polychlorinated biphenyl
PDI	Pre-design investigation
QAPP	Quality Assurance Project Plan
QA/QC	quality assurance/quality control
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
SU	Syracuse University
TSS	total suspended solids
UFI	Upstate Freshwater Institute
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

This data summary report describes water quality monitoring conducted on behalf of Honeywell from May to November 2011 in the littoral and profundal regions of Onondaga Lake. This was the second year of monitoring activities that were conducted to obtain an understanding of baseline water quality conditions near proposed in-lake remediation areas prior to the start of dredging and capping. This report describes the sample locations, data collection methods, analyses and testing performed, and includes a summary of results from the 2011 effort.

The primary objective of this sampling program was to obtain an understanding of baseline chemical and optical (i.e., turbidity/water clarity) water quality levels near proposed dredging and capping remediation areas where water quality monitoring during construction activities may occur. The sampling program collected data over a range of natural forcing conditions that can affect various components of water quality, including tributary runoff, wind-driven waves, and typical lake currents to understand how these forcing conditions affect water quality within Onondaga Lake.

Sampling and analyses were conducted in accordance with the 2011 Water Quality Monitoring for Construction Baseline Work Plan (Parsons et al., 2011), the Onondaga Lake Pre-Design Investigation (PDI): Phase I Sampling and Analysis Plan (SAP) (Parsons, 2005), and the revised Onondaga Lake PDI Quality Assurance Project Plan (QAPP) (Parsons, 2010). The 2011 water quality sample included the following elements:

- Discrete water column samples were collected during six sampling events: June 8 and 9, July 19, August 23, September 13 and 14, October 17, and November 15, 2011, the last of which was collected after lake turnover, which occurred on or about November 4.
- During the six discrete sampling events, a second vessel collected spatially detailed water quality information with rapid profiling instrumentation. Profiling was also conducted at 23 sites on 24 additional occasions to provide weekly optical/turbidity data for the 6-month 2011 field program (a total of 636 discrete optical/turbidity profiles collected on 30 days).
- Continuous turbidity measurements were collected at a 10 ft. depth within the water column at buoyed stations to understand how turbidity levels near the primary sediment remediation areas change in response to natural forcing conditions. Three continuous turbidity monitoring stations--one near Remediation Area A and the mouth of Ninemile Creek, one near Remediation Area E and the inflows from Onondaga Creek, Metro, and Ley Creek, and one near Remediation Area D, in the area of Harbor Brook and the In-Lake Waste Deposit--were deployed for approximately six months (May 24 through November 22, 2011).

SECTION 1

INTRODUCTION

This Data Summary Report describes water quality monitoring conducted on behalf of Honeywell from May to November 2011 in the littoral and profundal regions of Onondaga Lake as part of the 2011 Water Quality Monitoring for Construction Baseline Work Plan. Monitoring activities were conducted to obtain an initial understanding of baseline water quality conditions near proposed in-lake remediation areas prior to the start of dredging. This report describes the sample locations, data collection methods, analyses and testing performed, and includes a summary of results.

Sampling and analyses were conducted in accordance with the Water Quality Monitoring for Construction Baseline Work Plan (Parsons et al, 2011), the Onondaga Lake PDI: Phase I SAP (Parsons, 2005), and the revised Onondaga Lake PDI QAPP (Parsons, 2010).

This Data Summary Report does not present an analysis of data collected as part of the 2011 field activities. An assessment of the data, along with data collected as part of 2010 field activities, has been presented in Appendix B of the draft Water Quality Management and Monitoring Plan (WQMMP), submitted to NYSDEC in January 2012 (Anchor QEA and Parsons, 2012).

1.1 2011 BASELINE WATER QUALITY MONITORING

The primary objective of this sampling program was to obtain a further understanding of baseline chemical and optical (e.g., turbidity/water clarity) water quality conditions near proposed dredging and capping remediation areas. Data were collected in 2011 over a range of natural forcing conditions that can affect various components of water quality, including tributary runoff, wind-driven waves, and typical lake currents to understand how these forcing conditions affect water quality within Onondaga Lake. The information collected as part of this sampling program was used to:

- Assess repeatability of results from two years of data (2010 and 2011)
- Develop a water quality monitoring plan as part of the overall construction monitoring program for the dredging and capping activities within the lake (i.e., as documented in the draft WQMMP)

1.2 REPORT ORGANIZATION

This report is organized into the following sections:

- Section 1: Introduction
- Section 2: 2011 Field Activities
- Section 3: Data Management
- Section 4: References

SECTION 2

2011 FIELD ACTIVIITES

Water quality samples were collected and processed using methods developed during the Phase I PDI and as described in Appendix A of the 2011 Water Quality Monitoring for Construction Baseline Work Plan (Parsons et al., 2011).

Figures 1 and 2 illustrate the 2011 sample locations and Table 1 presents a summary of the 2011 field program, which consisted of: (1) six discrete sampling events with a focus on water quality conditions near the primary sediment remediation areas, (2) 24 weekly lake-wide monitoring events that included rapid profiling instrumentation, and (3) continuous measurement of turbidity at three locations within the lake. These activities are described in the following three subsections.

2.1 DISCRETE WATER COLUMN SAMPLING

Discrete water column samples were collected during six sampling events in 2011: June 8 and 9, 2011 (Sampling Event 1); July 19, 2011 (Sampling Event 2); August 23, 2011 (Sampling Event 3); September 13 and 14, 2011 (Sampling Event 4); October 17, 2011 (Sampling Event 5); and November 15, 2011 (Sampling Event 6). Sampling Events 1, 4, and 6 were conducted during generally calm conditions. Sampling Events 2, 3, and 5 were conducted following periods of rain and/or relatively high wind. Sampling Event 6 was conducted post-turnover, which occurred on or about November 4. Specific details pertaining to natural forcing conditions that preceded Sampling Events 2, 3, and 5 are provided below:

- The July 19 sampling event was conducted following a moderate rainfall the previous day, in which approximately 0.5 inches of rain was measured[1]. USGS flow measurements in several tributaries were recorded on July 18 as follows:
  - Onondaga Creek flows as high as approximately 490 cfs, up from a recent baseline of approximately 60-70 cfs.
  - Ley Creek flows as high as approximately 150 cfs, up from a recent baseline of less than 50 cfs.
  - Harbor Brook flows as high as approximately 150 cfs, up from a recent baseline of approximately 5 cfs.
  - Ninemile Creek flows as high as approximately 100 cfs, up from a recent baseline of 50-60 cfs.

- The August 23 sampling event was conducted following sustained winds, observed generally from the west/northwest, over an 8 hr period on Aug 22, which ranged from 10.7 to 13.4 mph and averaged 12.5 miles per hour over that period, as recorded at the Waste Bed 13 monitoring station. Winds of this magnitude are relatively high for summertime conditions, and were estimated to be of a magnitude capable of generating 1

[1] Syracuse Hancock International Airport, NY NOAA weather station

ft. waves on the lake. In addition, approximately 0.9 inches of rain was measured from August 21 to August 22[2]. USGS flow measurements in several tributaries were recorded on August 21 as follows:

- Onondaga Creek flows as high as approximately 110 cfs, up from a recent baseline of approximately 60-70 cfs.
- Ley Creek flows as high as approximately 110 cfs, up from a recent baseline of less than approximately 20 cfs.
- Harbor Brook flows as high as approximately 30 cfs, up from a recent baseline of approximately 5 cfs.
- Ninemile Creek flows as high as approximately 90 cfs, up from a recent baseline of approximately 60 cfs.

- The October 17 sampling event was conducted following a period of moderate rainfall, in which a total of approximately one inch of rain was measured from October 12 through October 16[3]. USGS flow measurements in several tributaries were recorded as follows:
  - Onondaga Creek flows as high as approximately 220 cfs (October 16), up from a recent baseline of approximately 90 cfs.
  - Ley Creek flows as high as approximately 110 cfs (October 15), up from a recent baseline of approximately 30 cfs.
  - Harbor Brook flows as high as approximately 20 cfs (October 14), up from a recent baseline of approximately 5-10 cfs.
  - Ninemile Creek flows as high as approximately 260 cfs (October 16), up from a recent baseline of approximately 140 cfs.

During each event, discrete water column grab samples were collected from approximately 10 feet below the water column at five locations within the major remediation areas (E2, T1, T2, T3, and T4), four locations near the perimeter of the major remediation areas (A2, B1, C1, and D1), and two profundal zone sites (North Deep and South Deep), as shown on Figure 1. These sampling locations were chosen to assess water quality conditions both within the remediation area as well as within 500 ft. of remediation area boundaries, representing an area that would be outside the limits of silt curtain placement during remediation. Profundal zone locations greater than 1,000 ft. outside of proposed remediation areas (i.e., North Deep and South Deep) were selected to obtain a representative baseline measurement for assessing system-wide impacts.

The sampling was conducted in accordance with Appendix A to the 2011 Water Quality Monitoring for Construction Baseline Work Plan (Parsons et al., 2011) – Surface Water Quality Monitoring and Sampling Standard Operating Procedure (SOP).

Collected samples were analyzed for a suite of parameters. Chemistry analyses were conducted to establish baseline concentrations of the following constituents: mercury (total and filtered), methylmercury (total), volatile organic compound (VOC) chemical parameters of interest (CPOIs), polychlorinated biphenyls (PCBs), and semivolatile organic compound

[2] Syracuse Hancock International Airport, NY NOAA weather station
[3] Syracuse Hancock International Airport, NY NOAA weather station

(SVOC) CPOIs. Measurements of turbidity, the beam attenuation coefficient at 660 nanometers (nm) (c_P660), and total suspended solids (TSS) were taken to provide baseline information on particle concentrations and impacts on water clarity. Components of phosphorus (total phosphorus, total dissolved phosphorus, soluble reactive phosphorus), inorganic nitrogen (nitrate, nitrite, ammonia), and chlorophyll were also monitored to provide baseline information on phytoplankton nutrients and forms of nitrogen. Field measurements for pH, temperature, dissolved oxygen, turbidity, and specific conductance were also collected.

Analytical results from this sampling are presented in Table 2. Results from field measurements are included in Appendix A. Chemistry data, as specified above, are presented in Table 2, while several graphs displaying the phosphorus, nitrogen, chlorophyll, turbidity, and beam attenuation data are provided in Appendix B.

2.2 DISCRETE OPTICAL/TURBIDITY MONITORING USING RAPID PROFILING INSTRUMENATION

A second vessel collected spatially detailed water quality information with rapid profiling instrumentation during the six discrete sampling events. Profiling was conducted with a Sea-Bird probe package[4] at three stations along each of four transects, and at North Deep and South Deep (see Figure 2), for a total of 14 profiles per sampling event. The rapid profiling was conducted in accordance with methods described in the 2008 Book 1 Work Plan (Upstate Freshwater Institute [UFI] and Syracuse University [SU], 2008). The rapid profiling measured light scattering, including turbidity and the beam attenuation coefficient at 660 nm (c_P660). Other sensors in the rapid profiling package (i.e., temperature, specific conductance, optical backscattering, chlorophyll, and photosynthetically active radiance) provide additional information on stratification, tracer(s) patterns, and light penetration. The measured parameters and sampling dates are listed in Table 1. Results from this monitoring are presented in Appendix C.

Weekly profiles were also conducted using an *in situ* ultraviolet spectrophotometer (ISUS)[5], at ten sites (six along the long axis of the lake and four additional sites to form a lateral transect at South Deep; see Figure 2) as part of Honeywell's Book 1 Baseline Monitoring Program (UFI and SU, 2008). This monitoring program was supplemented with two additional lateral transects in the south basin, one additional transect in the north basin, and one additional location outside of remediation area B as shown on Figure 2, in order to provide increased spatial resolution adjacent to the major remediation areas. A total of 23 locations were monitored, including 10

[4] The Sea-Bird Electronics, Inc. package of instruments contains:

1.) temperature, specific conductance, pressure - SBE 25 SEALOGGER CTD (Sea-Bird Electronics) 2. Chlorophyll - WETStar Fluorometer (WET Labs) 3.) Beam attenuation coefficient - C-star transmissometer (WET Labs) 4.) Photosynthetically Active Radiation (PAR) sensor (LI-COR Environmental) 5.) Optical Backscattering (OBS) - OBS-3 (D&A Instruments; UFI calibrates for turbidity), 6.) datalogger that stores and integrates all of the above components (Sea-Bird Electronics)

[5] The ISUS package of instruments contains:

1. nitrate probe - Satlantic ISUS sensor (Satlantic Instruments), 2.) turbidity and chlorophyll - ECO FLNTU combination fluorometer and turbidity sensor (WET Labs), 3.) beam attenuation coefficient - C-star transmissometer (WET Labs), 4.) scalar PAR sensor (Biospherical Instruments), 5.) temperature, specific conductance, and pressure - CTD 37I sensor (Sea-Bird Electronics), 6.) datalogger that stores and integrates all of the above components (WET Labs)

from the Book 1 Baseline Monitoring Program (ISUS-5, -9, -11, -12, -13, -15, -18, -22, -27, and -34), in addition to 13 supplemental locations (ISUS-6 through ISUS-8 and ISUS-37 through ISUS-46). These additional measurements were conducted on 24 occasions over the June to November monitoring period. Data obtained are presented in Appendix D.

2.3 CONTINUOUS TURBIDITY MONITORING

Continuous turbidity measurements were collected at a 10' depth within the water column at buoyed stations to understand how turbidity levels in the primary sediment remediation areas change in response to natural forcing conditions. Three continuous turbidity monitoring stations (A2, D1, and E2 as shown on Figure 1) were deployed for approximately six months (May 24 through November 22, 2011) in accordance with Appendix A to the 2011 Water Quality Monitoring for Construction Baseline Work Plan (Parsons et al., 2011) – Surface Water Quality Monitoring and Sampling SOP. Data obtained using multi-parameter sondes (turbidity, temperature, and conductivity) suspended from buoys at each of the four stations are presented in a series of graphs in Appendix E.

SECTION 3

DATA MANAGEMENT & QA/QC

3.1 DATA MANAGEMENT

3.1.1 Field Database

An electronic database was developed to ensure consistency in field sample ID assignment and compatibility with the Locus Focus data management system in use on behalf of Honeywell. The database recorded sample descriptions, assigned field sample IDs, and produced chains of custody. The data collection program for this field effort was similar to that used during Phases I through VI of the PDI.

3.1.2 Quality Assurance/Quality Control

Field quality assurance/quality control (QA/QC) consisted of the collection and analysis of field duplicates, and matrix spike/matrix spike duplicate samples at a frequency of one per 20 samples (one per event) for chemistry data and field triplicates for conventional water quality parameters (e.g., phosphorous and nitrogen). All field QA/QC samples were identified using standard sample identifiers and collected in accordance with the revised Onondaga Lake PDI QAPP (Parsons, 2010).

3.1.3 Sample Holding

Samples were collected and handled according to the procedures outlined in the Phase I PDI SAP (Parsons, 2005) and revised QAPP (Parsons, 2010).

3.1.4 Sample Collection and Recordkeeping

Samples were collected and managed by the field database as described above. Sample recordkeeping and database entry were conducted in accordance with the Phase I PDI SAP (Parsons, 2005) and the revised QAPP (Parsons, 2010) on each of the sampling vessels.

3.1.5 Data Validation

Analytical data generated during the investigation activities were reviewed and validated in accordance with the approved Phase I SAP (Parsons, 2005) and revised QAPP (Parsons, 2010). Data validation of Level II through Level IV analytical deliverables was performed (task dependent) in accordance with guidance provided by the U.S. Environmental Protection Agency (USEPA) and adapted to the QA/QC criteria in the USEPA Contract Laboratory Program (CLP) and USEPA SW-846. Following validation, the results were incorporated into the Locus Focus data management system.

3.2 QUALITY ASSURANCE/QUALITY CONTROL

The sample names, QA/QC procedures, sample collection, data entry, and data validation for this portion of the work were conducted in accordance with the Phase I PDI SAP (Parsons, 2005).

Analytical data were collected in accordance with the revised Onondaga Lake PDI QAPP (Parsons, 2010). The data were evaluated in relation to the established laboratory and project control limits for accuracy and precision with factors impacting data quality being identified in the laboratory analytical report. Results of this evaluation are presented in the Data Usability Summary Report (DUSR) (Appendix F).

SECTION 4

REFERENCES

Anchor QEA and Parsons, 2012. Draft Water Quality Management and Monitoring Plan. Onondaga Lake. Prepared for Honeywell. January 2012.

Parsons, Anchor QEA, and UFI, 2011. Onondaga Lake Pre-Design Investigation: Water Quality Monitoring for Construction Baseline Work Plan. Prepared for Honeywell. May 2011.

Parsons, 2005. Onondaga Lake Phase I Pre-Design Investigation: Sampling and Analysis Plan. Prepared for Honeywell, Morristown, New Jersey and Syracuse, New York.

Parsons, 2010. Onondaga Lake Pre-Design Investigation: Revised Quality Assurance Project Plan. Prepared for Honeywell, Morristown, New Jersey. Syracuse, New York.

UFI and SU, 2008. Onondaga Lake Baseline Monitoring Book 1 Deep Basin Water and Zooplankton Monitoring Work Plan for 2008. Prepared for Honeywell, Inc., East Syracuse, NY. Upstate Freshwater Institute and Syracuse University, Syracuse, NY. May 2008

TABLES

Table 1
WATER QUALITY SAMPLING LOCATIONS AND ANALYSES CONDUCTED

Description	Map Sympbol (Figure #)	Number of locations	Number of sampling events	Vertical Sampling intervals	Monitoring Locations: Station ID	Monitoring Locations: Corresponding Database Sample ID	Approx. Total Water Depth[1] (ft)	Approx. Sample Depth[1] (ft)	Total Suspended Solids	Mercury [total & filtered]	Methylmercury [total]	VOCs (CPOIs)[2]	PCBs	SVOCs (CPOIs)[2]	Rapid profiling parameters[3]	Field measurements[4]	Table/Appendix presenting field data
									number of samples (6)								
Discrete Water	▲ (Figure 1)	11	6 (June 8 to 9; July 19; Aug 23; Sept 13 to 14; Oct 17; Nov 15)	10 feet	T1	OL-SW-40313	9	4	8	8	8	8	8	8		6	Table 2, Appendices A & B
					T2	OL-SW-10194	9	4	6	6	6	6	6	6		6	Table 2, Appendices A & B
					T3	OL-SW-60328	7.5	4	7	7	7	7	7	7		6	Table 2, Appendices A & B
					T4	OL-SW-60329	7.5	4	7	7	7	7	7	7		6	Table 2, Appendices A & B
					A2	OL-SW-80233	40	10	7	7	7	7	7	7		6	Table 2, Appendices A & B
					B1	OL-SW-80226	58	10	6	6	6	6	6	6		6	Table 2, Appendices A & B
					C1	OL-SW-80227	49	10	6	6	6	6	6	6		6	Table 2, Appendices A & B
					D1	OL-SW-80234	52	10	6	6	6	6	6	6		6	Table 2, Appendices A & B
					E2	OL-SW-80235	22	10	6	6	6	6	6	6		6	Table 2, Appendices A & B
					North Deep	DEEP_N	62	10	6	6	6	6	6	6		6	Table 2, Appendices A & B
					South Deep	DEEP_S	66	10	7	7	7	7	7	7		6	Table 2, Appendices A & B
Discrete Turbidity	● (Figure 2)	14	6 (June 8; July 19; Aug 23; Sept 13; Oct 17; Nov 15)	Continuous	T1	OL-SW-40313	11	--							6		Appendix C
					T1-1	OL-SW-80231	37	--							6		Appendix C
					T1-2	OL-SW-40314	2	--							6		Appendix C
					T2	OL-SW-10194	10	--							6		Appendix C
					T2-1	OL-SW-80232	35	--							6		Appendix C
					T2-2	OL-SW-10195	3	--							6		Appendix C
					T3	OL-SW-60328	7	--							6		Appendix C
					T3-1	OL-SW-60330	22	--							6		Appendix C
					T3-2	OL-SW-60331	3	--							6		Appendix C
					T4	OL-SW-60329	6	--							6		Appendix C
					T4-1	OL-SW-60332	22	--							6		Appendix C
					T4-2	OL-SW-60333	4	--							6		Appendix C
					NorthDeep	DEEP_N	58	--							6		Appendix C
					SouthDeep	DEEP_S	61	--							6		Appendix C

Table 1
WATER QUALITY SAMPLING LOCATIONS AND ANALYSES CONDUCTED

Description	Map Symbol (Figure #)	Number of locations	Number of sampling events	Vertical Sampling intervals	Monitoring Locations: Station ID	Monitoring Locations: Corresponding Database Sample ID	Approx. Total Water Depth[1] (ft)	Approx. Sample Depth[1] (ft)	Total Suspended Solids	Mercury [total & filtered]	Methylmercury [total]	VOCs (CPOIs)[2]	PCBs	SVOCs (CPOIs)[2]	Rapid profiling parameters[3]	Field measurements[4]	Table/Appendix presenting field data
									number of samples (6)								
Discrete Turbidity **Book 1 Baseline Monitoring Program (supplemental locations in bold and italics)**	◉ (Figure 2)	23	24 (June 13, 20, 27; July 5, 11, 18, 25; Aug 1, 9, 15, 22, 29; Sept 6, 12, 19, 26; Oct 3, 10, 18, 24, 31; Nov 7, 14, 21)	Continuous	ISUS-5	--	40	--							6		Appendix D
					ISUS-6	--	30	--							6		Appendix D
					ISUS-7	--	6	--							6		Appendix D
					ISUS-8	--	54	--							6		Appendix D
					ISUS-9	--	32	--							6		Appendix D
					ISUS-11	--	61	--							6		Appendix D
					ISUS-12	--	59	--							6		Appendix D
					ISUS-13	--	59	--							6		Appendix D
					ISUS-15	--	27	--							6		Appendix D
					ISUS-18	--	61	--							6		Appendix D
					ISUS-22	--	54	--							6		Appendix D
					ISUS-27	--	57	--							6		Appendix D
					ISUS-34	--	34	--							6		Appendix D
					ISUS-37	--	6	--							6		Appendix D
					ISUS-38	--	37	--							6		Appendix D
					ISUS-39	--	24	--							6		Appendix D
					ISUS-40	--	52	--							6		Appendix D
					ISUS-41	--	52	--							6		Appendix D
					ISUS-42	--	28	--							6		Appendix D
					ISUS-43	--	49	--							6		Appendix D
					ISUS-44	--	7	--							6		Appendix D
					ISUS-45	--	42	--							6		Appendix D
					ISUS-46	--	37	--							6		Appendix D
Continuous Turbidity[5]	☐ (Figure 1)	3	continuous[5] from 5/24/2011 to 11/22/2011	10 feet	A2	OL-SW-80233	40	10									Appendix E
					D1	OL-SW-80234	52	10									Appendix E
					E2	OL-SW-80235	22	10									Appendix E

Notes:

1. These depths represent conditions during discrete water sampling during the November 15 event.
2. CPOI list for VOCs are the same compounds as the Phase I PDI (Parsons, 2005).
3. Rapid profiling parameters included turbidity, temperature, specific conductance, chlorophyll, and photosynthetically active radiance.
4. Field measurements included pH, temperature, specific conductance, turbidity, and dissolved oxygen.
5. Continuous turbidity measurements were recorded at 10 feet, logged every 15 minutes.
6. Sample numbers include field duplicates.

			Location	DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N	
			Sample Depth	10-10 Ft		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-01		OL-1521-02		OL-1524-01		OL-1531-01		OL-1533-04		OL-1538-01		OL-1575-10	
			Sample Date	6/8/2011		6/8/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1124023|JA77979		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000067		0.000104		0.000048	J	0.000068		0.000081		0.000047	J	0.000048	J
E1631	MERCURY	ug/L	N	0.00155		0.00127		0.00115		0.00144		0.00104		0.00163		0.00144	
E1631	MERCURY	ug/L	Y	0.0004	J	0.00044		0.00033	J	0.00019	J	0.00016	J	0.00034	J	0.00015	U
SM2540D	Total Suspended Solids	mg/l	N	4		4	U	4	U	3	J	3	J	3	J	4	U
SW8082	AROCLOR-1016	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1221	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1232	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1242	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1248	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1254	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1260	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1268	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	PCBS, N.O.S.	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.11		0.1	U	0.11	U	0.12	U	0.12	U	0.248		0.11	U
SW8270	PYRENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U

			Location	DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N	
			Sample Depth	10-10 Ft		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-01		OL-1521-02		OL-1524-01		OL-1531-01		OL-1533-04		OL-1538-01		OL-1575-10	
			Sample Date	6/8/2011		6/8/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1124023|JA77979		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	6.21				2.66		2.81		4.45		3.72		2.5	
UFI SOP	CHLOROPHYLL-A	ug/L	N	9.9				8		5.5	J	9.5	J	5.8		7.8	
UFI SOP	NITRITE	mg/l	N	0.033				0.035		0.054		0.04		0.065		0.05	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.029	J			0.033	J	0.09		0.012	J	0.118		0.263	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.894				1.787		1.676		1.599		1.657		1.782	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.2	J			12.9		3.6	J	4.4	J	3.4	J	4.9	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0213				0.027		0.0258		0.0271		0.0186		0.0219	J
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0005	J			0.0007	J	0.0014	U	0.0014	U	0.0014	U	0.0007	J
UFI SOP	TURBIDITY	NTU	N	3.7				1.8		1.4		2.3		1.9		1.8	

			Location	DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S	
			Sample Depth	10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-04		OL-1524-04		OL-1531-05		OL-1534-02		OL-1538-04		OL-1575-01		OL-1575-02	
			Sample Date	6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1147029|JA92221	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000094		0.00005	J	0.000091		0.000083		0.000051		0.000047	J	0.000047	J
E1631	MERCURY	ug/L	N	0.00108		0.00202		0.0043		0.00142		0.00286		0.002		0.00158	
E1631	MERCURY	ug/L	Y	0.00044		0.00033	J	0.00027	J	0.00029	J	0.00049		0.00024	J	0.00024	J
SM2540D	Total Suspended Solids	mg/l	N	4		4	U	3	J	3	J	2	J	3	J	4	U
SW8082	AROCLOR-1016	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1221	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1232	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1242	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1248	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1254	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1260	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1268	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	PCBS, N.O.S.	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U

			Location	DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S	
			Sample Depth	10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-04		OL-1524-04		OL-1531-05		OL-1534-02		OL-1538-04		OL-1575-01		OL-1575-02	
			Sample Date	6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1147029|JA92221	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	5.43		2.53		4.57		3.3		4.67		2.29			
UFI SOP	CHLOROPHYLL-A	ug/L	N	10.7		7		8.5	J	5.8	J	11.1		2.1			
UFI SOP	NITRITE	mg/l	N	0.033		0.037		0.047		0.04		0.064		0.05			
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.014	J	0.181		0.033	J	0.047		0.116		0.274			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.91		2.215		1.665		1.689		1.918		1.848			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.9	J	4.9		3	J	8.1		3.4	J	4.2	J		
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0213		0.0264		0.0291		0.0246		0.0241		0.0185	J		
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0005	J	0.0014	U	0.0014	U	0.0014	U	0.0014	U	0.001	J		
UFI SOP	TURBIDITY	NTU	N	2.9		1.6		2.6		2.2		2.5		1.9			

			Location	OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194	
			Sample Depth	4-4 Ft		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		2.5-2.5 FT		3-3 FT	
			Field Sample ID	OL-1521-07		OL-1524-10		OL-1524-10A		OL-1524-10B		OL-1524-10C		OL-1531-08		OL-1533-05	
			Sample Date	6/8/2011		7/19/2011		7/19/2011		7/19/2011		7/19/2011		8/23/2011		9/13/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380		UFICHM2011-031		UFICHM2011-031		UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000118		0.000063								0.000151		0.000144	
E1631	MERCURY	ug/L	N	0.0023		0.00306								0.0222		0.00349	
E1631	MERCURY	ug/L	Y	0.00067		0.00053								0.0005		0.00034	J
SM2540D	Total Suspended Solids	mg/l	N	4		4	U							7		4	U
SW8082	AROCLOR-1016	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1221	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1232	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1242	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1248	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1254	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1260	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1268	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	PCBS, N.O.S.	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	0.31	J	1	U							1	U	1	U
SW8260	BENZENE	ug/L	N	0.41	J	1	U							1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U							0.35	J	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	0.37	J							1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U							1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	0.26	J							1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	PYRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U

			Location	OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194	
			Sample Depth	4-4 Ft		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		2.5-2.5 FT		3-3 FT	
			Field Sample ID	OL-1521-07		OL-1524-10		OL-1524-10A		OL-1524-10B		OL-1524-10C		OL-1531-08		OL-1533-05	
			Sample Date	6/8/2011		7/19/2011		7/19/2011		7/19/2011		7/19/2011		8/23/2011		9/13/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380		UFICHM2011-031		UFICHM2011-031		UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	4.11				2.27		3.84		2.53		5.42		4.21	
UFI SOP	CHLOROPHYLL-A	ug/L	N	4.6				3.3		4.1		4.4		4.6	J	8.5	J
UFI SOP	NITRITE	mg/l	N	0.03				0.038		0.041		0.038		0.05		0.039	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.032	J			0.059		0.039	J	0.046		0.07		0.081	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.914				1.857		1.85		1.859		1.777		1.678	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.6	J			4.9		5.9		4.2	J	3	J	4.7	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0213				0.0288		0.025		0.0215		0.0369		0.0288	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0006	J			0.0007	J	0.0007	J	0.0006	J	0.0004	J	0.0014	U
UFI SOP	TURBIDITY	NTU	N	2.6				1.5		4		1.5		4		3.3	

			Location	OL-SW-10194		OL-SW-10194		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313	
			Sample Depth	10-10 FT		4-4 FT		4-4 FT		4-4 FT		4-4 FT		4-4 FT		3.5-3.5 FT	
			Field Sample ID	OL-1538-07		OL-1575-08		OL-1522-05		OL-1522-05A		OL-1522-05B		OL-1522-05C		OL-1524-11	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		6/9/2011		6/9/2011		6/9/2011		7/19/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131		UFICHM2011-016		UFICHM2011-016		UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000073		0.000045	J	0.00007								0.000048	J
E1631	MERCURY	ug/L	N	0.0107		0.00227		0.00102								0.00147	
E1631	MERCURY	ug/L	Y	0.00064		0.00027	J	0.00036	J							0.00033	J
SM2540D	Total Suspended Solids	mg/l	N	4		3	J	4	U							4	U
SW8082	AROCLOR-1016	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1221	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1232	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1242	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1248	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1254	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1260	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1268	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	PCBS, N.O.S.	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	TOLUENE	ug/L	N	1	U	0.19	J	1	U							1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U							1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U							1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.12	U	0.1	UJ							0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.1	UJ							0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	PYRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U

			Location	OL-SW-10194		OL-SW-10194		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313	
			Sample Depth	10-10 FT		4-4 FT		4-4 FT		4-4 FT		4-4 FT		4-4 FT		3.5-3.5 FT	
			Field Sample ID	OL-1538-07		OL-1575-08		OL-1522-05		OL-1522-05A		OL-1522-05B		OL-1522-05C		OL-1524-11	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		6/9/2011		6/9/2011		6/9/2011		7/19/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131		UFICHM2011-016		UFICHM2011-016		UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	3.78		2.07				4.78		4.97		4.97		2.4	
UFI SOP	CHLOROPHYLL-A	ug/L	N	7.5		2.4				6.7		6.8		7		6.1	
UFI SOP	NITRITE	mg/l	N	0.063		0.053				0.028		0.036		0.029		0.037	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.124		0.305				0.025	J	0.045	J	0.017	J	0.034	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.932		1.823				1.712		1.784		1.73		1.706	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.4	J	5.5				2.9	J	2.9	J	3.8	J	4.4	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0269		0.0167				0.0174		0.0174		0.0178		0.026	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0019	J			0.0014	U	0.0014	U	0.0014	U	0.0014	U
UFI SOP	TURBIDITY	NTU	N	3.1		1.7				2.2		1.9		2.6		1.5	

			Location	OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		4-4 FT		4.5-4.5 FT		4.5-4.5 FT		4-4 FT		4-4 FT		3.5-3.5 FT	
			Field Sample ID	OL-1524-12		OL-1531-03		OL-1533-01		OL-1533-02		OL-1538-12		OL-1575-12		OL-1522-03	
			Sample Date	7/19/2011		8/23/2011		9/13/2011		9/13/2011		10/17/2011		11/15/2011		6/9/2011	
			SDG	1130015|JA81380		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		JA86104|JA86104X		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Regular sample		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000051		0.000064		0.000066		0.000068		0.000054		0.000055		0.000112	
E1631	MERCURY	ug/L	N	0.0014		0.00161		0.00135	J	0.00303	J	0.00189		0.00617		0.00353	
E1631	MERCURY	ug/L	Y	0.00035	J	0.00029	J	0.00024	J	0.0003	J	0.00024	J	0.00035	J	0.00056	
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U	4	U	4	U	4		5		4	
SW8082	AROCLOR-1016	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1221	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1232	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1242	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1248	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1254	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1260	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1268	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	PCBS, N.O.S.	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.12	U	0.12	UJ	0.11	U	0.1	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.143		0.11	U	0.1	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.12	U	0.12	UJ	0.11	U	0.1	UJ
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.398	J	0.11	U	0.1	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	UJ	0.11	U	0.1	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.853	J	0.11	U	0.1	U
SW8270	PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.217		0.11	U	0.1	U

			Location	OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		4-4 FT		4.5-4.5 FT		4.5-4.5 FT		4-4 FT		4-4 FT		3.5-3.5 FT			
			Field Sample ID	OL-1524-12		OL-1531-03		OL-1533-01		OL-1533-02		OL-1538-12		OL-1575-12		OL-1522-03			
			Sample Date	7/19/2011		8/23/2011		9/13/2011		9/13/2011		10/17/2011		11/15/2011		6/9/2011			
			SDG	1130015|JA81380		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		JA86104|JA86104X		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016			
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER			
			Sample Purpose	Field duplicate		Regular sample		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample			
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water			
Method	Parameter Name	Units	Filtered																
UFI SOP	Beam Attenuation Coefficient	1/m	N			3.2		3.72				3.61		2.55		5.39			
UFI SOP	CHLOROPHYLL-A	ug/L	N			5.3	J	3.1	J			8.1		1.5		5.7			
UFI SOP	NITRITE	mg/l	N			0.052		0.038				0.062		0.048		0.036			
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N			0.082		0.07				0.118		0.274		0.051			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N			1.664		1.612				1.634		1.74		2.35			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y			3.4	J	5				2.6	J	5.2		3.6	J		
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N			0.0211		0.0268				0.0212		0.0211		0.0243			
UFI SOP	REACTIVE PHOSPHATE	mg/L	N			0.0014	U	0.0004	J			0.0007	J	0.0018	J	0.0014	U		
UFI SOP	TURBIDITY	NTU	N			1.5		3				2.1		3.4		3.3			

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		4-4 FT	
			Field Sample ID	OL-1524-09		OL-1531-09		OL-1531-09A		OL-1531-09B		OL-1531-09C		OL-1531-10		OL-1533-06	
			Sample Date	7/19/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		9/13/2011	
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438		UFICHM2011-046		UFICHM2011-046		UFICHM2011-046		1135027|JA84438		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2		Field duplicate		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.00007		0.000077								0.000076		0.000067	
E1631	MERCURY	ug/L	N	0.00372		0.00127								0.00144		0.00198	
E1631	MERCURY	ug/L	Y	0.00081		0.00045								0.00049		0.00048	
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U							4	U	4	U
SW8082	AROCLOR-1016	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1221	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1232	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1242	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1248	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1254	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1260	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1268	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	PCBS, N.O.S.	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U							1	U	0.26	J
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U							1	U	0.22	J
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U							1	U	0.29	J
SW8260	TOLUENE	ug/L	N	1	U	1	U							1	U	1	
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U							1	U	0.89	J
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U							1	U	1.2	
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	PYRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 FT		4-4 FT			
			Field Sample ID	OL-1524-09		OL-1531-09		OL-1531-09A		OL-1531-09B		OL-1531-09C		OL-1531-10		OL-1533-06			
			Sample Date	7/19/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		9/13/2011			
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438		UFICHM2011-046		UFICHM2011-046		UFICHM2011-046		1135027|JA84438		JA86104|JA86104X|UFICHM2011-053			
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER			
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2		Field duplicate		Regular sample			
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water			
Method	Parameter Name	Units	Filtered																
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.36				0.77		0.81		0.77				4.04			
UFI SOP	CHLOROPHYLL-A	ug/L	N	4.2				1.2	J	1.6	J	1.2	J			5.6	J		
UFI SOP	NITRITE	mg/l	N	0.033				0.045		0.044		0.046				0.04			
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.039	J			0.041		0.029	J	0.029	J			0.111			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	2.08				1.902		1.876		1.858				4.417			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	7.7				3.3	J	4	J	3.4	J			6.7			
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.029				0.017		0.0224		0.017				0.0387			
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0021				0.0007	J	0.0008	J	0.0008	J			0.0004	J		
UFI SOP	TURBIDITY	NTU	N	1.2				0.5	J	0.5	J	0.5	J			3.4			

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329	
			Sample Depth	3-3 FT		4-4 FT		3.3-3.3 FT		3.5-3.5 FT		3.5-3.5 FT		4-4 FT		4-4 FT	
			Field Sample ID	OL-1538-08		OL-1575-07		OL-1522-01		OL-1524-08		OL-1531-12		OL-1533-07		OL-1533-07A	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		7/19/2011		8/23/2011		9/13/2011		9/14/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X		UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000087		0.000079		0.000089		0.000076		0.000064		0.000081			
E1631	MERCURY	ug/L	N	0.0204		0.00769		0.0038		0.00341		0.00365		0.00194			
E1631	MERCURY	ug/L	Y	0.00127		0.00043		0.0004	J	0.00106		0.0006		0.00022	J		
SM2540D	Total Suspended Solids	mg/l	N	5		29		8		3	J	4	U	4	U		
SW8082	AROCLOR-1016	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1221	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1232	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1242	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1248	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1254	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1260	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1268	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	PCBS, N.O.S.	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U		
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U		
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U		
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	NAPHTHALENE	ug/L	N	5	U	1.9	J	5	U	5	U	5	U	1.1	J		
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	TOLUENE	ug/L	N	1	U	0.36	J	1	U	1	U	1	U	1	U		
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	XYLENES, TOTAL	ug/L	N	1	U	0.18	J	1	U	1	U	1	U	1	U		
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.11	U	0.11	U	0.13	UJ		
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	CHRYSENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.11	UJ	0.1	UJ	0.11	U	0.11	U	0.13	UJ		
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	FLUORENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.11	U	0.11	U	0.13	UJ		
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329	
			Sample Depth	3-3 FT		4-4 FT		3.3-3.3 FT		3.5-3.5 FT		3.5-3.5 FT		4-4 FT		4-4 FT	
			Field Sample ID	OL-1538-08		OL-1575-07		OL-1522-01		OL-1524-08		OL-1531-12		OL-1533-07		OL-1533-07A	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		7/19/2011		8/23/2011		9/13/2011		9/14/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X		UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	4.04		9.75		4.79		3.42		2.68				4.43	
UFI SOP	CHLOROPHYLL-A	ug/L	N	7.6		2.4		2.3		5.2		3.9	J			7.2	J
UFI SOP	NITRITE	mg/l	N	0.057		0.045		0.043		0.065		0.045				0.038	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.111		0.27		0.119		0.083		0.024	J			0.033	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	2.509		1.927		1.939		1.383		1.894				1.745	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.7	J	9.9		6.5		4.2	J	3.3	J			5.4	
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0255		0.04		0.0342		0.0507		0.0281				0.0327	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0051		0.0028		0.0004	J	0.0004	J			0.0006	J
UFI SOP	TURBIDITY	NTU	N	2.7		10.9		4.4		2		1.4				3.7	

			Location	OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-80226		OL-SW-80226	
			Sample Depth	4-4 FT		4-4 FT		3-3 FT		3-3 FT		4-4 FT		10-10 Ft		10-10 FT	
			Field Sample ID	OL-1533-07B		OL-1533-07C		OL-1538-10		OL-1538-11		OL-1575-06		OL-1521-05		OL-1524-03	
			Sample Date	9/14/2011		9/14/2011		10/17/2011		10/17/2011		11/15/2011		6/8/2011		7/19/2011	
			SDG	UFICHM2011-053		UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1143007|JA89389		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Field duplicate2		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N					0.000097		0.000096		0.000077		0.000084		0.000066	
E1631	MERCURY	ug/L	N					0.0185		0.0165		0.00746		0.0011		0.00168	
E1631	MERCURY	ug/L	Y					0.00133		0.00091		0.00108		0.00044		0.00037	J
SM2540D	Total Suspended Solids	mg/l	N					8		7		20		4		4	U
SW8082	AROCLOR-1016	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1221	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1232	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1242	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1248	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1254	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1260	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1268	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	PCBS, N.O.S.	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N					1	U	1	U	0.44	J	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	ANTHRACENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	CHRYSENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	FLUORENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	PYRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U

			Location	OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-80226		OL-SW-80226	
			Sample Depth	4-4 FT		4-4 FT		3-3 FT		3-3 FT		4-4 FT		10-10 Ft		10-10 FT	
			Field Sample ID	OL-1533-07B		OL-1533-07C		OL-1538-10		OL-1538-11		OL-1575-06		OL-1521-05		OL-1524-03	
			Sample Date	9/14/2011		9/14/2011		10/17/2011		10/17/2011		11/15/2011		6/8/2011		7/19/2011	
			SDG	UFICHM2011-053		UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1143007|JA89389		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Field duplicate2		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	4.62		4.66		7.94				16.71		5.42		2.27	
UFI SOP	CHLOROPHYLL-A	ug/L	N	7.3	J	8.3	J	8				2.2		8.6		6.9	
UFI SOP	NITRITE	mg/l	N	0.038		0.038		0.052				0.03		0.043		0.036	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.031	J	0.033	J	0.113				0.365		0.021	J	0.035	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.77		1.722		2.309				2.08		1.778		1.719	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.8		5.7		4.8				26.2		3.6	J	5.2	
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0305		0.0314		0.028				0.0991		0.0194		0.0456	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0006	J	0.0005	J			0.0193		0.0014	U	0.0004	J
UFI SOP	TURBIDITY	NTU	N	3.3		3		6.9				16.5		3		1.7	

			Location	OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 ft		10-10 ft		10-10 ft	
			Field Sample ID	OL-1531-04		OL-1534-01		OL-1538-03		OL-1575-09		OL-1575-09A		OL-1575-09B		OL-1575-09C	
			Sample Date	8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011	
			SDG	1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221		UFICHM2011-075		UFICHM2011-075		UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000081		0.000083		0.00005	J	0.000056							
E1631	MERCURY	ug/L	N	0.00308		0.00124		0.00196		0.00264							
E1631	MERCURY	ug/L	Y	0.00023	J	0.00023	J	0.00039	J	0.00031	J						
SM2540D	Total Suspended Solids	mg/l	N	4		4	U	2	J	6							
SW8082	AROCLOR-1016	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1221	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1232	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1242	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1248	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1254	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1260	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1268	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	PCBS, N.O.S.	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U						
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	CHRYSENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	FLUORENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	PYRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						

			Location	OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 ft		10-10 ft		10-10 ft	
			Field Sample ID	OL-1531-04		OL-1534-01		OL-1538-03		OL-1575-09		OL-1575-09A		OL-1575-09B		OL-1575-09C	
			Sample Date	8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011	
			SDG	1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221		UFICHM2011-075		UFICHM2011-075		UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Field duplicate2	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	3.93		3.58		4.3				2.77		2.59		2.59	
UFI SOP	CHLOROPHYLL-A	ug/L	N	3.8	J	8.4	J	10.3				3.9		3.8		4	
UFI SOP	NITRITE	mg/l	N	0.049		0.038		0.065				0.049		0.049		0.049	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.062		0.032	J	0.112				0.274		0.271		0.284	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.676		1.662		1.857				1.795		1.805		1.823	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.3	J	6		3.4	J			5.2		4.5	J	4.1	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0264		0.0251		0.021				0.0204		0.0201		0.0191	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0004	J	0.0005	J			0.0012	J	0.0008	J	0.0008	J
UFI SOP	TURBIDITY	NTU	N	2.1		2.1		2				2.4		2.1		2	

			Location	OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft	
			Field Sample ID	OL-1522-04		OL-1524-05		OL-1531-06		OL-1534-03		OL-1538-05		OL-1575-03		OL-1521-03	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		6/8/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000093		0.00005	J	0.0001		0.000073		0.00005	J	0.000043	J	0.000083	
E1631	MERCURY	ug/L	N	0.00107		0.00155		0.00633		0.00076		0.00302		0.00176		0.00125	
E1631	MERCURY	ug/L	Y	0.00031	J	0.00035	J	0.00033	J	0.00019	J	0.00059		0.00025	J	0.00043	
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U	4		4	U	4		4	U	4	
SW8082	AROCLOR-1016	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1221	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1232	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1242	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1248	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1254	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1260	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1268	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	PCBS, N.O.S.	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	UJ
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	UJ	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U

			Location	OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft	
			Field Sample ID	OL-1522-04		OL-1524-05		OL-1531-06		OL-1534-03		OL-1538-05		OL-1575-03		OL-1521-03	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		6/8/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	4.63		3.15		4.61		3.36		4.21		2.07		5.83	
UFI SOP	CHLOROPHYLL-A	ug/L	N	8.3		7.4		6	J	4.3	J	7.1		3.3		12.2	
UFI SOP	NITRITE	mg/l	N	0.032		0.035		0.049		0.04		0.067		0.049		0.031	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.028	J	0.037	J	0.038	J	0.039	J	0.127		0.279		0.02	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.88		1.845		1.719		1.672		1.887		1.802		1.825	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.6	J	4.9		3	J	6		3.4	J	5.2		3.6	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0181		0.029		0.0285		0.0242		0.0224		0.0187		0.0246	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0006	J	0.0014	U	0.0014	U	0.0004	J	0.001	J	0.0005	J
UFI SOP	TURBIDITY	NTU	N	2.3		3.4		3		2.1		2.2		2.1		3.3	

			Location	OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-STA-80233		OL-STA-80233		OL-STA-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1524-02		OL-1531-02		OL-1533-03		OL-1538-02		OL-1538-02A		OL-1538-02B		OL-1538-02C	
			Sample Date	7/19/2011		8/23/2011		9/13/2011		10/17/2011		10/17/2011		10/17/2011		10/17/2011	
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		UFICHM2011-065		UFICHM2011-065		UFICHM2011-065	
			Matrix	WATER		WATER		WATER		WATER		WATER		Field duplicate		Field duplicate2	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000076		0.000063		0.000079		0.000046	J						
E1631	MERCURY	ug/L	N	0.0015		0.00177		0.00104		0.00169							
E1631	MERCURY	ug/L	Y	0.00035	J	0.00028	J	0.00017	J	0.00035	J						
SM2540D	Total Suspended Solids	mg/l	N	4	U	5		4	U	2	J						
SW8082	AROCLOR-1016	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1221	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1232	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1242	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1248	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1254	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1260	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1268	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	PCBS, N.O.S.	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U						
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	CHRYSENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	FLUORENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	PYRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						

			Location	OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-STA-80233		OL-STA-80233		OL-STA-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1524-02		OL-1531-02		OL-1533-03		OL-1538-02		OL-1538-02A		OL-1538-02B		OL-1538-02C	
			Sample Date	7/19/2011		8/23/2011		9/13/2011		10/17/2011		10/17/2011		10/17/2011		10/17/2011	
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		UFICHM2011-065		UFICHM2011-065		UFICHM2011-065	
			Matrix	WATER		WATER		WATER		WATER		WATER		Field duplicate		Field duplicate2	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.66		3.12		4.64				3.8		3.88		4.53	
UFI SOP	CHLOROPHYLL-A	ug/L	N	9.2		2.7	J	11	J	5.8				10		9.8	
UFI SOP	NITRITE	mg/l	N	0.035		0.053		0.04				0.06		0.043		0.062	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.049		0.065		0.03	J			0.1		0.09		0.106	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.843		1.785		1.598				1.739		1.706		1.744	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	7.2		3	J	4.4	J			3	J	3.4	J	3.3	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.031		0.0241		0.0281				0.0196		0.0189		0.0185	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0009	J	0.0014	U	0.0014	U			0.0014	U	0.0014	U	0.0014	U
UFI SOP	TURBIDITY	NTU	N	2		1.6		2.7				1.8		2		1.8	

			Location	OL-SW-80233		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234	
			Sample Depth	10-10 FT		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1575-11		OL-1521-06		OL-1524-06		OL-1531-07		OL-1534-04		OL-1538-06		OL-1575-04	
			Sample Date	11/15/2011		6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011	
			SDG	1147029|JA92221| UFICHM2011-075		1124023|JA77979| UFICHM2011-016		1130015|JA81380| UFICHM2011-031		1135027|JA84438| UFICHM2011-046		JA86231|JA86231X| UFICHM2011-053		1143007|JA89389| UFICHM2011-065		1147029|JA92221| UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000059		0.00011		0.000044	J	0.000074		0.000081		0.000065		0.000048	J
E1631	MERCURY	ug/L	N	0.00365		0.00169		0.00153		0.00402		0.00178		0.00367		0.00202	
E1631	MERCURY	ug/L	Y	0.00032	J	0.00042		0.00039	J	0.00028	J	0.00034	J	0.00049		0.00034	J
SM2540D	Total Suspended Solids	mg/l	N	2	J	4		4	U	5		4	U	5		4	
SW8082	AROCLOR-1016	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1221	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1232	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1242	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1248	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1254	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1260	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1268	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	PCBS, N.O.S.	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.1	U	0.11	UJ	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.1	U	0.11	UJ	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.1	U	0.11	UJ	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	PYRENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U

			Location	OL-SW-80233		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234	
			Sample Depth	10-10 FT		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1575-11		OL-1521-06		OL-1524-06		OL-1531-07		OL-1534-04		OL-1538-06		OL-1575-04	
			Sample Date	11/15/2011		6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011	
			SDG	1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.33		6.04		2.7		4.19		3.4		4.18		2.33	
UFI SOP	CHLOROPHYLL-A	ug/L	N	3		10.6		4.4		8.1	J	6	J	11.7		3	
UFI SOP	NITRITE	mg/l	N	0.048		0.038		0.037		0.048		0.04		0.063		0.05	
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.273		0.018	J	0.043		0.041		0.056		0.1		0.28	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.706		2.032		1.867		1.65		1.787		1.932		1.841	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.5	J	3.2	J	7.2		3	J	6.7		3	J	4.5	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0177		0.0197		0.025		0.0301		0.0255		0.0241		0.0177	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.001	J	0.0005	J	0.0004	J	0.0004	J	0.0004	J	0.0005	J	0.0012	J
UFI SOP	TURBIDITY	NTU	N	1.9		3.1		1.7		2.2		2.3		3.2		2	

			Location	OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		FIELD QC	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT			
			Field Sample ID	OL-1522-02		OL-1524-07		OL-1531-11		OL-1533-08		OL-1538-09		OL-1575-05		OL-1522-06	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011		6/9/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Equipment blank.	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Blank water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.000092		0.000058		0.000072		0.000069		0.000065		0.000055		0.00002	U
E1631	MERCURY	ug/L	N	0.00249		0.00467		0.00395		0.00196		0.00476		0.00613		0.00018	J
E1631	MERCURY	ug/L	Y	0.00039	J	0.00054		0.00025	J	0.00035	J	0.00074	J	0.0004	J	0.00015	U
SM2540D	Total Suspended Solids	mg/l	N	5		3	J	4	U	4	U	4		9		4	U
SW8082	AROCLOR-1016	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1221	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1232	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1242	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1248	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1254	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1260	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	AROCLOR-1268	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8082	PCBS, N.O.S.	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U	0.053	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	0.17	J	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	UJ	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	UJ
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U
SW8270	PYRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U	0.11	U

			Location	OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		FIELD QC	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT			
			Field Sample ID	OL-1522-02		OL-1524-07		OL-1531-11		OL-1533-08		OL-1538-09		OL-1575-05		OL-1522-06	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011		6/9/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Equipment blank.	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Blank water	
Method	Parameter Name	Units	Filtered														
UFI SOP	Beam Attenuation Coefficient	1/m	N	4.27		2.75		3.98		4.77		5.44		3.66			
UFI SOP	CHLOROPHYLL-A	ug/L	N	4.3		6.5		7	J	6.4	J	10.5		2.5			
UFI SOP	NITRITE	mg/l	N	0.036		0.035		0.05		0.039		0.058		0.048			
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.054		0.041		0.043		0.056		0.097		0.357			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	2.009		1.932		1.722		1.67		1.861		1.921			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.5	J	4.5	J	3	J	5.4		3	J	10.3			
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.021		0.031		0.0264		0.0265		0.0255		0.0428			
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0004	J	0.0014	U	0.0007	J	0.0014	U	0.005			
UFI SOP	TURBIDITY	NTU	N	2.8		1.7		1.8		2.7		3.5		4.1			

			Location	FIELD QC		FIELD QC		FIELD QC		FIELD QC		FIELDQC		FIELD QC		FIELD QC	
			Sample Depth														
			Field Sample ID	OL-1524-13		OL-1531-13		OL-1534-05		OL-1538-13		OL-1575-13		OL-1521-08		TripBlank060911	
			Sample Date	7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		6/8/2011		6/9/2011	
			SDG	1130015|JA81380		1135027|JA84438		JA86231|JA86231X		1143007|JA89389		1147029|JA92221		JA77979		JA78131	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Equipment blank.		Equipment blank.		Equipment blank.		Equipment blank.		Equipment blank.		Trip blank		Trip blank	
			Sample Type	Blank water		Blank water		Blank water		Blank water		Blank water		Blank water		Blank water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	0.00002	U	0.00002	U	0.00002	U	0.00002	U	0.00002	U				
E1631	MERCURY	ug/L	N	0.00015	U	0.00015	U	0.00015	U	0.00015	U	0.00015	U				
E1631	MERCURY	ug/L	Y	0.00015	U	0.00015	U	0.00015	U	0.00015	U	0.00015	U				
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U	4	U	2	J	4	U				
SW8082	AROCLOR-1016	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1221	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1232	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1242	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1248	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1254	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1260	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	AROCLOR-1268	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8082	PCBS, N.O.S.	ug/L	N	0.055	U	0.056	U	0.054	U	0.054	U	0.061	U				
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	0.21	J
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	CHRYSENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	FLUORENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				
SW8270	PYRENE	ug/L	N	0.11	U	0.11	U	0.14	U	0.11	U	0.11	U				

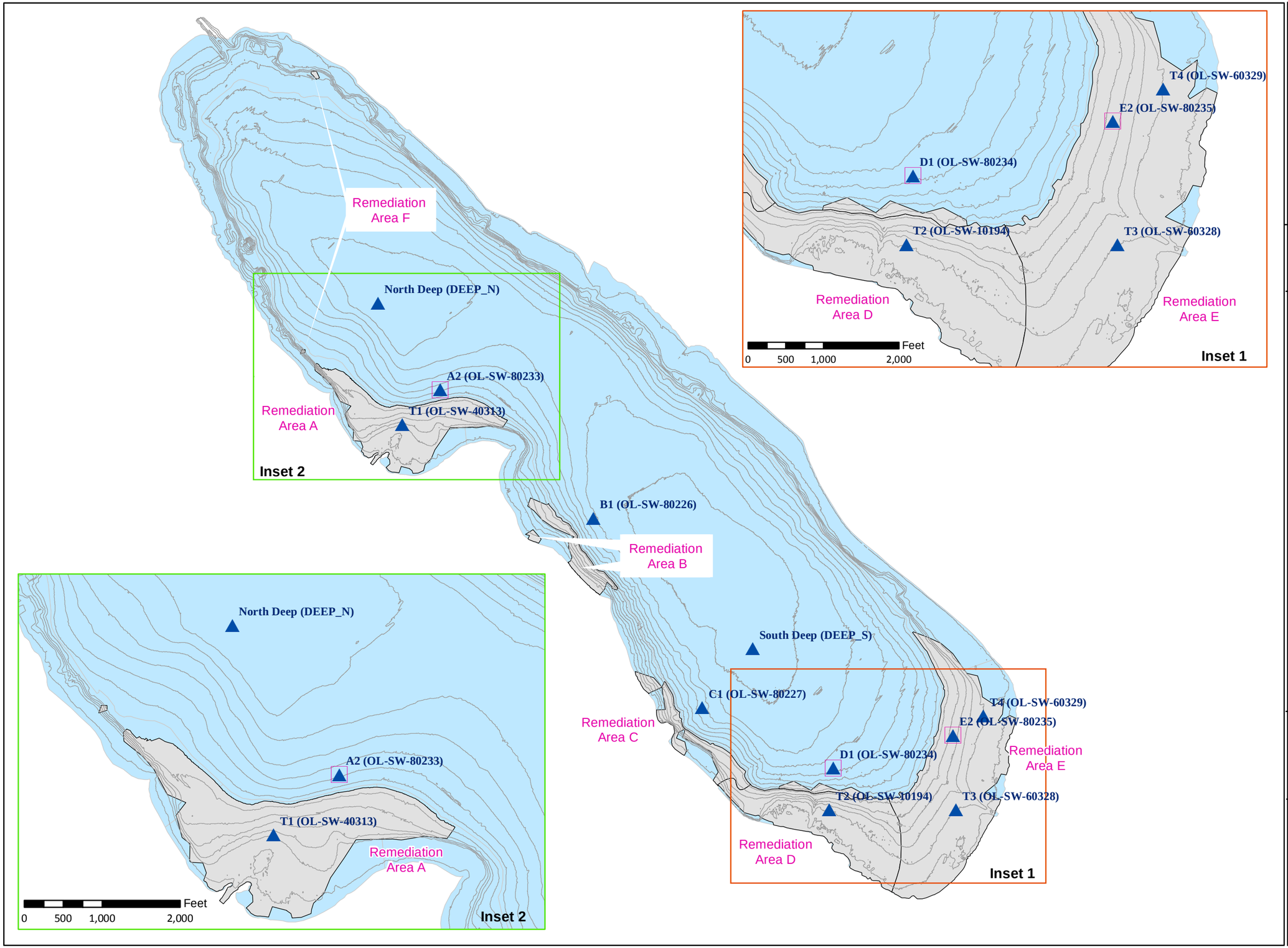
			Location	FIELD QC	FIELD QC	FIELD QC	FIELD QC	FIELDQC	FIELD QC	FIELD QC
			Sample Depth							
			Field Sample ID	OL-1524-13	OL-1531-13	OL-1534-05	OL-1538-13	OL-1575-13	OL-1521-08	TripBlank060911
			Sample Date	7/19/2011	8/23/2011	9/14/2011	10/17/2011	11/15/2011	6/8/2011	6/9/2011
			SDG	1130015|JA81380	1135027|JA84438	JA86231|JA86231X	1143007|JA89389	1147029|JA92221	JA77979	JA78131
			Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Sample Purpose	Equipment blank.	Equipment blank.	Equipment blank.	Equipment blank.	Equipment blank.	Trip blank	Trip blank
			Sample Type	Blank water	Blank water	Blank water	Blank water	Blank water	Blank water	Blank water
Method	Parameter Name	Units	Filtered							
UFI SOP	Beam Attenuation Coefficient	1/m	N							
UFI SOP	CHLOROPHYLL-A	ug/L	N							
UFI SOP	NITRITE	mg/l	N							
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N							
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N							
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y							
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N							
UFI SOP	REACTIVE PHOSPHATE	mg/L	N							
UFI SOP	TURBIDITY	NTU	N							

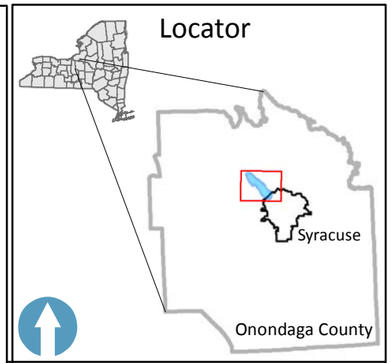
			Location	FIELD QC		FIELDQC	
			Sample Depth				
			Field Sample ID	OL-1538-14		OL-1575-14	
			Sample Date	10/17/2011		11/15/2011	
			SDG	JA89389		JA92221	
			Matrix	WATER		WATER	
			Sample Purpose	Trip blank		Trip blank	
			Sample Type	Blank water		Blank water	
Method	Parameter Name	Units	Filtered				
E1630	METHYL MERCURY	ug/L	N				
E1631	MERCURY	ug/L	N				
E1631	MERCURY	ug/L	Y				
SM2540D	Total Suspended Solids	mg/l	N				
SW8082	AROCLOR-1016	ug/L	N				
SW8082	AROCLOR-1221	ug/L	N				
SW8082	AROCLOR-1232	ug/L	N				
SW8082	AROCLOR-1242	ug/L	N				
SW8082	AROCLOR-1248	ug/L	N				
SW8082	AROCLOR-1254	ug/L	N				
SW8082	AROCLOR-1260	ug/L	N				
SW8082	AROCLOR-1268	ug/L	N				
SW8082	PCBS, N.O.S.	ug/L	N				
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N				
SW8270	ACENAPHTHYLENE	ug/L	N				
SW8270	ANTHRACENE	ug/L	N				
SW8270	BENZO(A)ANTHRACENE	ug/L	N				
SW8270	BENZO(A)PYRENE	ug/L	N				
SW8270	BENZO(B)FLUORANTHENE	ug/L	N				
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N				
SW8270	BENZO(K)FLUORANTHENE	ug/L	N				
SW8270	CHRYSENE	ug/L	N				
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N				
SW8270	FLUORANTHENE	ug/L	N				
SW8270	FLUORENE	ug/L	N				
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N				
SW8270	PHENANTHRENE	ug/L	N				
SW8270	PYRENE	ug/L	N				

			Location	FIELD QC		FIELDQC	
			Sample Depth				
			Field Sample ID	OL-1538-14		OL-1575-14	
			Sample Date	10/17/2011		11/15/2011	
			SDG	JA89389		JA92221	
			Matrix	WATER		WATER	
			Sample Purpose	Trip blank		Trip blank	
			Sample Type	Blank water		Blank water	
Method	Parameter Name	Units	Filtered				
UFI SOP	Beam Attenuation Coefficient	1/m	N				
UFI SOP	CHLOROPHYLL-A	ug/L	N				
UFI SOP	NITRITE	mg/l	N				
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N				
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N				
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y				
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N				
UFI SOP	REACTIVE PHOSPHATE	mg/L	N				
UFI SOP	TURBIDITY	NTU	N				

FIGURES

H:\Honeywell\Onondaga_Lake_Remediation(090139-01)\Baseline_WQ_Construction\Documents\2011_Data_Summary_Report\Figures\Figure 1 - 2011 Discrete Sampling.mxd - B.Solomon - 8FEB2012





Scale

Feet

0 1,000 2,000 4,000

Legend

- 2011 Water Column Sample Locations
- 2011 Continuous Turbidity Monitoring Station
- 2005 Bathymetry (displayed every 5 ft)**
- Remediation Areas

** Bathymetric survey performed by CR Environmental, Inc. for Honeywell in 2005.

Figure 1
2011 Water Quality Monitoring for Construction Baseline Monitoring Locations
Onondaga Lake

Honeywell
PARSONS
ANCHOR QEA

110139-01.01, Task 8 FEB 2012

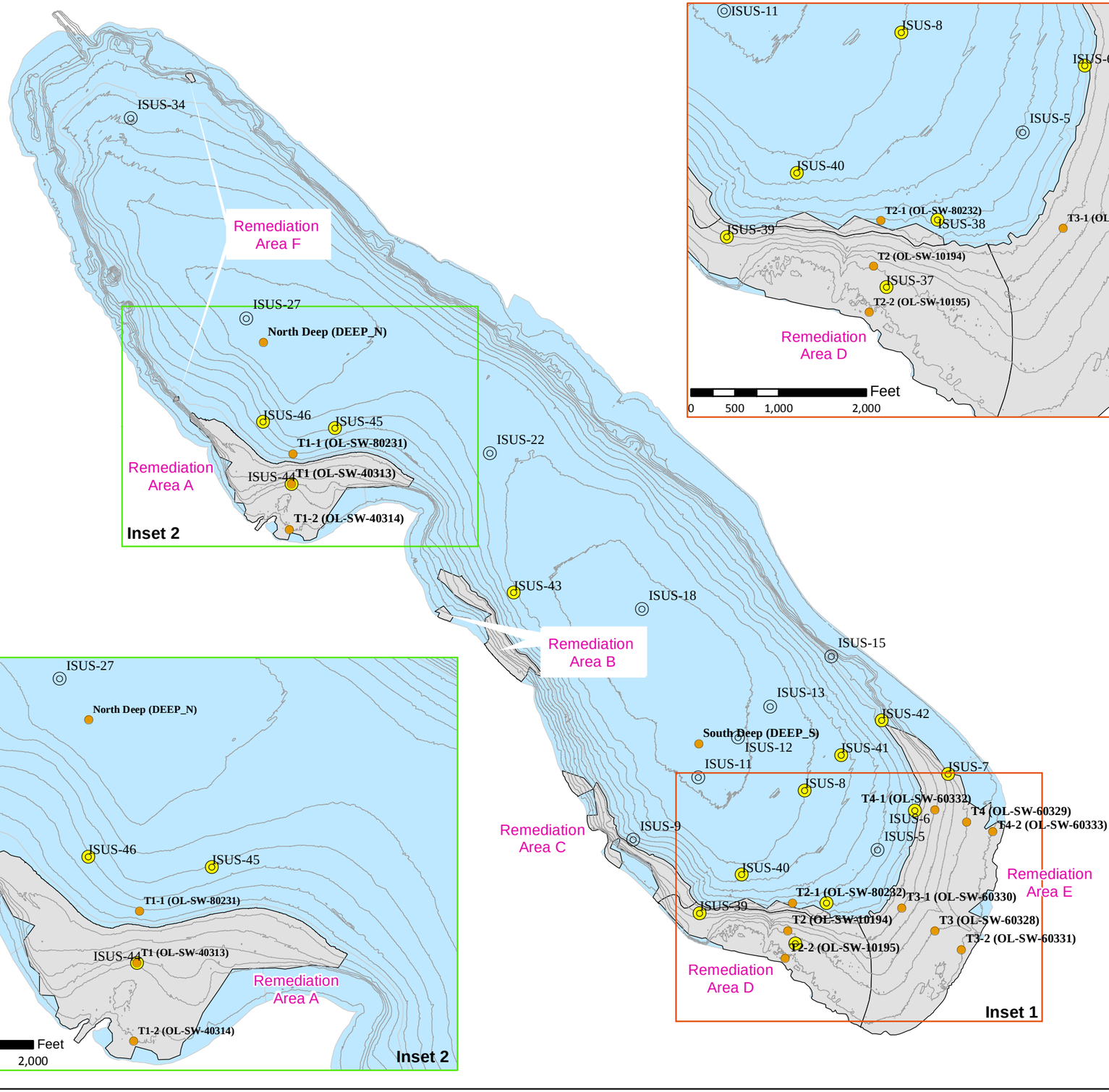


Figure 2
2011 Rapid Turbidity Profiling and ISUS Sampling Locations Onondaga Lake

Honeywell
PARSONS
ANCHOR QEA

110139-01.01, Task 8 FEB 2012

H:\Honeywell\Onondaga_Lake_Remediation\(090139-01)\Baseline_WQ_Construction\Documents\2011_Data_Summary_Report\Figures\Figure 2 - 2011 discrete turbidity & ISUS.mxd - B.Solomon - 6FEB2012

APPENDIX A

FIELD PROBE DATA

APPENDIX A
FIELD PROBE DATA

Station ID	Location ID	Date	Reading Depth (ft)	Temperature (deg C)	pH (S.U.)	Turbidity (NTU)	Conductivity (mS)	DO (mg/L)
North Deep	Deep_N	6/8/2011	10	19.5	8.16	2.2	1.641	12.8
		7/19/2011		25.51	7.82	1	1.747	10.85
		8/23/2011		22.74	6.16	0.3	1.955	7.45
		9/13/2011		20.78	7.78	2.5	1.731	7.53
		10/17/2011		15.28	8.8	1.5	1.796	8.05
		11/15/2011		10.18	7.05	1.2	1.861	10.01
South Deep	Deep_S	6/8/2011	10	19.5	8.12	1.9	1.612	13.09
		7/19/2011		26.18	7.82	1.1	1.761	10.48
		8/23/2011		23.29	6.7	1.6	1.917	9.08
		9/14/2011		21.25	7.74	1.8	1.758	8.59
		10/17/2011		15.13	8.54	2.5	2.671	8.34
		11/15/2011		10.04	7.52	1.9	1.868	9.71
T2	OL-SW-10194	6/8/2011	4	24.08	8.06	1.3	1.625	11.95
		7/19/2011		27.36	7.79	0.8	1.754	10.95
		8/23/2011		23.44	6.79	3.4	1.911	8.65
		9/13/2011		20.79	7.45	3.2	1.698	7.61
		10/17/2011		14.99	8.31	3.7	1.855	8.46
		11/15/2011		10.11	7.04	1.2	1.87	9.69
T1	OL-SW-40313	6/9/2011	4	21.37	8.08	1.8	1.641	12.38
		7/19/2011		27.59	7.83	0.7	1.753	11.07
		8/23/2011		22.48	6.4	0.6	1.958	7.86
		9/13/2011		20.78	7.78	2.5	1.731	7.53
		10/17/2011		15.24	8.06	1.9	1.804	8.53
		11/15/2011		10.12	6.97	2.1	1.841	9.73
T3	OL-SW-60328	6/9/2011	4	23.42	8.05	3.1	1.748	11.32
		7/19/2011		27.57	7.85	0.8	1.743	12.34
		8/23/2011		21.9	6.69	0	1.907	8.39
		9/13/2011		21.06	7.48	18.6	1.924	7.75
		10/17/2011		14.4	8.27	3.2	1.826	8.67
		11/15/2011		10.16	7.22	3.3	1.859	9.54
T4	OL-SW-60329	6/9/2011	4	24.15	8.04	4.9	1.775	8.45
		7/19/2011		26.87	7.61	2.2	1.68	8.85
		8/23/2011		20.76	6.77	1.3	1.305	9.09
		9/13/2011		21.36	7.52	4.4	1.678	8.11
		10/17/2011		14	8.12	25.2	1.869	9.38
		11/15/2011		10.6	7.25	9.4	1.867	9.12
B1	OL-SW-80226	6/8/2011	10	19.6	8.02	2.2	1.646	12.97
		7/19/2011		25.82	7.82	1.1	1.759	10.23
		8/23/2011		23.36	6.58	1	1.946	8.71
		9/14/2011		21.38	7.81	1.8	1.77	9.14
		10/17/2011		15.24	8.61	1.9	1.847	8.37
		11/15/2011		10.08	7.08	1.5	1.865	9.81
C1	OL-SW-80227	6/9/2011	10	21.48	8.11	1.9	1.643	12.6
		7/19/2011		25.73	7.73	1.5	1.768	10.02
		8/23/2011		23.24	6.74	1.7	1.918	9.09
		9/14/2011		21.26	7.67	1.9	1.763	8.89
		10/17/2011		15.12	8.48	2.1	1.855	8.54
		11/15/2011		10.02	7.36	1.7	1.866	9.68

APPENDIX A
FIELD PROBE DATA

Station ID	Location ID	Date	Reading Depth (ft)	Temperature (deg C)	pH (S.U.)	Turbidity (NTU)	Conductivity (mS)	DO (mg/L)
A2	OL-SW-80233	6/8/2011	10	19	8.06	2.4	1.626	12.2
		7/19/2011		25.46	7.86	0.8	1.705	10.7
		8/23/2011		22.88	6.29	0.4	1.939	8.18
		9/13/2011		21.08	7.72	2.1	1.757	9.06
		10/17/2011		15.15	8.72	1.8	1.804	8.96
		11/15/2011		10.14	7.01	1.6	1.863	9.8
D1	OL-SW-80234	6/8/2011	10	20.08	8.08	2.3	1.692	13.44
		7/19/2011		26.26	7.78	1	1.754	10.9
		8/23/2011		23.13	6.78	1.1	1.919	9.03
		9/14/2011		21.08	7.57	2.6	1.749	8.39
		10/17/2011		15.04	8.44	3.1	1.841	9.04
		11/15/2011		10.03	7.33	1.8	1.867	9.75
E2	OL-SW-80235	6/9/2011	10	24.07	8.1	2.5	1.722	10.71
		7/19/2011		26.43	7.69	2.4	1.757	10.73
		8/23/2011		23.57	6.86	1	1.924	9.23
		9/13/2011		21.54	7.64	8.92	1.732	8.83
		10/17/2011		14.95	8.27	3.3	1.826	9.24
		11/15/2011		10.12	7.27	4	1.875	9.6

APPENDIX B

DISCRETE WATER COLUMN SAMPLING PLOTS

(phosphorus, nitrogen, chlorophyll, beam attenuation, turbidity)

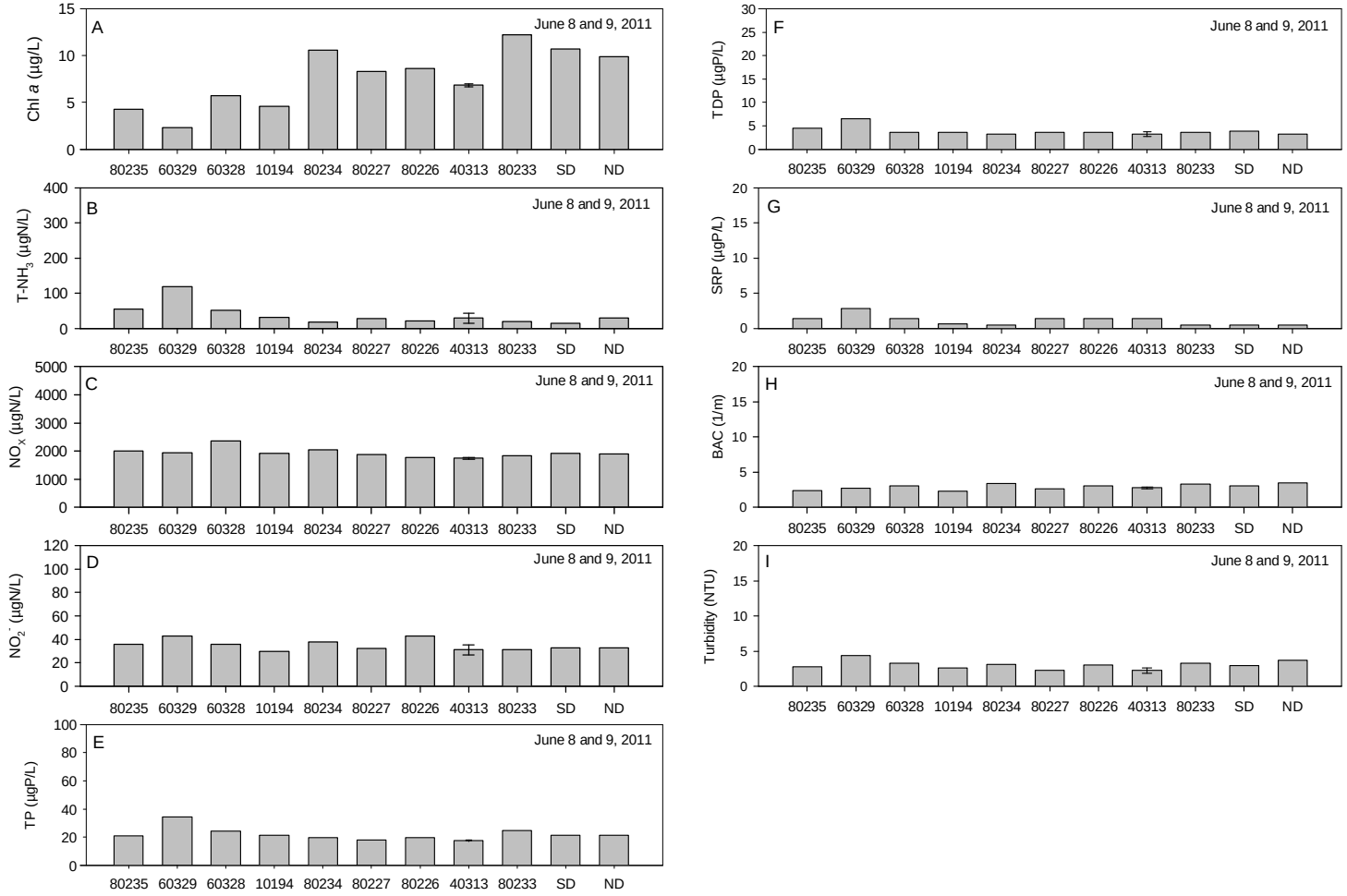


Figure 1. Analytical results for samples collected from 11 locations in Onondaga Lake on June 8 and 9, 2011: (A) chlorophyll a, (B) total ammonia, (C) nitrate + nitrite, (D) nitrite, (E) total phosphorus, (F) total dissolved phosphorus, (G) soluble reactive phosphorus, (H) beam attenuation coefficient, and (I) turbidity.

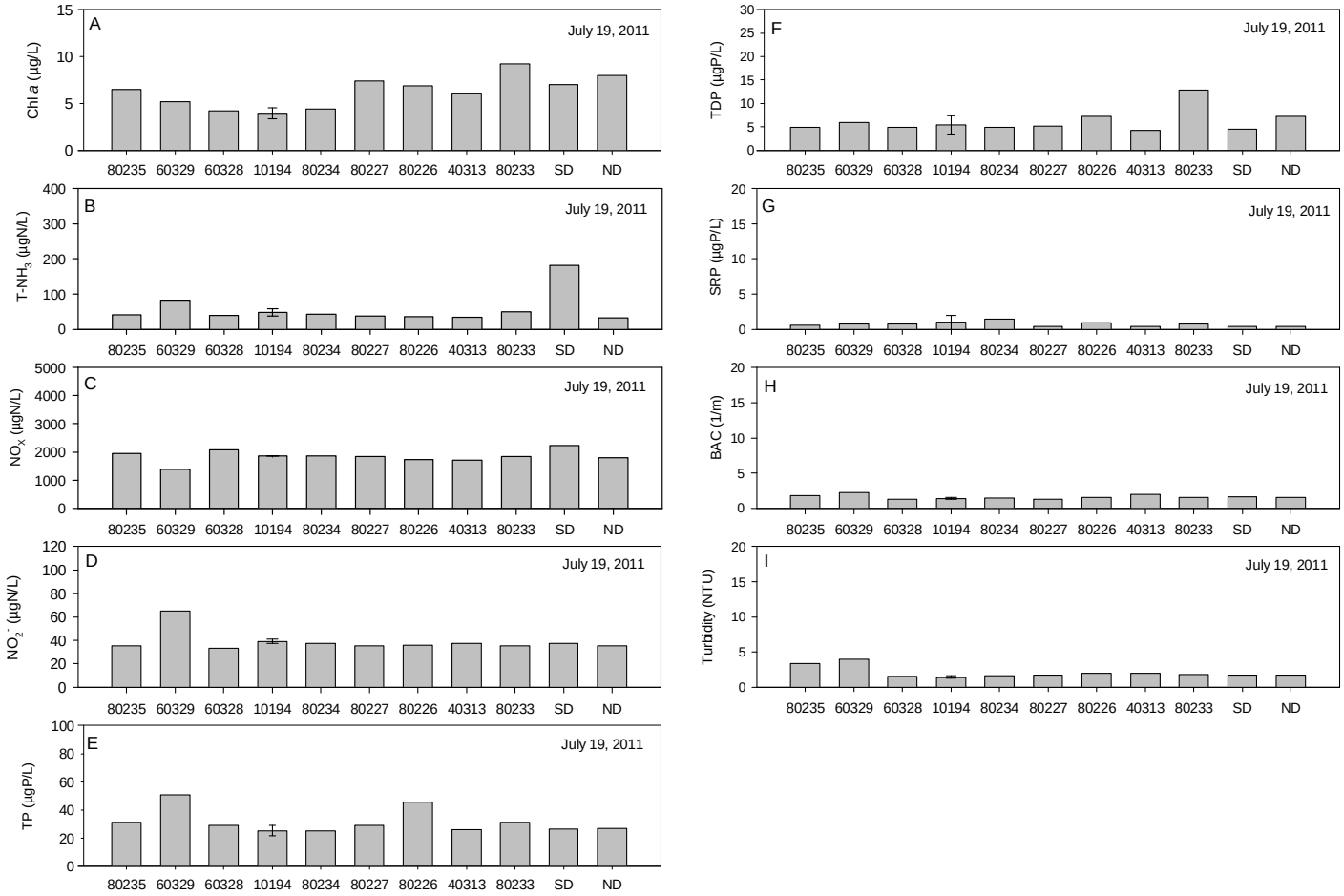


Figure 2. Analytical results for samples collected from 11 locations in Onondaga Lake on July 19, 2011: (A) chlorophyll a, (B) total ammonia, (C) nitrate + nitrite, (D) nitrite, (E) total phosphorus, (F) total dissolved phosphorus, (G) soluble reactive phosphorus, (H) beam attenuation coefficient, and (I) turbidity.

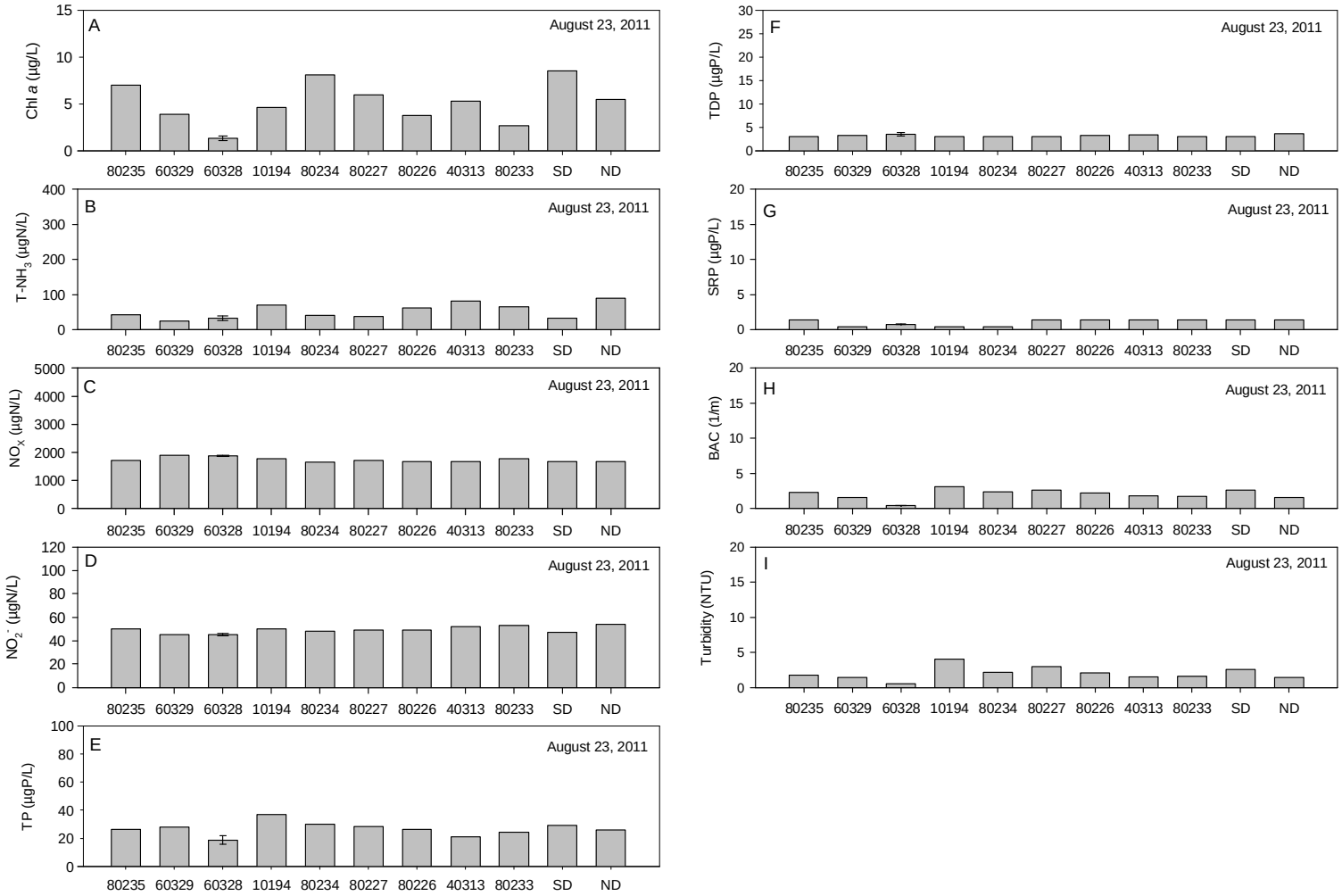


Figure 3. Analytical results for samples collected from 11 locations in Onondaga Lake on August 23, 2011: (A) chlorophyll a, (B) total ammonia, (C) nitrate + nitrite, (D) nitrite, (E) total phosphorus, (F) total dissolved phosphorus, (G) soluble reactive phosphorus, (H) beam attenuation coefficient, and (I) turbidity.

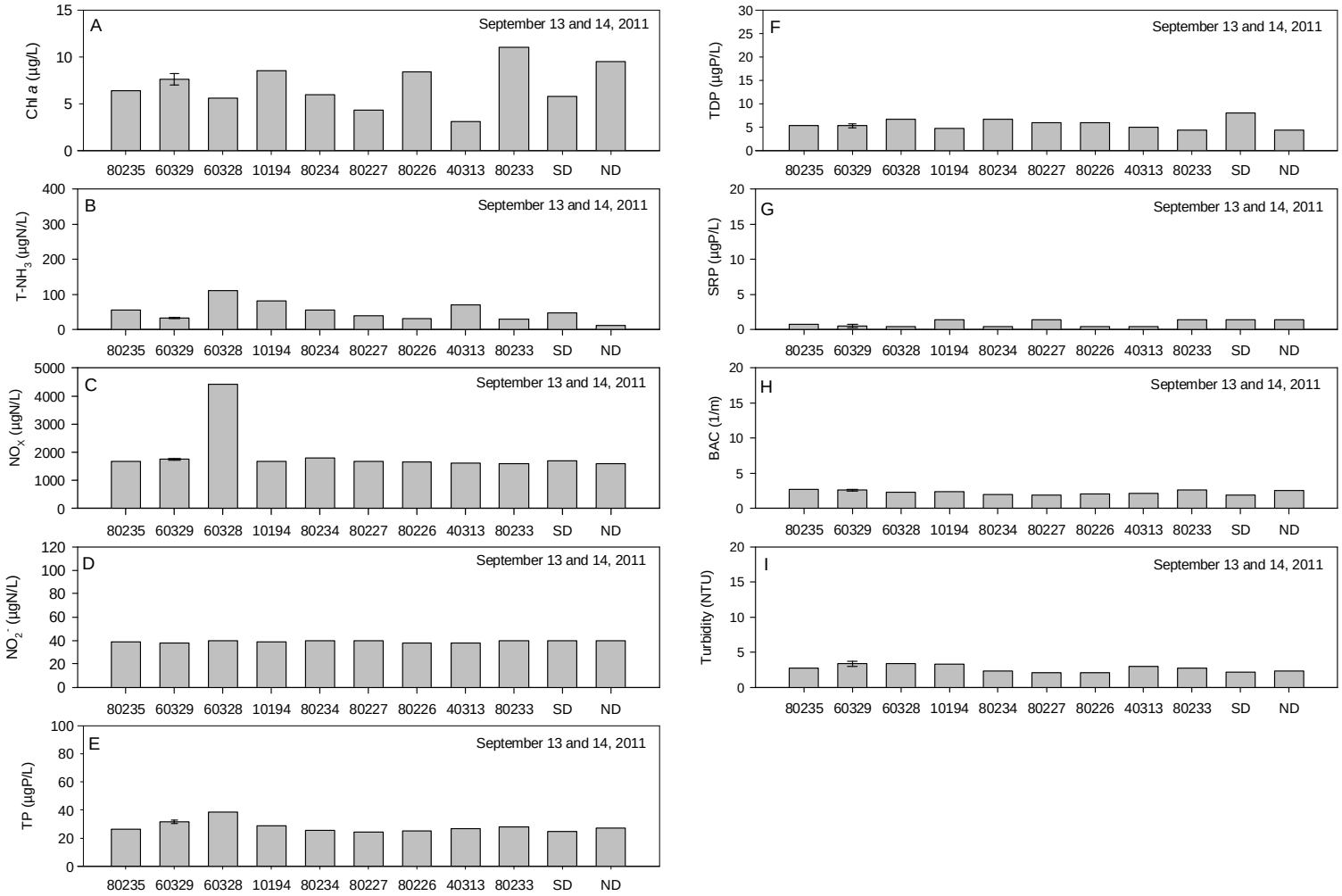


Figure 4. Analytical results for samples collected from 11 locations in Onondaga Lake on September 13 and 14, 2011: (A) chlorophyll a, (B) total ammonia, (C) nitrate + nitrite, (D) nitrite, (E) total phosphorus, (F) total dissolved phosphorus, (G) soluble reactive phosphorus, (H) beam attenuation coefficient, and (I) turbidity.

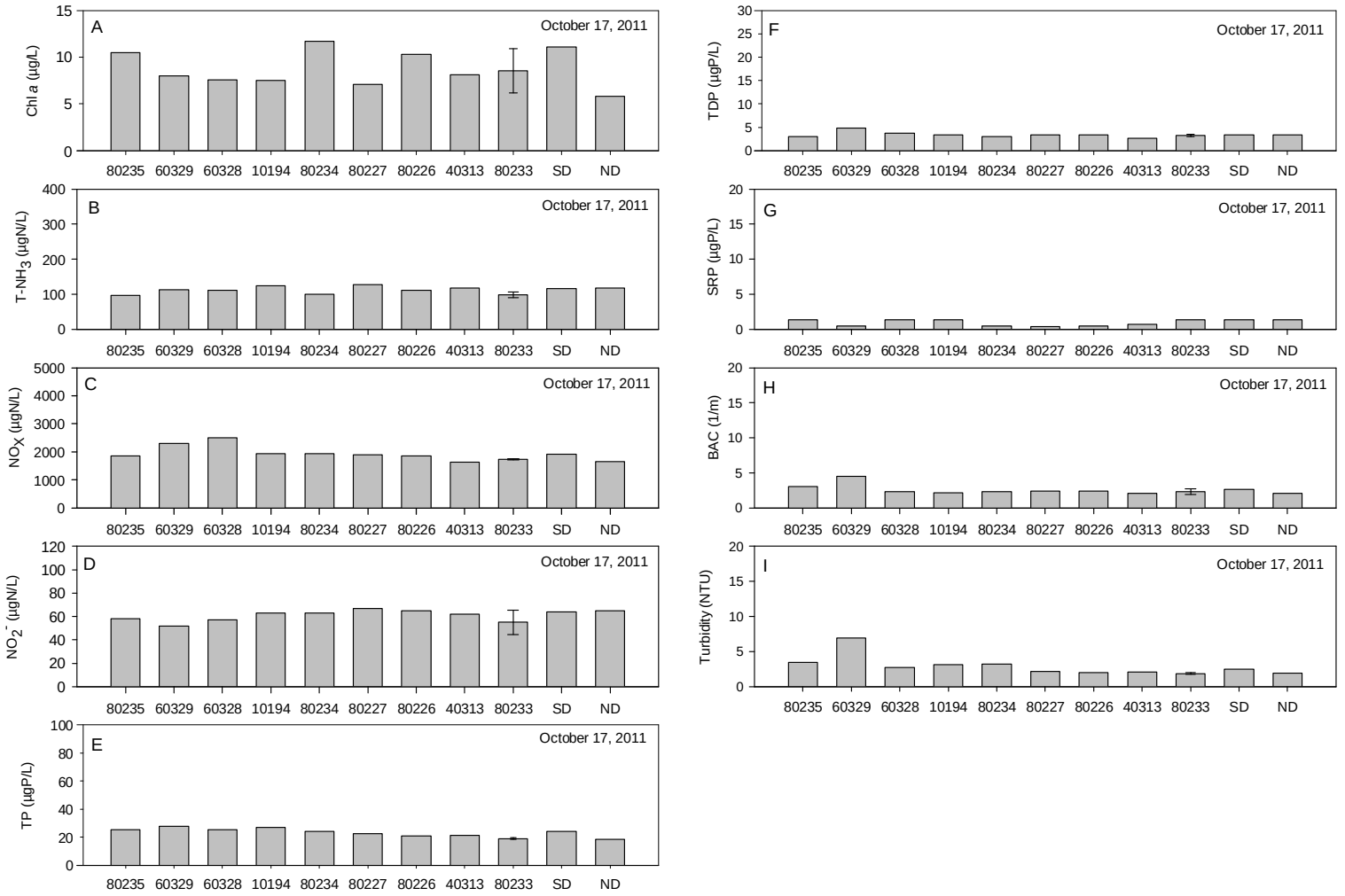


Figure 5. Analytical results for samples collected from 11 locations in Onondaga Lake on October 17, 2011: (A) chlorophyll a, (B) total ammonia, (C) nitrate + nitrite, (D) nitrite, (E) total phosphorus, (F) total dissolved phosphorus, (G) soluble reactive phosphorus, (H) beam attenuation coefficient, and (I) turbidity.

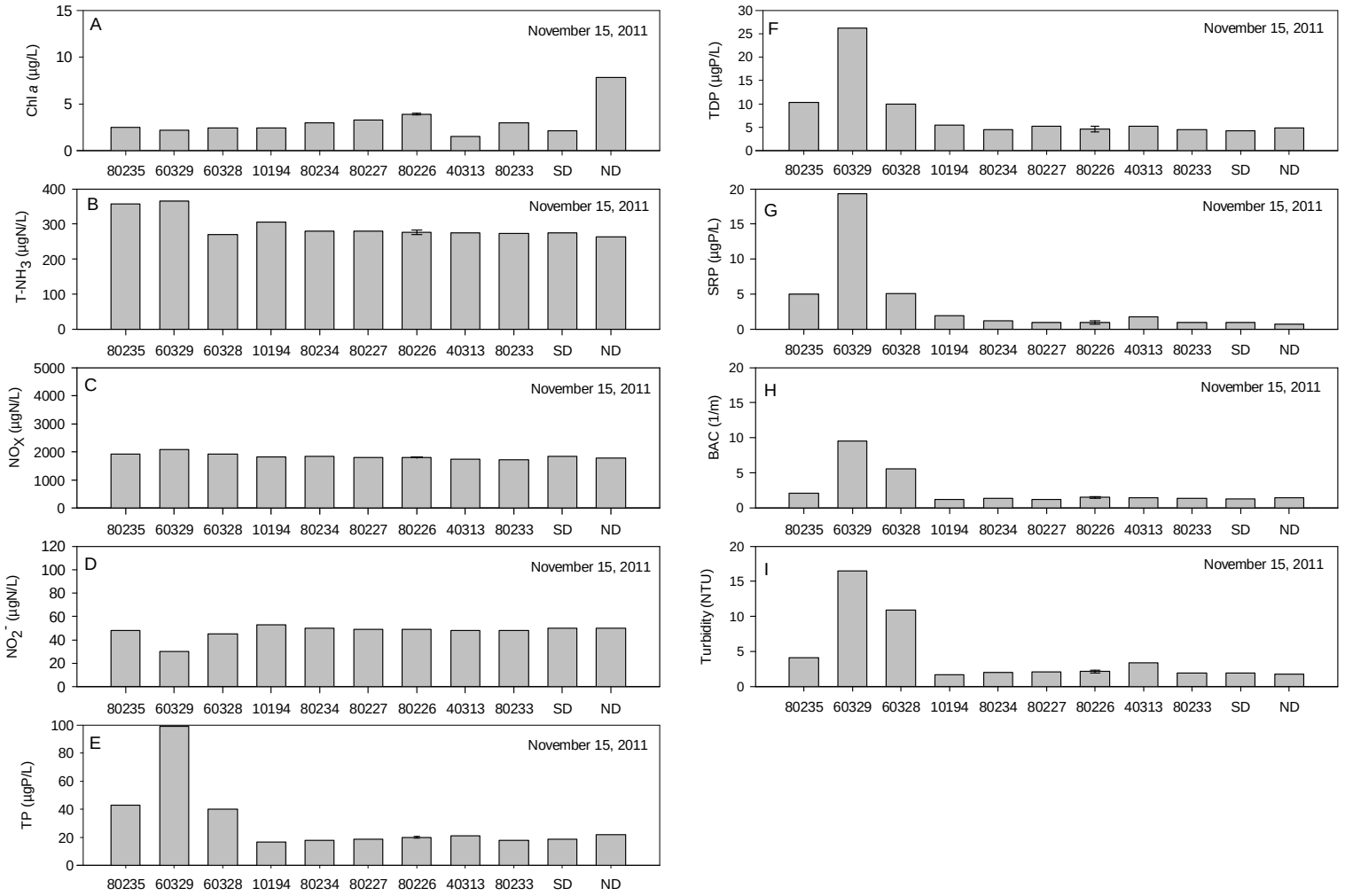


Figure 6. Analytical results for samples collected from 11 locations in Onondaga Lake on November 15, 2011: (A) chlorophyll a, (B) total ammonia, (C) nitrate + nitrite, (D) nitrite, (E) total phosphorus, (F) total dissolved phosphorus, (G) soluble reactive phosphorus, (H) beam attenuation coefficient, and (I) turbidity.

APPENDIX C

2010 SEABIRD PROFILES PRE-DREDGE MONITORING TRANSECTS

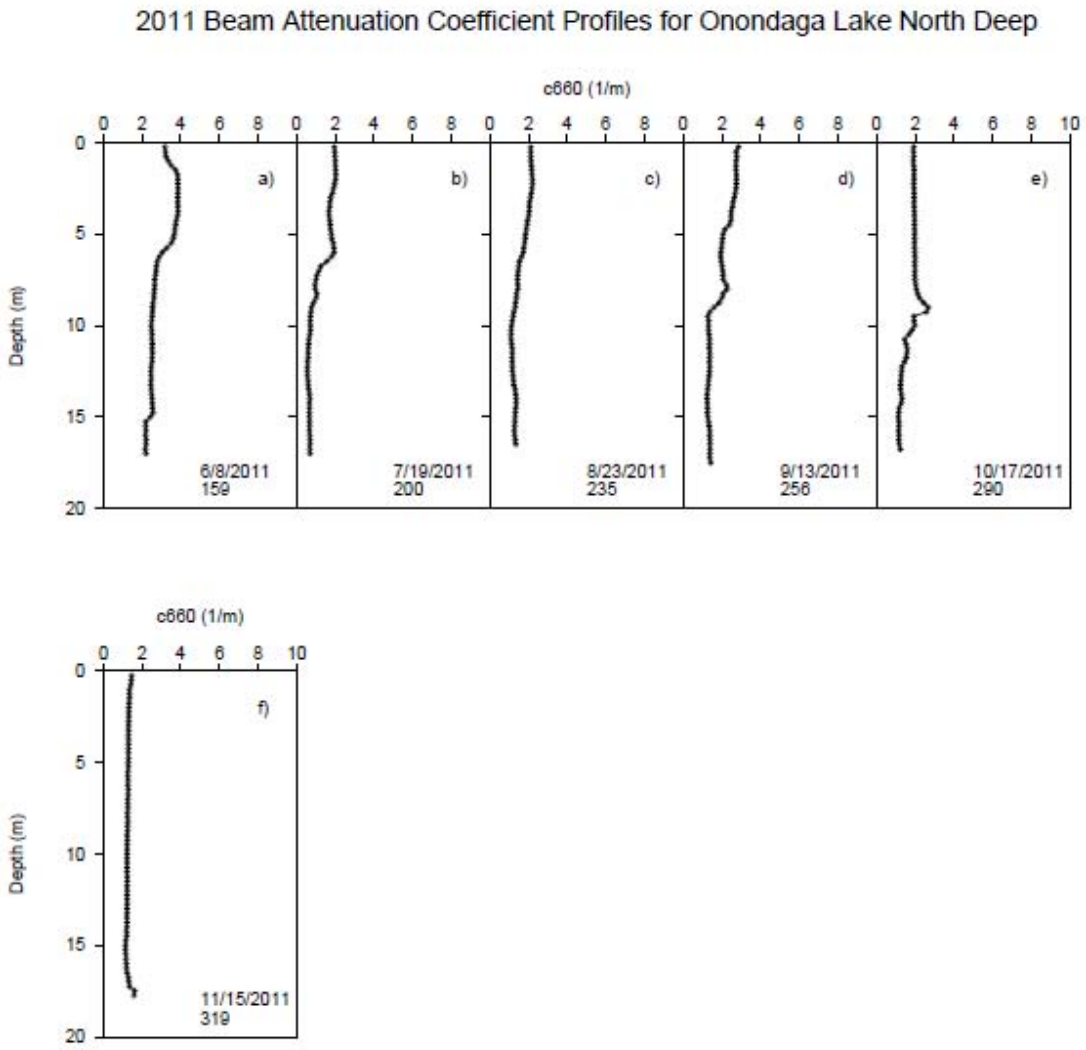


Figure 1. Profiles of beam attenuation coefficient (c660, 1/m) at North Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

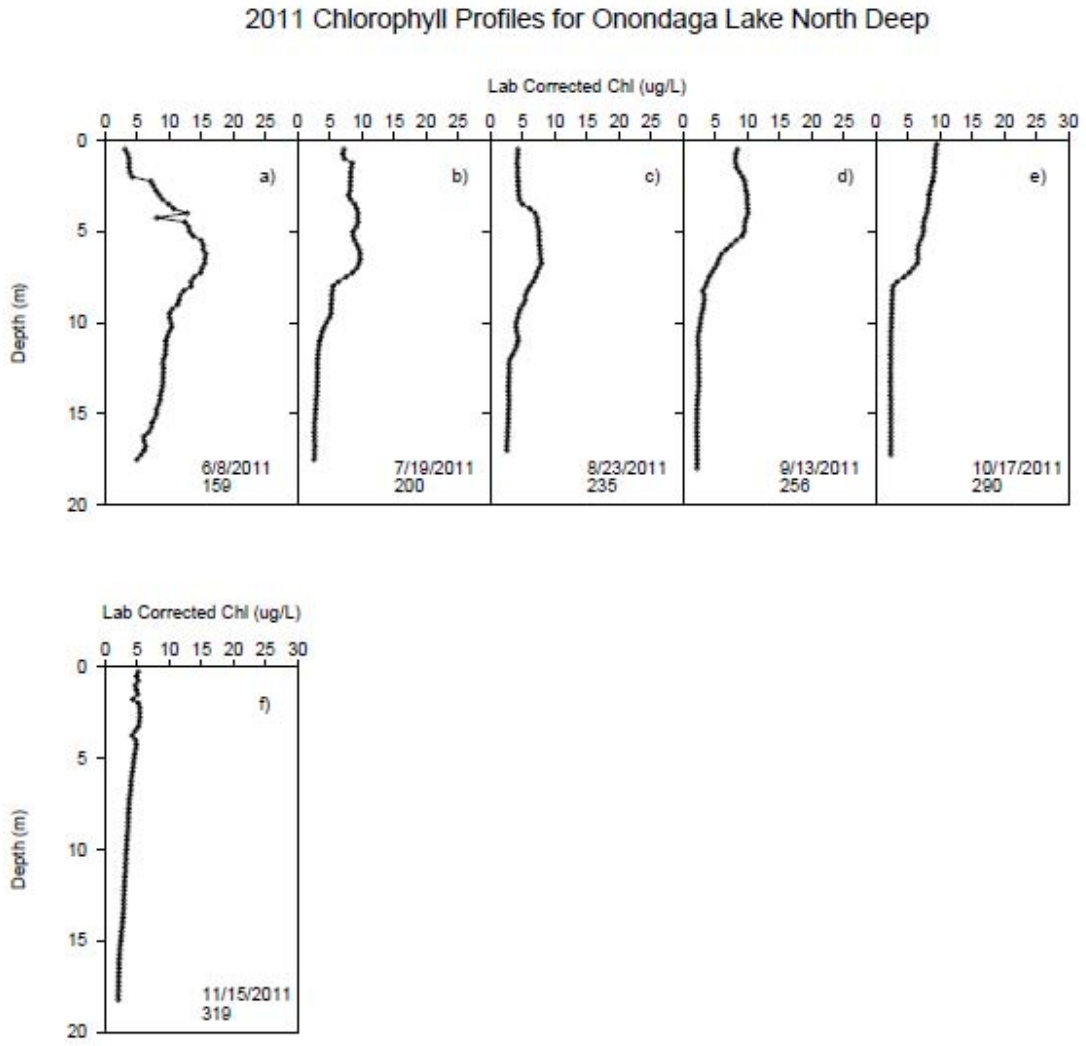


Figure 2. Profiles of chlorophyll (chl, µg/L) at North Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

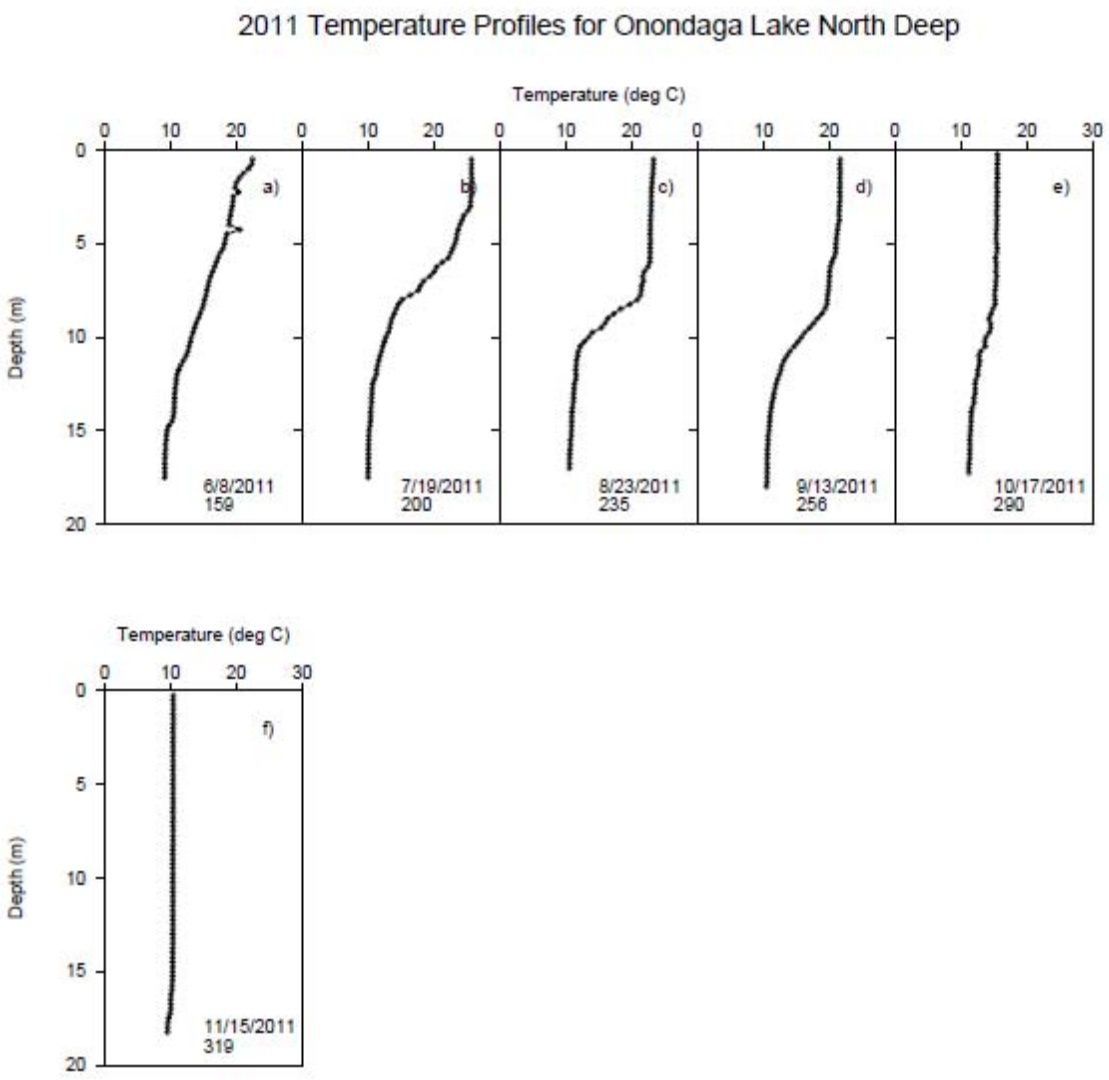


Figure 3. Profiles of temperature (T, °C) at North Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

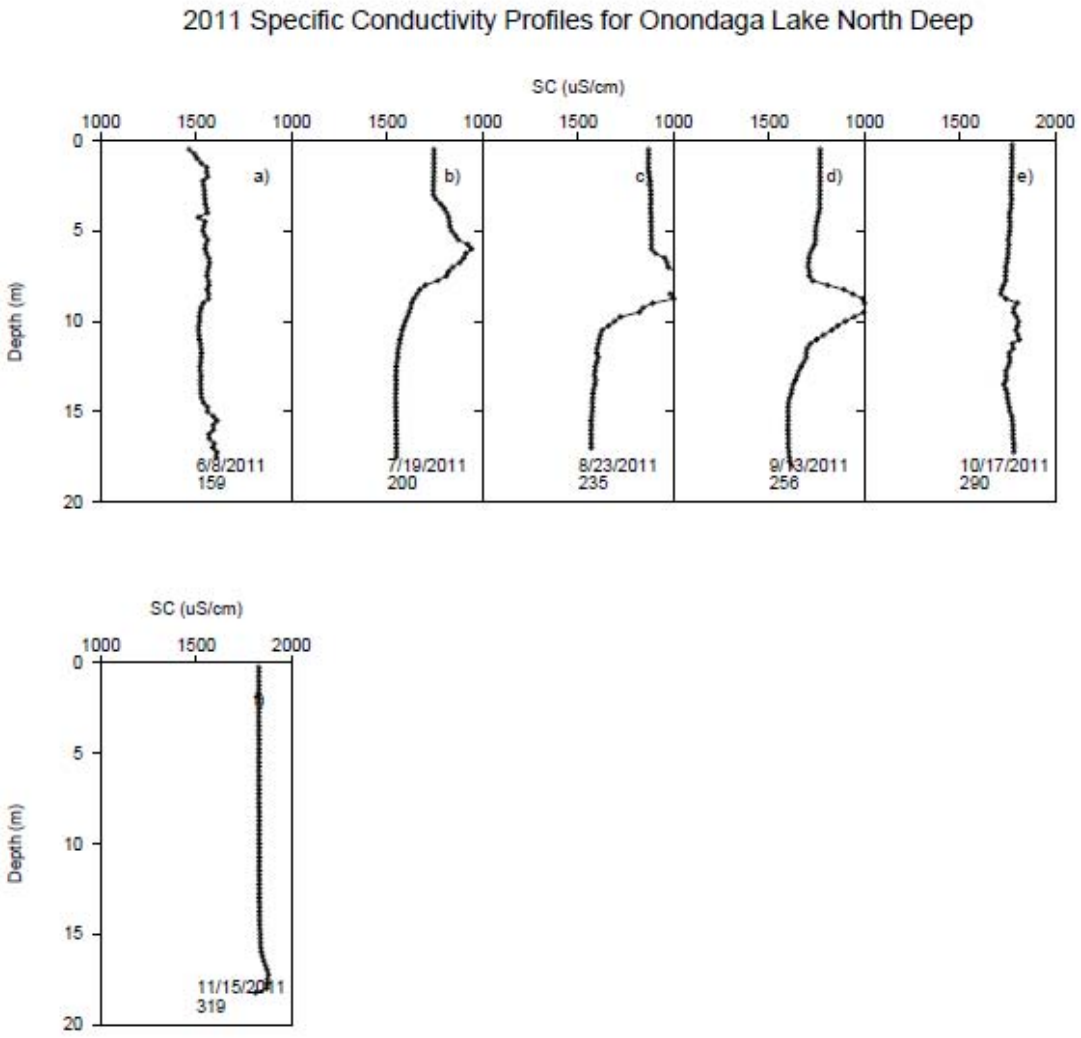


Figure 4. Profiles of specific conductance (SC, µS/cm) at North Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

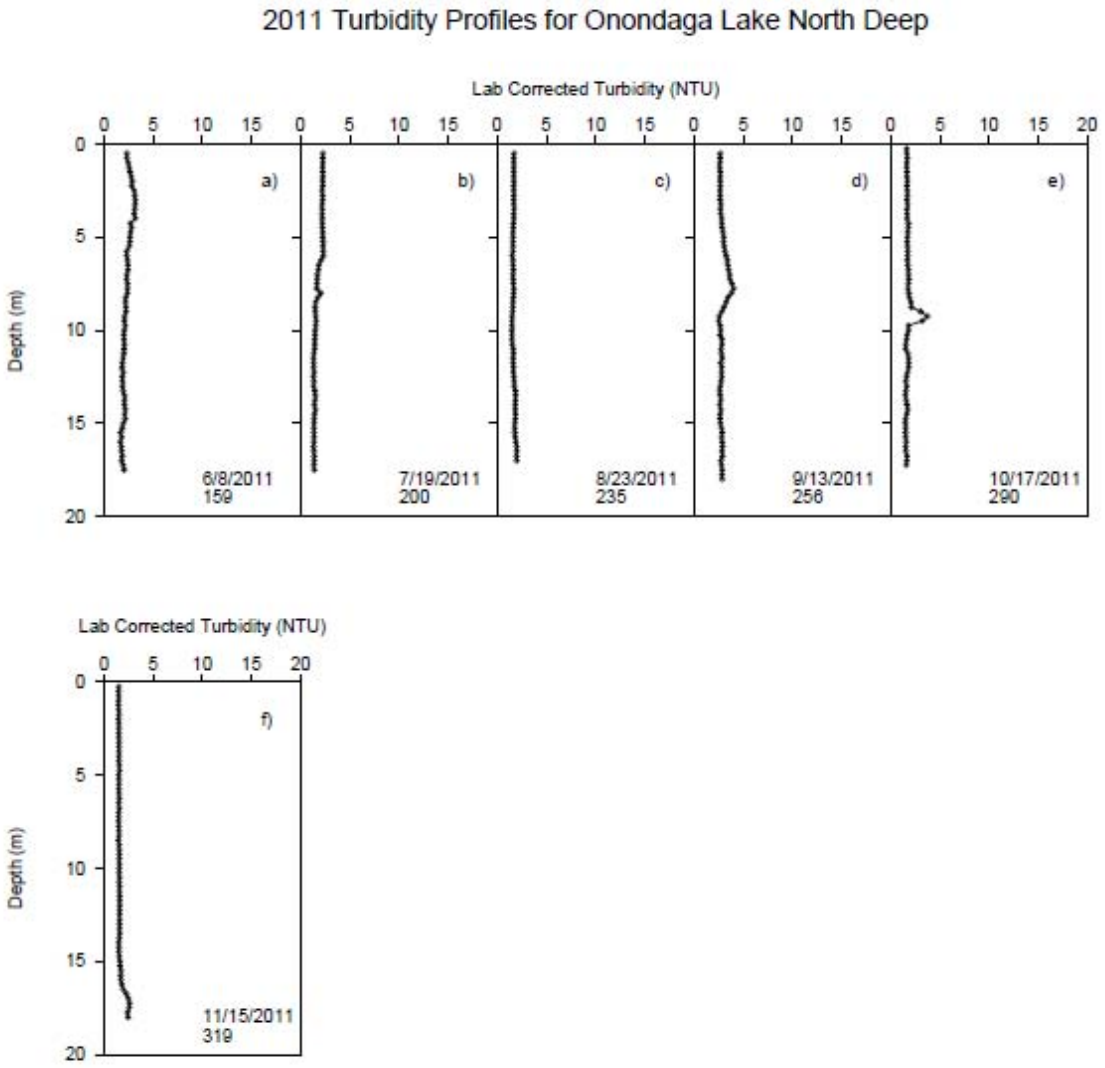


Figure 5. Profiles for turbidity (Tn, NTU) at North Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

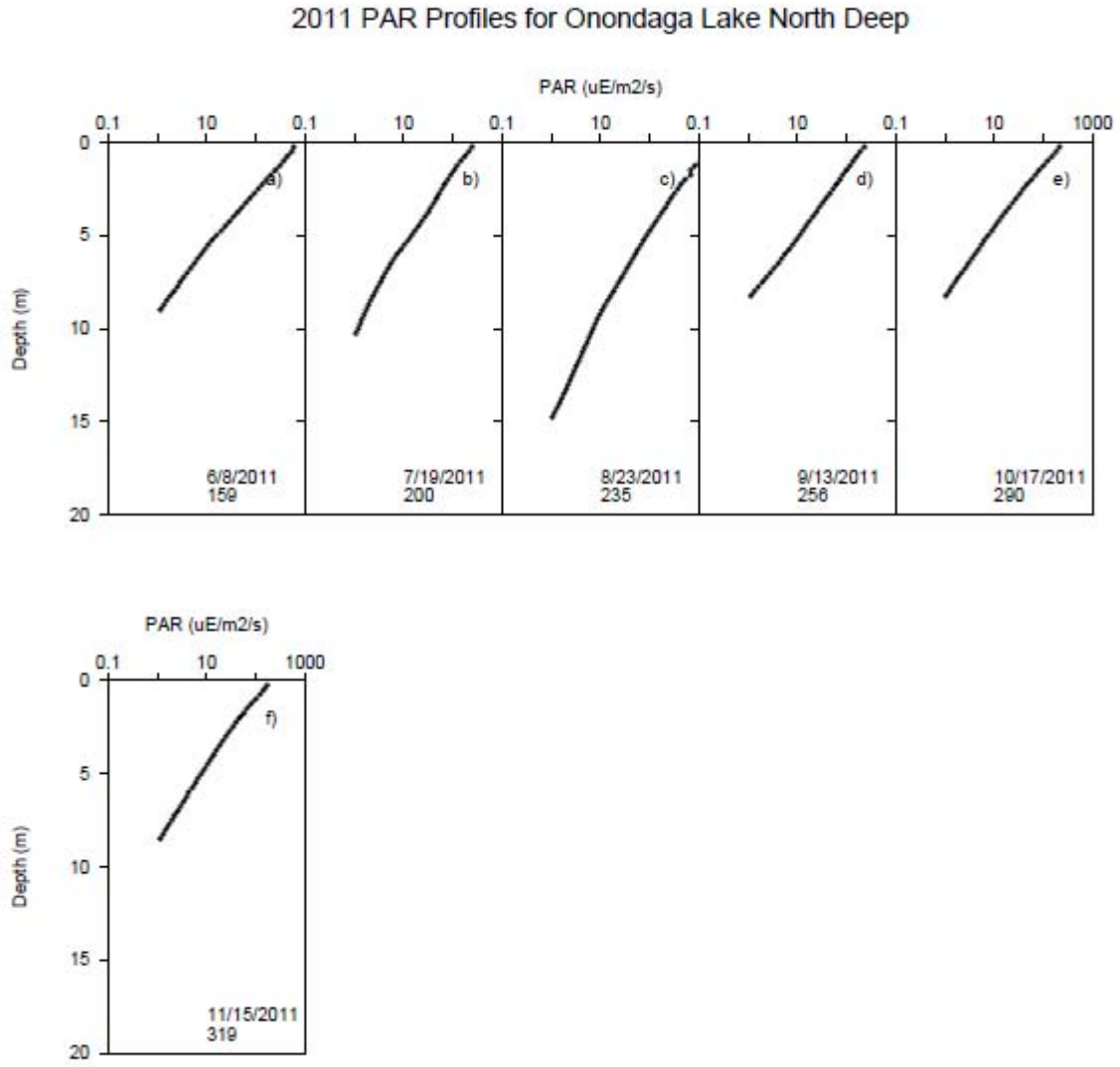


Figure 6. Profiles of photosynthetic active radiation (par, µE/m2/s) at North Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

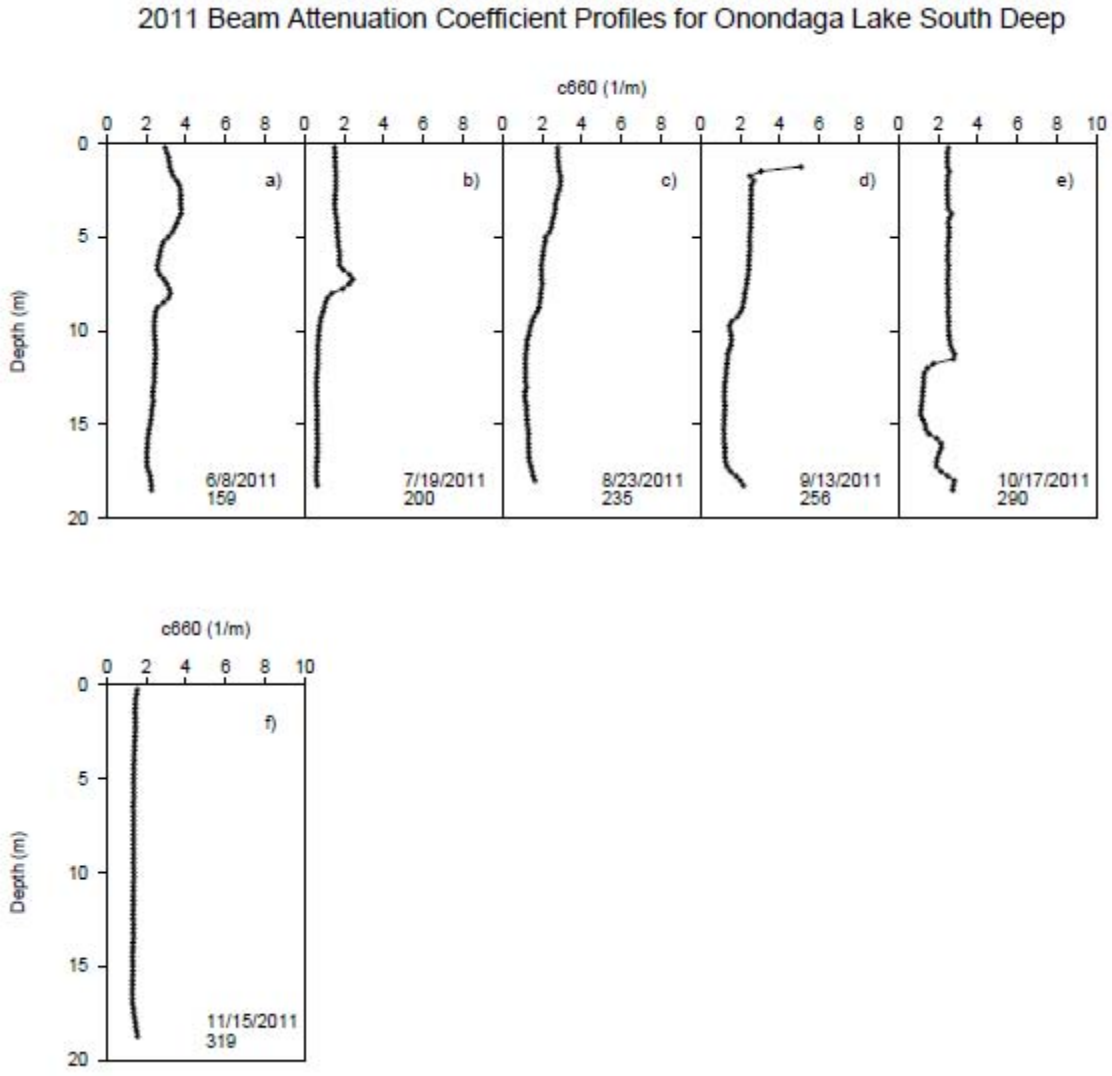


Figure 7. Profiles of beam attenuation coefficient (c660, 1/m) at South Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

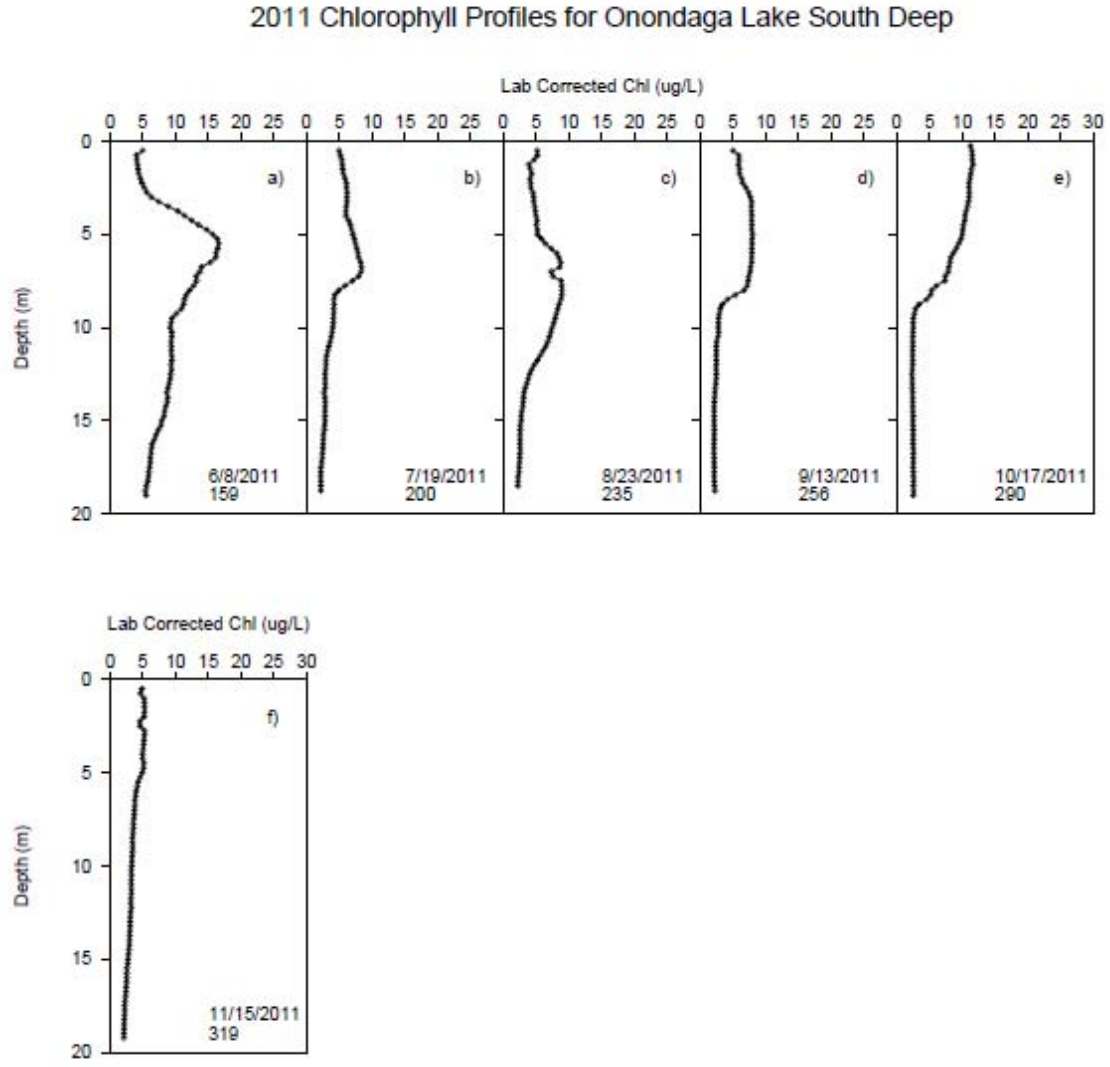


Figure 8. Profiles of chlorophyll (chl, µg/L) at South Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

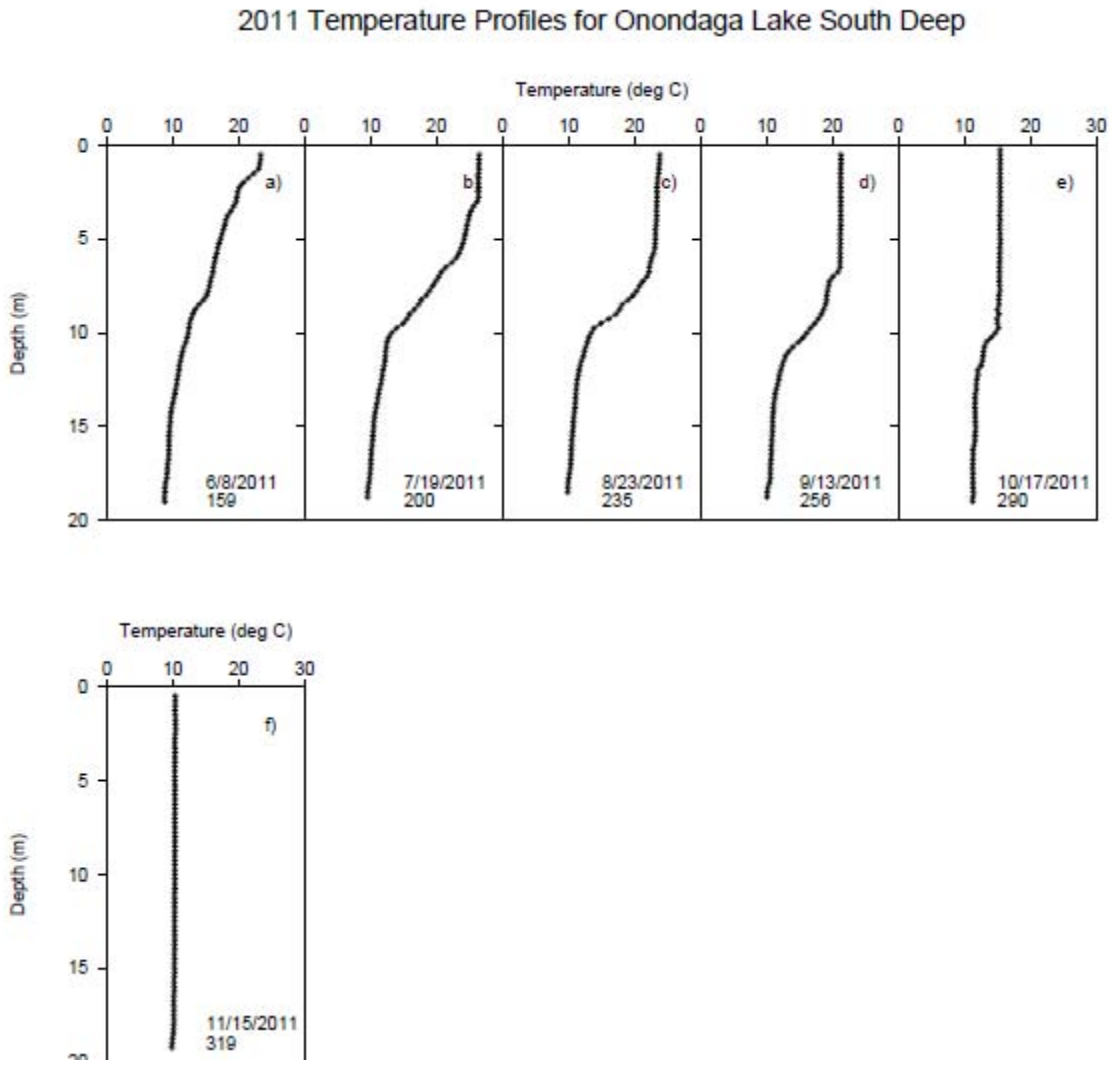


Figure 9. Profiles of temperature (T, °C) at South Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

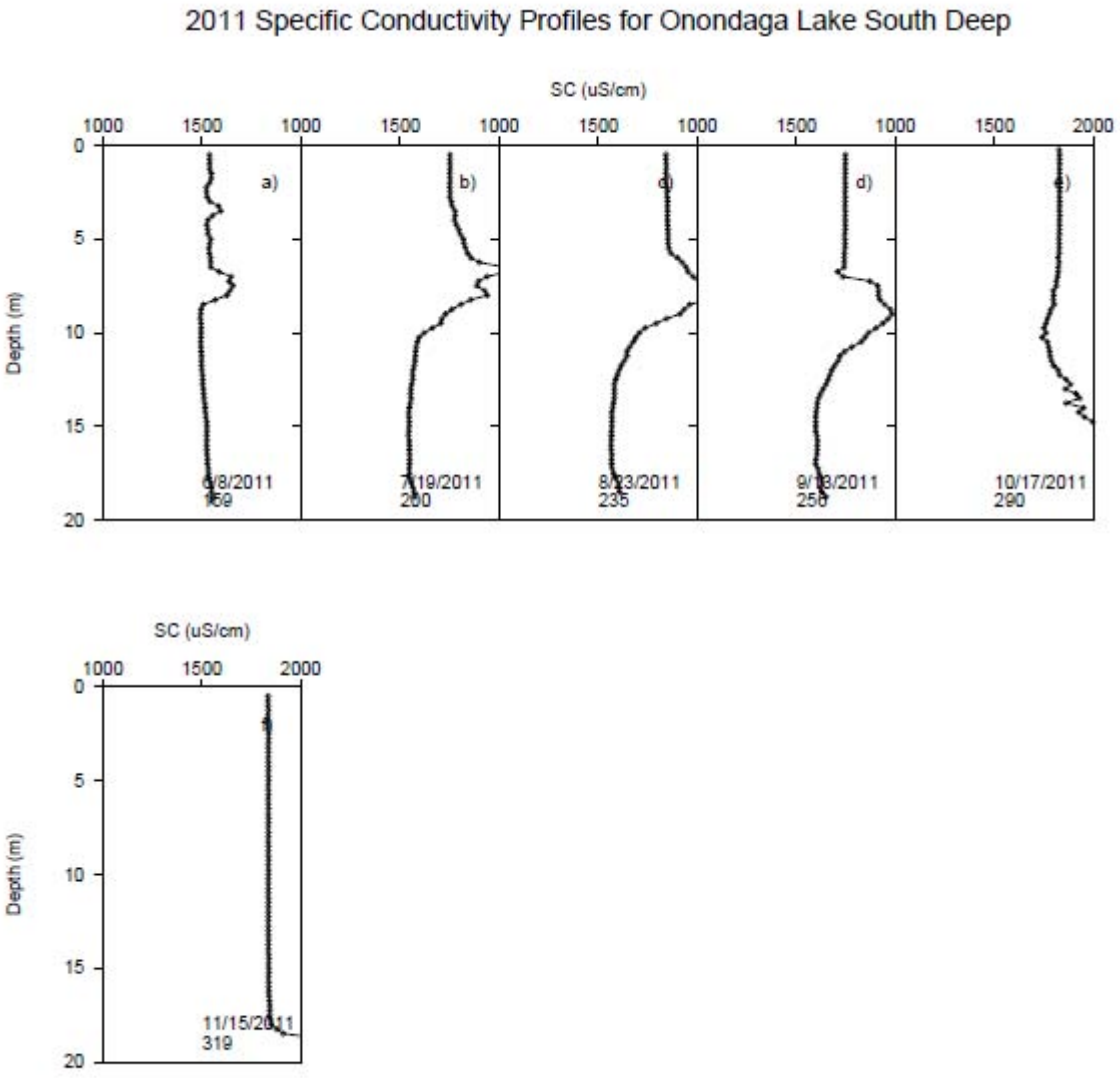


Figure 10. Profiles of specific conductance (SC, µS/cm) at South Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

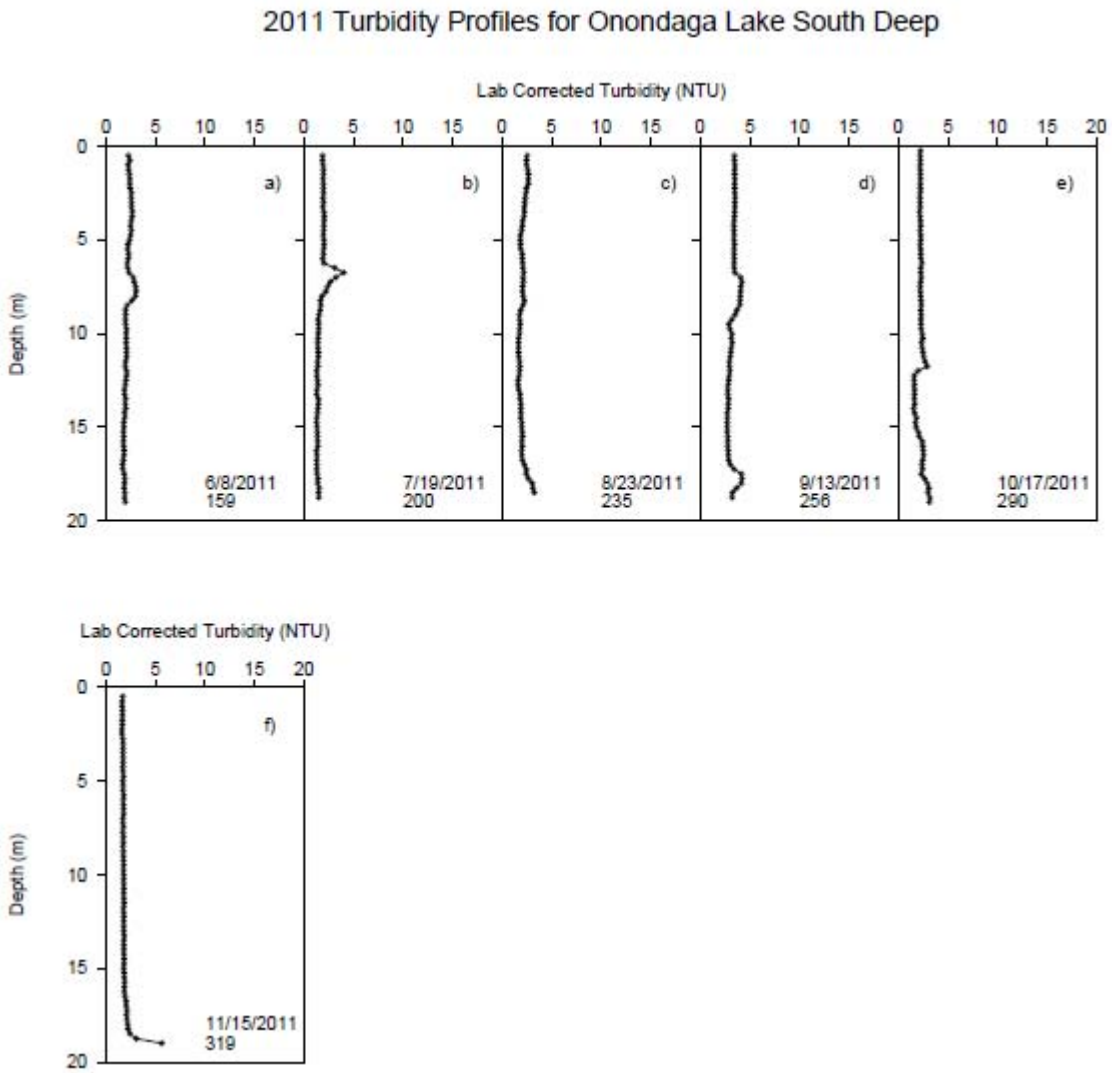


Figure 11. Profiles of turbidity (Tn, NTU) at South Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

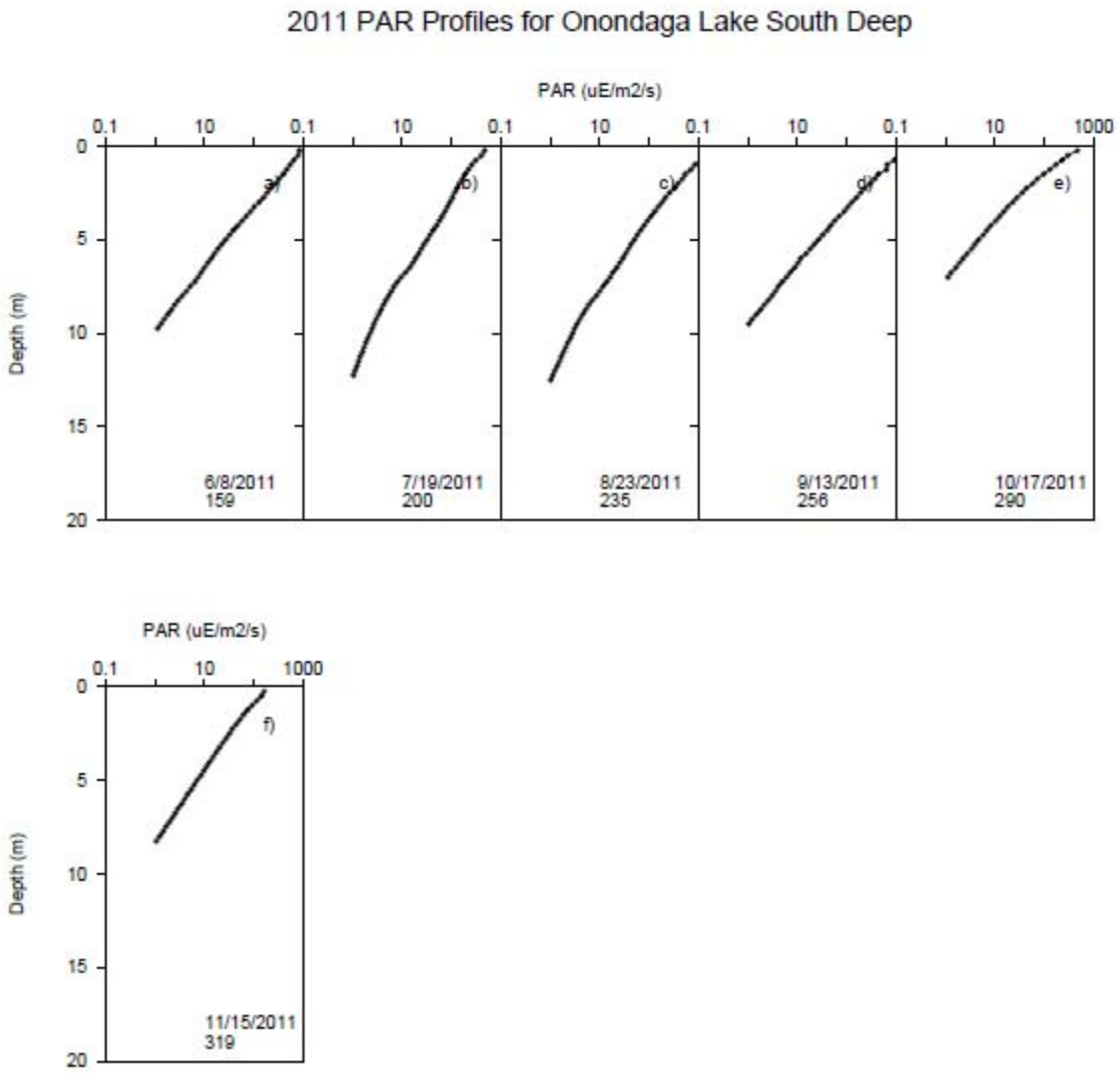


Figure 12. Profiles of photosynthetic active radiation (par, µE/m2/s) at South Deep: (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

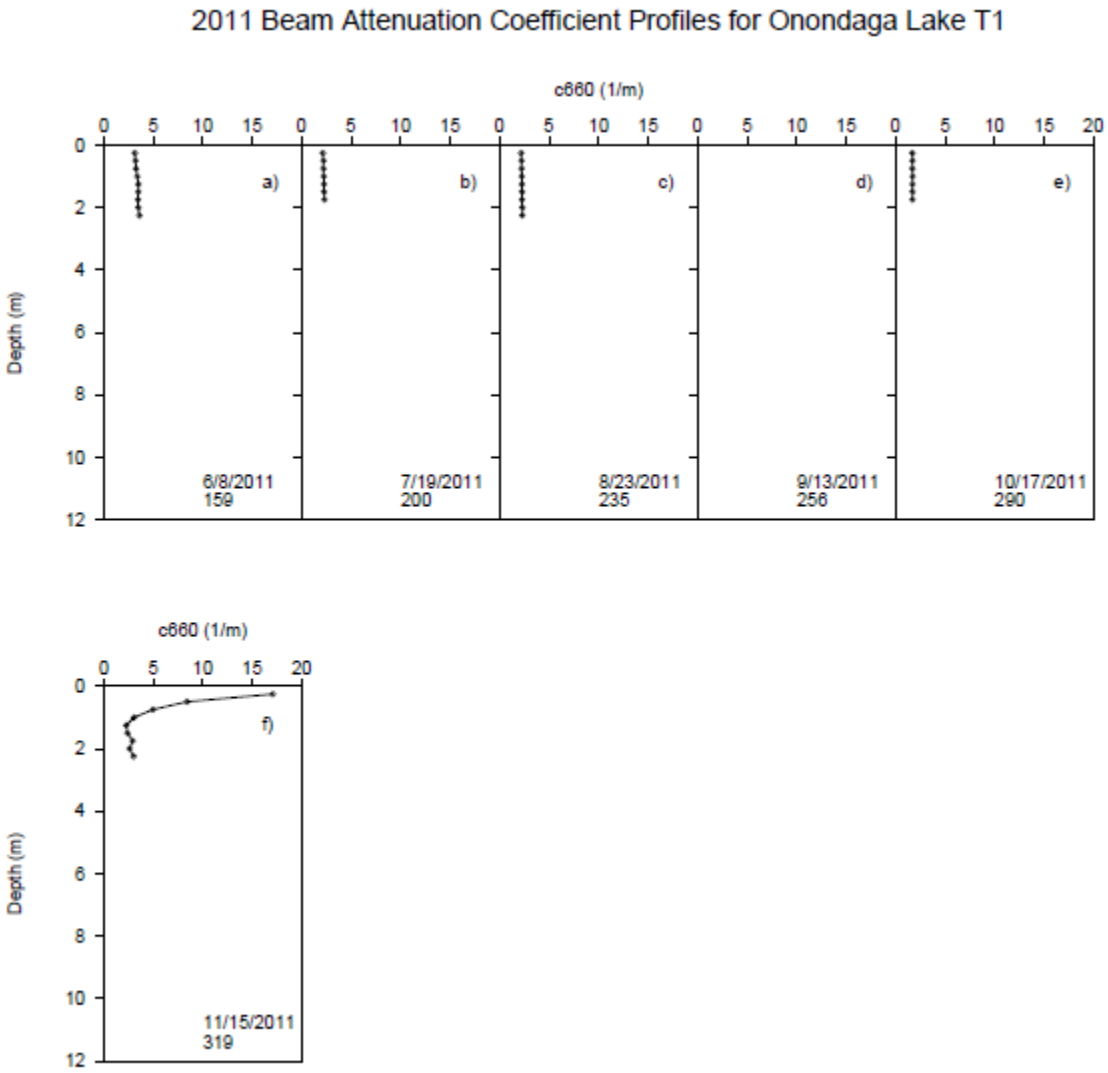


Figure 13. Profiles of beam attenuation coefficient (c660, 1/m) at T1 (OL-SW-40313): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

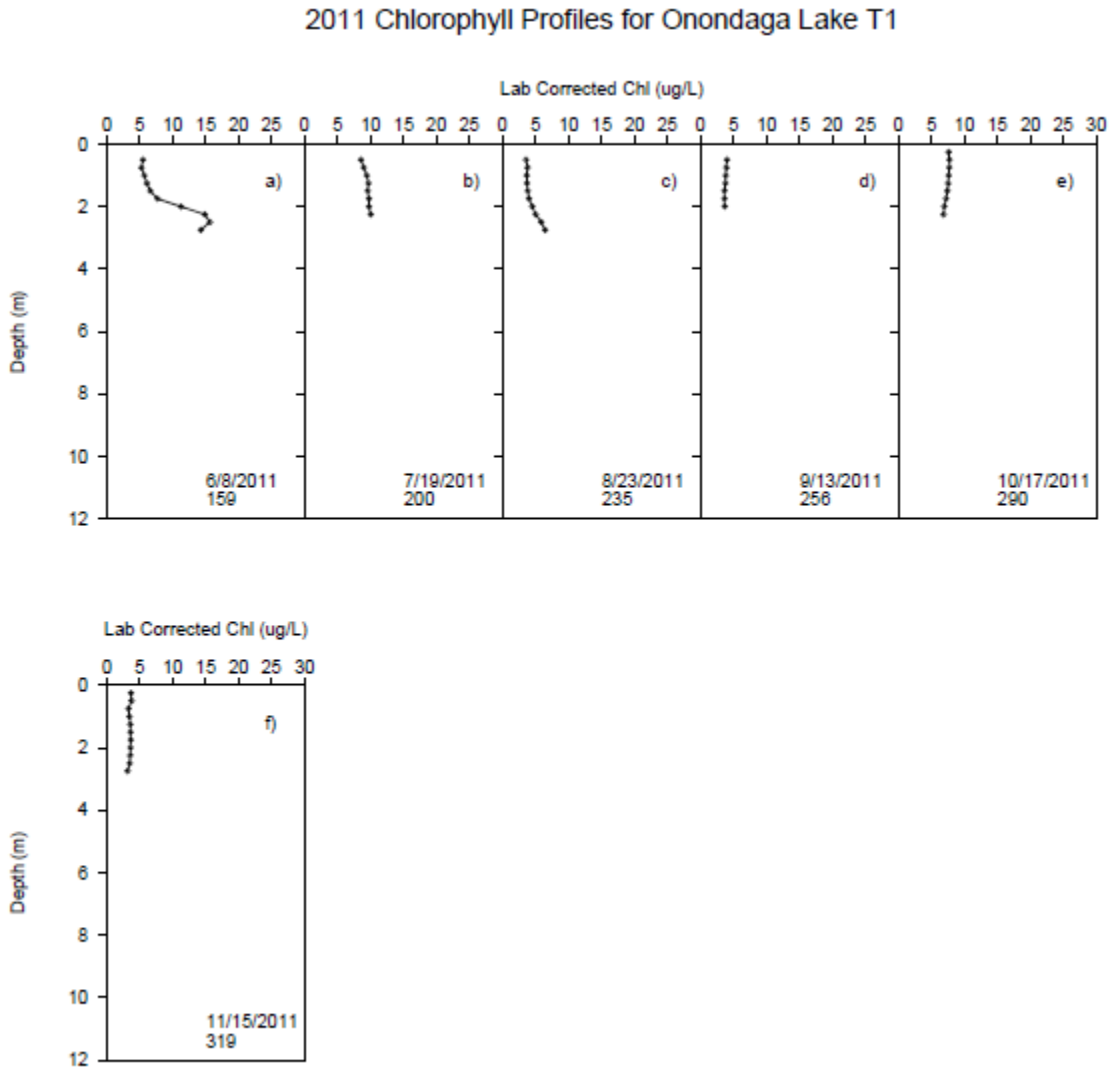


Figure 14. Profiles of chlorophyll (chl, µg/L) at T1 (OL-SW-40313): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

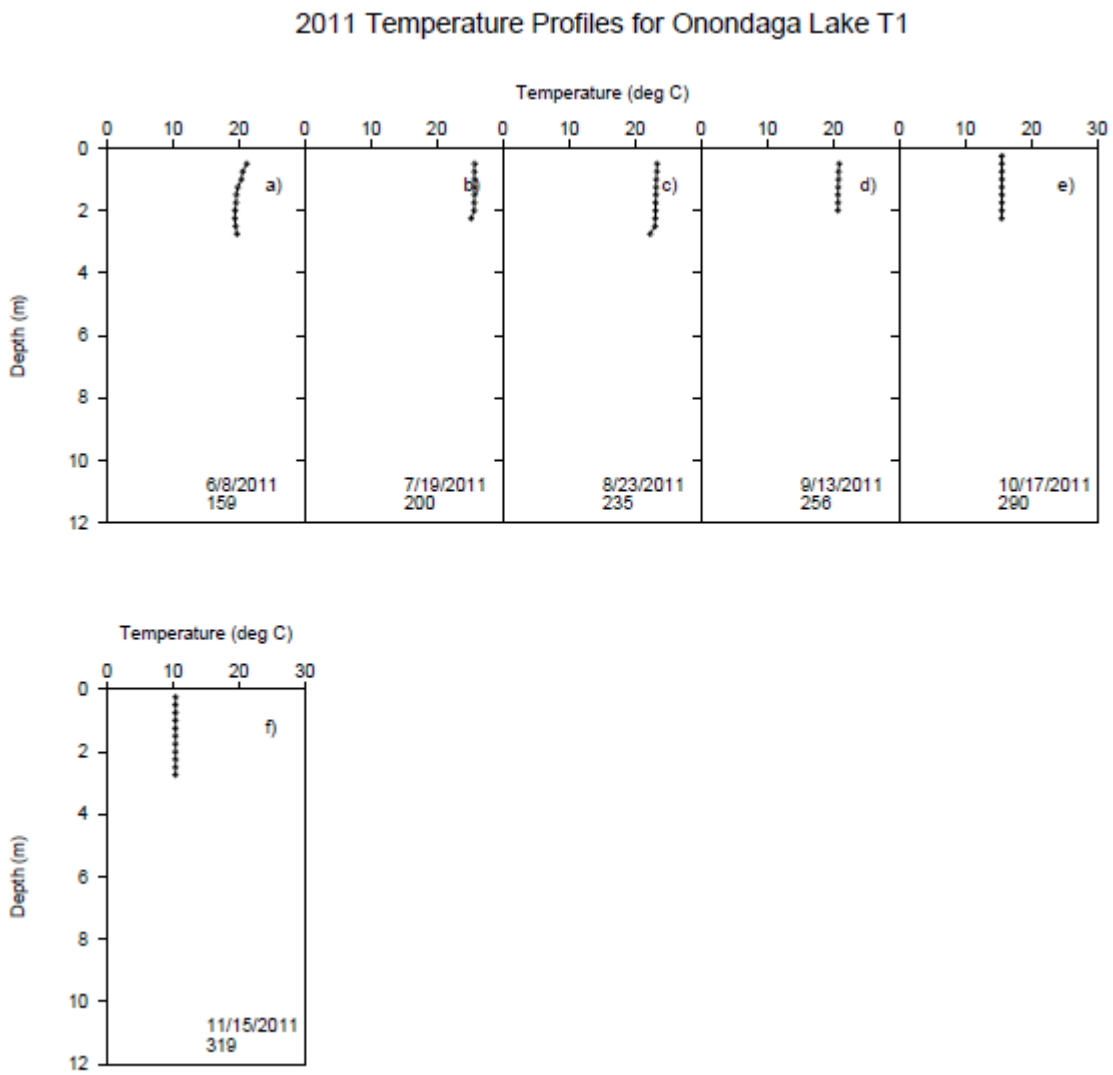


Figure 15. Profiles of temperature (T, °C) at T1 (OL-SW-40313): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

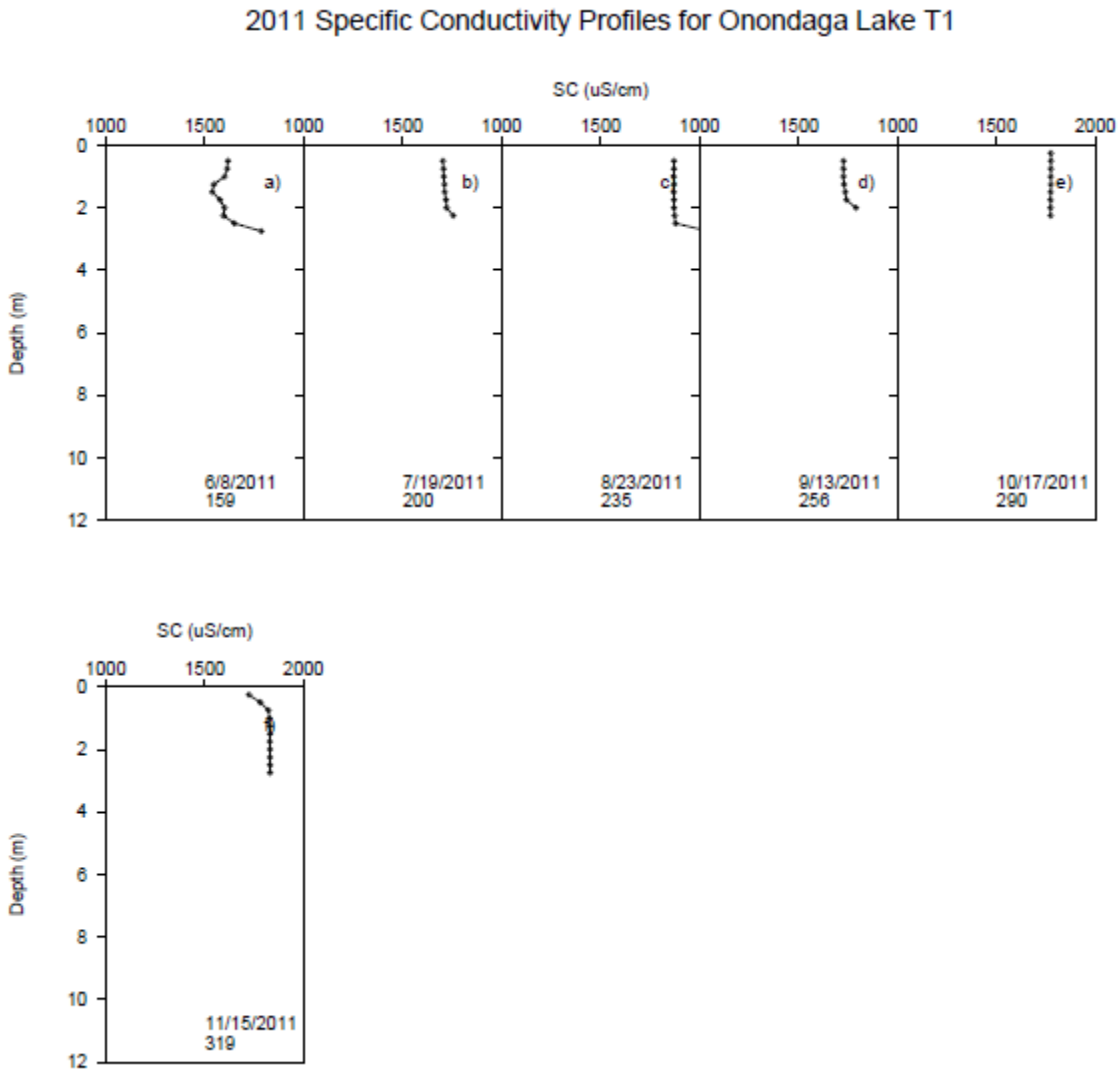


Figure 16. Profiles of specific conductance (SC, µS/cm) at T1 (OL-SW-40313): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

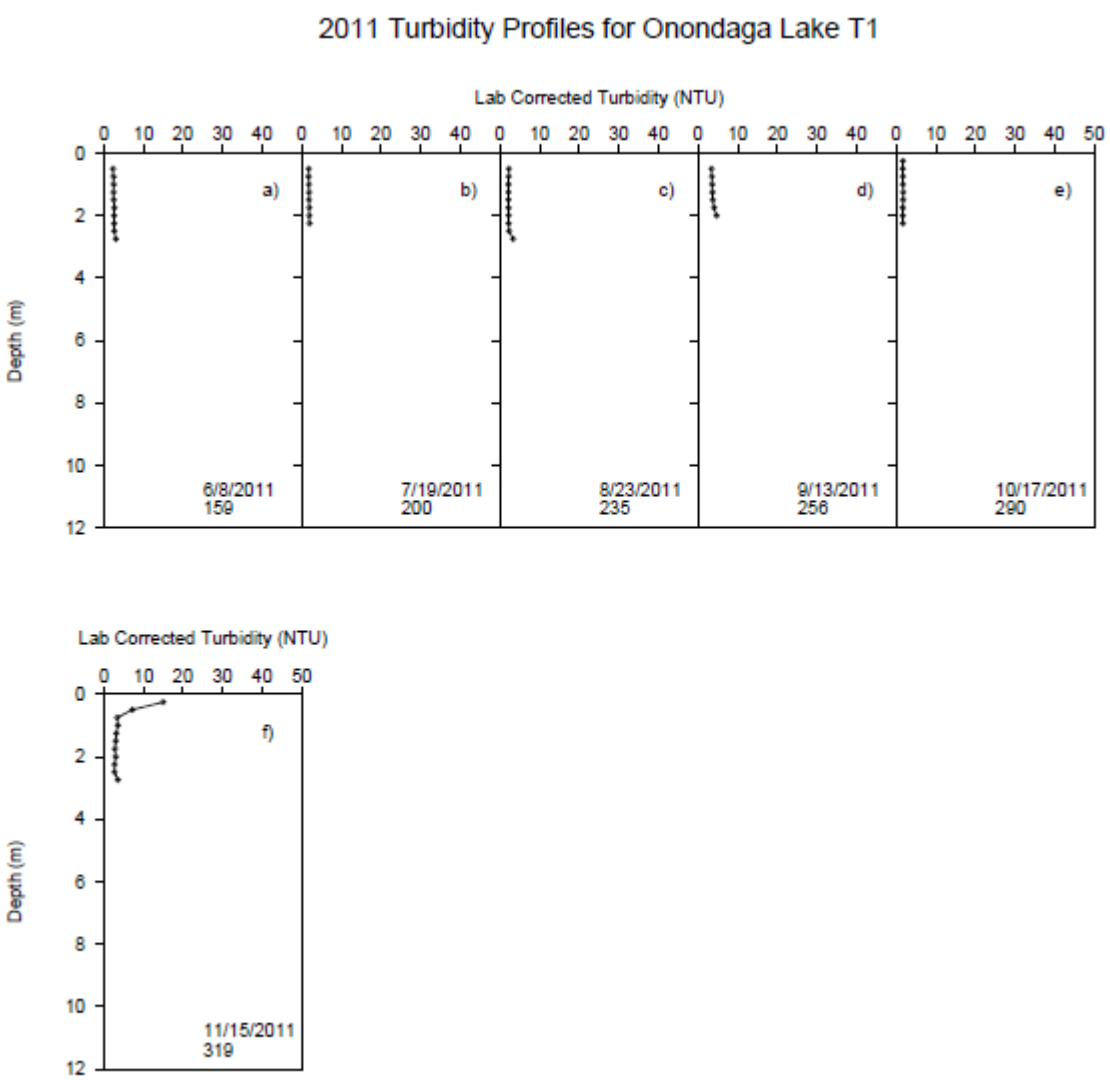


Figure 17. Profiles of turbidity (Tn, NTU) at T1 (OL-SW-40313): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

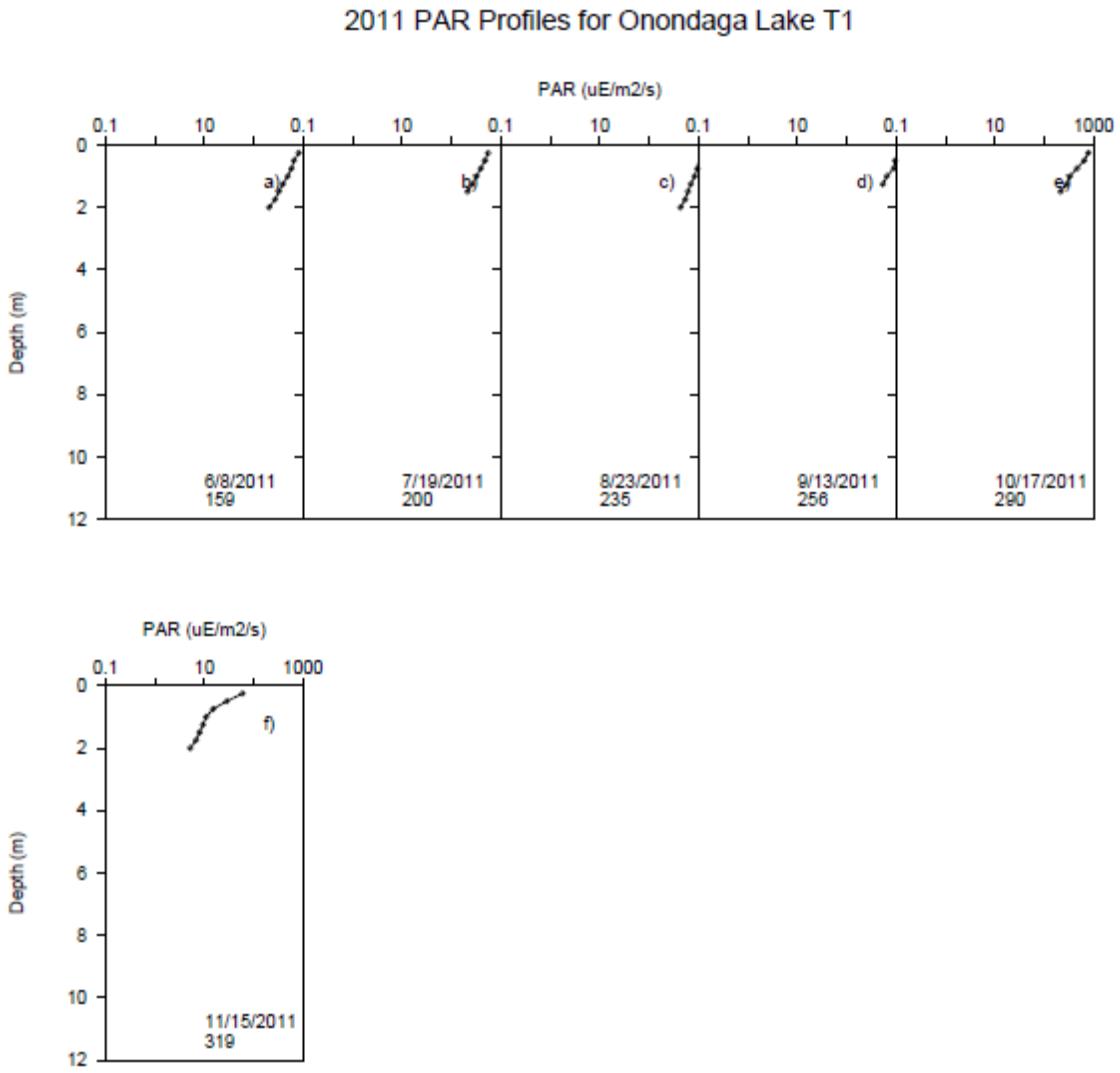


Figure 18. Profiles of photosynthetic active radiation (par, µE/m2/s) at T1 (OL-SW-40313): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

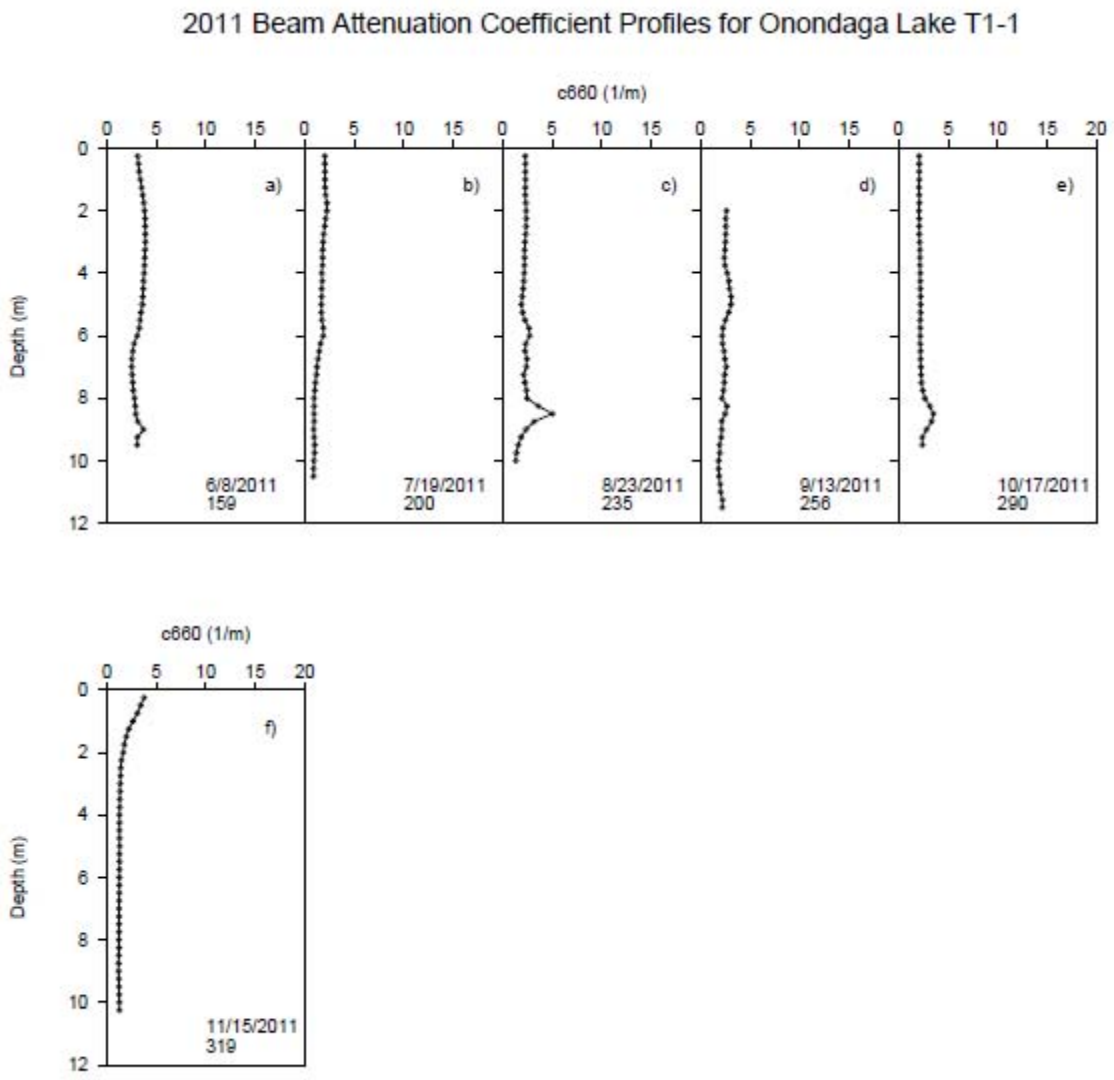


Figure 19. Profiles of beam attenuation coefficient (c660, 1/m) at T1-1 (OL-SW-80231): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

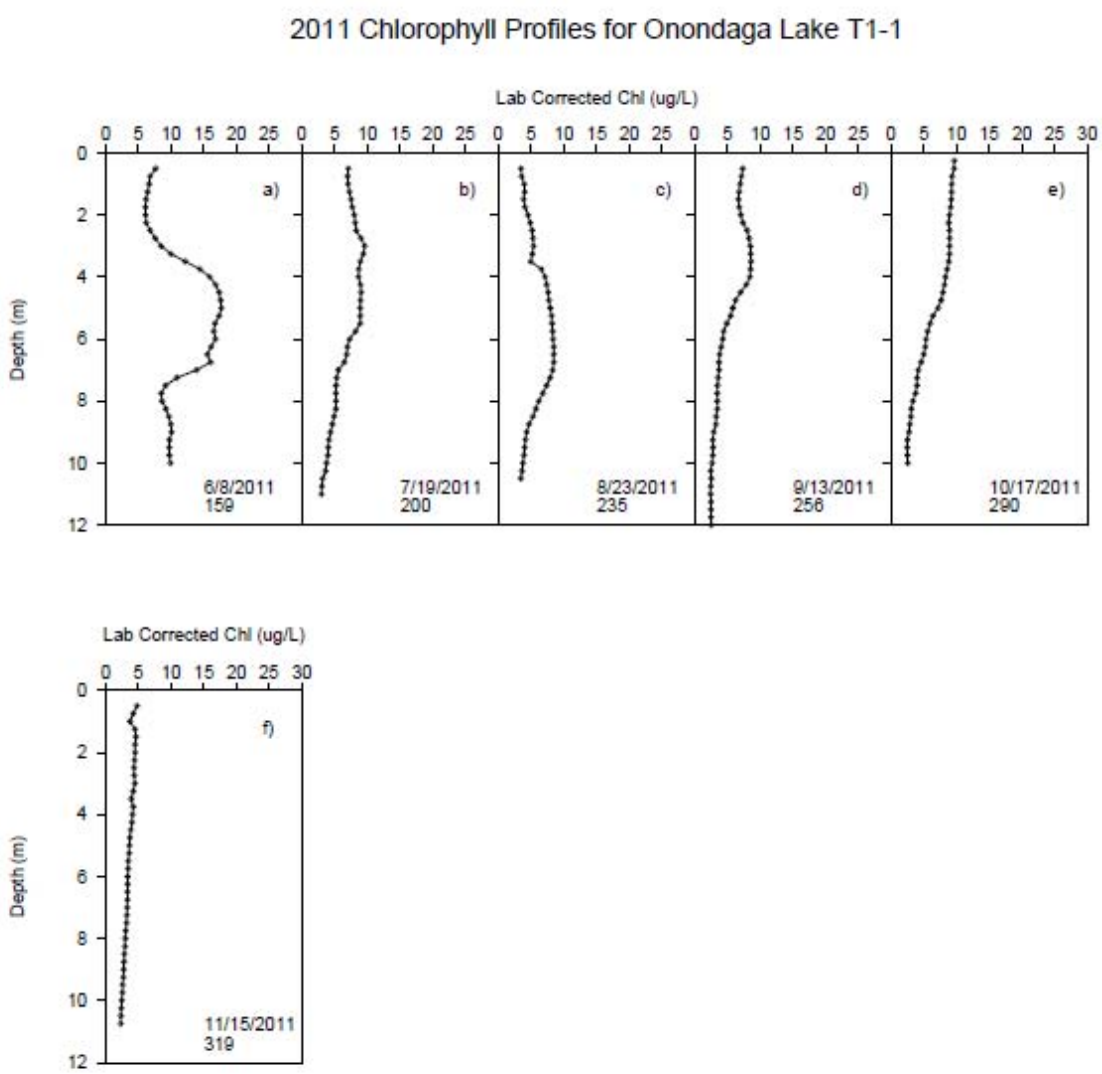


Figure 20. Profiles of chlorophyll (chl, µg/L) at T1-1 (OL-SW-80231): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

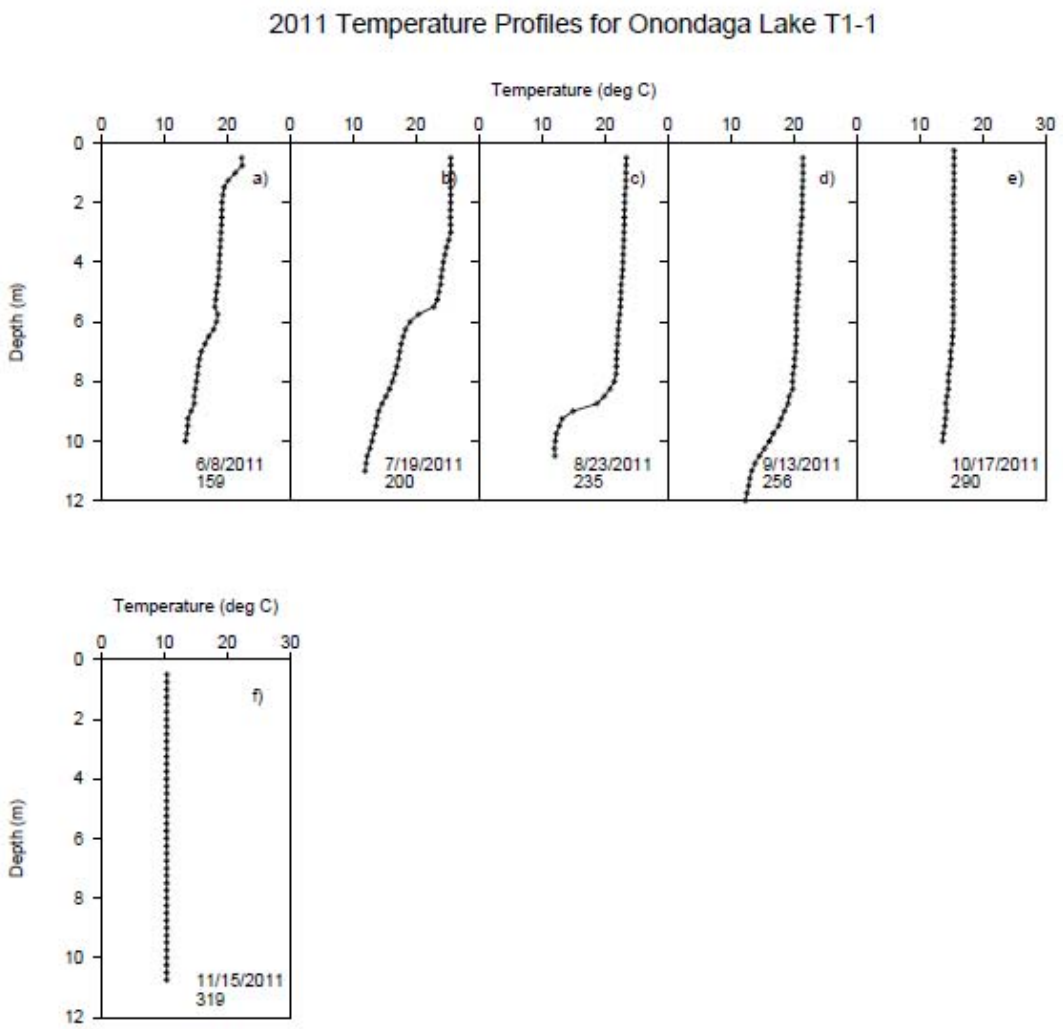


Figure 21. Profiles of temperature (T, °C) at T1-1 (OL-SW-80231): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

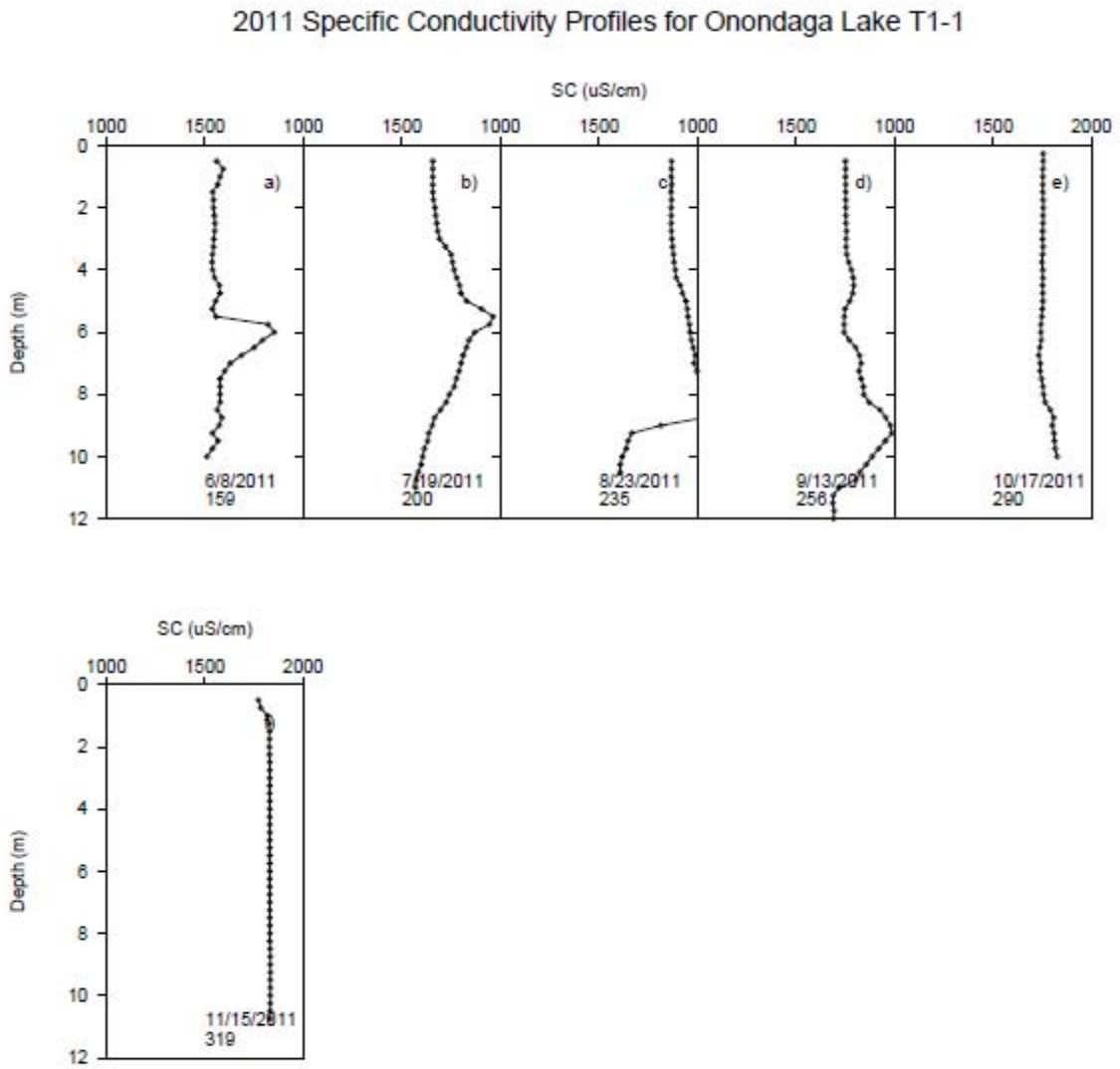


Figure 22. Profiles of specific conductance (SC, µS/cm) at T1-1 (OL-SW-80231): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

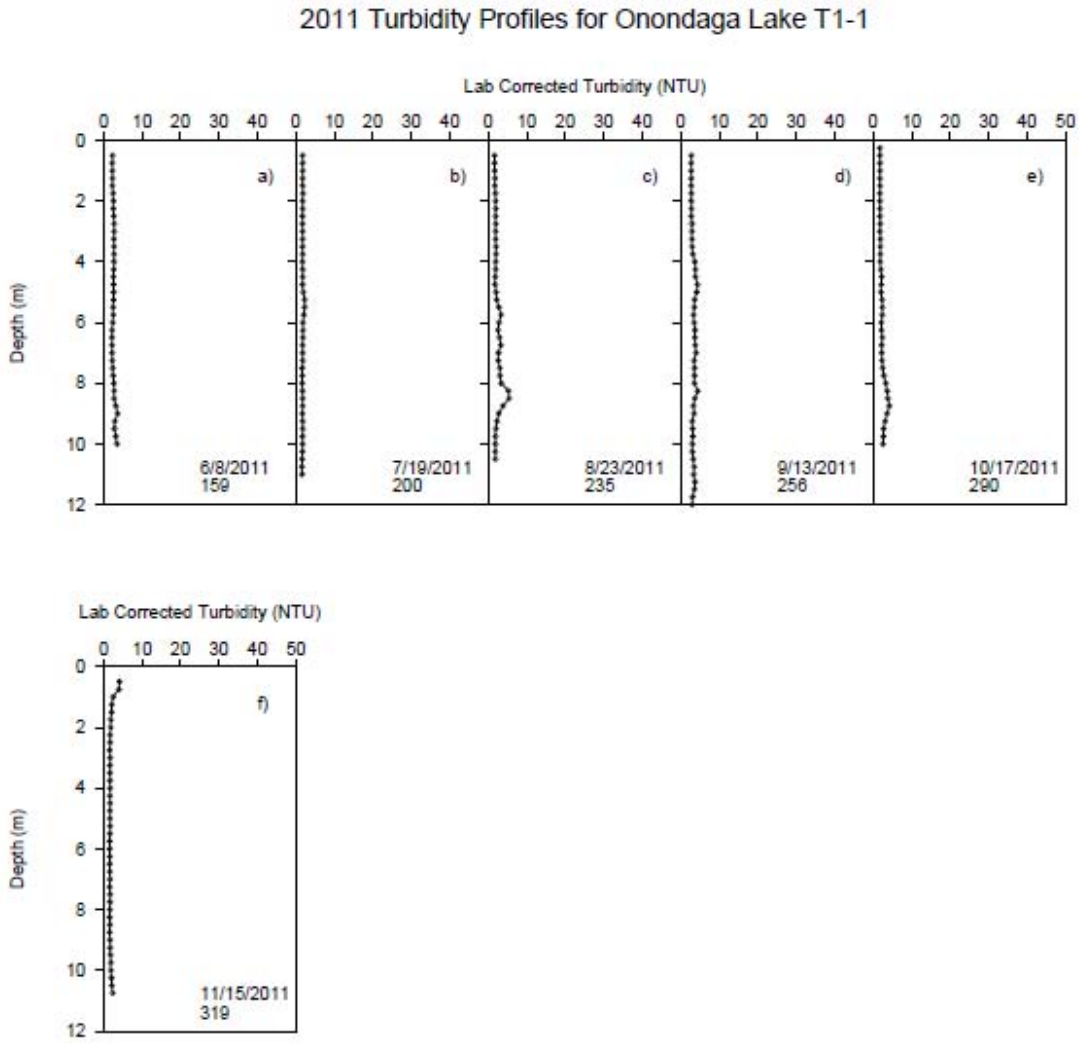


Figure 23. Profiles of turbidity (Tn, NTU) at T1-1 (OL-SW-80231): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

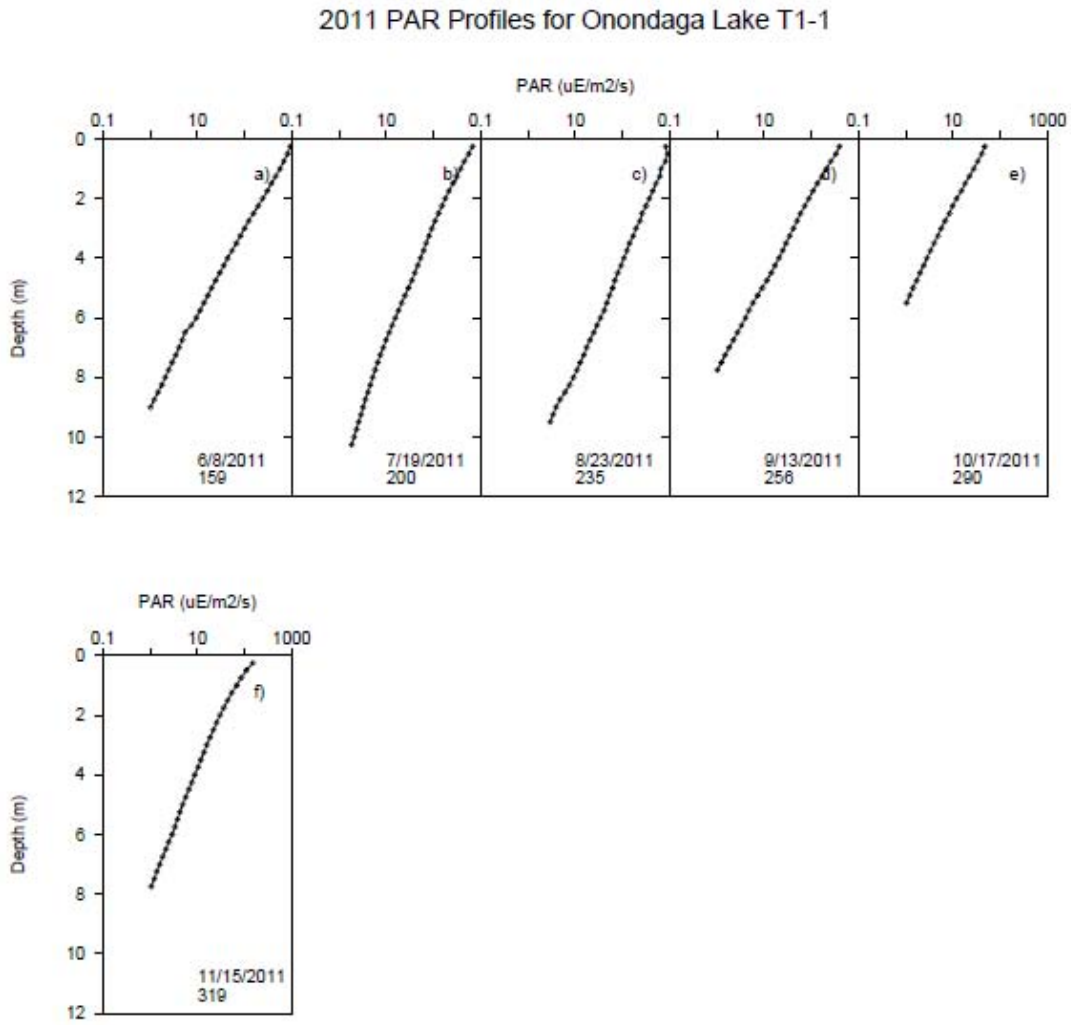


Figure 24. Profiles of photosynthetic active radiation (par, µE/m2/s) at T1-1 (OL-SW-80231): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

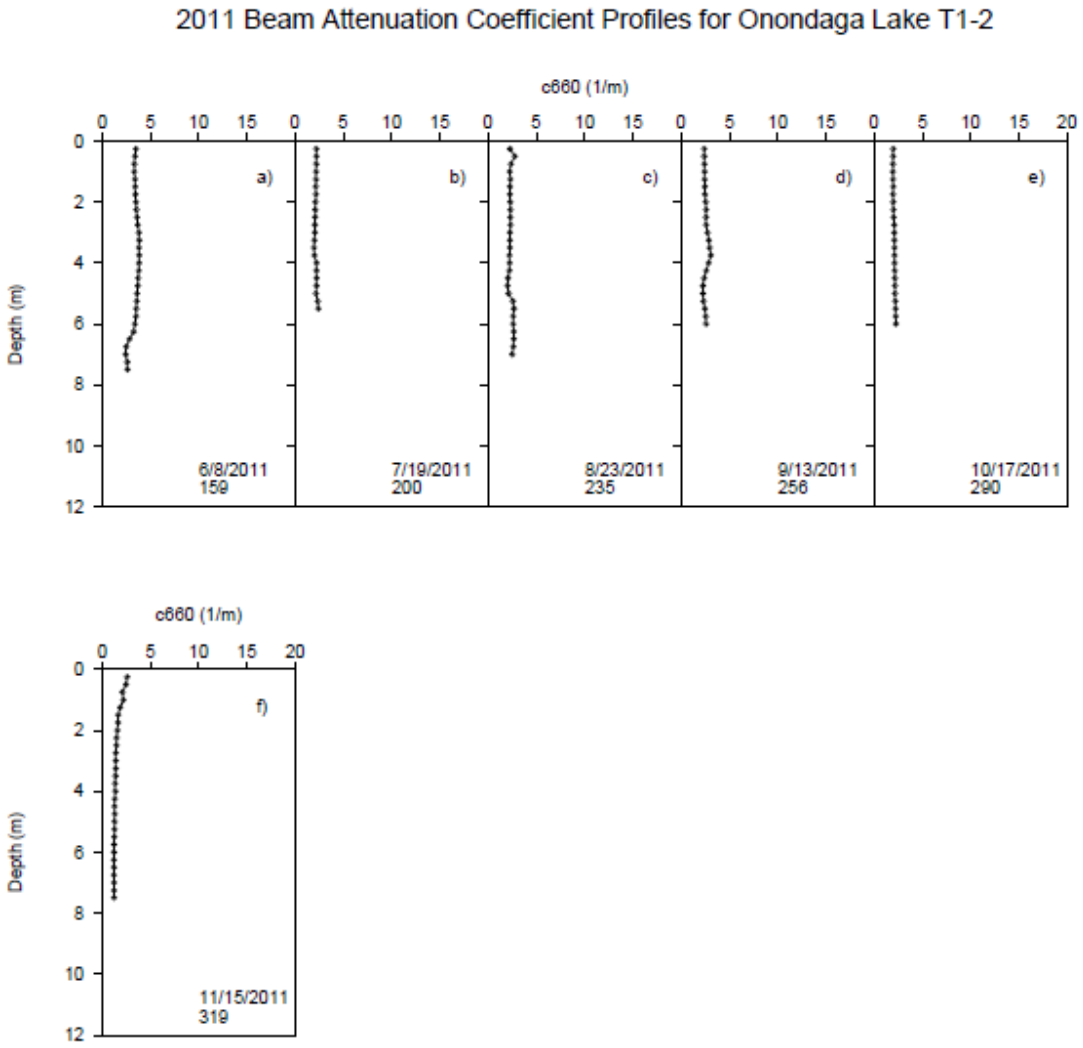


Figure 25. Profiles of beam attenuation coefficient (c660, 1/m) at T1-2 (OL-SW-40315): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

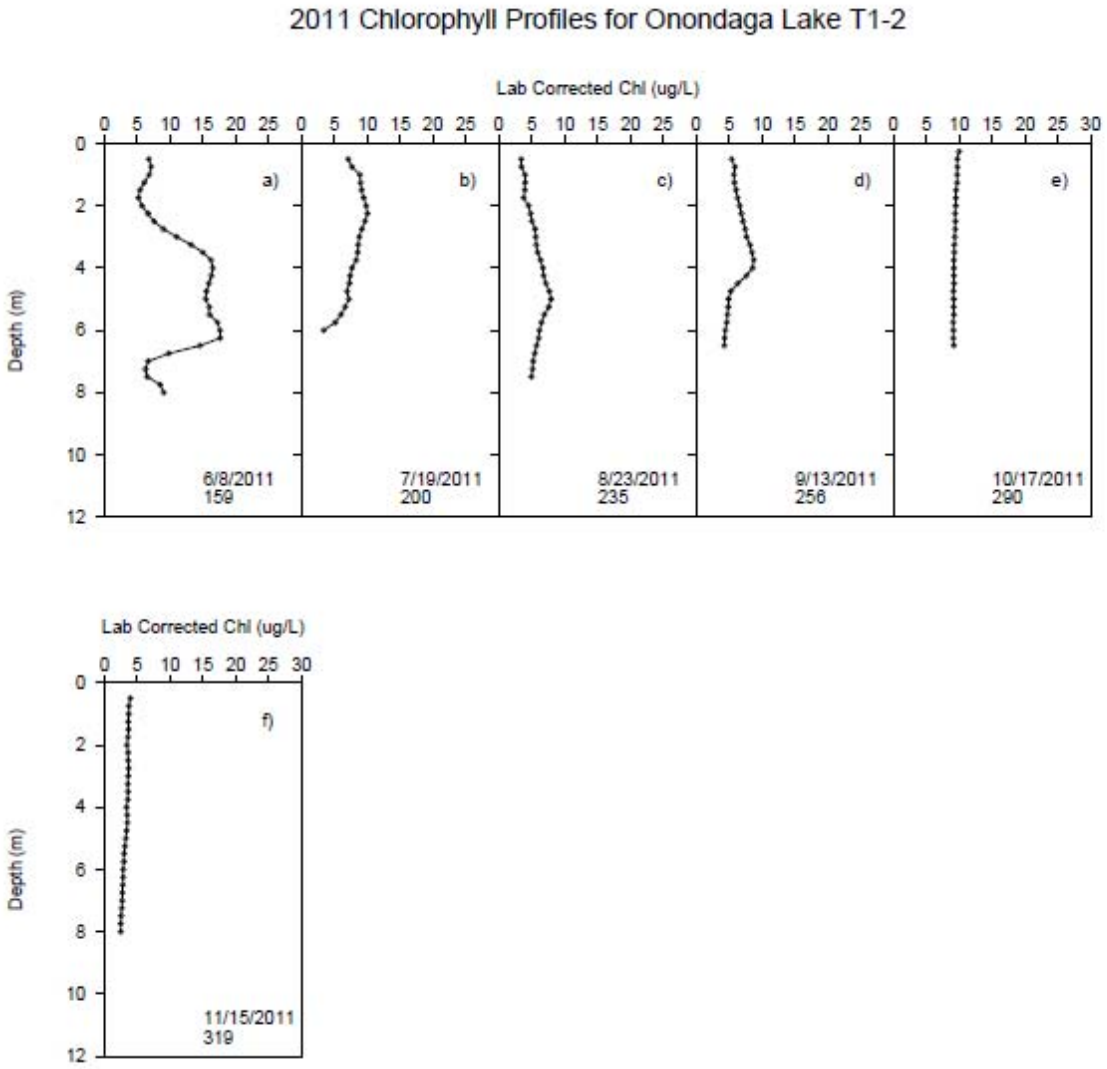


Figure 26. Profiles of chlorophyll (chl, µg/L) at T1-2 (OL-SW-40315): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

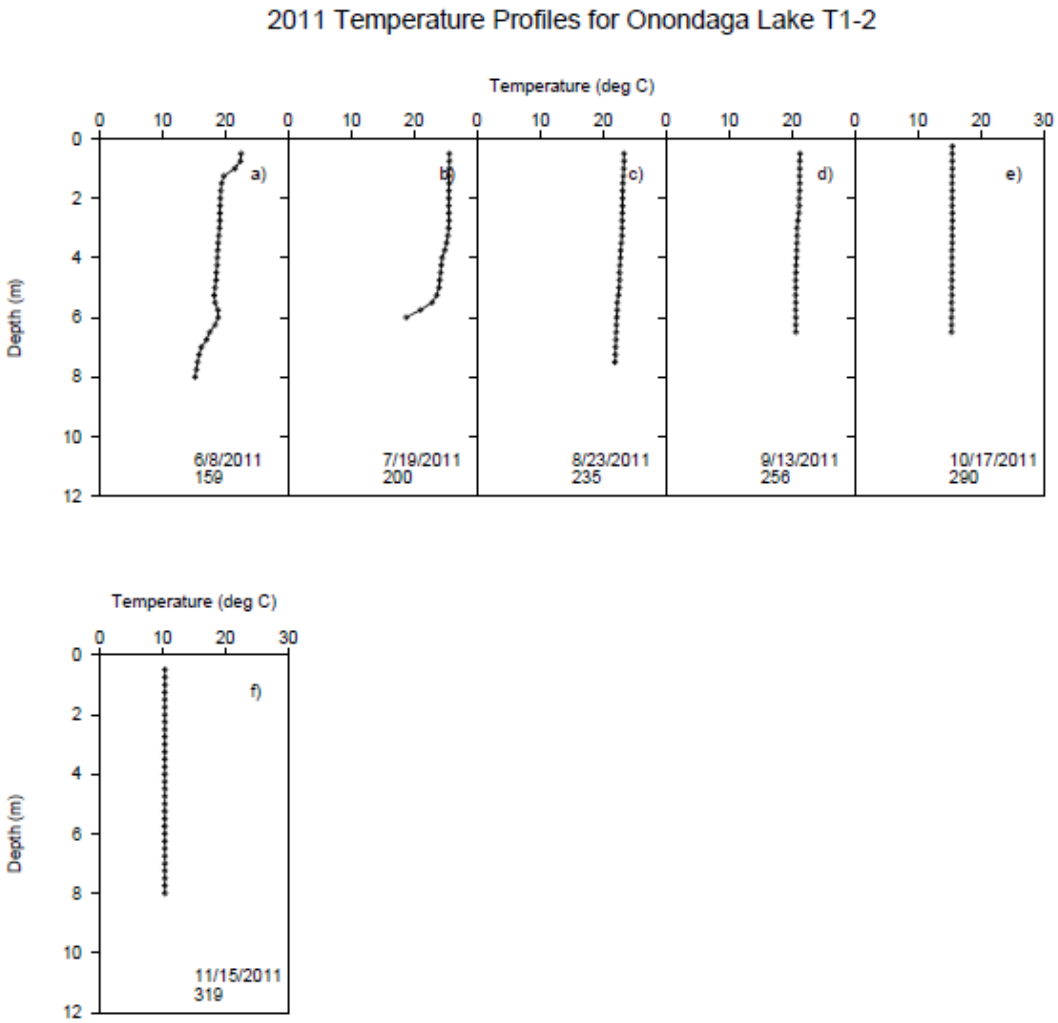


Figure 27. Profiles of temperature (T, °C) at T1-2 (OL-SW-40315): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

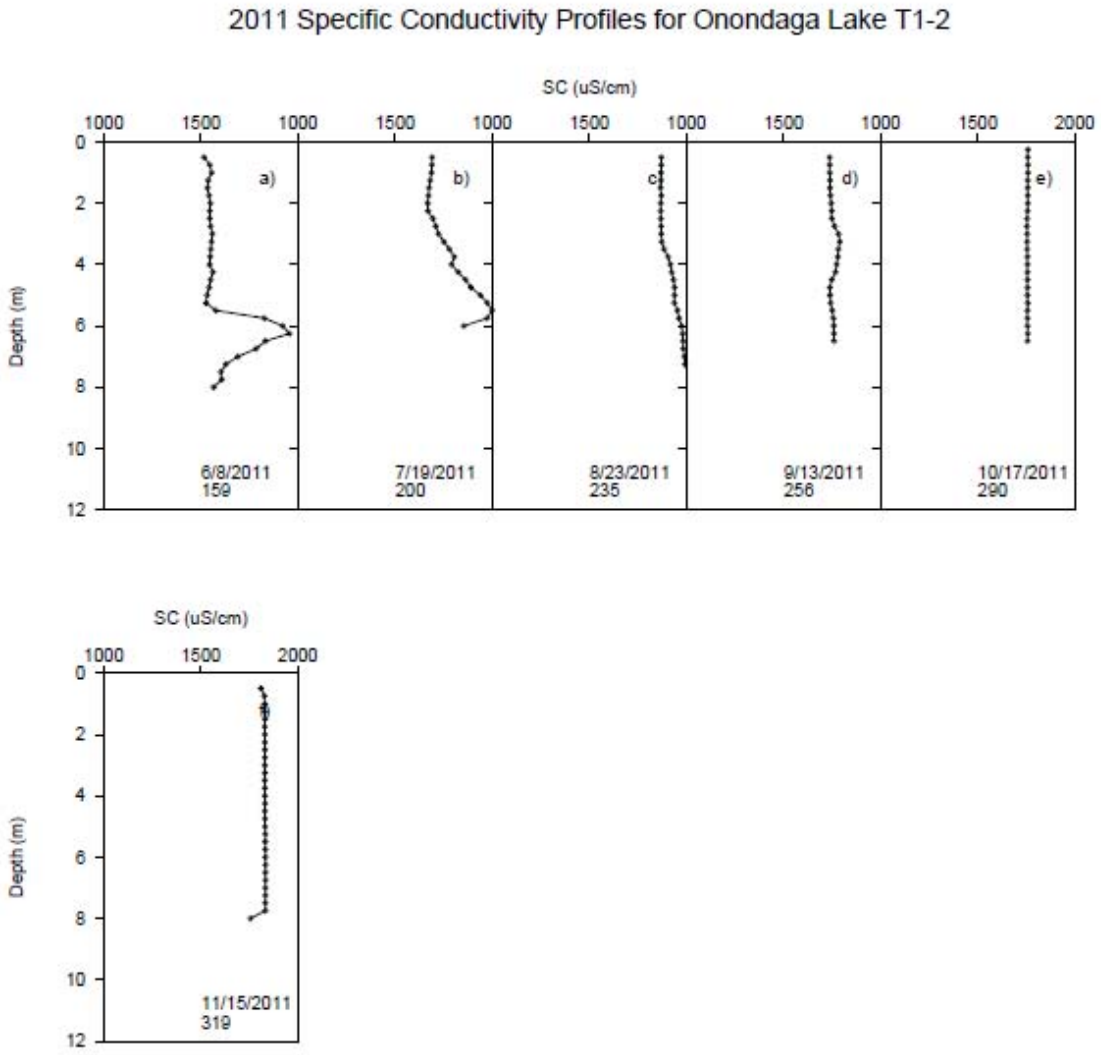


Figure 28. Profiles of specific conductance (SC, µS/cm) at T1-2 (OL-SW-40315): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

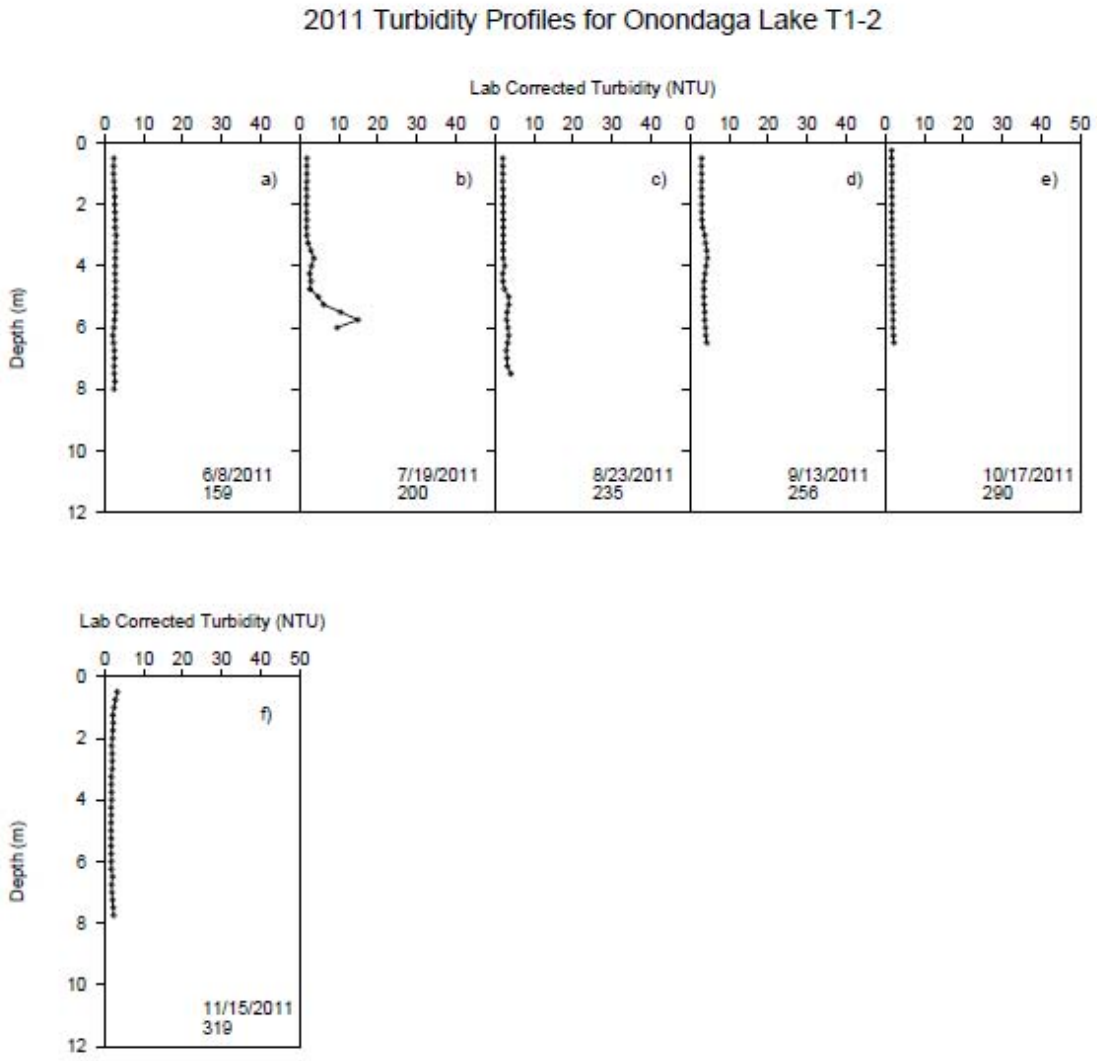


Figure 29. Profiles of turbidity (Tn, NTU) at T1-2 (OL-SW-40315): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

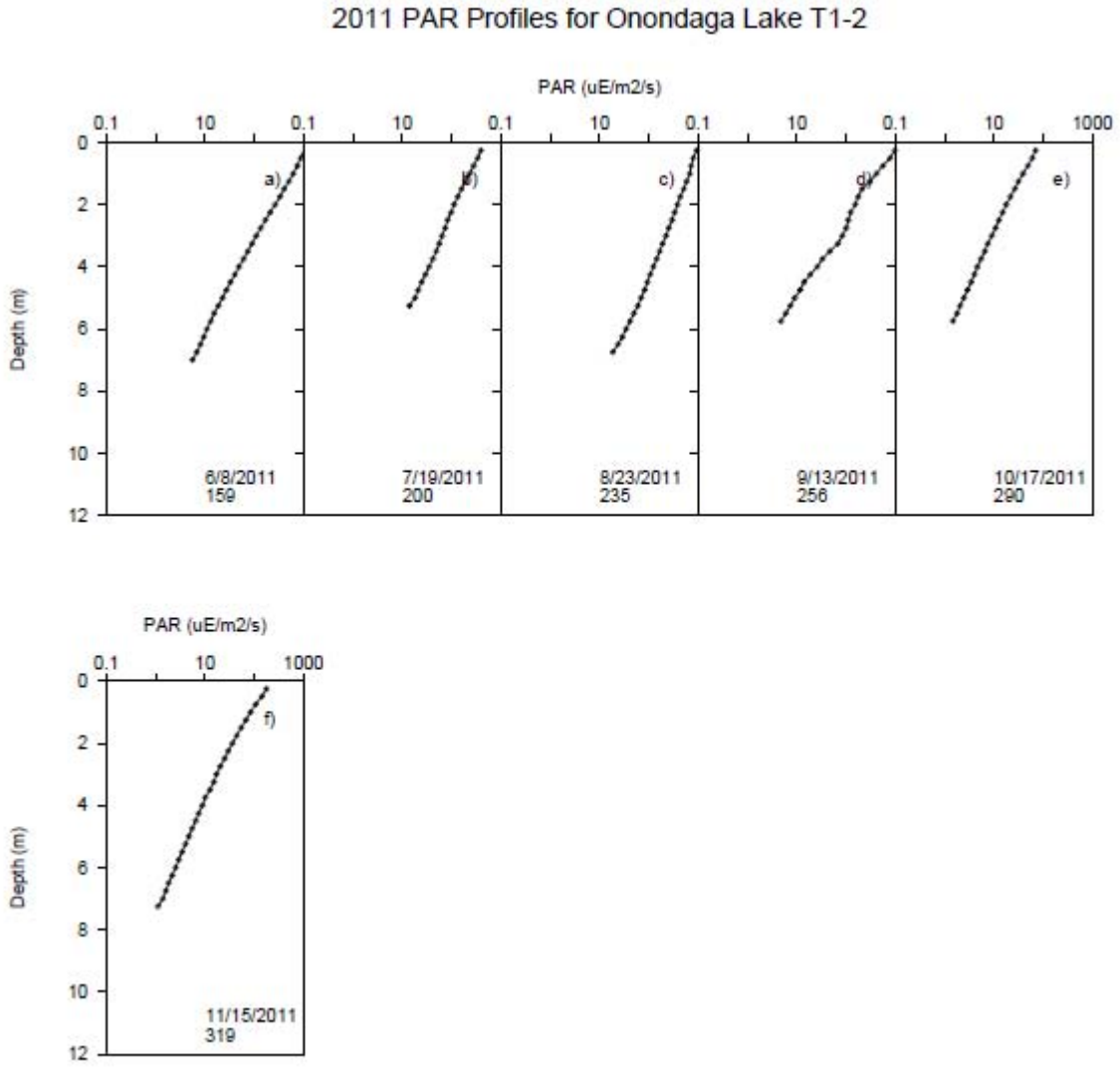


Figure 30. Profiles of photosynthetic active radiation (par, µE/m2/s) at T1-2 (OL-SW-40315): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

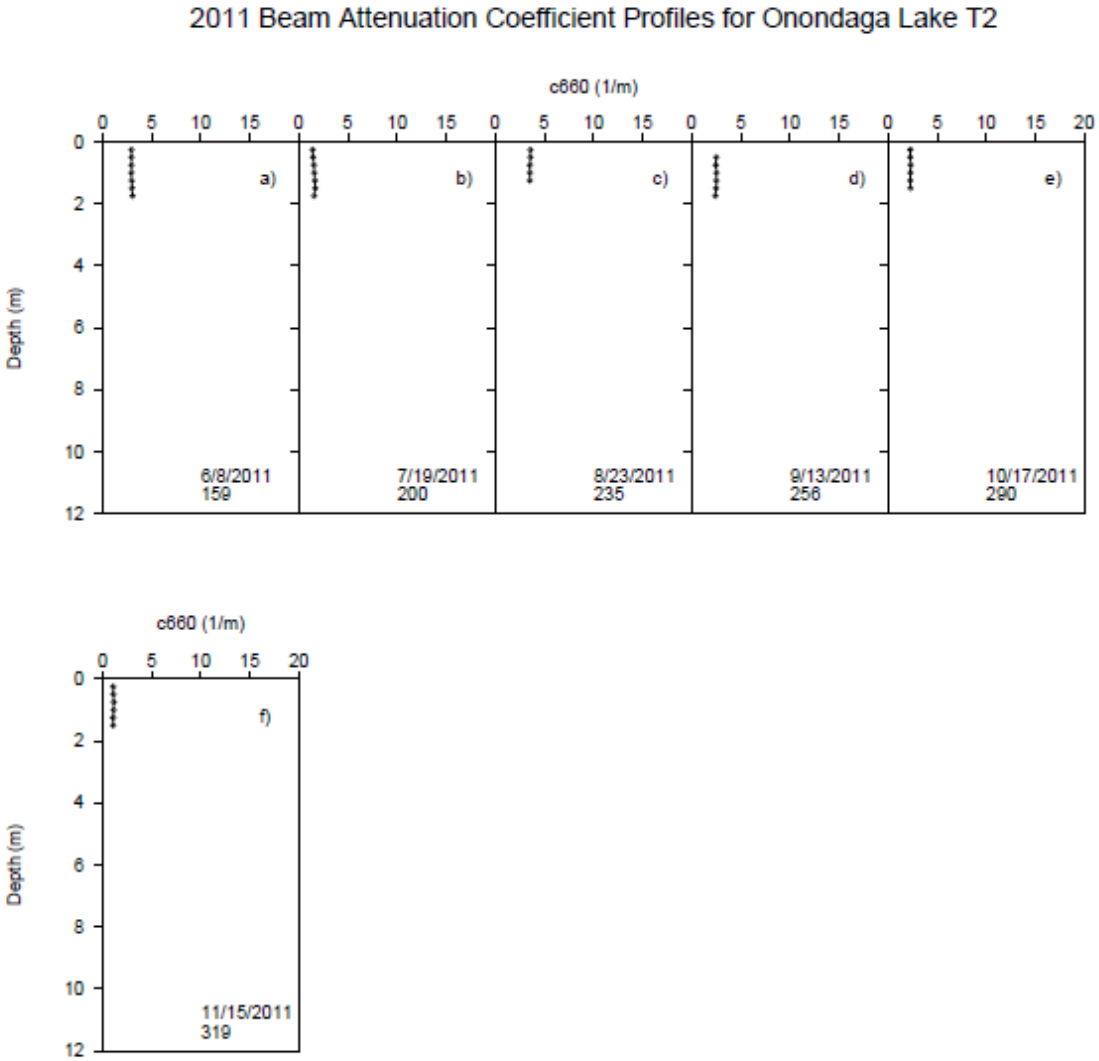


Figure 31. Profiles of beam attenuation coefficient (c660, 1/m) at T2 (OL-SW-10194): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

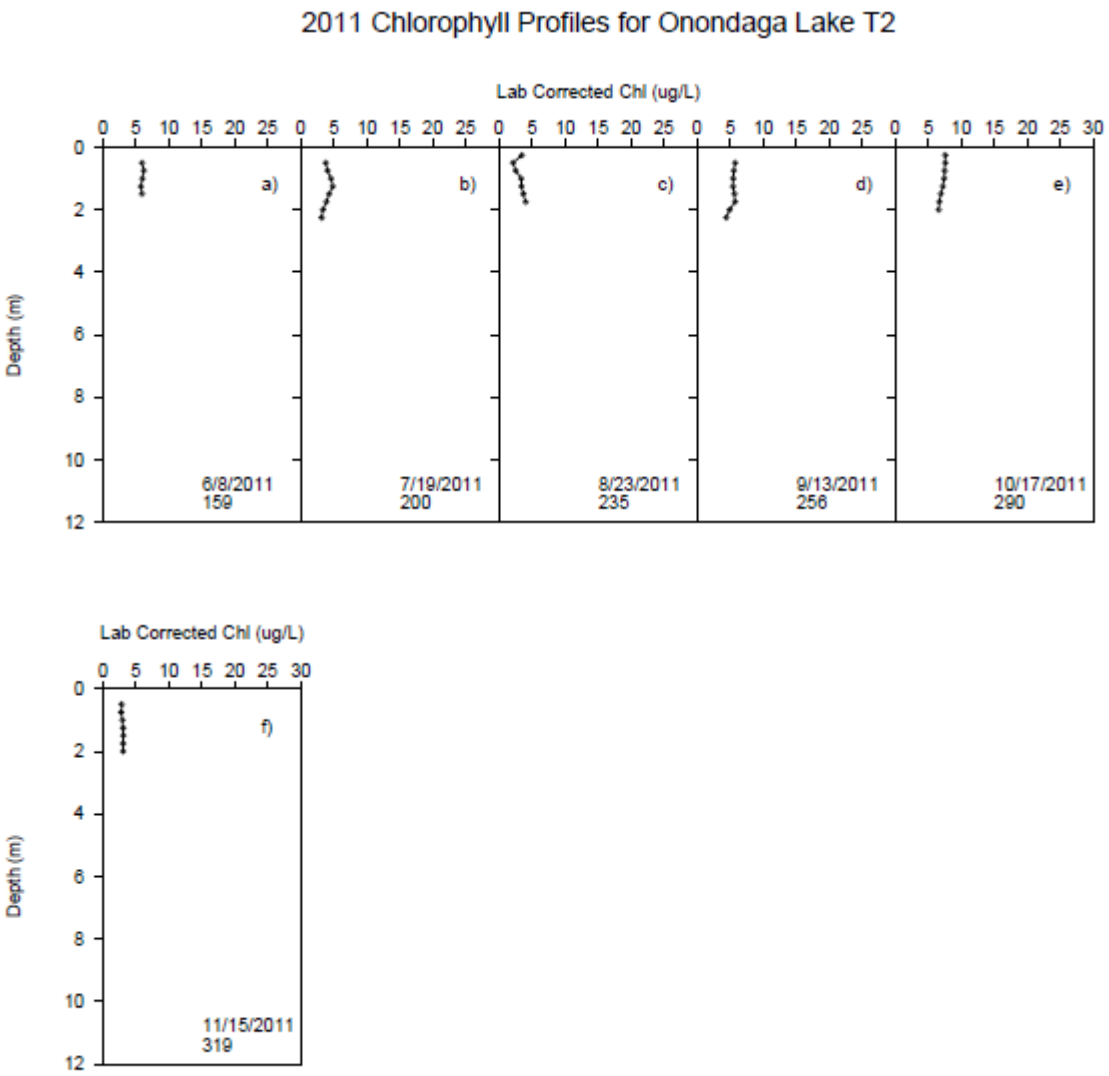


Figure 32. Profiles of chlorophyll (chl, µg/L) at T2 (OL-SW-10194): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

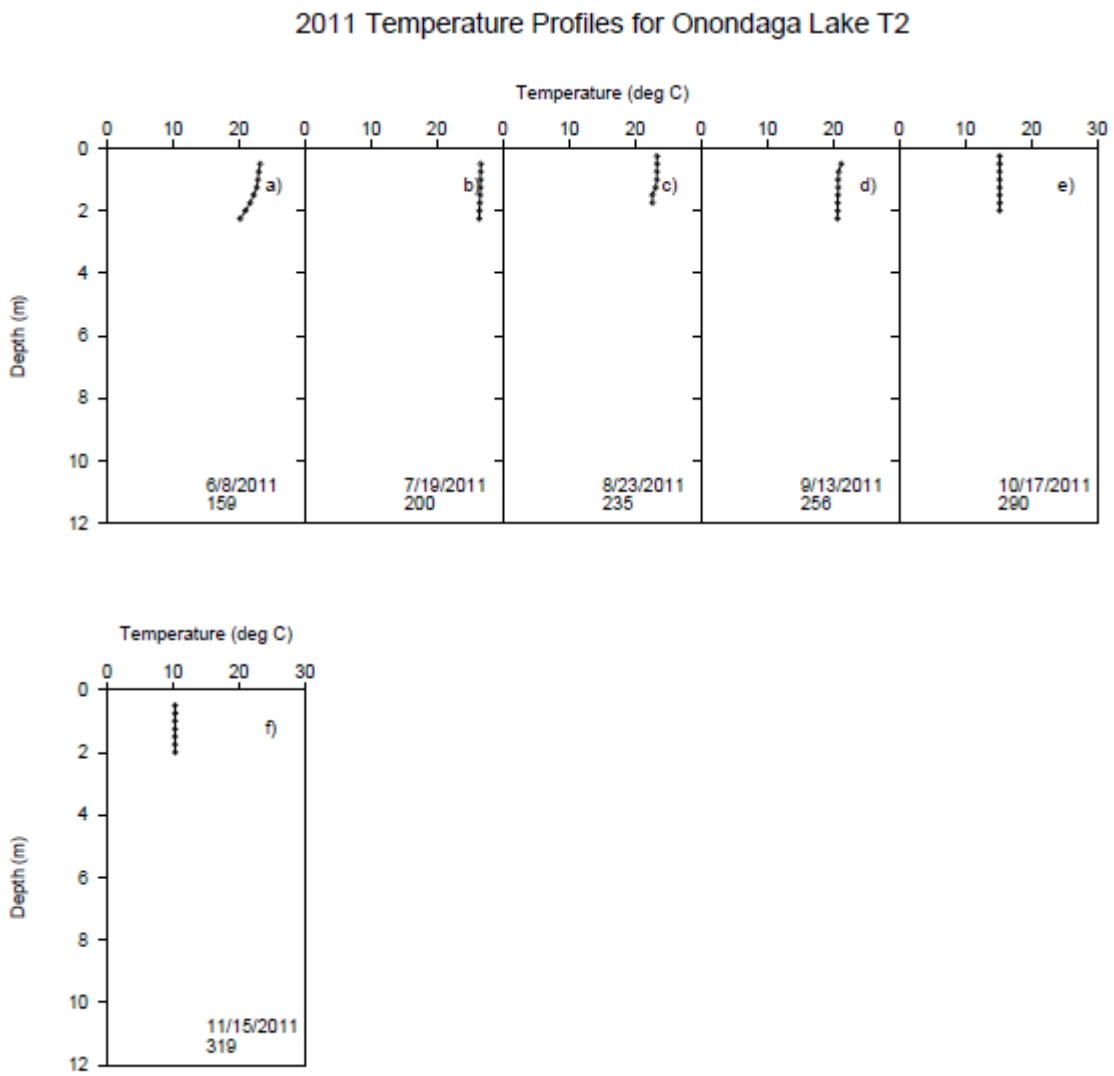


Figure 33. Profiles of temperature (T, °C) at T2 (OL-SW-10194): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

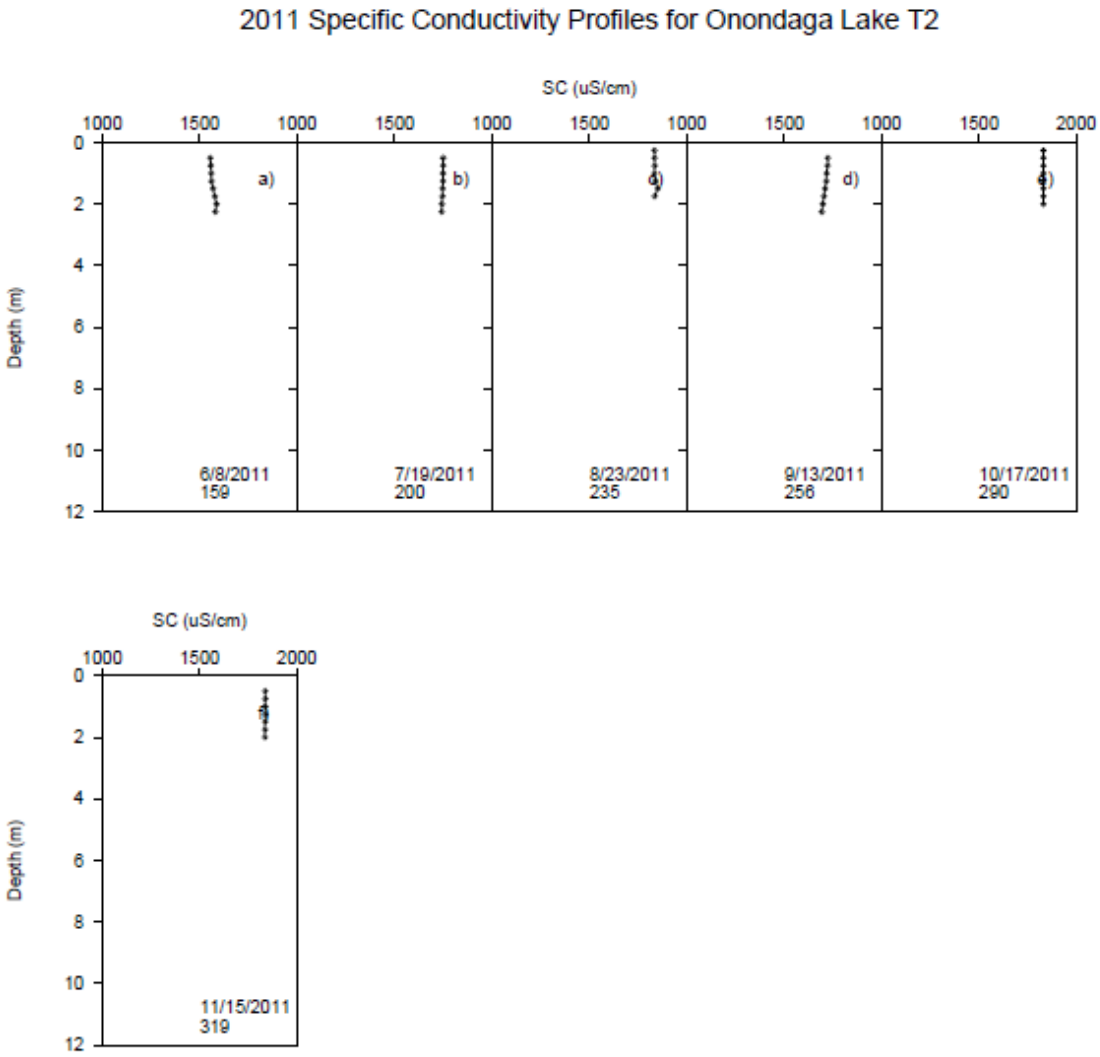


Figure 34. Profiles of specific conductance (SC, µS/cm) at T2 (OL-SW-10194): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

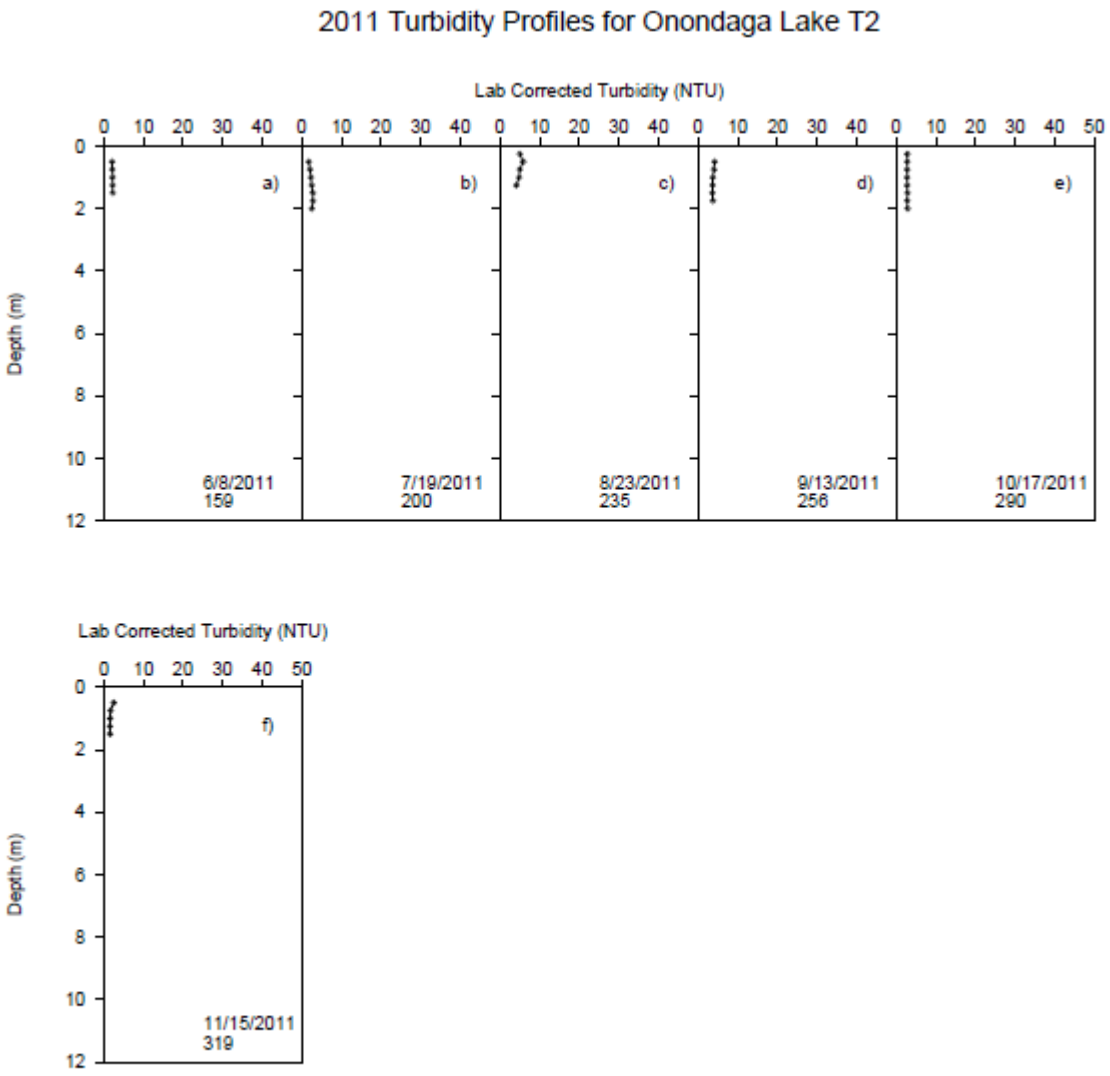


Figure 35. Profiles of turbidity (Tn, NTU) at T2 (OL-SW-10194): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

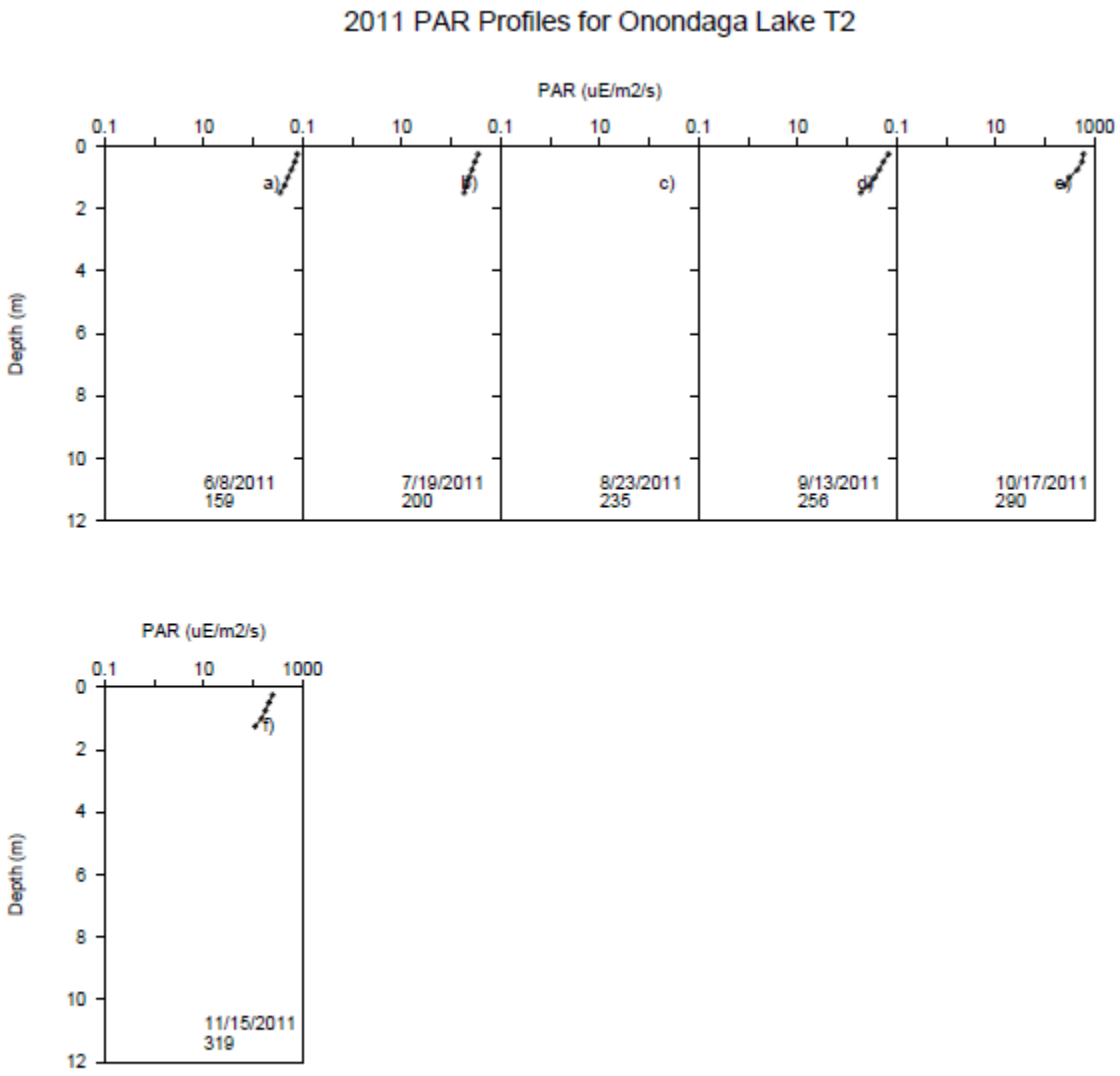


Figure 36. Profiles of photosynthetic active radiation (par, µE/m2/s) at T2 (OL-SW-10194): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

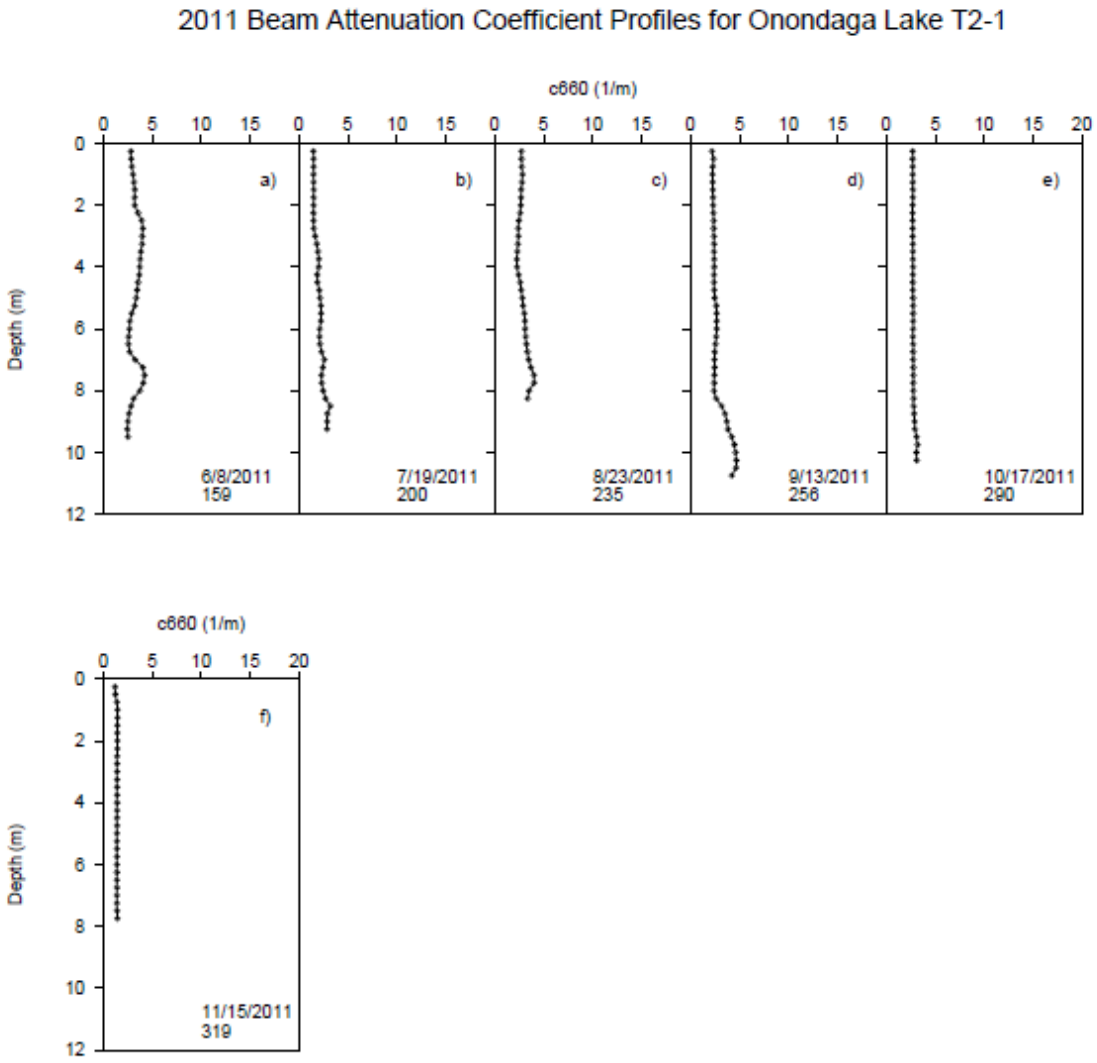


Figure 37. Profiles of beam attenuation coefficient (c660, 1/m) at T2-1 (OL-SW-80236): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

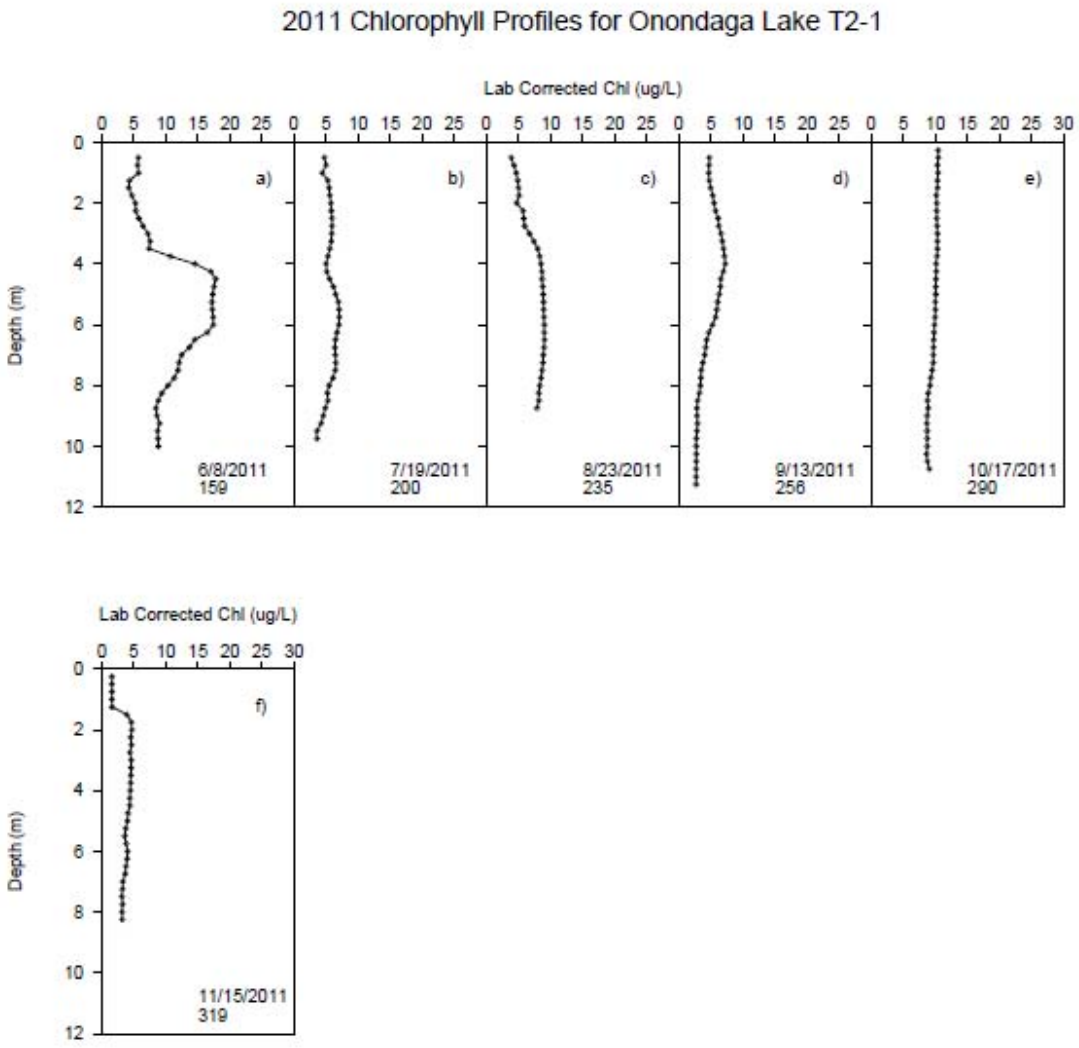


Figure 38. Profiles of chlorophyll (chl, µg/L) at T2-1 (OL-SW-80236): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

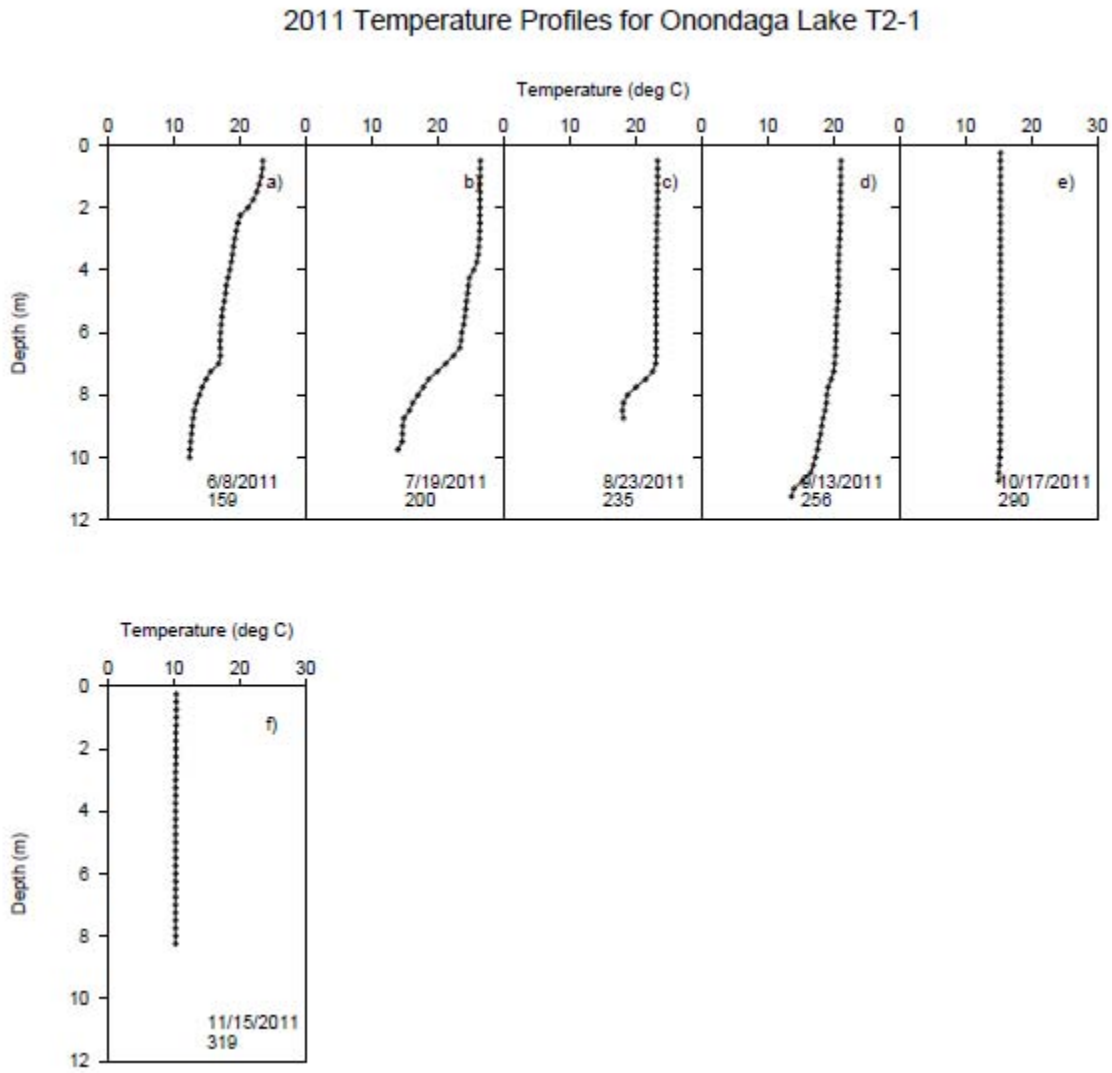


Figure 39. Profiles of temperature (T, °C) at T2-1 (OL-SW-80236): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

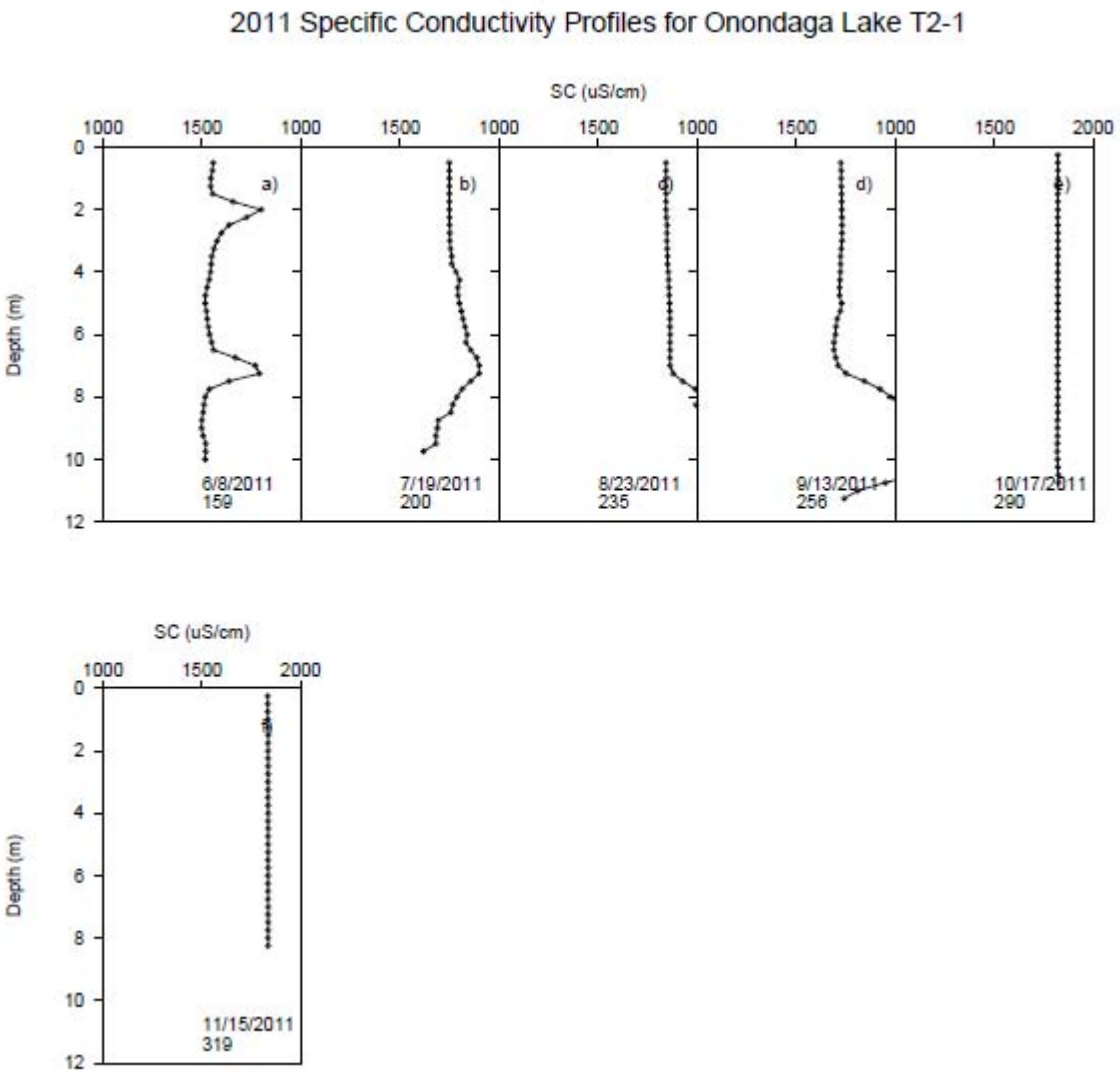


Figure 40. Profiles of specific conductance (SC, µS/cm) at T2-1 (OL-SW-80236): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

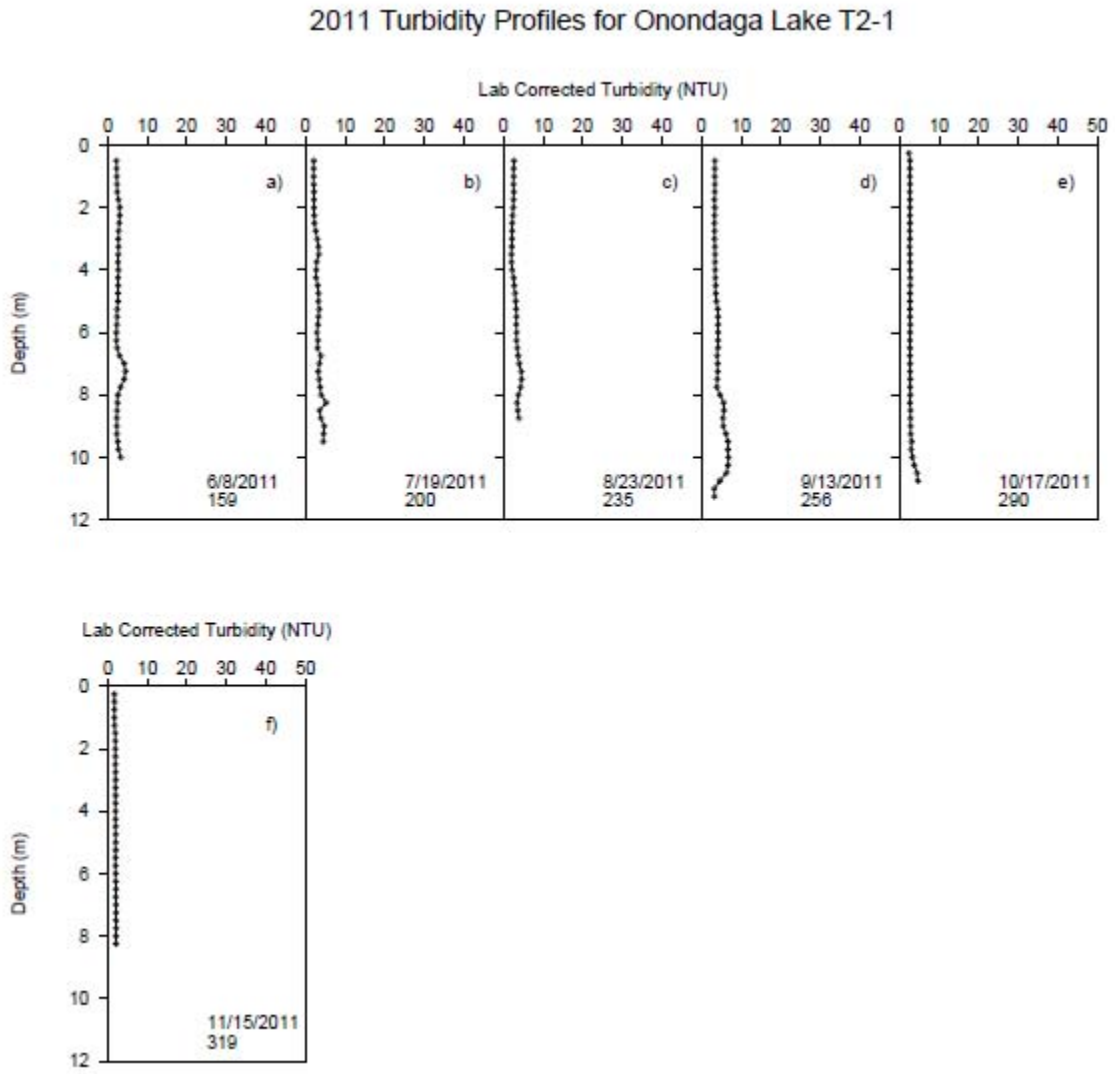


Figure 41. Profiles of turbidity (Tn, NTU) at T2-1 (OL-SW-80236): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

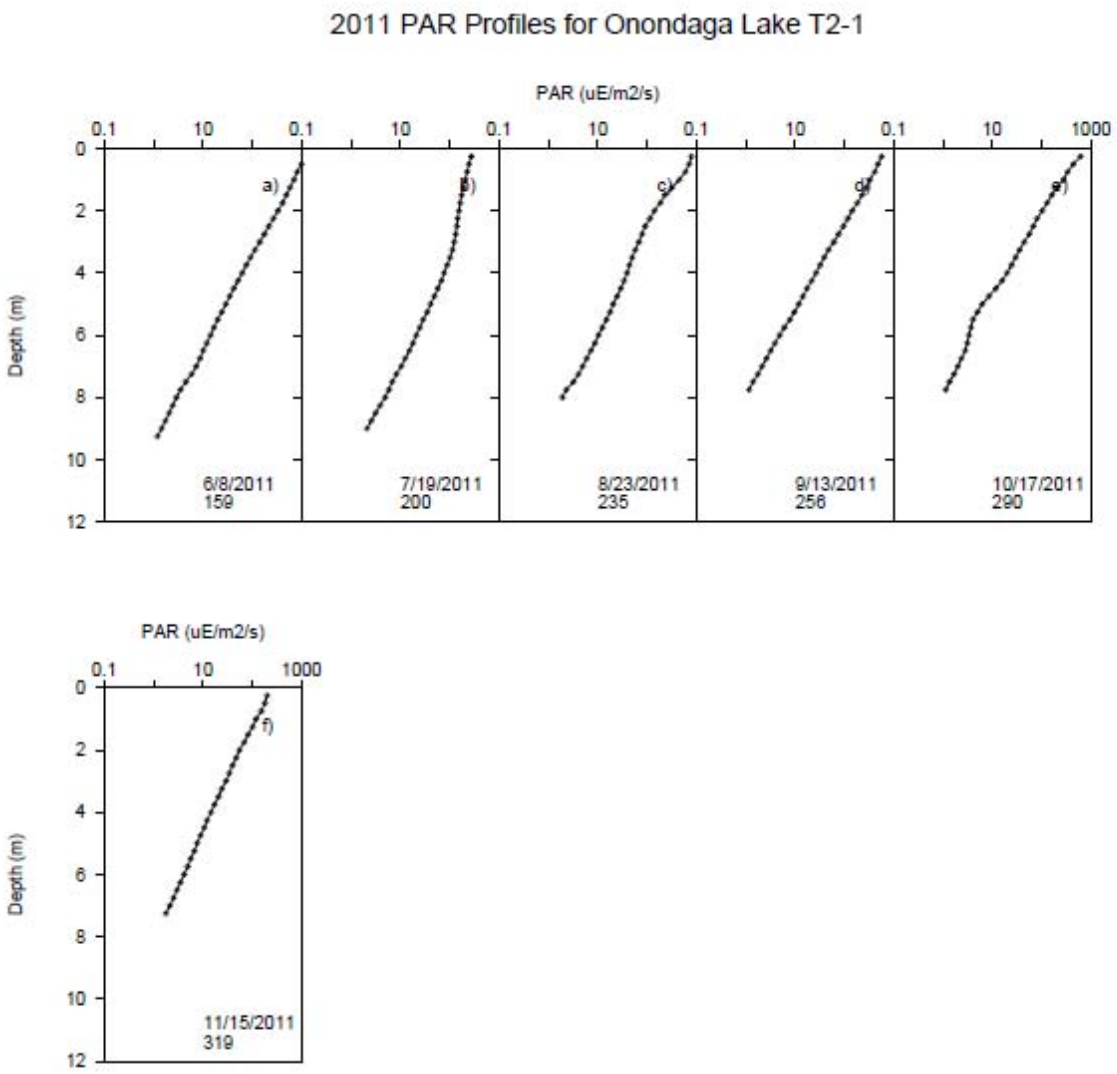


Figure 42. Profiles of photosynthetic active radiation (par, µE/m2/s) at T2-1 (OL-SW-80236): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

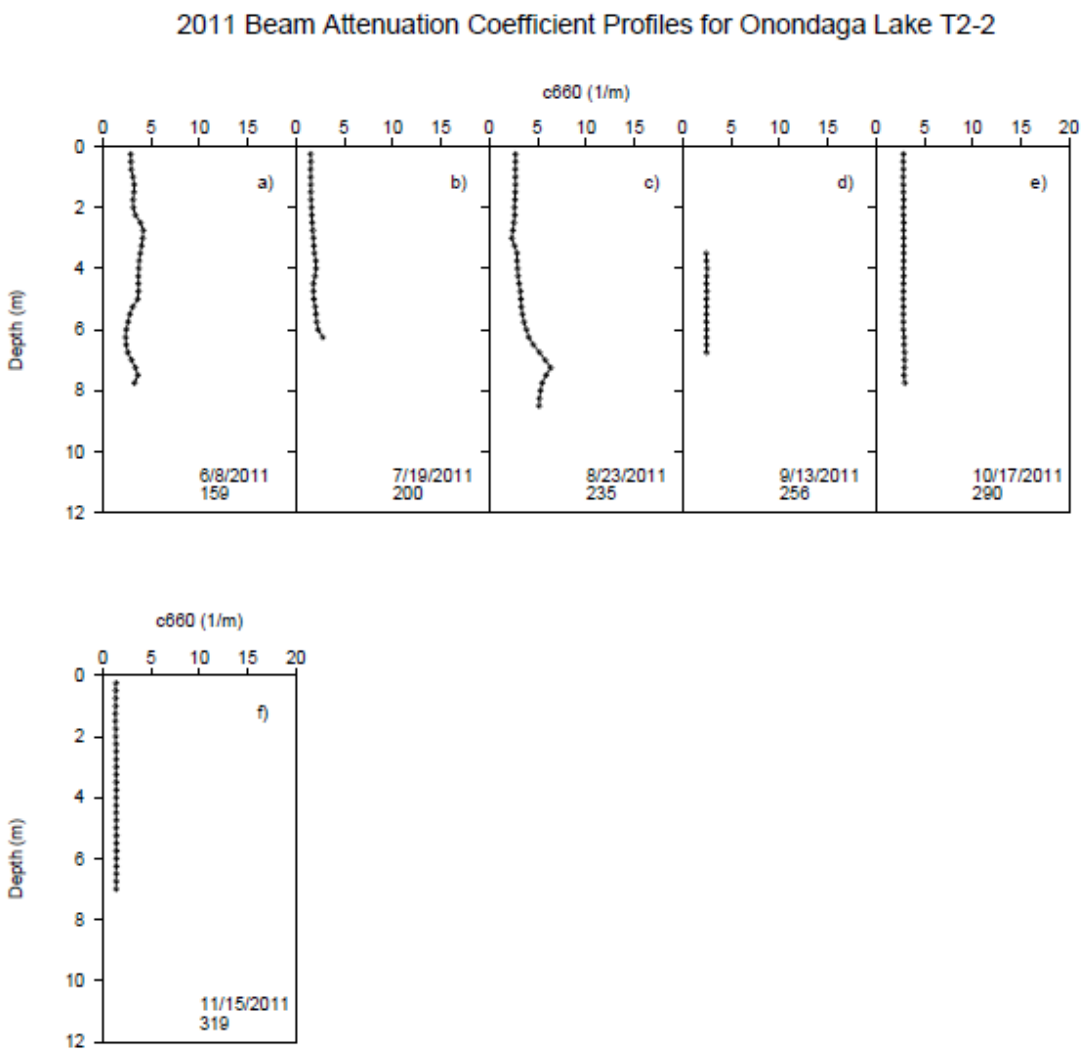


Figure 43. Profiles of beam attenuation coefficient (c660, 1/m) at T2-2 (OL-SW-10196): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

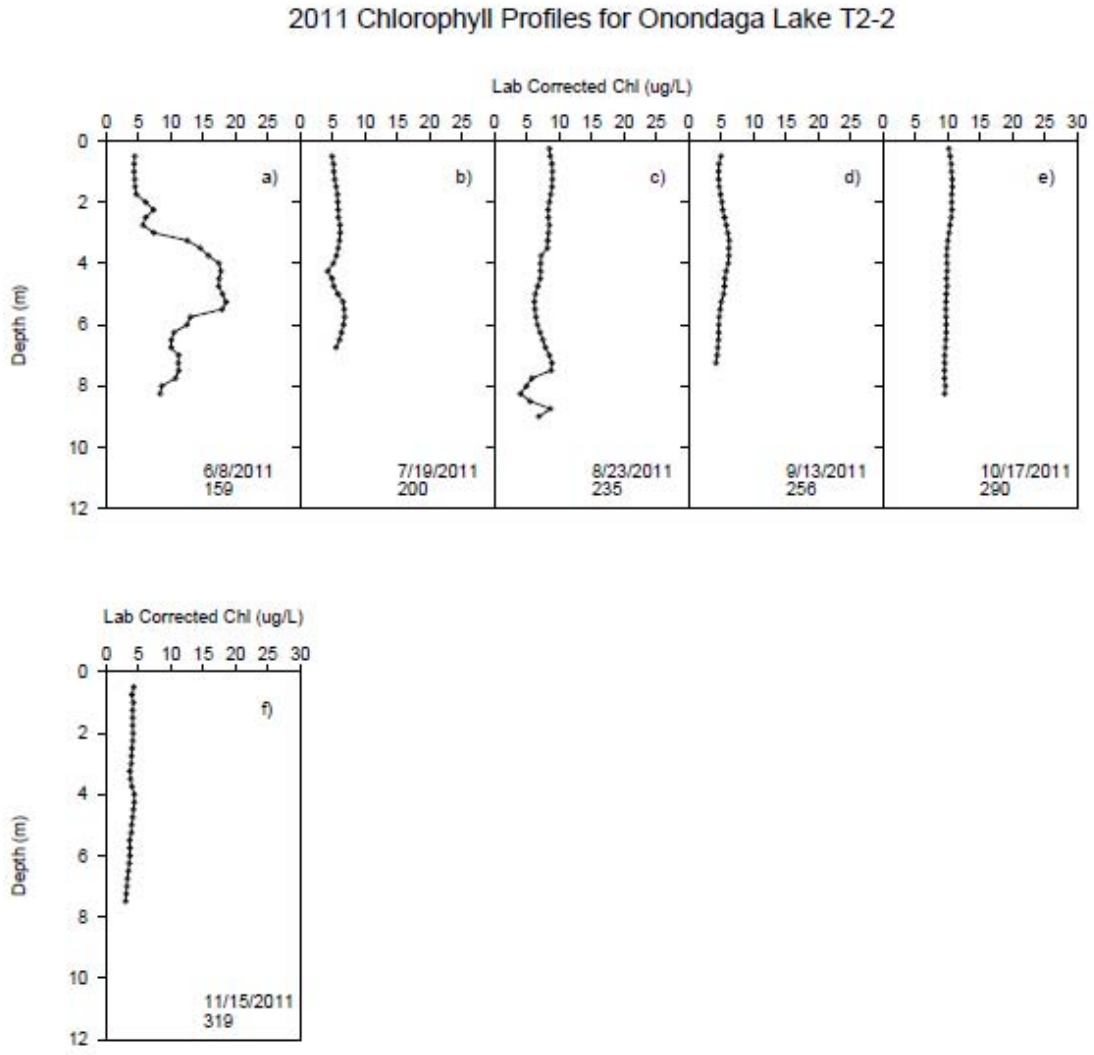


Figure 44. Profiles of chlorophyll (chl, µg/L) at T2-2 (OL-SW-10196): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

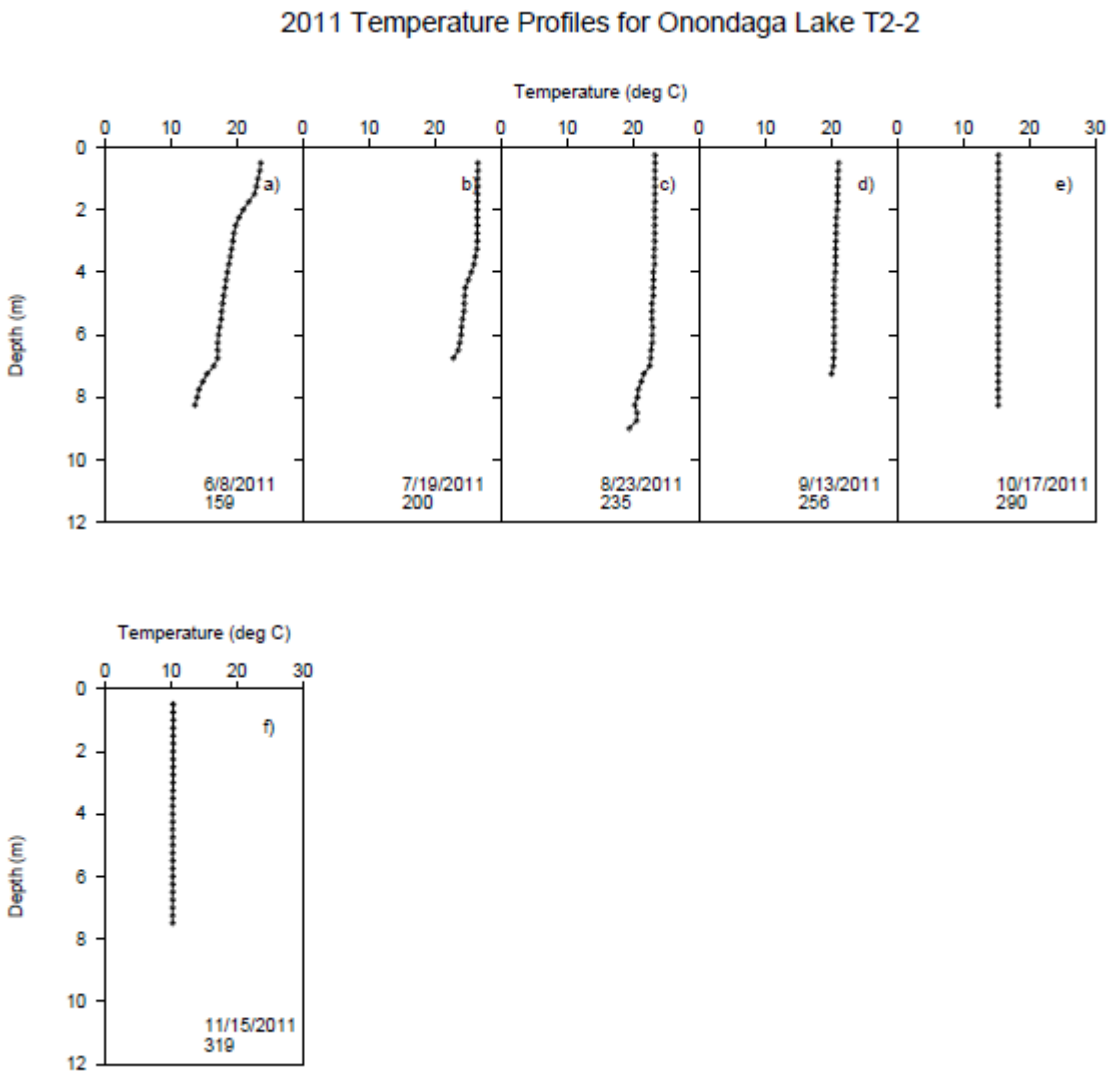


Figure 45. Profiles of temperature (T, °C) at T2-2 (OL-SW-10196): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

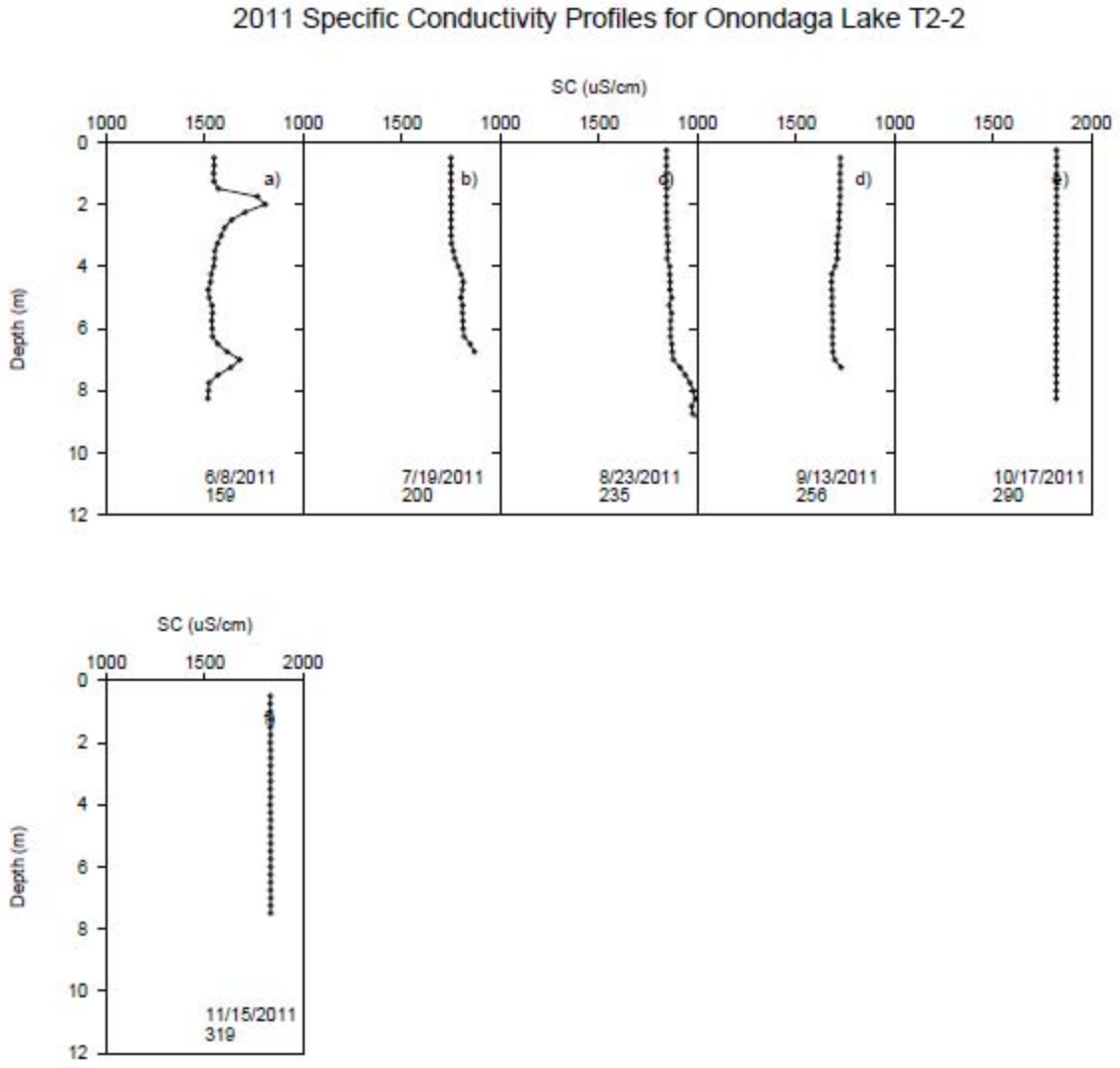


Figure 46. Profiles of specific conductance (SC, µS/cm) at T2-2 (OL-SW-10196): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

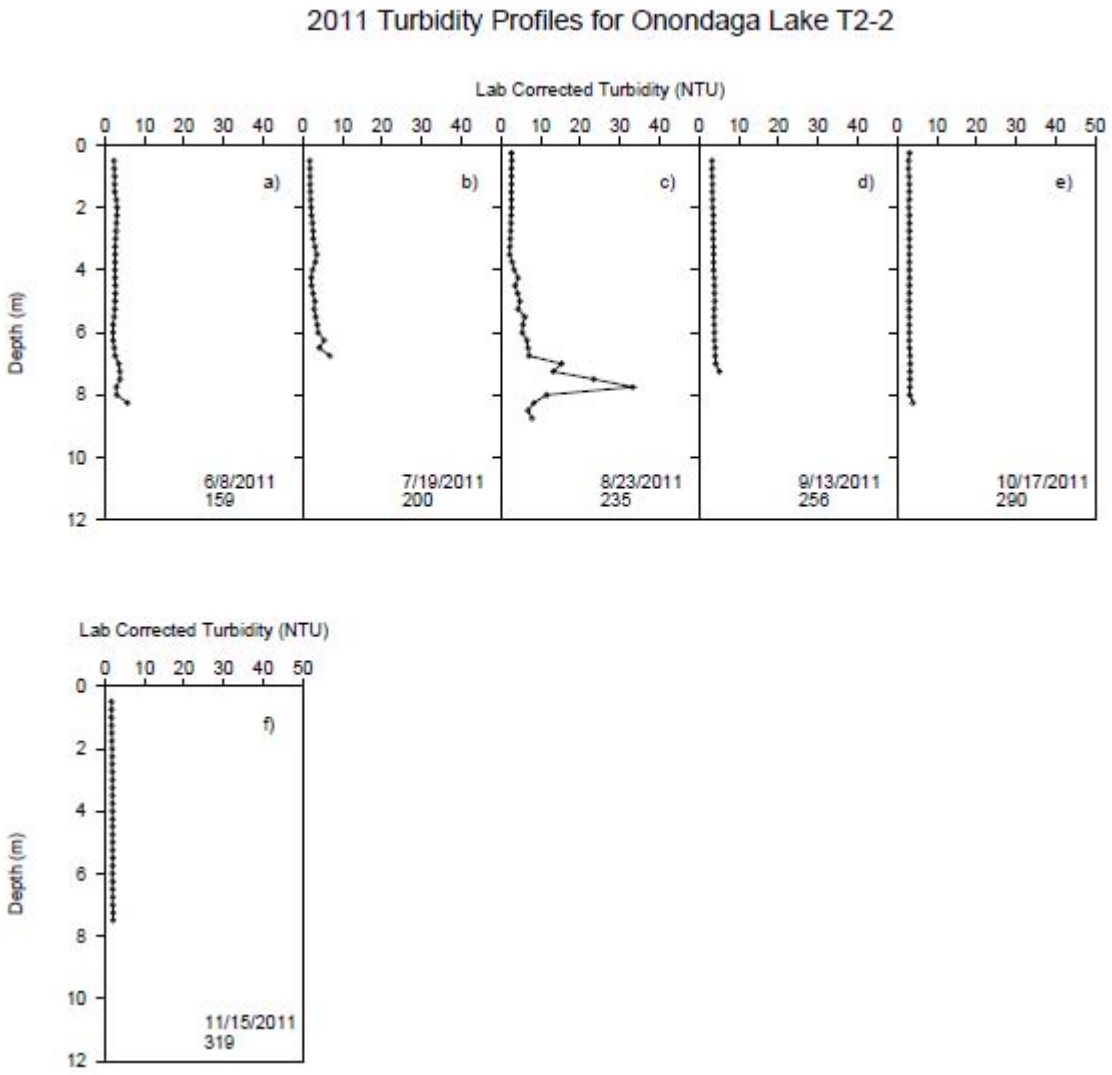


Figure 47. Profiles of turbidity (Tn, NTU) at T2-2 (OL-SW-10196): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

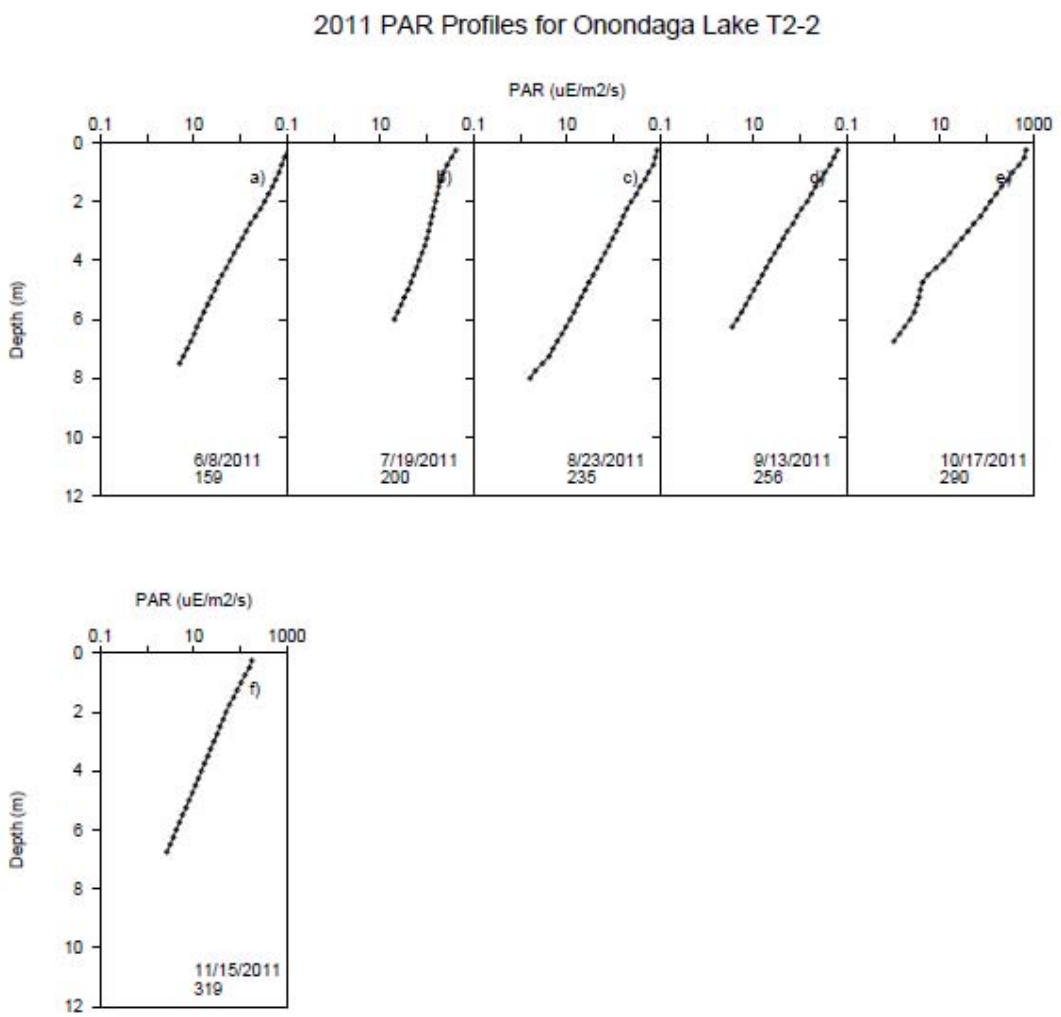


Figure 48. Profiles of photosynthetic active radiation (par, µE/m2/s) at T2-2 (OL-SW-10196): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

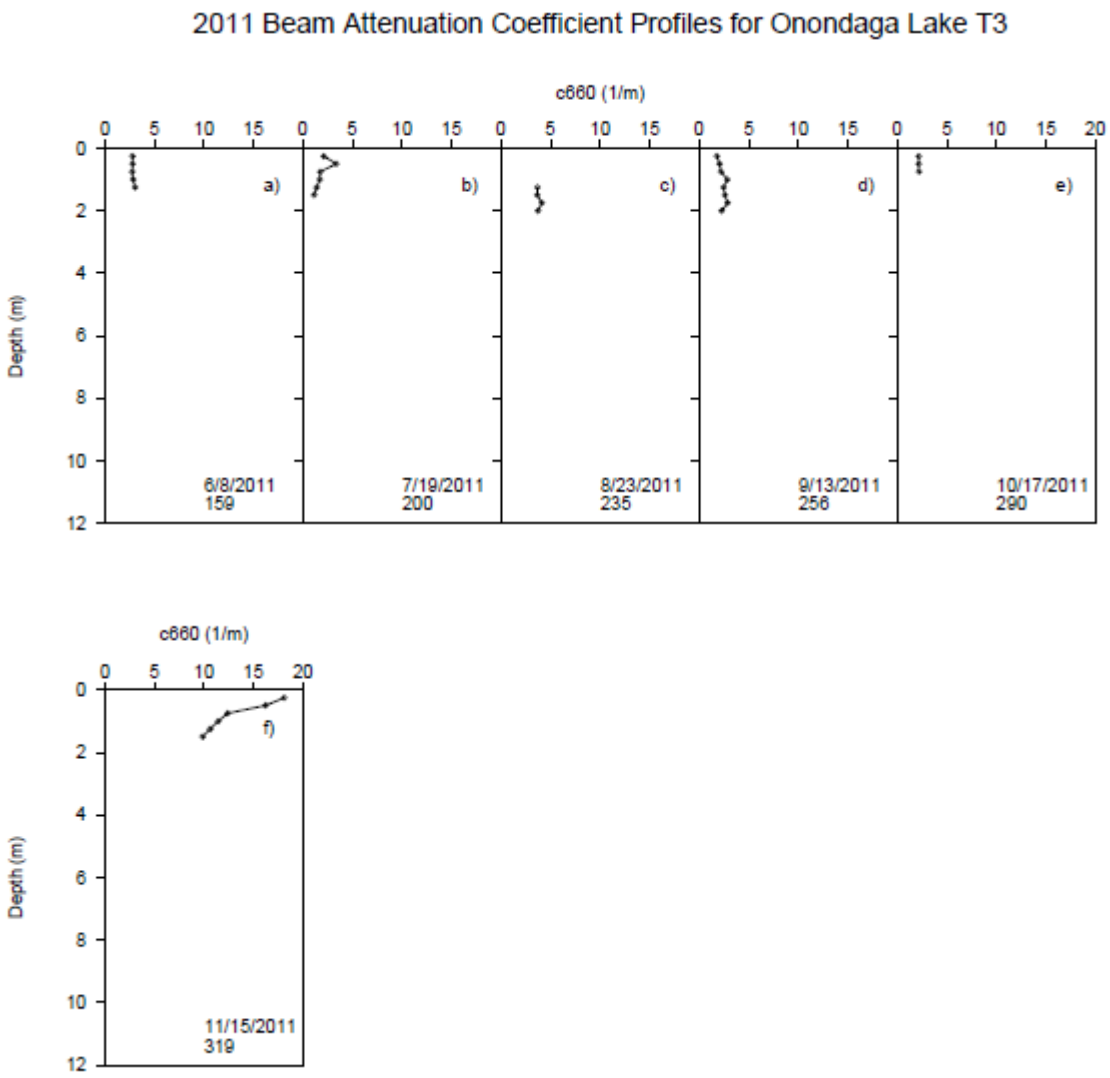


Figure 49. Profiles of beam attenuation coefficient (c660, 1/m) at T3 (OL-SW-60328): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

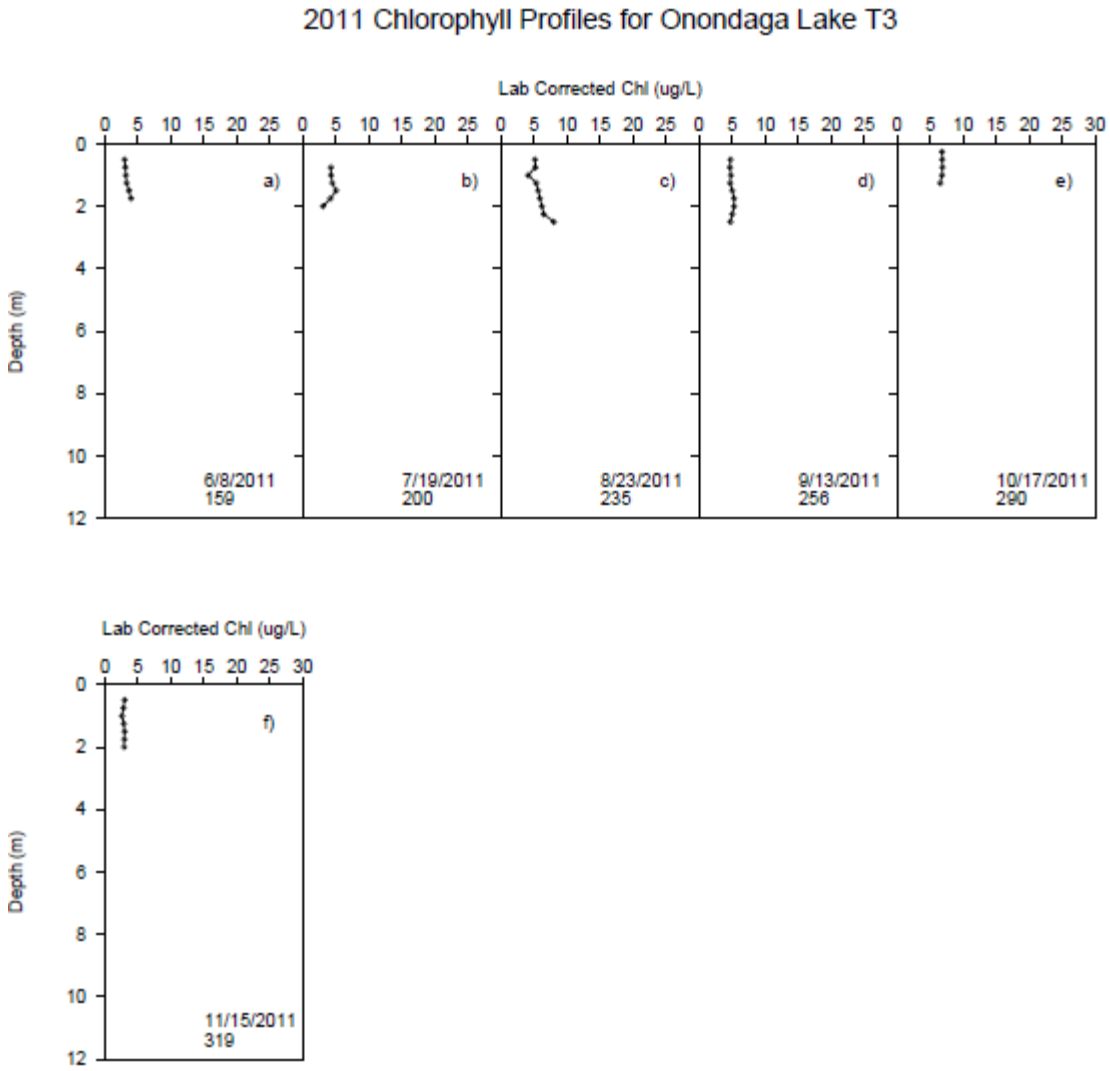


Figure 50. Profiles of chlorophyll (chl, µg/L) at T3 (OL-SW-60328): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

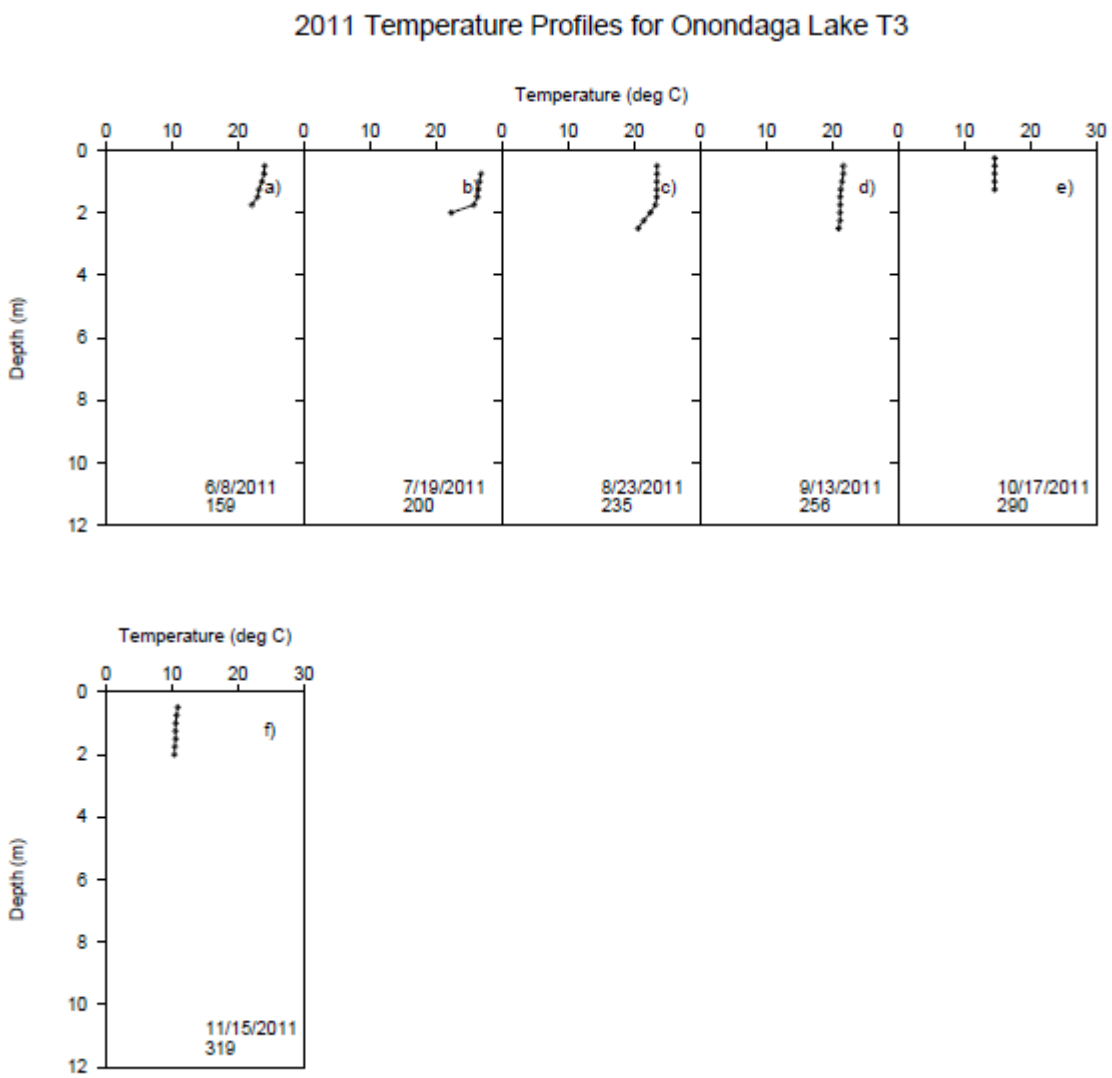


Figure 51. Profiles of temperature (T, °C) at T3 (OL-SW-60328): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

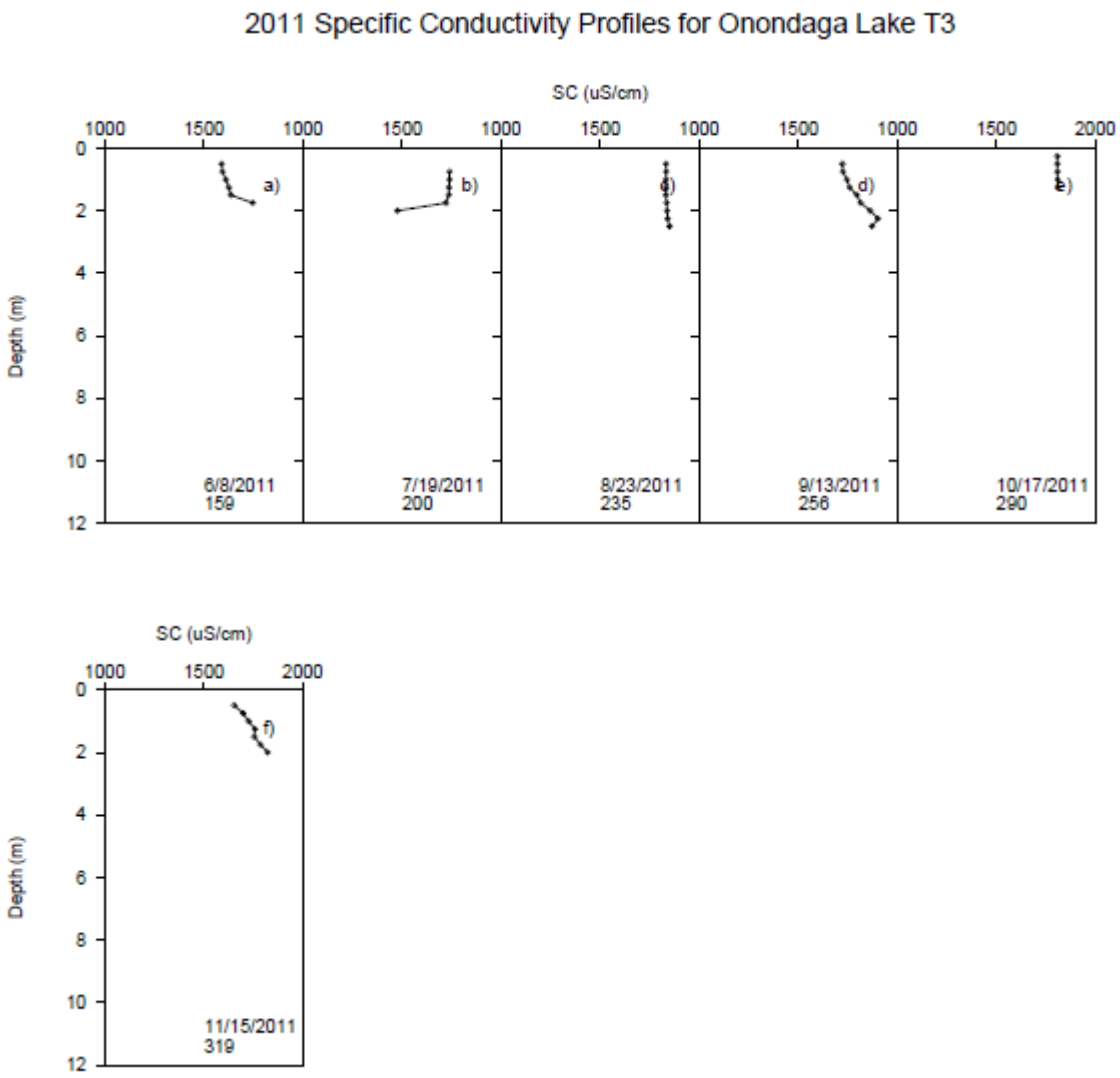


Figure 52. Profiles of specific conductance (SC, µS/cm) at T3 (OL-SW-60328): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

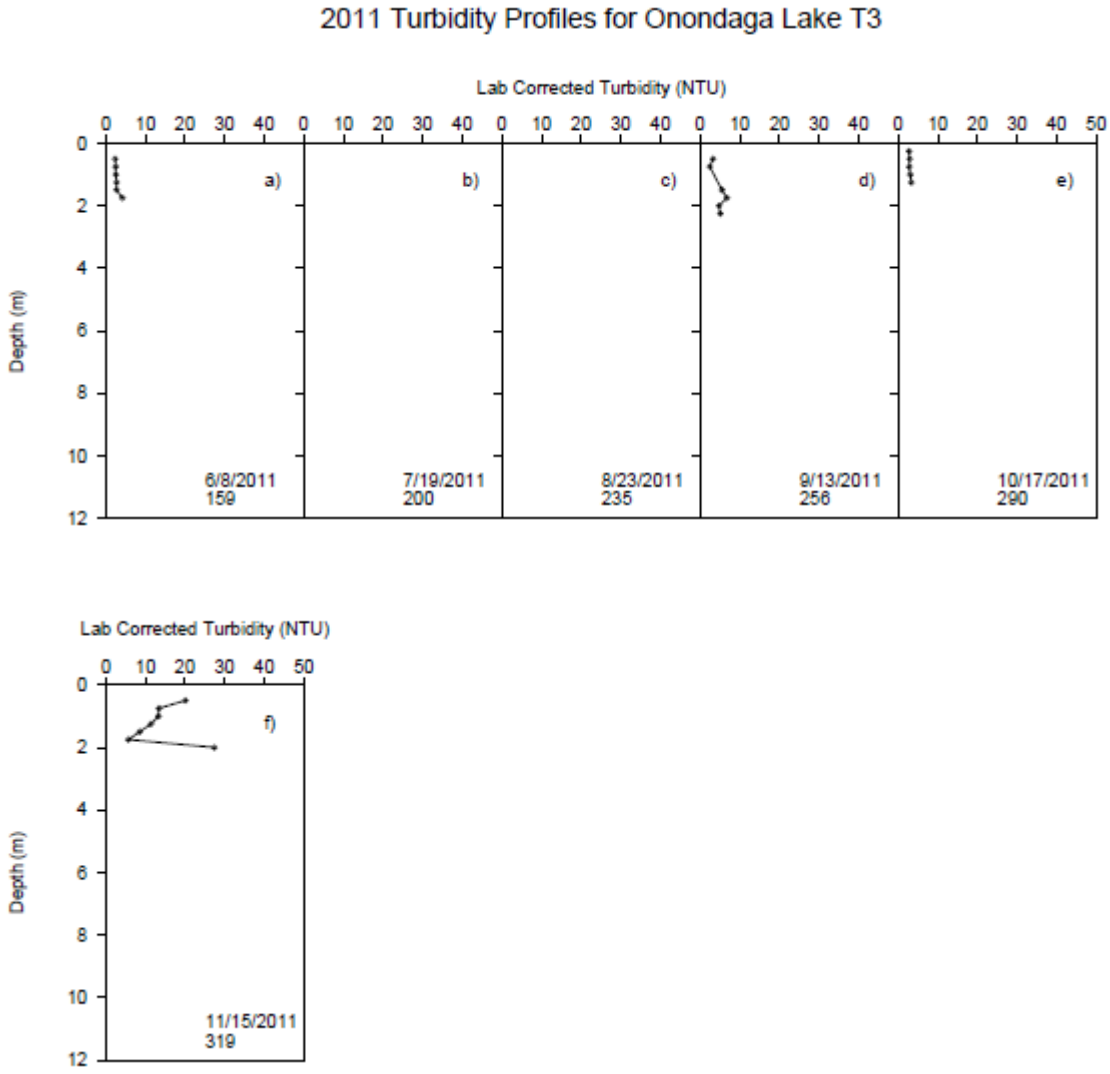


Figure 53. Profiles of turbidity (Tn, NTU) at T3 (OL-SW-60328): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

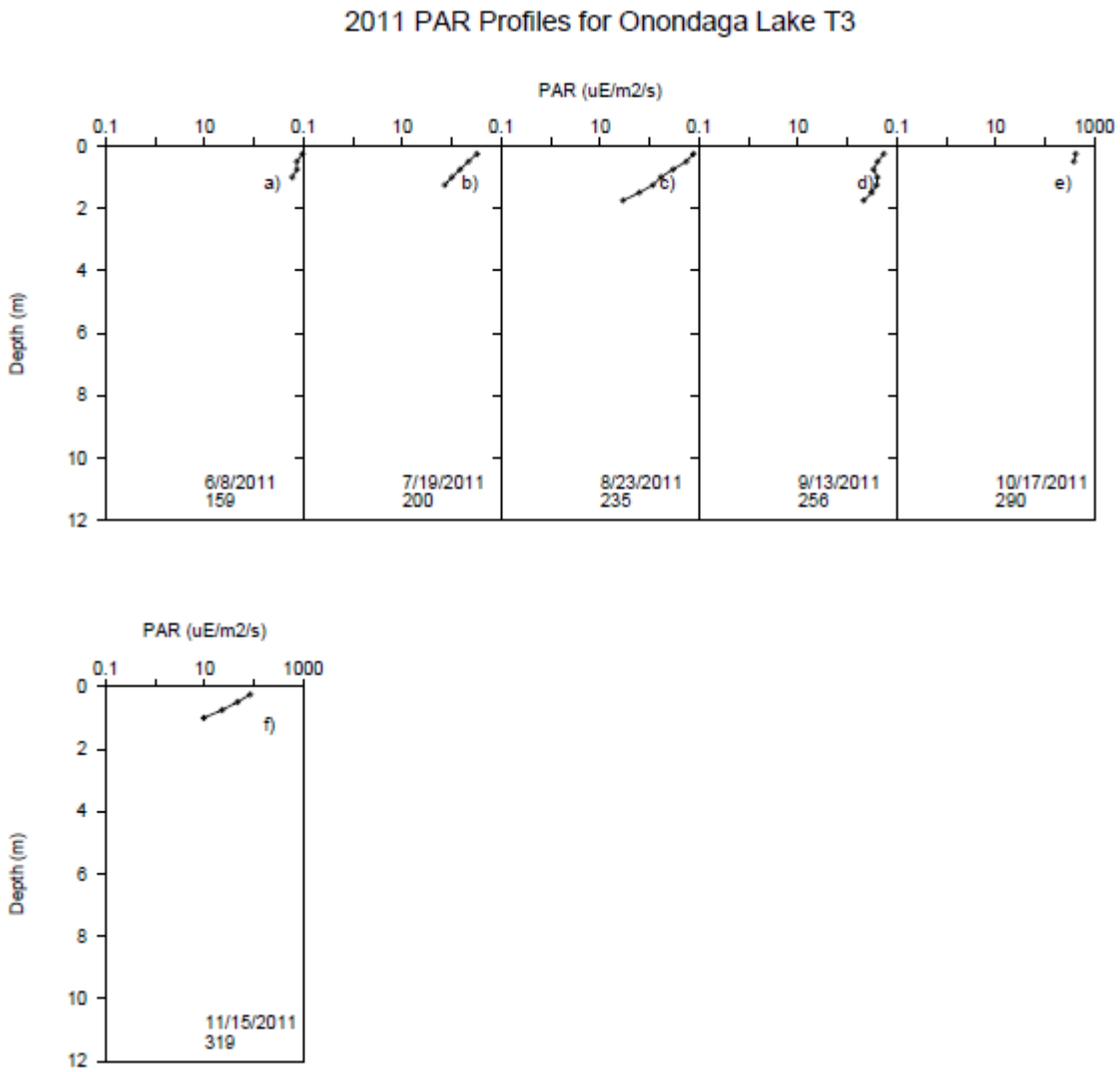


Figure 54. Profiles of photosynthetic active radiation (par, µE/m2/s) at T3 (OL-SW-60328): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

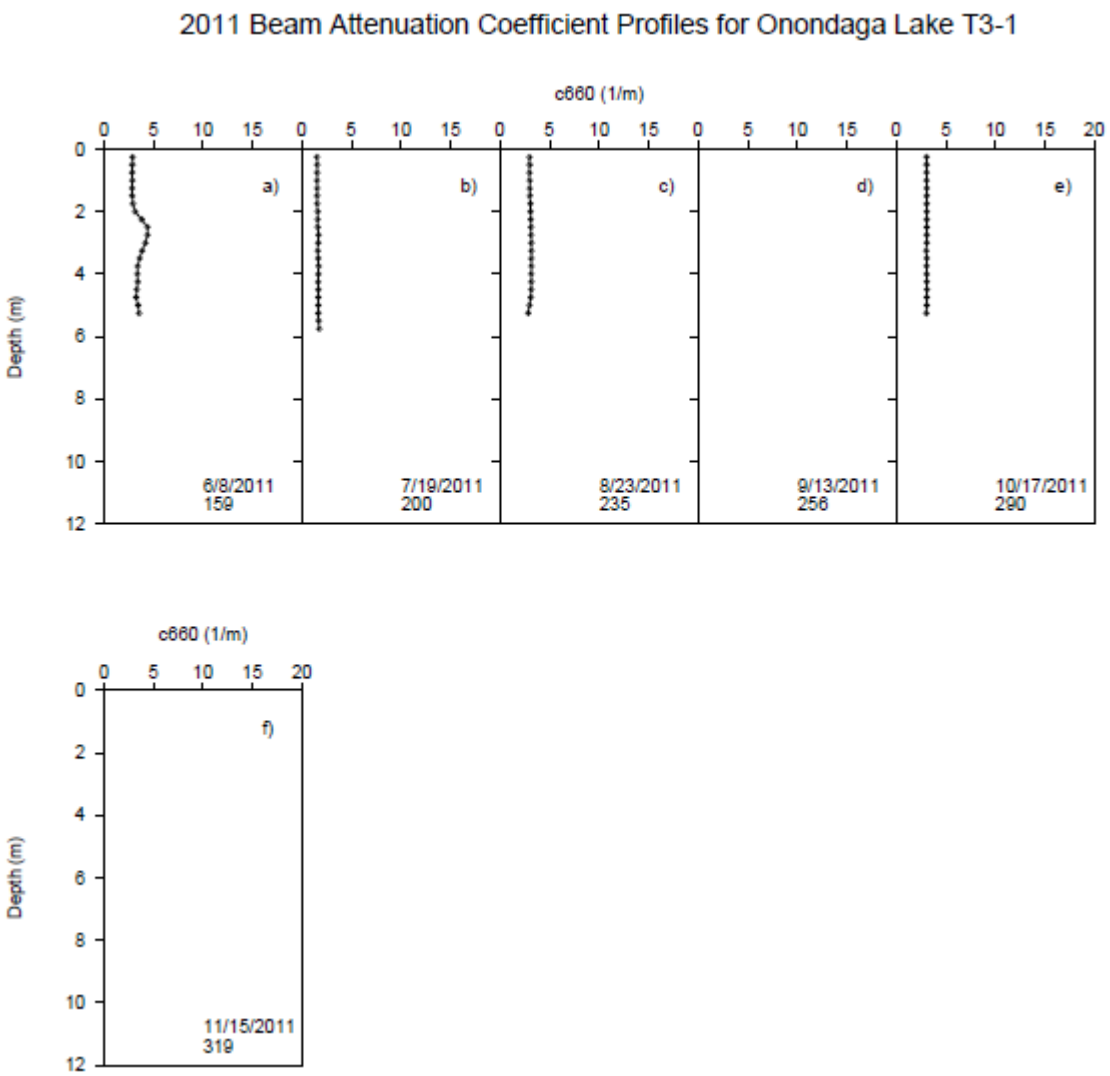


Figure 55. Profiles of beam attenuation coefficient (c660, 1/m) at T3-1 (OL-SW-60334): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

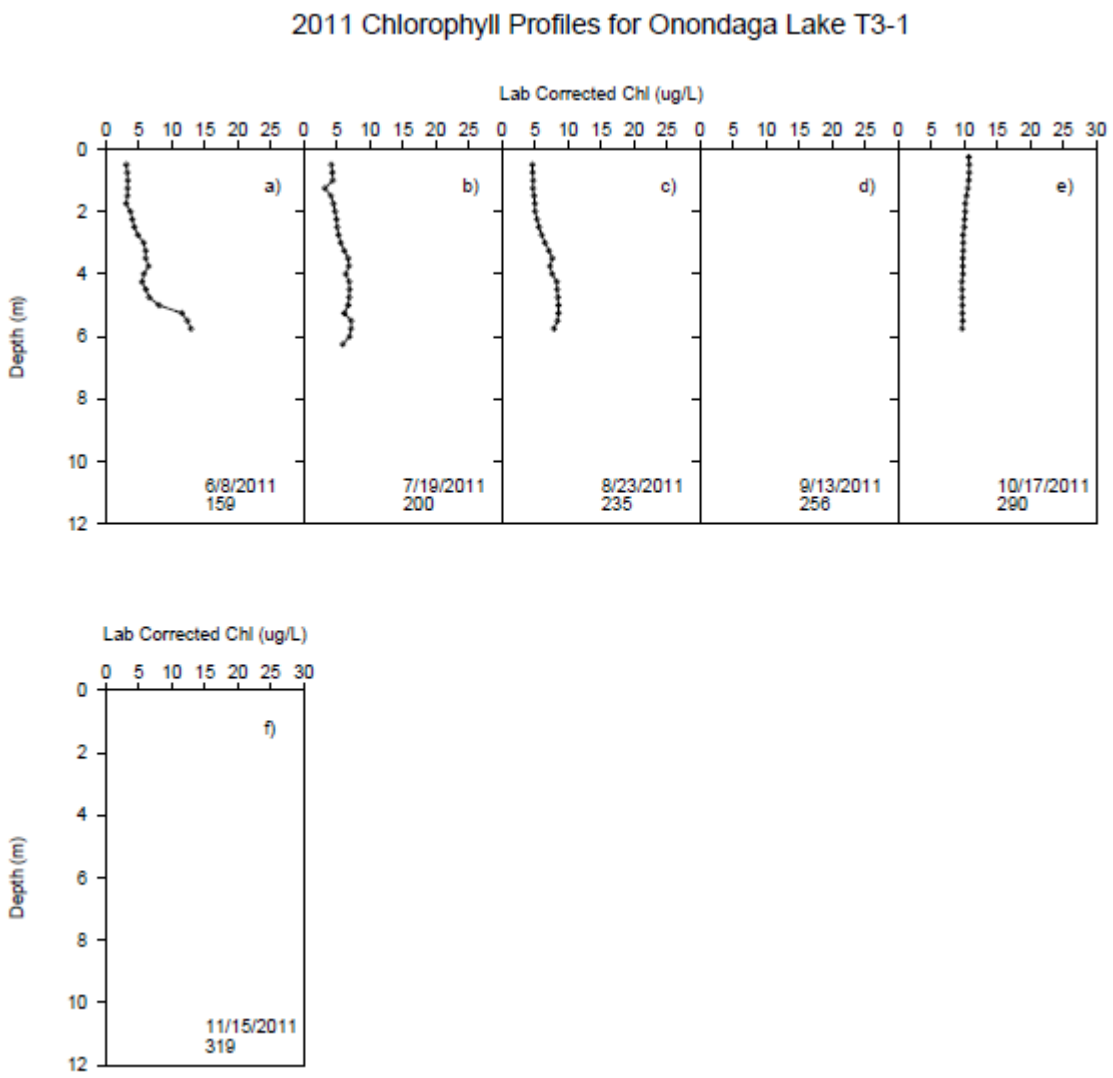


Figure 56. Profiles of chlorophyll (chl, µg/L) at T3-1 (OL-SW-60334): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

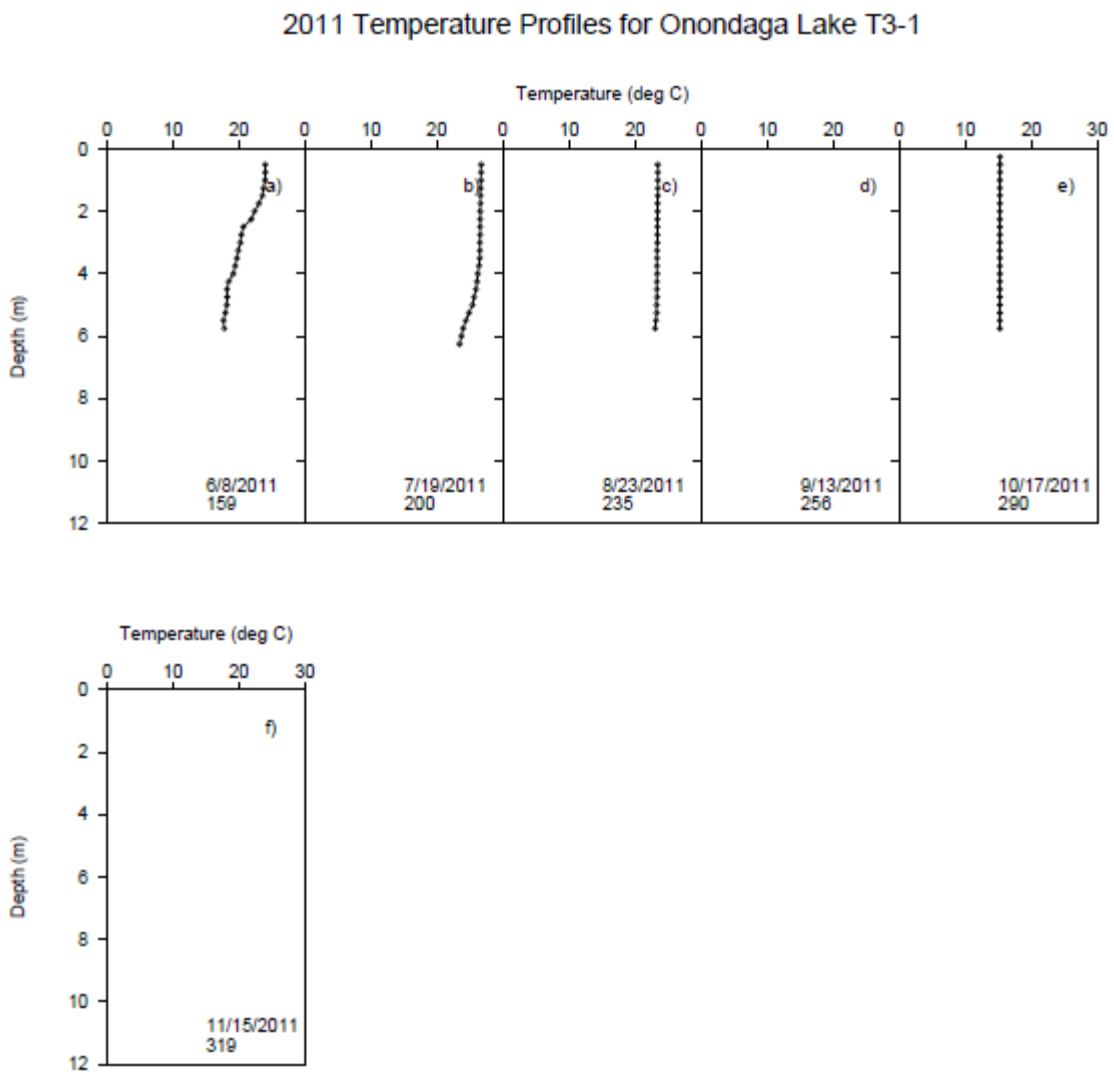


Figure 57. Profiles of temperature (T, °C) at T3-1 (OL-SW-60334): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

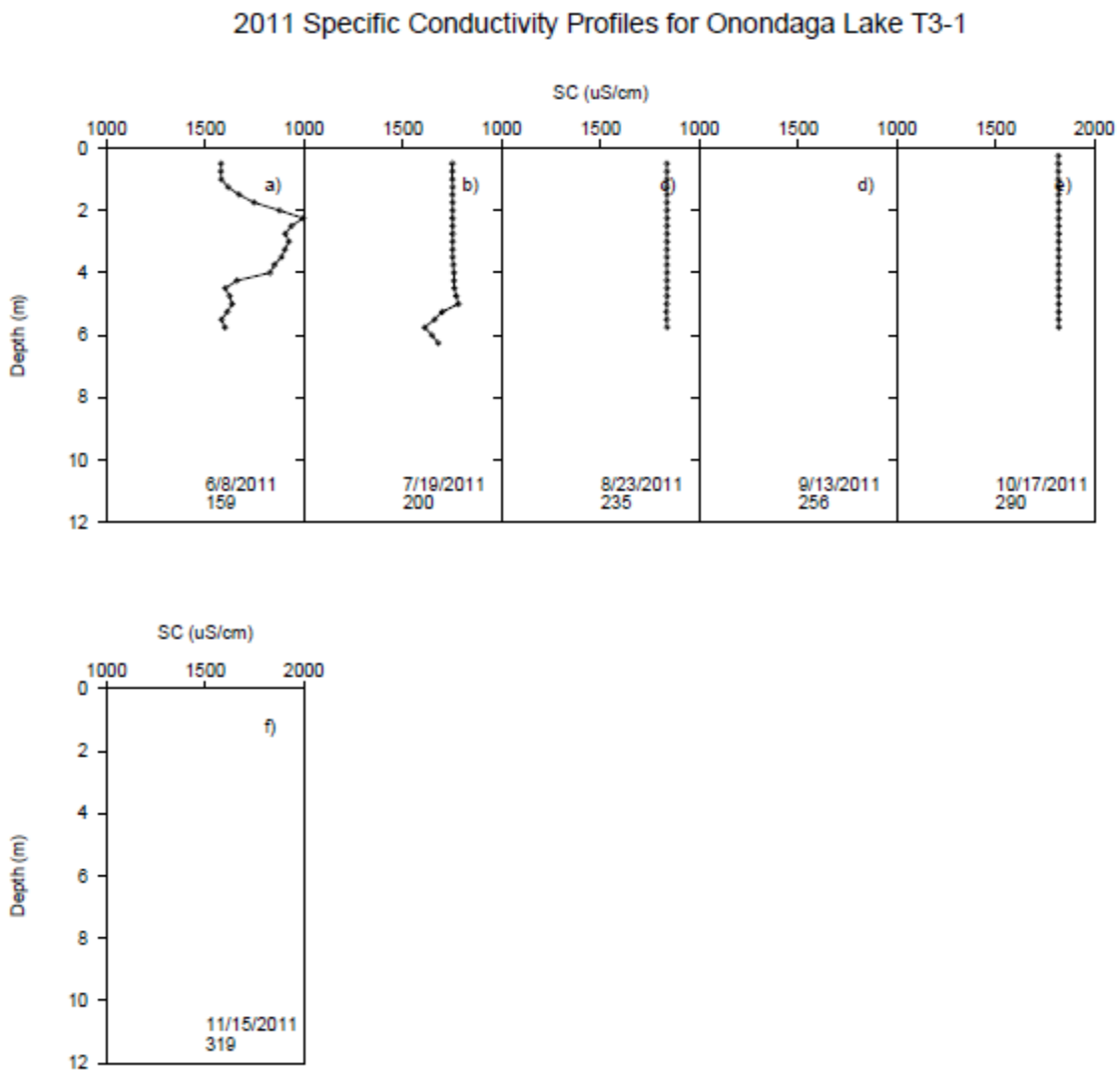


Figure 58. Profiles of specific conductance (SC, µS/cm) at T3-1 (OL-SW-60334): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

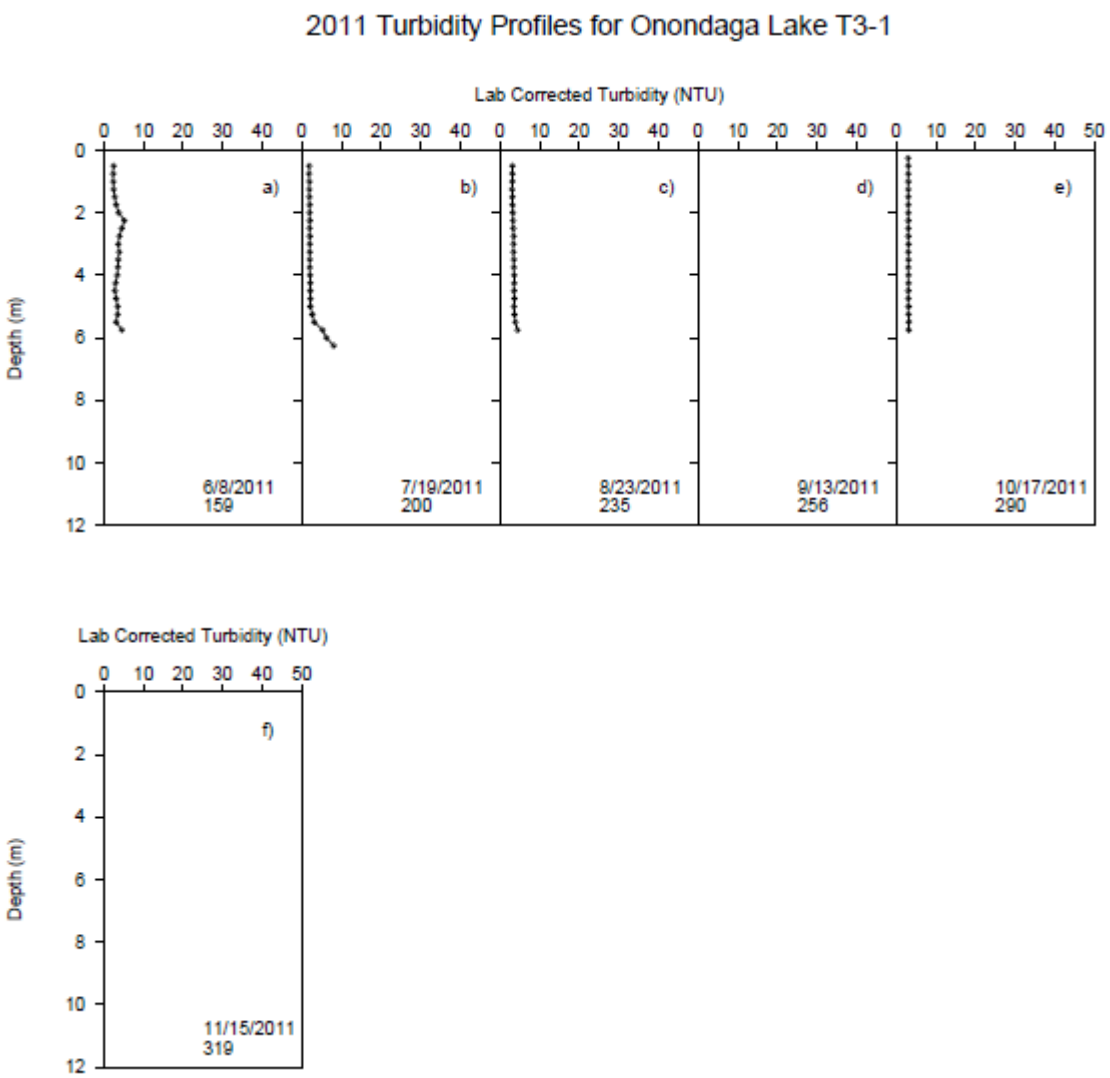


Figure 59. Profiles of turbidity (Tn, NTU) at T3-1 (OL-SW-60334): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

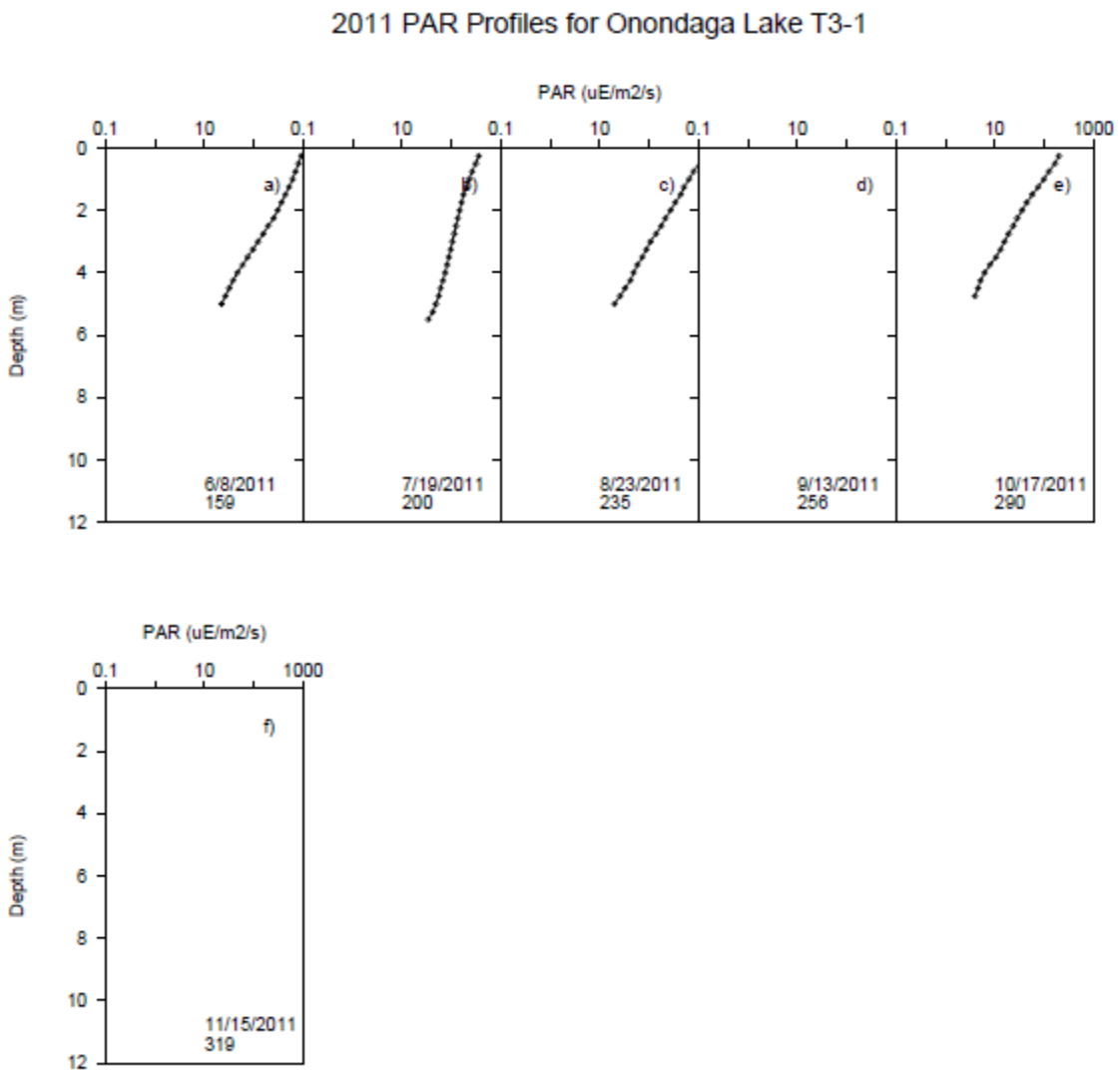


Figure 60. Profiles of photosynthetic active radiation (par, µE/m2/s) at T3-1 (OL-SW-60334): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

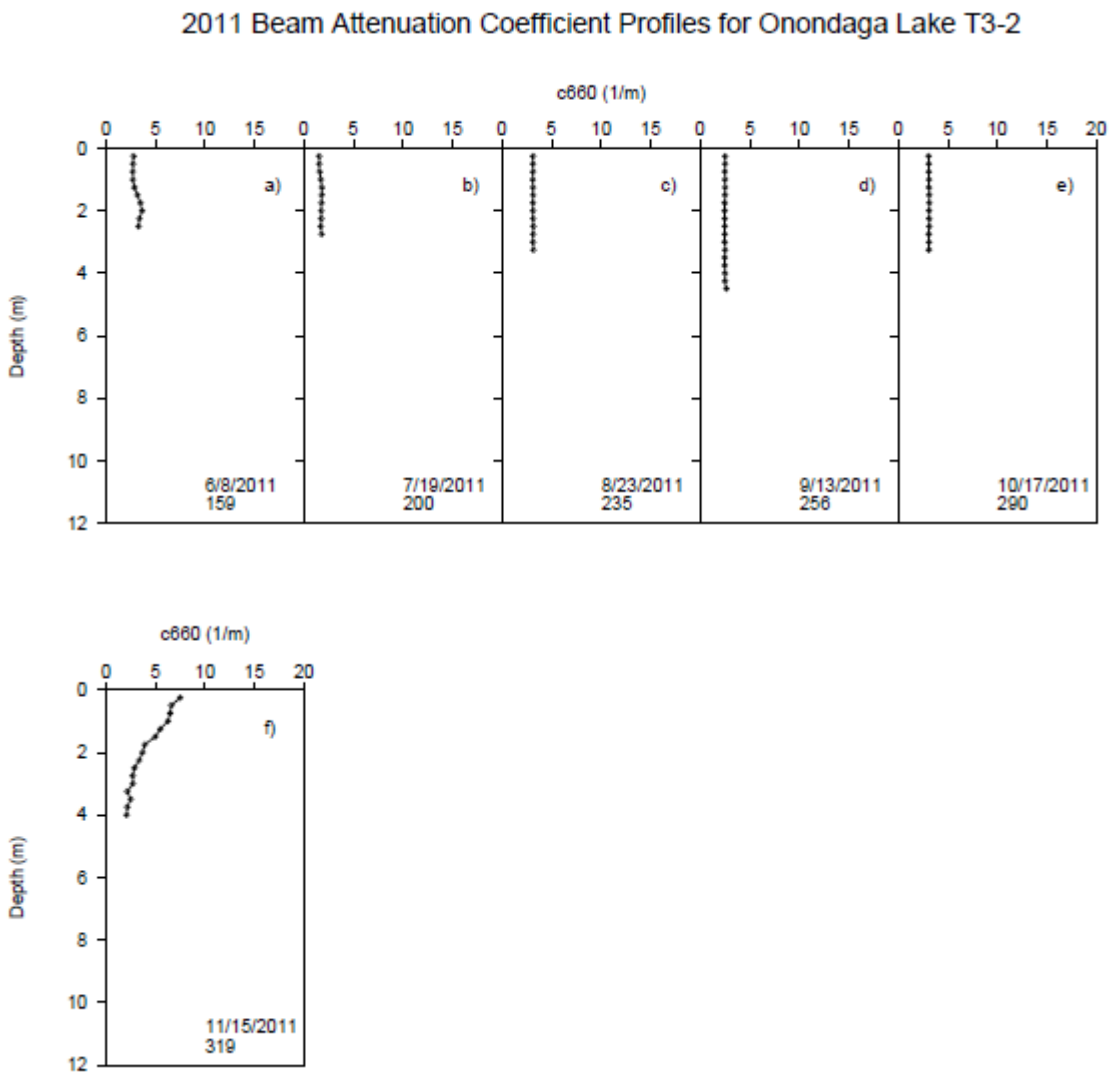


Figure 61. Profiles of beam attenuation coefficient (c660, 1/m) at T3-2 (OL-SW-60335): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

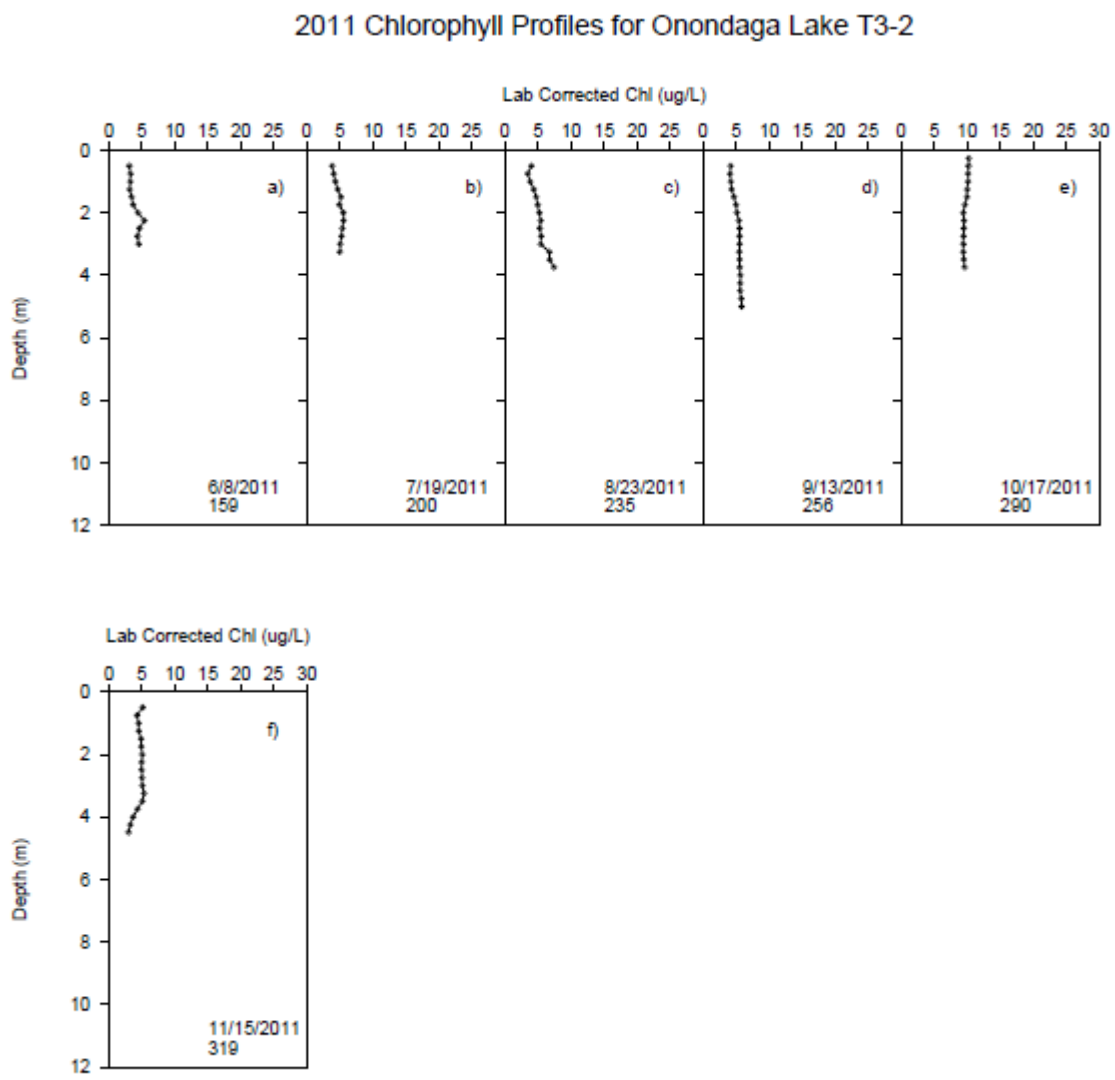


Figure 62. Profiles of chlorophyll (chl, µg/L) at T3-2 (OL-SW-60335): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

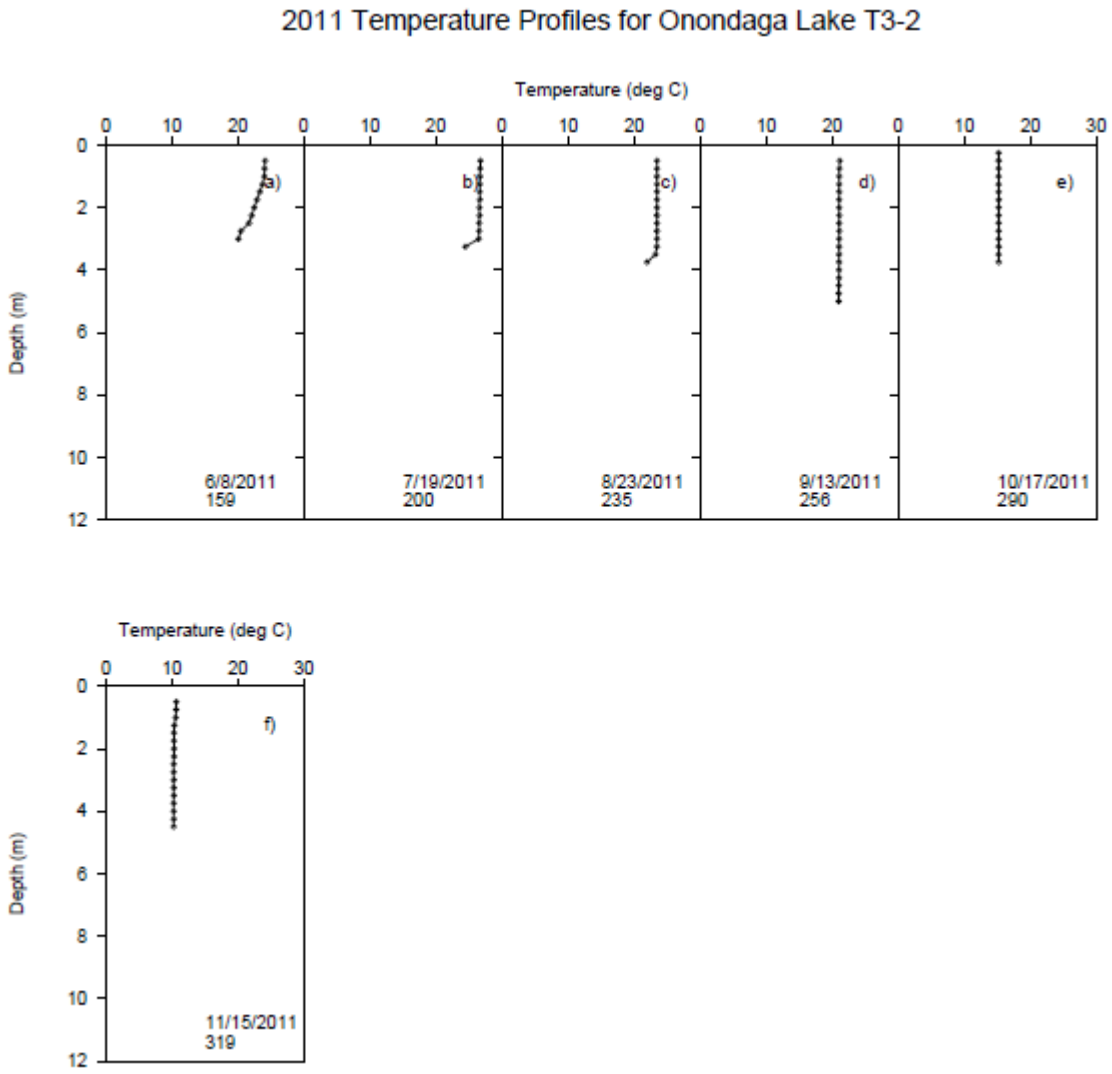


Figure 63. Profiles of temperature (T, °C) at T3-2 (OL-SW-60335): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

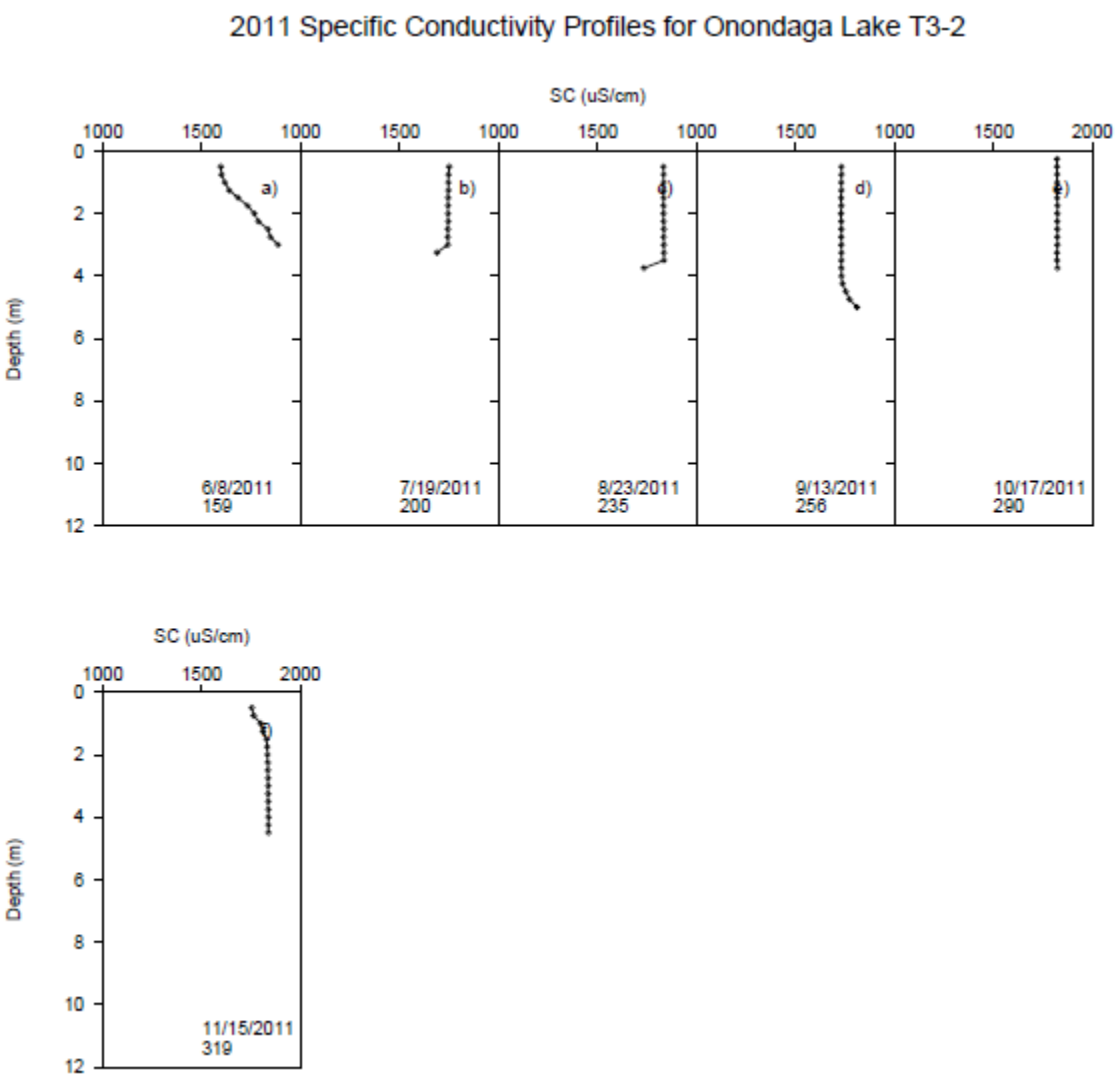


Figure 64. Profiles of specific conductance (SC, µS/cm) at T3-2 (OL-SW-60335): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

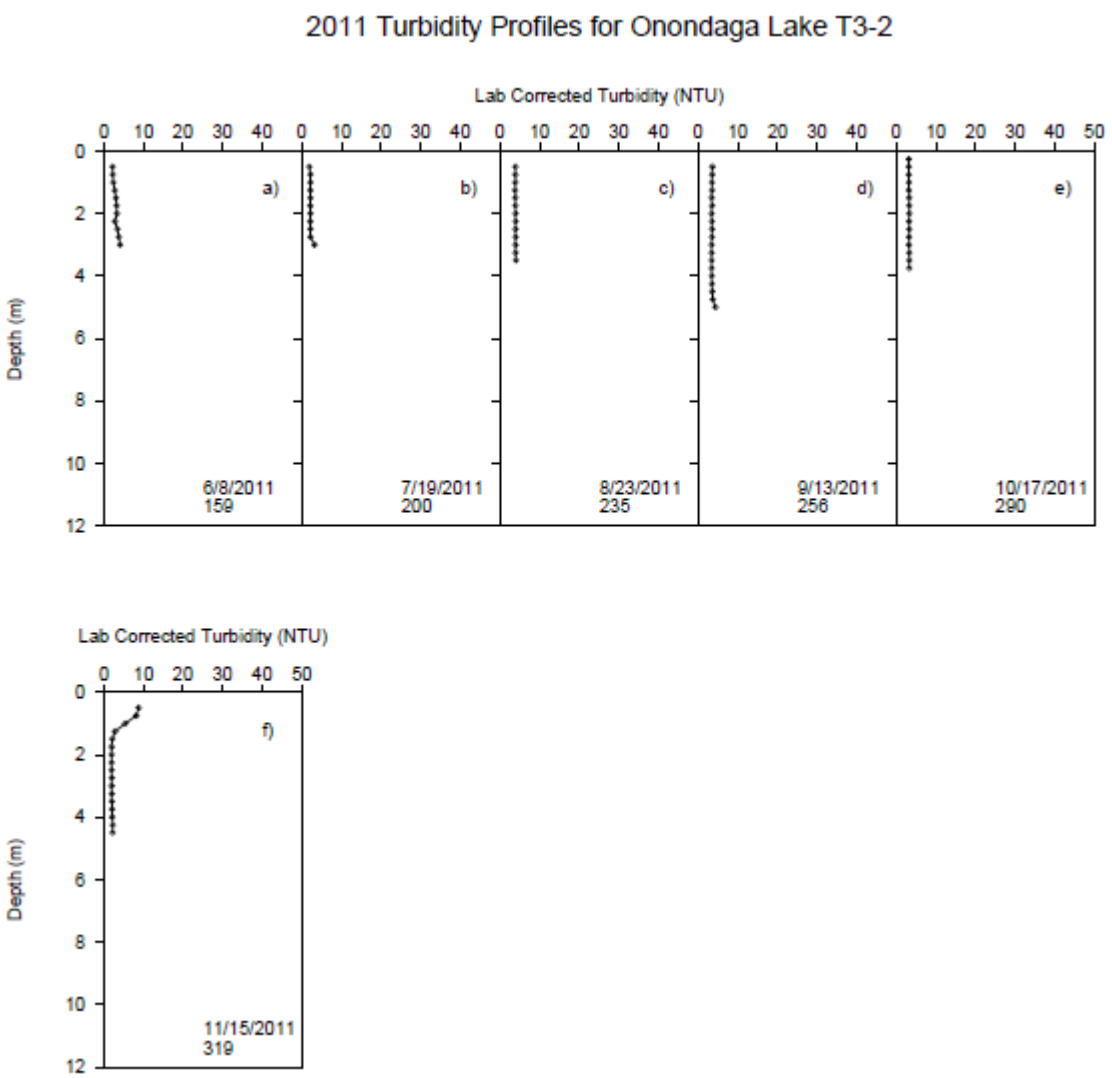


Figure 65. Profiles of turbidity (Tn, NTU) at T3-2 (OL-SW-60335): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

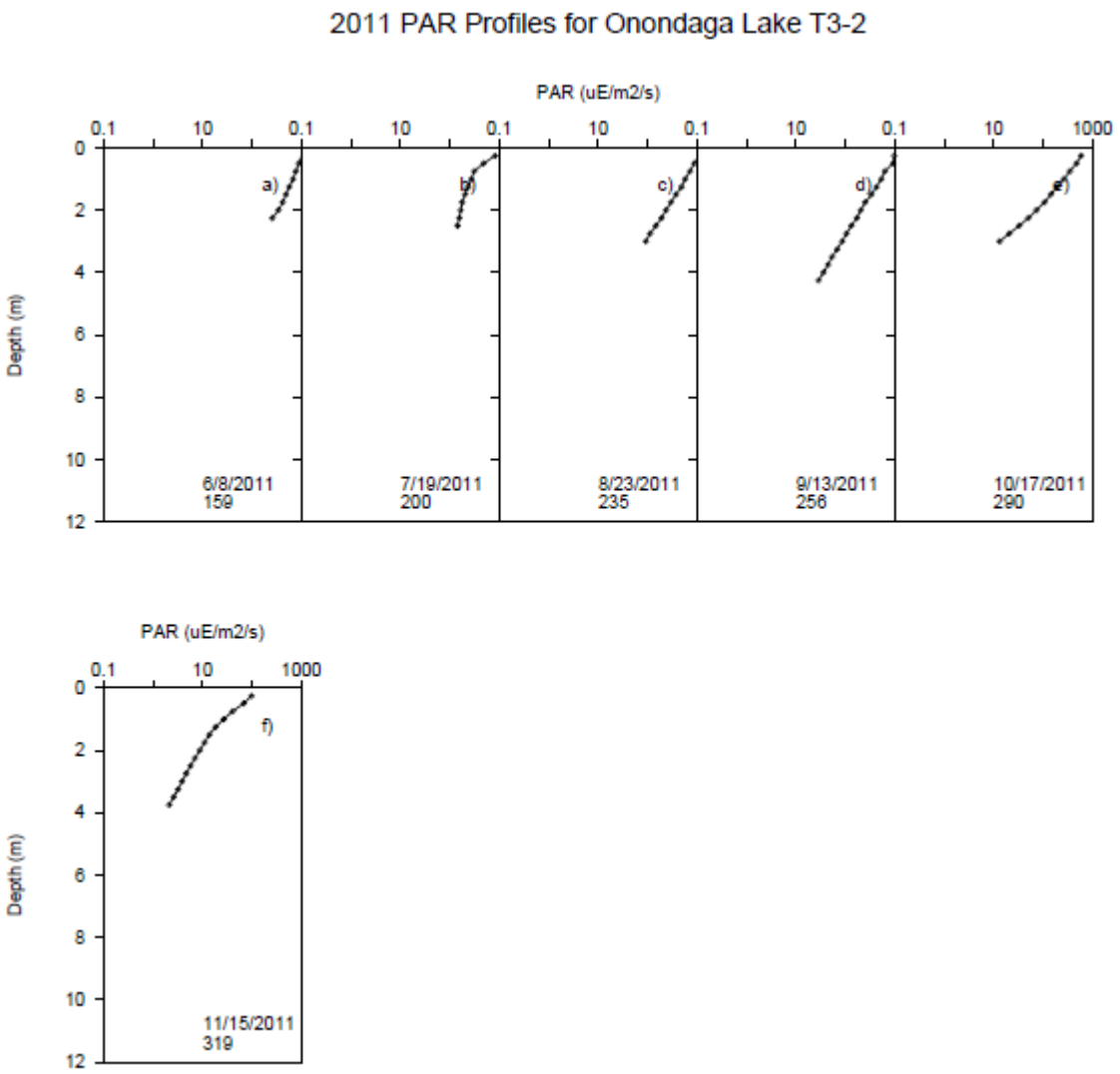


Figure 66. Profiles of photosynthetic active radiation (par, µE/m2/s) at T3-2 (OL-SW-60335): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

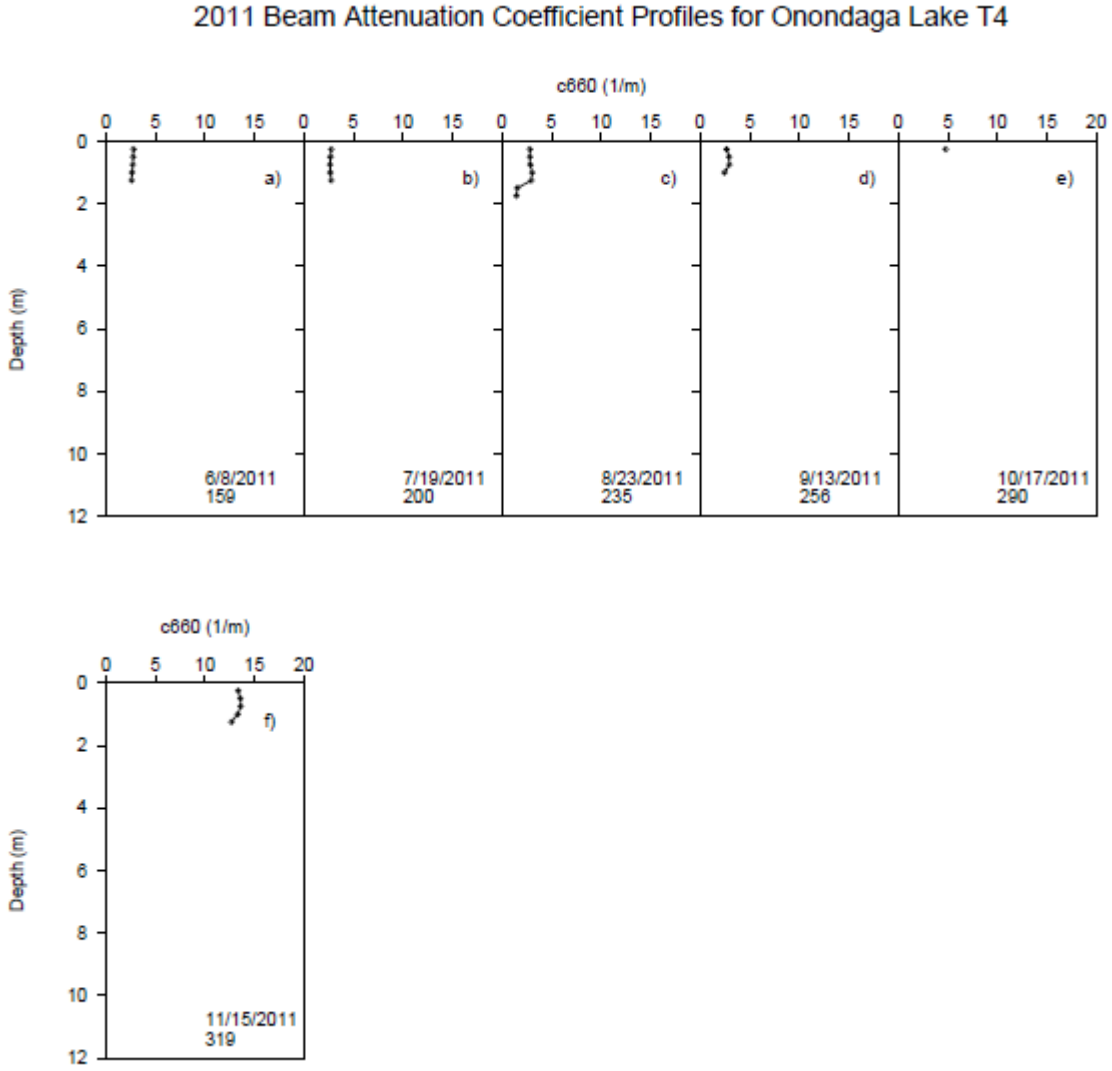


Figure 67. Profiles of beam attenuation coefficient (c660, 1/m) at T4 (OL-SW-60329): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

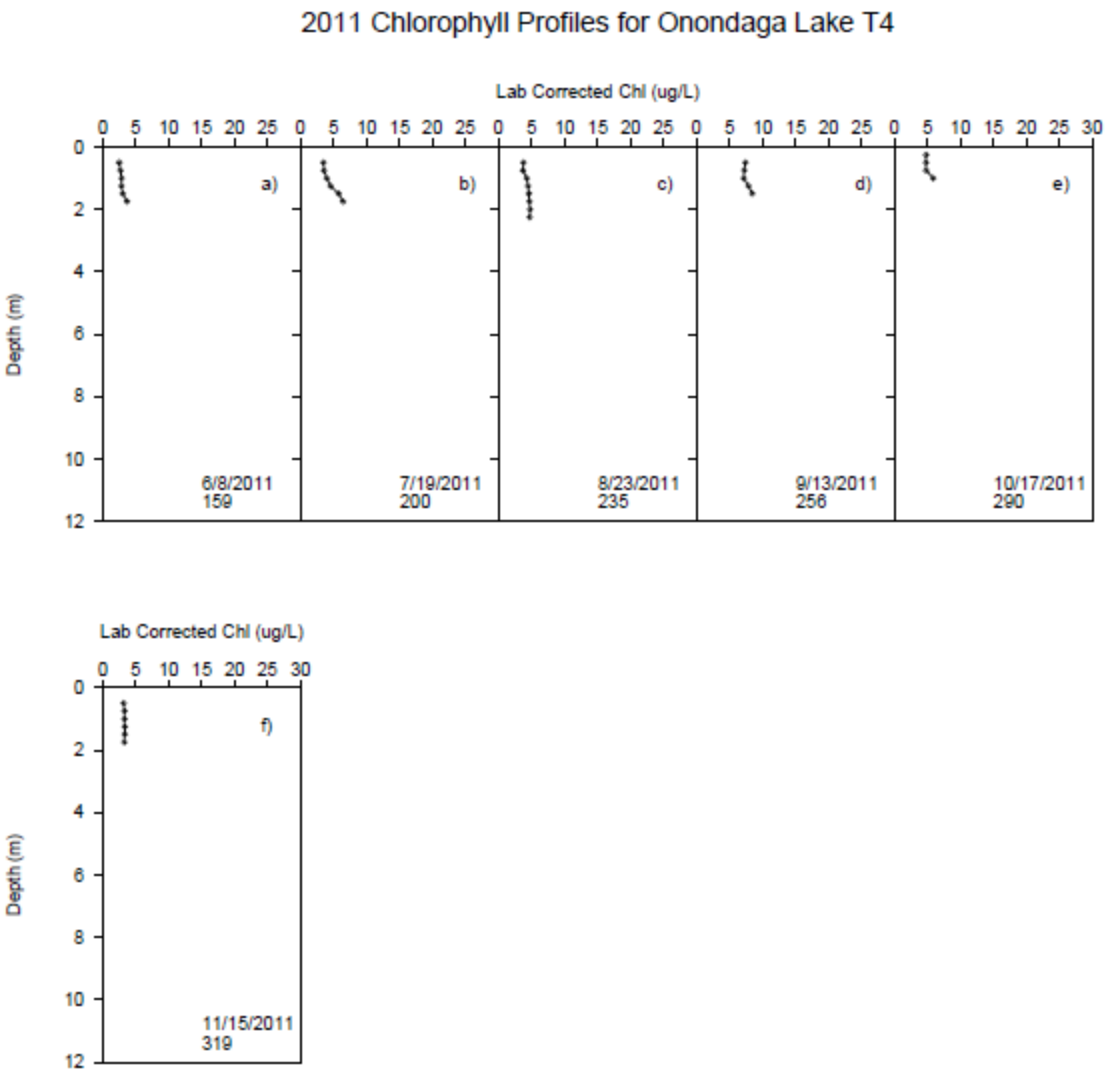


Figure 68. Profiles of chlorophyll (chl, µg/L) at T4 (OL-SW-60329): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

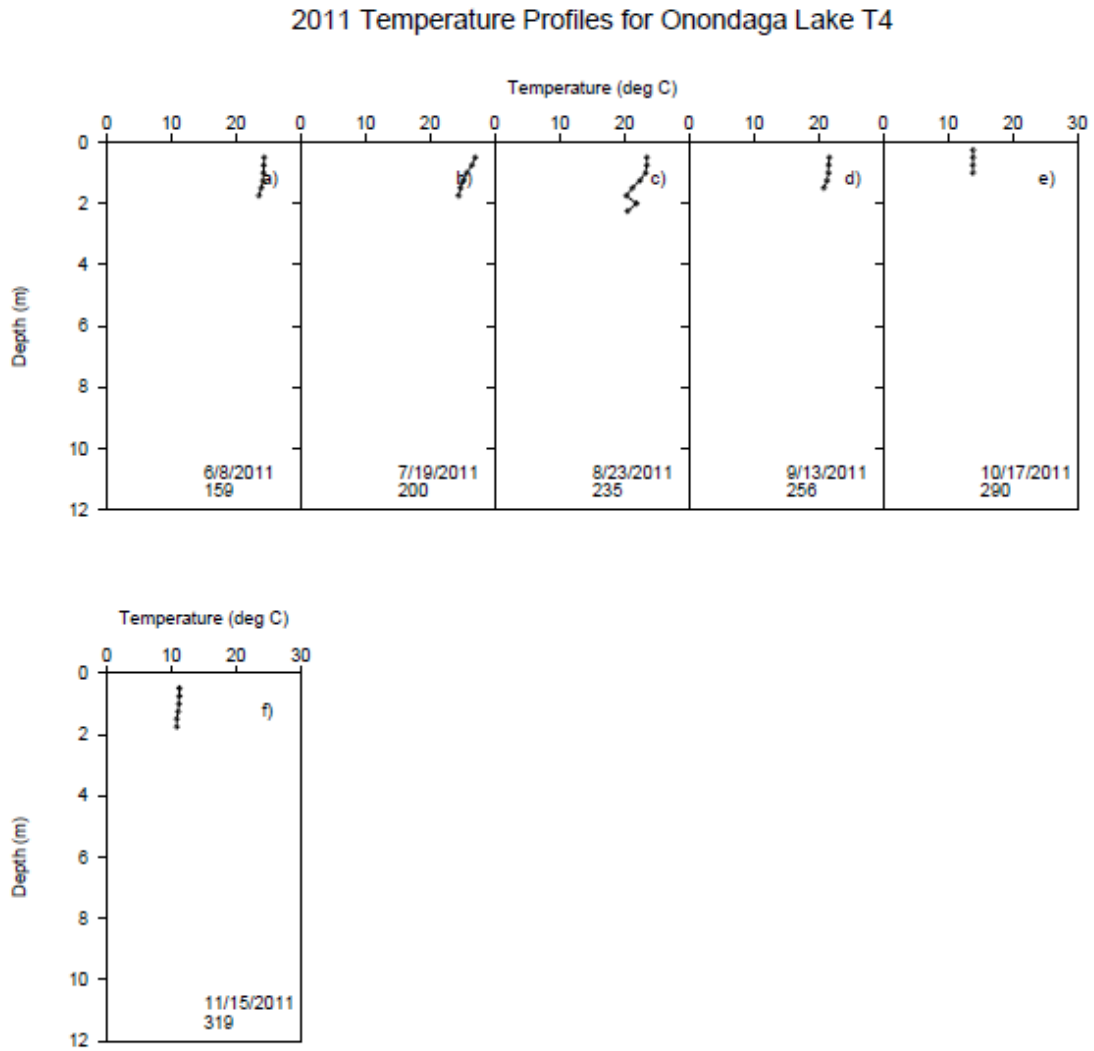


Figure 69. Profiles of temperature (T, °C) at T4 (OL-SW-60329): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

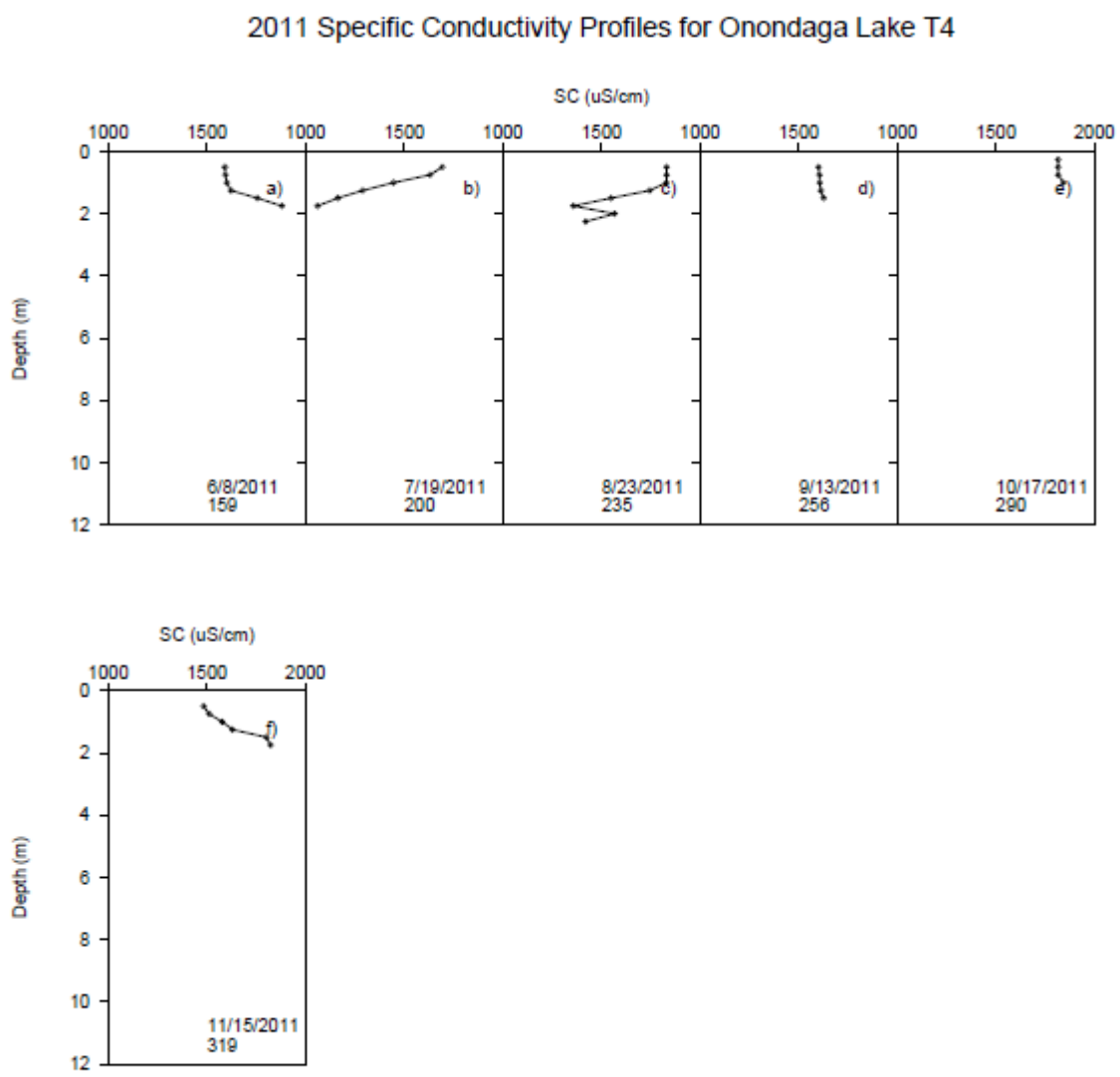


Figure 70. Profiles of specific conductance (SC, µS/cm) at T4 (OL-SW-60329): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

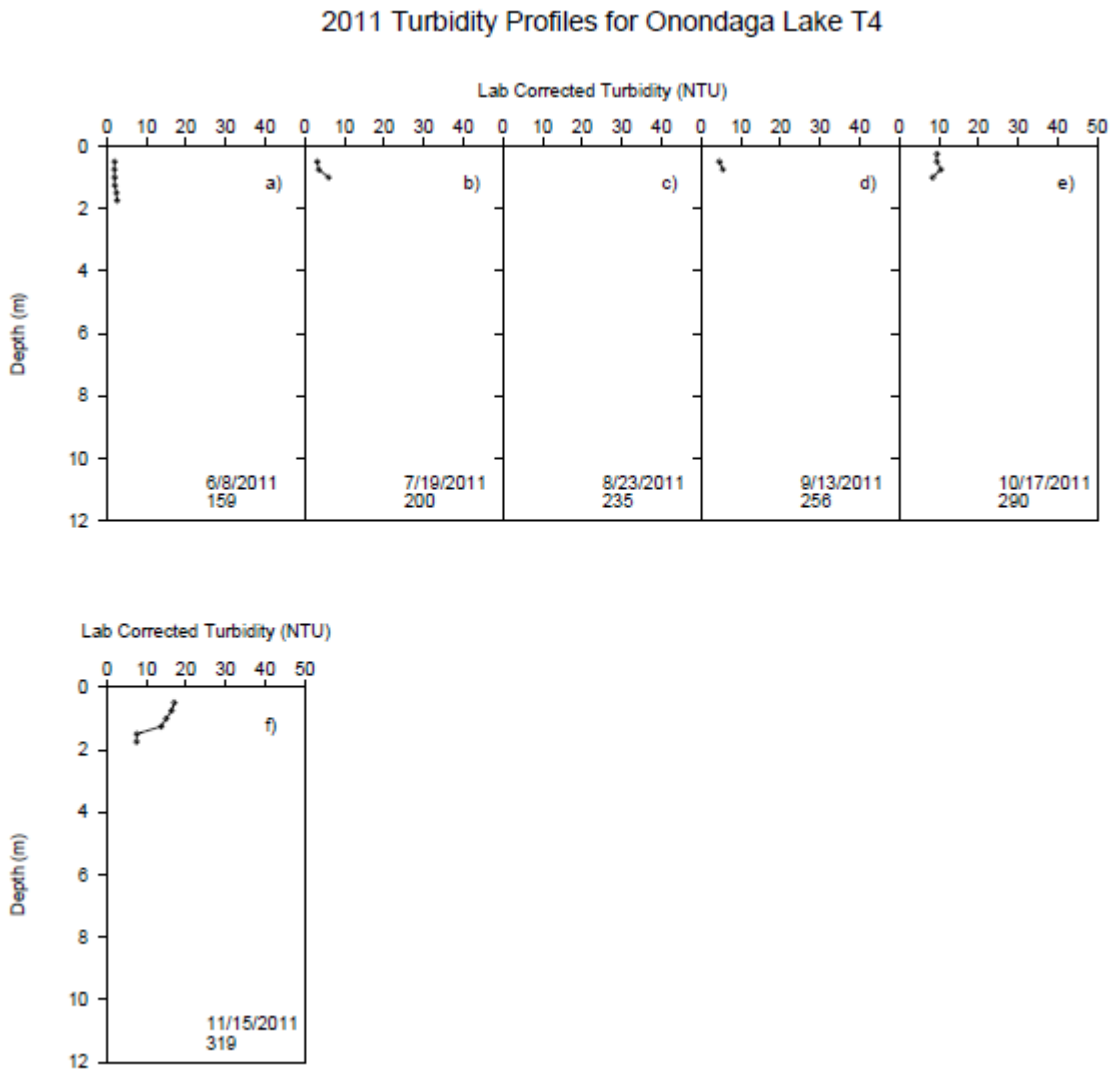


Figure 71. Profiles of turbidity (Tn, NTU) at T4 (OL-SW-60329): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

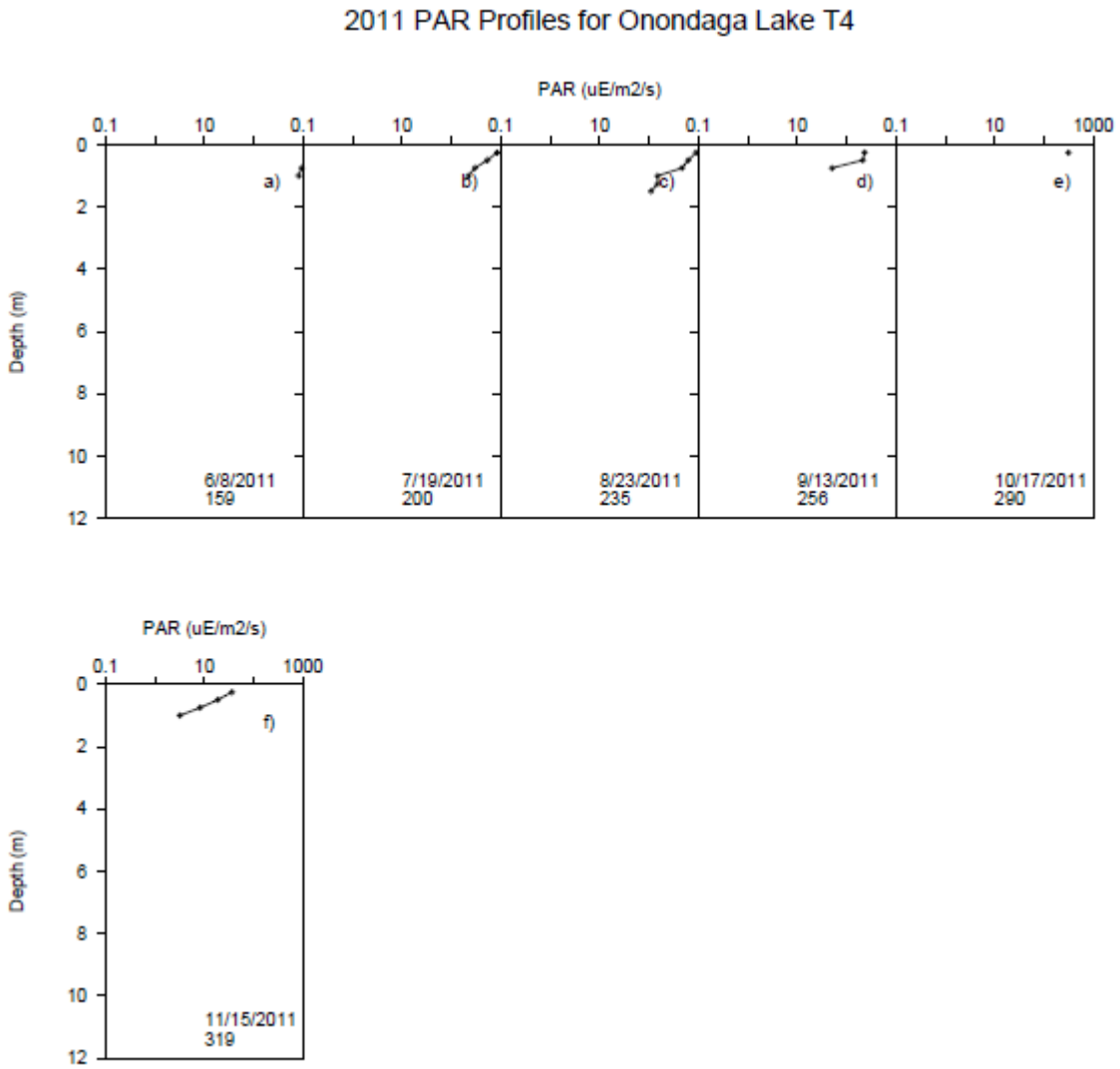


Figure 72. Profiles of photosynthetic active radiation (par, µE/m2/s) at T4 (OL-SW-60329): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

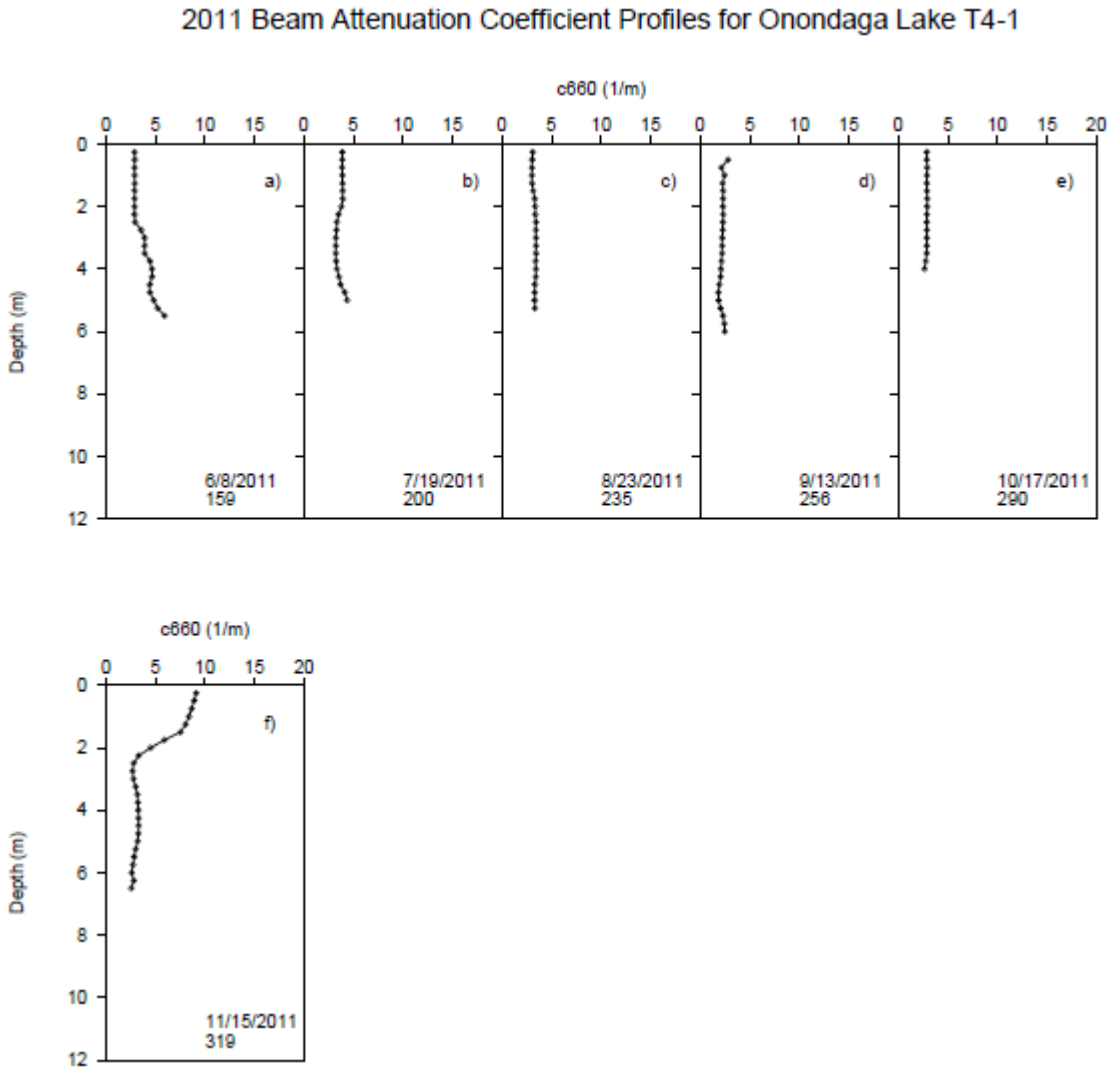


Figure 73. Profiles of beam attenuation coefficient (c660, 1/m) at T4-1 (OL-SW-60336): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

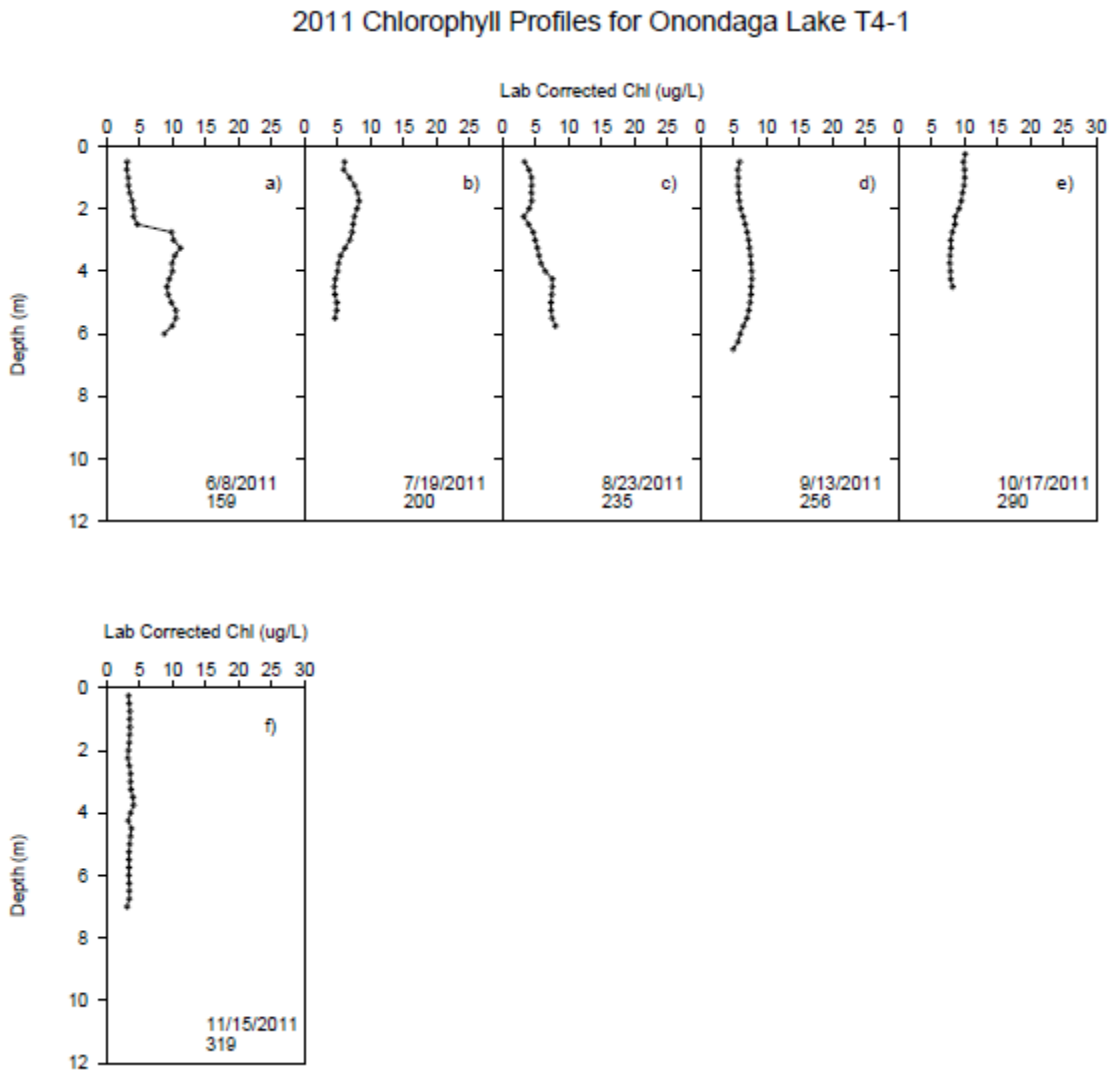


Figure 74. Profiles of chlorophyll (chl, µg/L) at T4-1 (OL-SW-60336): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

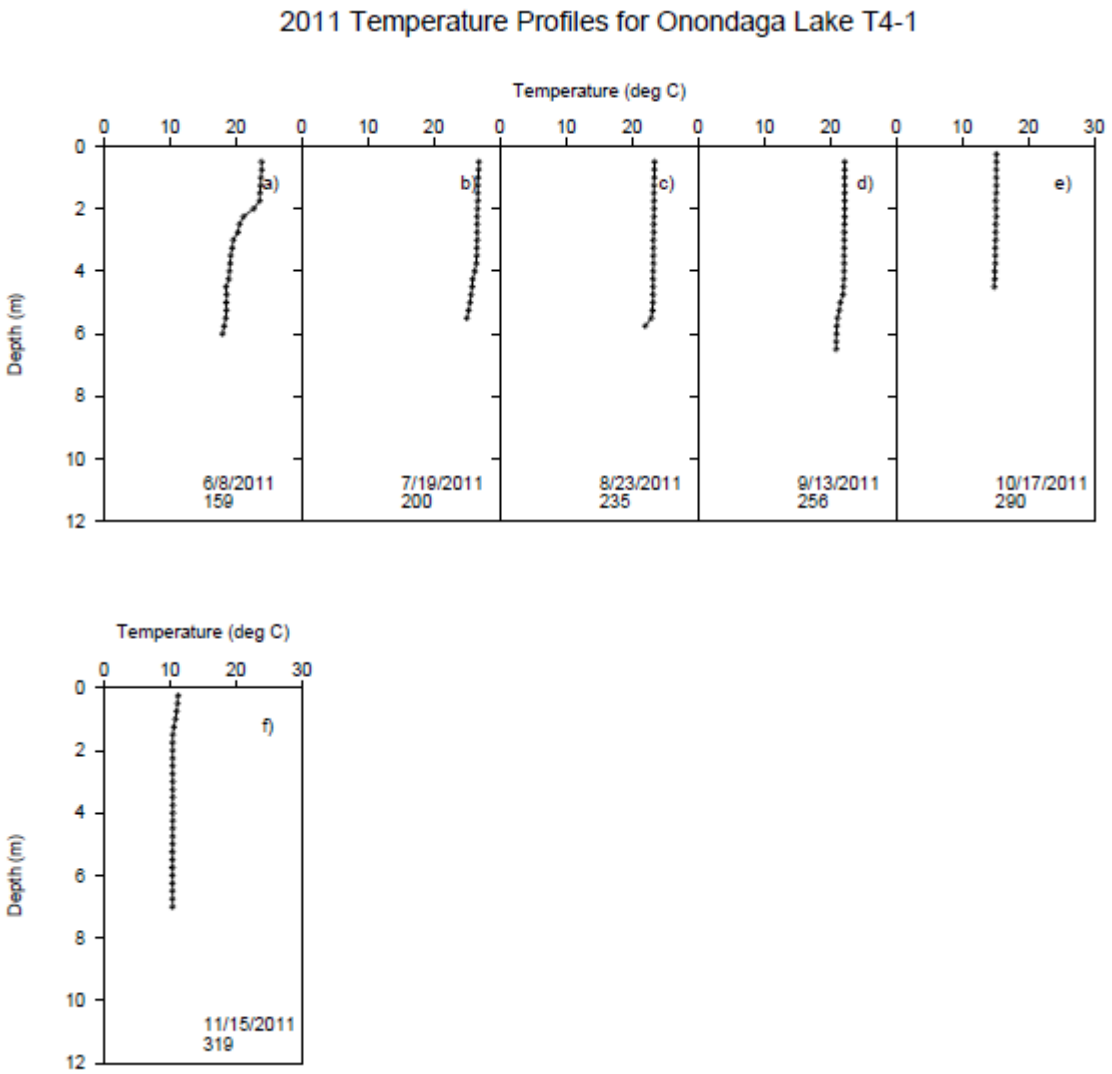


Figure 75. Profiles of temperature (T, °C) at T4-1 (OL-SW-60336): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

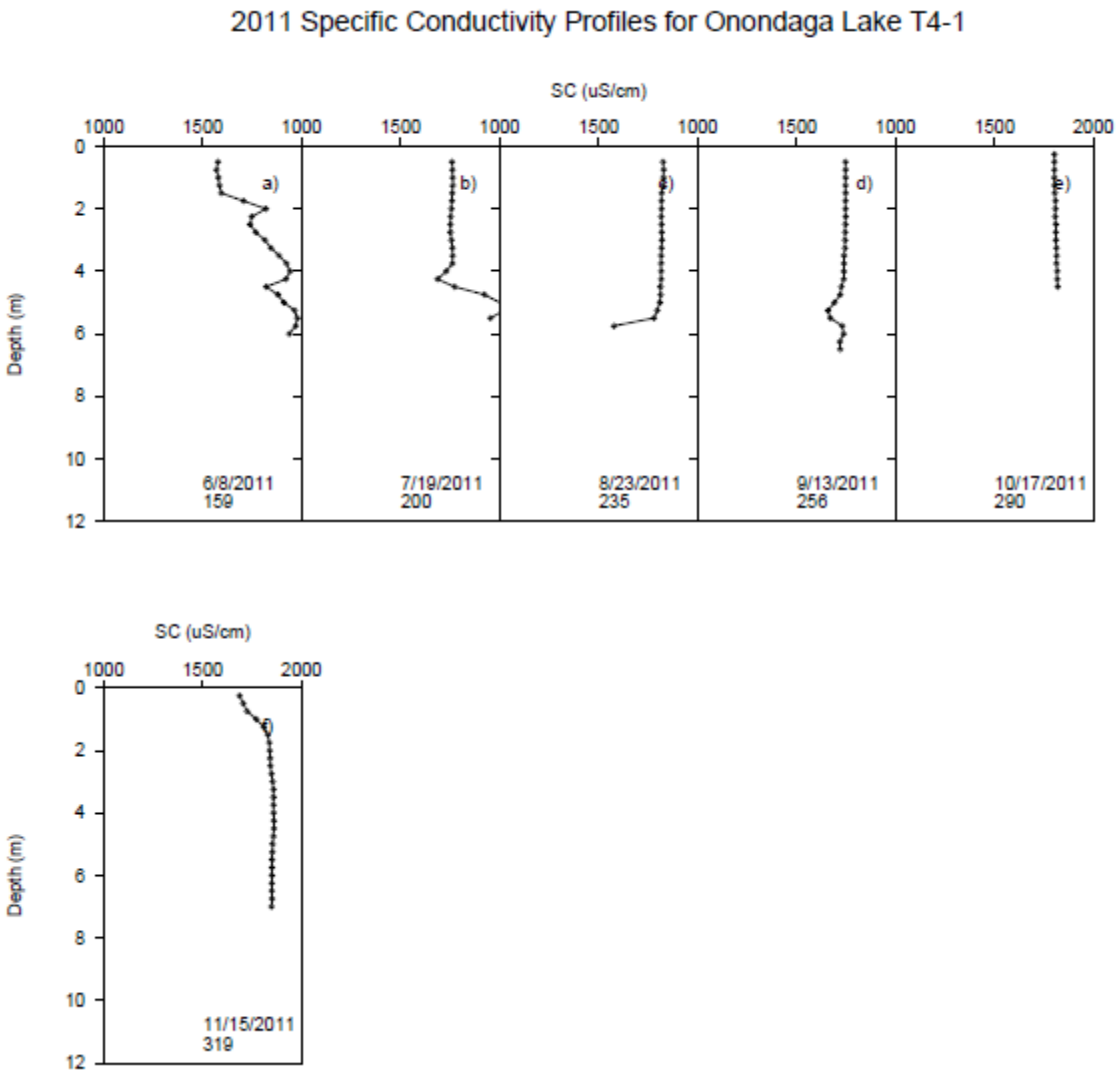


Figure 76. Profiles of specific conductance (SC, µS/cm) at T4-1 (OL-SW-60336): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

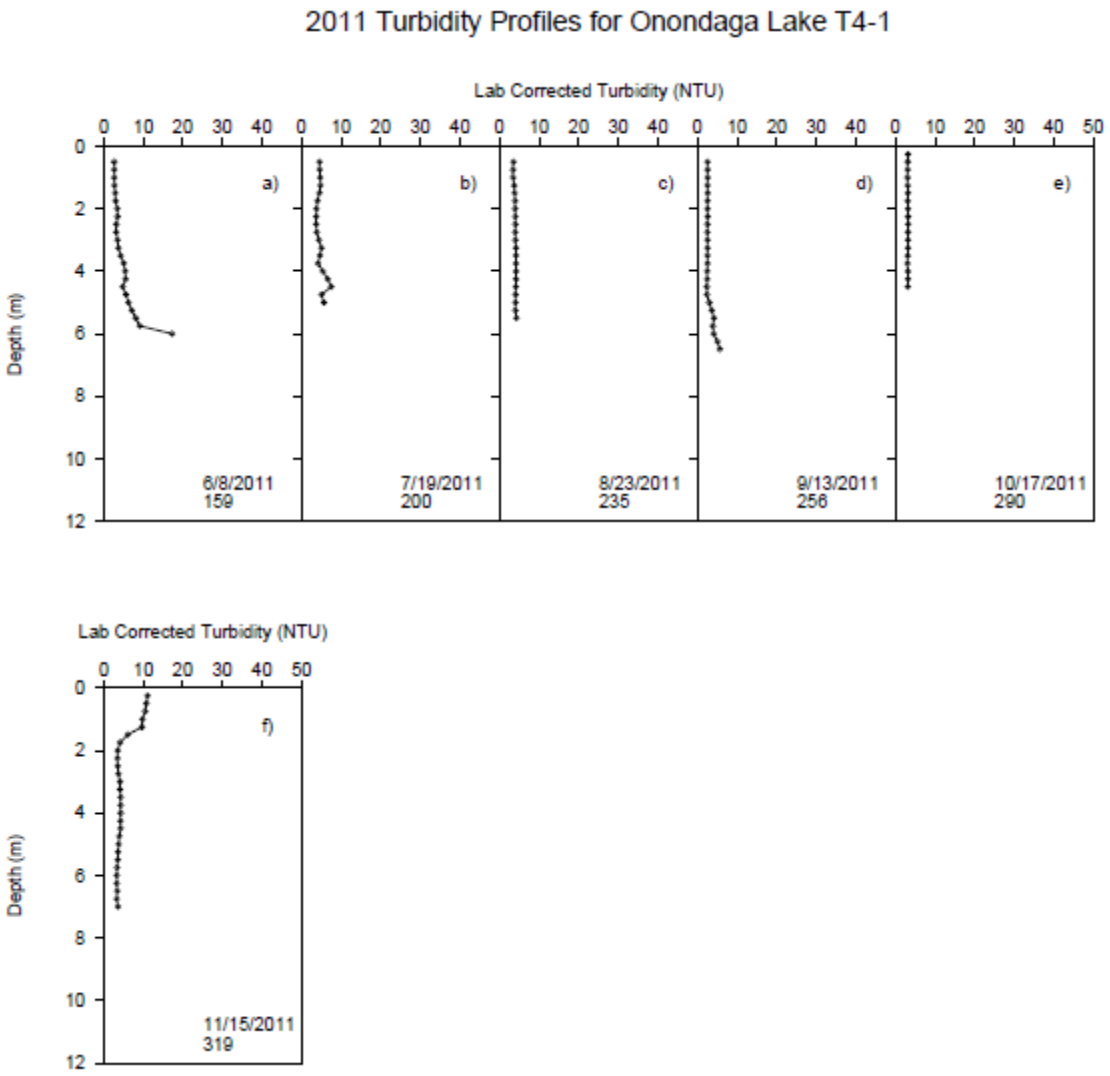


Figure 77. Profiles of turbidity (Tn, NTU) at T4-1 (OL-SW-60336): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

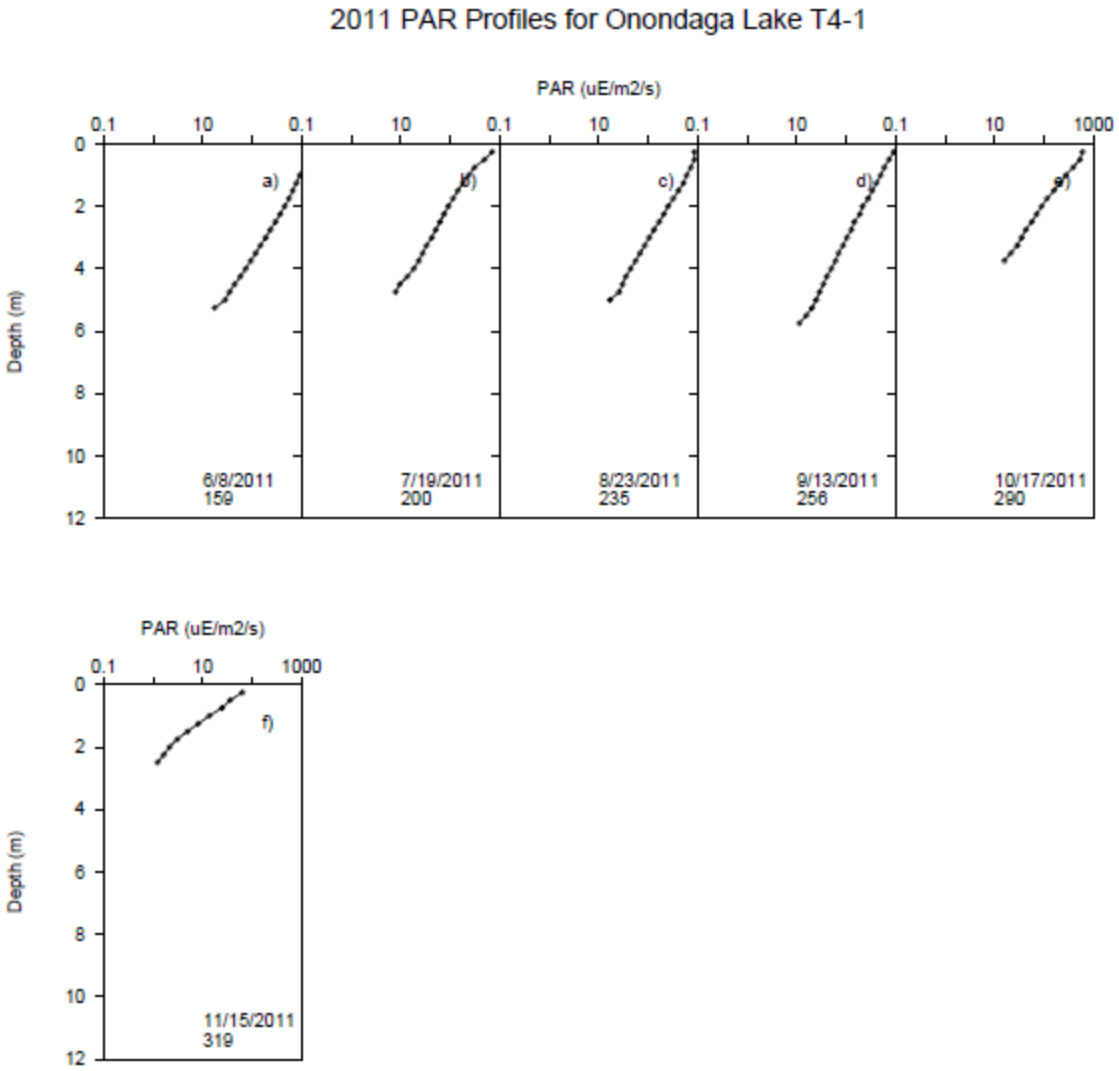


Figure 78. Profiles of photosynthetic active radiation (par, µE/m2/s) at T4-1 (OL-SW-60336): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

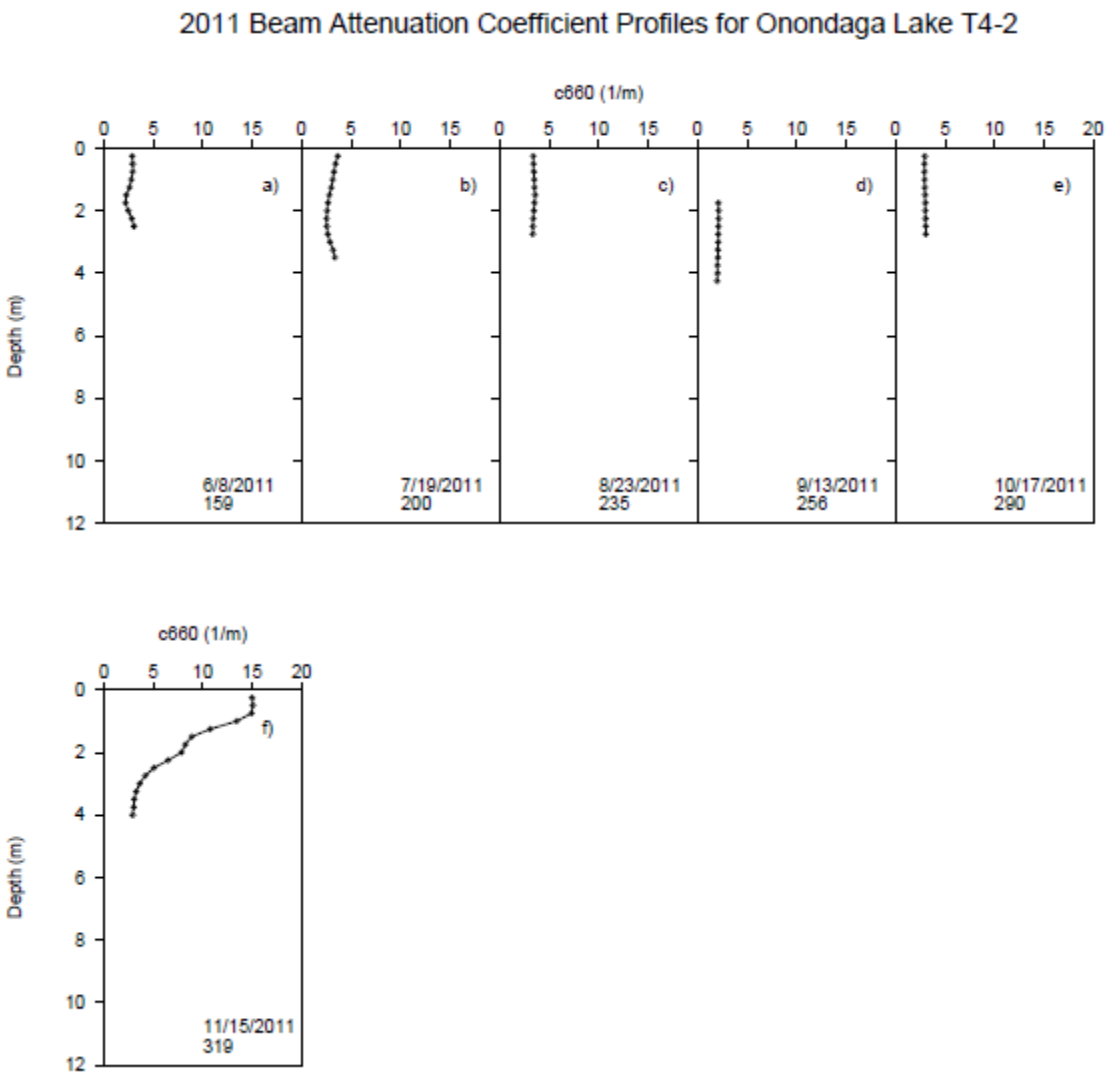


Figure 79. Profiles of beam attenuation coefficient (c660, 1/m) at T4-2 (OL-SW-60337): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

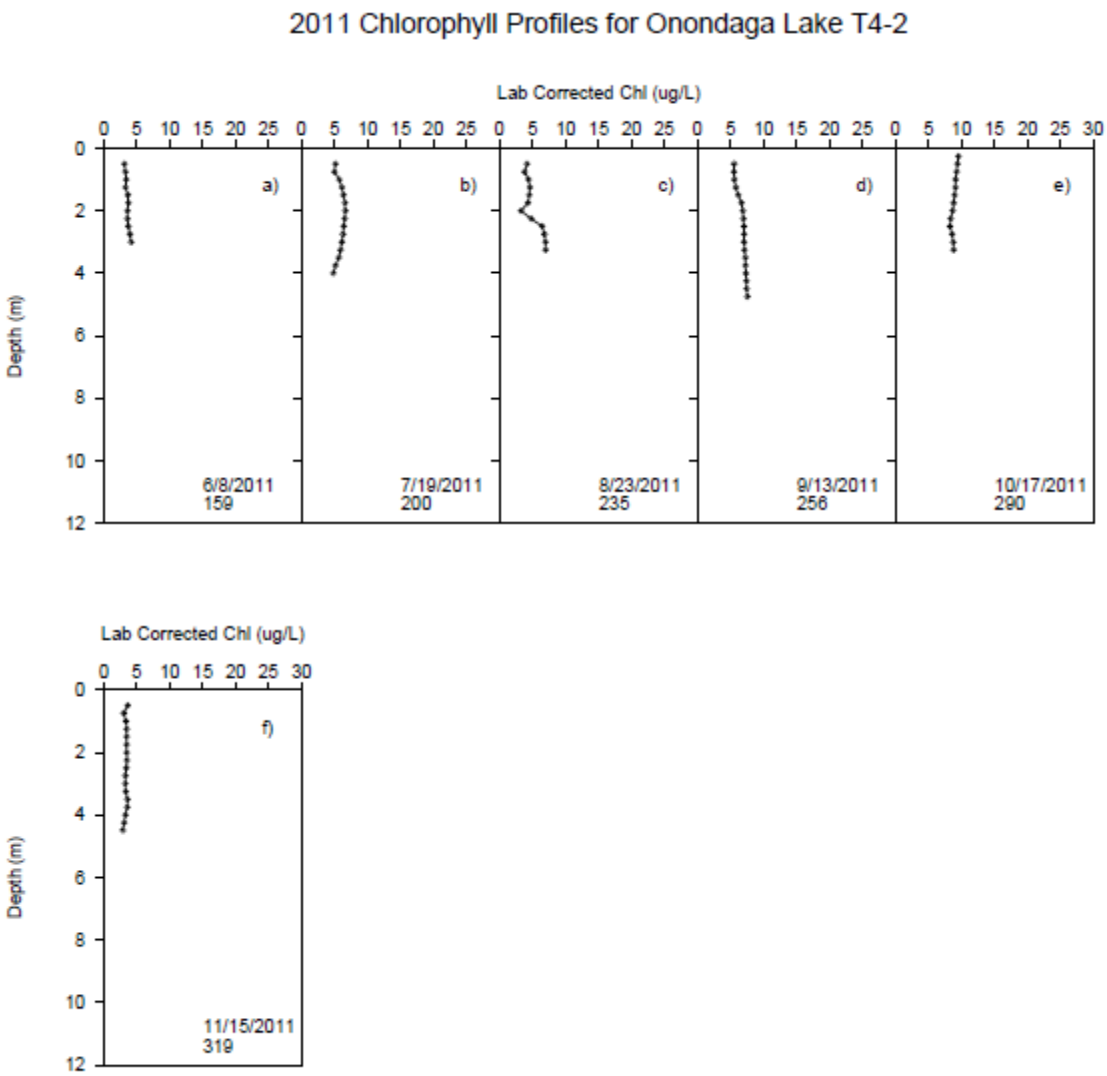


Figure 80. Profiles of chlorophyll (chl, µg/L) at T4-2 (OL-SW-60337): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

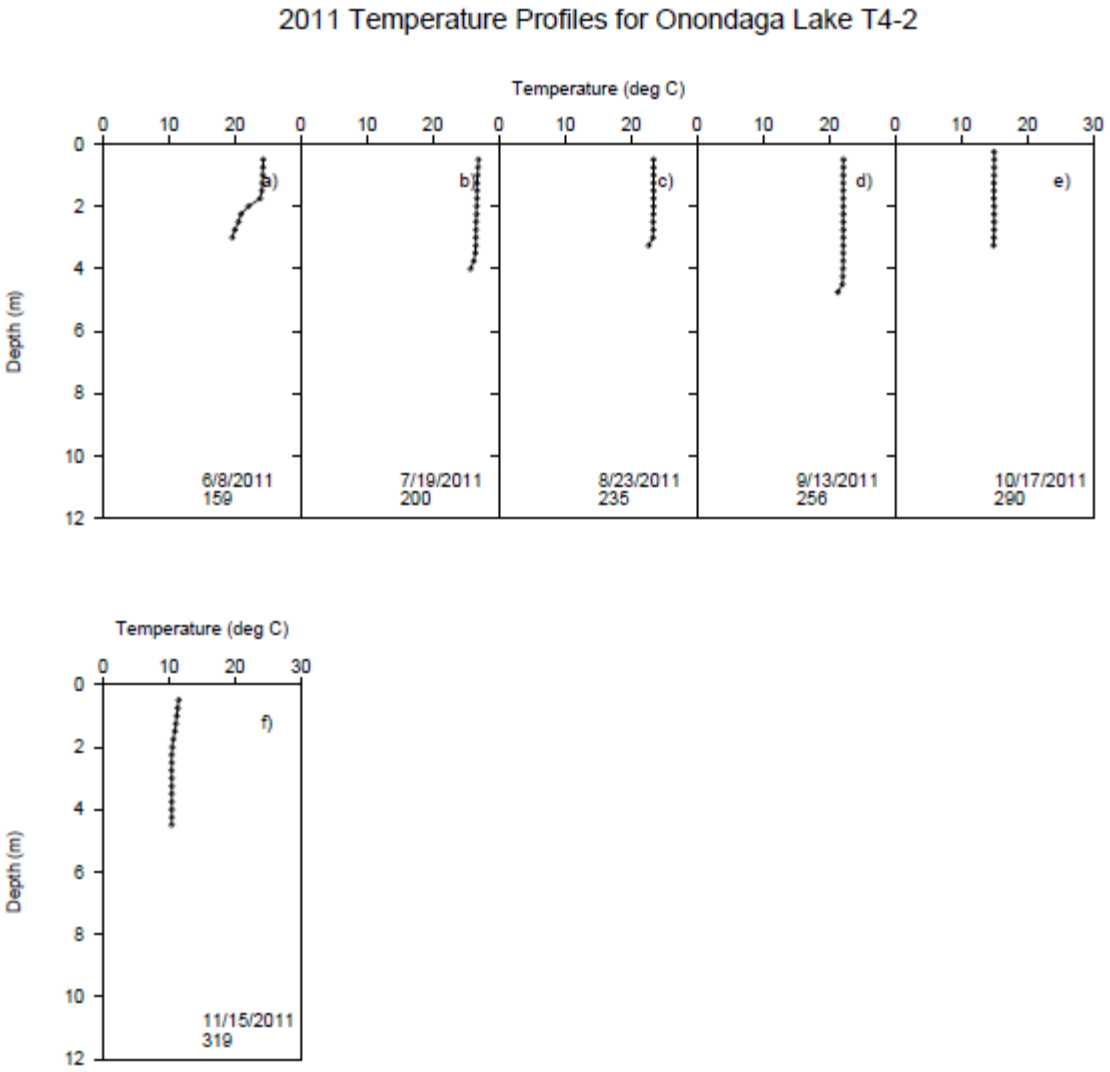


Figure 81. Profiles of temperature (T, °C) at T4-2 (OL-SW-60337): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

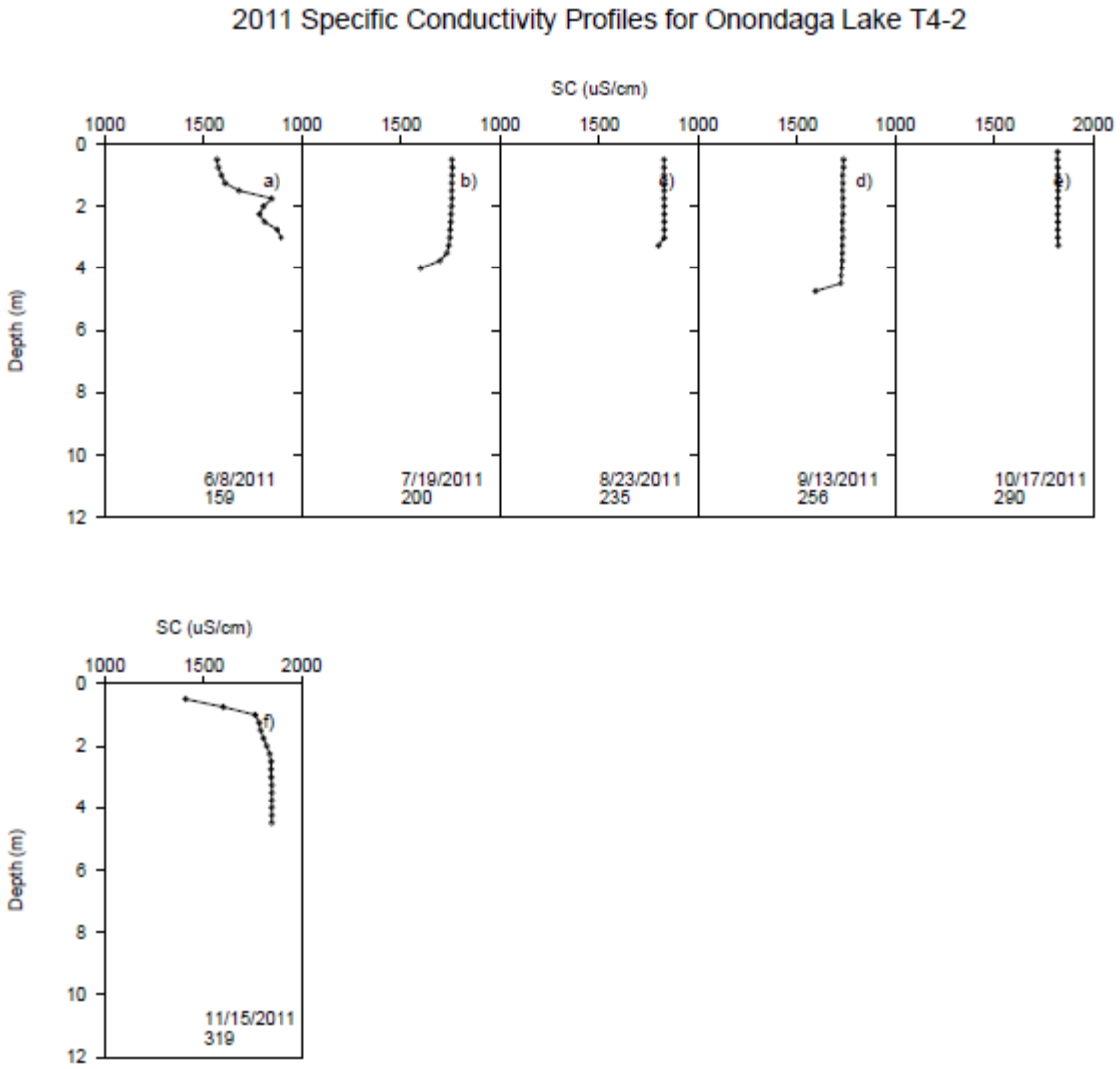


Figure 82. Profiles of specific conductance (SC, µS/cm) at T4-2 (OL-SW-60337): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

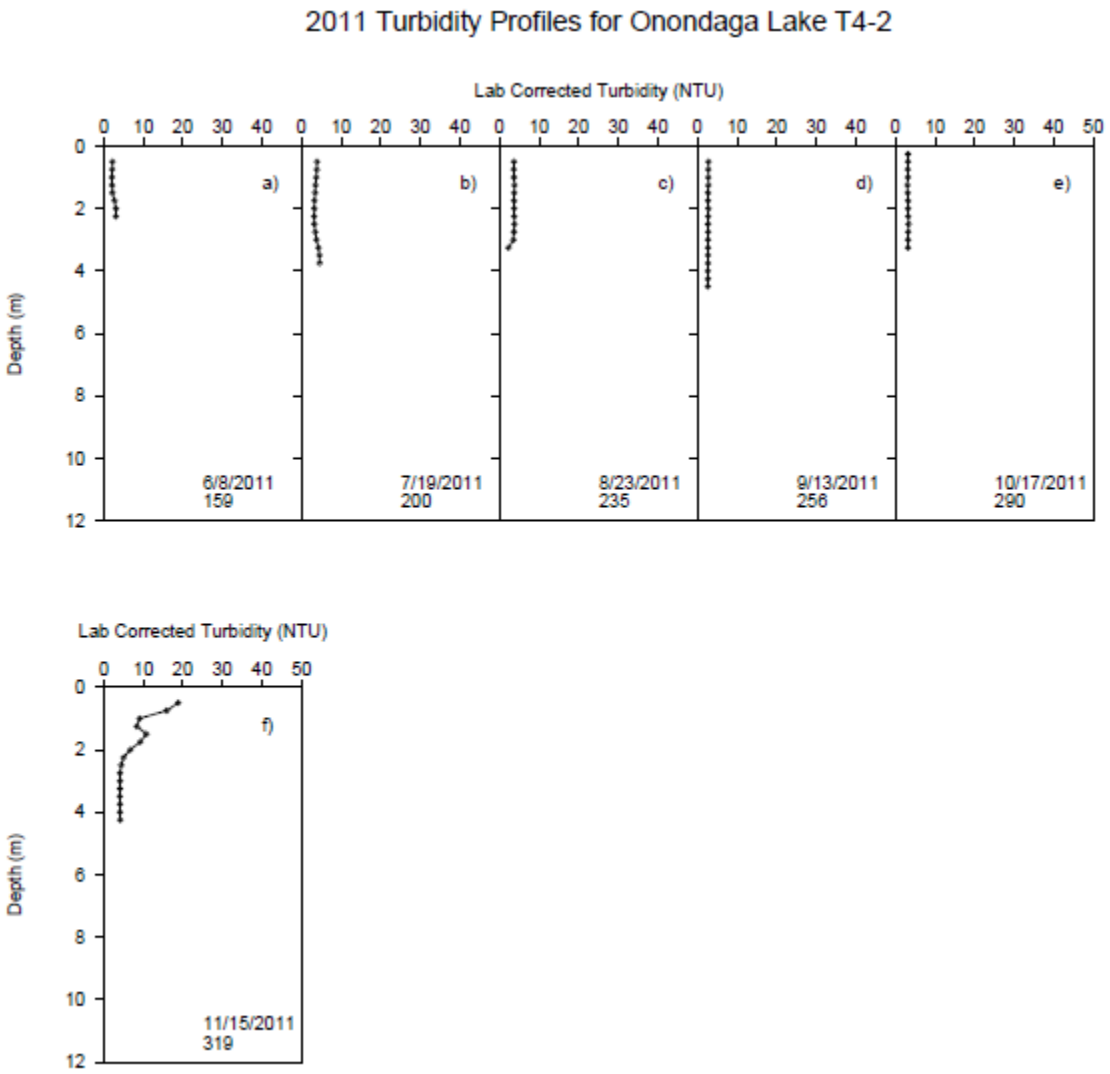


Figure 83. Profiles of turbidity (Tn, NTU) at T4-2 (OL-SW-60337): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

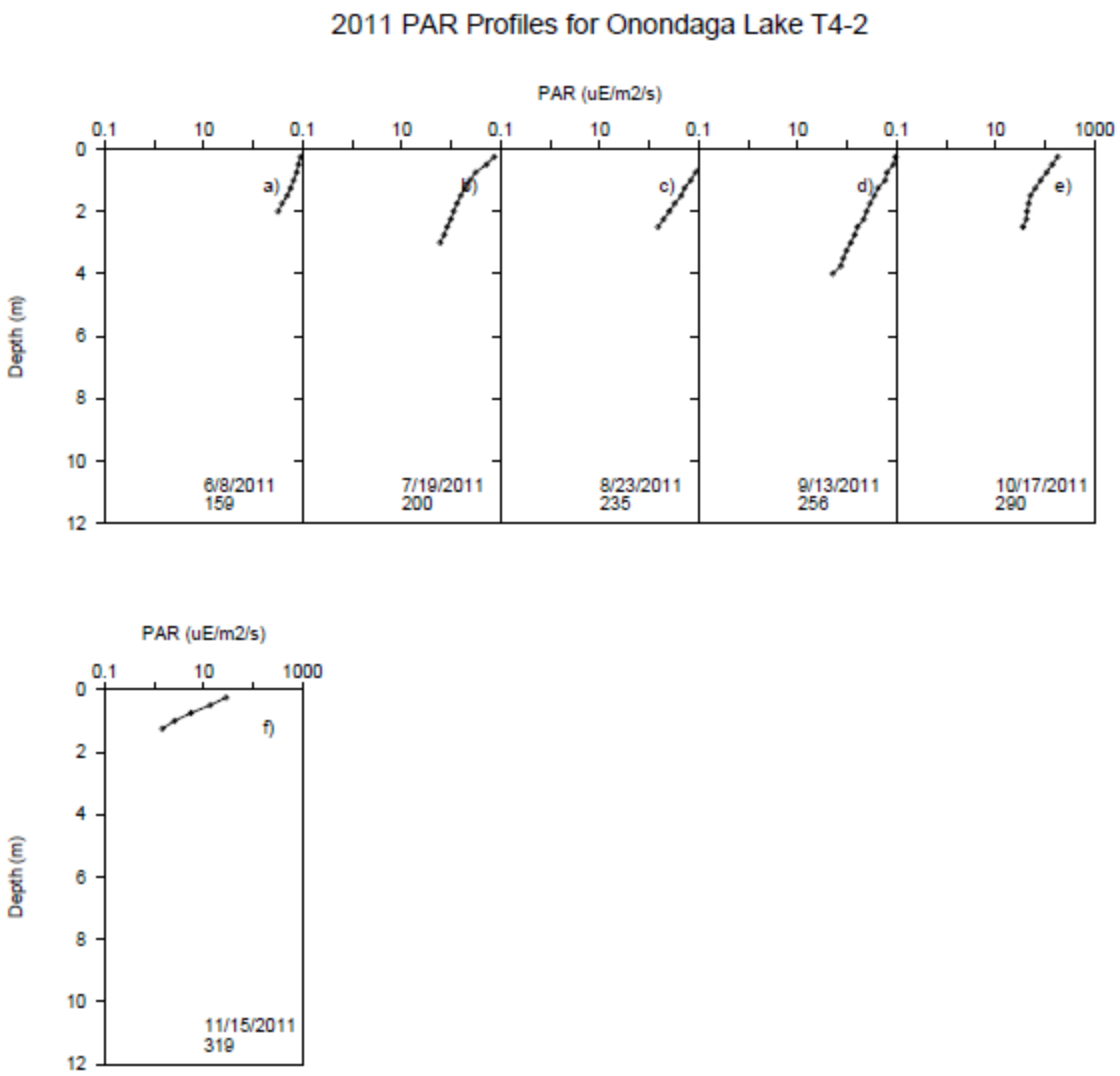
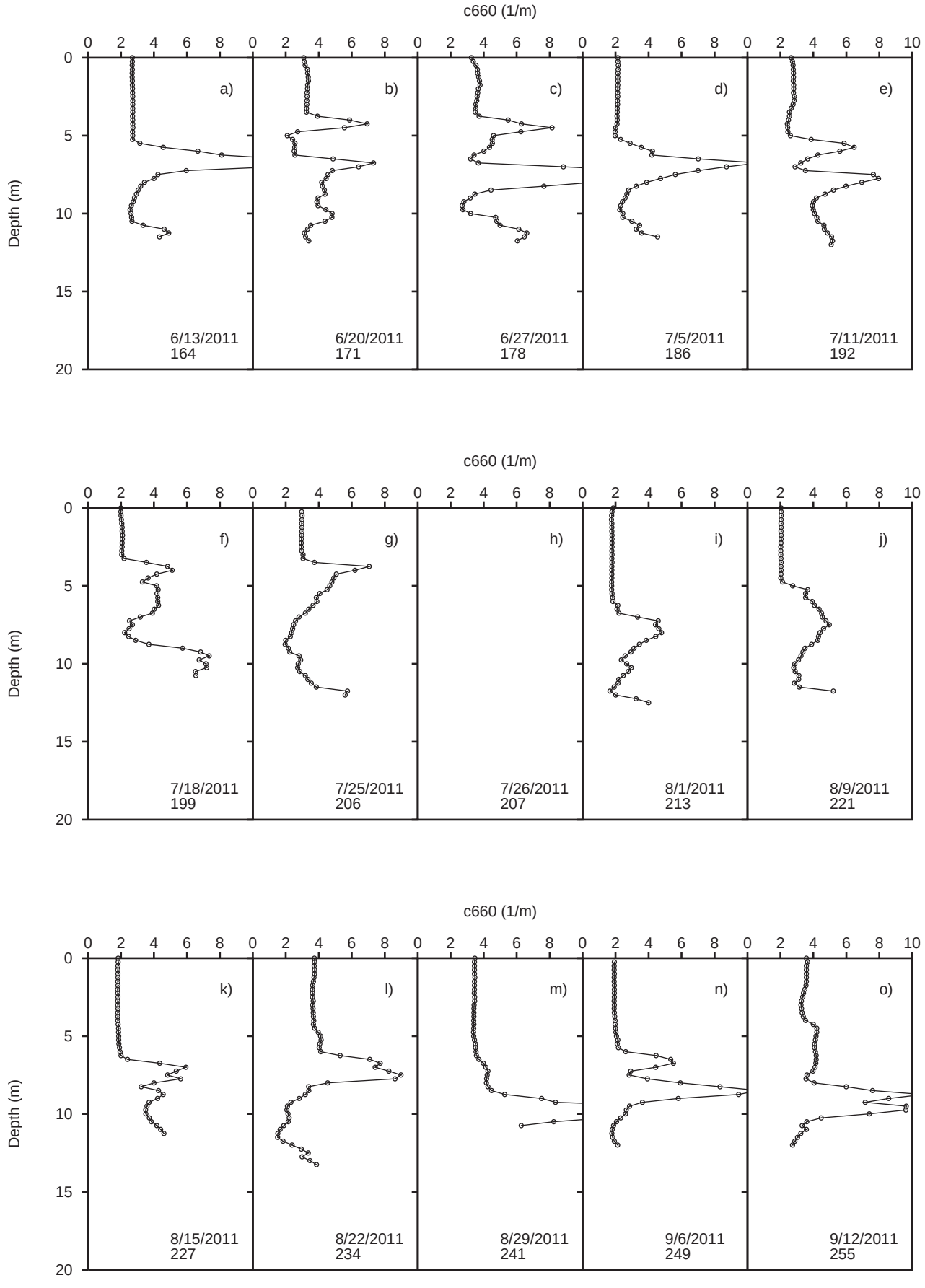


Figure 84. Profiles of photosynthetic active radiation (par, µE/m2/s) at T4-2 (OL-SW-60337): (a) 6/8/11, (b) 7/19/11, (c) 8/23/11, (d) 9/13/11, (e) 10/17/11, and (f) 11/15/11.

APPENDIX D

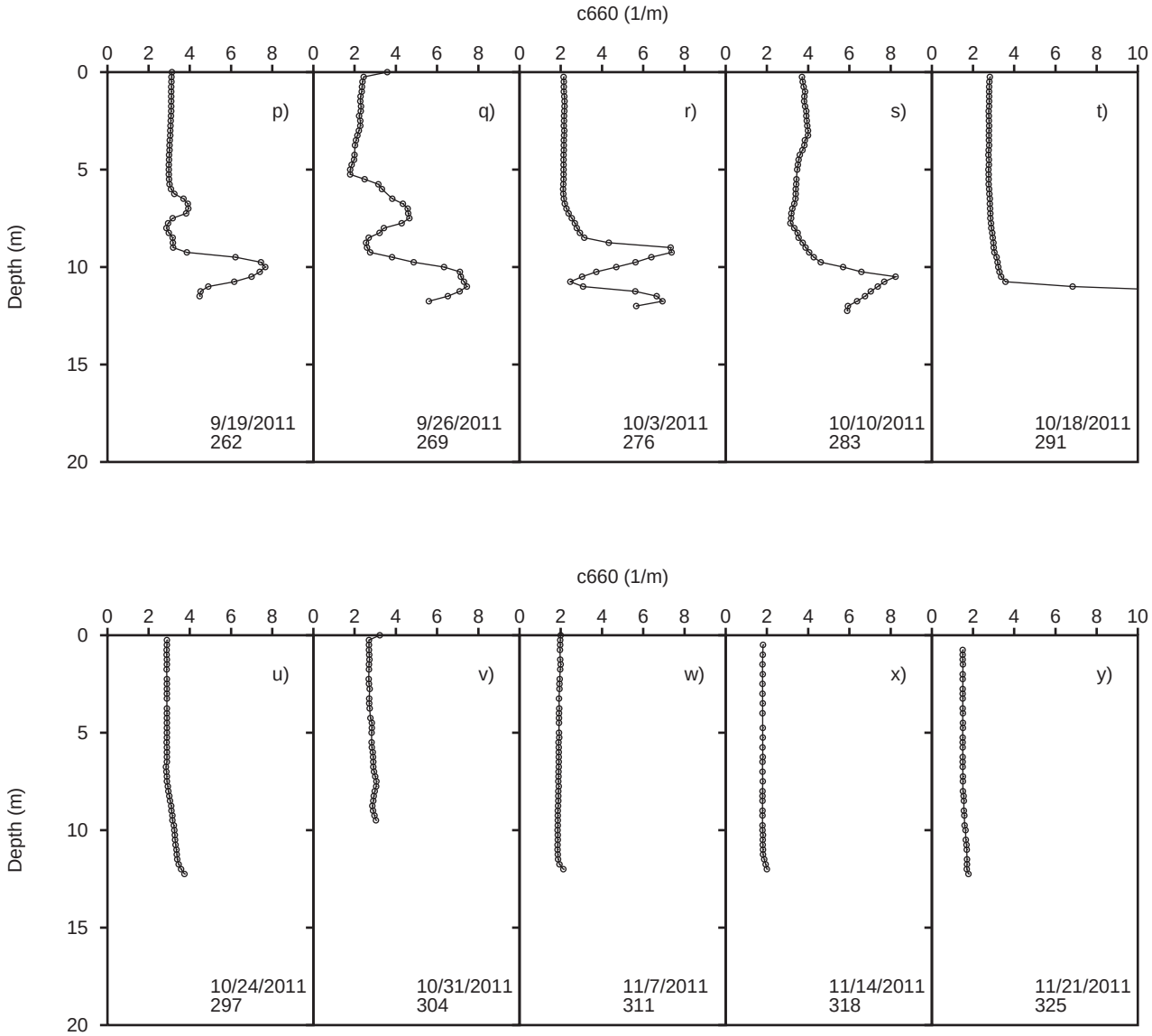
IN SITU ULTRAVIOLET SPECTROPHOTOMETER (ISUS) PROFILES

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-5



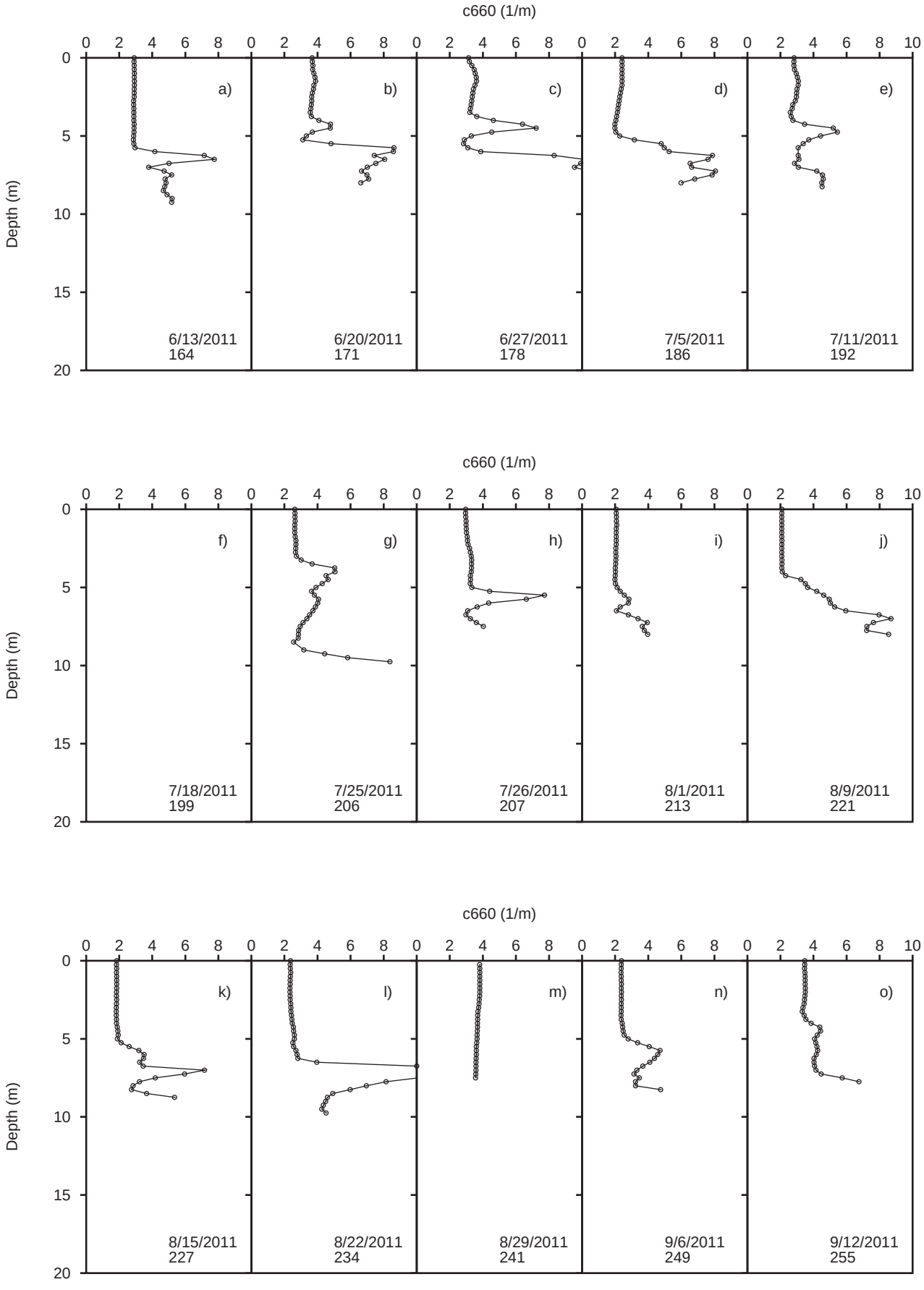
Fri Feb 03 14:18:45 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-5



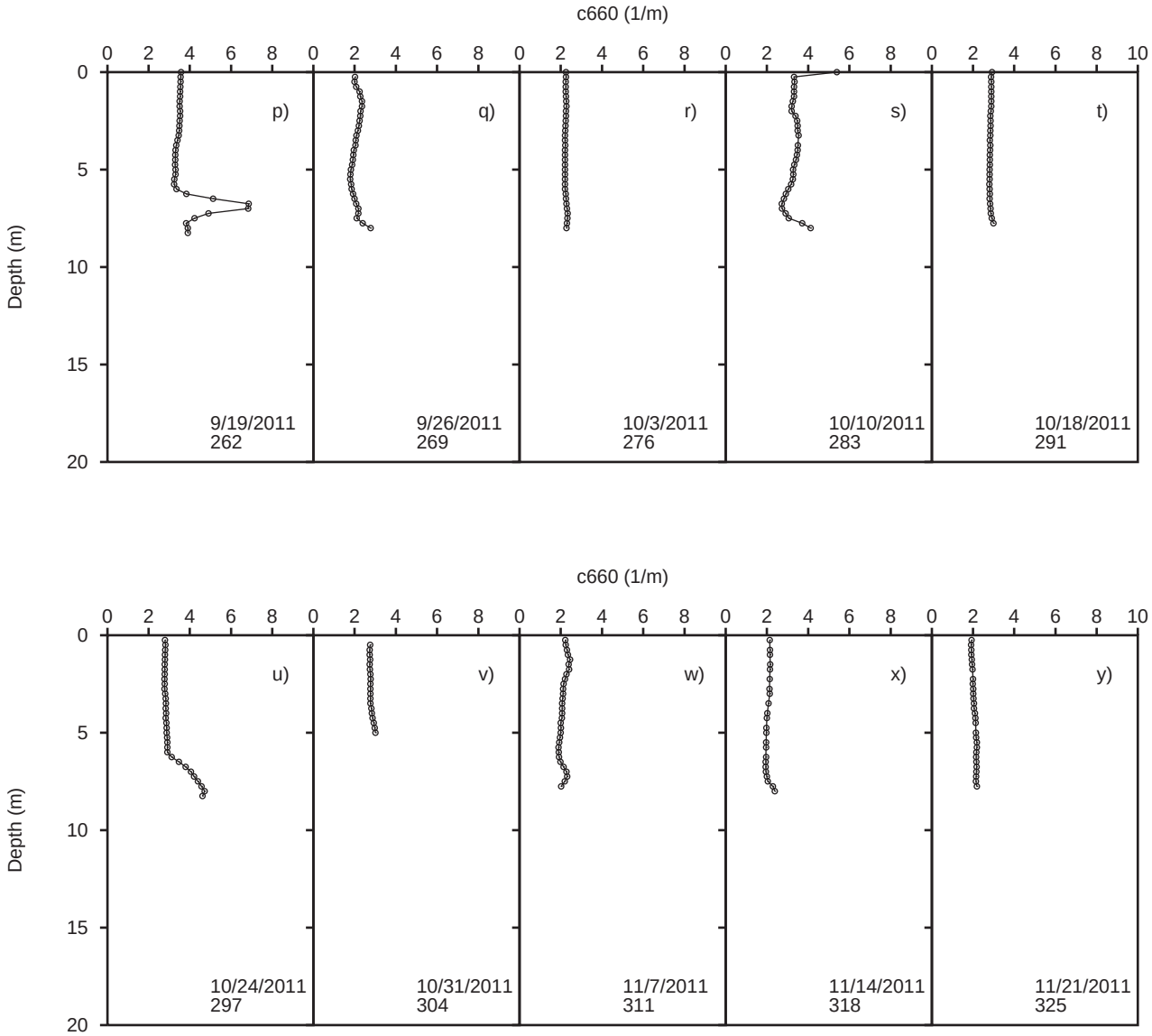
Fri Feb 03 14:18:45 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-6



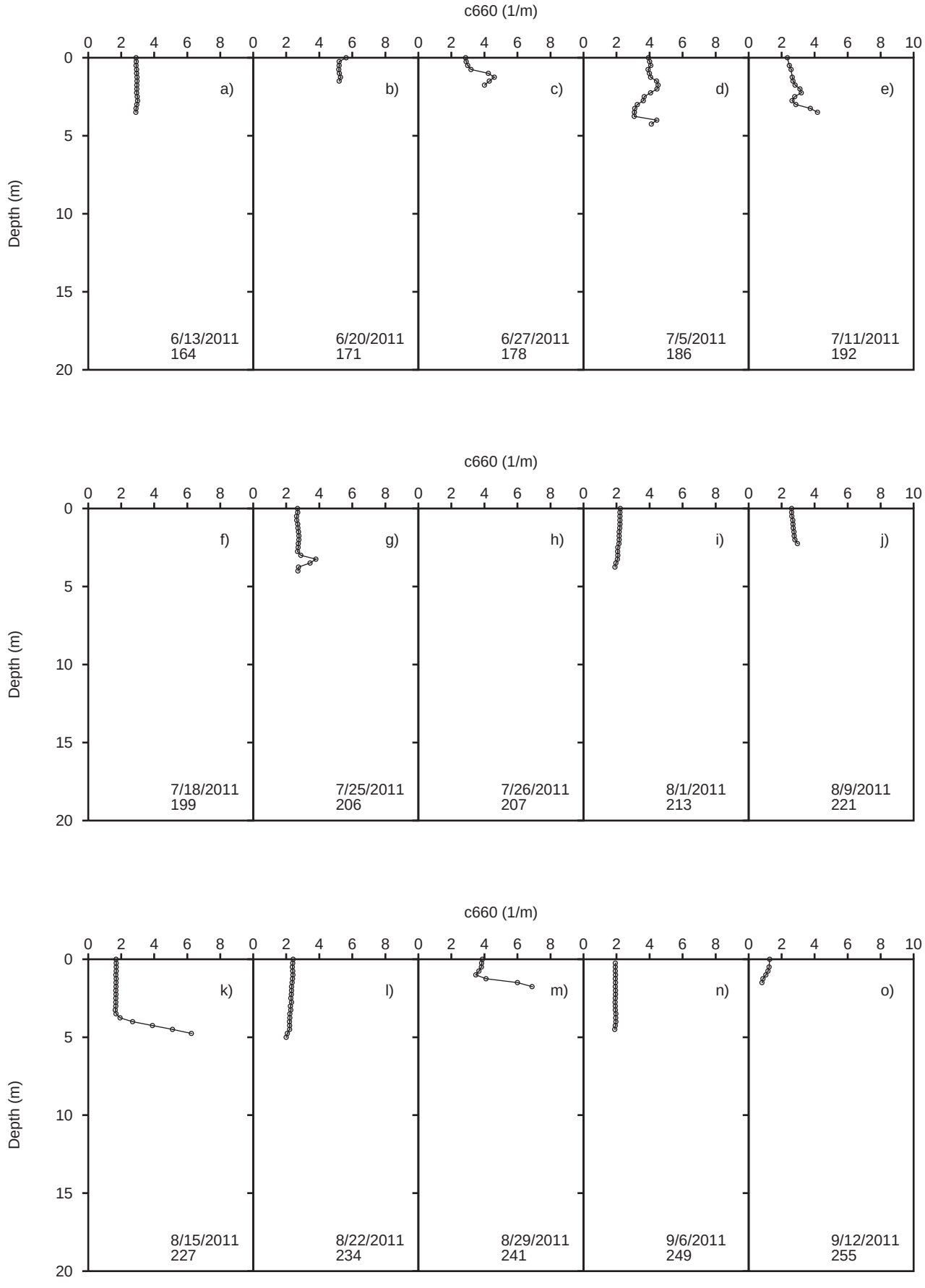
Fri Feb 03 14:22:13 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-6



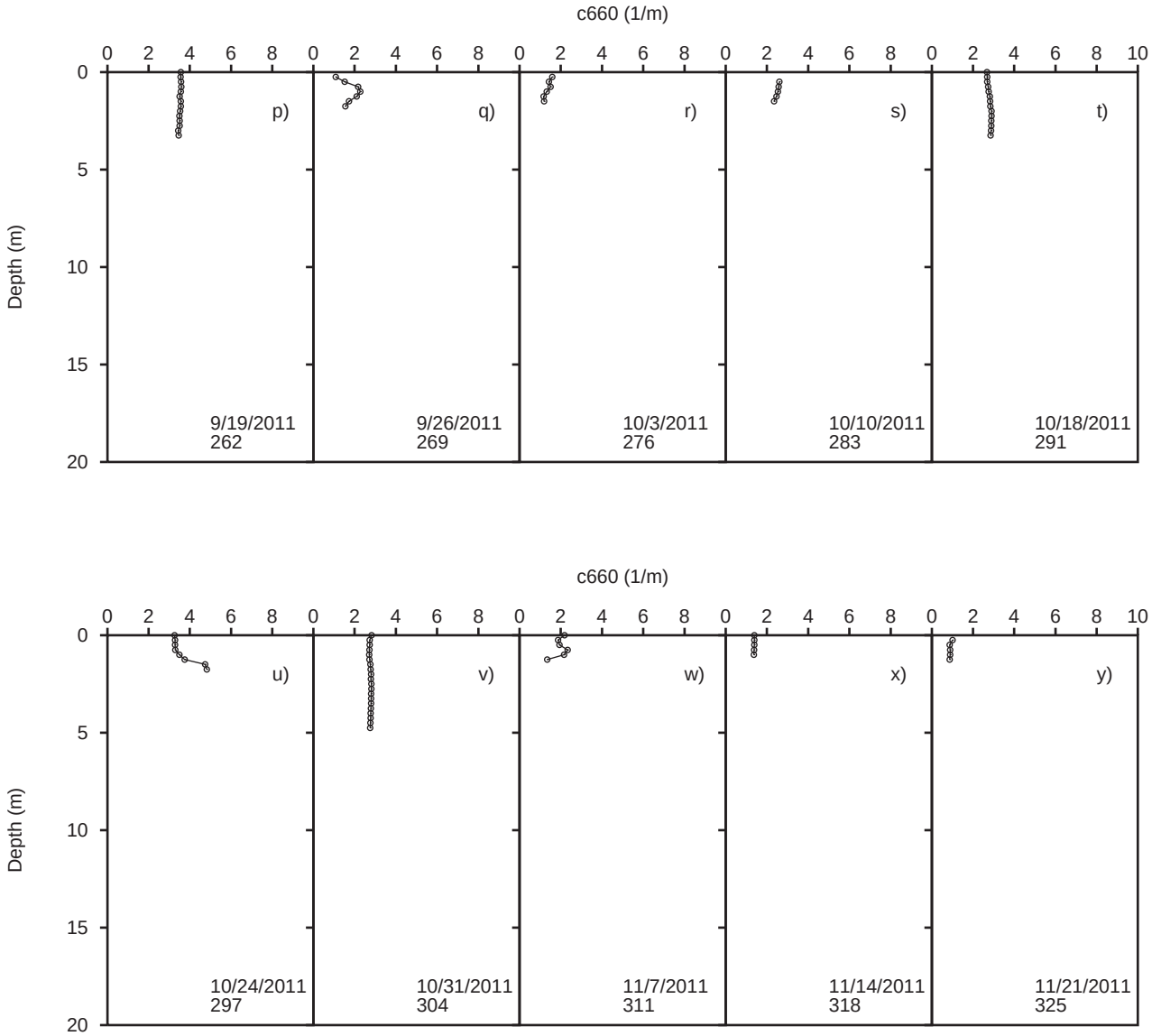
Fri Feb 03 14:22:13 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-7



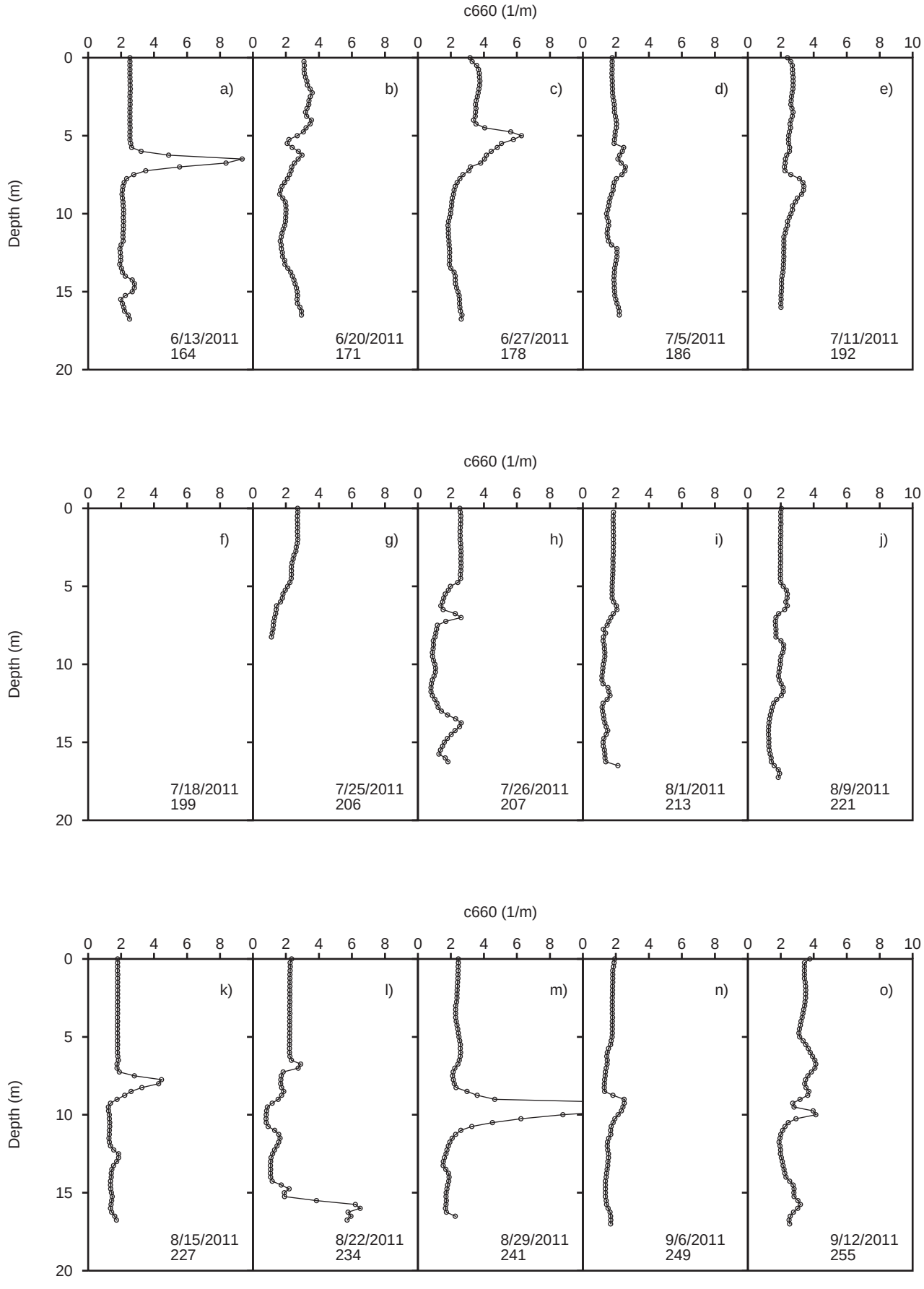
Fri Feb 03 14:26:06 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-7



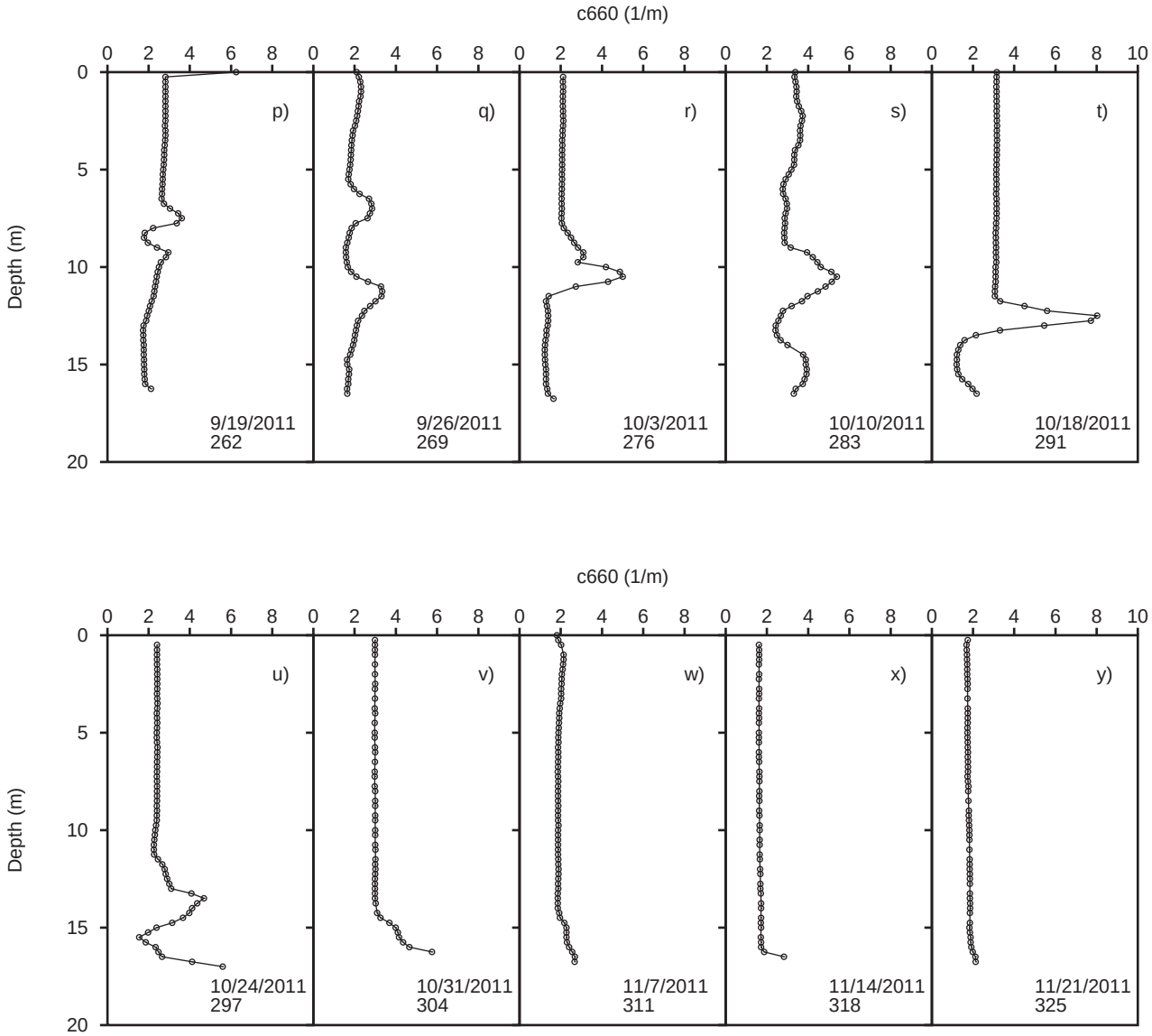
Fri Feb 03 14:26:06 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-8



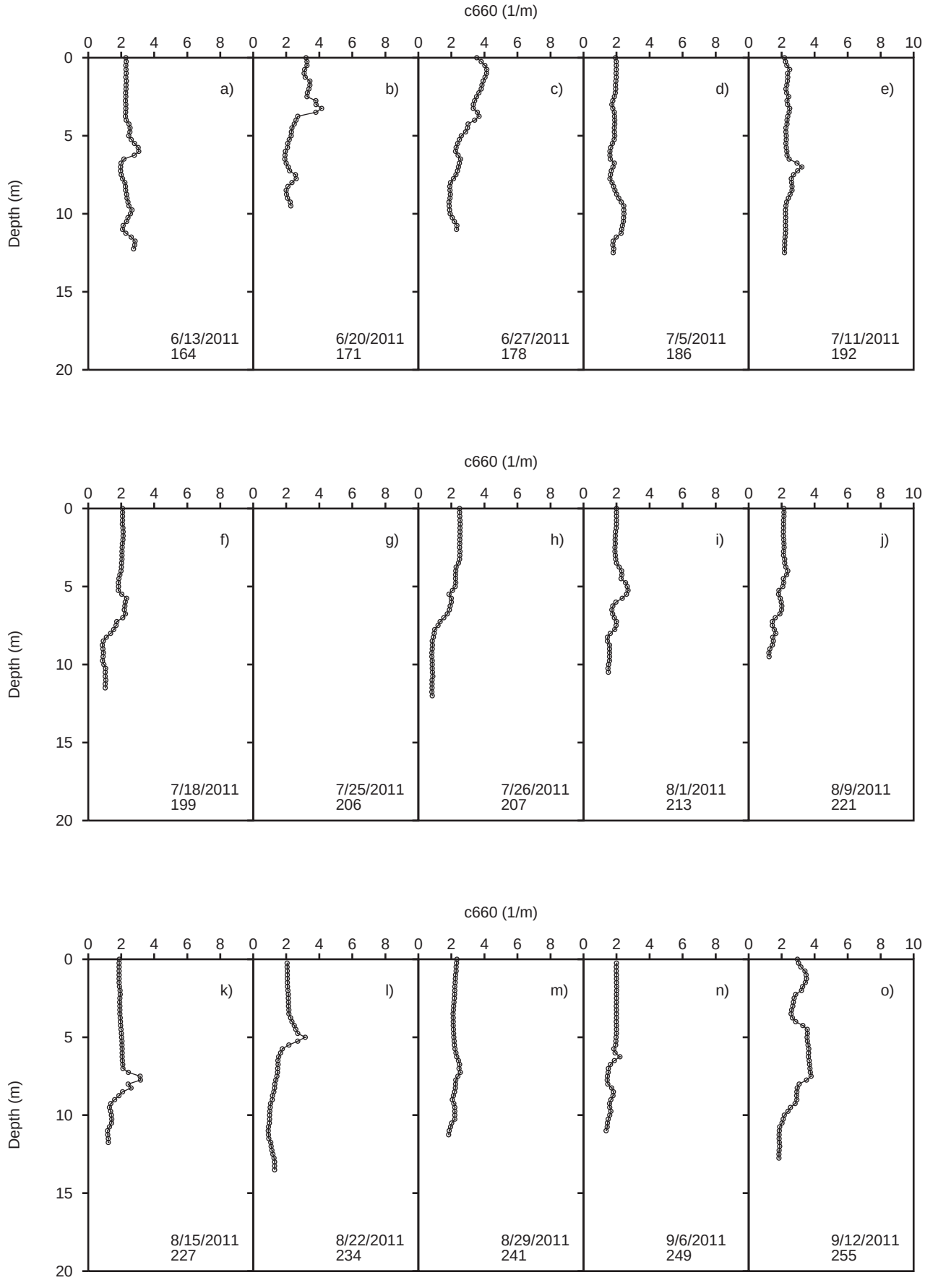
Fri Feb 03 14:29:57 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-8



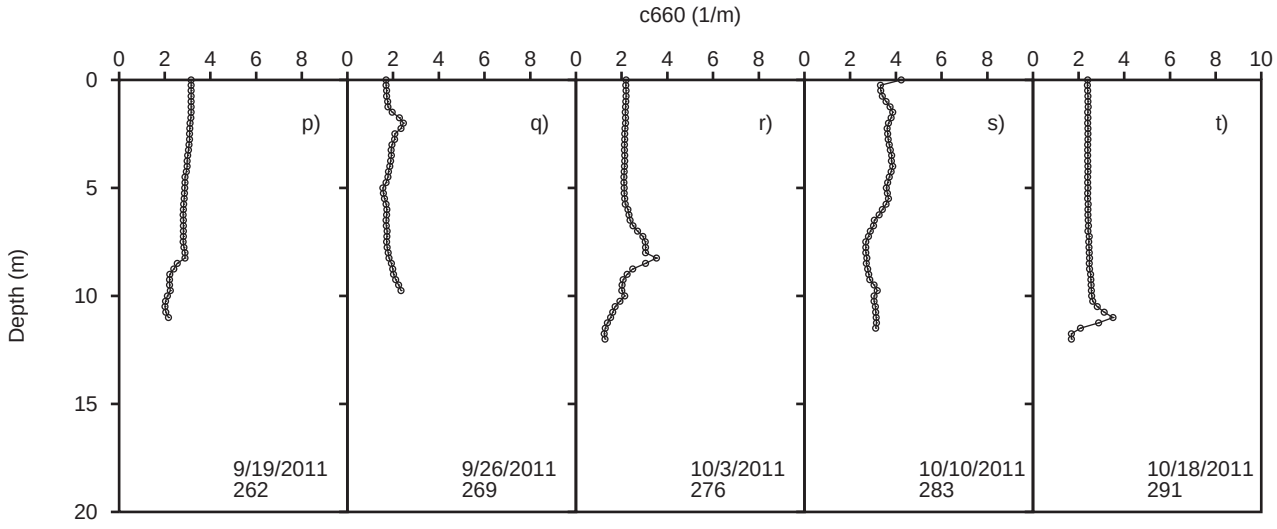
Fri Feb 03 14:29:57 2012

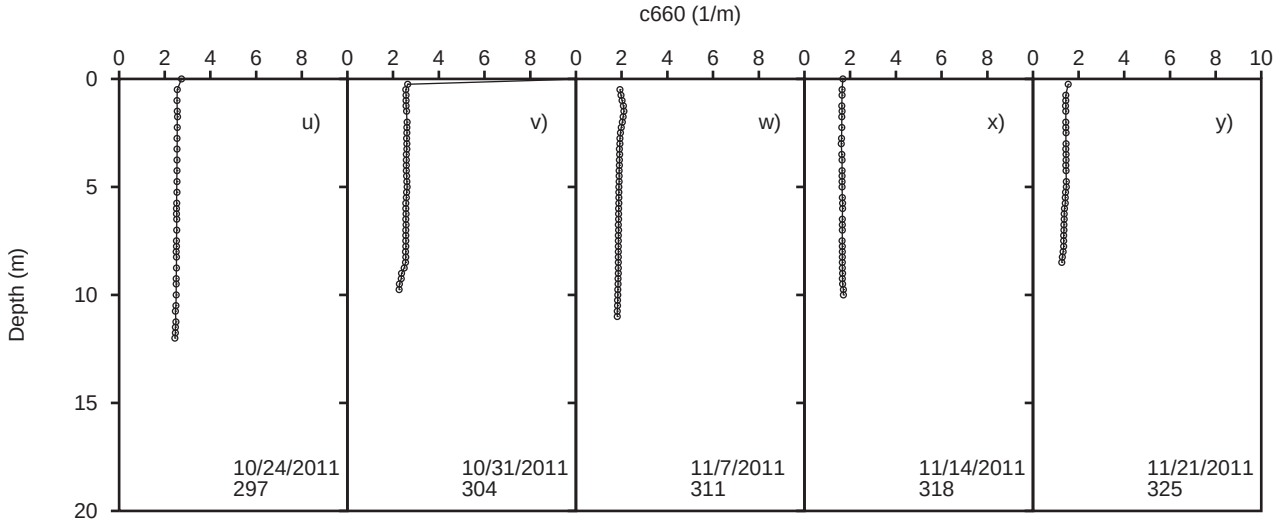
2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-9



Fri Feb 03 14:36:57 2012

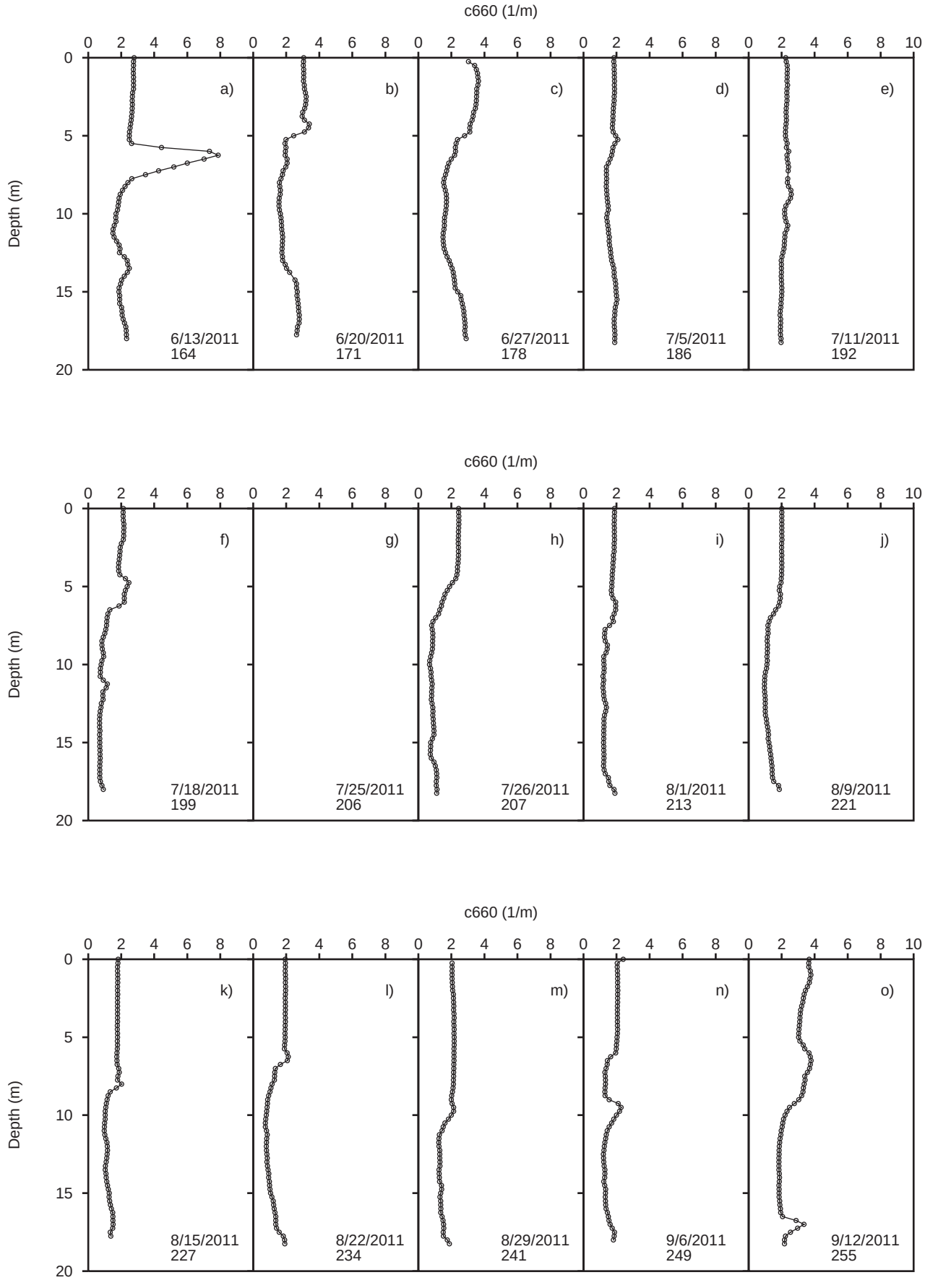
2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-9





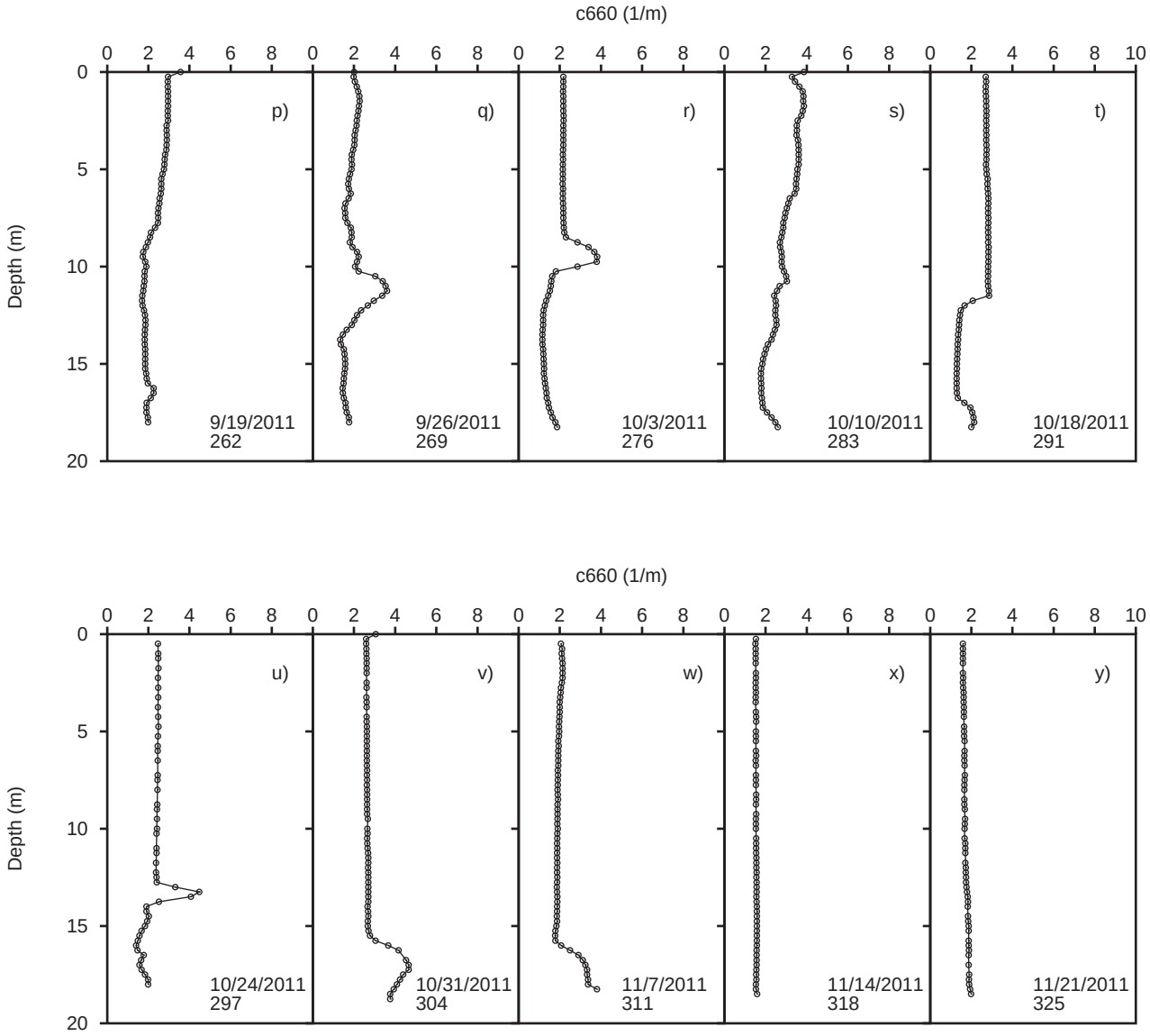
Fri Feb 03 14:36:57 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-11



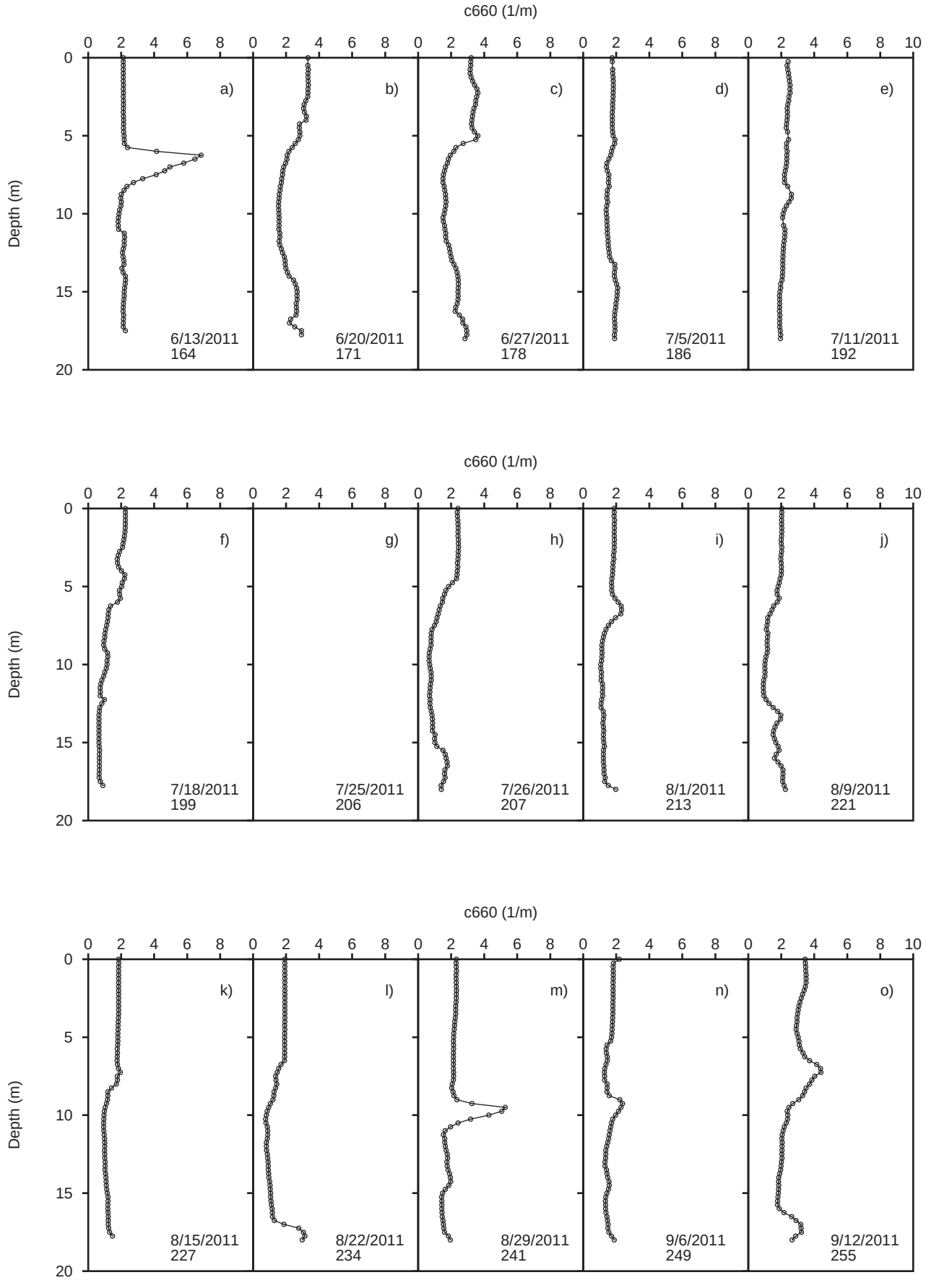
Fri Feb 03 14:40:42 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-11



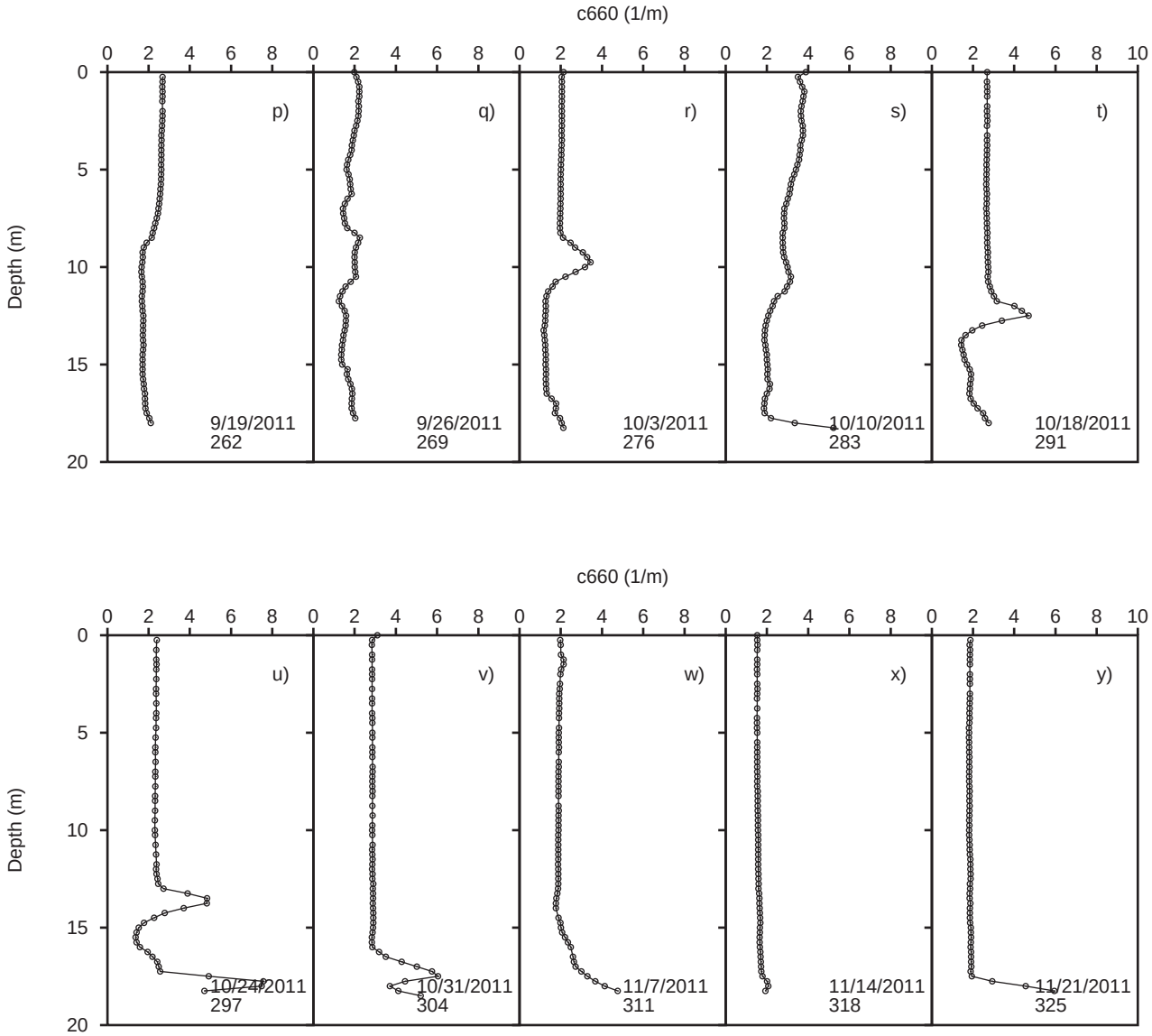
Fri Feb 03 14:40:42 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-12



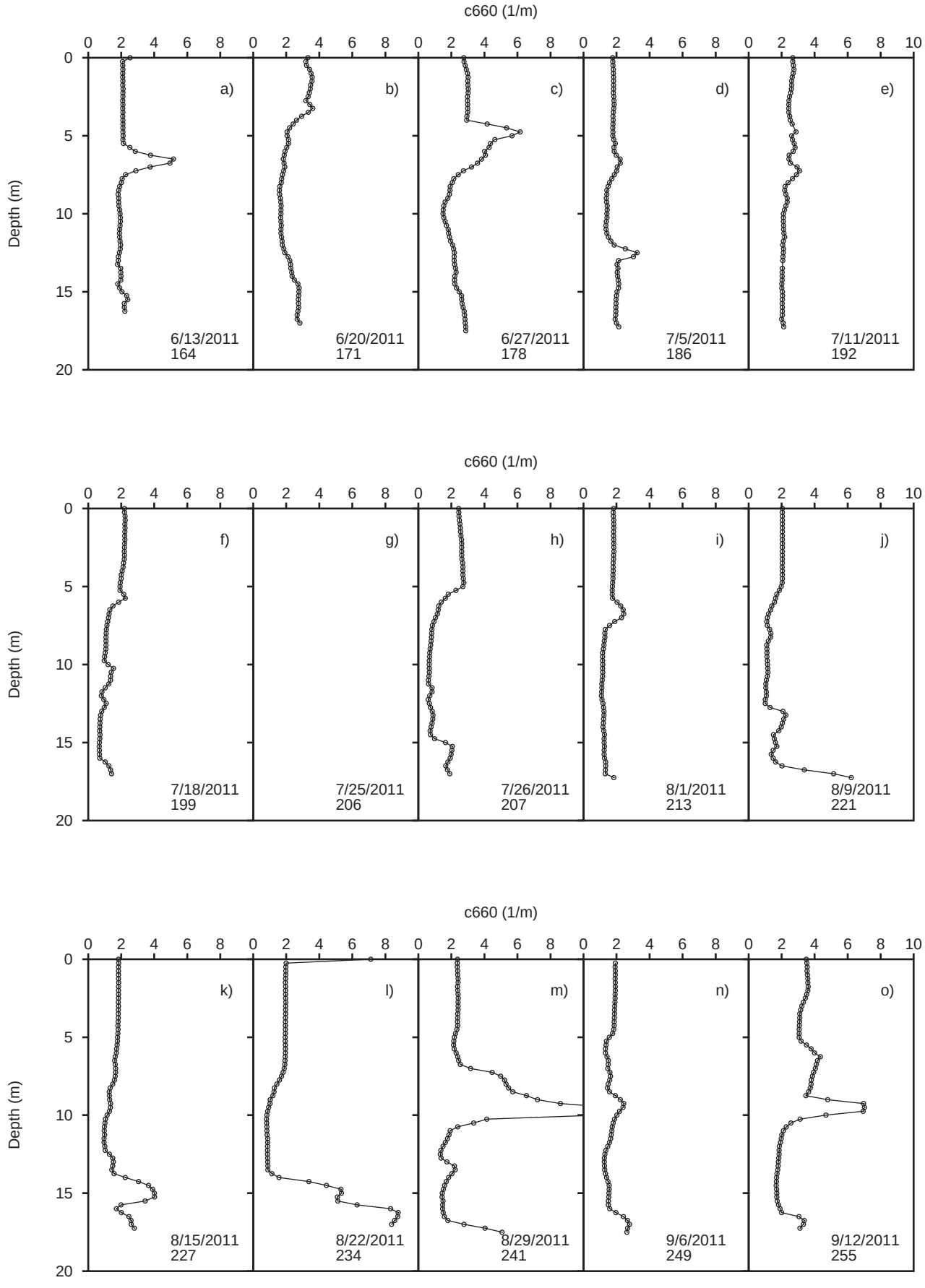
Fri Feb 03 14:42:38 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-12



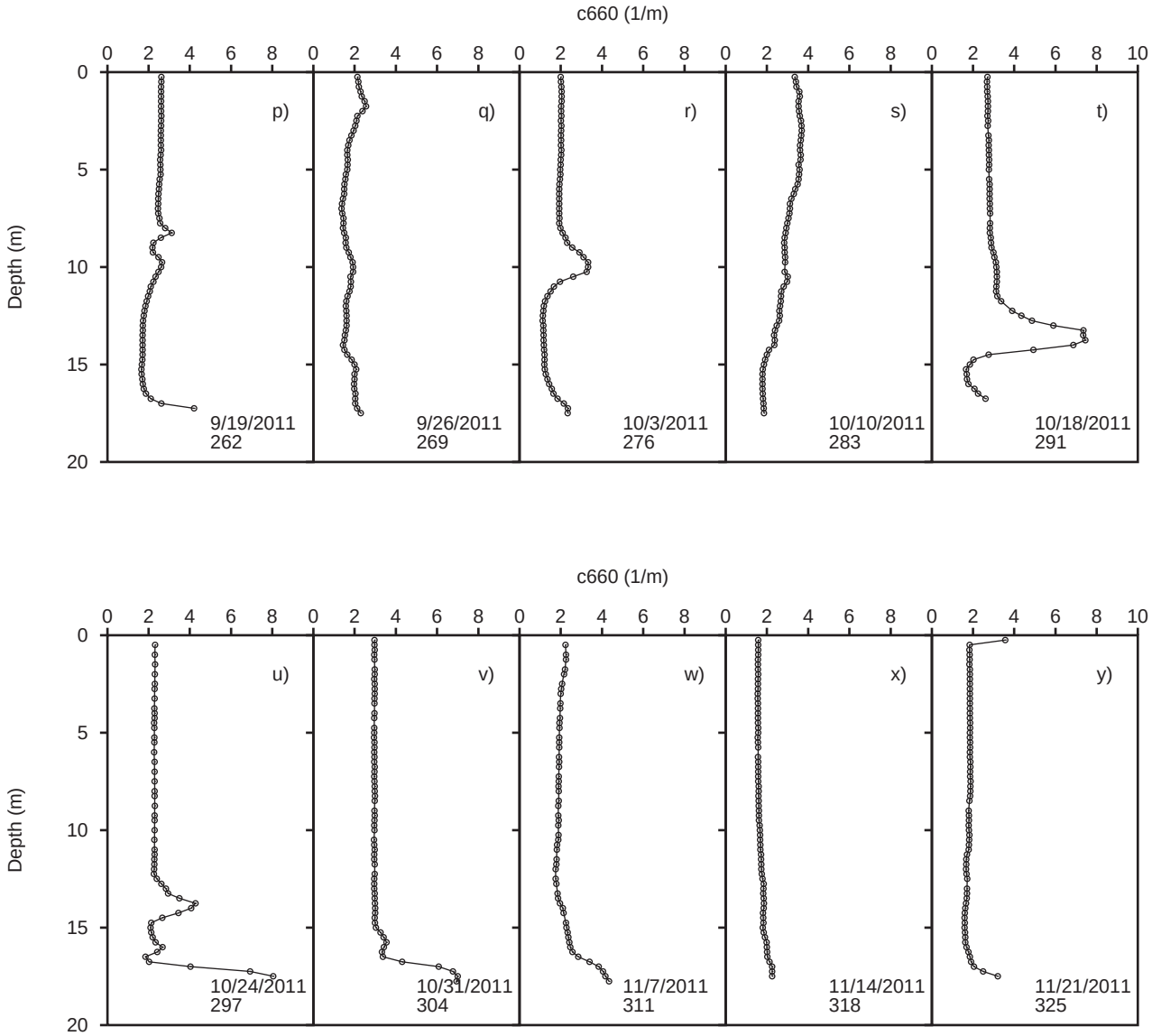
Fri Feb 03 14:42:38 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-13



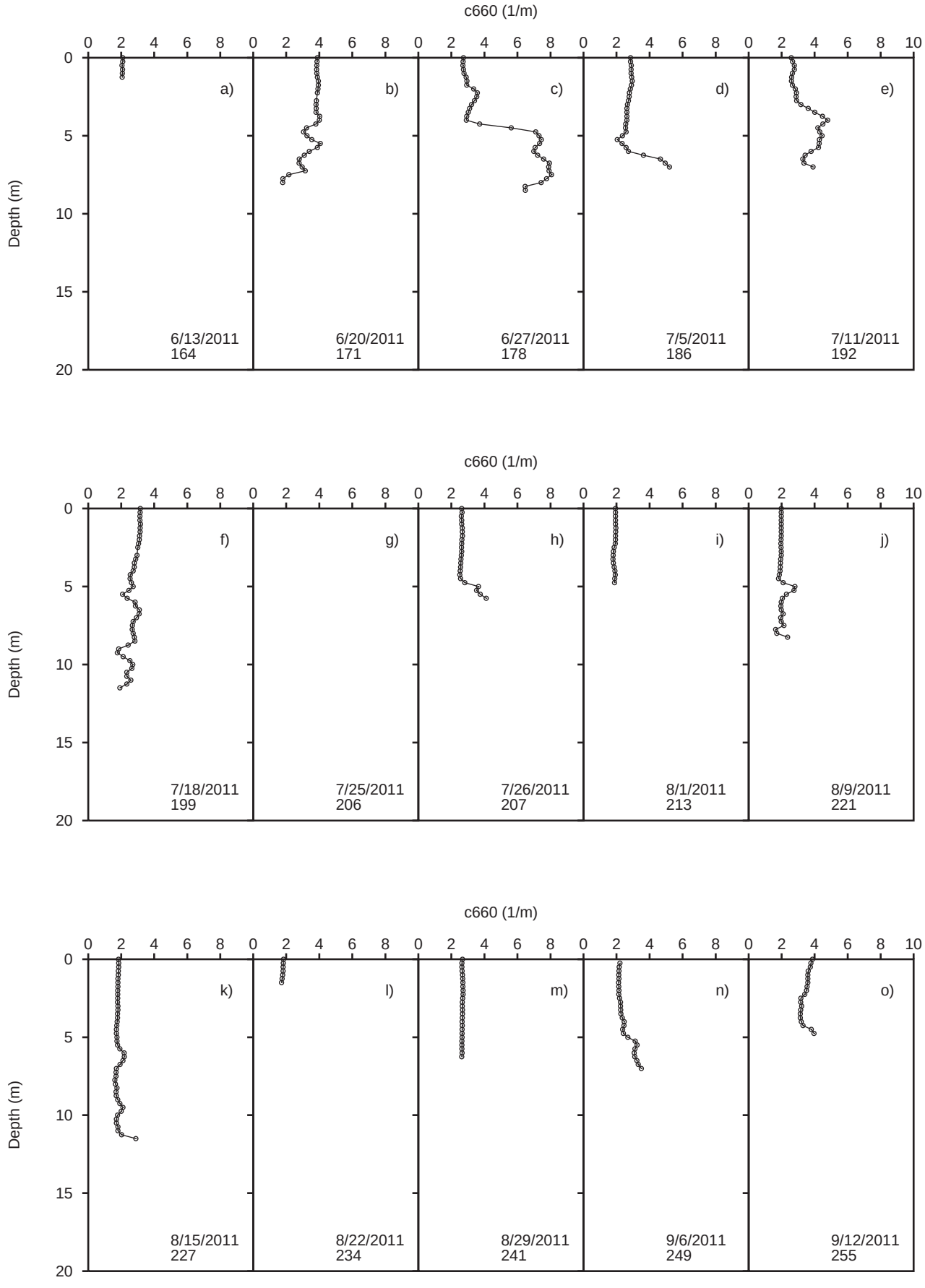
Fri Feb 03 14:45:13 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-13



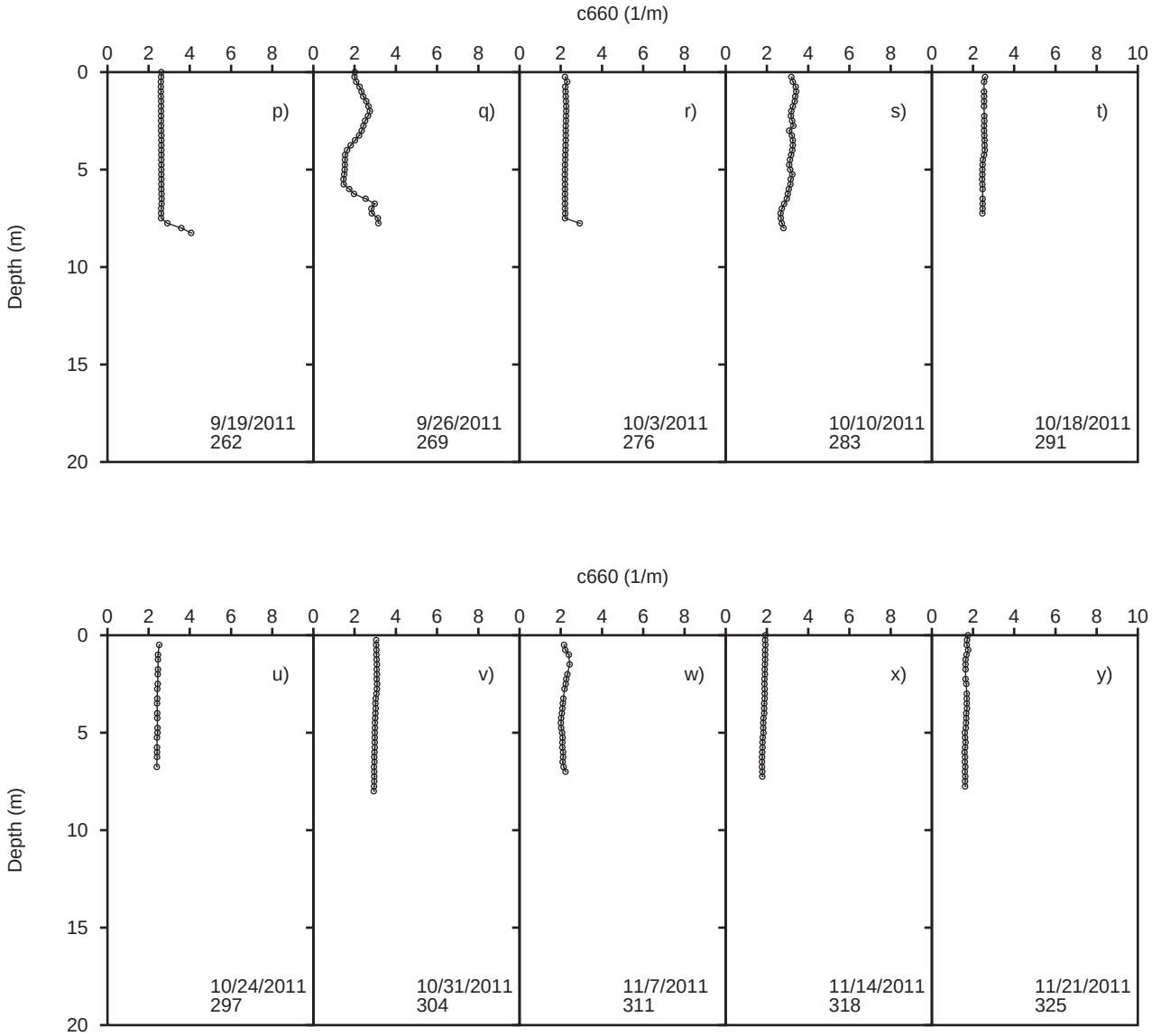
Fri Feb 03 14:45:13 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-15



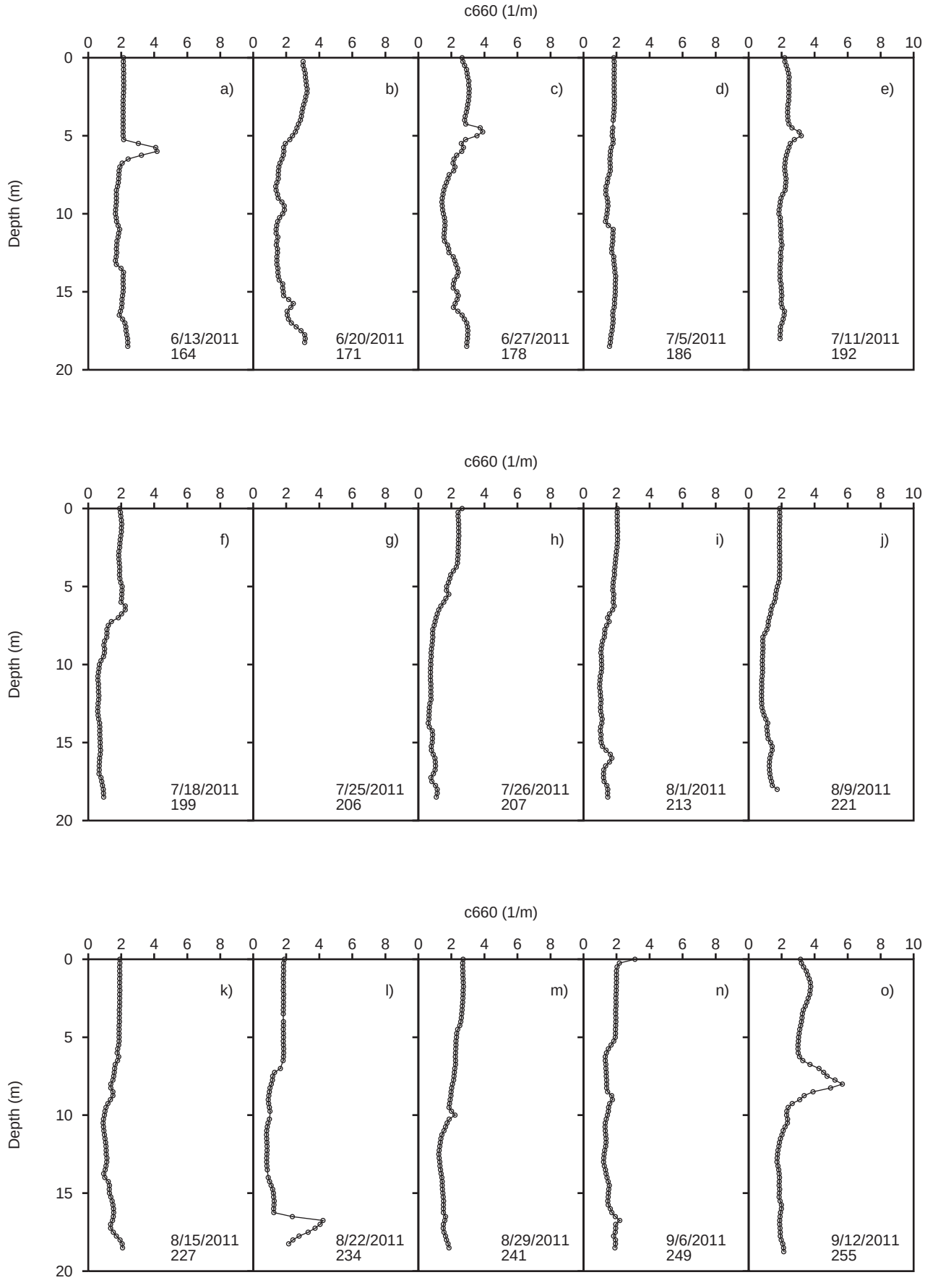
Fri Feb 03 14:46:50 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-15



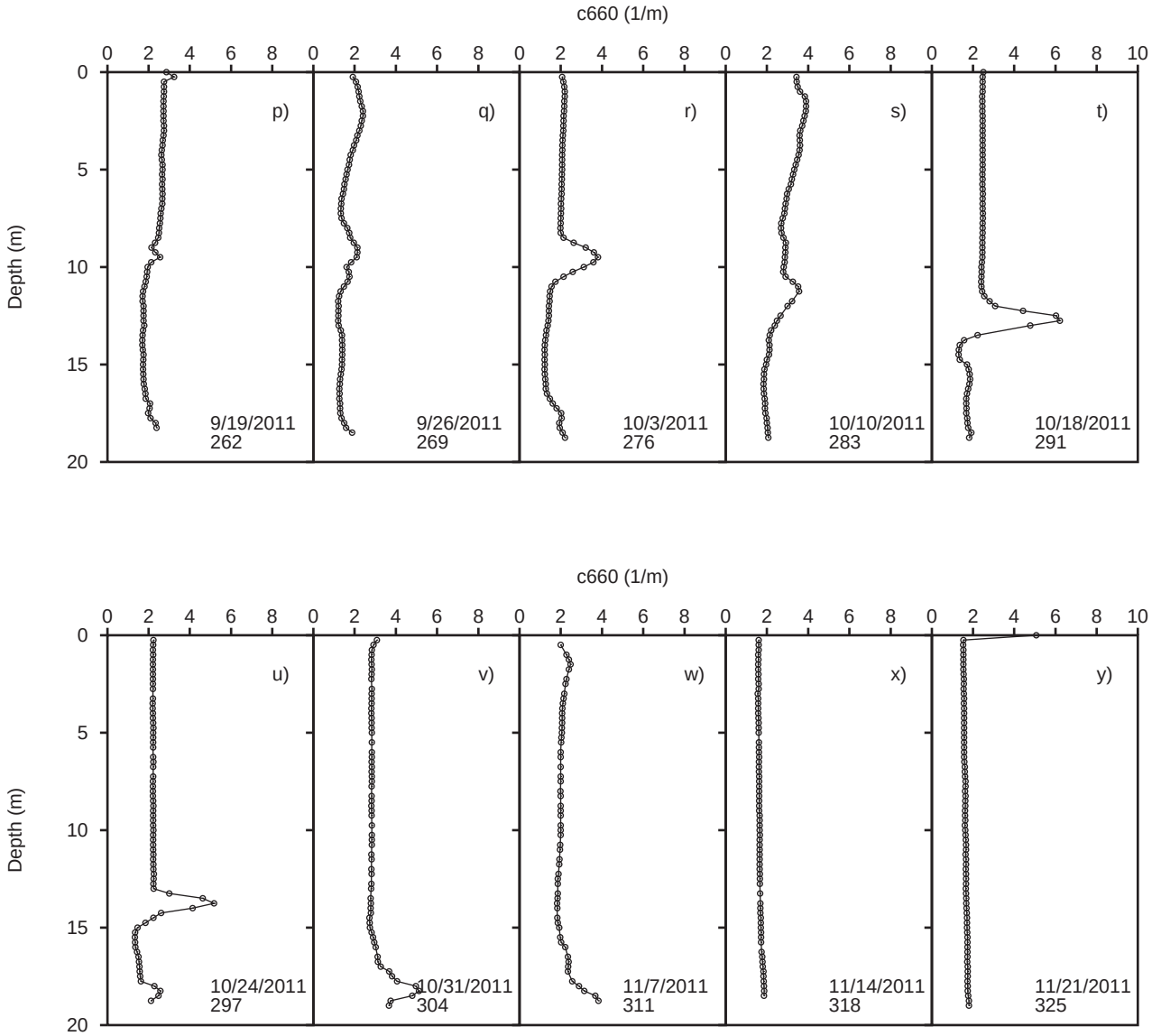
Fri Feb 03 14:46:50 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-18



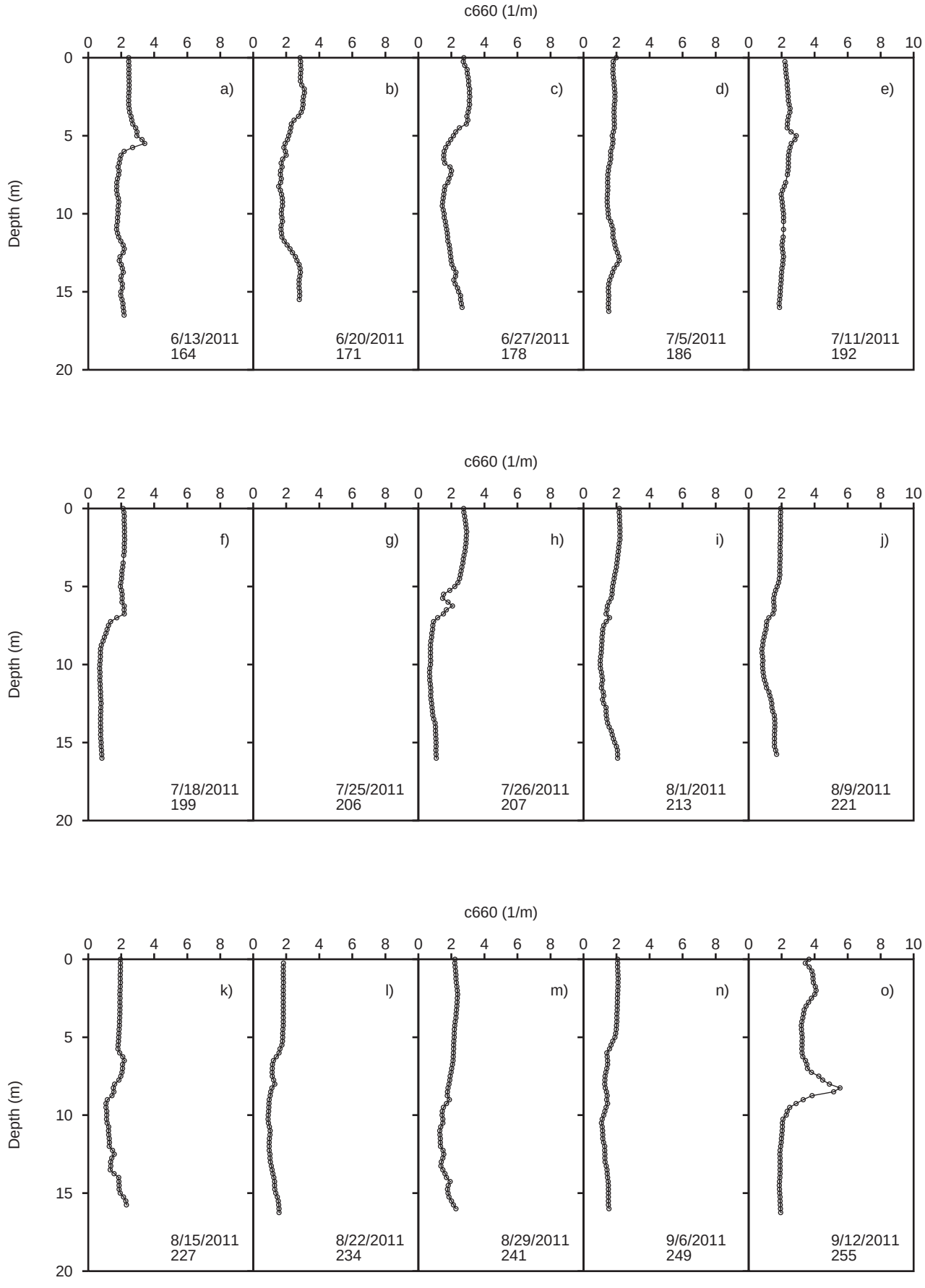
Fri Feb 03 14:49:03 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-18



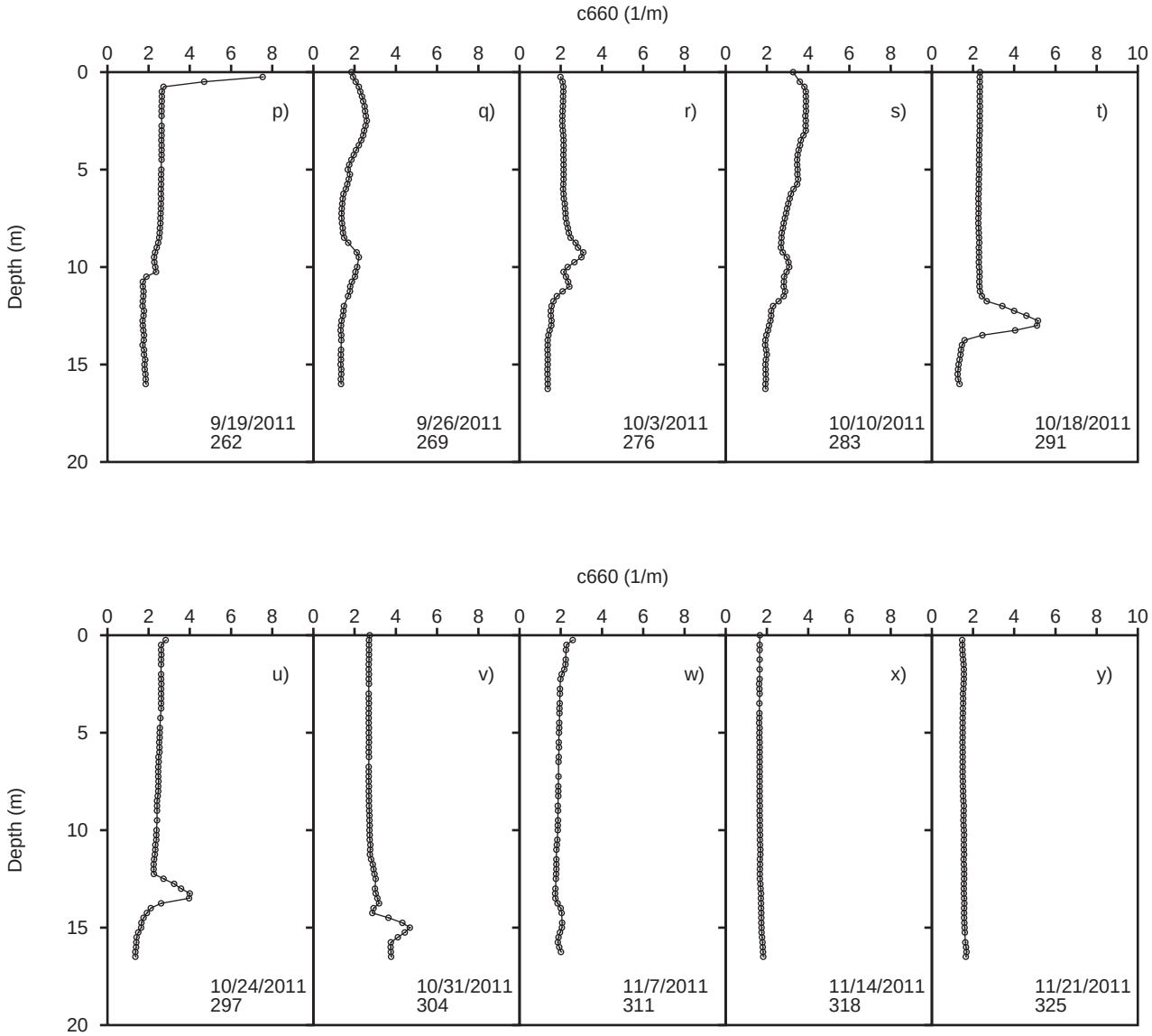
Fri Feb 03 14:49:03 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-22



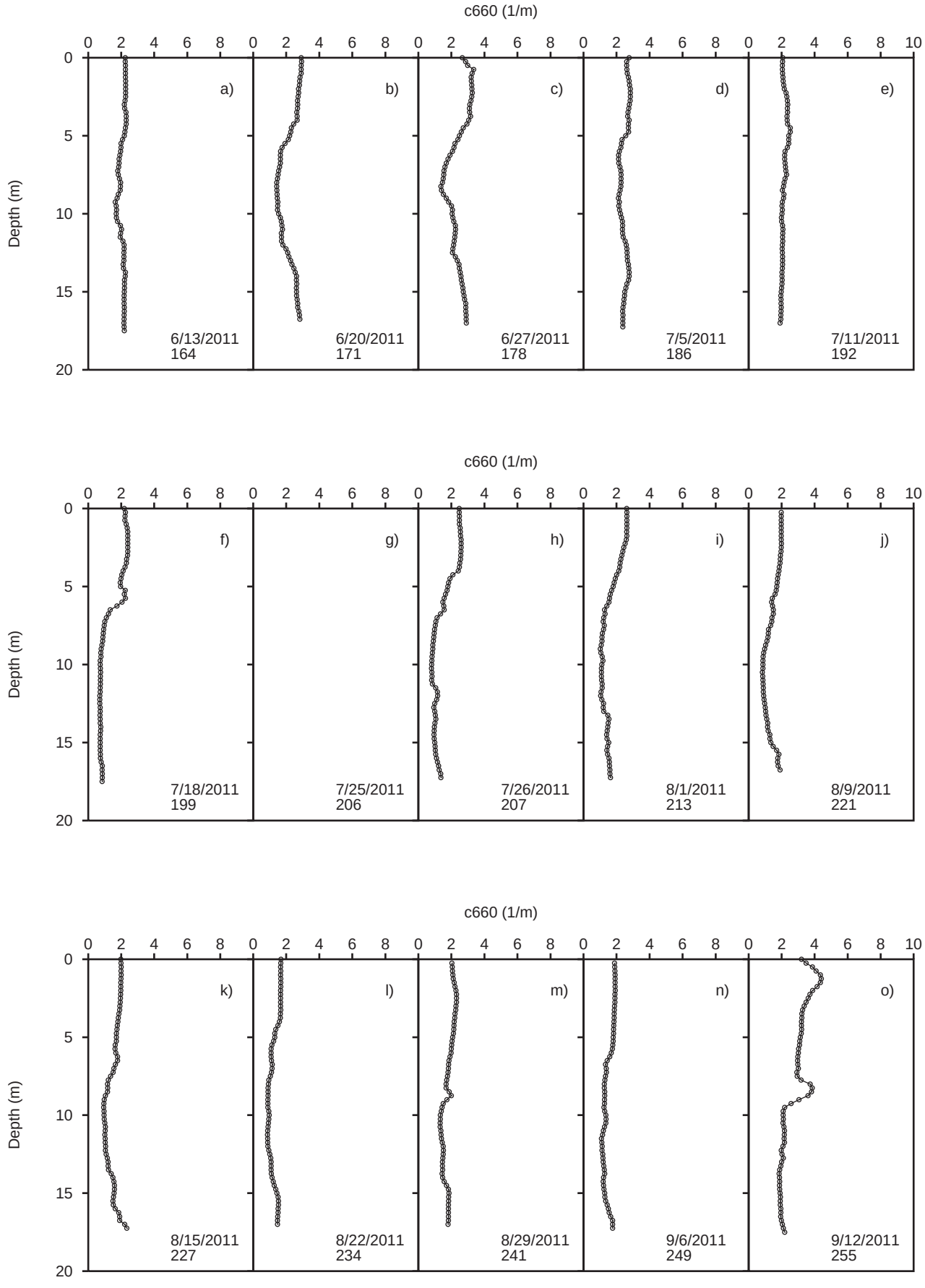
Fri Feb 03 14:51:28 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-22



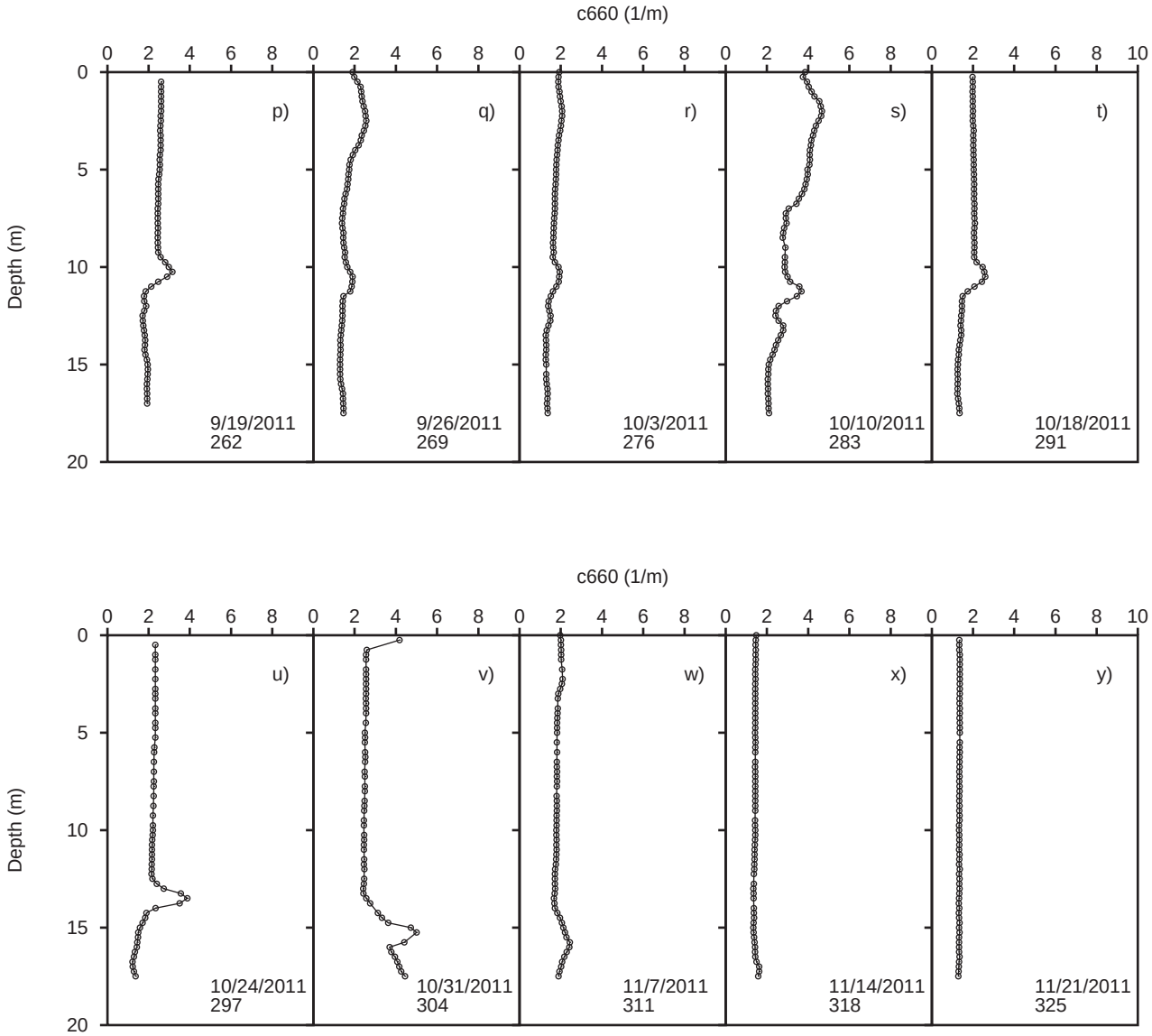
Fri Feb 03 14:51:28 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-27



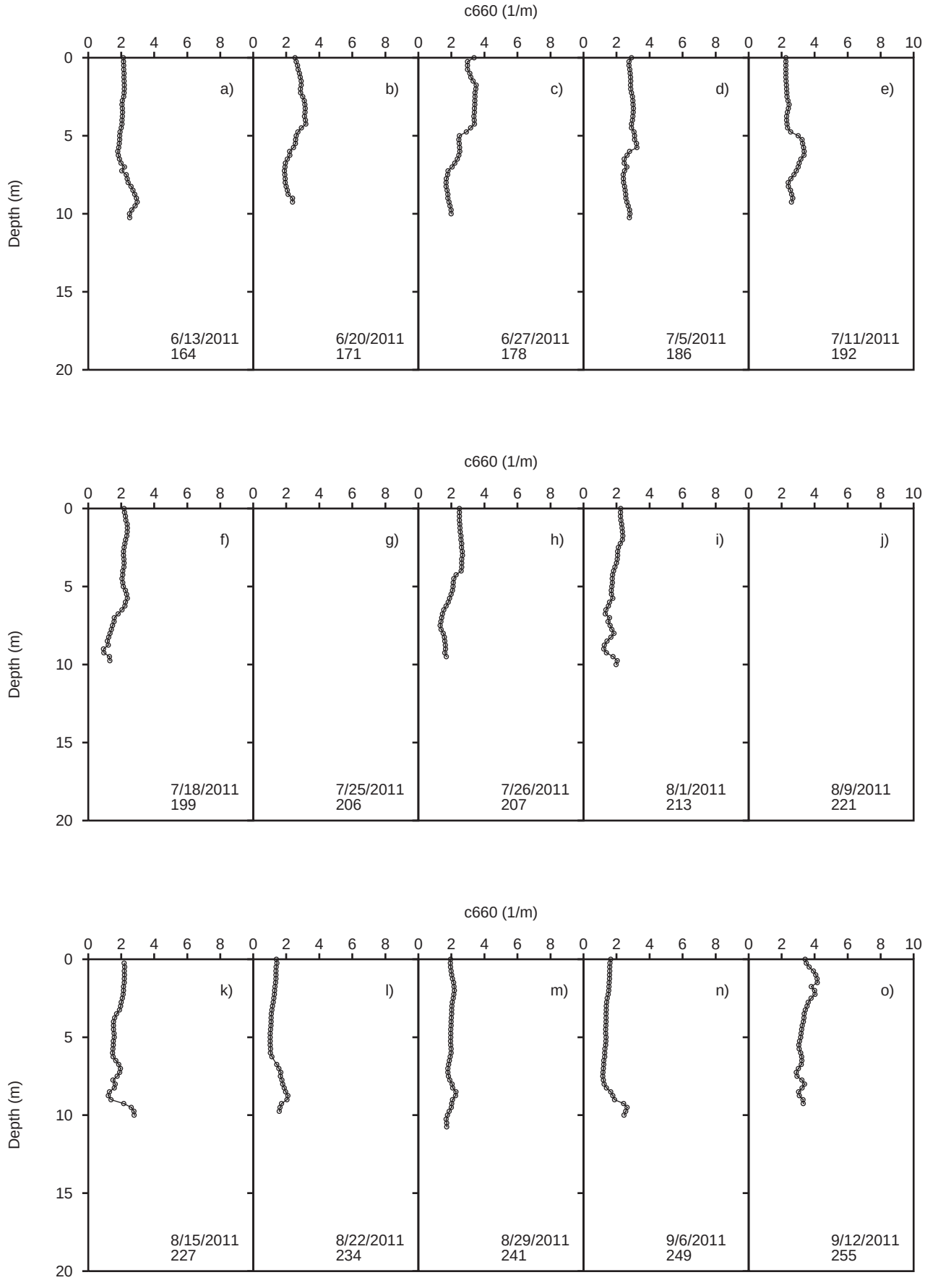
Fri Feb 03 14:53:31 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-27



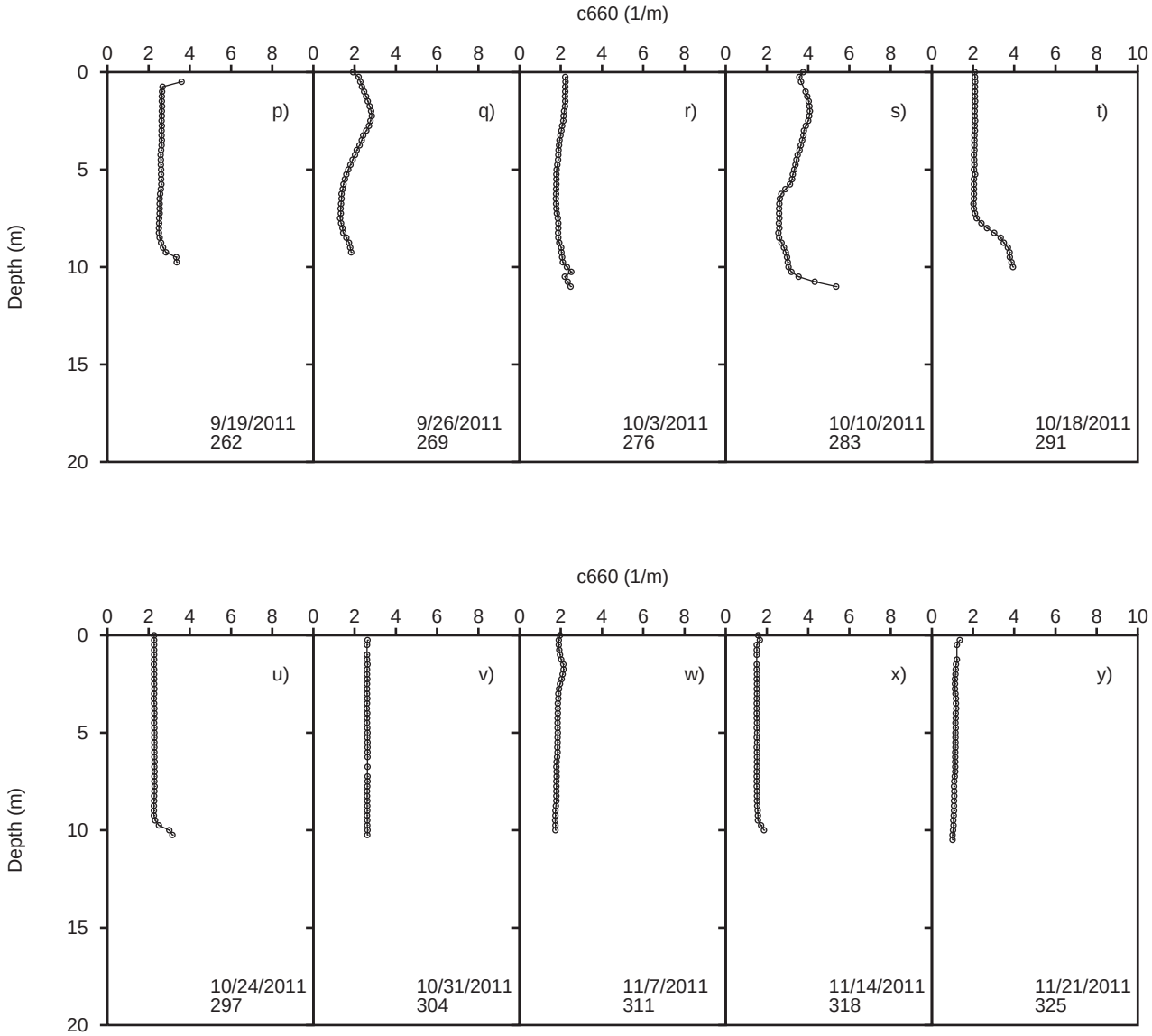
Fri Feb 03 14:53:31 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-34



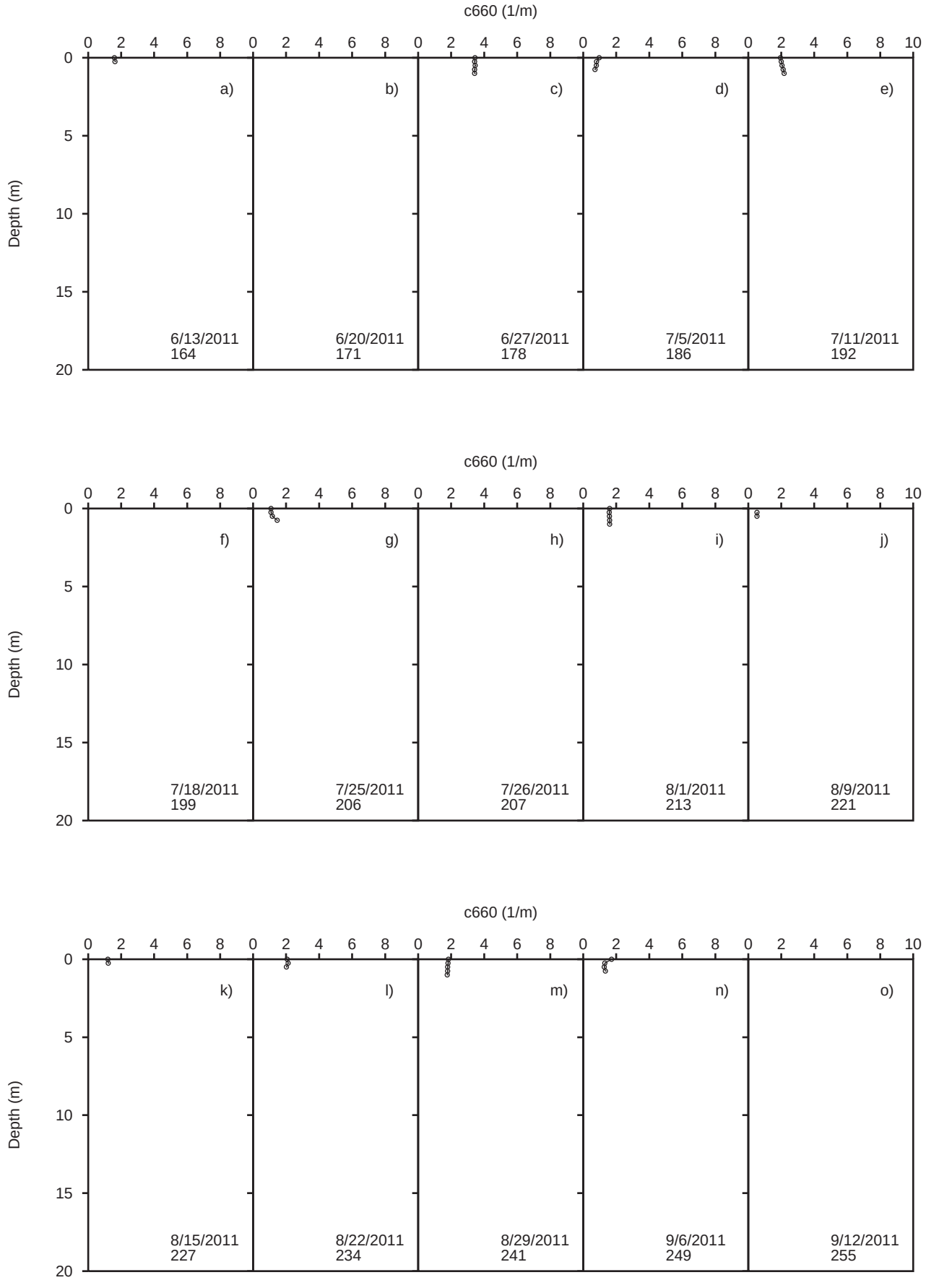
Fri Feb 03 14:19:22 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-34



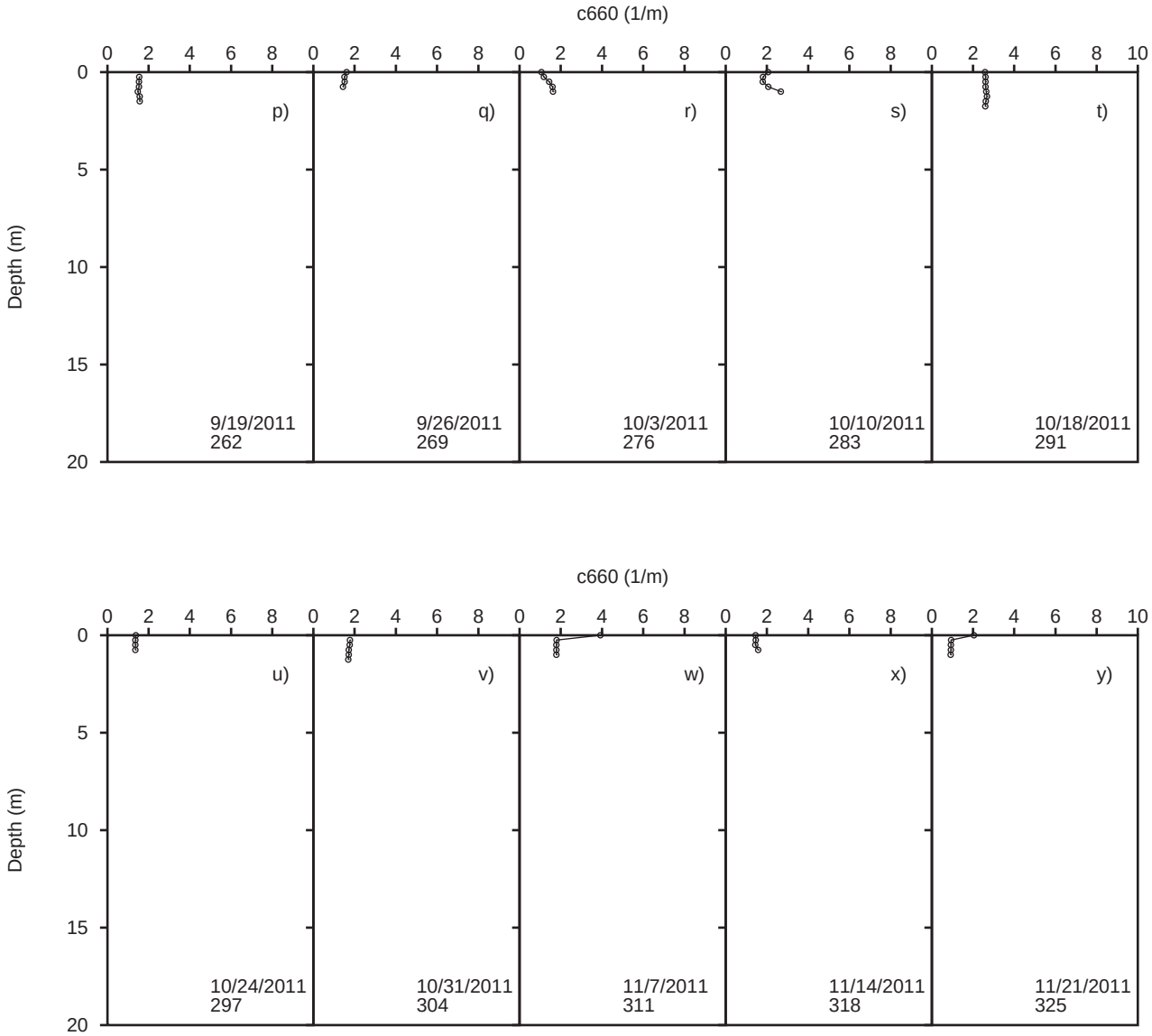
Fri Feb 03 14:19:22 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-37



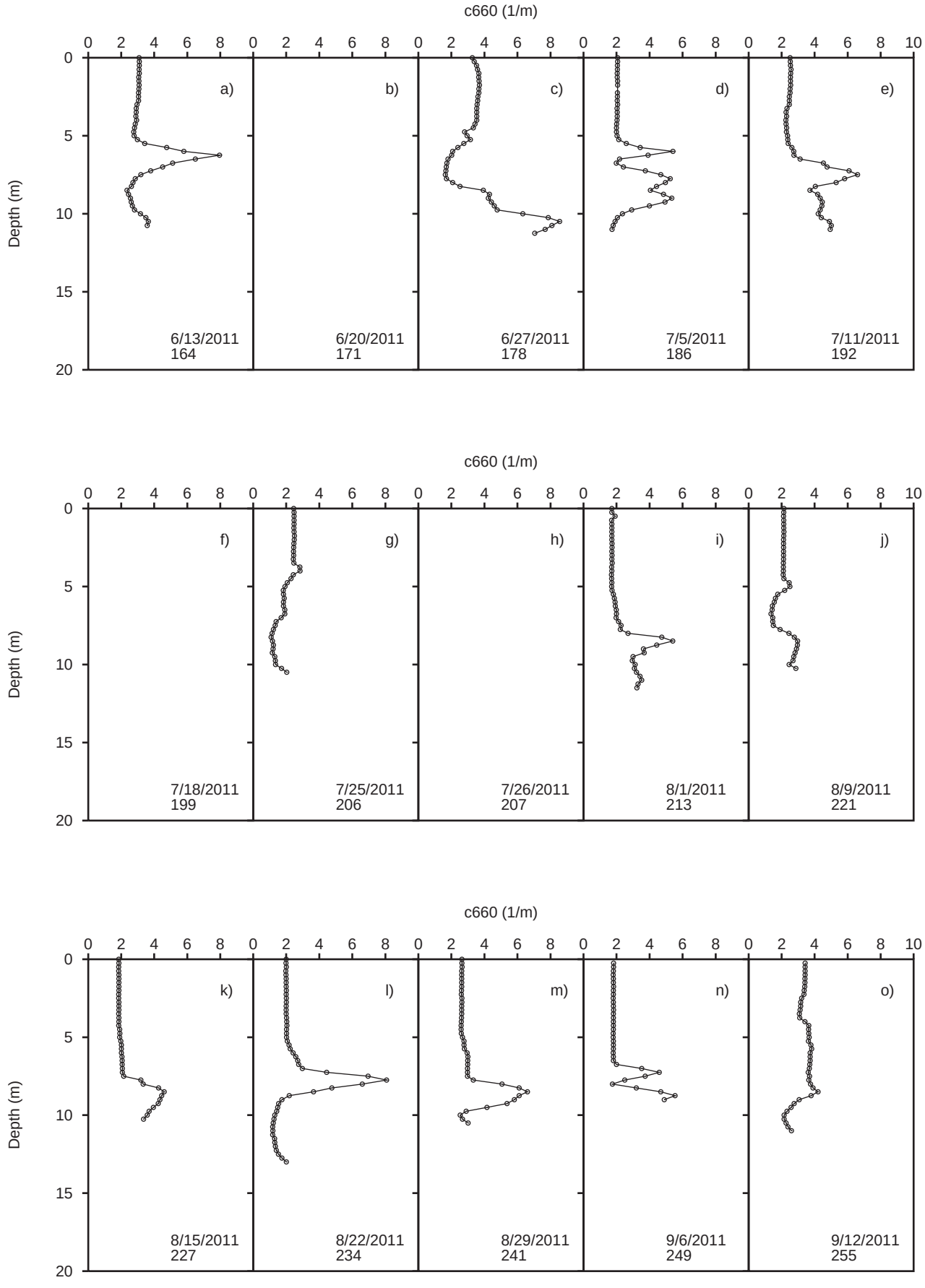
Fri Feb 03 14:20:25 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-37



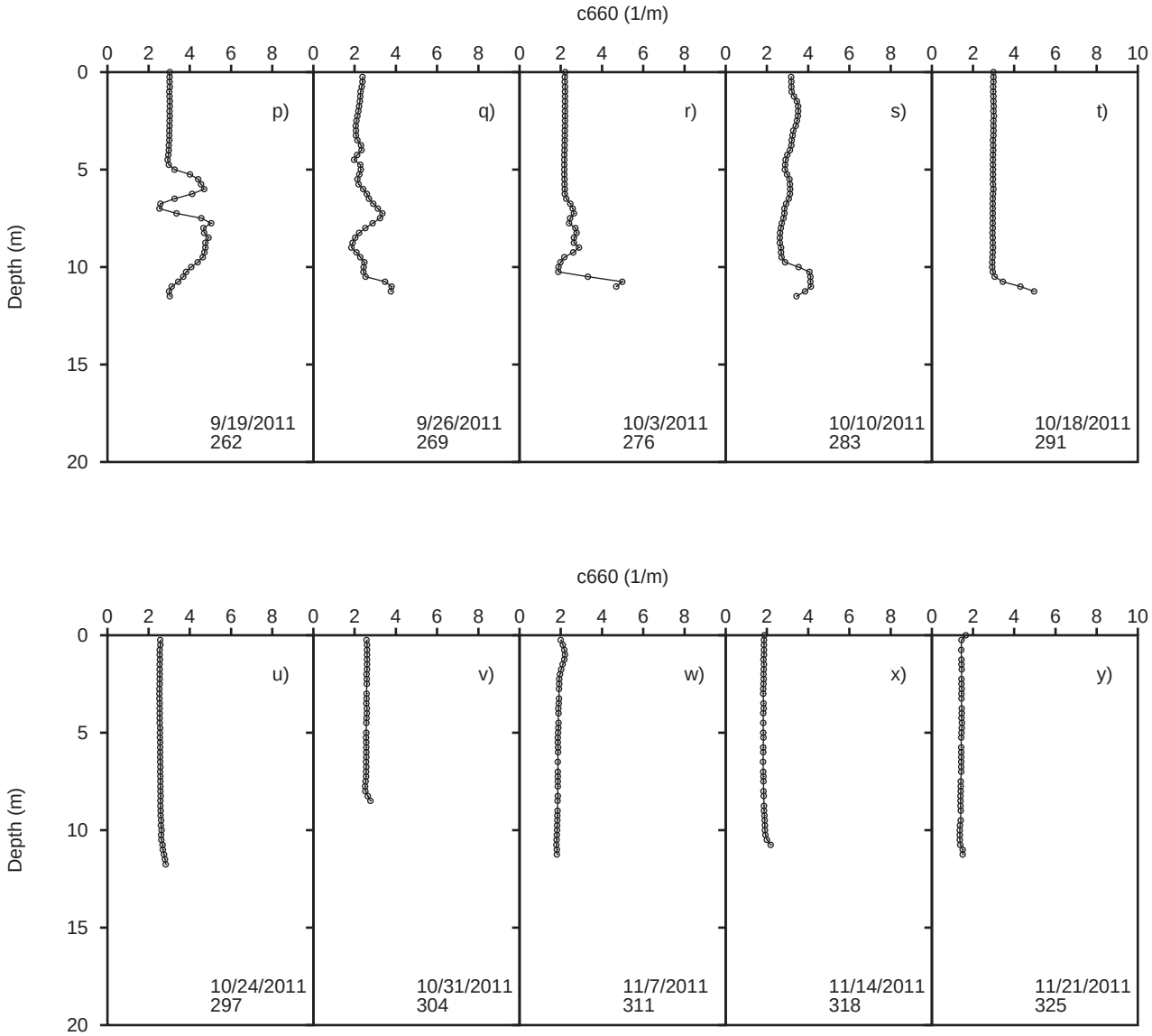
Fri Feb 03 14:20:25 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-38

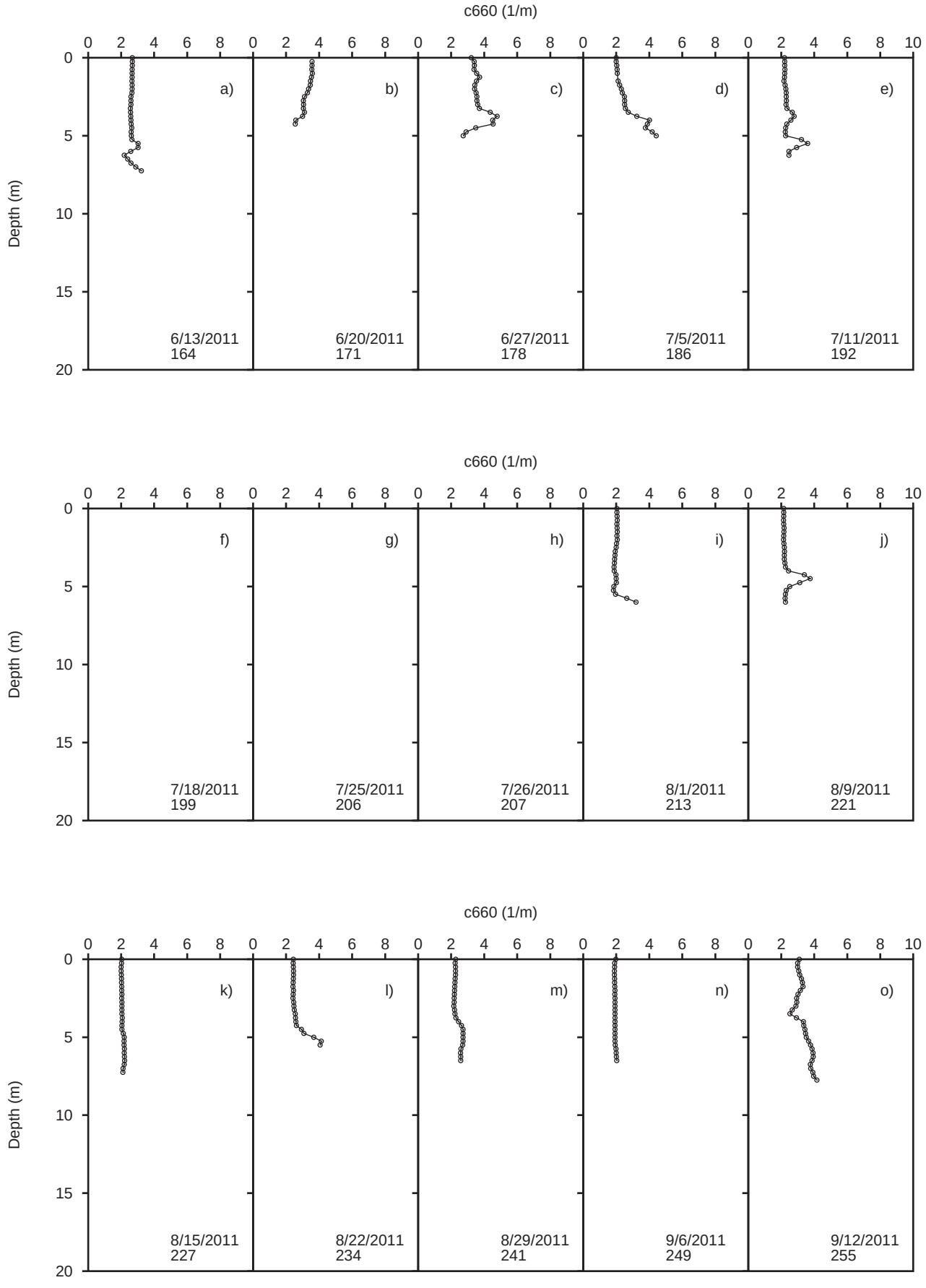


Fri Feb 03 14:21:33 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-38

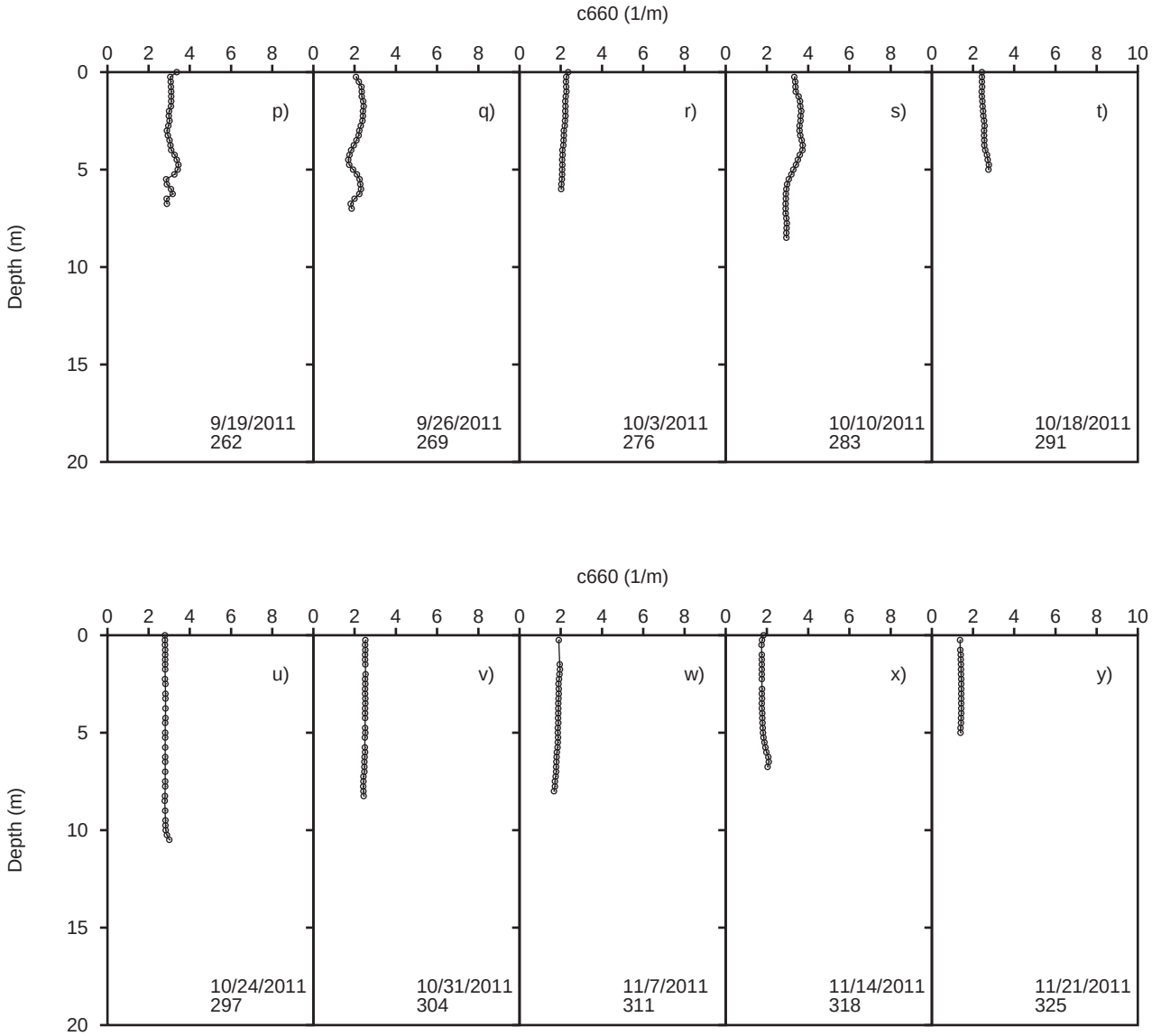


2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-39



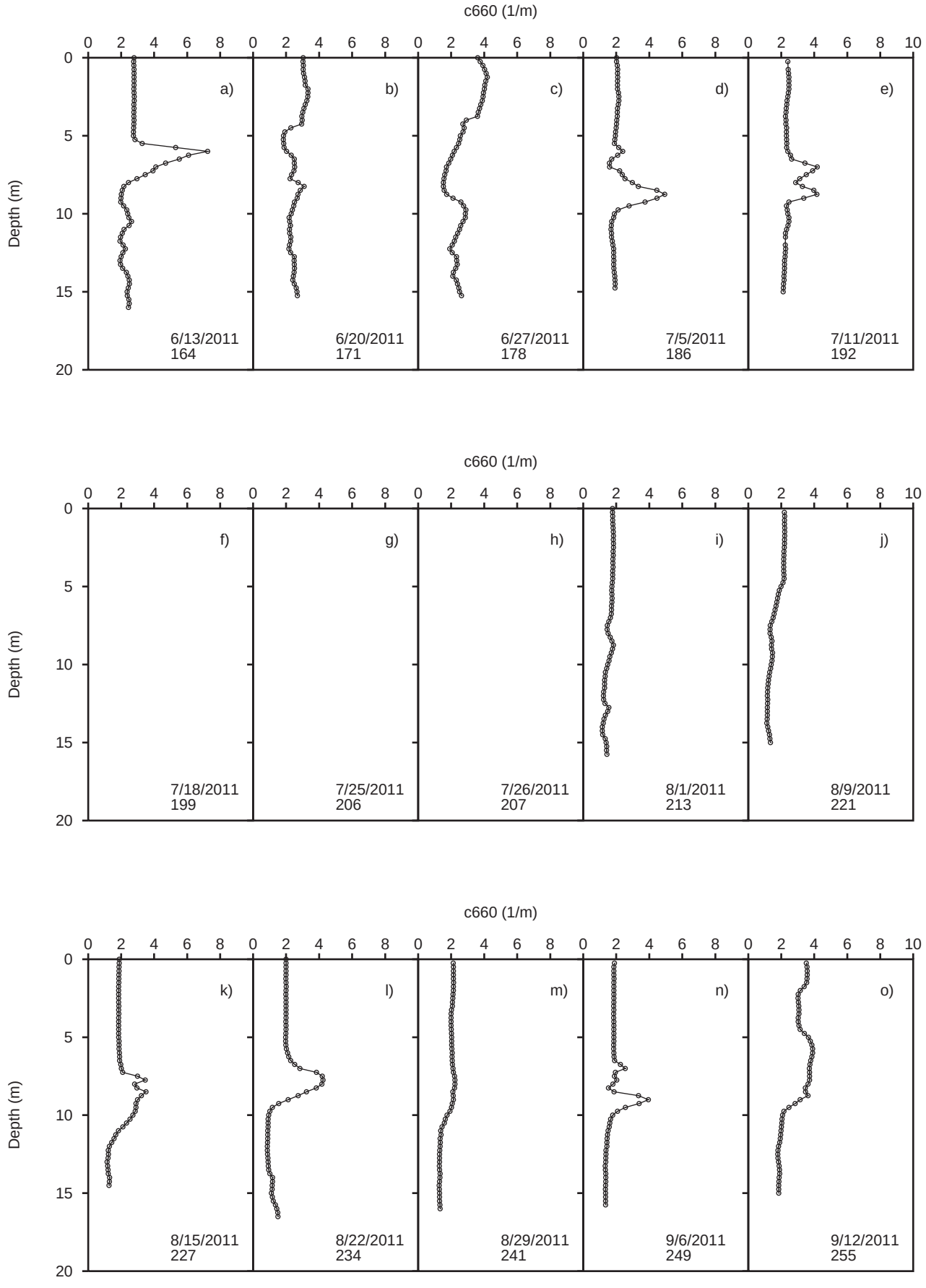
Fri Feb 03 14:27:19 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-39



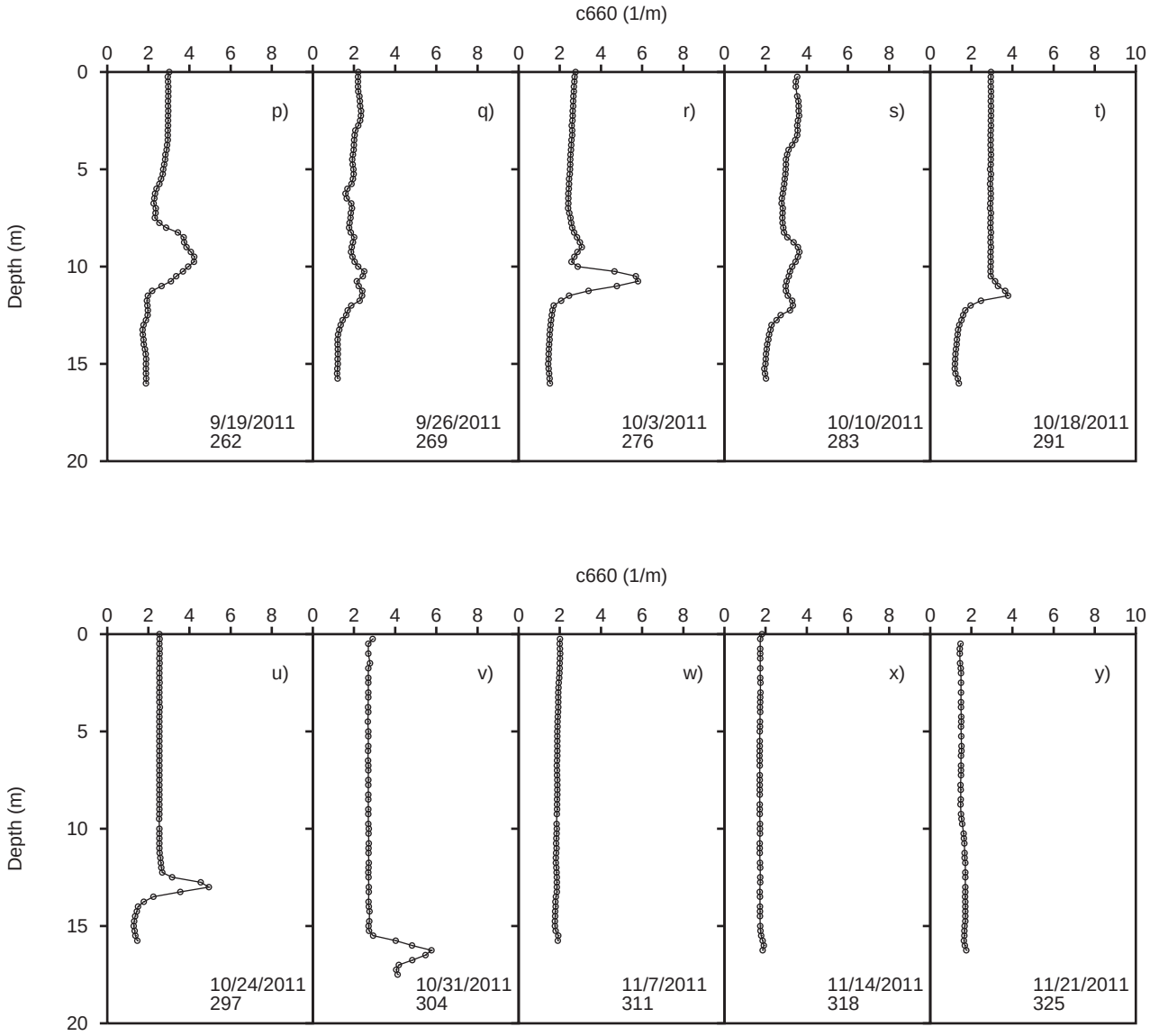
Fri Feb 03 14:27:19 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-40



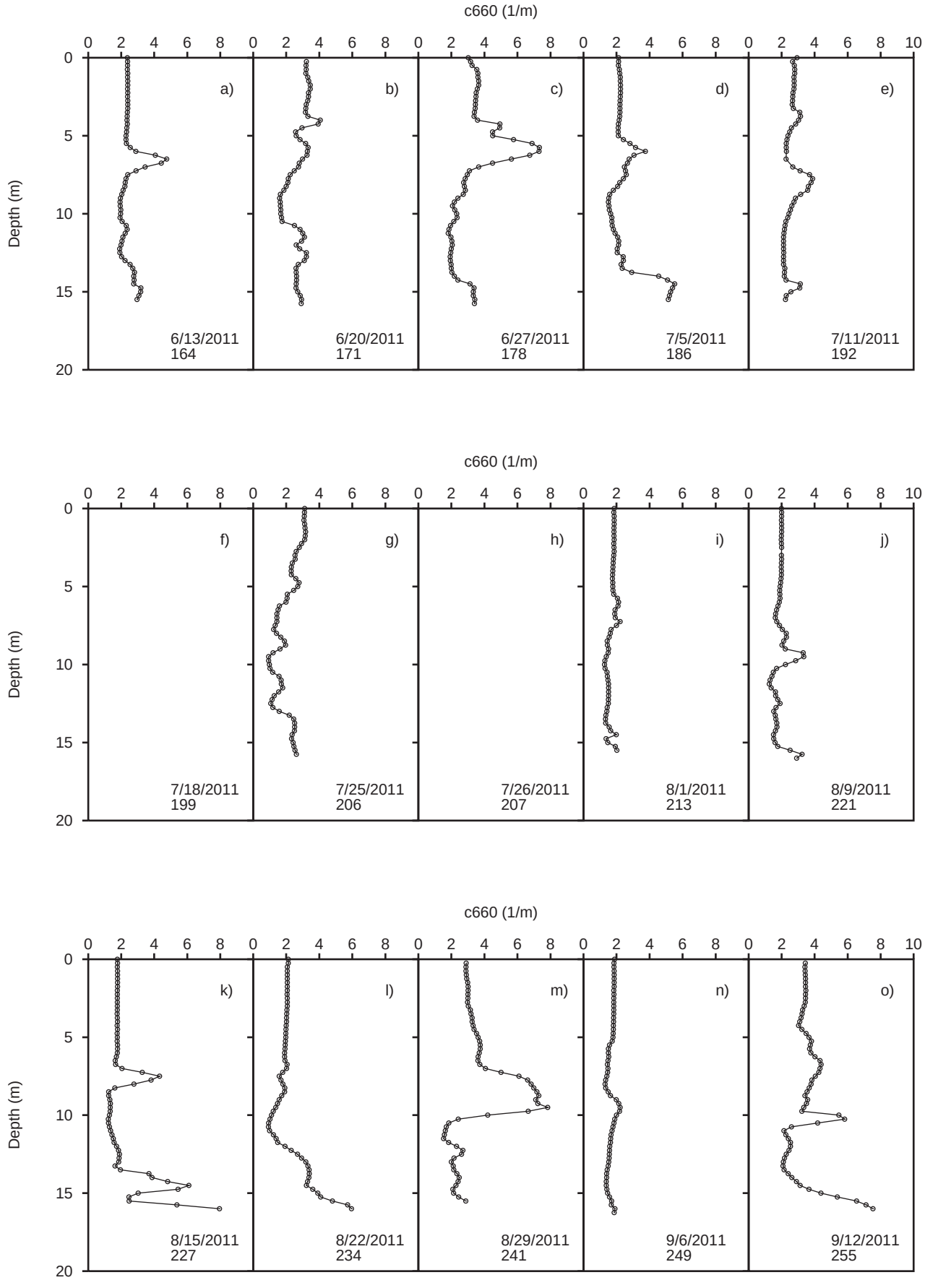
Fri Feb 03 14:28:05 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-40



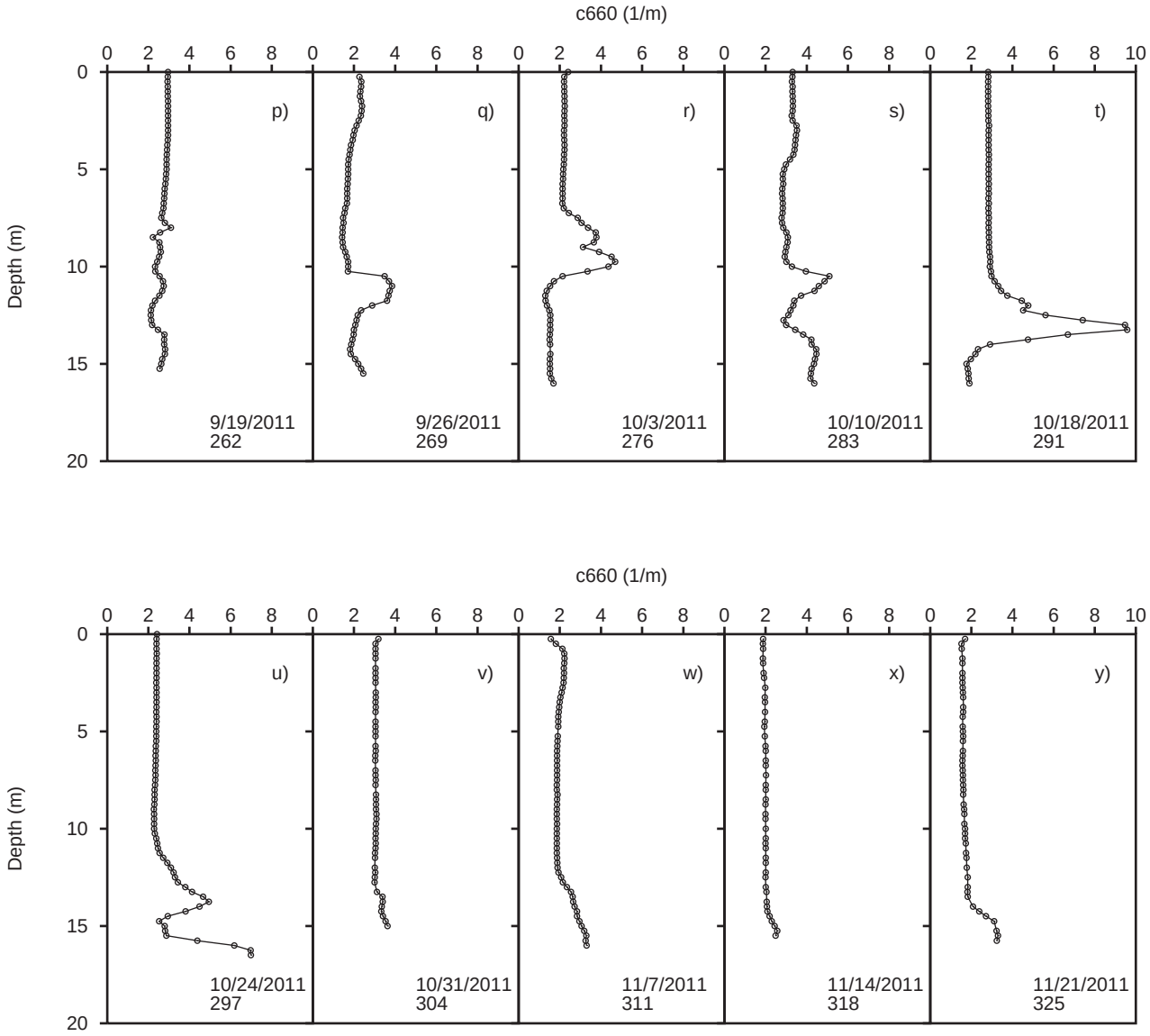
Fri Feb 03 14:28:05 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-41



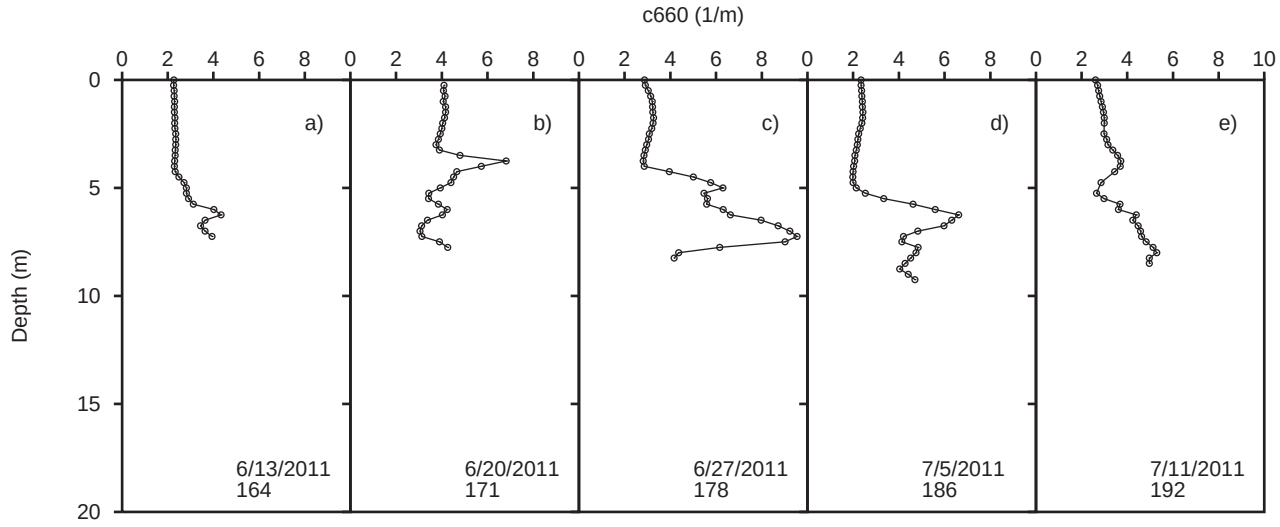
Fri Feb 03 14:30:46 2012

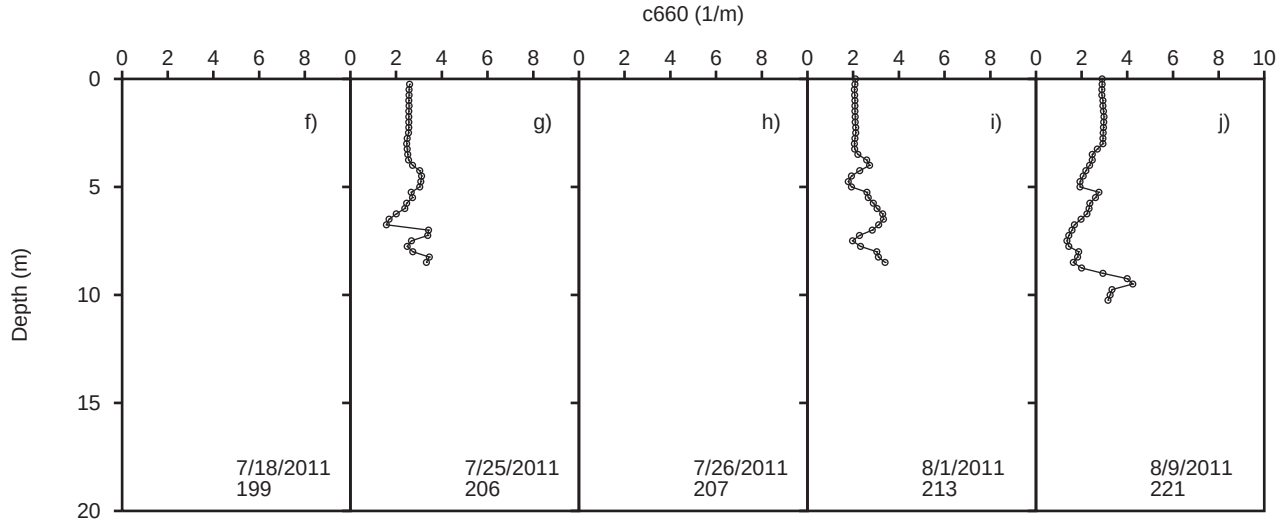
2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-41

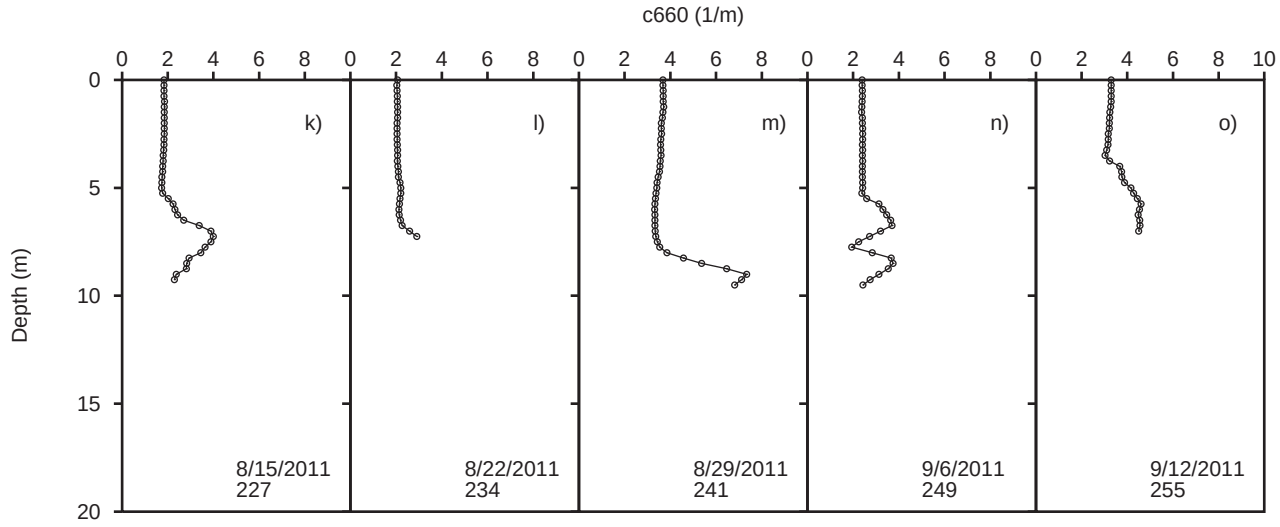


Fri Feb 03 14:30:46 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-42

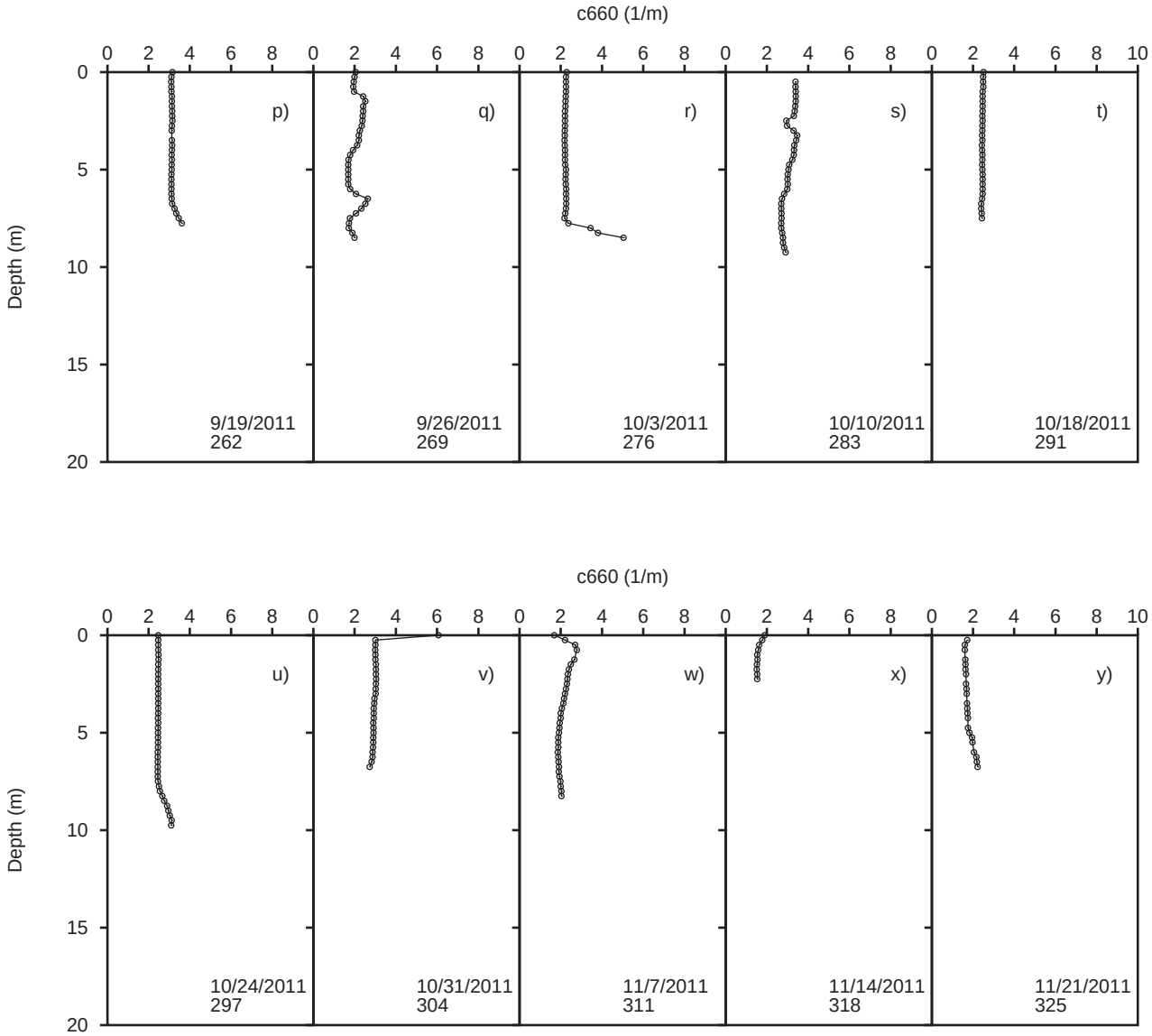






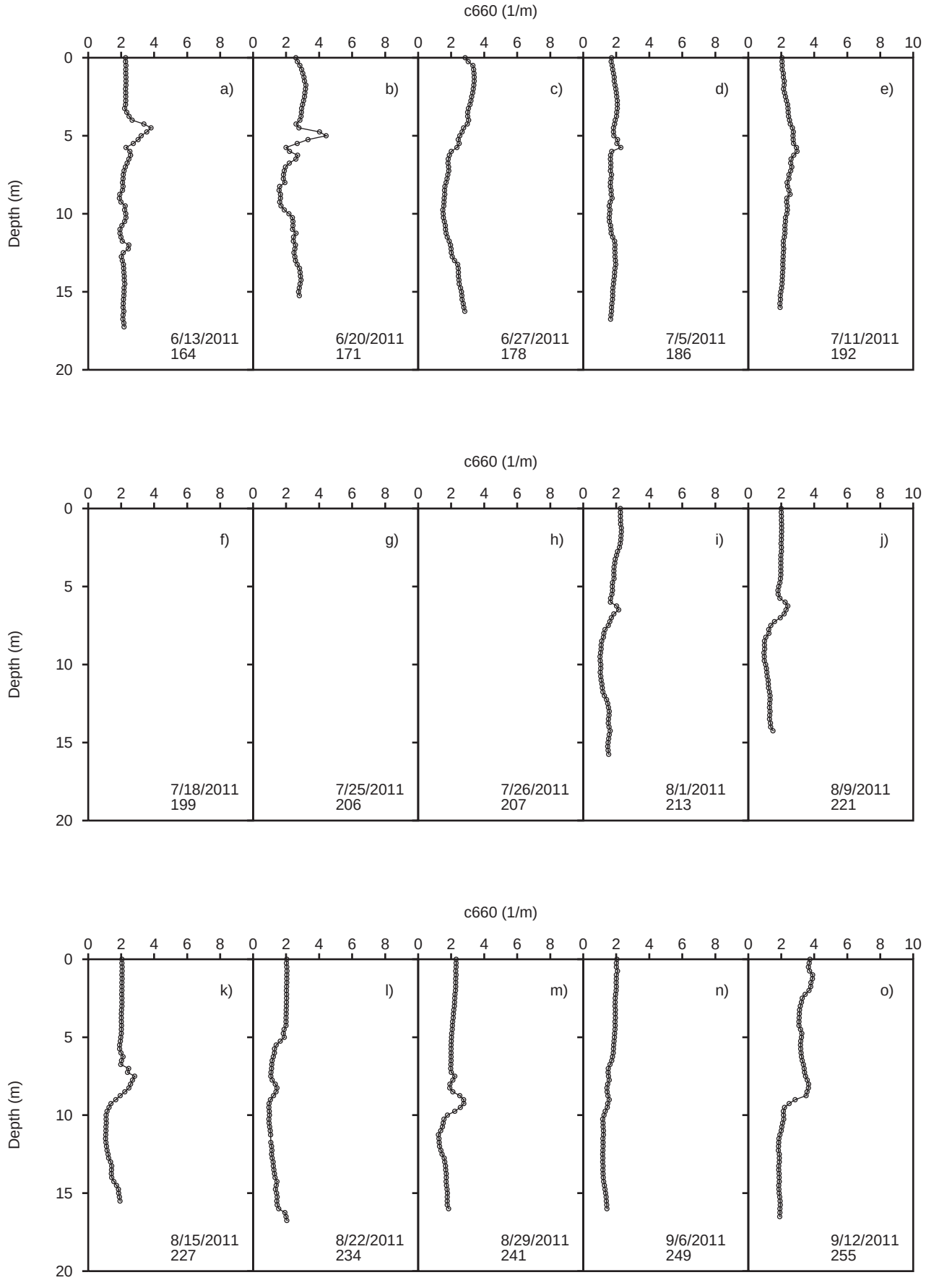
Fri Feb 03 14:34:25 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-42



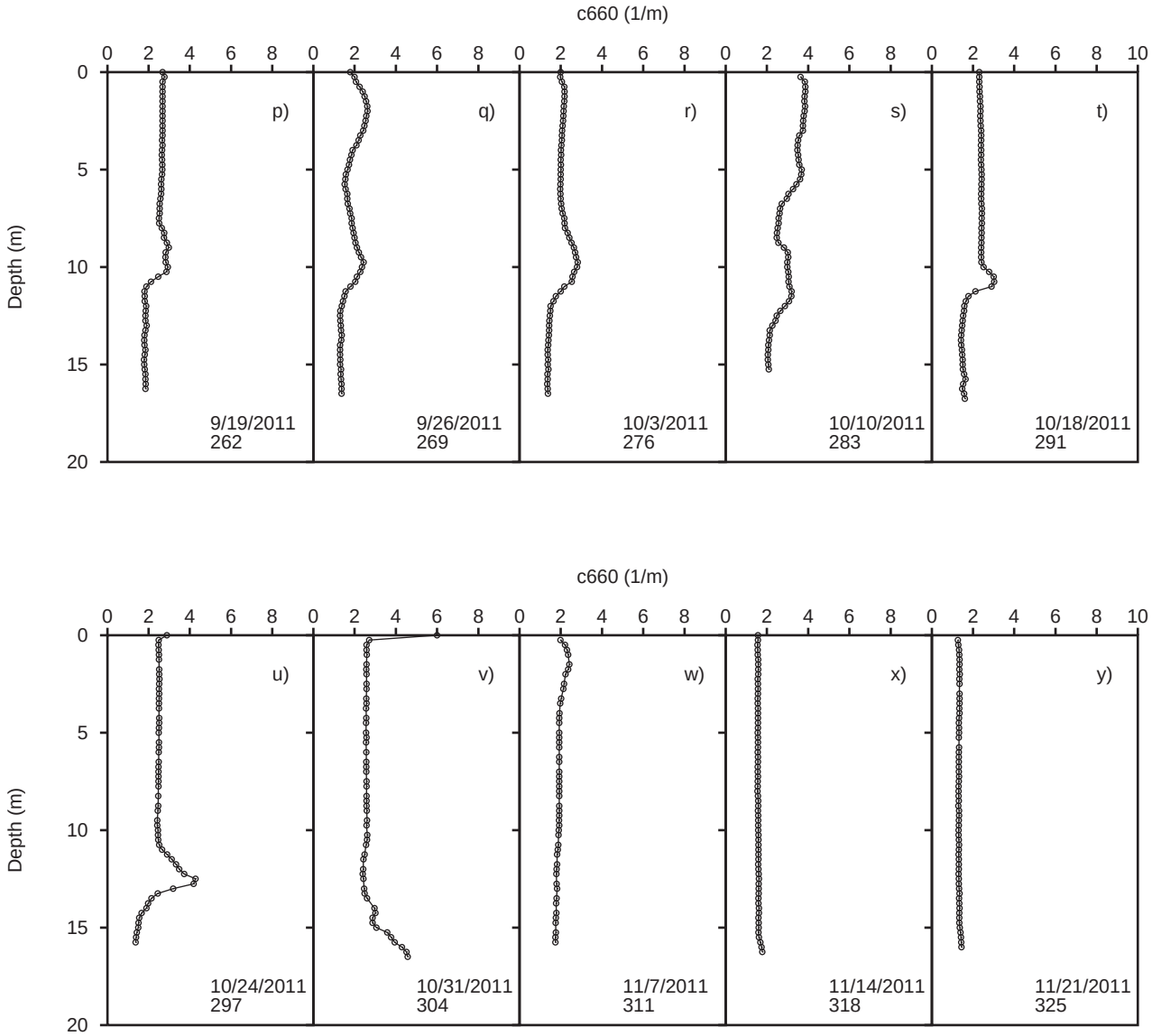
Fri Feb 03 14:34:25 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-43



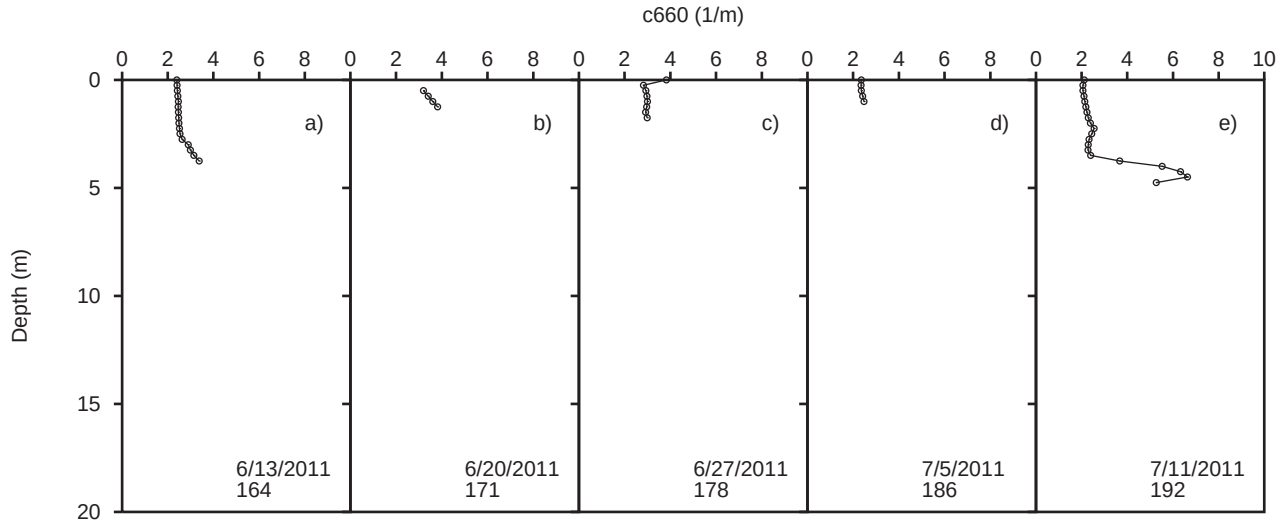
Fri Feb 03 14:54:44 2012

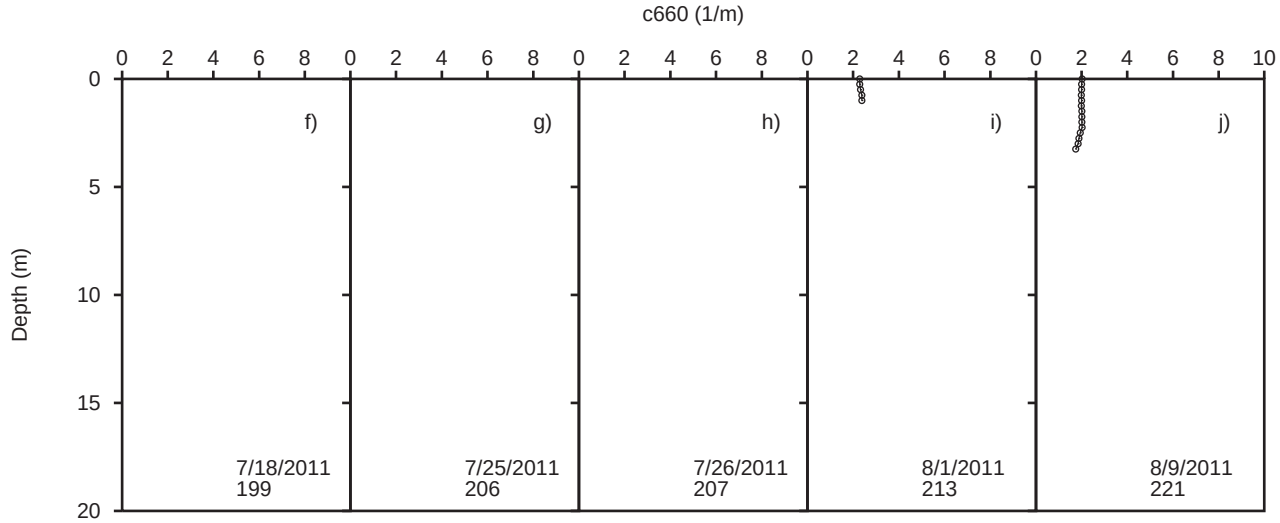
2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-43

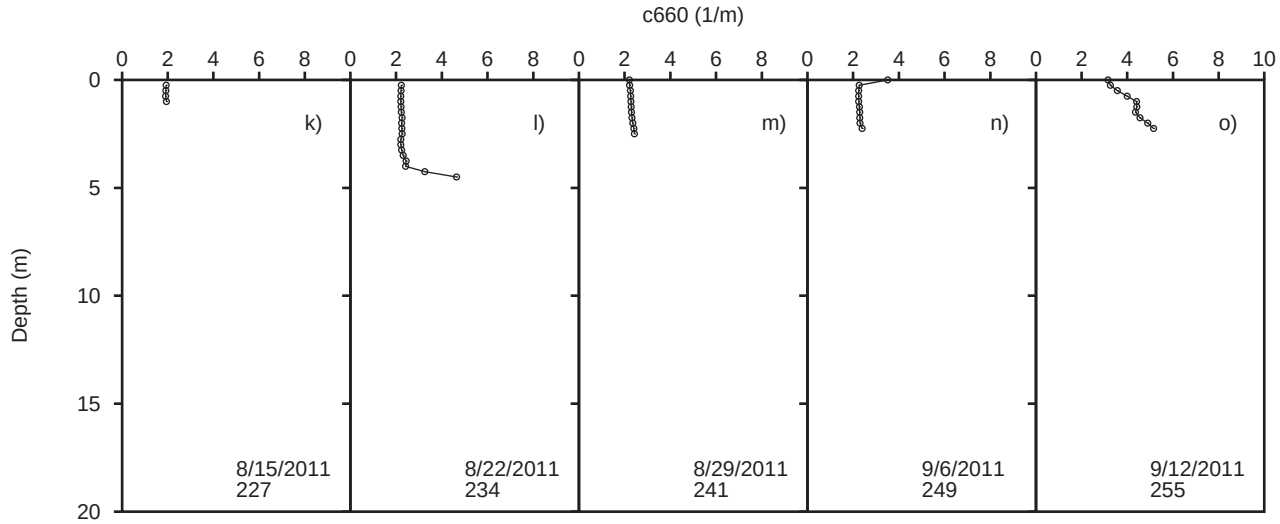


Fri Feb 03 14:54:44 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-44

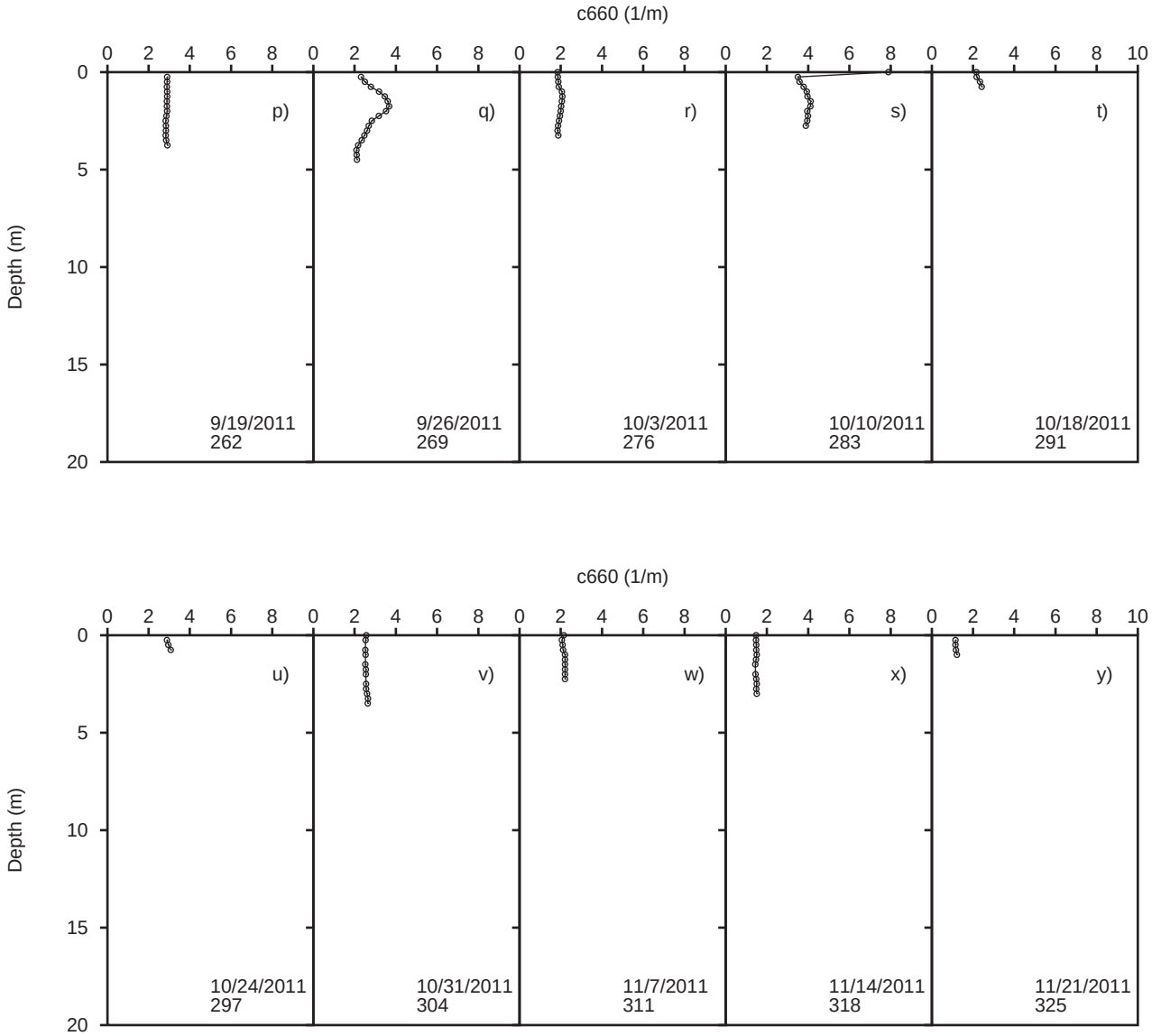






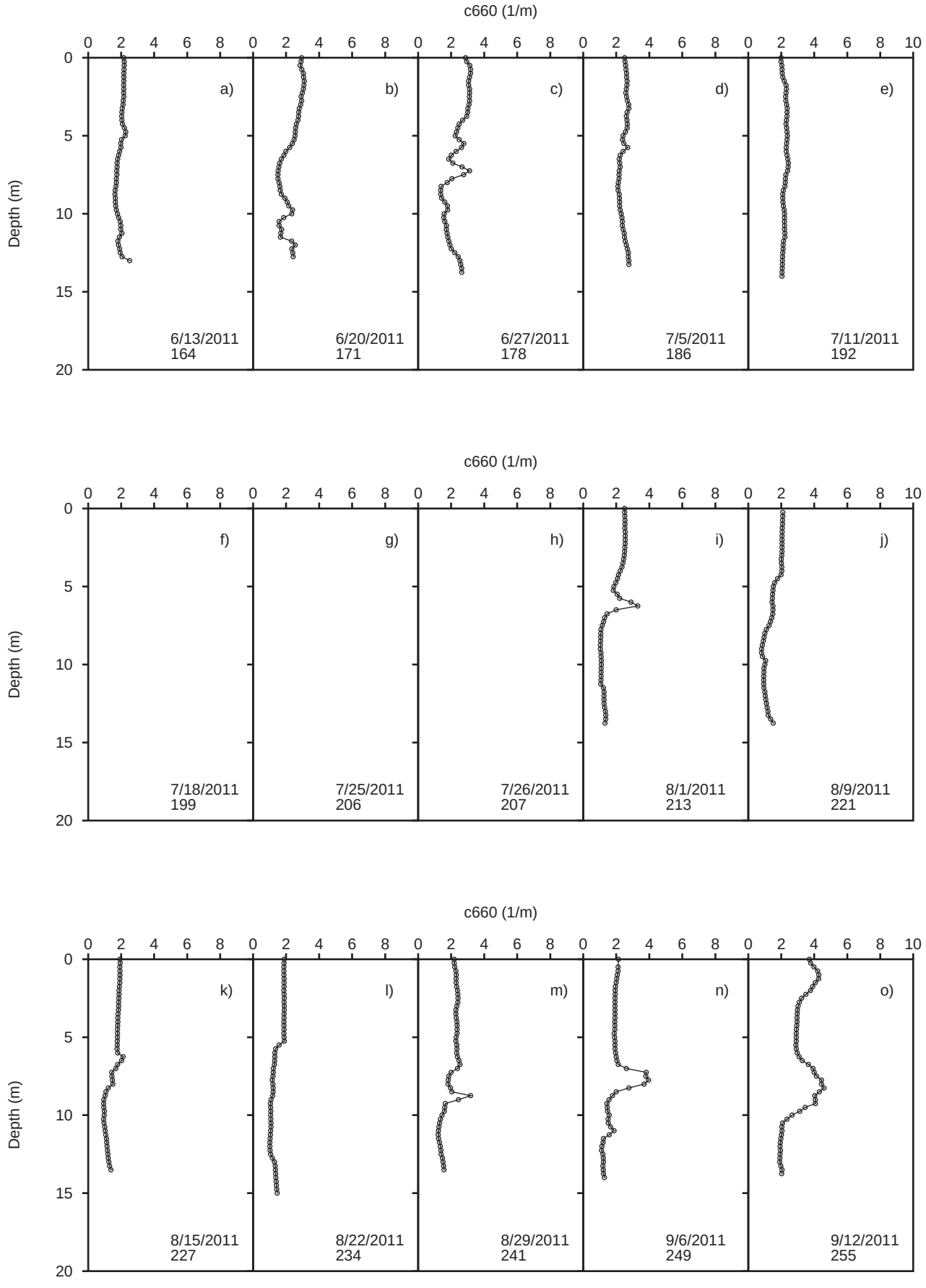
Fri Feb 03 14:56:25 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-44



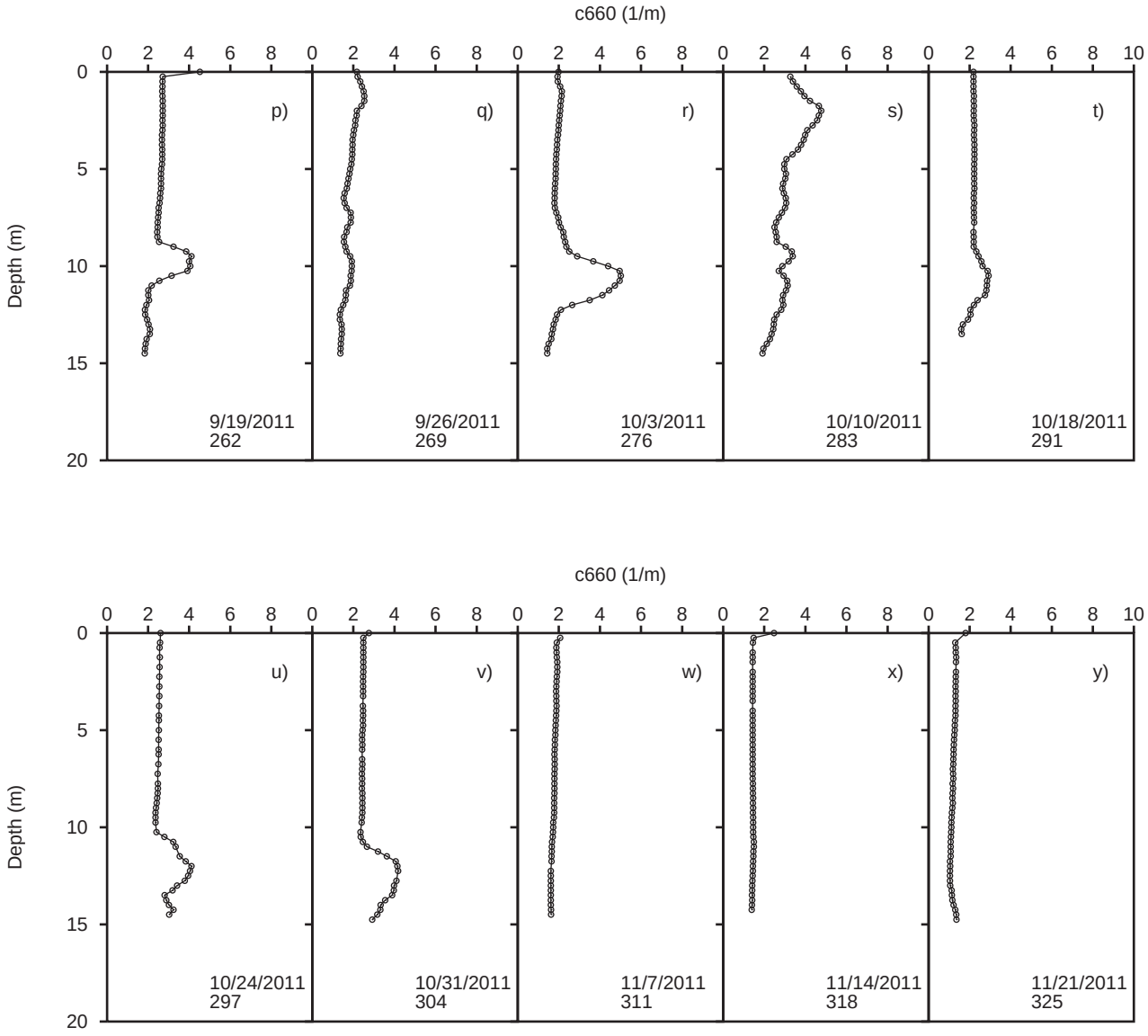
Fri Feb 03 14:56:25 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-45



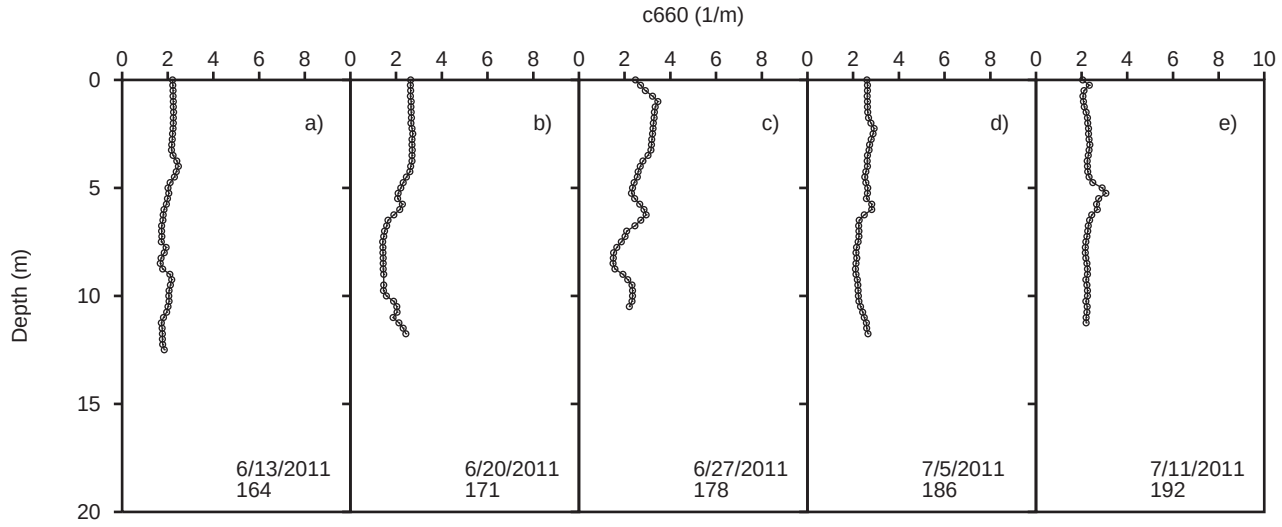
Fri Feb 03 14:57:09 2012

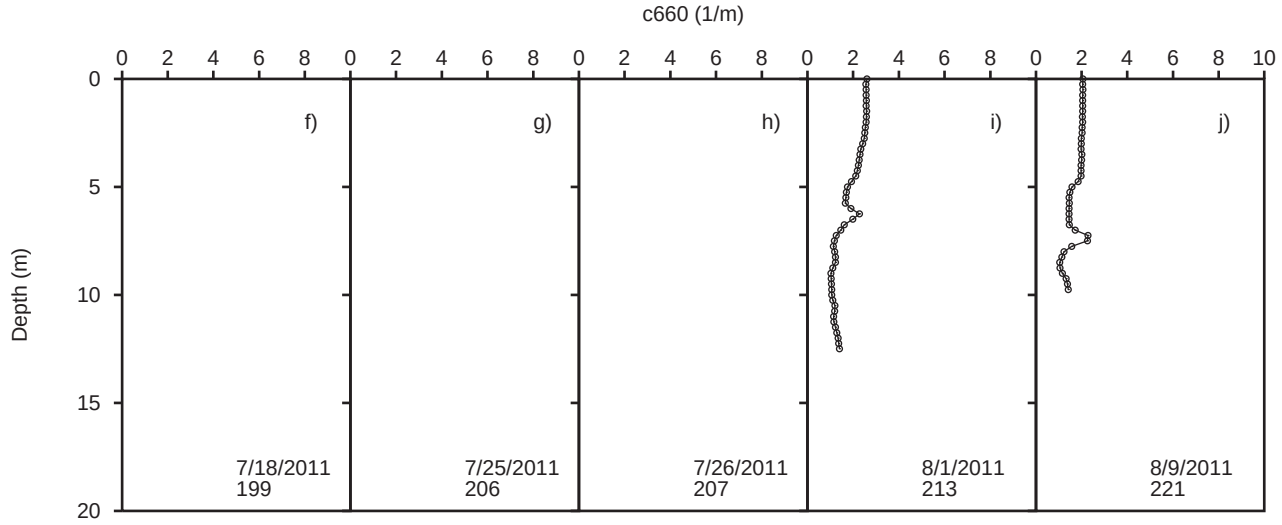
2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-45

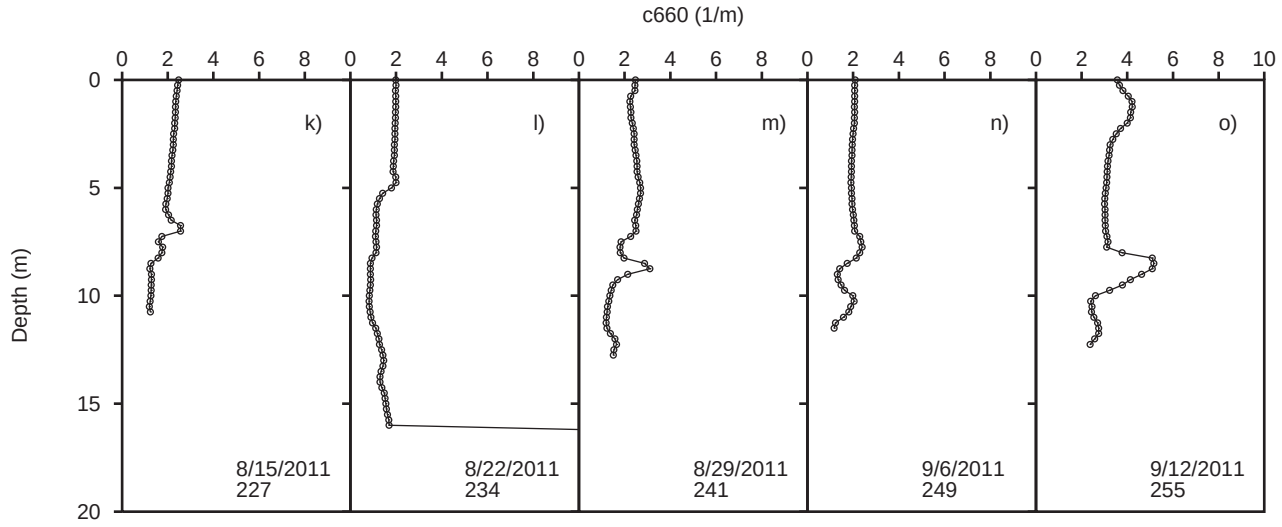


Fri Feb 03 14:57:10 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-46

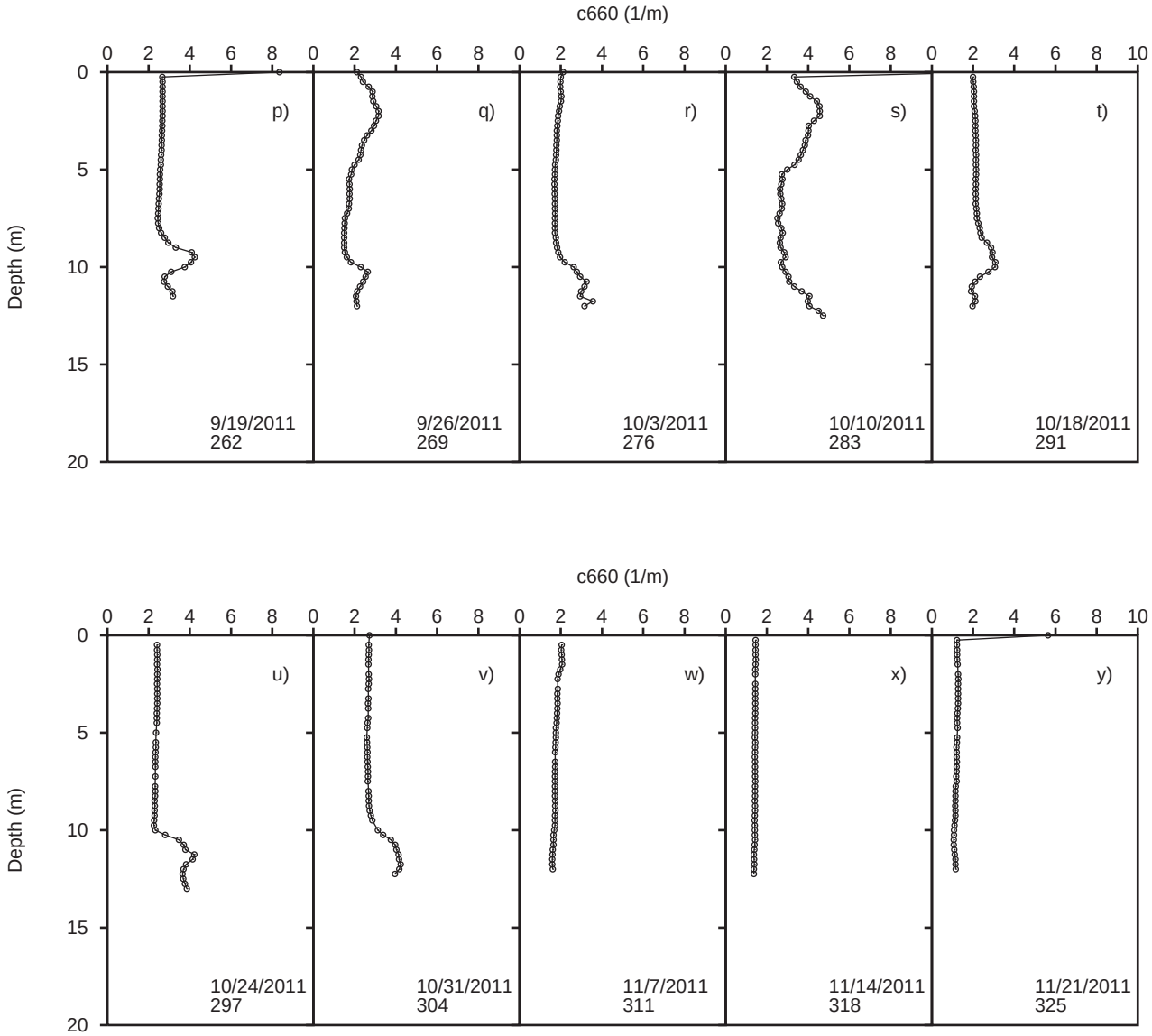






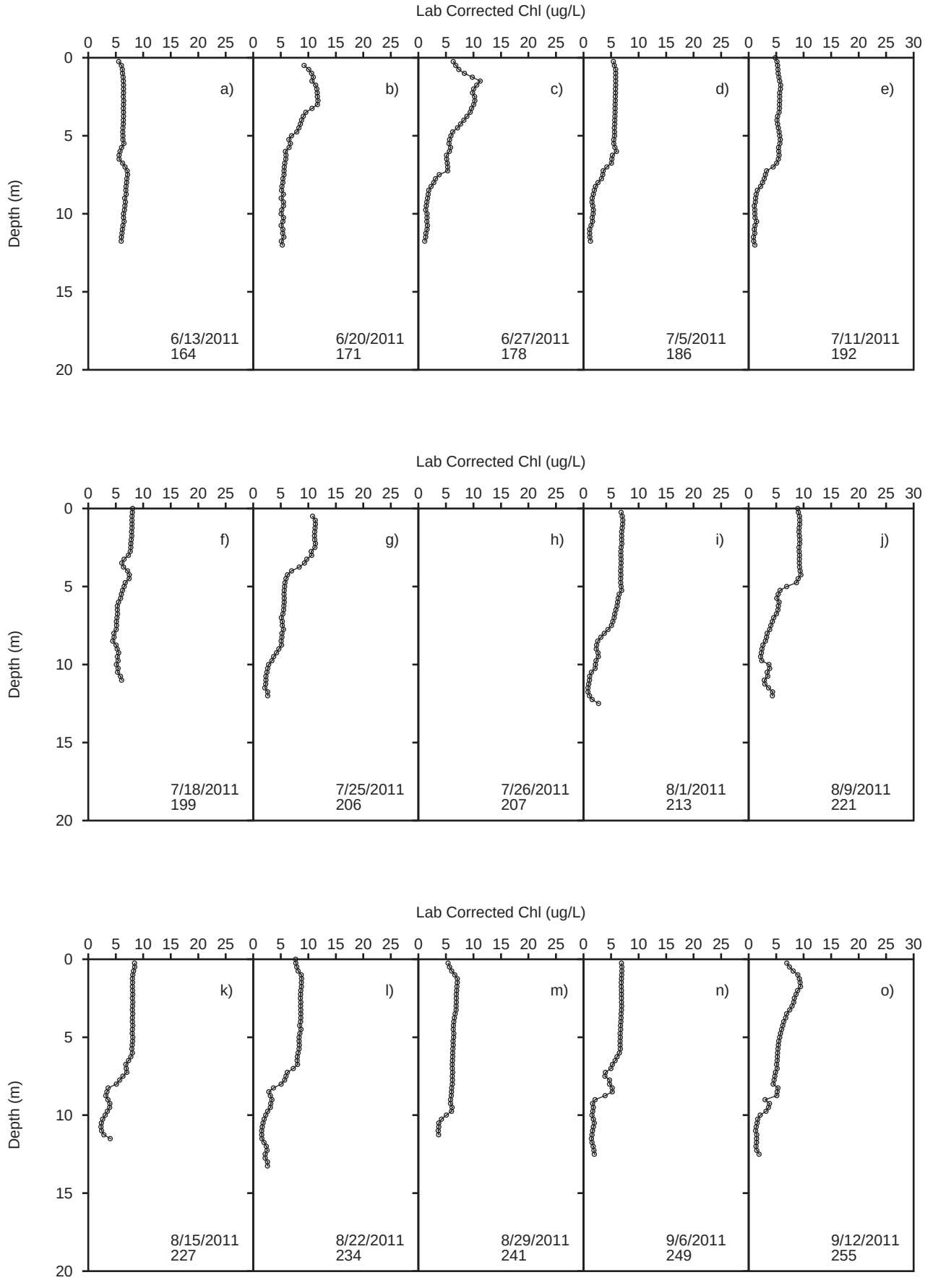
Fri Feb 03 14:57:45 2012

2011 Beam Attenuation Coefficient Profiles for Onondaga Lake ISUS-46



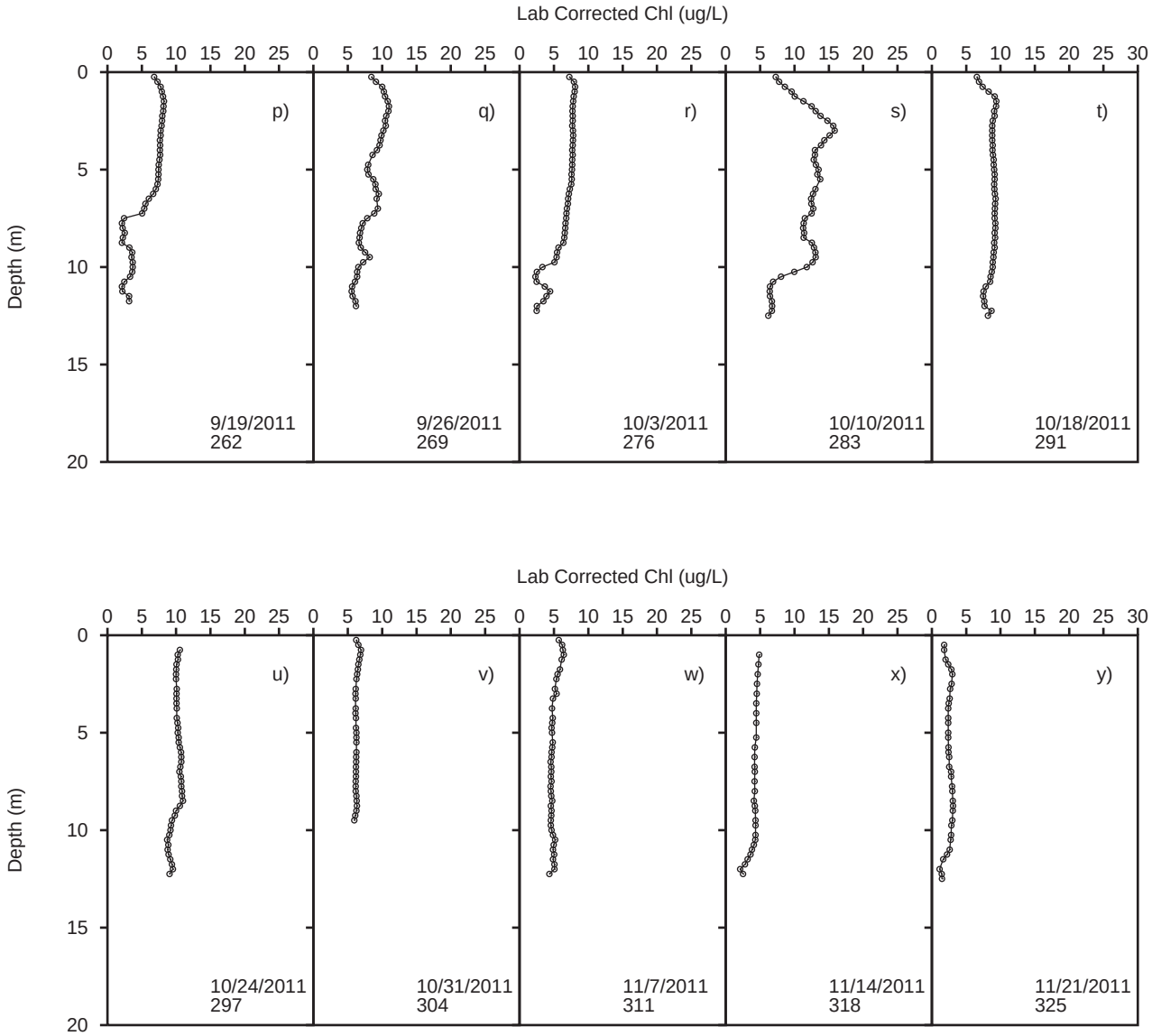
Fri Feb 03 14:57:45 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-5



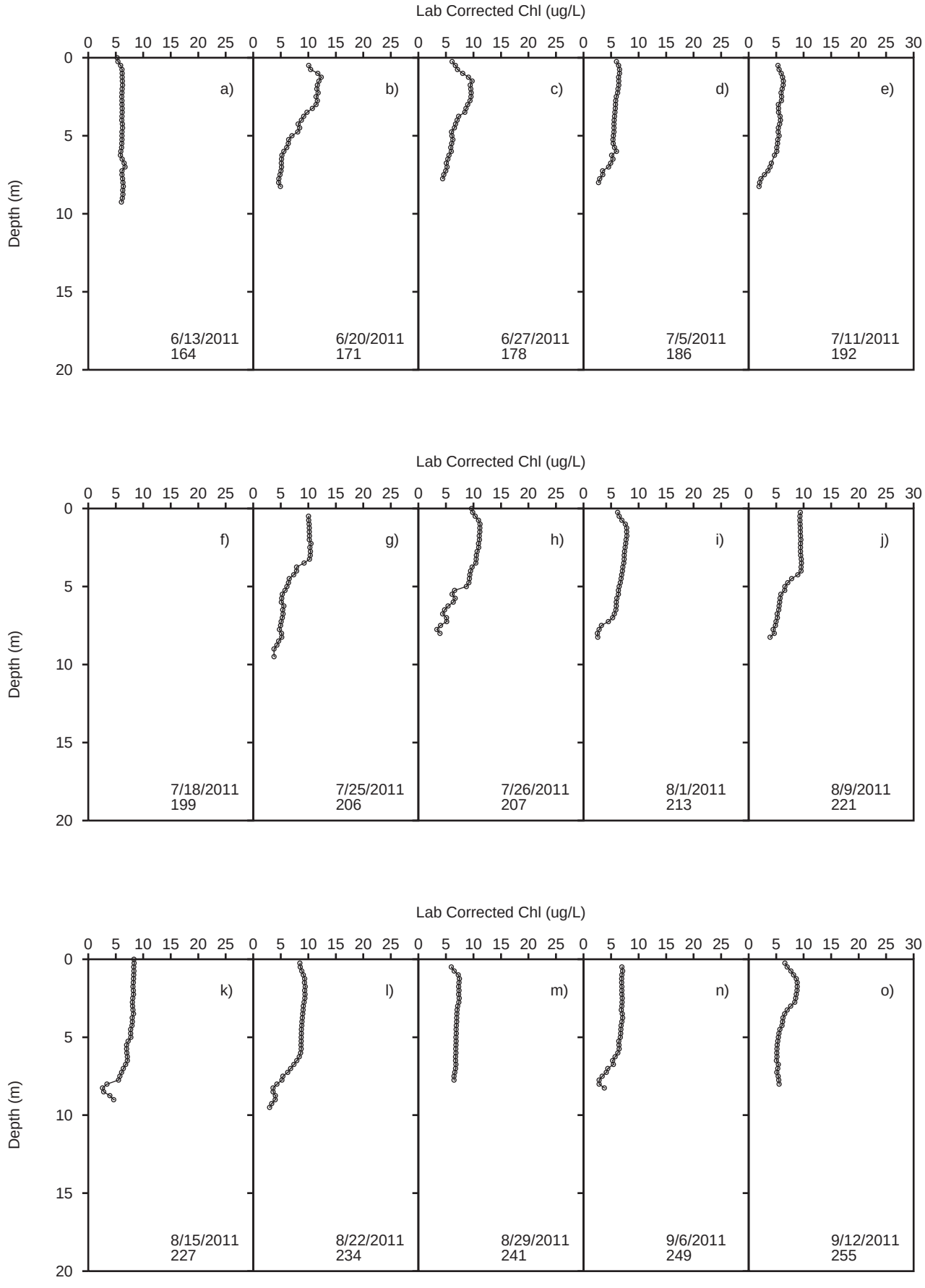
Fri Feb 03 14:18:47 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-5



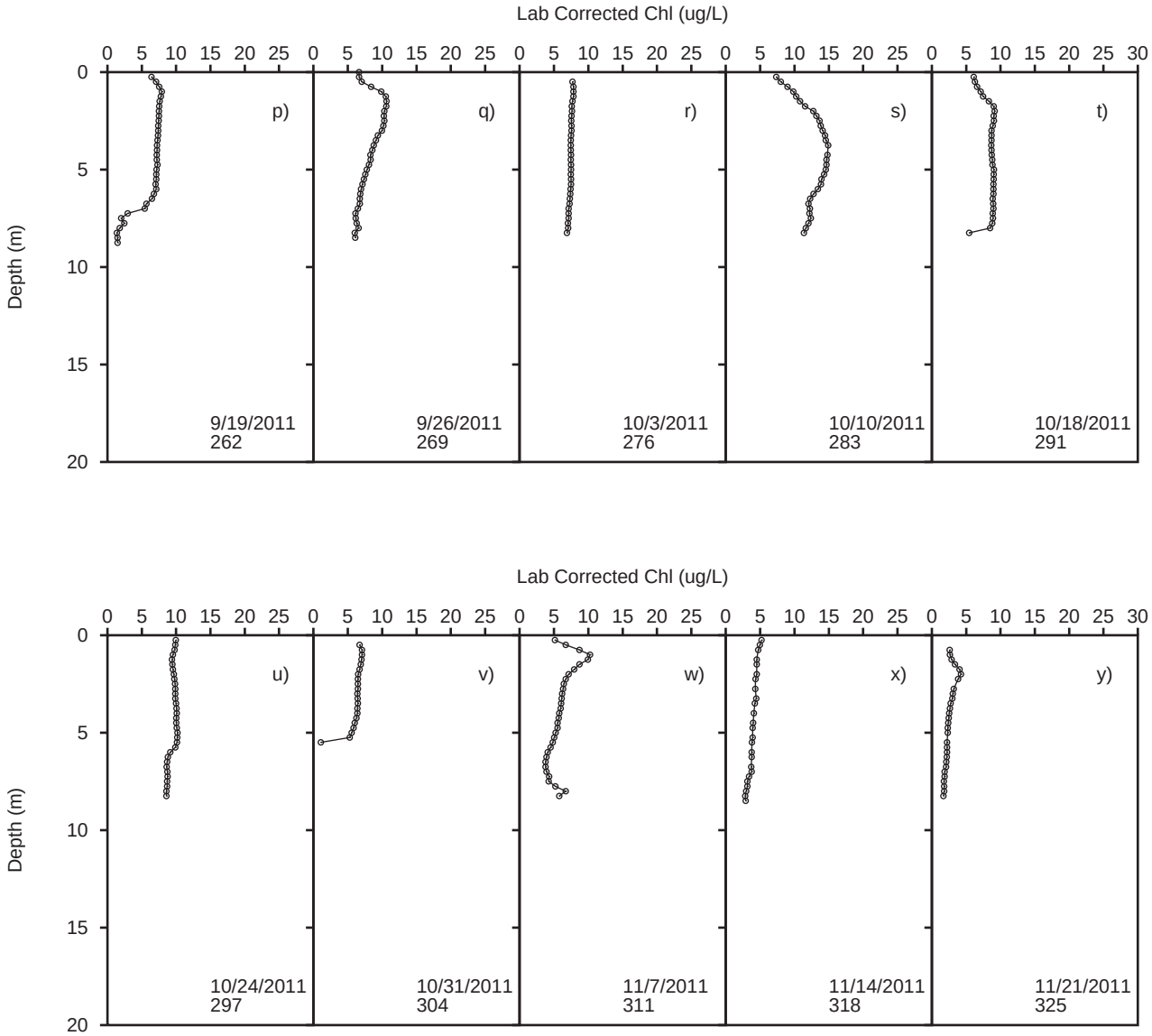
Fri Feb 03 14:18:47 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-6



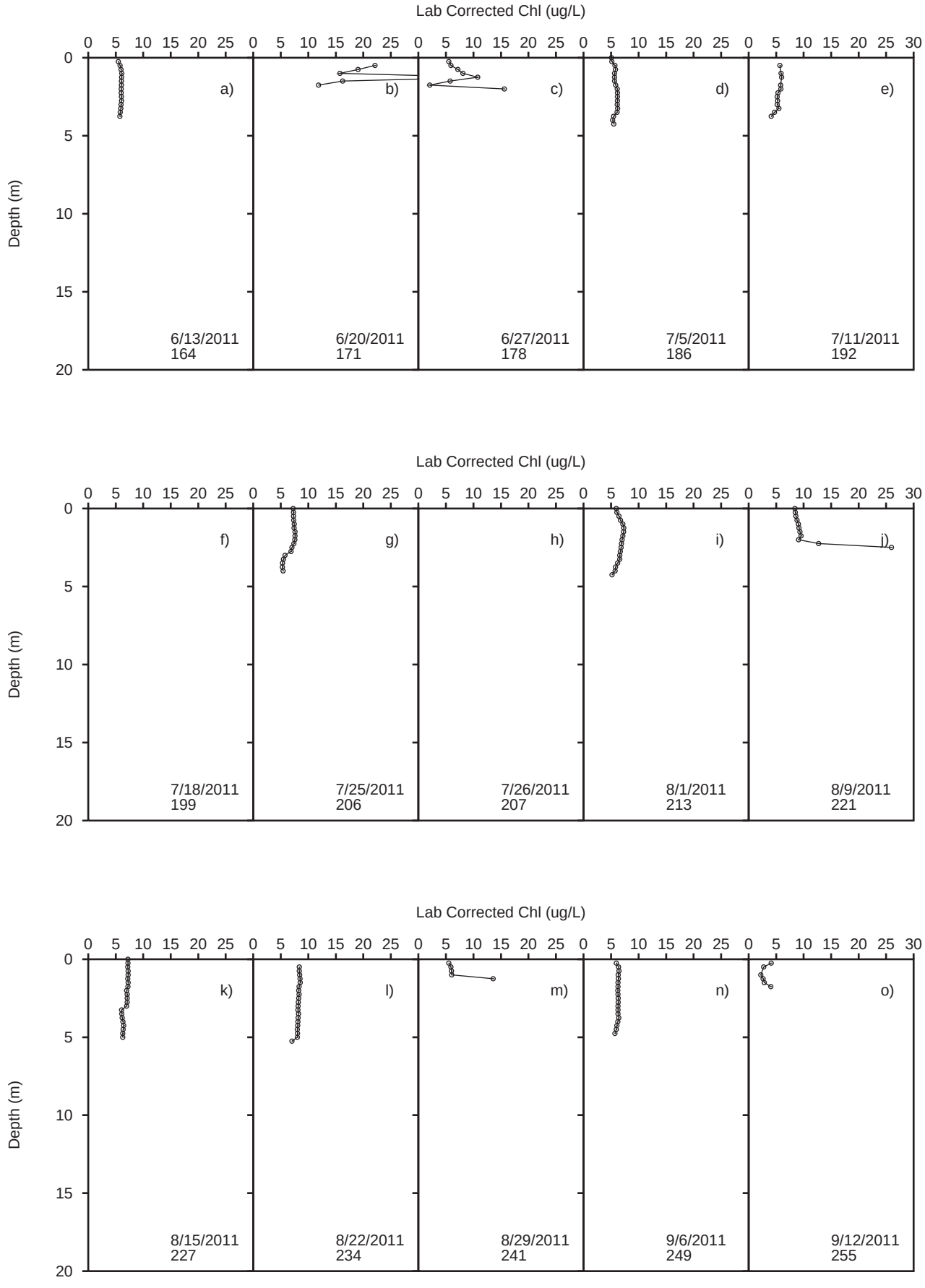
Fri Feb 03 14:22:15 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-6



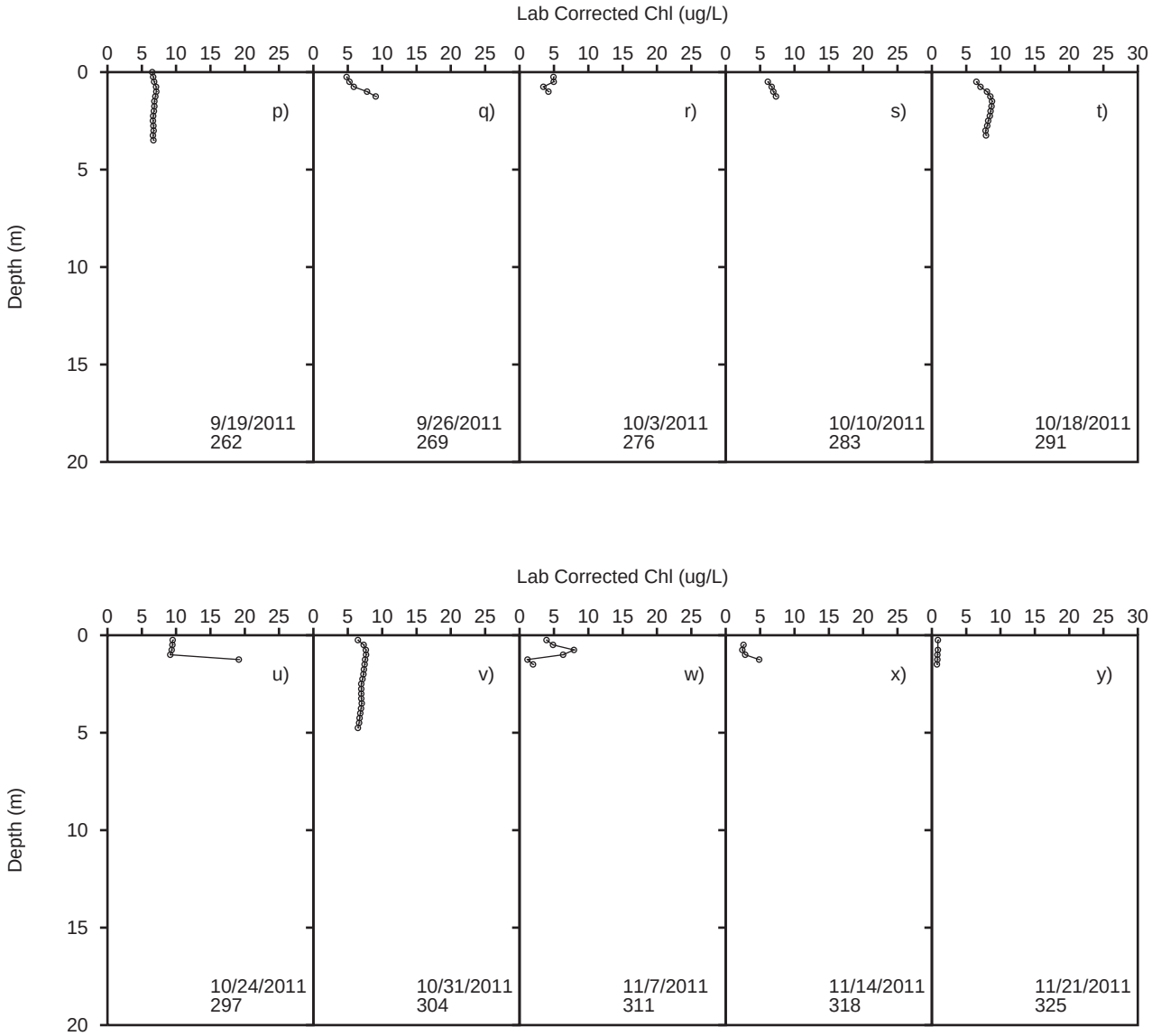
Fri Feb 03 14:22:15 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-7



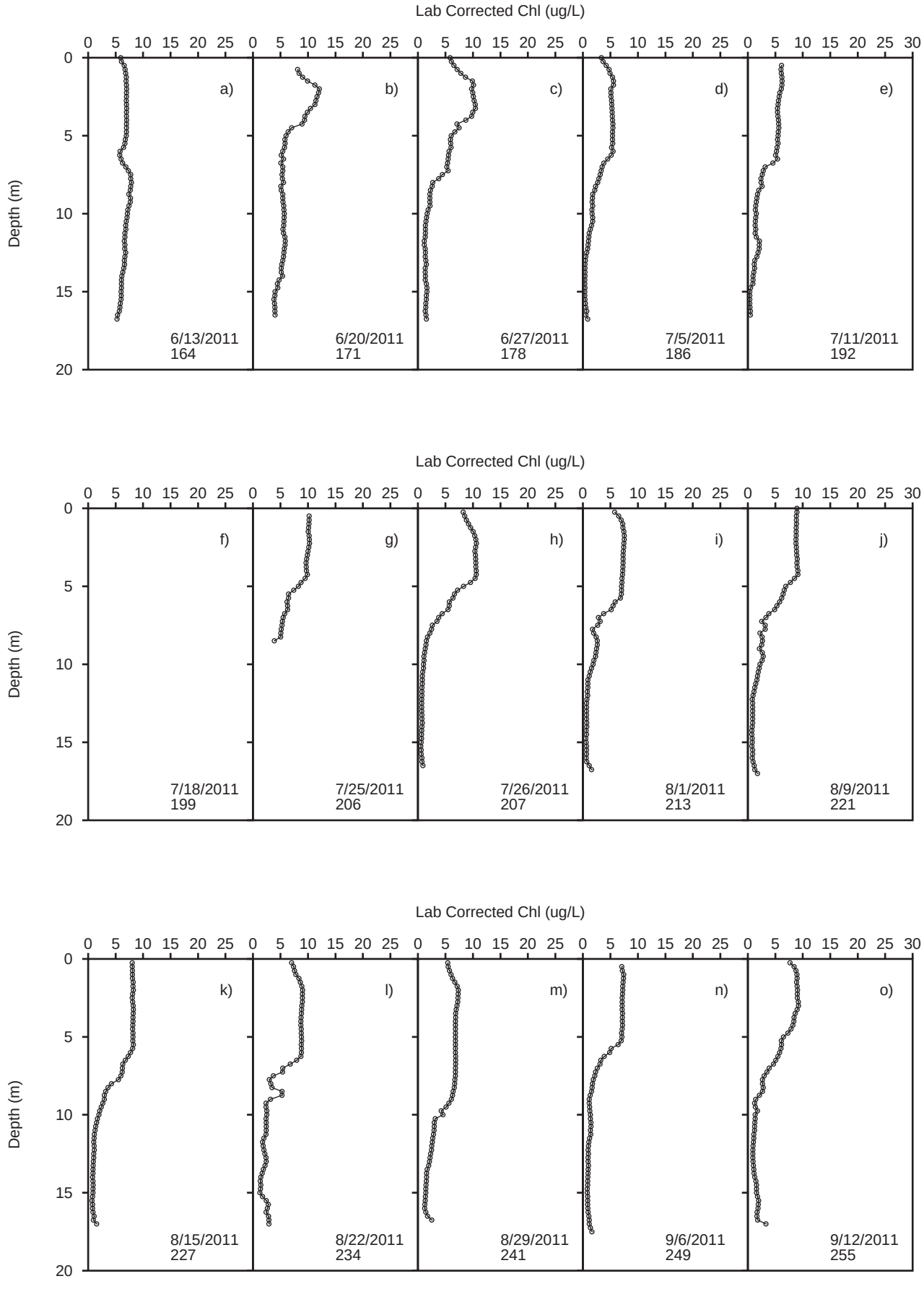
Fri Feb 03 14:26:12 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-7



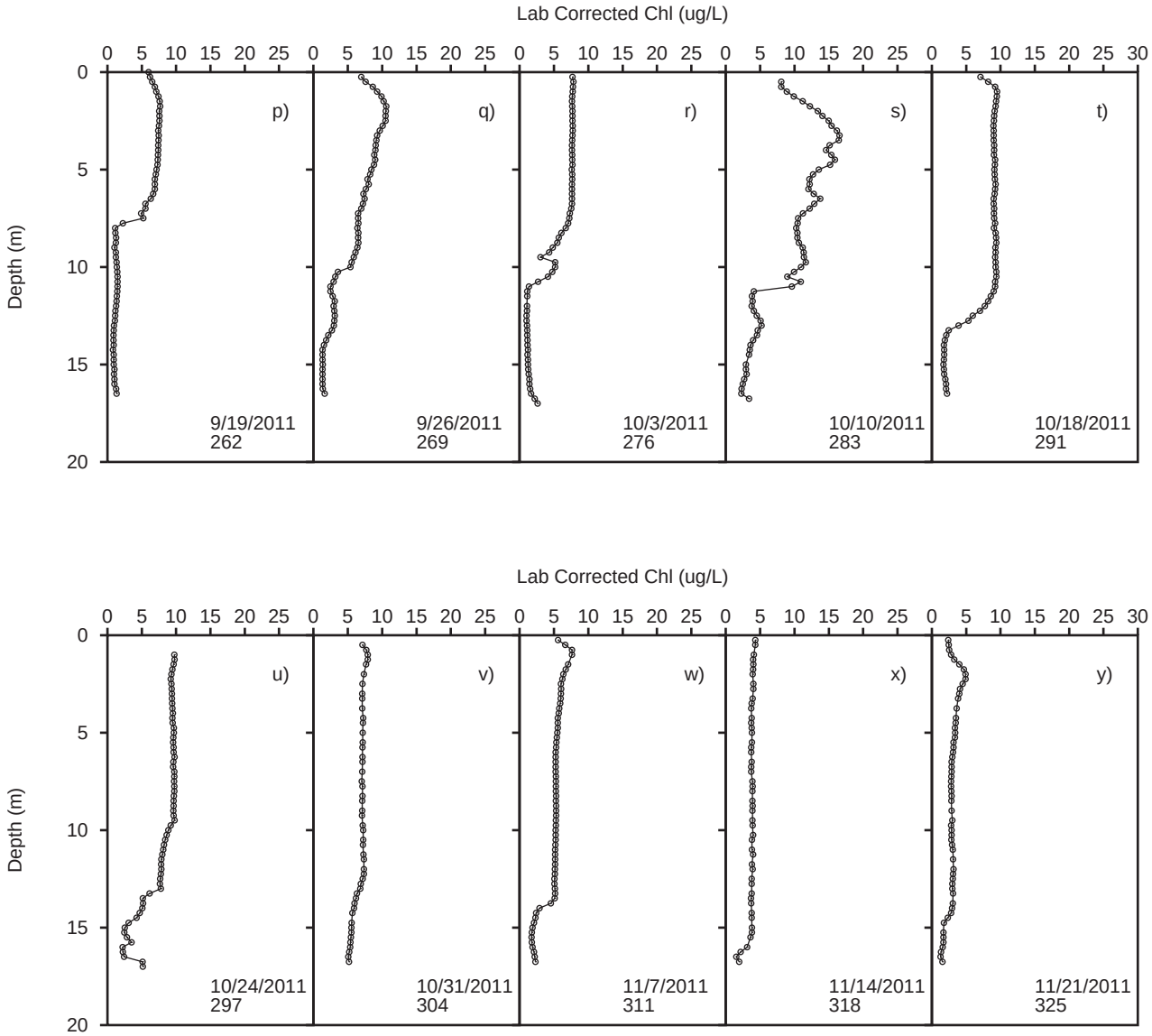
Fri Feb 03 14:26:12 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-8



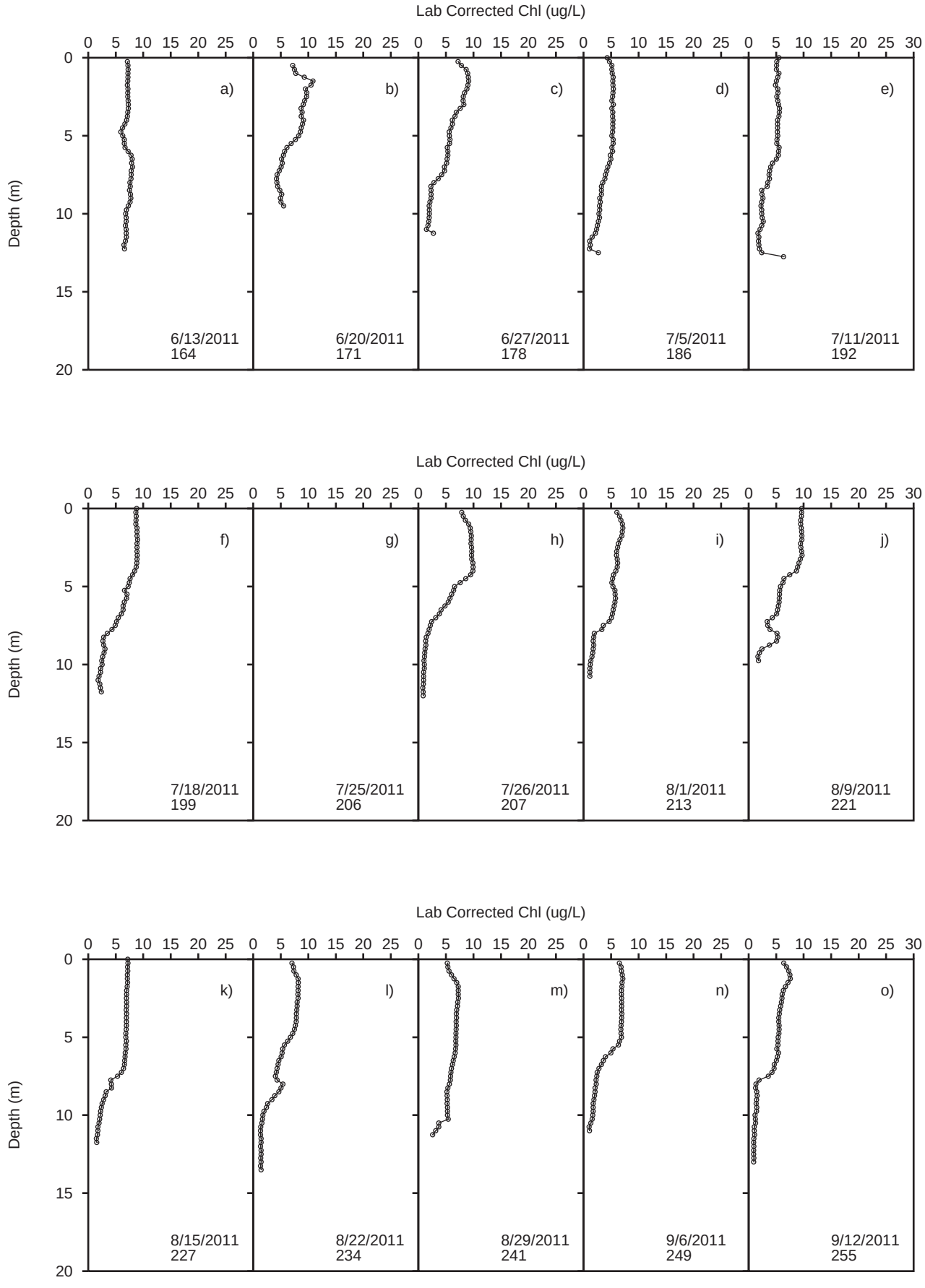
Fri Feb 03 14:30:00 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-8



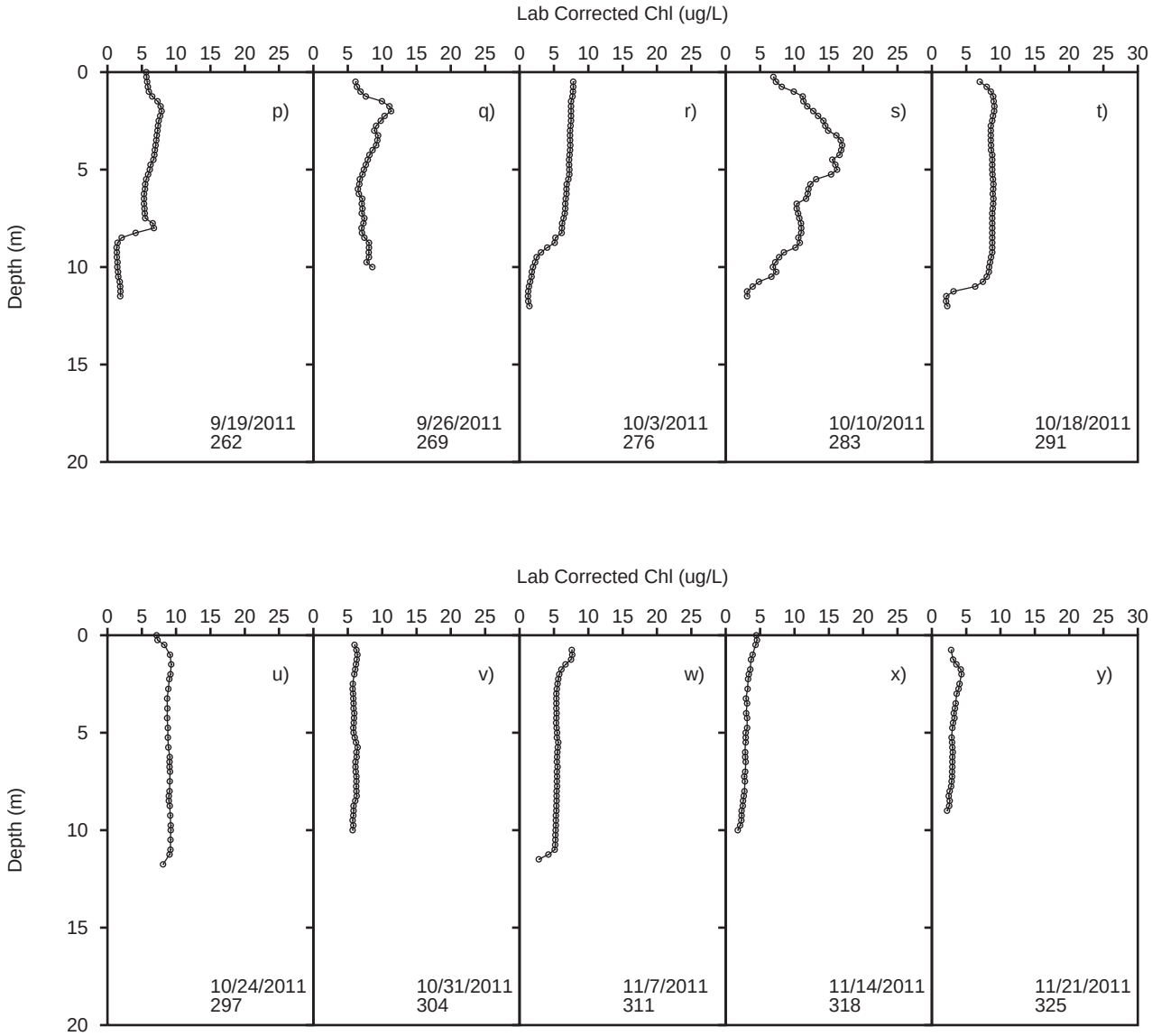
Fri Feb 03 14:30:00 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-9



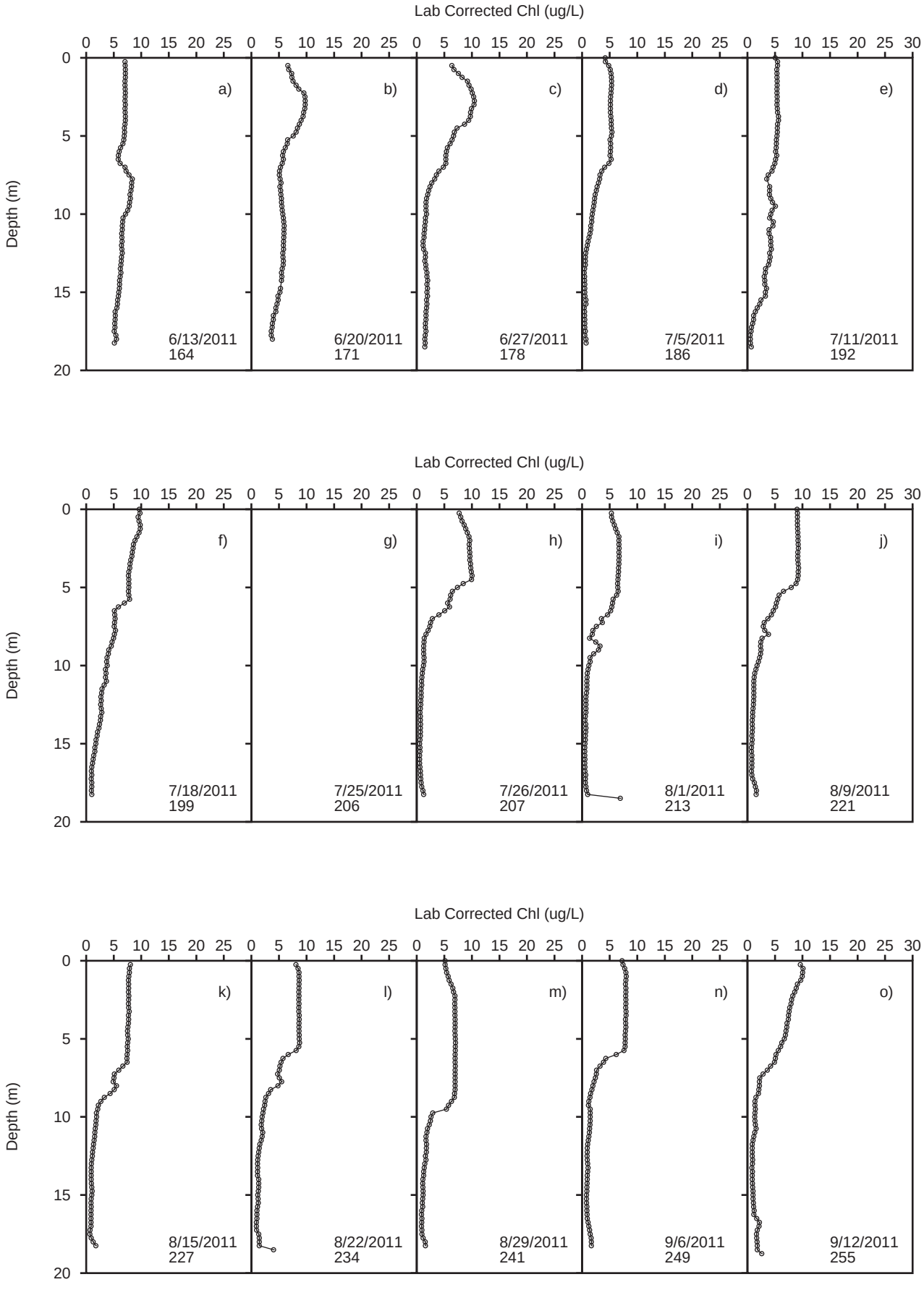
Fri Feb 03 14:36:59 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-9



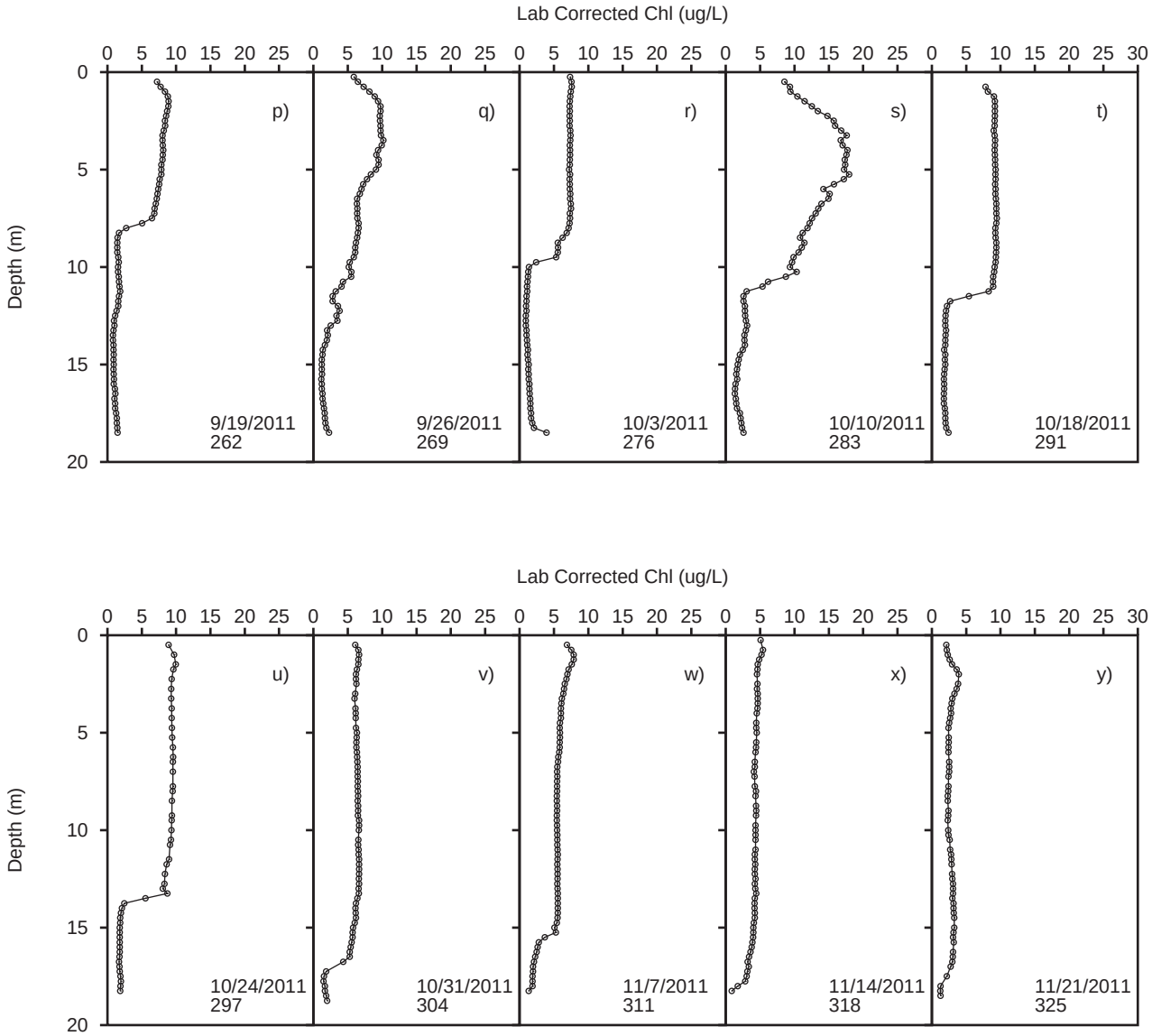
Fri Feb 03 14:36:59 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-11



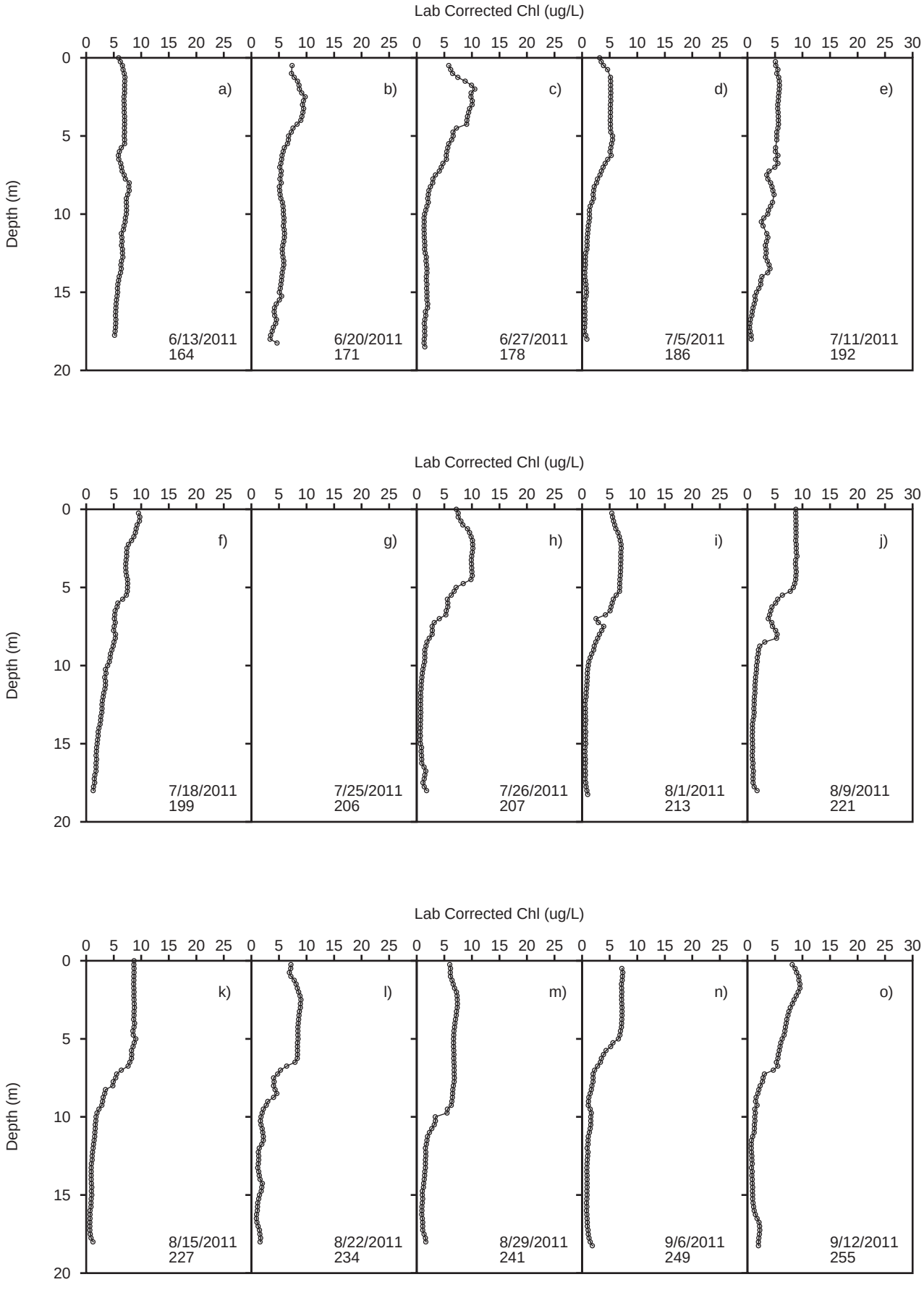
Fri Feb 03 14:40:49 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-11



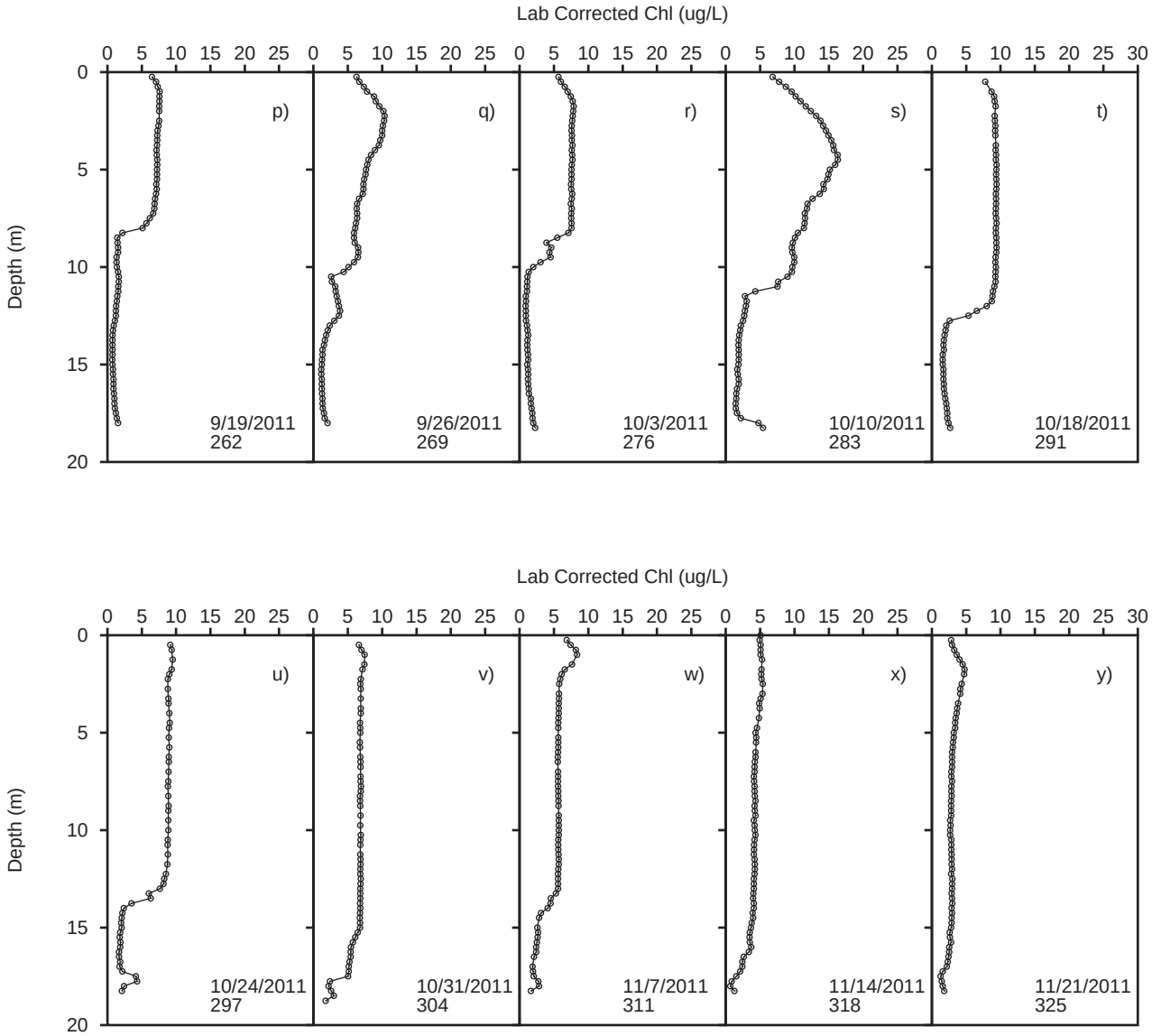
Fri Feb 03 14:40:49 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-12



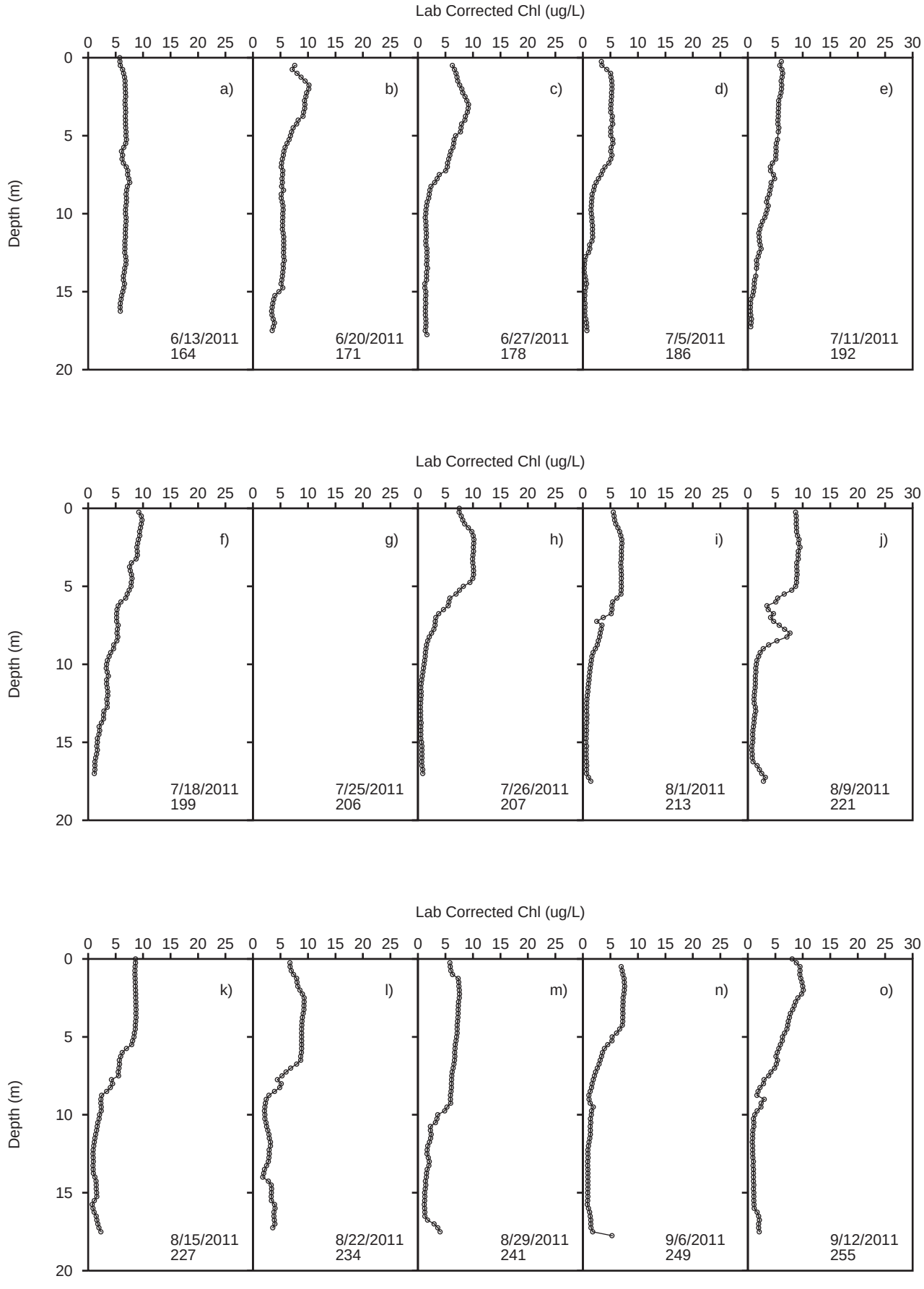
Fri Feb 03 14:42:40 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-12



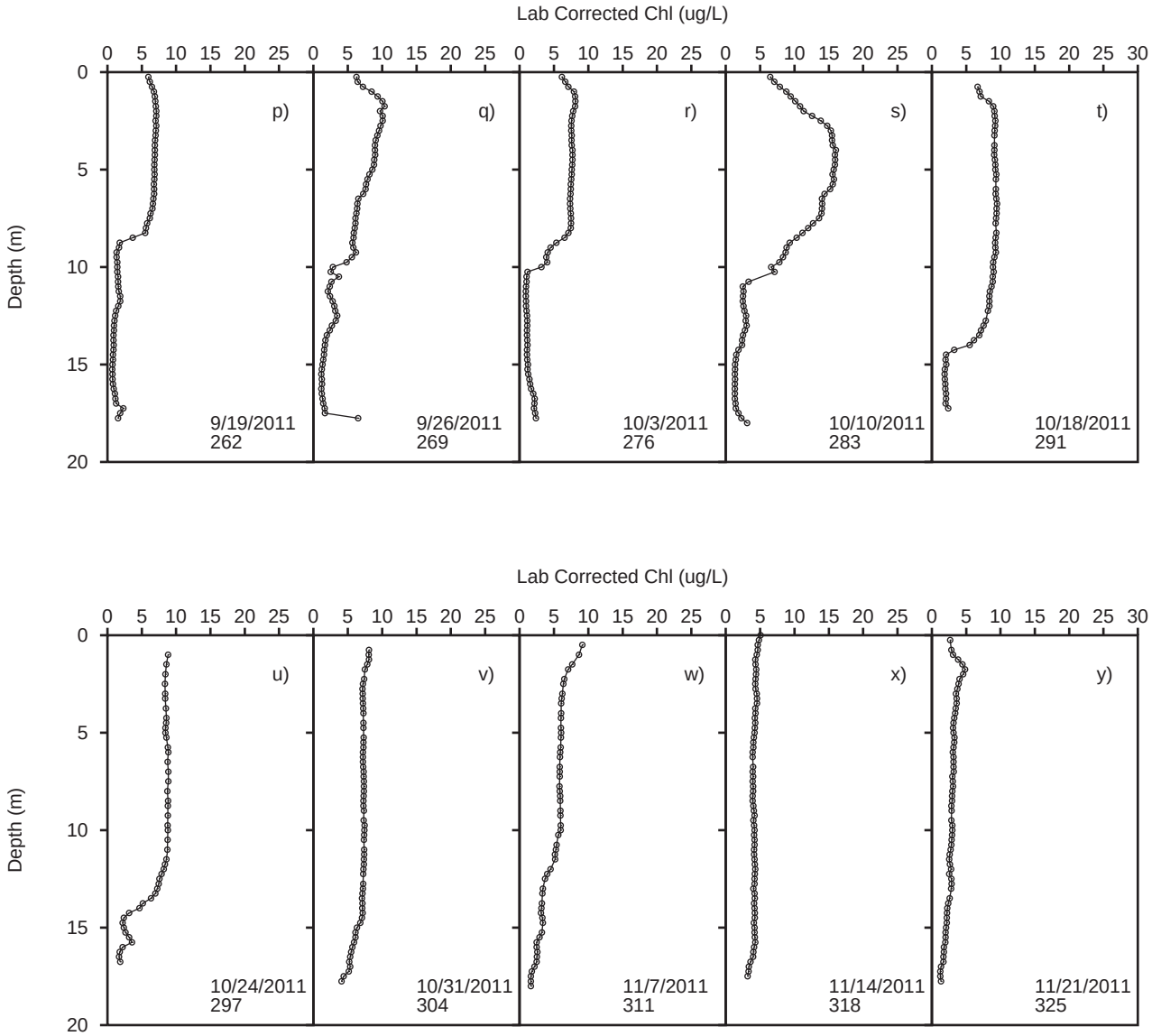
Fri Feb 03 14:42:40 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-13



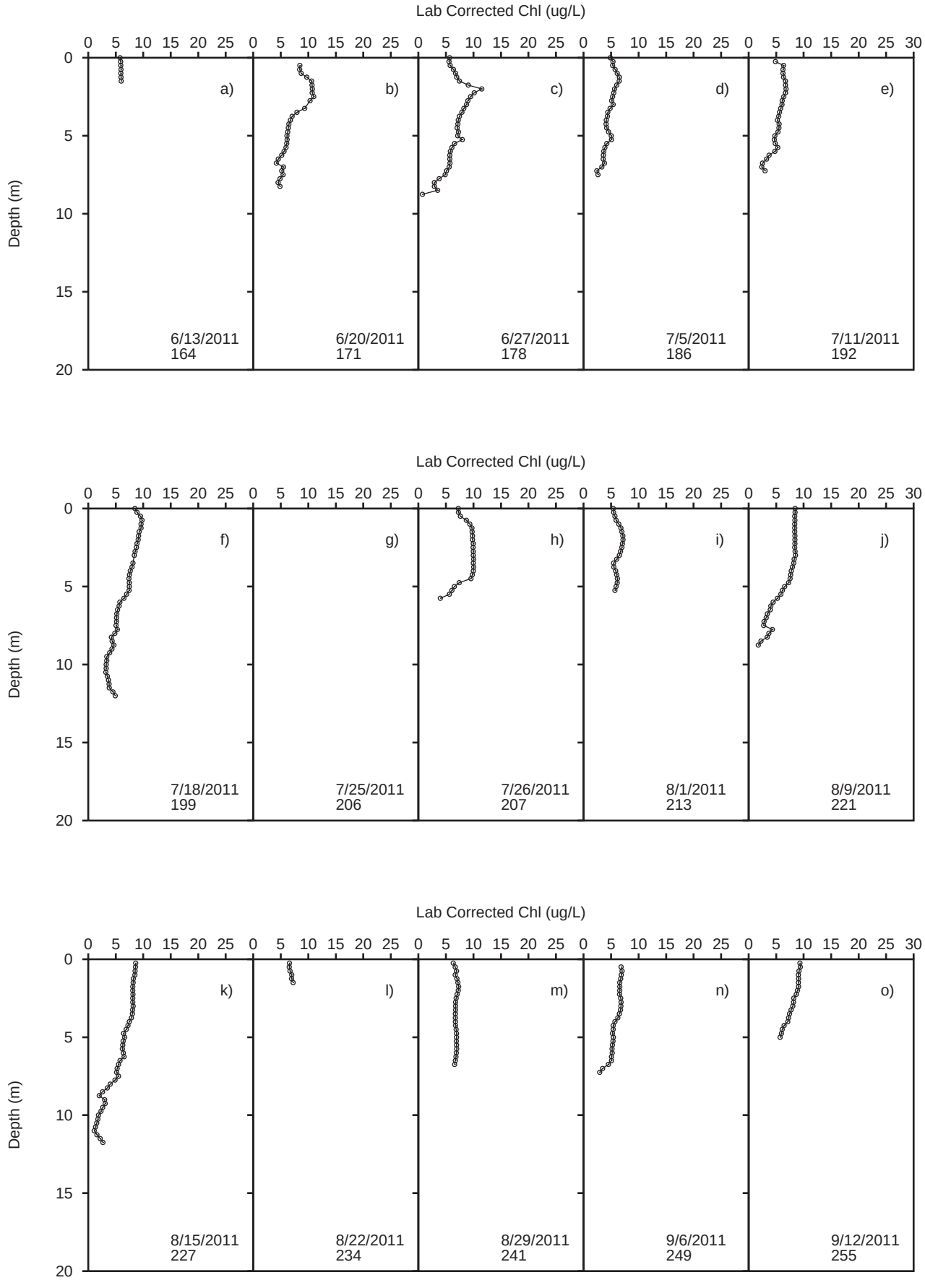
Fri Feb 03 14:45:14 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-13



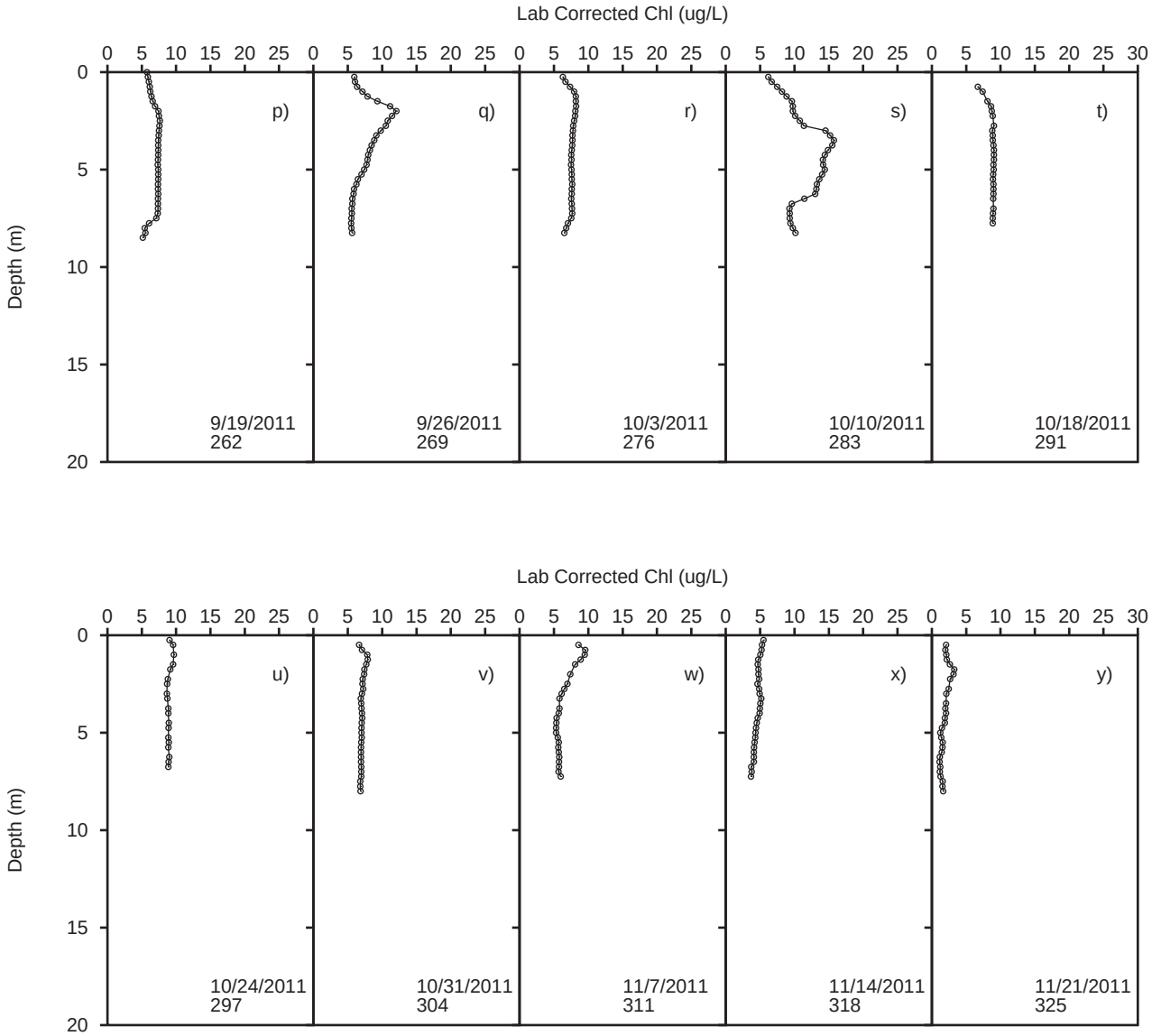
Fri Feb 03 14:45:14 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-15



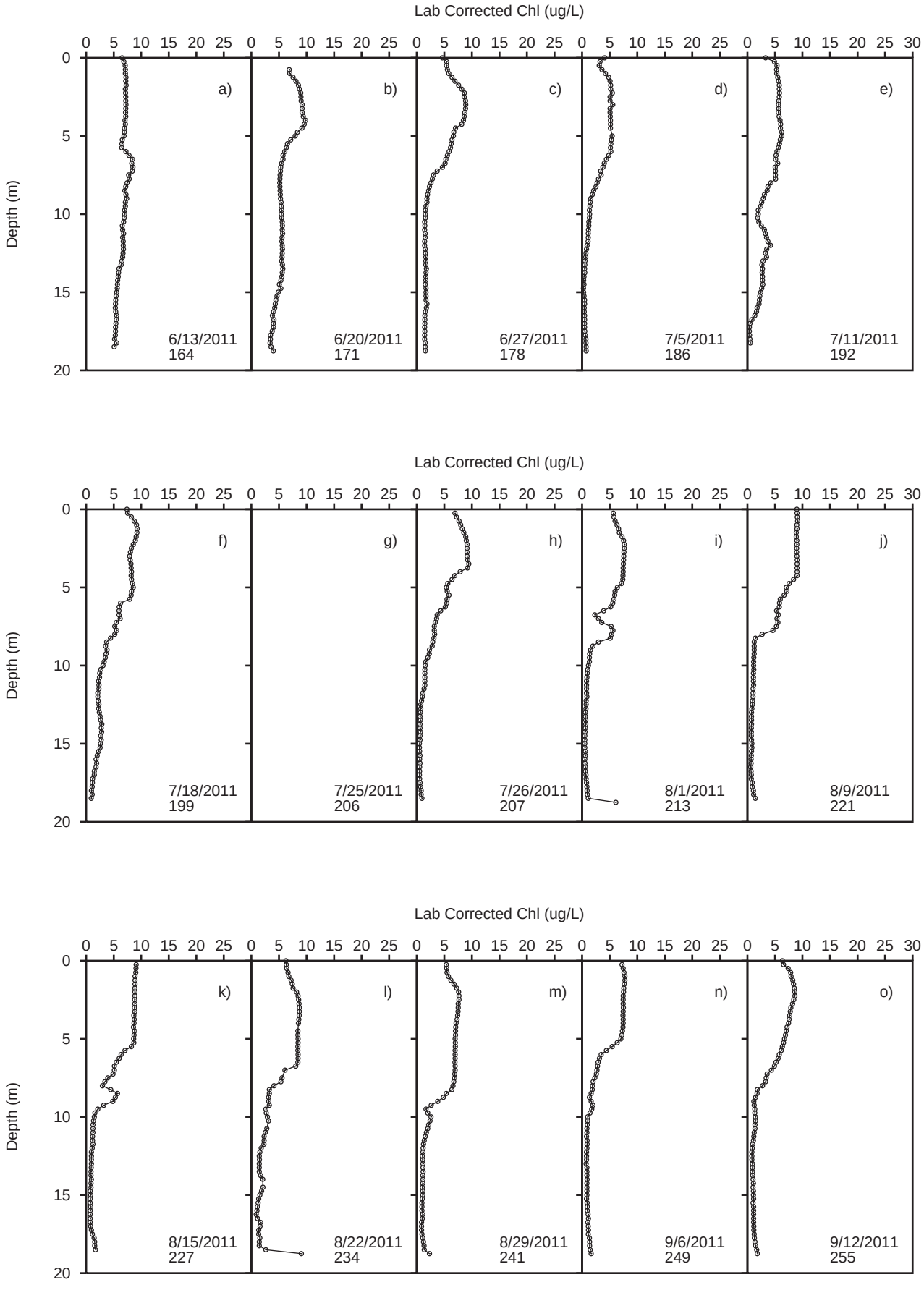
Fri Feb 03 14:46:52 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-15



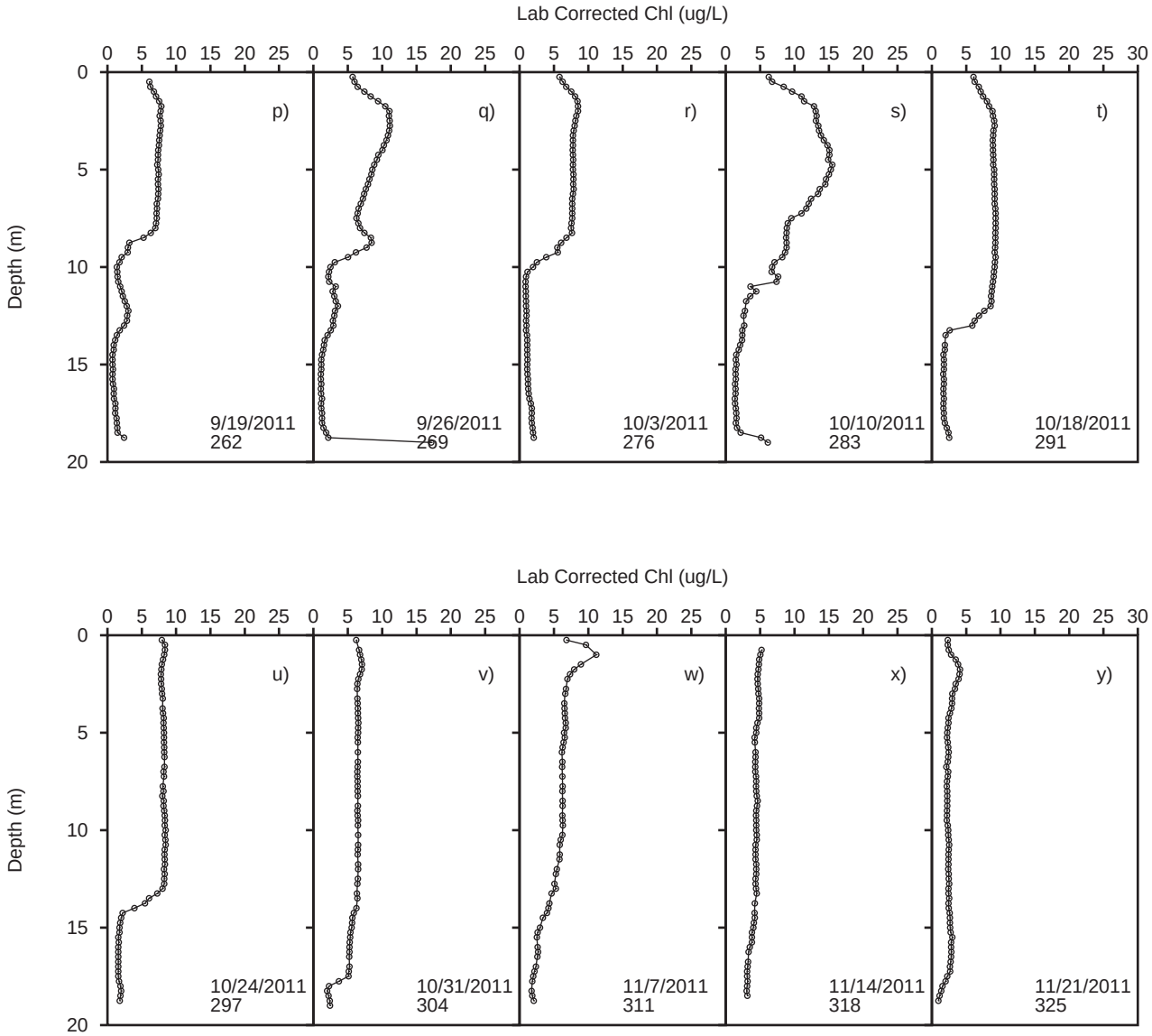
Fri Feb 03 14:46:52 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-18



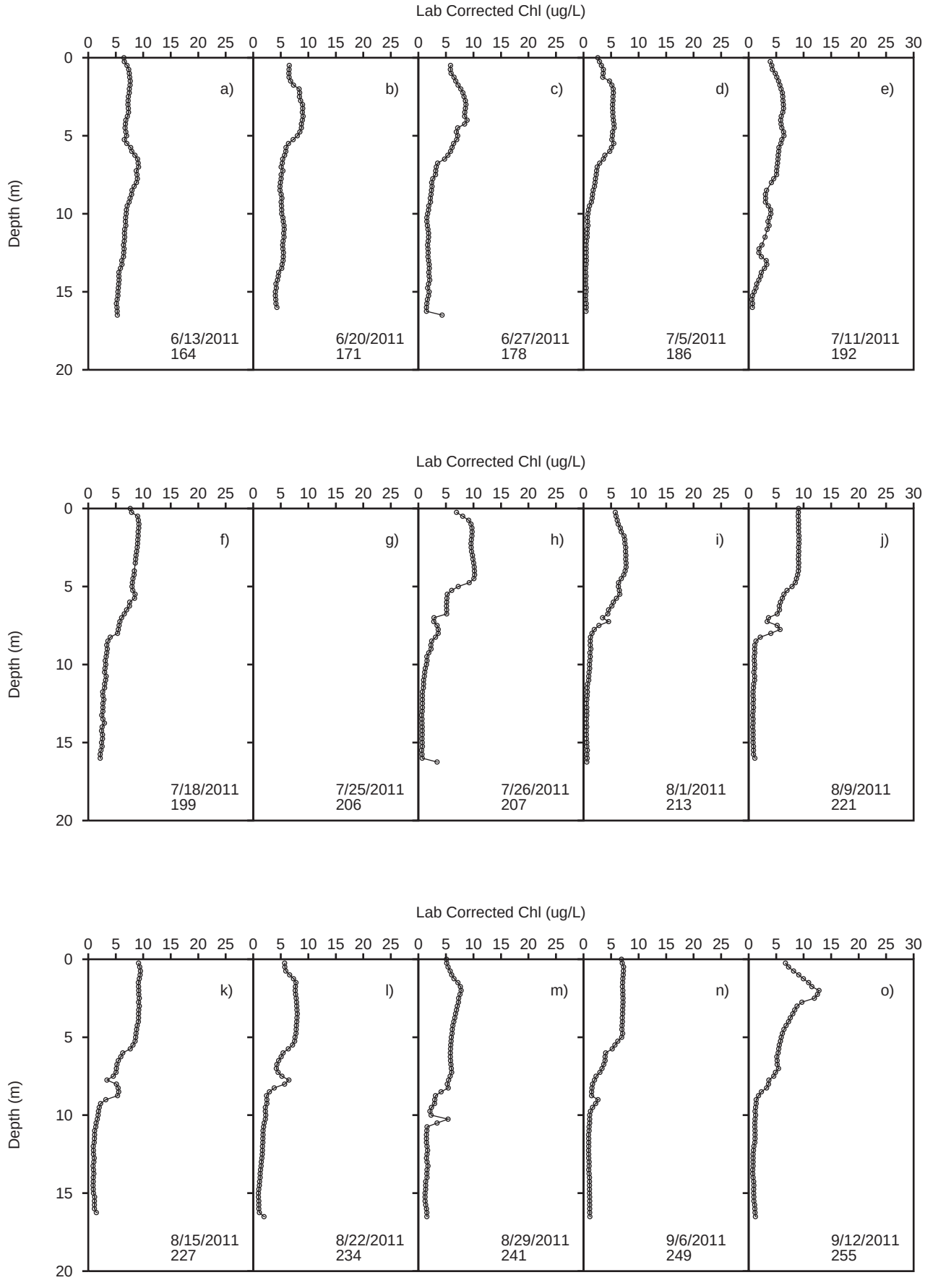
Fri Feb 03 14:49:05 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-18



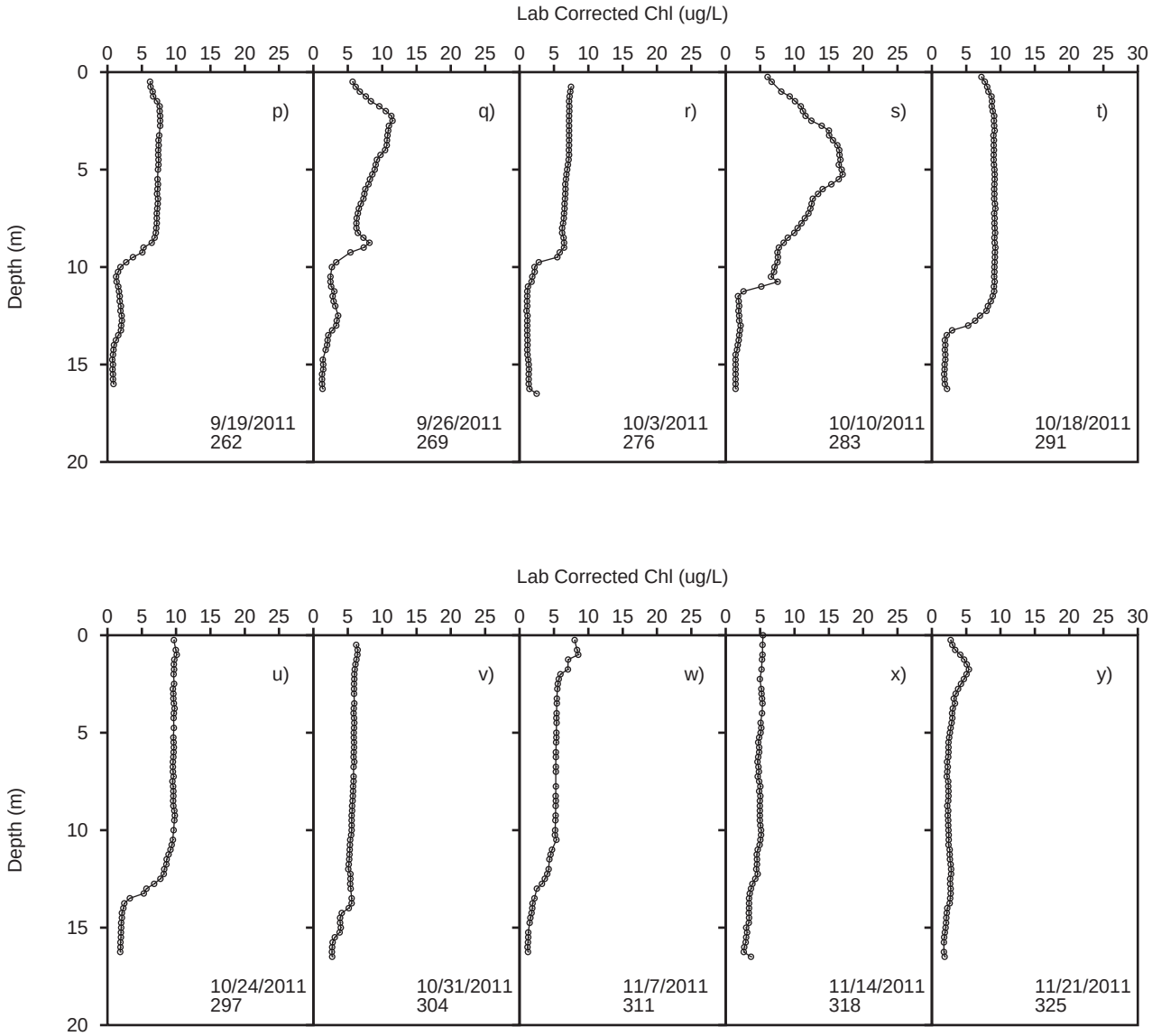
Fri Feb 03 14:49:05 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-22



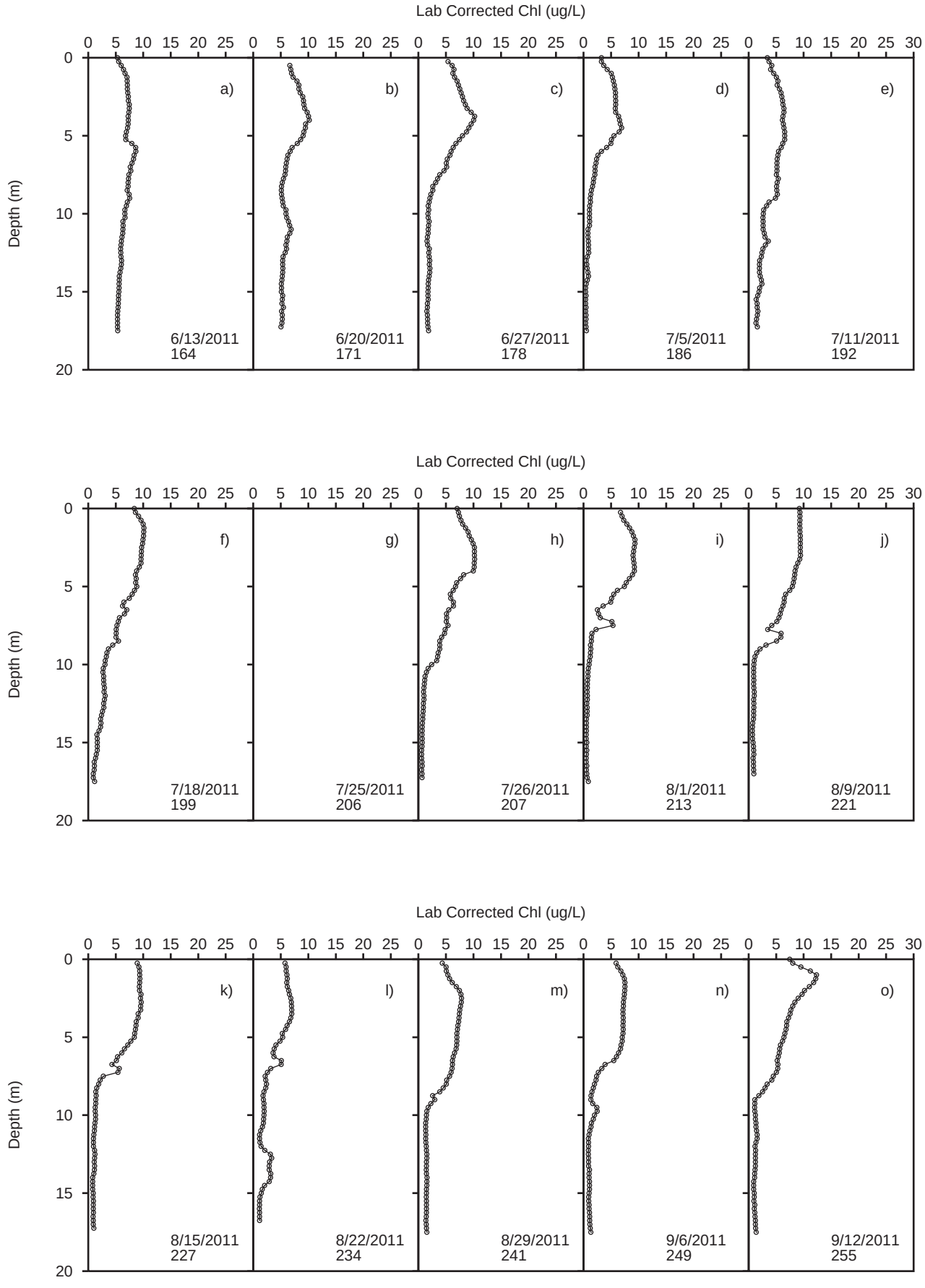
Fri Feb 03 14:51:30 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-22



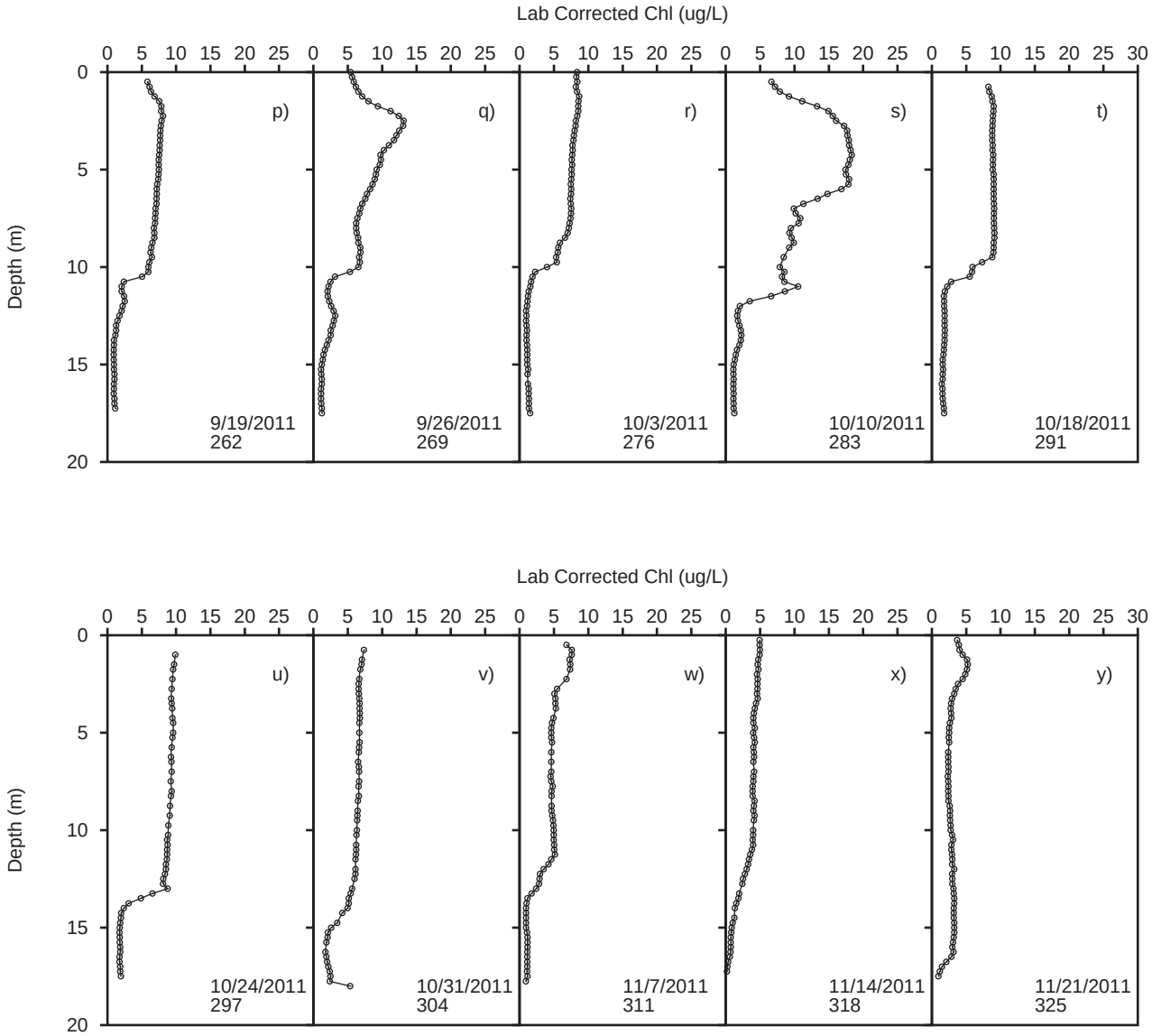
Fri Feb 03 14:51:30 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-27



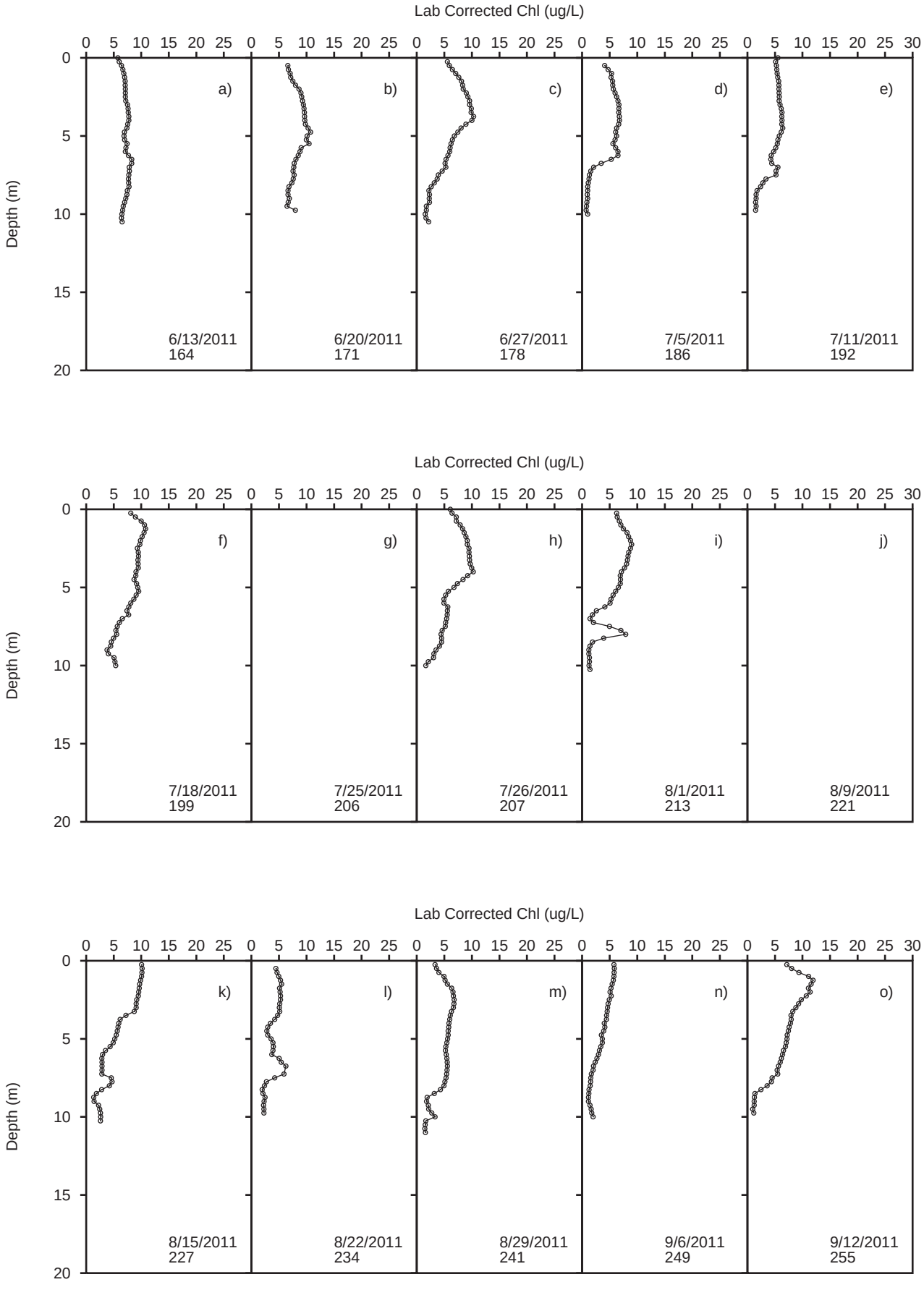
Fri Feb 03 14:53:33 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-27



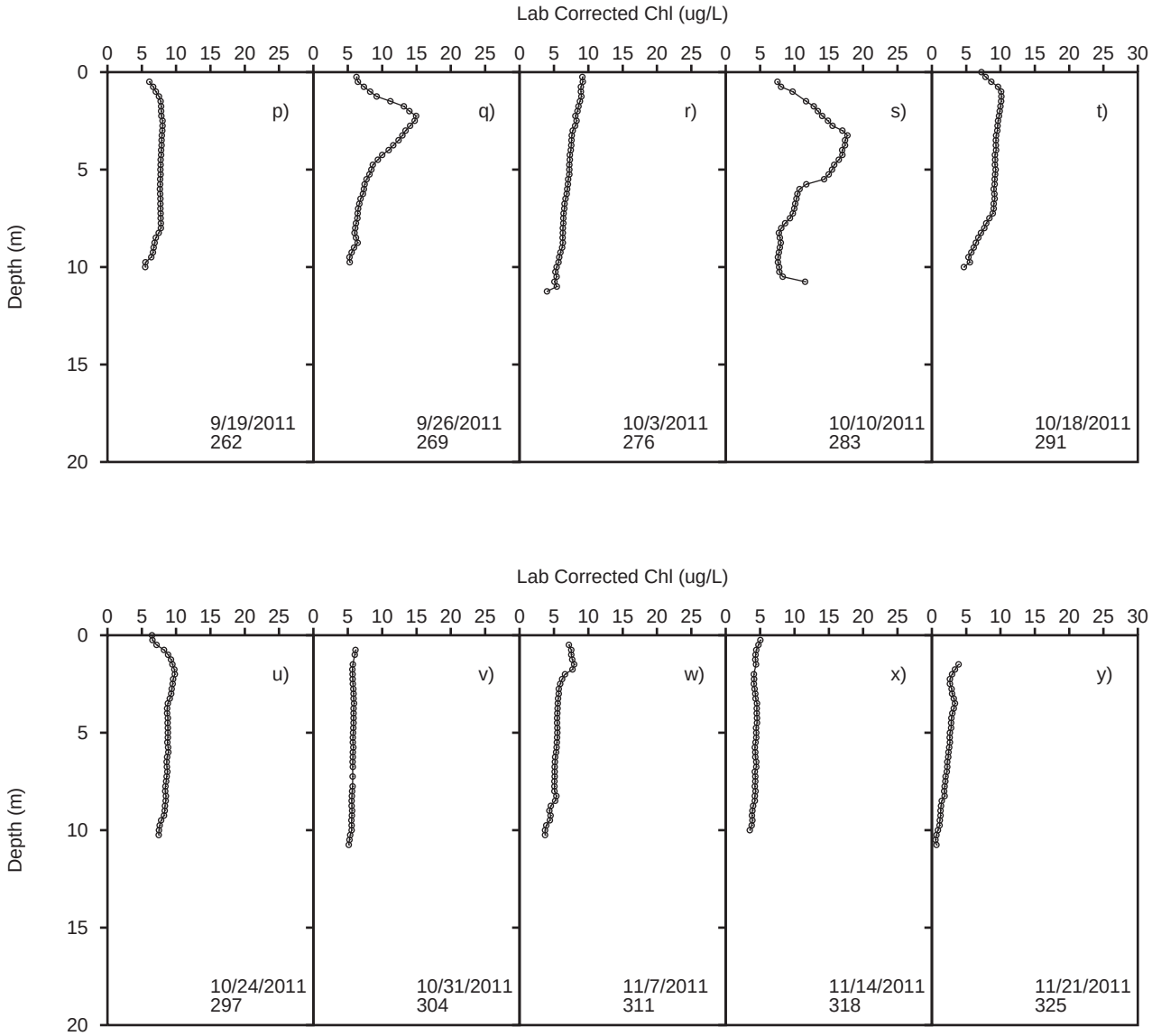
Fri Feb 03 14:53:33 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-34



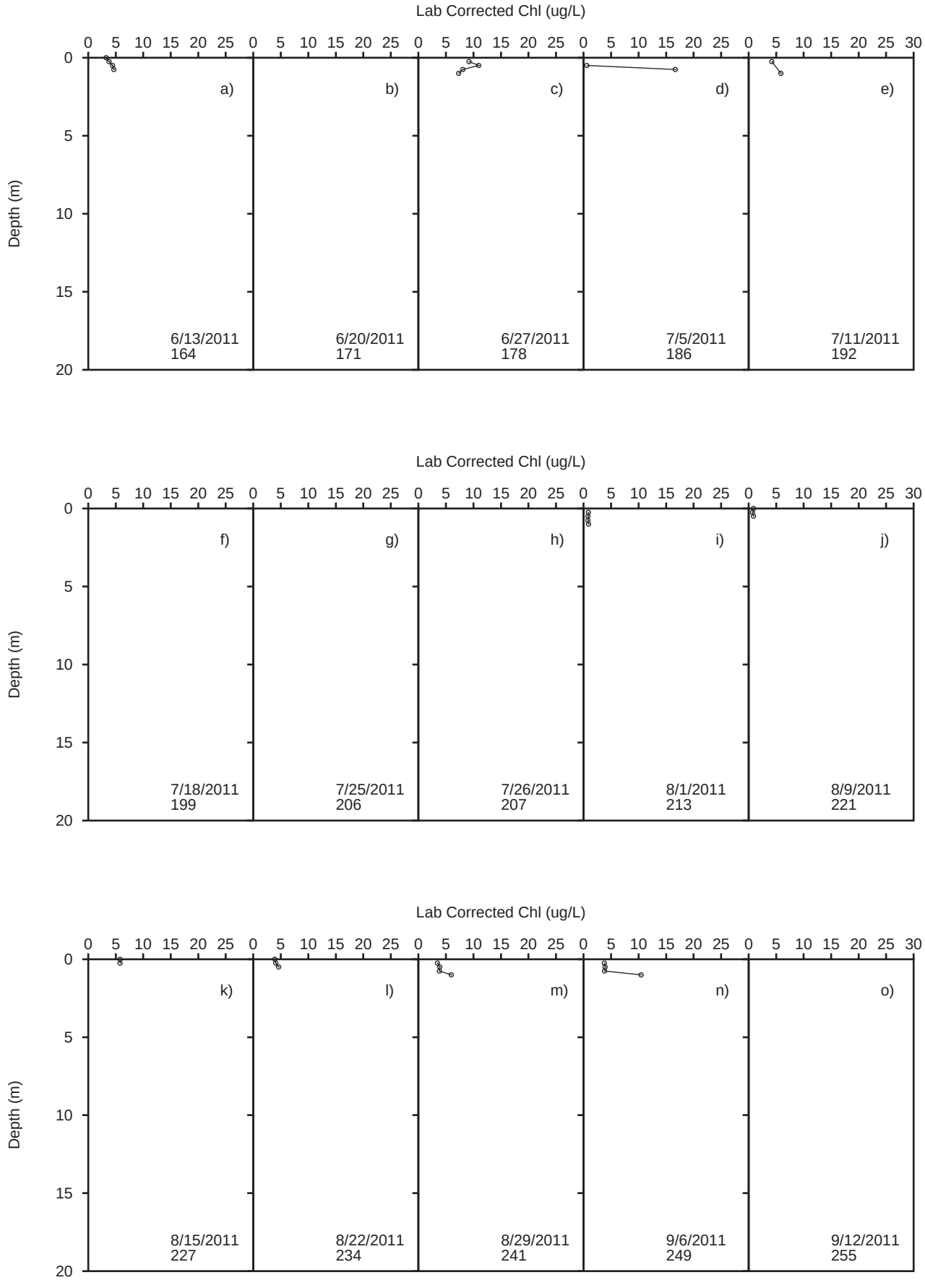
Fri Feb 03 14:19:24 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-34



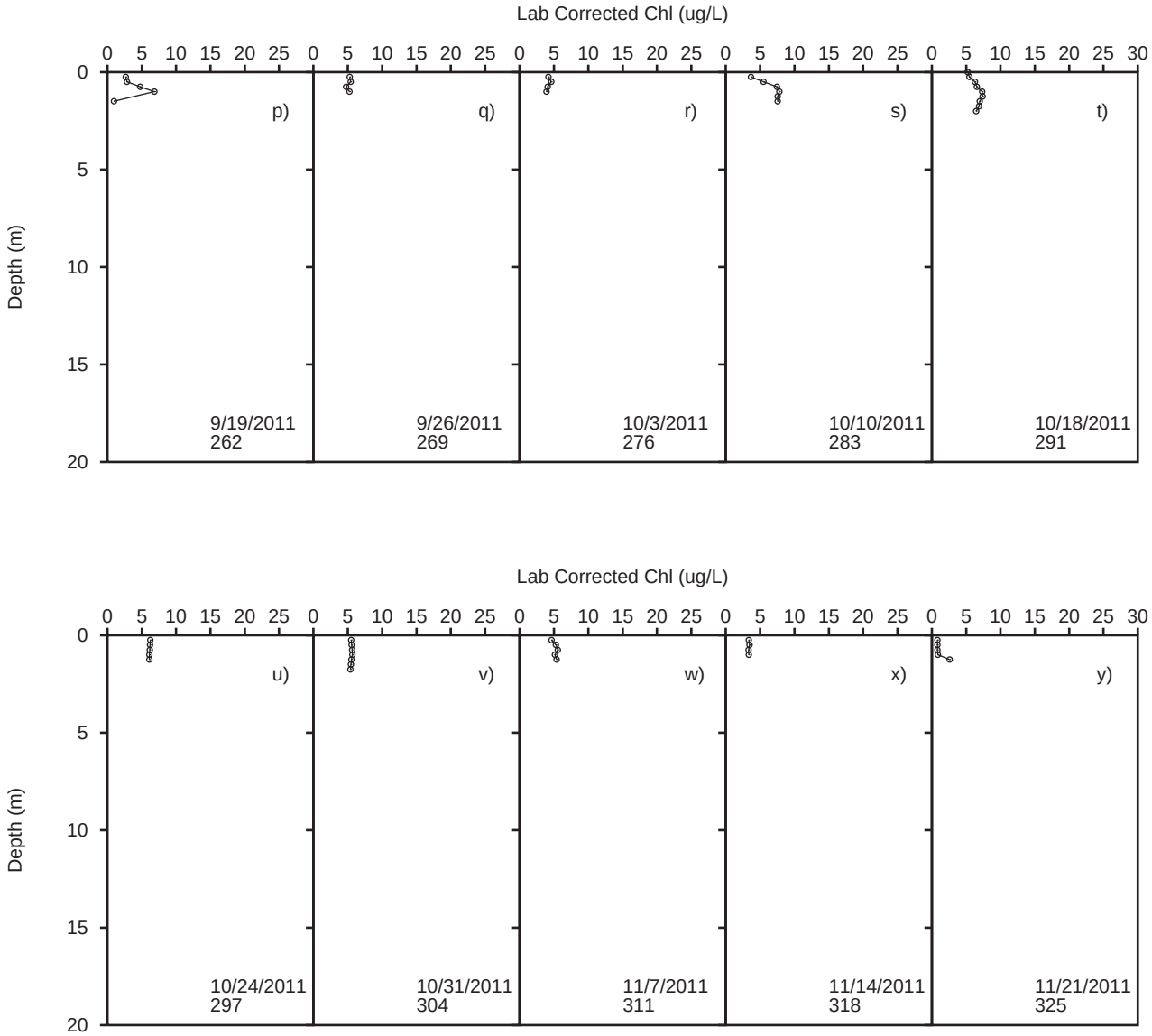
Fri Feb 03 14:19:24 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-37



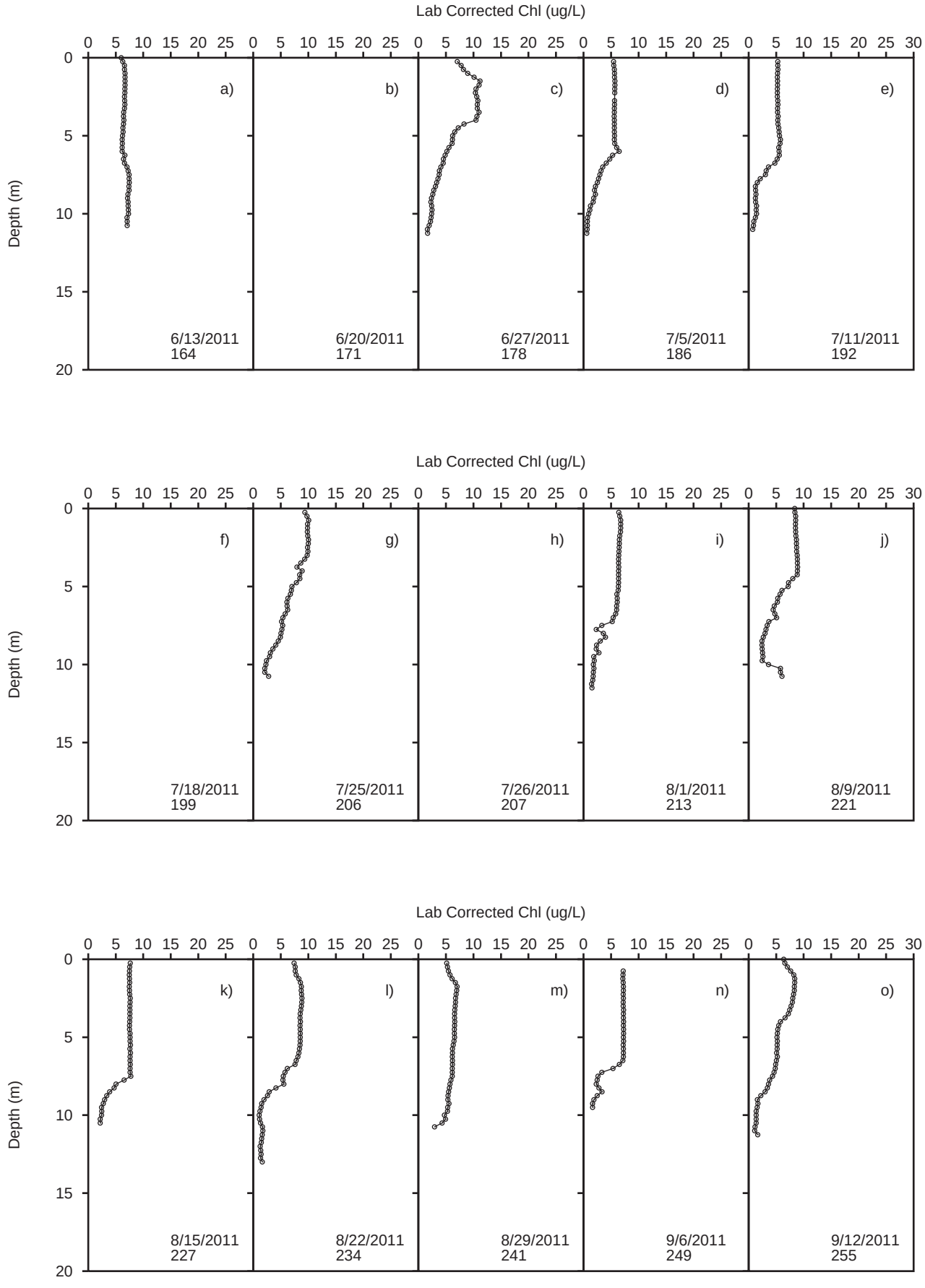
Fri Feb 03 14:20:29 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-37



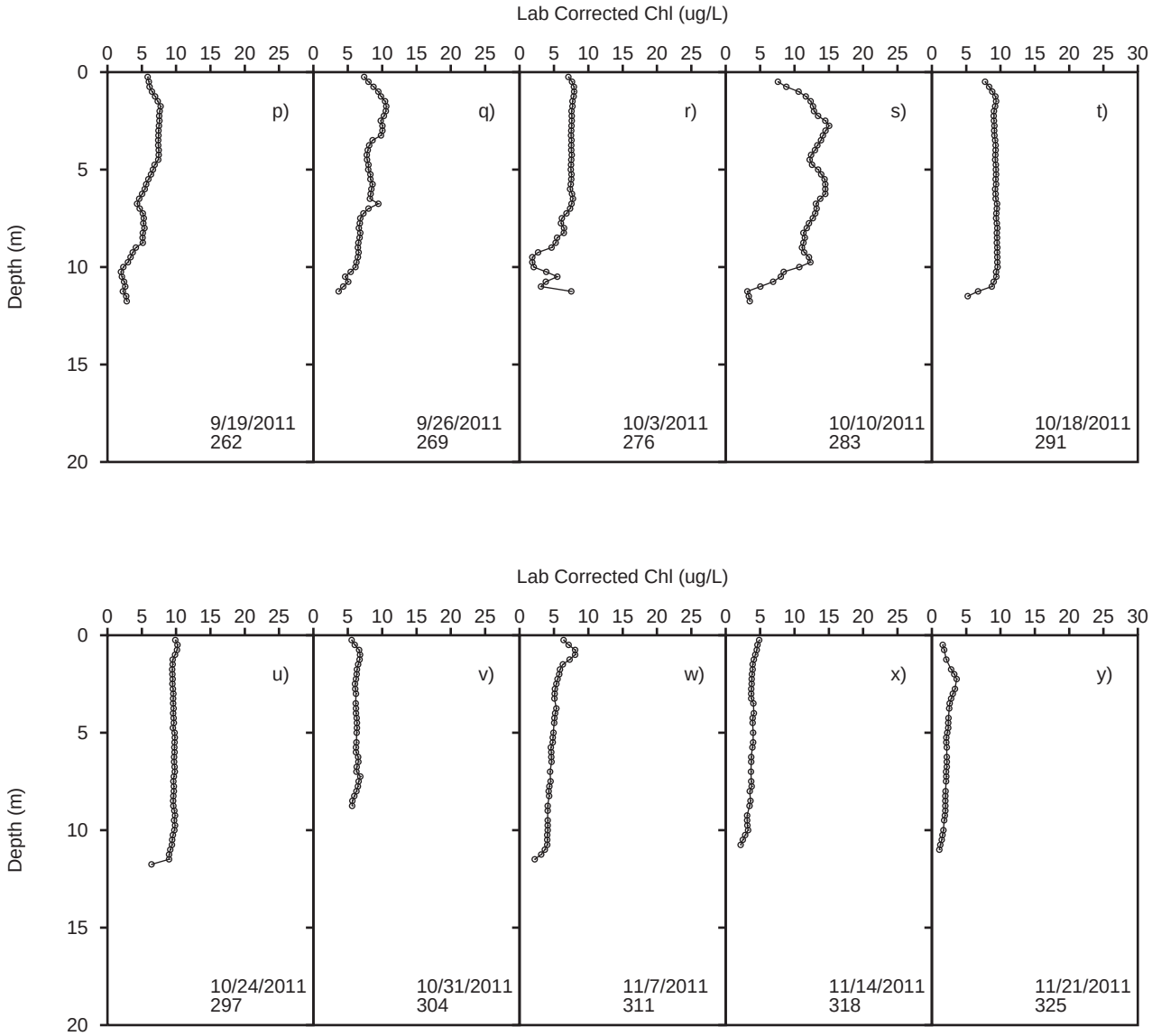
Fri Feb 03 14:20:29 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-38



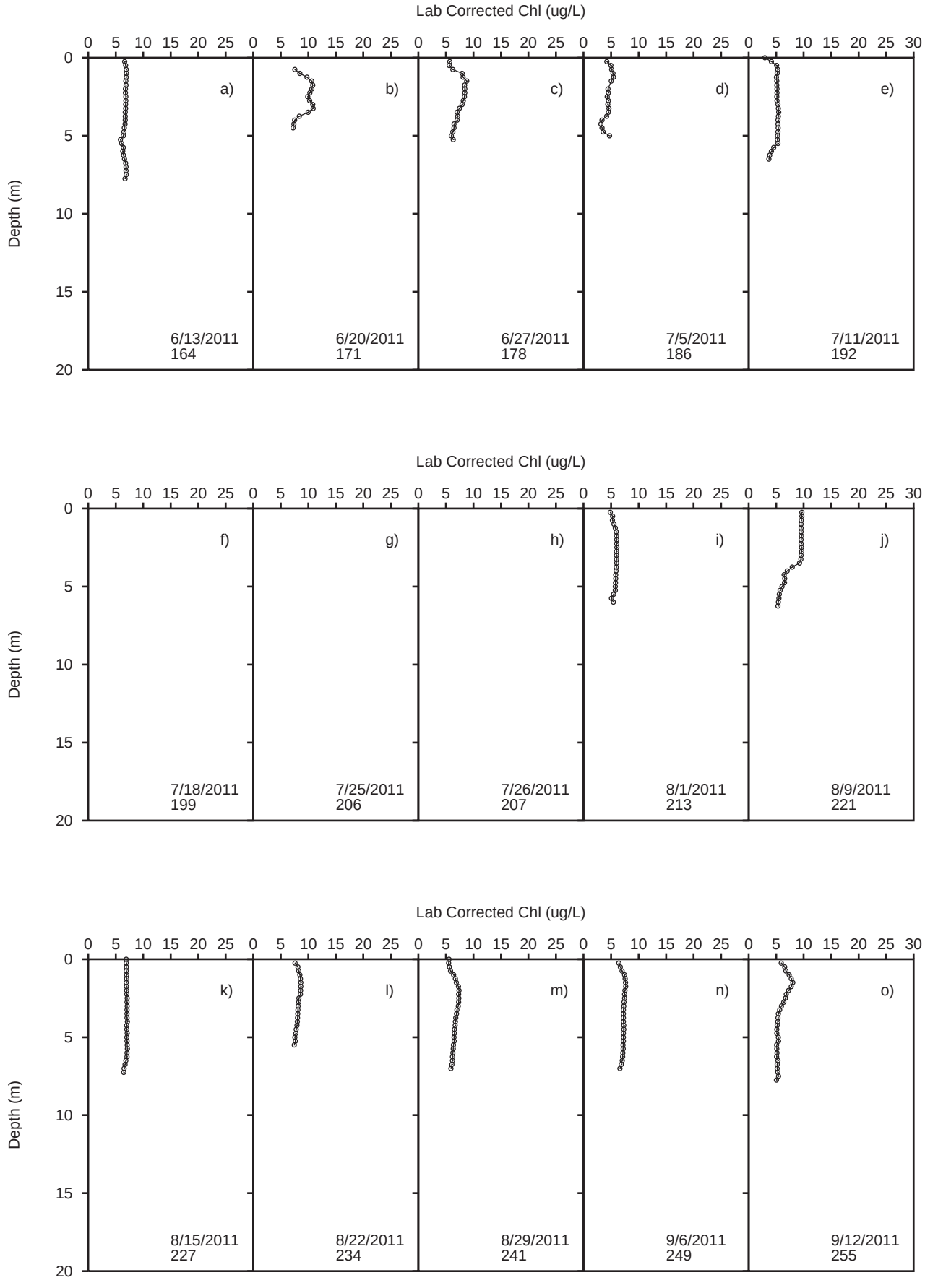
Fri Feb 03 14:21:35 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-38



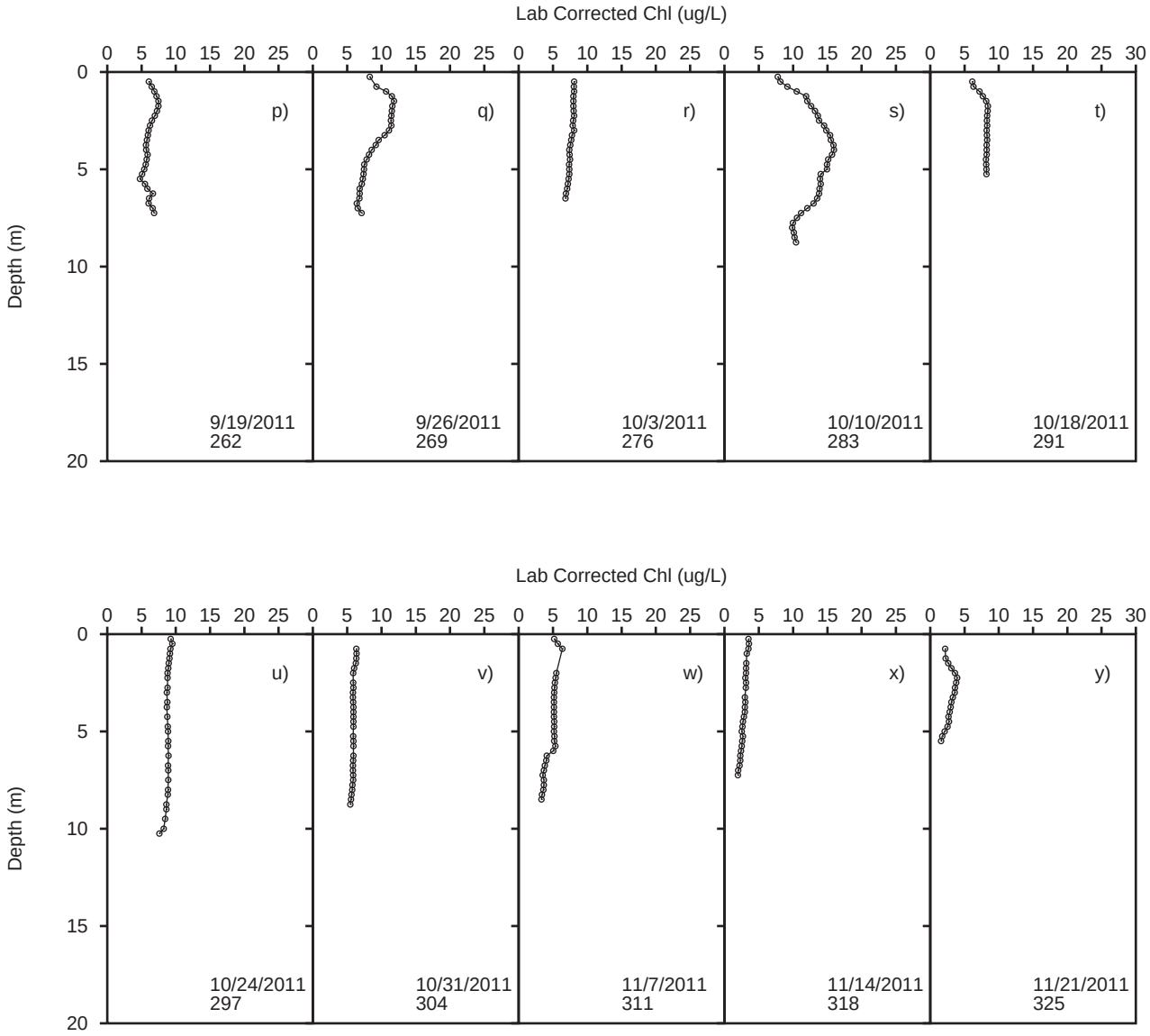
Fri Feb 03 14:21:35 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-39



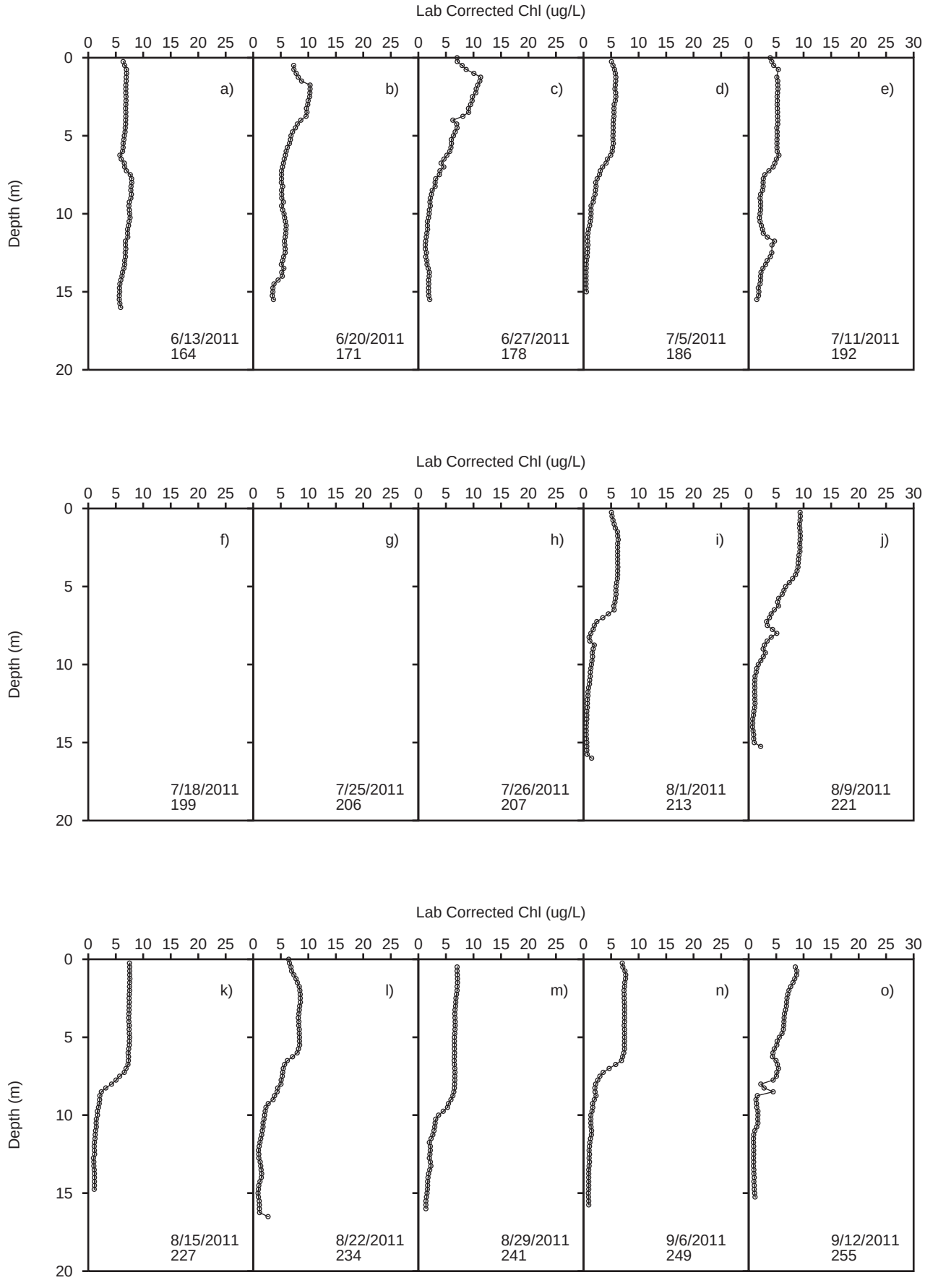
Fri Feb 03 14:27:21 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-39



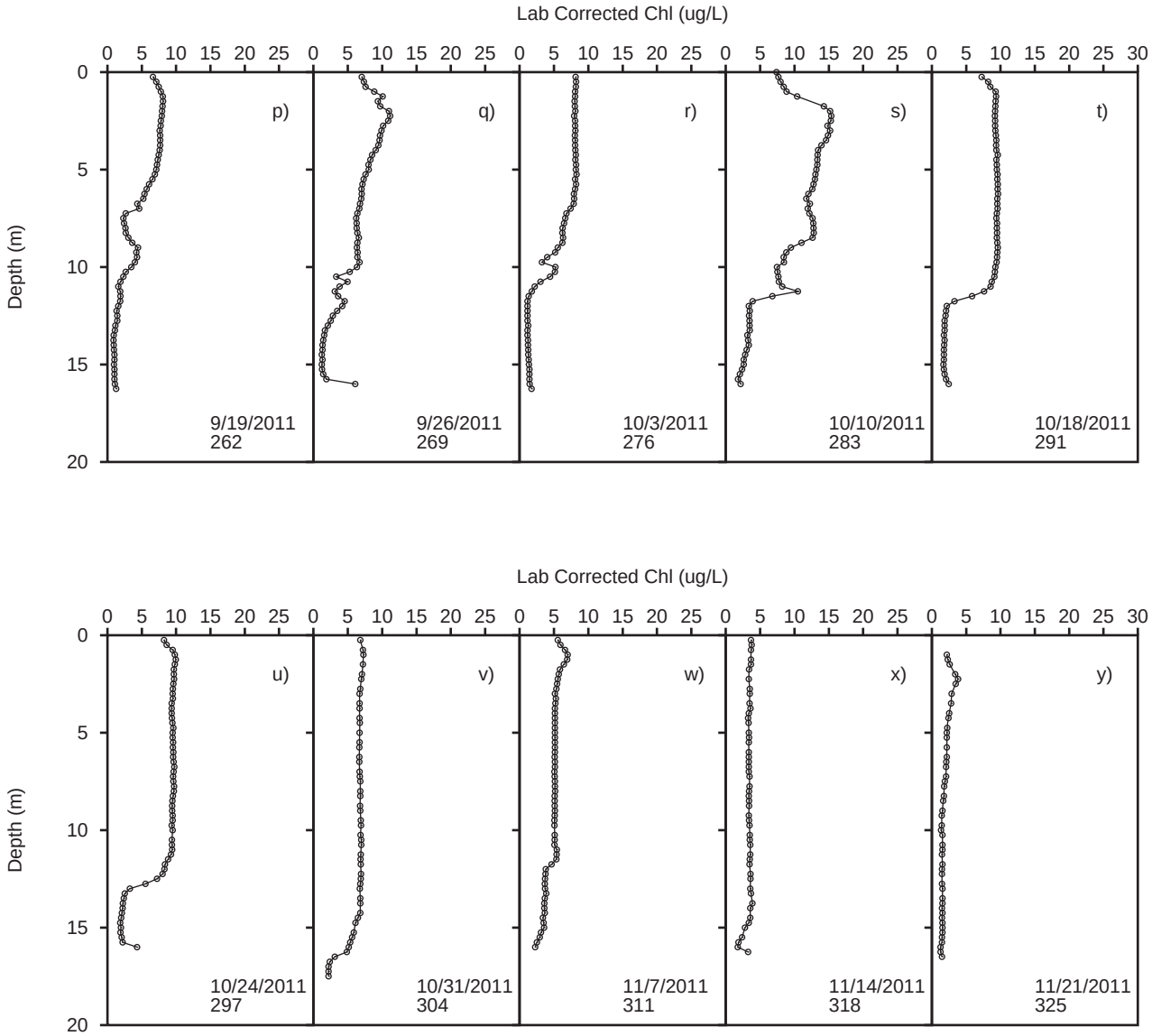
Fri Feb 03 14:27:21 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-40



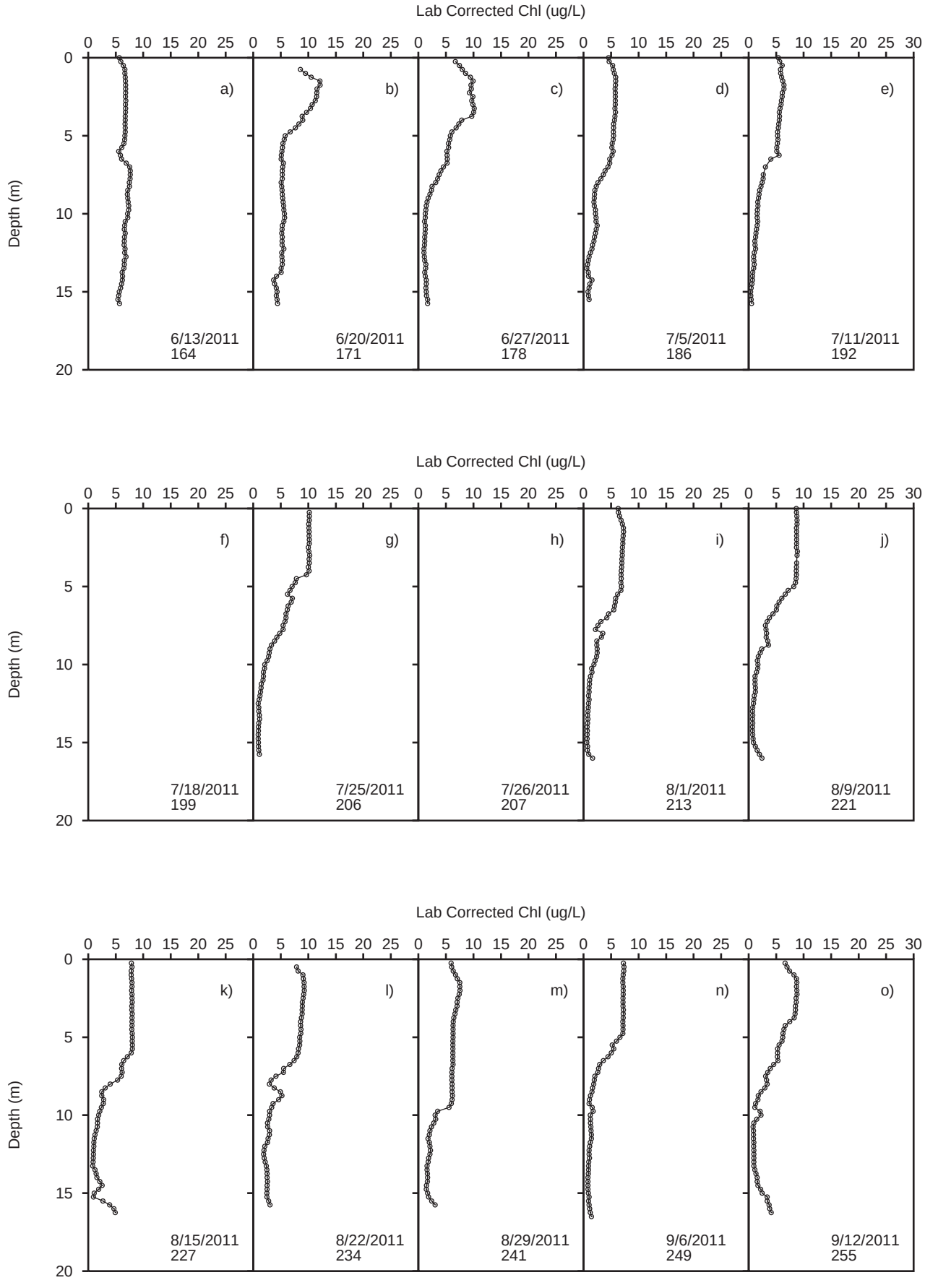
Fri Feb 03 14:28:07 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-40



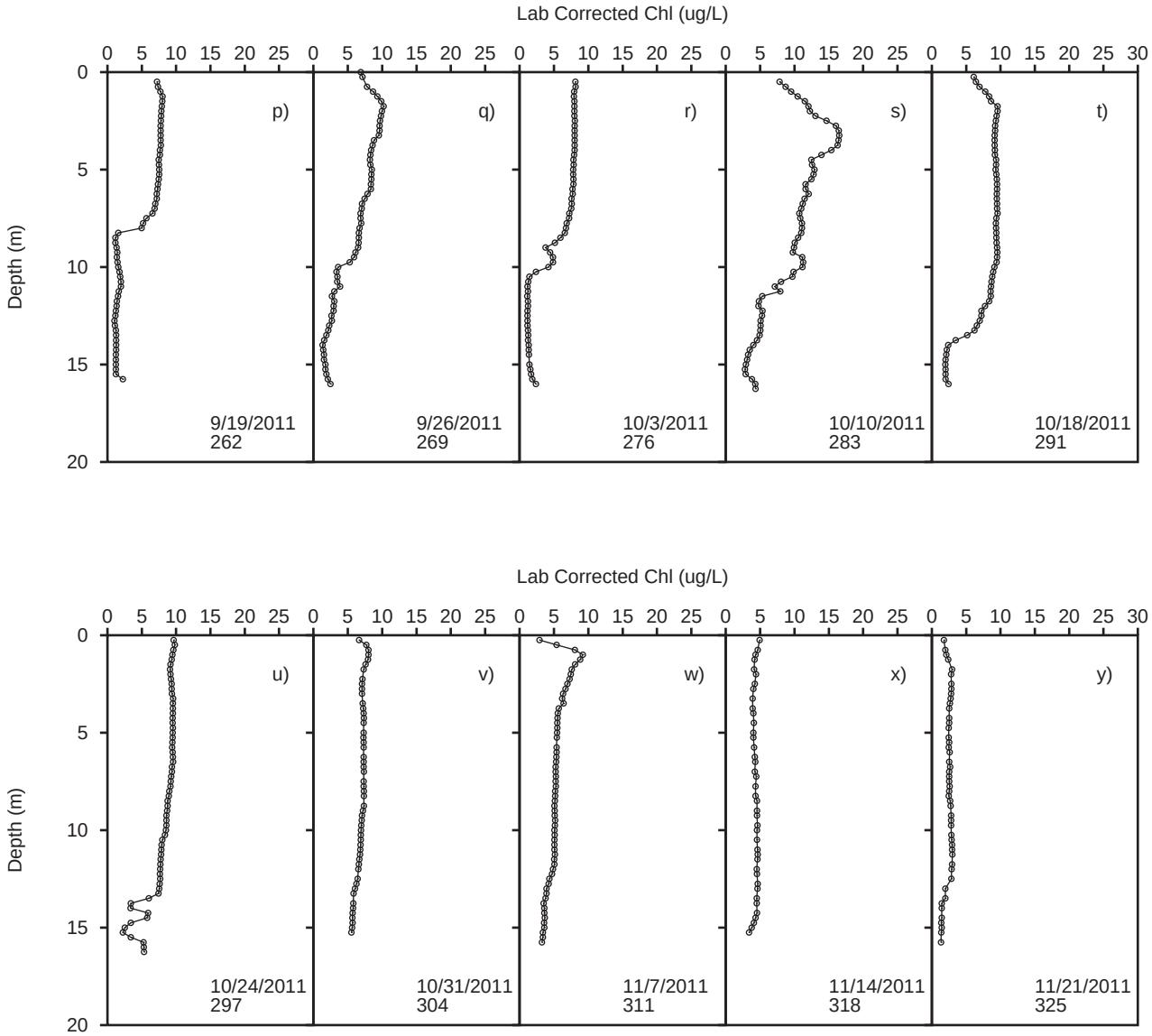
Fri Feb 03 14:28:07 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-41



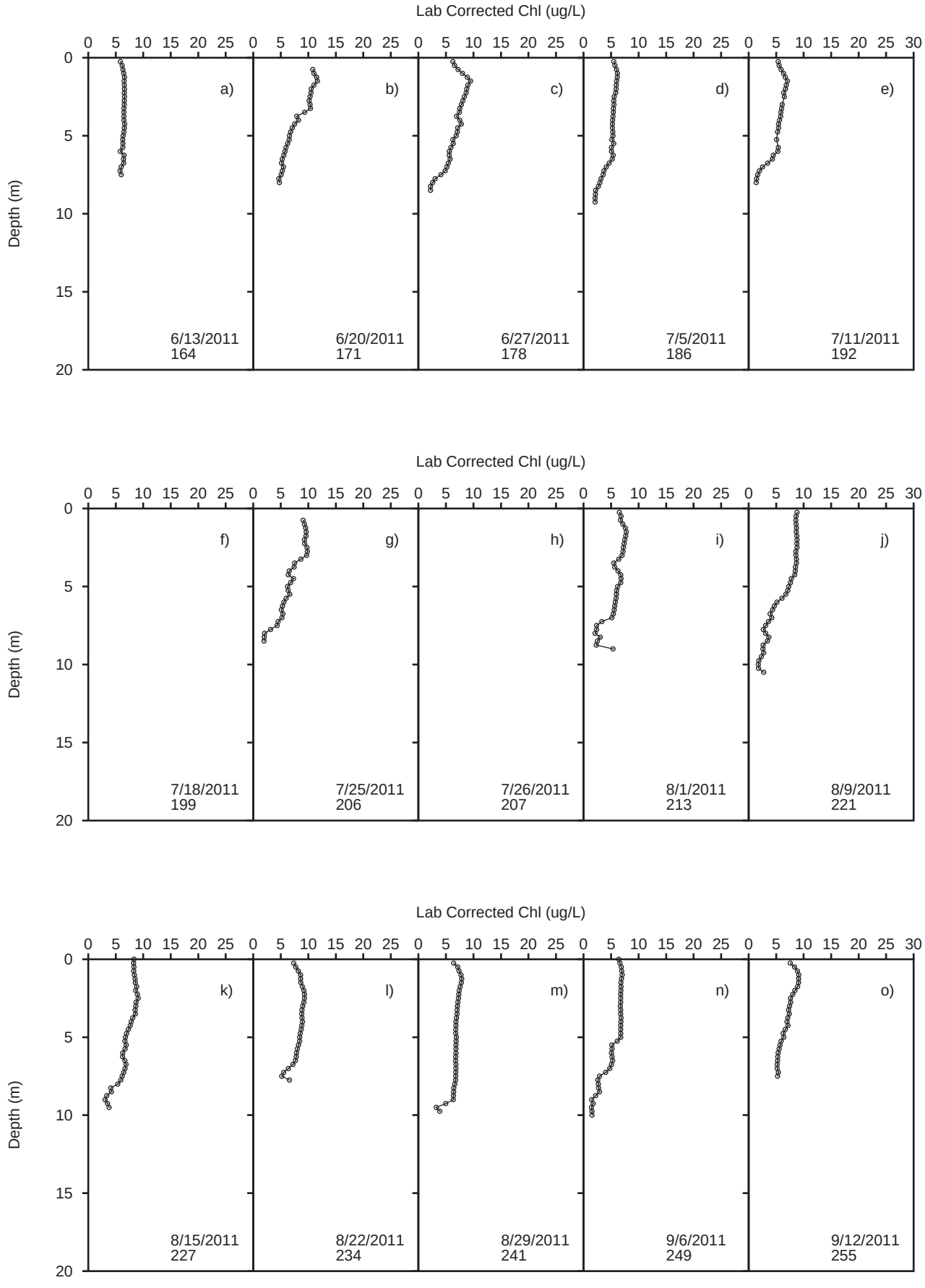
Fri Feb 03 14:30:49 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-41



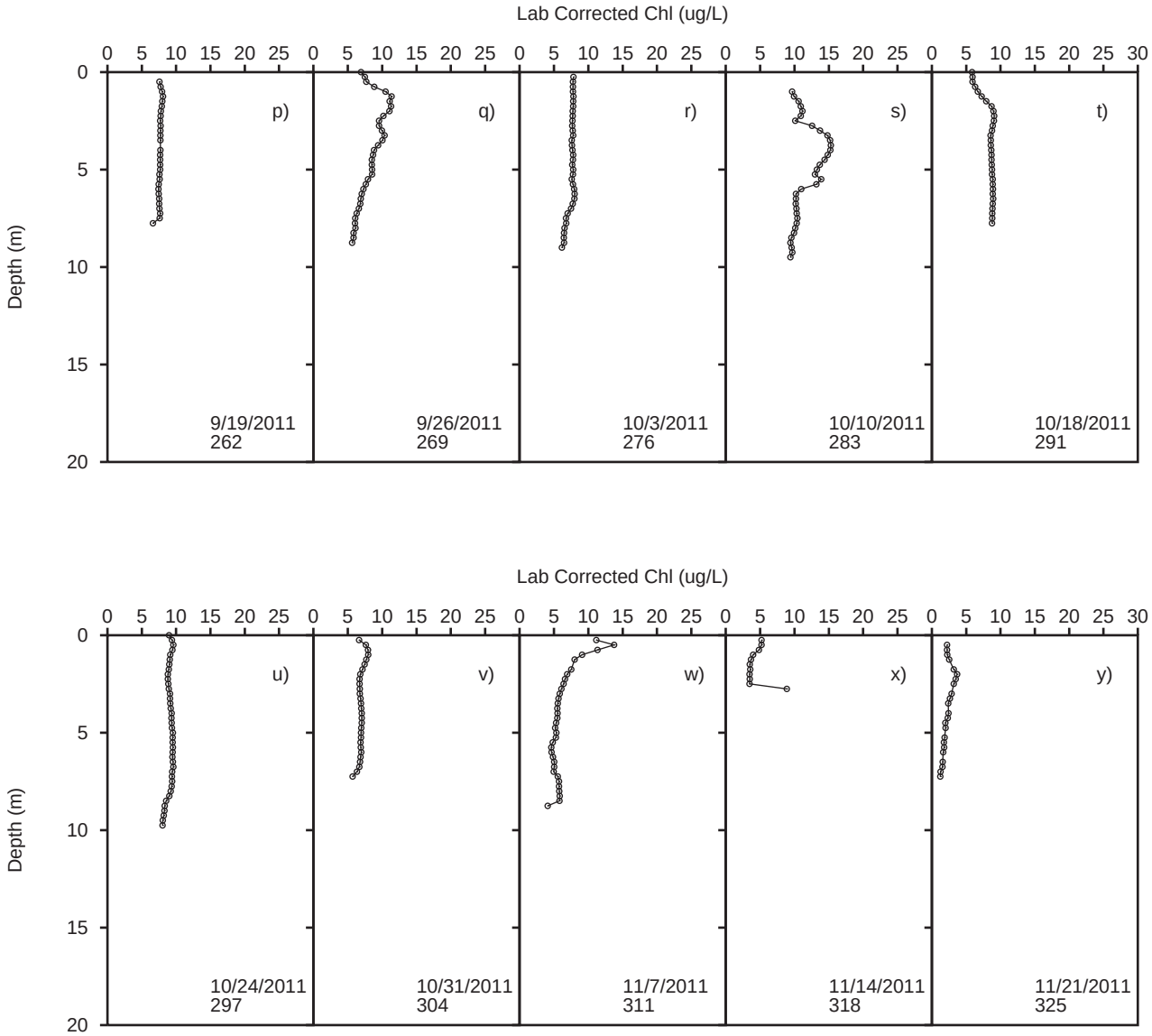
Fri Feb 03 14:30:49 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-42



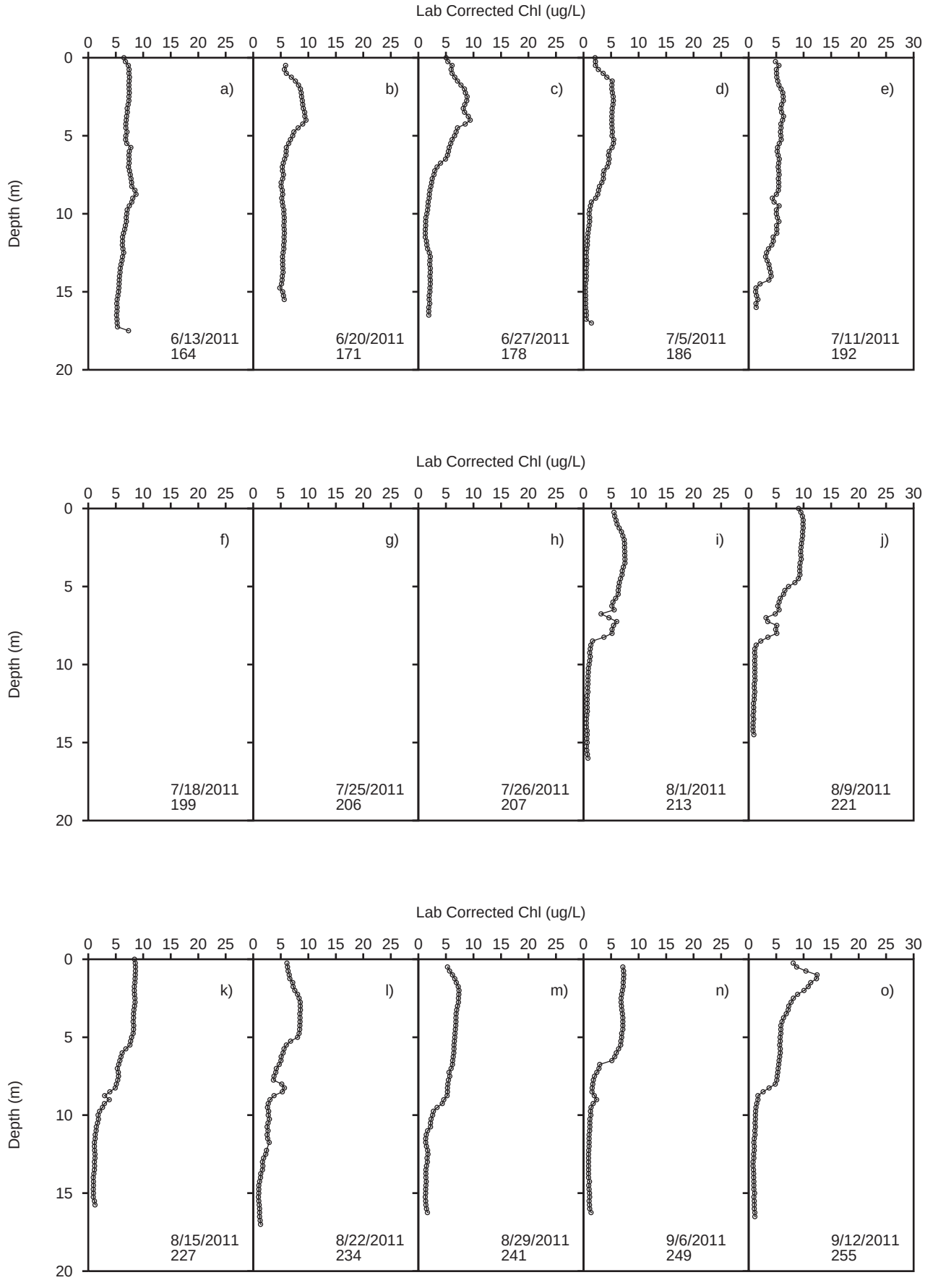
Fri Feb 03 14:34:27 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-42



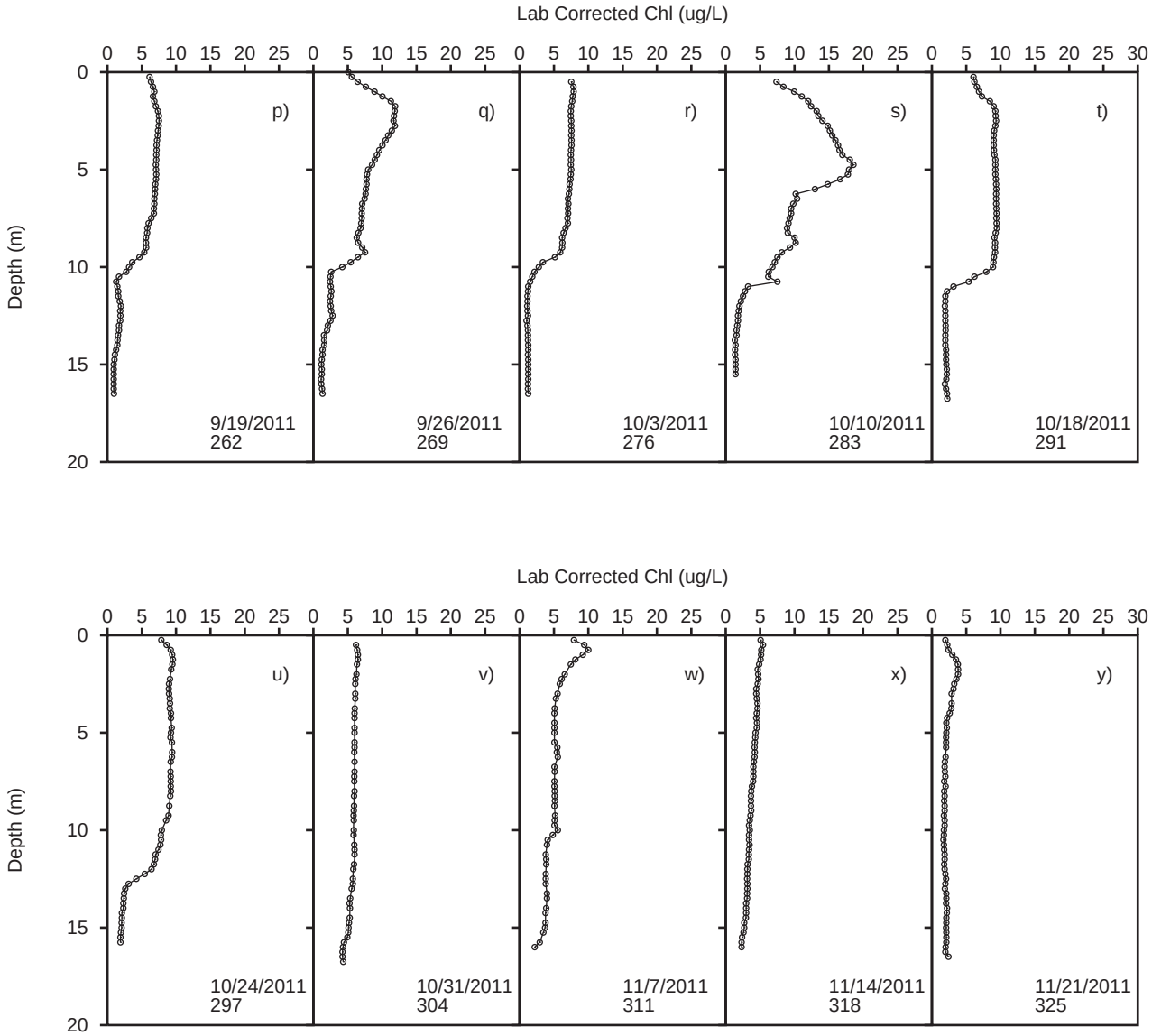
Fri Feb 03 14:34:27 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-43



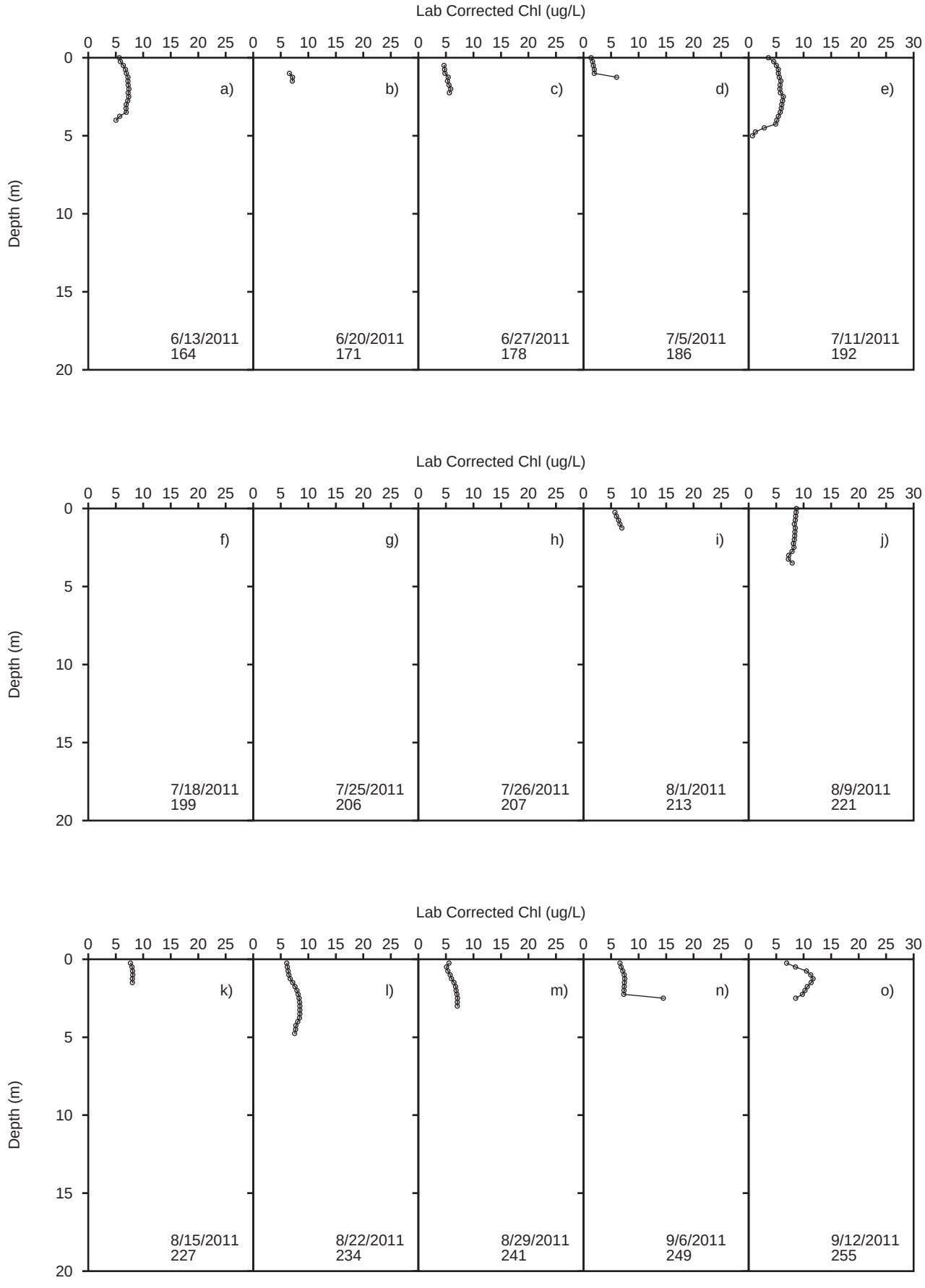
Fri Feb 03 14:54:46 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-43



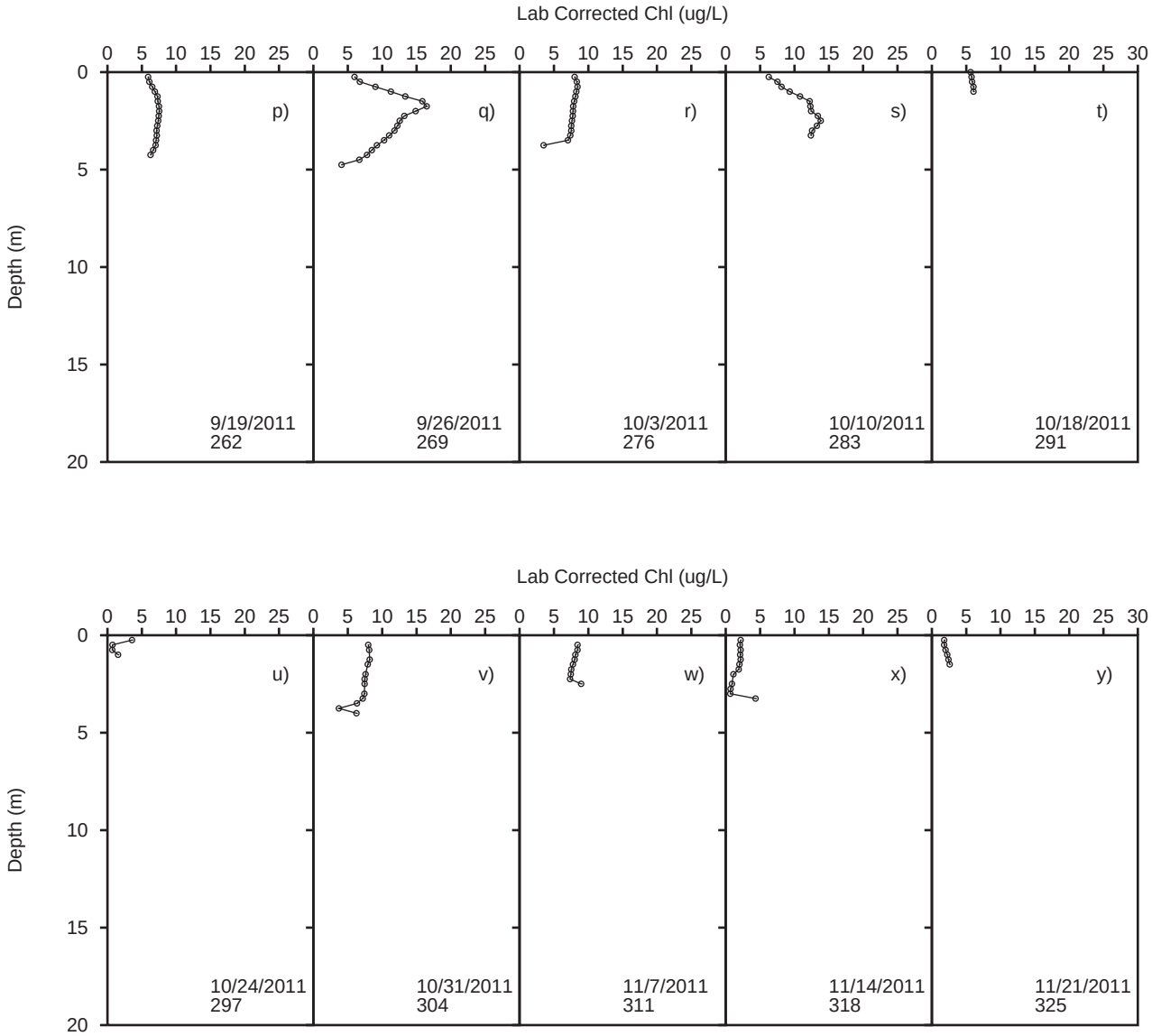
Fri Feb 03 14:54:46 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-44



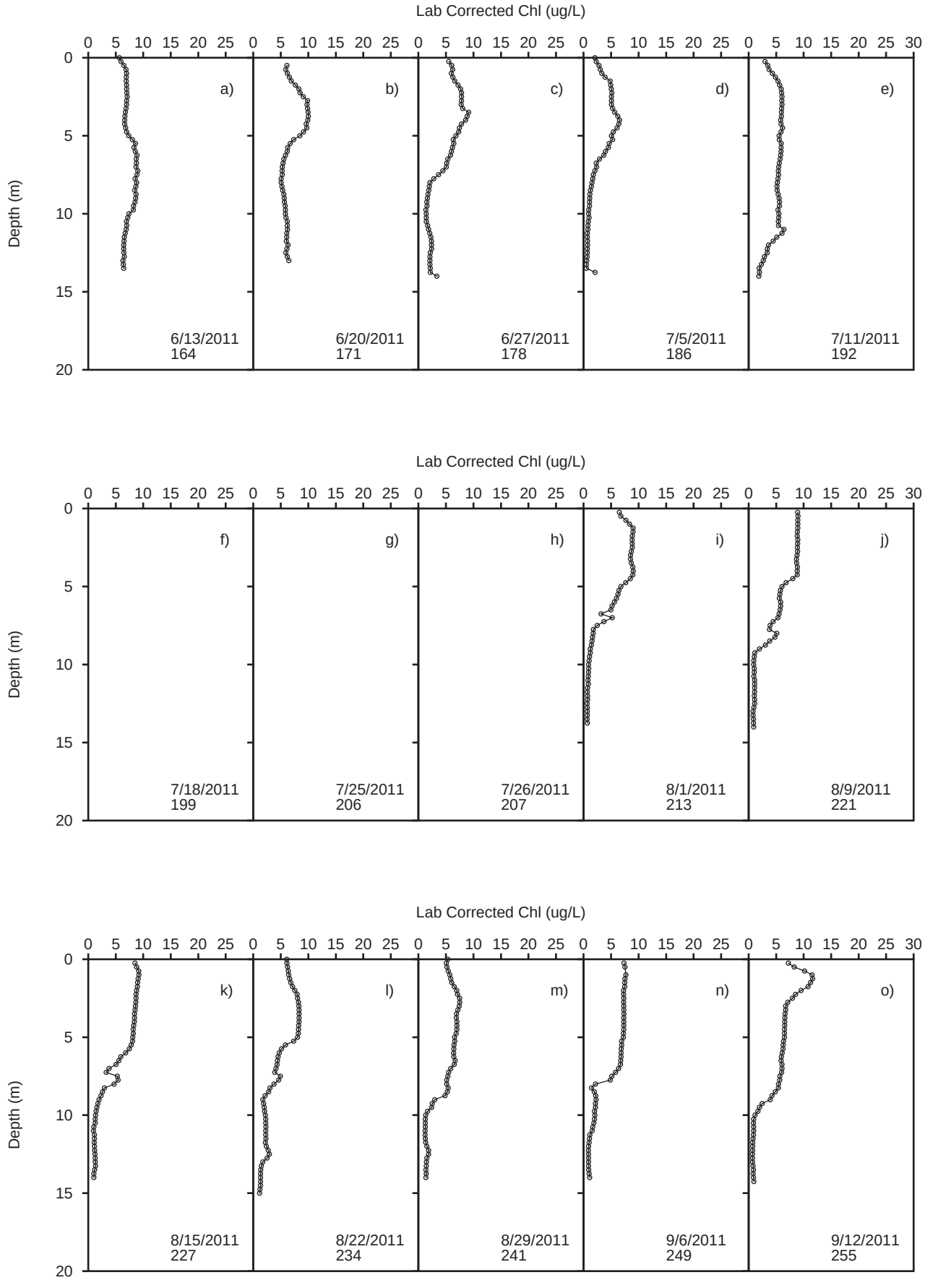
Fri Feb 03 14:56:27 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-44



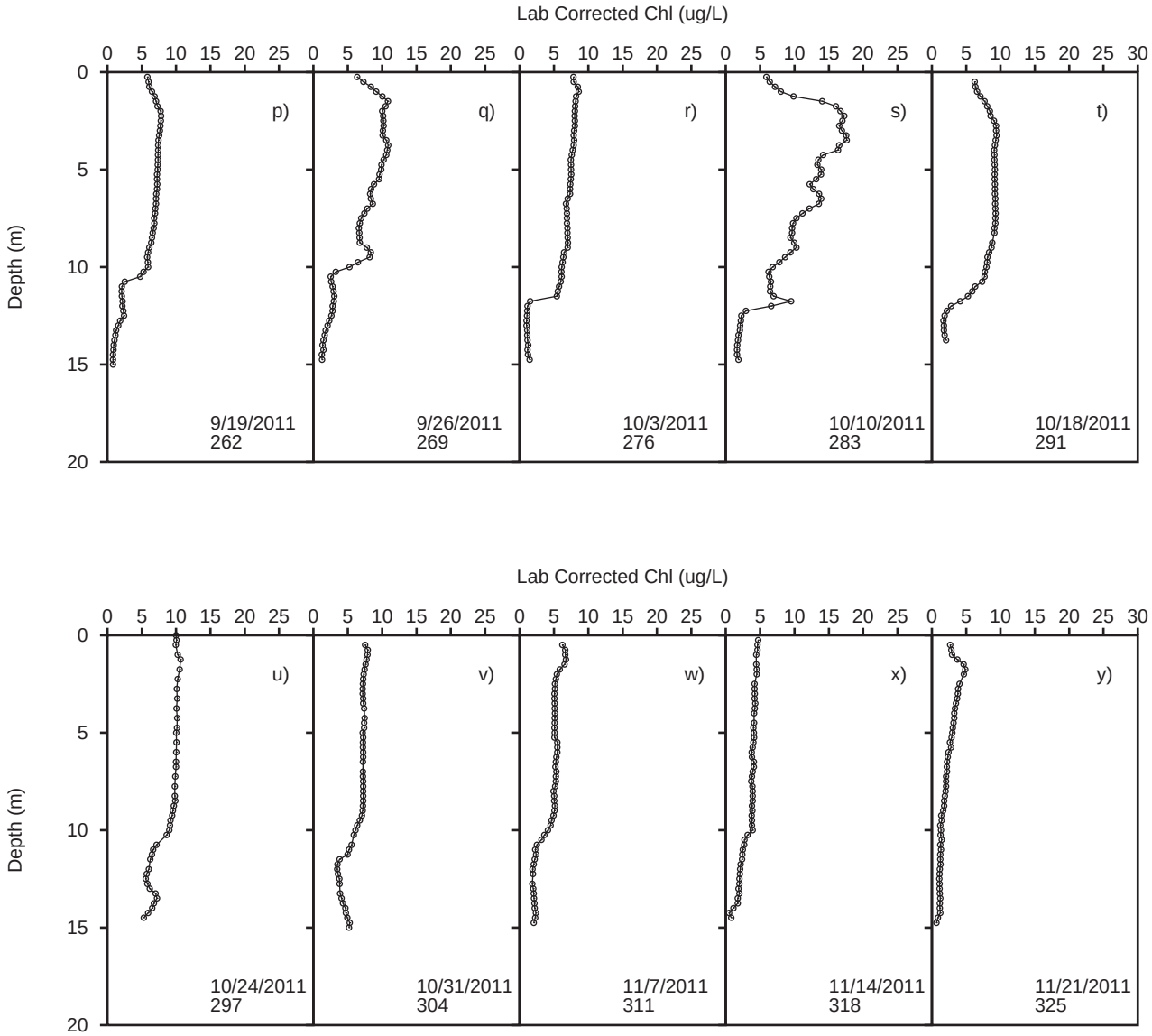
Fri Feb 03 14:56:27 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-45



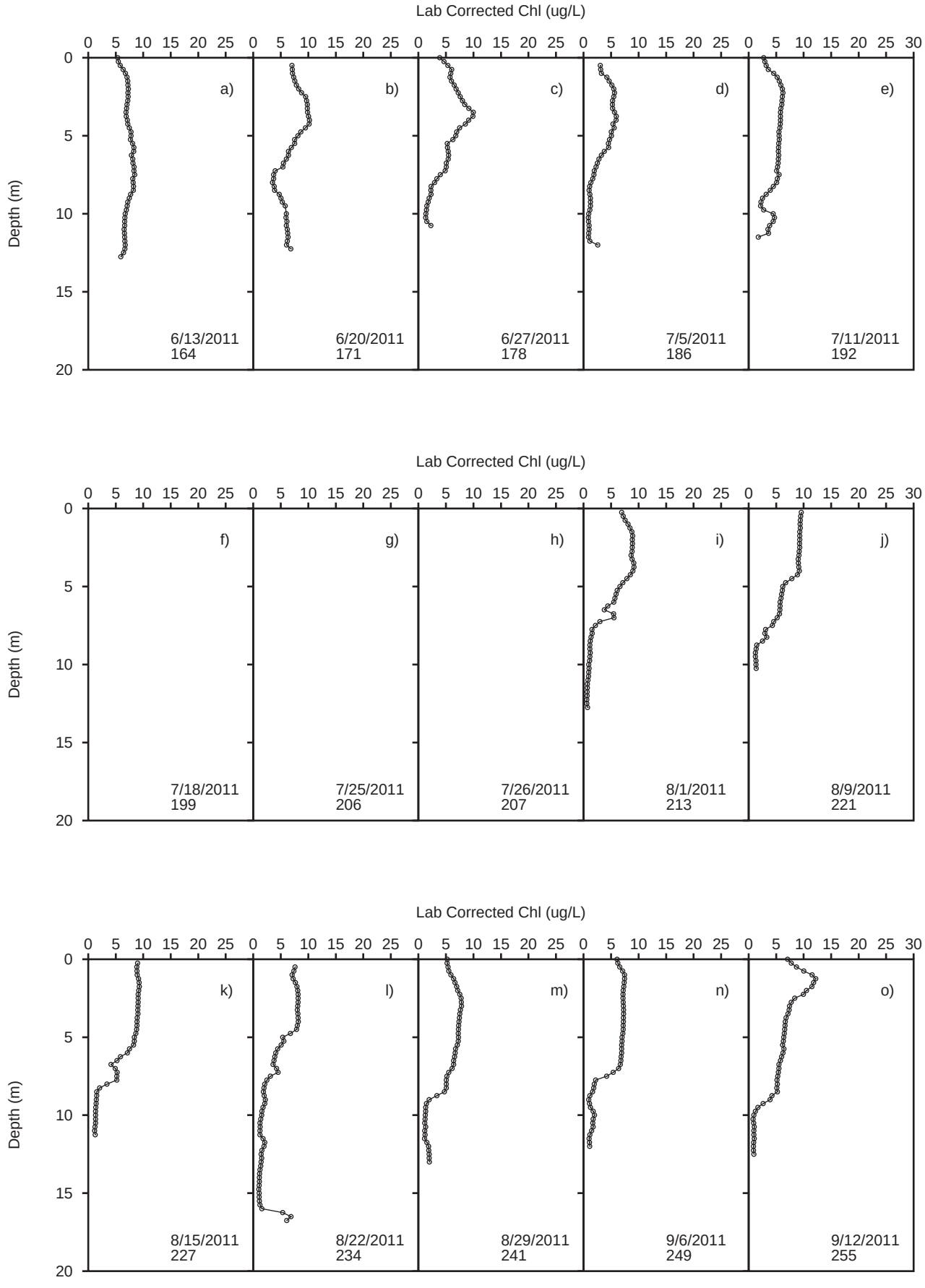
Fri Feb 03 14:57:11 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-45



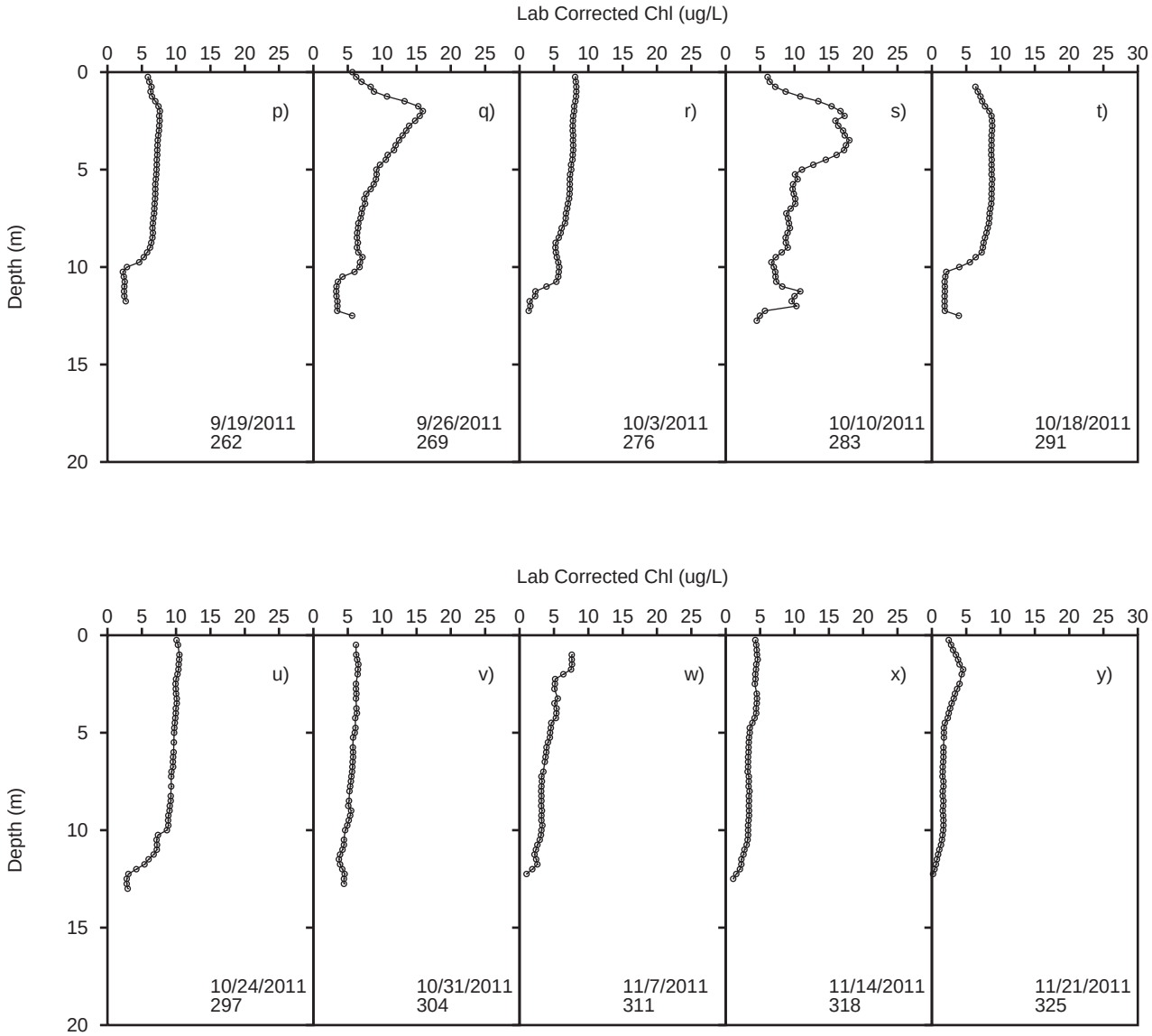
Fri Feb 03 14:57:11 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-46



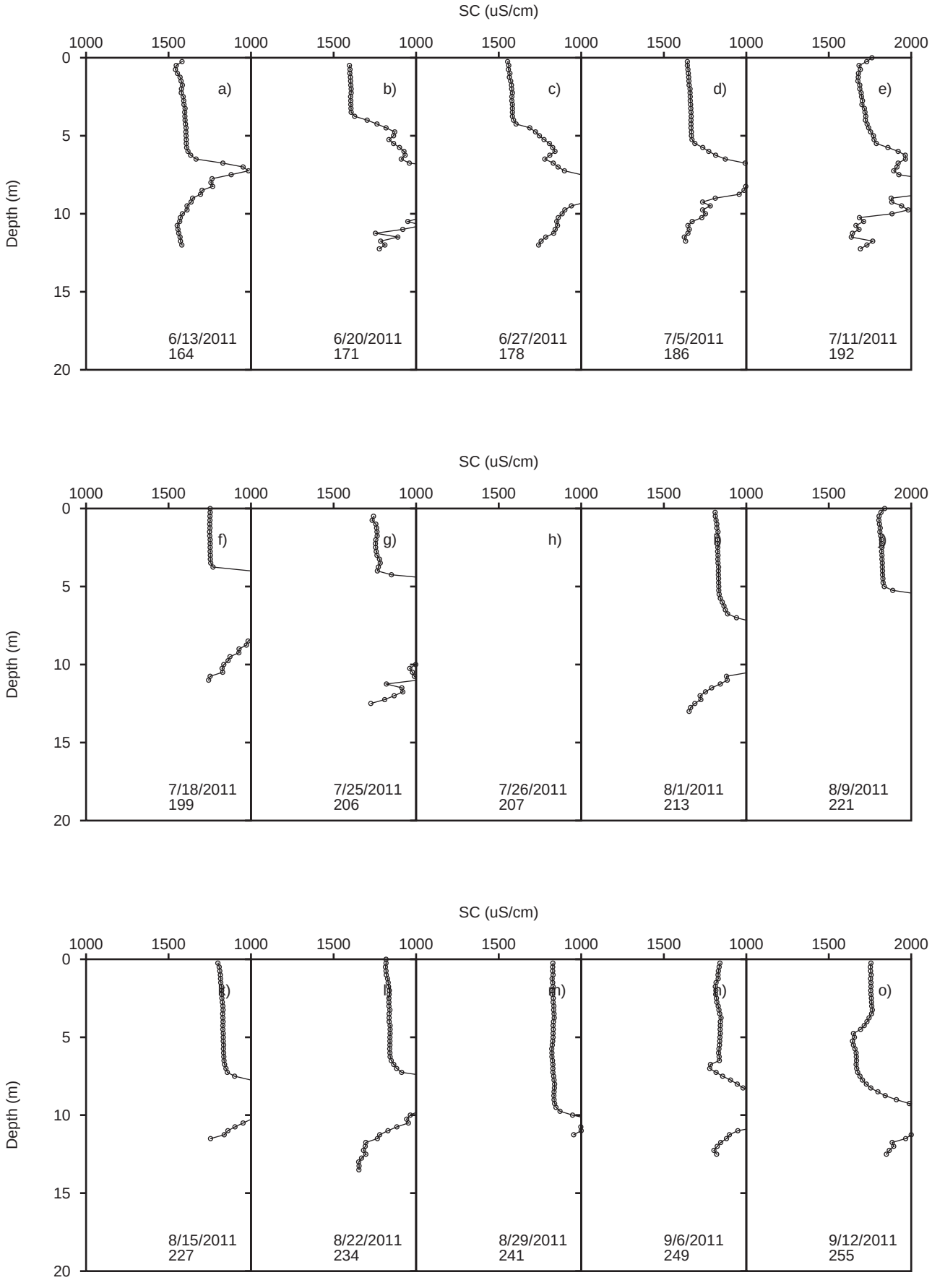
Fri Feb 03 14:57:47 2012

2011 Chlorophyll Profiles for Onondaga Lake ISUS-46



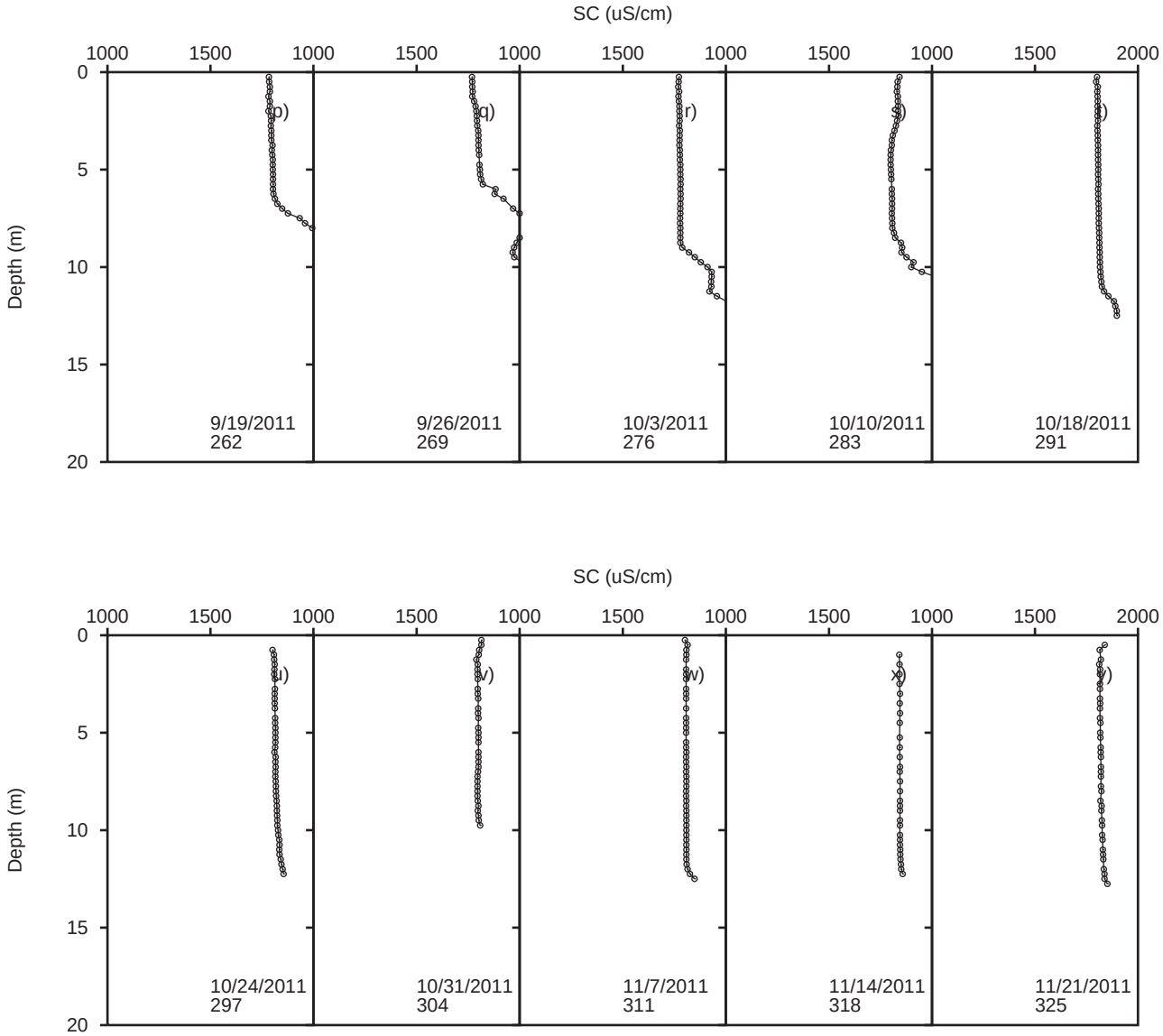
Fri Feb 03 14:57:47 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-5



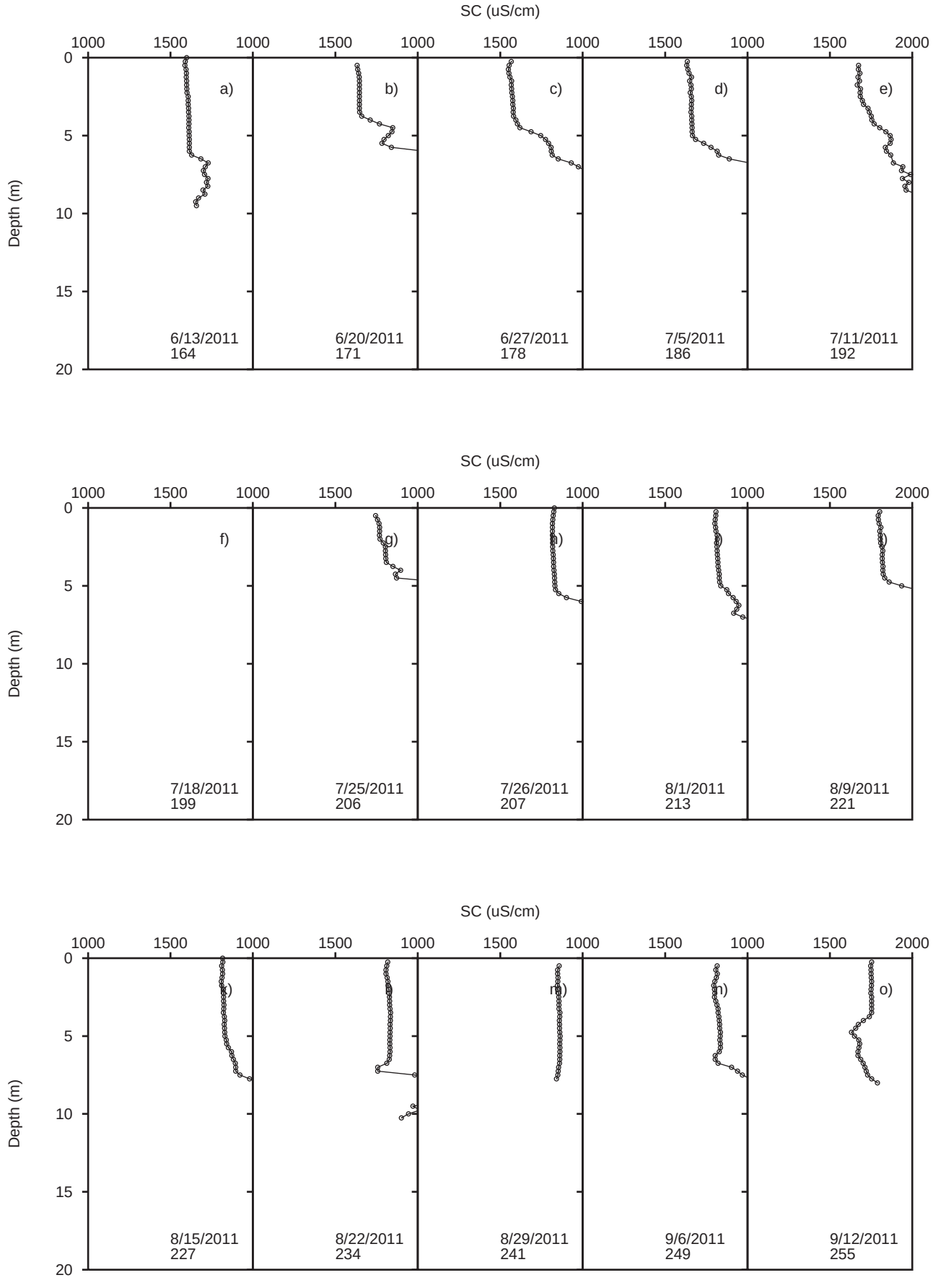
Fri Feb 03 14:18:52 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-5



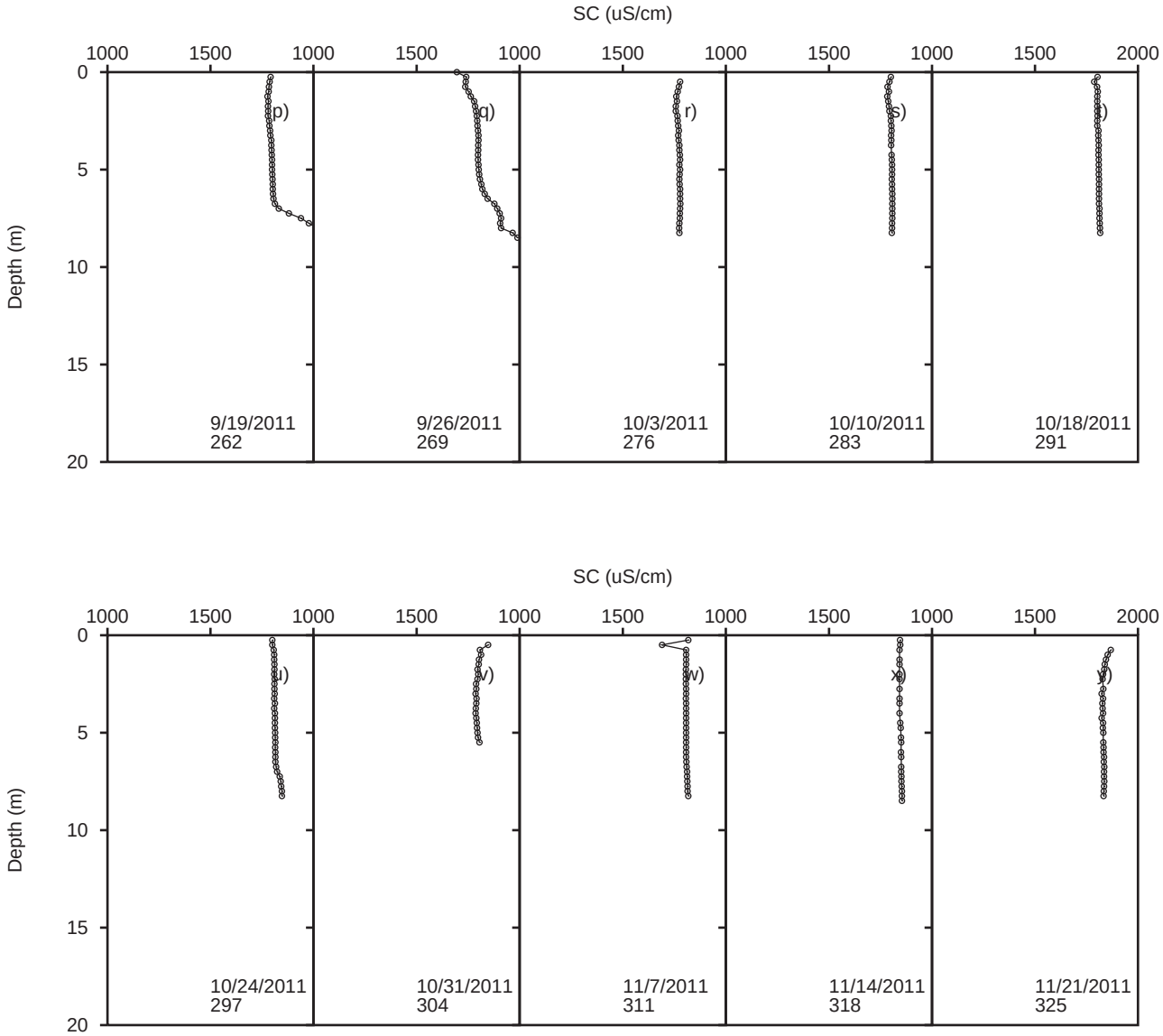
Fri Feb 03 14:18:52 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-6



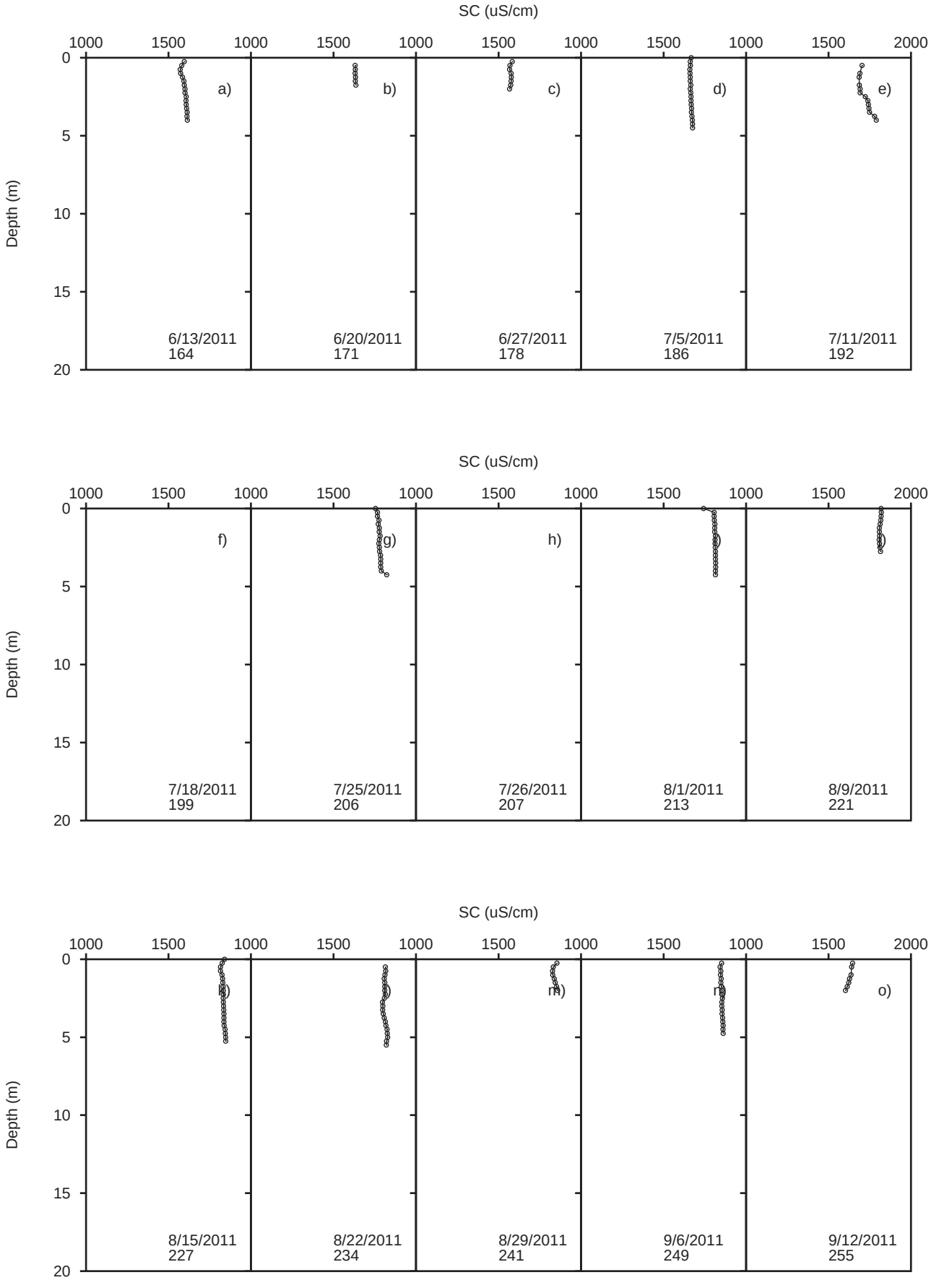
Fri Feb 03 14:22:27 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-6



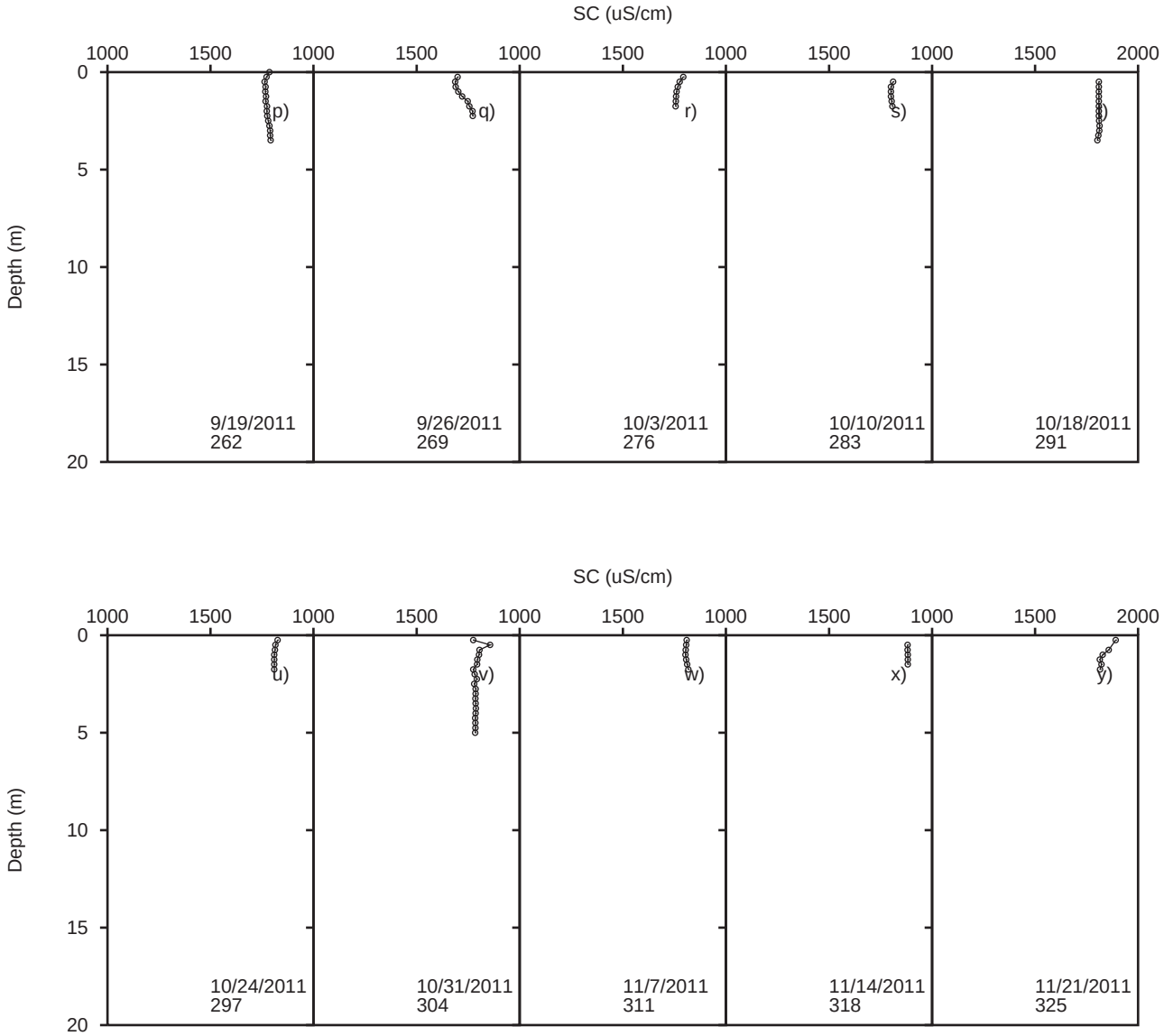
Fri Feb 03 14:22:27 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-7



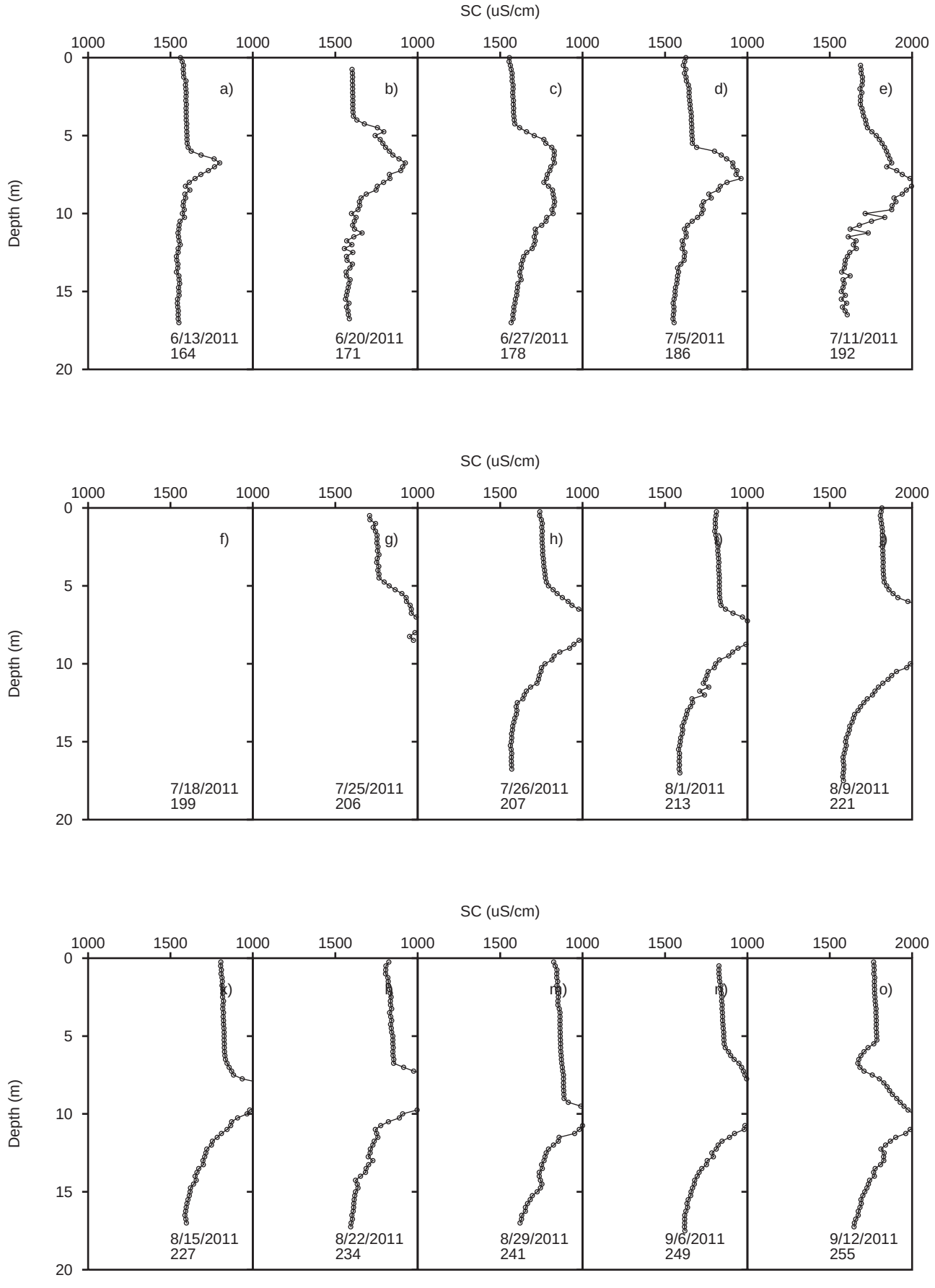
Fri Feb 03 14:26:27 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-7



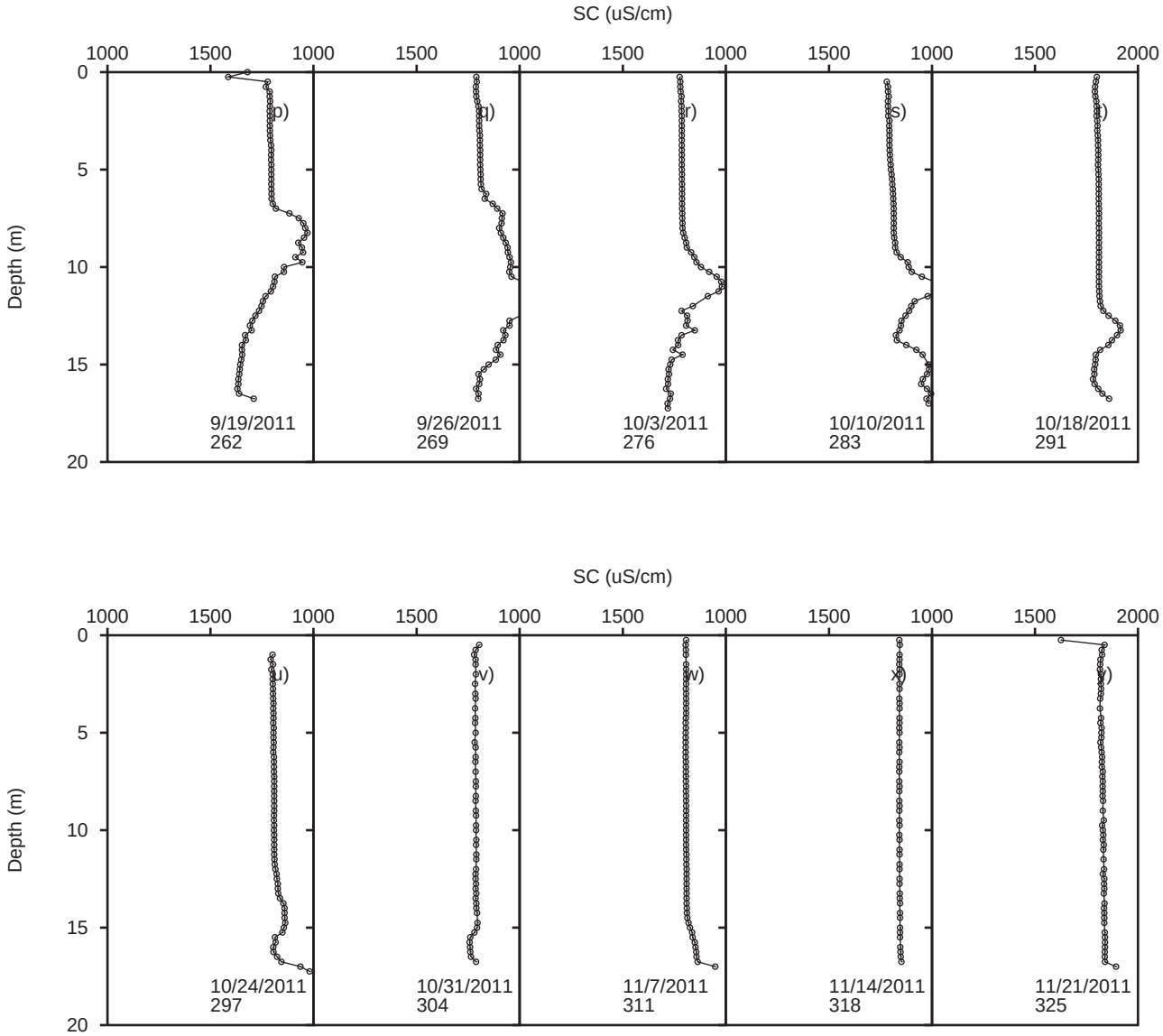
Fri Feb 03 14:26:27 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-8



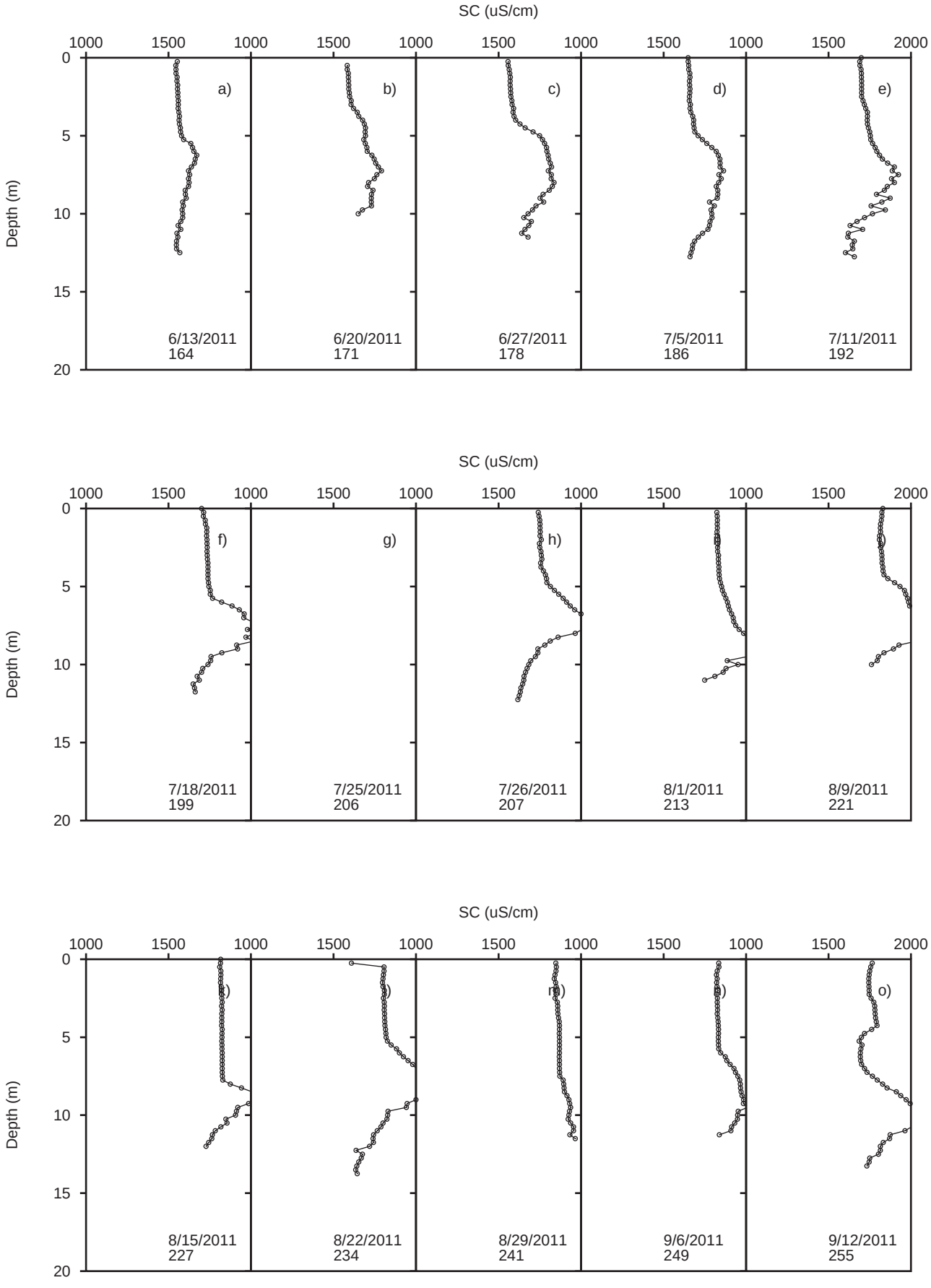
Fri Feb 03 14:30:06 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-8



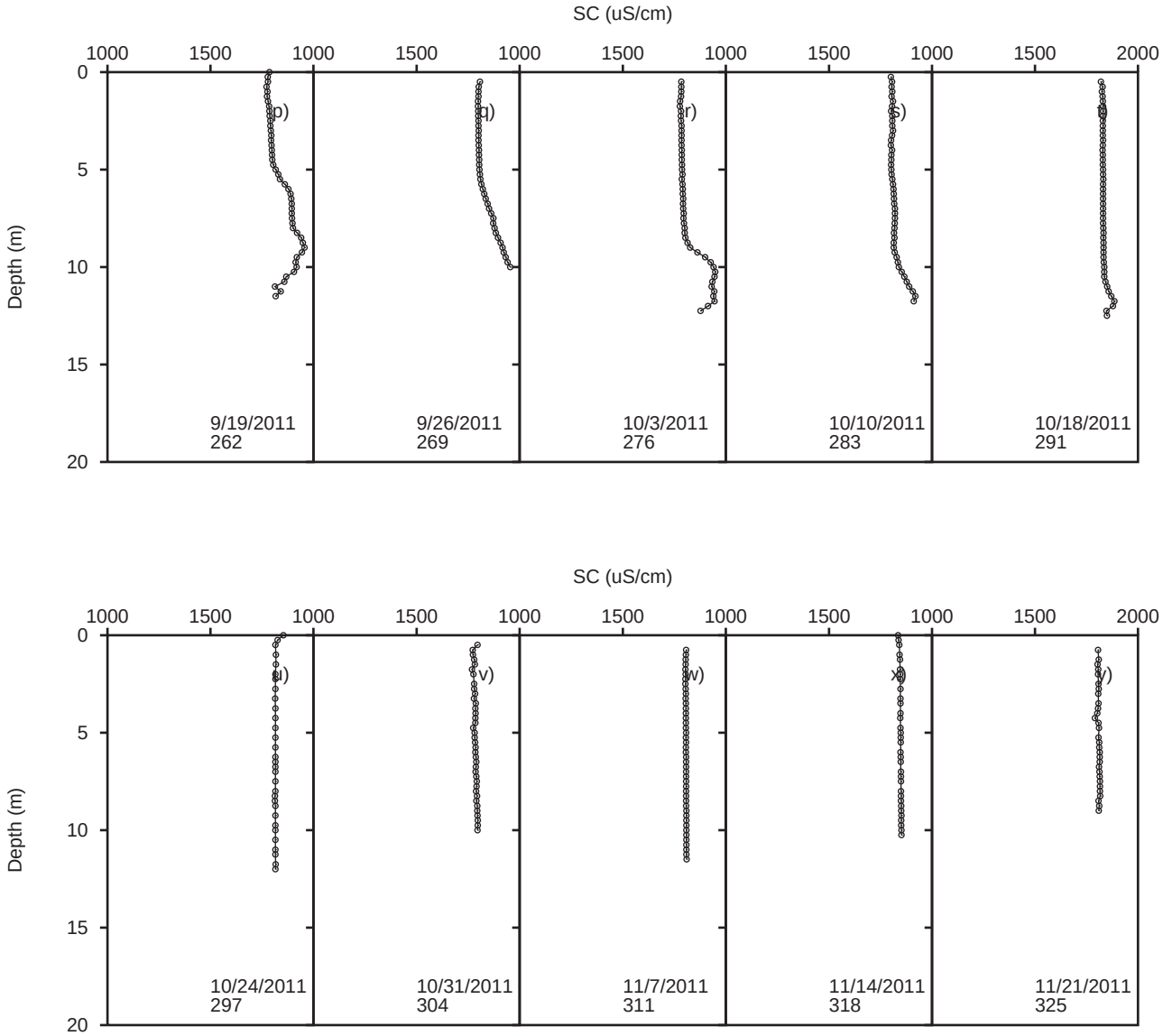
Fri Feb 03 14:30:06 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-9



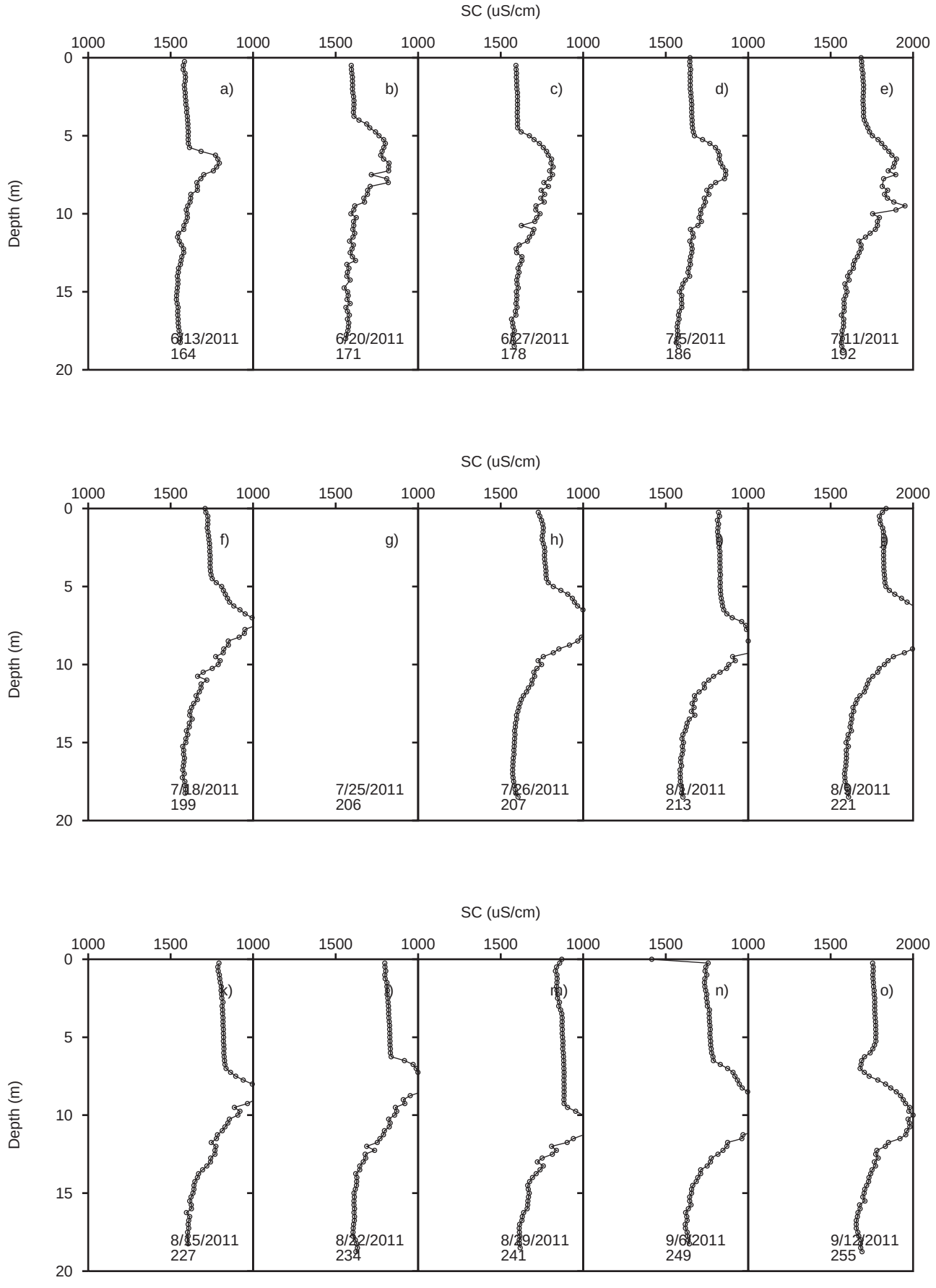
Fri Feb 03 14:37:05 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-9



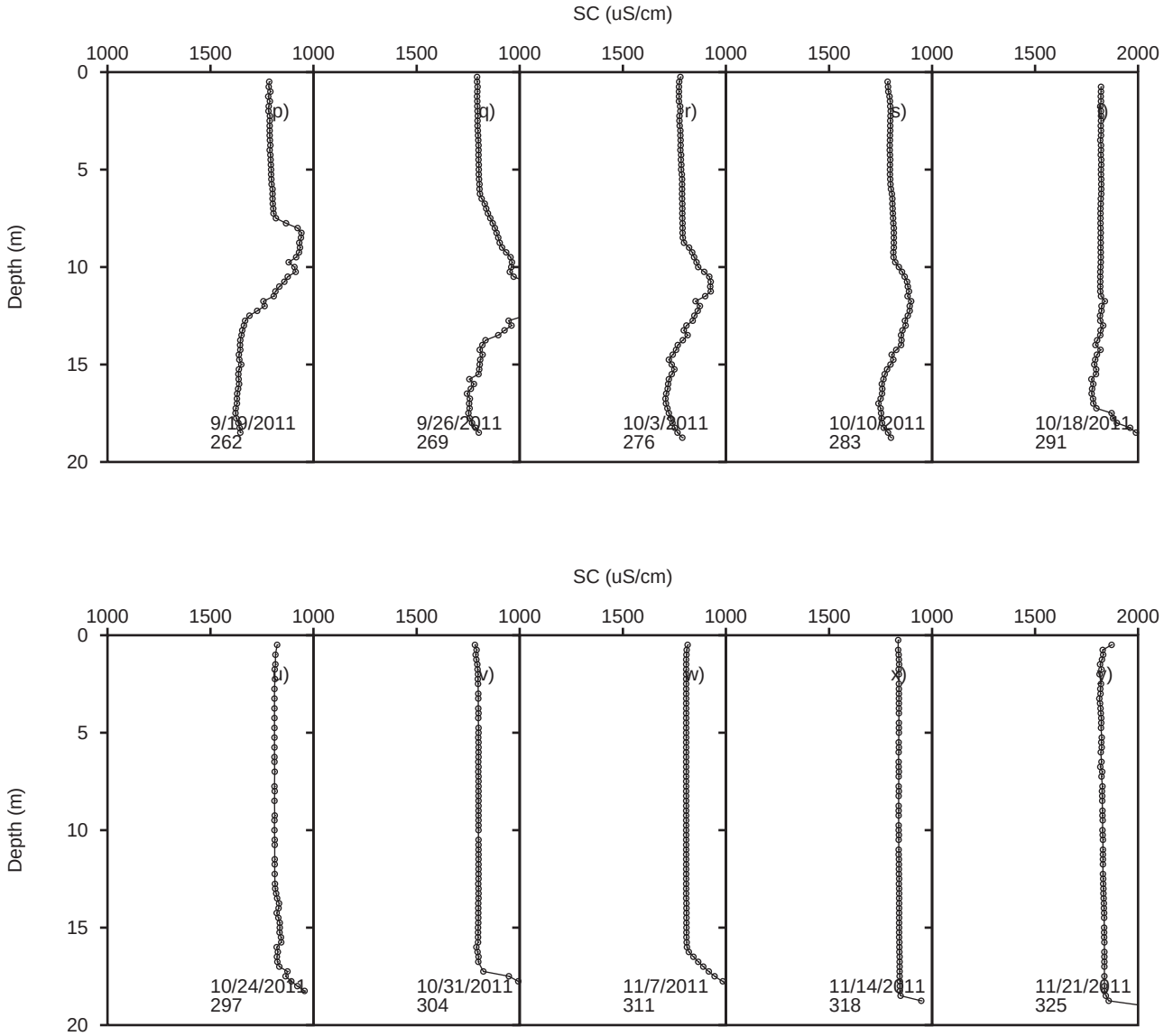
Fri Feb 03 14:37:05 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-11



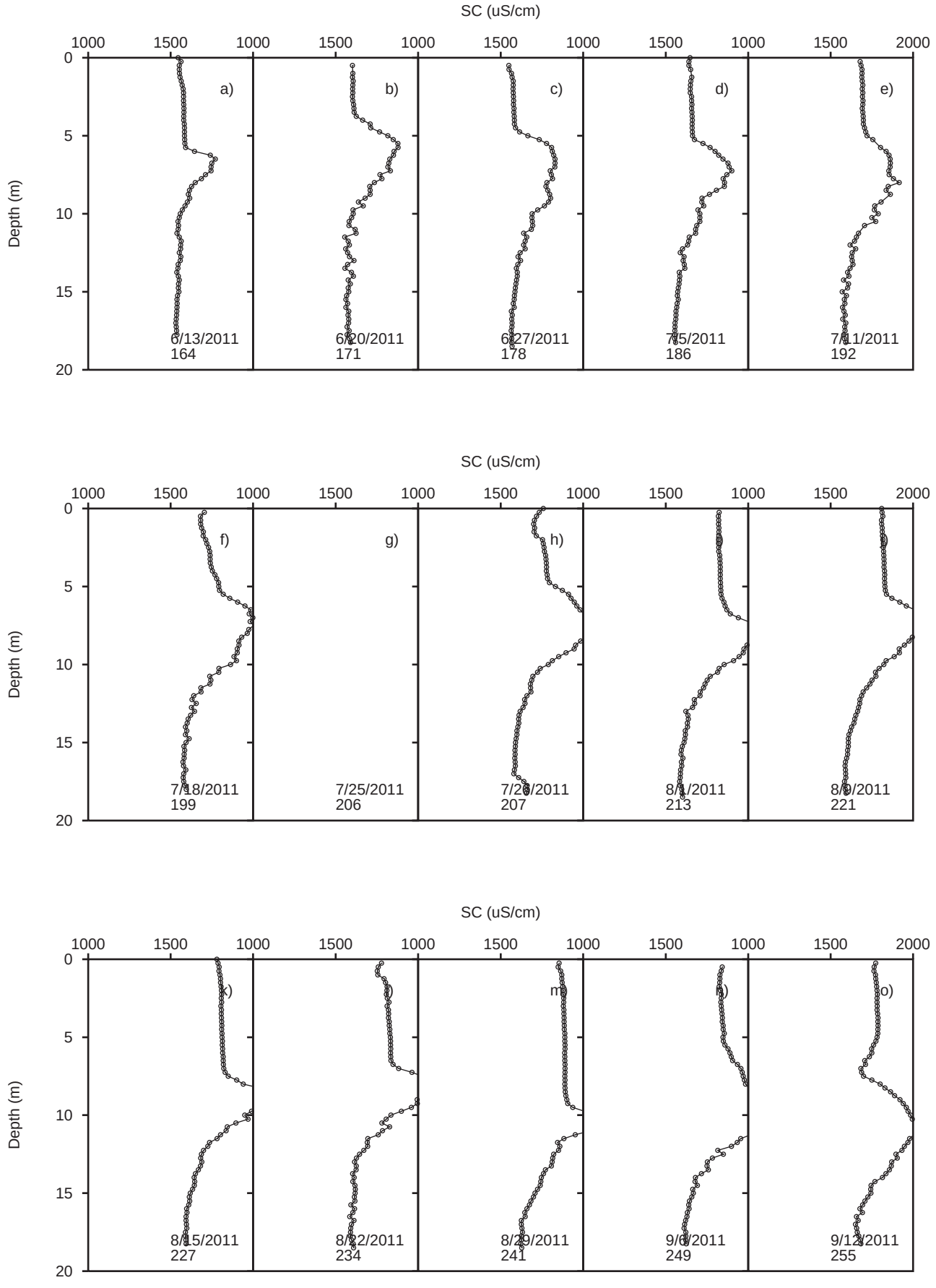
Fri Feb 03 14:40:54 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-11



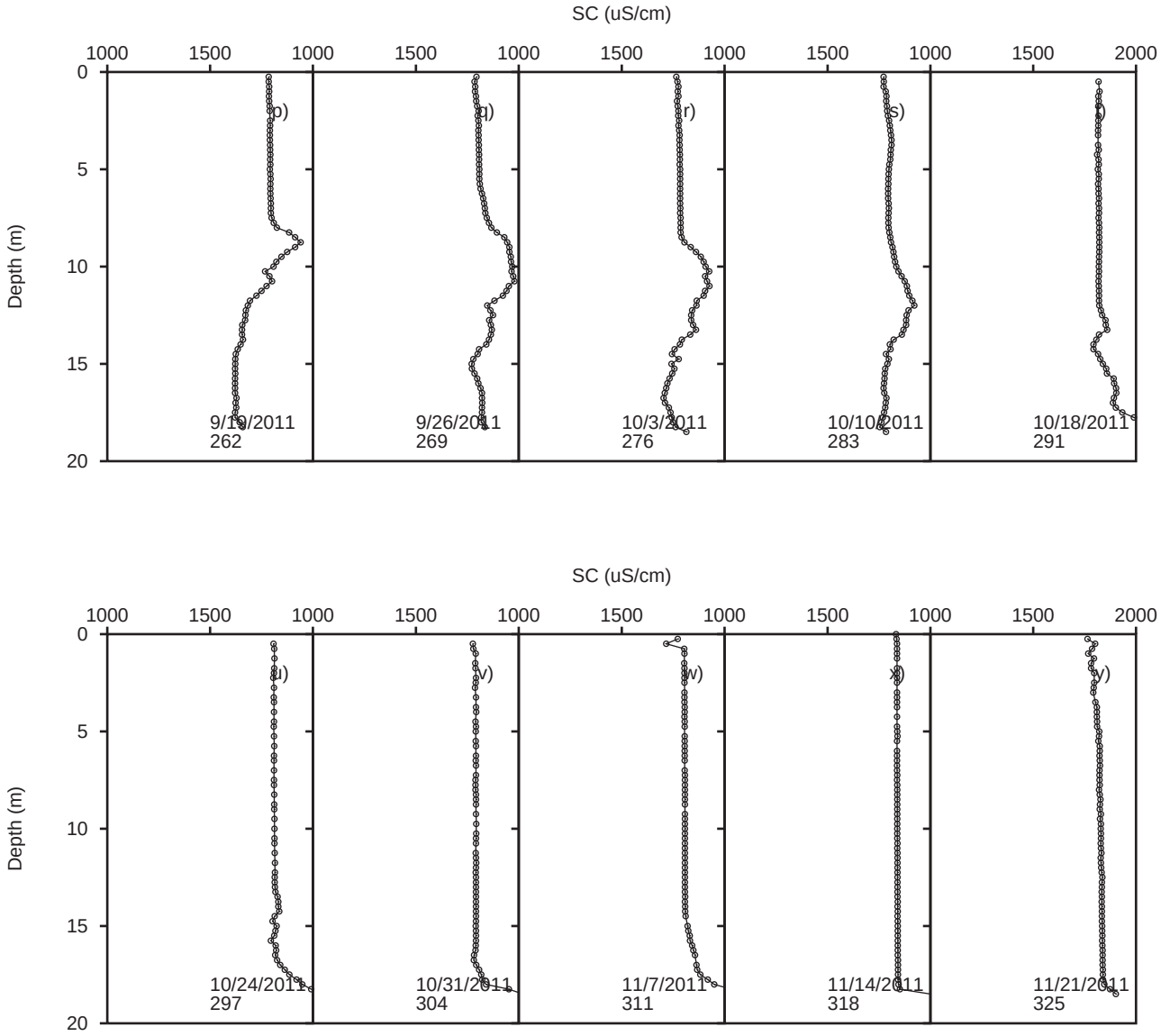
Fri Feb 03 14:40:54 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-12



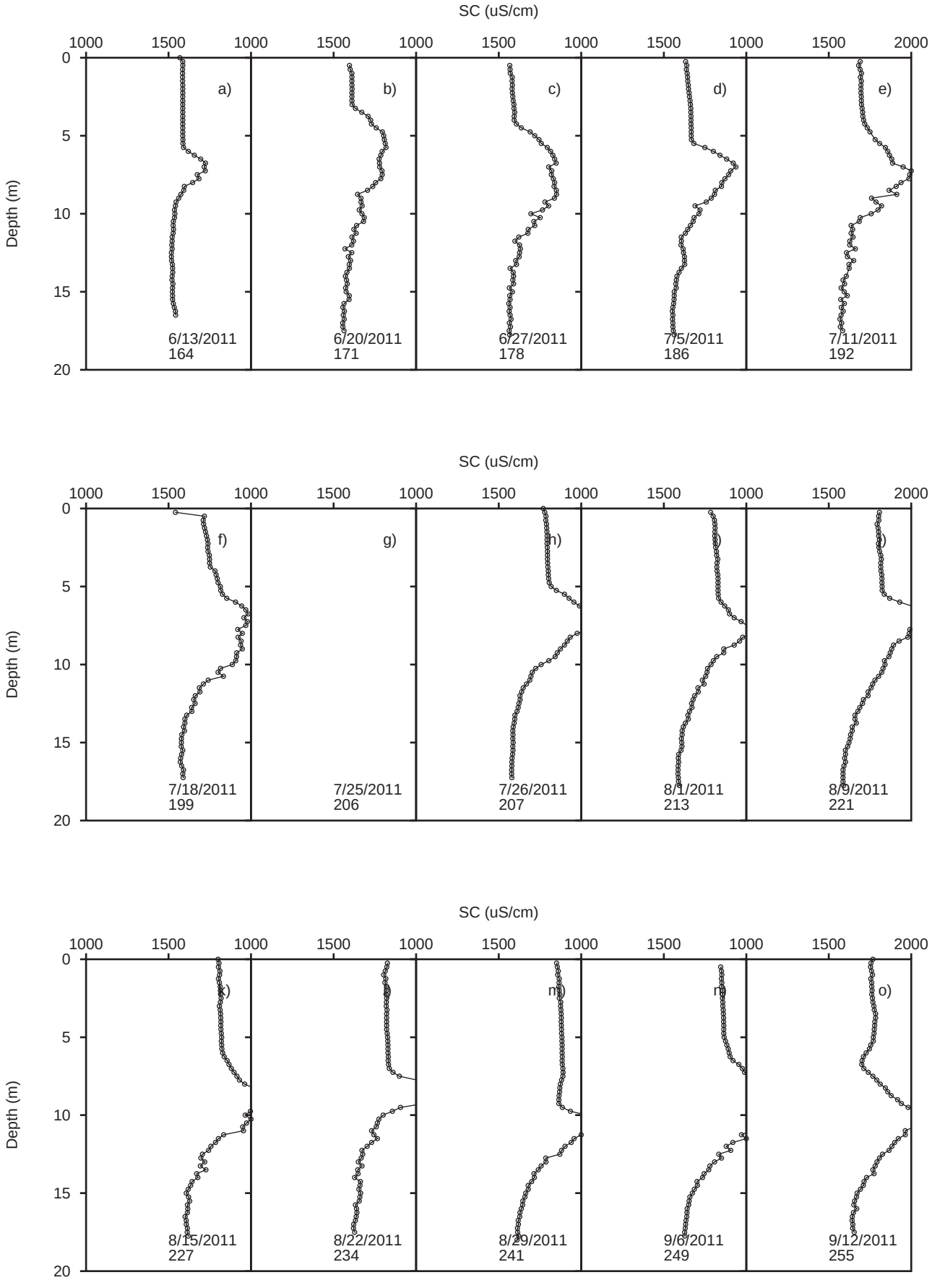
Fri Feb 03 14:42:45 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-12



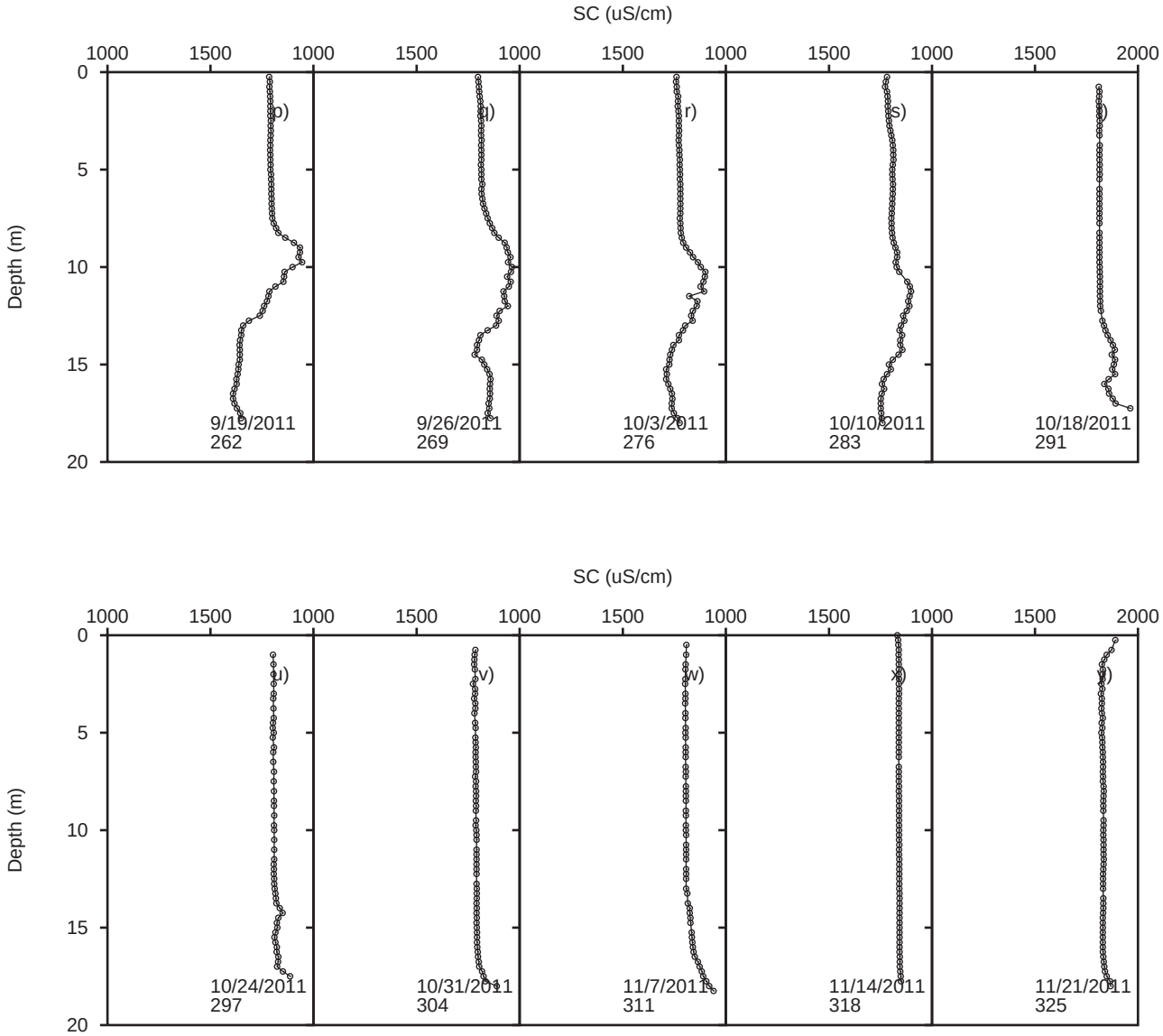
Fri Feb 03 14:42:45 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-13



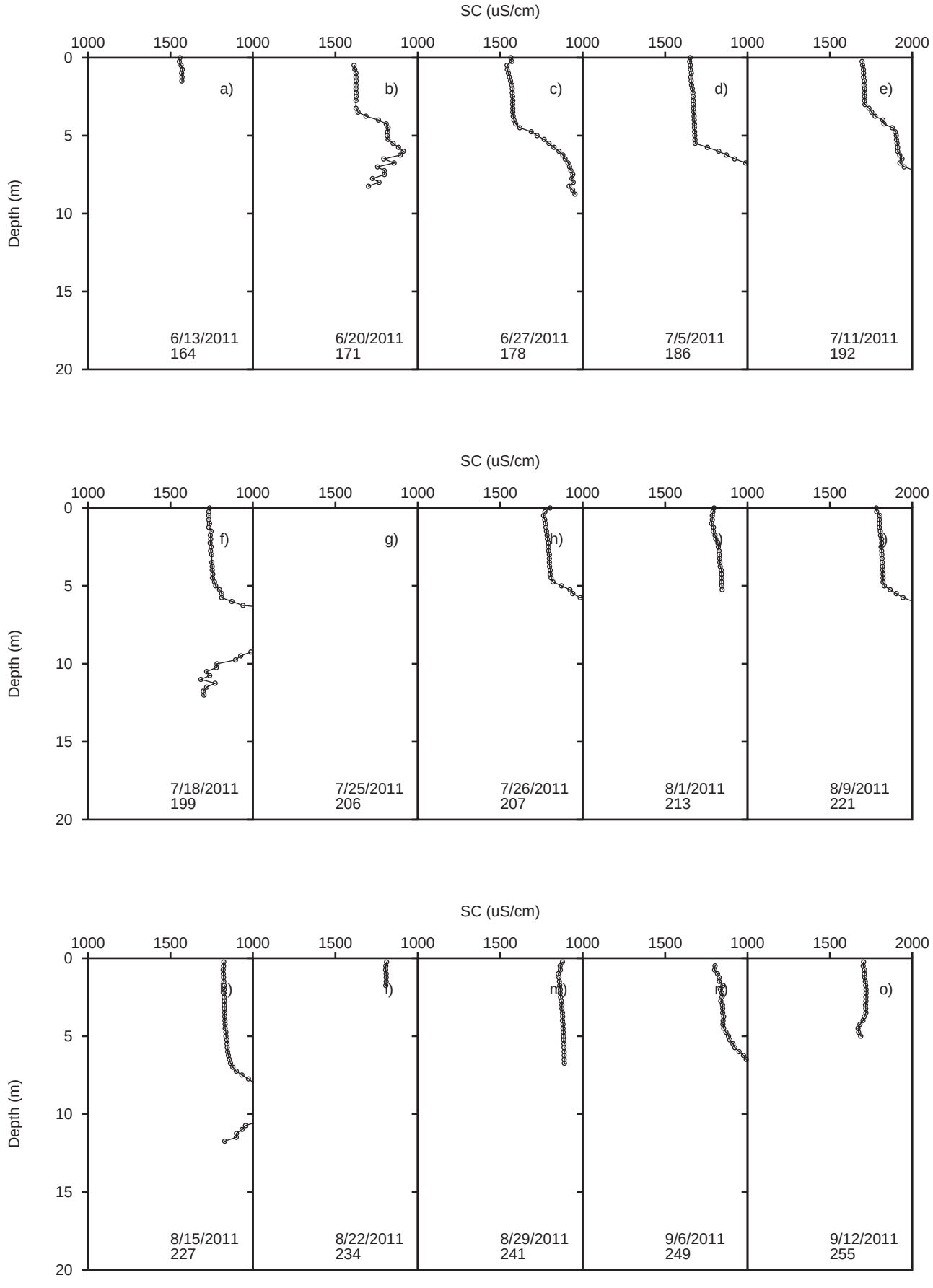
Fri Feb 03 14:45:20 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-13



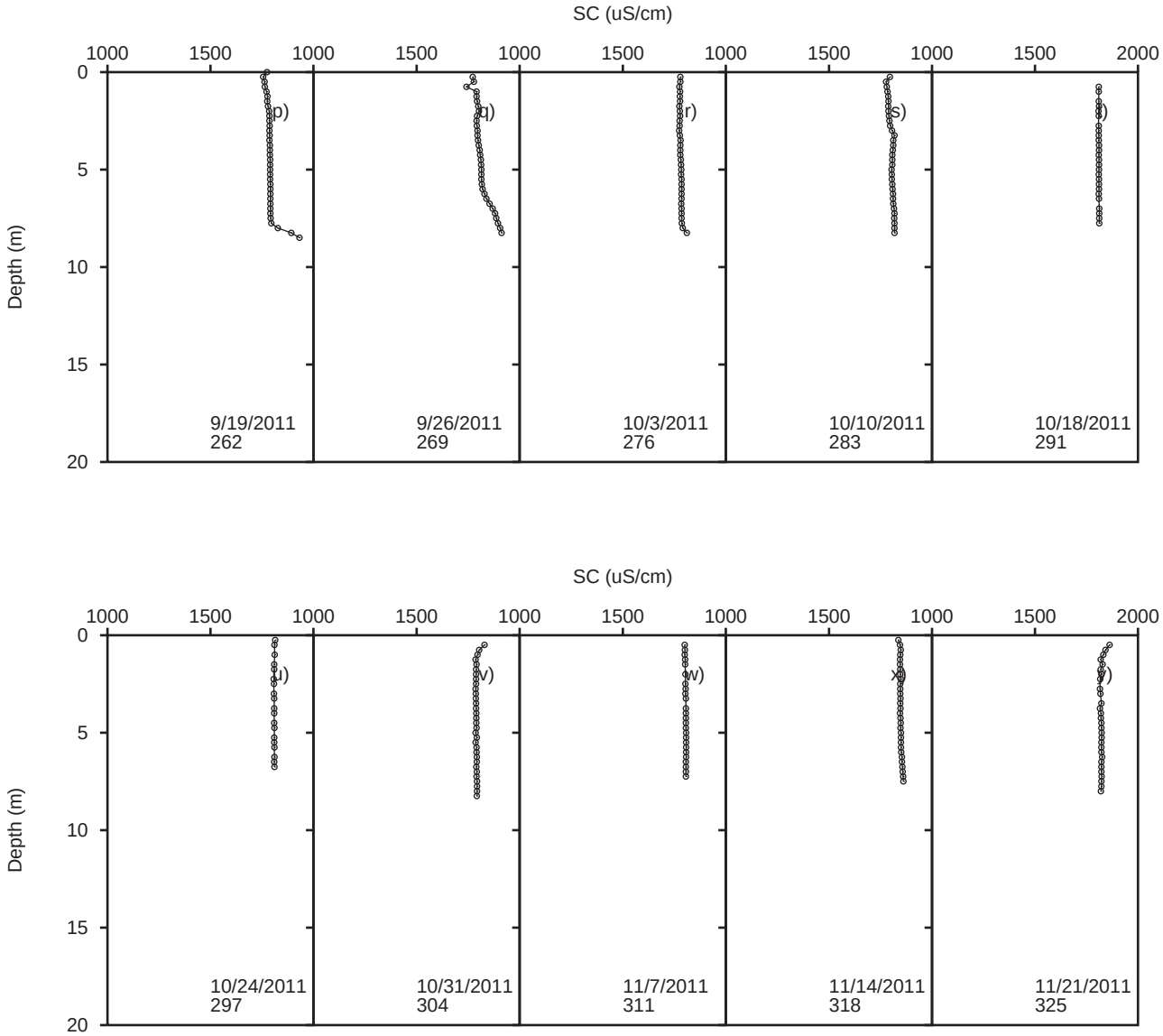
Fri Feb 03 14:45:20 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-15



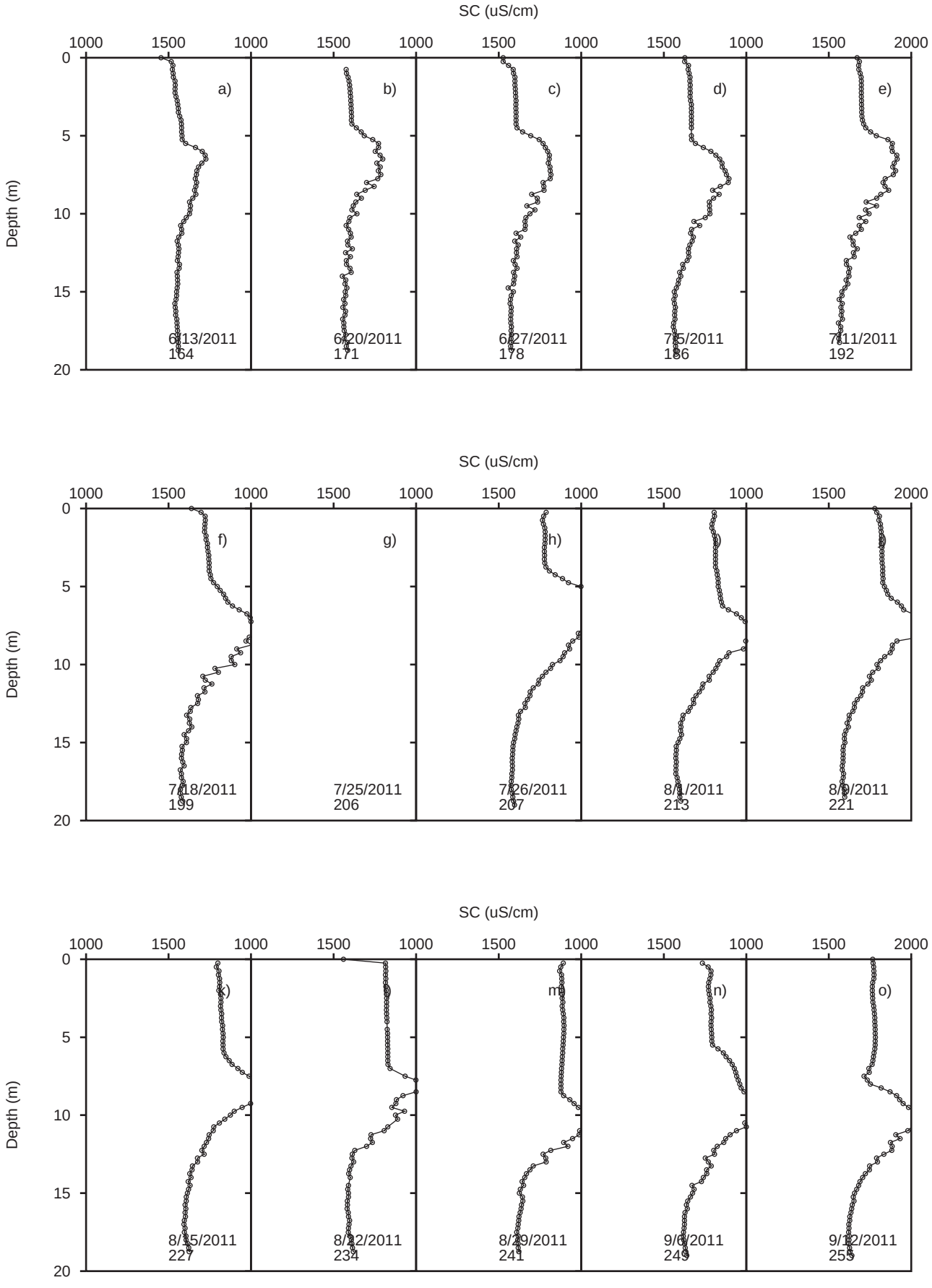
Fri Feb 03 14:46:56 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-15



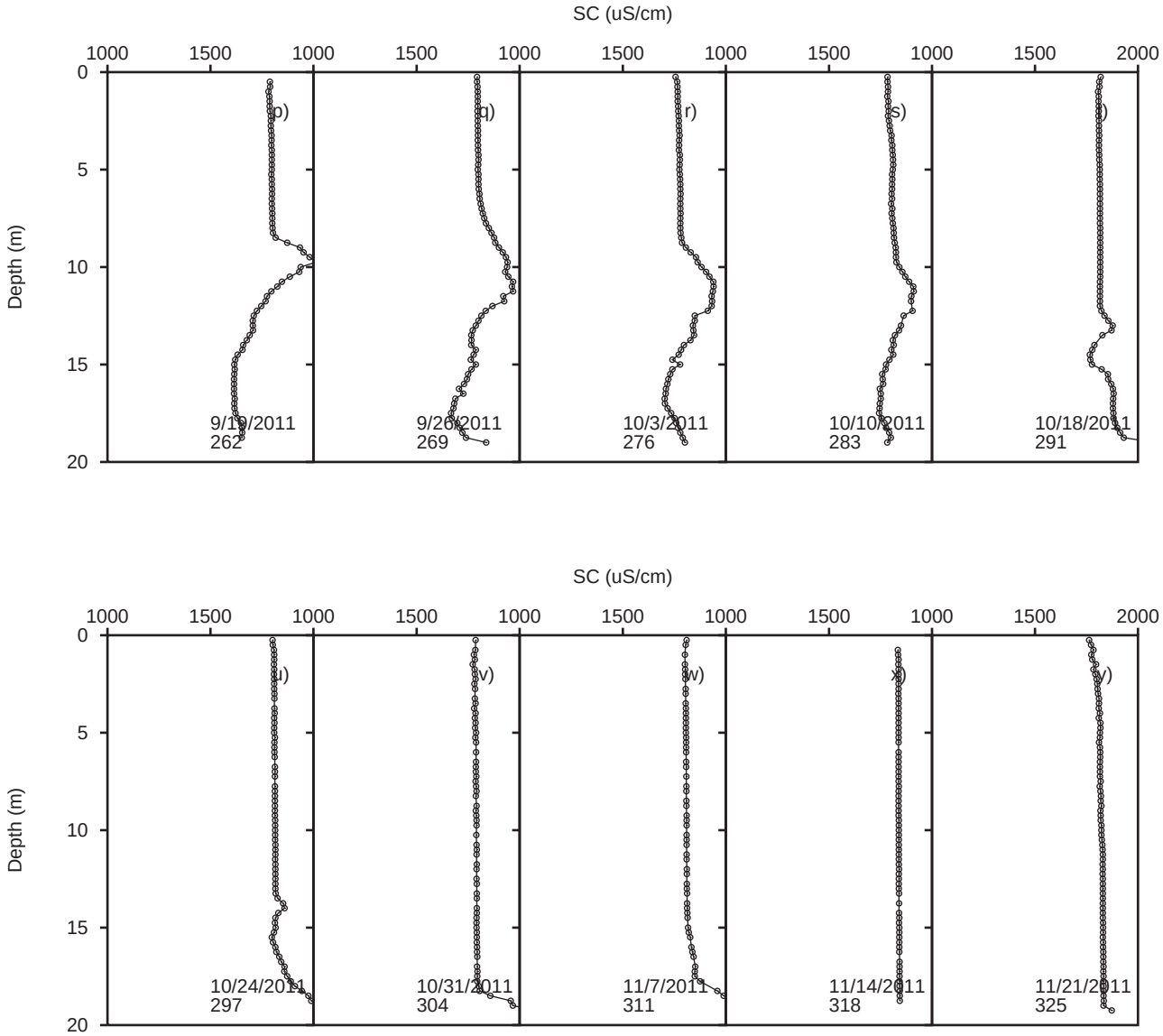
Fri Feb 03 14:46:56 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-18



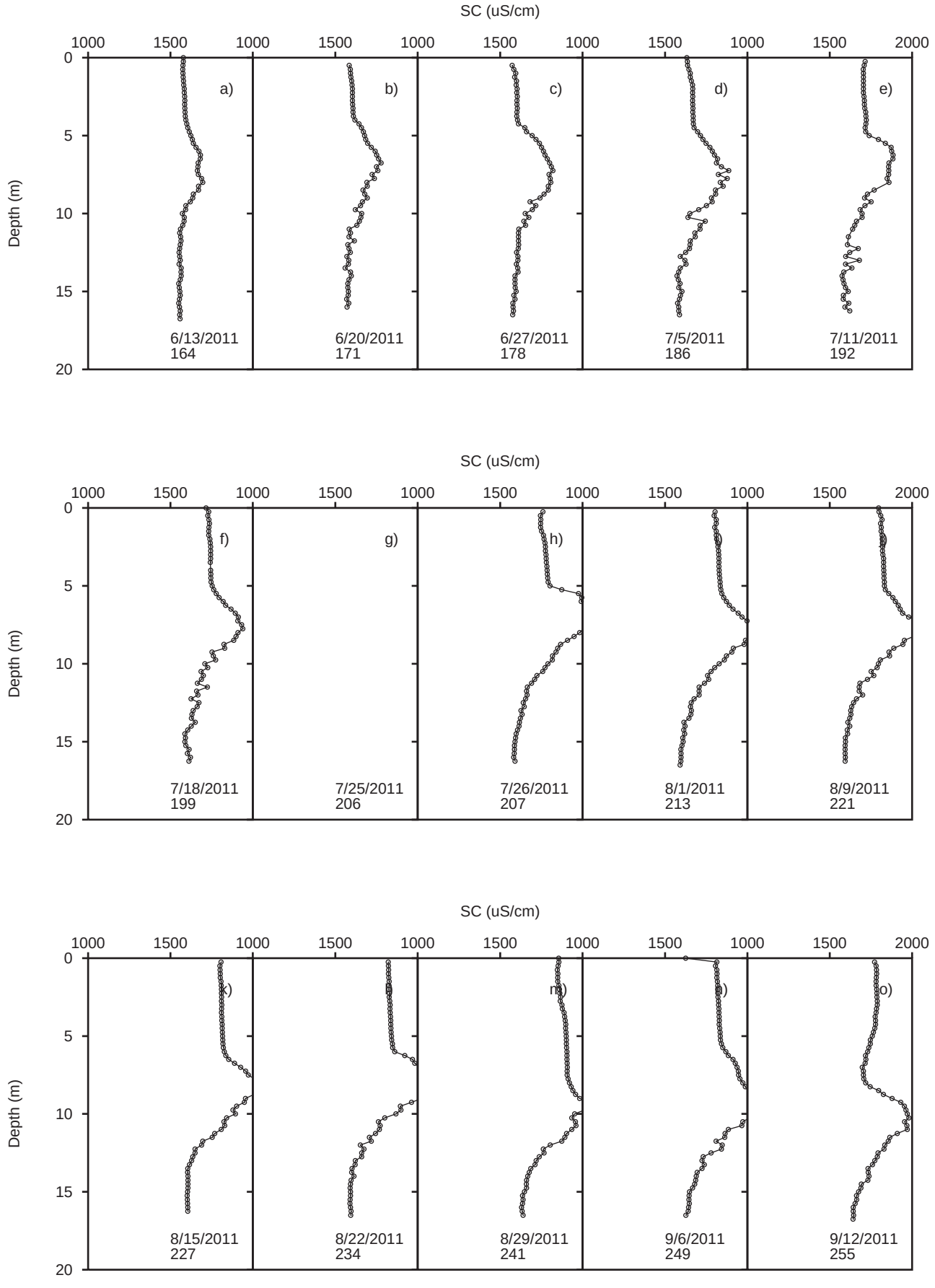
Fri Feb 03 14:49:10 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-18



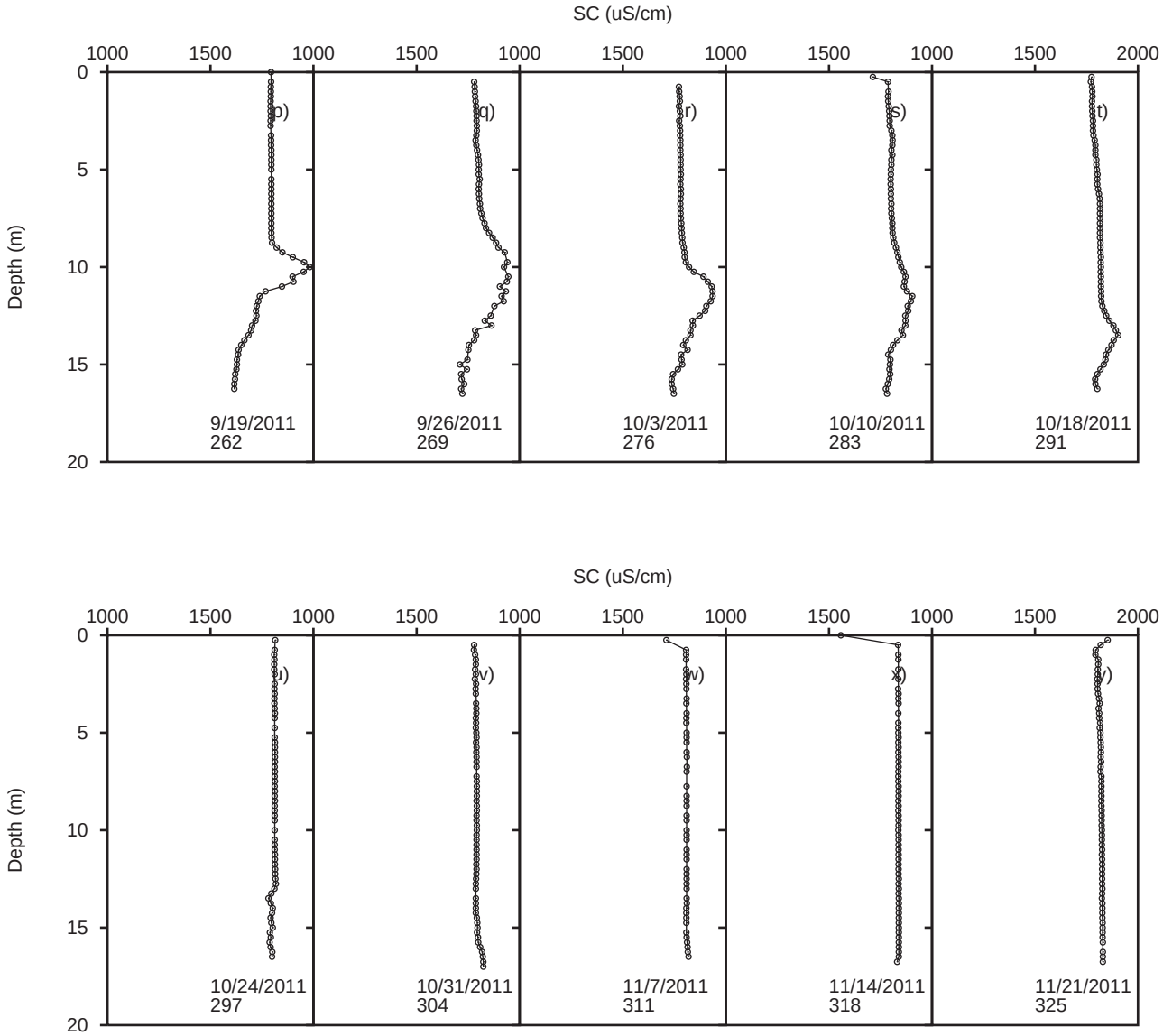
Fri Feb 03 14:49:10 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-22



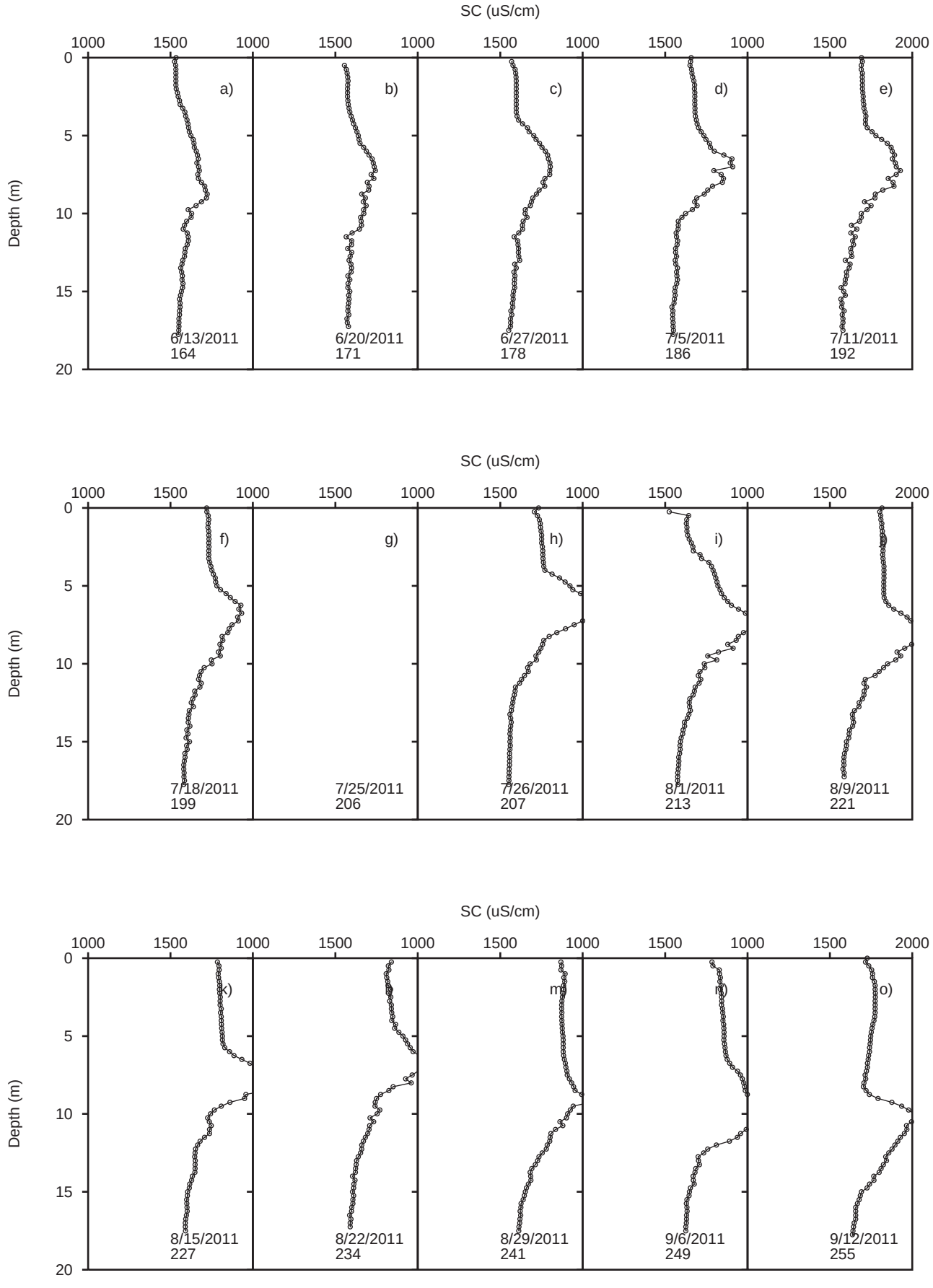
Fri Feb 03 14:51:05 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-22



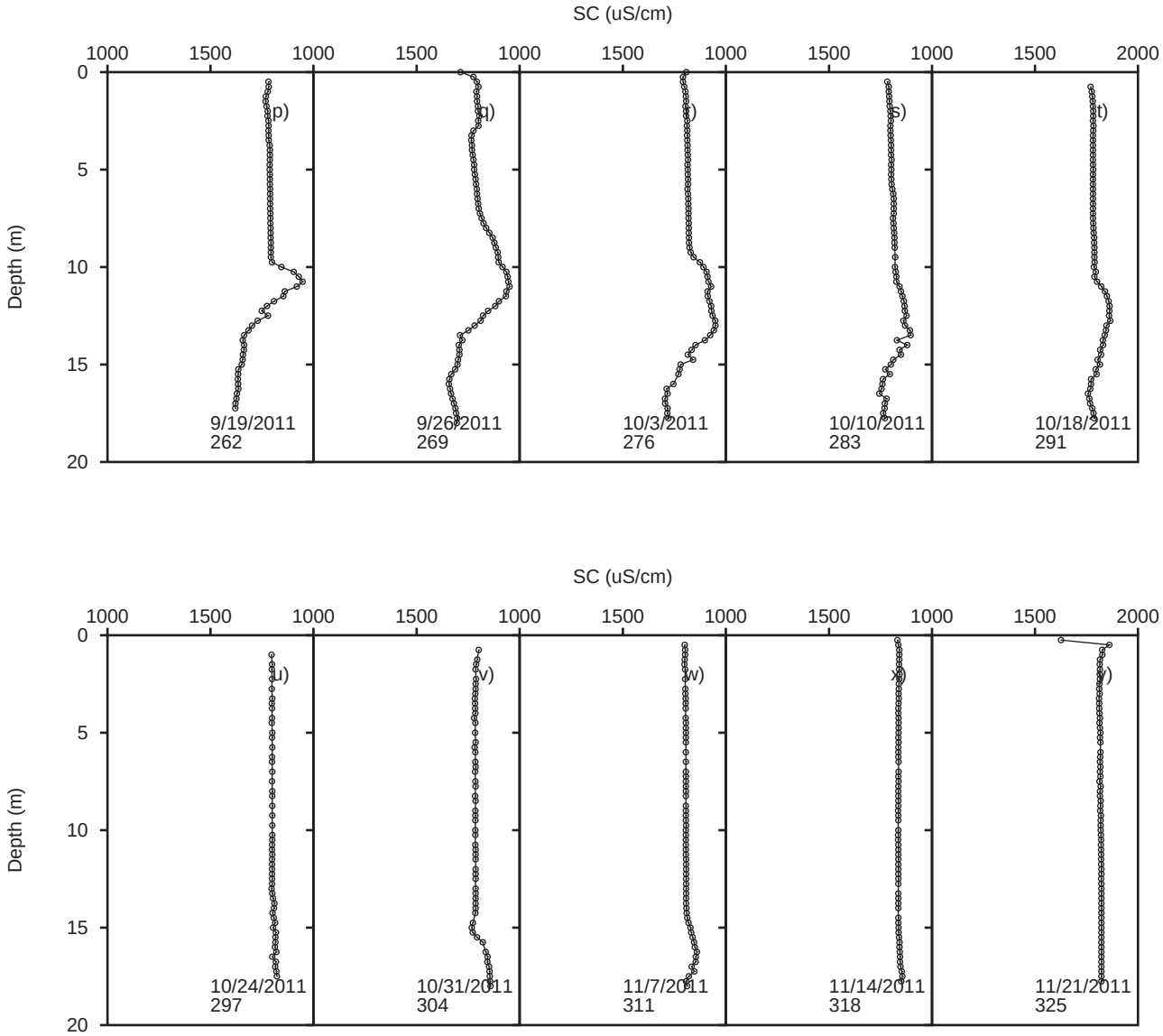
Fri Feb 03 14:51:05 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-27



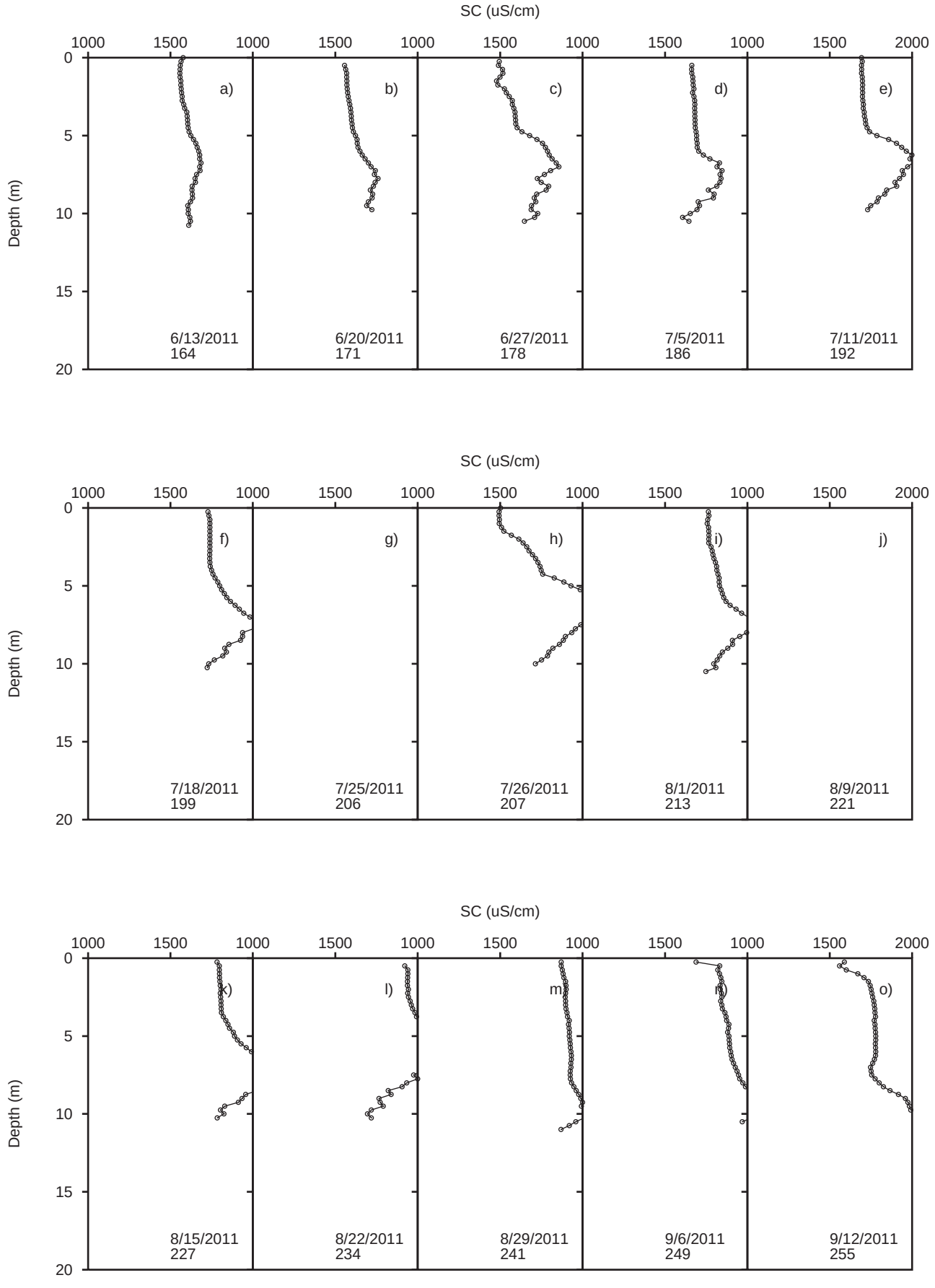
Fri Feb 03 14:53:38 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-27



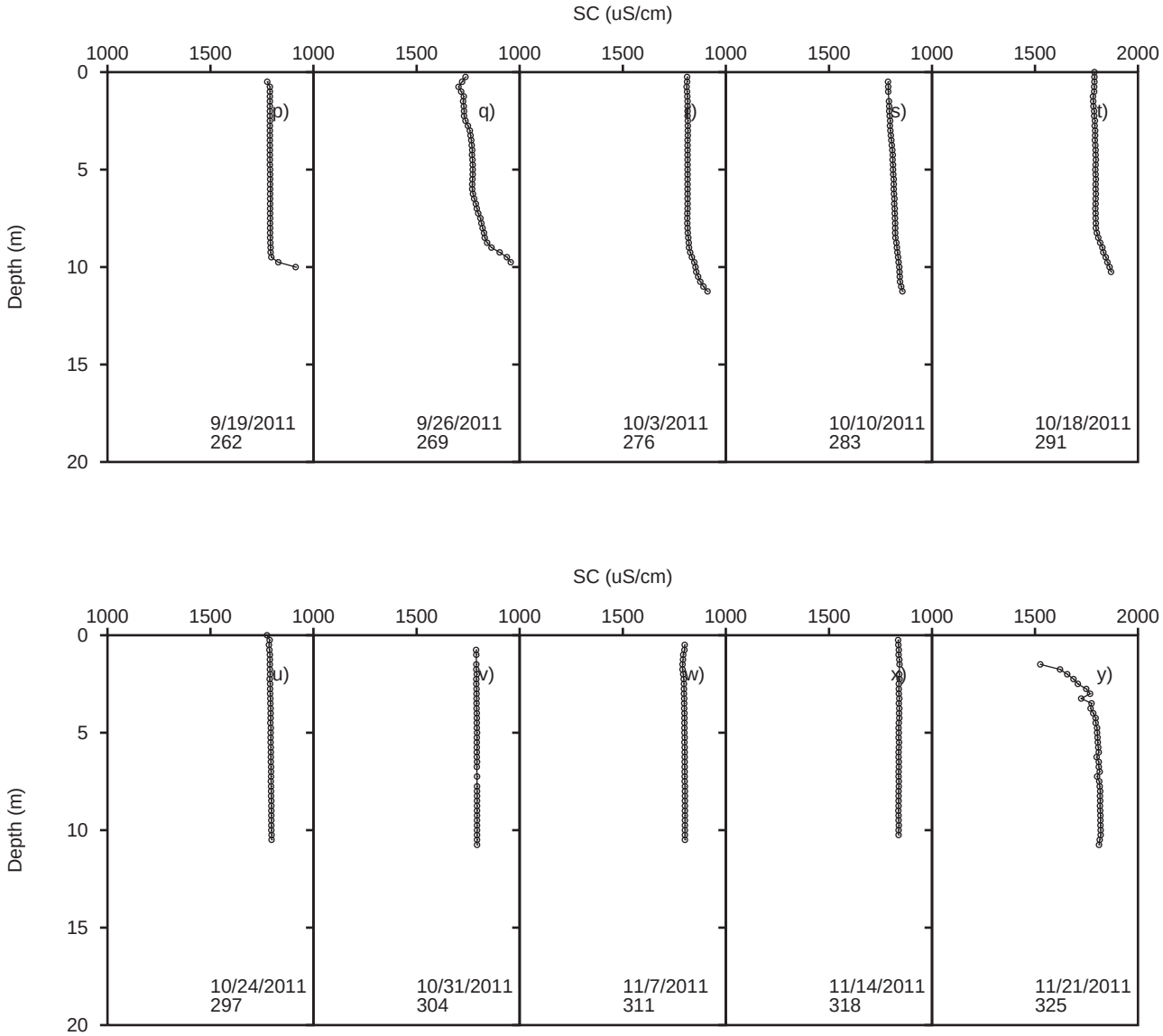
Fri Feb 03 14:53:38 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-34



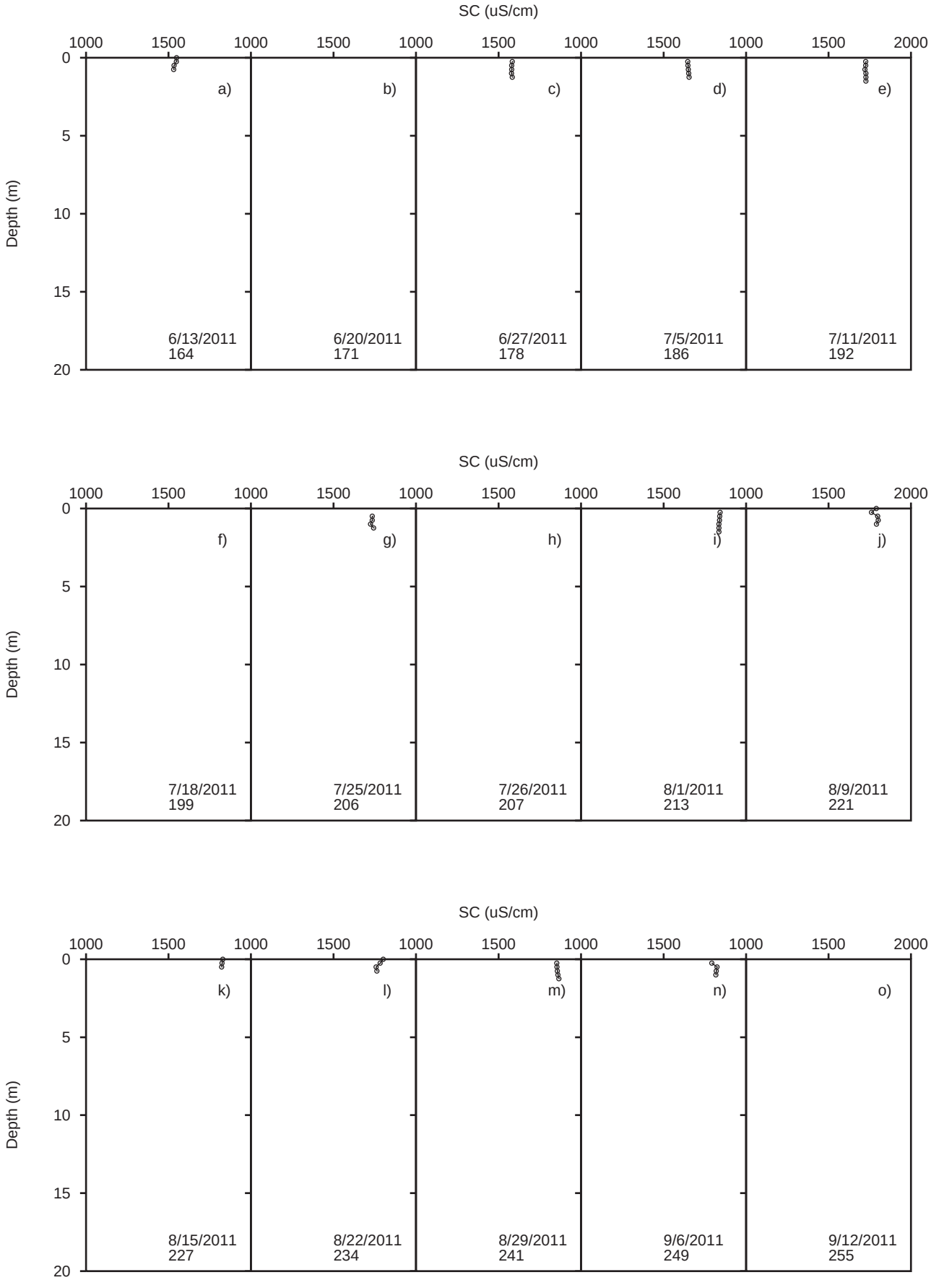
Fri Feb 03 14:19:29 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-34



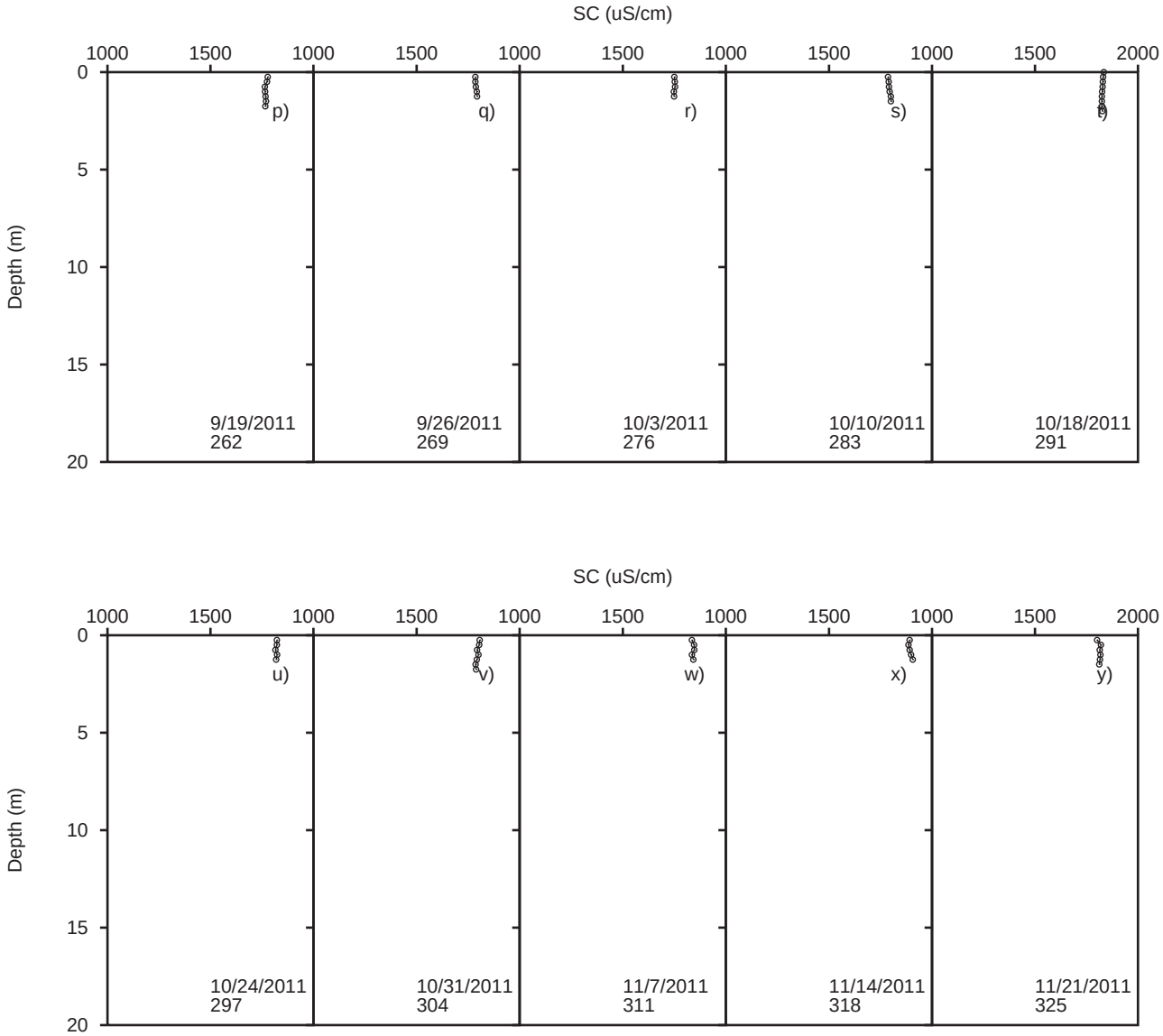
Fri Feb 03 14:19:29 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-37



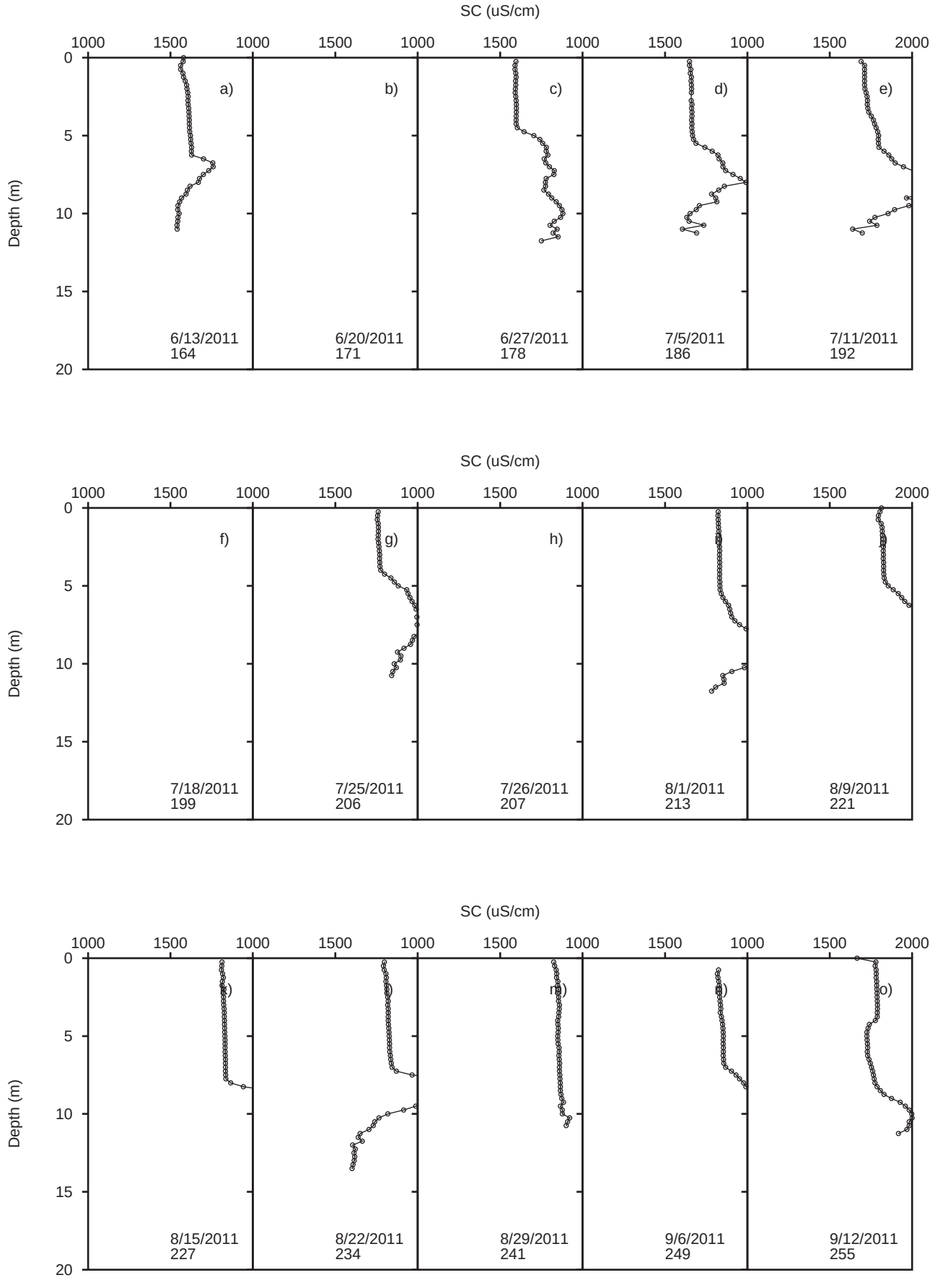
Fri Feb 03 14:20:35 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-37



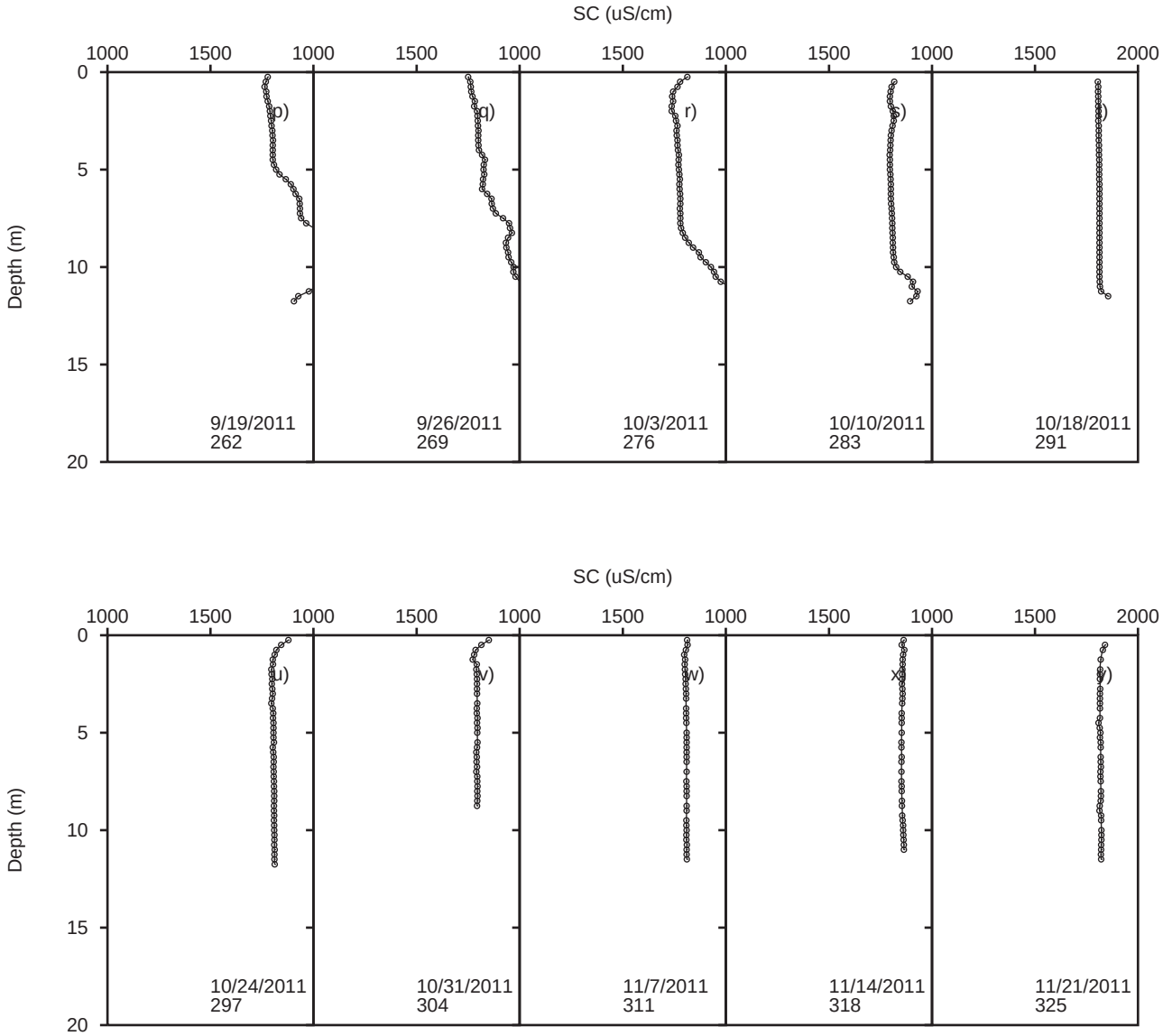
Fri Feb 03 14:20:35 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-38



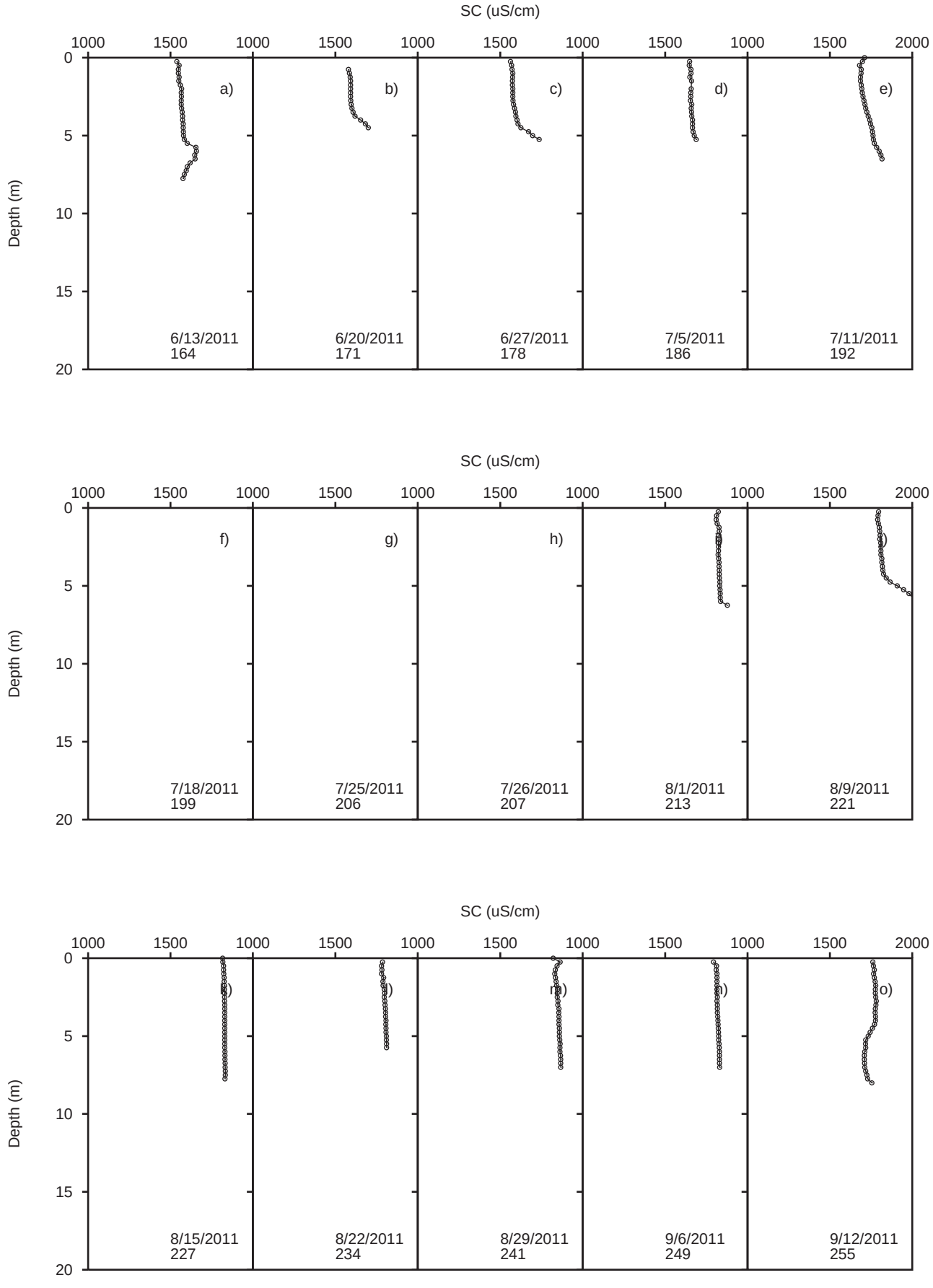
Fri Feb 03 14:21:40 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-38



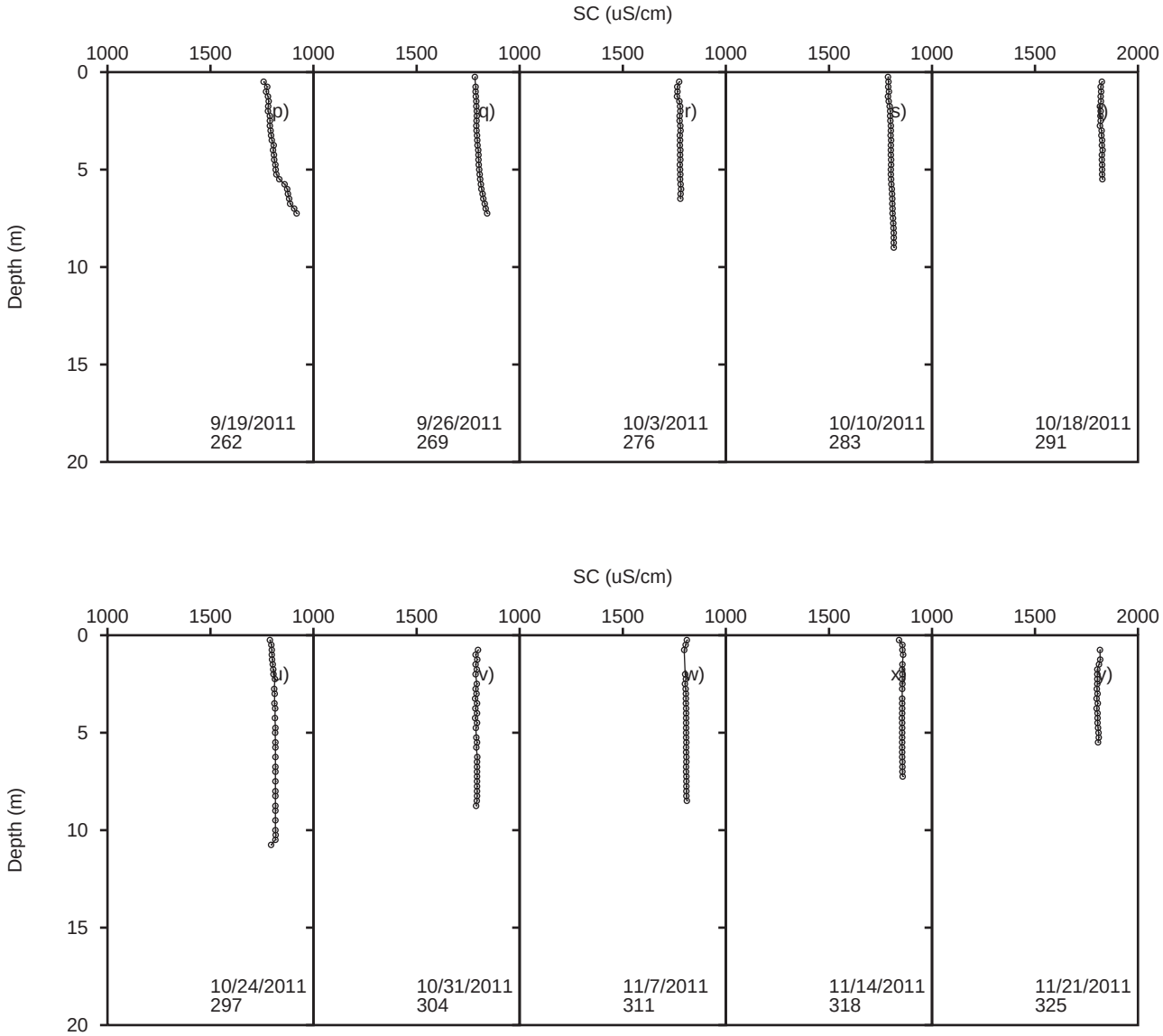
Fri Feb 03 14:21:40 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-39



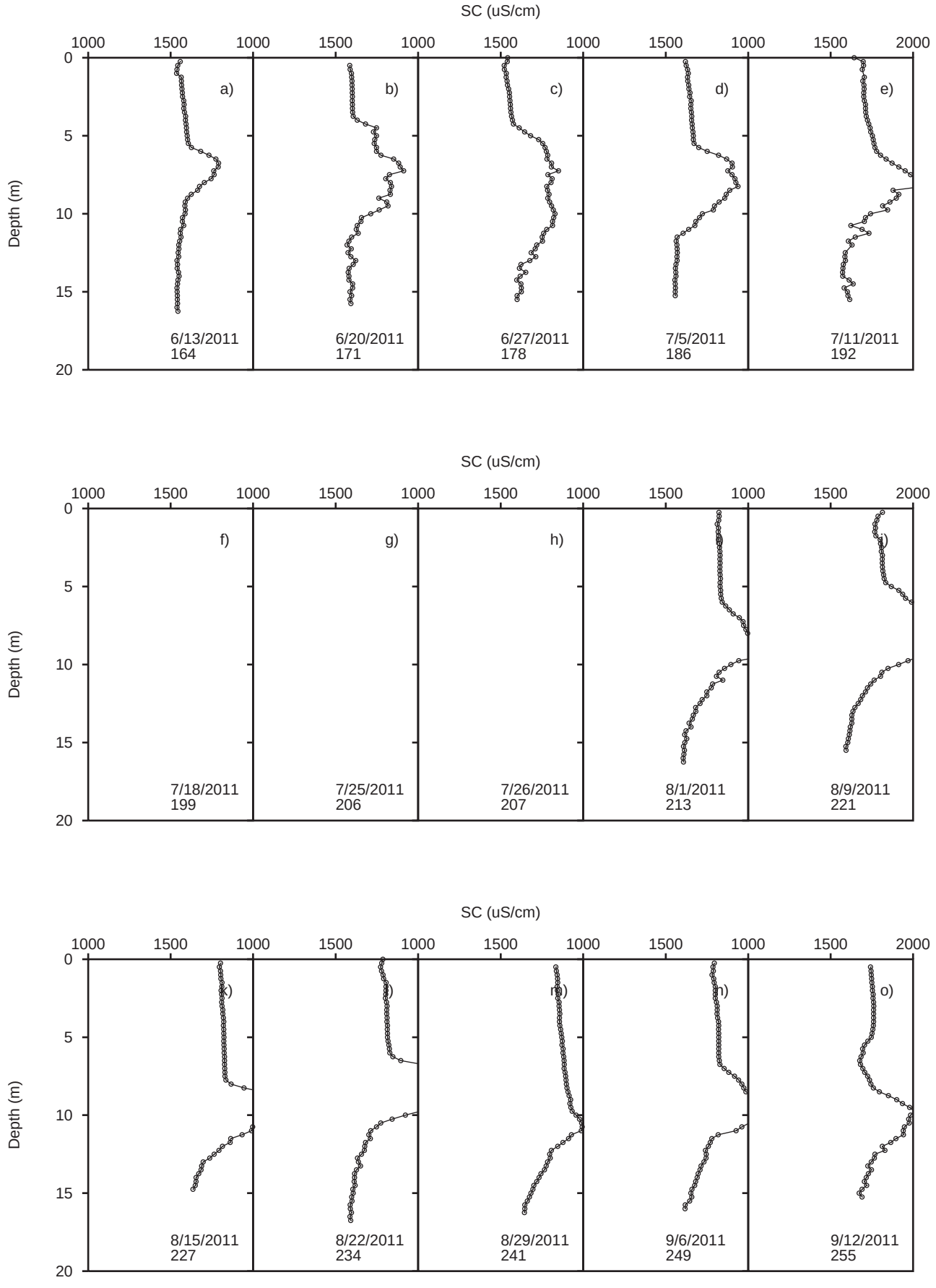
Fri Feb 03 14:27:26 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-39



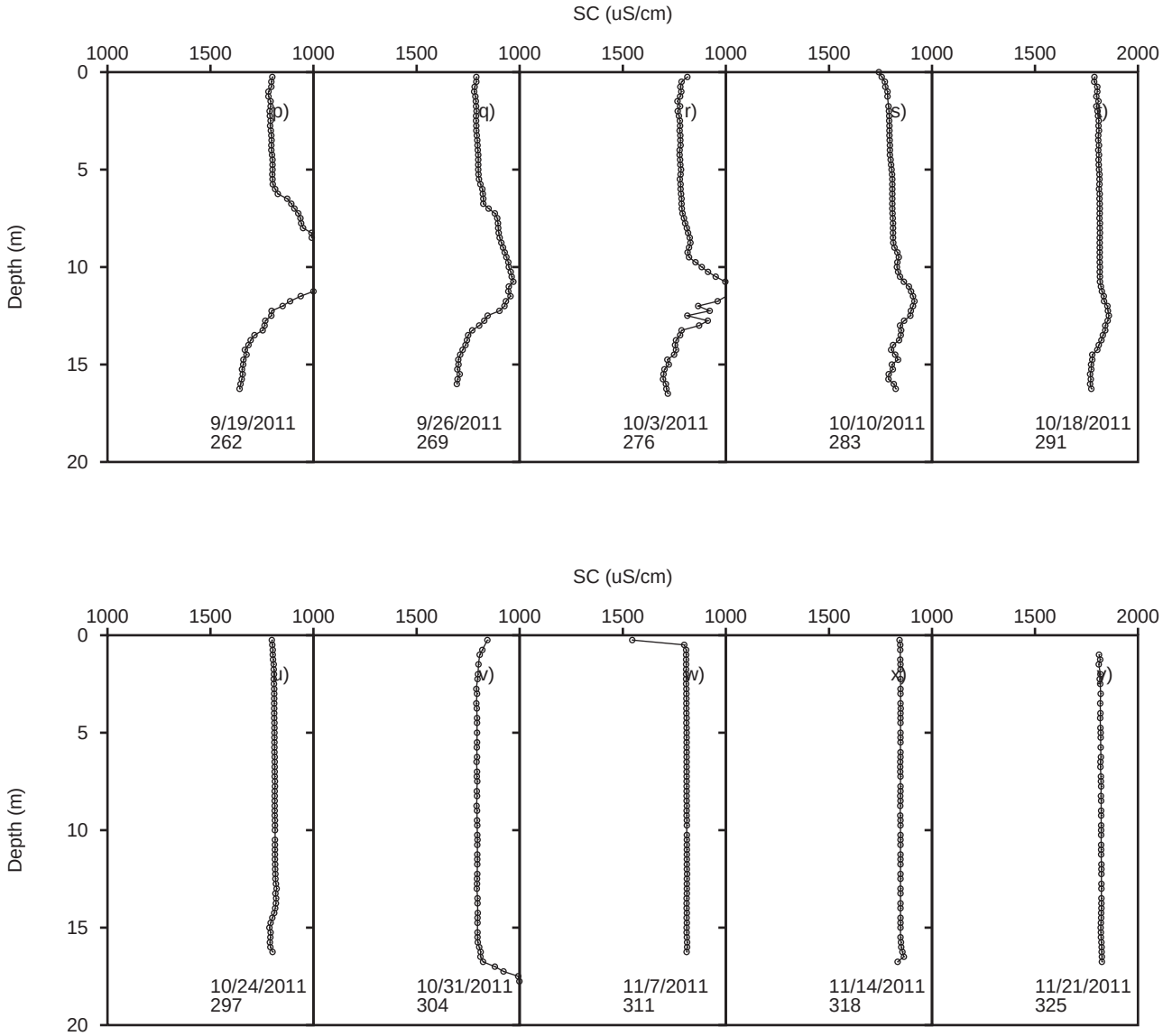
Fri Feb 03 14:27:26 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-40



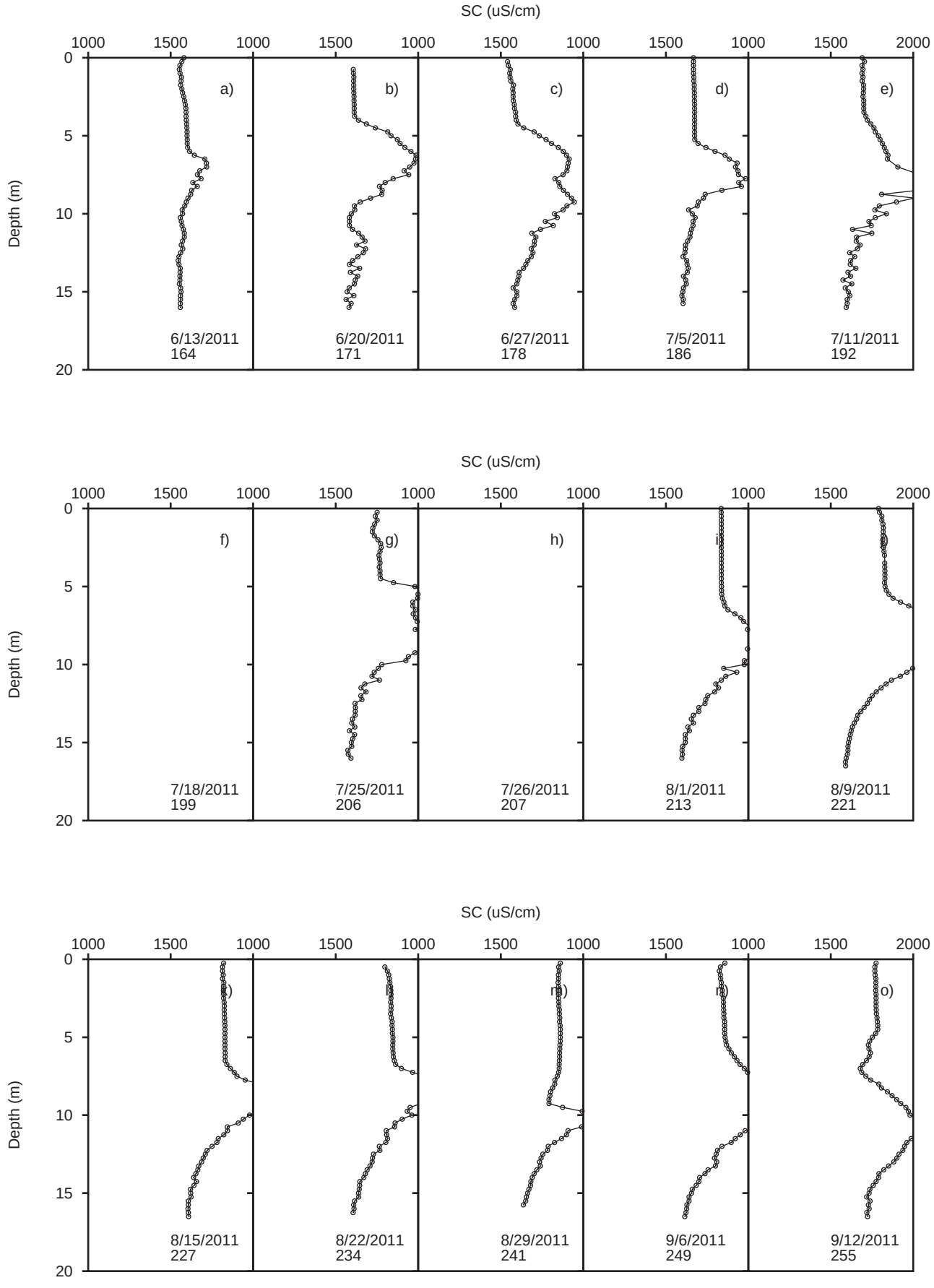
Fri Feb 03 14:28:13 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-40



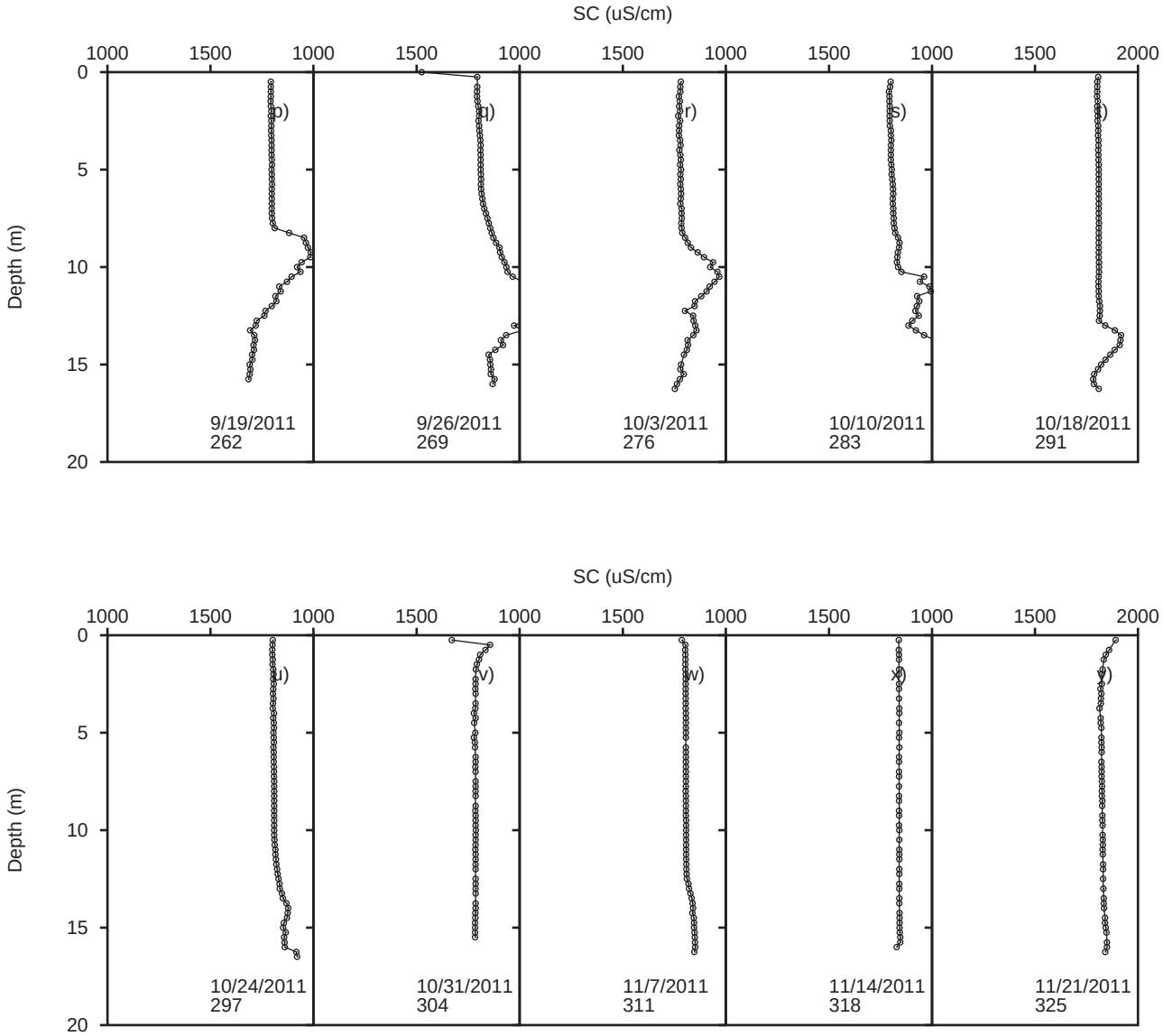
Fri Feb 03 14:28:13 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-41



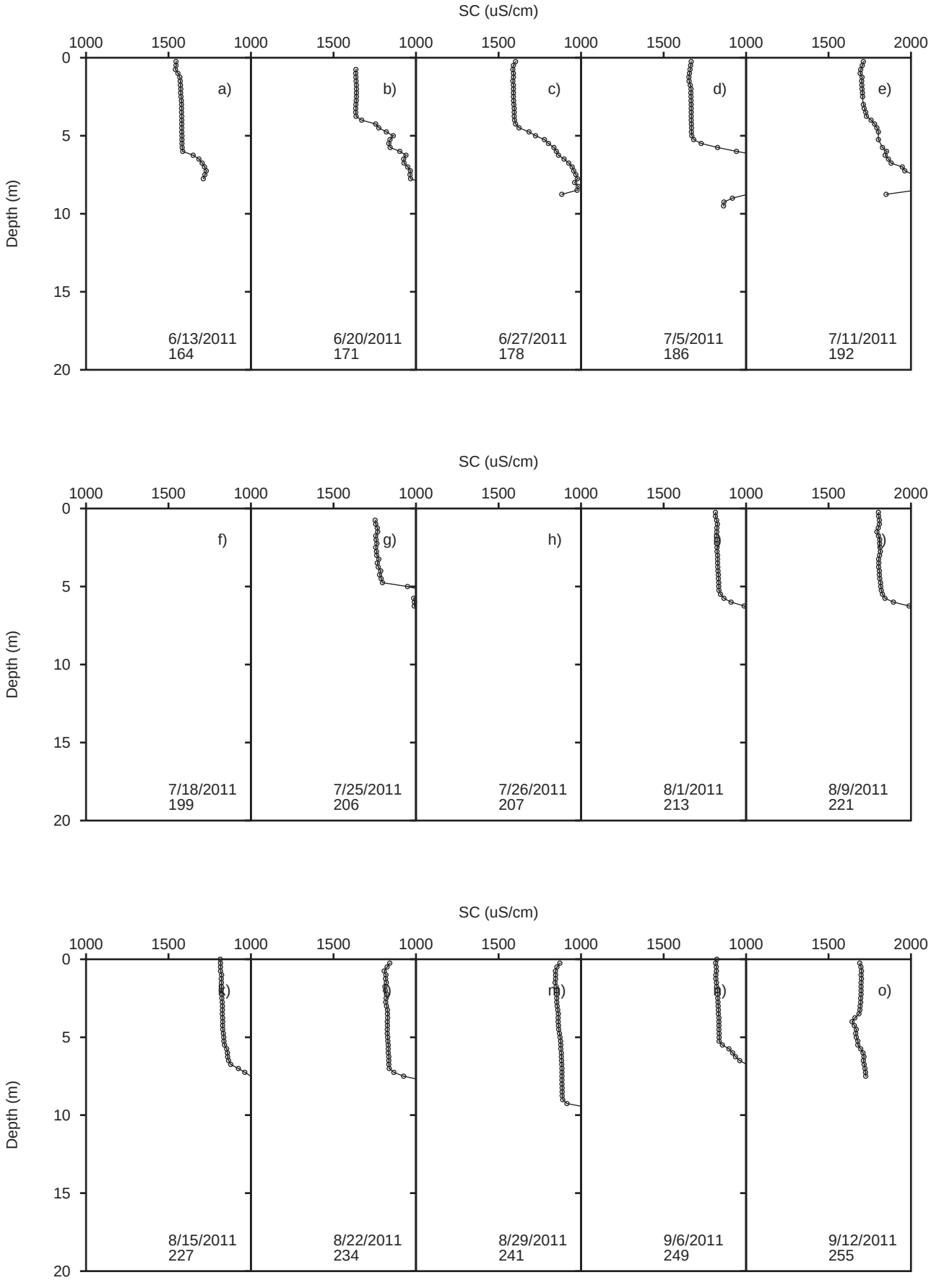
Fri Feb 03 14:30:54 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-41



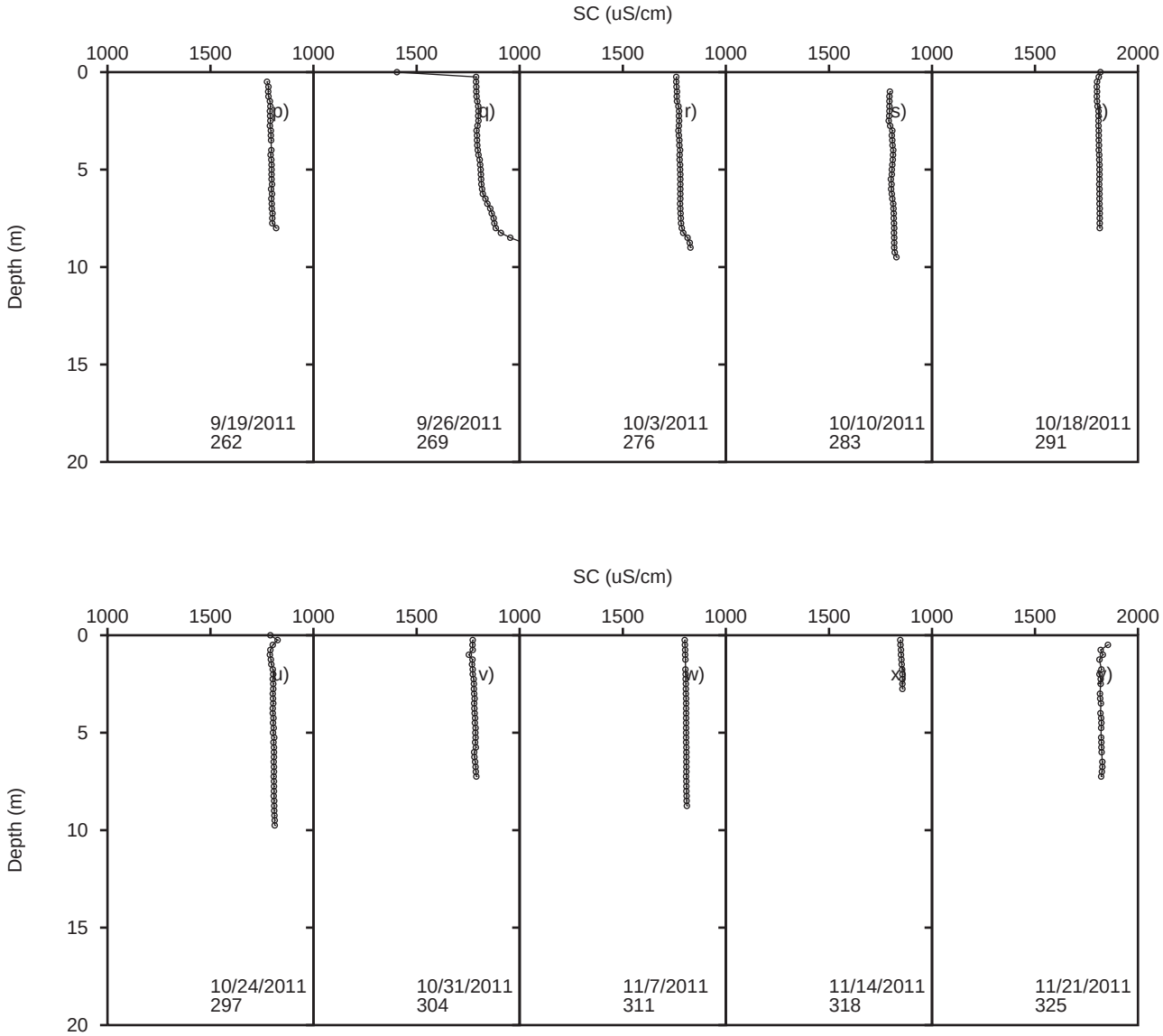
Fri Feb 03 14:30:54 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-42



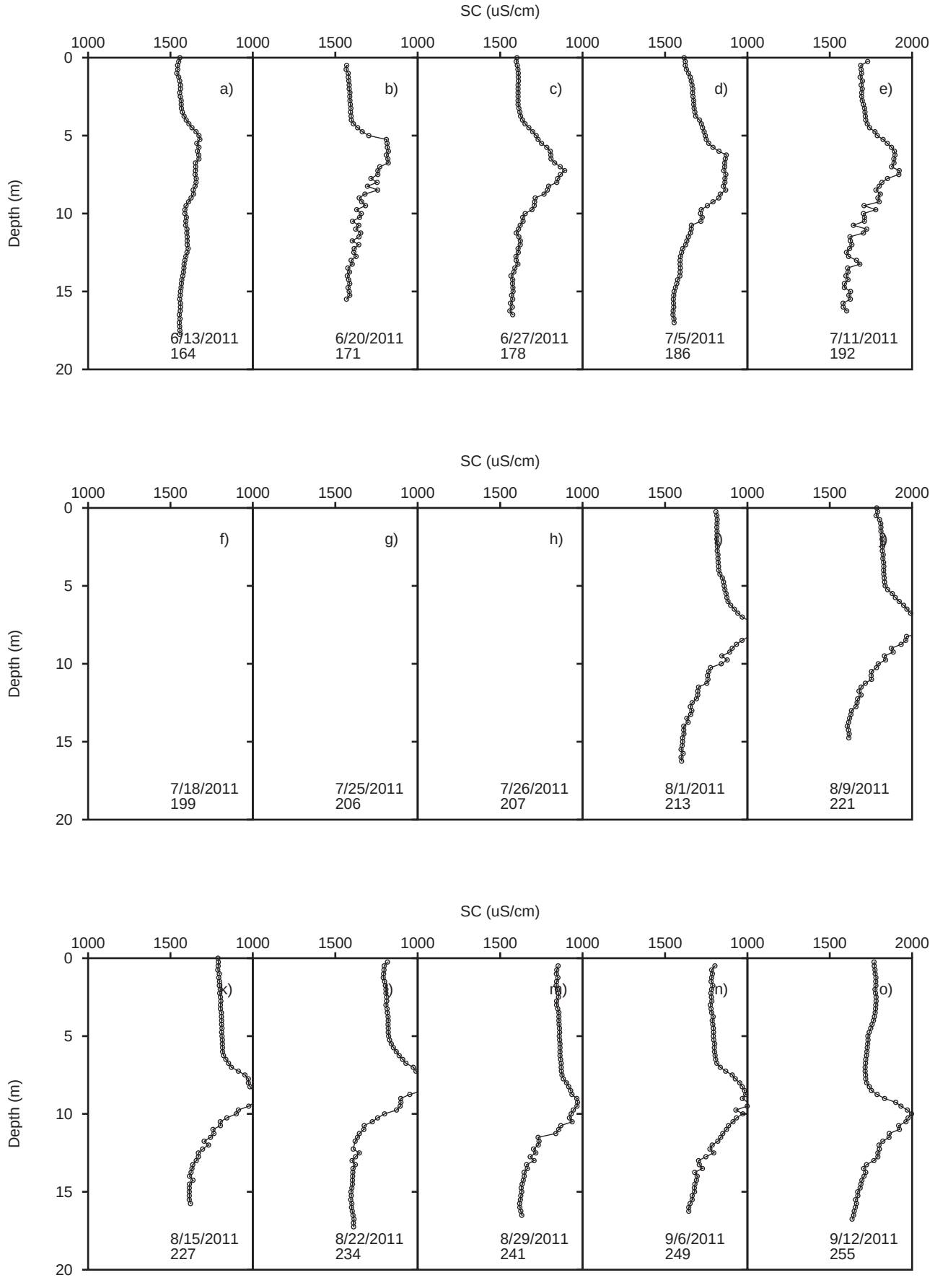
Fri Feb 03 14:34:32 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-42



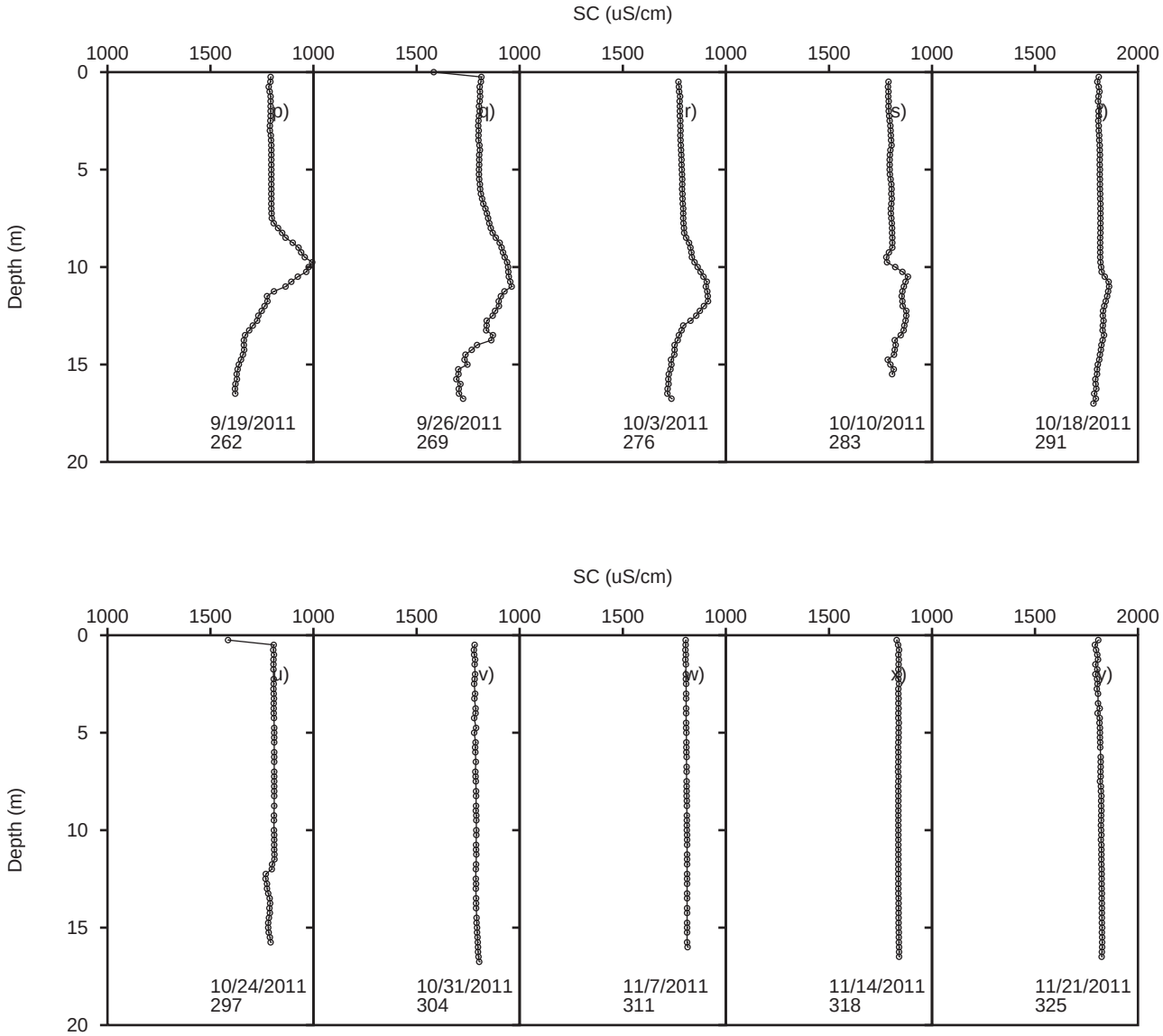
Fri Feb 03 14:34:32 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-43



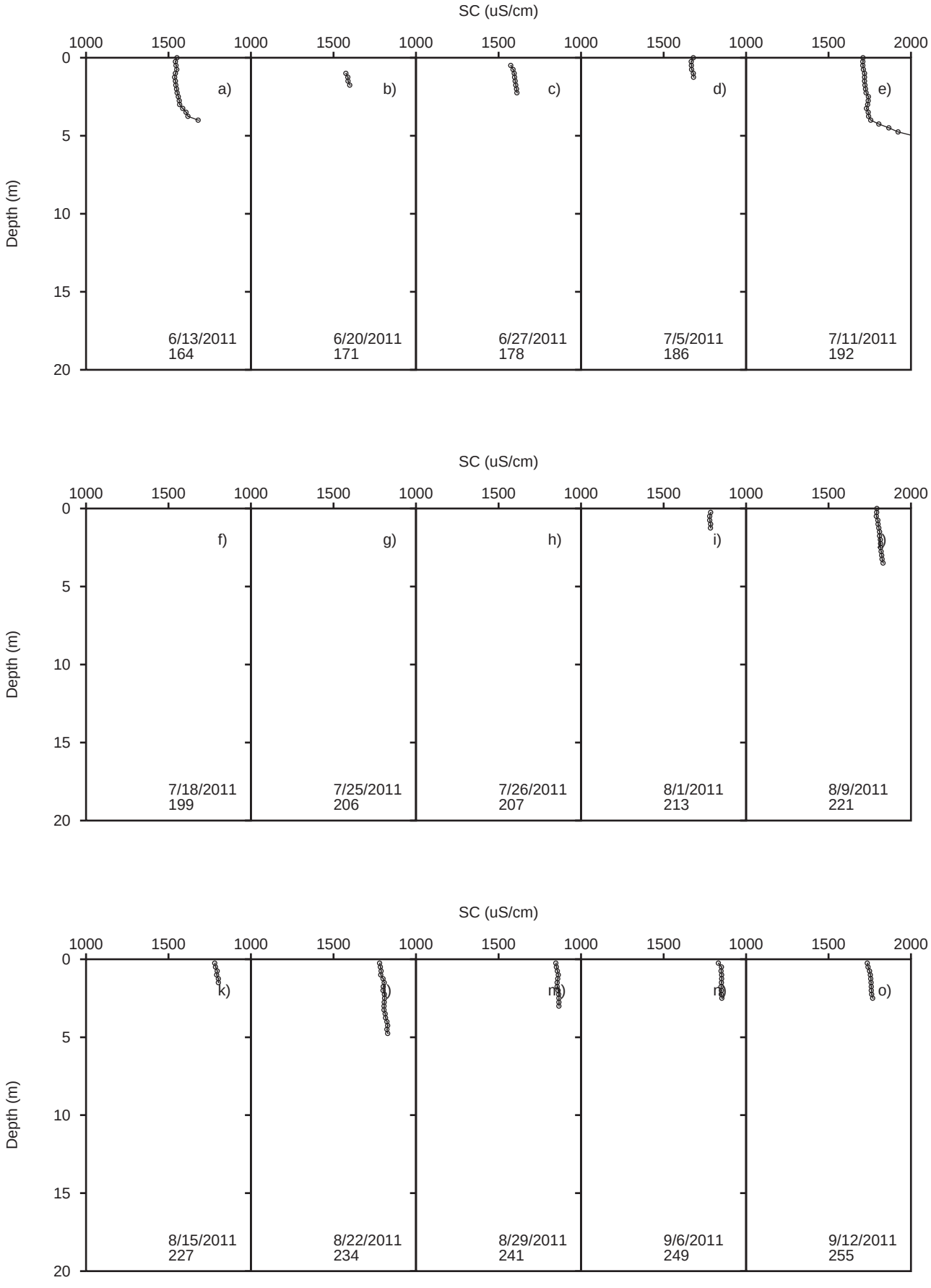
Fri Feb 03 14:54:53 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-43



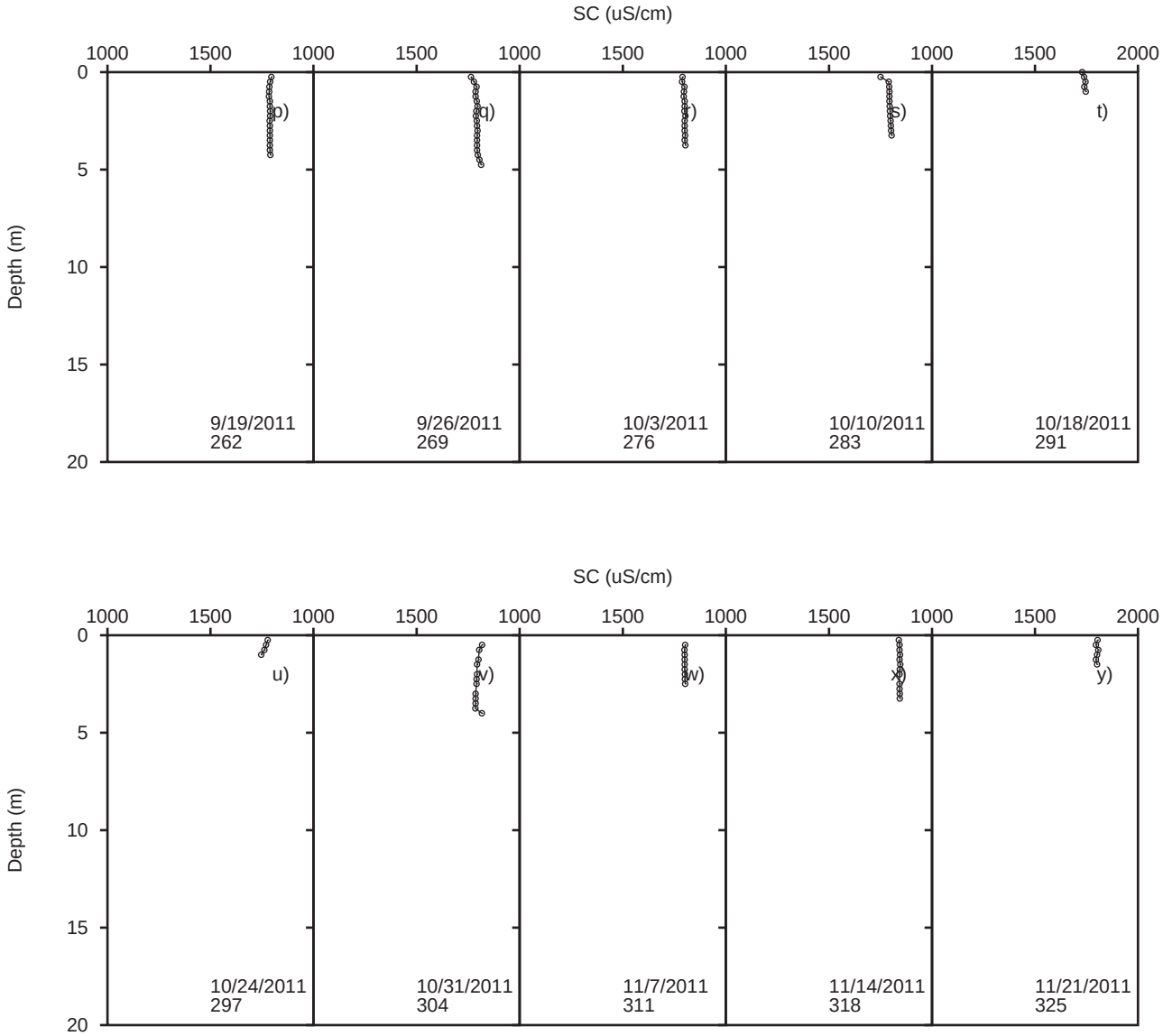
Fri Feb 03 14:54:53 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-44



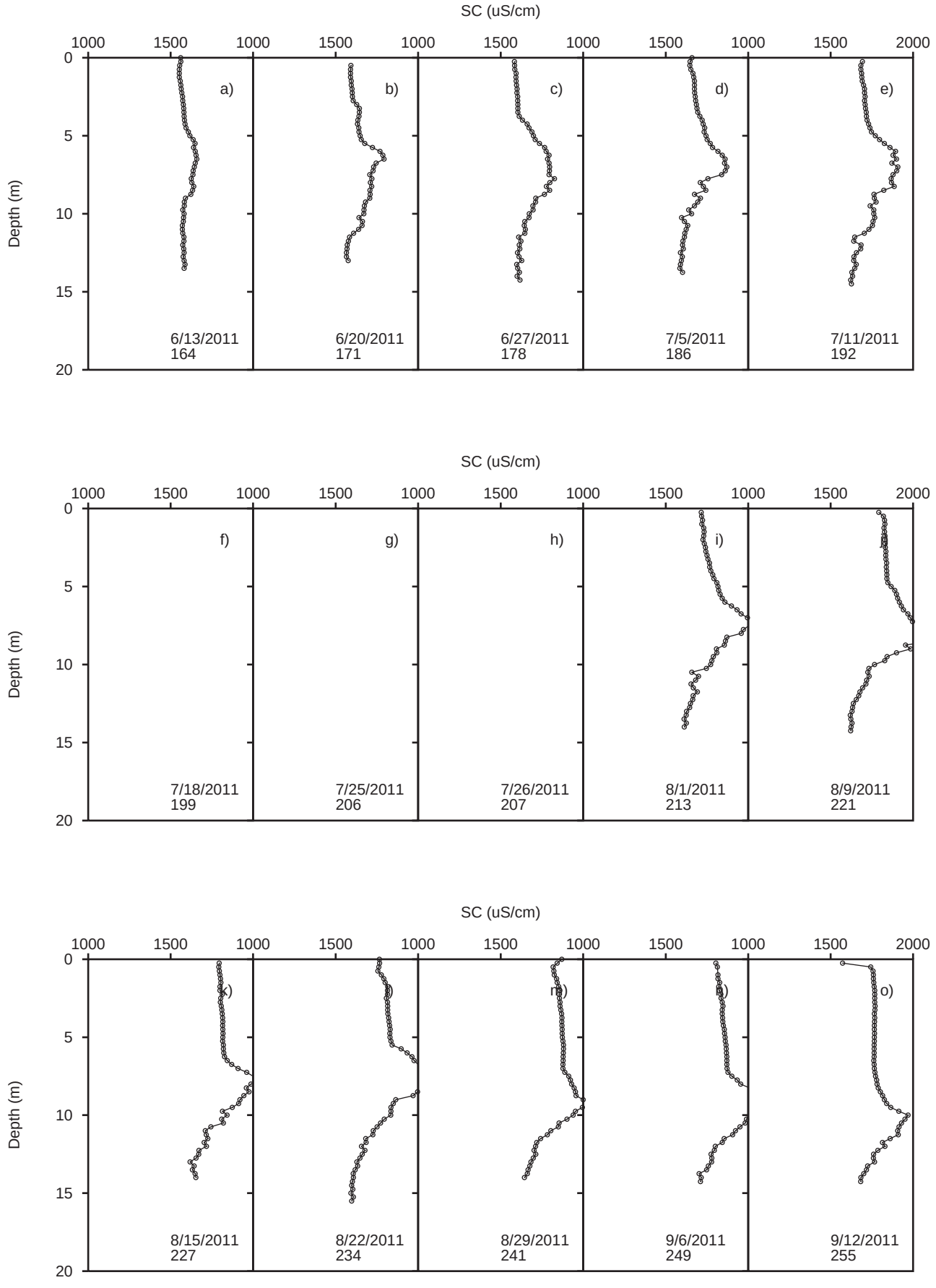
Fri Feb 03 14:56:31 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-44



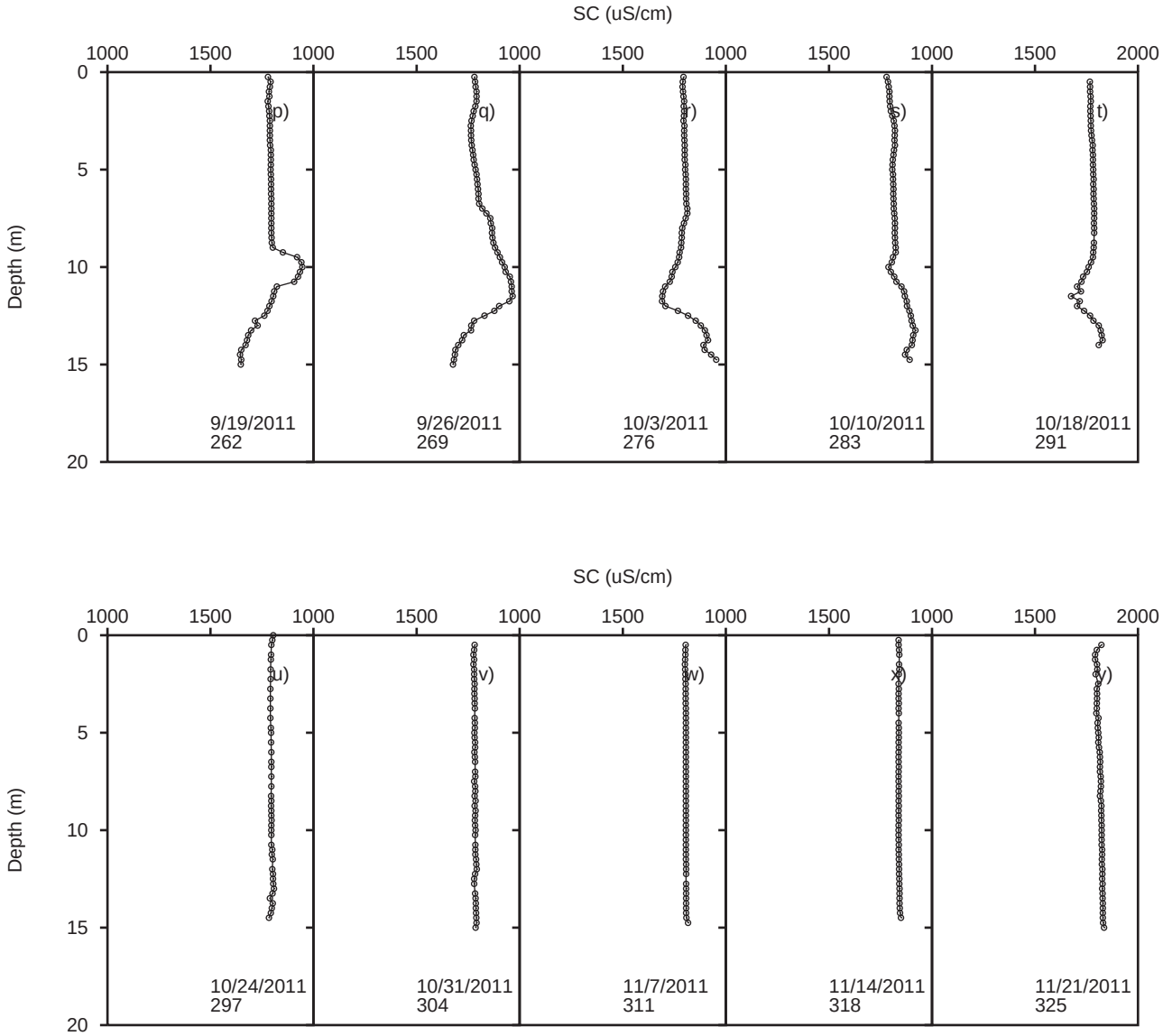
Fri Feb 03 14:56:31 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-45



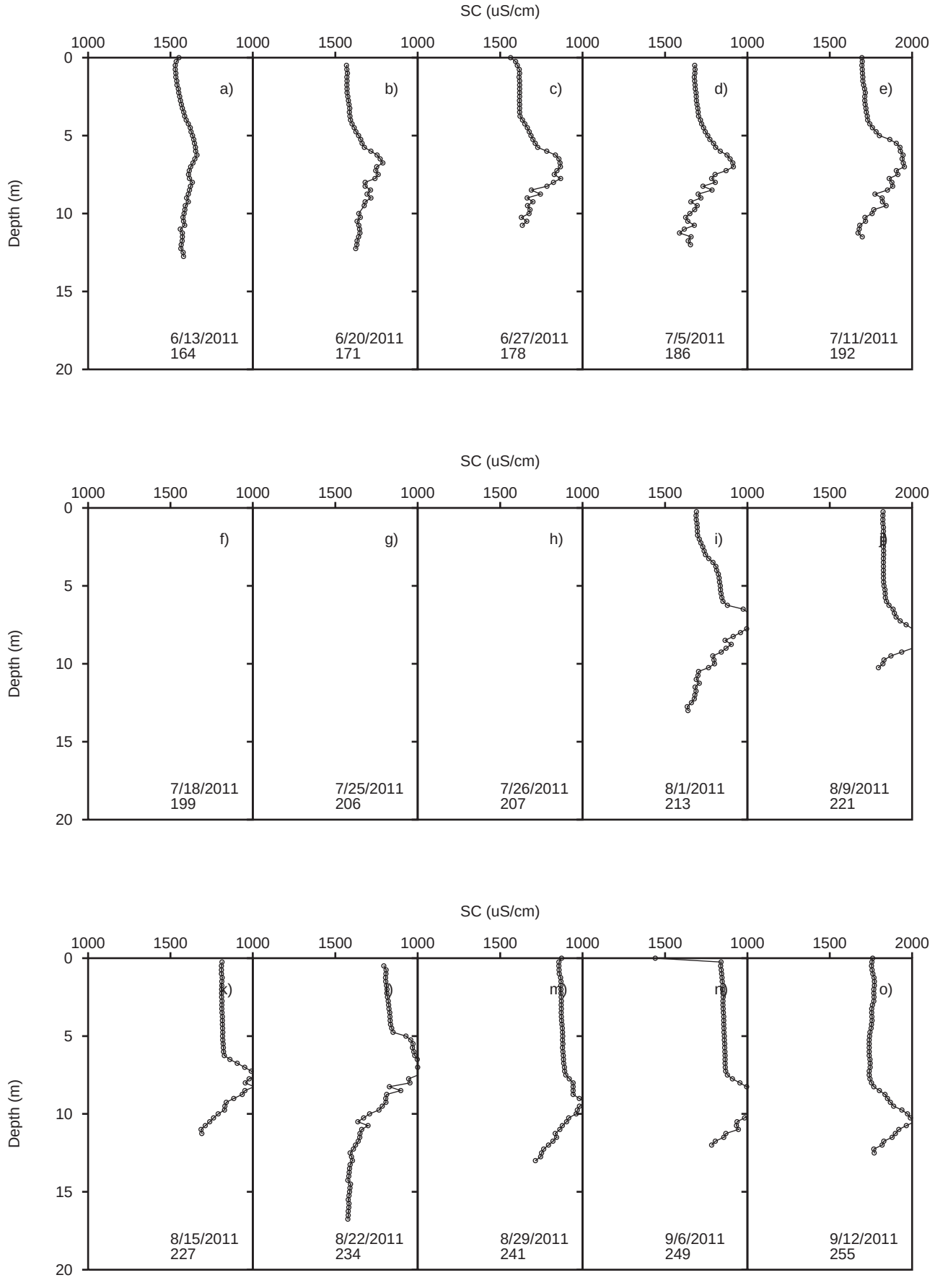
Fri Feb 03 14:57:16 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-45



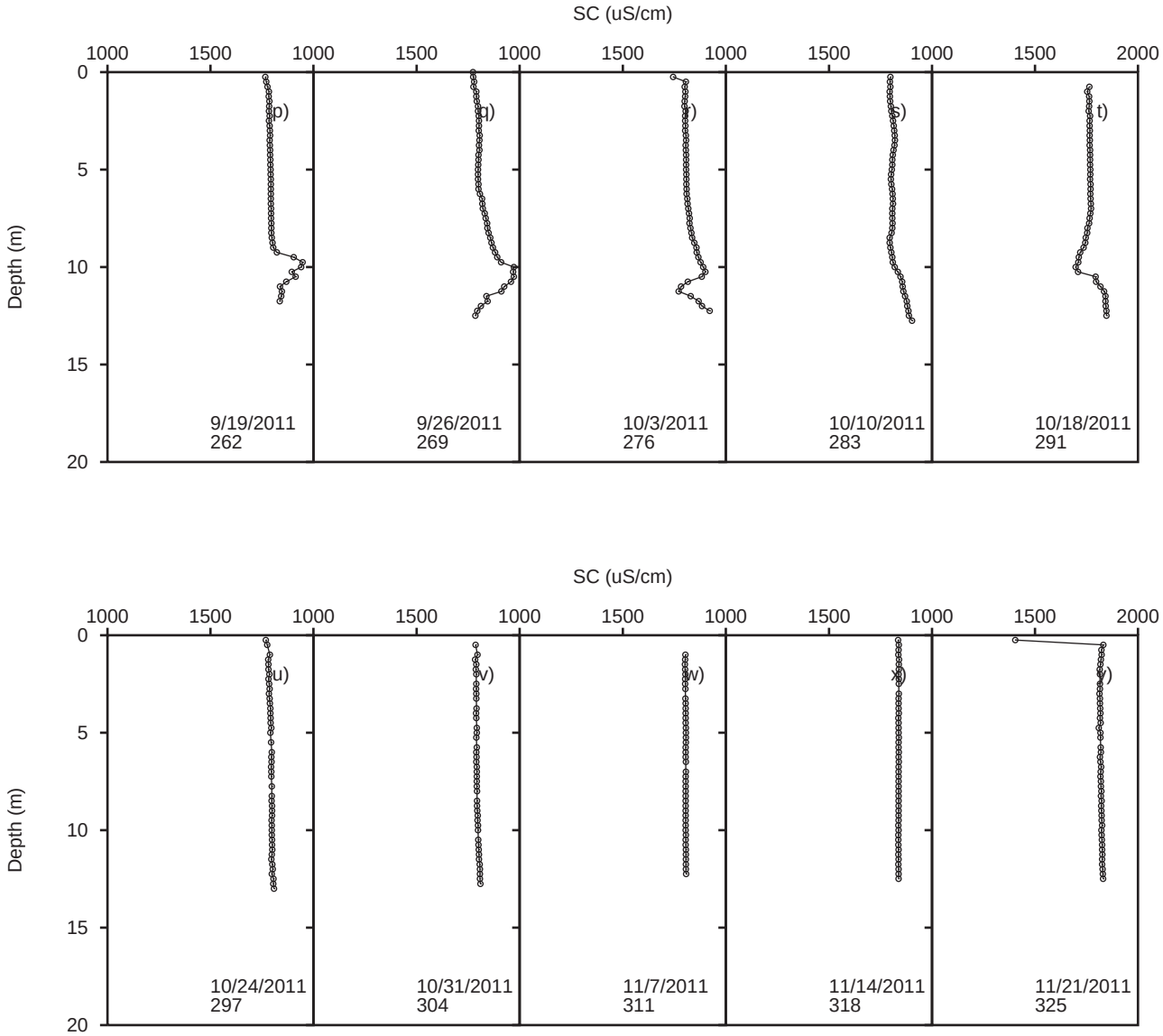
Fri Feb 03 14:57:16 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-46



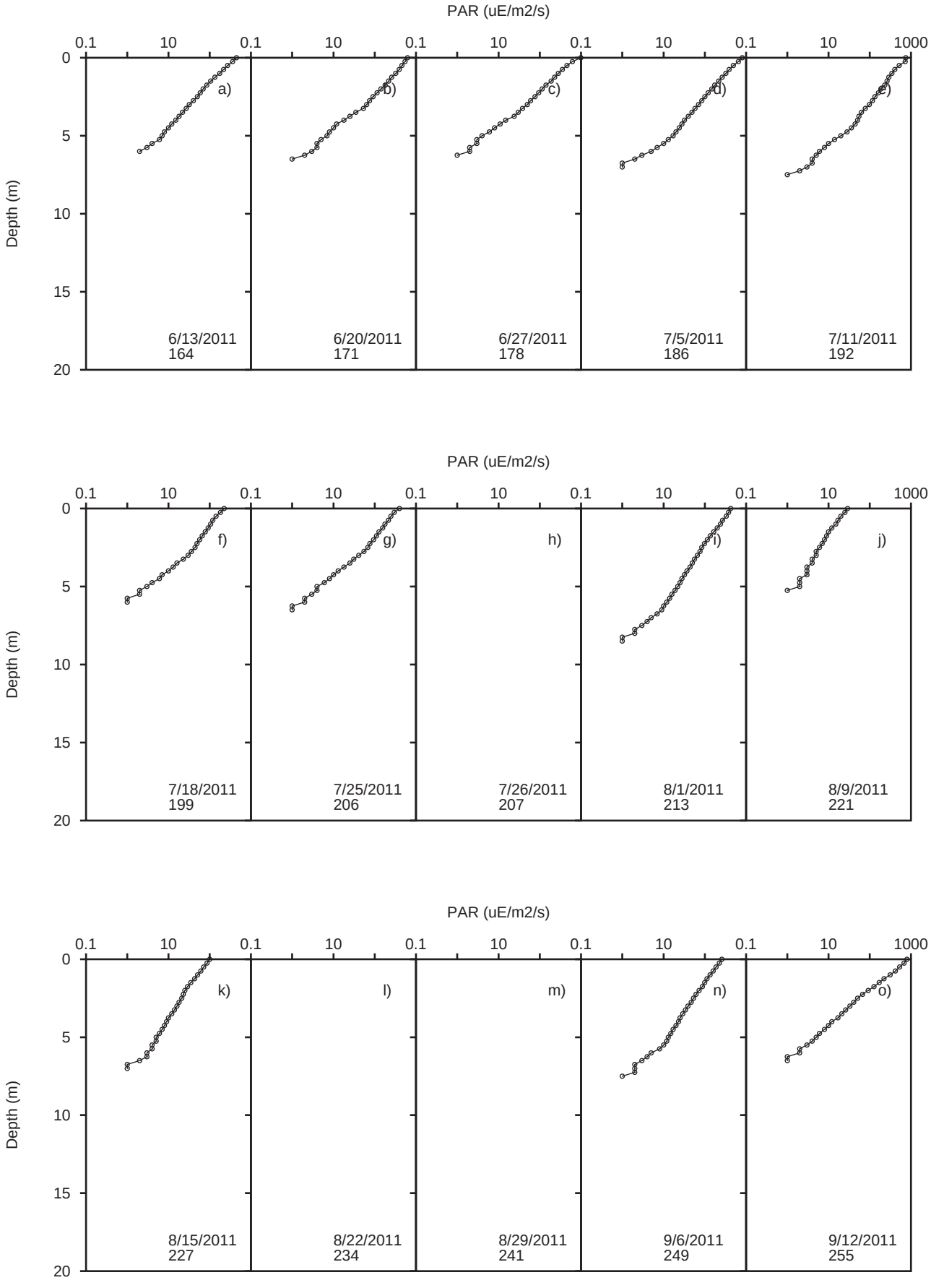
Fri Feb 03 14:58:02 2012

2011 Specific Conductivity Profiles for Onondaga Lake ISUS-46



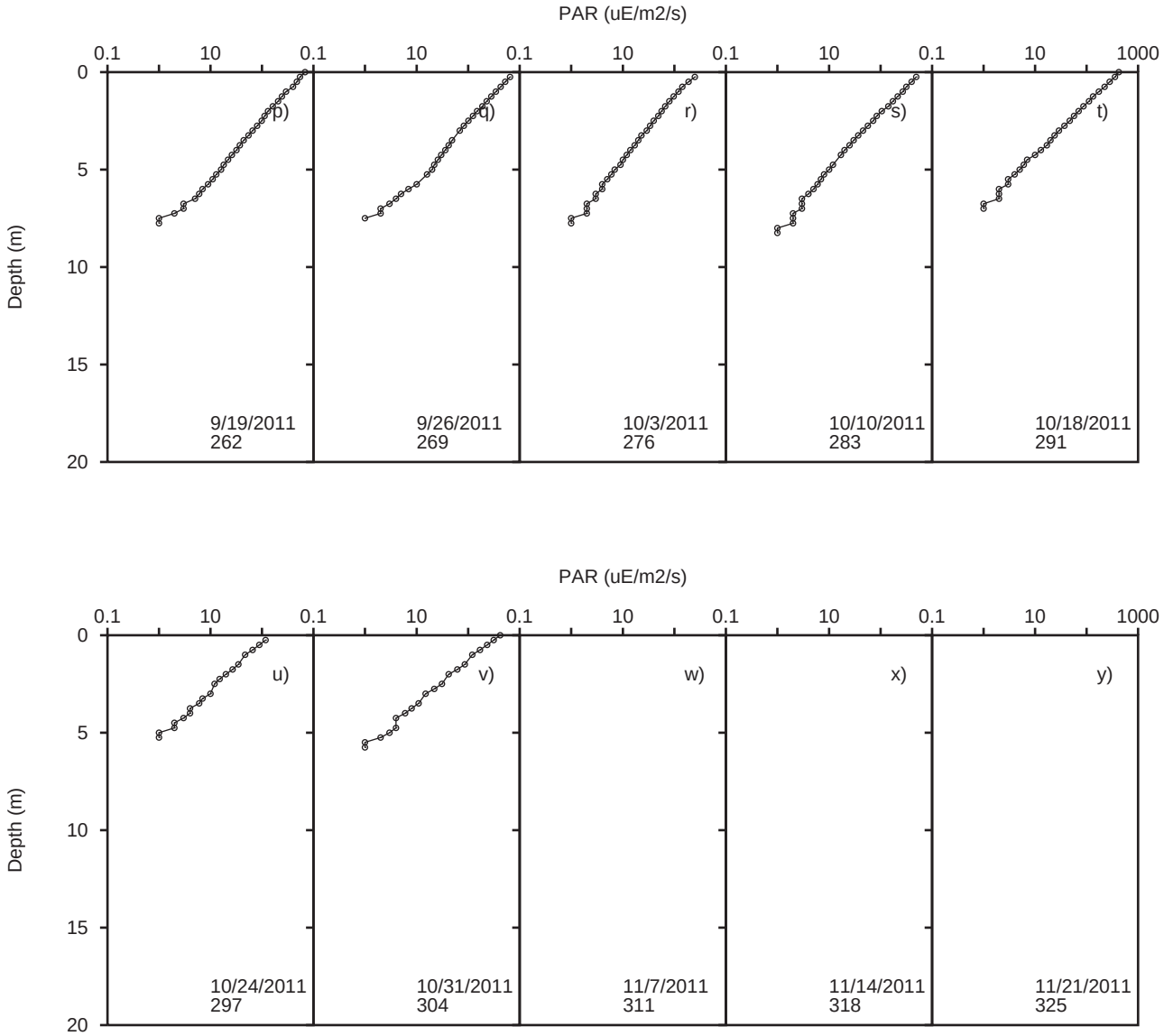
Fri Feb 03 14:58:02 2012

2011 PAR Profiles for Onondaga Lake ISUS-5



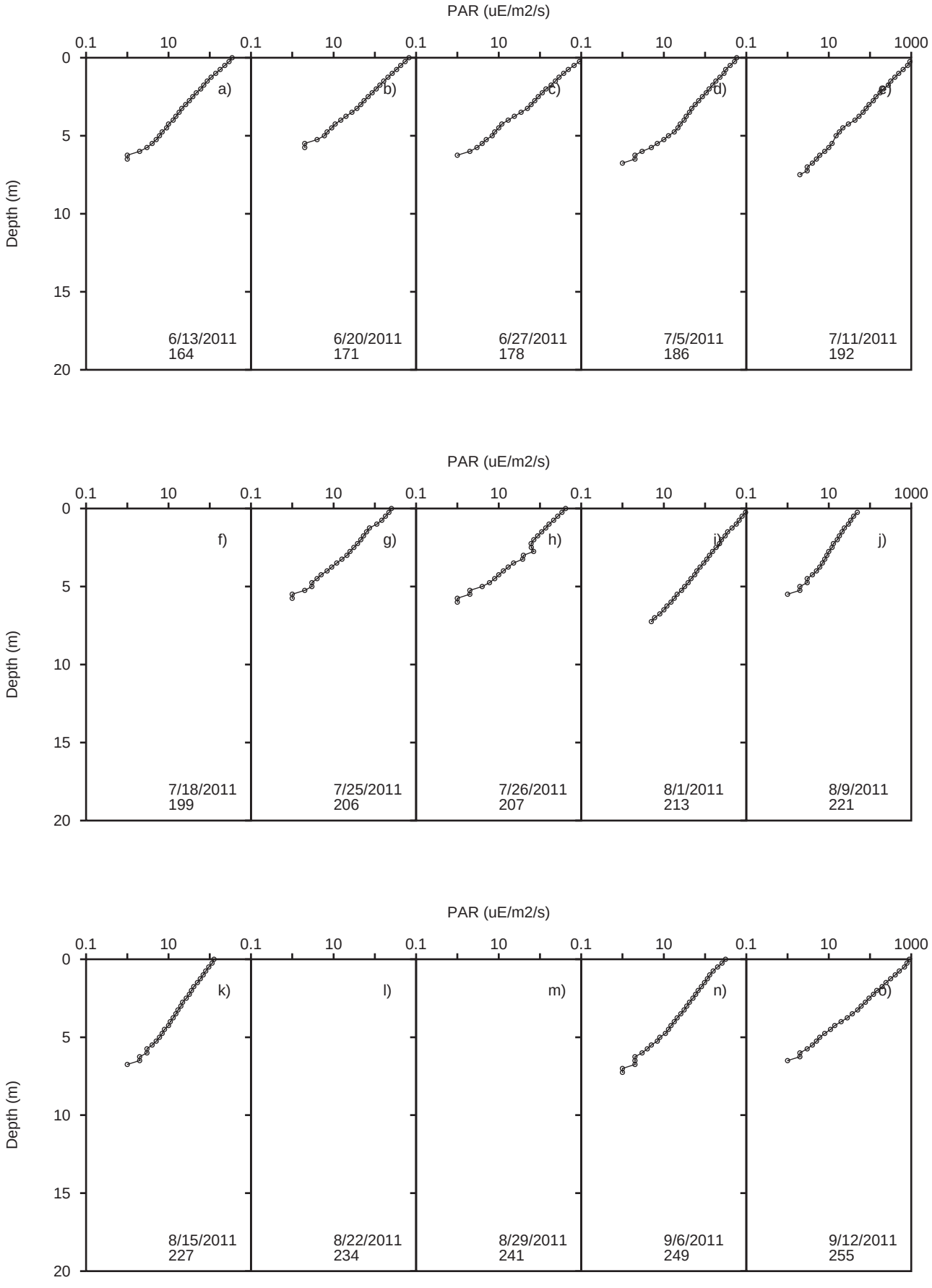
Fri Feb 03 14:18:50 2012

2011 PAR Profiles for Onondaga Lake ISUS-5



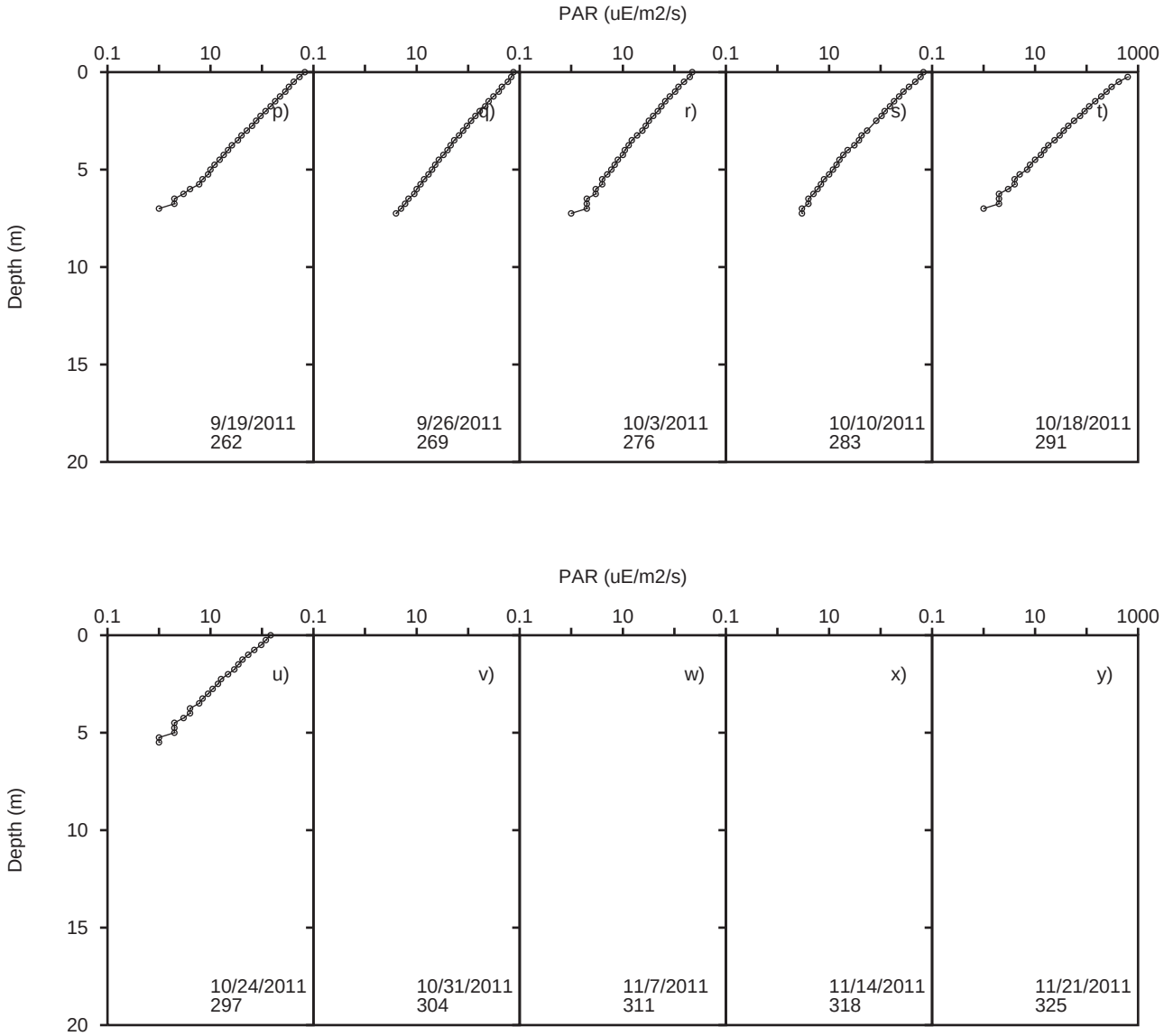
Fri Feb 03 14:18:50 2012

2011 PAR Profiles for Onondaga Lake ISUS-6



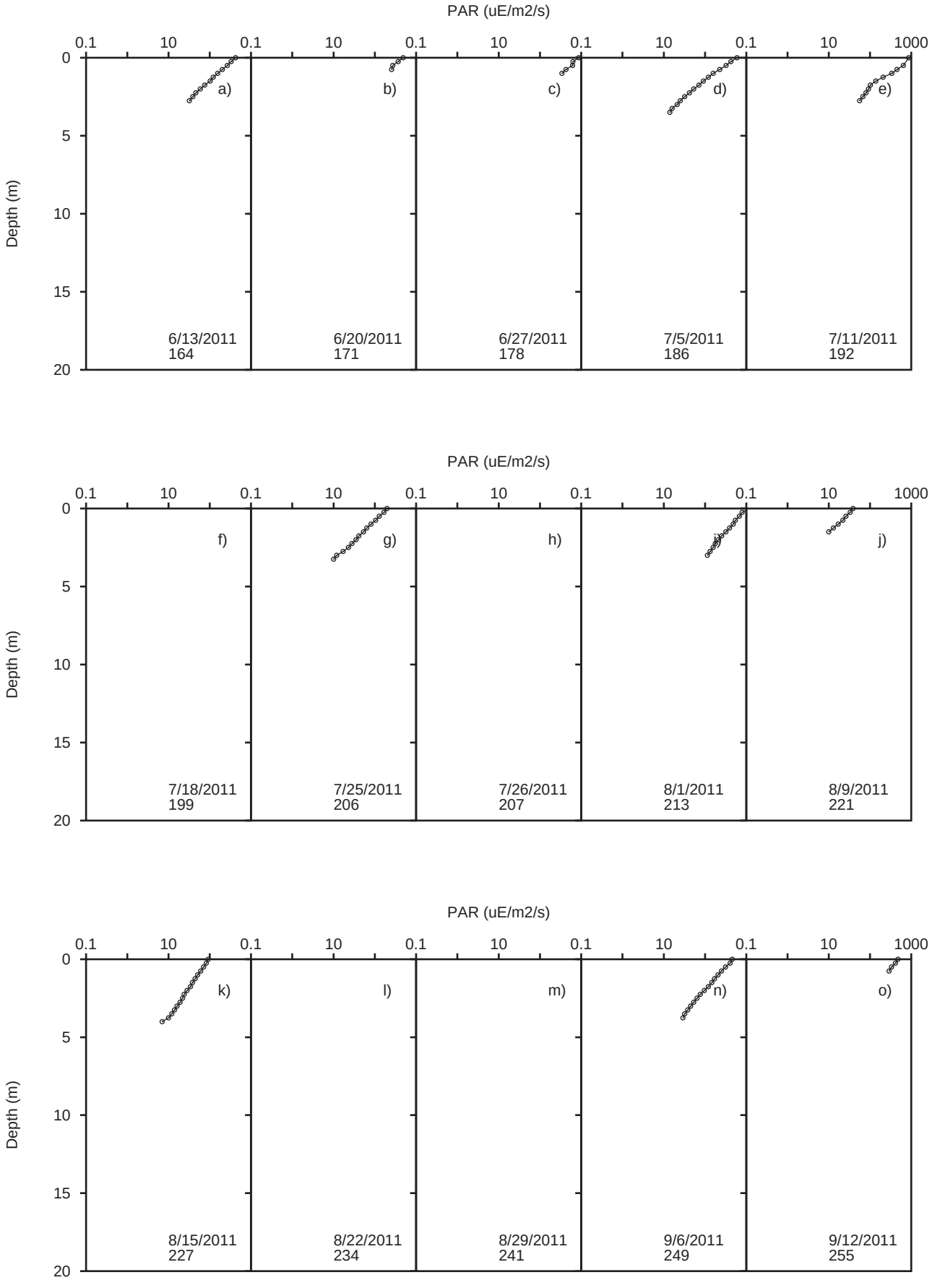
Fri Feb 03 14:22:19 2012

2011 PAR Profiles for Onondaga Lake ISUS-6



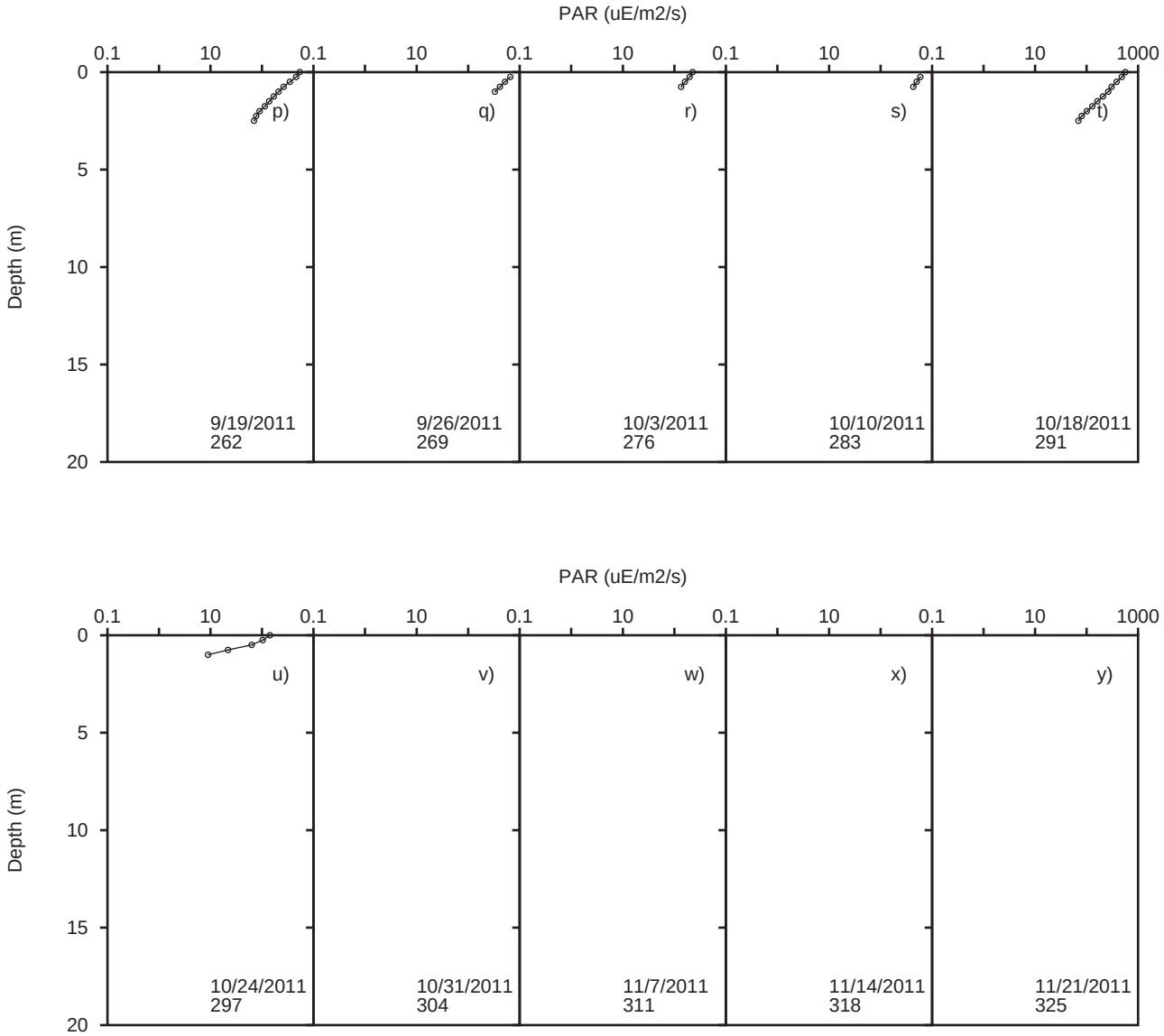
Fri Feb 03 14:22:19 2012

2011 PAR Profiles for Onondaga Lake ISUS-7



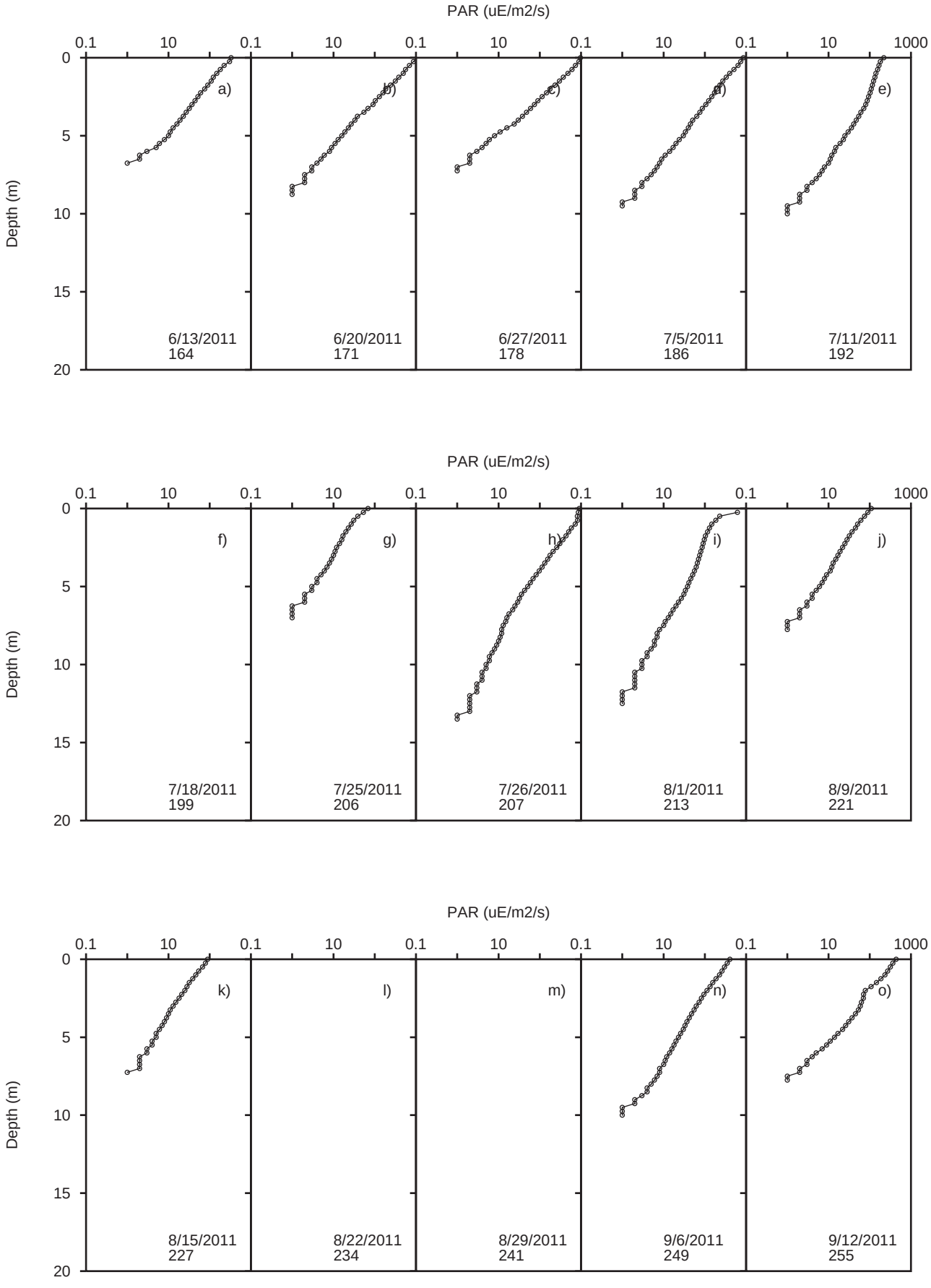
Fri Feb 03 14:26:22 2012

2011 PAR Profiles for Onondaga Lake ISUS-7



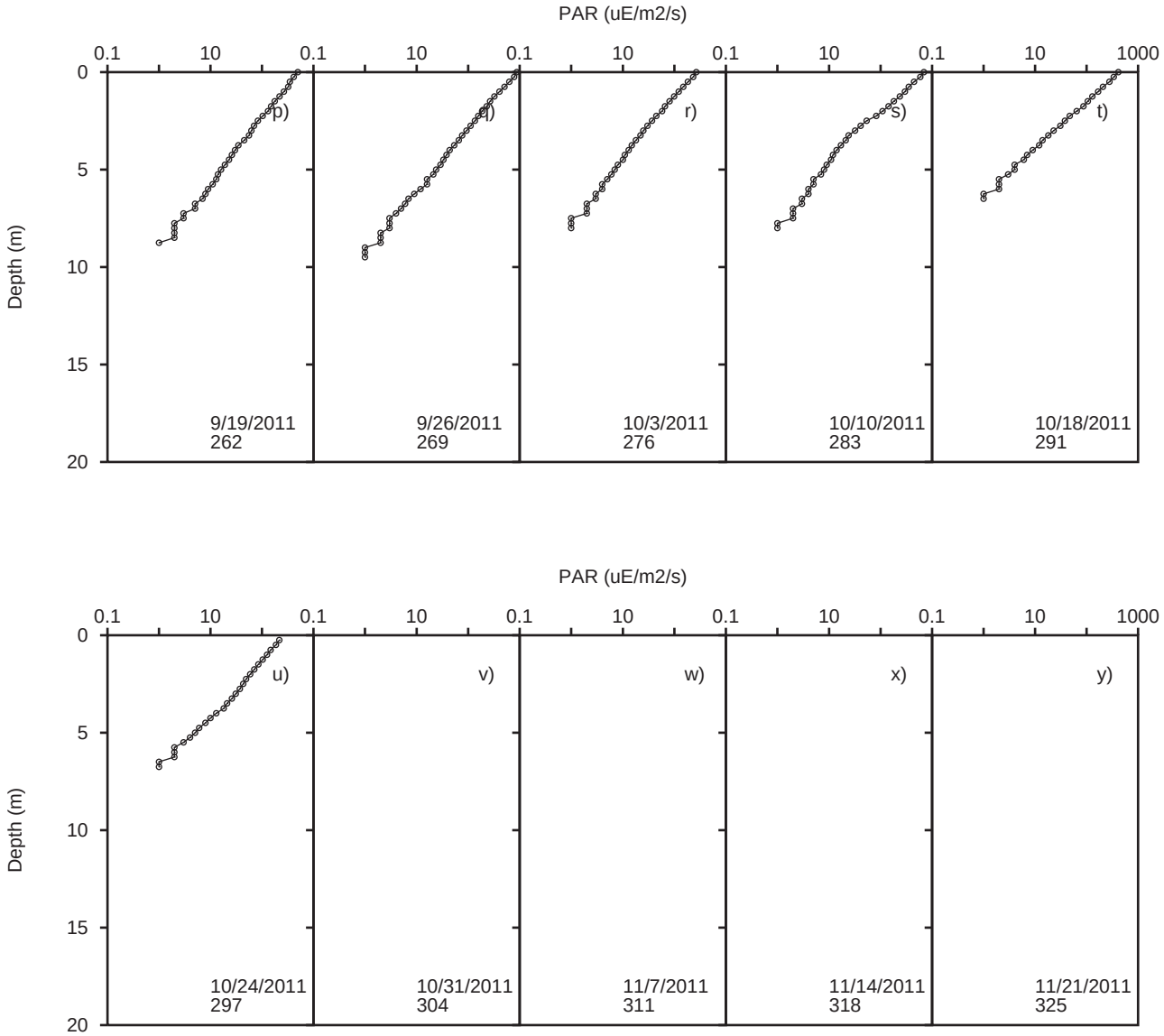
Fri Feb 03 14:26:22 2012

2011 PAR Profiles for Onondaga Lake ISUS-8



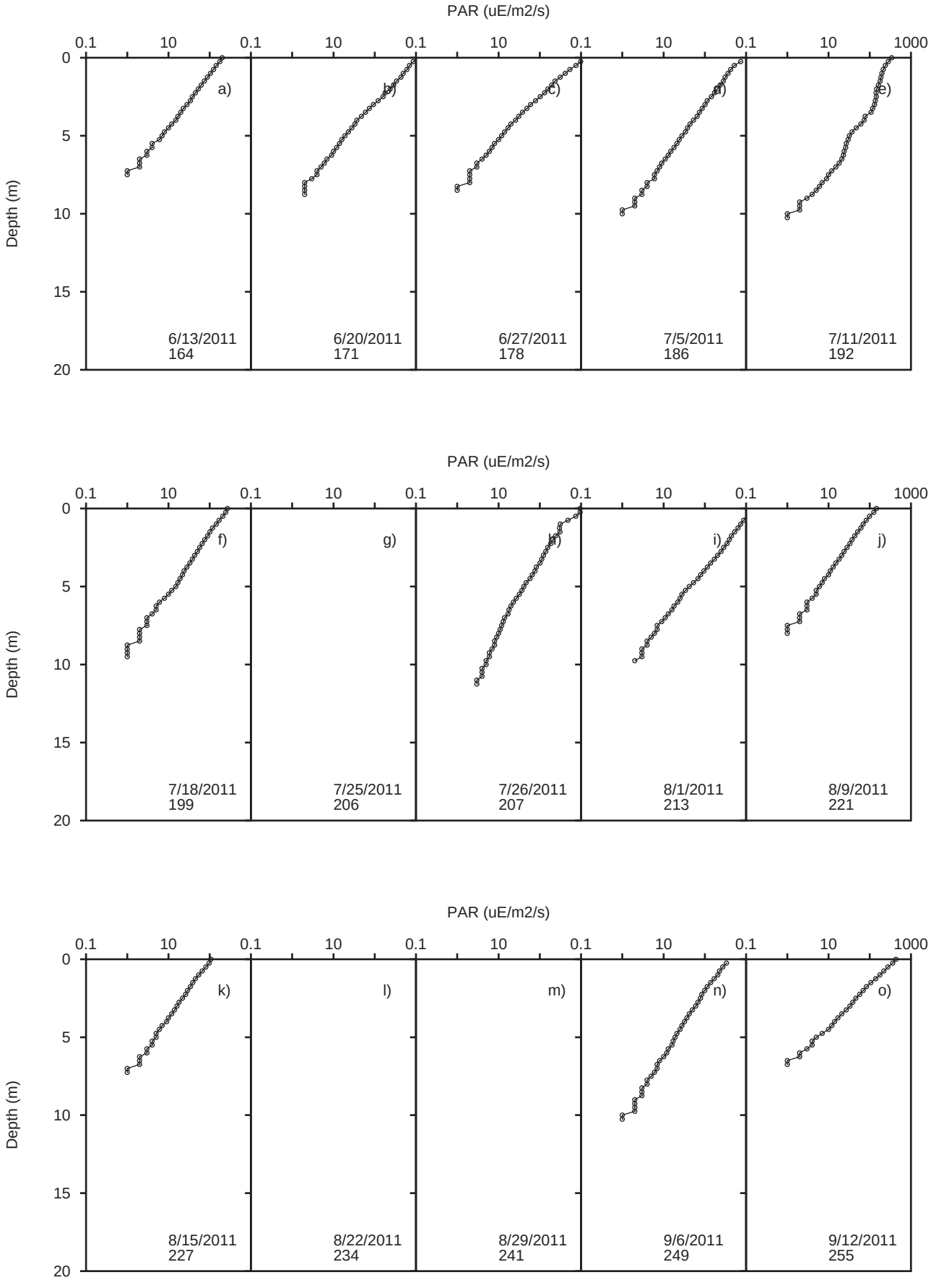
Fri Feb 03 14:30:04 2012

2011 PAR Profiles for Onondaga Lake ISUS-8



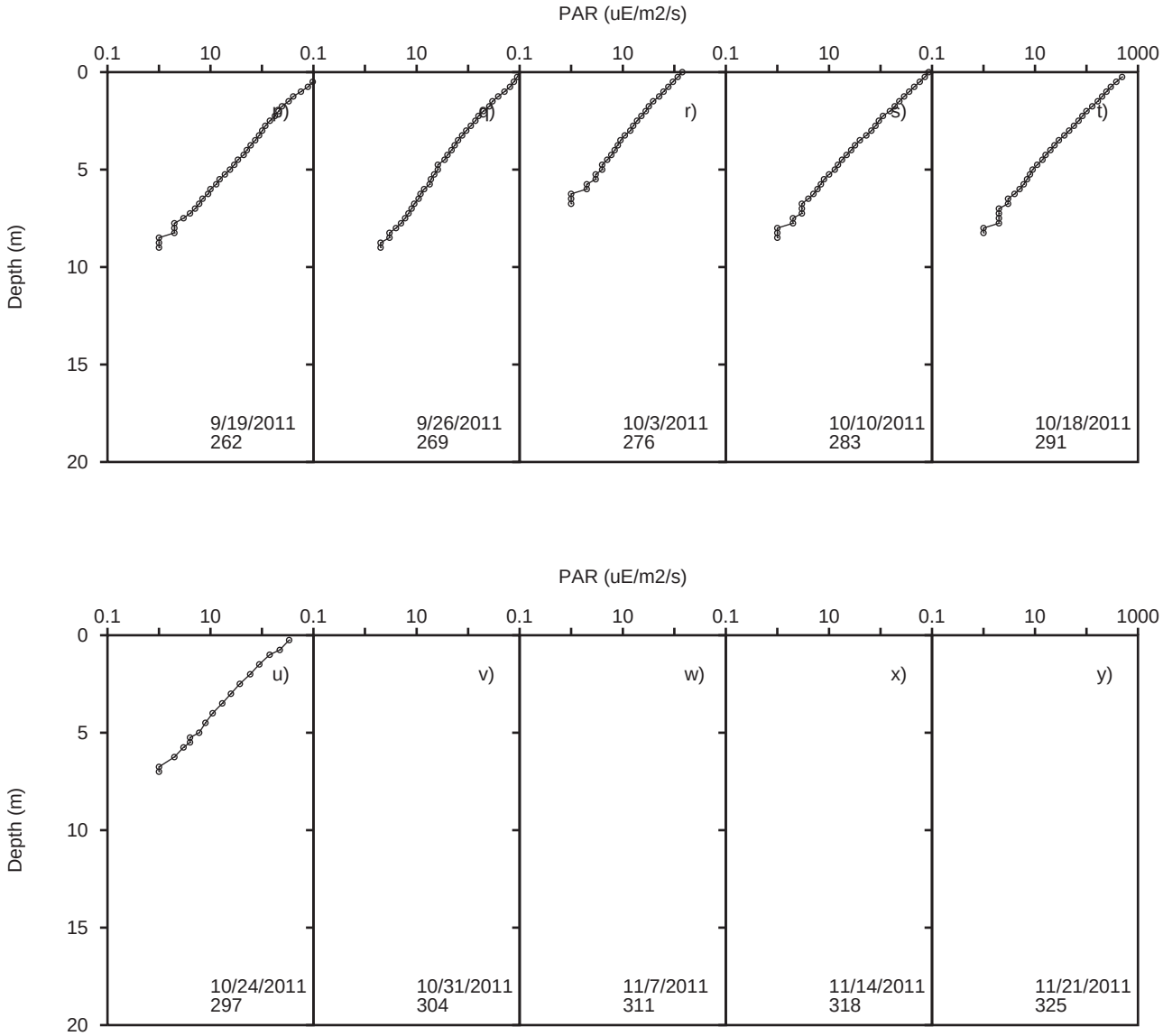
Fri Feb 03 14:30:04 2012

2011 PAR Profiles for Onondaga Lake ISUS-9



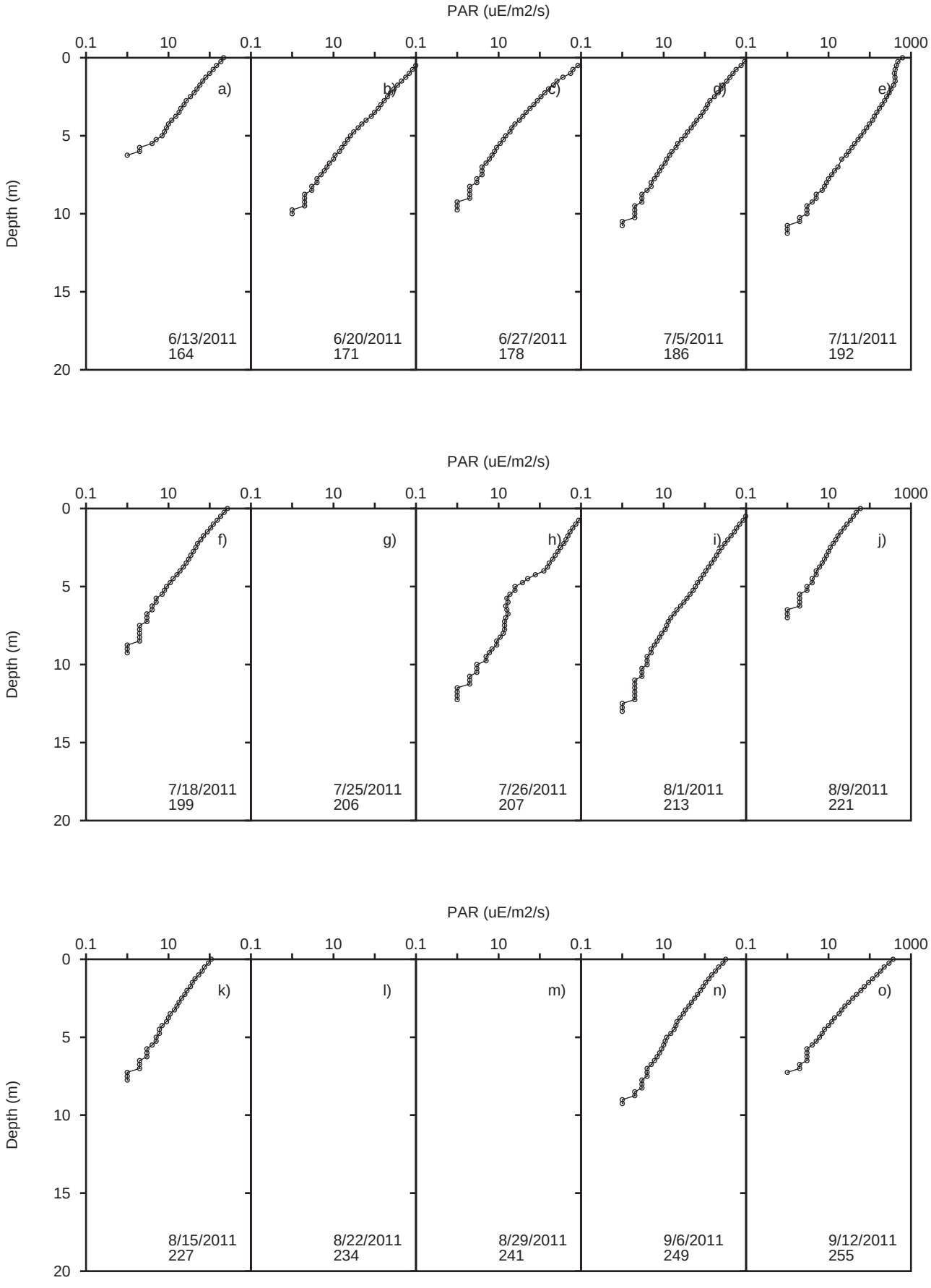
Fri Feb 03 14:37:04 2012

2011 PAR Profiles for Onondaga Lake ISUS-9



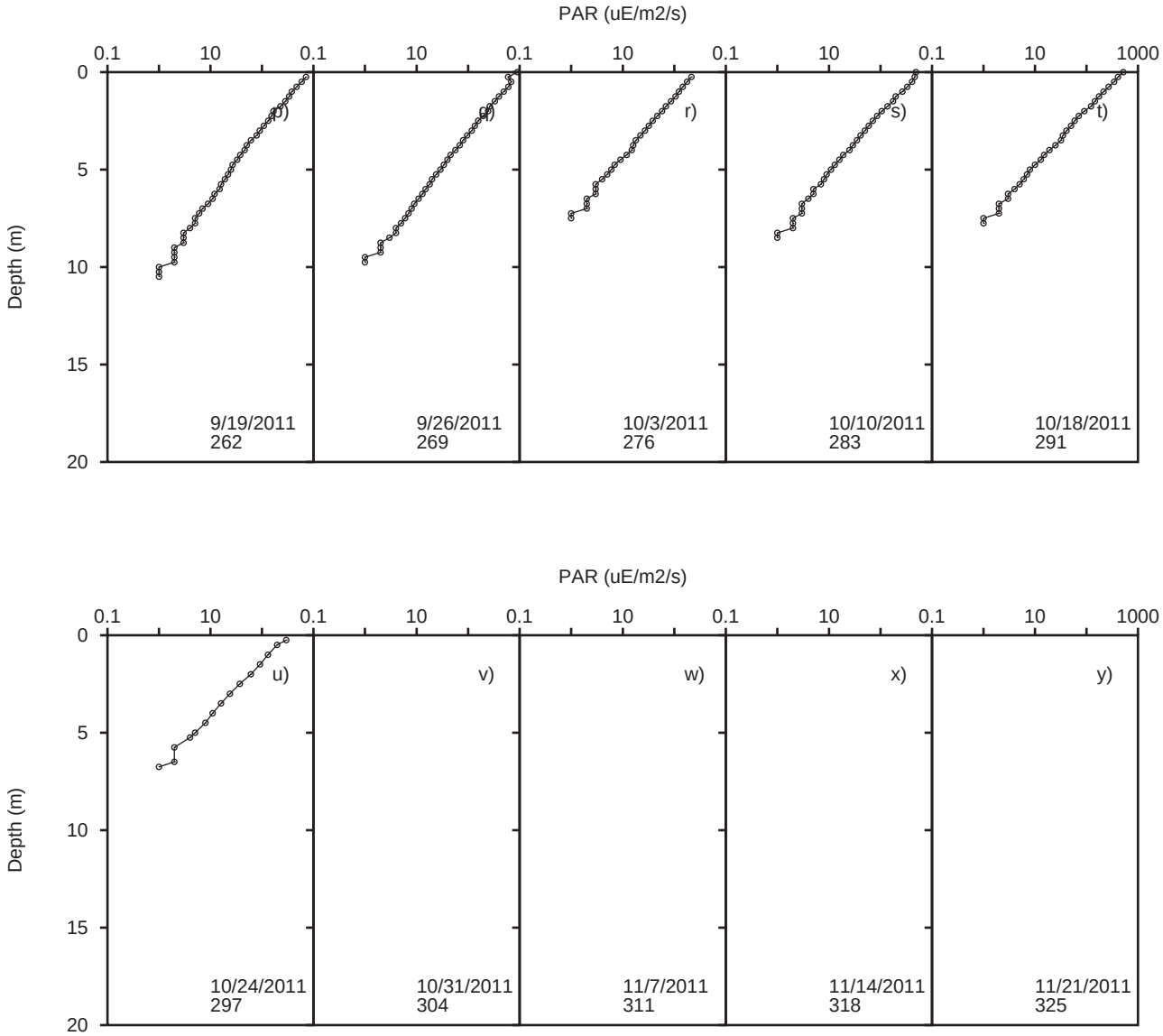
Fri Feb 03 14:37:04 2012

2011 PAR Profiles for Onondaga Lake ISUS-11



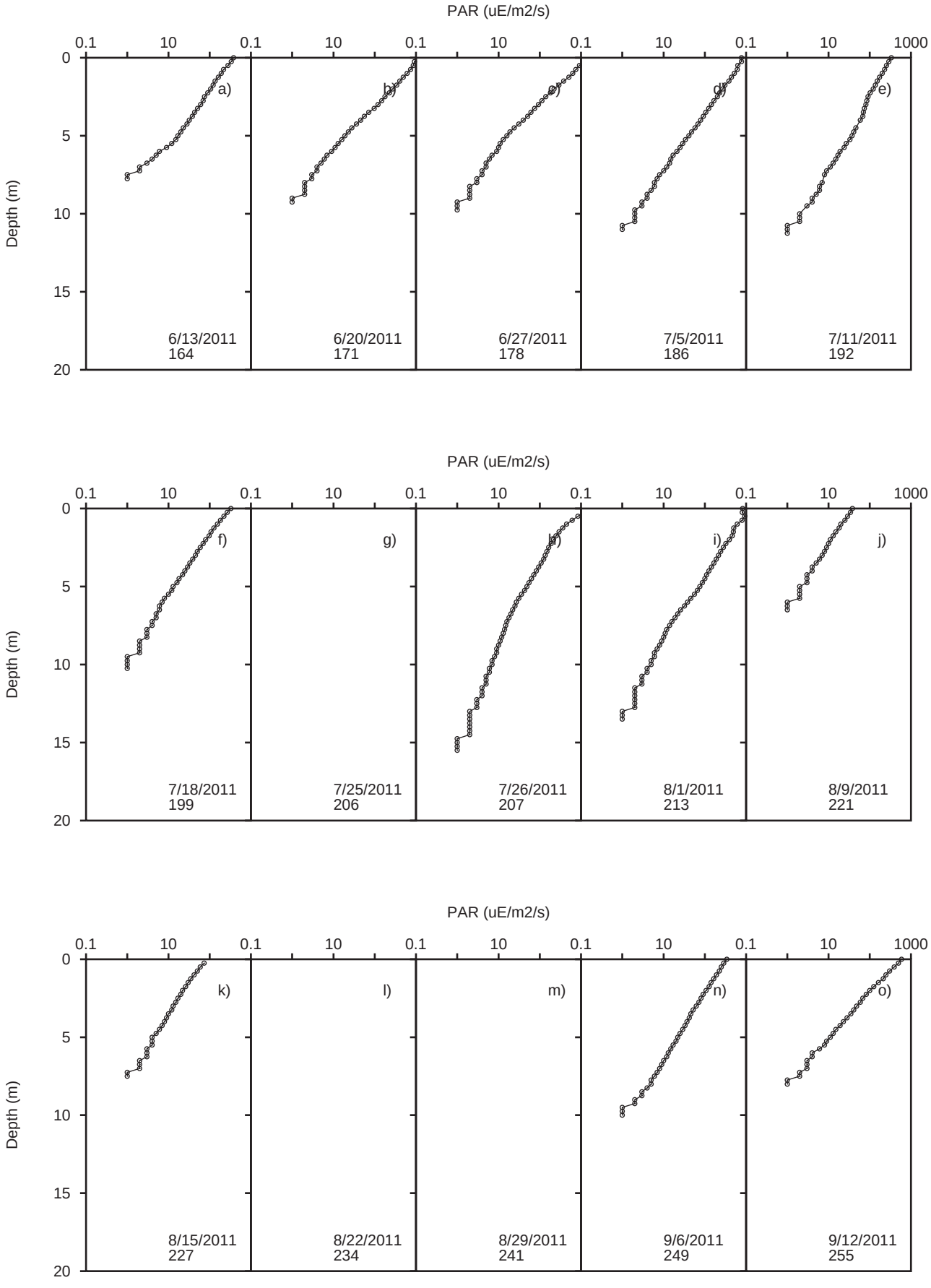
Fri Feb 03 14:40:53 2012

2011 PAR Profiles for Onondaga Lake ISUS-11



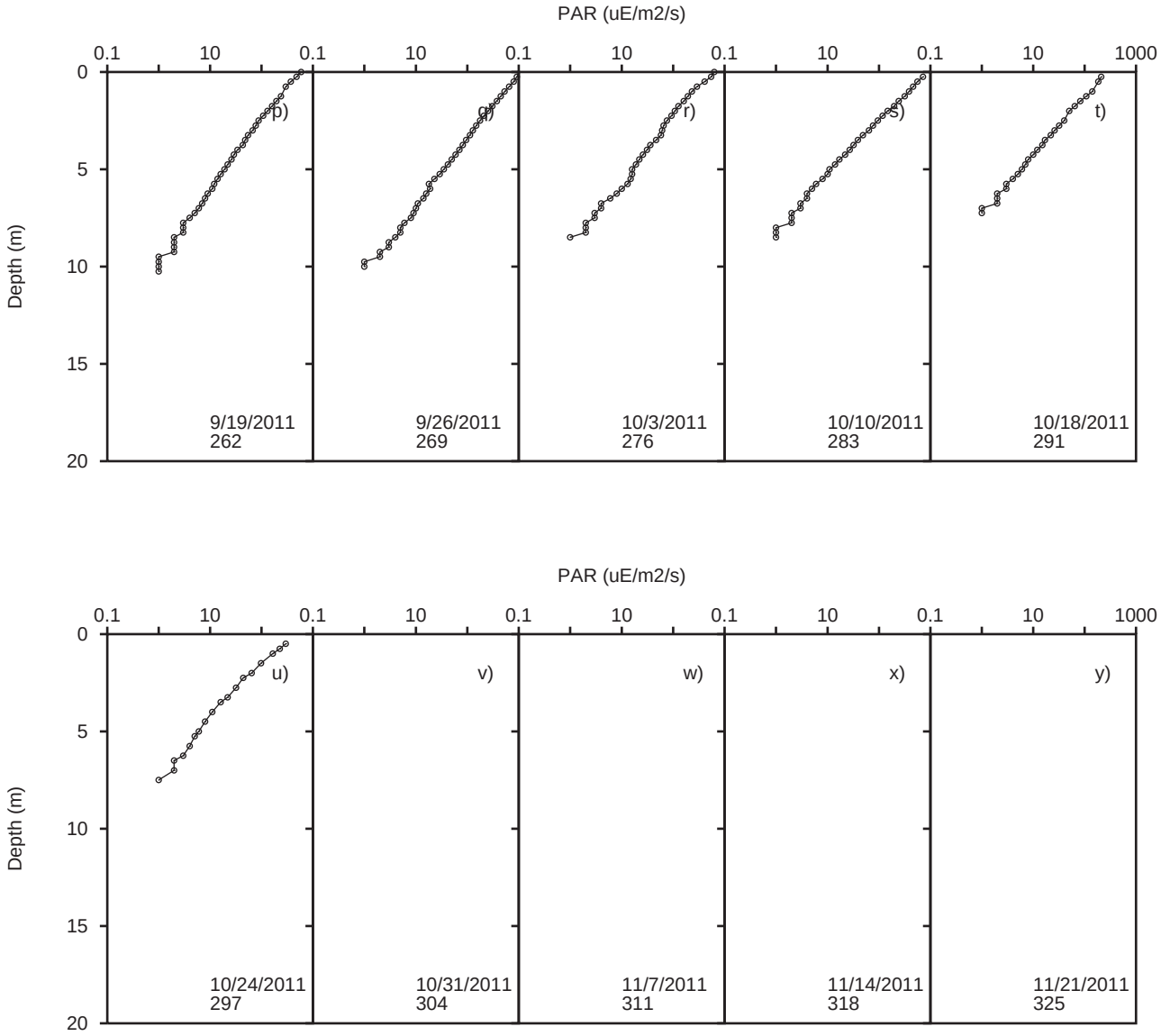
Fri Feb 03 14:40:53 2012

2011 PAR Profiles for Onondaga Lake ISUS-12



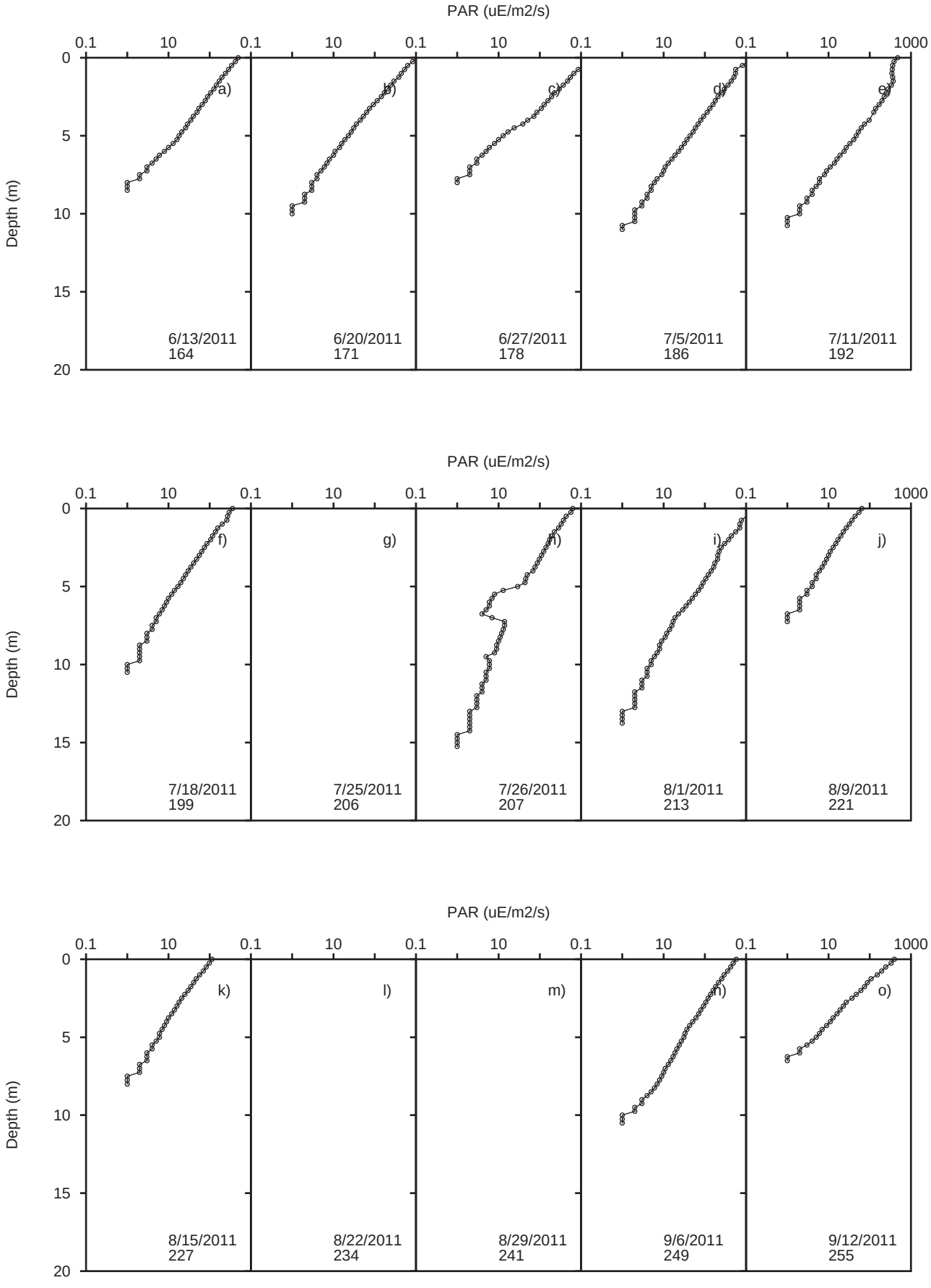
Fri Feb 03 14:42:43 2012

2011 PAR Profiles for Onondaga Lake ISUS-12



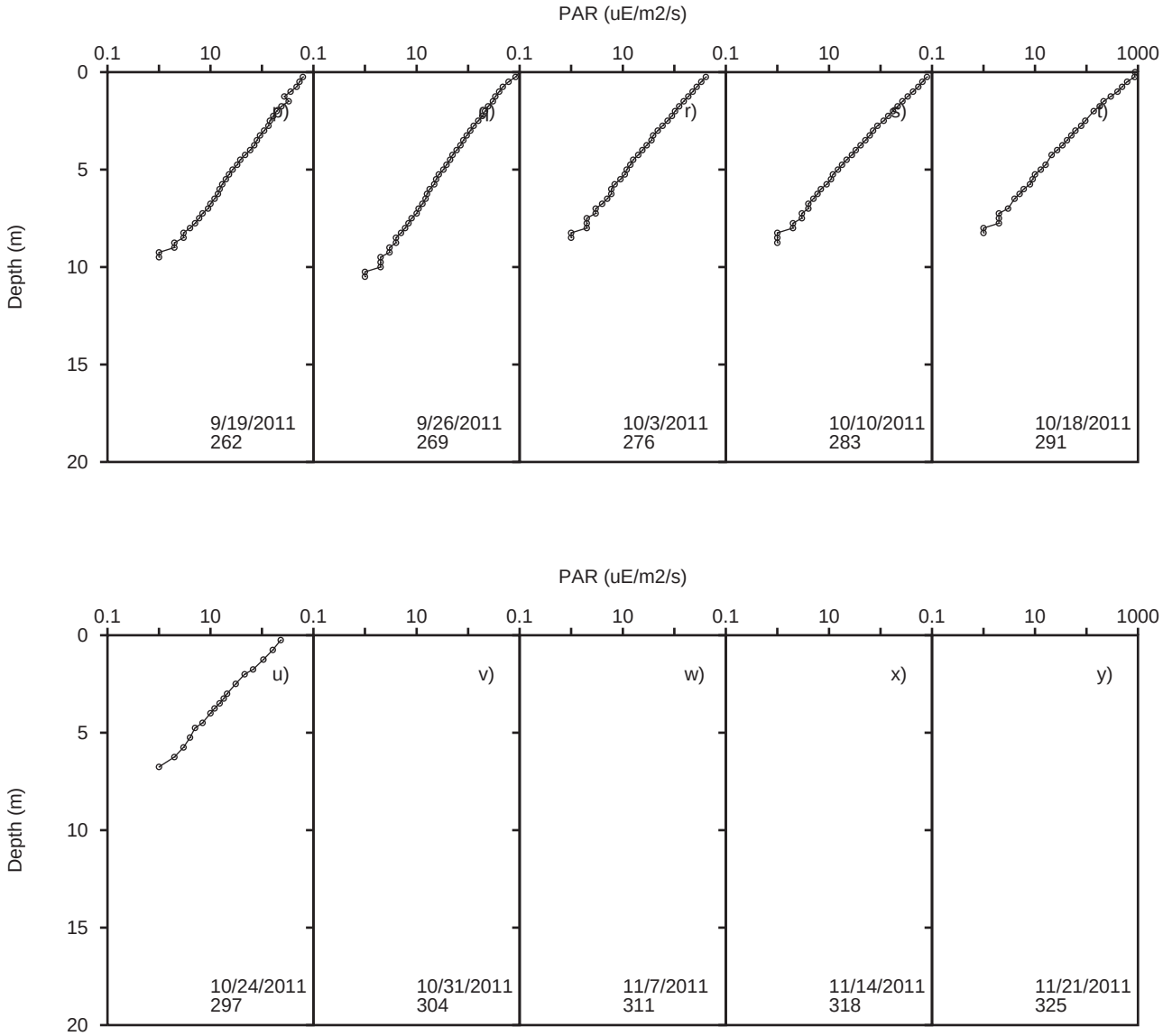
Fri Feb 03 14:42:43 2012

2011 PAR Profiles for Onondaga Lake ISUS-13



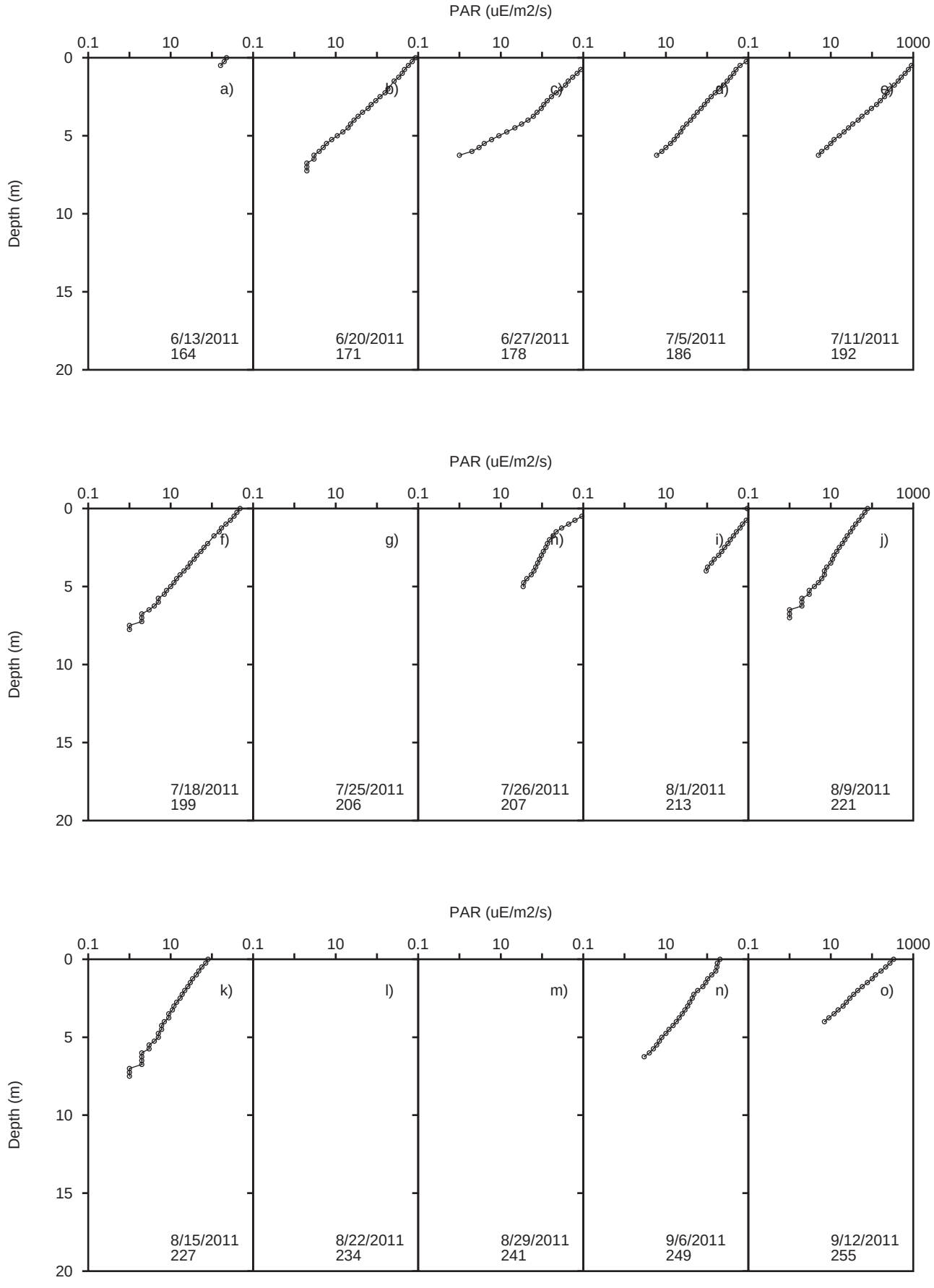
Fri Feb 03 14:45:18 2012

2011 PAR Profiles for Onondaga Lake ISUS-13



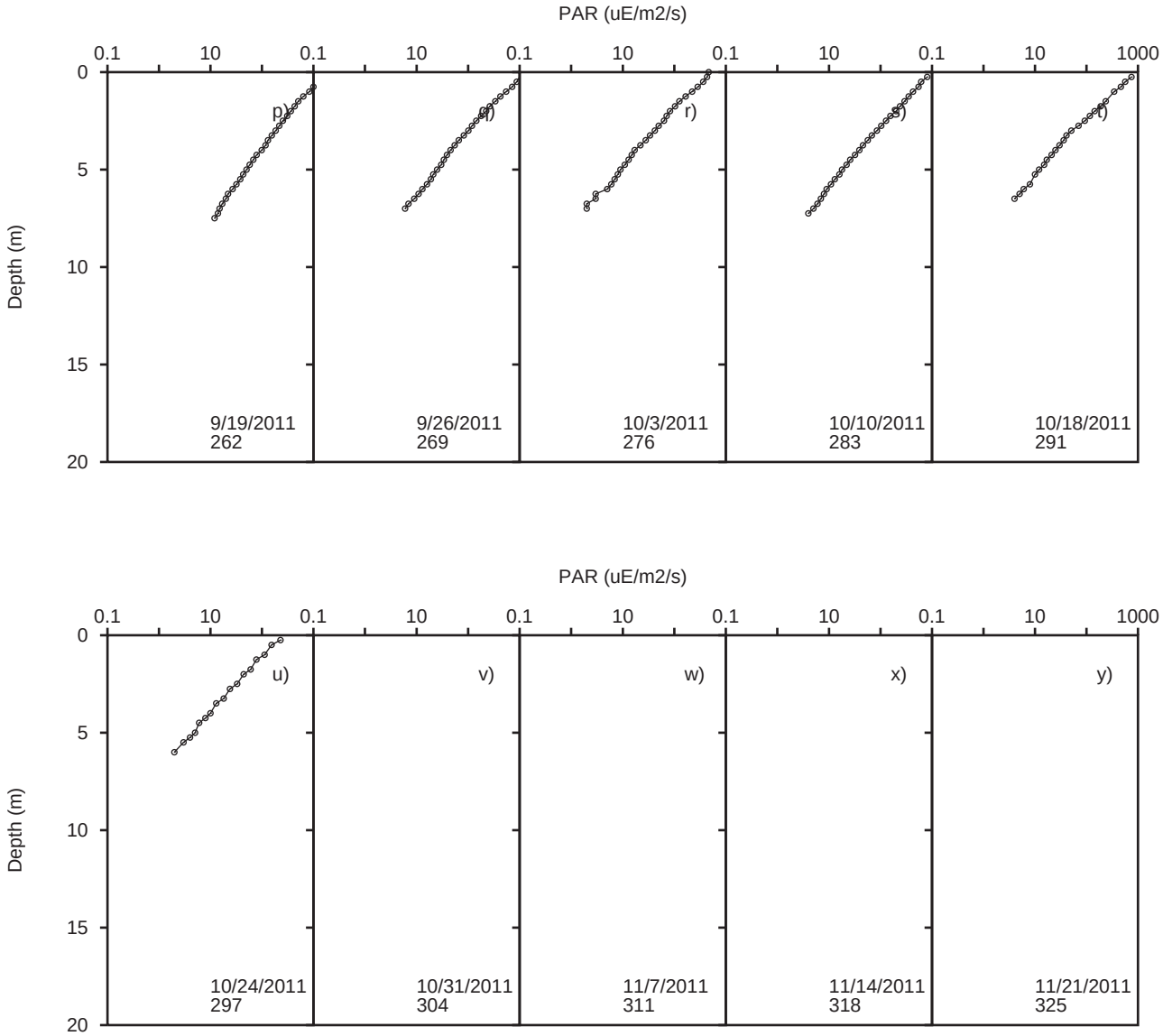
Fri Feb 03 14:45:18 2012

2011 PAR Profiles for Onondaga Lake ISUS-15



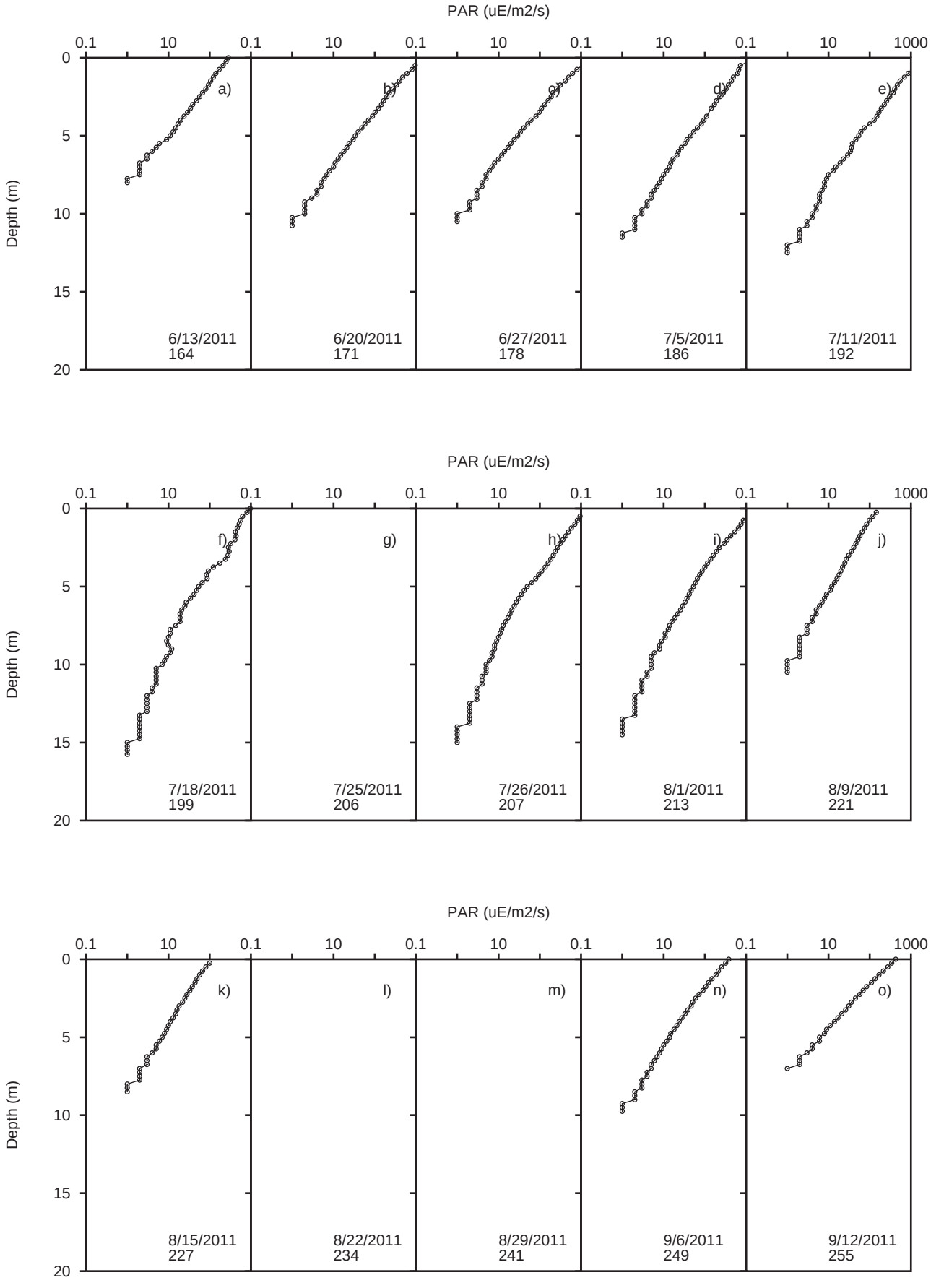
Fri Feb 03 14:46:55 2012

2011 PAR Profiles for Onondaga Lake ISUS-15



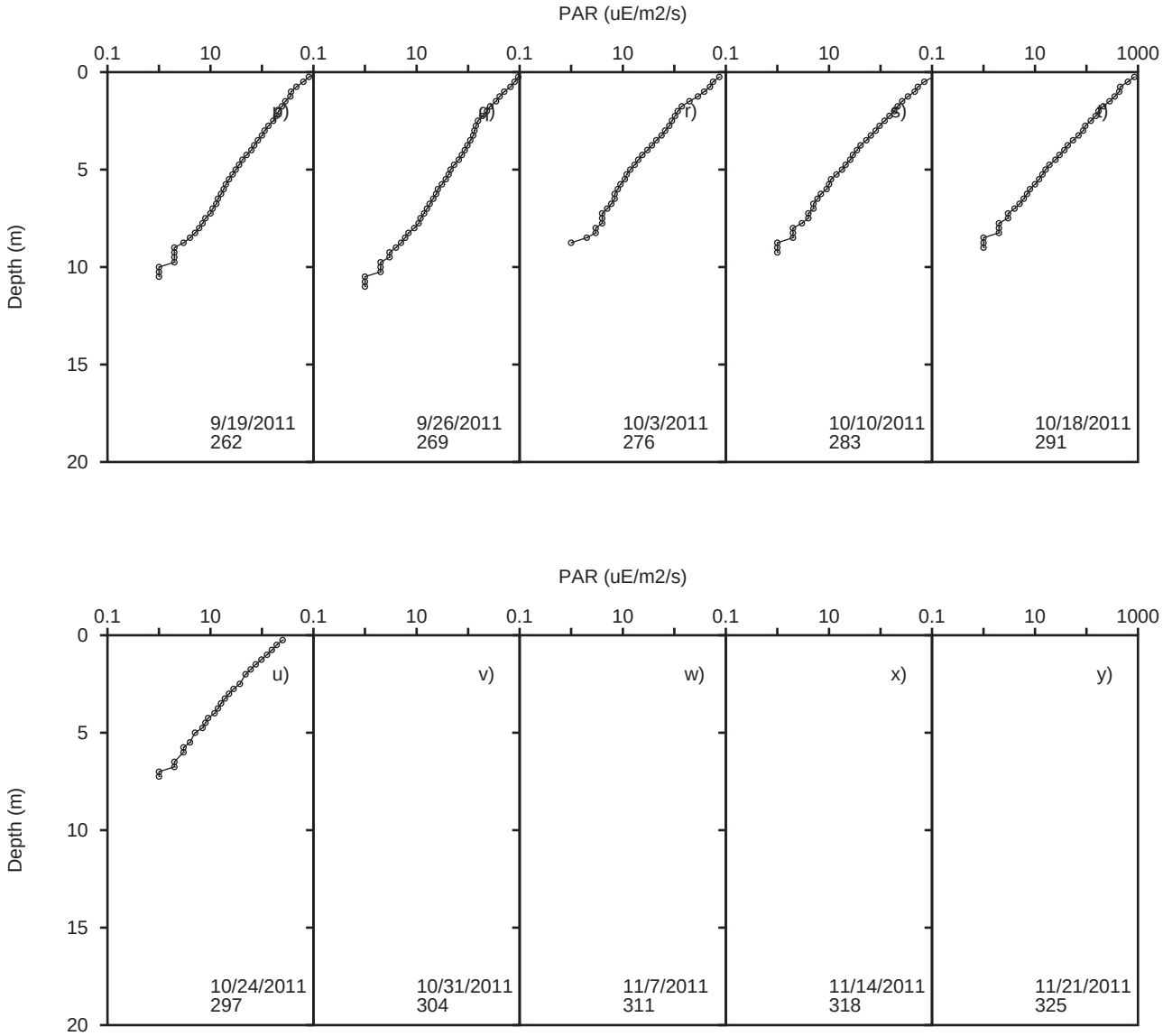
Fri Feb 03 14:46:55 2012

2011 PAR Profiles for Onondaga Lake ISUS-18



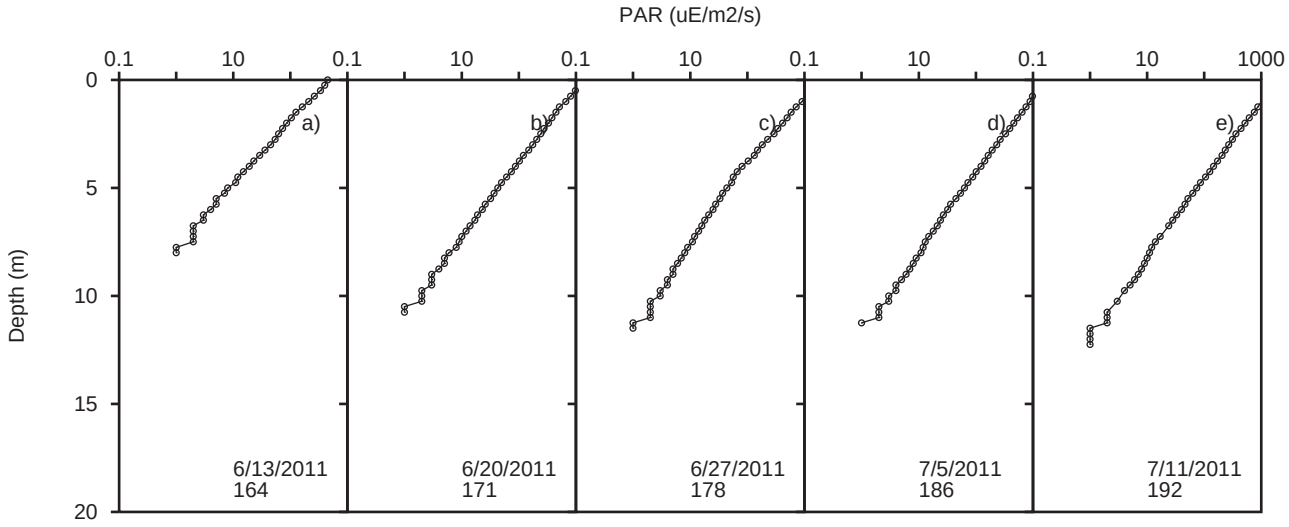
Fri Feb 03 14:49:08 2012

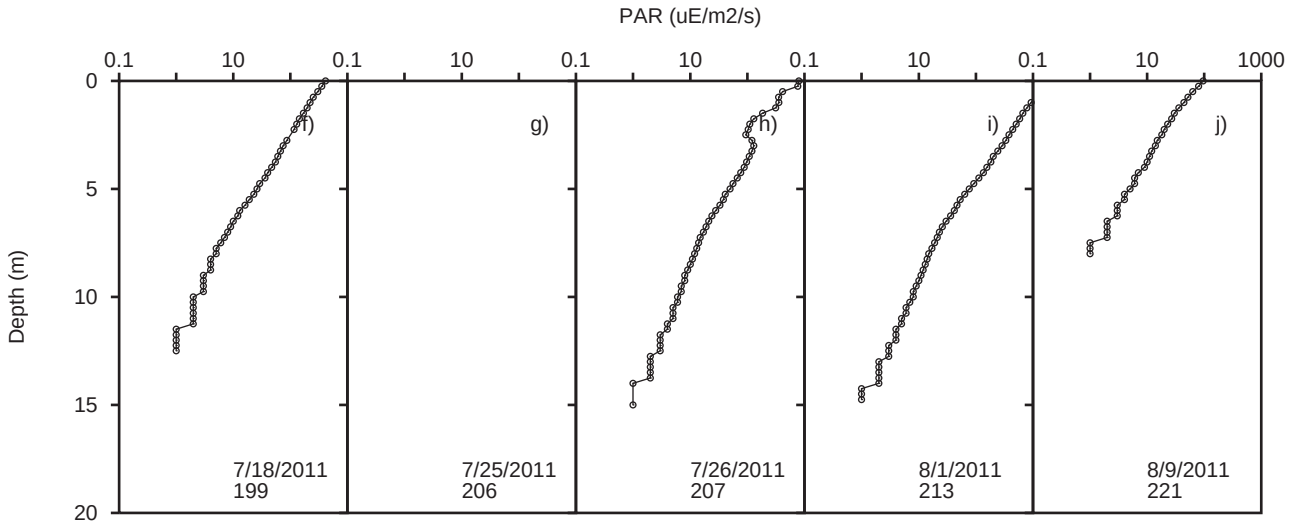
2011 PAR Profiles for Onondaga Lake ISUS-18

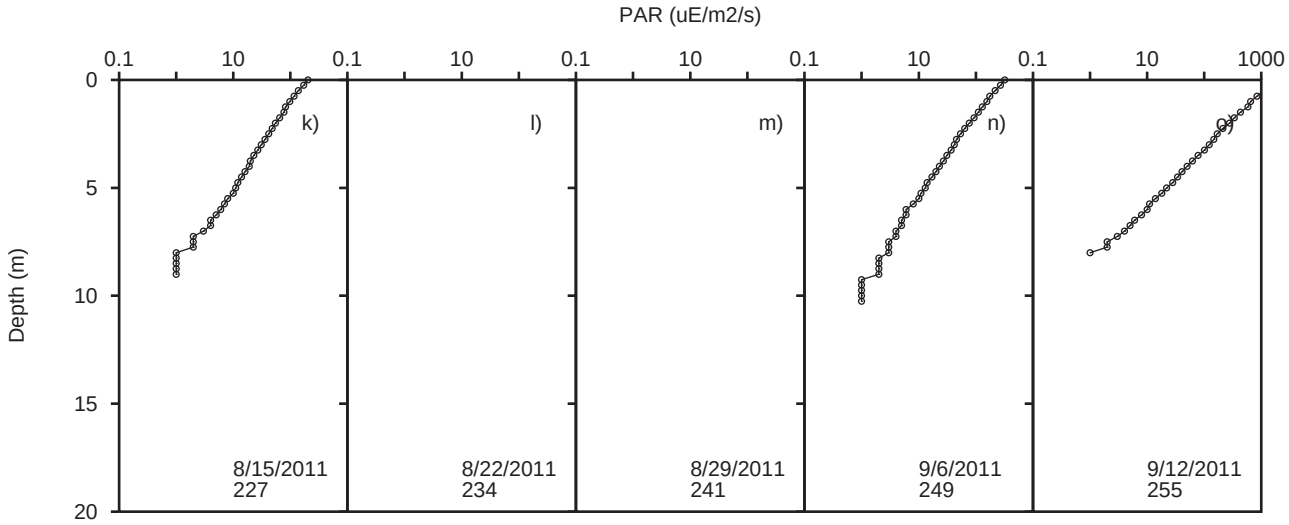


Fri Feb 03 14:49:08 2012

2011 PAR Profiles for Onondaga Lake ISUS-22

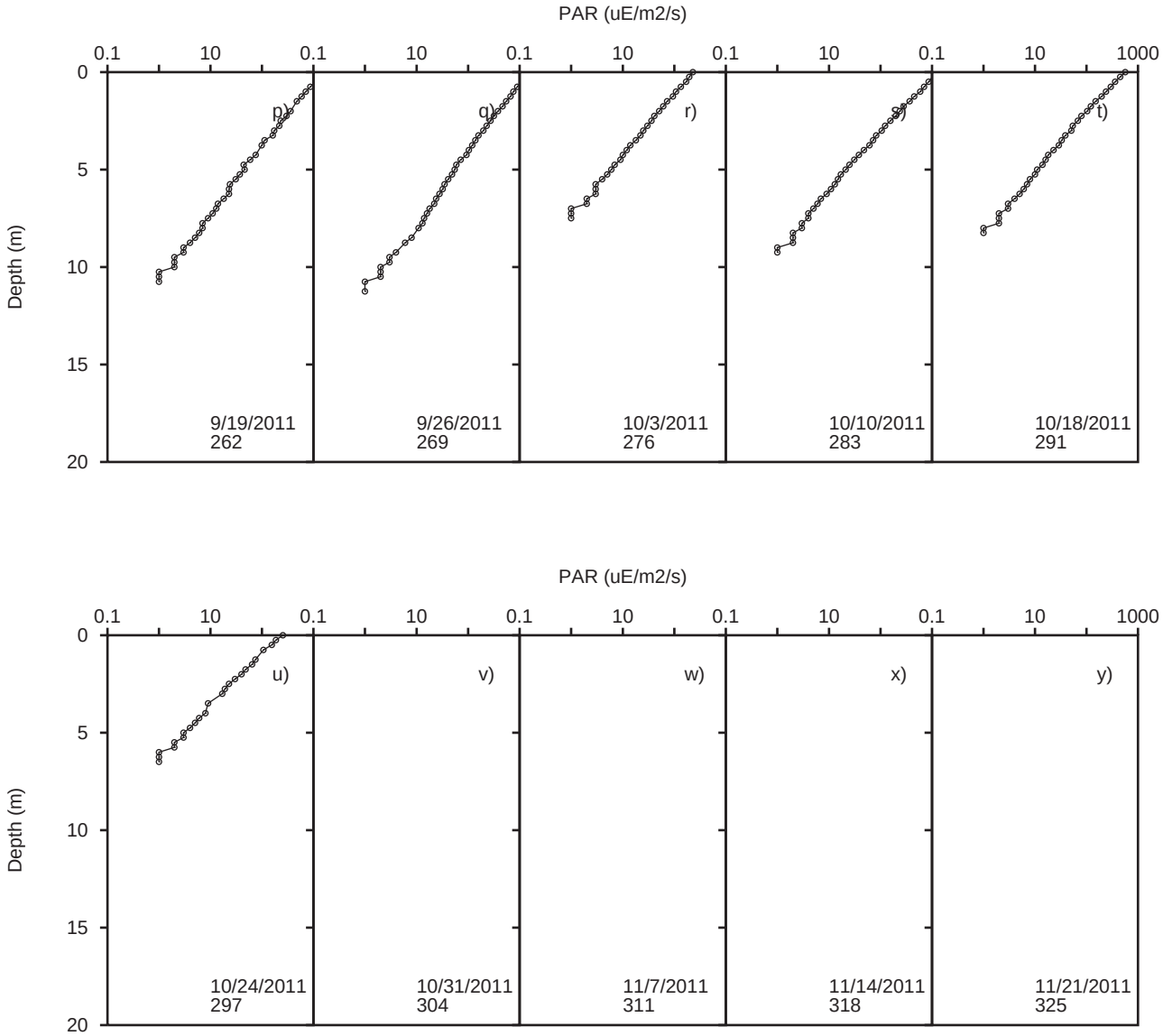






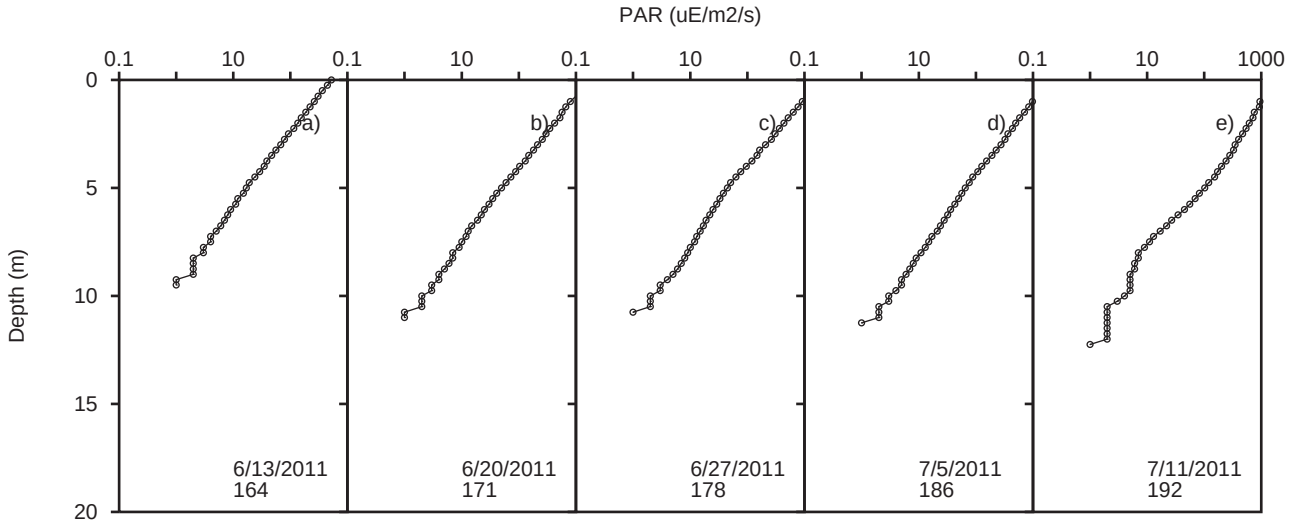
Fri Feb 03 14:51:03 2012

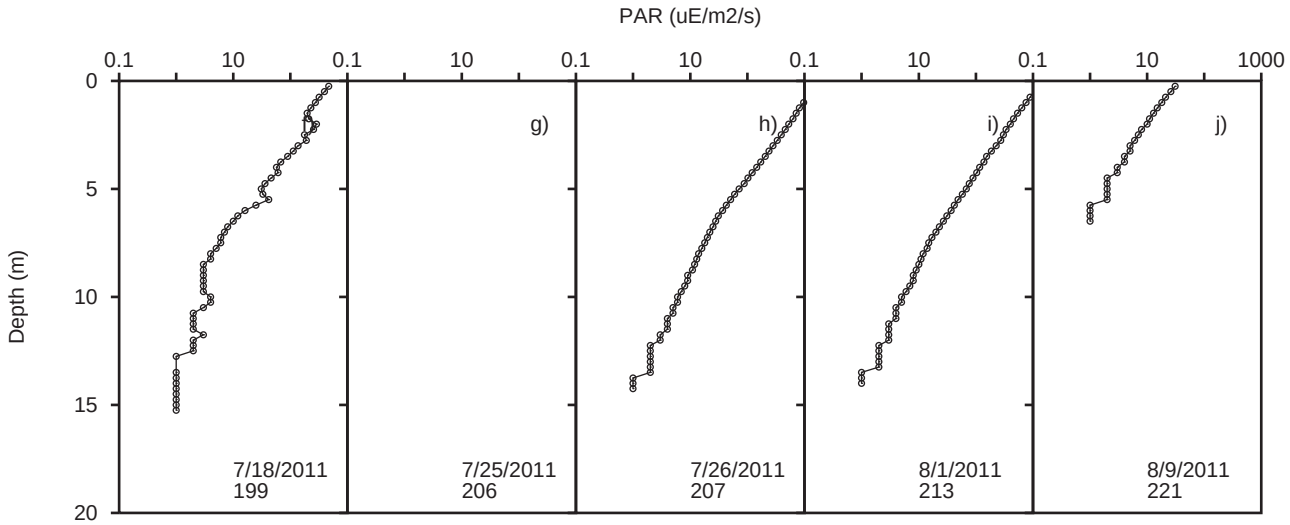
2011 PAR Profiles for Onondaga Lake ISUS-22

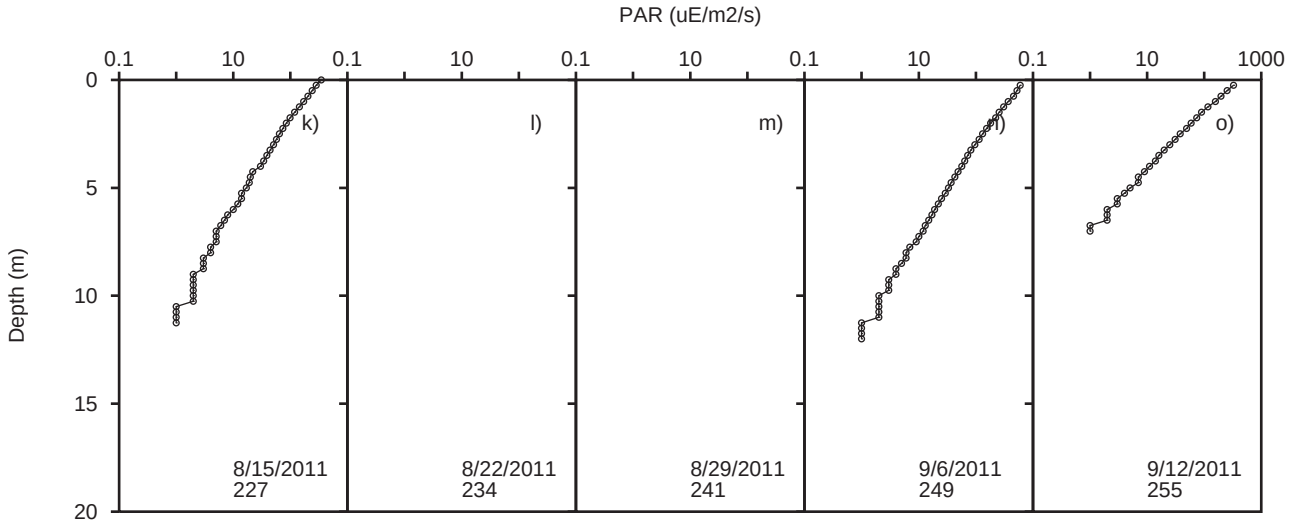


Fri Feb 03 14:51:03 2012

2011 PAR Profiles for Onondaga Lake ISUS-27

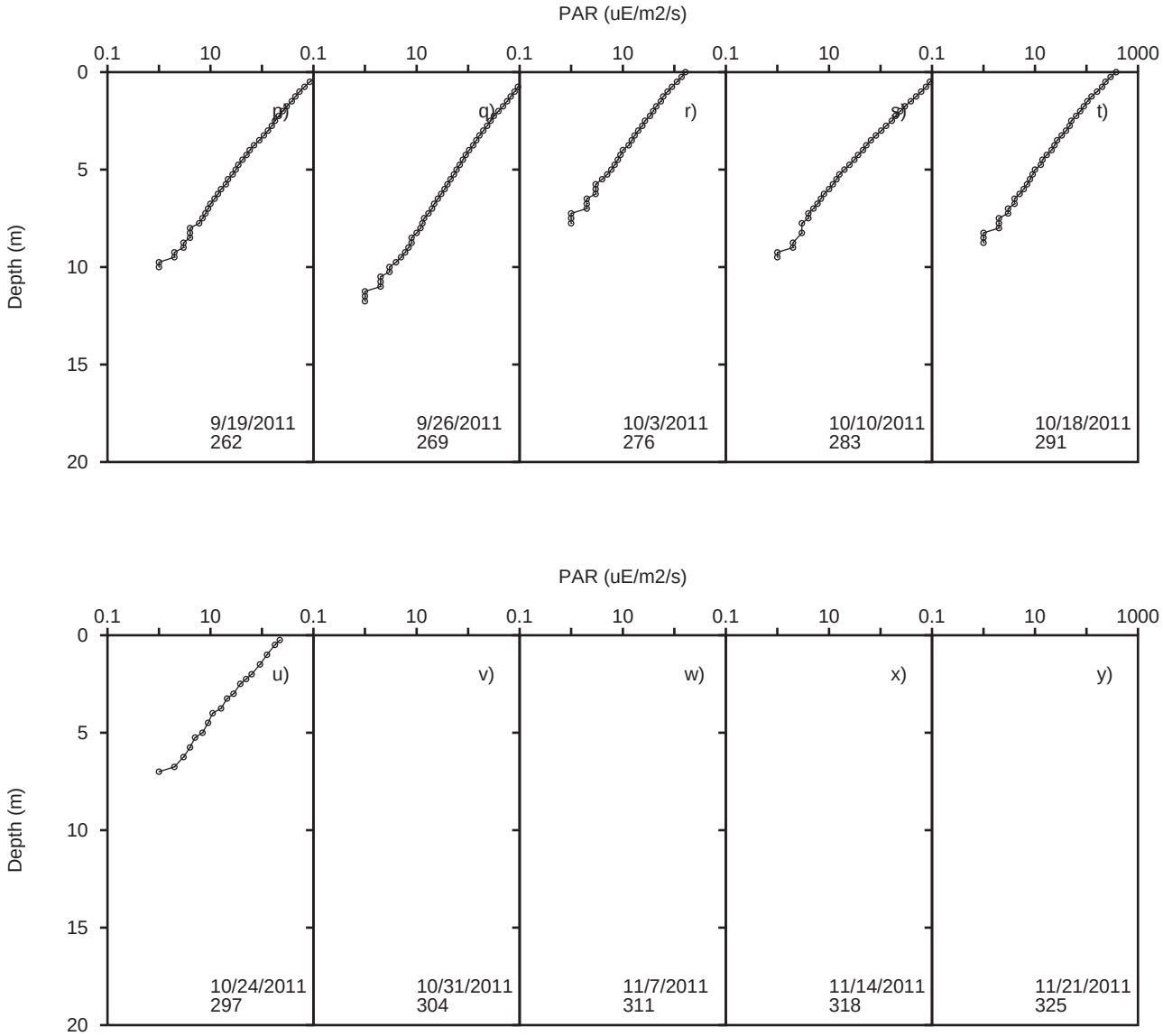






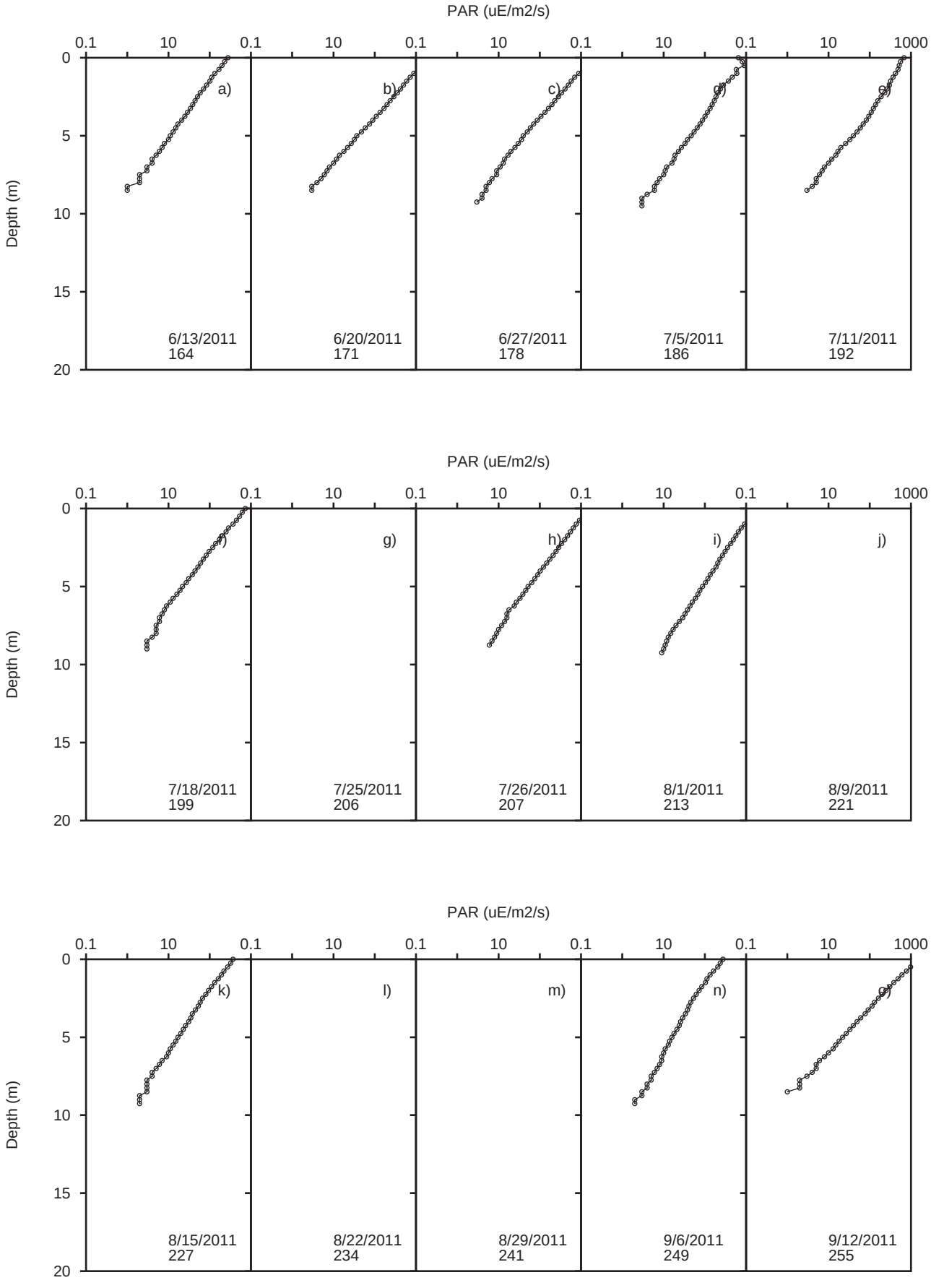
Fri Feb 03 14:53:36 2012

2011 PAR Profiles for Onondaga Lake ISUS-27



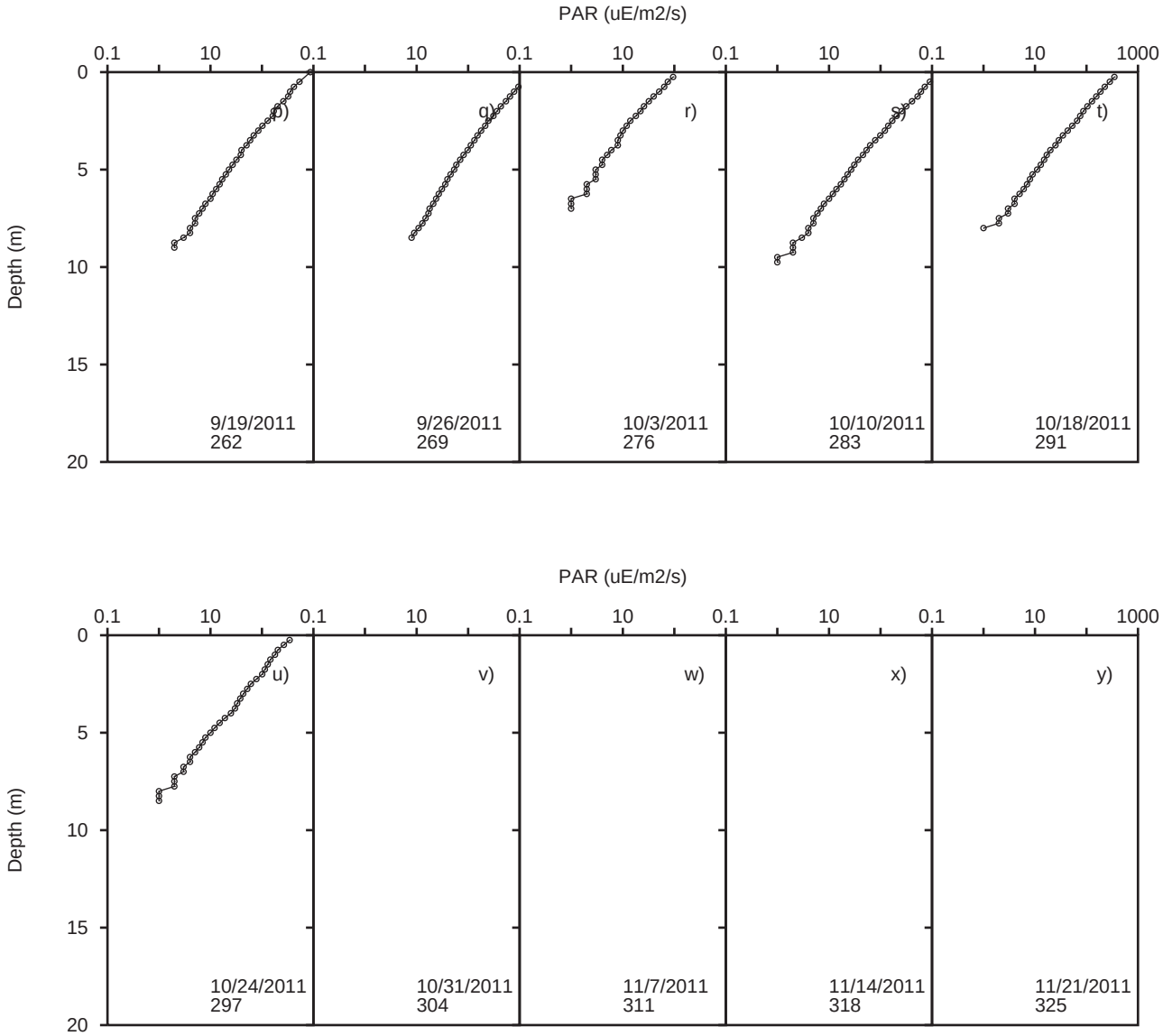
Fri Feb 03 14:53:36 2012

2011 PAR Profiles for Onondaga Lake ISUS-34

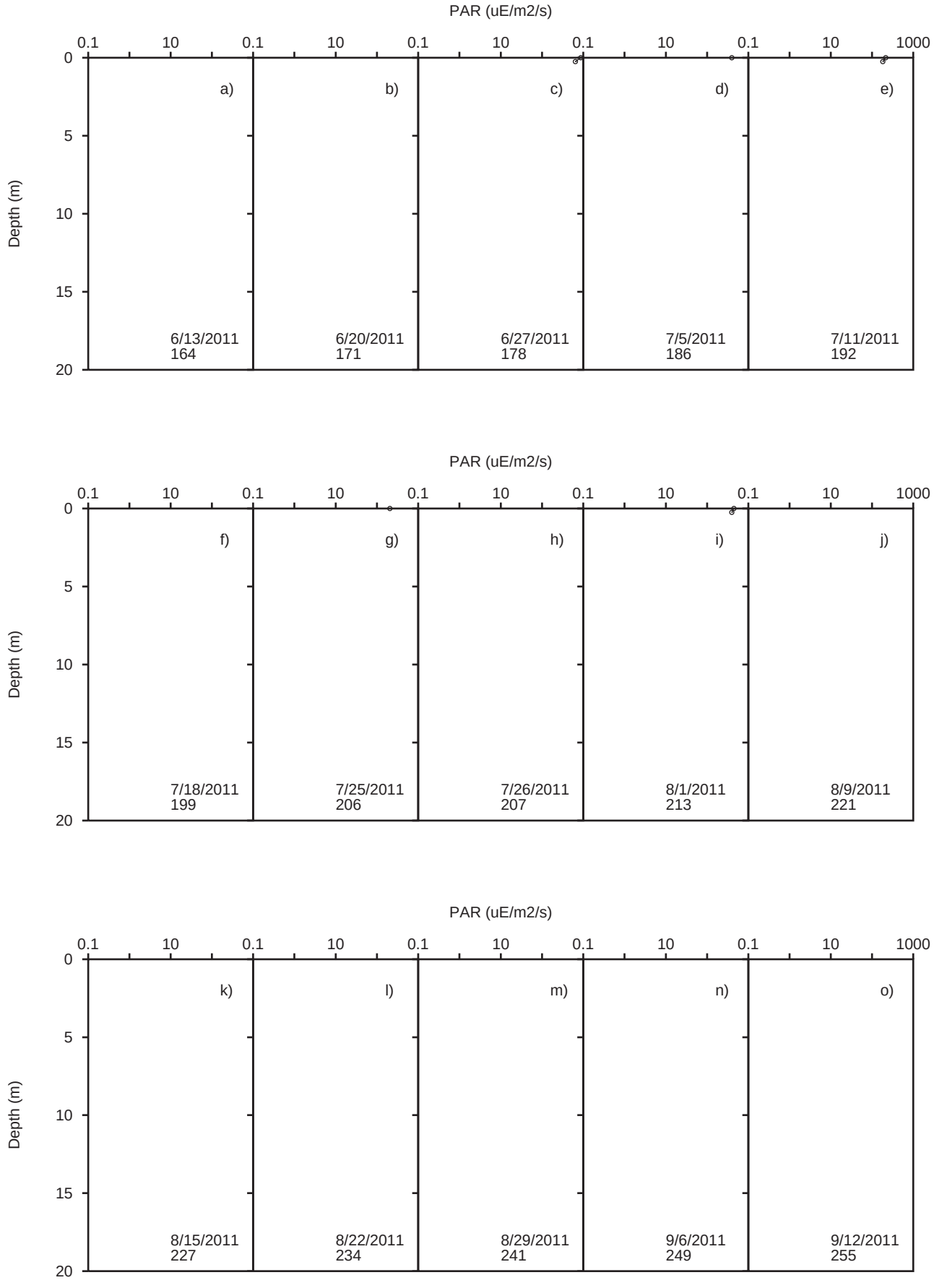


Fri Feb 03 14:19:28 2012

2011 PAR Profiles for Onondaga Lake ISUS-34

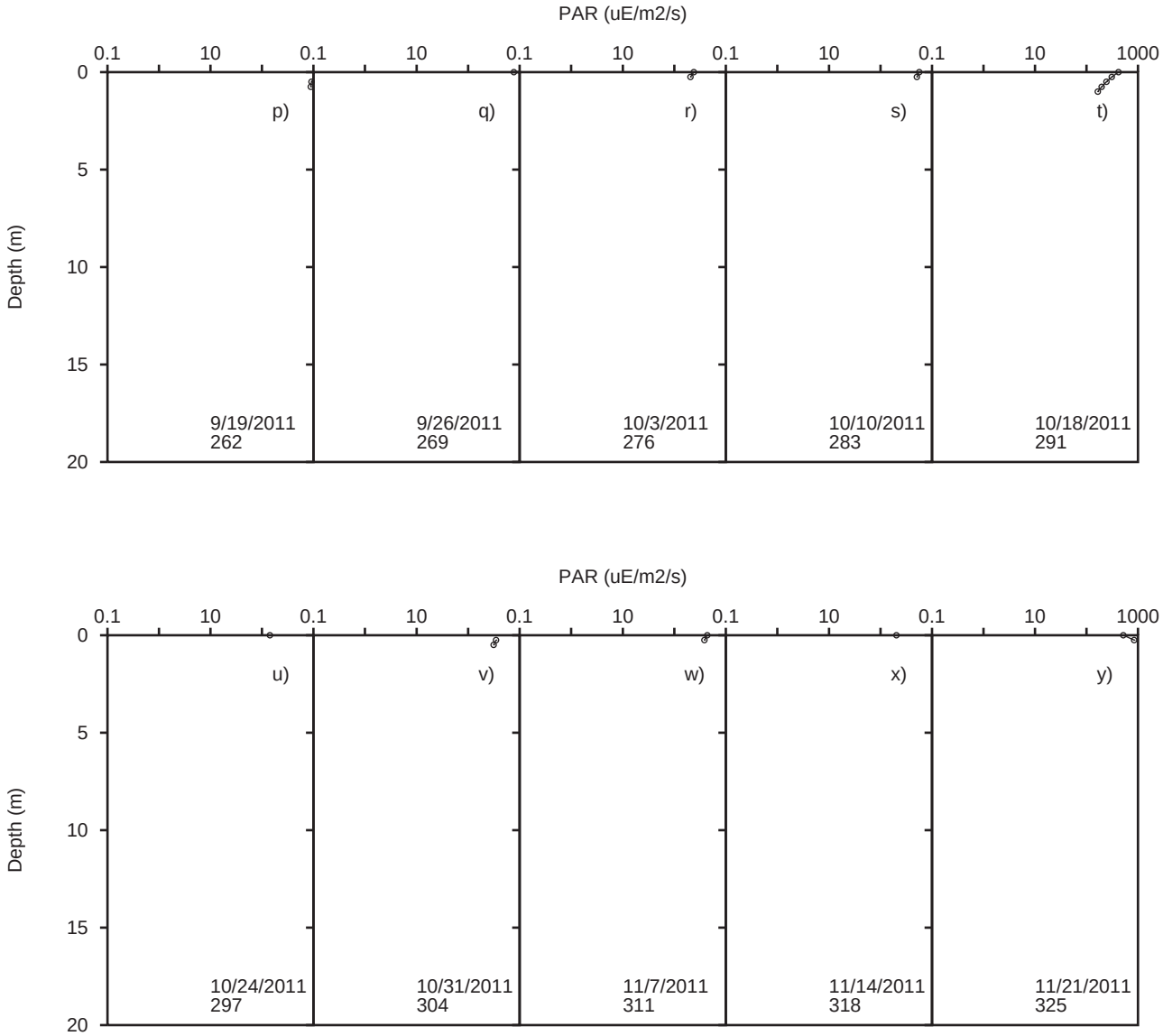


2011 PAR Profiles for Onondaga Lake ISUS-37



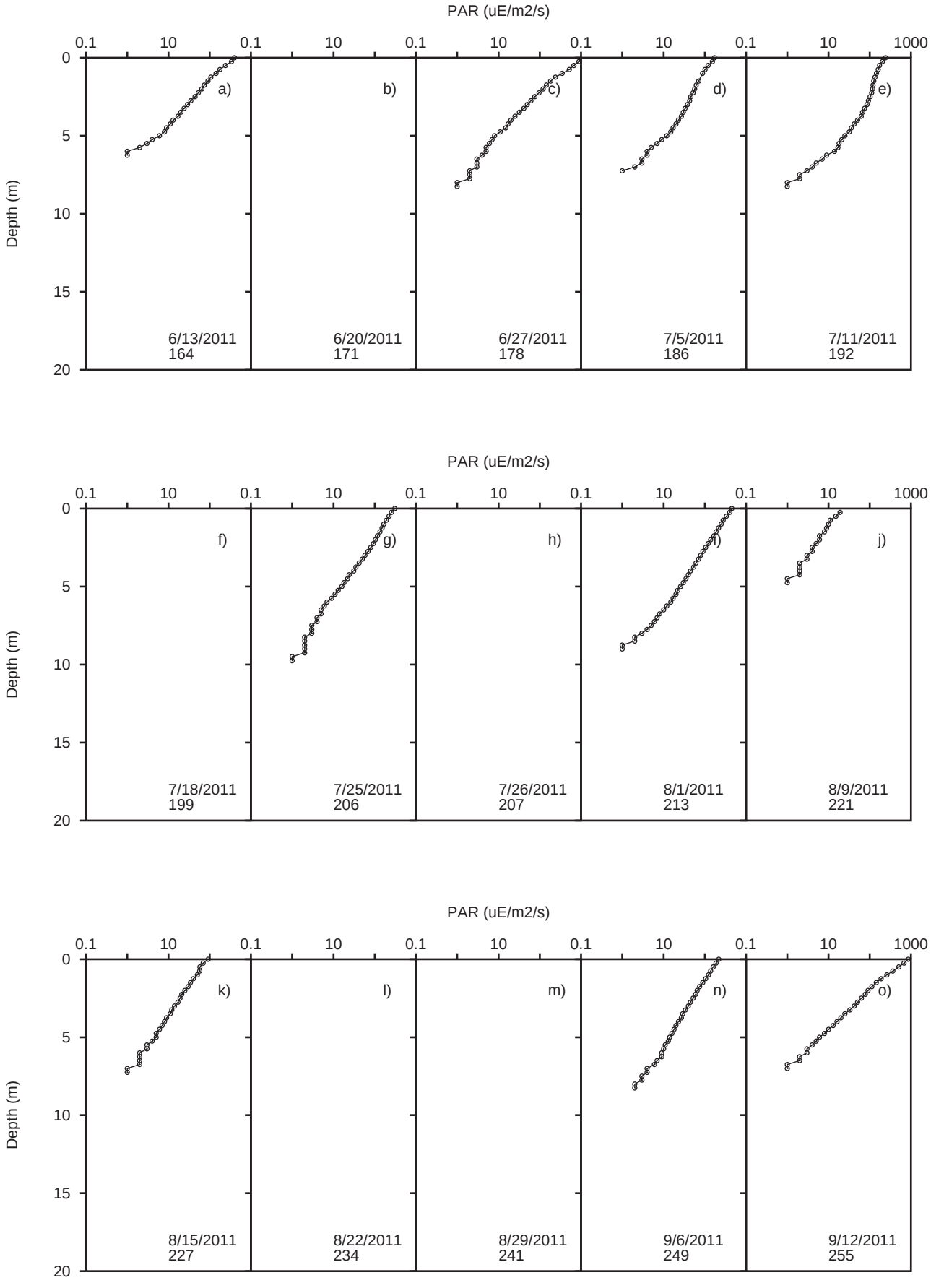
Fri Feb 03 14:20:33 2012

2011 PAR Profiles for Onondaga Lake ISUS-37



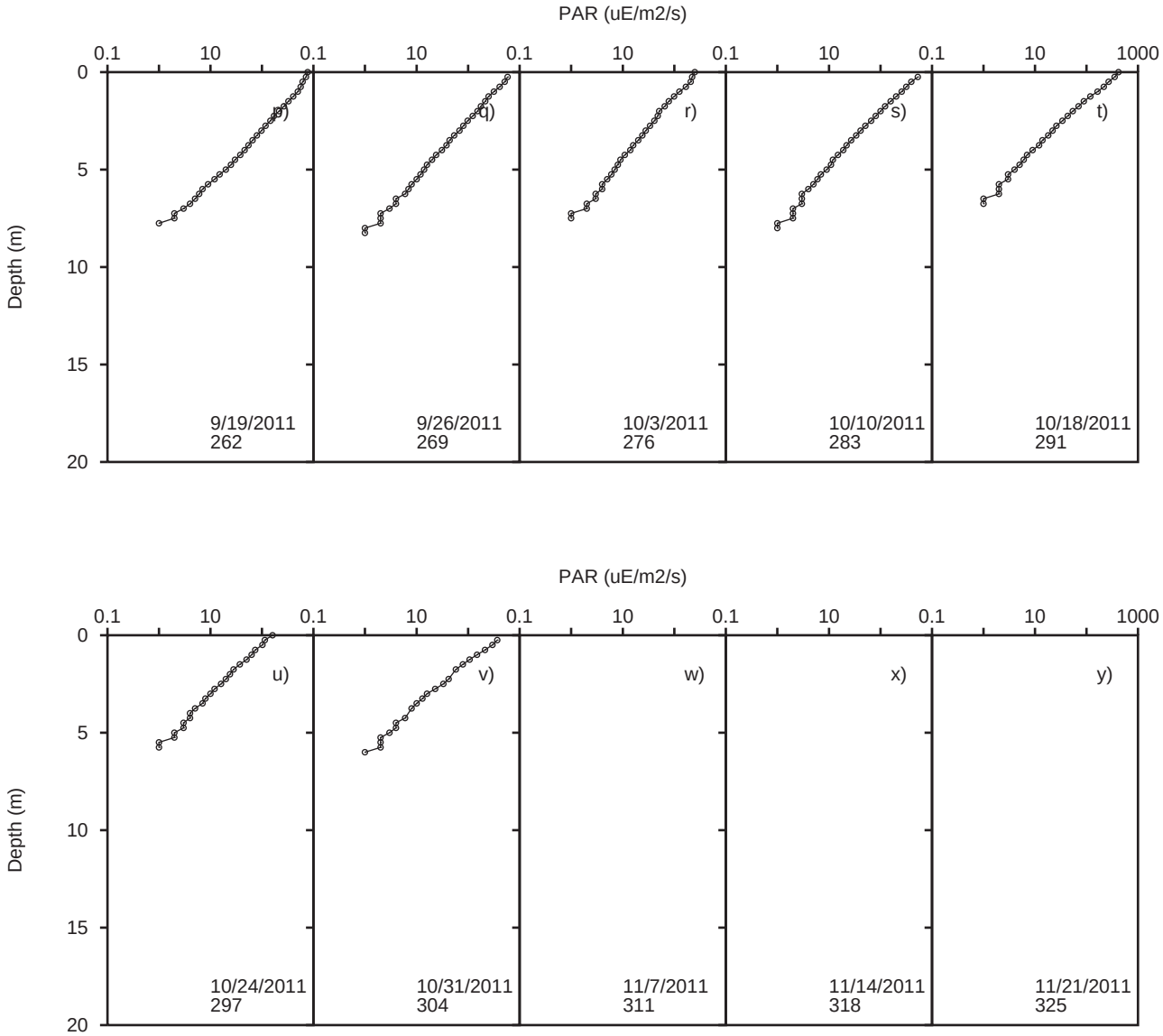
Fri Feb 03 14:20:33 2012

2011 PAR Profiles for Onondaga Lake ISUS-38



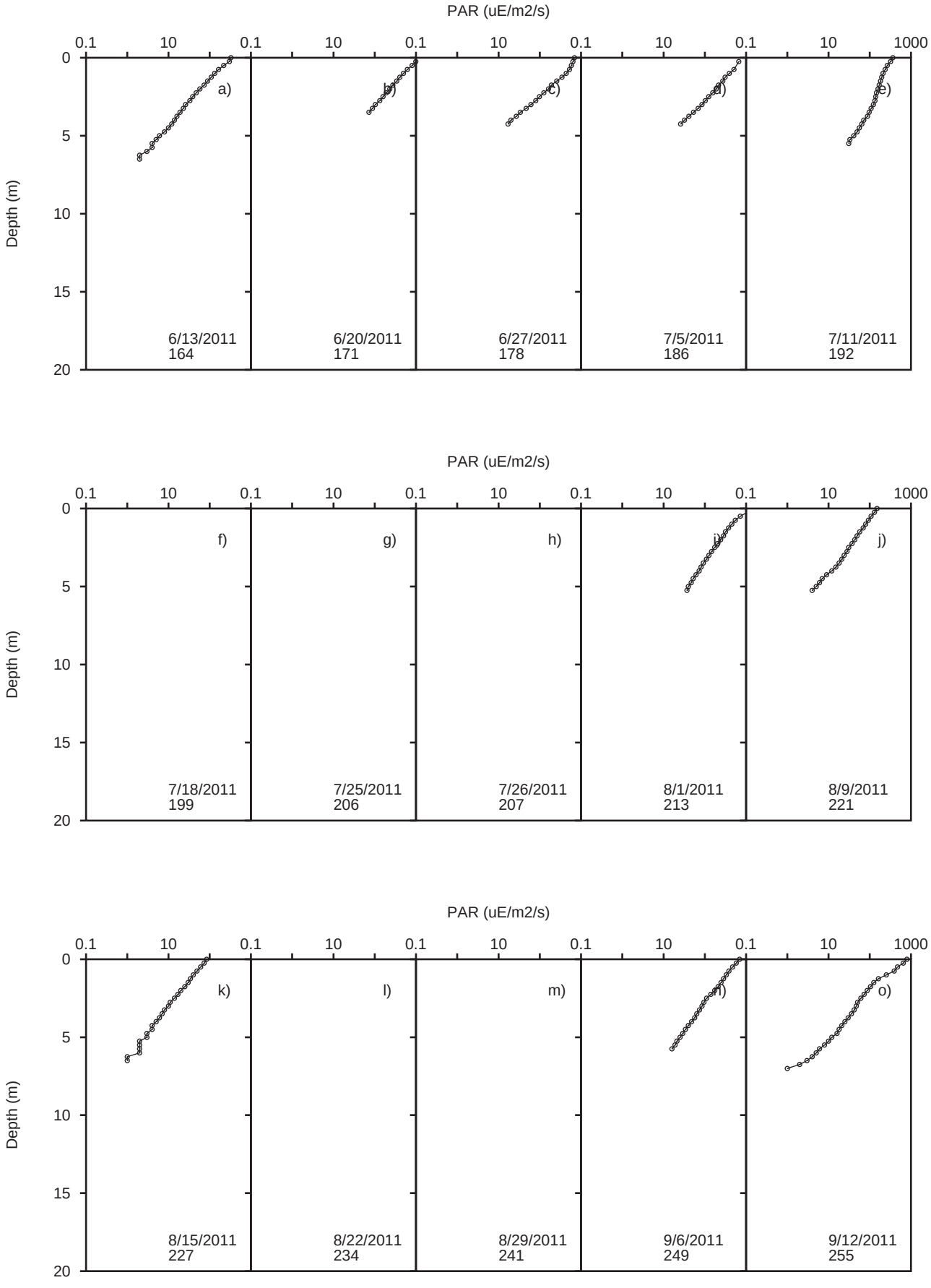
Fri Feb 03 14:21:38 2012

2011 PAR Profiles for Onondaga Lake ISUS-38



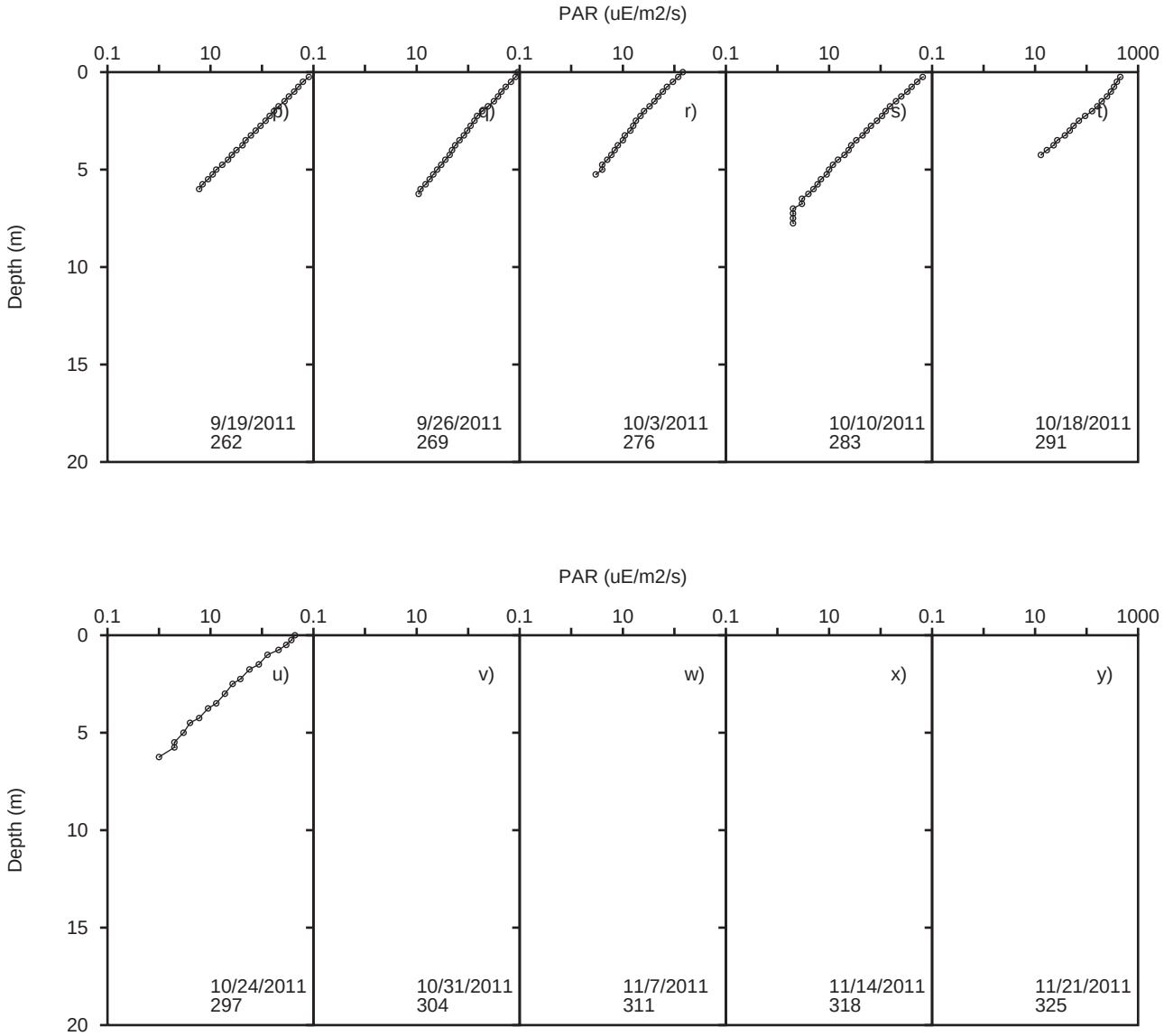
Fri Feb 03 14:21:38 2012

2011 PAR Profiles for Onondaga Lake ISUS-39



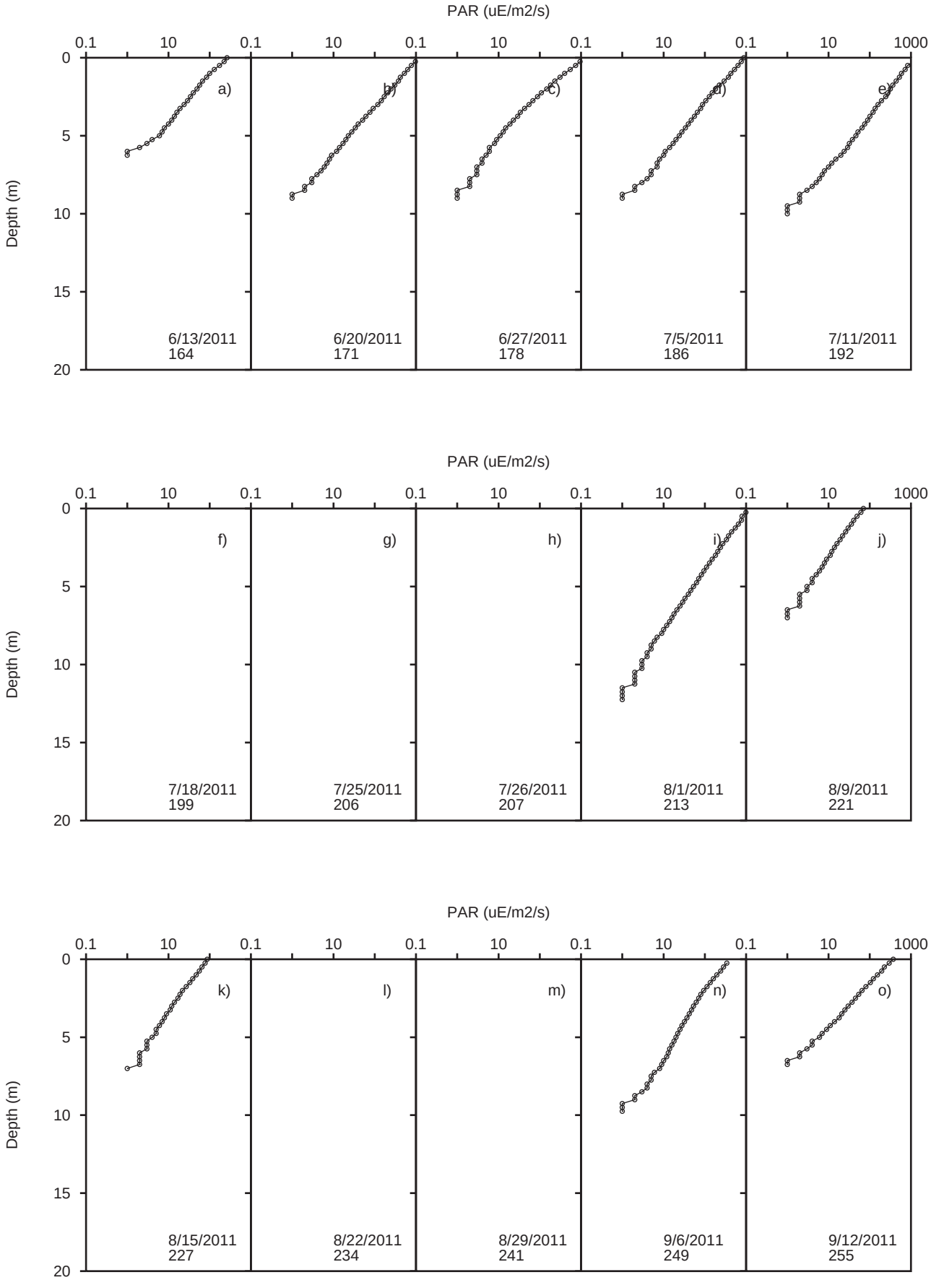
Fri Feb 03 14:27:25 2012

2011 PAR Profiles for Onondaga Lake ISUS-39



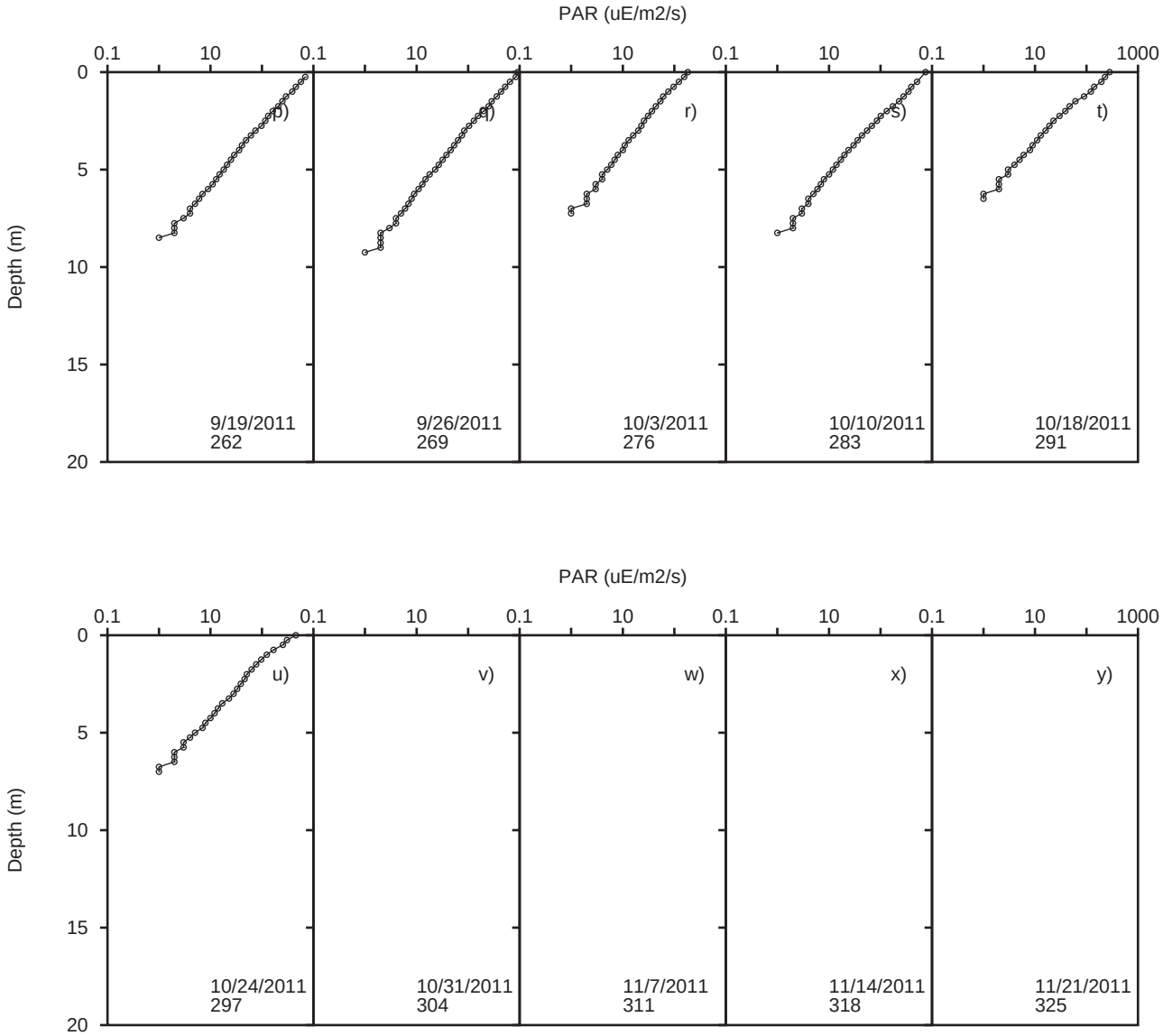
Fri Feb 03 14:27:25 2012

2011 PAR Profiles for Onondaga Lake ISUS-40



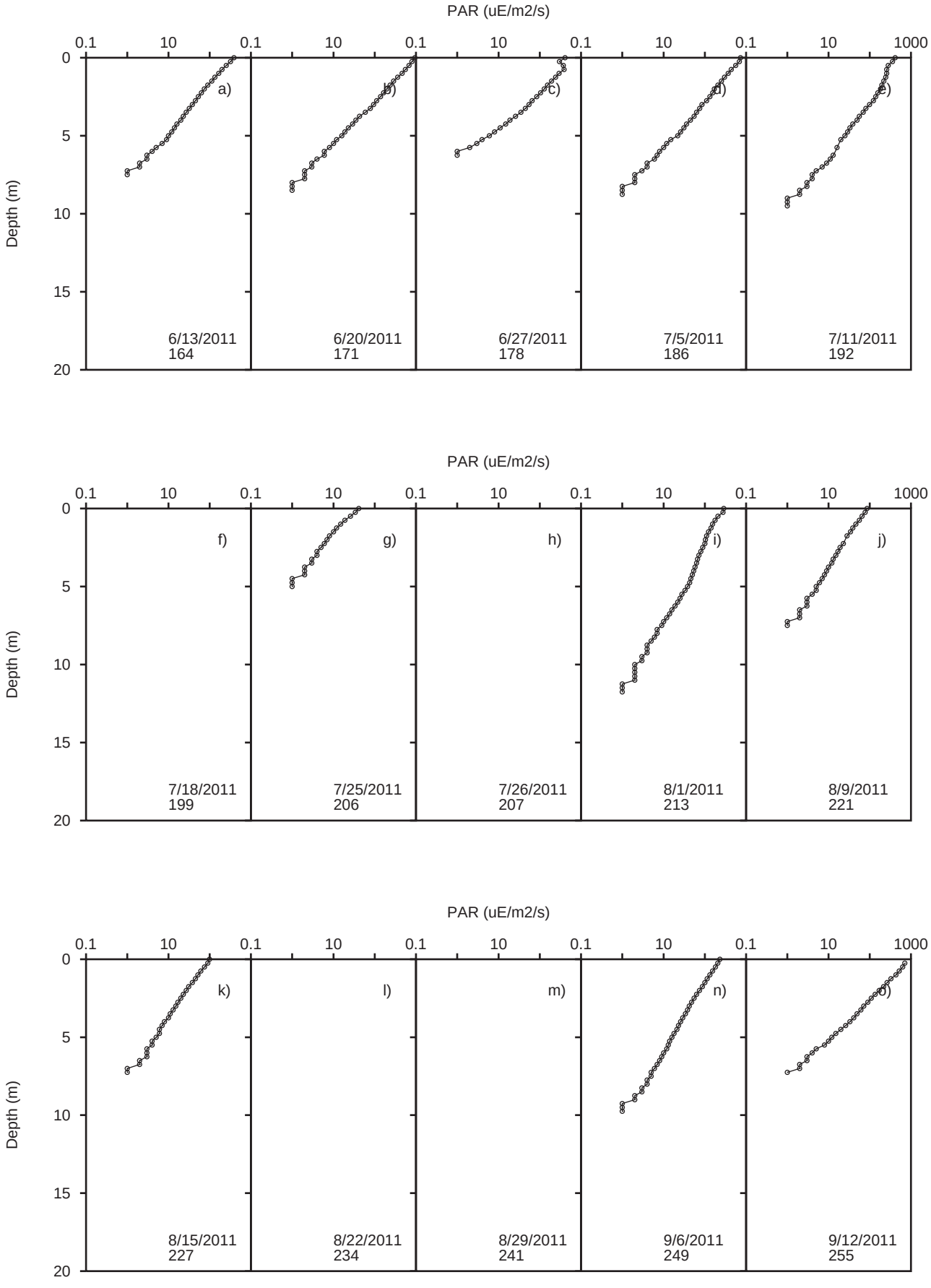
Fri Feb 03 14:28:11 2012

2011 PAR Profiles for Onondaga Lake ISUS-40



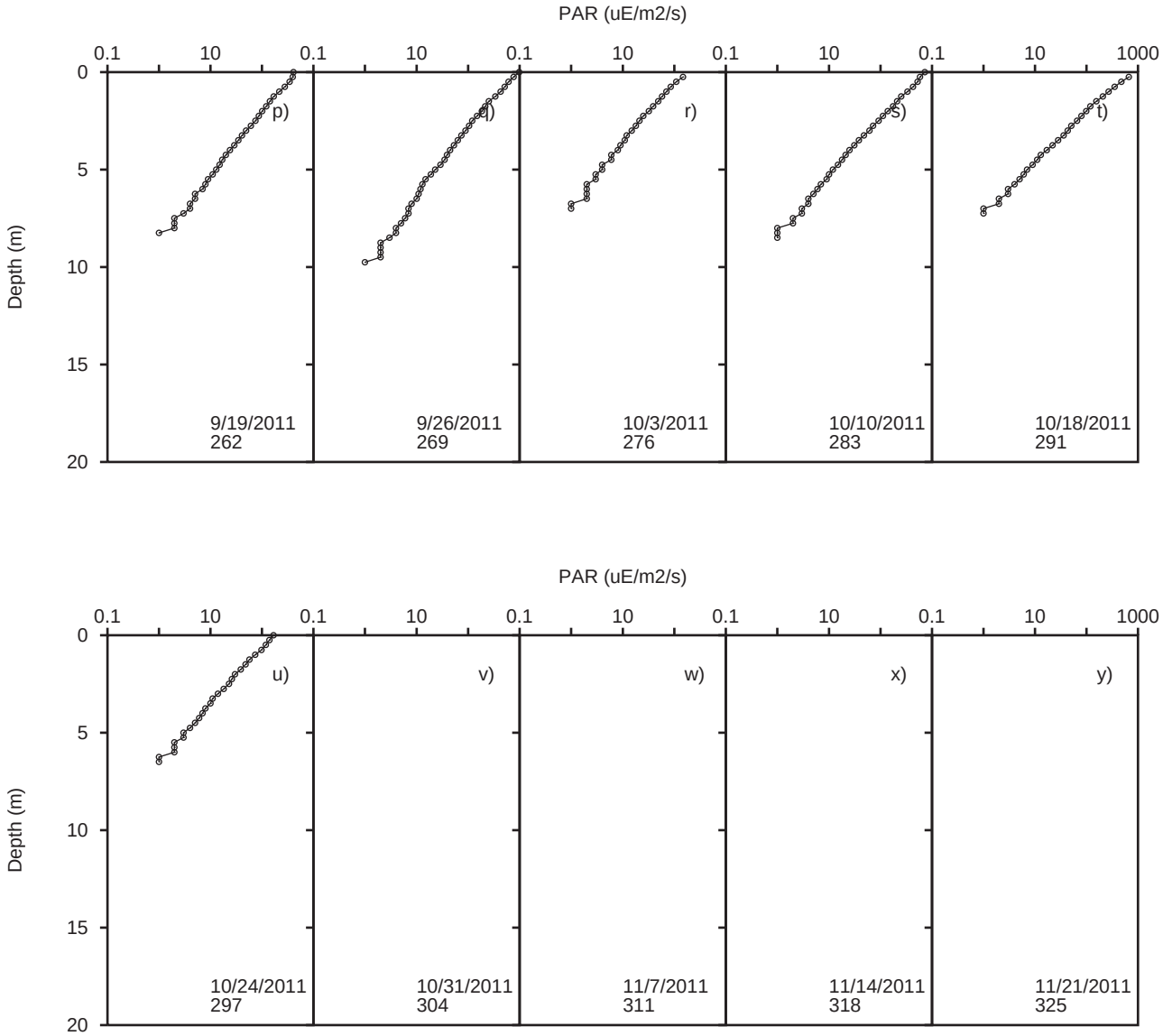
Fri Feb 03 14:28:11 2012

2011 PAR Profiles for Onondaga Lake ISUS-41



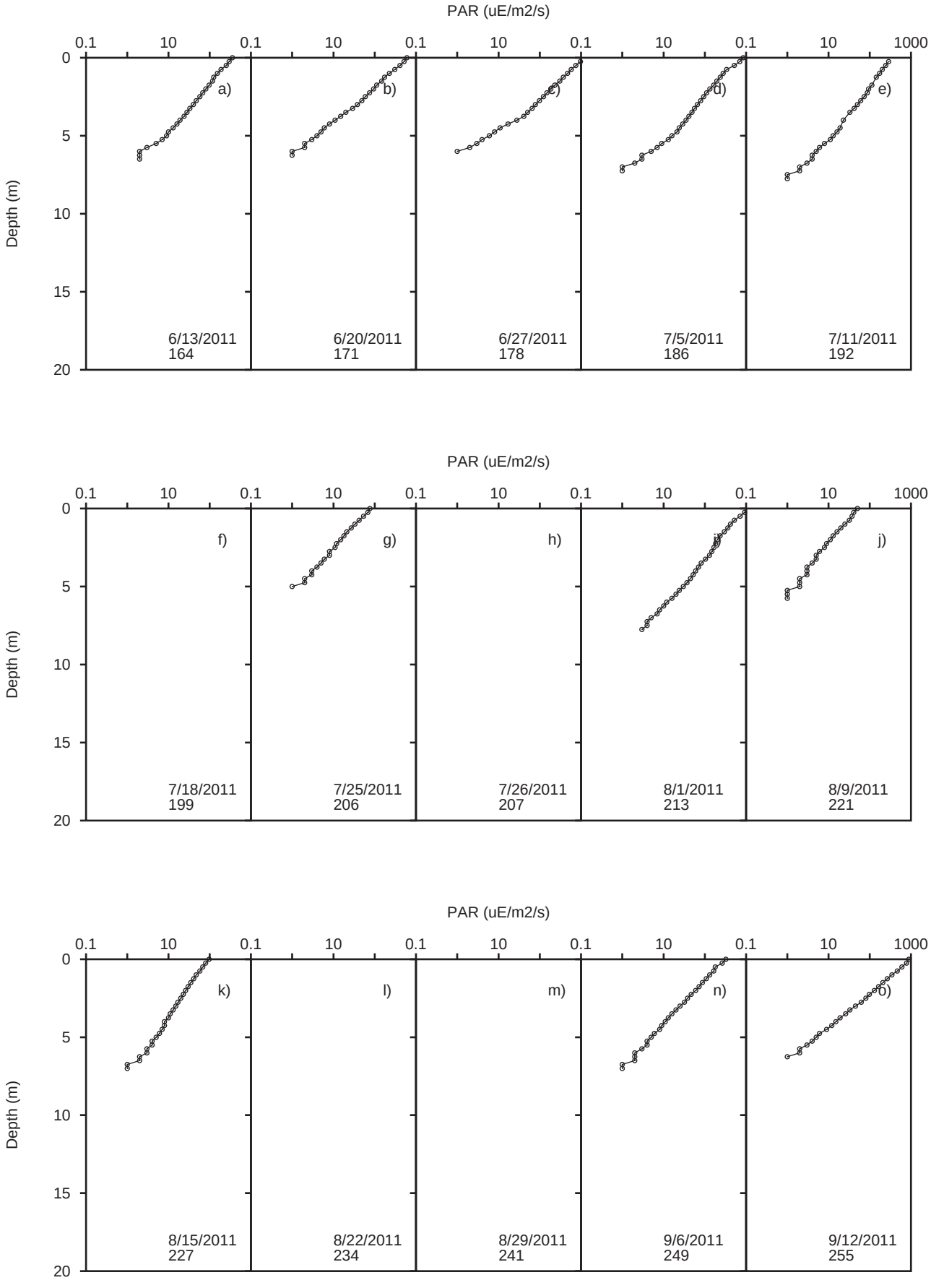
Fri Feb 03 14:30:52 2012

2011 PAR Profiles for Onondaga Lake ISUS-41



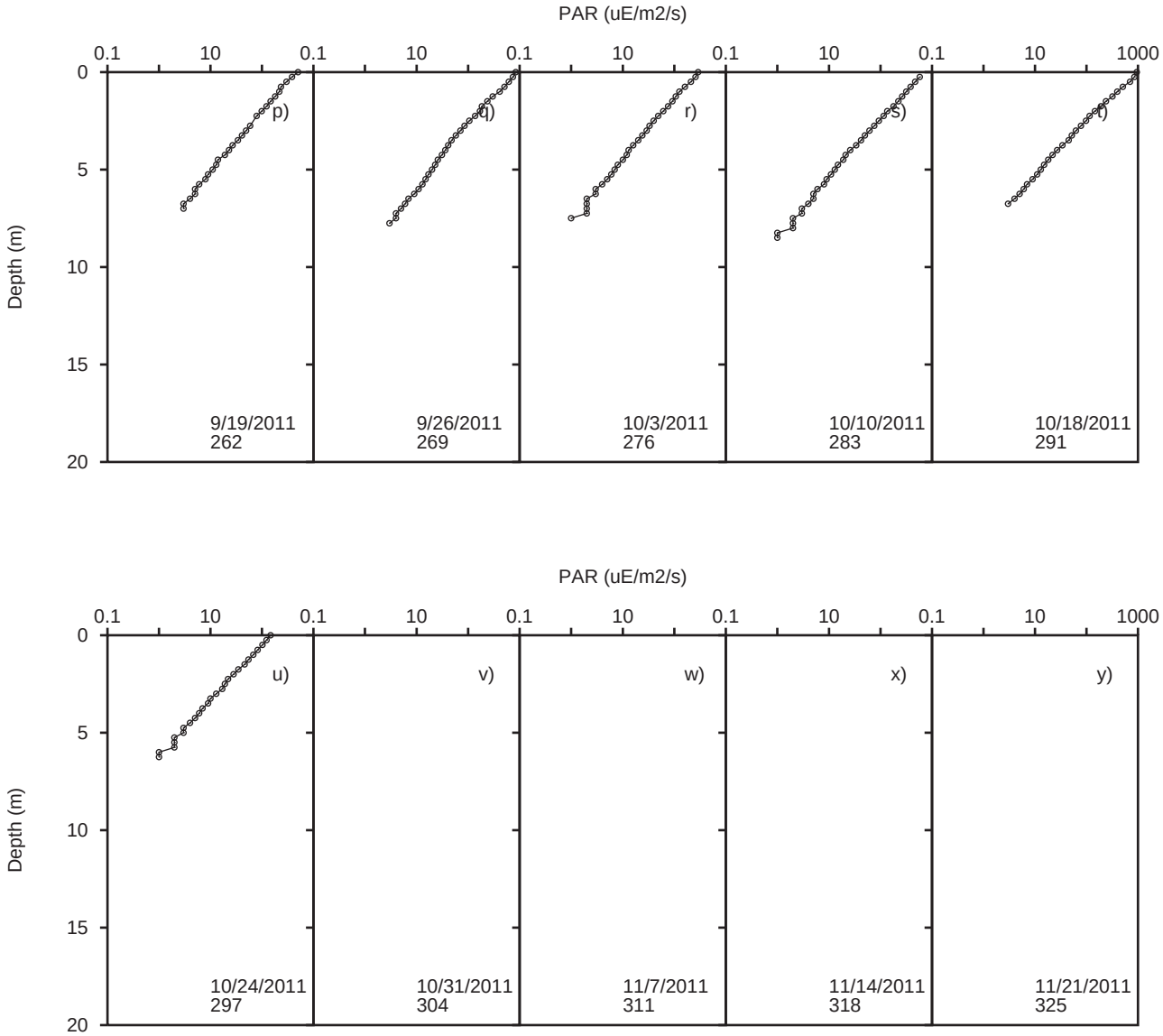
Fri Feb 03 14:30:52 2012

2011 PAR Profiles for Onondaga Lake ISUS-42



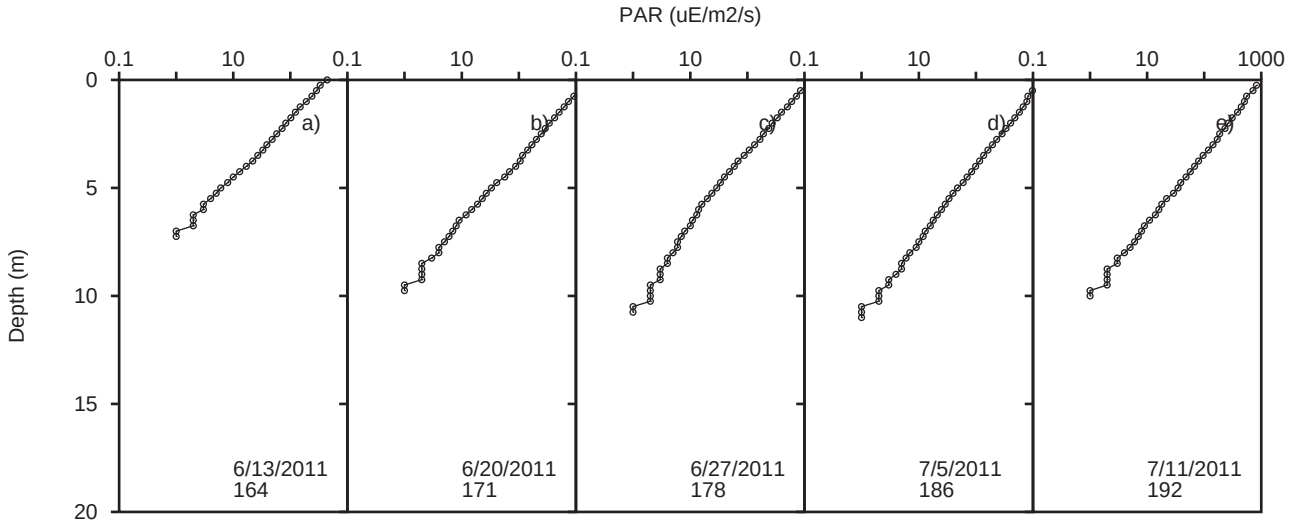
Fri Feb 03 14:34:30 2012

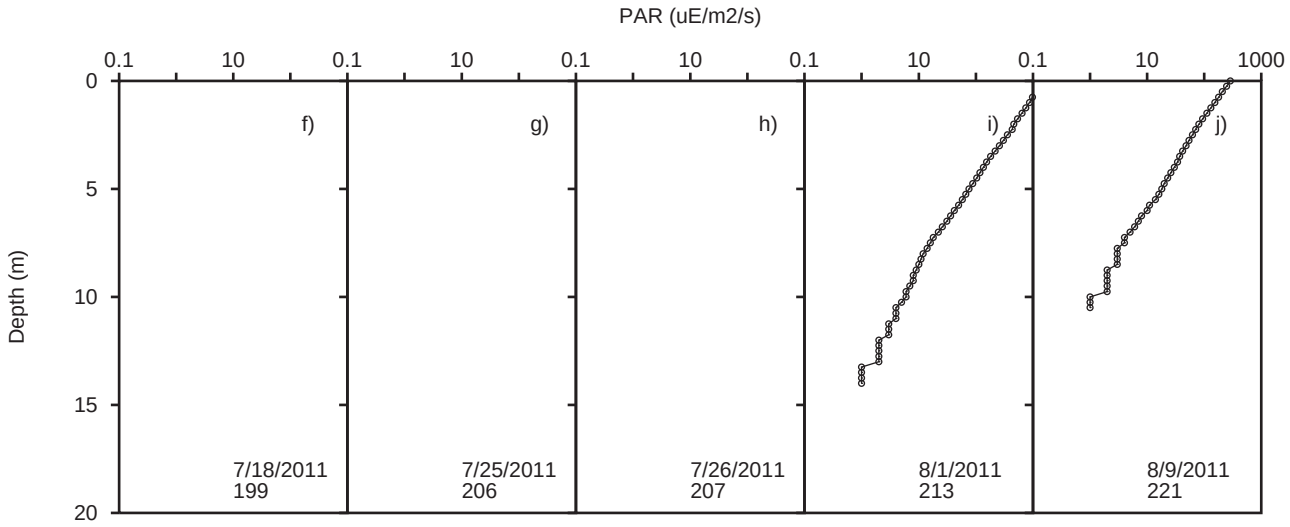
2011 PAR Profiles for Onondaga Lake ISUS-42

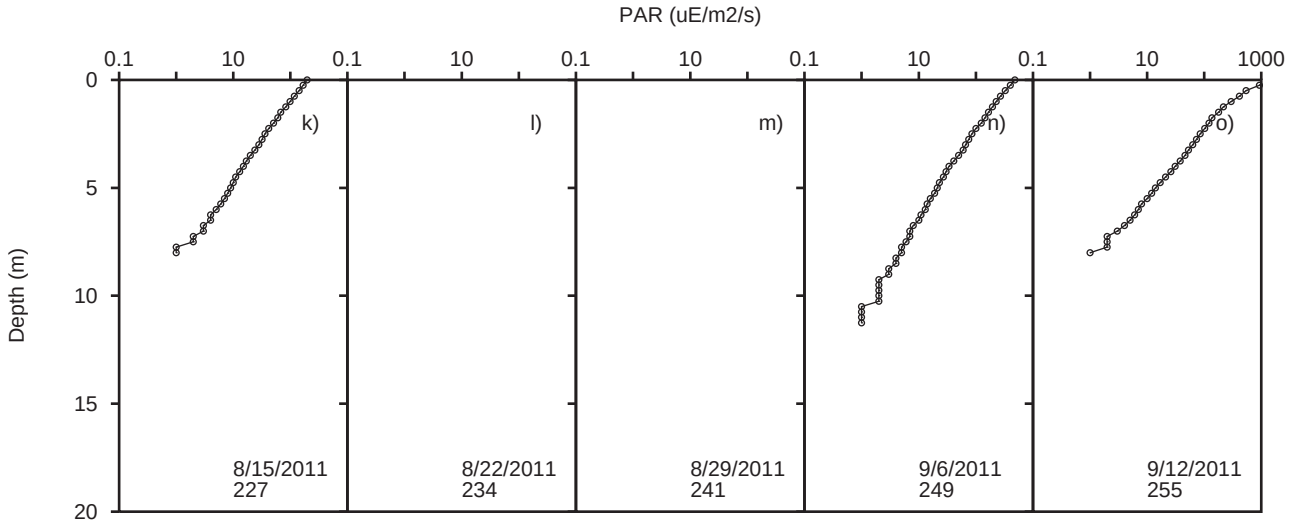


Fri Feb 03 14:34:30 2012

2011 PAR Profiles for Onondaga Lake ISUS-43

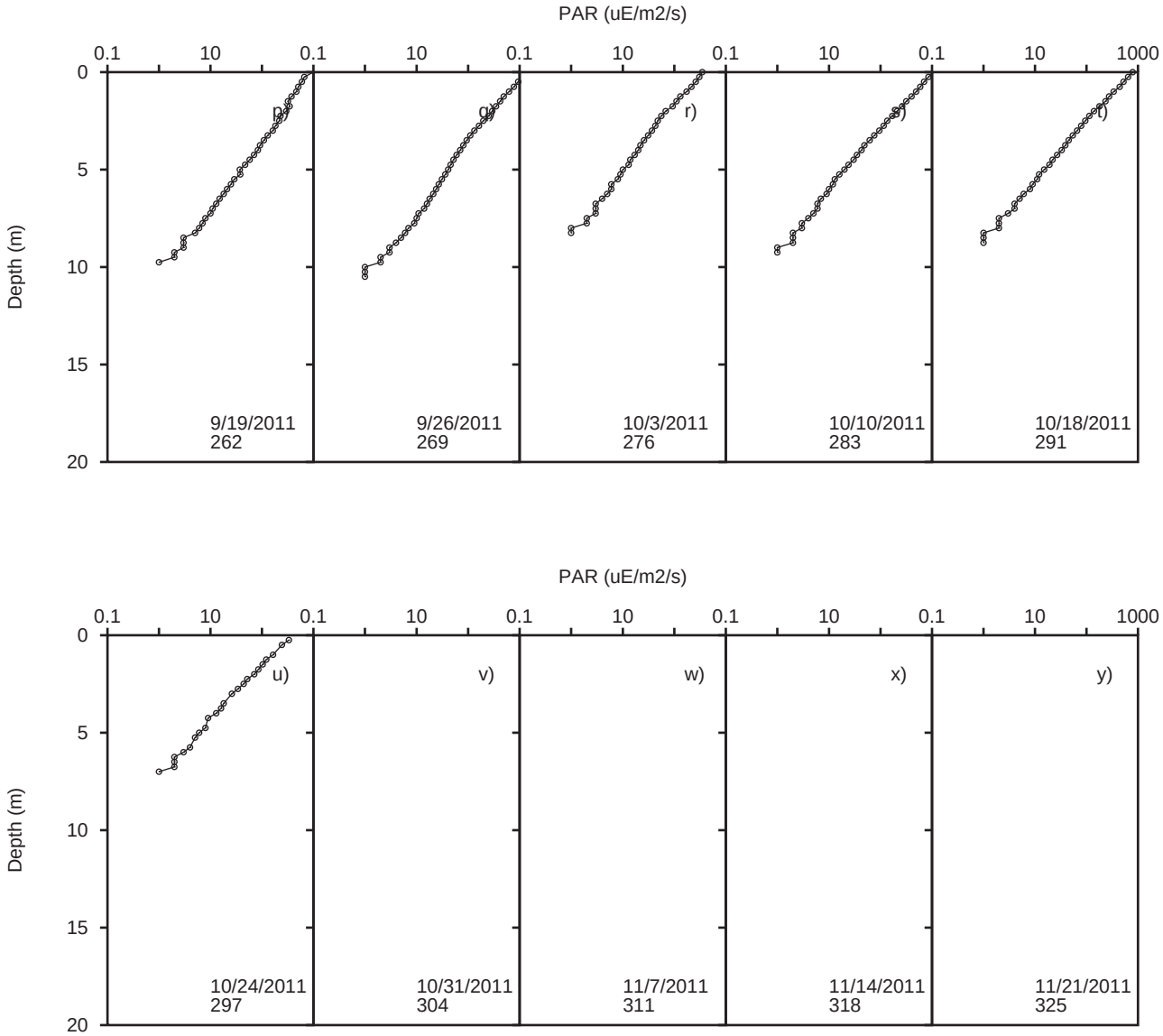




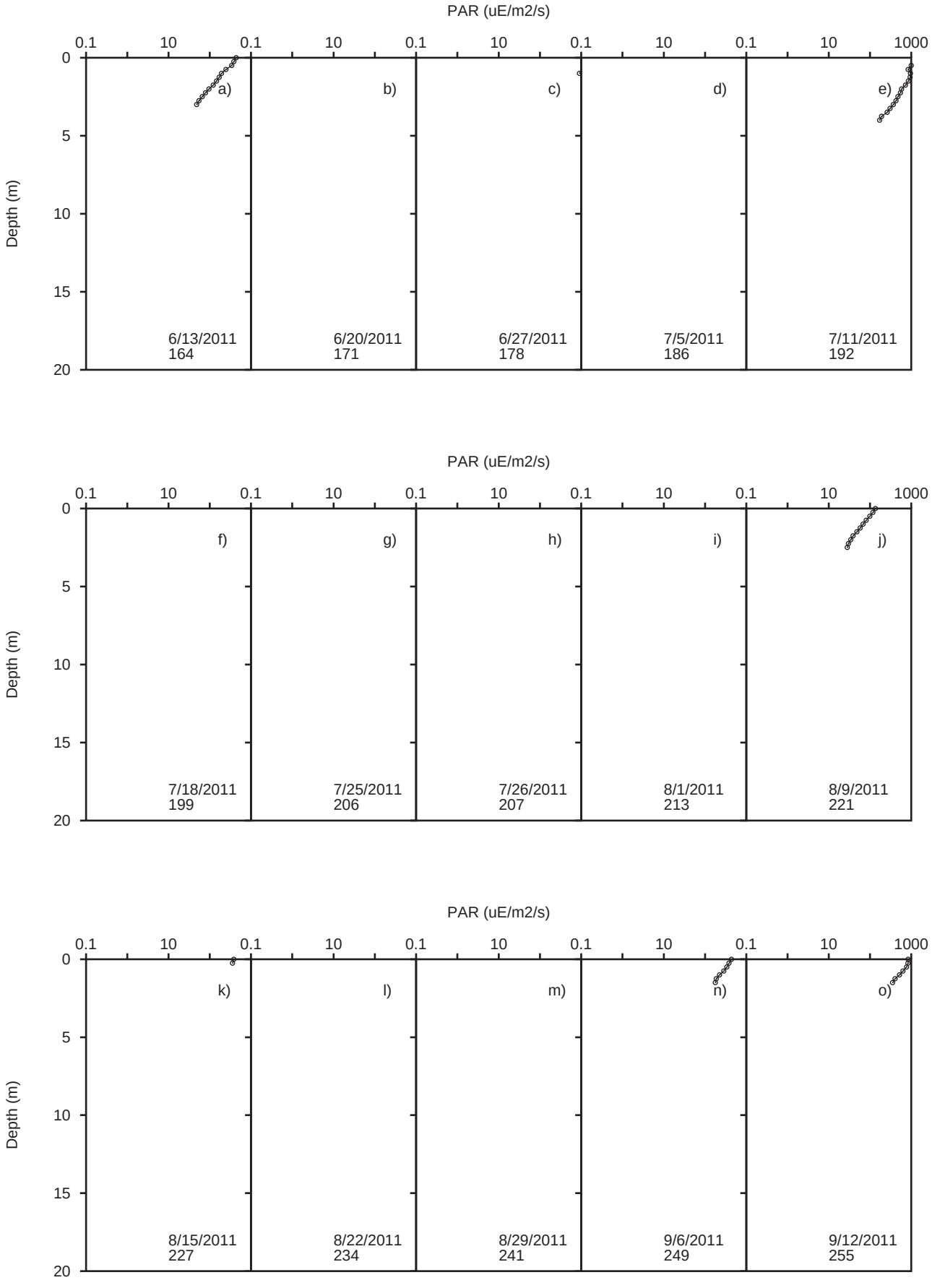


Fri Feb 03 14:54:49 2012

2011 PAR Profiles for Onondaga Lake ISUS-43

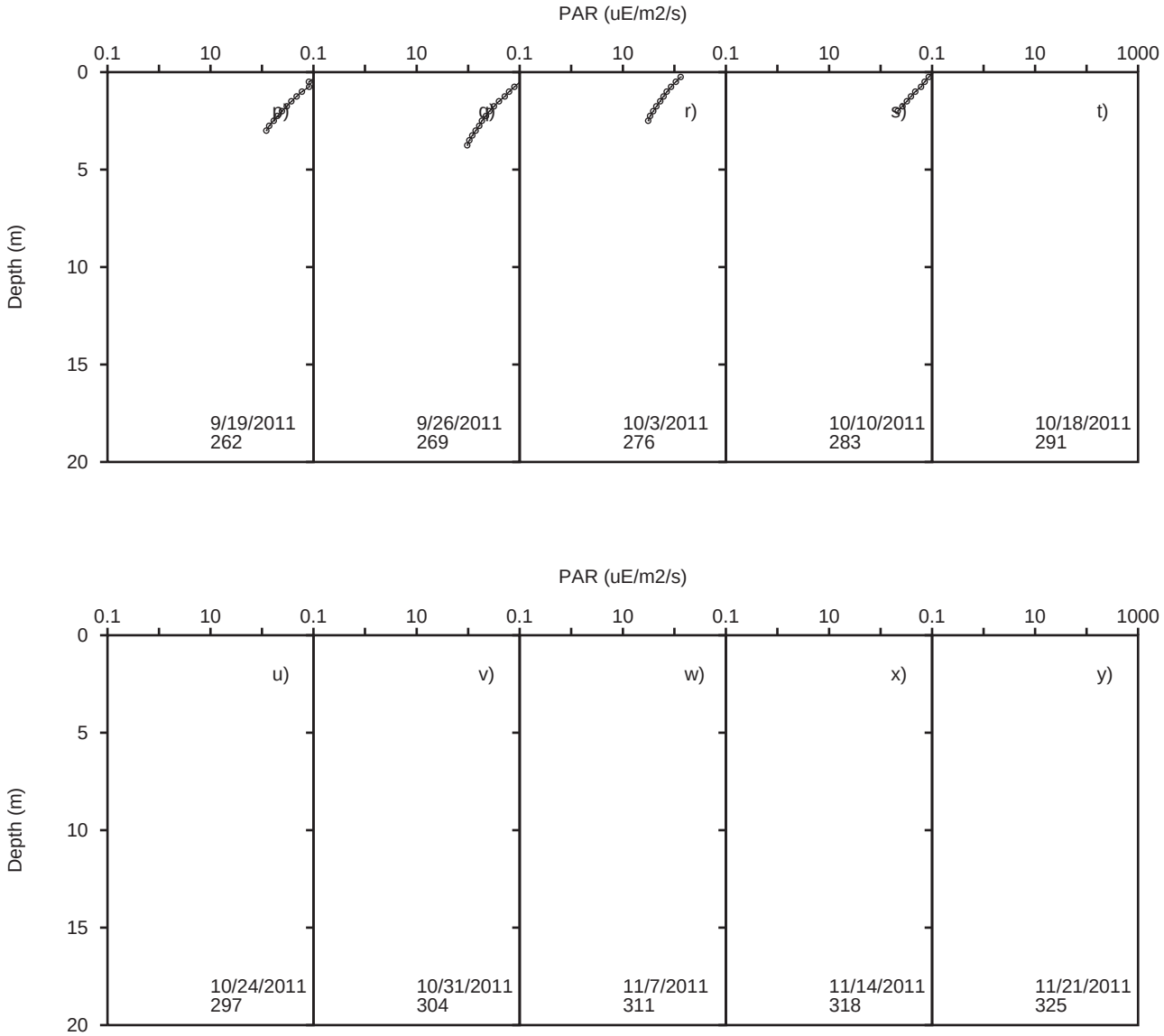


2011 PAR Profiles for Onondaga Lake ISUS-44



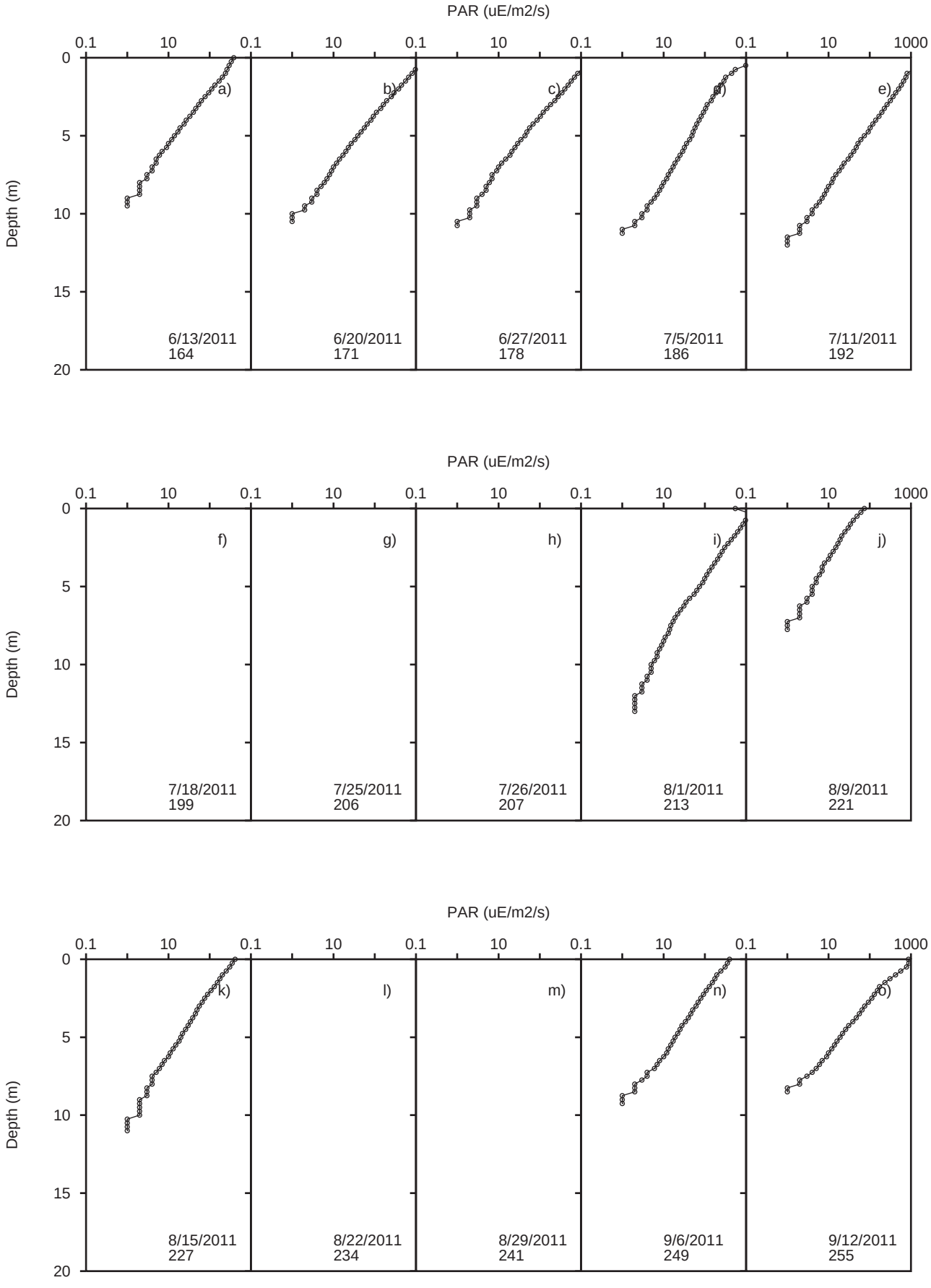
Fri Feb 03 14:56:30 2012

2011 PAR Profiles for Onondaga Lake ISUS-44



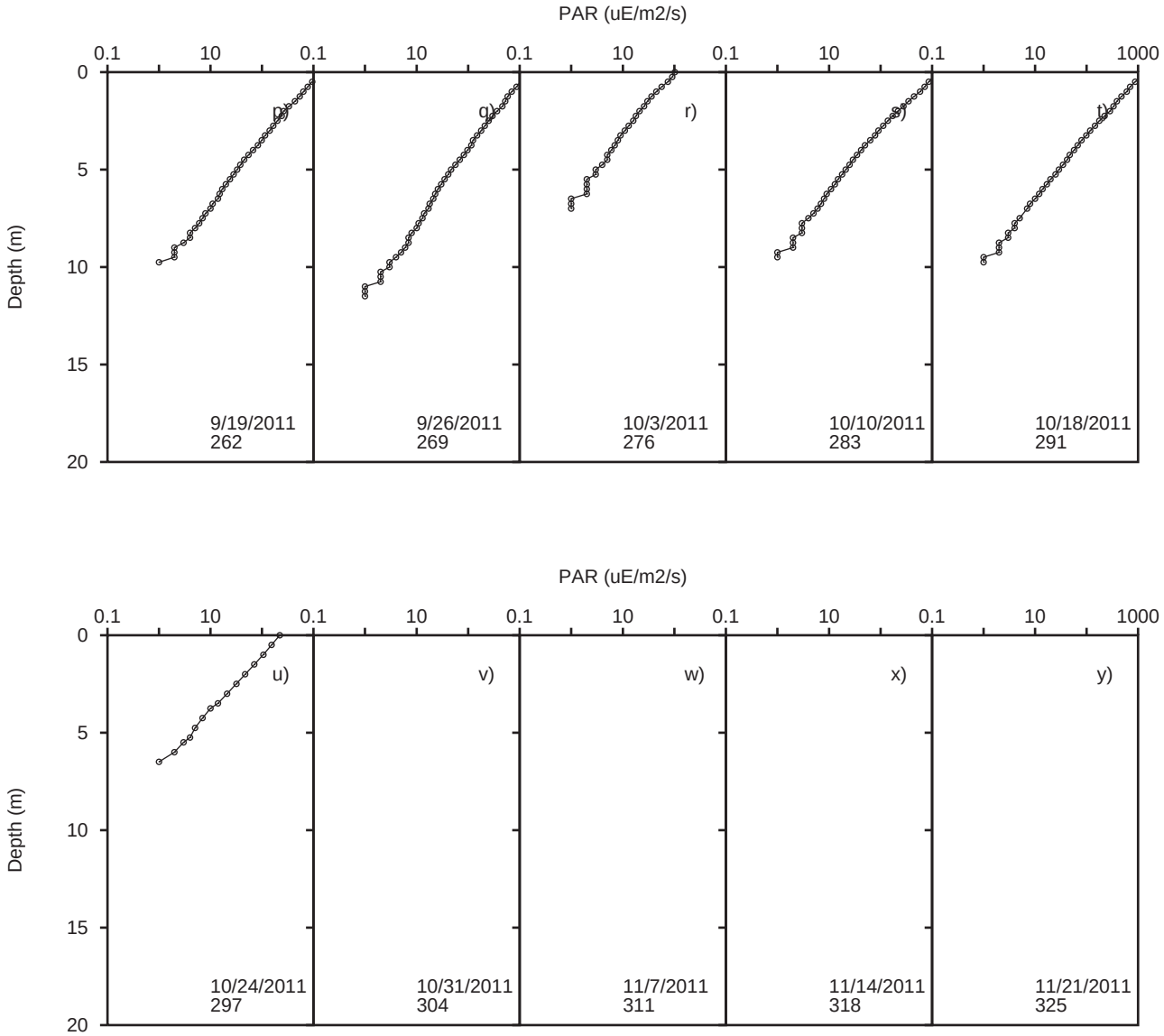
Fri Feb 03 14:56:30 2012

2011 PAR Profiles for Onondaga Lake ISUS-45



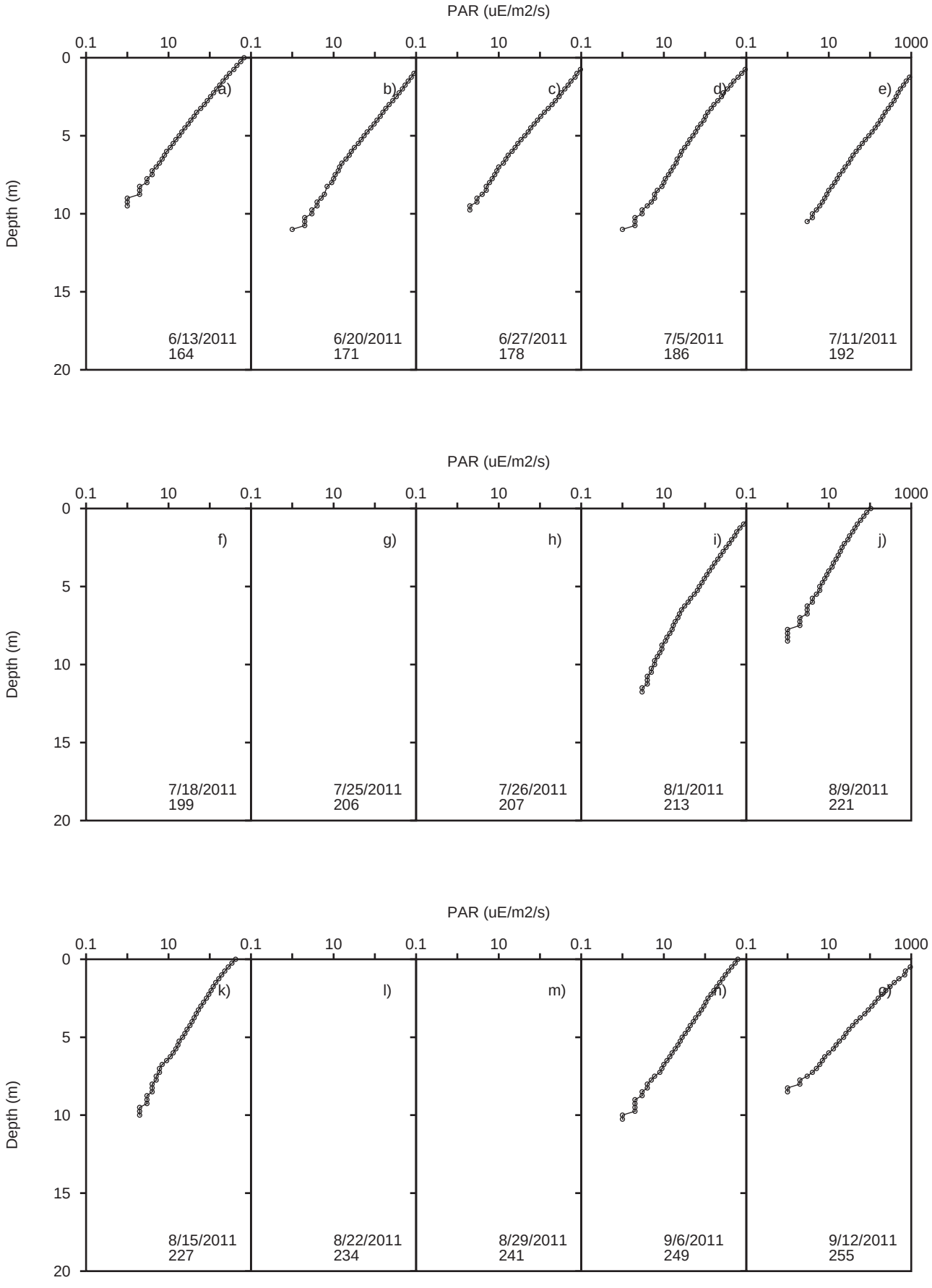
Fri Feb 03 14:57:14 2012

2011 PAR Profiles for Onondaga Lake ISUS-45



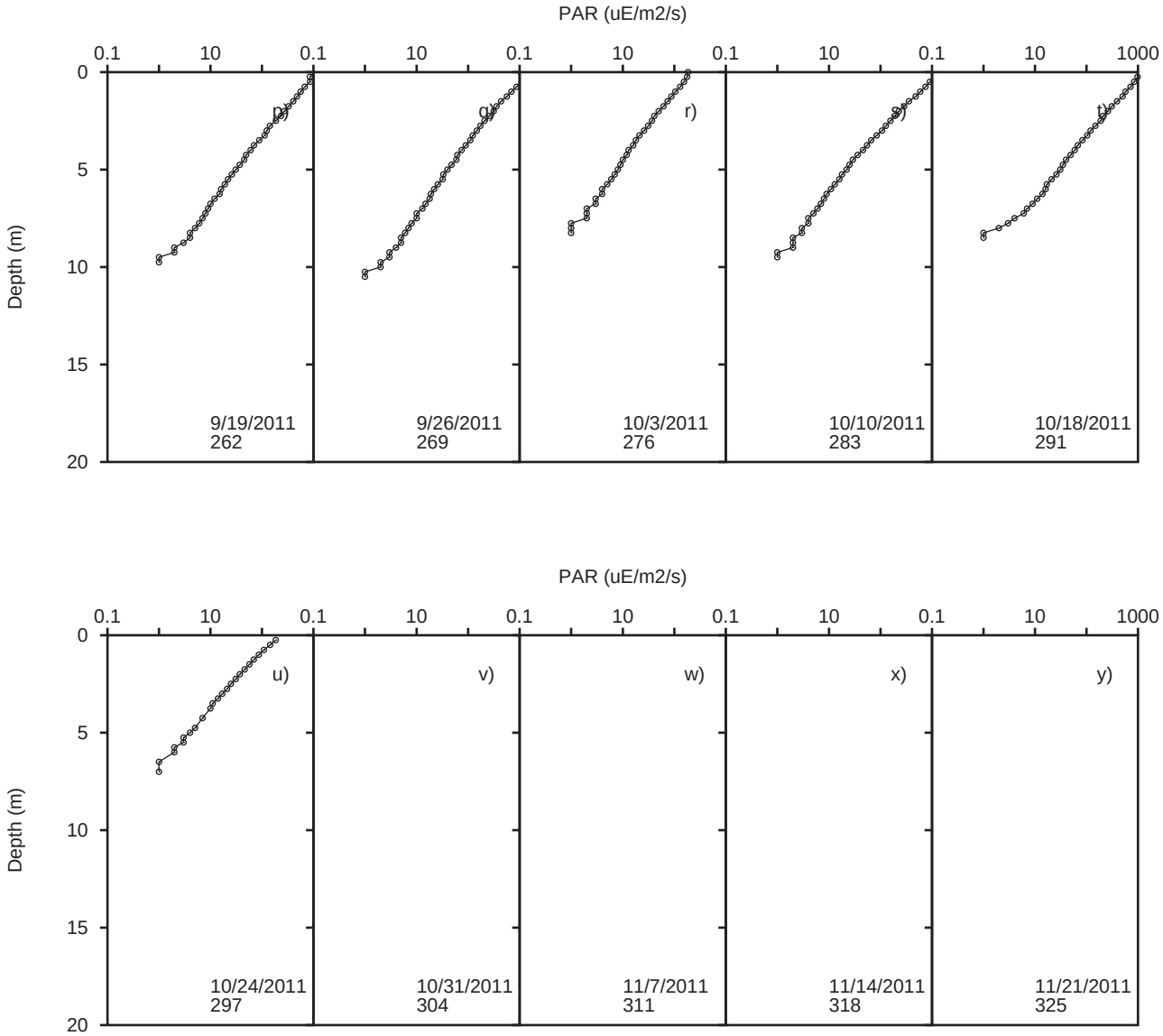
Fri Feb 03 14:57:14 2012

2011 PAR Profiles for Onondaga Lake ISUS-46



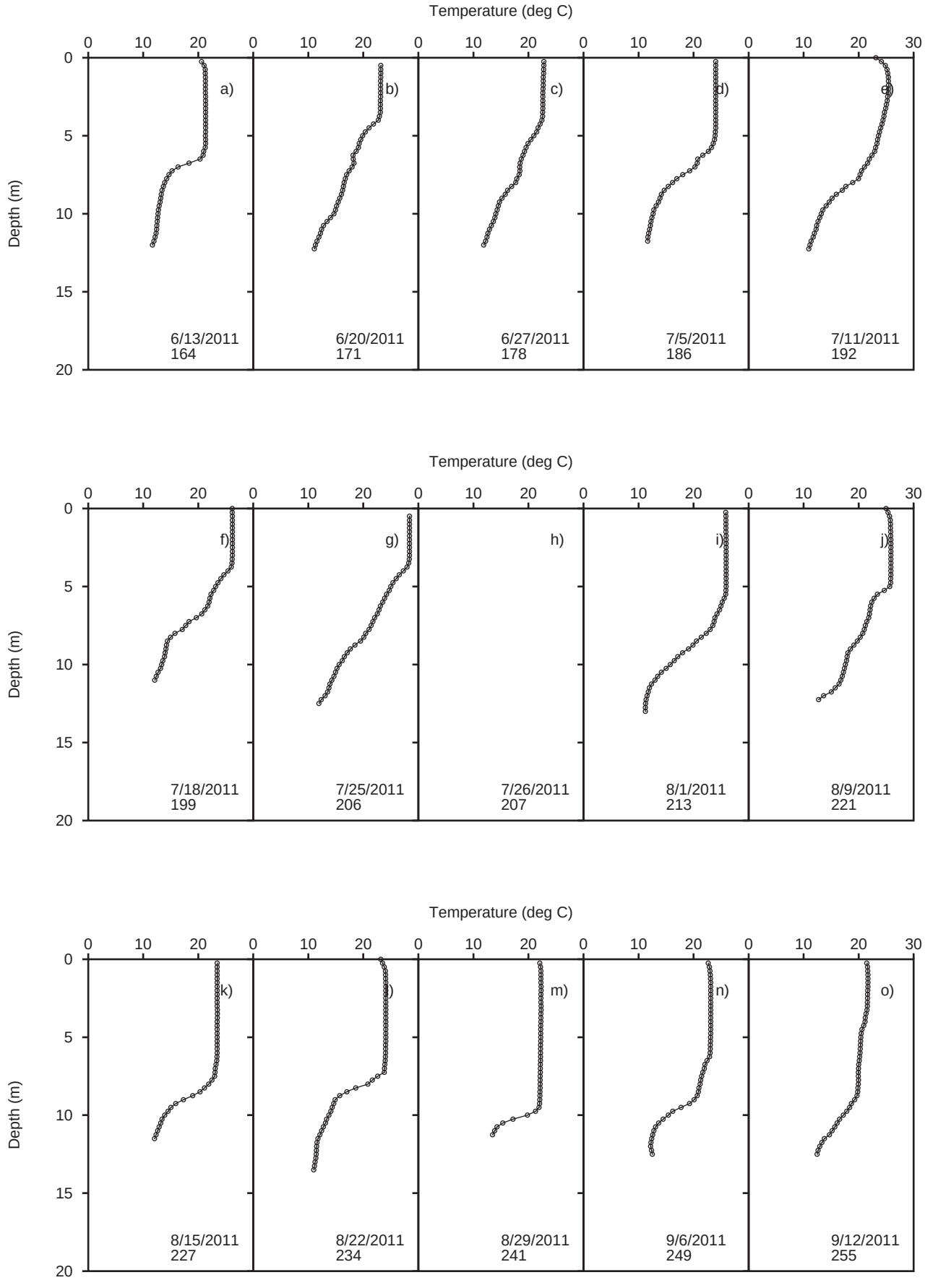
Fri Feb 03 14:58:00 2012

2011 PAR Profiles for Onondaga Lake ISUS-46



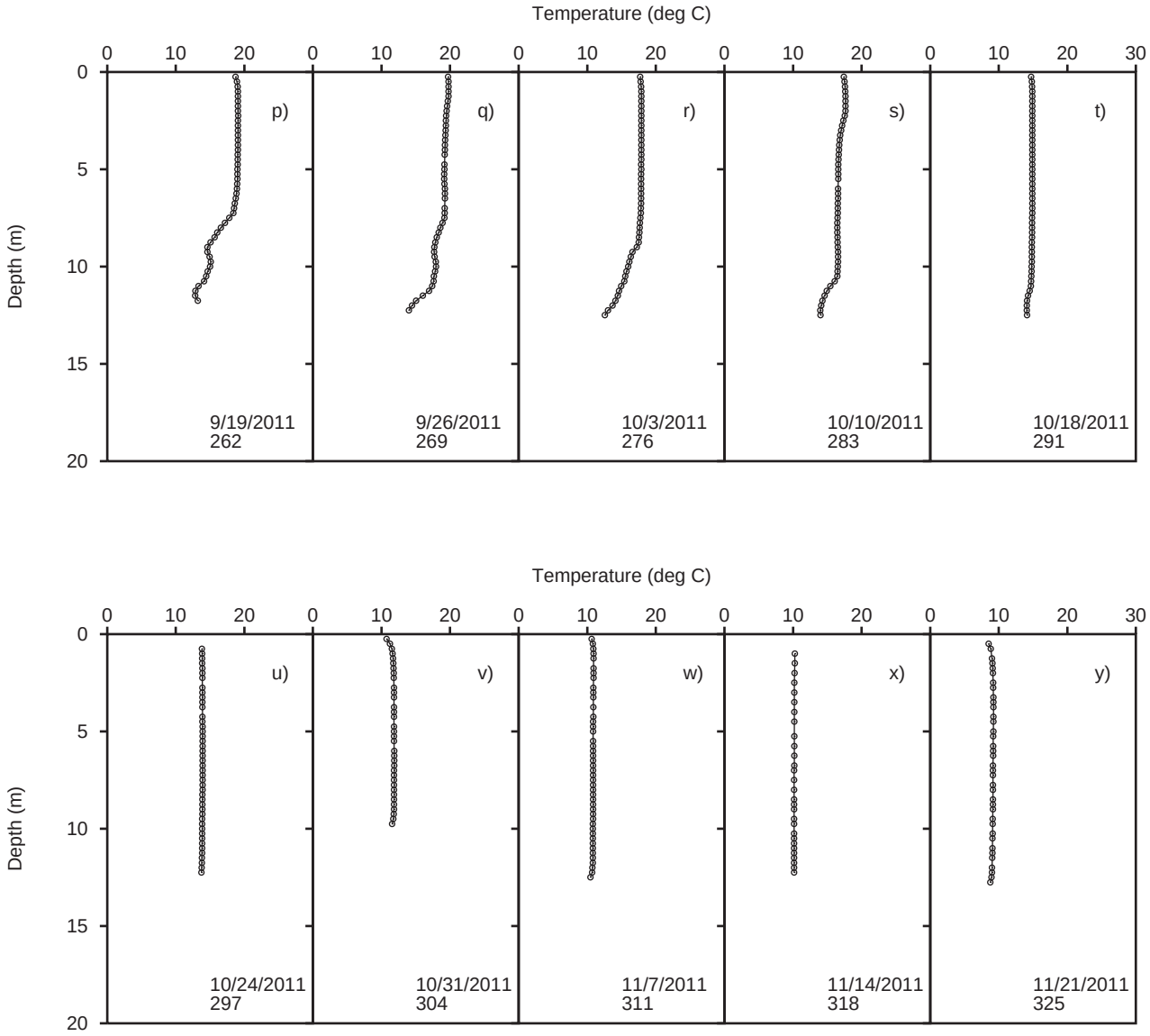
Fri Feb 03 14:58:00 2012

2011 Temperature Profiles for Onondaga Lake ISUS-5



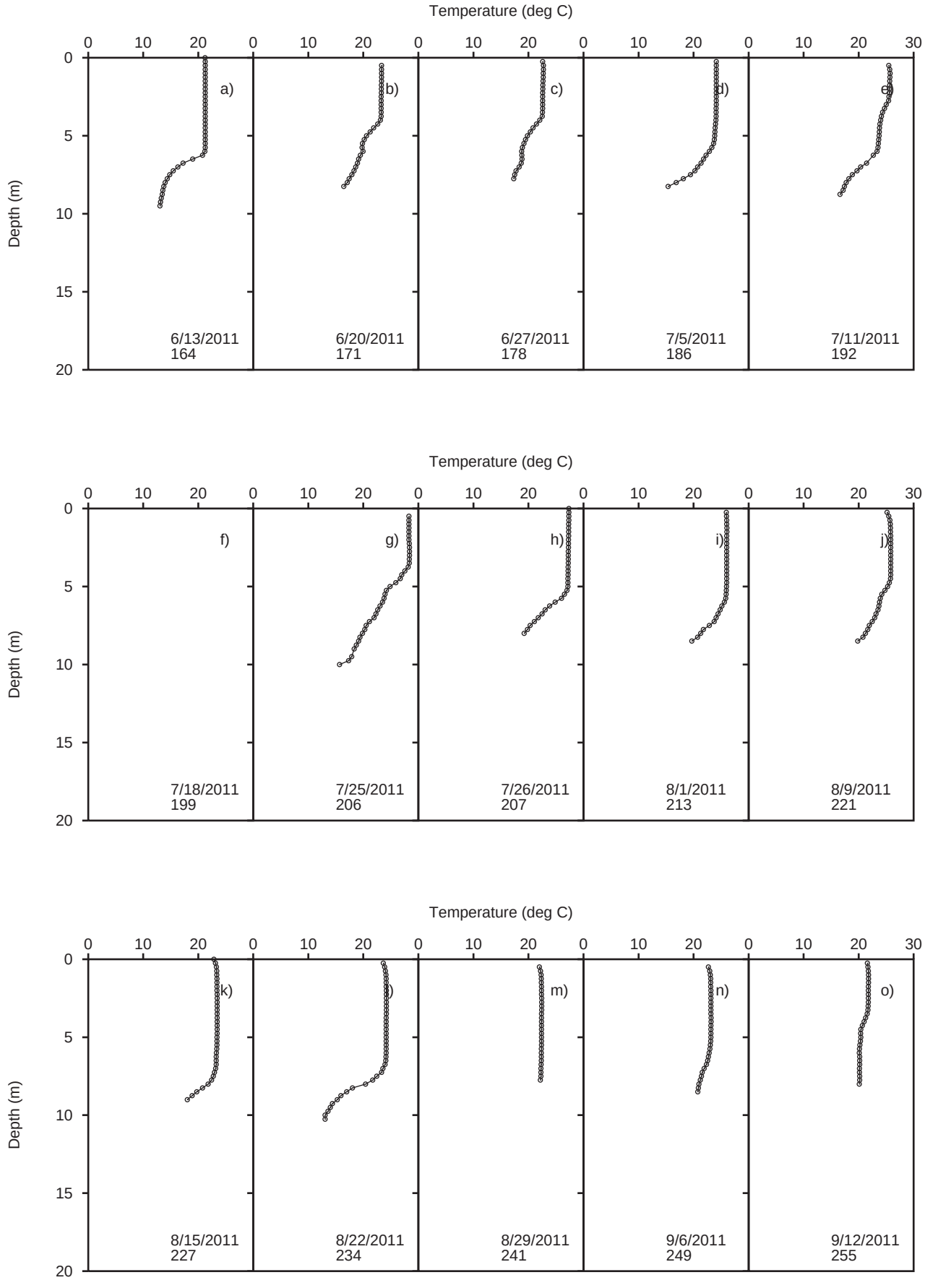
Fri Feb 03 14:18:54 2012

2011 Temperature Profiles for Onondaga Lake ISUS-5



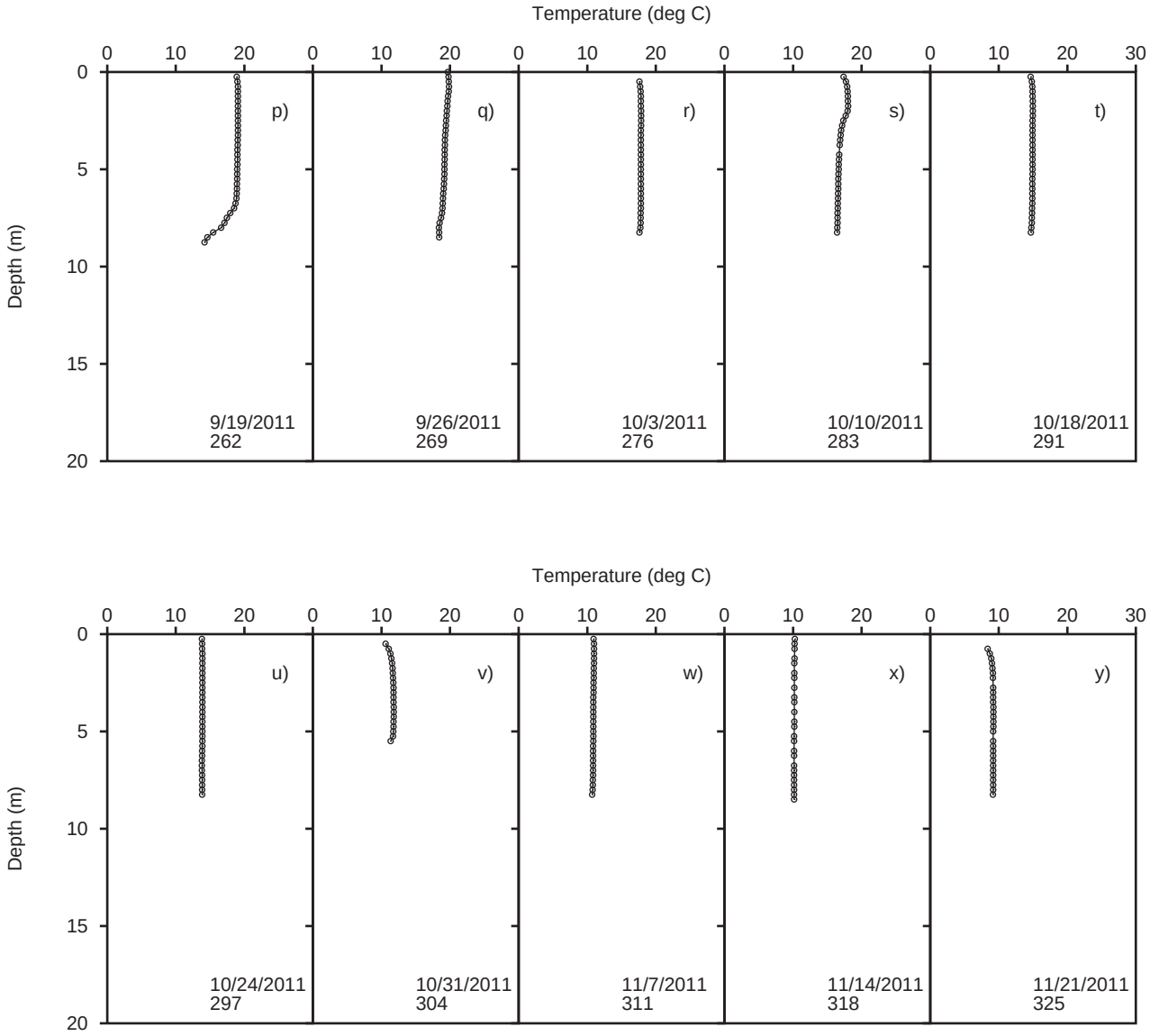
Fri Feb 03 14:18:54 2012

2011 Temperature Profiles for Onondaga Lake ISUS-6



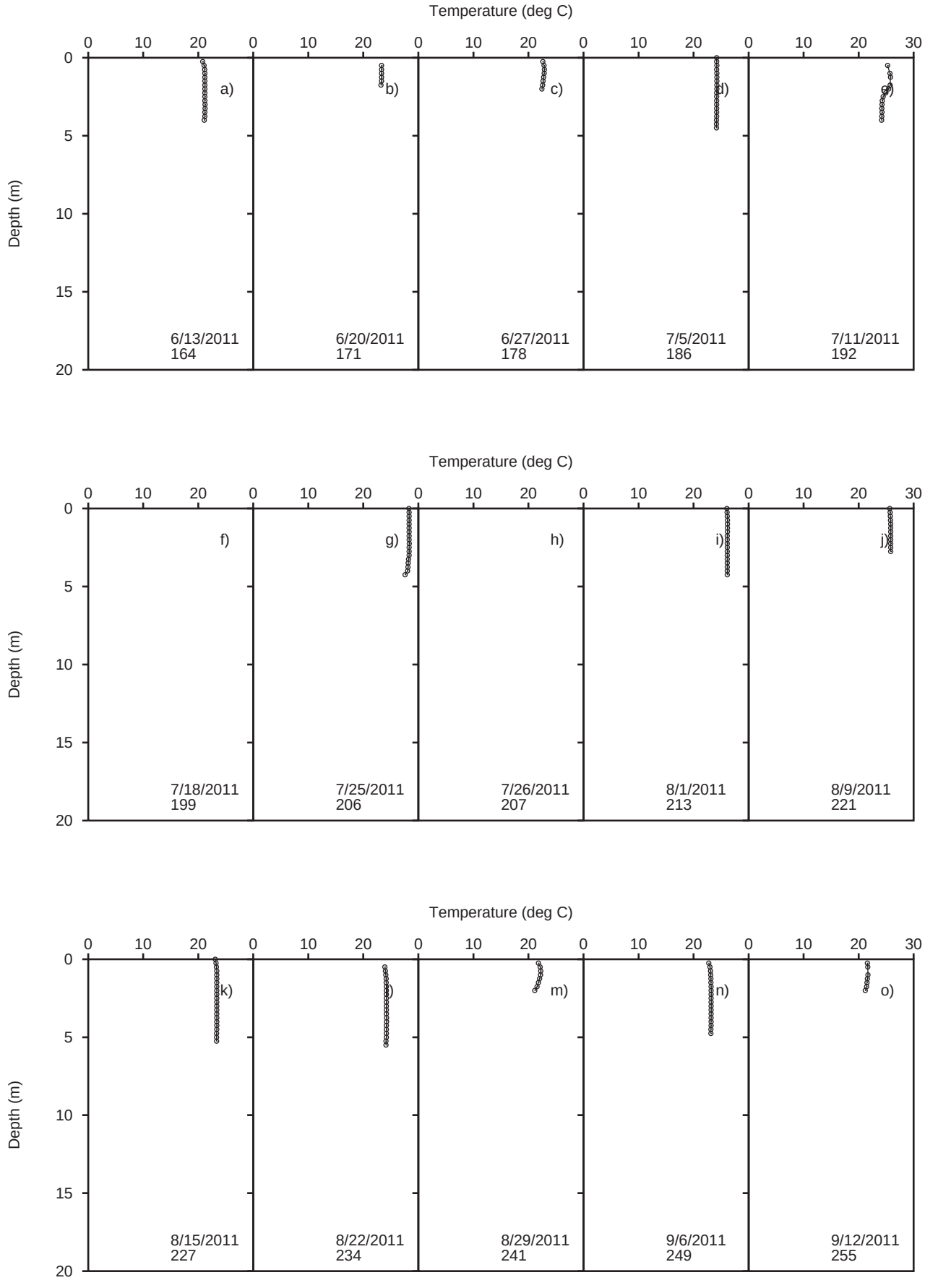
Fri Feb 03 14:22:24 2012

2011 Temperature Profiles for Onondaga Lake ISUS-6



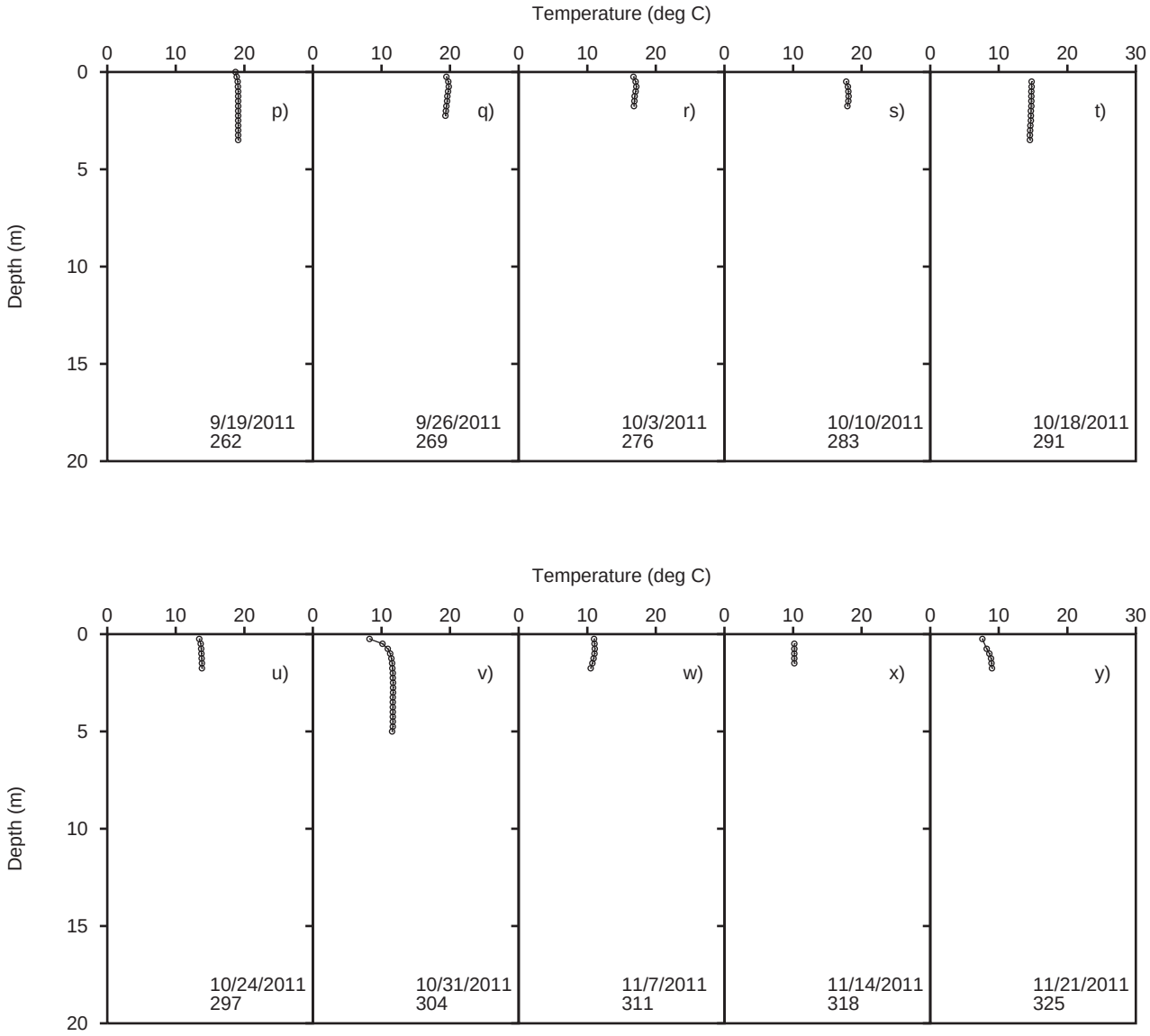
Fri Feb 03 14:22:24 2012

2011 Temperature Profiles for Onondaga Lake ISUS-7



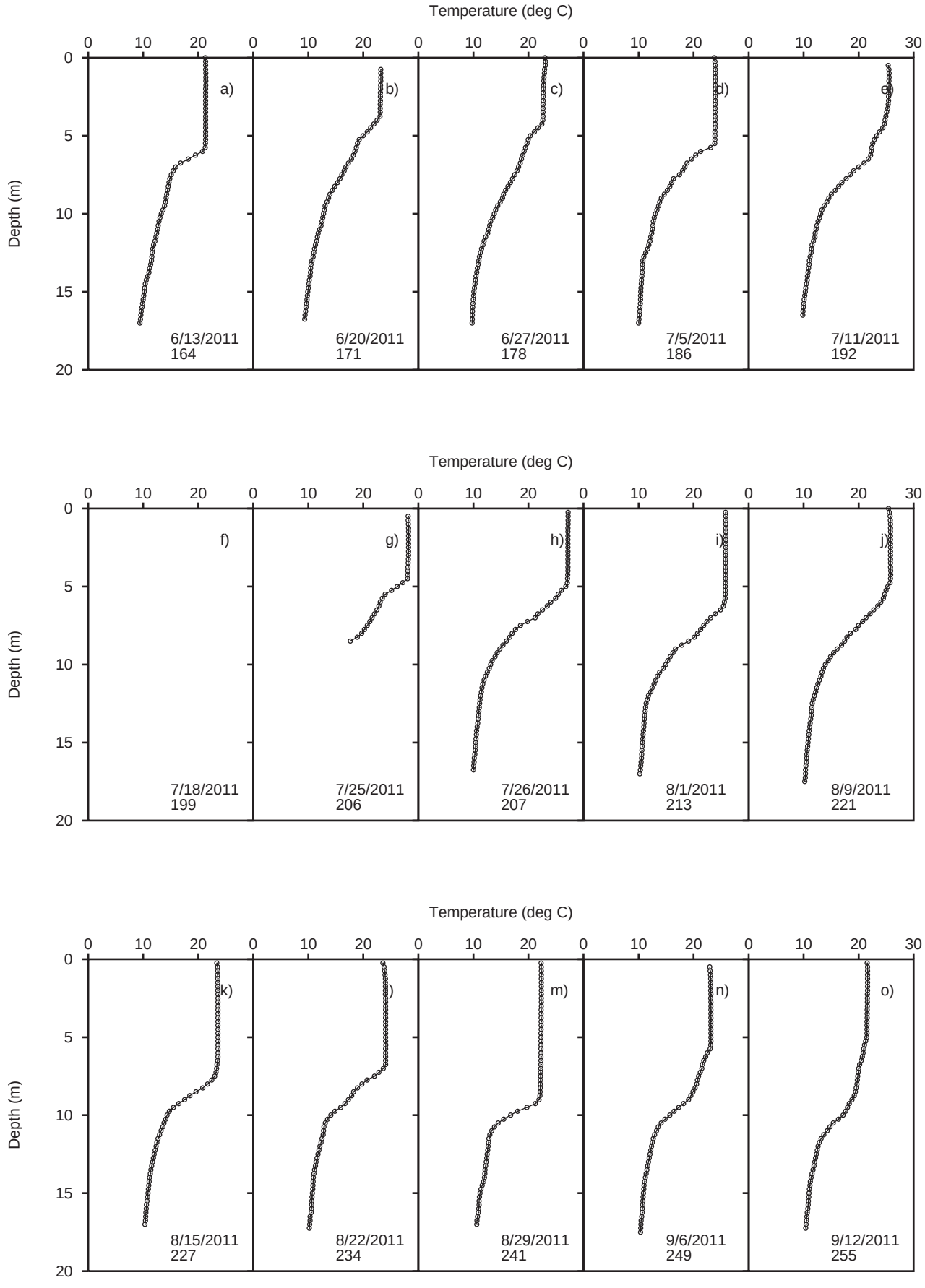
Fri Feb 03 14:26:32 2012

2011 Temperature Profiles for Onondaga Lake ISUS-7



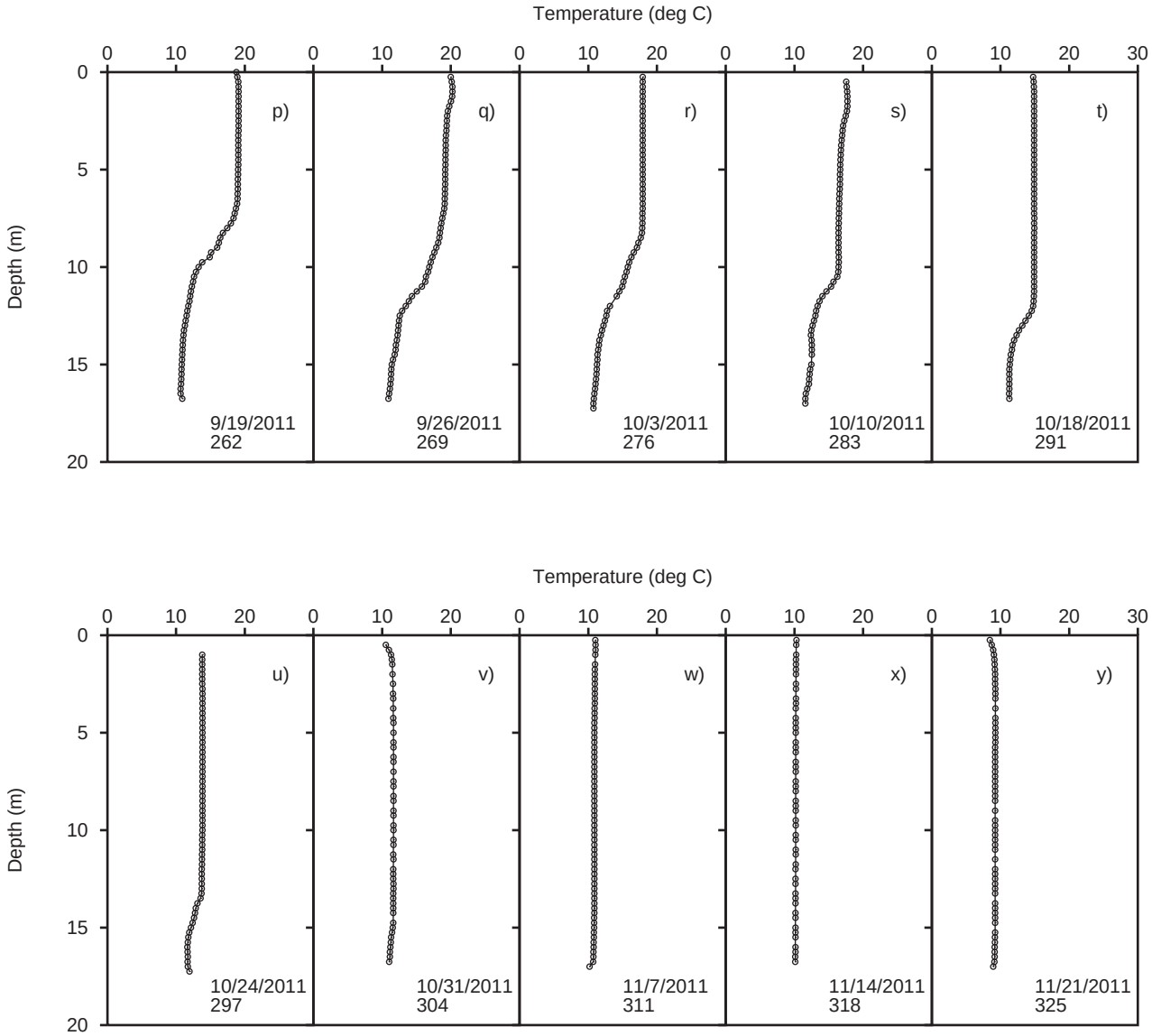
Fri Feb 03 14:26:32 2012

2011 Temperature Profiles for Onondaga Lake ISUS-8



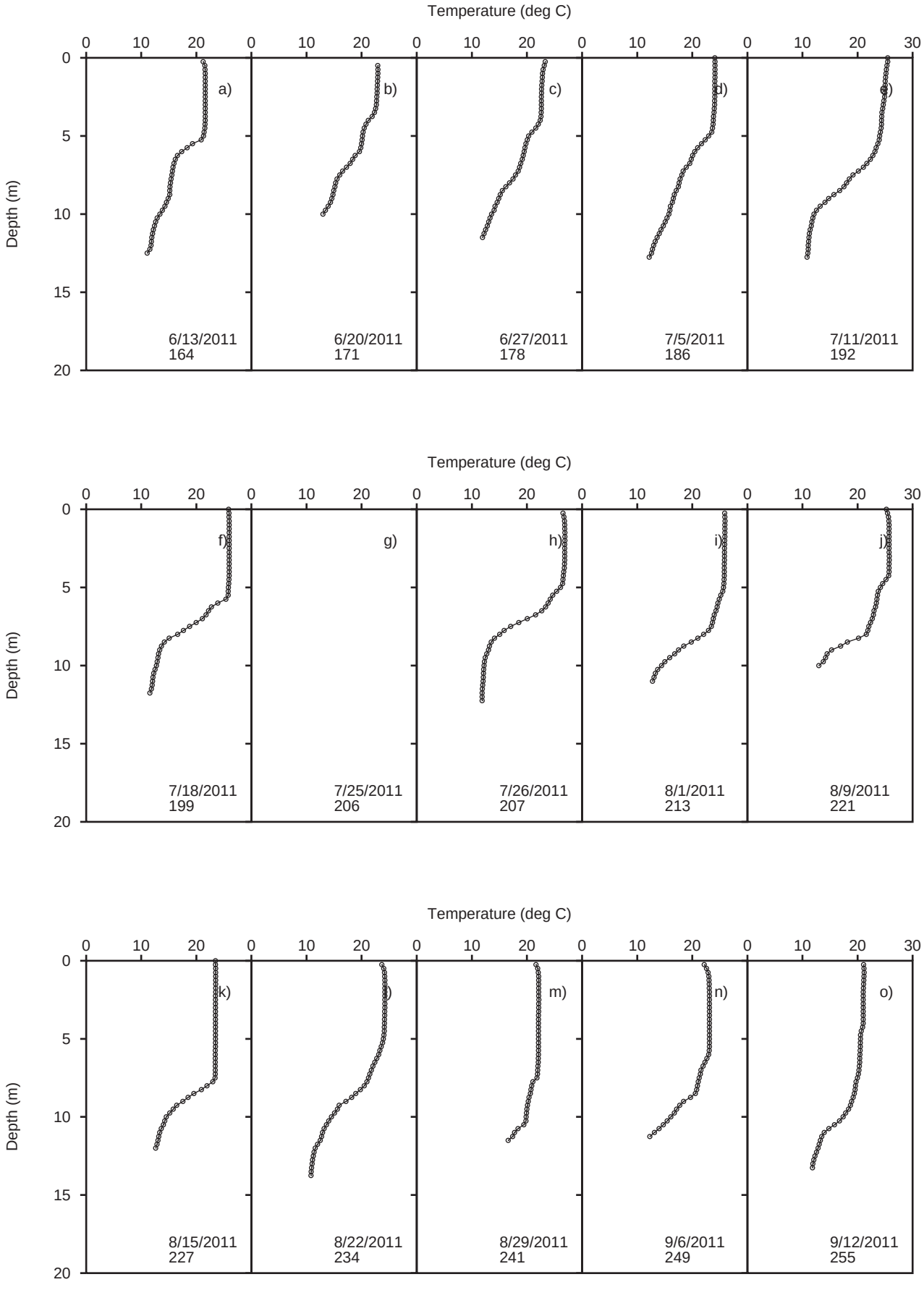
Fri Feb 03 14:30:09 2012

2011 Temperature Profiles for Onondaga Lake ISUS-8



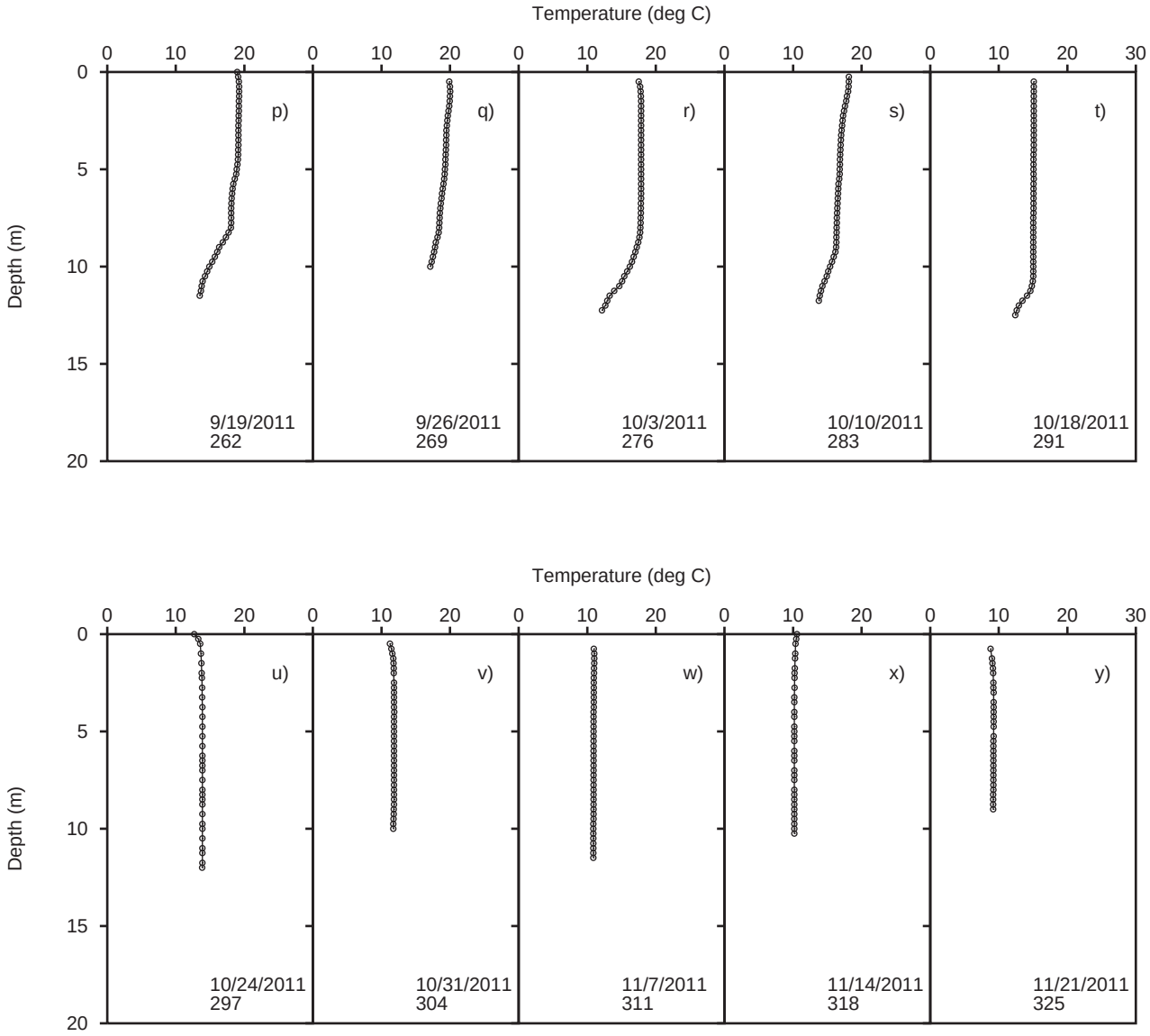
Fri Feb 03 14:30:09 2012

2011 Temperature Profiles for Onondaga Lake ISUS-9



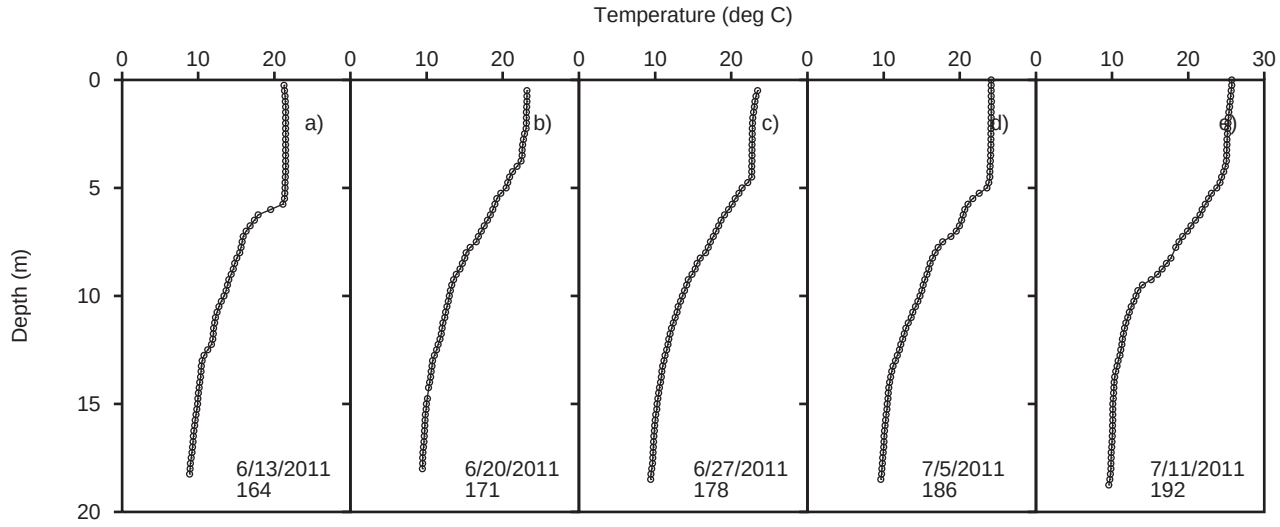
Fri Feb 03 14:37:08 2012

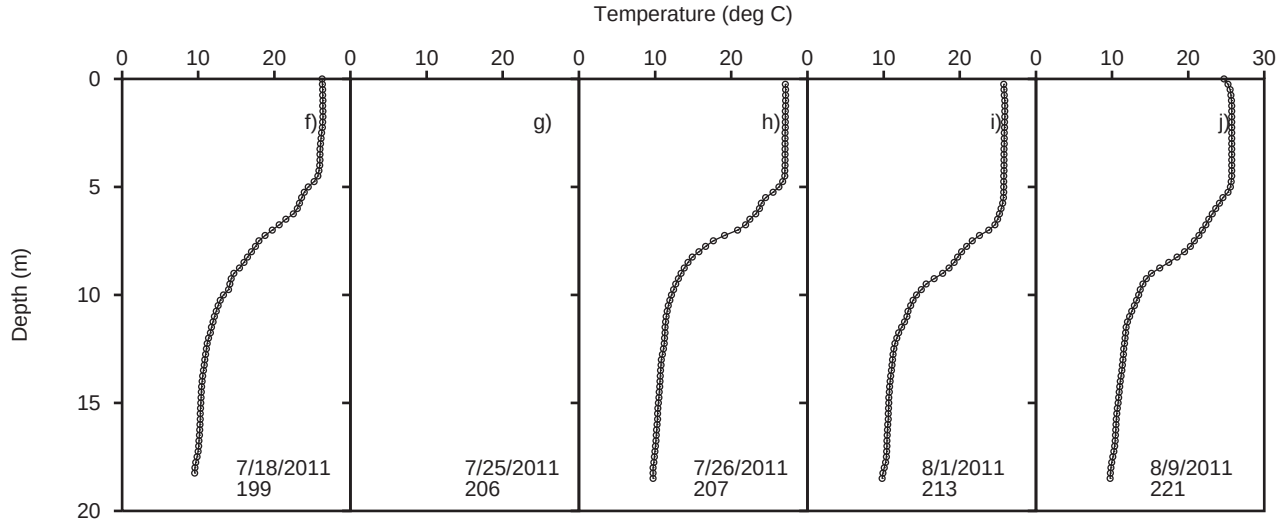
2011 Temperature Profiles for Onondaga Lake ISUS-9

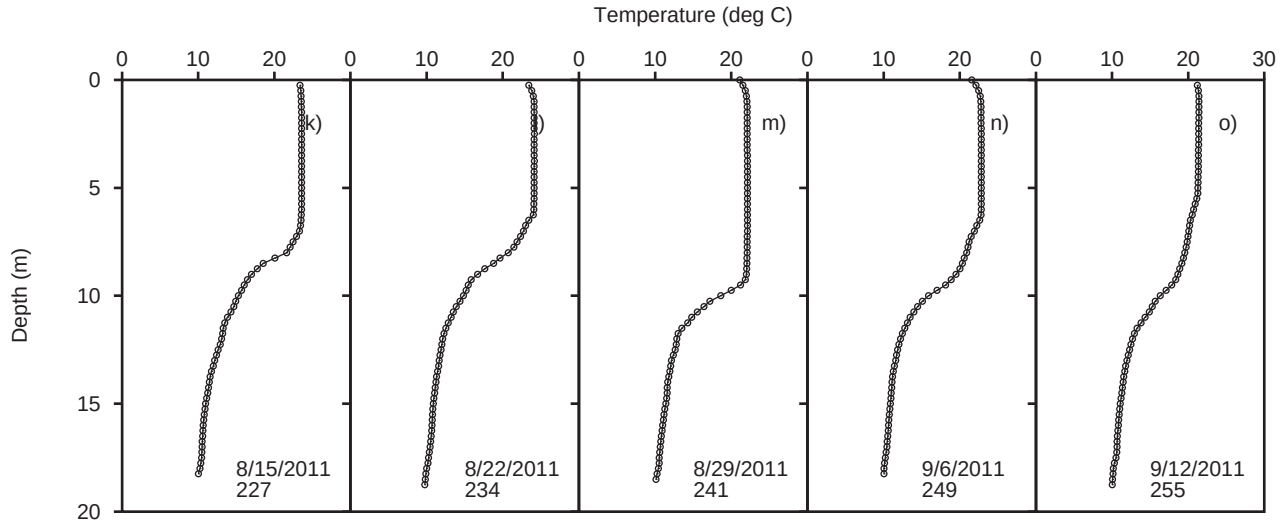


Fri Feb 03 14:37:08 2012

2011 Temperature Profiles for Onondaga Lake ISUS-11

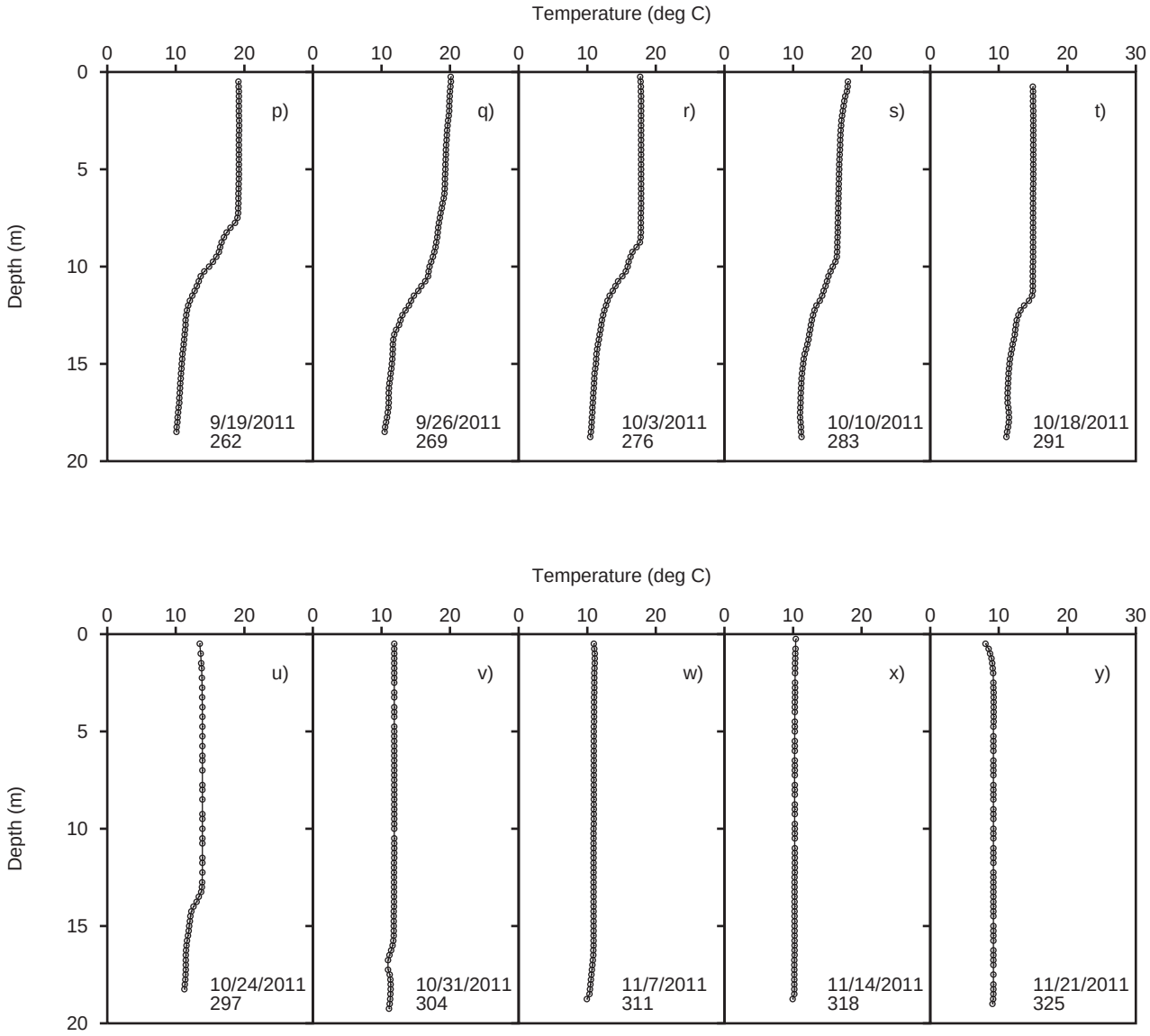






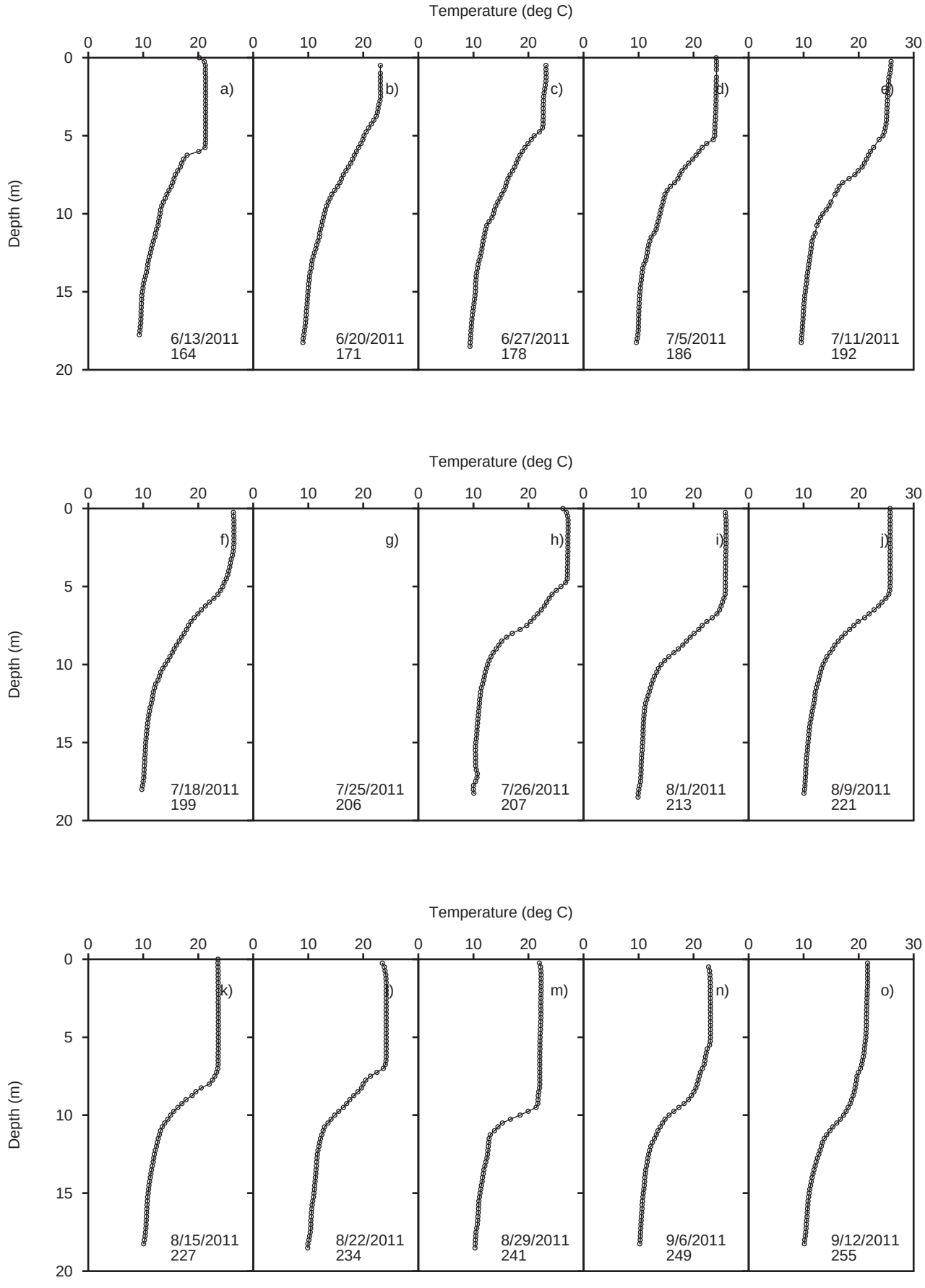
Fri Feb 03 14:40:56 2012

2011 Temperature Profiles for Onondaga Lake ISUS-11



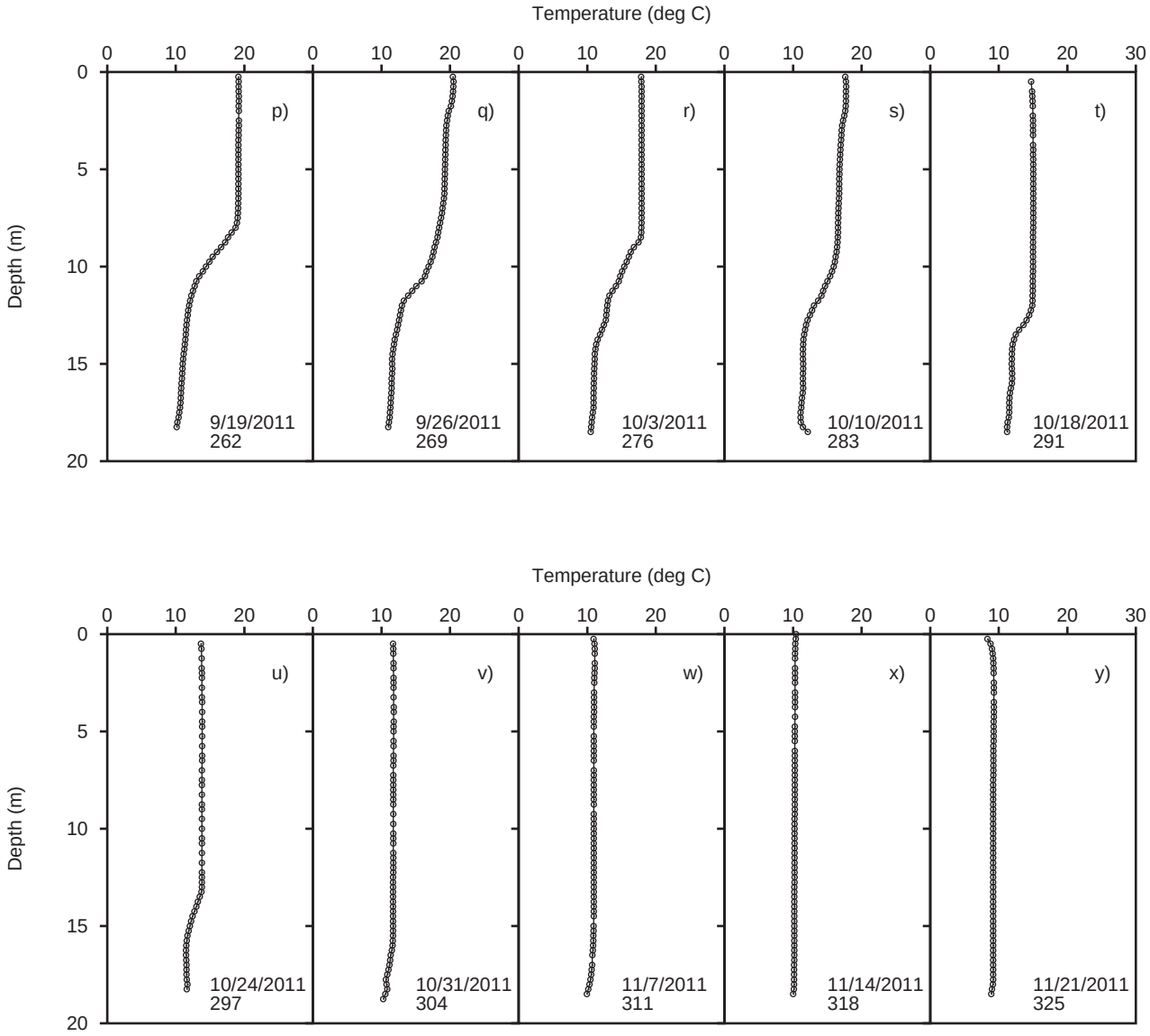
Fri Feb 03 14:40:56 2012

2011 Temperature Profiles for Onondaga Lake ISUS-12



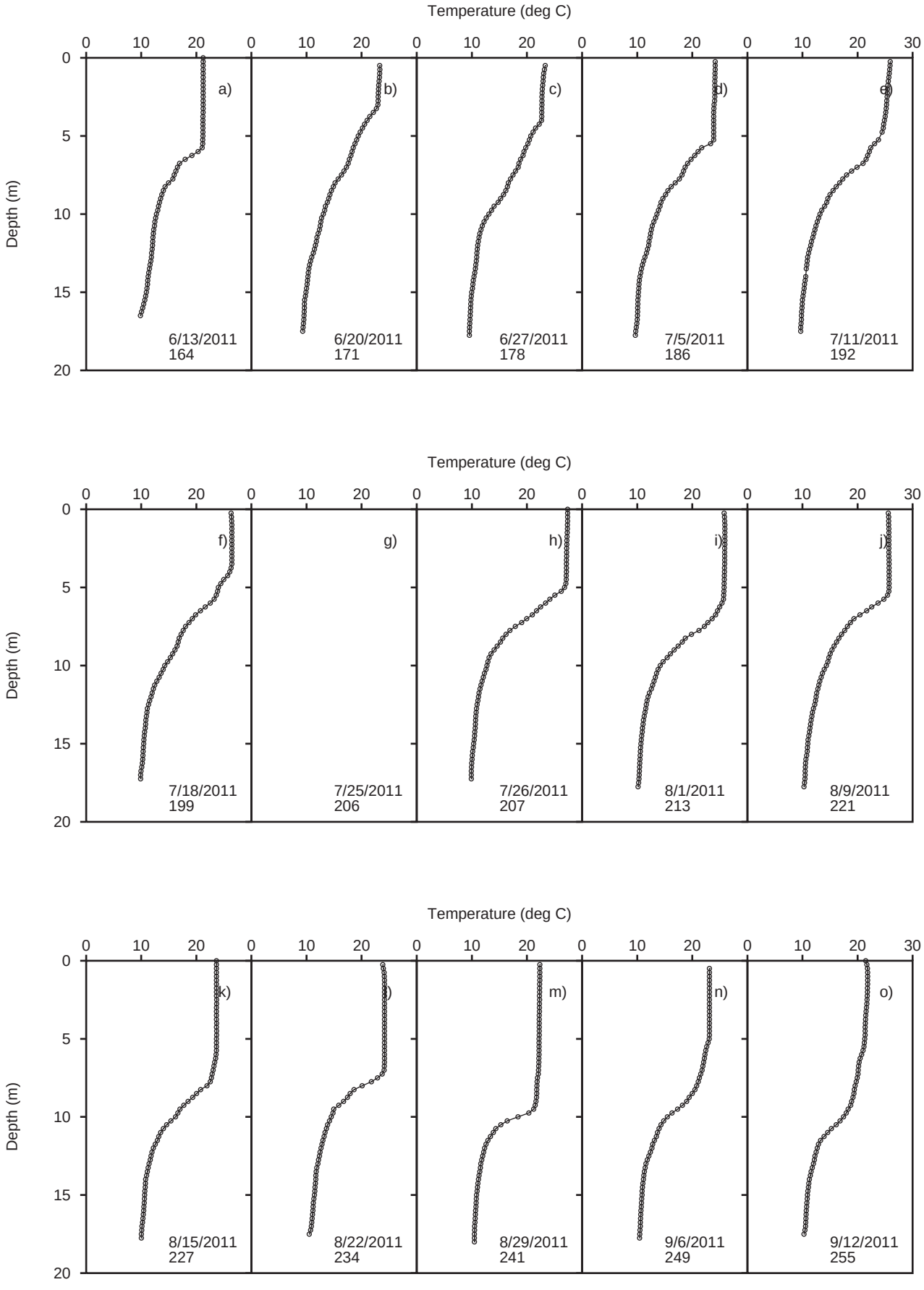
Fri Feb 03 14:42:46 2012

2011 Temperature Profiles for Onondaga Lake ISUS-12



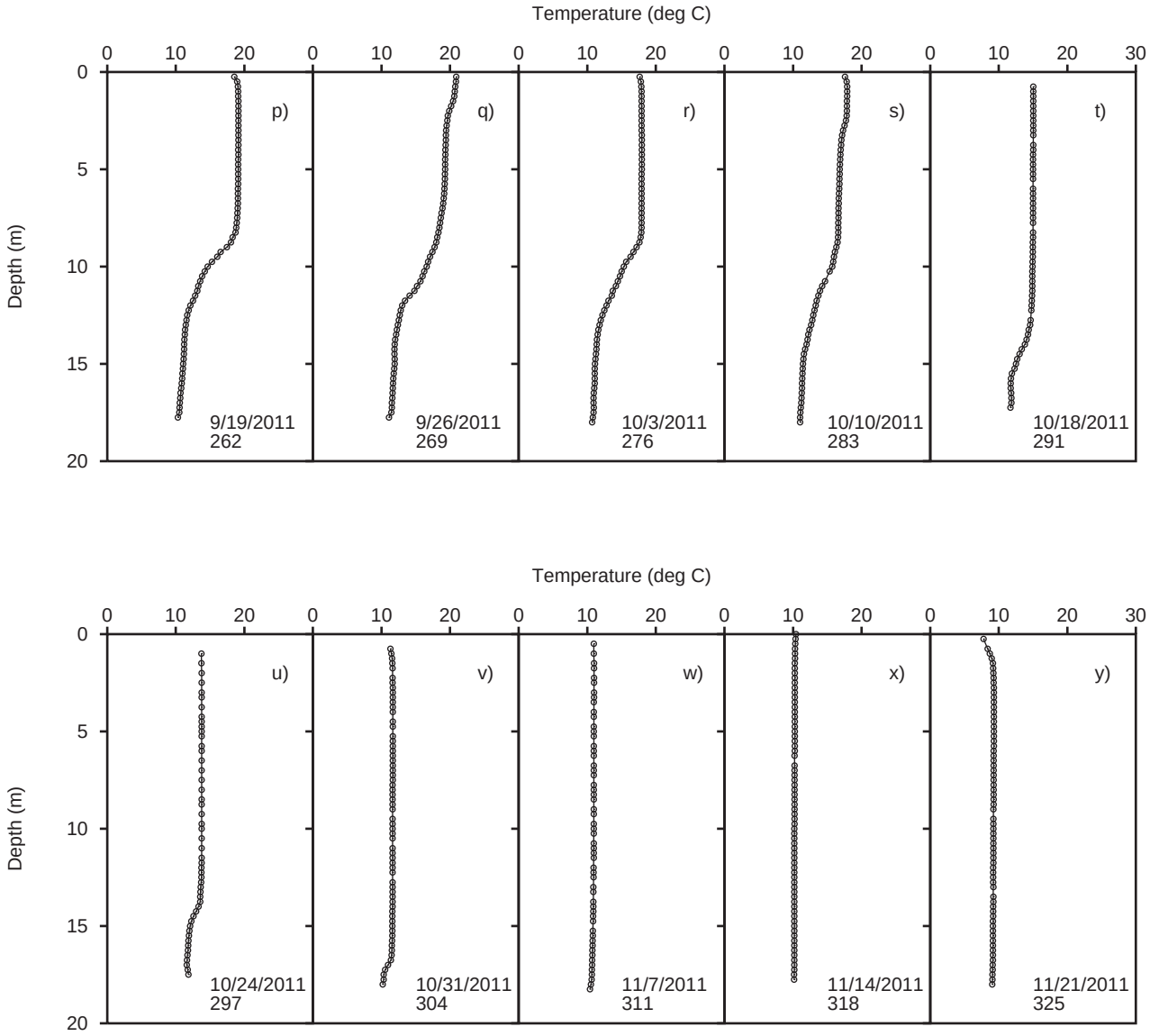
Fri Feb 03 14:42:47 2012

2011 Temperature Profiles for Onondaga Lake ISUS-13



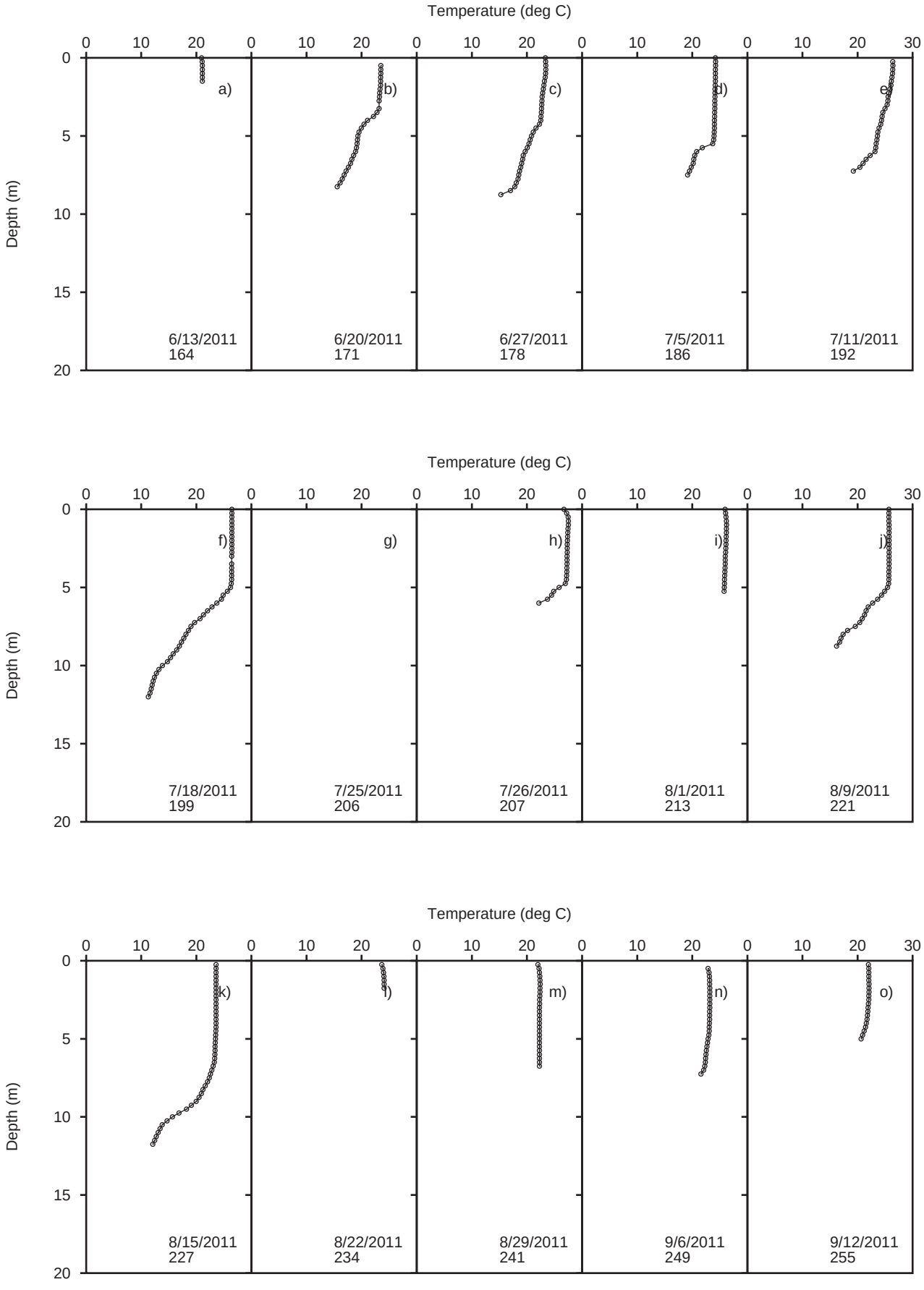
Fri Feb 03 14:45:21 2012

2011 Temperature Profiles for Onondaga Lake ISUS-13



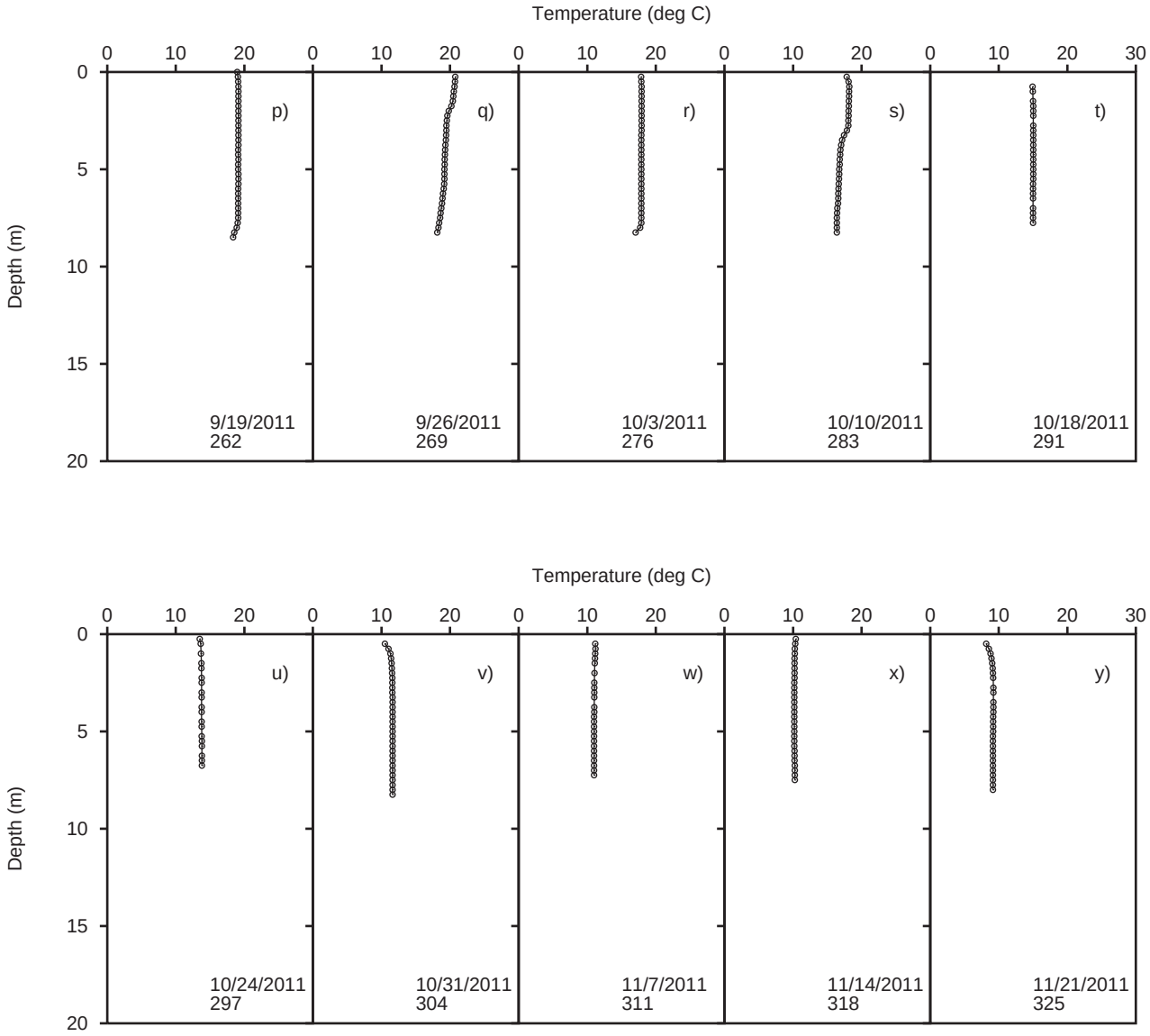
Fri Feb 03 14:45:21 2012

2011 Temperature Profiles for Onondaga Lake ISUS-15



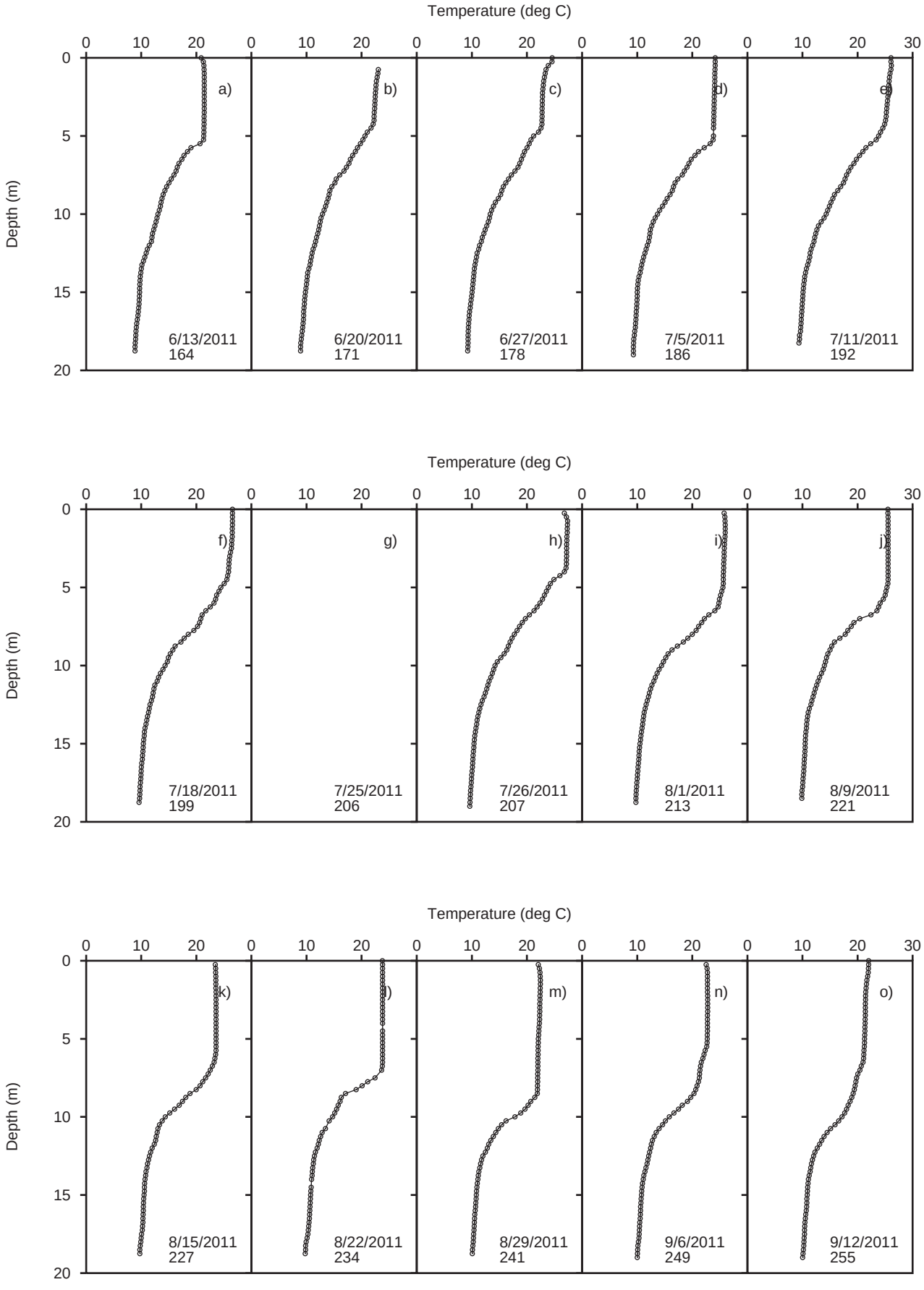
Fri Feb 03 14:46:58 2012

2011 Temperature Profiles for Onondaga Lake ISUS-15



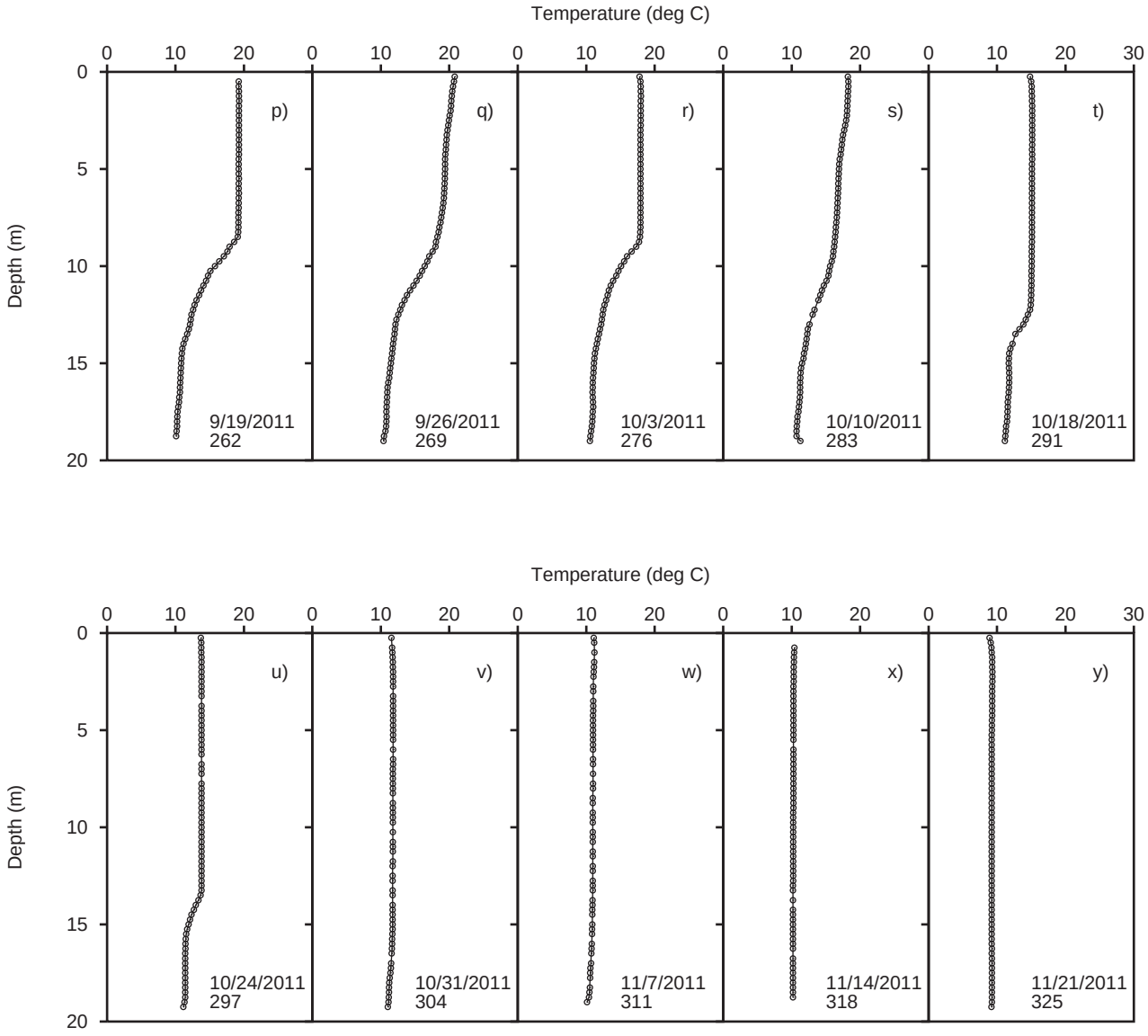
Fri Feb 03 14:46:58 2012

2011 Temperature Profiles for Onondaga Lake ISUS-18



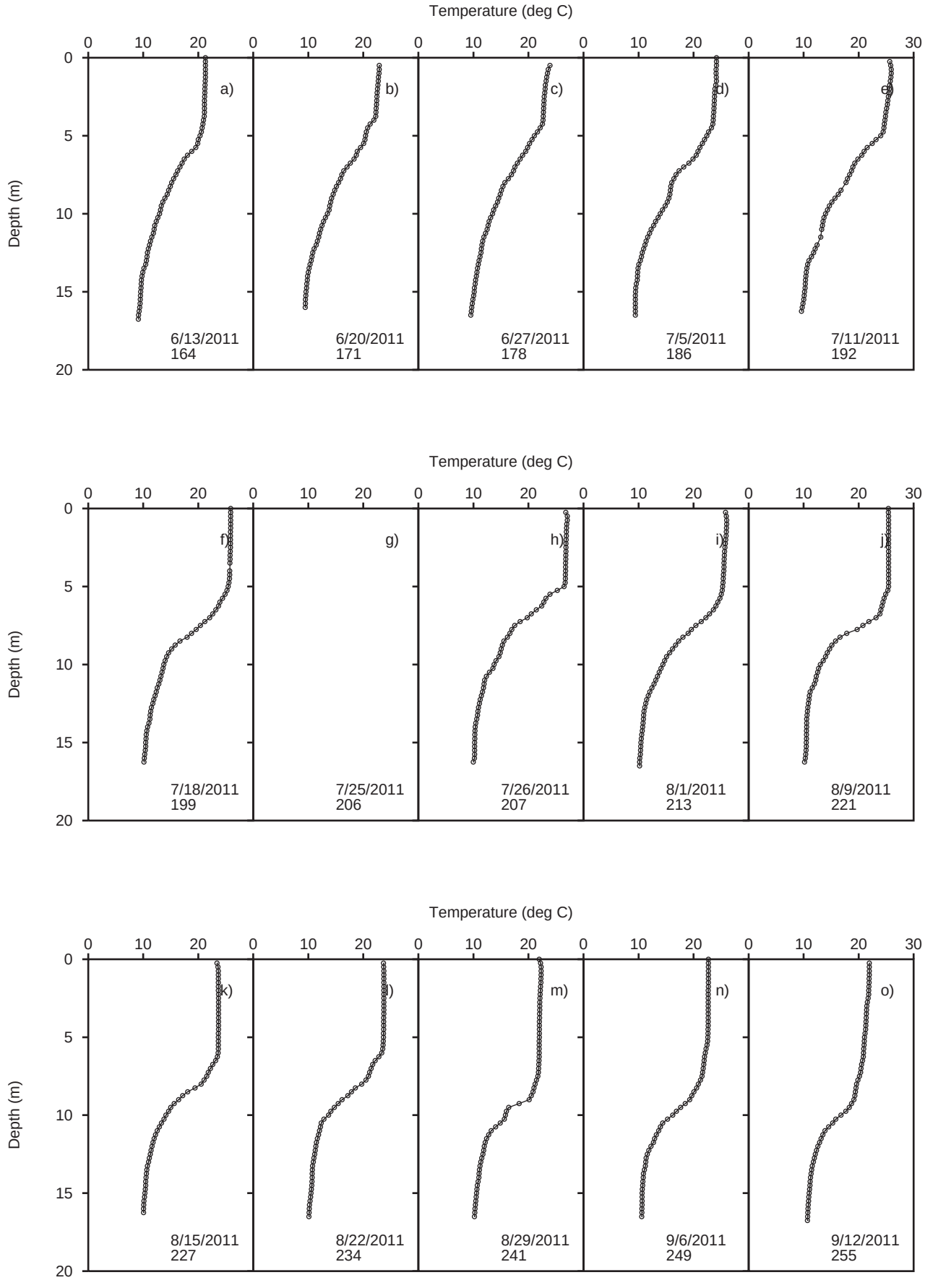
Fri Feb 03 14:49:12 2012

2011 Temperature Profiles for Onondaga Lake ISUS-18



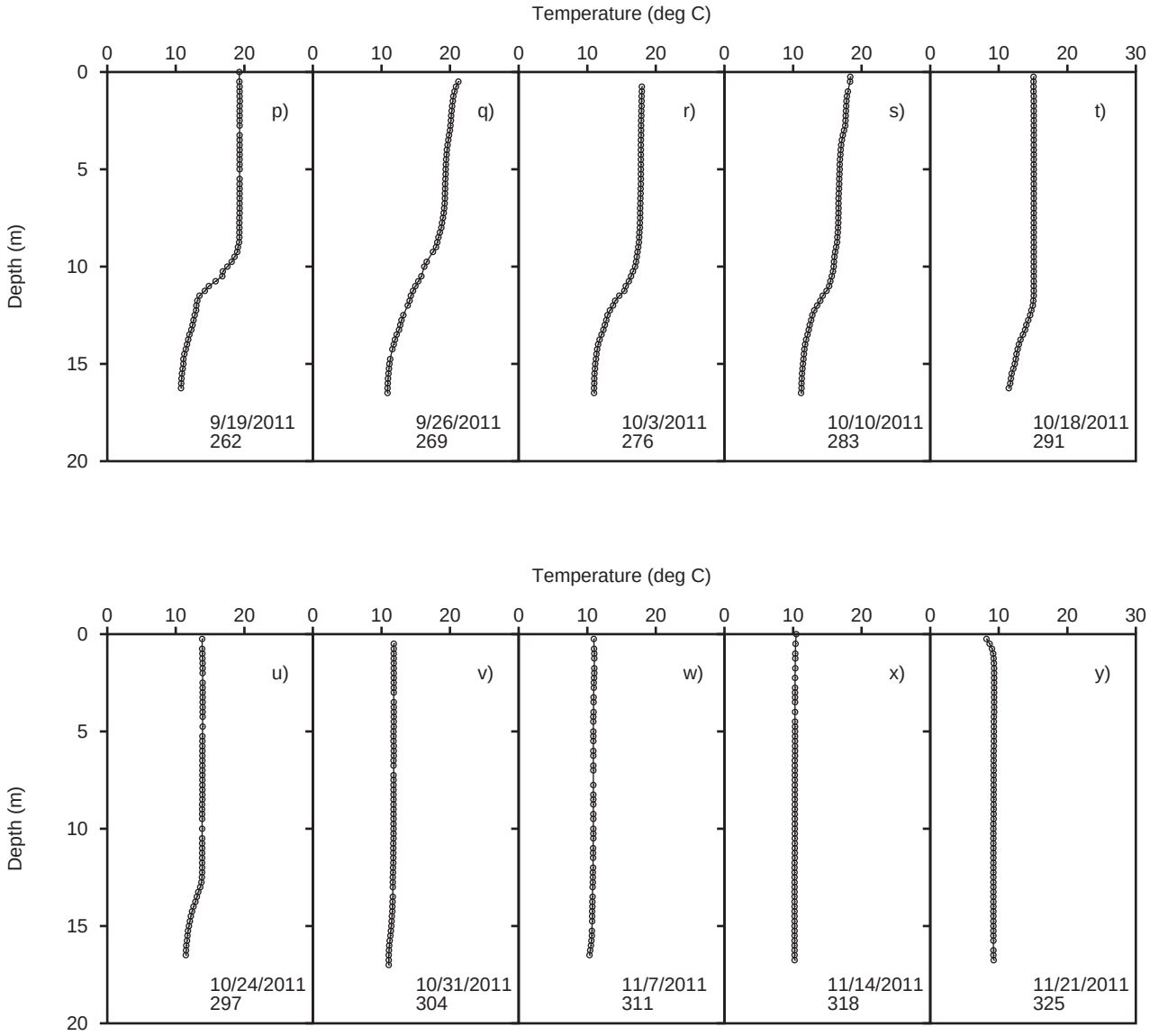
Fri Feb 03 14:49:12 2012

2011 Temperature Profiles for Onondaga Lake ISUS-22



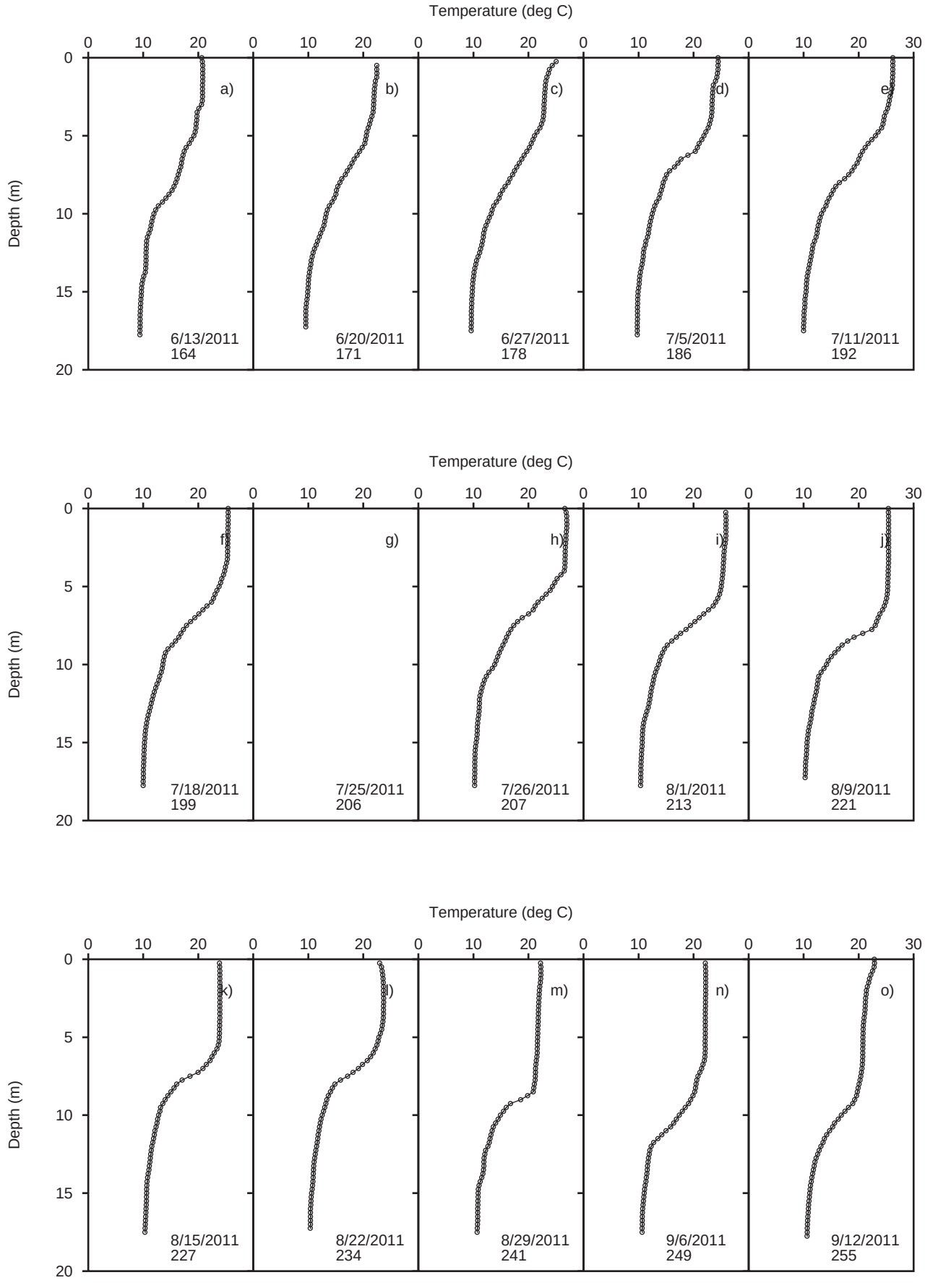
Fri Feb 03 14:51:07 2012

2011 Temperature Profiles for Onondaga Lake ISUS-22



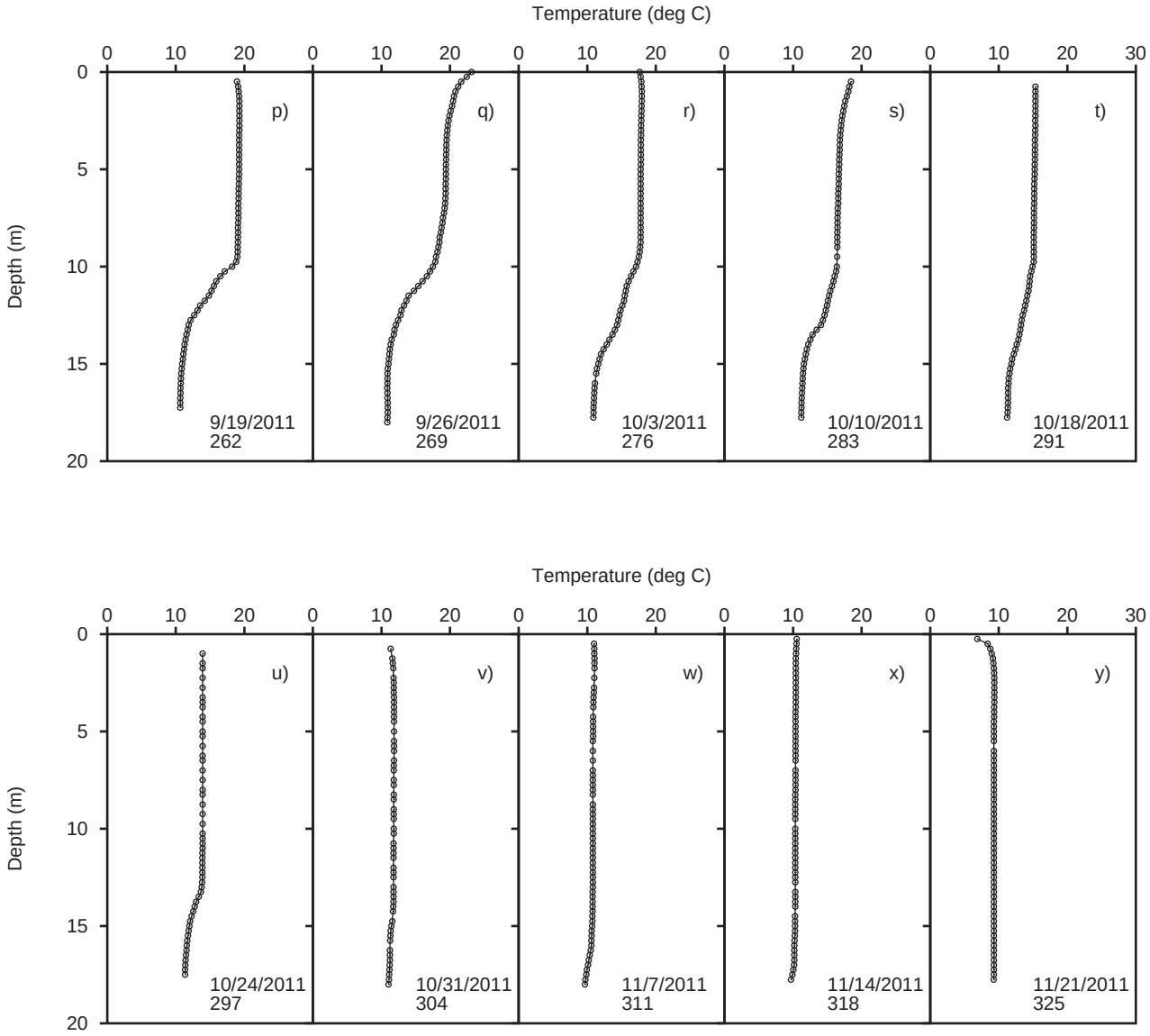
Fri Feb 03 14:51:07 2012

2011 Temperature Profiles for Onondaga Lake ISUS-27



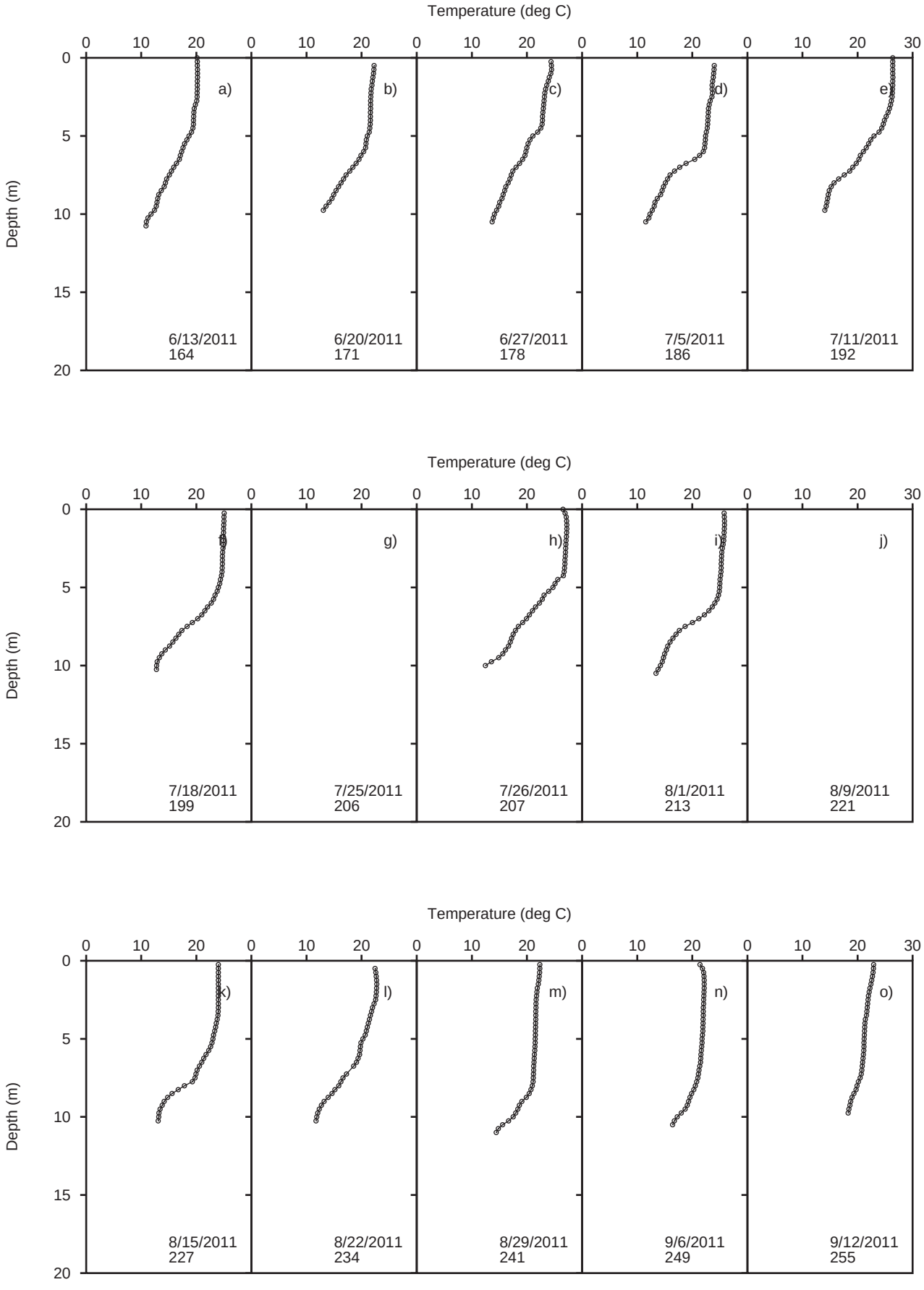
Fri Feb 03 14:53:39 2012

2011 Temperature Profiles for Onondaga Lake ISUS-27



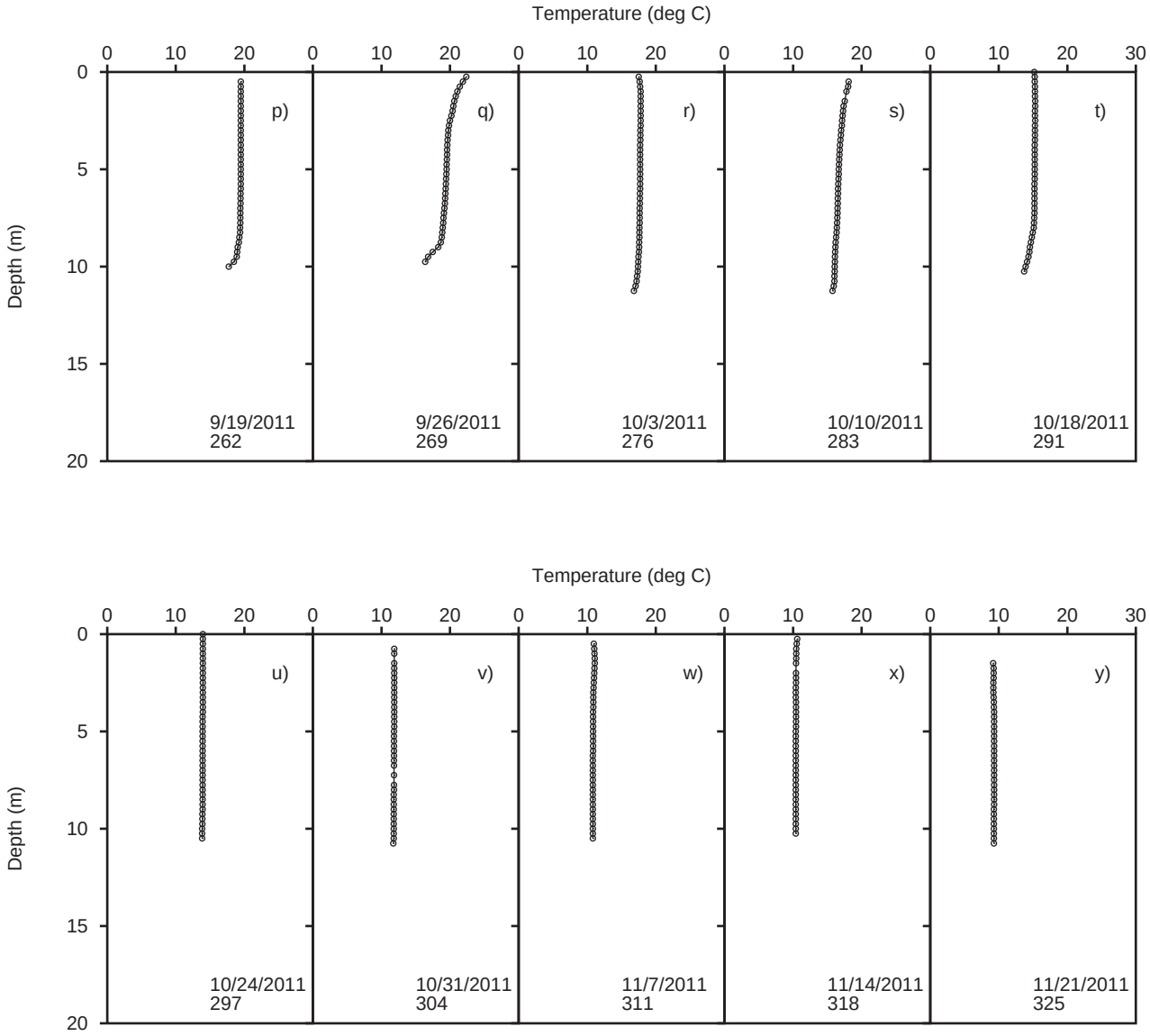
Fri Feb 03 14:53:39 2012

2011 Temperature Profiles for Onondaga Lake ISUS-34



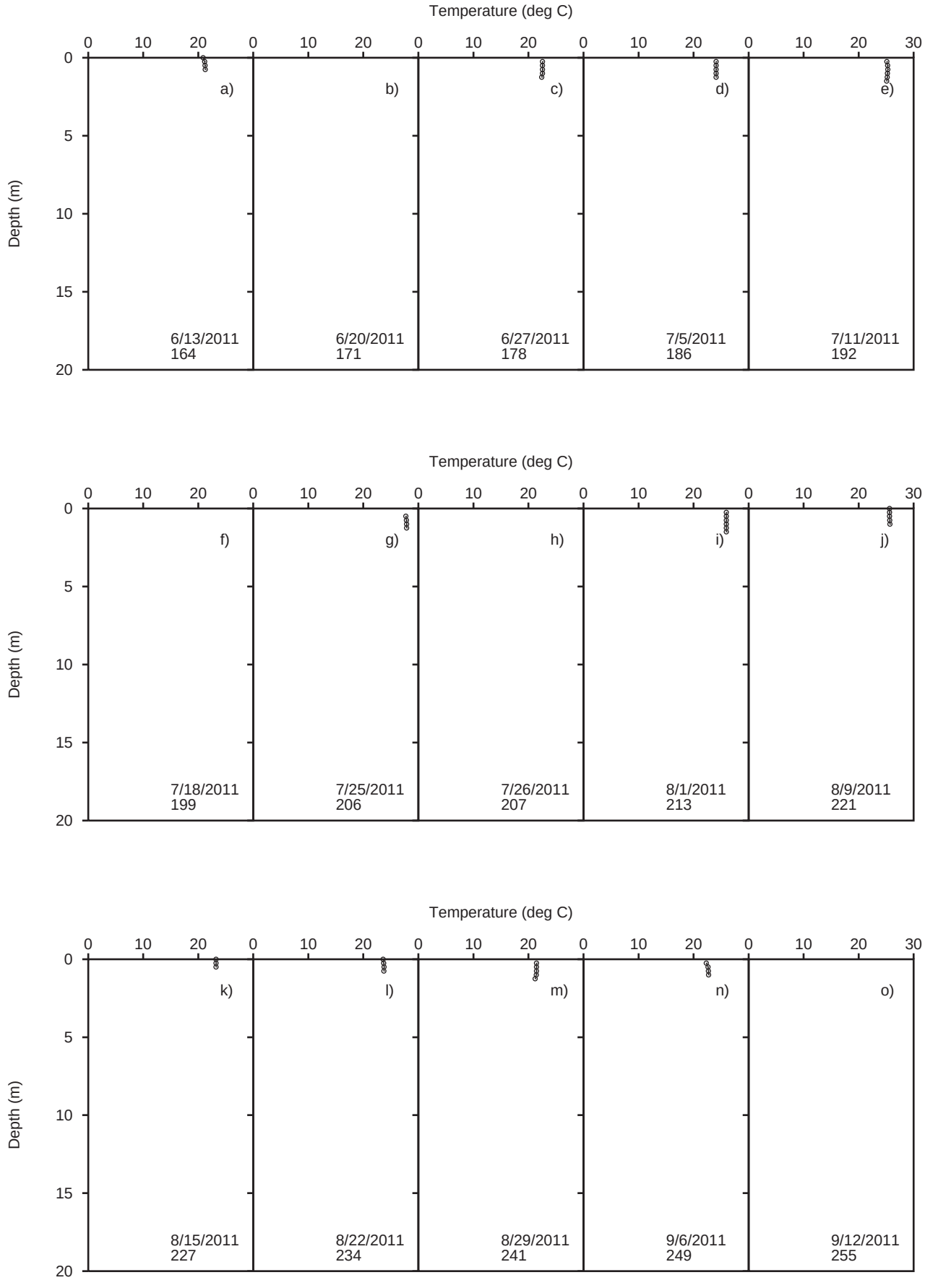
Fri Feb 03 14:19:31 2012

2011 Temperature Profiles for Onondaga Lake ISUS-34



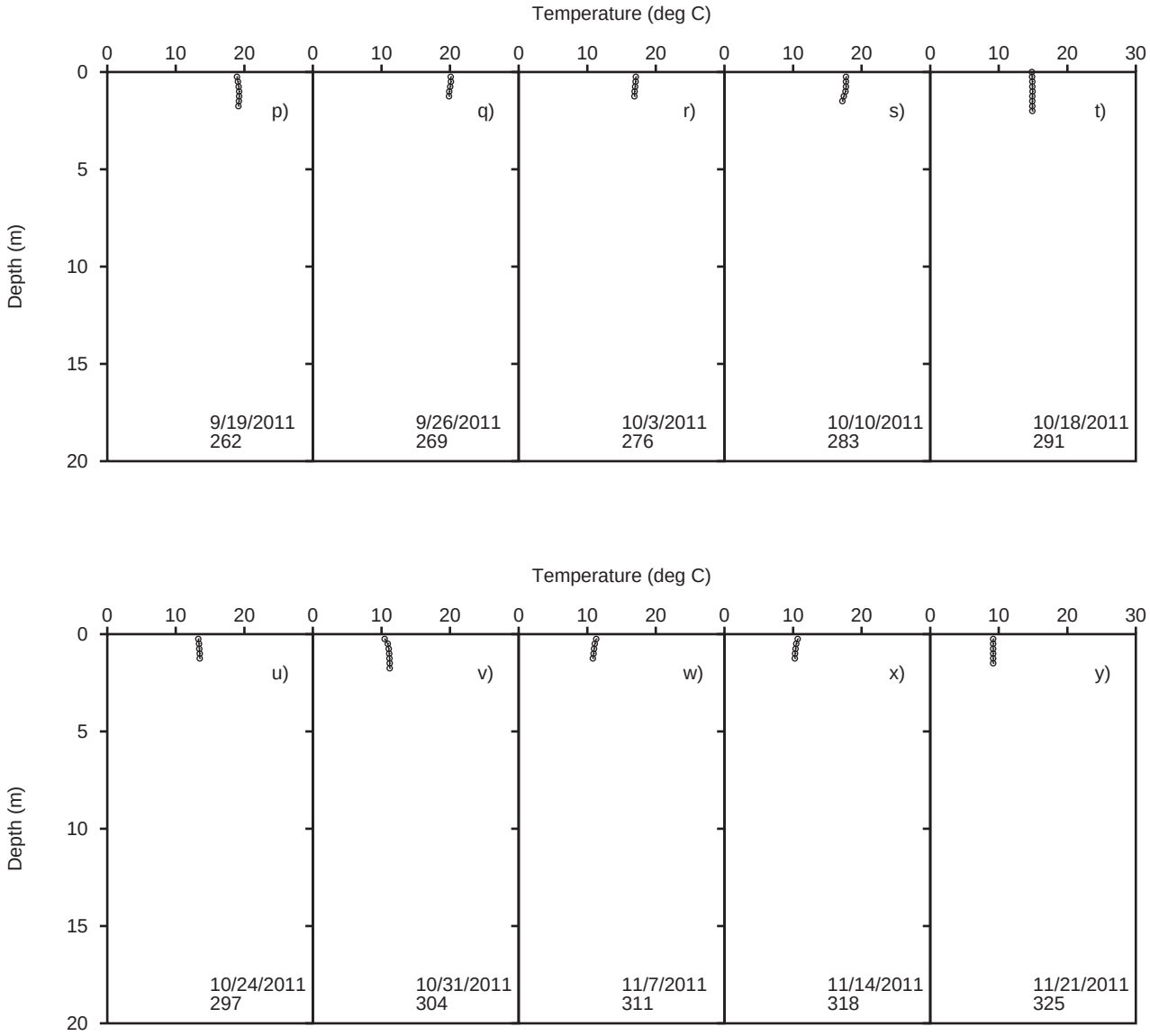
Fri Feb 03 14:19:31 2012

2011 Temperature Profiles for Onondaga Lake ISUS-37



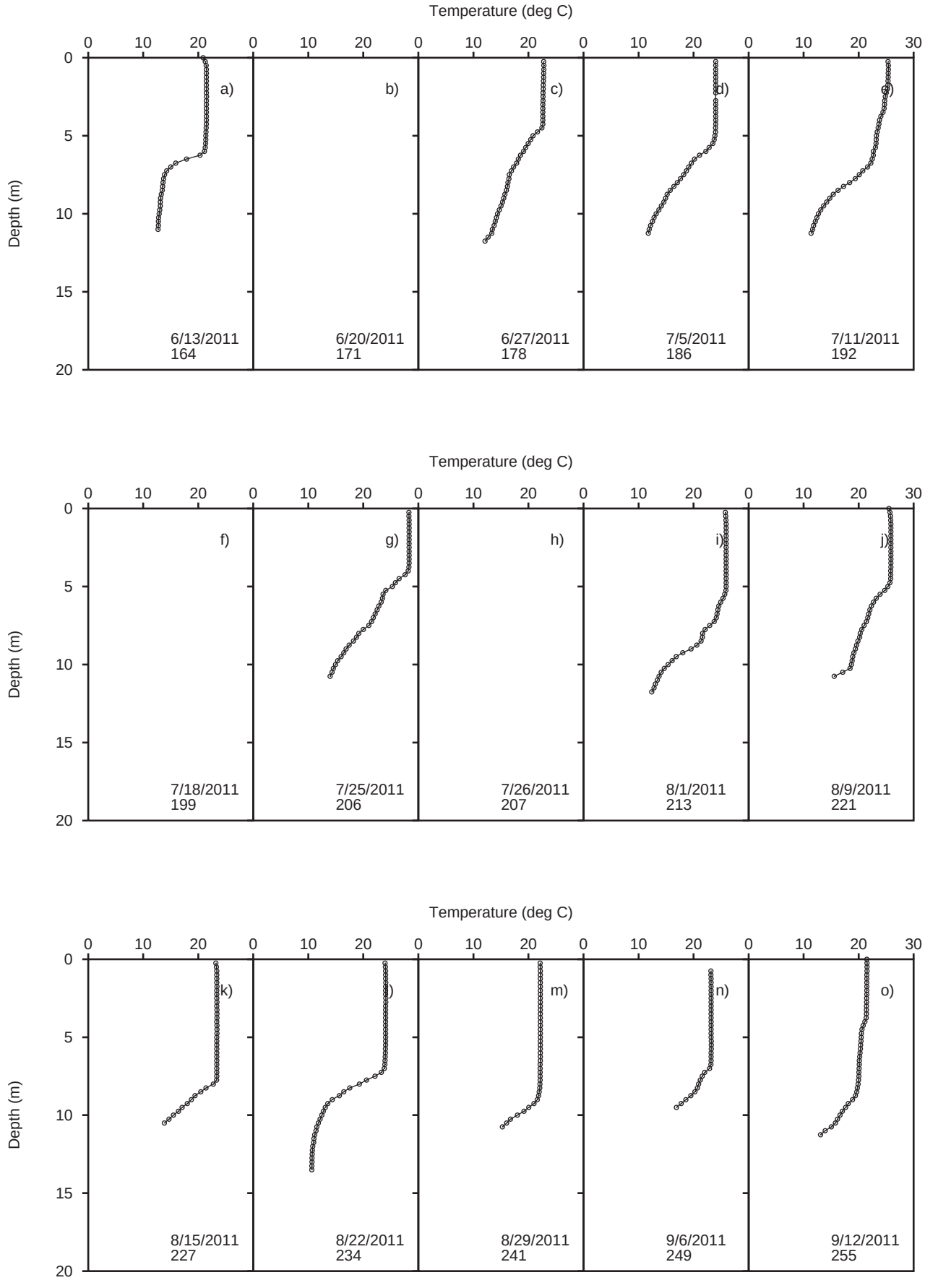
Fri Feb 03 14:20:37 2012

2011 Temperature Profiles for Onondaga Lake ISUS-37



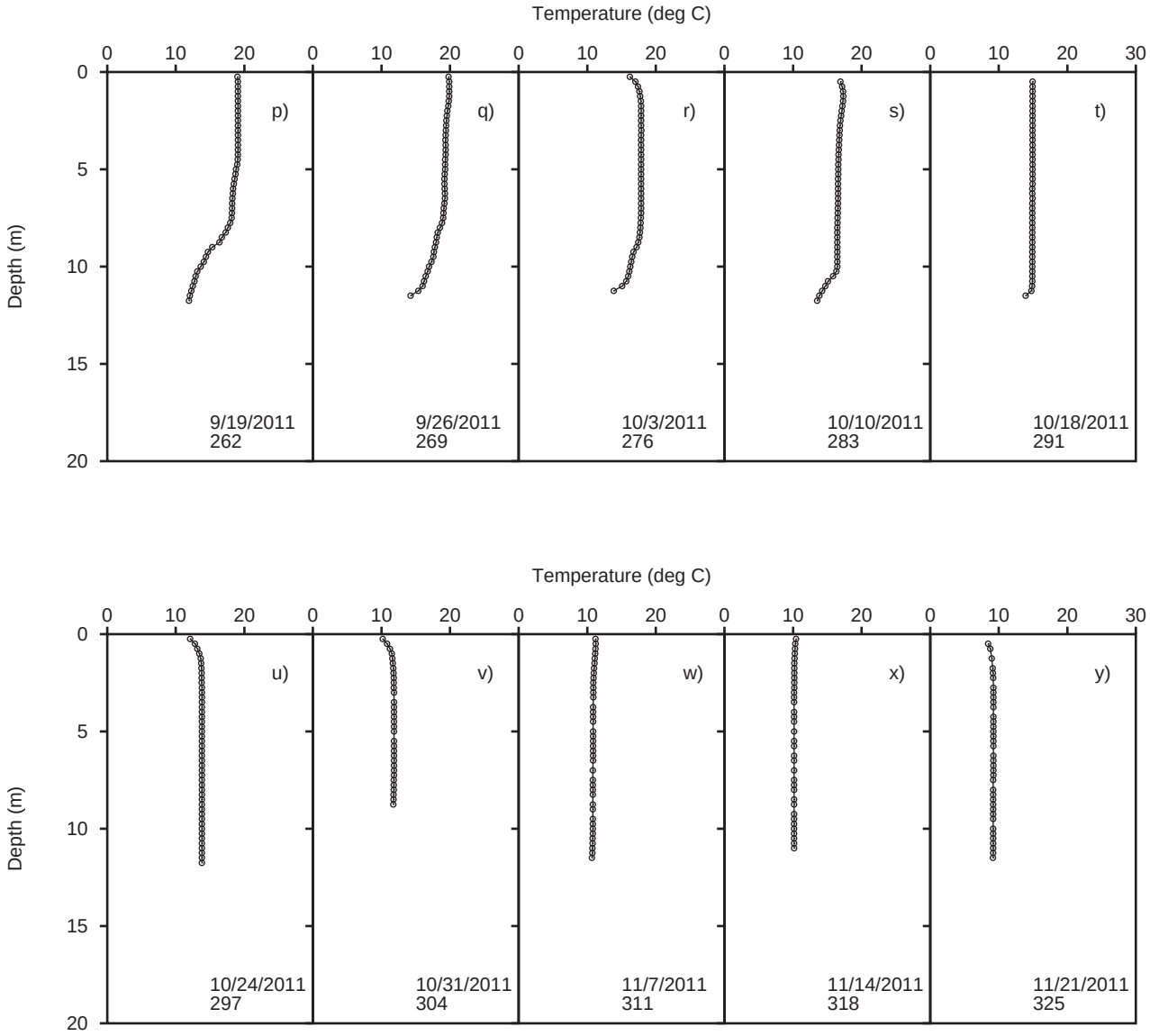
Fri Feb 03 14:20:37 2012

2011 Temperature Profiles for Onondaga Lake ISUS-38



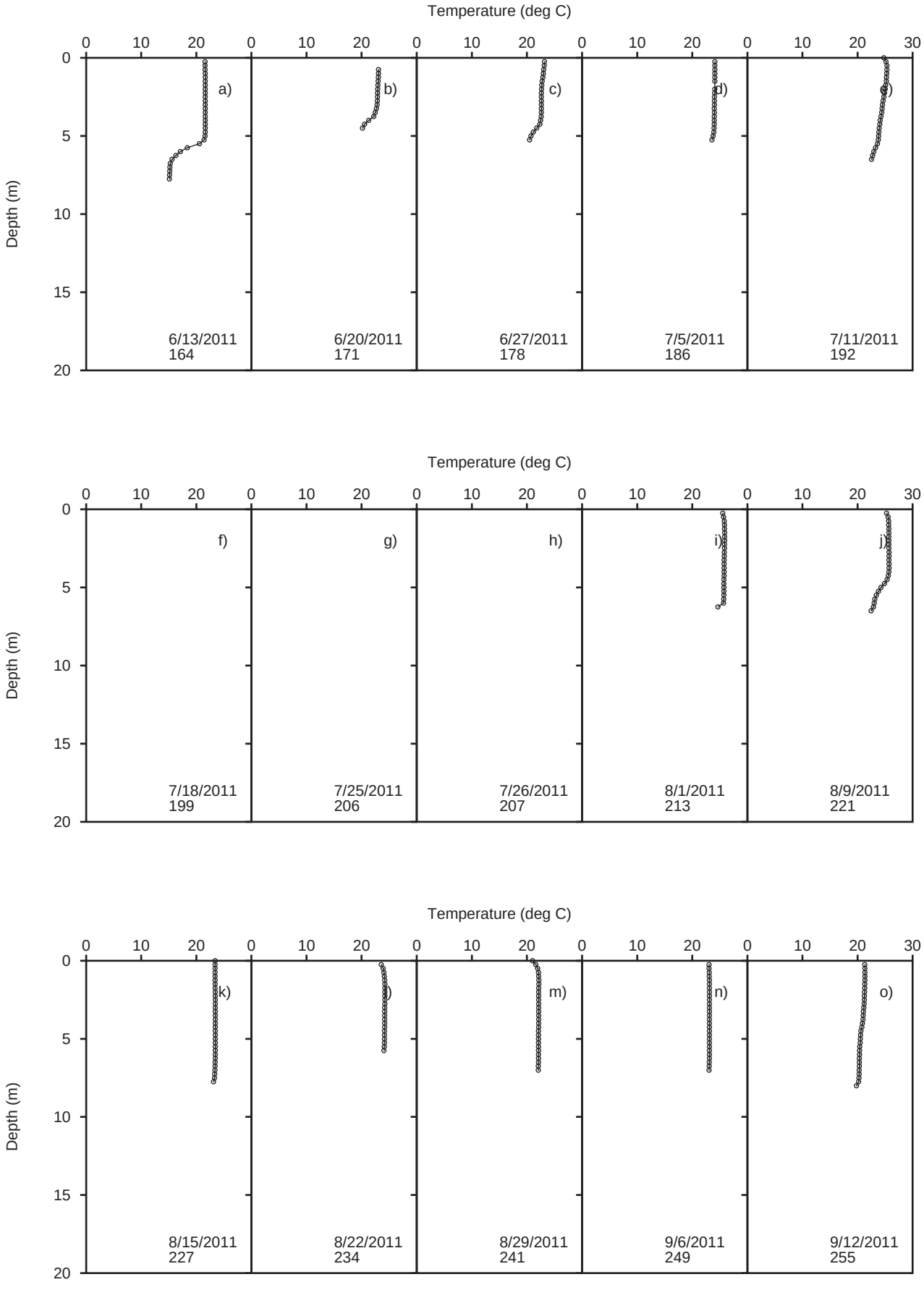
Fri Feb 03 14:21:42 2012

2011 Temperature Profiles for Onondaga Lake ISUS-38



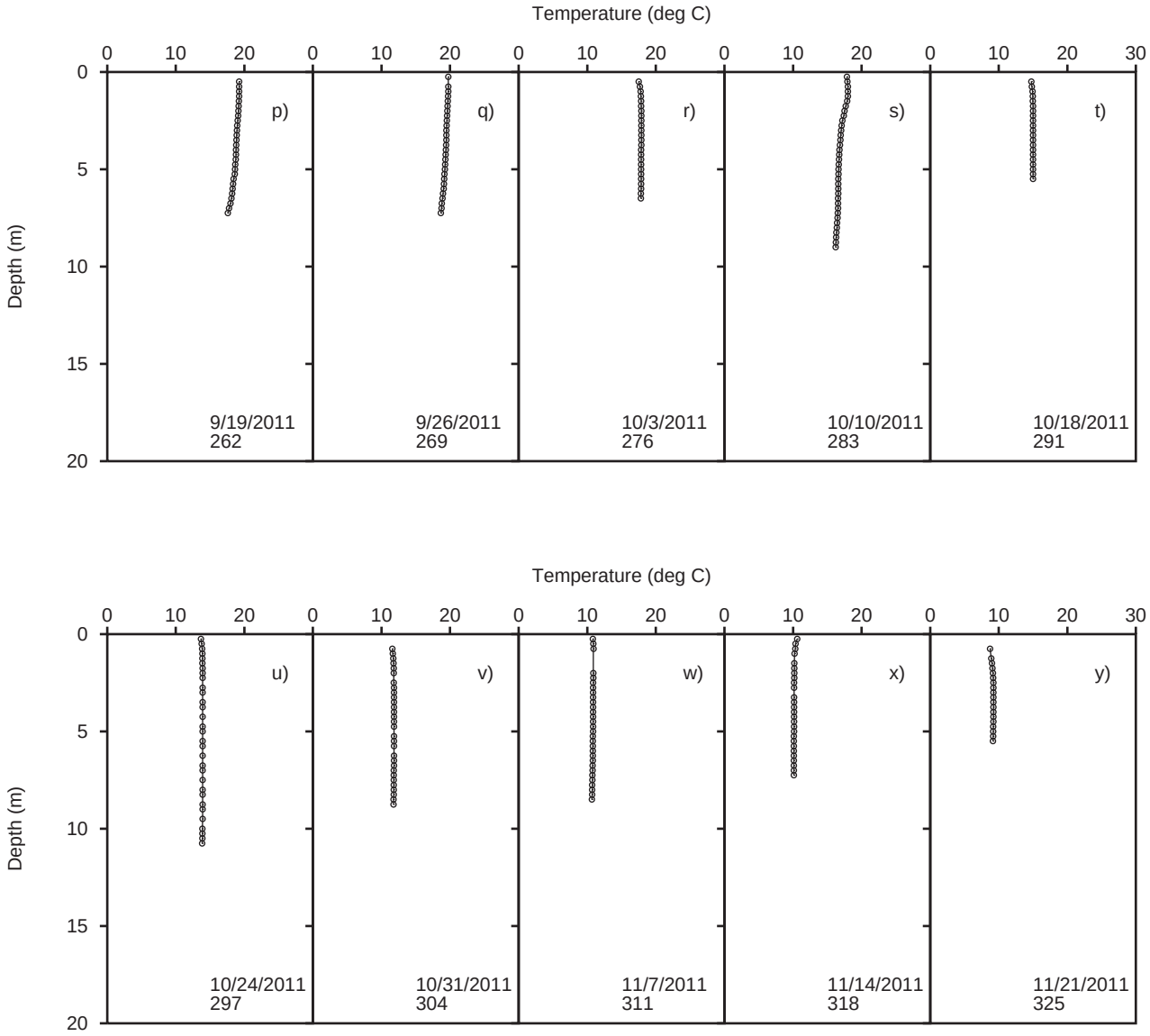
Fri Feb 03 14:21:42 2012

2011 Temperature Profiles for Onondaga Lake ISUS-39



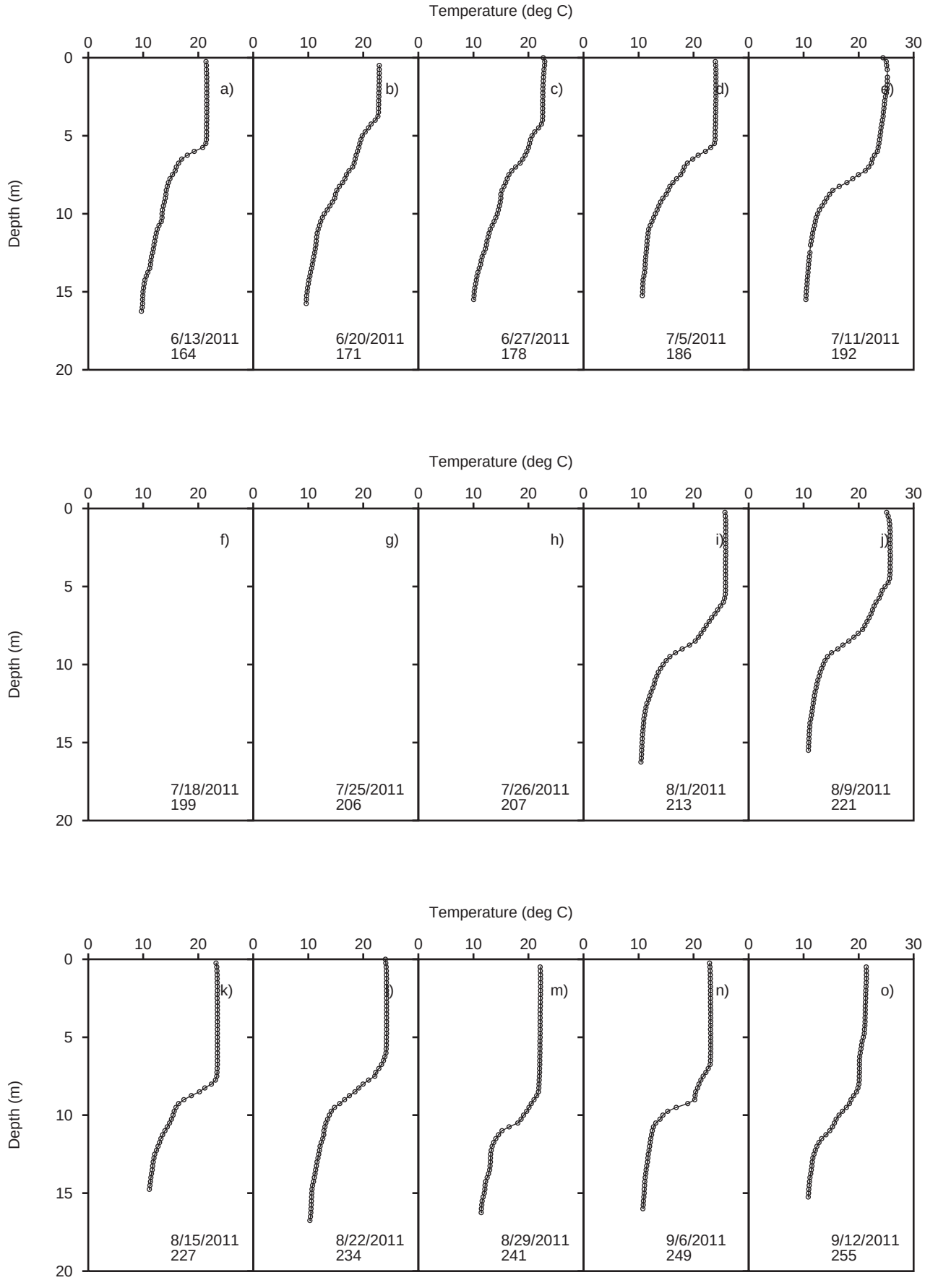
Fri Feb 03 14:27:28 2012

2011 Temperature Profiles for Onondaga Lake ISUS-39



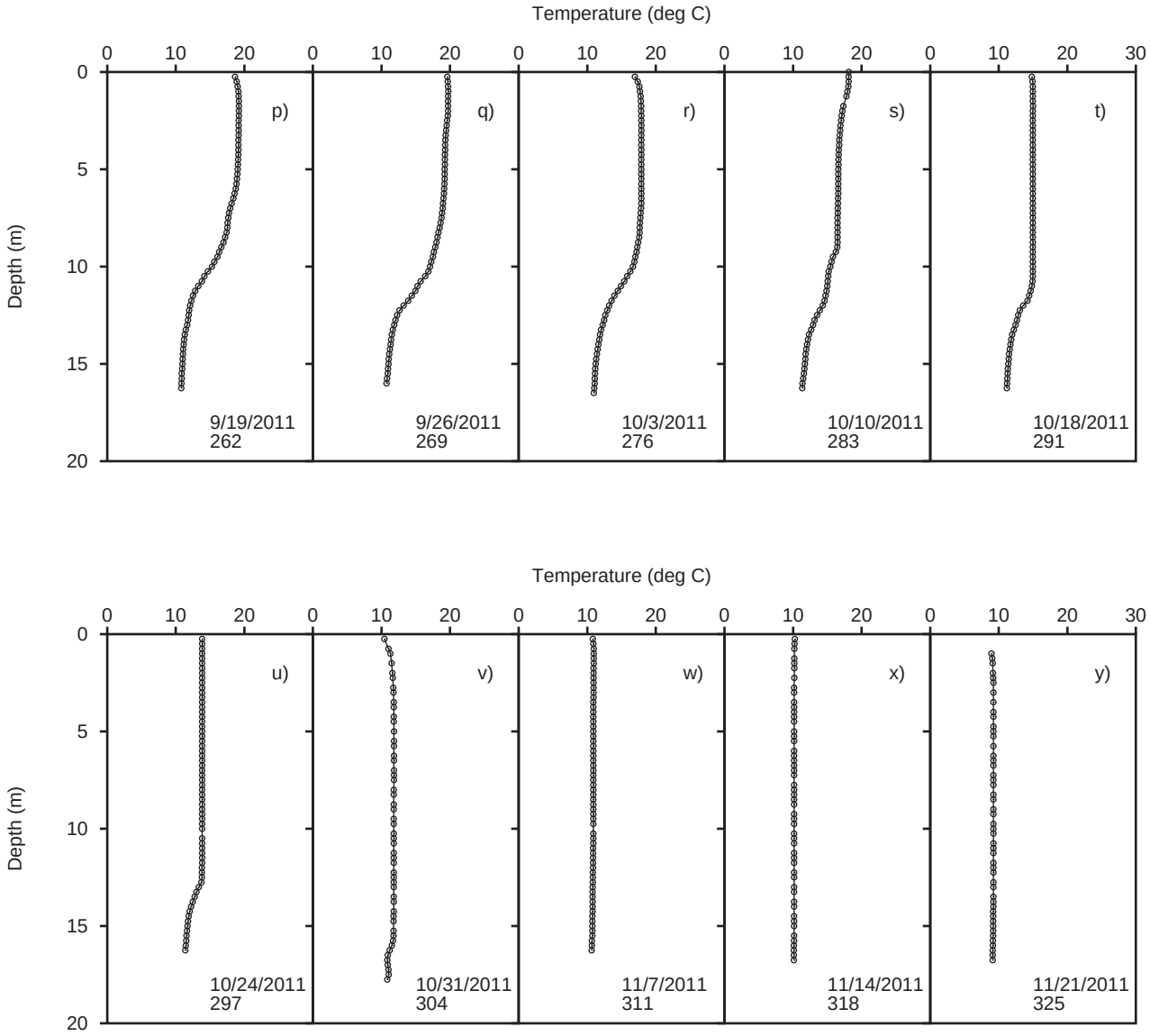
Fri Feb 03 14:27:28 2012

2011 Temperature Profiles for Onondaga Lake ISUS-40



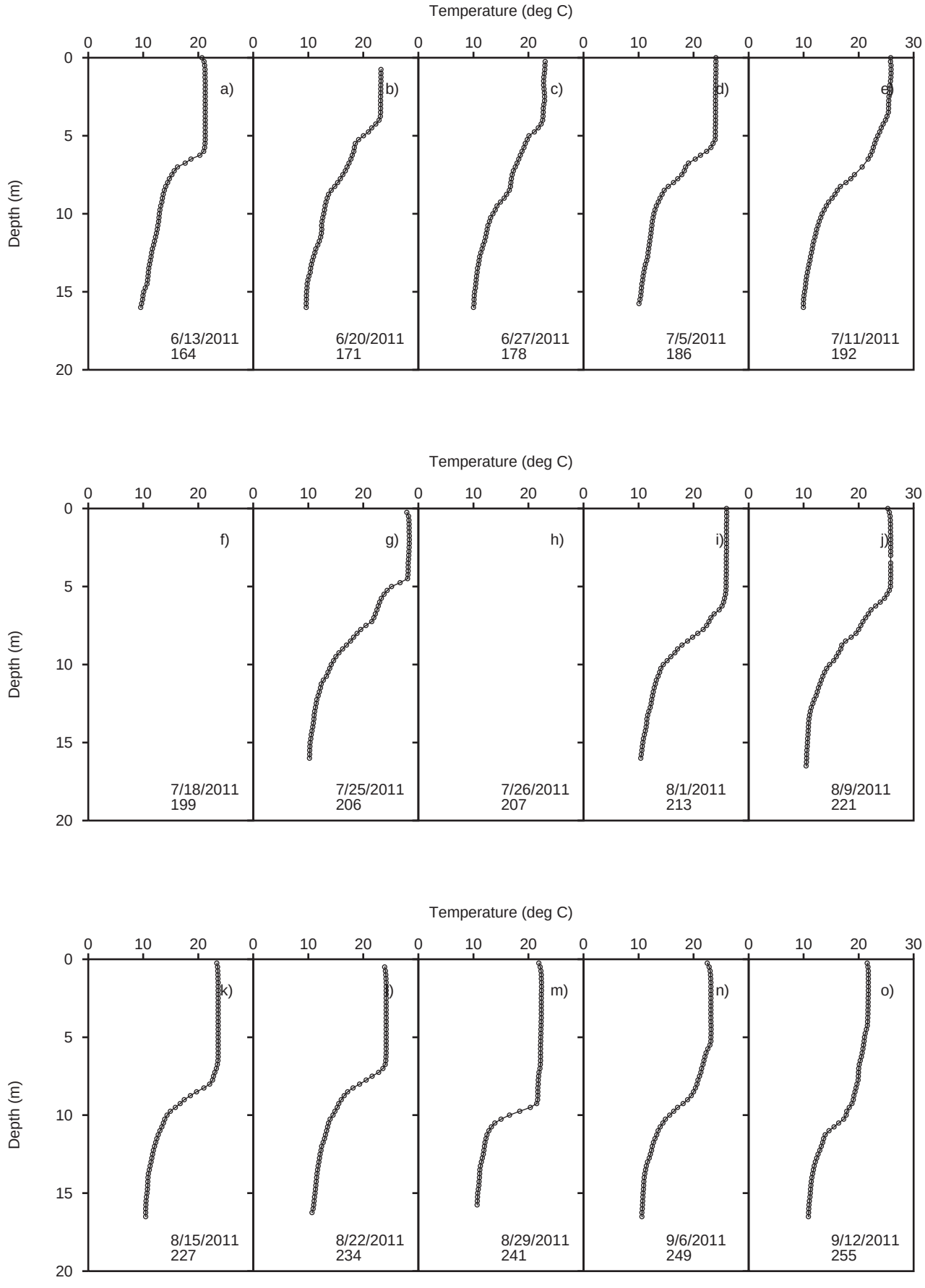
Fri Feb 03 14:28:15 2012

2011 Temperature Profiles for Onondaga Lake ISUS-40



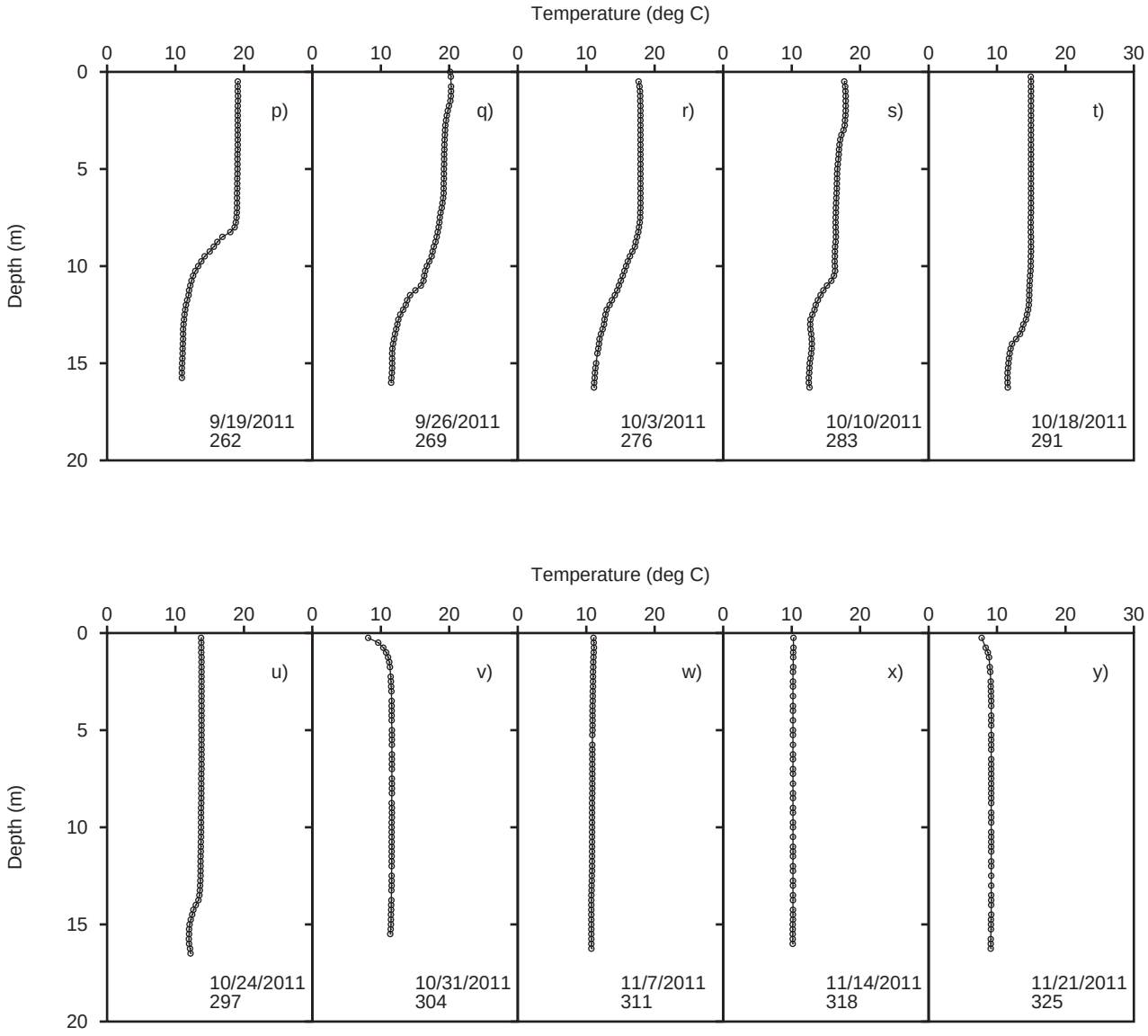
Fri Feb 03 14:28:15 2012

2011 Temperature Profiles for Onondaga Lake ISUS-41



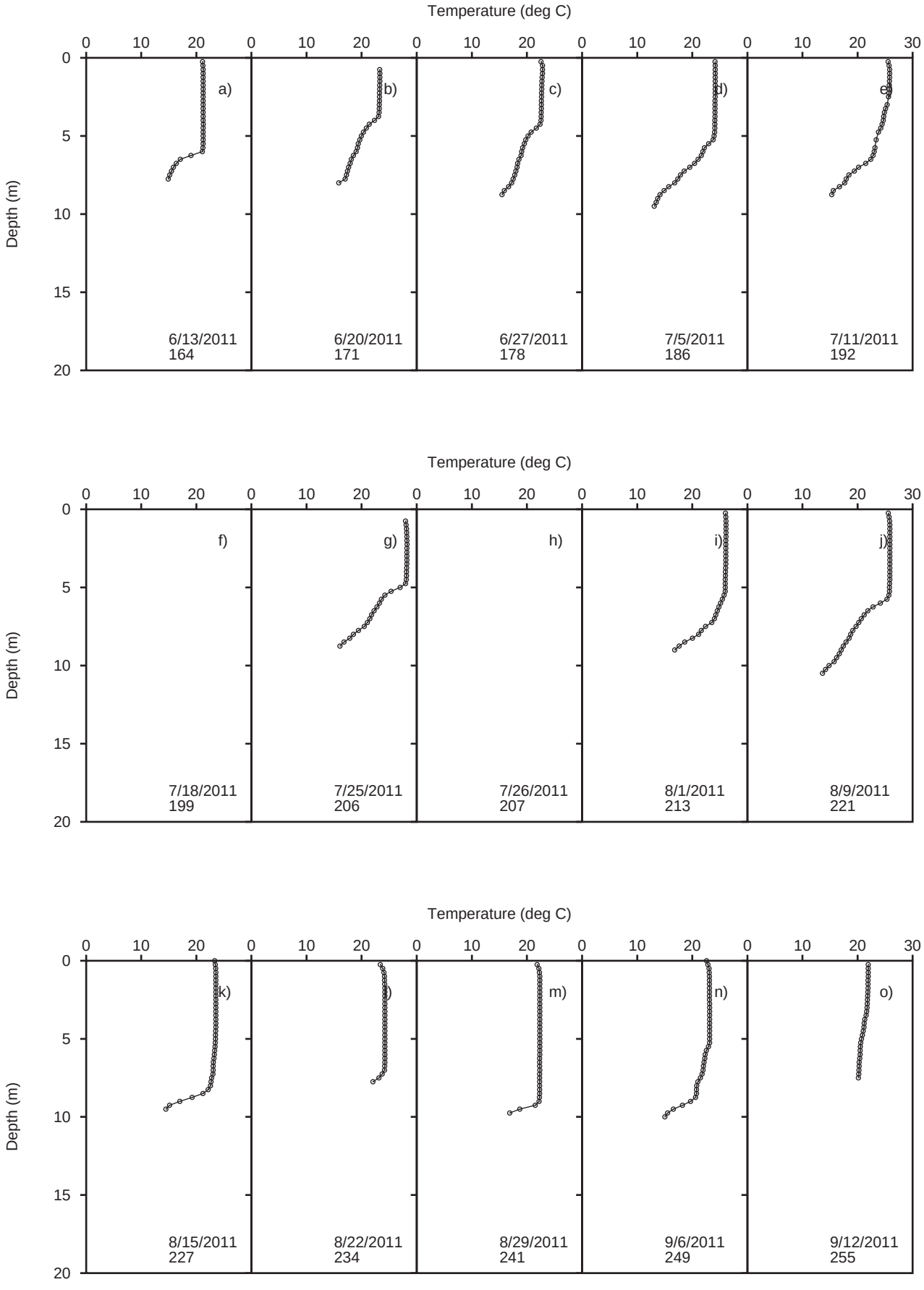
Fri Feb 03 14:30:55 2012

2011 Temperature Profiles for Onondaga Lake ISUS-41



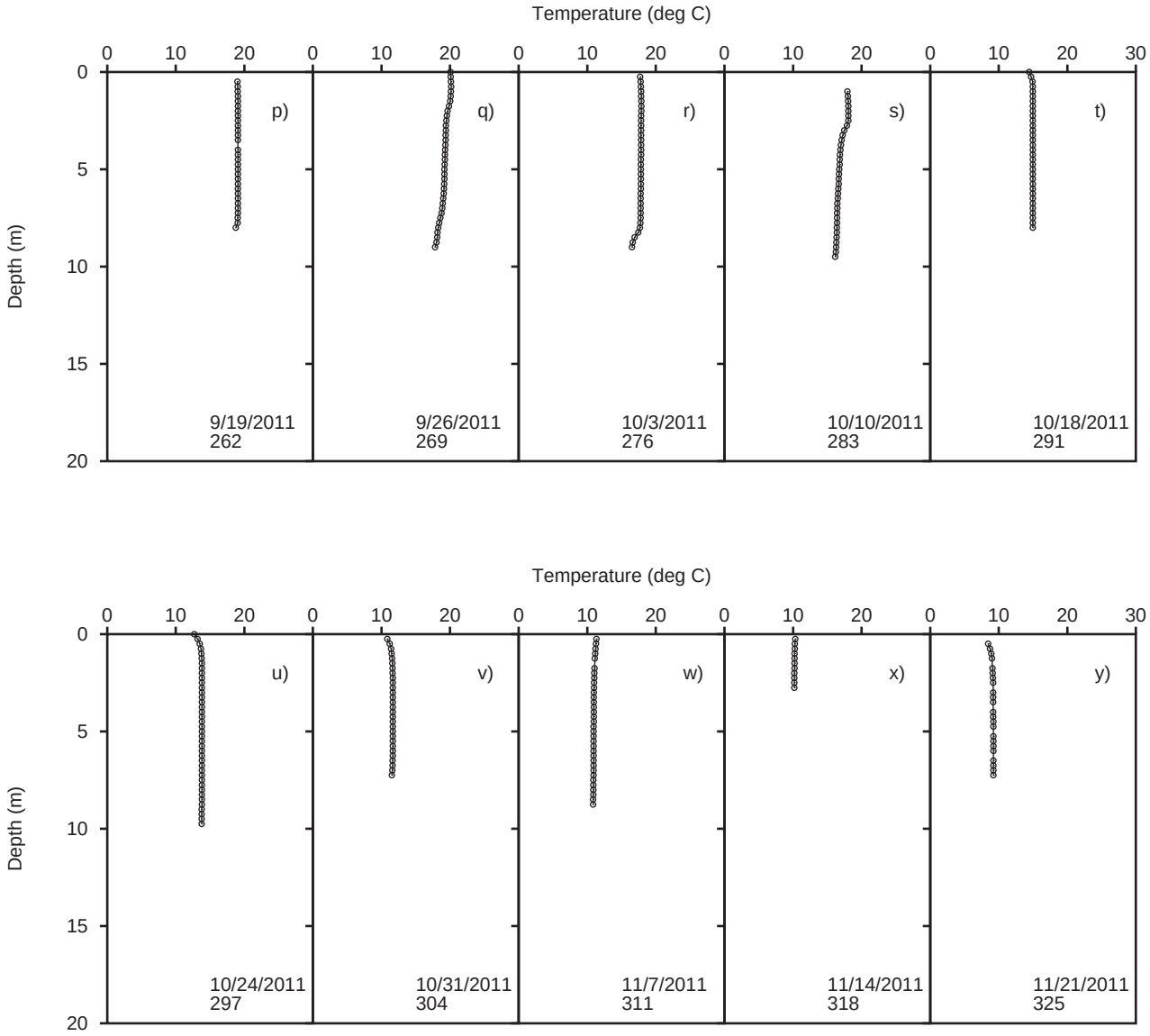
Fri Feb 03 14:30:55 2012

2011 Temperature Profiles for Onondaga Lake ISUS-42



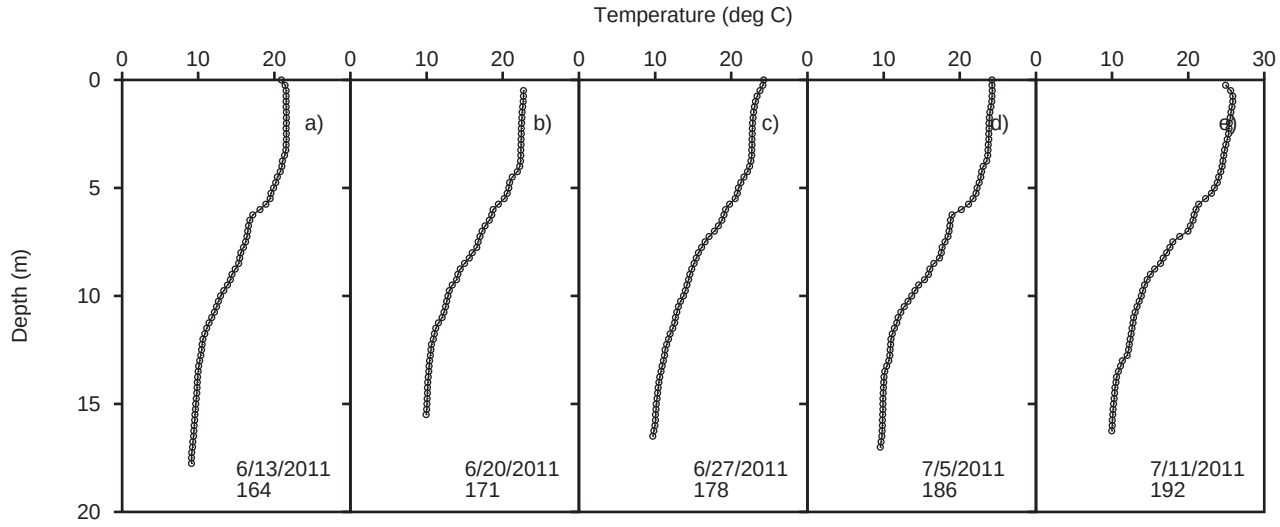
Fri Feb 03 14:34:34 2012

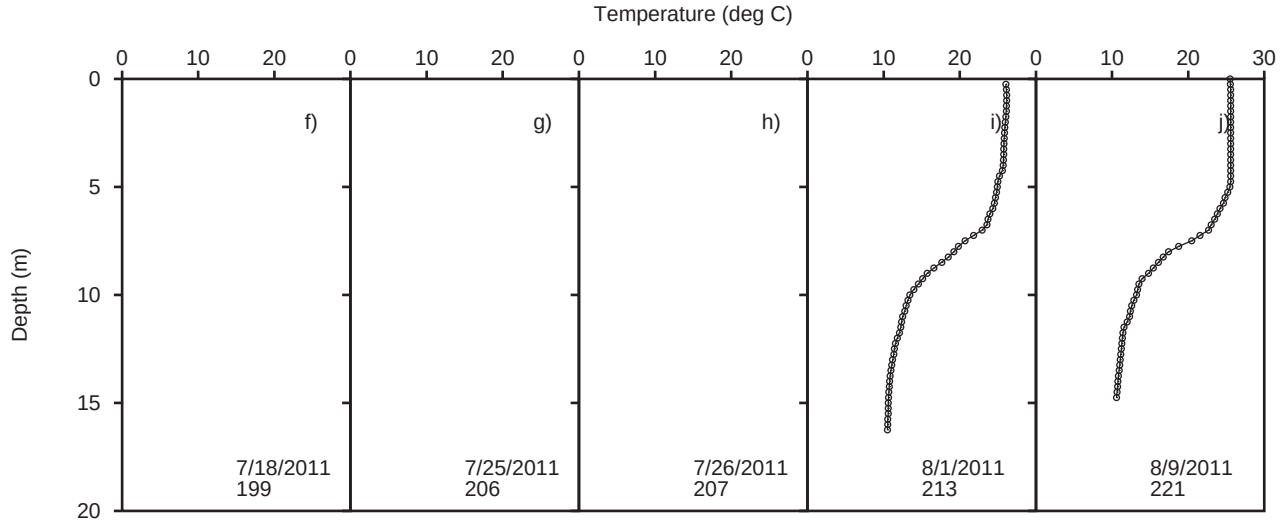
2011 Temperature Profiles for Onondaga Lake ISUS-42

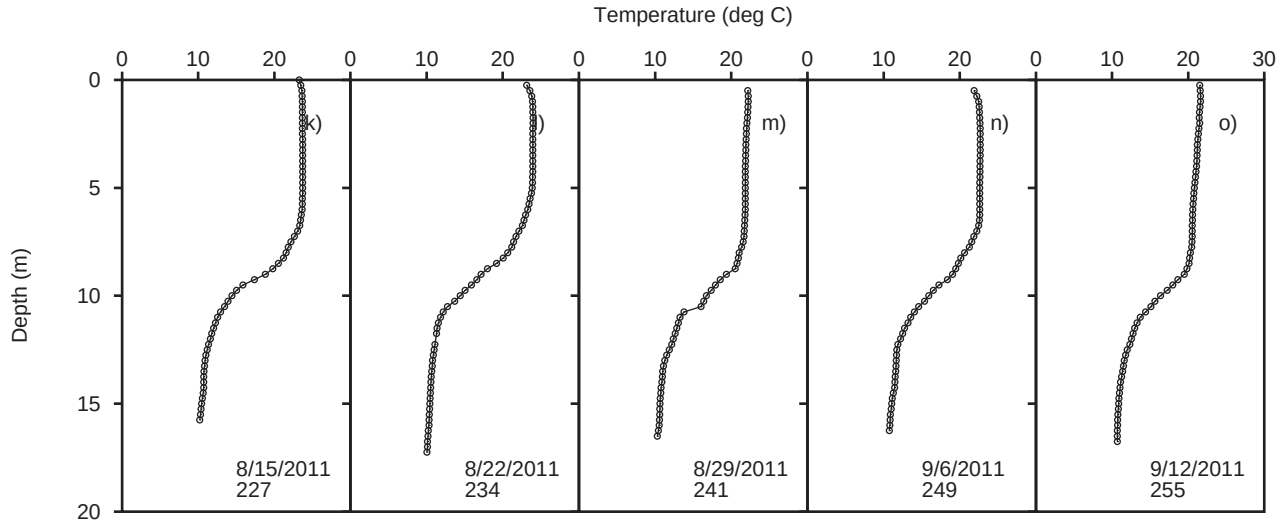


Fri Feb 03 14:34:34 2012

2011 Temperature Profiles for Onondaga Lake ISUS-43

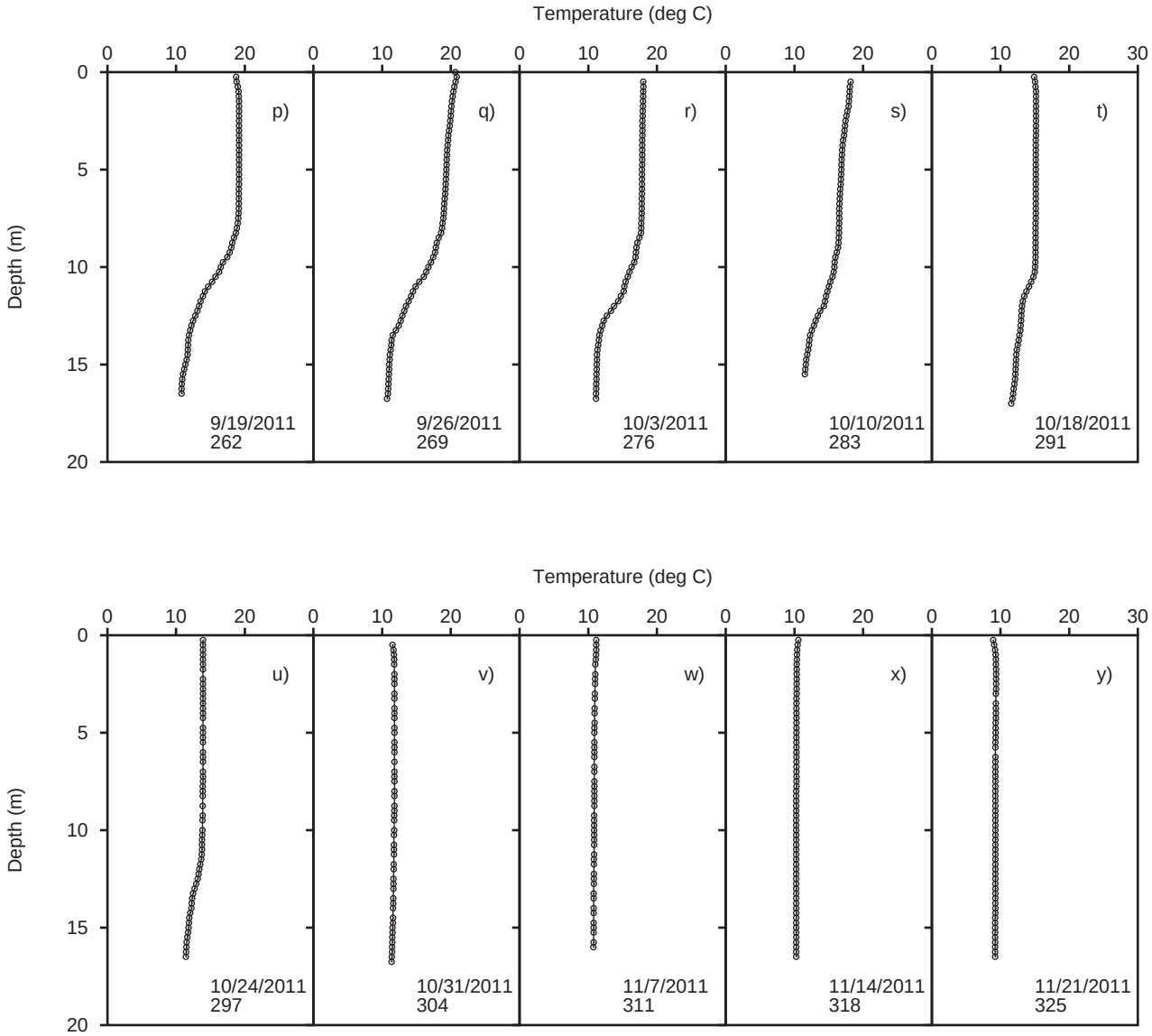






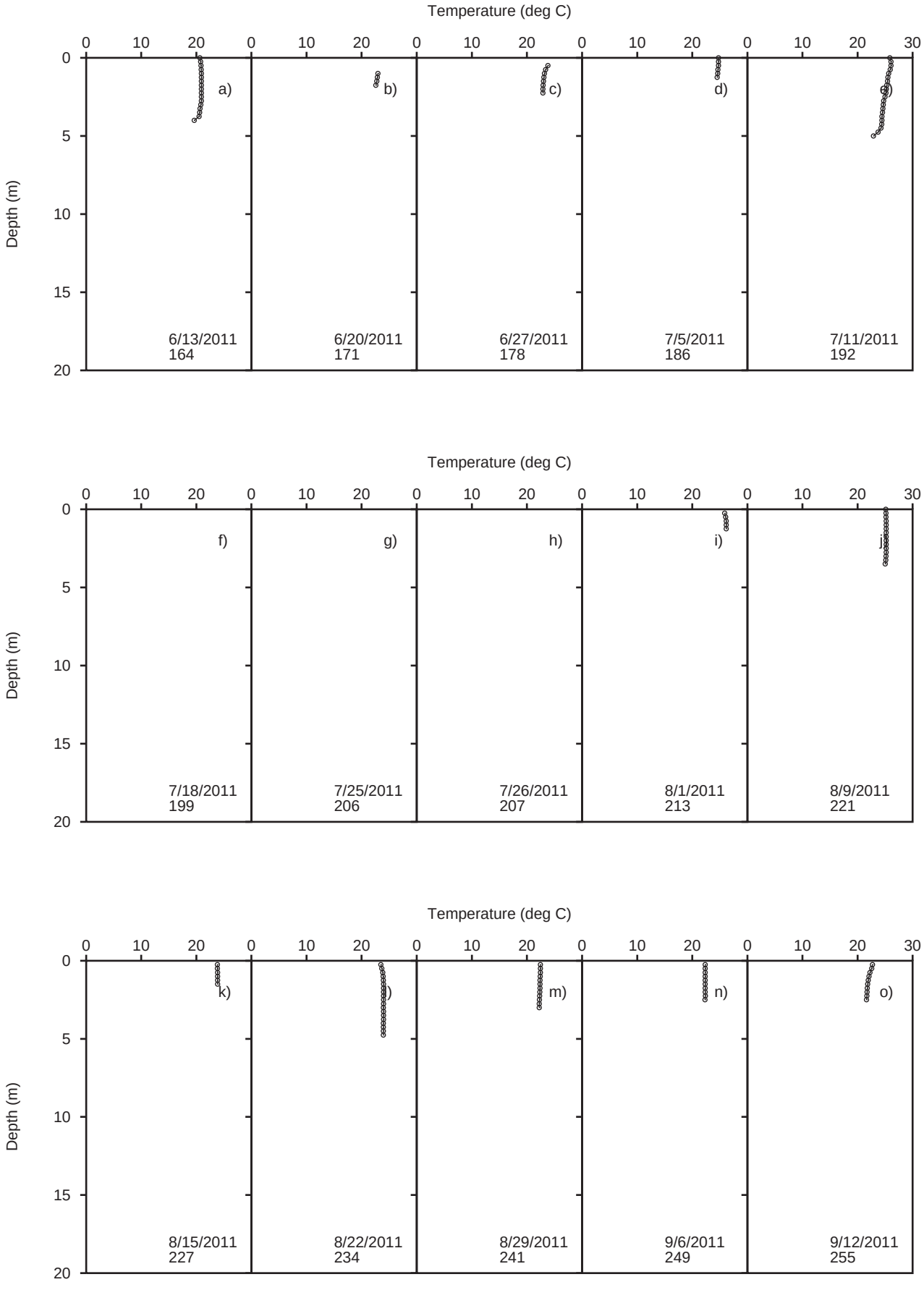
Fri Feb 03 14:54:55 2012

2011 Temperature Profiles for Onondaga Lake ISUS-43



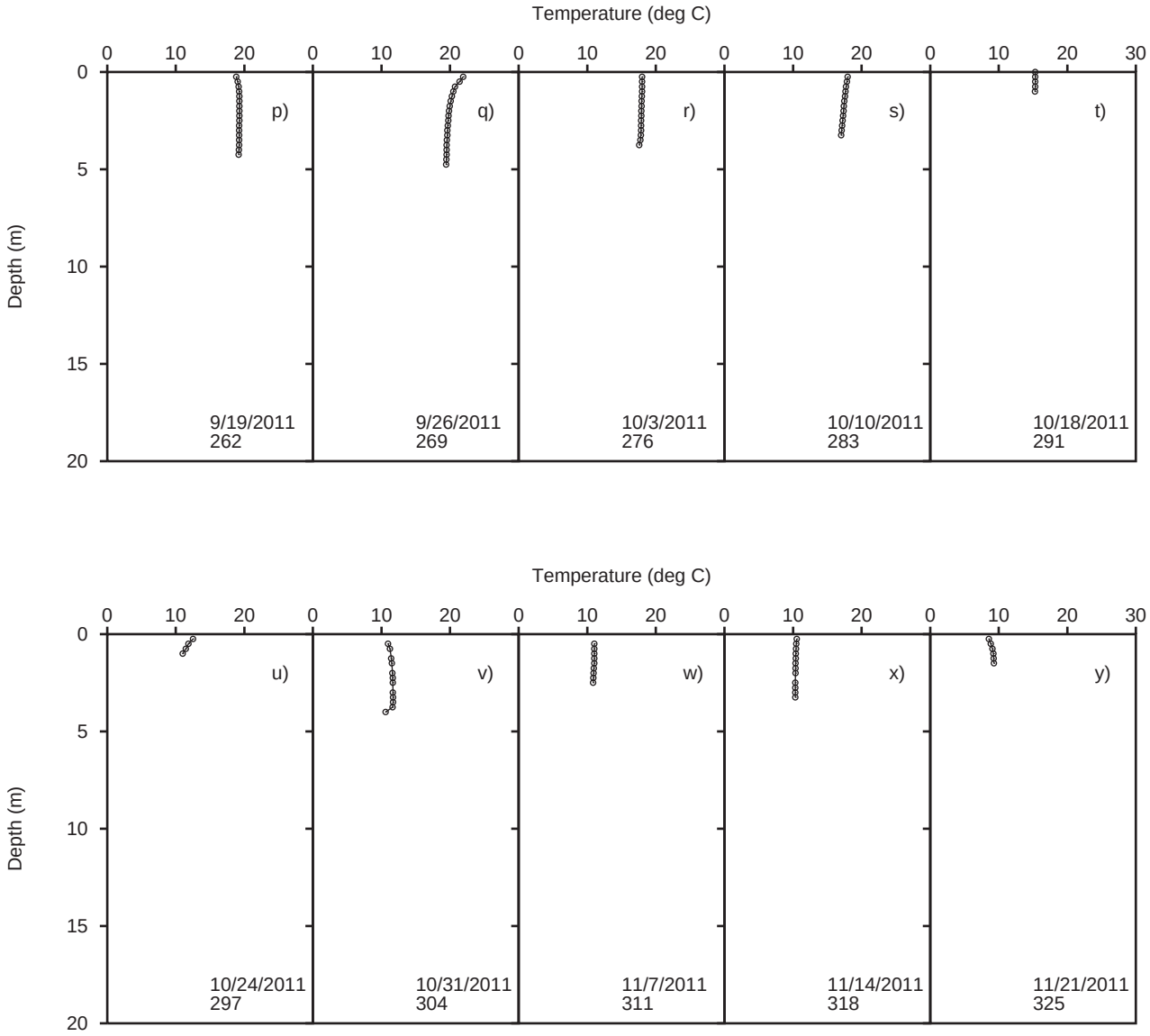
Fri Feb 03 14:54:55 2012

2011 Temperature Profiles for Onondaga Lake ISUS-44



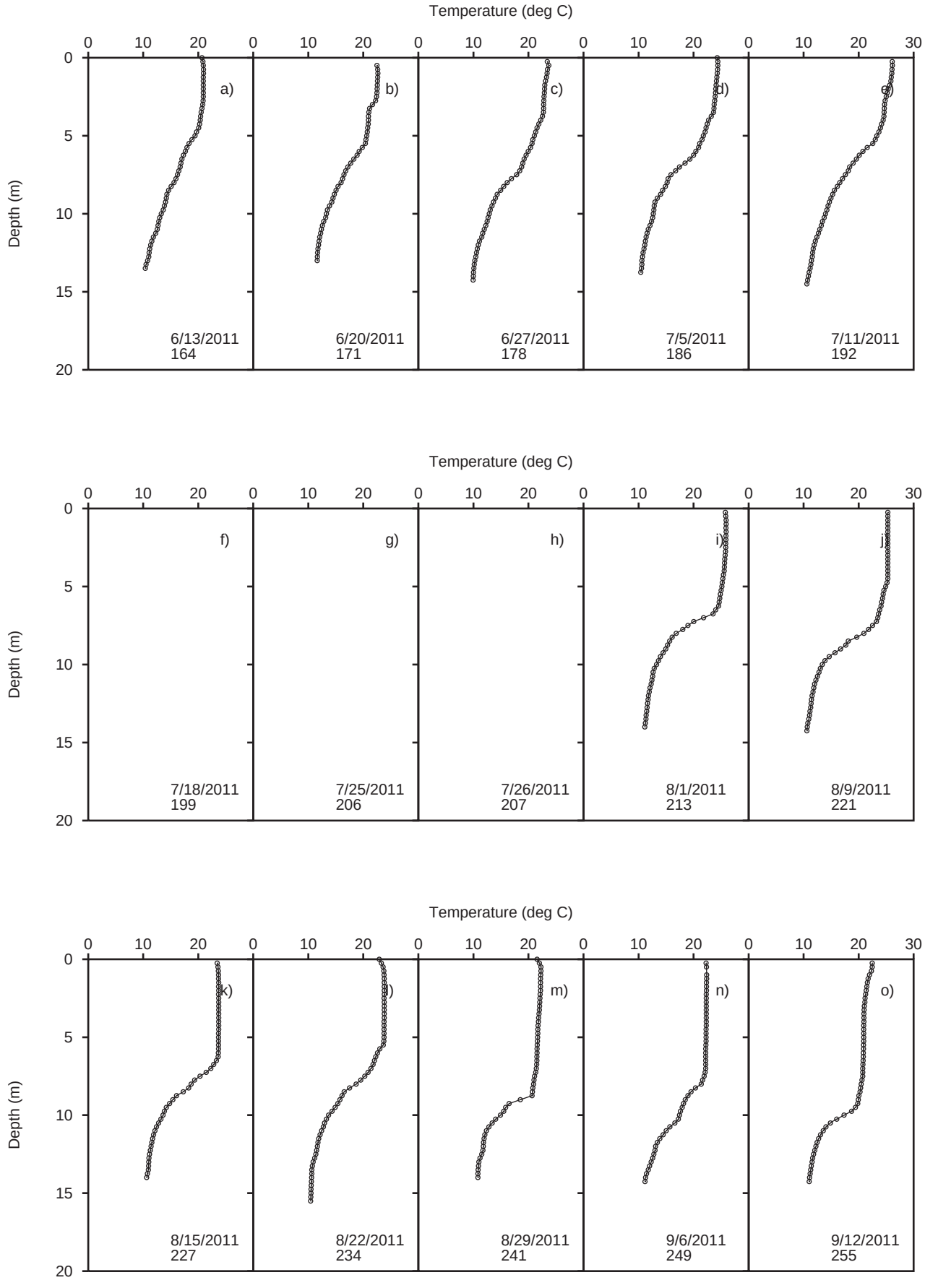
Fri Feb 03 15:00:34 2012

2011 Temperature Profiles for Onondaga Lake ISUS-44



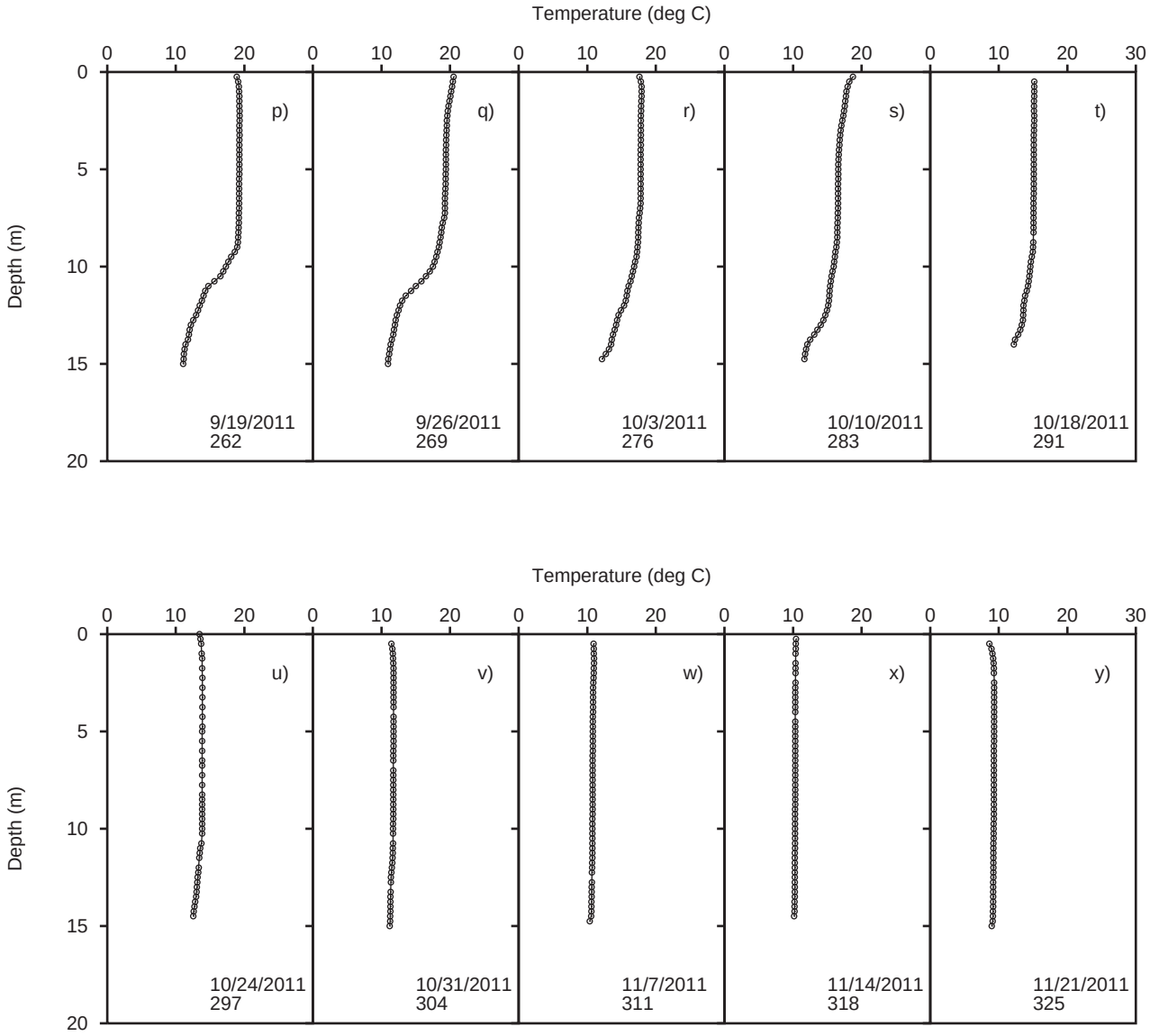
Fri Feb 03 15:00:34 2012

2011 Temperature Profiles for Onondaga Lake ISUS-45



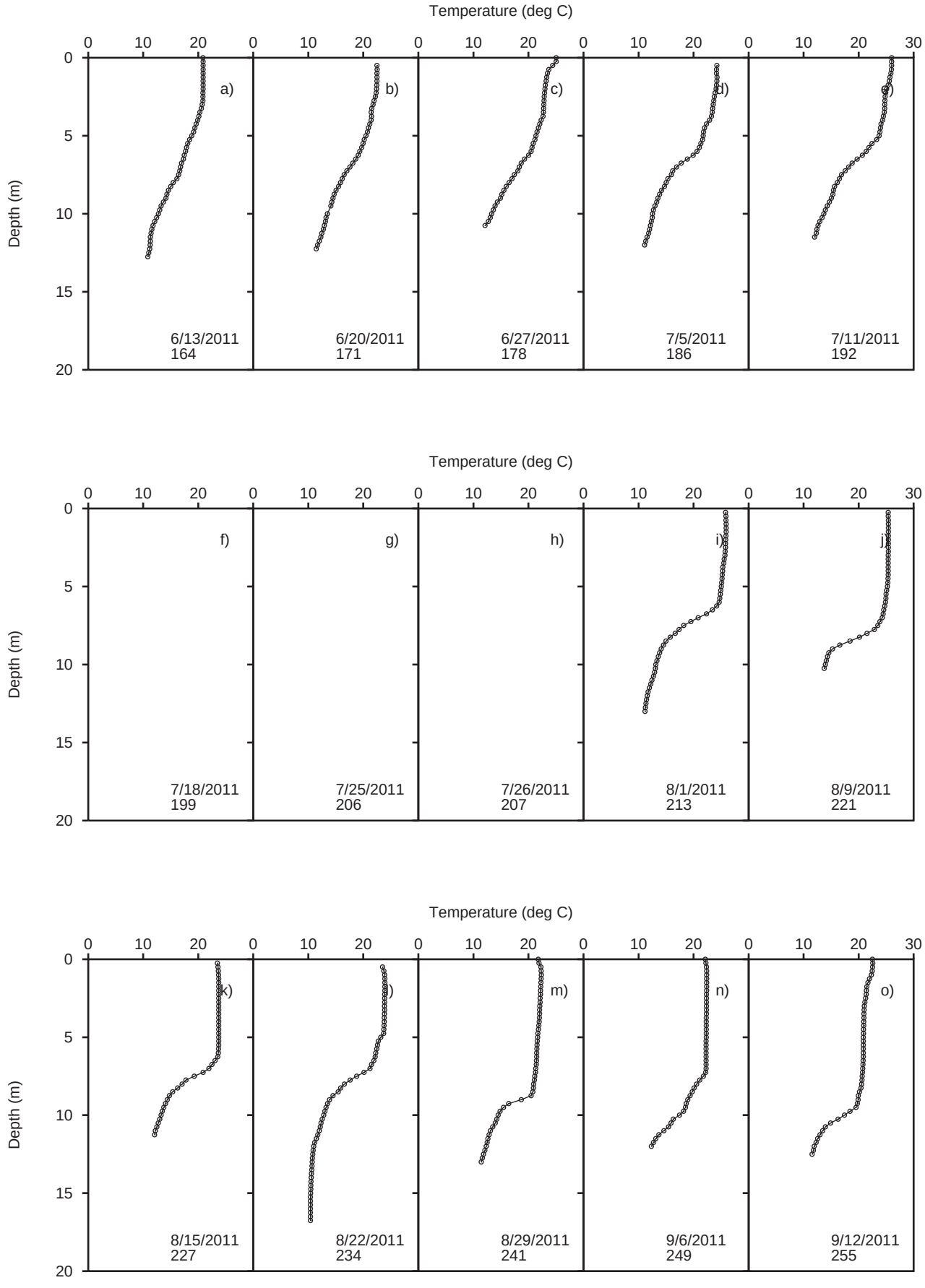
Fri Feb 03 14:57:19 2012

2011 Temperature Profiles for Onondaga Lake ISUS-45



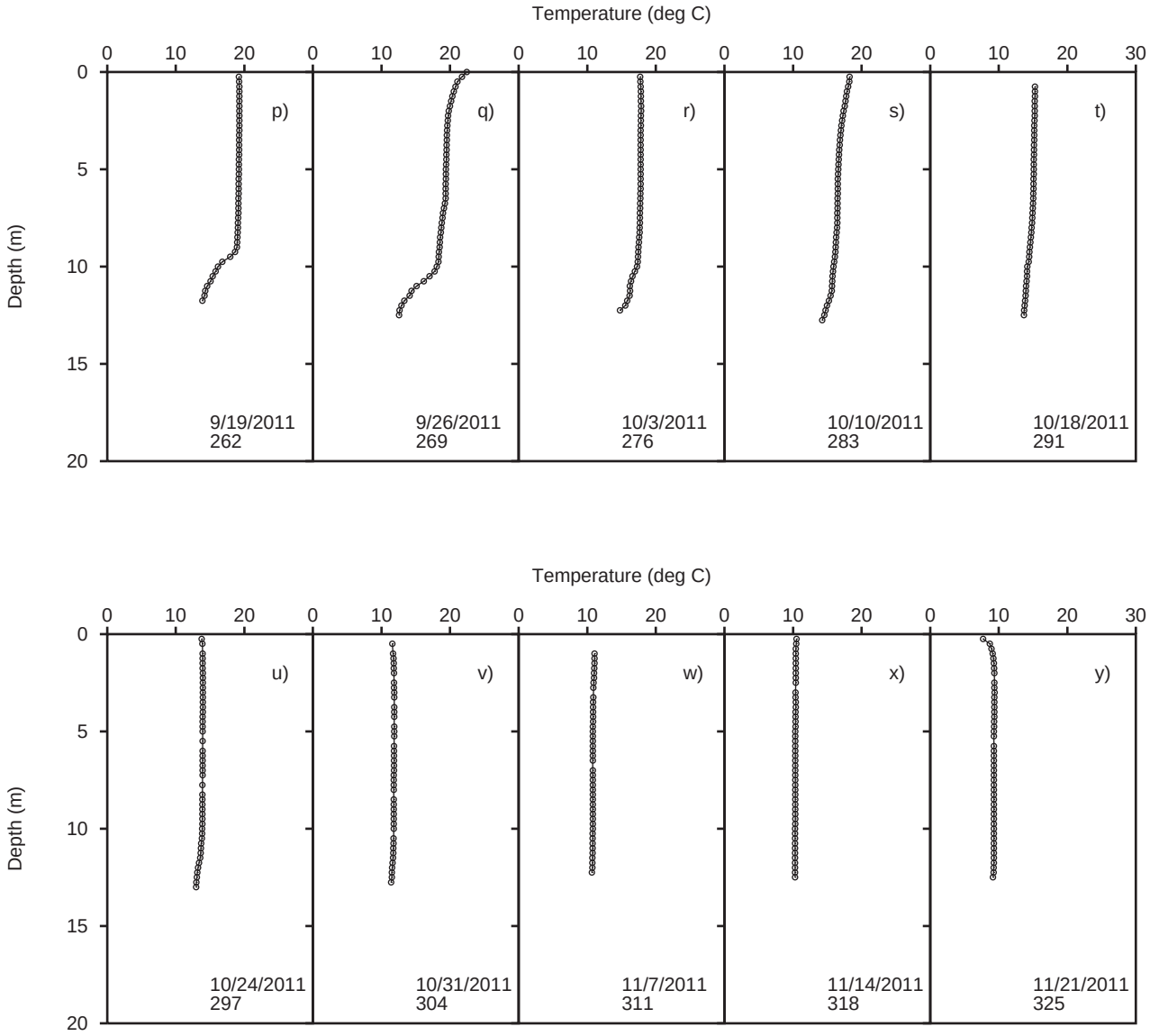
Fri Feb 03 14:57:19 2012

2011 Temperature Profiles for Onondaga Lake ISUS-46



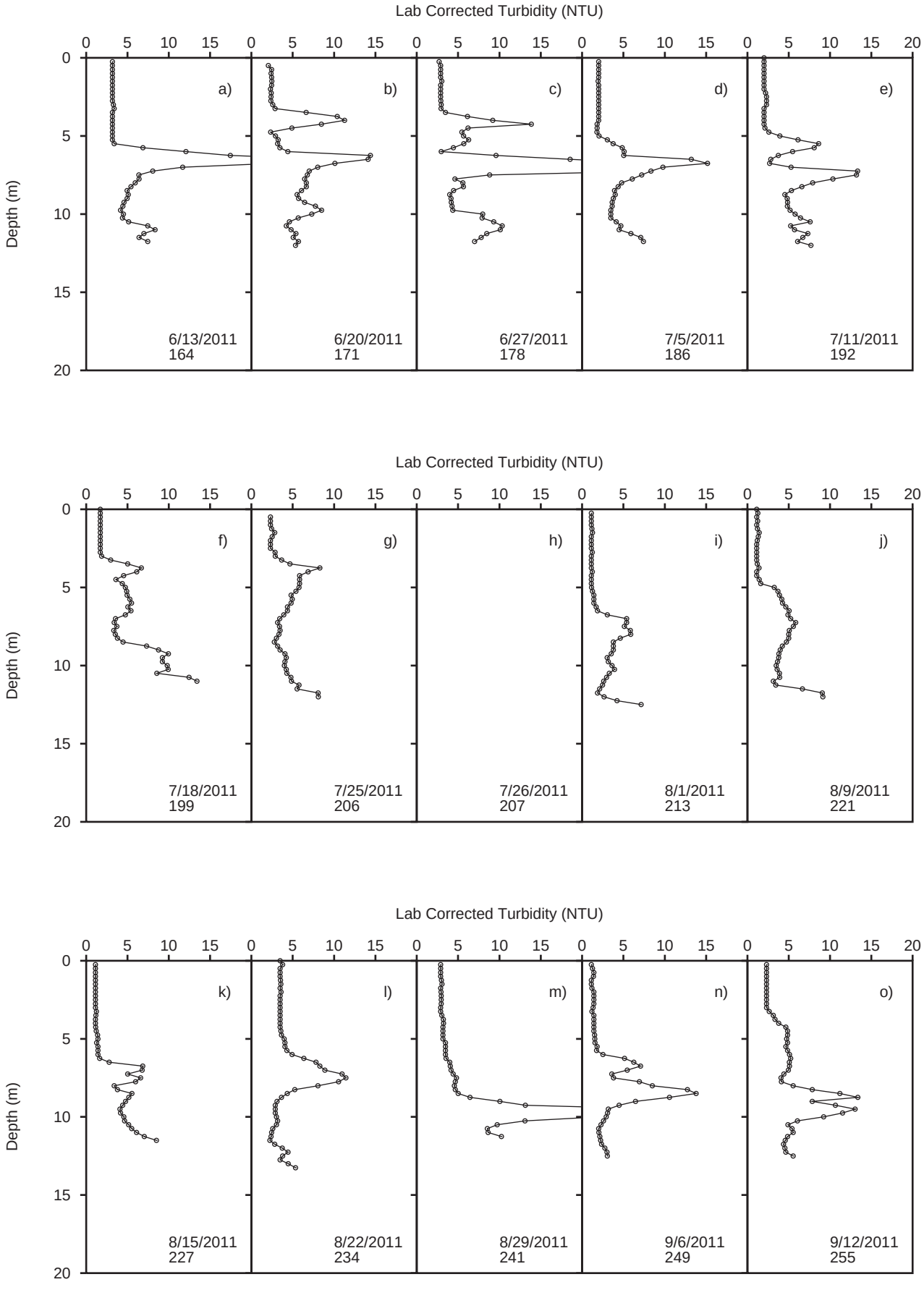
Fri Feb 03 14:58:04 2012

2011 Temperature Profiles for Onondaga Lake ISUS-46



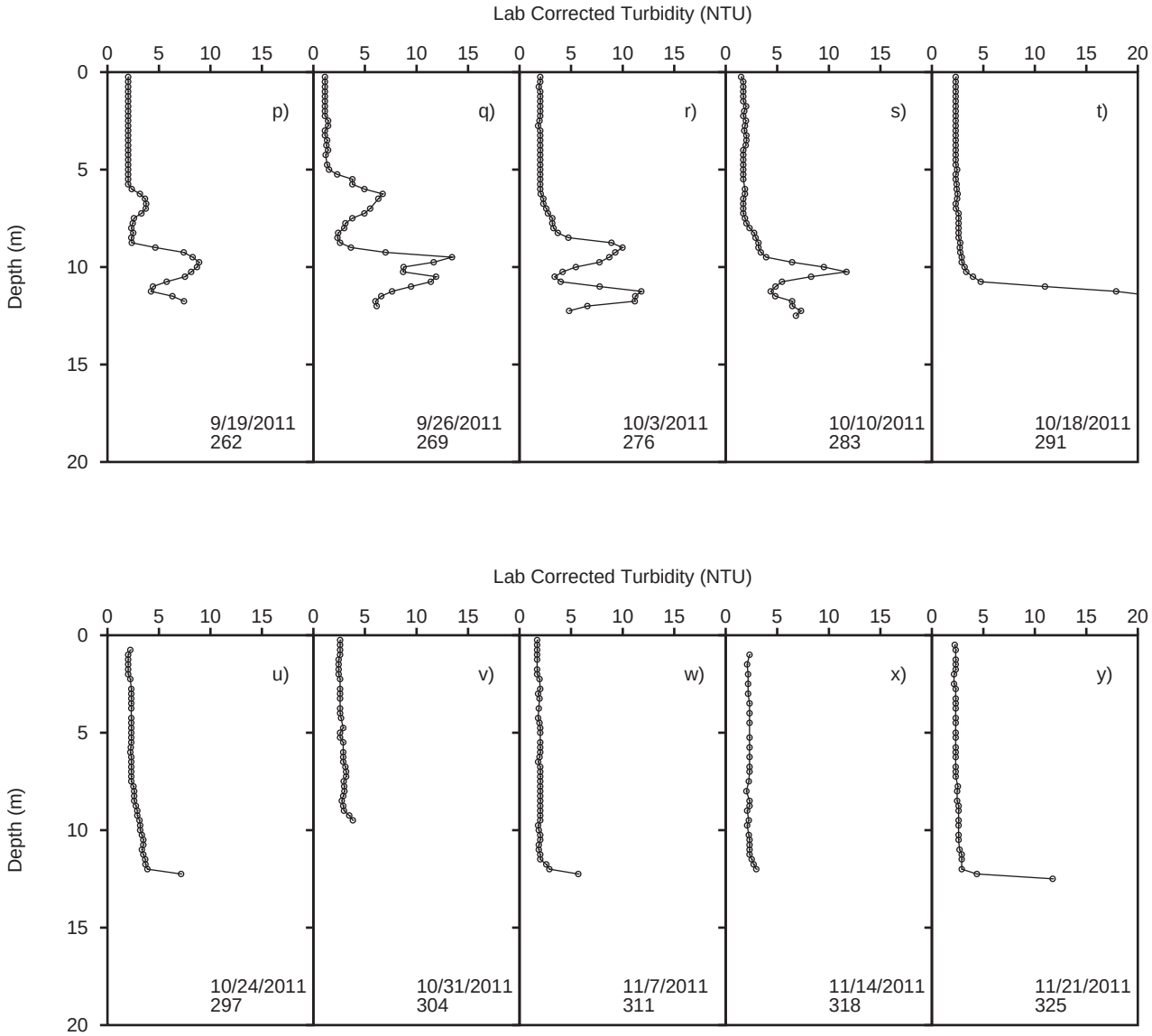
Fri Feb 03 14:58:04 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-5



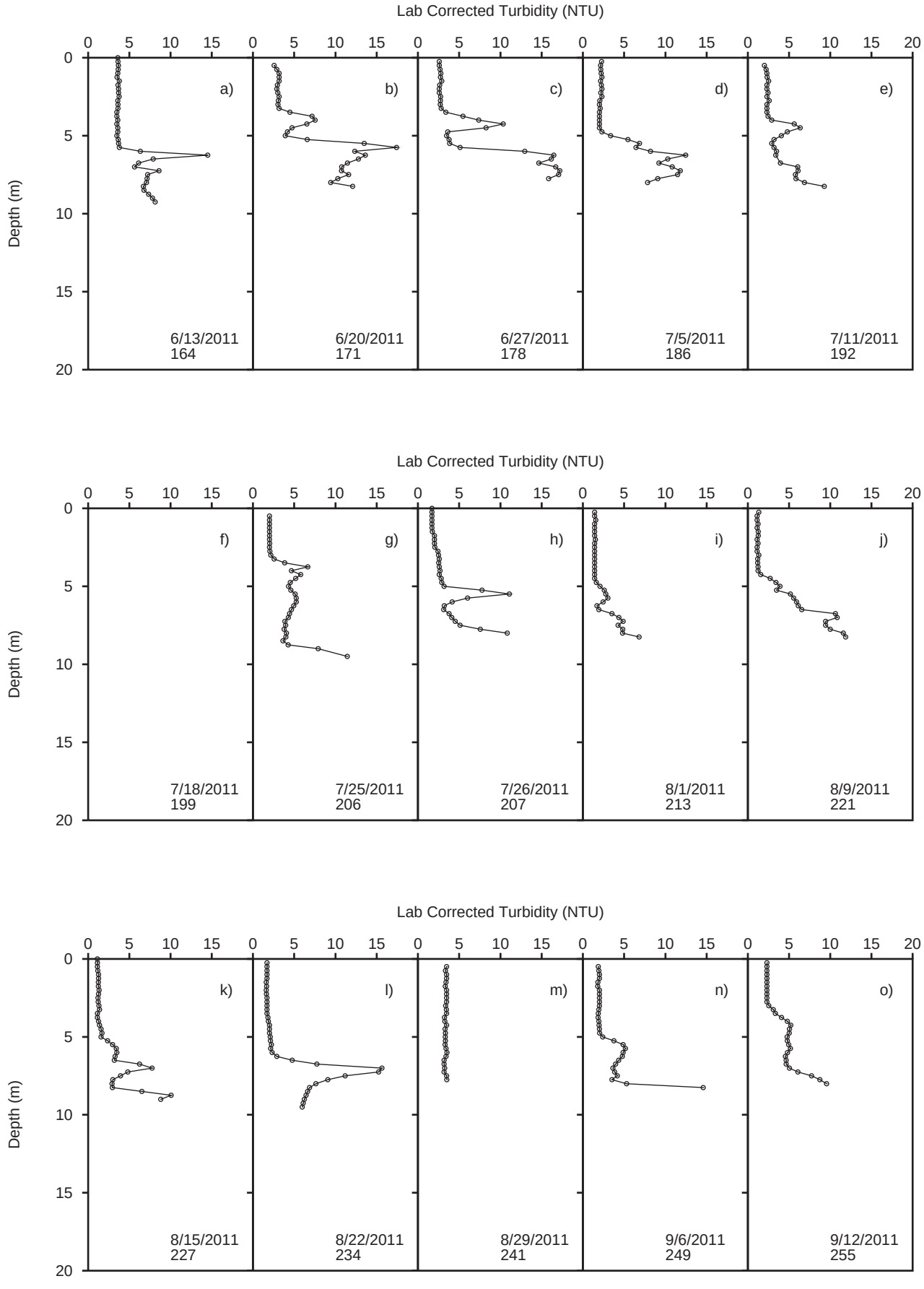
Fri Feb 03 14:18:55 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-5



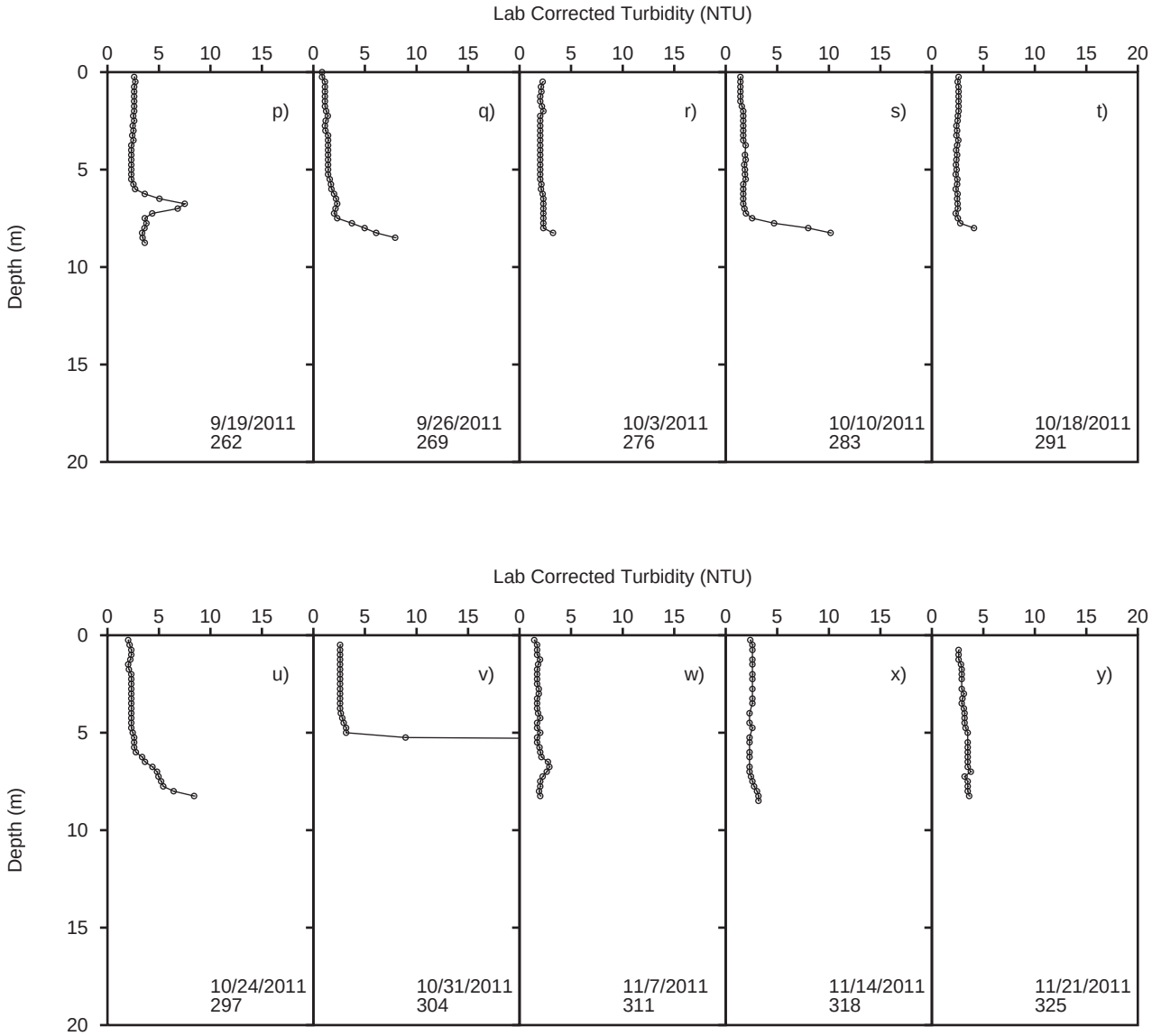
Fri Feb 03 14:18:55 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-6



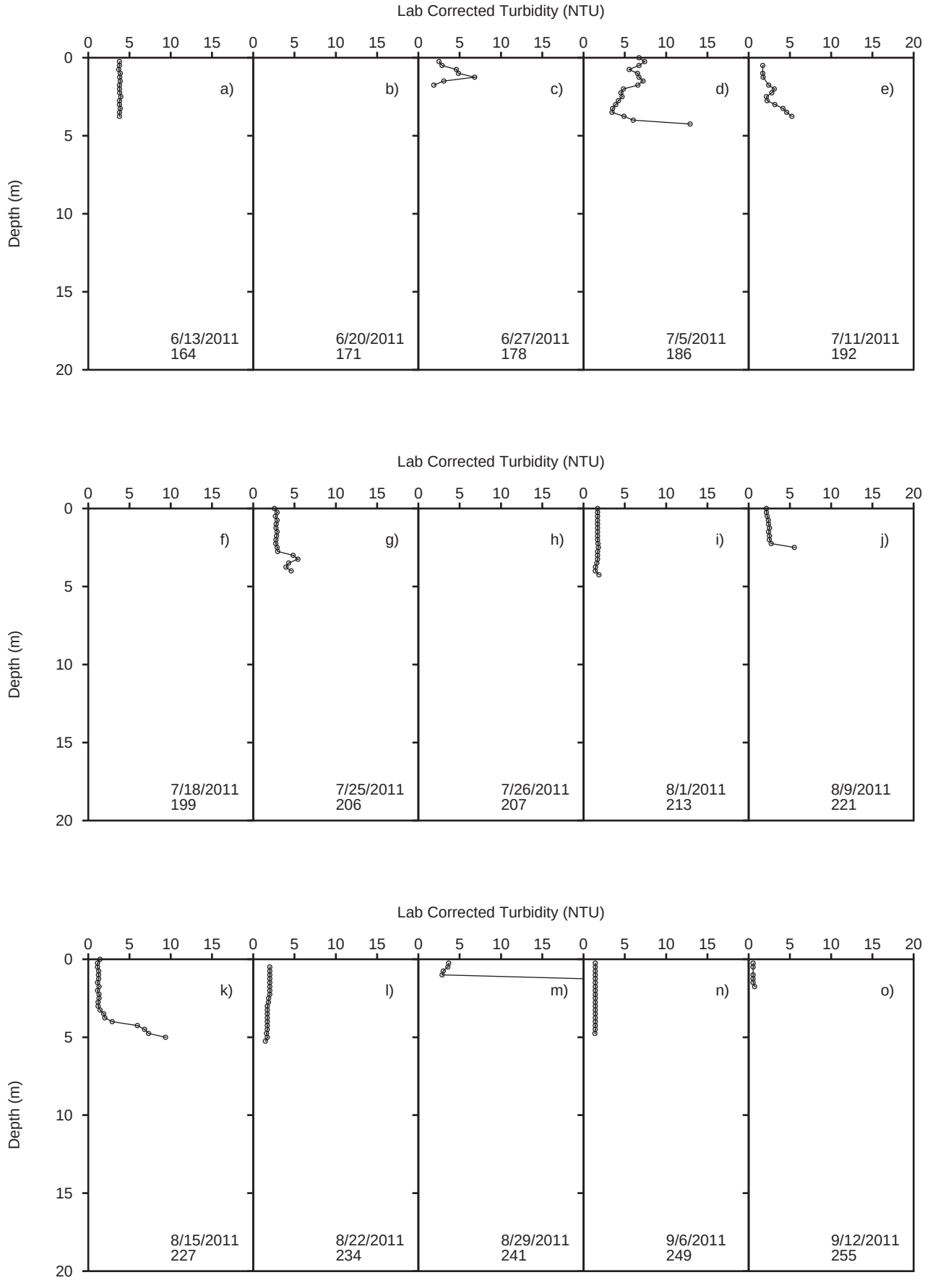
Fri Feb 03 14:22:31 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-6



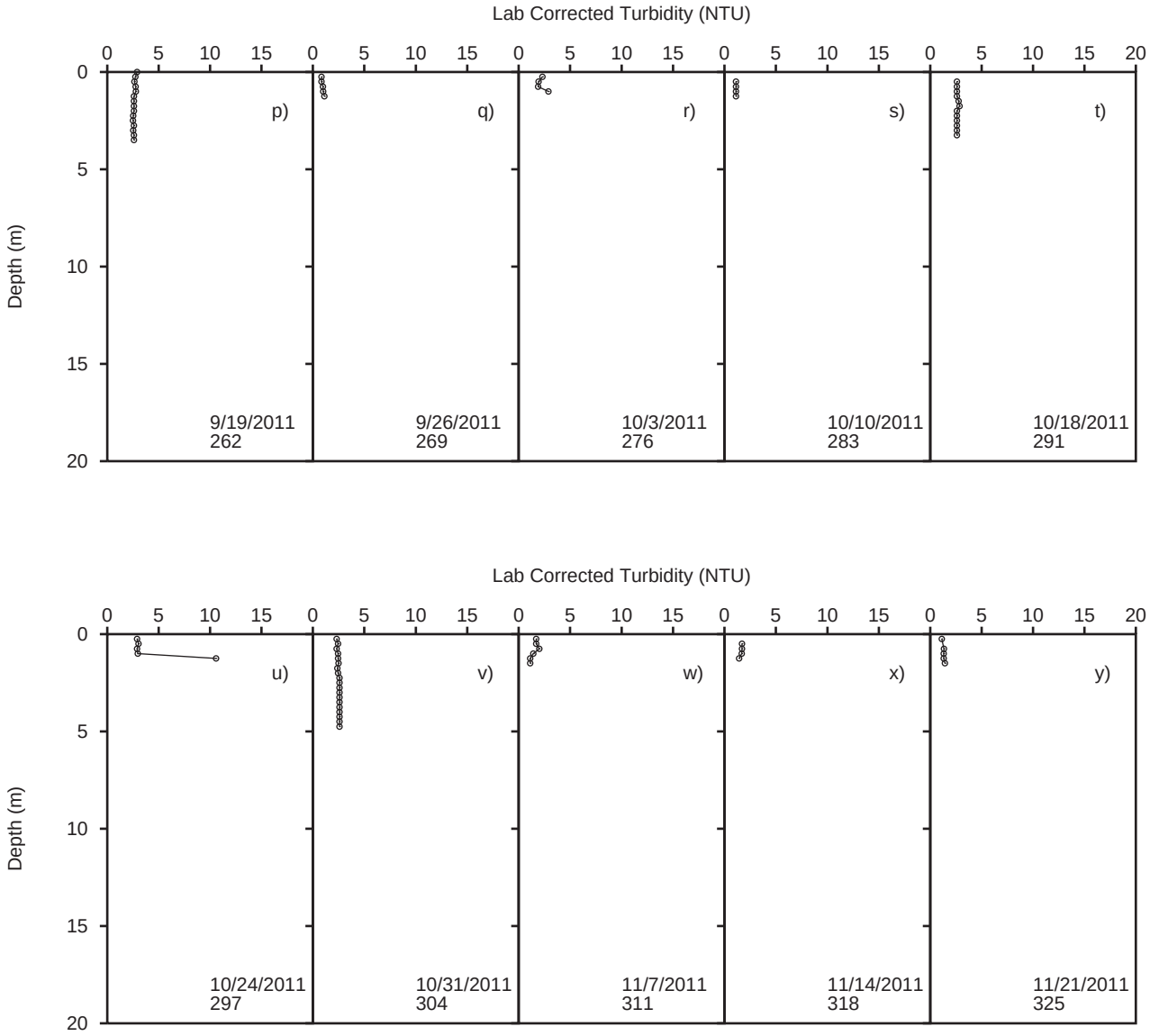
Fri Feb 03 14:22:31 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-7



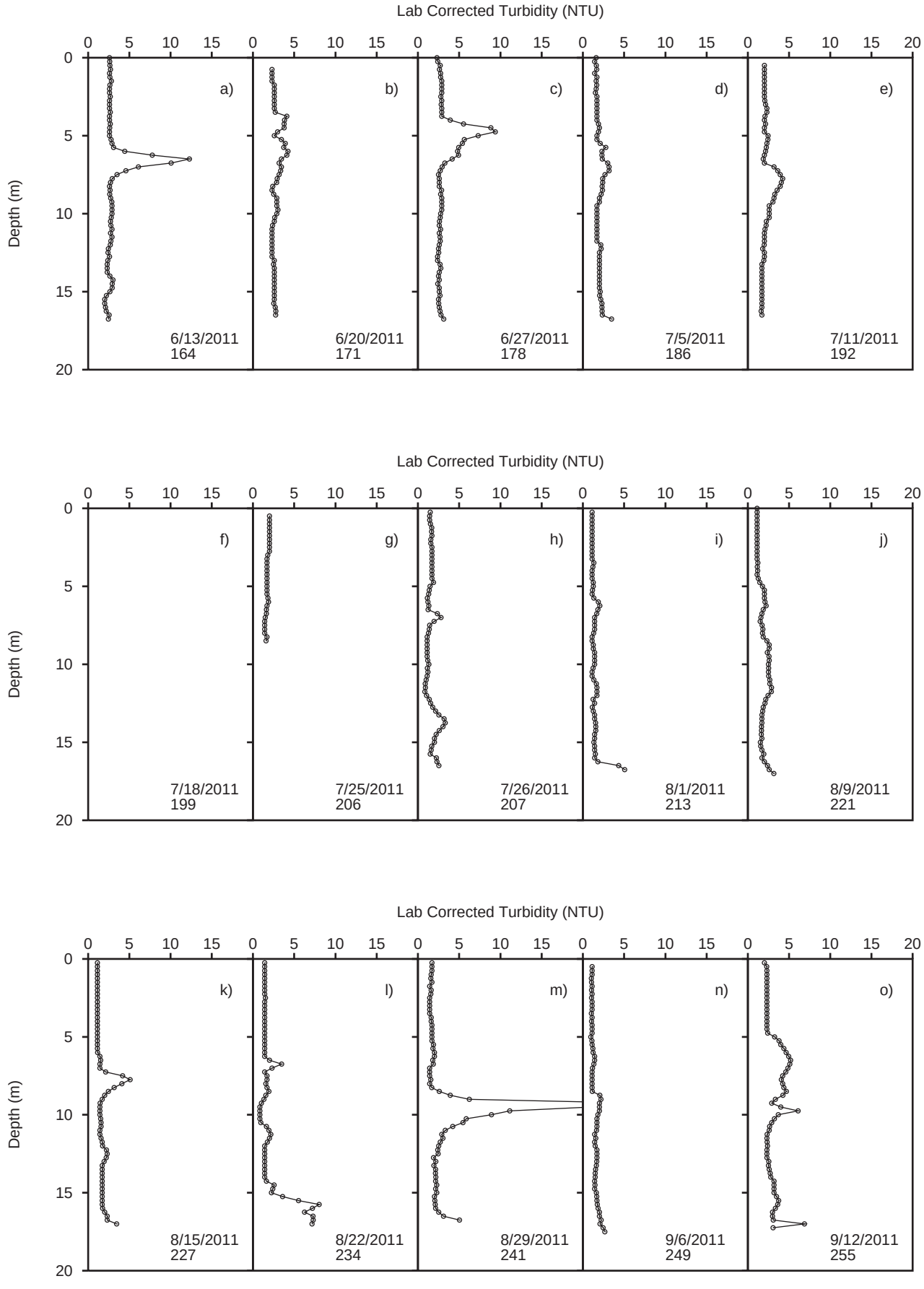
Fri Feb 03 14:26:35 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-7



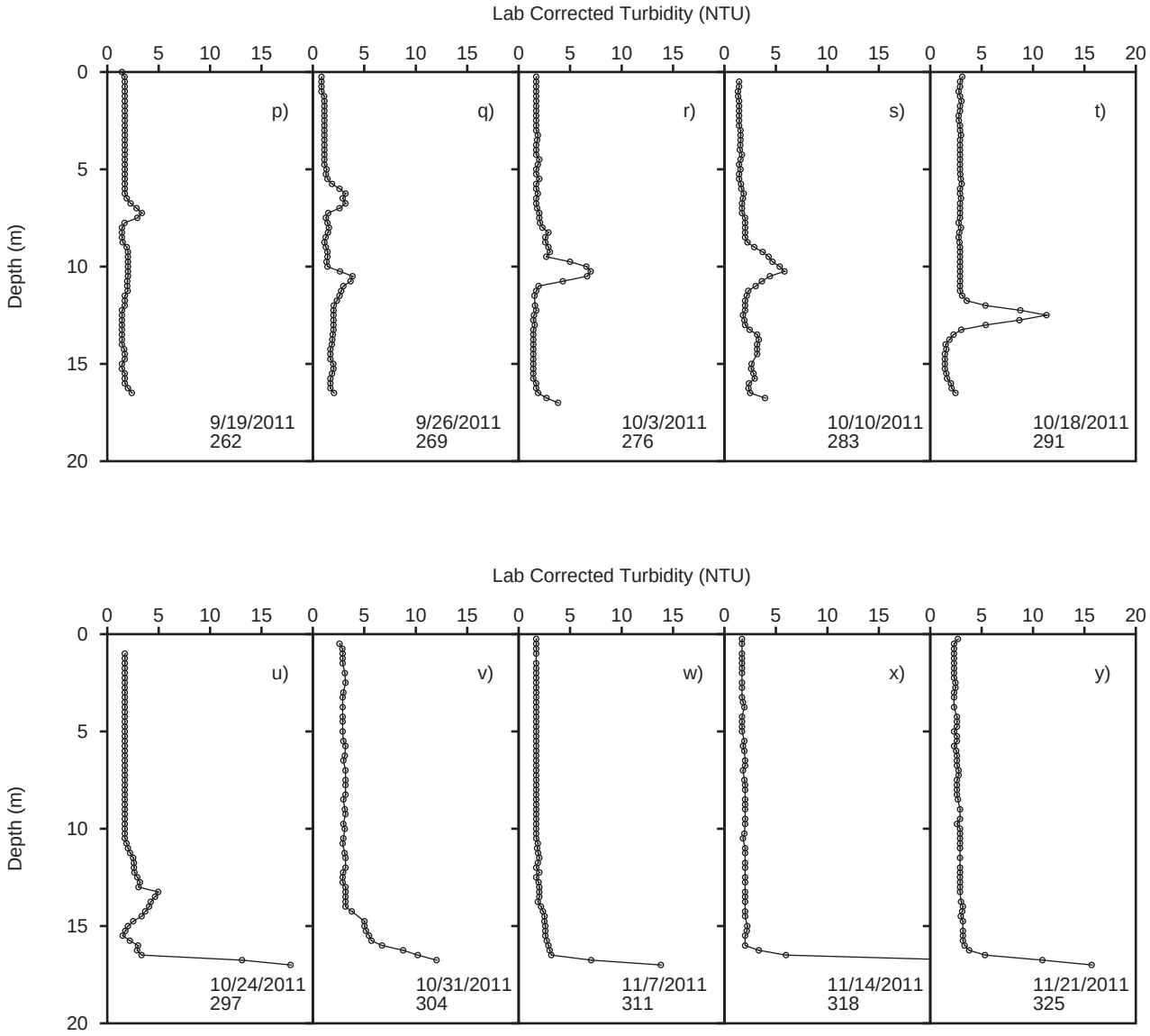
Fri Feb 03 14:26:35 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-8



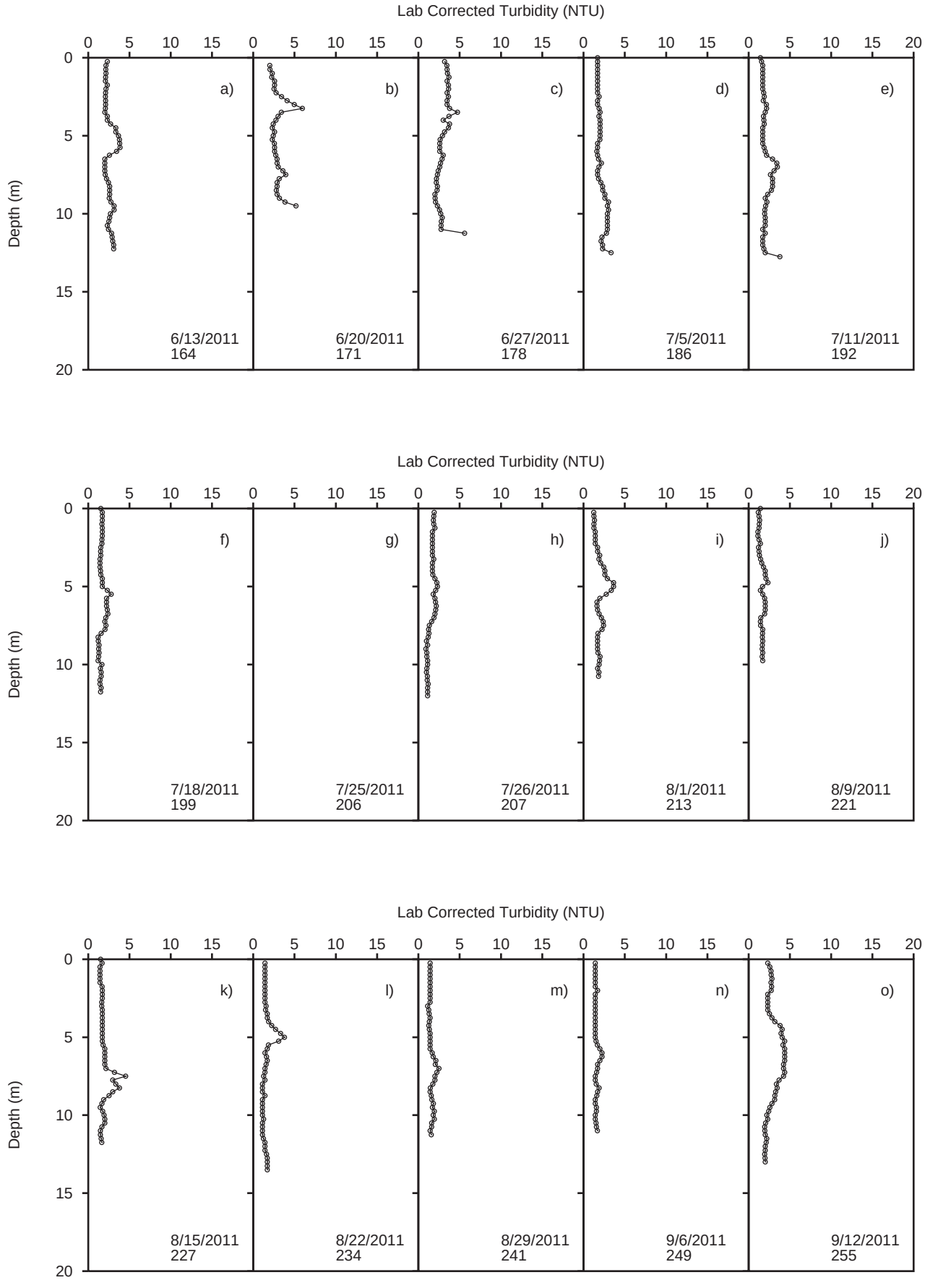
Fri Feb 03 14:30:11 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-8



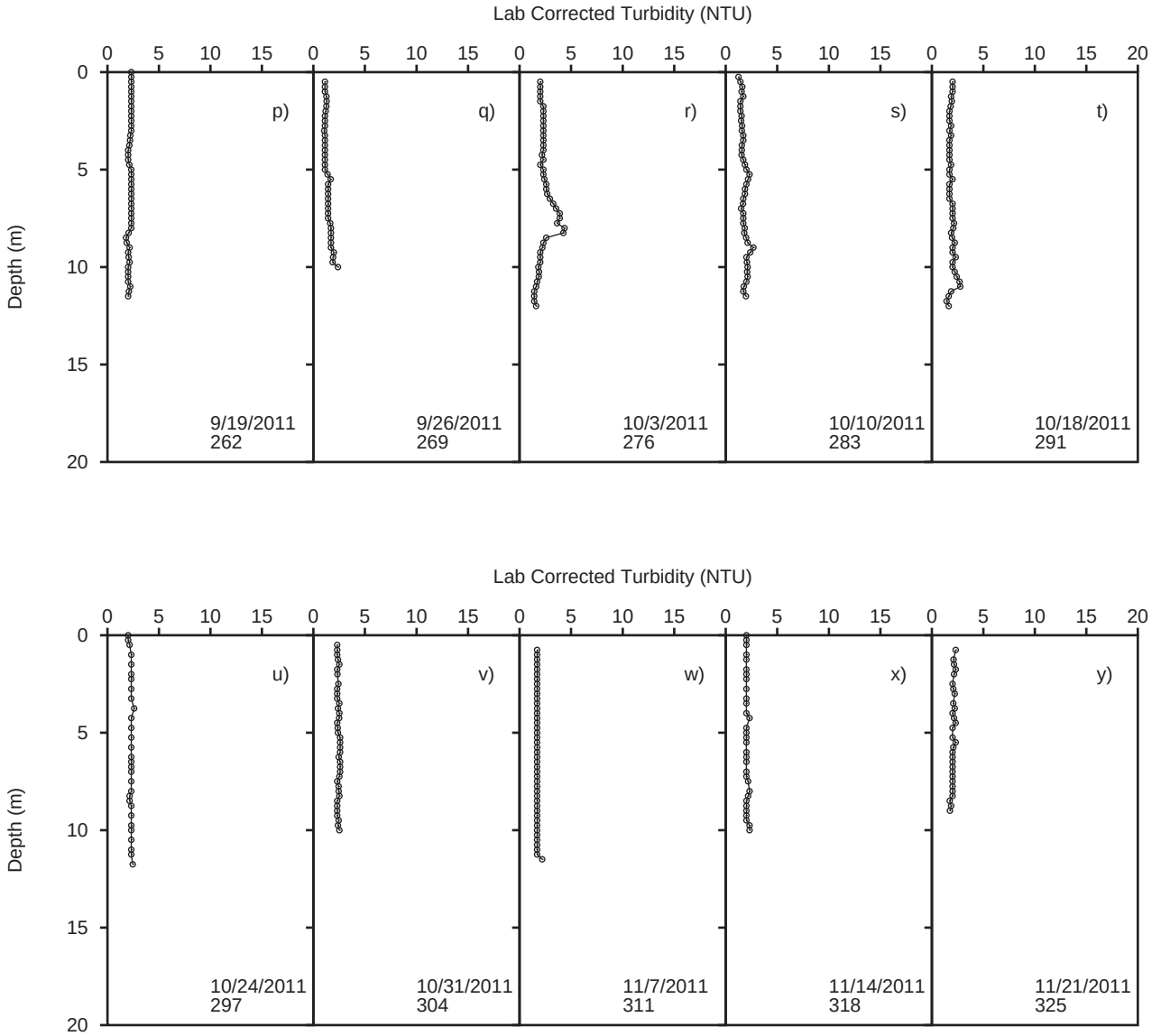
Fri Feb 03 14:30:11 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-9



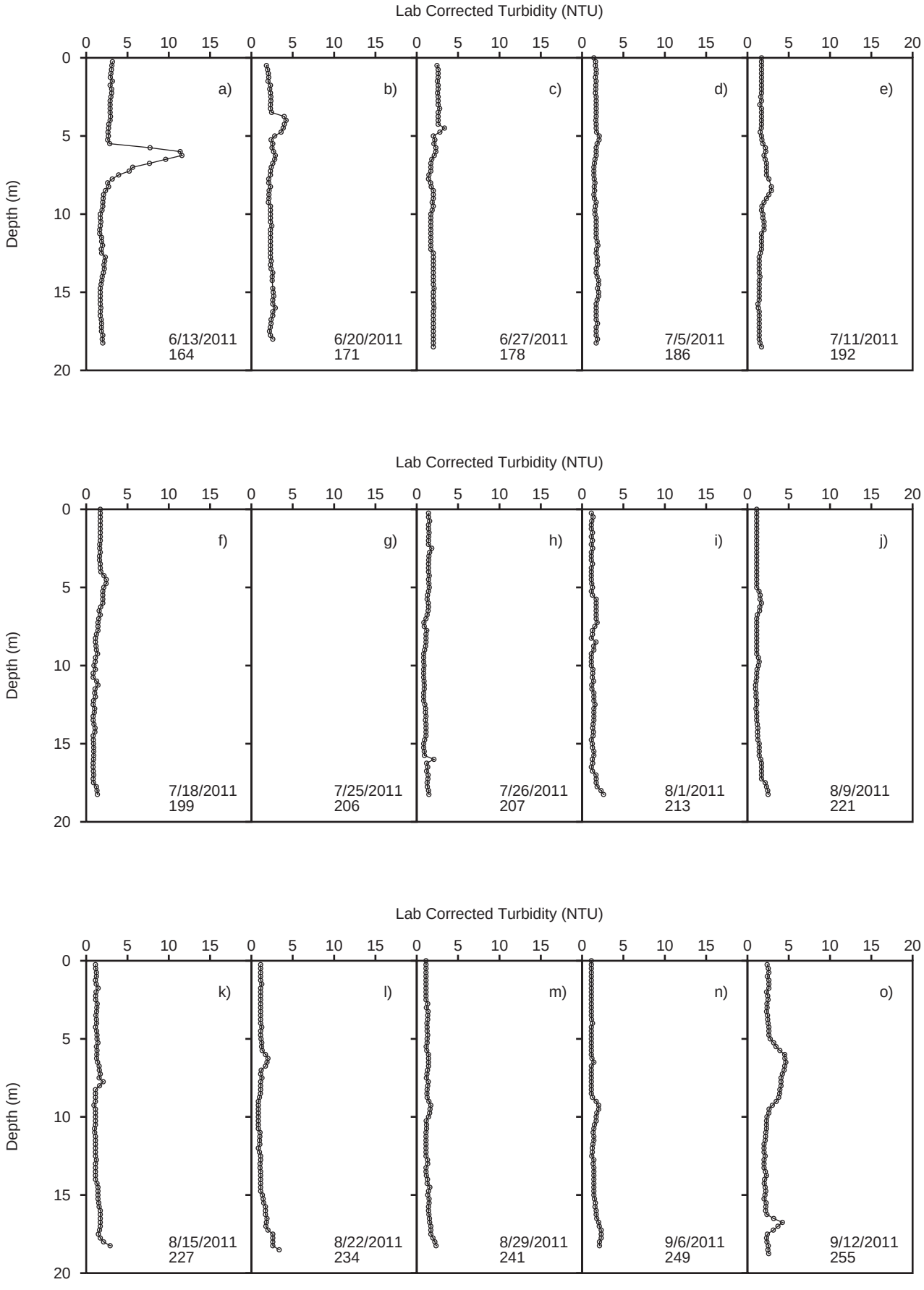
Fri Feb 03 14:36:53 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-9



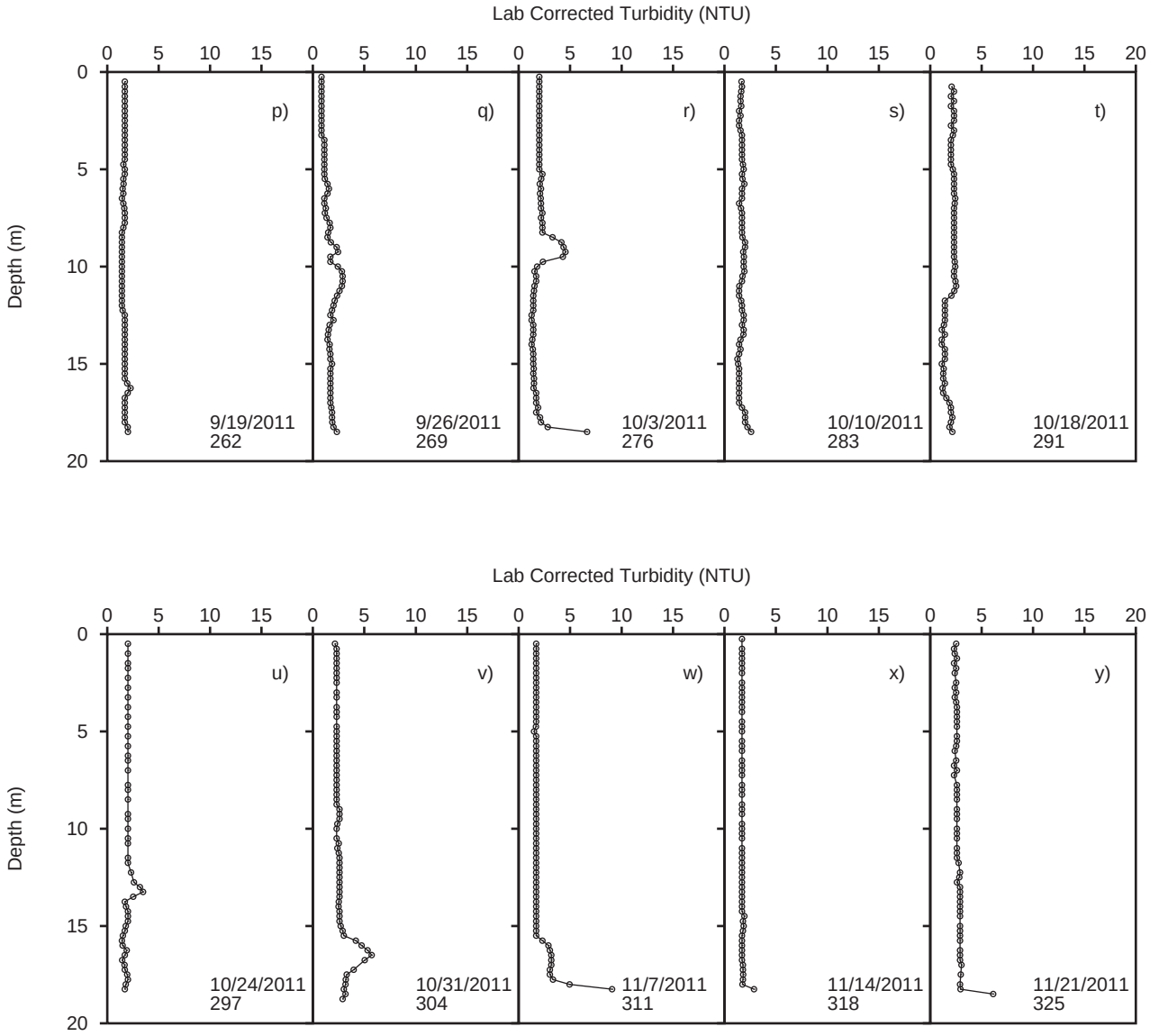
Fri Feb 03 14:36:53 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-11



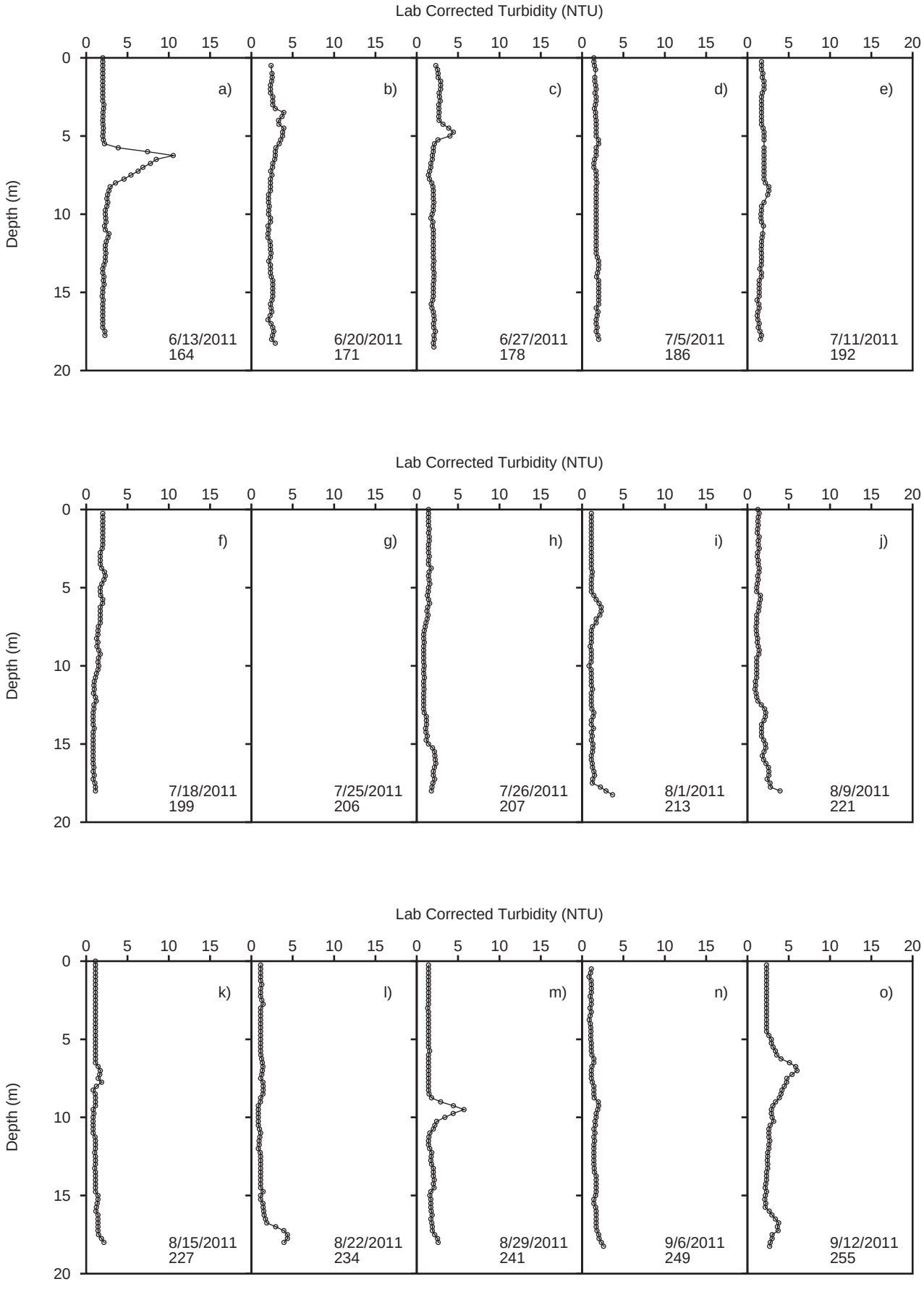
Fri Feb 03 14:40:58 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-11



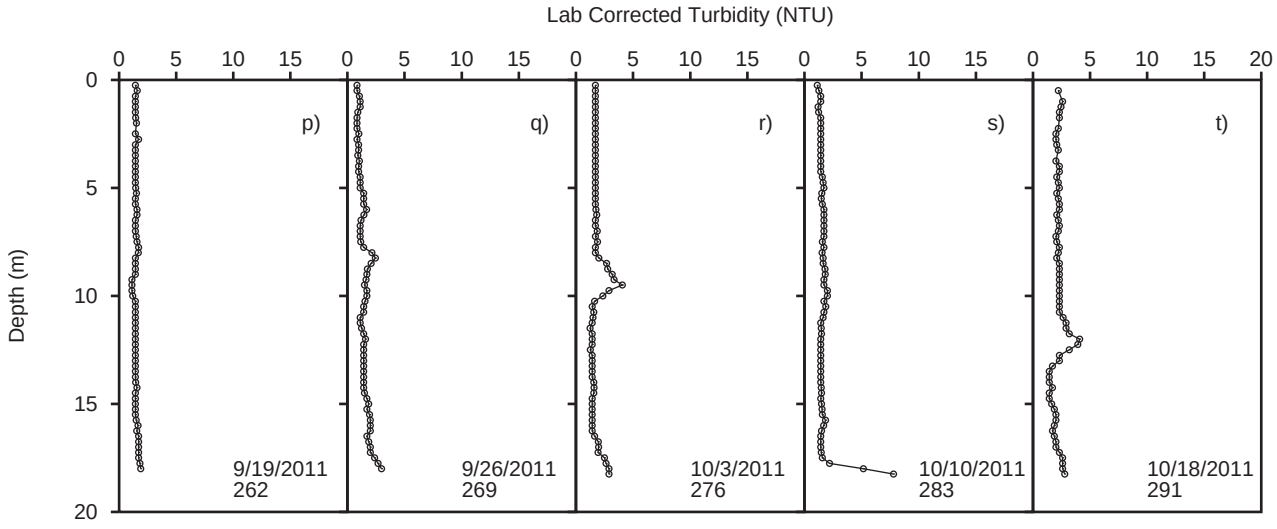
Fri Feb 03 14:40:58 2012

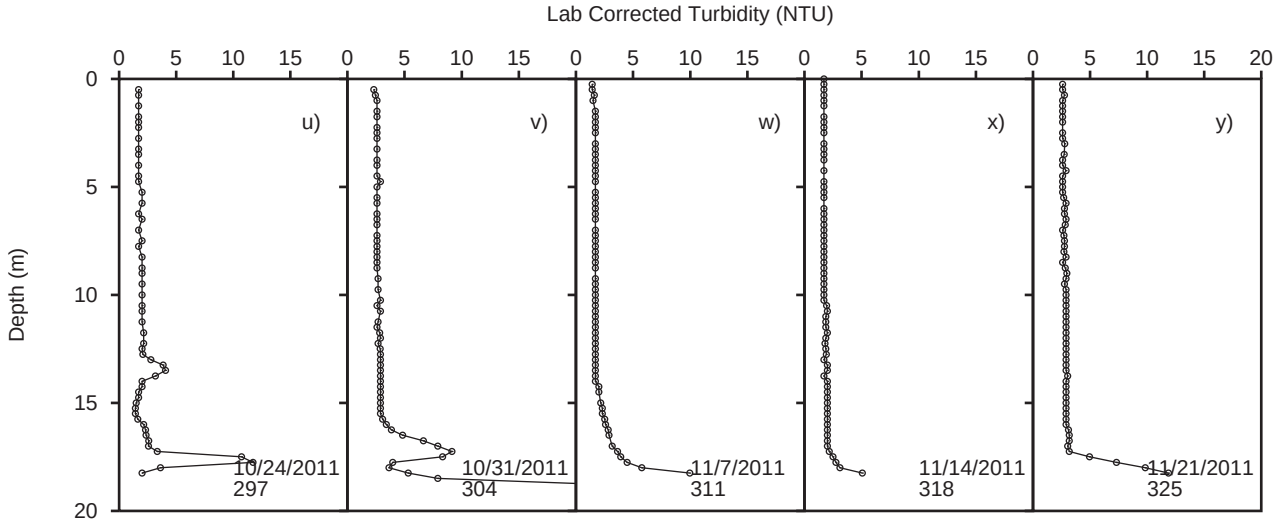
2011 Turbidity Profiles for Onondaga Lake ISUS-12



Fri Feb 03 14:42:48 2012

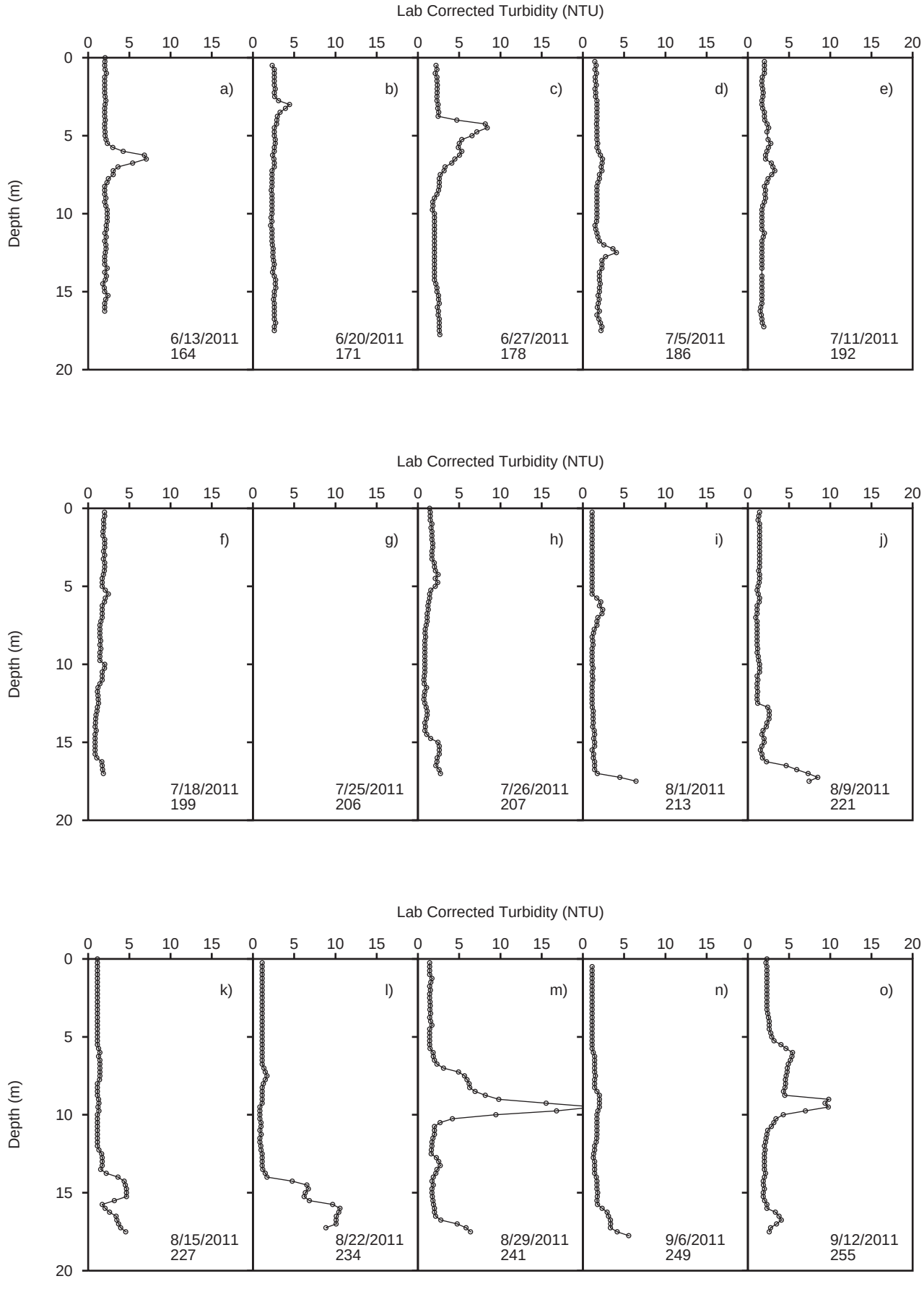
2011 Turbidity Profiles for Onondaga Lake ISUS-12





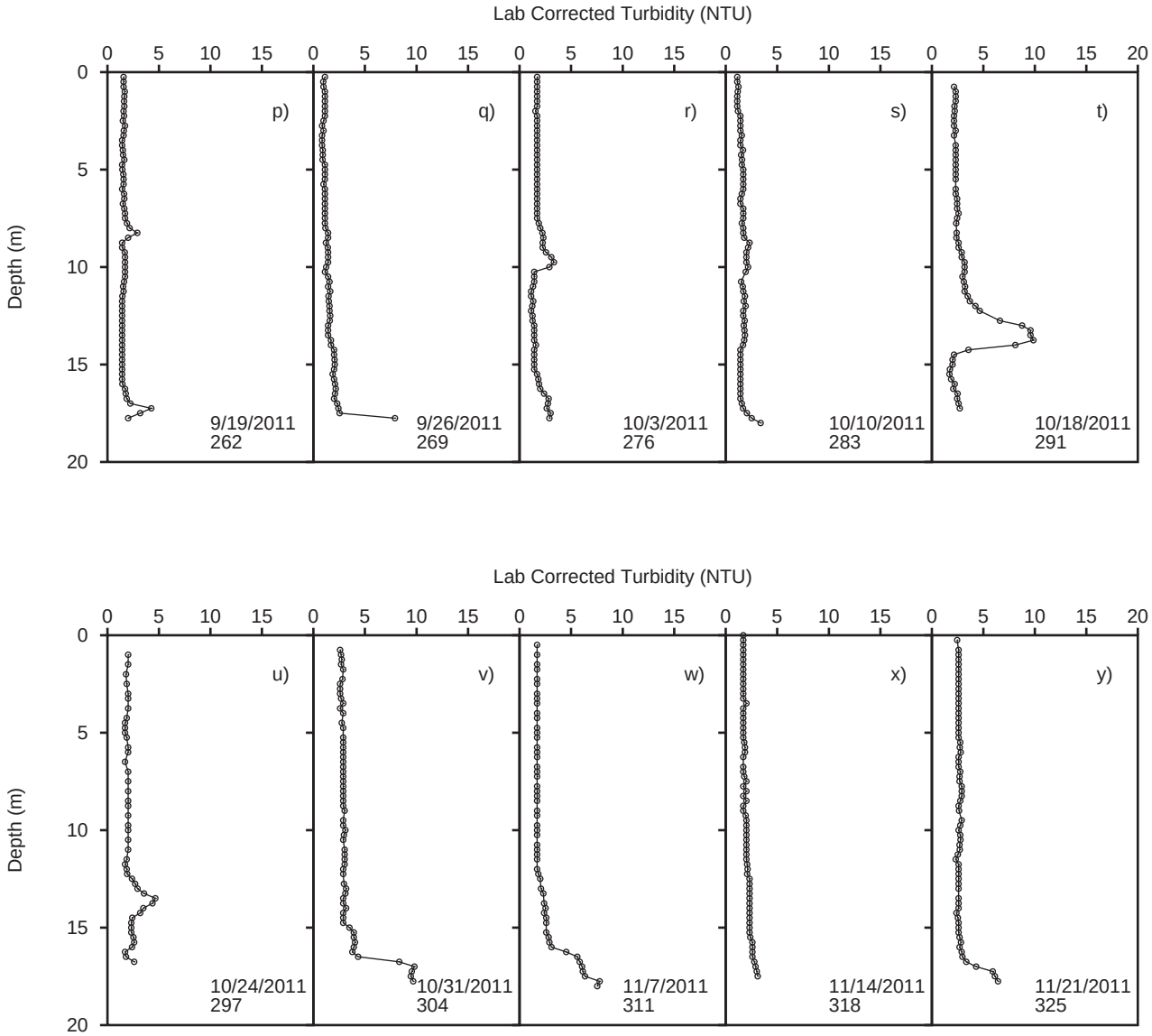
Fri Feb 03 14:42:48 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-13



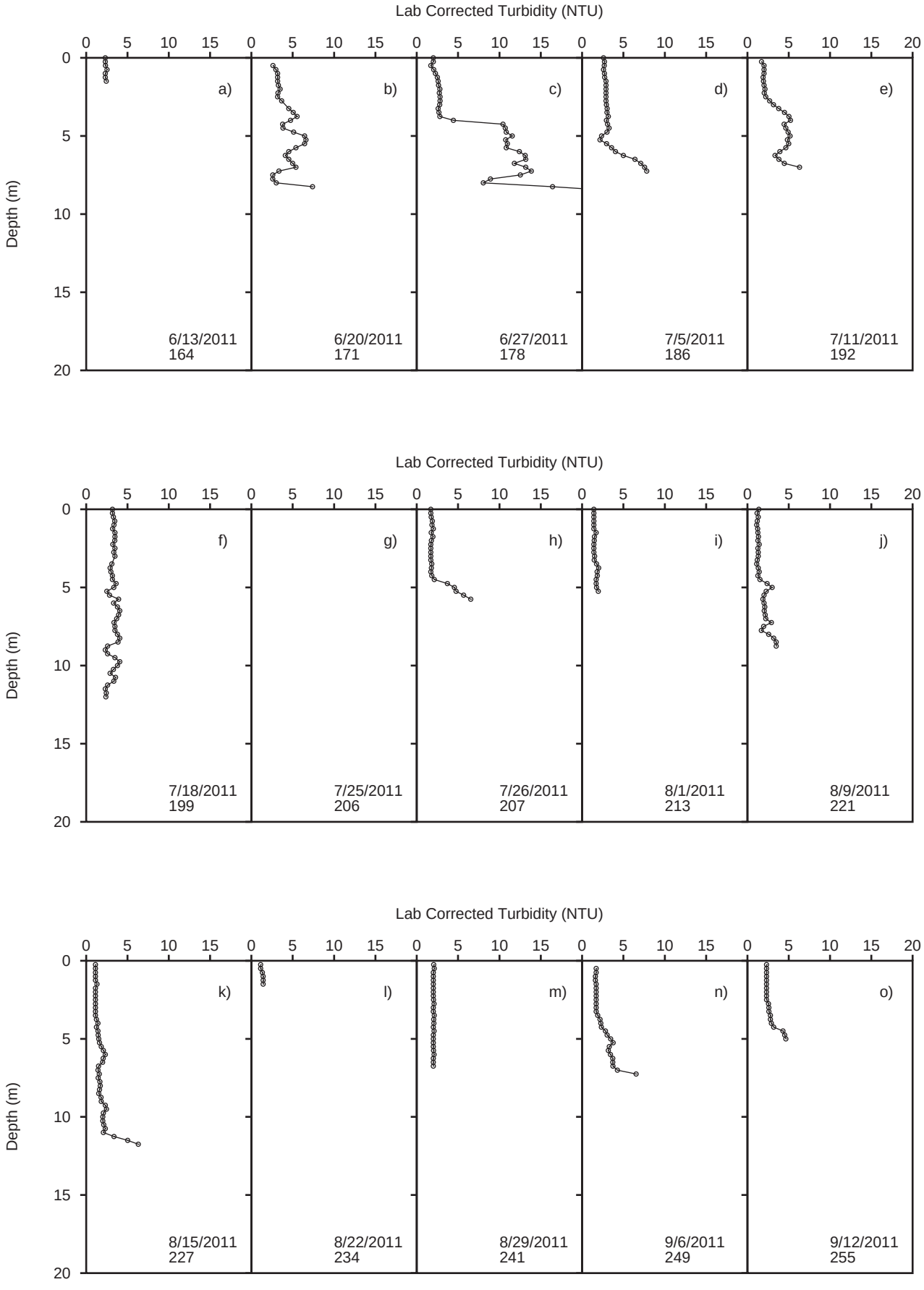
Fri Feb 03 14:45:23 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-13



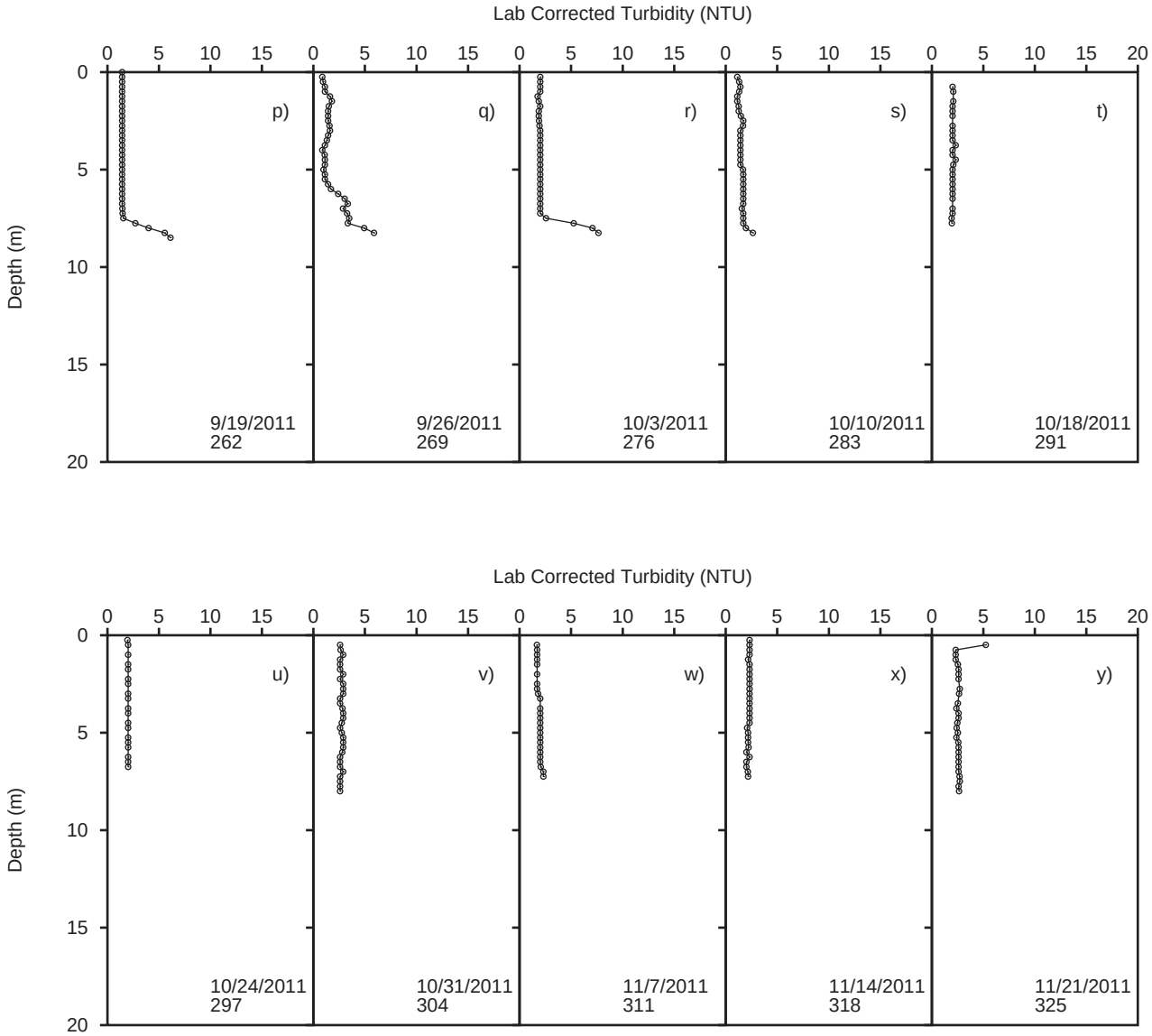
Fri Feb 03 14:45:23 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-15



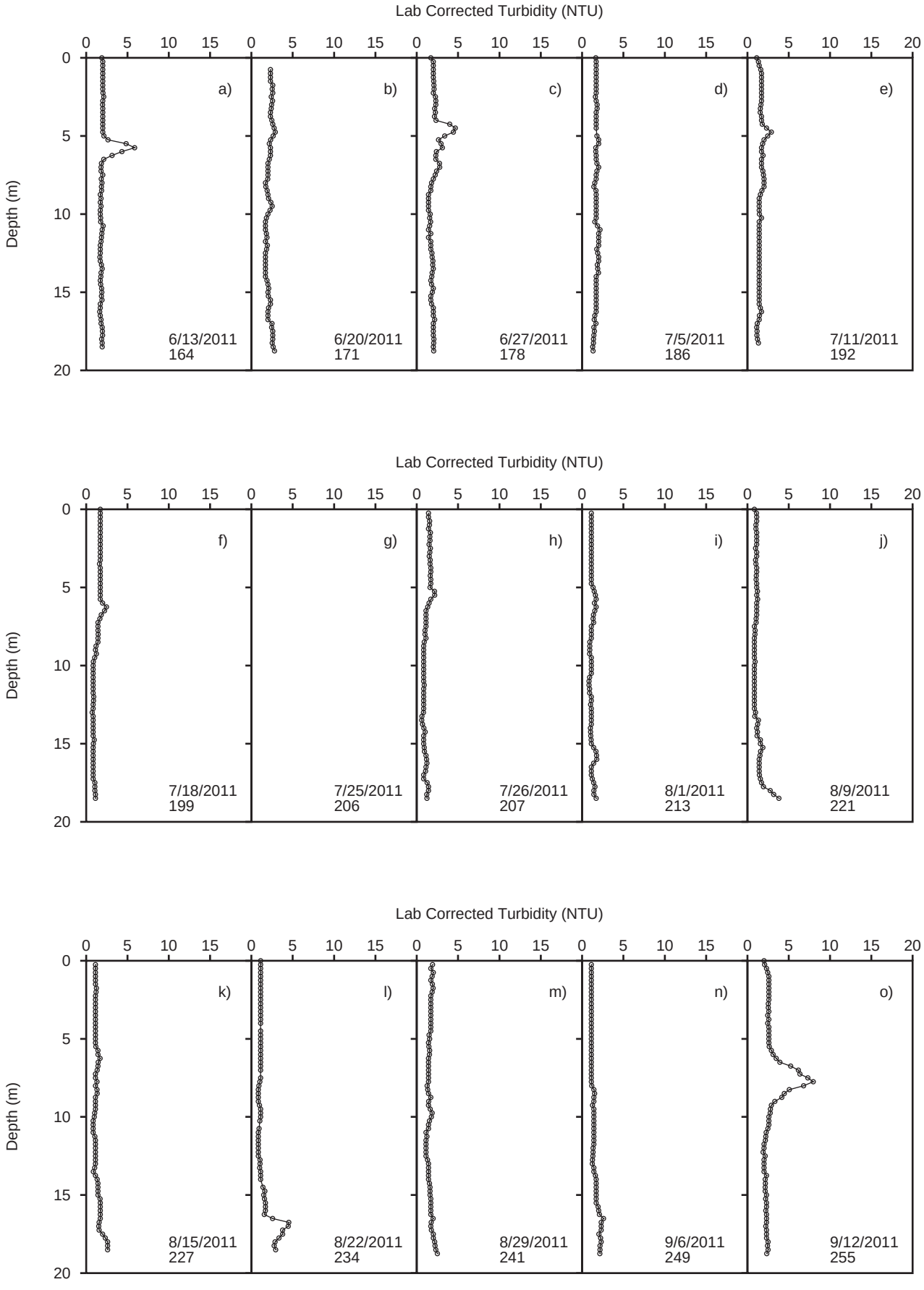
Fri Feb 03 14:47:00 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-15



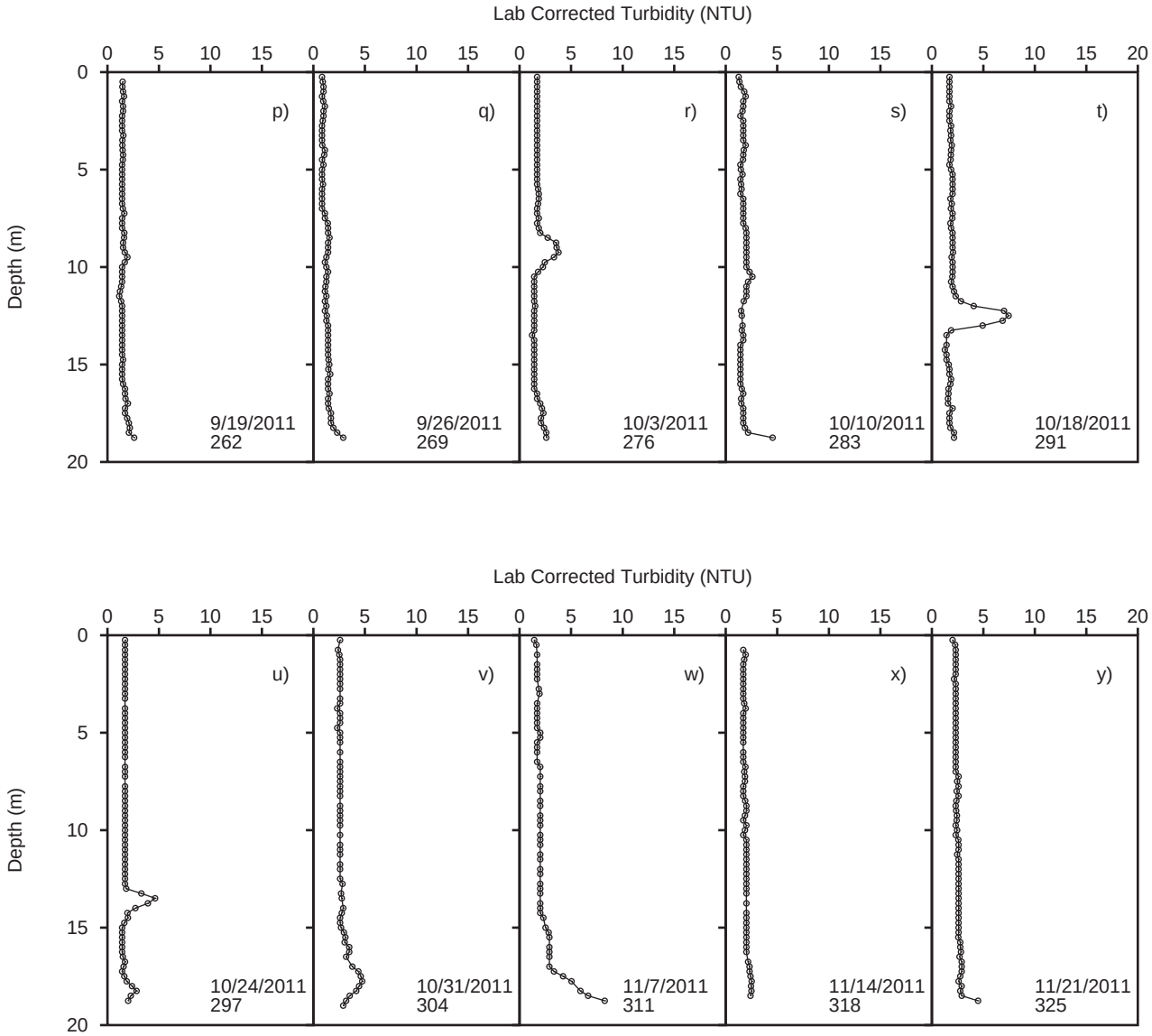
Fri Feb 03 14:47:00 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-18



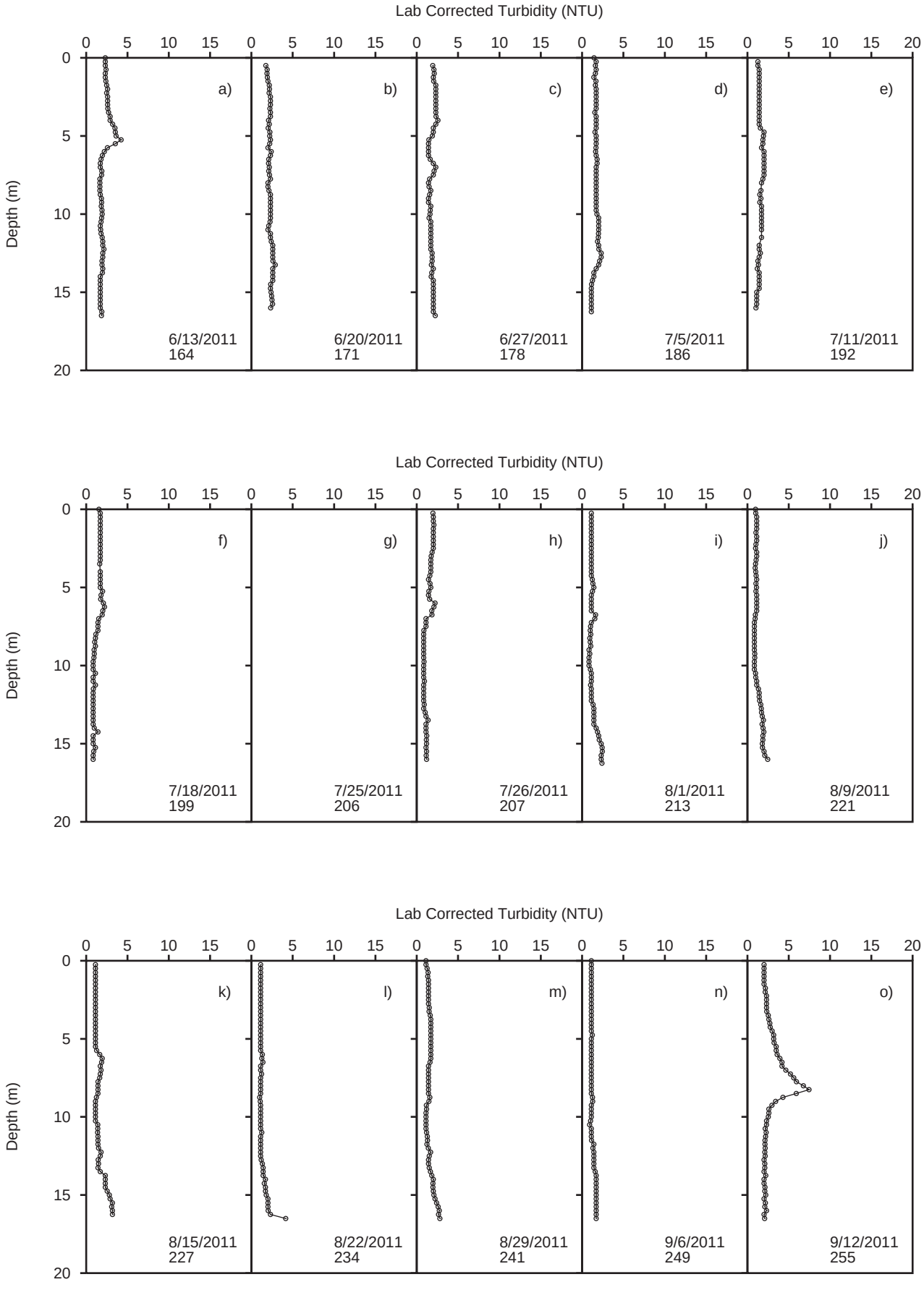
Fri Feb 03 14:49:14 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-18



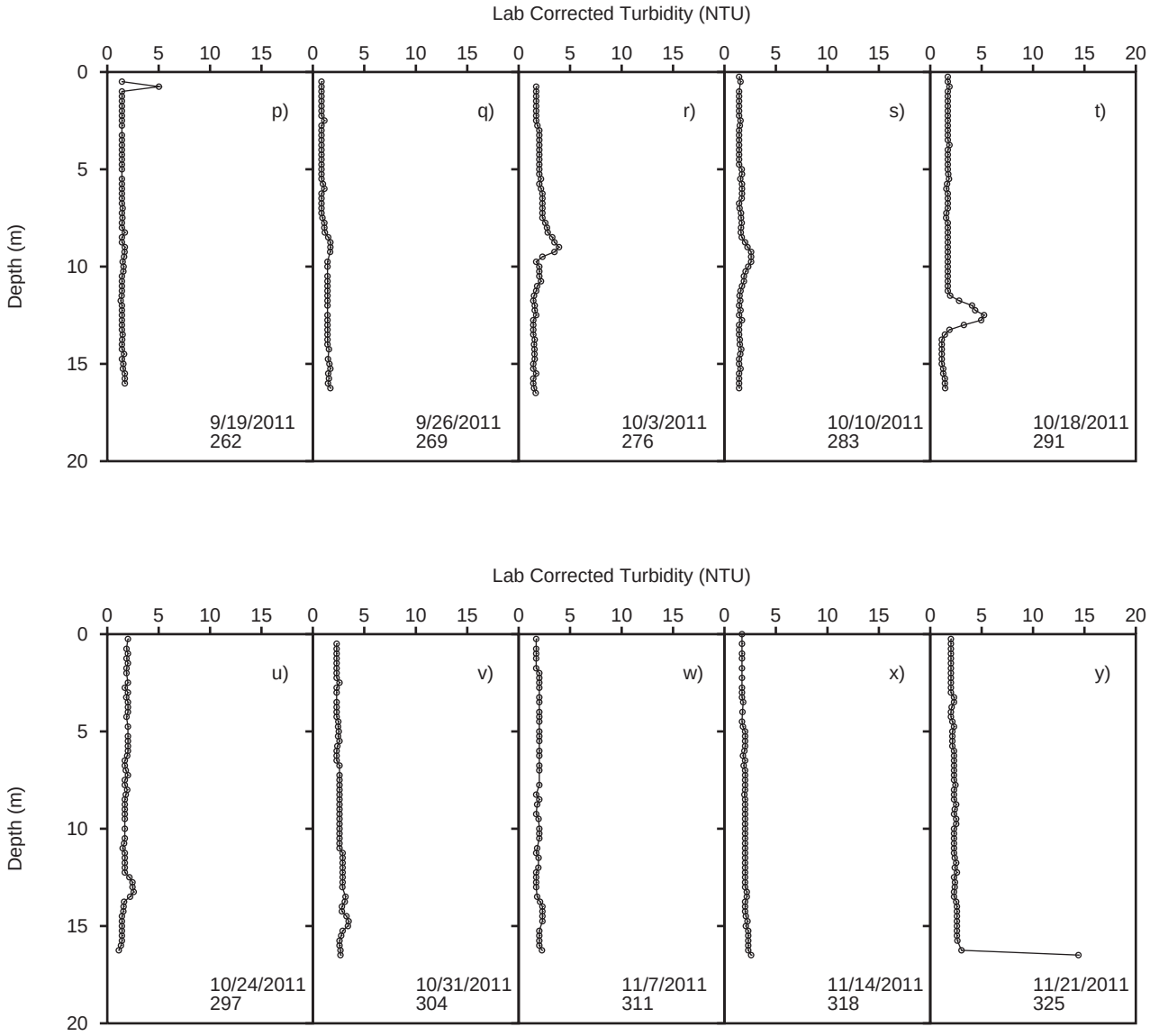
Fri Feb 03 14:49:14 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-22



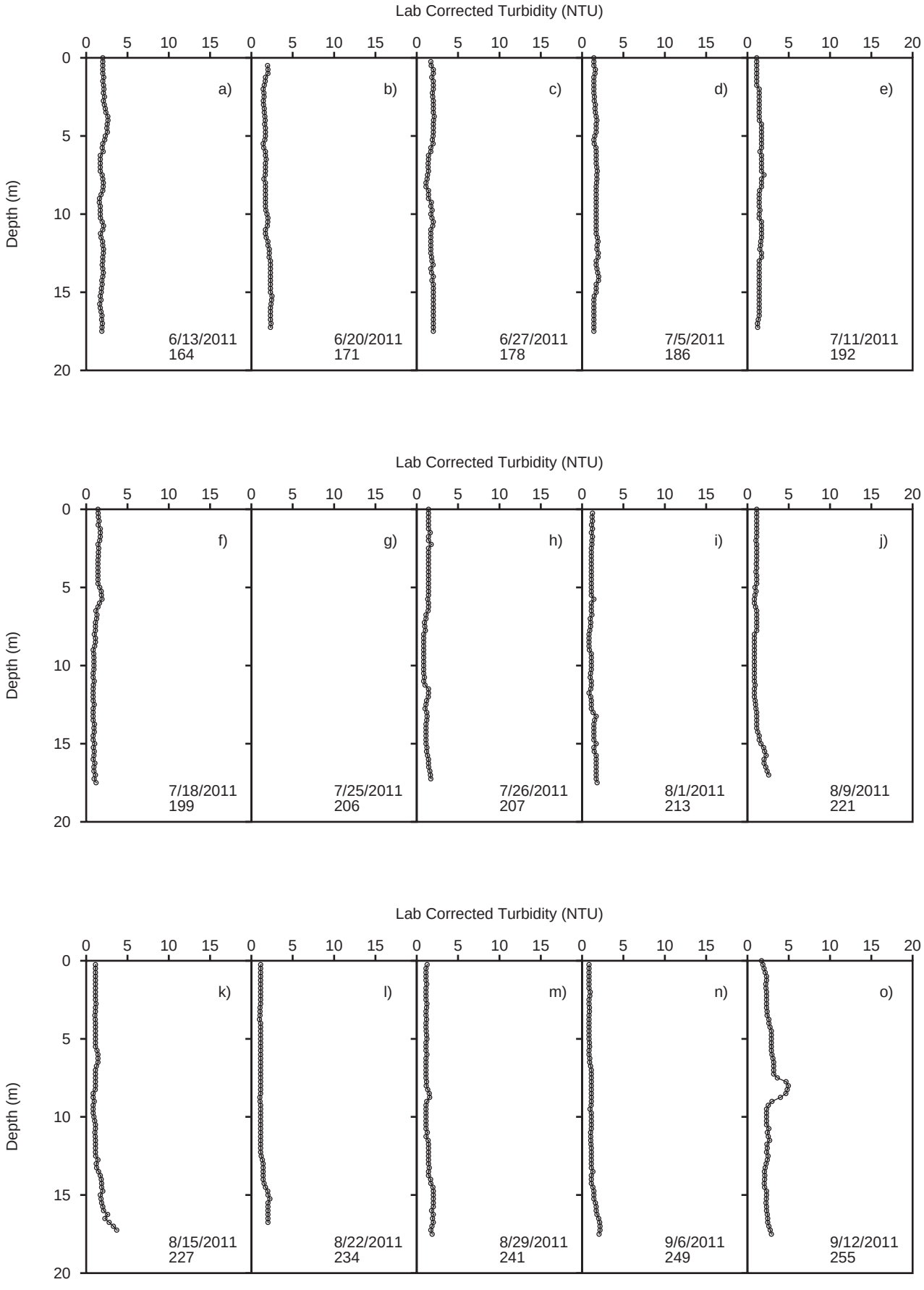
Fri Feb 03 14:51:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-22



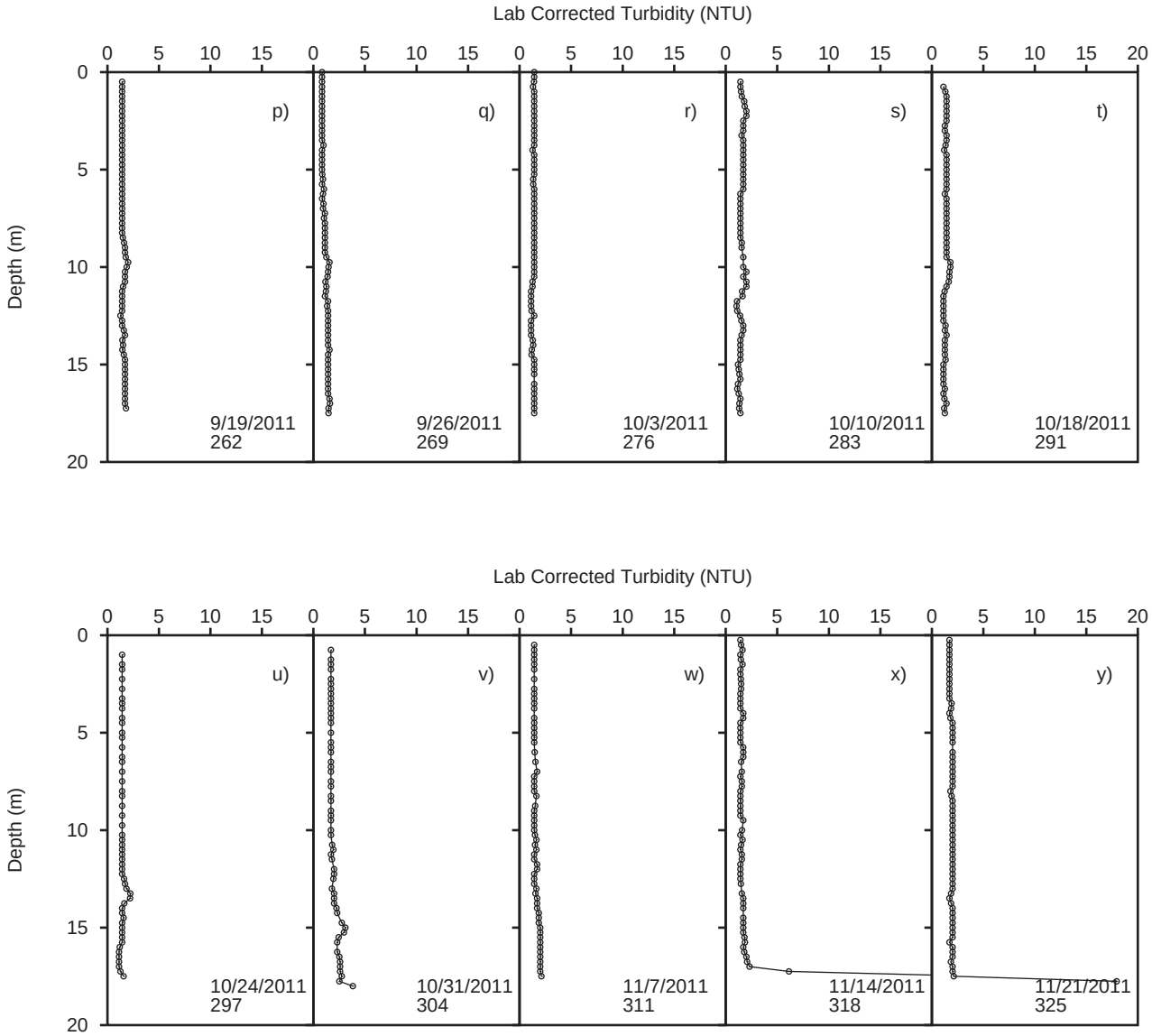
Fri Feb 03 14:51:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-27



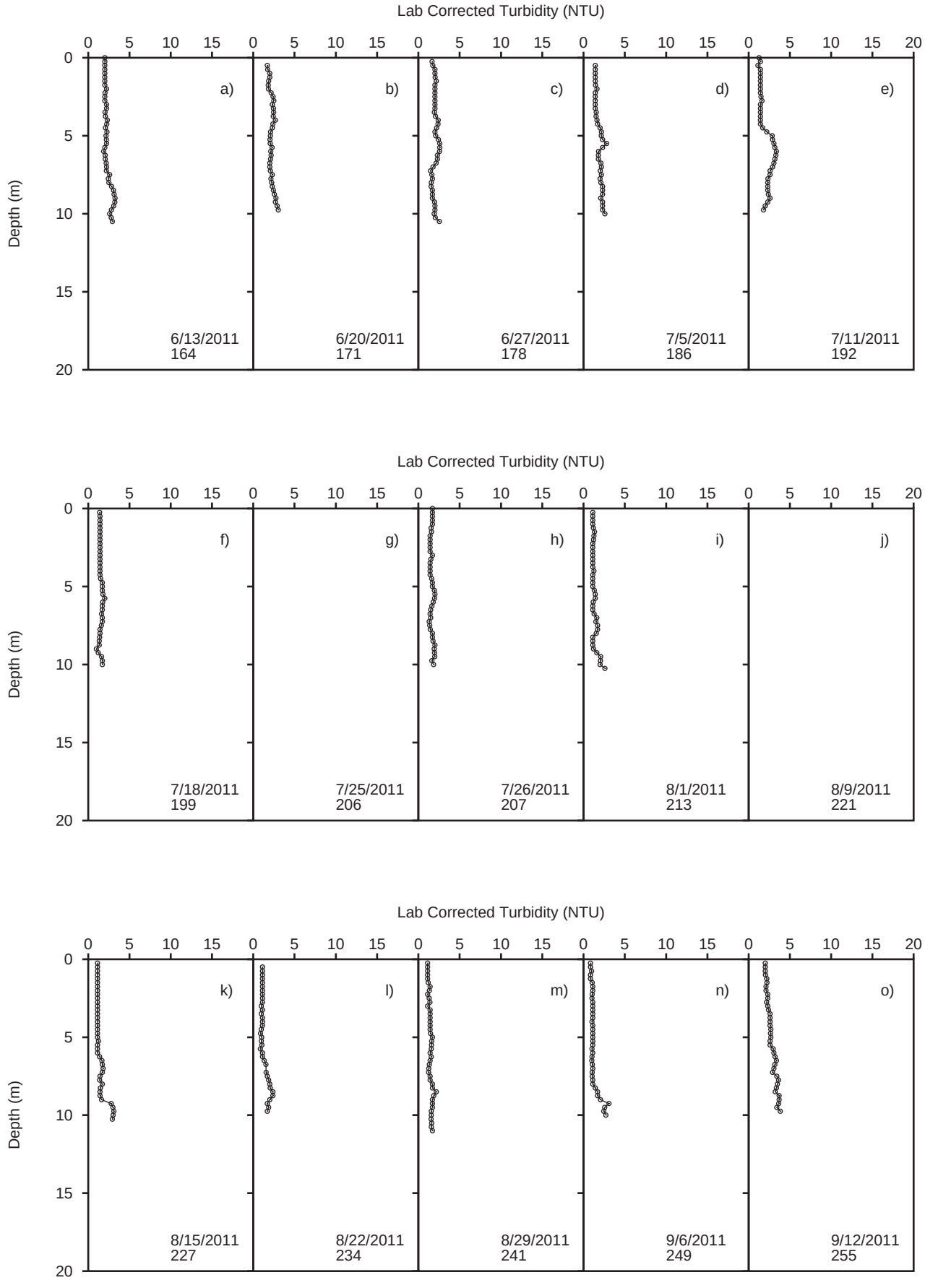
Fri Feb 03 14:53:05 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-27



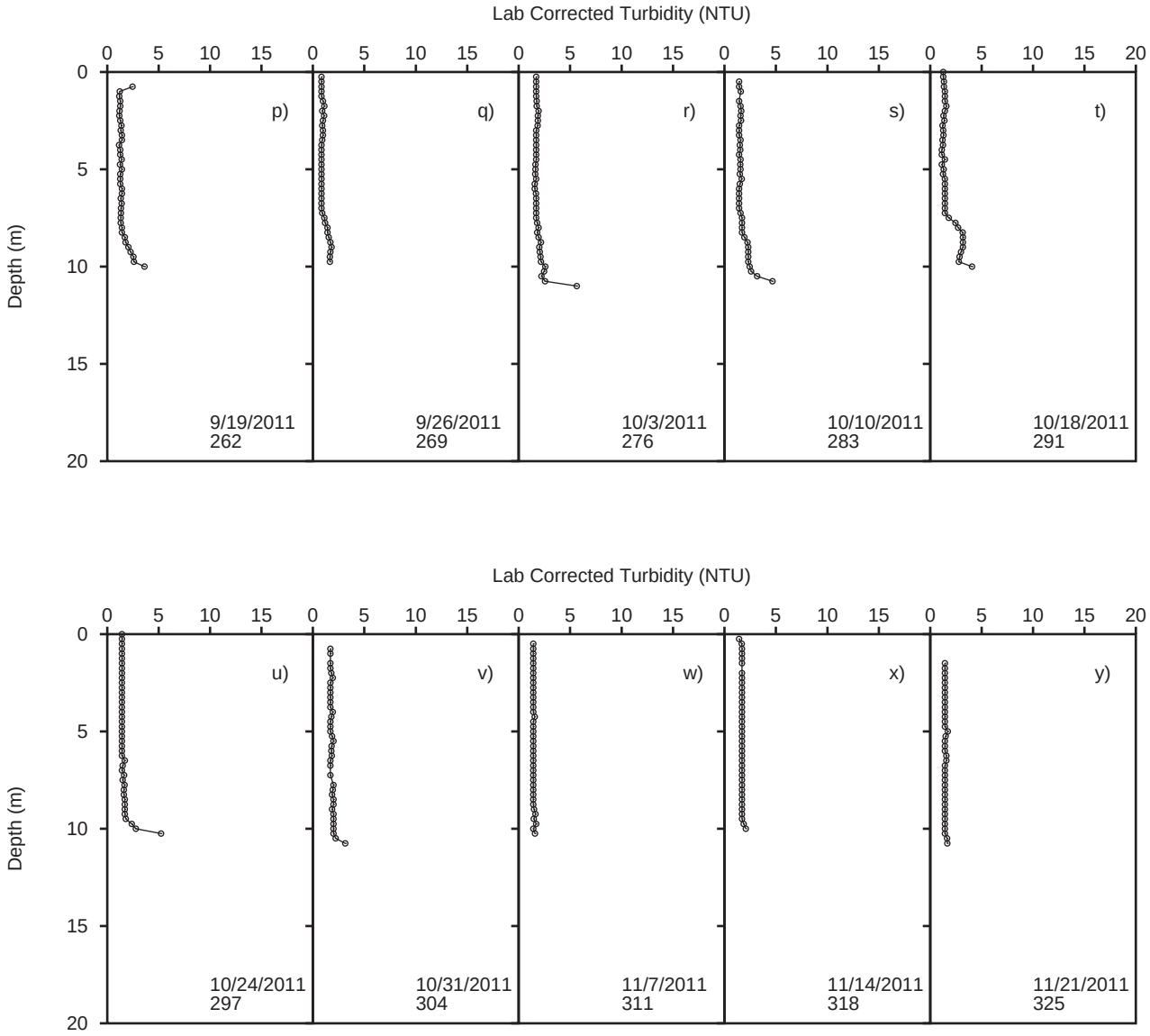
Fri Feb 03 14:53:05 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-34



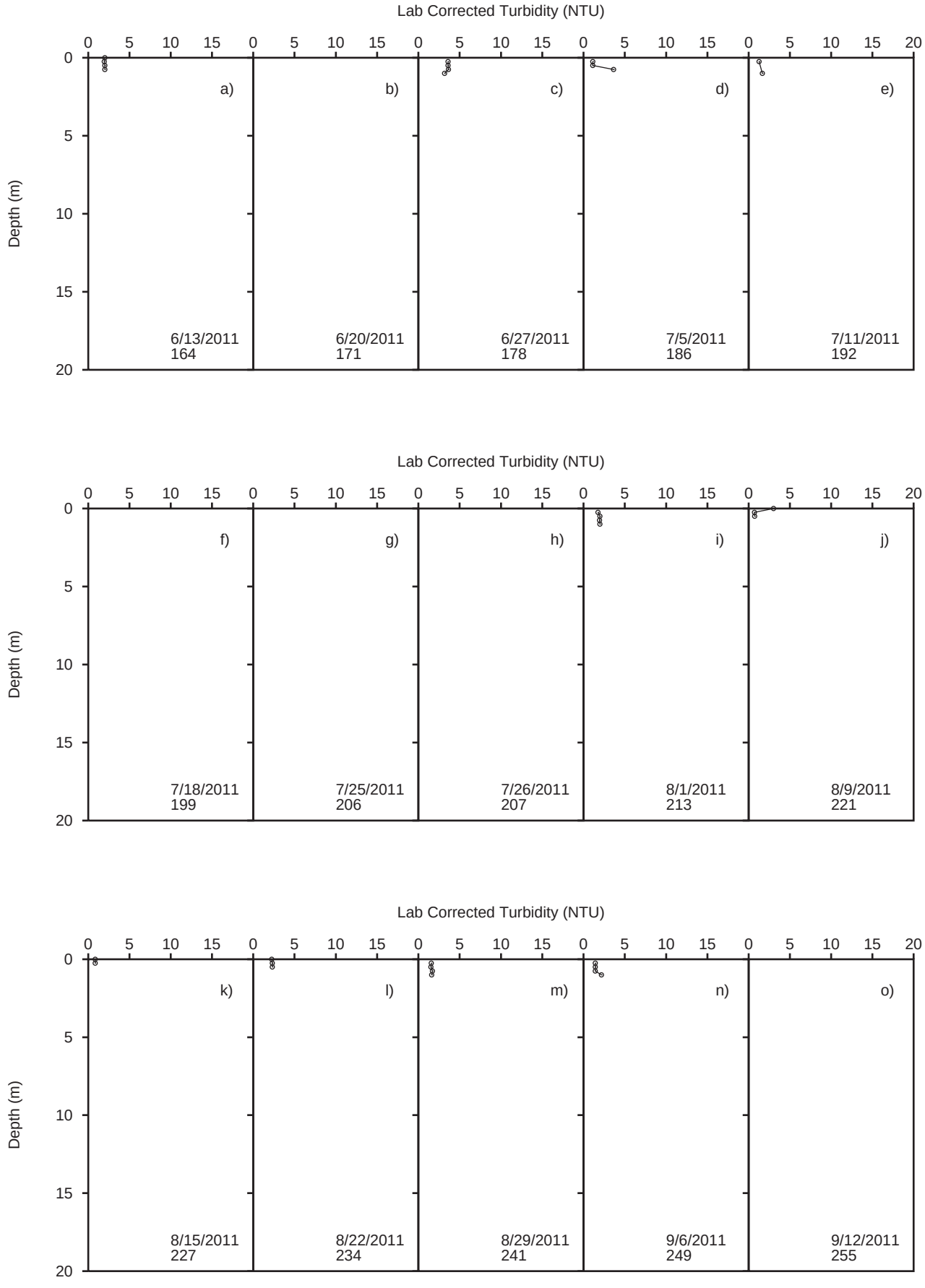
Fri Feb 03 14:19:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-34



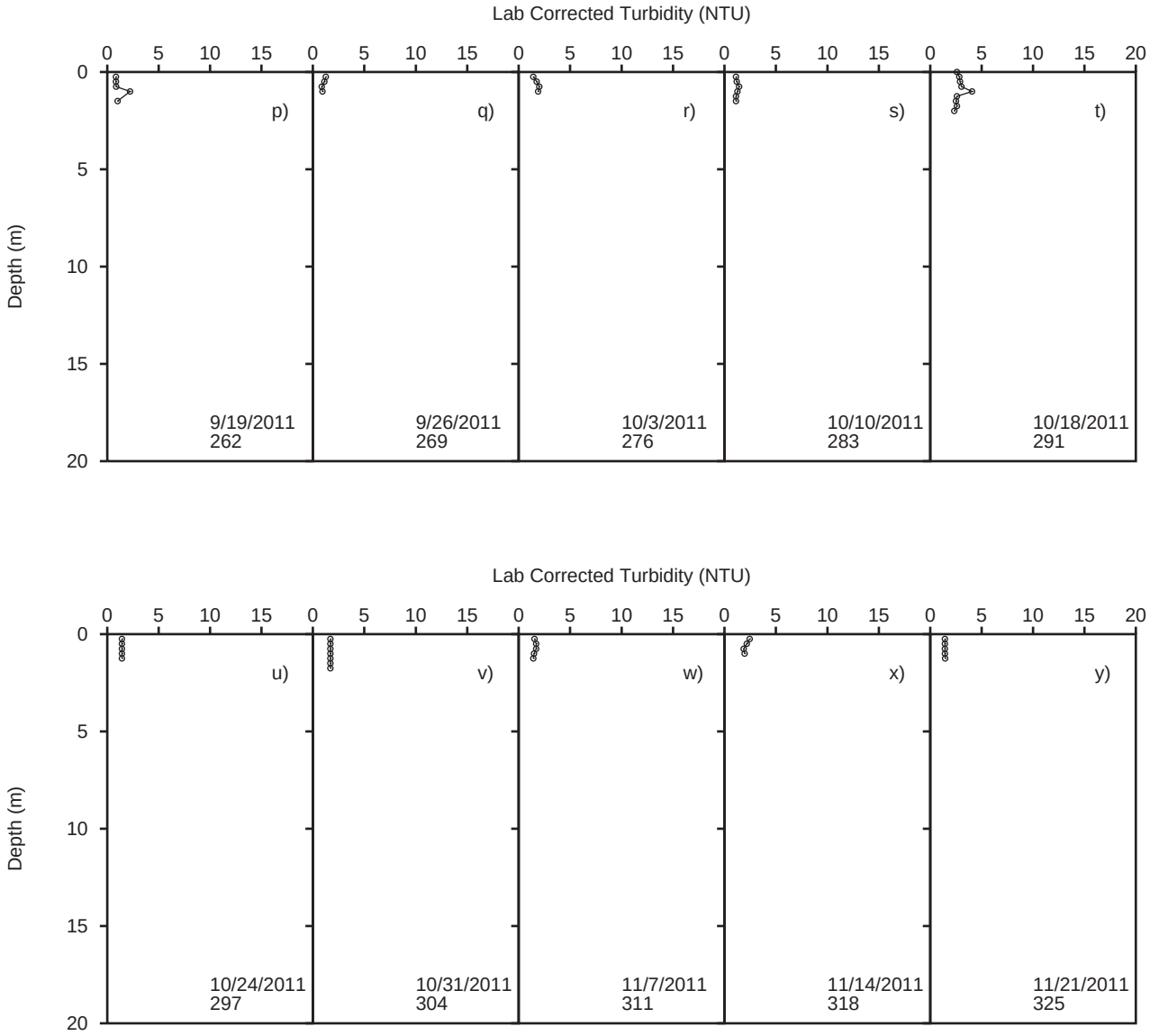
Fri Feb 03 14:19:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-37



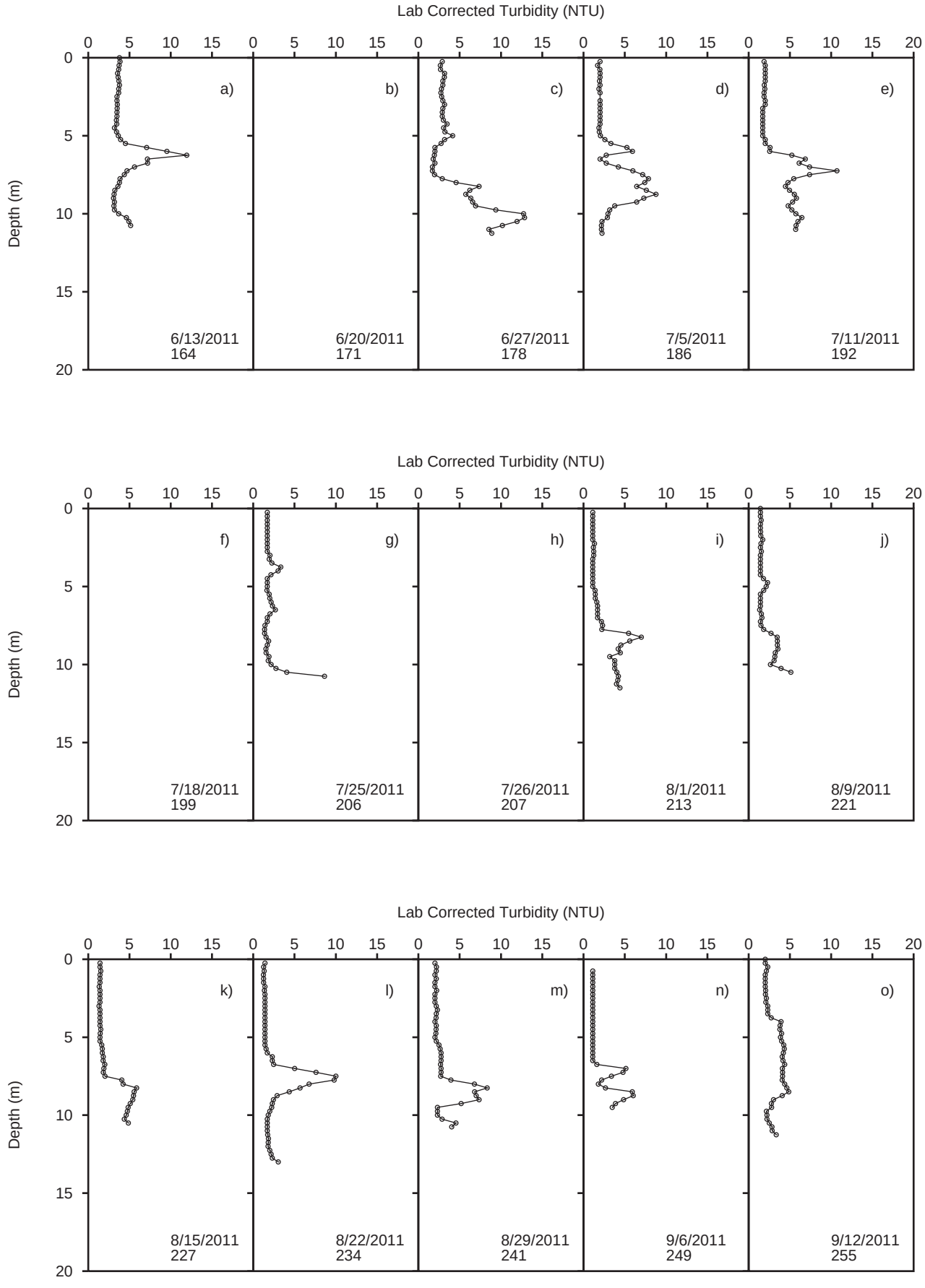
Fri Feb 03 14:20:51 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-37



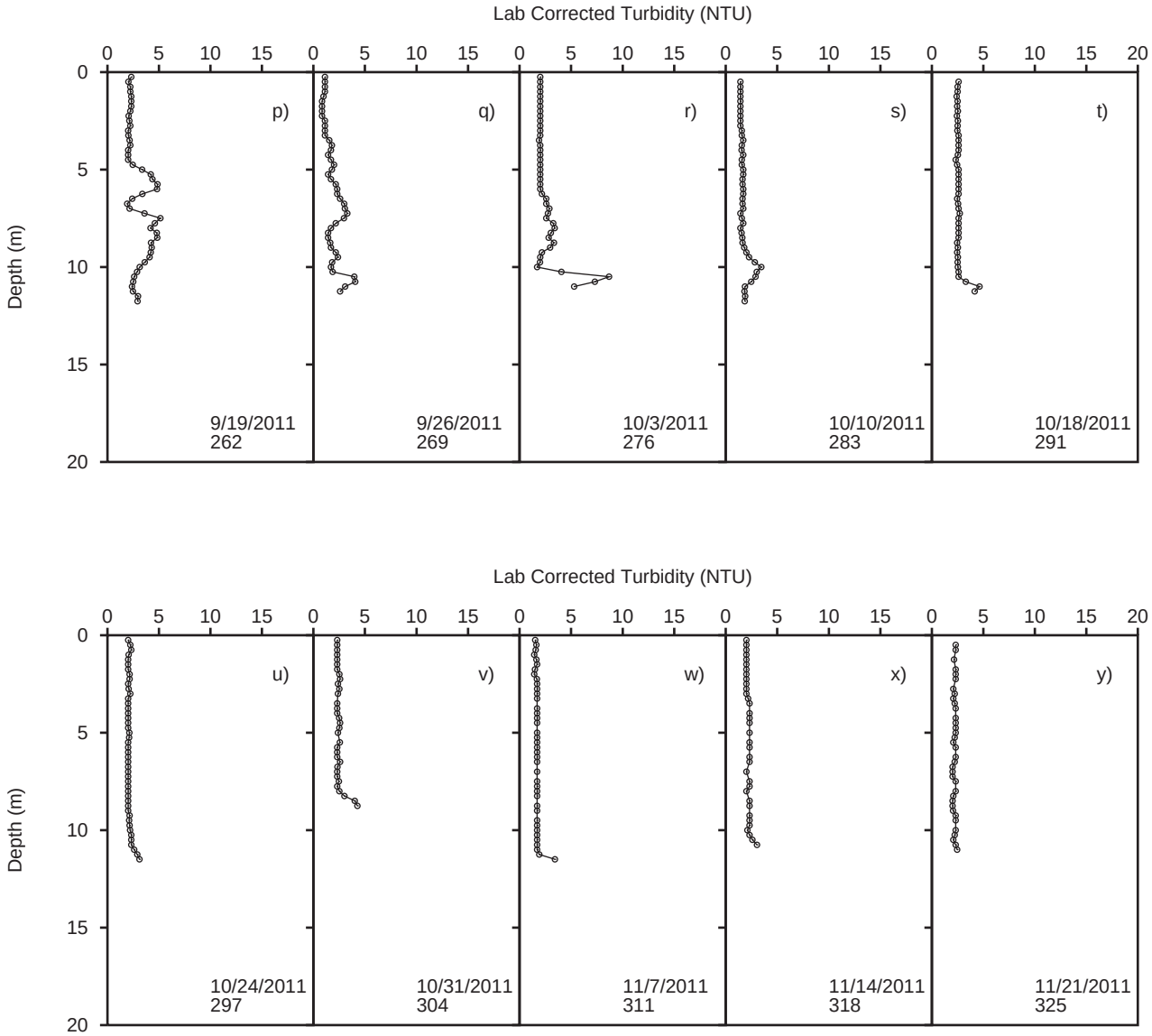
Fri Feb 03 14:20:51 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-38



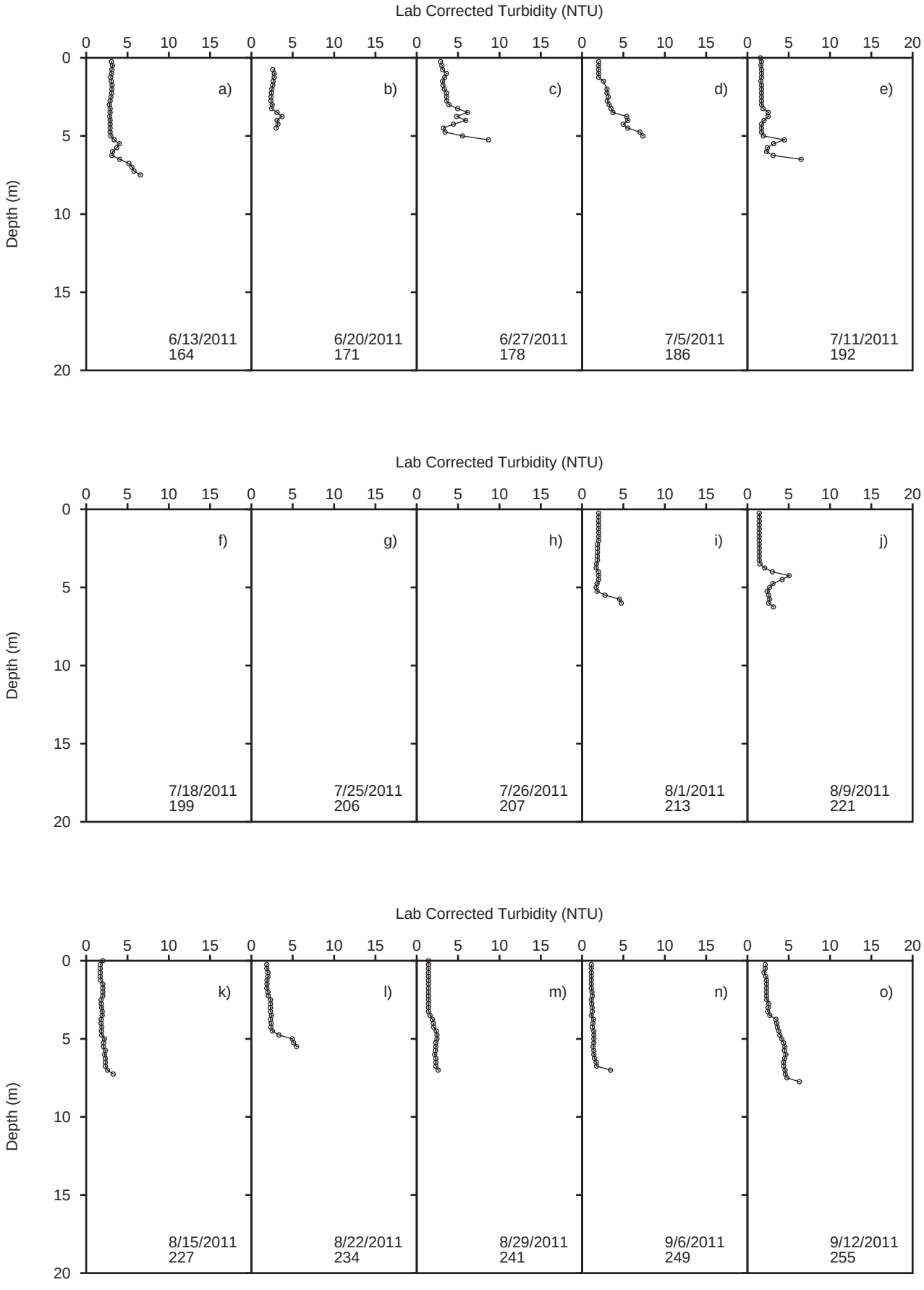
Fri Feb 03 14:21:43 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-38



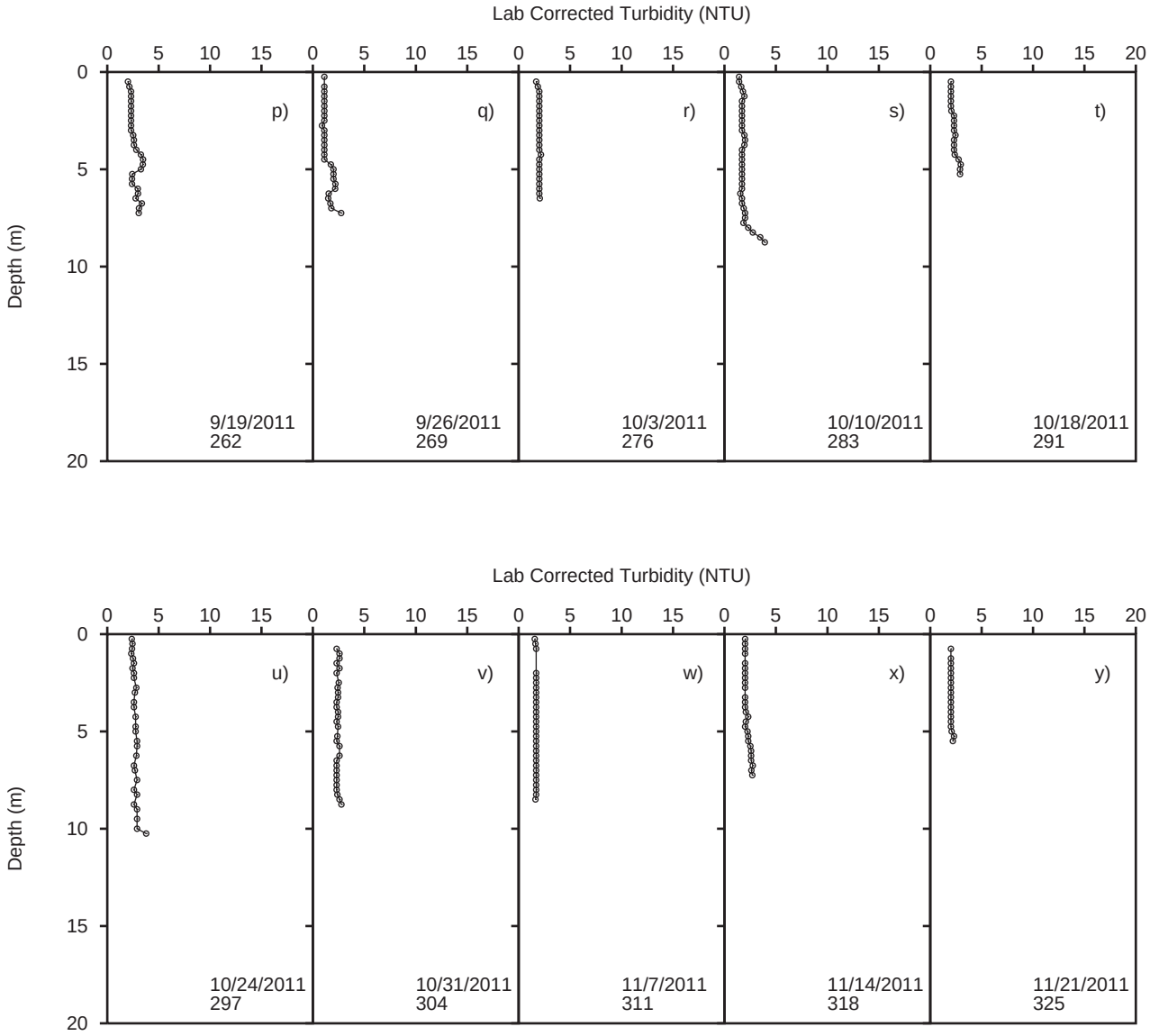
Fri Feb 03 14:21:43 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-39



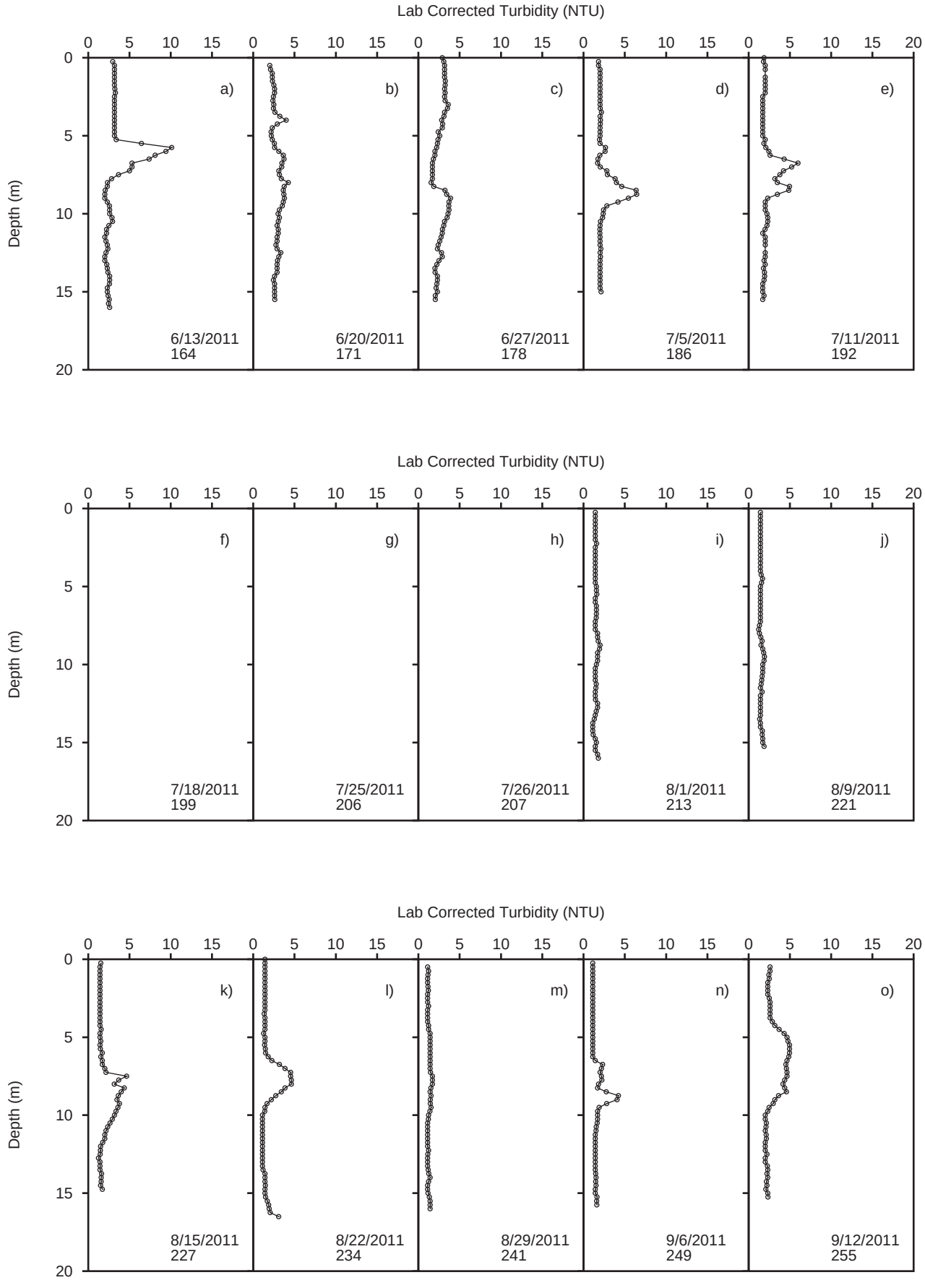
Fri Feb 03 14:27:30 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-39



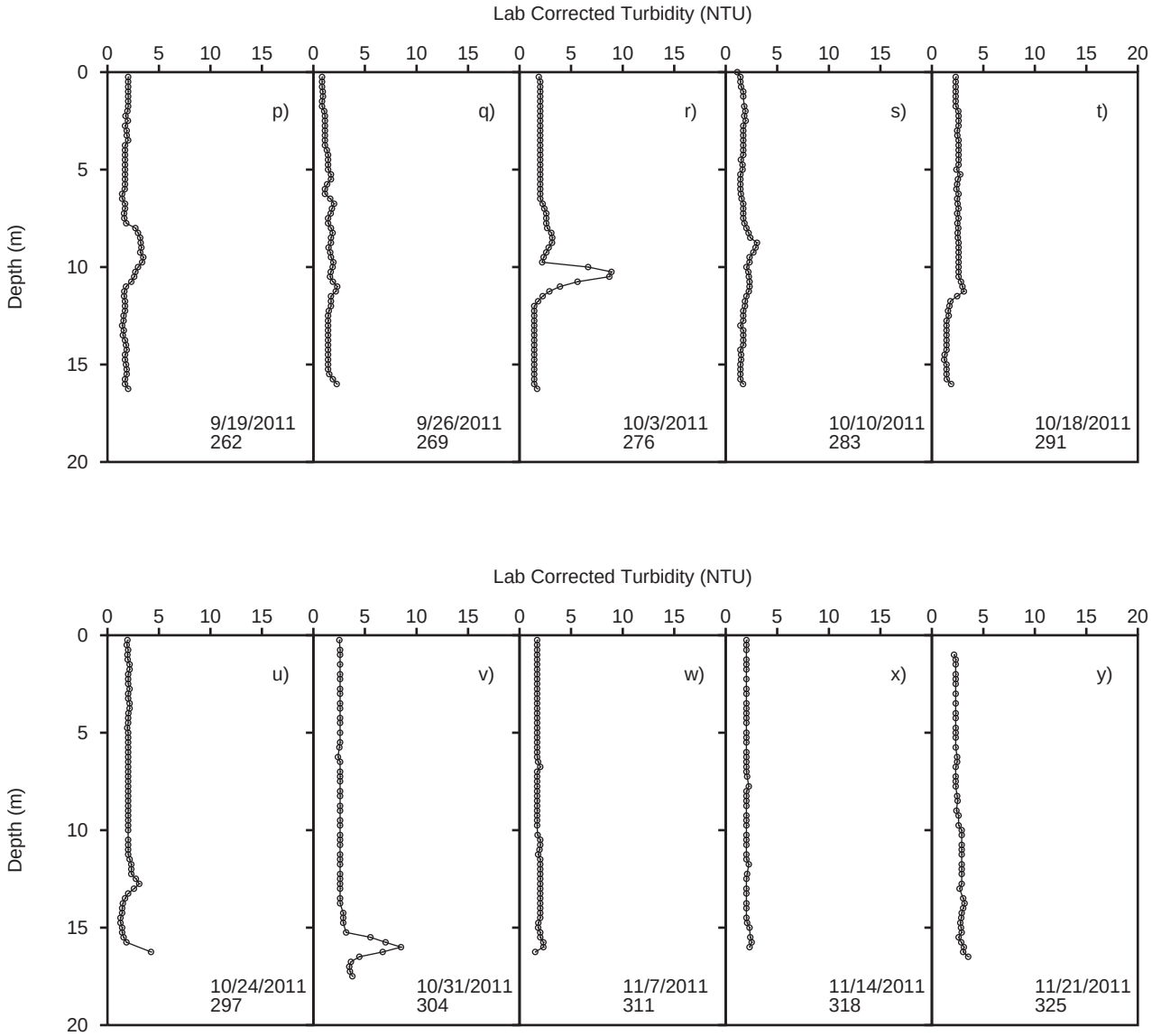
Fri Feb 03 14:27:30 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-40



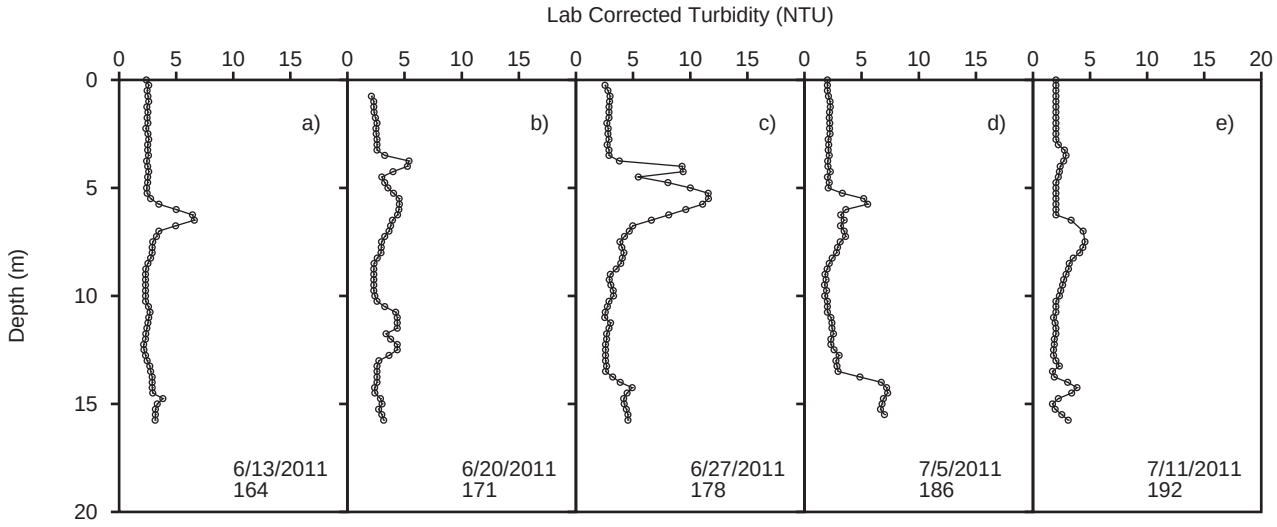
Fri Feb 03 14:29:33 2012

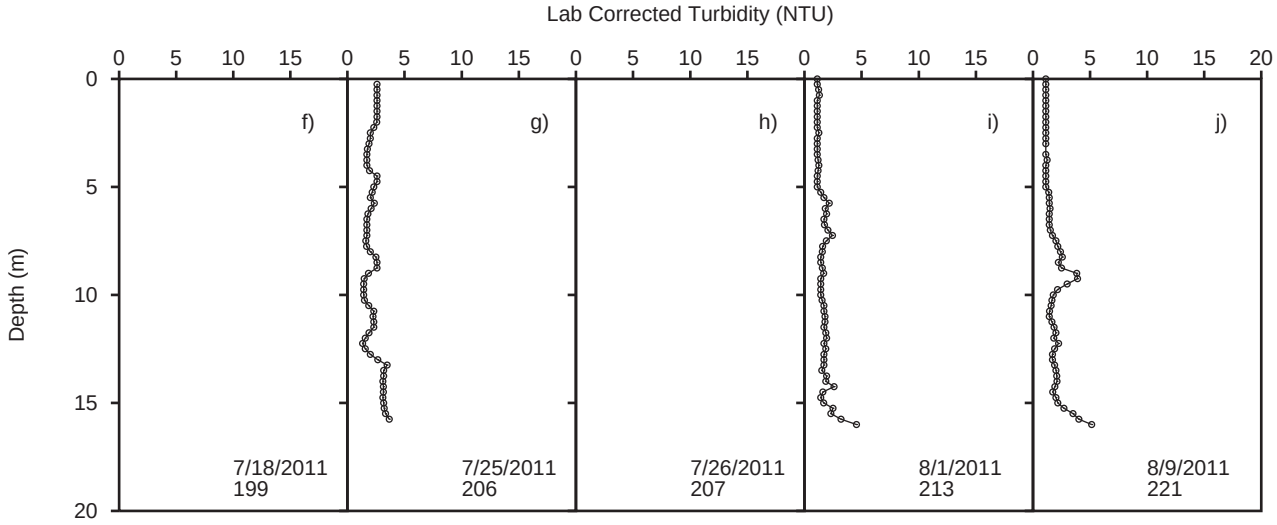
2011 Turbidity Profiles for Onondaga Lake ISUS-40

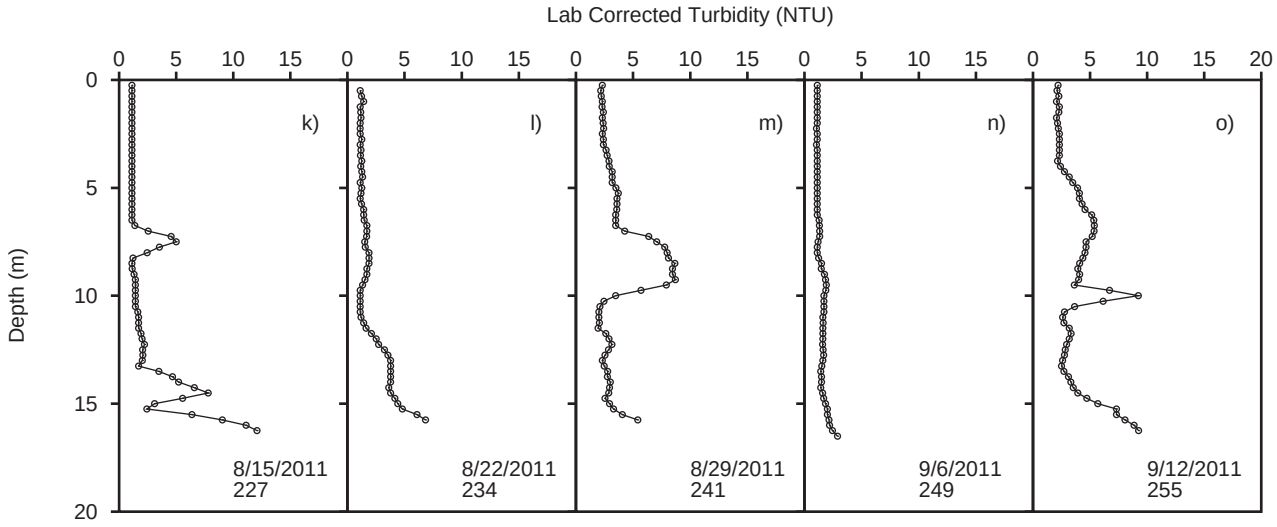


Fri Feb 03 14:29:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-41

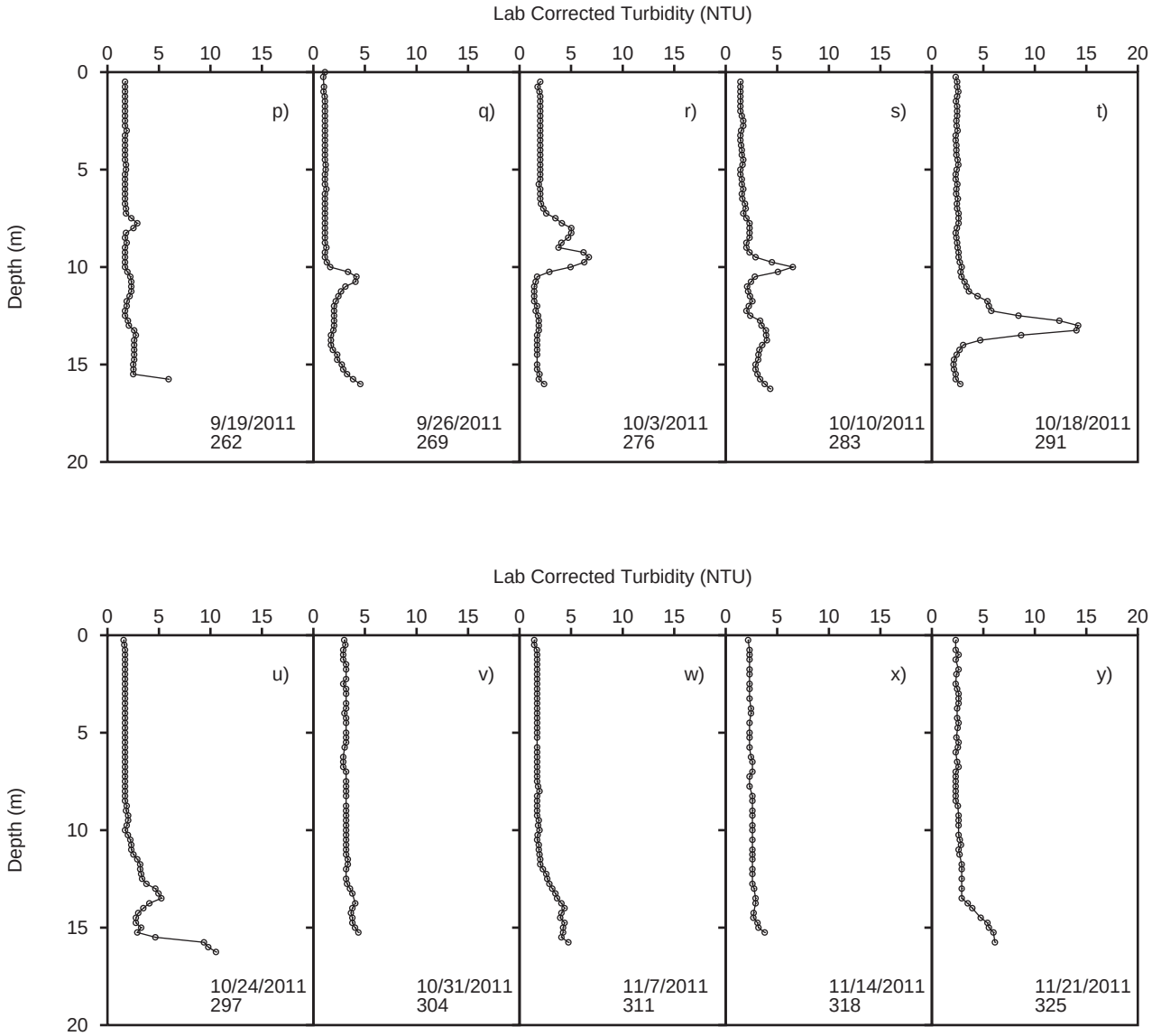






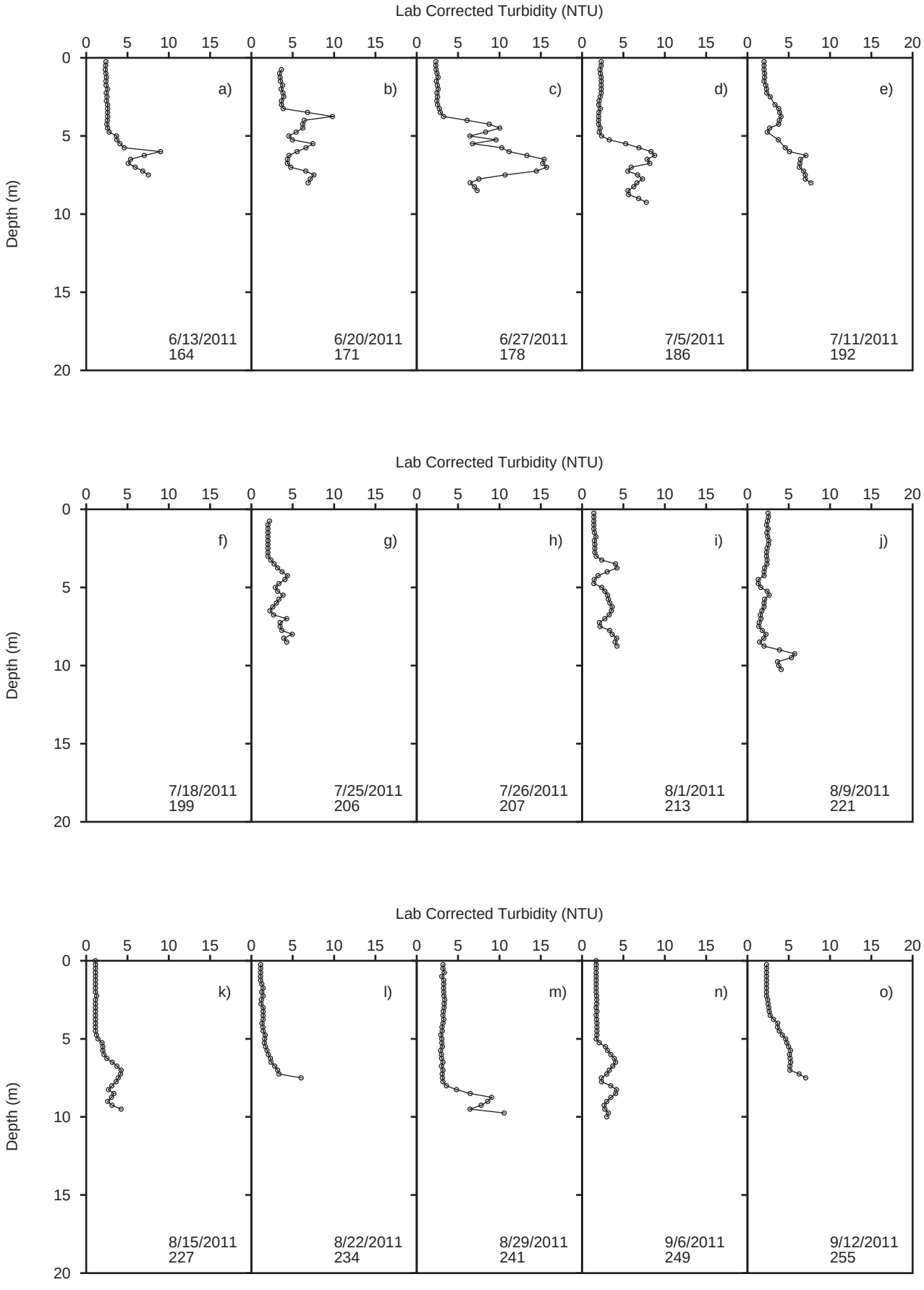
Fri Feb 03 14:30:57 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-41



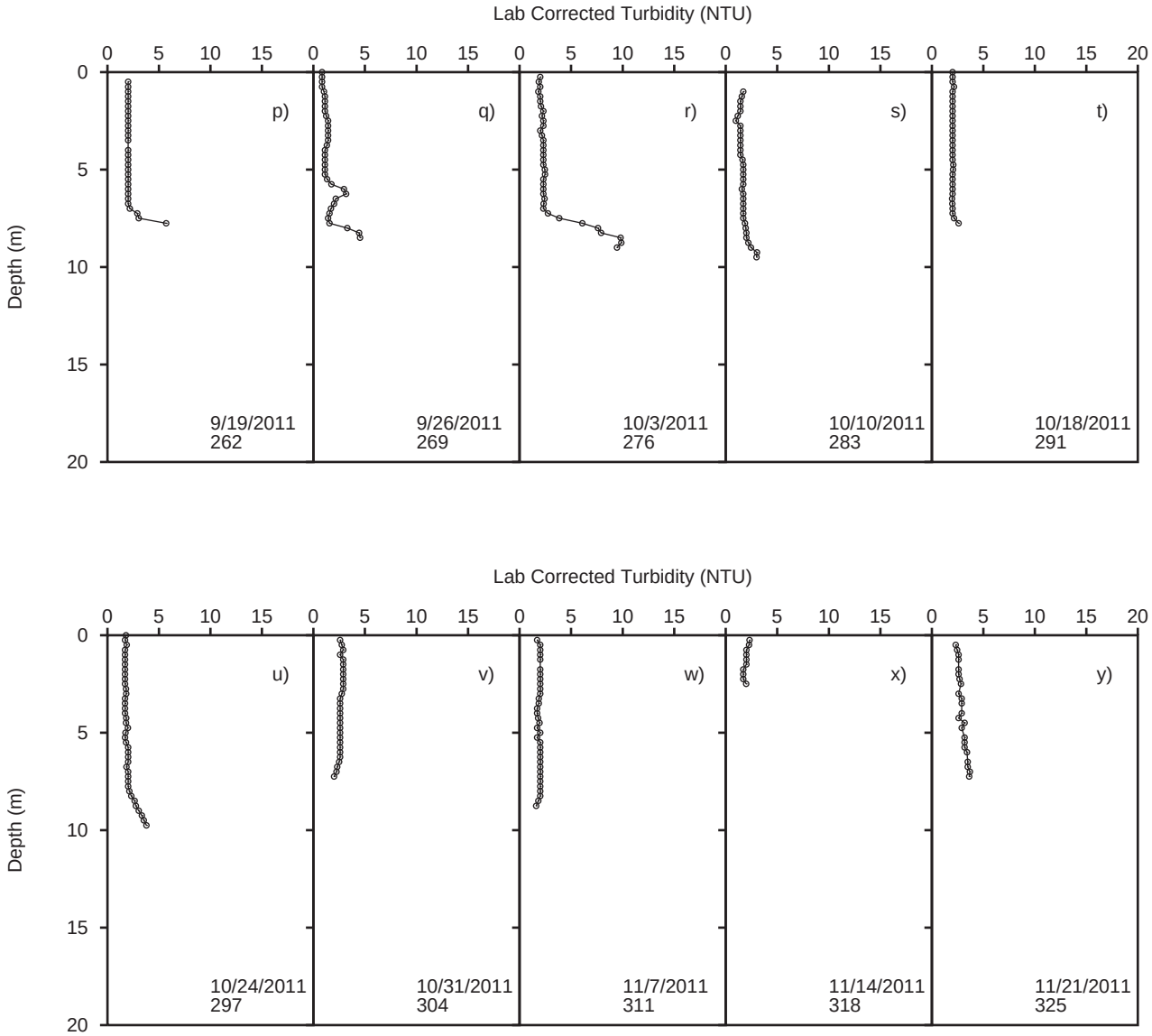
Fri Feb 03 14:30:57 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-42



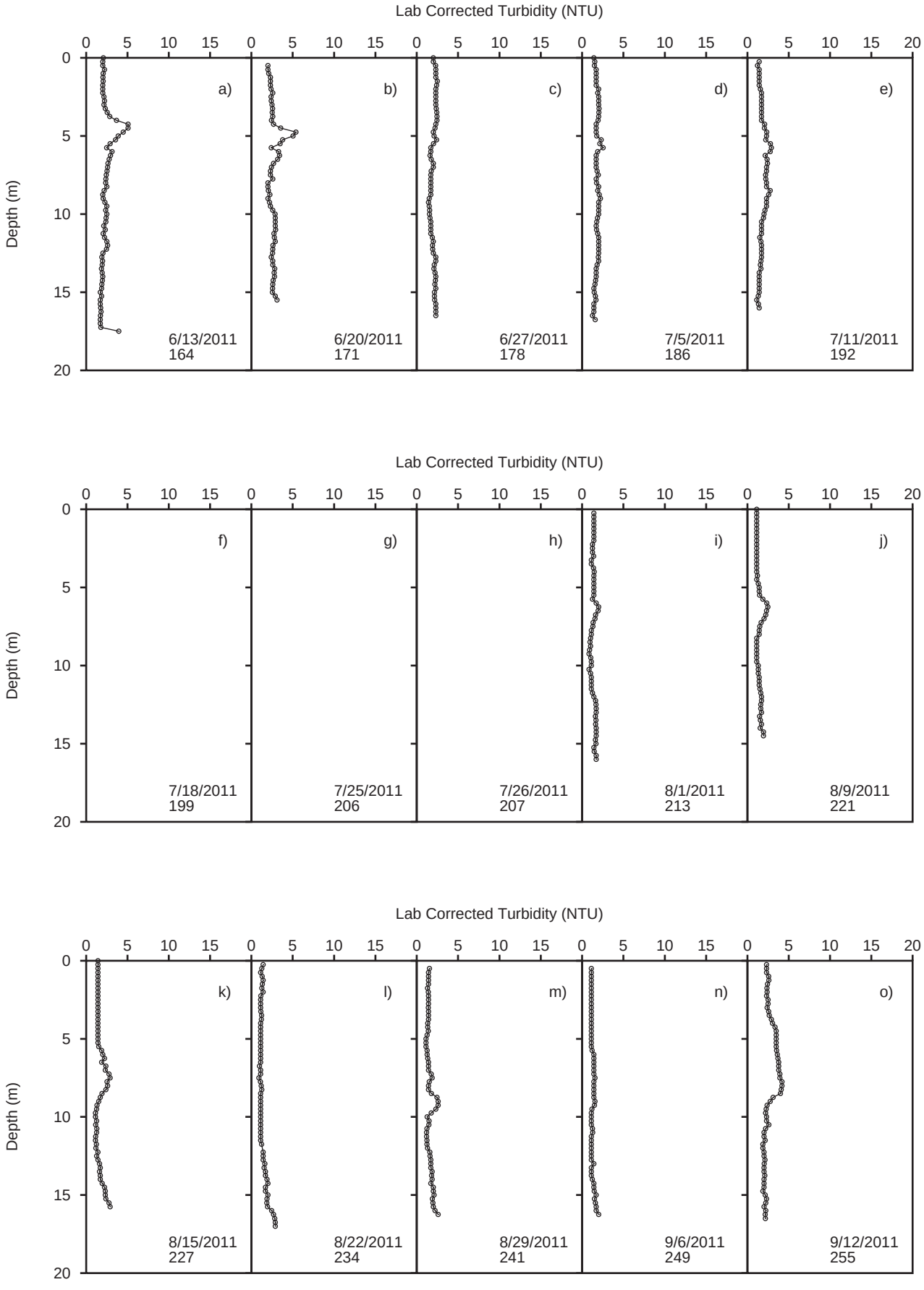
Fri Feb 03 14:34:35 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-42



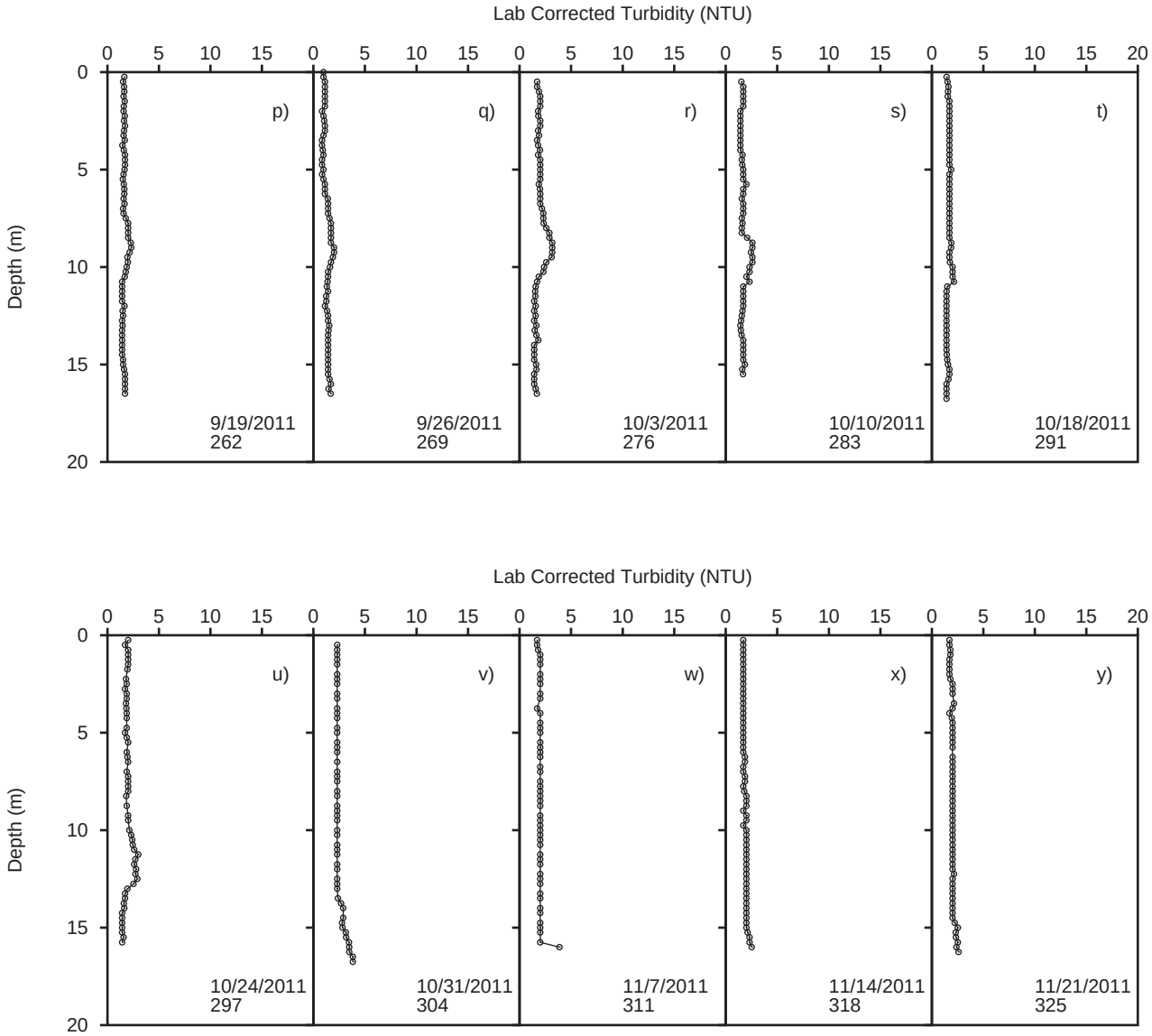
Fri Feb 03 14:34:35 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-43



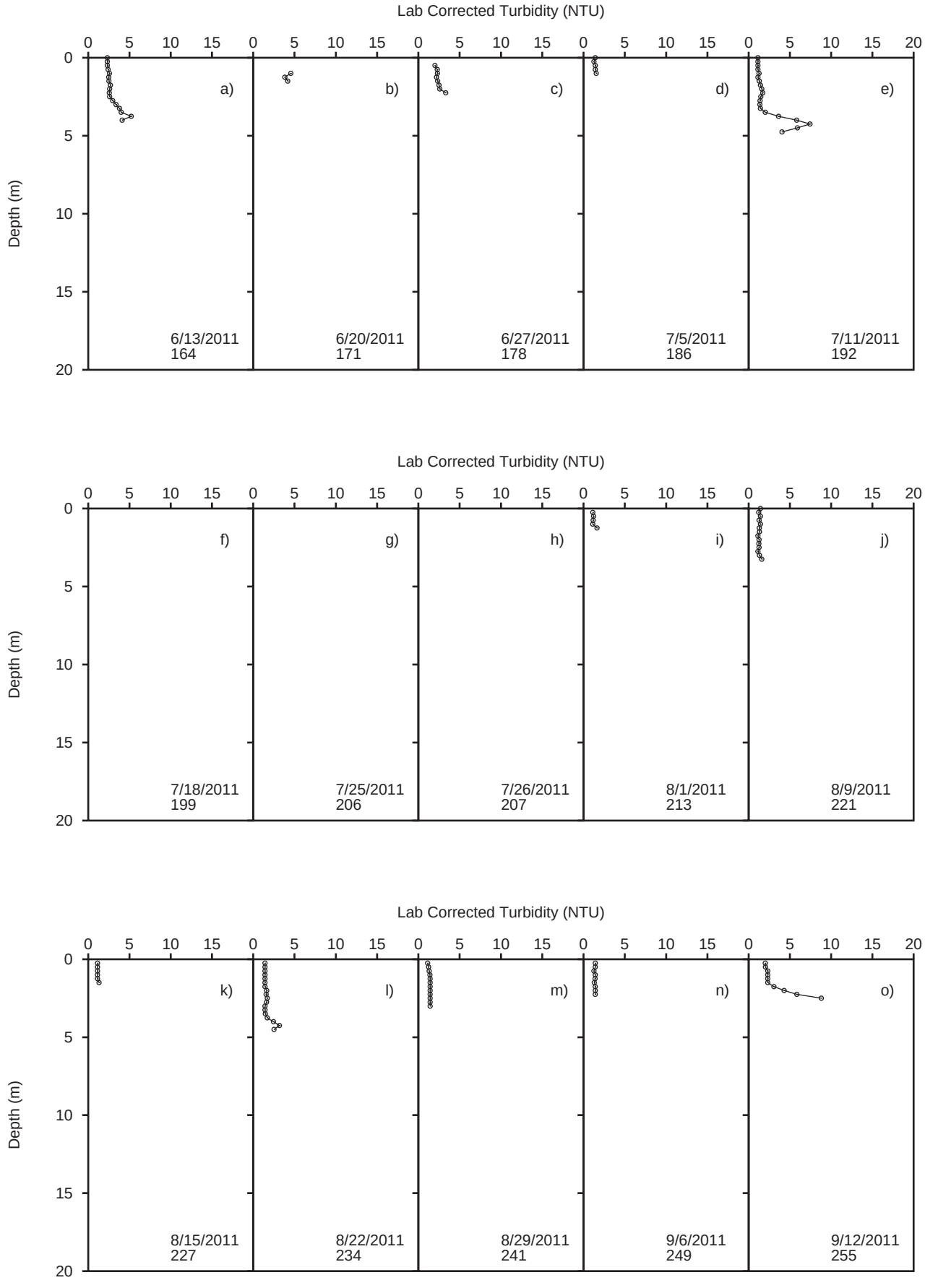
Fri Feb 03 14:54:56 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-43



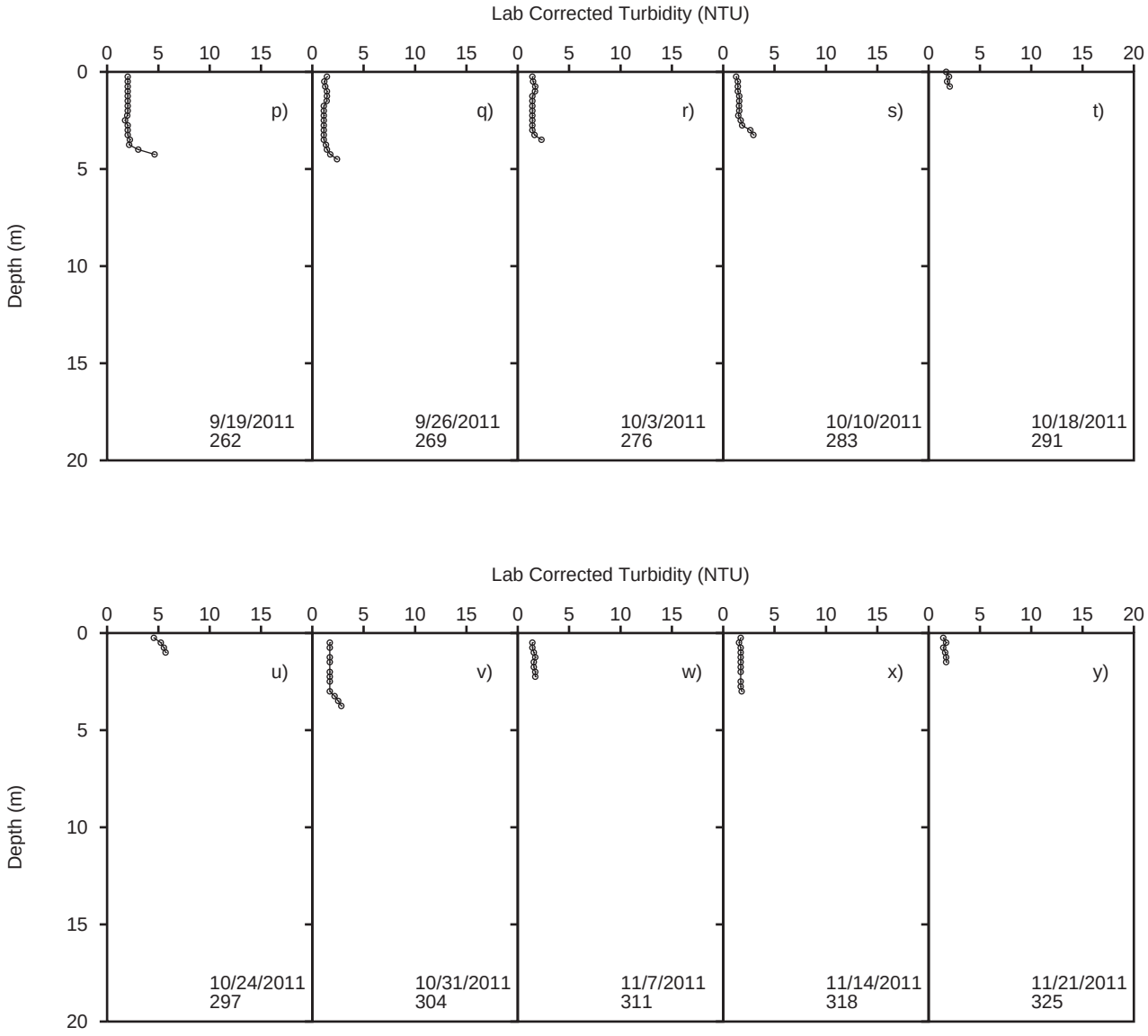
Fri Feb 03 14:54:57 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-44



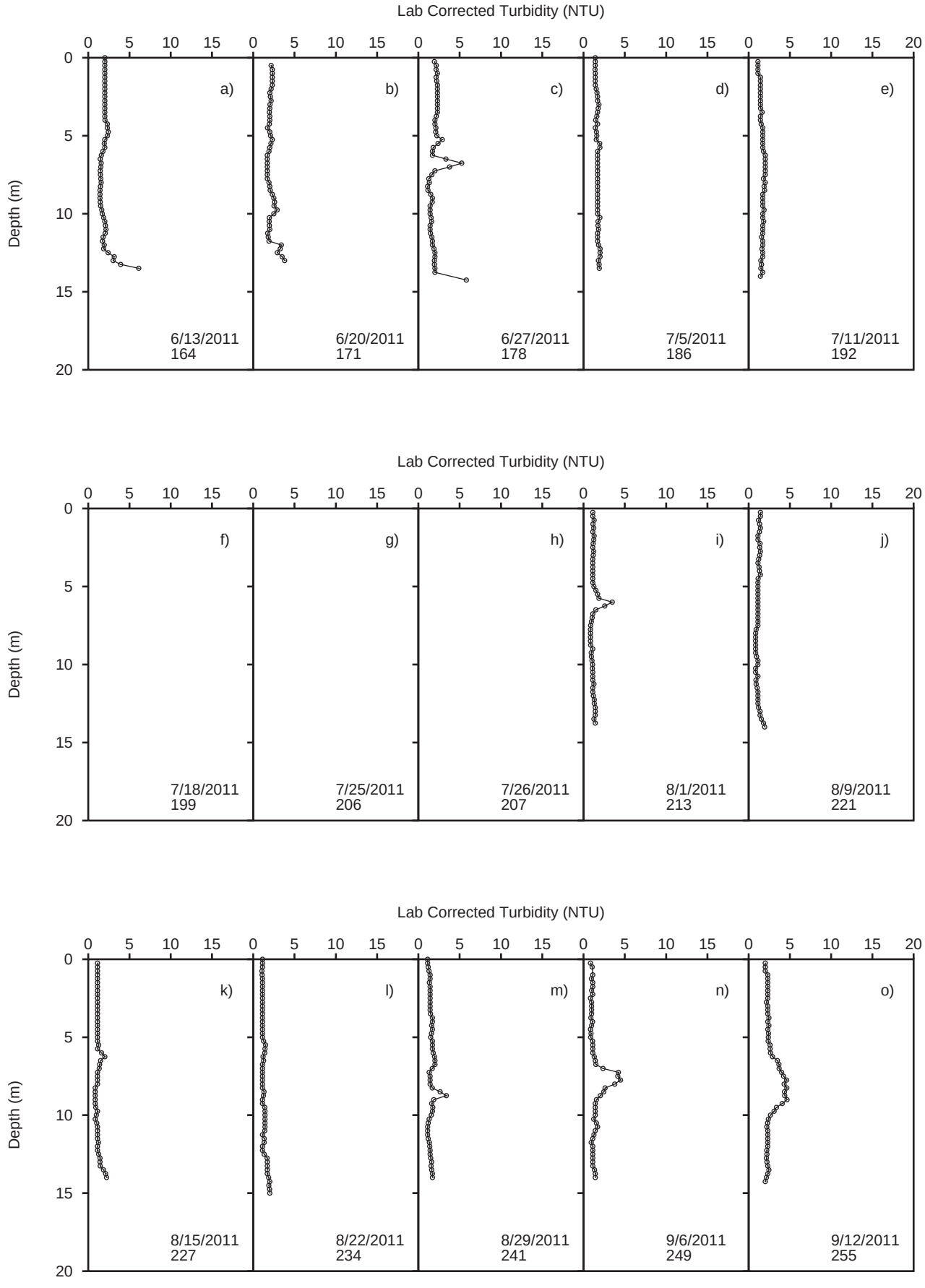
Fri Feb 03 14:56:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-44



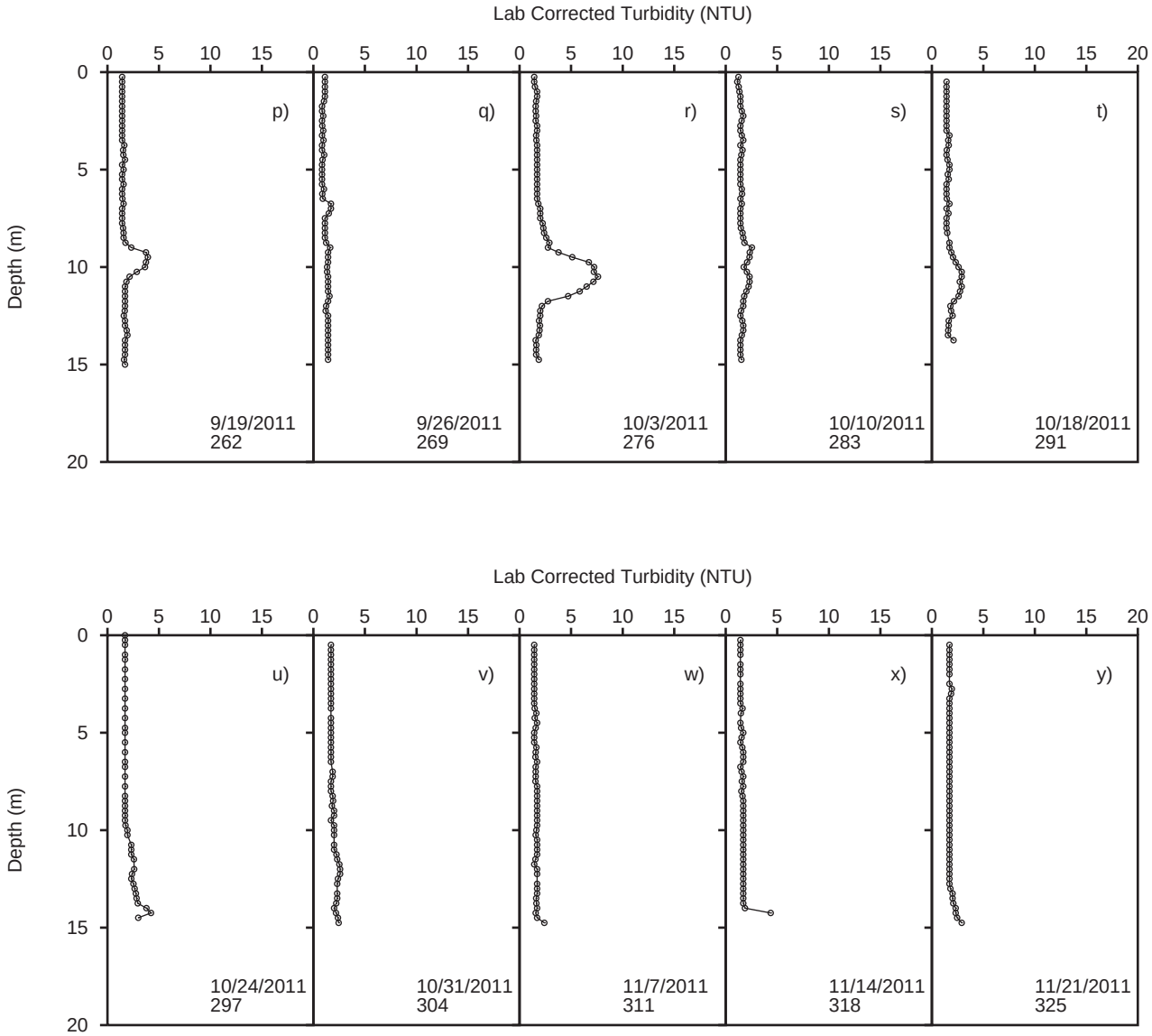
Fri Feb 03 14:56:33 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-45



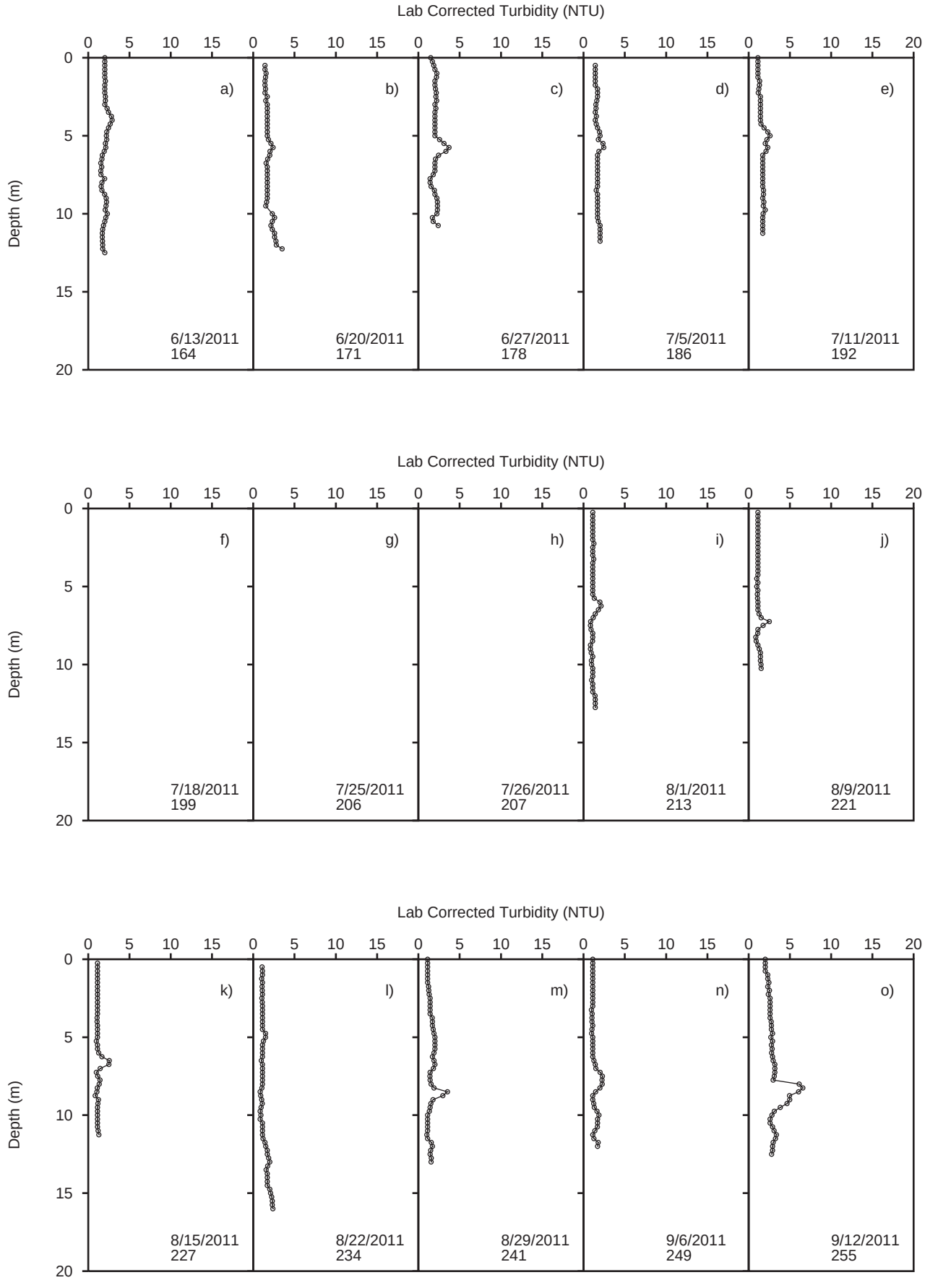
Fri Feb 03 14:57:21 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-45



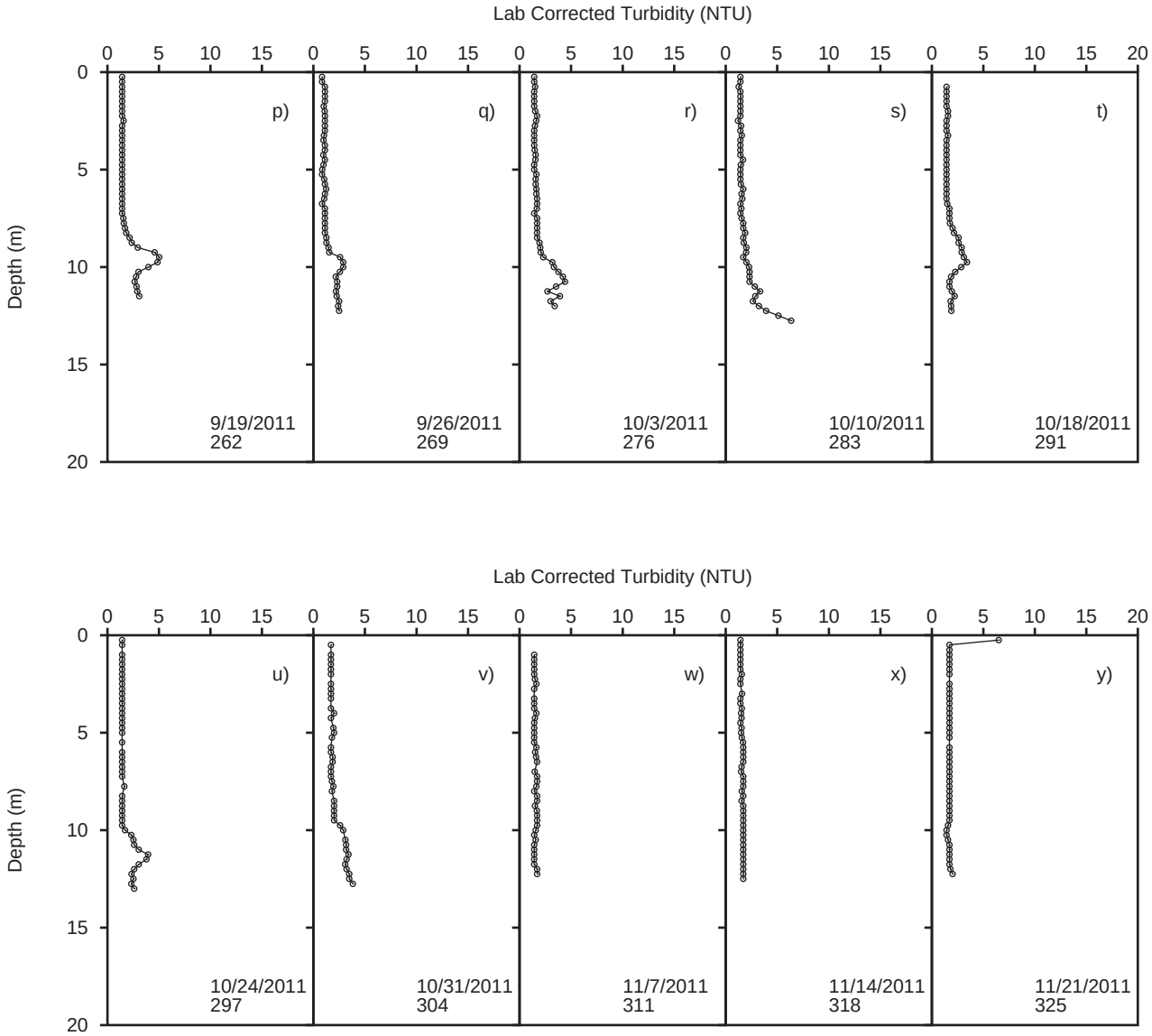
Fri Feb 03 14:57:21 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-46



Fri Feb 03 14:57:49 2012

2011 Turbidity Profiles for Onondaga Lake ISUS-46



Fri Feb 03 14:57:49 2012

APPENDIX E

CONTINUOUS TURBIDITY MONITORING PLOTS

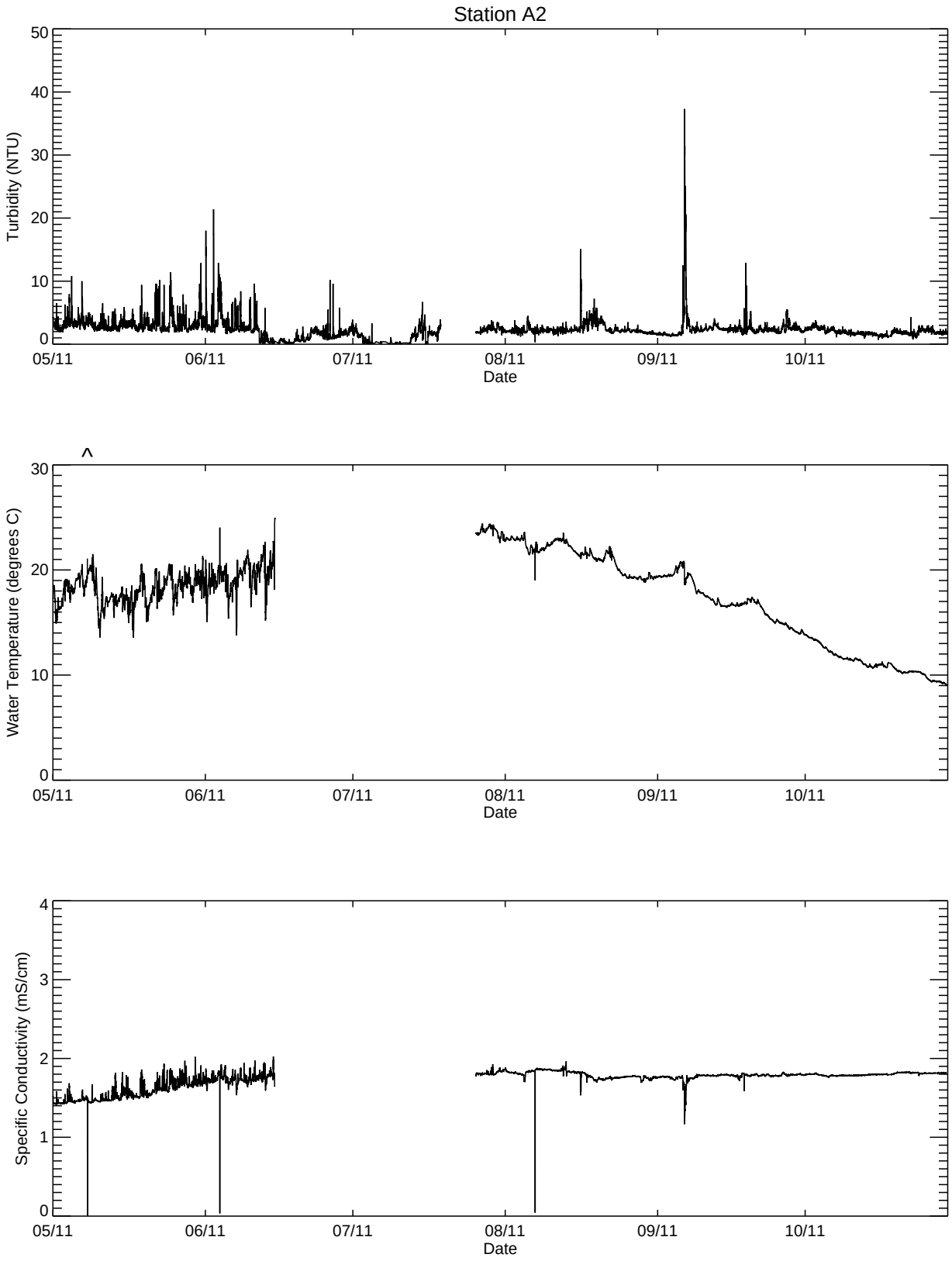


Figure E-1

Continuous Monitoring Data (15-minute) - Turbidity, Water Temperature, and Specific Conductivity
2011 Water Quality Monitoring for Construction Baseline Data Summary Report
Onondaga Lake

Relatively infrequent measurements outside of probe manufacturer's range (-5 to 50 degrees C for temp; 0 to 100 mS/cm for conductivity; 0 to 1,000 NTU for turbidity), or other measurements indicative of temporary probe malfunction, are not presented.

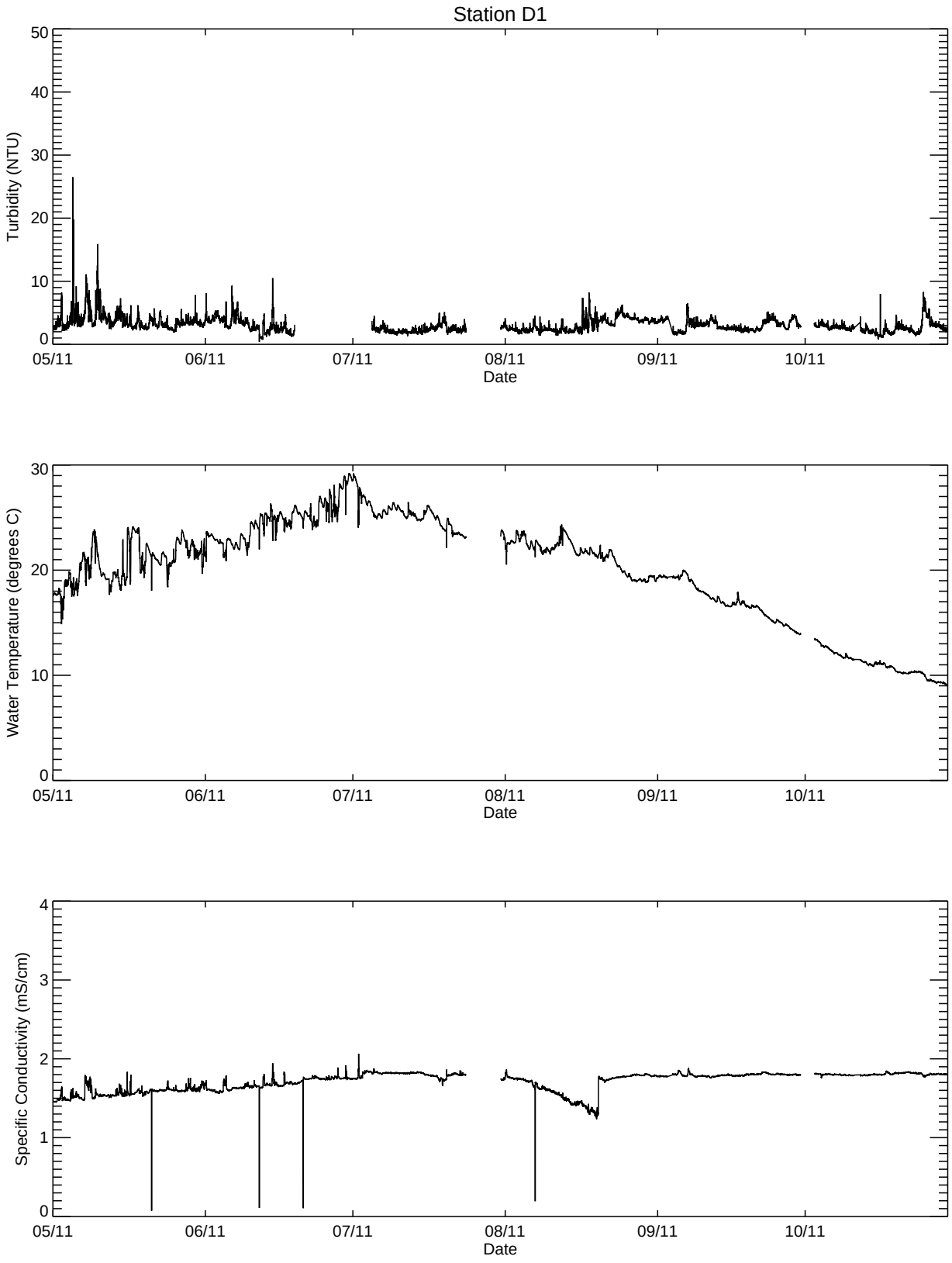


Figure E-2

Continuous Monitoring Data (15-minute) - Turbidity, Water Temperature, and Specific Conductivity
2011 Water Quality Monitoring for Construction Baseline Data Summary Report
Onondaga Lake

Relatively infrequent measurements outside of probe manufacturer's range (-5 to 50 degrees C for temp; 0 to 100 mS/cm for conductivity; 0 to 1,000 NTU for turbidity), or other measurements indicative of temporary probe malfunction, are not presented.

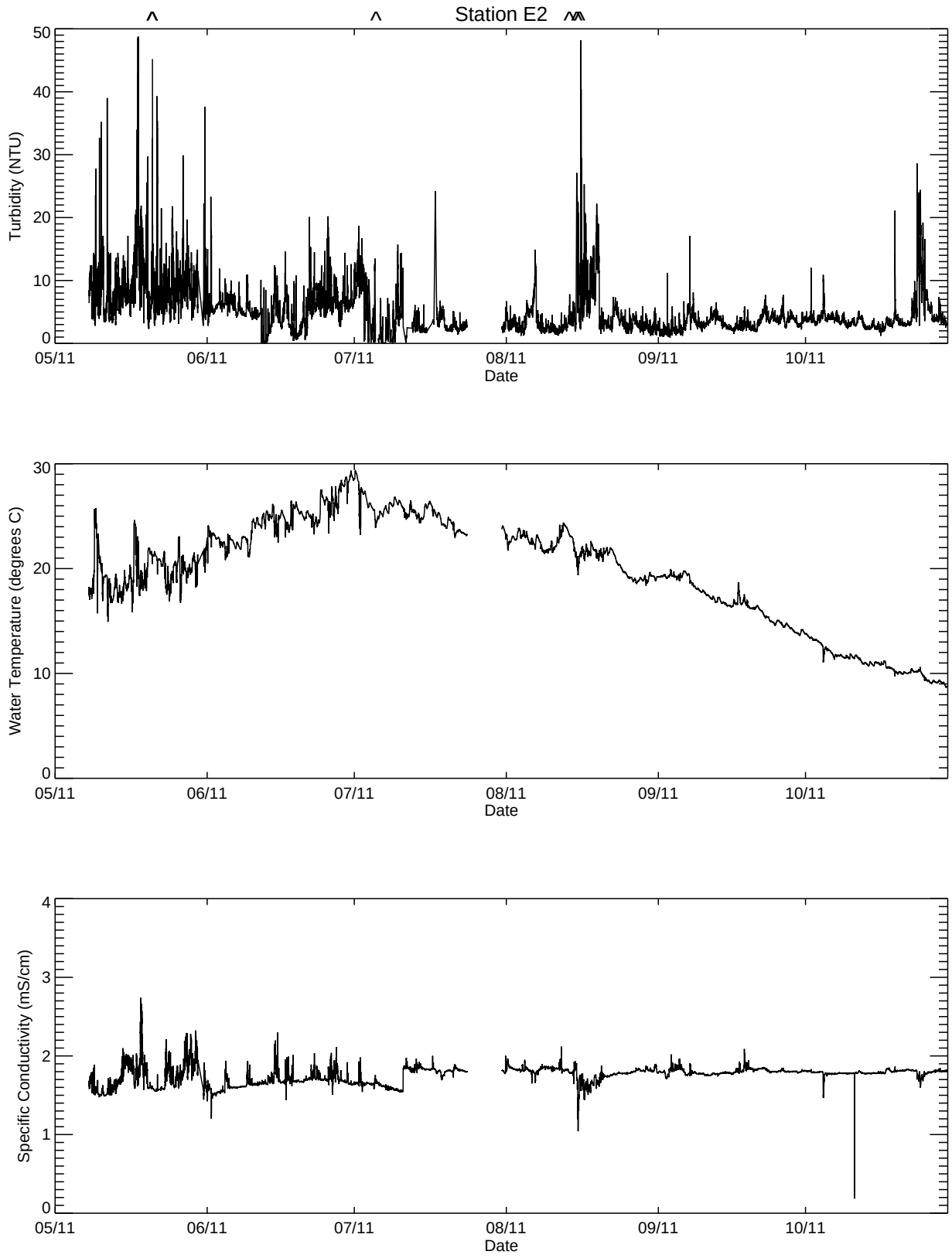


Figure E-3

Continuous Monitoring Data (15-minute) - Turbidity, Water Temperature, and Specific Conductivity
2011 Water Quality Monitoring for Construction Baseline Data Summary Report
Onondaga Lake

Relatively infrequent measurements outside of probe manufacturer's range (-5 to 50 degrees C for temp; 0 to 100 mS/cm for conductivity; 0 to 1,000 NTU for turbidity), or other measurements indicative of temporary probe malfunction, are not presented.

APPENDIX F

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

ONONDAGA LAKE 2011 WATER QUALITY MONITORING FOR CONSTRUCTION BASELINE

Prepared For:

Honeywell

301 Plainfield Road, Suite 330
Syracuse, NY 13212

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, New York 13212
Phone: (315) 451-9560
Fax: (315) 451-9570

January 2013

TABLE OF CONTENTS

Page

SECTION F1 DATA USABILITY SUMMARY.....F1-1

F1.1 LABORATORY DATA PACKAGES F1-1

F1.2 SAMPLING AND CHAIN-OF-CUSTODY F1-1

F1.3 LABORATORY ANALYTICAL METHODS F1-1
F1.3.1 Volatile Organic Analysis.....F1-2
F1.3.2 Semivolatile Organic Analysis.....F1-2
F1.3.3 PCB Organic Analysis.....F1-2
F1.3.4 Mercury and Methylmercury Analysis.....F1-2
F1.3.5 Wet Chemistry Analysis F1-3

SECTION F2 DATA VALIDATION REPORT F2-1

F2.1 WATER COLUMN SAMPLES F2-1
F2.1.1 CPOI Volatiles F2-1
F2.1.2 CPOI Semivolatiles (PAHs) F2-2
F2.1.3 PCBs.....F2-4
F2.1.4 Mercury (Total and Dissolved) and Methylmercury.....F2-5
F2.1.5 Wet Chemistry F2-6

LIST OF ATTACHMENTS

ATTACHMENT A VALIDATED LABORATORY DATA

SECTION F1

DATA USABILITY SUMMARY

Water column samples were collected from the Onondaga Lake Pre-Design Investigation (PDI) sites in Solvay, New York from June 8, 2011 through November 15, 2011. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Onondaga Lake PDI Phase VII Work Plan,
- July 2005 NYSDEC Analytical Services Protocol (ASP), and
- USEPA Region II Standard Operating Procedures (SOPs) for organic and inorganic data review.

The analytical laboratories for this project were Accutest Laboratories, Inc. (Accutest), Brooks Rand Laboratory (BRL), and Upstate Freshwater Institute (UFI). These laboratories are certified to conduct project analyses through the New York State Department of Health (NYSDOH) and the National Environmental Laboratory Accreditation Program (NELAP).

F1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 22-36 days for the project samples.

The laboratory data packages received from the laboratories were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report which is summarized by sample media in Section F2.

F1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, properly preserved, shipped under a COC record, and received at the laboratories within one day of sampling. All samples were received intact and in good condition at the laboratories.

F1.3 LABORATORY ANALYTICAL METHODS

The water column samples were collected from the site and analyzed for the chemical parameter of interest (CPOI) volatile organic compounds (VOCs); the CPOI semivolatile organic compounds (SVOCs) of polynuclear aromatic hydrocarbons (PAHs); polychlorinated biphenyls (PCBs); total and dissolved mercury; methylmercury; total suspended solids (TSS); ammonia;

chlorophyll; nitrite; nitrate-nitrite; total and dissolved phosphorus; reactive phosphate; turbidity; and beam attenuation coefficient. Summaries of issues concerning these laboratory analyses are presented in Subsections F1.3.1 through F1.3.5. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section F2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented by media in Attachment A.

F1.3.1 Volatile Organic Analysis

Water column samples collected from the site were analyzed by Accutest for the CPOI VOCs using the USEPA SW-846 8260B analytical method. The reported results for the VOC samples did not require estimation qualification resulting from data validation. The reported VOC analytical results were 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

F1.3.2 Semivolatile Organic Analysis

Water quality samples collected from the site were analyzed by Accutest for the CPOI SVOCs of PAHs and/or phenol using the USEPA SW-846 8270C analytical method. Certain reported results for these samples were qualified as estimated based upon MS/MSD recoveries and instrument calibrations. The reported SVOC analytical results were 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

F1.3.3 PCB Organic Analysis

Water column samples collected from the site were analyzed by Accutest for PCBs using the USEPA SW-846 8082 analytical method. The reported results for the PCB samples did not require estimation qualification resulting from data validation. The reported PCB analytical results were considered 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

F1.3.4 Mercury and Methylmercury Analysis

Water column samples collected from the site were analyzed by BRL for total and dissolved mercury and methylmercury using the USEPA 1631E and 1630 analytical methods, respectively.

Certain reported results for these samples were qualified as estimated based upon field duplicate precision. The reported mercury and methylmercury data were considered 100% complete (i.e., usable) for the data presented by BRL. PARCC requirements were met.

F1.3.5 Wet Chemistry Analysis

Water column samples collected from the site were analyzed by Accutest for TSS using the SM20 2540D analytical method; and analyzed by UFI for ammonia, chlorophyll, nitrite, nitrate-nitrite, total and dissolved phosphorus, reactive phosphate, turbidity, and beam attenuation coefficient using UFI analytical SOPs. Certain reported results for these samples were qualified as estimated based upon sample holding times, laboratory sample preparation, laboratory duplicate precision, and field triplicate precision. The reported wet chemistry analytical results for these samples were 100% complete (i.e., usable) for the data presented by Accutest and UFI. PARCC requirements were met.

SECTION F2

DATA VALIDATION REPORT

F2.1 WATER COLUMN SAMPLES

Data review has been completed for data packages generated by Accutest, BRL, and UFI containing water column samples collected from the site. These samples were contained within sample delivery groups (SDGs) JA77979, 1124023, CHM2011-016, JA78131, 1124038, JA81380, 1130015, CHM2011-031, JA84438, 1135027, CHM2011-046, JA86104, 1138023, CHM2011-053, JA86231, 1138028, CHM2011-065, JA89389, 1143007, JA92221, 1147029, and CHM2011-075. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratories. The validated laboratory data were tabulated and are presented in Attachment A.

Data validation was performed for all samples in accordance with the project work plan, QAPP, NYSDEC ASP, and the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type.

F2.1.1 CPOI Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank and trip/equipment blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of blank contamination as discussed below.

Blank Contamination

The trip blank associated with water column samples collected on 6/9/11 contained toluene at a concentration of 0.21 µg/L. The toluene sample results less than the validation action concentration were considered not detected and qualified "U" for the affected samples.

Usability

All volatile results for the water column samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile water column data presented by Accutest were 100% complete (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A.

F2.1.2 CPOI Semivolatiles (PAHs)

The following items were reviewed for compliancy in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries
- Laboratory method blank and equipment blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy and continuing calibrations as discussed below.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were within QC acceptance limits for designated spiked project samples with the exception of the low MS/MSD accuracy results for benzo(g,h,i)perylene (32%R/29%R; QC limit 37-146%R) during the spiked analyses of sample OL-1521-03; the low MS/MSD accuracy results for benzo(g,h,i)perylene (27%R/34%R; QC limit 37-146%R) during the spiked analyses of sample OL-1522-05; the low MS/MSD accuracy results for benzo(g,h,i)perylene (22%R/20%R; QC limit 37-146%R), dibenzo(a,h)anthracene (26%R/23%R; QC limit 38-146%R), and indeno(1,2,3-cd)pyrene (25%R/23%R; QC limit 36-150%R) during the spiked analyses of sample OL-1524-06; the low MS/MSD accuracy results for benzo(g,h,i)perylene (28%R/29%R; QC limit 37-146%R) and dibenzo(a,h)anthracene (30%R/28%R; QC limit 38-146%R) during the spiked analyses of sample OL-1531-03; the low MS/MSD accuracy results for benzo(g,h,i)perylene (24%R/26%R; QC limit 37-146%R), dibenzo(a,h)anthracene (29%R/31%R; QC limit 38-146%R), and indeno(1,2,3-cd)pyrene (31%R/33%R; QC limit 36-150%R) during the spiked analyses of sample OL-1533-07; benzo(g,h,i)perylene (25%R/26%R; QC limit 37-146%R), dibenzo(a,h)anthracene (29%R/30%R; QC limit 38-146%R), fluoranthene (44%R/47%R; QC limit 56-129%R), phenanthrene (35%R/37%R; QC limit 57-127%R), and indeno(1,2,3-cd)pyrene (31%R/33%R; QC limit 36-150%R) during the spiked analyses of sample OL-1538-12; and benzo(g,h,i)perylene (29%R/31%R; QC limit 37-146%R), dibenzo(a,h)anthracene (27%R/29%R; QC limit 38-146%R), and indeno(1,2,3-cd)pyrene (28%R/30%R; QC limit 36-150%R) during the spiked analyses of sample OL-1575-07. Therefore, the results for these compounds were considered estimated, possibly biased low, with positive results qualified “J” and nondetected results qualified “UJ” for the affected unspiked parent sample.

Continuing Calibrations

All continuing calibration compounds were complaint with a minimum relative response factor (RRF) of 0.05 and a maximum percent difference (%D) within ± 25% with the exception of dibenzo(a,h)anthracene (-33.3%D) in the continuing calibration associated with samples in SDG JA78131. Therefore, the sample results for this compound were considered estimated with positive results qualified "J" and nondetected results qualified “UJ” for the affected samples.

Usability

All semivolatile results for the water column samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The semivolatile water column data presented by Accutest were 100% complete (i.e., usable). The validated semivolatile laboratory data are tabulated and presented in Attachment A.

F2.1.3 PCBs

The following items were reviewed for compliancy in the PCB analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries
- Laboratory method blank and equipment blank contamination
- Initial calibrations
- Verification calibrations
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of blank contamination as discussed below.

Blank Contamination

The laboratory method blank associated with samples OL-1533-03, -04, -05, and -06 contained PCB-1260 and total PCBs at a concentration of 0.14 µg/L. Since PCB-1260 and total PCBs were not detected in these samples, validation qualification was not required.

Usability

All PCB results for the water column samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The PCB water column data presented by Accutest were 100% complete with all data considered usable and valid. The validated data are tabulated and presented in Attachment A.

F2.1.4 Mercury (Total and Dissolved) and Methylmercury

The following items were reviewed for compliancy in the mercury and methylmercury analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration, laboratory preparation blank, and equipment blank contamination
- MS/MSD recoveries
- Laboratory duplicate precision
- LCS recoveries
- Serial dilutions
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of blank contamination and field duplicate precision as discussed below.

Blank Contamination

The field equipment blank OL-1522-06 associated with samples in SDG 1124038 contained total mercury below the reporting limit at a concentration of 0.18 ng/L. Since associated sample results were not affected by the total mercury contamination detected in this blank, validation qualification was not required.

Field Duplicate Precision

All field duplicate precision results were considered acceptable with the exception of the total mercury duplicate precision for the field duplicate pair OL-1533-01/-02 (77%RPD). The total mercury results for the parent sample and field duplicate were considered estimated and qualified "J".

Usability

All total and dissolved mercury and methylmercury results for the water column samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The mercury and methylmercury data for the water column samples presented by BRL were 100% complete (i.e., usable). The validated mercury and methylmercury laboratory data are tabulated and presented in Attachment A.

F2.1.5 Wet Chemistry

All custody documentation, holding times, laboratory blanks, matrix spikes, duplicates, calibrations, quantitation limits, control samples, and instrumentation were reviewed for compliance. The reported results for these samples did not require qualification resulting from data validation with the exception of the following:

- The ammonia results for samples OL-1522-05A, -05B, and -05C were considered estimated and qualified "J" based upon poor triplicate precision;
- The chlorophyll results for the samples in SDG CHM2011-046 were considered estimated and qualified "J" based upon an exceedance in the 21-day holding time requirement by one day and poor laboratory duplicate precision (86%RPD; QC limit 0-15%RPD);
- The chlorophyll results for the samples in SDG CHM2011-053 were considered estimated and qualified "J" based upon a poor laboratory duplicate precision (42%RPD; QC limit 0-15%RPD); and
- The total and dissolved phosphorus results for samples OL-1575-01 and -10 were considered estimated and qualified "J" based upon improper sample preparation at the laboratory.

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The water column data for the wet chemistry analyses presented by Accutest and UFI were 100% complete (i.e., usable). The validated laboratory data are tabulated and presented in Attachment A.

ATTACHMENT A

VALIDATED LABORATORY DATA

			Location	DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N	
			Sample Depth	10-10 Ft		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-01		OL-1521-02		OL-1524-01		OL-1531-01		OL-1533-04		OL-1538-01		OL-1575-10	
			Sample Date	6/8/2011		6/8/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1124023|JA77979		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	6.70E-05		1.04E-04		4.80E-05	J	6.80E-05		8.10E-05		4.70E-05	J	4.80E-05	J
E1631	MERCURY	ug/L	N	0.00155		0.00127		0.00115		0.00144		0.00104		0.00163		0.00144	
E1631	MERCURY	ug/L	Y	0.0004	J	0.00044		0.00033	J	0.00019	J	0.00016	J	0.00034	J	0.00015	U
SM2540D	Total Suspended Solids	mg/l	N	4		4	U	4	U	3	J	3	J	3	J	4	U
SW8082	AROCLOR-1016	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1221	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1232	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1242	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1248	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1254	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1260	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	AROCLOR-1268	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8082	PCBS, N.O.S.	ug/L	N	0.053	U	0.05	U	0.056	U	0.056	U	0.057	U	0.056	U	0.056	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.11		0.1	U	0.11	U	0.12	U	0.12	U	0.248		0.11	U
SW8270	PYRENE	ug/L	N	0.1	U	0.1	U	0.11	U	0.12	U	0.12	U	0.12	U	0.11	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	3.48				1.54		1.6		2.54		2.12		1.43	
UFI SOP	CHLOROPHYLL-A	ug/L	N	9.9				8		5.5	J	9.5	J	5.8		7.8	
UFI SOP	NITRITE	mg/l	N	0.033				0.035		0.054		0.04		0.065		0.05	

			Location	DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N		DEEP_N	
			Sample Depth	10-10 Ft		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-01		OL-1521-02		OL-1524-01		OL-1531-01		OL-1533-04		OL-1538-01		OL-1575-10	
			Sample Date	6/8/2011		6/8/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1124023|JA77979		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.029	J			0.033	J	0.09		0.012	J	0.118		0.263	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.894				1.787		1.676		1.599		1.657		1.782	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.2	J			7.2		3.6	J	4.4	J	3.4	J	4.9	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0213				0.027		0.0258		0.0271		0.0186		0.0219	J
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0005	J			0.0004	J	0.0014	U	0.0014	U	0.0014	U	0.0007	J
UFI SOP	TURBIDITY	NTU	N	3.7				1.7		1.4		2.3		1.9		1.8	

			Location	DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S	
			Sample Depth	10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-04		OL-1524-04		OL-1531-05		OL-1534-02		OL-1538-04		OL-1575-01		OL-1575-02	
			Sample Date	6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1147029|JA92221	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	9.40E-05		5.00E-05	J	9.10E-05		8.30E-05		5.10E-05		4.70E-05	J	4.70E-05	J
E1631	MERCURY	ug/L	N	0.00108		0.00202		0.0043		0.00142		0.00286		0.002		0.00158	
E1631	MERCURY	ug/L	Y	0.00044		0.00033	J	0.00027	J	0.00029	J	0.00049		0.00024	J	0.00024	J
SM2540D	Total Suspended Solids	mg/l	N	4		4	U	3	J	3	J	2	J	3	J	4	U
SW8082	AROCLOR-1016	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1221	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1232	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1242	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1248	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1254	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1260	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	AROCLOR-1268	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8082	PCBS, N.O.S.	ug/L	N	0.05	U	0.063	U	0.057	U	0.057	U	0.056	U	0.054	U	0.054	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
SW8270	PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.13	U	0.11	U	0.11	U	0.11	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	3.04		1.57		2.61		1.88		2.66		1.3			
UFI SOP	CHLOROPHYLL-A	ug/L	N	10.7		7		8.5	J	5.8	J	11.1		2.1			
UFI SOP	NITRITE	mg/l	N	0.033		0.037		0.047		0.04		0.064		0.05			

			Location	DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S		DEEP_S	
			Sample Depth	10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1521-04		OL-1524-04		OL-1531-05		OL-1534-02		OL-1538-04		OL-1575-01		OL-1575-02	
			Sample Date	6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1147029|JA92221	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.014	J	0.181		0.033	J	0.047		0.116		0.274			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.91		2.215		1.665		1.689		1.918		1.848			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.9	J	4.5		3	J	8.1		3.4	J	4.2	J		
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0213		0.0264		0.0291		0.0246		0.0241		0.0185	J		
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0005	J	0.0004	U	0.0014	U	0.0014	U	0.0014	U	0.001	J		
UFI SOP	TURBIDITY	NTU	N	2.9		1.7		2.6		2.2		2.5		1.9			

			Location	OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194	
			Sample Depth	4-4 Ft		3.5-3.5 FT		3.5-3.5 Ft		3.5-3.5 Ft		3.5-3.5 Ft		2.5-2.5 FT		3-3 FT	
			Field Sample ID	OL-1521-07		OL-1524-10		OL-1524-10A		OL-1524-10B		OL-1524-10C		OL-1531-08		OL-1533-05	
			Sample Date	6/8/2011		7/19/2011		7/19/2011		7/19/2011		7/19/2011		8/23/2011		9/13/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380		UFICHM2011-031		UFICHM2011-031		UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	1.18E-04		6.30E-05								1.51E-04		1.44E-04	
E1631	MERCURY	ug/L	N	0.0023		0.00306								0.0222		0.00349	
E1631	MERCURY	ug/L	Y	0.00067		0.00053								0.0005		0.00034	J
SM2540D	Total Suspended Solids	mg/l	N	4		4	U							7		4	U
SW8082	AROCLOR-1016	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1221	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1232	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1242	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1248	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1254	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1260	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	AROCLOR-1268	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8082	PCBS, N.O.S.	ug/L	N	0.05	U	0.059	U							0.057	U	0.057	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	0.31	J	1	U							1	U	1	U
SW8260	BENZENE	ug/L	N	0.41	J	1	U							1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U							0.35	J	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	0.37	J							1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U							1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	0.26	J							1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
SW8270	PYRENE	ug/L	N	0.1	U	0.11	U							0.12	U	0.12	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.3				1.35		1.44		1.37		3.09		2.4	
UFI SOP	CHLOROPHYLL-A	ug/L	N	4.6				3.3		4.1		4.4		4.6	J	8.5	J
UFI SOP	NITRITE	mg/l	N	0.03				0.038		0.041		0.038		0.05		0.039	

			Location	OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194		OL-SW-10194	
			Sample Depth	4-4 Ft		3.5-3.5 FT		3.5-3.5 Ft		3.5-3.5 Ft		3.5-3.5 Ft		2.5-2.5 FT		3-3 FT	
			Field Sample ID	OL-1521-07		OL-1524-10		OL-1524-10A		OL-1524-10B		OL-1524-10C		OL-1531-08		OL-1533-05	
			Sample Date	6/8/2011		7/19/2011		7/19/2011		7/19/2011		7/19/2011		8/23/2011		9/13/2011	
			SDG	1124023|JA77979|UFICHM2011-016		1130015|JA81380		UFICHM2011-031		UFICHM2011-031		UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.032	J			0.059		0.039	J	0.046		0.07		0.081	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.914				1.857		1.85		1.859		1.777		1.678	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.6	J			7.7		4.2		4.4	J	3	J	4.7	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0213				0.0288		0.025		0.0215		0.0369		0.0288	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0006	J			0.0021	J	0.0006	J	0.0014	J	0.0004	J	0.0014	U
UFI SOP	TURBIDITY	NTU	N	2.6				1.2		1.5		1.5		4		3.3	

			Location	OL-SW-10194		OL-SW-10194		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313	
			Sample Depth	10-10 FT		4-4 FT		4-4 FT		4-4 Ft		4-4 Ft		4-4 Ft		3.5-3.5 FT	
			Field Sample ID	OL-1538-07		OL-1575-08		OL-1522-05		OL-1522-05A		OL-1522-05B		OL-1522-05C		OL-1524-11	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		6/9/2011		6/9/2011		6/9/2011		7/19/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131		UFICHM2011-016		UFICHM2011-016		UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	7.30E-05		4.50E-05	J	7.00E-05								4.80E-05	J
E1631	MERCURY	ug/L	N	0.0107		0.00227		0.00102								0.00147	
E1631	MERCURY	ug/L	Y	0.00064		0.00027	J	0.00036	J							0.00033	J
SM2540D	Total Suspended Solids	mg/l	N	4		3	J	4	U							4	U
SW8082	AROCLOR-1016	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1221	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1232	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1242	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1248	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1254	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1260	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	AROCLOR-1268	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8082	PCBS, N.O.S.	ug/L	N	0.057	U	0.057	U	0.05	U							0.059	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U							5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U							1	U
SW8260	TOLUENE	ug/L	N	1	U	0.19	J	1	U							1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U							1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U							1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.12	U	0.1	UJ							0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.1	UJ							0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
SW8270	PYRENE	ug/L	N	0.11	U	0.12	U	0.1	U							0.11	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.15		1.18				2.68		2.78		2.78		1.95	
UFI SOP	CHLOROPHYLL-A	ug/L	N	7.5		2.4				6.7		6.8		7		6.1	
UFI SOP	NITRITE	mg/l	N	0.063		0.053				0.028		0.036		0.029		0.037	

			Location	OL-SW-10194		OL-SW-10194		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313	
			Sample Depth	10-10 FT		4-4 FT		4-4 FT		4-4 Ft		4-4 Ft		4-4 Ft		3.5-3.5 FT	
			Field Sample ID	OL-1538-07		OL-1575-08		OL-1522-05		OL-1522-05A		OL-1522-05B		OL-1522-05C		OL-1524-11	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		6/9/2011		6/9/2011		6/9/2011		7/19/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131		UFICHM2011-016		UFICHM2011-016		UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.124		0.305				0.025	J	0.045	J	0.017	J	0.034	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.932		1.823				1.712		1.784		1.73		1.706	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.4	J	5.5				2.9	J	2.9	J	3.8	J	4.2	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0269		0.0167				0.0174		0.0174		0.0178		0.026	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0019				0.0014	U	0.0014	U	0.0014	U	0.0004	U
UFI SOP	TURBIDITY	NTU	N	3.1		1.7				2.2		1.9		2.6		2	

			Location	OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		4-4 FT		4.5-4.5 FT		4.5-4.5 FT		4-4 FT		4-4 FT		3.5-3.5 FT	
			Field Sample ID	OL-1524-12		OL-1531-03		OL-1533-01		OL-1533-02		OL-1538-12		OL-1575-12		OL-1522-03	
			Sample Date	7/19/2011		8/23/2011		9/13/2011		9/13/2011		10/17/2011		11/15/2011		6/9/2011	
			SDG	1130015|JA81380		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		JA86104|JA86104X		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Regular sample		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	5.10E-05		6.40E-05		6.60E-05		6.80E-05		5.40E-05		5.50E-05		1.12E-04	
E1631	MERCURY	ug/L	N	0.0014		0.00161		0.00135	J	0.00303	J	0.00189		0.00617		0.00353	
E1631	MERCURY	ug/L	Y	0.00035	J	0.00029	J	0.00024	J	0.0003	J	0.00024	J	0.00035	J	0.00056	
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U	4	U	4	U	4		5		4	
SW8082	AROCLOR-1016	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1221	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1232	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1242	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1248	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1254	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1260	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	AROCLOR-1268	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8082	PCBS, N.O.S.	ug/L	N	0.062	U	0.058	U	0.068	U	0.063	U	0.056	U	0.056	U	0.05	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.12	U	0.12	UJ	0.11	U	0.1	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.143		0.11	U	0.1	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.12	U	0.12	UJ	0.11	U	0.1	UJ
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.398	J	0.11	U	0.1	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	U	0.11	U	0.1	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.12	UJ	0.11	U	0.1	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.853	J	0.11	U	0.1	U
SW8270	PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.12	U	0.217		0.11	U	0.1	U
UFI SOP	Beam Attenuation Coefficient	1/m	N			1.83		2.12				2.06		1.45		3.02	
UFI SOP	CHLOROPHYLL-A	ug/L	N			5.3	J	3.1	J			8.1		1.5		5.7	
UFI SOP	NITRITE	mg/l	N			0.052		0.038				0.062		0.048		0.036	

			Location	OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-40313		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		4-4 FT		4.5-4.5 FT		4.5-4.5 FT		4-4 FT		4-4 FT		3.5-3.5 FT	
			Field Sample ID	OL-1524-12		OL-1531-03		OL-1533-01		OL-1533-02		OL-1538-12		OL-1575-12		OL-1522-03	
			Sample Date	7/19/2011		8/23/2011		9/13/2011		9/13/2011		10/17/2011		11/15/2011		6/9/2011	
			SDG	1130015|JA81380		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		JA86104|JA86104X		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Regular sample		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N			0.082		0.07				0.118		0.274		0.051	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N			1.664		1.612				1.634		1.74		2.35	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y			3.4	J	5				2.6	J	5.2		3.6	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N			0.0211		0.0268				0.0212		0.0211		0.0243	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N			0.0014	U	0.0004	J			0.0007	J	0.0018		0.0014	U
UFI SOP	TURBIDITY	NTU	N			1.5		3				2.1		3.4		3.3	

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 Ft		3.5-3.5 Ft		3.5-3.5 Ft		3.5-3.5 FT		4-4 FT	
			Field Sample ID	OL-1524-09		OL-1531-09		OL-1531-09A		OL-1531-09B		OL-1531-09C		OL-1531-10		OL-1533-06	
			Sample Date	7/19/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		9/13/2011	
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438		UFICHM2011-046		UFICHM2011-046		UFICHM2011-046		1135027|JA84438		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate		Field duplicate		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	7.00E-05		7.70E-05								7.60E-05		6.70E-05	
E1631	MERCURY	ug/L	N	0.00372		0.00127								0.00144		0.00198	
E1631	MERCURY	ug/L	Y	0.00081		0.00045								0.00049		0.00048	
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U							4	U	4	U
SW8082	AROCLOR-1016	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1221	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1232	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1242	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1248	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1254	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1260	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	AROCLOR-1268	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8082	PCBS, N.O.S.	ug/L	N	0.056	U	0.056	U							0.056	U	0.055	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U							1	U	0.26	J
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U							1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U							1	U	0.22	J
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U							5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U							1	U	0.29	J
SW8260	TOLUENE	ug/L	N	1	U	1	U							1	U	1	
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U							1	U	0.89	J
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U							1	U	1.2	
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
SW8270	PYRENE	ug/L	N	0.11	U	0.12	U							0.12	U	0.12	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	1.3				0.44		0.46		0.44				2.3	
UFI SOP	CHLOROPHYLL-A	ug/L	N	4.2				1.2	J	1.6	J	1.2	J			5.6	J
UFI SOP	NITRITE	mg/l	N	0.033				0.045		0.044		0.046				0.04	

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328		OL-SW-60328	
			Sample Depth	3.5-3.5 FT		3.5-3.5 FT		3.5-3.5 Ft		3.5-3.5 Ft		3.5-3.5 Ft		3.5-3.5 FT		4-4 FT	
			Field Sample ID	OL-1524-09		OL-1531-09		OL-1531-09A		OL-1531-09B		OL-1531-09C		OL-1531-10		OL-1533-06	
			Sample Date	7/19/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		8/23/2011		9/13/2011	
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438		UFICHM2011-046		UFICHM2011-046		UFICHM2011-046		1135027|JA84438		JA86104|JA86104X|UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate		Field duplicate		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.039	J			0.041		0.029	J	0.029	J			0.111	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	2.08				1.902		1.876		1.858				4.417	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.9				3.3	J	4	J	3.4	J			6.7	
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.029				0.017		0.0224		0.017				0.0387	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0007				0.0007	J	0.0008	J	0.0008	J			0.0004	J
UFI SOP	TURBIDITY	NTU	N	1.5				0.5	J	0.5	J	0.5	J			3.4	

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329	
			Sample Depth	3-3 FT		4-4 FT		3.3-3.3 FT		3.5-3.5 FT		3.5-3.5 FT		4-4 FT		4-4 Ft	
			Field Sample ID	OL-1538-08		OL-1575-07		OL-1522-01		OL-1524-08		OL-1531-12		OL-1533-07		OL-1533-07A	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		7/19/2011		8/23/2011		9/13/2011		9/14/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X		UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	8.70E-05		7.90E-05		8.90E-05		7.60E-05		6.40E-05		8.10E-05			
E1631	MERCURY	ug/L	N	0.0204		0.00769		0.0038		0.00341		0.00365		0.00194			
E1631	MERCURY	ug/L	Y	0.00127		0.00043		0.0004	J	0.00106		0.0006		0.00022	J		
SM2540D	Total Suspended Solids	mg/l	N	5		29		8		3	J	4	U	4	U		
SW8082	AROCLOR-1016	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1221	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1232	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1242	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1248	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1254	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1260	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	AROCLOR-1268	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8082	PCBS, N.O.S.	ug/L	N	0.061	U	0.057	U	0.05	U	0.059	U	0.057	U	0.057	U		
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U		
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U		
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U		
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	NAPHTHALENE	ug/L	N	5	U	1.9	J	5	U	5	U	5	U	1.1	J		
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	TOLUENE	ug/L	N	1	U	0.36	J	1	U	1	U	1	U	1	U		
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U		
SW8260	XYLENES, TOTAL	ug/L	N	1	U	0.18	J	1	U	1	U	1	U	1	U		
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.11	U	0.11	U	0.13	UJ		
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	CHRYSENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.11	UJ	0.1	UJ	0.11	U	0.11	U	0.13	UJ		
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	FLUORENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.11	UJ	0.1	U	0.11	U	0.11	U	0.13	UJ		
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
SW8270	PYRENE	ug/L	N	0.11	U	0.11	U	0.1	U	0.11	U	0.11	U	0.13	U		
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.3		5.56		2.68		2.19		1.53				2.52	
UFI SOP	CHLOROPHYLL-A	ug/L	N	7.6		2.4		2.3		5.2		3.9	J			7.2	J
UFI SOP	NITRITE	mg/l	N	0.057		0.045		0.043		0.065		0.045				0.038	

			Location	OL-SW-60328		OL-SW-60328		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329	
			Sample Depth	3-3 FT		4-4 FT		3.3-3.3 FT		3.5-3.5 FT		3.5-3.5 FT		4-4 FT		4-4 Ft	
			Field Sample ID	OL-1538-08		OL-1575-07		OL-1522-01		OL-1524-08		OL-1531-12		OL-1533-07		OL-1533-07A	
			Sample Date	10/17/2011		11/15/2011		6/9/2011		7/19/2011		8/23/2011		9/13/2011		9/14/2011	
			SDG	1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X		UFICHM2011-053	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.111		0.27		0.119		0.083		0.024	J			0.033	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	2.509		1.927		1.939		1.383		1.894				1.745	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.7	J	9.9		6.5		5.9	J	3.3	J			5.4	
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0255		0.04		0.0342		0.0507		0.0281				0.0327	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0051		0.0028		0.0007	J	0.0004	J			0.0006	J
UFI SOP	TURBIDITY	NTU	N	2.7		10.9		4.4		4		1.4				3.7	

			Location	OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-80226		OL-SW-80226	
			Sample Depth	4-4 Ft		4-4 Ft		3-3 FT		3-3 FT		4-4 FT		10-10 Ft		10-10 FT	
			Field Sample ID	OL-1533-07B		OL-1533-07C		OL-1538-10		OL-1538-11		OL-1575-06		OL-1521-05		OL-1524-03	
			Sample Date	9/14/2011		9/14/2011		10/17/2011		10/17/2011		11/15/2011		6/8/2011		7/19/2011	
			SDG	UFICHM2011-053		UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1143007|JA89389		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Second field duplicate		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N					9.70E-05		9.60E-05		7.70E-05		8.40E-05		6.60E-05	
E1631	MERCURY	ug/L	N					0.0185		0.0165		0.00746		0.0011		0.00168	
E1631	MERCURY	ug/L	Y					0.00133		0.00091		0.00108		0.00044		0.00037	J
SM2540D	Total Suspended Solids	mg/l	N					8		7		20		4		4	U
SW8082	AROCLOR-1016	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1221	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1232	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1242	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1248	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1254	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1260	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	AROCLOR-1268	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8082	PCBS, N.O.S.	ug/L	N					0.06	U	0.056	U	0.056	U	0.054	U	0.056	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N					5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N					1	U	1	U	0.44	J	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N					1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	ANTHRACENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	CHRYSENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	FLUORENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
SW8270	PYRENE	ug/L	N					0.11	U	0.11	U	0.11	U	0.1	U	0.11	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.63		2.66		4.52				9.52		3.04		1.52	
UFI SOP	CHLOROPHYLL-A	ug/L	N	7.3	J	8.3	J	8				2.2		8.6		6.9	
UFI SOP	NITRITE	mg/l	N	0.038		0.038		0.052				0.03		0.043		0.036	

			Location	OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-60329		OL-SW-80226		OL-SW-80226	
			Sample Depth	4-4 Ft		4-4 Ft		3-3 FT		3-3 FT		4-4 FT		10-10 Ft		10-10 FT	
			Field Sample ID	OL-1533-07B		OL-1533-07C		OL-1538-10		OL-1538-11		OL-1575-06		OL-1521-05		OL-1524-03	
			Sample Date	9/14/2011		9/14/2011		10/17/2011		10/17/2011		11/15/2011		6/8/2011		7/19/2011	
			SDG	UFICHM2011-053		UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1143007|JA89389		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Field duplicate		Second field duplicate		Regular sample		Field duplicate		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.031	J	0.033	J	0.113				0.365		0.021	J	0.035	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.77		1.722		2.309				2.08		1.778		1.719	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.8		5.7		4.8				26.2		3.6	J	7.2	
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0305		0.0314		0.028				0.0991		0.0194		0.0456	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0006	J	0.0005	J			0.0193		0.0014	U	0.0009	J
UFI SOP	TURBIDITY	NTU	N	3.3		3		6.9				16.5		3		2	

			Location	OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft		10-10 Ft		10-10 Ft	
			Field Sample ID	OL-1531-04		OL-1534-01		OL-1538-03		OL-1575-09		OL-1575-09A		OL-1575-09B		OL-1575-09C	
			Sample Date	8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011	
			SDG	1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221		UFICHM2011-075		UFICHM2011-075		UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	8.10E-05		8.30E-05		5.00E-05	J	5.60E-05							
E1631	MERCURY	ug/L	N	0.00308		0.00124		0.00196		0.00264							
E1631	MERCURY	ug/L	Y	0.00023	J	0.00023	J	0.00039	J	0.00031	J						
SM2540D	Total Suspended Solids	mg/l	N	4		4	U	2	J	6							
SW8082	AROCLOR-1016	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1221	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1232	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1242	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1248	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1254	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1260	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	AROCLOR-1268	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8082	PCBS, N.O.S.	ug/L	N	0.057	U	0.056	U	0.057	U	0.056	U						
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U						
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	CHRYSENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	FLUORENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
SW8270	PYRENE	ug/L	N	0.11	U	0.13	U	0.12	U	0.11	U						
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.24		2.04		2.45				1.58		1.48		1.48	
UFI SOP	CHLOROPHYLL-A	ug/L	N	3.8	J	8.4	J	10.3				3.9		3.8		4	
UFI SOP	NITRITE	mg/l	N	0.049		0.038		0.065				0.049		0.049		0.049	

			Location	OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226		OL-SW-80226	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft		10-10 Ft		10-10 Ft	
			Field Sample ID	OL-1531-04		OL-1534-01		OL-1538-03		OL-1575-09		OL-1575-09A		OL-1575-09B		OL-1575-09C	
			Sample Date	8/23/2011		9/14/2011		10/17/2011		11/15/2011		11/15/2011		11/15/2011		11/15/2011	
			SDG	1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221		UFICHM2011-075		UFICHM2011-075		UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.062		0.032	J	0.112				0.274		0.271		0.284	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.676		1.662		1.857				1.795		1.805		1.823	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.3	J	6		3.4	J			5.2		4.5	J	4.1	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0264		0.0251		0.021				0.0204		0.0201		0.0191	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0004	J	0.0005	J			0.0012	J	0.0008	J	0.0008	J
UFI SOP	TURBIDITY	NTU	N	2.1		2.1		2				2.4		2.1		2	

			Location	OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft	
			Field Sample ID	OL-1522-04		OL-1524-05		OL-1531-06		OL-1534-03		OL-1538-05		OL-1575-03		OL-1521-03	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		6/8/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	9.30E-05		5.00E-05	J	1.00E-04		7.30E-05		5.00E-05	J	4.30E-05	J	8.30E-05	
E1631	MERCURY	ug/L	N	0.00107		0.00155		0.00633		0.00076		0.00302		0.00176		0.00125	
E1631	MERCURY	ug/L	Y	0.00031	J	0.00035	J	0.00033	J	0.00019	J	0.00059		0.00025	J	0.00043	
SM2540D	Total Suspended Solids	mg/l	N	4	U	4	U	4		4	U	4		4	U	4	
SW8082	AROCLOR-1016	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1221	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1232	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1242	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1248	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1254	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1260	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	AROCLOR-1268	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8082	PCBS, N.O.S.	ug/L	N	0.05	U	0.059	U	0.058	U	0.058	U	0.058	U	0.057	U	0.05	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	UJ
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	CHRYSENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	UJ	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	FLUORENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
SW8270	PYRENE	ug/L	N	0.1	U	0.11	U	0.12	U	0.14	U	0.11	U	0.11	U	0.1	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.59		1.3		2.63		1.91		2.4		1.18		3.26	
UFI SOP	CHLOROPHYLL-A	ug/L	N	8.3		7.4		6	J	4.3	J	7.1		3.3		12.2	
UFI SOP	NITRITE	mg/l	N	0.032		0.035		0.049		0.04		0.067		0.049		0.031	

			Location	OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80227		OL-SW-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft	
			Field Sample ID	OL-1522-04		OL-1524-05		OL-1531-06		OL-1534-03		OL-1538-05		OL-1575-03		OL-1521-03	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011		6/8/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.028	J	0.037	J	0.038	J	0.039	J	0.127		0.279		0.02	J
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.88		1.845		1.719		1.672		1.887		1.802		1.825	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	3.6	J	5.2		3	J	6		3.4	J	5.2		3.6	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0181		0.029		0.0285		0.0242		0.0224		0.0187		0.0246	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0004	J	0.0014	U	0.0014	U	0.0004	J	0.001	J	0.0005	J
UFI SOP	TURBIDITY	NTU	N	2.3		1.7		3		2.1		2.2		2.1		3.3	

			Location	OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft		10-10 Ft		10-10 Ft	
			Field Sample ID	OL-1524-02		OL-1531-02		OL-1533-03		OL-1538-02		OL-1538-02A		OL-1538-02B		OL-1538-02C	
			Sample Date	7/19/2011		8/23/2011		9/13/2011		10/17/2011		10/17/2011		10/17/2011		10/17/2011	
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		UFICHM2011-065		UFICHM2011-065		UFICHM2011-065	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	7.60E-05		6.30E-05		7.90E-05		4.60E-05	J						
E1631	MERCURY	ug/L	N	0.0015		0.00177		0.00104		0.00169							
E1631	MERCURY	ug/L	Y	0.00035	J	0.00028	J	0.00017	J	0.00035	J						
SM2540D	Total Suspended Solids	mg/l	N	4	U	5		4	U	2	J						
SW8082	AROCLOR-1016	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1221	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1232	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1242	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1248	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1254	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1260	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	AROCLOR-1268	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8082	PCBS, N.O.S.	ug/L	N	0.056	U	0.057	U	0.058	U	0.06	U						
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U						
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U						
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U						
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	CHRYSENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	FLUORENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
SW8270	PYRENE	ug/L	N	0.11	U	0.12	U	0.13	U	0.12	U						
UFI SOP	Beam Attenuation Coefficient	1/m	N	1.52		1.78		2.65				2.17		2.21		2.58	
UFI SOP	CHLOROPHYLL-A	ug/L	N	9.2		2.7	J	11	J	5.8				10		9.8	
UFI SOP	NITRITE	mg/l	N	0.035		0.053		0.04				0.06		0.043		0.062	

			Location	OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233		OL-SW-80233	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 Ft		10-10 Ft		10-10 Ft		10-10 Ft	
			Field Sample ID	OL-1524-02		OL-1531-02		OL-1533-03		OL-1538-02		OL-1538-02A		OL-1538-02B		OL-1538-02C			
			Sample Date	7/19/2011		8/23/2011		9/13/2011		10/17/2011		10/17/2011		10/17/2011		10/17/2011			
			SDG	1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		UFICHM2011-065		UFICHM2011-065		UFICHM2011-065			
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER			
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Field duplicate		Second field duplicate			
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water			
Method	Parameter Name	Units	Filtered																
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.049		0.065		0.03	J			0.1		0.09		0.106			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.843		1.785		1.598				1.739		1.706		1.744			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	12.9		3	J	4.4	J			3	J	3.4	J	3.3	J		
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.031		0.0241		0.0281				0.0196		0.0189		0.0185			
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0007	J	0.0014	U	0.0014	U			0.0014	U	0.0014	U	0.0014	U		
UFI SOP	TURBIDITY	NTU	N	1.8		1.6		2.7				1.8		2		1.8			

			Location	OL-SW-80233		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234	
			Sample Depth	10-10 FT		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1575-11		OL-1521-06		OL-1524-06		OL-1531-07		OL-1534-04		OL-1538-06		OL-1575-04	
			Sample Date	11/15/2011		6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011	
			SDG	1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	5.90E-05		1.10E-04		4.40E-05	J	7.40E-05		8.10E-05		6.50E-05		4.80E-05	J
E1631	MERCURY	ug/L	N	0.00365		0.00169		0.00153		0.00402		0.00178		0.00367		0.00202	
E1631	MERCURY	ug/L	Y	0.00032	J	0.00042		0.00039	J	0.00028	J	0.00034	J	0.00049		0.00034	J
SM2540D	Total Suspended Solids	mg/l	N	2	J	4		4	U	5		4	U	5		4	
SW8082	AROCLOR-1016	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1221	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1232	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1242	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1248	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1254	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1260	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	AROCLOR-1268	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8082	PCBS, N.O.S.	ug/L	N	0.057	U	0.05	U	0.057	U	0.056	U	0.055	U	0.053	U	0.057	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	ANTHRACENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U	0.1	U	0.11	UJ	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	CHRYSENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U	0.1	U	0.11	UJ	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	FLUORANTHENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	FLUORENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U	0.1	U	0.11	UJ	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	PHENANTHRENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
SW8270	PYRENE	ug/L	N	0.11	U	0.1	U	0.11	U	0.12	U	0.13	U	0.12	U	0.11	U
UFI SOP	Beam Attenuation Coefficient	1/m	N	1.33		3.38		1.44		2.39		1.94		2.38		1.33	
UFI SOP	CHLOROPHYLL-A	ug/L	N	3		10.6		4.4		8.1	J	6	J	11.7		3	
UFI SOP	NITRITE	mg/l	N	0.048		0.038		0.037		0.048		0.04		0.063		0.05	

			Location	OL-SW-80233		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234		OL-SW-80234	
			Sample Depth	10-10 FT		10-10 Ft		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT	
			Field Sample ID	OL-1575-11		OL-1521-06		OL-1524-06		OL-1531-07		OL-1534-04		OL-1538-06		OL-1575-04	
			Sample Date	11/15/2011		6/8/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		11/15/2011	
			SDG	1147029|JA92221|UFICHM2011-075		1124023|JA77979|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86231|JA86231X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Surface water	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.273		0.018	J	0.043		0.041		0.056		0.1		0.28	
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	1.706		2.032		1.867		1.65		1.787		1.932		1.841	
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.5	J	3.2	J	4.9		3	J	6.7		3	J	4.5	J
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.0177		0.0197		0.025		0.0301		0.0255		0.0241		0.0177	
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.001	J	0.0005	J	0.0014	J	0.0004	J	0.0004	J	0.0005	J	0.0012	J
UFI SOP	TURBIDITY	NTU	N	1.9		3.1		1.6		2.2		2.3		3.2		2	

			Location	OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		FIELD QC	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT			
			Field Sample ID	OL-1522-02		OL-1524-07		OL-1531-11		OL-1533-08		OL-1538-09		OL-1575-05		OL-1521-08	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011		6/8/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		JA77979	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Trip blank	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Blank water (field)	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	9.20E-05		5.80E-05		7.20E-05		6.90E-05		6.50E-05		5.50E-05			
E1631	MERCURY	ug/L	N	0.00249		0.00467		0.00395		0.00196		0.00476		0.00613			
E1631	MERCURY	ug/L	Y	0.00039	J	0.00054		0.00025	J	0.00035	J	0.00074	J	0.0004	J		
SM2540D	Total Suspended Solids	mg/l	N	5		3	J	4	U	4	U	4		9			
SW8082	AROCLOR-1016	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1221	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1232	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1242	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1248	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1254	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1260	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	AROCLOR-1268	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8082	PCBS, N.O.S.	ug/L	N	0.051	U	0.056	U	0.059	U	0.07	U	0.06	U	0.057	U		
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	0.17	J	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	ACENAPHTHYLENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	ANTHRACENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	BENZO(A)PYRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	CHRYSENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.1	UJ	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	FLUORANTHENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	FLUORENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	PHENANTHRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
SW8270	PYRENE	ug/L	N	0.1	U	0.12	U	0.11	U	0.12	U	0.11	U	0.12	U		
UFI SOP	Beam Attenuation Coefficient	1/m	N	2.39		1.8		2.27		2.72		3.1		2.09			
UFI SOP	CHLOROPHYLL-A	ug/L	N	4.3		6.5		7	J	6.4	J	10.5		2.5			
UFI SOP	NITRITE	mg/l	N	0.036		0.035		0.05		0.039		0.058		0.048			

			Location	OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		OL-SW-80235		FIELD QC	
			Sample Depth	10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT		10-10 FT			
			Field Sample ID	OL-1522-02		OL-1524-07		OL-1531-11		OL-1533-08		OL-1538-09		OL-1575-05		OL-1521-08	
			Sample Date	6/9/2011		7/19/2011		8/23/2011		9/13/2011		10/17/2011		11/15/2011		6/8/2011	
			SDG	1124038|JA78131|UFICHM2011-016		1130015|JA81380|UFICHM2011-031		1135027|JA84438|UFICHM2011-046		JA86104|JA86104X|UFICHM2011-053		1143007|JA89389|UFICHM2011-065		1147029|JA92221|UFICHM2011-075		JA77979	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Trip blank	
			Sample Type	Surface water		Surface water		Surface water		Surface water		Surface water		Surface water		Blank water (field)	
Method	Parameter Name	Units	Filtered														
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N	0.054		0.041		0.043		0.056		0.097		0.357			
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N	2.009		1.932		1.722		1.67		1.861		1.921			
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y	4.5	J	4.9	J	3	J	5.4		3	J	10.3			
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N	0.021		0.031		0.0264		0.0265		0.0255		0.0428			
UFI SOP	REACTIVE PHOSPHATE	mg/L	N	0.0014	U	0.0006	J	0.0014	U	0.0007	J	0.0014	U	0.005			
UFI SOP	TURBIDITY	NTU	N	2.8		3.4		1.8		2.7		3.5		4.1			

			Location	FIELD QC		FIELD QC		FIELD QC		FIELD QC		FIELD QC		FIELD QC		FIELD QC	
			Sample Depth														
			Field Sample ID	OL-1522-06		TripBlank060911		OL-1524-13		OL-1531-13		OL-1534-05		OL-1538-13		OL-1538-14	
			Sample Date	6/9/2011		6/9/2011		7/19/2011		8/23/2011		9/14/2011		10/17/2011		10/17/2011	
			SDG	1124038|JA78131		JA78131		1130015|JA81380		1135027|JA84438		JA86231|JA86231X		1143007|JA89389		JA89389	
			Matrix	WATER		WATER		WATER		WATER		WATER		WATER		WATER	
			Sample Purpose	Equipment blank		Trip blank		Equipment blank		Equipment blank		Equipment blank		Equipment blank		Trip blank	
			Sample Type	Blank water (field)		Blank water (field)		Blank water (field)		Blank water (field)		Blank water (field)		Blank water (field)		Blank water (field)	
Method	Parameter Name	Units	Filtered														
E1630	METHYL MERCURY	ug/L	N	2.00E-05	U			2.00E-05	U	2.00E-05	U	2.00E-05	U	2.00E-05	U		
E1631	MERCURY	ug/L	N	0.00018	J			0.00015	U	0.00015	U	0.00015	U	0.00015	U		
E1631	MERCURY	ug/L	Y	0.00015	U			0.00015	U	0.00015	U	0.00015	U	0.00015	U		
SM2540D	Total Suspended Solids	mg/l	N	4	U			4	U	4	U	4	U	2	J		
SW8082	AROCLOR-1016	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1221	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1232	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1242	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1248	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1254	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1260	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	AROCLOR-1268	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8082	PCBS, N.O.S.	ug/L	N	0.053	U			0.055	U	0.056	U	0.054	U	0.054	U		
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U	5	U	5	U	5	U	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	0.21	J	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	ANTHRACENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	CHRYSENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	UJ			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	FLUORANTHENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	FLUORENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	PHENANTHRENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
SW8270	PYRENE	ug/L	N	0.11	U			0.11	U	0.11	U	0.14	U	0.11	U		
UFI SOP	Beam Attenuation Coefficient	1/m	N														
UFI SOP	CHLOROPHYLL-A	ug/L	N														
UFI SOP	NITRITE	mg/l	N														

			Location	FIELD QC	FIELD QC	FIELD QC	FIELD QC	FIELD QC	FIELD QC	FIELD QC
			Sample Depth							
			Field Sample ID	OL-1522-06	TripBlank060911	OL-1524-13	OL-1531-13	OL-1534-05	OL-1538-13	OL-1538-14
			Sample Date	6/9/2011	6/9/2011	7/19/2011	8/23/2011	9/14/2011	10/17/2011	10/17/2011
			SDG	1124038|JA78131	JA78131	1130015|JA81380	1135027|JA84438	JA86231|JA86231X	1143007|JA89389	JA89389
			Matrix	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Sample Purpose	Equipment blank	Trip blank	Equipment blank	Equipment blank	Equipment blank	Equipment blank	Trip blank
			Sample Type	Blank water (field)	Blank water (field)	Blank water (field)	Blank water (field)	Blank water (field)	Blank water (field)	Blank water (field)
Method	Parameter Name	Units	Filtered							
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N							
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N							
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y							
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N							
UFI SOP	REACTIVE PHOSPHATE	mg/L	N							
UFI SOP	TURBIDITY	NTU	N							

			Location	FIELD QC		FIELD QC	
			Sample Depth				
			Field Sample ID	OL-1575-13		OL-1575-14	
			Sample Date	11/15/2011		11/15/2011	
			SDG	1147029|JA92221		JA92221	
			Matrix	WATER		WATER	
			Sample Purpose	Equipment blank		Trip blank	
			Sample Type	Blank water (field)		Blank water (field)	
Method	Parameter Name	Units	Filtered				
E1630	METHYL MERCURY	ug/L	N	2.00E-05	U		
E1631	MERCURY	ug/L	N	0.00015	U		
E1631	MERCURY	ug/L	Y	0.00015	U		
SM2540D	Total Suspended Solids	mg/l	N	4	U		
SW8082	AROCLOR-1016	ug/L	N	0.061	U		
SW8082	AROCLOR-1221	ug/L	N	0.061	U		
SW8082	AROCLOR-1232	ug/L	N	0.061	U		
SW8082	AROCLOR-1242	ug/L	N	0.061	U		
SW8082	AROCLOR-1248	ug/L	N	0.061	U		
SW8082	AROCLOR-1254	ug/L	N	0.061	U		
SW8082	AROCLOR-1260	ug/L	N	0.061	U		
SW8082	AROCLOR-1268	ug/L	N	0.061	U		
SW8082	PCBS, N.O.S.	ug/L	N	0.061	U		
SW8260	1,2,3-TRICHLOROBENZENE	ug/L	N	5	U	5	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/L	N	5	U	5	U
SW8260	1,2-DICHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/L	N	5	U	5	U
SW8260	1,3-DICHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	1,4-DICHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	BENZENE	ug/L	N	1	U	1	U
SW8260	CHLOROBENZENE	ug/L	N	1	U	1	U
SW8260	ETHYLBENZENE	ug/L	N	1	U	1	U
SW8260	NAPHTHALENE	ug/L	N	5	U	5	U
SW8260	O-XYLENE	ug/L	N	1	U	1	U
SW8260	TOLUENE	ug/L	N	1	U	1	U
SW8260	XYLENES, M & P	ug/L	N	1	U	1	U
SW8260	XYLENES, TOTAL	ug/L	N	1	U	1	U
SW8270	ACENAPHTHENE	ug/L	N	0.11	U		
SW8270	ACENAPHTHYLENE	ug/L	N	0.11	U		
SW8270	ANTHRACENE	ug/L	N	0.11	U		
SW8270	BENZO(A)ANTHRACENE	ug/L	N	0.11	U		
SW8270	BENZO(A)PYRENE	ug/L	N	0.11	U		
SW8270	BENZO(B)FLUORANTHENE	ug/L	N	0.11	U		
SW8270	BENZO(G,H,I)PERYLENE	ug/L	N	0.11	U		
SW8270	BENZO(K)FLUORANTHENE	ug/L	N	0.11	U		
SW8270	CHRYSENE	ug/L	N	0.11	U		
SW8270	DIBENZO(A,H)ANTHRACENE	ug/L	N	0.11	U		
SW8270	FLUORANTHENE	ug/L	N	0.11	U		
SW8270	FLUORENE	ug/L	N	0.11	U		
SW8270	INDENO(1,2,3-CD)PYRENE	ug/L	N	0.11	U		
SW8270	PHENANTHRENE	ug/L	N	0.11	U		
SW8270	PYRENE	ug/L	N	0.11	U		
UFI SOP	Beam Attenuation Coefficient	1/m	N				
UFI SOP	CHLOROPHYLL-A	ug/L	N				
UFI SOP	NITRITE	mg/l	N				

			Location	FIELD QC		FIELD QC	
			Sample Depth				
			Field Sample ID	OL-1575-13		OL-1575-14	
			Sample Date	11/15/2011		11/15/2011	
			SDG	1147029|JA92221		JA92221	
			Matrix	WATER		WATER	
			Sample Purpose	Equipment blank		Trip blank	
			Sample Type	Blank water (field)		Blank water (field)	
Method	Parameter Name	Units	Filtered				
UFI SOP	NITROGEN, AMMONIA (AS N)	mg/L	N				
UFI SOP	NITROGEN, NITRATE-NITRITE	mg/L	N				
UFI SOP	PHOSPHORUS, DISSOLVED (AS P)	ug/l	Y				
UFI SOP	PHOSPHORUS, TOTAL (AS P)	mg/L	N				
UFI SOP	REACTIVE PHOSPHATE	mg/L	N				
UFI SOP	TURBIDITY	NTU	N				

APPENDIX B

LITTORAL ZONE SEDIMENT PECQ SAMPLING BORING LOGS

BORING LOG

Honeywell

Site: Onondaga Lake (Syracuse NY)
Boring No: OL-VC-30187
Date: 07/22/2011
Weather: High 90s, hot and humid

Northing: 1123139.77
Easting: 919552.20
Mud Line: 361.6 Ft
Surface Water Depth: 1.3 Ft

Driller: Anchor QEA
Logging Company: PARSONS
Geologist: A. Menges
Penetration Depth: 7.50
Core Recovery Depth: 6.80

Water Elev: 362.9 Ft
Attempts: 1
Depth Units: Ft

Depth Ft	Recov	Sample ID	PID ppm	USCS Code	Soil Description	Sample Method	Stratum
0		OL-1525-12	2.1	SOLW	Wet, soft, light gray, silt-like grains, trace sand-like grains, mothball odor	Vibracore	Solvay Waste
		OL-1525-13	0.9	ML	Wet, medium stiff, light to dark gray, SILT, some fine sand, trace shells, trace oncolites, slight petroleum-like odor, marl	Vibracore	Marl
		OL-1525-14	1.5	ML	Wet, medium stiff, gray, fine to coarse SAND, trace silt, trace shells, trace oncolites, slight petroleum-like odor, marl	Vibracore	
		OL-1525-15	3.8	ML	Wet, soft, tan, SILT and fine Sand, trace shells, trace oncolites, slight petroleum-like odor, marl	Vibracore	
		OL-1525-16	2.2	ML	Wet, soft, tan, SILT and fine Sand, trace shells, trace oncolites, slight petroleum-like odor, marl	Vibracore	
5.0							

Note: Null fields indicate PID reading not taken

BORING LOG

Honeywell

Site: Onondaga Lake (Syracuse NY)
Boring No: OL-VC-30188
Date: 07/22/2011
Weather: High 90s, hot and humid

Northing: 1123023.34
Easting: 919718.95
Mud Line: 360.9 Ft
Surface Water Depth: 2.0 Ft

Driller: Anchor QEA
Logging Company: PARSONS
Geologist: A. Menges
Penetration Depth: 7.00
Core Recovery Depth: 5.80

Water Elev: 362.9 Ft
Attempts: 1
Depth Units: Ft

Depth Ft	Recov	Sample ID	PID ppm	USCS Code	Soil Description	Sample Method	Stratum
0		OL-1525-06	2.2	SM/ML	0 to 4 inches -Wet, soft, dark gray, SILT and fine to coarse Sand, slight petroleum-like odor. 4 to 12 inches -Wet, loose, gray, fine to coarse SAND, trace silt, trace shells, slight petroleum-like odor.	Vibracore	
		OL-1525-07	3.9	ML/SM	Wet, soft, light gray, SILT and fine Sand, trace shells, marl	Vibracore	
		OL-1525-09	2.5	ML/SM	Wet, very soft, light gray, SILT and fine Sand, trace shells, sulfur-like odor, marl	Vibracore	Marl
		OL-1525-10	9.4	ML/SM	Wet, very soft, light gray, SILT and fine Sand, trace shells, sulfur-like odor, marl	Vibracore	
		OL-1525-11	3.8	ML/SM	Wet, very soft, light gray, SILT and fine Sand, trace shells, sulfur-like odor, marl	Vibracore	
5.0							

Note: Null fields indicate PID reading not taken

BORING LOG

Honeywell

Site: Onondaga Lake (Syracuse NY)
Boring No: OL-VC-30189
Date: 07/22/2011
Weather: High 90s, hot and humid

Northing: 1123908.46
Easting: 919091.80
Mud Line: 353.8 Ft
Surface Water Depth: 9.1 Ft

Driller: Anchor QEA
Logging Company: PARSONS
Geologist: A. Menges
Penetration Depth: 8.00
Core Recovery Depth: 7.80

Water Elev: 362.9 Ft
Attempts: 1
Depth Units: Ft

Depth Ft	Recov	Sample ID	PID ppm	USCS Code	Soil Description	Sample Method	Stratum
0		OL-1525-01	0.0	SM/SOLW	0 to 3 inches -Wet, loose, dark brown, fine to coarse SAND. 3 to 12 inches-wet, very soft, light gray, silt-like grains, trace fine sand-like grains, mothball odor	Vibracore	
		OL-1525-02	0.0	SOLW	Wet, very soft, light gray, silt-like grains, trace sand-like grains, mothball odor	Vibracore	
		OL-1525-03	0.0	SOLW	Wet, very soft, light gray, silt-like grains, trace sand-like grains, mothball odor	Vibracore	Solvay Waste
		OL-1525-04	0.0	SOLW	Wet, very soft, light gray, silt-like grains, trace sand-like grains, mothball odor	Vibracore	
		OL-1525-05	0.0	SOLW	Wet, very soft, light gray, silt-like grains, trace sand-like grains, mothball odor	Vibracore	
5.0							

Note: Null fields indicate PID reading not taken

BORING LOG

Honeywell

Site: Onondaga Lake (Syracuse NY)
Boring No: OL-VC-40316
Date: 07/22/2011
Weather: High 90s, hot and humid

Northing: 1126598.47
Easting: 916401.14
Mud Line: 349.7 Ft
Surface Water Depth: 13.2 Ft

Driller: Anchor QEA
Logging Company: PARSONS
Geologist: A. Menges
Penetration Depth: 9.00
Core Recovery Depth: 6.40

Water Elev: 362.9 Ft
Attempts: 2
Depth Units: Ft

Depth Ft	Recov	Sample ID	PID ppm	USCS Code	Soil Description	Sample Method	Stratum
0		OL-1526-02	0.0	ML	0 to 6 inches -Wet, soft, dark brown, SILT and fine Sand. 6 to 12 inches-Wet, very soft, dark brown, SILT	Vibracore	
		OL-1526-03	0.0	ML	Wet, very soft, dark brown, SILT	Vibracore	
		OL-1526-04	0.0	ML	Wet, very soft, dark brown, SILT	Vibracore	Silt
		OL-1526-05	0.0	ML	Wet, very soft, dark brown, SILT, some fine sand, trace organic material	Vibracore	
		OL-1526-06	0.0	ML	Wet, very soft, dark brown, SILT, some fine sand, trace organic material	Vibracore	
5.0							

Note: Null fields indicate PID reading not taken

BORING LOG

Honeywell

Site: Onondaga Lake (Syracuse NY)
Boring No: OL-VC-40317
Date: 07/22/2011
Weather: High 90s, hot and humid

Northing: 1126637.36
Easting: 916518.65
Mud Line: 348.6 Ft
Surface Water Depth: 14.3 Ft

Driller: Anchor QEA
Logging Company: PARSONS
Geologist: A. Menges
Penetration Depth: 8.50
Core Recovery Depth: 7.10

Water Elev: 362.9 Ft
Attempts: 1
Depth Units: Ft

Depth Ft	Recov	Sample ID	PID ppm	USCS Code	Soil Description	Sample Method	Stratum
0		OL-1525-17	0.0	ML	Wet, very soft, dark brown, SILT, some fine to coarse sand, trace shells, trace organic material	Vibracore	
		OL-1525-18	0.0	ML	Wet, very soft, dark brown, SILT, some fine to coarse sand, trace shells, trace organic material	Vibracore	
		OL-1525-19	0.0	ML	0 to 9 inches-Wet, very soft, dark brown, SILT, some fine to coarse sand, trace shells, trace organic material 9 to 12 inches -Wet, very soft, brown, SILT, trace fine sand, trace shells	Vibracore	Silt
		OL-1525-20	0.0	ML	Wet, very soft, brown, SILT, trace fine sand, trace shells, trace organic material	Vibracore	
		OL-1526-01	0.0	ML	Wet, very soft, brown, SILT, trace fine sand, trace shells, trace organic material	Vibracore	
5.0							

Note: Null fields indicate PID reading not taken

APPENDIX C

SEDIMENT DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

ONONDAGA LAKE PRE-DESIGN INVESTIGATION

PHASE VII

Prepared For:

Honeywell

301 Plainfield Road, Suite 330
Syracuse, NY 13212

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, New York 13212
Phone: (315) 451-9560
Fax: (315) 451-9570

JANUARY 2013

TABLE OF CONTENTS

Page

SECTION 1 DATA USABILITY SUMMARY 1-1

1.1 LABORATORY DATA PACKAGES 1-1

1.2 SAMPLING AND CHAIN-OF-CUSTODY 1-1

1.3 LABORATORY ANALYTICAL METHODS 1-1
1.3.1 Volatile Organic Analysis 1-2
1.3.2 Semivolatile Organic Analysis 1-2
1.3.3 PCB Organic Analysis 1-2
1.3.4 Mercury Analysis 1-2
1.3.5 Wet Chemistry Analysis 1-3

SECTION 2 DATA VALIDATION REPORT 2-1

2.1 VIBRACORE AND BARGE SEDIMENT SAMPLES 2-1
2.1.1 CPOI Volatiles 2-1
2.1.2 CPOI SVOCs (PAHs and Phenol) 2-2
2.1.3 PCBs 2-4
2.1.4 Mercury 2-5
2.1.5 TOC and pH 2-6

2.2 SMU-8 SEDIMENT SAMPLES 2-6
2.2.1 Mercury 2-6

2.3 SMU-8 PECQ SEDIMENT SAMPLES 2-7
2.3.1 CPOI Volatiles 2-8
2.3.2 CPOI SVOCs (PAHs and Phenol) 2-9
2.3.3 PCBs 2-10
2.3.4 Mercury 2-11
2.3.5 TOC and pH 2-12

LIST OF ATTACHMENTS

ATTACHMENT A VALIDATED LABORATORY DATA

ATTACHMENT A-1 VALIDATED LABORATORY DATA FOR VIBRACORE AND BARGE SEDIMENT SAMPLES

ATTACHMENT A-2 VALIDATED LABORATORY DATA FOR SMU-8 SEDIMENT SAMPLES

ATTACHMENT A-3 VALIDATED LABORATORY DATA FOR SMU-8 PECQ SEDIMENT SAMPLES

SECTION 1

DATA USABILITY SUMMARY

Vibracore and barge sediment, SMU-8 sediment, and SMU-8 PECQ sediment samples were collected from the Onondaga Lake Pre-Design Investigation (PDI) sites in Solvay, New York from June 28, 2011 through September 23, 2011. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Onondaga Lake PDI Phase VII Work Plan,
- July 2005 NYSDEC Analytical Services Protocol (ASP), and
- USEPA Region II Standard Operating Procedures (SOPs) for organic and inorganic data review.

The analytical laboratories for this project were Accutest Laboratories, Inc. (Accutest) and Test America Laboratories (TAL). These laboratories are certified to conduct project analyses through the New York State Department of Health (NYSDOH) and the National Environmental Laboratory Accreditation Program (NELAP).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 22-36 days for the project samples.

The laboratory data packages received from the laboratories were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report which is summarized by sample media in Section 2.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, properly preserved, shipped under a COC record, and received at the laboratories within one day of sampling. All samples were received intact and in good condition at the laboratories.

1.3 LABORATORY ANALYTICAL METHODS

The vibracore and barge sediment samples were collected from the site and analyzed for the chemical parameter of interest (CPOI) volatile organic compounds (VOCs); the CPOI semivolatiles (SVOCs) of PAHs and phenol; polychlorinated biphenyls (PCBs); mercury; and/or total organic carbon (TOC). The SMU-8 sediment samples were collected and analyzed for mercury. The SMU-8 PECQ sediment samples were collected and analyzed for the CPOI

VOCs; the CPOI SVOCs of PAHs and phenol; PCBs; mercury; TOC; and pH. Summaries of issues concerning these laboratory analyses are presented in Subsections 1.3.1 through 1.3.5. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented by media in Attachment A.

1.3.1 Volatile Organic Analysis

Sediment samples collected from the site were analyzed by Accutest for the CPOI VOCs using the USEPA SW-846 8260B analytical method. Certain reported results for the VOC samples were qualified as estimated based upon surrogate recoveries, matrix spike/matrix spike duplicate (MS/MSD) recoveries, and sediment sample moisture content. The reported VOC analytical results were 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

1.3.2 Semivolatile Organic Analysis

Sediment samples collected from the site were analyzed by Accutest for the CPOI SVOCs of PAHs and/or phenol using the USEPA SW-846 8270C analytical method. Certain reported results for these samples were qualified as estimated based upon MS/MSD recoveries and sediment sample moisture content. The reported SVOC analytical results were 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

1.3.3 PCB Organic Analysis

Sediment samples collected from the site were analyzed by Accutest for PCBs using the USEPA SW-846 8082 analytical method. Certain reported results for the PCB samples were qualified as estimated based upon sample result identification, field duplicate precision, and sediment sample moisture content. The reported PCB analytical results were considered 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

1.3.4 Mercury Analysis

Sediment samples collected from the site were analyzed by Accutest and TAL for mercury using the USEPA SW-846 7471A analytical method. Certain reported results for these samples were qualified as estimated based upon holding times and sediment sample moisture content.

The reported mercury data were considered 100% complete (i.e., usable) for the data presented by Accutest and TAL. PARCC requirements were met.

1.3.5 Wet Chemistry Analysis

Sediment samples collected from the site were analyzed by Accutest for TOC and/or pH using the USEPA approved Lloyd Kahn and USEPA SW-846 9045 analytical methods, respectively. Certain reported results for these samples were qualified as estimated based upon sediment sample moisture content. The reported wet chemistry analytical results for these samples were 100% complete (i.e., usable) for the data presented by Accutest. PARCC requirements were met.

SECTION 2

DATA VALIDATION REPORT

2.1 VIBRACORE AND BARGE SEDIMENT SAMPLES

Data review has been completed for data packages generated by Accutest containing sediment samples collected from the site. These samples were contained within SDGs JA81765, JA81766, and JA79653R. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data were tabulated and are presented in Attachment A-1.

Data validation was performed for all samples in accordance with the project work plan, QAPP, NYSDEC ASP, and the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.1.1 CPOI Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of surrogate recoveries and MS/MSD precision and accuracy as discussed below.

Surrogate Recoveries

All sample surrogate recoveries were considered acceptable, within QC limits, and did not require sample qualification with the exception of the low dibromofluoromethane recovery (QC limit 67-131%R) in samples OL-1525-04 (43%R), -05 (47%R), -02(54%R), and -03(48%R). Reanalyses of these samples yielded similar recoveries confirming the presence of matrix effects in these samples. Therefore, results for these samples were considered estimated, possibly biased low, with positive results qualified "J" and nondetected results qualified "UJ" for the affected samples.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery, %R) measurements were compliant, within QC acceptance limits for designated spiked project samples, and did not require qualification with the exception of the less than 10% MS/MSD accuracy results for benzene during the spiked analyses of sample OL-1525-01. The positive benzene result for the parent sample was considered estimated, possibly biased low, and qualified "J".

Usability

All volatile results for the vibracore sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile vibracore sediment data presented by Accutest were 100% complete (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A-1.

It was noted that many sediment samples contained less than 50% solids. The volatile sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.1.2 CPOI SVOCs (PAHs and Phenol)

The following items were reviewed for compliancy in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries

- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of surrogate recoveries and MS/MSD precision and accuracy as discussed below.

Surrogate Recoveries

All sample surrogate recoveries were considered acceptable and within QC limits with the exception of the low 2-fluorophenol surrogate recovery (QC limit 21-124%R) in sample OL-1525-05 (13%R). Reanalysis of this sample yielded a similar recovery. Since only one acid surrogate was outside the QC limit, validation qualification was not required.

MS/MSD Precision and Accuracy

All MS/MSD precision and accuracy measurements were within QC acceptance limits for designated spiked project samples with the exception of the low MS/MSD accuracy results for phenanthrene, chrysene, fluoranthene, fluorene, and pyrene during the spiked analyses of sample OL-1525-01. Therefore, the results for these compounds which were detected in the parent sample were considered estimated, possibly biased low, and qualified "J".

Usability

All semivolatile results for the vibracore sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The semivolatile vibracore sediment data presented by Accutest were 100% complete (i.e., usable). The validated semivolatile laboratory data are tabulated and presented in Attachment A-1.

It was noted that many sediment samples contained less than 50% solids. The PAH and phenol sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.1.3 PCBs

The following items were reviewed for compliancy in the PCB analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries
- Laboratory method blank contamination
- Initial calibrations
- Verification calibrations
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of sample result identification as discussed below.

Sample Result Identification

All positive PCB sample results were within retention time windows and verified present using secondary column confirmation. The precision between the PCB results on the quantitation and confirmation columns were less than 25%RPD with the exception of the precision results for PCB-1248 in samples OL-1526-02 and -05; PCB-1254 in samples OL-1526-03, -04, and -05; PCB-1260 in sample OL-1526-04; PCB-1268 in samples OL-1525-17, OL-1526-02, and -03; and total PCBs in samples OL-1526-03 and -05. The results for these PCBs were considered estimated and qualified "J" for the affected samples.

Usability

All PCB results for the vibracore sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The PCB vibracore sediment data presented by Accutest were 100% complete with all data considered usable and valid. The validated data are tabulated and presented in Attachment A-1.

It was noted that many sediment samples contained less than 50% solids. The PCB sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.1.4 Mercury

The following items were reviewed for compliancy in the mercury analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration, and laboratory preparation blank contamination
- MS/MSD recoveries
- Laboratory duplicate precision
- LCS recoveries
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of holding times as discussed below.

Holding Times

All mercury samples were prepped and analyzed within the 26-day verified time of sample receipt (VTSR) requirement with the exception of the barge sediment samples contained within SDG JA79653R which exceeded the holding time requirement by 52 days. Therefore, all the mercury results for these samples were considered estimated, possibly biased low and qualified "J".

Usability

All mercury results for the vibracore and barge sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The mercury data for the vibracore and barge sediment samples presented by Accutest were 100% complete (i.e., usable). The validated mercury laboratory data are tabulated and presented in Attachment A-1.

It was noted that many sediment samples contained less than 50% solids. The mercury sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.1.5 TOC and pH

All custody documentation, holding times, laboratory blanks, matrix spikes, duplicates, calibrations, quantitation limits, control samples, and instrumentation were reviewed for compliance. The reported results for these samples did not require qualification resulting from data validation.

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The vibracore sediment data for these analyses presented by Accutest were 100% complete (i.e., usable). The validated laboratory data are tabulated and presented in Attachment A-1.

It was noted that many sediment samples contained less than 50% solids. The TOC and pH sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.2 SMU-8 SEDIMENT SAMPLES

Data review has been completed for data packages generated by TAL containing SMU-8 sediment collected from the site. These samples were contained within SDGs 180-4306-1 and 180-4306-2. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A-2.

Data validation was performed for all samples in accordance with the project work plan, QAPP, NYSDEC ASP, and the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.2.1 Mercury

The following items were reviewed for compliancy in the mercury analysis:

- Custody documentation

- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration, laboratory preparation blank contamination
- MS/MSD recoveries
- Laboratory duplicate precision
- LCS recoveries
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All mercury results for the SMU-8 sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The mercury SMU-8 sediment data presented by TAL were 100% complete (i.e., usable). The validated laboratory data are tabulated and presented in Attachment A-2.

It was noted that all of the SMU-8 sediment samples contained less than 50% solids. The mercury sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.3 SMU-8 PECQ SEDIMENT SAMPLES

Data review has been completed for data packages generated by Accutest containing SMU-8 PECQ sediment samples collected from the site. These samples were contained within SDG JA87094. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A-3.

Data validation was performed for all samples in accordance with the project work plan, QAPP, NYSDEC ASP, and the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.3.1 CPOI Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy as discussed below.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery, %R) measurements were within QC acceptance limits for designated spiked project samples with the exception of many precision results during the spiked analyses of sample OL-1535-01. Validation qualification of the parent sample was not required.

Usability

All volatile results for the SMU-8 PECQ sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile SMU-8 PECQ sediment data presented by Accutest were 100% complete (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A-3.

It was noted that all of the sediment samples contained less than 50% solids. The volatile sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.3.2 CPOI SVOCs (PAHs and Phenol)

The following items were reviewed for compliancy in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries
- Laboratory method blank contamination
- GC/MS instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy as discussed below.

MS/MSD Precision and Accuracy

All MS/MSD precision and accuracy measurements were within QC acceptance limits for designated spiked project samples with the exception of the precision result for acenaphthylene during the spiked analyses of sample OL-1535-01. Validation qualification of the parent sample was not required.

Usability

All semivolatile results for the SMU-8 PECQ sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The semivolatile SMU-8 PECQ sediment data presented by Accutest were 100% complete (i.e., usable). The validated semivolatile laboratory data are tabulated and presented in Attachment A-3.

It was noted that all of the sediment samples contained less than 50% solids. The PAH and phenol sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.3.3 PCBs

The following items were reviewed for compliancy in the PCB analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries
- Laboratory method blank contamination
- Initial calibrations
- Verification calibrations
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of field duplicate precision as discussed below.

Field Duplicate Precision

All field duplicate precision results were considered acceptable with the exception of the sample results for PCB-1260 and total PCBs for the field duplicate pair OL-1535-01/-02 (280 µg/kg / nondetect). The PCB results for the parent sample and field duplicate were considered estimated with the positive results qualified "J" and the nondetected results qualified "UJ".

Usability

All PCB results for the SMU-8 PECQ sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The PCB SMU-8 PECQ sediment data presented by Accutest were 100% complete with all data considered usable and valid. The validated data are tabulated and presented in Attachment A-3.

It was noted that all of the sediment samples contained less than 50% solids. The PCB sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.3.4 Mercury

The following items were reviewed for compliancy in the mercury analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration verifications
- Initial and continuing calibration, and laboratory preparation blank contamination
- MS/MSD recoveries
- Laboratory duplicate precision
- LCS recoveries
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols.

Usability

All mercury results for the SMU-8 PECQ sediment samples were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The mercury data for the SMU-8 PECQ sediment samples presented by Accutest were 100% complete (i.e., usable). The validated mercury laboratory data are tabulated and presented in Attachment A-3.

It was noted that all of the sediment samples contained less than 50% solids. The mercury sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

2.3.5 TOC and pH

All custody documentation, holding times, laboratory blanks, matrix spikes, duplicates, calibrations, quantitation limits, control samples, and instrumentation were reviewed for compliance. The reported results for these samples did not require qualification resulting from data validation.

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The SMU-8 PECQ sediment data for these analyses presented by Accutest were 100% complete (i.e., usable). The validated laboratory data are tabulated and presented in Attachment A-3.

It was noted that all of the sediment samples contained less than 50% solids. The TOC and pH sample results for these samples were considered estimated with positive results qualified "J" and nondetected results qualified "UJ".

ATTACHMENT A

VALIDATED LABORATORY DATA

ATTACHMENT A-1

VALIDATED LABORATORY DATA FOR VIBRACORE AND BARGE SEDIMENT SAMPLES

		Location	OL-VC-30187		OL-VC-30187		OL-VC-30187		OL-VC-30187		OL-VC-30187		OL-VC-30188		OL-VC-30188	
		Sample Depth	0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft		0.00-1.00 Ft		1.00-2.00 Ft	
		Field Sample ID	OL-1525-12		OL-1525-13		OL-1525-14		OL-1525-15		OL-1525-16		OL-1525-06		OL-1525-07	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011	
		SDG	JA81766		JA81766		JA81766		JA81766		JA81766		JA81766		JA81766	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	14200	J	8210		6670		6650		6290		5320		7050	
SM2540G	SOLIDS, PERCENT	%	36.5		58.1		59.6		55.3		56.3		57.7		60.5	
SW7471	MERCURY	mg/kg	0.053	J	0.16		0.023	U	0.025	U	0.024	U	0.024	U	0.023	J
SW8082	AROCLOR-1016	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1221	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1232	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1242	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1248	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1254	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1260	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	AROCLOR-1268	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8082	PCBS, N.O.S.	ug/kg	8.1	UJ	5.1	U	4.9	U	5.3	U	5.2	U	5.1	U	4.9	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,2-DICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,3-DICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	1,4-DICHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	BENZENE	ug/kg	5250	J	1160		894		1740		2400		2990		5830	
SW8260	CHLOROBENZENE	ug/kg	1100	UJ	590	U	530	U	610	U	620	U	630	U	47	U
SW8260	ETHYLBENZENE	ug/kg	2040	J	519		348		566		484		585		238	
SW8260	NAPHTHALENE	ug/kg	105000	J	56200		38400		54900		44600		28200		5860	
SW8260	O-XYLENE	ug/kg	11200	J	3160		2260		3460		2990		394		521	
SW8260	TOLUENE	ug/kg	22300	J	5240		3740		6670		6480		179		90.9	
SW8260	XYLENES, M & P	ug/kg	38800	J	10700		7400		11600		9970		2100		900	
SW8260	XYLENES, TOTAL	ug/kg	50000	J	13900		9660		15000		13000		2490		1420	
SW8270	ACENAPHTHENE	ug/kg	7.8	UJ	4.9	U	4.8	U	5.2	U	5.1	U	11.6		4.7	U
SW8270	ACENAPHTHYLENE	ug/kg	90.6	J	76.5		4.8	U	5.2	U	5.1	U	25.6		4.7	U
SW8270	ANTHRACENE	ug/kg	222	J	154		4.8	U	5.2	U	5.1	U	52.3		4.7	U
SW8270	BENZO(A)ANTHRACENE	ug/kg	243	J	208		4.8	U	5.2	U	5.1	U	122		4.7	U
SW8270	BENZO(A)PYRENE	ug/kg	113	J	113		4.8	U	5.2	U	5.1	U	80.5		4.7	U
SW8270	BENZO(B)FLUORANTHENE	ug/kg	134	J	145		4.8	U	5.2	U	5.1	U	139		4.7	U
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	77	J	68.8		4.8	U	5.2	U	5.1	U	57.9		4.7	U
SW8270	BENZO(K)FLUORANTHENE	ug/kg	101	J	64.8		4.8	U	5.2	U	5.1	U	19.3		4.7	U
SW8270	CHRYSENE	ug/kg	328	J	201		4.8	U	5.2	U	5.1	U	110		4.7	U
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	24.6	J	4.9	U	4.8	U	5.2	U	5.1	U	5	U	4.7	U
SW8270	FLUORANTHENE	ug/kg	560	J	616		4.8	U	5.2	U	5.1	U	229		4.7	U
SW8270	FLUORENE	ug/kg	7.8	UJ	281		4.8	U	5.2	U	5.1	U	86.1		4.7	U
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	63.1	J	63.6		4.8	U	5.2	U	5.1	U	54.6		4.7	U
SW8270	PHENANTHRENE	ug/kg	596	J	456		4.8	U	5.2	U	5.1	U	113		4.7	U
SW8270	PHENOL	ug/kg	366	J	153		122		155		193		54		47	U
SW8270	PYRENE	ug/kg	298	J	448		4.8	U	5.2	U	5.1	U	210		4.7	U
SW9045	pH	S.U.	11.15	J	11.54		11.68		11.76		11.61		8.21		7.4	

		Location	OL-VC-30188		OL-VC-30188		OL-VC-30188		OL-VC-30188		OL-VC-30189		OL-VC-30189		OL-VC-30189	
		Sample Depth	1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft		0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft	
		Field Sample ID	OL-1525-08		OL-1525-09		OL-1525-10		OL-1525-11		OL-1525-01		OL-1525-02		OL-1525-03	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011	
		SDG	JA81766		JA81766		JA81766		JA81766		JA81766		JA81766		JA81766	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Field duplicate		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	7170		7950		7090		6930		9120	J	4710	J	1600	J
SM2540G	SOLIDS, PERCENT	%	57		54.1		55		52.1		35.7		31.1		26.8	
SW7471	MERCURY	mg/kg	0.024	U	0.025	U	0.025	U	0.027	U	0.76	J	0.14	J	0.24	J
SW8082	AROCLOR-1016	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1221	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1232	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1242	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1248	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1254	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1260	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	AROCLOR-1268	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8082	PCBS, N.O.S.	ug/kg	5.2	U	5.4	U	5.3	U	5.6	U	8.2	UJ	9.5	UJ	11	UJ
SW8260	1,2,3-TRICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	1,2,4-TRICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	1,2-DICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	0.83	J	16	UJ	19	UJ
SW8260	1,3,5-TRICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	1,3-DICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	1,4-DICHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	1.1	J	0.79	J	1.5	J
SW8260	BENZENE	ug/kg	6880		9060		9680		7040		112	J	218	J	646	J
SW8260	CHLOROBENZENE	ug/kg	44	U	620	U	650	U	40	U	14	UJ	16	UJ	19	UJ
SW8260	ETHYLBENZENE	ug/kg	238		212		143		78		1.4	J	1.5	J	0.91	J
SW8260	NAPHTHALENE	ug/kg	5060		2170		1840		1310		54.5	J	19.5	J	19.6	J
SW8260	O-XYLENE	ug/kg	667		706		437		259		6	J	2.8	J	3.9	J
SW8260	TOLUENE	ug/kg	211		2890		6280		2910		8.8	J	6.8	J	12.3	J
SW8260	XYLENES, M & P	ug/kg	930		1250		1220		789		12.4	J	6.3	J	3.8	J
SW8260	XYLENES, TOTAL	ug/kg	1600		1960		1660		1050		18.4	J	9.1	J	7.8	J
SW8270	ACENAPHTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	32.1	J	12	J	11	UJ
SW8270	ACENAPHTHYLENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	29.3	J	36.1	J	11	UJ
SW8270	ANTHRACENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	25.4	J	34.1	J	15.6	J
SW8270	BENZO(A)ANTHRACENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	78.9	J	45.5	J	50.7	J
SW8270	BENZO(A)PYRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	39.9	J	22.3	J	36.6	J
SW8270	BENZO(B)FLUORANTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	44.3	J	19.4	J	41.4	J
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	27.4	J	13.2	J	23.7	J
SW8270	BENZO(K)FLUORANTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	29.1	J	14.4	J	26.3	J
SW8270	CHRYSENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	106	J	35.3	J	39.6	J
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	8	UJ	9.2	UJ	11	UJ
SW8270	FLUORANTHENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	179	J	91.2	J	86.3	J
SW8270	FLUORENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	102	J	19.3	J	11	UJ
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	21.2	J	10.8	J	22.3	J
SW8270	PHENANTHRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	159	J	142	J	111	J
SW8270	PHENOL	ug/kg	50	U	53	U	414		1030		3920	J	1670	J	1940	J
SW8270	PYRENE	ug/kg	5	U	5.3	U	5.2	U	5.5	U	272	J	144	J	82	J
SW9045	pH	S.U.	7.27		7.08		7.03		7.1		11.45	J	12.03	J	11.97	J

		Location	OL-VC-30189		OL-VC-30189		OL-VC-40316		OL-VC-40316		OL-VC-40316		OL-VC-40316		OL-VC-40316	
		Sample Depth	3.00-4.00 Ft		4.00-5.00 Ft		0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft	
		Field Sample ID	OL-1525-04		OL-1525-05		OL-1526-02		OL-1526-03		OL-1526-04		OL-1526-05		OL-1526-06	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011	
		SDG	JA81766		JA81766		JA81765		JA81765		JA81765		JA81765		JA81765	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	2760	J	1580	J	10800		18800		65800		57300		27600	
SM2540G	SOLIDS, PERCENT	%	23.5		31.1		61.6		59.7		58.6		56.8		56	
SW7471	MERCURY	mg/kg	0.31	J	0.27	J	14.9		35.7		2.3		0.87		0.49	
SW8082	AROCLOR-1016	ug/kg	13	UJ	9.5	UJ	4.7	U	4.8	U	5	U	5	U	5.3	U
SW8082	AROCLOR-1221	ug/kg	13	UJ	9.5	UJ	4.7	U	4.8	U	5	U	5	U	5.3	U
SW8082	AROCLOR-1232	ug/kg	13	UJ	9.5	UJ	4.7	U	4.8	U	5	U	5	U	5.3	U
SW8082	AROCLOR-1242	ug/kg	13	UJ	9.5	UJ	4.7	U	4.8	U	5	U	5	U	5.3	U
SW8082	AROCLOR-1248	ug/kg	13	UJ	9.5	UJ	48.3	J	62.2		19.2		10.1	J	5.3	U
SW8082	AROCLOR-1254	ug/kg	13	UJ	9.5	UJ	27		36.4	J	48	J	14.1	J	5.3	U
SW8082	AROCLOR-1260	ug/kg	13	UJ	9.5	UJ	4.7	U	4.8	U	11.4	J	5	U	5.3	U
SW8082	AROCLOR-1268	ug/kg	13	UJ	9.5	UJ	313	J	392	J	5	U	5	U	5.3	U
SW8082	PCBS, N.O.S.	ug/kg	13	UJ	9.5	UJ	388		491	J	78.6		24.2	J	5.3	U
SW8260	1,2,3-TRICHLOROBENZENE	ug/kg	22	UJ	17	UJ	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	1,2,4-TRICHLOROBENZENE	ug/kg	22	UJ	17	UJ	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	1,2-DICHLOROBENZENE	ug/kg	22	UJ	17	UJ	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	1,3,5-TRICHLOROBENZENE	ug/kg	22	UJ	17	UJ	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	1,3-DICHLOROBENZENE	ug/kg	22	UJ	17	UJ	2	J	1.8	J	9.5	U	9.4	U	8.9	U
SW8260	1,4-DICHLOROBENZENE	ug/kg	2.3	J	1.5	J	1.3	J	0.87	J	9.5	U	9.4	U	8.9	U
SW8260	BENZENE	ug/kg	1670	J	881	J	1.7	U	1.7	U	1.9	U	1.9	U	1.8	U
SW8260	CHLOROBENZENE	ug/kg	22	UJ	17	UJ	1.3	J	0.89	J	9.5	U	9.4	U	8.9	U
SW8260	ETHYLBENZENE	ug/kg	1	J	3.5	UJ	1.7	U	1.7	U	1.9	U	1.9	U	1.8	U
SW8260	NAPHTHALENE	ug/kg	22.3	J	12.2	J	8.6	U	8.7	U	9.5	U	9.4	U	8.9	U
SW8260	O-XYLENE	ug/kg	5.2	J	3.3	J	0.36	J	0.37	J	1.9	U	1.9	U	1.8	U
SW8260	TOLUENE	ug/kg	13.5	J	9.5	J	1.7	U	1.7	U	1.9	U	1.9	U	1.8	U
SW8260	XYLENES, M & P	ug/kg	3.9	J	2.5	J	0.92	J	0.59	J	1.9	U	1.9	U	1.8	U
SW8260	XYLENES, TOTAL	ug/kg	9.1	J	5.8	J	1.3	J	0.96	J	1.9	U	1.9	U	1.8	U
SW8270	ACENAPHTHENE	ug/kg	12	UJ	9.2	UJ	4.6	U	4.8	U	5.59		5.69		12.8	
SW8270	ACENAPHTHYLENE	ug/kg	12	UJ	10.3	J	6.63		6.76		19.6		20.7		16.3	
SW8270	ANTHRACENE	ug/kg	16.6	J	27.1	J	10.3		10.8		24.2		23		76.8	
SW8270	BENZO(A)ANTHRACENE	ug/kg	24.6	J	49.7	J	58.3		32.1		84.6		79.8		240	
SW8270	BENZO(A)PYRENE	ug/kg	12	UJ	31.1	J	36.2		17		49.2		44.6		136	
SW8270	BENZO(B)FLUORANTHENE	ug/kg	12	UJ	59.3	J	41.1		18.3		60.2		57.7		173	
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	12	UJ	12.8	J	26.6		11.5		31.5		28.3		89.1	
SW8270	BENZO(K)FLUORANTHENE	ug/kg	12	UJ	9.2	UJ	36.7		19.1		36.9		33.3		149	
SW8270	CHRYSENE	ug/kg	12.6	J	53	J	61.2		35.2		89.3		81.9		253	
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	12	UJ	9.2	UJ	8.48		4.8	U	11.8		10.8		36.6	
SW8270	FLUORANTHENE	ug/kg	55.7	J	140	J	106		70.8		150		141		615	
SW8270	FLUORENE	ug/kg	12	UJ	9.2	UJ	4.6	U	10.1		12.2		12.5		22.3	
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	12	UJ	20.2	J	24.4		10.5		29.3		26.8		89.3	
SW8270	PHENANTHRENE	ug/kg	141	J	91.5	J	38.3		47.6		103		99.2		267	
SW8270	PHENOL	ug/kg	2270	J	1410	J	46	U	48	U	49	U	54.6		51	U
SW8270	PYRENE	ug/kg	45.7	J	115	J	103		71.3		159		141		464	
SW9045	pH	S.U.	11.98	J	12.01	J	7.48		7.25		7.16		7.14		7.22	

		Location	OL-VC-40317		OL-VC-40317		OL-VC-40317		OL-VC-40317		OL-VC-40317		OL-SB-40318		OL-SB-40319	
		Sample Depth	0.00-1.00 Ft		1.00-2.00 Ft		2.00-3.00 Ft		3.00-4.00 Ft		4.00-5.00 Ft		0-1 Ft		0-1 Ft	
		Field Sample ID	OL-1525-17		OL-1525-18		OL-1525-19		OL-1525-20		OL-1526-01		OL-1523-01		OL-1523-02	
		Sample Date	7/22/2011		7/22/2011		7/22/2011		7/22/2011		7/22/2011		6/28/2011		6/28/2011	
		SDG	JA81766		JA81766		JA81766		JA81766		JA81765		JA79653R		JA79653R	
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sample Purpose	Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample		Regular sample	
		Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Method	Parameter Name	Units														
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	14400		30000		14000		25700		71900	J				
SM2540G	SOLIDS, PERCENT	%	60.8		55.1		59.4		52.4		37.5		67.3		63	
SW7471	MERCURY	mg/kg	12.9		3		0.21		0.037	J	0.044	J	0.26	J	1.6	J
SW8082	AROCLOR-1016	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1221	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1232	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1242	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1248	ug/kg	25.3		5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1254	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1260	ug/kg	4.8	U	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	AROCLOR-1268	ug/kg	60.2	J	5.3	U	5	U	5.6	U	7.8	UJ				
SW8082	PCBS, N.O.S.	ug/kg	85.5		5.3	U	5	U	5.6	U	7.8	UJ				
SW8260	1,2,3-TRICHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,2,4-TRICHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,2-DICHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,3,5-TRICHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,3-DICHLOROBENZENE	ug/kg	1.6	J	9.1	U	9.4	U	10	U	15	UJ				
SW8260	1,4-DICHLOROBENZENE	ug/kg	1	J	9.1	U	9.4	U	10	U	15	UJ				
SW8260	BENZENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	CHLOROBENZENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	ETHYLBENZENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	NAPHTHALENE	ug/kg	8.4	U	9.1	U	9.4	U	10	U	15	UJ				
SW8260	O-XYLENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	TOLUENE	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	XYLENES, M & P	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8260	XYLENES, TOTAL	ug/kg	1.7	U	1.8	U	1.9	U	2.1	U	3	UJ				
SW8270	ACENAPHTHENE	ug/kg	15.4		7.62		8.24		5.5	U	7.6	UJ				
SW8270	ACENAPHTHYLENE	ug/kg	30.6		28.7		15.5		5.5	U	7.6	UJ				
SW8270	ANTHRACENE	ug/kg	63		22.9		23.9		5.5	U	7.6	UJ				
SW8270	BENZO(A)ANTHRACENE	ug/kg	215		67.6		96.3		5.5	U	7.6	UJ				
SW8270	BENZO(A)PYRENE	ug/kg	173		76.2		70.9		5.5	U	7.6	UJ				
SW8270	BENZO(B)FLUORANTHENE	ug/kg	228		74.9		123		5.5	U	7.6	UJ				
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	118		50.5		44.5		5.5	U	7.6	UJ				
SW8270	BENZO(K)FLUORANTHENE	ug/kg	96.5		43.7		28.6		5.5	U	7.6	UJ				
SW8270	CHRYSENE	ug/kg	195		68.3		90.1		5.5	U	7.6	UJ				
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	4.7	U	17.6		4.8	U	5.5	U	7.6	UJ				
SW8270	FLUORANTHENE	ug/kg	401		116		190		5.5	U	7.6	UJ				
SW8270	FLUORENE	ug/kg	15.5		5.2	U	9.67		5.5	U	7.6	UJ				
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	111		42.3		45		5.5	U	7.6	UJ				
SW8270	PHENANTHRENE	ug/kg	155		81.5		74.9		5.5	U	7.6	UJ				
SW8270	PHENOL	ug/kg	47	U	52	U	48	U	55	U	76	UJ				
SW8270	PYRENE	ug/kg	317		142		212		5.5	U	7.6	UJ				
SW9045	pH	S.U.	7.45		7.34		7.27		7.57		7.32	J				

ATTACHMENT A-2

VALIDATED LABORATORY DATA FOR SMU-8 SEDIMENT SAMPLES

							Parameter	MERCURY		PERCENT MOISTURE		SOLIDS, PERCENT	
							Units	mg/kg		%		%	
Location ID	Sample Depth	Field Sample ID	Sample Date	Sample Delivery Group	Matrix	Purpose	Samp Type						
OL-STA-80225	0-0.066 FT	OL-1536-01	9/23/2011	180-4306-1	SOIL	REG	SED	1	J	84		16	
OL-STA-80225	0.066-0.133 FT	OL-1536-02	9/23/2011	180-4306-1	SOIL	REG	SED	1.1	J	77		23	
OL-STA-80225	0.133-0.33 FT	OL-1536-03	9/23/2011	180-4306-1	SOIL	REG	SED	1.9	J	73		27	
OL-STA-80226	0-0.066 FT	OL-1536-04	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	75		25	
OL-STA-80226	0.066-0.133 FT	OL-1536-05	9/23/2011	180-4306-1	SOIL	REG	SED	1.6	J	71		29	
OL-STA-80226	0.133-0.33 FT	OL-1536-06	9/23/2011	180-4306-1	SOIL	REG	SED	2.1	J	69		31	
OL-STA-80227	0-0.066 FT	OL-1536-07	9/23/2011	180-4306-1	SOIL	REG	SED	1.4	J	72		28	
OL-STA-80227	0.066-0.133 FT	OL-1536-08	9/23/2011	180-4306-1	SOIL	REG	SED	1.9	J	71		29	
OL-STA-80227	0.133-0.33 FT	OL-1536-09	9/23/2011	180-4306-1	SOIL	REG	SED	2.6	J	69		31	
OL-STA-80228	0-0.066 FT	OL-1536-10	9/23/2011	180-4306-1	SOIL	REG	SED	0.96	J	79		21	
OL-STA-80228	0.066-0.133 FT	OL-1536-11	9/23/2011	180-4306-1	SOIL	REG	SED	0.92	J	79		21	
OL-STA-80228	0.133-0.33 FT	OL-1536-12	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	78		22	
OL-STA-80229	0-0.066 FT	OL-1536-13	9/23/2011	180-4306-1	SOIL	REG	SED	1.1	J	81		19	
OL-STA-80229	0.066-0.133 FT	OL-1536-14	9/23/2011	180-4306-1	SOIL	REG	SED	1.1	J	80		20	
OL-STA-80229	0.133-0.33 FT	OL-1536-15	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	77		23	
OL-STA-80230	0-0.066 FT	OL-1536-16	9/23/2011	180-4306-1	SOIL	REG	SED	0.87	J	79		21	
OL-STA-80230	0.066-0.133 FT	OL-1536-17	9/23/2011	180-4306-1	SOIL	REG	SED	1.5	J	78		22	
OL-STA-80230	0.133-0.33 FT	OL-1536-18	9/23/2011	180-4306-1	SOIL	REG	SED	1.6	J	68		32	
OL-STA-80230	0.133-0.33 FT	OL-1536-19	9/23/2011	180-4306-1	SOIL	FD	SED	1.7	J	67		33	
OL-STA-80231	0-0.066 FT	OL-1536-20	9/23/2011	180-4306-1	SOIL	REG	SED	0.9	J	77		23	
OL-STA-80231	0.066-0.133 FT	OL-1537-01	9/23/2011	180-4306-2	SOIL	REG	SED	1.4	J	78		22	
OL-STA-80231	0.133-0.33 FT	OL-1537-02	9/23/2011	180-4306-2	SOIL	REG	SED	2.1	J	73		27	
OL-STA-80232	0-0.066 FT	OL-1537-03	9/23/2011	180-4306-2	SOIL	REG	SED	1	J	77		23	
OL-STA-80232	0.066-0.133 FT	OL-1537-04	9/23/2011	180-4306-2	SOIL	REG	SED	1.2	J	78		22	
OL-STA-80232	0.133-0.33 FT	OL-1537-05	9/23/2011	180-4306-2	SOIL	REG	SED	2.2	J	74		26	
OL-STA-80233	0-0.066 FT	OL-1537-06	9/23/2011	180-4306-2	SOIL	REG	SED	1.7	J	73		27	
OL-STA-80233	0.066-0.133 FT	OL-1537-07	9/23/2011	180-4306-2	SOIL	REG	SED	1.9	J	75		25	
OL-STA-80233	0.133-0.33 FT	OL-1537-08	9/23/2011	180-4306-1	SOIL	REG	SED	2.4	J	74		26	
OL-STA-80234	0-0.066 FT	OL-1537-09	9/23/2011	180-4306-2	SOIL	REG	SED	0.92	J	77		23	
OL-STA-80234	0.066-0.133 FT	OL-1537-10	9/23/2011	180-4306-2	SOIL	REG	SED	1.3	J	76		24	
OL-STA-80234	0.133-0.33 FT	OL-1537-11	9/23/2011	180-4306-2	SOIL	REG	SED	1.8	J	70		30	

ATTACHMENT A-3

VALIDATED LABORATORY DATA FOR SMU-8 PECQ SEDIMENT SAMPLES

		Location	OL-STA-80224		OL-STA-80224	
		Sample Depth	0.00-0.13 Ft		0.00-0.13 Ft	
		Field Sample ID	OL-1535-01		OL-1535-02	
		Sample Date	9/23/2011		9/23/2011	
		SDG	JA87094		JA87094	
		Matrix	SOIL		SOIL	
		Sample Purpose	Regular sample		Field duplicate	
		Sample Type	Sediment		Sediment	
Method	Parameter Name	Units				
Lloyd Kahn	TOTAL ORGANIC CARBON	mg/kg	36800	J	33900	J
SM2540G	SOLIDS, PERCENT	%	22.4		22.1	
SW7471	MERCURY	mg/kg	1.1	J	0.86	J
SW8082	AROCLOR-1016	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1221	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1232	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1242	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1248	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1254	ug/kg	110	UJ	110	UJ
SW8082	AROCLOR-1260	ug/kg	280	J	110	UJ
SW8082	AROCLOR-1268	ug/kg	110	UJ	110	UJ
SW8082	PCBS, N.O.S.	ug/kg	280	J	110	UJ
SW8260	1,2,3-TRICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,2,4-TRICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,2-DICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,3,5-TRICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,3-DICHLOROBENZENE	ug/kg	24	UJ	25	UJ
SW8260	1,4-DICHLOROBENZENE	ug/kg	2.7	J	2.2	J
SW8260	BENZENE	ug/kg	3.1	J	2.2	J
SW8260	CHLOROBENZENE	ug/kg	3.5	J	3	J
SW8260	ETHYLBENZENE	ug/kg	4.9	UJ	4.9	UJ
SW8260	NAPHTHALENE	ug/kg	24	UJ	25	UJ
SW8260	O-XYLENE	ug/kg	4.9	UJ	4.9	UJ
SW8260	TOLUENE	ug/kg	4.9	UJ	4.9	UJ
SW8260	XYLENES, M & P	ug/kg	4.9	UJ	4.9	UJ
SW8260	XYLENES, TOTAL	ug/kg	4.9	UJ	4.9	UJ
SW8270	ACENAPHTHENE	ug/kg	410	UJ	320	UJ
SW8270	ACENAPHTHYLENE	ug/kg	410	UJ	320	UJ
SW8270	ANTHRACENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(A)ANTHRACENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(A)PYRENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(B)FLUORANTHENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(G,H,I)PERYLENE	ug/kg	410	UJ	320	UJ
SW8270	BENZO(K)FLUORANTHENE	ug/kg	410	UJ	320	UJ
SW8270	CHRYSENE	ug/kg	410	UJ	320	UJ
SW8270	DIBENZO(A,H)ANTHRACENE	ug/kg	410	UJ	320	UJ
SW8270	FLUORANTHENE	ug/kg	410	UJ	320	UJ
SW8270	FLUORENE	ug/kg	410	UJ	320	UJ
SW8270	INDENO(1,2,3-CD)PYRENE	ug/kg	410	UJ	320	UJ
SW8270	PHENANTHRENE	ug/kg	410	UJ	320	UJ
SW8270	PHENOL	ug/kg	4100	UJ	3200	UJ
SW8270	PYRENE	ug/kg	410	UJ	320	UJ
SW9045	pH	S.U.	7.53	J	7.48	J

APPENDIX D

SMU 8 SEDIMENT CORE DESCRIPTIONS

ANCHOR QEA

290 Elwood Davis Road, Suite 340
Liverpool, New York 13088
Phone 315.453.9009
Fax 315.453.9010
www.anchorqea.com

MEMORANDUM

To:	David Babcock, Parsons	**Date:**	August 15, 2012
From:	Deirdre Reidy, Anchor QEA	**Project:**	090139-01.13
Cc:	Martin Hennessey, Parsons Carl Stivers, Anchor QEA		
Re:	Evaluation of Extent of Mixing within Onondaga Lake Profundal Zone Surface Sediments Based on Visual Inspection of Late 2011 SMU 8 Cores		

During August 2010, Honeywell collected six sediment cores from the profundal zone of Onondaga Lake (Sediment Management Unit or SMU 8) to initially evaluate the extent of sediment layering (also called laminations or varves) visually observable in frozen cores. Presence of such laminations provides basis for determining whether physical mixing of the sediment is occurring vertically and, if so, to what depth. The six cores collected during 2010 were collected from water depths of 50 feet or more.

At the request of New York State Department of Environmental Conservation (NYSDEC; Comment 38 from NYSDEC 2011), five additional cores were collected in SMU 8 during November 2011 to further evaluate the presence of laminations at profundal zone locations with shallower water depths. The November 2011 sediment cores were collected at locations where water depths range from 35 feet to 55 feet. The full range of water depths in the profundal zone of Onondaga Lake is 30 to 65 feet. Locations where the five cores were collected are shown on Figure 1. Two of the cores were collected from a water depth of 35 feet; two of the cores were collected from a water depth of 45 feet; and the fifth core was collected at a water depth of 55 feet. The gravity coring device used in 2010 (Parsons 2010) was again used in 2011. Cores were capped, labeled with the core location, and stored vertically. During transport, every effort was made to ensure that each core was not disturbed. Cores were placed vertically into a cooler and packed with dry ice to freeze the sediment so it could be cut without disturbing the sediment cross section.

On Tuesday, December 6, 2011, the five cores were split open vertically using a reciprocating saw to allow for visual inspection of the vertical cross-section of each core. The cores were frozen to a point where it was difficult to scrape excess ice off the surface of the exposed cross-section following cutting, so a heat source was used sparingly to melt the ice slightly along the cut surface to allow excess ice to be scraped from the cores. Following heating and additional scraping, the exposed cross-surfaces of the frozen cores were visually inspected. Photographs were taken and observations were recorded for each of the five cores following agreement amongst the representatives about the laminations observed. In attendance on December 6, 2011, were Martin Hennessey and David Babcock of Parsons, Deirdre Reidy and Jim Ryan of Anchor QEA, and Bob Montione of AECOM (representing NYSDEC). Cores were visually inspected again on December 7 and December 8 by Anchor QEA and observations were recorded.

In all five cores, laminations were observed within the top 2 to approximately 3 cm, providing additional evidence that limited mixing, if any, is occurring in the profundal sediments of Onondaga Lake. The observations reported herein from the November 2011 cores are consistent with observations made of SMU 8 cores frozen and observed during 2010. Information that follows in this memo describes the visual observations of each of the cores collected.

Northernmost Core at 35-foot Water Depth

Visual inspection of this core indicated laminations were present throughout the core, starting at the surface. Some marbling (i.e. markings of dark and light sediment that resembles marble) was observed from depths of 4 cm to 7 cm; the edges of the marbling were well defined (Figure 2). The core was brown to light brown in color and no odor was observed. Detailed descriptions of the laminations observed are as follows:

- Light brown sediment at surface to 0.5 cm.
- Light brown sediment from 1.2 cm to 1.7 cm. Edges were not well defined.
- Light brown sediment from 2.8 cm to 3.5 cm. One or two bands appeared to be present within this interval.
- Marbling was observed between the 4-cm and 7-cm depths. Between larger "marbles" of light brown sediment, horizontally discontinuous light bands were observed.
- Dark band observed from 7.5 cm to 8 cm.
- Thin dark band observed at 9 cm.

- From a depth of 13.5 cm to 20 cm, bands on the order of 0.5 cm to 1-cm thickness were observed.
- Dark band observed from 12 cm to 14 cm.
- Dark band observed from 10.5 cm to 11 cm.



Figure 2
Photograph of Northernmost Core Collected at 35-foot Water Depth, Day 1 of Observations (December 6, 2011)

Observations on subsequent days (December 7 and 8, 2011) showed that this core had developed crevasses along the sides due to melting of ice and evaporation of water within the core (Figure 3). The top 2 cm to 3 cm of the core had been compromised due to melting of the ice at the top of the core, which had previously held the sediment in place. The middle section of the cross-section was mostly smooth. Marbling was apparent from below the compromised section of the core down to a depth of 12 cm. Within each band of the lighter colored sediment, hairline laminations were observed (Figure 3).

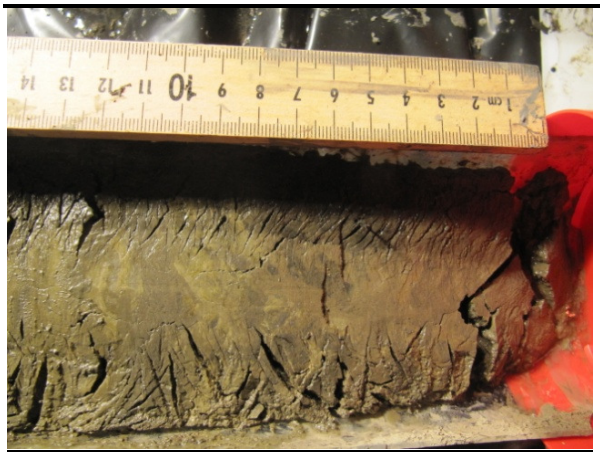


Figure 3a
Photograph of Northernmost Core Collected at 35-foot Water Depth, Day 2 of Observations (December 7, 2011)

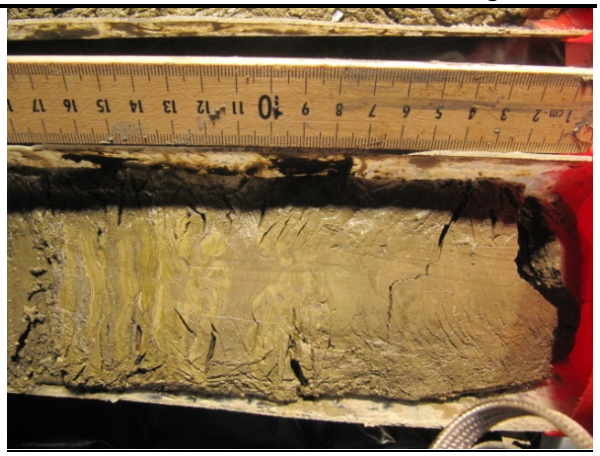


Figure 3b
Photograph of Northernmost Core Collected at 35-foot Water Depth, Day 3 of Observations (December 8, 2011)

Northernmost Core at 45-foot Water Depth

Observations of this core indicated laminations within the top 2 cm. From the surface down to 7 cm, the bands were thicker and less consistent than the bands observed below 7 cm. The core was brown to light brown in color and no odor was observed. Detailed descriptions of the laminations observed are as follows:

- 3-mm-thick, light brown band of sediment at the surface of the core.
- Light brown band from 1.4 cm to 2 cm.
- Light brown band from 3 cm to 3.2 cm.
- Light brown band from 4 cm to 4.5 cm.
- Light brown band from 5 cm to 5.1 cm.
- Light brown band from 6 cm to 6.5 cm.
- Narrow bands of light brown (0.25 cm thick) and dark brown (0.25 cm thick) from 7 cm to 12 cm.



Figure 4
Photograph of Northernmost Core Collected at 45-foot Water Depth, Day 1 of Observations (December 6, 2011)

Observations on subsequent days (December 7 and 8, 2011) showed that this core had split at 3 cm and crevasses were present at the sides of the core (Figure 5). This core was more intact on the second and third day of observation than the other cores collected during this effort. The light band of sediment, approximately 0.25 cm thick, at the surface of the core was still visible on each subsequent day of observation. A 1-cm-thick, light brown band was observed from at a depth of 1 cm. A 1-cm-thick, dark brown band of sediment was observed at 2-cm depth. A shadow was present due to the splitting of the core at a depth of approximately 3.5 cm. Very clear laminations were present from a depth of 3.5 cm down to 13.5 cm, each of which were approximately 3 mm thick (Figure 5). Hairline laminations were observed within each band of lighter colored sediment,

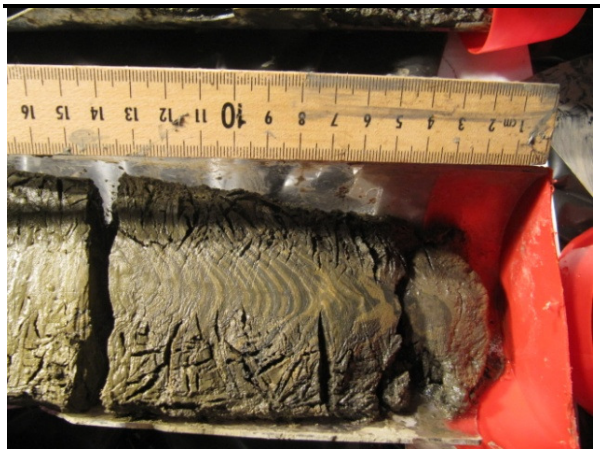


Figure 5a
Photograph of Northernmost Core Collected at 45-foot Water Depth, Day 2 of Observations (December 7, 2011)



Figure 5b
Photo of Northernmost Core Collected at 45-foot Water Depth, Day 3 of Observations (December 8, 2011)

Southernmost Core at 35-foot Water Depth

Laminations at this location were observed beginning at the surface of the core. The core was dark gray to light gray in color. The dark coloring of the core made observations difficult. A petroleum odor was observed. Detailed descriptions of the laminations observed are as follows:

- 0.5-cm, light brown band observed at the surface of the core.
- Dark gray band observed from 0.5 to 3 cm.
- Light gray band observed from 3 cm to 3.5 cm.
- 1-mm-thick, light gray band observed at 4.8 cm.
- 1-mm-thick, light gray band observed at 5.1 cm.
- 1-mm thick light gray band observed at 6 cm.
- Light gray band observed from 6.4 to 6.6 cm.
- 1-mm-thick band of light gray observed at 7.5 cm.
- 1-mm-thick band of light gray observed at 7.8 cm.
- 1-mm-thick band of light gray observed at 8.3 cm.
- Dark gray band observed from 8.4 to 9 cm.
- 1-mm-thick band of light gray observed at 9.8 cm.
- 1-mm-thick band of light gray observed at 10 cm.
- 1-mm-thick band of light gray observed at 10.6 cm.



Figure 6
Photograph of Southernmost Core Collected at 35-foot Water Depth, Day 1 of Observations (December 6, 2011)

Observations on subsequent days (December 7 and 8, 2011) showed that this core had developed crevasses both horizontally and vertically (Figure 7). The top 2 cm to 3 cm of the core has been compromised due to melting of the ice at the top of the core, which had previously held the sediment in place. Laminations of approximately 1 cm thick were visible from 3 cm down to a depth of 12 cm; laminations were distinct from 6 to 12 cm and were approximately 1 cm thick. Within each band of the lighter colored sediment, hairline laminations were observed (Figure 7). Also of note was the change in coloration over the course of the 3 days of observations. Oxidation occurred causing the coloring to change from dark and light gray to dark and light tan.

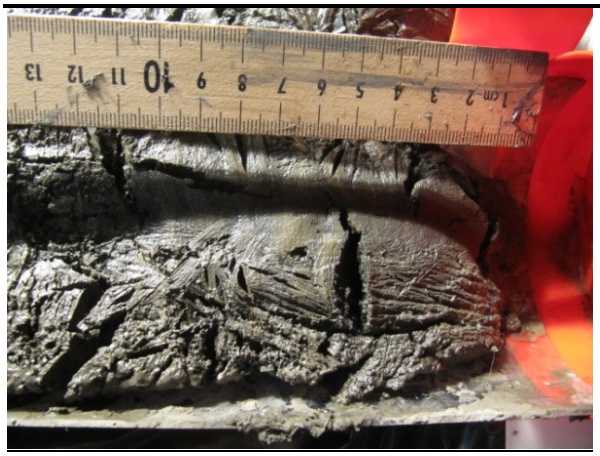


Figure 7a
Photograph of Southernmost Core Collected at 35-foot Water Depth, Day 2 of Observations (December 7, 2011)

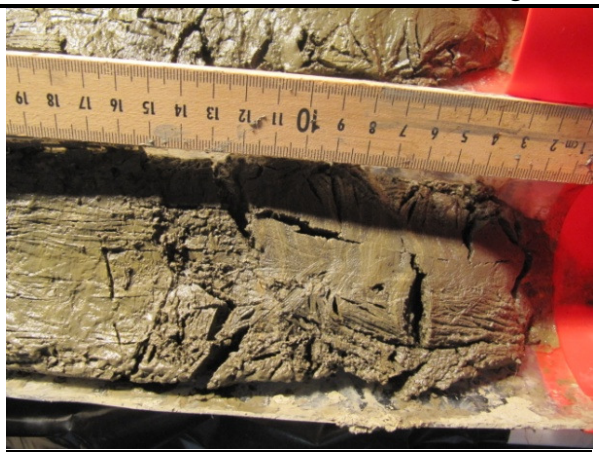


Figure 7b
Photograph of Southernmost Core Collected at 35-foot Water Depth, Day 3 of Observations (December 8, 2011)

Southernmost Core at 45-foot Water Depth

Laminations at this location were observed beginning at a depth of 0.25 cm. The core was dark gray to light gray in color. The dark coloring of the core made observations difficult. No odor was noted. Detailed descriptions of the laminations observed are as follows:

- Dark sediment was observed from the surface to a depth of 0.25 cm.
- On one side of the core cross-section a 1-mm-thick, light brown lamination was observed.
- Dark sediment was observed from 3 mm to 4 mm.
- A 1-mm-thick, dark band was observed at a depth of 2 cm.
- Lighter gray band of sediment was observed from 2 cm to 2.4 cm, followed by a 1-cm-thick, dark gray band.
- From 2.5 cm to 6 cm, alternating bands (0.5 cm thick) of light gray and dark gray were observed.
- From 6 cm to 12 cm, alternating bands (1 cm thick) of light gray and dark gray were observed.



Figure 8
Photograph of Southernmost Core Collected at 45-foot Water Depth, Day 1 of Observations (December 6, 2011)

Observations on subsequent days (December 7 and 8, 2011) showed that this core had developed crevasses (Figure 9). The top 2 cm to 3 cm had been compromised due to melting of the ice at the top of the core, which had previously held the sediment in place. Crevasses were present at approximately 0.5 cm thick. Very clear laminations were present from 3 cm down to 14 cm (Figure 9). Crevasses did not coincide with laminations. Hairline laminations were observed within each band of lighter colored sediment. Consistent with the change noted for the other two cores collected in the vicinity of this core, the color of the core changed over the course of the three days of observations. Oxidation occurred causing the coloring to change from dark and light gray to dark and light tan.



Figure 9a
Photograph of Southernmost Core Collected at 45-foot Water Depth, Day 2 of Observations (December 7, 2011)



Figure 9b
Photograph of Southernmost Core Collected at 45-foot Water Depth, Day 3 of Observations (December 8, 2011)

Southernmost Core at 55-foot Water Depth

Laminations at this location were observed beginning at a depth of 1.5 cm. The core was dark gray to light gray in color. The dark coloring of the core made observations difficult. A petroleum odor was noted. Detailed descriptions of the laminations observed are as follows:

- 0.25-cm-thick, light gray band was observed at 1.5 cm.
- Lighter gray band was observed from 2.7 cm to 3.0 cm.
- Light gray band was observed from 3.7 cm to 4 cm.
- Light gray band was observed from 4.5 cm to 4.75 cm.
- 2-mm-thick, black band was observed at 5.5 cm.
- Lighter gray band was observed from 5.7 cm to 5.9 cm.
- Lighter gray band was observed from 6.8 cm to 7 cm.
- Three very thin light gray band were observed from 7 cm to 7.5 cm.
- Light gray band was observed from 8 cm to 8.2 cm.
- Light gray band was observed from 8.8 cm to 9 cm.
- Light gray band was observed from 9.8 cm to 10 cm.

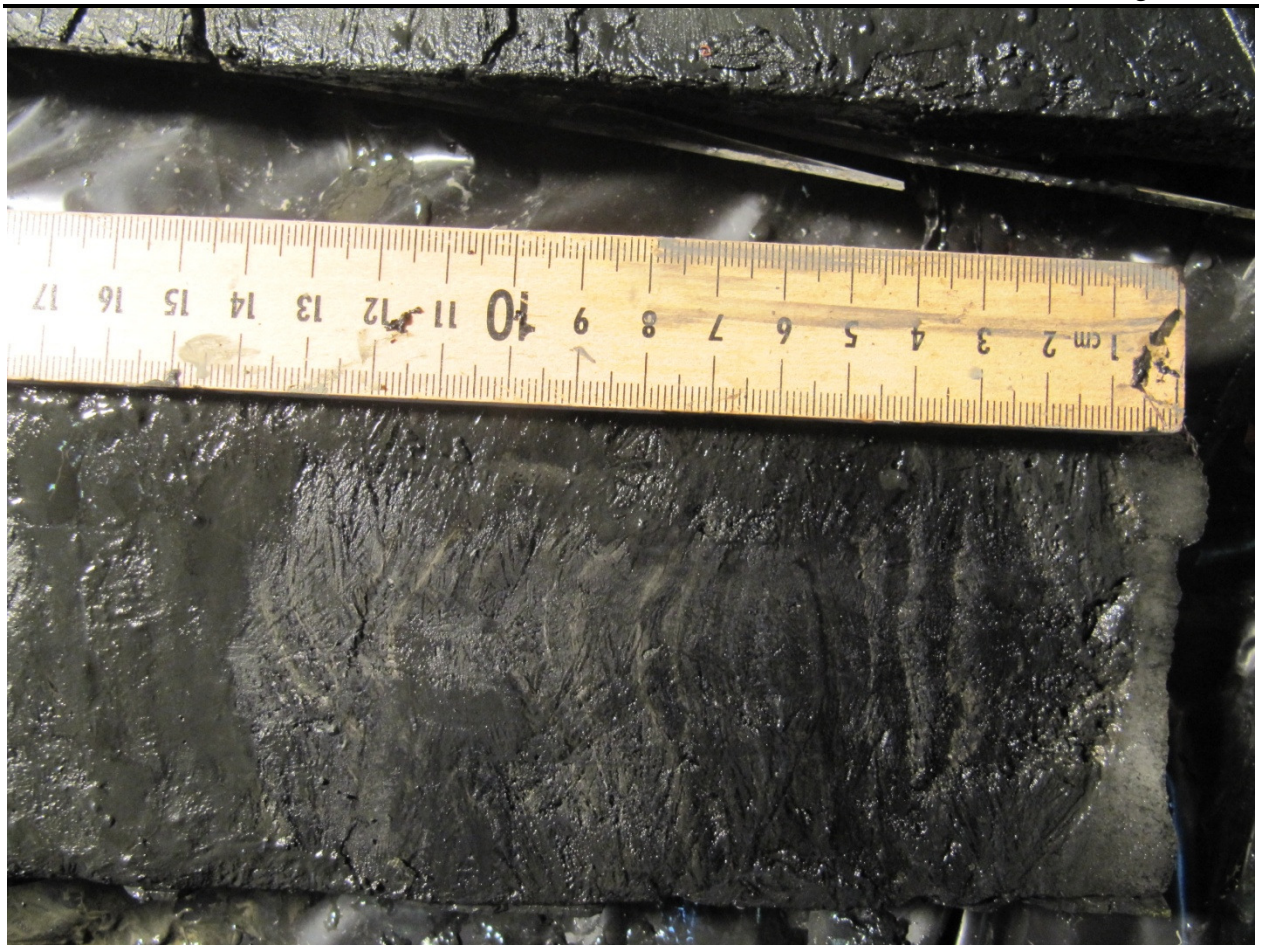


Figure 10
Photograph of Southernmost Core Collected at 55-foot Water Depth, Day 1 of Observations (December 6, 2011)

Observations on subsequent days (December 7 and 8, 2011) showed that the top portion of this core had become compromised due to melting of the ice at the top of the core, which had previously held the sediment in place (Figure 11). Many crevasses were present throughout the core, making observations difficult. The first visible lamination on day 2 and 3 of observations began at a depth of approximately 3 cm or 4 cm. Laminations were visible from approximately 3 cm down to 13 cm (Figure 11). Consistent with the change noted for the other cores collected in the vicinity of this core, the color of the core changed over the course of the 3 days of observations. Oxidation occurred causing the coloring to change from dark and light gray to dark and light tan.



Figure 11a
Photograph of Southernmost Core Collected at 55-foot Water Depth, Day 2 of Observations (December 7, 2011)

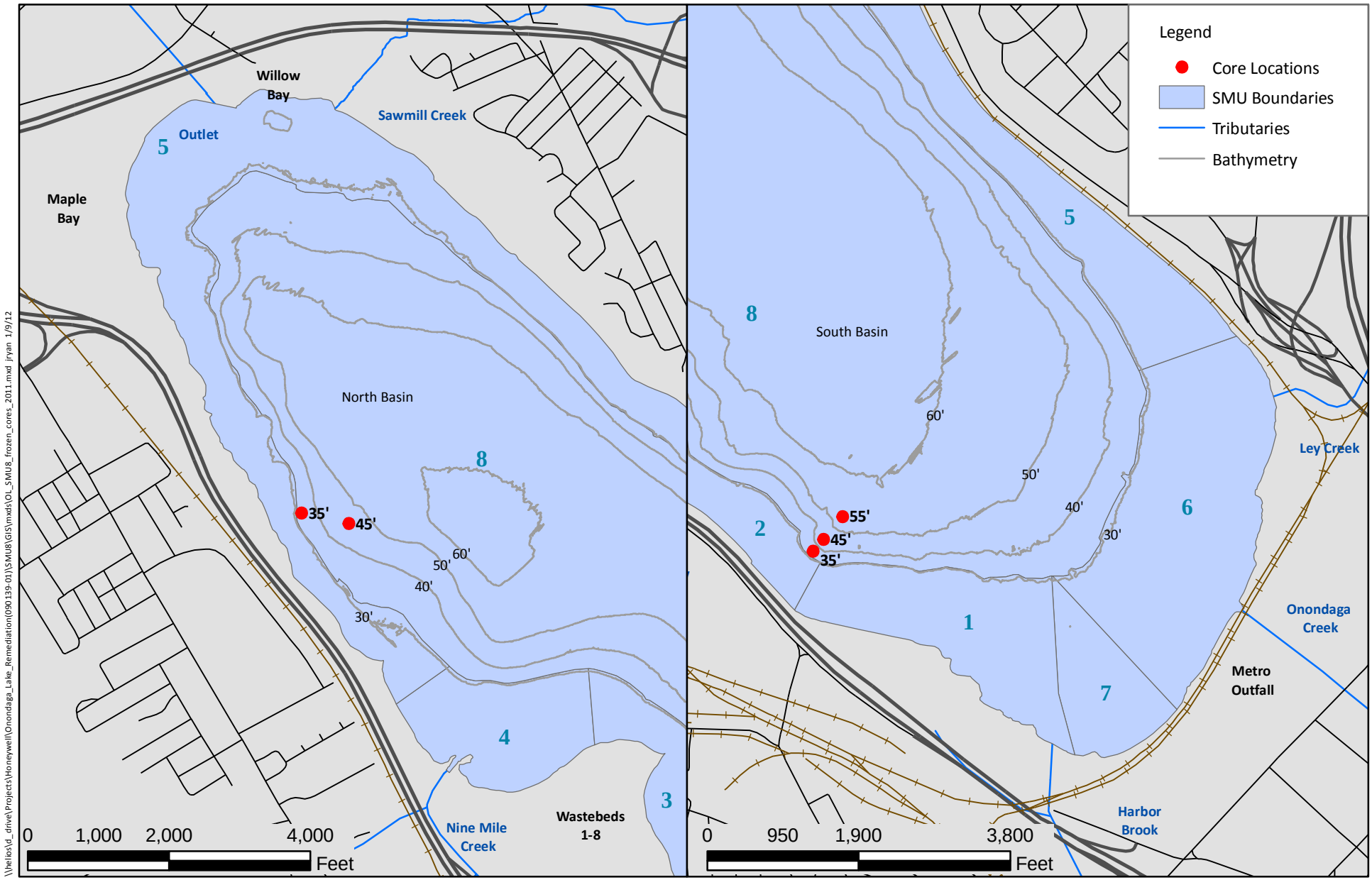


Figure 11b
Photograph of Southernmost Core Collected at 55-foot Water Depth, Day 3 of Observations (December 8, 2011)

REFERENCES

New York State Department of Environmental Conservation (NYSDEC), 2011. Comments on *Draft Initial Design Submittal for the Onondaga Lake Profundal Zone (Sediment Management Unit 8)*. Prepared for Honeywell by Parsons, Exponent, and Anchor QEA, November 2010. February 8, 2011.

Parsons, 2010. Evaluation of Onondaga Lake Profundal Surface Sediment Mixing Depths Based on Visual Evidence. December 17, 2010.



\\hello\d_drive\Projects\Honeywell\Onondaga_Lake_Remediation(090139-01)\SMU8\GIS\mxds\OL_SMU8_frozen_cores_2011.mxd jryan 1/9/12

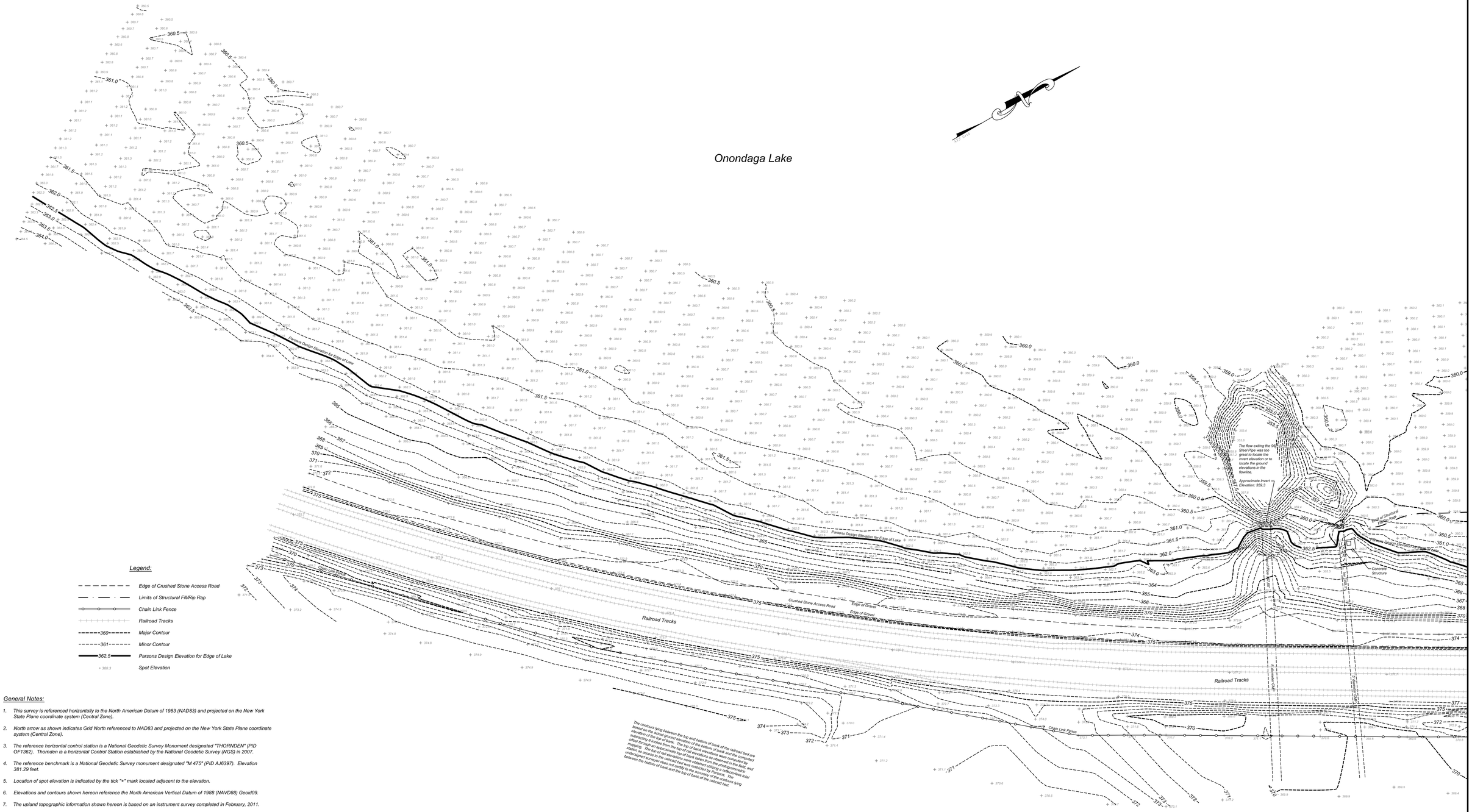
ANCHOR QEA

Honeywell PARSONS

Figure 1.
2011 Core Collection for Visual Inspection.

APPENDIX E

SHORELINE SURVEY



Legend:

- Edge of Crushed Stone Access Road
- Limits of Structural Fill/Rip Rap
- Chain Link Fence
- Railroad Tracks
- 360 — Major Contour
- 361 — Minor Contour
- 362.5 — Parsons Design Elevation for Edge of Lake
- + 360.3 — Spot Elevation

General Notes:

1. *This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane coordinate system (Central Zone).*
2. *North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane coordinate system (Central Zone).*
3. *The reference horizontal control station is a National Geodetic Survey Monument designated "THORNDEN" (PID OF1362). Thomden is a horizontal Control Station established by the National Geodetic Survey (NGS) in 2007.*
4. *The reference benchmark is a National Geodetic Survey monument designated "M 475" (PID AJ6397). Elevation 381.29 feet.*
5. *Location of spot elevation is indicated by the tick "+" mark located adjacent to the elevation.*
6. *Elevations and contours shown hereon reference the North American Vertical Datum of 1988 (NAVD88) Geoid09.*
7. *The upland topographic information shown hereon is based on an instrument survey completed in February, 2011.*
8. *The bathymetric and near shore topographic information shown hereon is based on an instrument survey completed on July 22, 2011.*

Sheet Key

Sheet 1	Sheet 2	Sheet 3

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

Sheet No. 1 of 3

REV	DESCRIPTION	DATE
2	Added Limits of Structural Fill/Rip Rap	8/4/11
1	Misc. Revisions	8/2/11

PROJECT NUMBER: CK3309-02-11

DRAWN: MPM
CHECKED: JST
SCALE: 1" = 40'
DATE: 7/28/11

Map Showing
Existing Topographic Conditions
Onondaga Lake Remediation Project
Proposed Environmental Capping Area

City of Syracuse
County of Onondaga
State of New York

Thew Associates LAND SURVEYORS
www.ThewAssociates.com
P.O. Box 463, 6431 US Highway 11, Canton, New York 13617, T: 315/386-2776, F: 315/386-1012
9478 River Road, Marcy, New York 13403, T: 315/733-7278, F: 315/797-1957

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

Copyright © 2011 Thew Associates, PLLC - All Rights Reserved

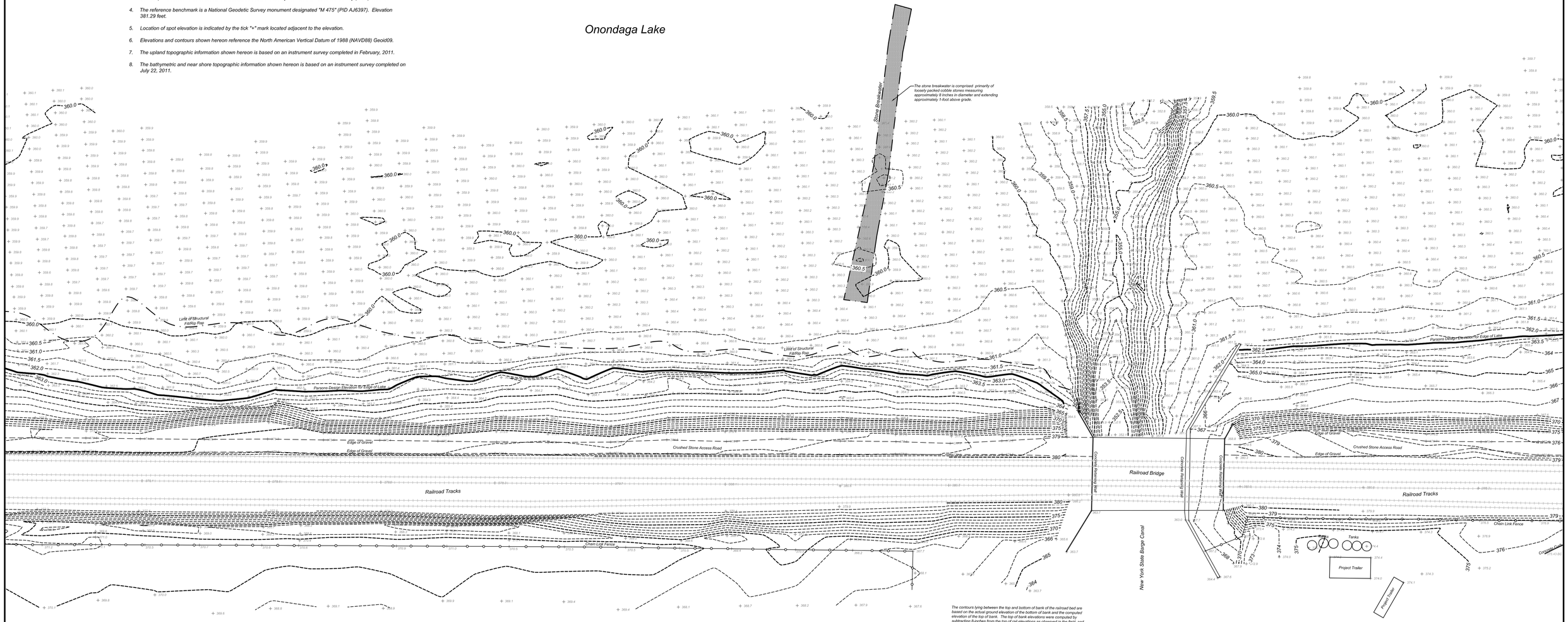
T:\Projects Civil 3D\2011\CK3309\DWG\CK3309 TOPO.dwg, 8/5/2011 1:56:18 PM

Legend:

- Edge of Crushed Stone Access Road
- Limits of Structural Fill/Rip Rap
- Chain Link Fence
- Railroad Tracks
- 360 Major Contour
- 361 Minor Contour
- 362.5 Parsons Design Elevation for Edge of Lake
- + 360.3 Spot Elevation

General Notes:

1. *This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane coordinate system (Central Zone).*
2. *North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane coordinate system (Central Zone).*
3. *The reference horizontal control station is a National Geodetic Survey Monument designated "THORNDEN" (PID OF1362). Thornden is a horizontal Control Station established by the National Geodetic Survey (NGS) in 2007.*
4. *The reference benchmark is a National Geodetic Survey monument designated "M 475" (PID AJ6397). Elevation 381.29 feet.*
5. *Location of spot elevation is indicated by the tick "+" mark located adjacent to the elevation.*
6. *Elevations and contours shown hereon reference the North American Vertical Datum of 1988 (NAVD88) Geoid09.*
7. *The upland topographic information shown hereon is based on an instrument survey completed in February, 2011.*
8. *The bathymetric and near shore topographic information shown hereon is based on an instrument survey completed on July 22, 2011.*



Sheet Key

Sheet 1	Sheet 2	Sheet 3

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

Sheet No. 2 of 3

REV	DESCRIPTION	DATE
2	Added Limits of Structural Fill/Rip Rap	9/4/11
1	Misc. Revisions	8/2/11

PROJECT NUMBER: CK3309-02-11

DRAWN: MPM
CHECKED: JST
SCALE: 1" = 40'
DATE: 7/28/11

Map Showing
Existing Topographic Conditions
Onondaga Lake Remediation Project
Proposed Environmental Capping Area

City of Syracuse
County of Onondaga
State of New York

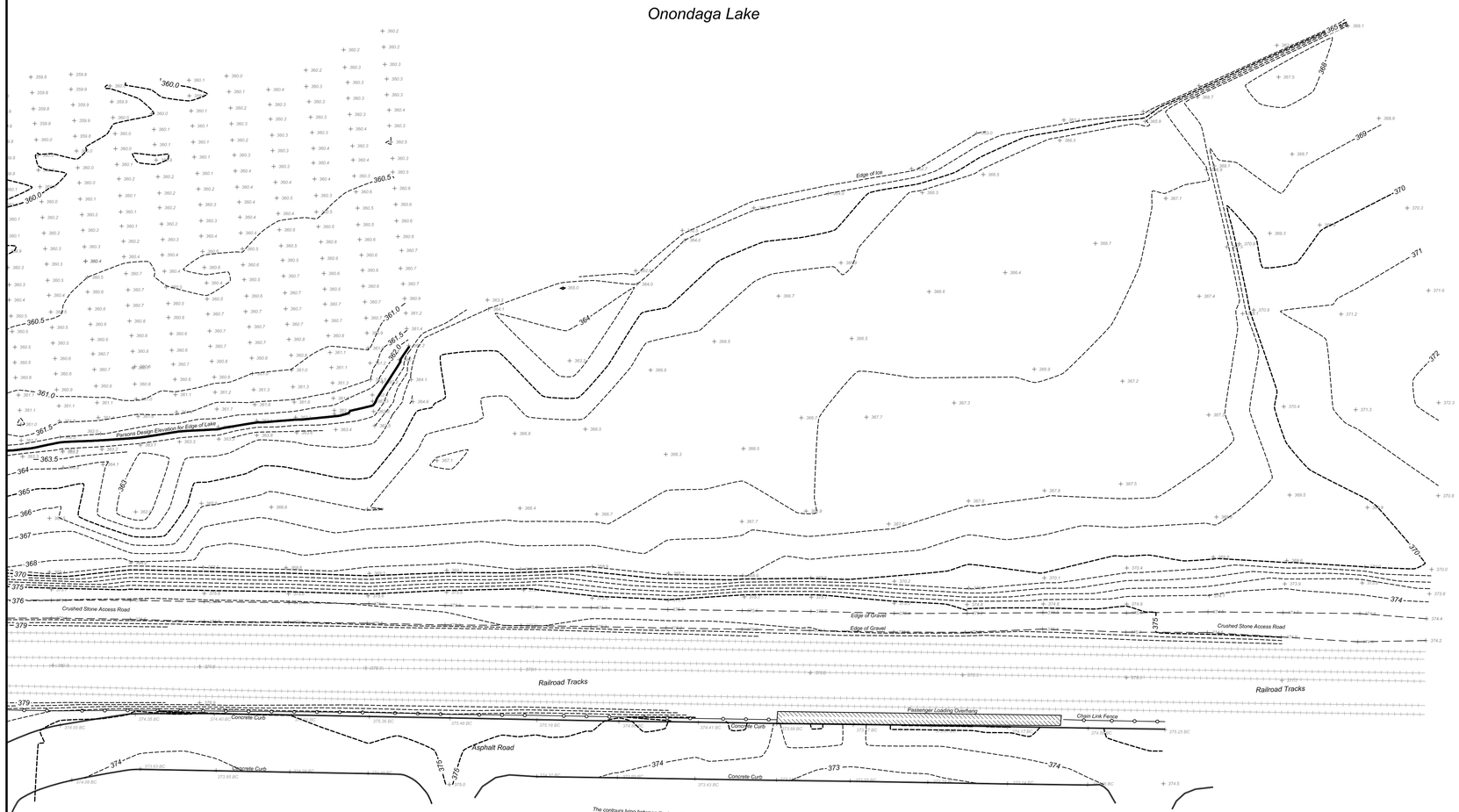
Thew Associates LAND SURVEYORS
www.ThewAssociates.com
P.O. Box 463, 6431 US Highway 11, Canton, New York 13617, T: 315/386-2776, F: 315/386-1012
9478 River Road, Marcy, New York 13403, T: 315/733-7278, F: 315/797-1957

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

Copyright © 2011 Thew Associates, PLLC - All Rights Reserved

T:\Projects Civil 3D\2011\CK3309\DWG\CK3309 TOPO.dwg, 8/5/2011 1:57:52 PM



The contours lying between the top and bottom of bank of the railroad bed are based on the actual ground elevation of the bottom of bank and the computed elevation of the top of bank. The top of bank elevations were computed by subtracting 9-inches from the top of rail elevations as observed in the field, and offset through an approximate top of bank taken from the photogrammetric mapping. The top of rail elevations were obtained utilizing a reflectorless total station as access to the railroad bed was restricted by Parsons. The undersigned surveyor does not certify to the accuracy of the contours lying between the bottom of bank and the top of bank of the railroad bed.

Sheet Key

Sheet 1	Sheet 2	Sheet 3

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

1 inch = 40 ft.

Legend:

- Edge of Crushed Stone Access Road
- Chain Link Fence
- Railroad Tracks
- 360 Major Contour
- 361 Minor Contour
- 362.5 Parsons Design Elevation for Edge of Lake
- + 360.3 Spot Elevation

General Notes:

1. This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane coordinate system (Central Zone).
2. North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane coordinate system (Central Zone).
3. The reference horizontal control station is a National Geodetic Survey Monument designated "THORNDEN" (PID OF1362). Thomden is a horizontal Control Station established by the National Geodetic Survey (NGS) in 2007.
4. The reference benchmark is a National Geodetic Survey monument designated "M 475" (PID AJ6397). Elevation 381.29 feet.
5. Location of spot elevation is indicated by the tick "+" mark located adjacent to the elevation.
6. Elevations and contours shown hereon reference the North American Vertical Datum of 1988 (NAVD88) Geoid09.
7. The upland topographic information shown hereon is based on an instrument survey completed in February, 2011.
8. The bathymetric and near shore topographic information shown hereon is based on an instrument survey completed on July 22, 2011.

Sheet No. 3 of 3

REV	DESCRIPTION	DATE
2	Added Limits of Structural Fill/Rip Rap	9/4/11
1	Misc. Revisions	8/2/11

PROJECT NUMBER: CK3309-02-11

DRAWN: MPM
CHECKED: JST
SCALE: 1" = 40'
DATE: 7/28/11

Map Showing
Existing Topographic Conditions
Onondaga Lake Remediation Project
Proposed Environmental Capping Area

City of Syracuse
County of Onondaga
State of New York

P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2776
F: 315/386-1012

Thew Associates
LAND SURVEYORS
www.ThewAssociates.com

9478 River Road
Marcy, New York 13403
T: 315/733-7278
F: 315/797-1907

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

Copyright © 2011 Thew Associates, PLLC + All Rights Reserved

T:\Projects Civil\ 3D\2011\CK3309\DWG\CK3309 TOPO.dwg, 8/5/2011 1:58:19 PM

APPENDIX F

DOT TURNAROUND PROBING INVESTIGATION

ANCHOR QEA

290 Elwood Davis Road, Suite 340
Liverpool, New York 13088
Phone 315.453.9009
Fax 315.453.9010
www.anchorqea.com

MEMORANDUM

To:	Matt Vetter, Parsons	**Date:**	February 6, 2012
From:	James Ryan, Anchor QEA, LLC	**Project:**	090139-01.01
Cc:	Ram Mohan, Paul LaRosa, and Kevin Russell, Anchor QEA, LLC		
Re:	2011 Probing Investigation of NYSDOT Turnaround Slope		

Anchor QEA, LLC (Anchor QEA) has developed this memorandum to document field investigation activities that were performed in July 2011 to evaluate the nature of the materials comprising the near shore slope and bottom of Onondaga Lake in the area adjacent to the New York State Department of Transportation (NYSDOT) turnaround on the western shore of the lake.

OBJECTIVES

To more accurately delineate the extent of soft sediments relative to the rocky debris and slag that prevented penetration of some previous exploration attempts along the slope at the NYSDOT turnaround, Anchor QEA conducted a probing investigation on July 27, 2011. The investigation also better classified the soil in the top 3 to 6 feet of the slope. This work was performed to support evaluations of slope stability in this area that have been incorporated in the remedial design.

METHODS

The probing investigation was focused along the steepest region of the slope from the waterline to the approximate location of the toe of the slope (Figure 1). Probing was conducted along four transects perpendicular to shore, which were in the approximate area of transects previously used for survey work conducted by Atlantic Testing Laboratories (ATL) to determine slope elevations.

A sampling vessel equipped with an on-board global positioning system (GPS) was used to locate the areas of the probing transects. Probing of each transect began by anchoring the vessel as close to shore as possible and logging the coordinates with the GPS. Water depth was measured and probing was conducted with a 1-inch-diameter steel rod. Probe depths and sediment types based on the "feel" of the probing rod were noted in a field log book. The depth of refusal was measured using the probing rod between one and eight times at a given location to allow for verification of results. This procedure was repeated at four to six locations along each transect, until the approximate toe of the slope was reached.

An attempt to use an underwater camera to verify the surface sediment types at the probing locations was unsuccessful due to turbid water and aquatic vegetation growth on the slope.

RESULTS

This probing revealed that the upper material on the slope was primarily sand and rock (or slag, although this could not be determined from probing alone) with intermixed softer sediments (Table 1). During the investigation, it was found that the probing rod was able to be advanced to a depth of approximately 3 to 6 feet below the sediment surface before encountering refusal. We have assumed conservatively that refusal was a result of general friction on the probing rod (i.e., not from a buried hard layer) and that more typical marl sediments exist on the slope at depths of approximately 4 feet below the surficial layer of sand and rock. In some locations, however, the probing encountered a definitive hard layer at depth. Such cases are noted in Table 1. In an effort to more accurately define the nature of the material below the depth of the probing, Anchor QEA recommends that additional investigations including geotechnical borings or other appropriate methods be performed in advance of finalizing the design of the remedy in this area.

TABLE

Table 1
Probing Data for NYSDOT Survey

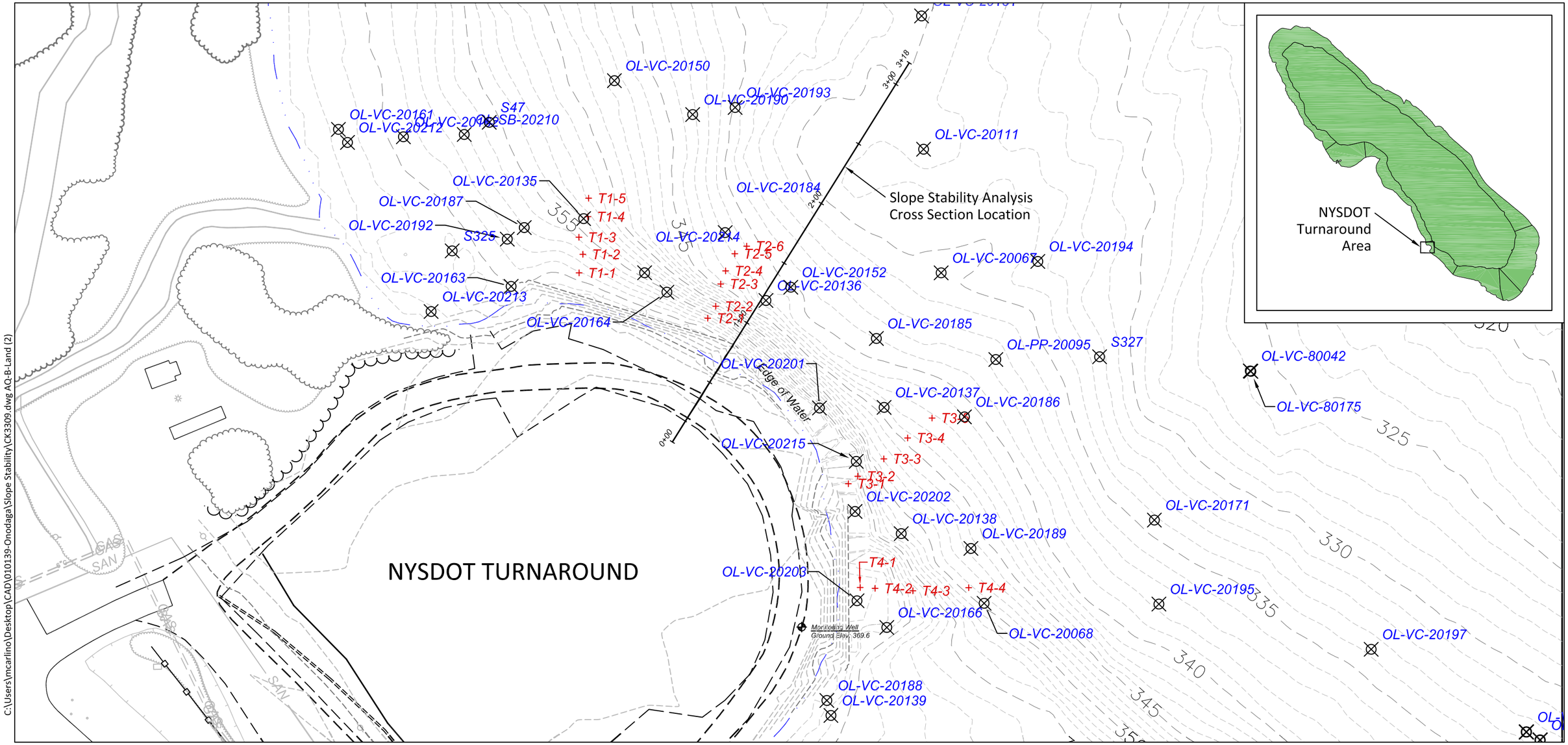
Transect	Node	Water Depth (feet)	Probe Depth (inches)	Description
1	T1-1	1.5	2	Large rocks and fill material
1	T1-2	6.6	72	Coarse sand, gravel, cobbles over a hard bottom
1	T1-3	8.4	72	Probe 1 - 72 inches; silts and fine sands
1			0	Probe 2 - wood layer at surface
1			144	Probe 3 - 144 inches of silt
1	T1-4	9.9	144	Same as above
1	T1-5	10.4	144	Same as above
2	T2-1	1.5	2	Bricks, metal slag, concrete blocks, cobbles, and gravel
2	T2-2	7.3	48	Probe 1 - gravel and debris
2			0	Probe 2 - hard layer at surface
2			48	Probe 3 - Same as probe 1.
2			36	Probe 4 - gravel, rock, and debris
2			0	Probe 5 - hard layer at surface
2			36	Probe 6 - rocks, gravel, and debris over a hard bottom
2			6	Probe 7 - debris over a hard layer
2			30	Probe 8 - rock, gravel, and debris over a hard layer
2	T2-3	15	48	Probe 1 - rocks, gravel over a hard layer
2			6	Probe 2 - debris
2			18	Probe 3 - gravel, cobbles, debris over a hard layer
2			54	Probe 4 - gravel, cobbles, debris over a hard layer
2	T2-4	18.8	30	Probe 1 - coarse sand and gravel over a hard layer
2			60	Probe 2 - same as above
2			60	Probe 3 - same as above
2			78	Probe 4 - 24 inches of sand; firm at bottom
2			36	Probe 5 - coarse sand, gravel, cobbles over a hard bottom
2			36	Probe 6 - sand and silt over a hard layer
2			36	Probe 7 - same as above
2	T2-5	19.8	96	Fine sand possible clay at bottom
2	T2-6	20.7	96	Same as above
3	T3-1	2.3	66	Probe 1 - gravel, cobbles, and coarse sand
3			6	Probe 2 - gravel and cobbles
3			54	Probe 3 - coarse sand and cobbles over a hard bottom
3	T3-2	7.5	0	Probe 1 - rocks and debris
3			54	Probe 2 - gravel and cobbles
3			36	Probe 3 - coarse sand, gravel, and cobbles over a hard bottom
3	T3-3	14.2	36	Probe 1 - coarse sand and gravel over a hard layer
3			36	Probe 2 - same as above
3			36	Probe 3 - same as above
3	T3-4	16.9	60	Probe 1 - coarse sand and gravel
3			12	Probe 2 - coarse sand and gravel over hard bottom
3			0	Probe 3 - hard surface
3			60	Probe 4 - same as Probe 2
3	T3-5	20	48	Probe 1 - debris on surface; sand and gravel; clay on bottom
3			48	Probe 2 - same as above
3			48	Probe 3 - same as above

Table 1

Probing Data for NYSDOT Survey

Transect	Node	Water Depth (feet)	Probe Depth (inches)	Description
4	T4-1	1.5	0	Rocks, debris, and fill material
4	T4-2	4.8	72	Probe 1 - coarse sand, gravel, and debris
4			36	Probe 2 - coarse sand and gravel; debris over a hard bottom
4			18	Probe 3 - same as above
4	T4-3	8	72	Silt
4	T4-4	12.6	72	Silt

FIGURE



C:\Users\mcarlino\Desktop\CAD\010139-Onodaga\Slope Stability\CK3309.dwg AQ-B-Land (2)

Jan 30, 2012 10:36am mcarlino

LEGEND:

- OL-VC-20152 — Boring Log Locations
- T2-1 — 2011Probing Survey Locations
- Low Water Elevation

0 70

Scale in Feet

Figure 1
2011 Probing Investigation of NYSDOT Turnaround Slope
NYSDOT Turnaround Cap Slope Stability
Onondaga Lake

ANCHOR QEA

APPENDIX G

MET TOWER DATA

PARSONS **Aerometric Data Transmittal Form**

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 445162-04300 March 24, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **JANUARY 2011**

Data:		**Attached/Enclosed:**		
____	Preliminary	____	Preliminary Report	____ AIRS Diskette
__X__	Validated	__X__	Final Report	____ Client Data Disk
____	Adjusted (list parameters)	__X__	Data Summaries	____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *January 2011 data was collected and is reported through hour 10 on January 23. Data is reported as missing for the remainder of the month due to an electrical outage at the tower site. The outage resulted from excessive moisture that condensed and came into contact with the electrical components in the junction box at the base of the tower.*
- *Willis Ave data collection resumed March 9 upon assessment and repairs to the tower's electrical system.*

Climatic Summary: **JANUARY 2011**

General Predominance for winds from: *due west*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*19.0 mph*
Secondary Peak WD:	*WNW*	Min. Wind Speed :	*0.8 mph*

2-meter level

Max. Temperature:	*54.4 °F*	Max. Dew Point Temp.	*45.5 °F*	Max. Relative Humidity	*97%*
Min. Temperature:	*-0.8 °F*	Min. Dew Point Temp.	*-4.0 °F*	Min. Relative Humidity	*43%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **January 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*72.4* %
10-Meter Vector Wind Direction:	*72.4* %
10-Meter Scalar Wind Speed:	*72.4* %
10-Meter Scalar Wind Direction:	*72.4* %
10-Meter Sigma Theta:	*72.4* %
10-Meter Vertical Wind Speed:	*72.4* %
Sigma W:	*72.4* %
Sigma Phi:	*72.4* %
10-Meter Temperature:	*72.4* %

2-Meter Level

2-Meter Temperature:	*72.4* %
Delta Temperature:	*72.4* %
Relative Humidity:	*72.4* %
Dew Point Temperature:	*72.4* %
Solar Radiation:	*72.4* %
Barometric Pressure:	*72.4* %

Project Meteorologist: Steven Coughlin



Distribution:

T. Abrams - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: JANUARY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: JANUARY 2011

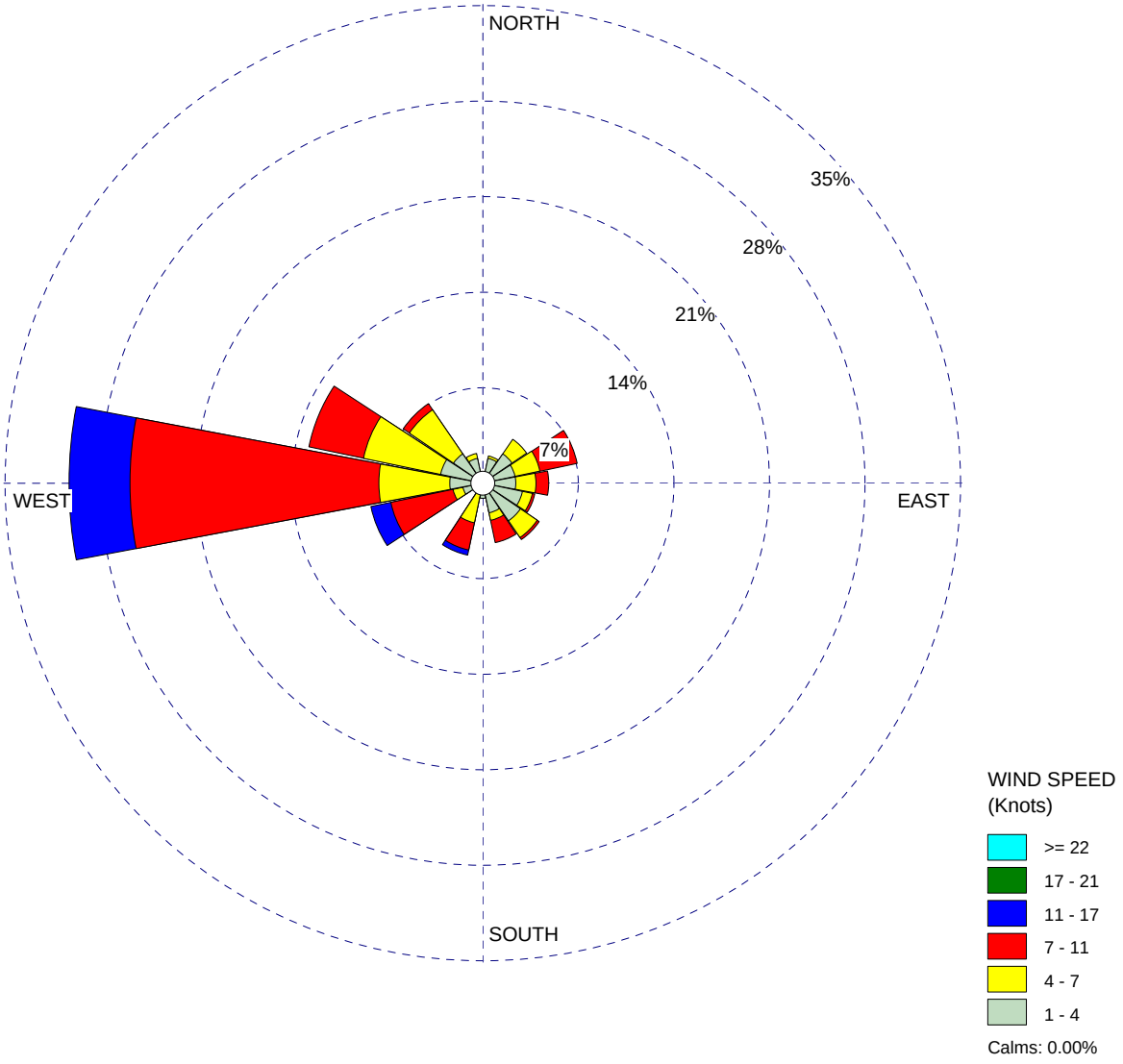
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	MONTHLY DATA RECOVERY RATES (%) BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.4	18.5	6.8		72.4	72.4
Vector Wind Direction (deg)	3	359	216		72.4	72.4
Scalar Wind Speed (mph)	0.8	19.0	7.1		72.4	72.4
Scalar Wind Direction (deg.)	5	357	215		72.4	72.4
Sigma Theta (deg.)	6.8	69.6	16.3		72.4	72.4
Vertical Wind Speed (mph)	-0.17	0.78	0.20		72.4	72.4
Sigma W (mph)	0.02	2.14	0.80		72.4	72.4
Sigma Phi (deg)	1.22	12.7	6.5		72.4	72.4
Temperature (deg-F)	0.4	55.3	23.0		72.4	72.4
2-Meter Level						
Temperature (deg-F)	-0.8	54.4	23.1		72.4	72.4
10-m - 2-m Delta Temp (F-deg)	-1.60	4.49	-0.11		72.4	72.4
Relative Humidity (percent)	42.8	96.5	78.7		72.4	72.4
Dew Point Temperature (deg-F)	-4.0	45.5	17.2		72.4	72.4
Solar Radiation (W/m^2)	0.0	546.3	1173.2	(Avg. Daily Total)	72.4	72.4
Barometric Pressure (in. Hg.)	29.04	30.11	29.65		72.4	72.4

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - January 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Jan 1 - Jan 31 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **539 hrs.**	
	AVG. WIND SPEED: **6.18 Knots**	DATE: **3/23/2011**	PROJECT NO.: **445162-04300**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 445162-04300 March 24, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **JANUARY 2011**

Data:	___ Preliminary	**Attached/Enclosed:**	___ Preliminary Report	___ AIRS Diskette
	_X_ Validated		_X_ Final Report	___ Client Data Disk
	___ Adjusted (list parameters)		_X_ Data Summaries	___ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Periods of 2-meter temperature, delta-temperature, and dew-point temperature are reported as a non-scheduled outage ("N") on January 18 through January 20 and January 22 through January 23. These affected periods appear to result from electrical interference within the 2-meter temperature system that caused excessively negative temperature data. This erroneous data has been removed from the database and reported as "N".*
- *No other operational problems occurred at the Wastebed 13 monitoring site in January and monthly data recovery rates range from 92.2 to 100 percent for all parameters.*
- *Precipitation bucket is non-heated, so precipitation amounts generally reflect rain events only.*

Climatic Summary: **JANUARY 2011**

General Predominance for winds from: *west-southwest through west-northwest*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*20.7 mph*
Secondary Peak WD:	*WSW*	Min. Wind Speed :	*0.8 mph*

2-meter level

Max. Temperature:	*53.9 °F*	Max. Dew Point Temp.	*46.0 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*-10.2 °F*	Min. Dew Point Temp.	*-16.4 °F*	Min. Relative Humidity	*26%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **January 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*100* %
10-Meter Vector Wind Direction:	*100* %
10-Meter Scalar Wind Speed:	*100* %
10-Meter Scalar Wind Direction:	*100* %
10-Meter Sigma Theta:	*100* %
10-Meter Vertical Wind Speed:	*100* %
Sigma W:	*100* %
Sigma Phi:	*100* %
10-Meter Temperature:	*100* %

2-Meter Level

2-Meter Temperature:	*92.2* %
Delta Temperature:	*92.2* %
Relative Humidity:	*100* %
Dew Point Temperature:	*92.2* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin

Distribution:

T. Abrams - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: JANUARY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY

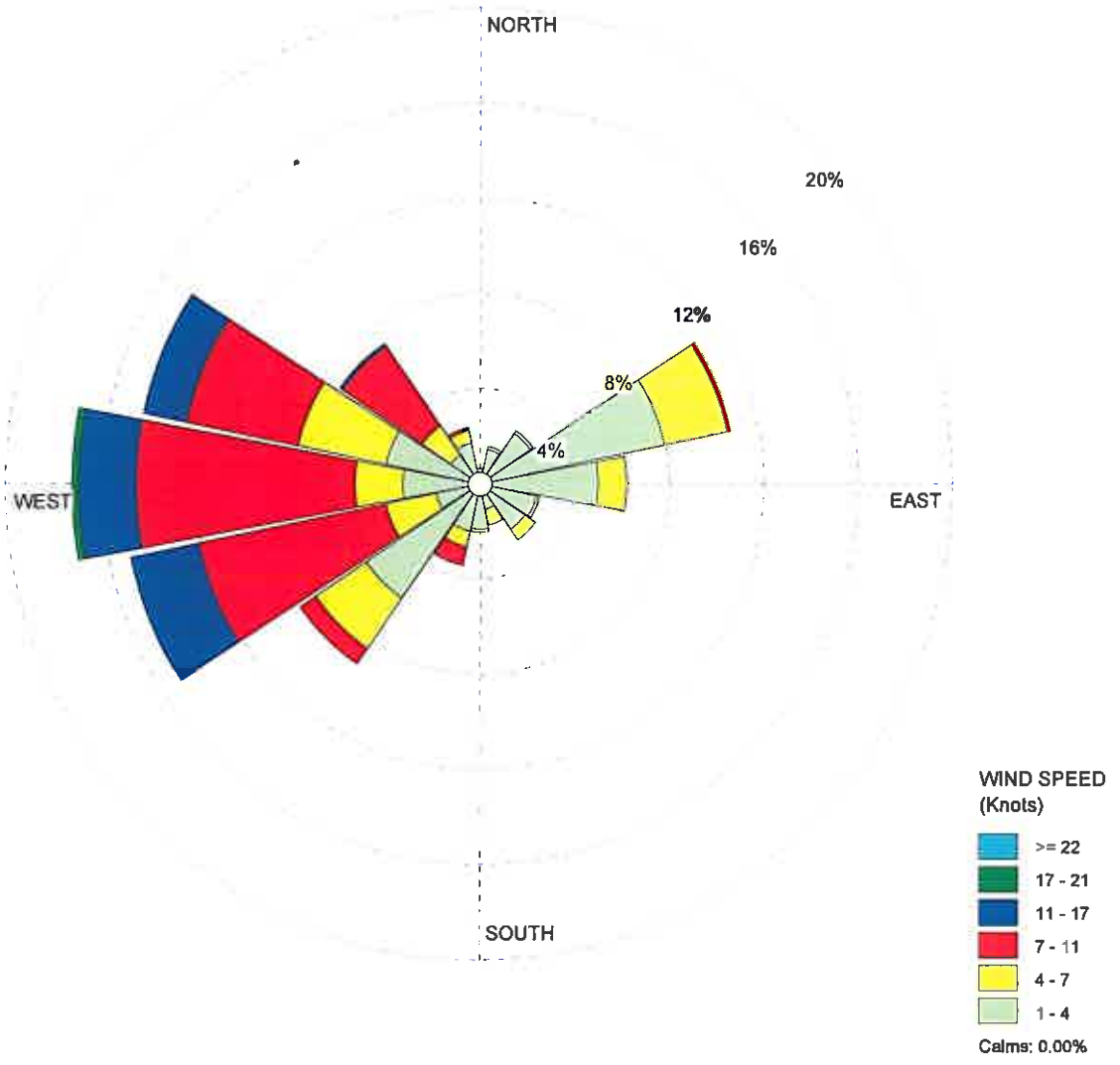
DATA COLLECTION SUMMARY FOR THE MONTH OF: JANUARY 2011

SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	MONTHLY DATA RECOVERY RATES (%) BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	20.3	6.3		100.0	100.0
Vector Wind Direction (deg)	2	354	213		100.0	100.0
Scalar Wind Speed (mph)	0.8	20.7	6.6		100.0	100.0
Scalar Wind Direction (deg.)	2	356	213		100.0	100.0
Sigma Theta (deg.)	3.1	61.7	14.7		100.0	100.0
Vertical Wind Speed (mph)	-0.12	1.20	0.25		100.0	100.0
Sigma W (mph)	0.03	2.03	0.69		100.0	100.0
Sigma Phi (deg)	1.49	18.4	6.3		100.0	100.0
Temperature (deg-F)	-10.0	55.7	21.9		100.0	100.0
2-Meter Level						
Temperature (deg-F)	-10.2	53.9	21.4		92.2	92.2
10-m - 2-m Delta Temp (F-deg)	-0.84	8.18	0.54		92.2	92.2
Relative Humidity (percent)	26.3	100.0	82.5		100.0	100.0
Dew Point Temperature (deg-F)	-16.4	46.0	16.4		92.2	92.2
Net Radiation (W/m^2)	-145.2	111.2	-180.2	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.92	30.17	29.56		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.01	0.02	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - January 2011

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011** **Jan 1 - Jan 31** **00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **5.74 Knots**	DATE: **3/23/2011**	PROJECT NO.: **445162-04300**

WRPLOT View - Lakes Environmental Software

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 445162-04300 March 25, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for: FEBRUARY 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- ____ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Meteorological data is not available from the Lakeshore/Willis Ave site for February. An electrical outage, which began the latter part of January, continued during February. This outage was traced to excess moisture within the electrical box at the base of the tower. Valid data collection resumed March 9.*

Climatic Summary: **FEBRUARY 2011**

General Predominance for winds from: *NA*

10-meter level

Primary Peak WD:	*NA*	Max. Wind Speed :	*NA*
Secondary Peak WD:	*NA*	Min. Wind Speed :	*NA*

2-meter level

Max. Temperature:	*NA*	Max. Dew Point Temp.	*NA*	Max. Relative Humidity	*NA*
Min. Temperature:	*NA*	Min. Dew Point Temp.	*NA*	Min. Relative Humidity	*NA*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **February 28, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*38.1* %
10-Meter Vector Wind Direction:	*38.1* %
10-Meter Scalar Wind Speed:	*38.1* %
10-Meter Scalar Wind Direction:	*38.1* %
10-Meter Sigma Theta:	*38.1* %
10-Meter Vertical Wind Speed:	*38.1* %
Sigma W:	*38.1* %
Sigma Phi:	*38.1* %
10-Meter Temperature:	*38.1* %

2-Meter Level

2-Meter Temperature:	*38.1* %
Delta Temperature:	*38.1* %
Relative Humidity:	*38.1* %
Dew Point Temperature:	*38.1* %
Solar Radiation:	*38.1* %
Barometric Pressure:	*38.1* %

Project Meteorologist: Steven Coughlin

Distribution:

T. Abrams - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 445162-04300 March 24, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **FEBRUARY 2011**

Data:
- ____ Preliminary
- **X** Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- **X** Final Report
- **X** Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *A period of 2-meter temperature, delta-temperature, and dew-point temperature data is reported as a non-scheduled outage ("N") from February 18 hour 15 through February 19 hour 6. Temperature data at the 2-meter level appears to have been affected by an intermittent short within the temperature system that caused excessively negative temperature data. This erroneous data has been removed from the database and reported as "N".*
- *No other operational problems occurred at the Wastebed 13 monitoring site in February and monthly data recovery rates range from 97.6 to 100 percent for all parameters.*
- *Precipitation bucket is non-heated, so precipitation amounts generally reflect rain events only.*

Climatic Summary: **FEBRUARY 2011**

General Predominance for winds from: *southwest through due west*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*28.2 mph*
Secondary Peak WD:	*WSW*	Min. Wind Speed :	*0.3 mph*

2-meter level

Max. Temperature:	*55.2 °F*	Max. Dew Point Temp.	*44.2 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*-6.8 °F*	Min. Dew Point Temp.	*-9.5 °F*	Min. Relative Humidity	*25%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **February 28, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*100* %
10-Meter Vector Wind Direction:	*100* %
10-Meter Scalar Wind Speed:	*100* %
10-Meter Scalar Wind Direction:	*100* %
10-Meter Sigma Theta:	*100* %
10-Meter Vertical Wind Speed:	*100* %
Sigma W:	*100* %
Sigma Phi:	*100* %
10-Meter Temperature:	*100* %

2-Meter Level

2-Meter Temperature:	*94.8* %
Delta Temperature:	*94.8* %
Relative Humidity:	*100* %
Dew Point Temperature:	*94.8* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin

Distribution:

T. Abrams - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: FEBRUARY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: FEBRUARY 2011

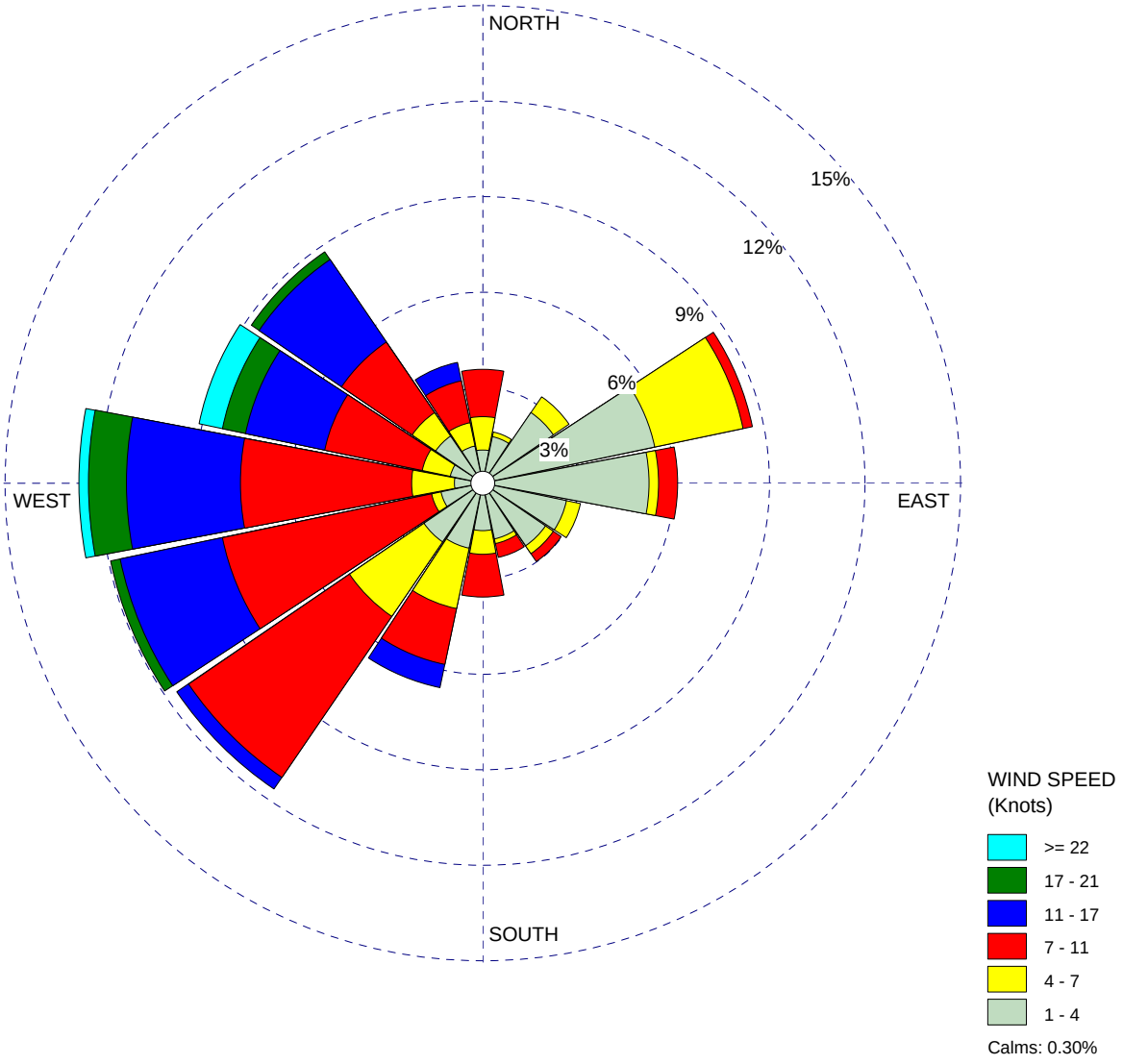
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.3	27.8	8.1		100.0	100.0
Vector Wind Direction (deg)	2	360	210		100.0	100.0
Scalar Wind Speed (mph)	0.3	28.2	8.4		100.0	100.0
Scalar Wind Direction (deg.)	2	360	209		100.0	100.0
Sigma Theta (deg.)	3.7	64.9	15.8		100.0	100.0
Vertical Wind Speed (mph)	-0.13	2.41	0.36		100.0	100.0
Sigma W (mph)	0.03	2.39	0.86		100.0	100.0
Sigma Phi (deg)	1.55	19.4	6.3		100.0	100.0
Temperature (deg-F)	-0.1	57.1	25.5		100.0	100.0
2-Meter Level						
Temperature (deg-F)	-6.8	55.2	24.3		97.6	97.6
10-m - 2-m Delta Temp (F-deg)	-0.85	11.69	0.85		97.6	97.6
Relative Humidity (percent)	25.4	100.0	74.5		100.0	100.0
Dew Point Temperature (deg-F)	-9.5	44.2	16.8		97.6	97.6
Net Radiation (W/m^2)	-184.8	227.8	-71.9	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.91	30.07	29.57		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.15	1.18	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - February 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Feb 1 - Feb 28 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.30%**	TOTAL COUNT: **672 hrs.**	
	AVG. WIND SPEED: **7.33 Knots**	DATE: **3/23/2011**	PROJECT NO.: **445162-04300**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 May 2, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for: MARCH 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Meteorological data is reported as missing ("N") from the beginning of the month through hour 13 on March 9. This outage is a continuation from the previous month and caused by excess moisture inside the electric box at the base of the tower. Troubleshooting activities on March 9 were successfull and data collection resumed at this time.*
- *An additional power outage occurred at the site on March 20. This outage resulted from a short inside the solar power battery box and continued until repairs were conducted during a performance audit on April 12.*
- *Note that climate summaries below reflect only about one-third of the month of March.*

Climatic Summary: **MARCH 2011**

General Predominance for winds from: *due west*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*19.9 mph*
Secondary Peak WD:	*WNW*	Min. Wind Speed :	*0.7 mph*

2-meter level

Max. Temperature:	*62.8 °F*	Max. Dew Point Temp.	*48.0 °F*	Max. Relative Humidity	*95%*
Min. Temperature:	*23.7 °F*	Min. Dew Point Temp.	*15.6 °F*	Min. Relative Humidity	*37%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **March 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*37.0* %
10-Meter Vector Wind Direction:	*37.0* %
10-Meter Scalar Wind Speed:	*37.0* %
10-Meter Scalar Wind Direction:	*37.0* %
10-Meter Sigma Theta:	*37.0* %
10-Meter Vertical Wind Speed:	*37.0* %
Sigma W:	*37.0* %
Sigma Phi:	*37.0* %
10-Meter Temperature:	*37.0* %

2-Meter Level

2-Meter Temperature:	*37.0* %
Delta Temperature:	*37.0* %
Relative Humidity:	*37.0* %
Dew Point Temperature:	*37.0* %
Solar Radiation:	*37.0* %
Barometric Pressure:	*37.0* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: MARCH 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: MARCH 2011

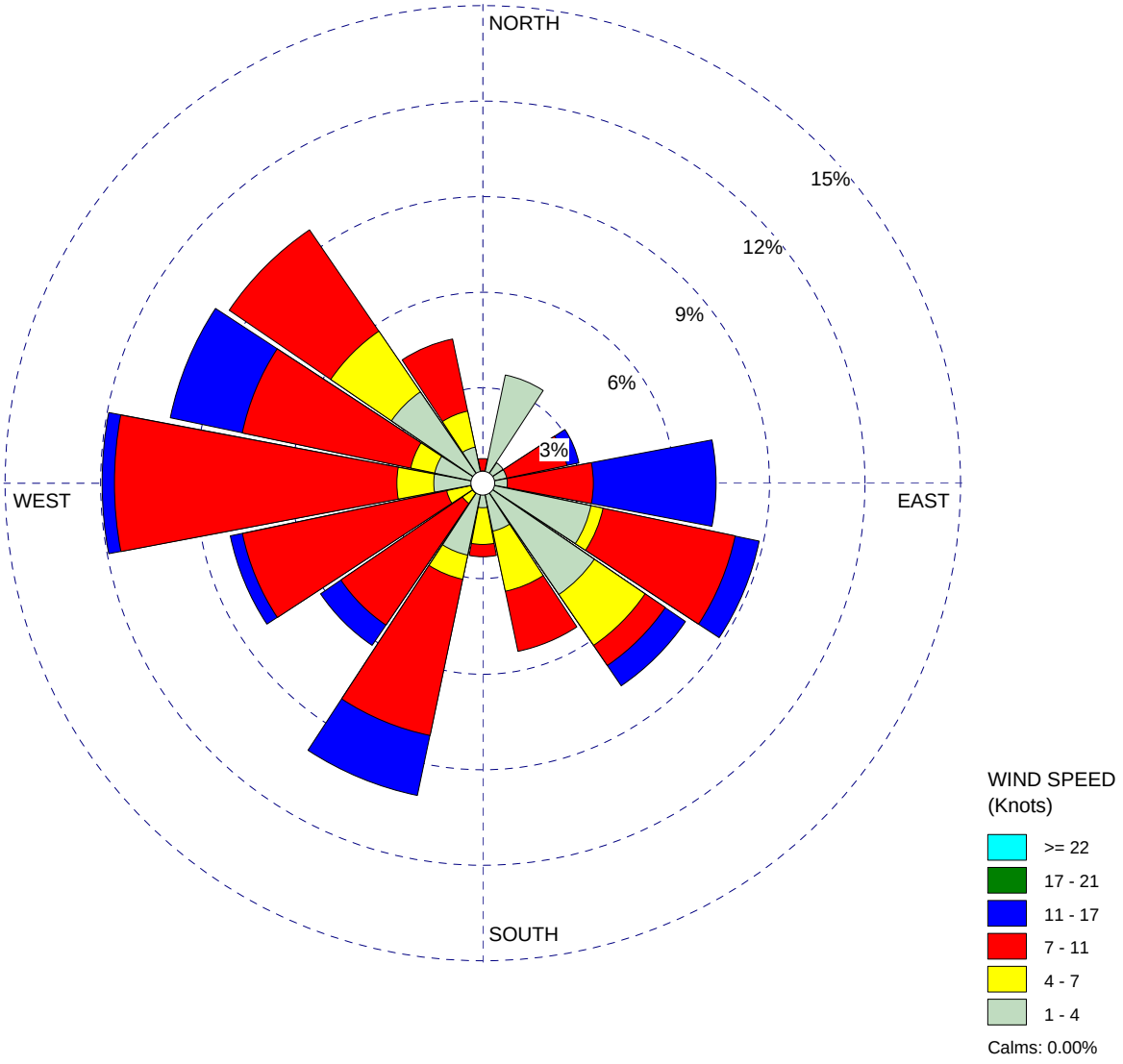
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.5	19.8	8.0		34.9	34.9
Vector Wind Direction (deg)	14	354	207		34.9	34.9
Scalar Wind Speed (mph)	0.7	19.9	8.4		34.9	34.9
Scalar Wind Direction (deg.)	14	352	207		34.9	34.9
Sigma Theta (deg.)	5.5	68.3	18.5		34.9	34.9
Vertical Wind Speed (mph)	-0.08	0.93	0.26		34.9	34.9
Sigma W (mph)	0.10	2.16	0.99		34.9	34.9
Sigma Phi (deg)	2.46	13.7	7.1		34.9	34.9
Temperature (deg-F)	24.6	62.8	39.4		34.9	34.9
2-Meter Level						
Temperature (deg-F)	23.7	62.8	39.8		34.9	34.9
10-m - 2-m Delta Temp (F-deg)	-3.20	2.75	-0.38		34.9	34.9
Relative Humidity (percent)	36.6	95.3	71.3		34.9	34.9
Dew Point Temperature (deg-F)	15.6	48.0	30.4		34.9	34.9
Solar Radiation (W/m^2)	0.0	886.0	1053.2	(Avg. Daily Total)	34.9	34.9
Barometric Pressure (in. Hg.)	29.25	30.37	29.79		34.9	34.9

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - March 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Mar 1 - Mar 31 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **260 hrs.**	
	AVG. WIND SPEED: **7.27 Knots**	DATE: **5/19/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 445162-04300 April 28, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **MARCH 2011**

Data:
- ____ Preliminary
- **X** Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- **X** Final Report
- **X** Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *A period of wind speed data (and associated calculated parameters) is reported as a non-scheduled outage ("N") from 0700 EST on March 6 through 0900 EST on March 8. This missing data results from a buildup of ice on the sensor and windspeed cups during a freezing precipitation event.*
- *No other operational problems occurred at the Wastebed 13 monitoring site in March and monthly data recovery rates range from 93.1 to 100 percent for all parameters.*
- *Precipitation bucket is non-heated, so precipitation amounts generally reflect rain events only.*

Climatic Summary: **MARCH 2011**

General Predominance for winds from: *west-northwest*

10-meter level

Primary Peak WD:	*WNW*	Max. Wind Speed :	*28.9 mph*
Secondary Peak WD:	*W*	Min. Wind Speed :	*0.9 mph*

2-meter level

Max. Temperature:	*60.4 °F*	Max. Dew Point Temp.	*48.1 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*4.9 °F*	Min. Dew Point Temp.	*-6.6 °F*	Min. Relative Humidity	*28%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **March 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*97.6*	%
10-Meter Vector Wind Direction:	*97.6*	%
10-Meter Scalar Wind Speed:	*97.6*	%
10-Meter Scalar Wind Direction:	*100*	%
10-Meter Sigma Theta:	*100*	%
10-Meter Vertical Wind Speed:	*100*	%
Sigma W:	*100*	%
Sigma Phi:	*97.6*	%
10-Meter Temperature:	*100*	%

2-Meter Level

2-Meter Temperature:	*96.6*	%
Delta Temperature:	*96.6*	%
Relative Humidity:	*100*	%
Dew Point Temperature:	*96.6*	%
Net Radiation:	*100*	%
Barometric Pressure:	*100*	%

Surface

Precipitation (Rain):	*100*	%

Project Meteorologist: Steven Coughlin



Distribution:

T. Abrams - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: MARCH 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY — DATA COLLECTION SUMMARY FOR THE MONTH OF: MARCH 2011

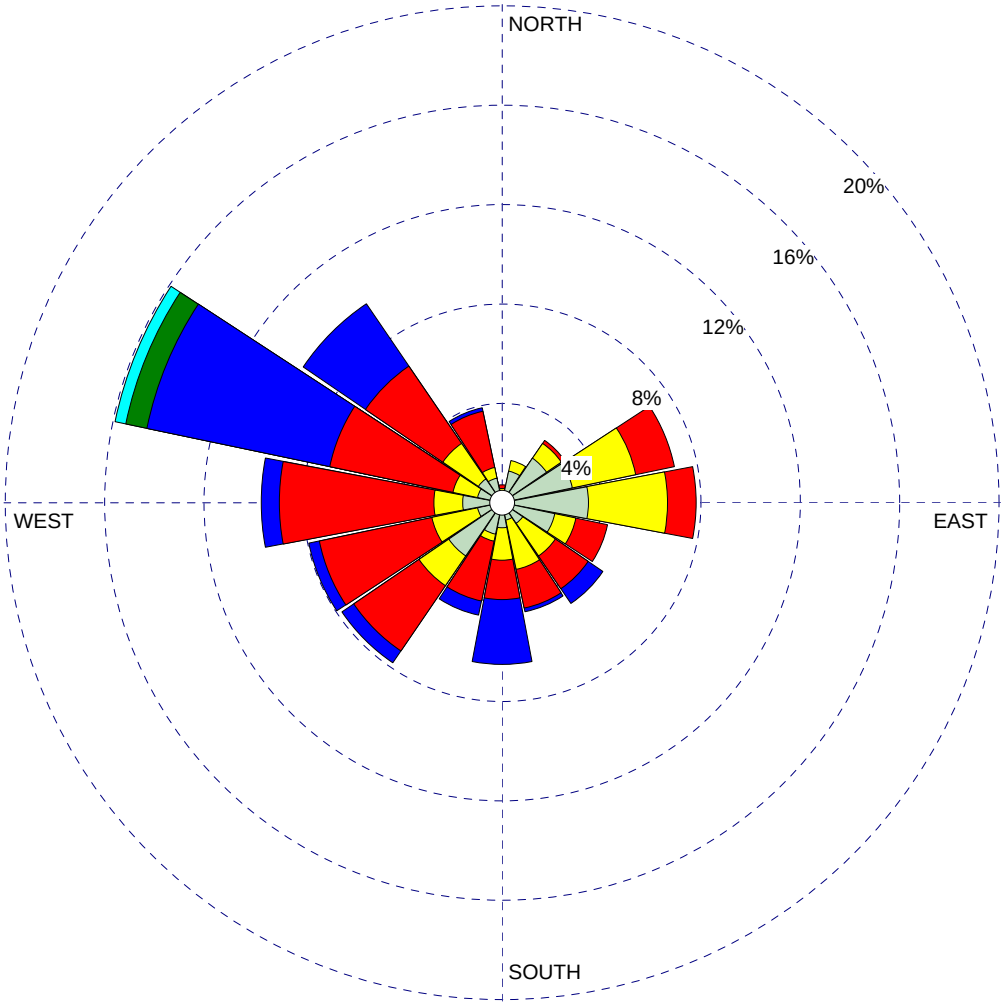
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.4	28.5	8.4		93.1	93.1
Vector Wind Direction (deg)	3	358	208		93.1	93.1
Scalar Wind Speed (mph)	0.9	28.9	8.8		93.1	93.1
Scalar Wind Direction (deg.)	2	354	212		100.0	100.0
Sigma Theta (deg.)	3.8	80.4	16.0		100.0	100.0
Vertical Wind Speed (mph)	-0.26	2.51	0.39		100.0	100.0
Sigma W (mph)	0.08	2.42	0.99		100.0	100.0
Sigma Phi (deg)	2.35	22.0	7.1		93.1	93.1
Temperature (deg-F)	6.6	61.5	33.9		100.0	100.0
2-Meter Level						
Temperature (deg-F)	4.9	60.4	33.5		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-2.50	6.93	0.33		100.0	100.0
Relative Humidity (percent)	27.6	99.7	70.4		100.0	100.0
Dew Point Temperature (deg-F)	-6.6	48.1	24.1		100.0	100.0
Net Radiation (W/m^2)	-88.6	492.8	787.0	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.15	30.31	29.71		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.14	1.66	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - March 2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 0.00%

COMMENTS:	DATA PERIOD: **2011 Mar 1 - Mar 31 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **693 hrs.**	
	AVG. WIND SPEED: **7.63 Knots**	DATE: **5/16/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 May 20, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for: APRIL 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Meteorological data is reported as missing ("N") from the beginning of the month through hour 5 on April 12. This outage is a continuation from the previous month and caused by a short inside the solar power battery box. Repairs to the electrical connections inside the box were conducted during the performance audit on April 12.*
- *A performance audit was conducted at the Lakeshore meteorological site on April 12. As a result of audit activities, a minor period of data is reported as scheduled down ("S") on this day.*

Climatic Summary: **APRIL 2011**

General Predominance for winds from: *due west*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*22.9 mph*
Secondary Peak WD:	*WNW*	Min. Wind Speed :	*0.6 mph*

2-meter level

Max. Temperature:	*81.6 °F*	Max. Dew Point Temp.	*64.5 °F*	Max. Relative Humidity	*95%*
Min. Temperature:	*28.2 °F*	Min. Dew Point Temp.	*19.3 °F*	Min. Relative Humidity	*27%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through April 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*43.3* %
10-Meter Vector Wind Direction:	*43.3* %
10-Meter Scalar Wind Speed:	*43.3* %
10-Meter Scalar Wind Direction:	*43.3* %
10-Meter Sigma Theta:	*43.3* %
10-Meter Vertical Wind Speed:	*43.3* %
Sigma W:	*43.3* %
Sigma Phi:	*43.3* %
10-Meter Temperature:	*43.3* %

2-Meter Level

2-Meter Temperature:	*43.3* %
Delta Temperature:	*43.3* %
Relative Humidity:	*43.4* %
Dew Point Temperature:	*43.3* %
Solar Radiation:	*43.4* %
Barometric Pressure:	*43.4* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: APRIL 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: APRIL 2011

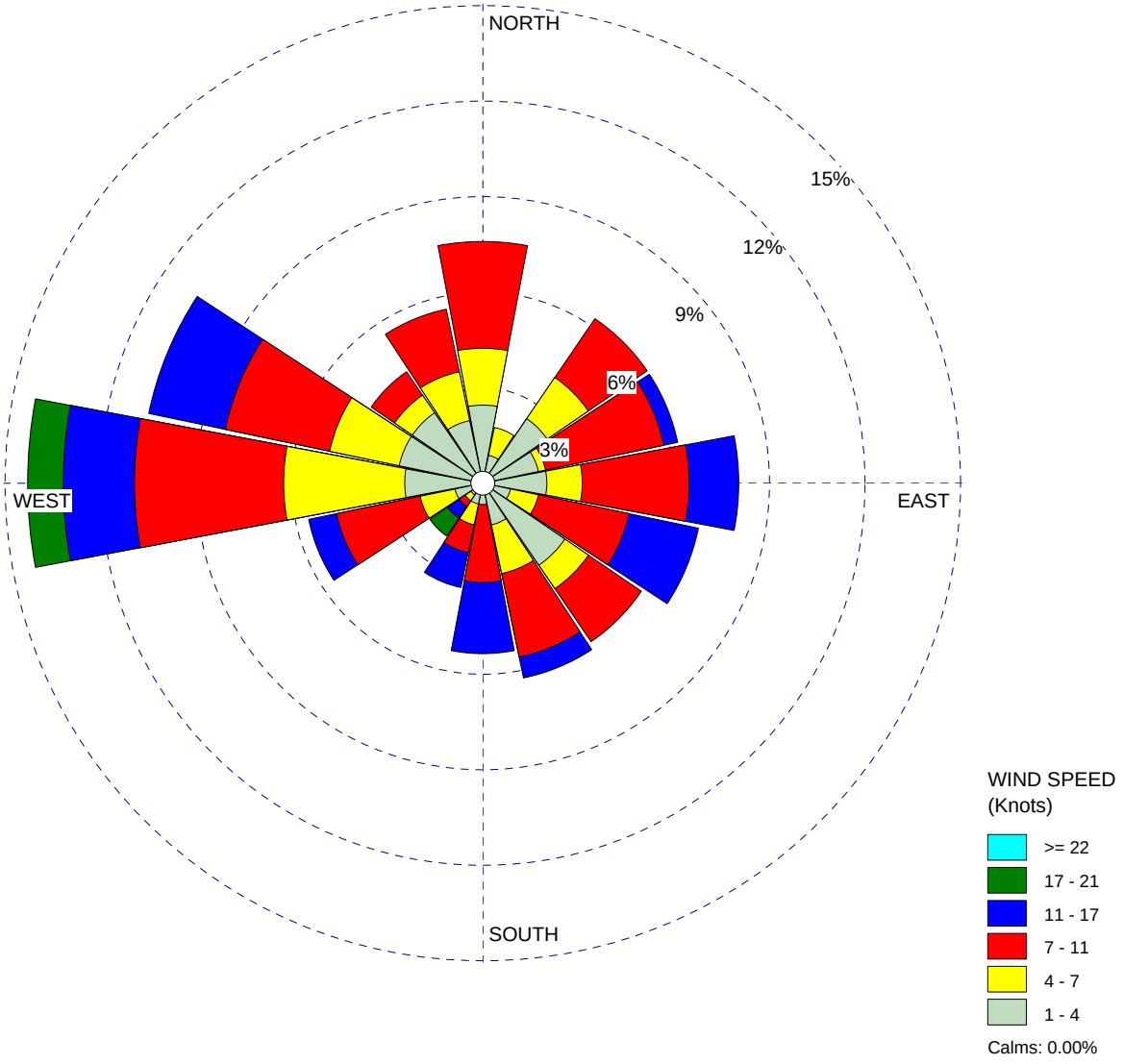
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	22.4	8.0		62.5	62.4
Vector Wind Direction (deg)	2	360	195		62.5	62.4
Scalar Wind Speed (mph)	0.6	22.9	8.4		62.5	62.4
Scalar Wind Direction (deg.)	2	360	193		62.5	62.4
Sigma Theta (deg.)	6.6	64.3	18.5		62.5	62.4
Vertical Wind Speed (mph)	-0.13	1.13	0.26		62.5	62.4
Sigma W (mph)	0.02	2.41	0.97		62.5	62.4
Sigma Phi (deg)	0.98	14.6	6.7		62.5	62.4
Temperature (deg-F)	31.1	81.1	48.4		62.5	62.2
2-Meter Level						
Temperature (deg-F)	28.2	81.6	49.0		62.5	62.2
10-m - 2-m Delta Temp (F-deg)	-4.93	4.33	-0.59		62.5	62.2
Relative Humidity (percent)	27.2	95.0	70.8		62.5	62.5
Dew Point Temperature (deg-F)	19.3	64.5	38.9		62.5	62.2
Solar Radiation (W/m^2)	0.0	1056.0	2542.0	(Avg. Daily Total)	62.5	62.5
Barometric Pressure (in. Hg.)	29.11	30.20	29.67		62.5	62.5

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - April 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Apr 1 - Apr 30 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **449 hrs.**	
	AVG. WIND SPEED: **7.34 Knots**	DATE: **5/20/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	445162-04300
		Date:	May 20, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **APRIL 2011**

Data:
- ____ Preliminary
- **X** Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- **X** Final Report
- **X** Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *A period of 2-meter temperature, delta temperature, and dew-point temperature is reported as a non-scheduled outage ("N") from April 3 through April 12. This missing data results from a faulty connection within the 2-meter temperature system. This issue was resolved during the April 13 performance audit.*
- *A performance audit was conducted on the Wastebed 13 meteorological monitoring system on April 12 and 13. As a result of audit activities, brief periods of data are reported as scheduled down ("S") on April 13.*

Climatic Summary: **APRIL 2011**

General Predominance for winds from: *west-northwest*

10-meter level

Primary Peak WD:	*WNW*	Max. Wind Speed :	*25.4 mph*
Secondary Peak WD:	*W*	Min. Wind Speed :	*0.7 mph*

2-meter level

Max. Temperature:	*80.3 °F*	Max. Dew Point Temp.	*65.8 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*28.6 °F*	Min. Dew Point Temp.	*17.7 °F*	Min. Relative Humidity	*27%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through April 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*98.2*	%
10-Meter Vector Wind Direction:	*98.2*	%
10-Meter Scalar Wind Speed:	*98.2*	%
10-Meter Scalar Wind Direction:	*99.9*	%
10-Meter Sigma Theta:	*99.9*	%
10-Meter Vertical Wind Speed:	*99.9*	%
Sigma W:	*99.9*	%
Sigma Phi:	*98.2*	%
10-Meter Temperature:	*99.9*	%

2-Meter Level

2-Meter Temperature:	*89.9*	%
Delta Temperature:	*89.9*	%
Relative Humidity:	*100*	%
Dew Point Temperature:	*89.9*	%
Net Radiation:	*100*	%
Barometric Pressure:	*100*	%

Surface

Precipitation (Rain):	*100*	%

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: APRIL 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: APRIL 2011

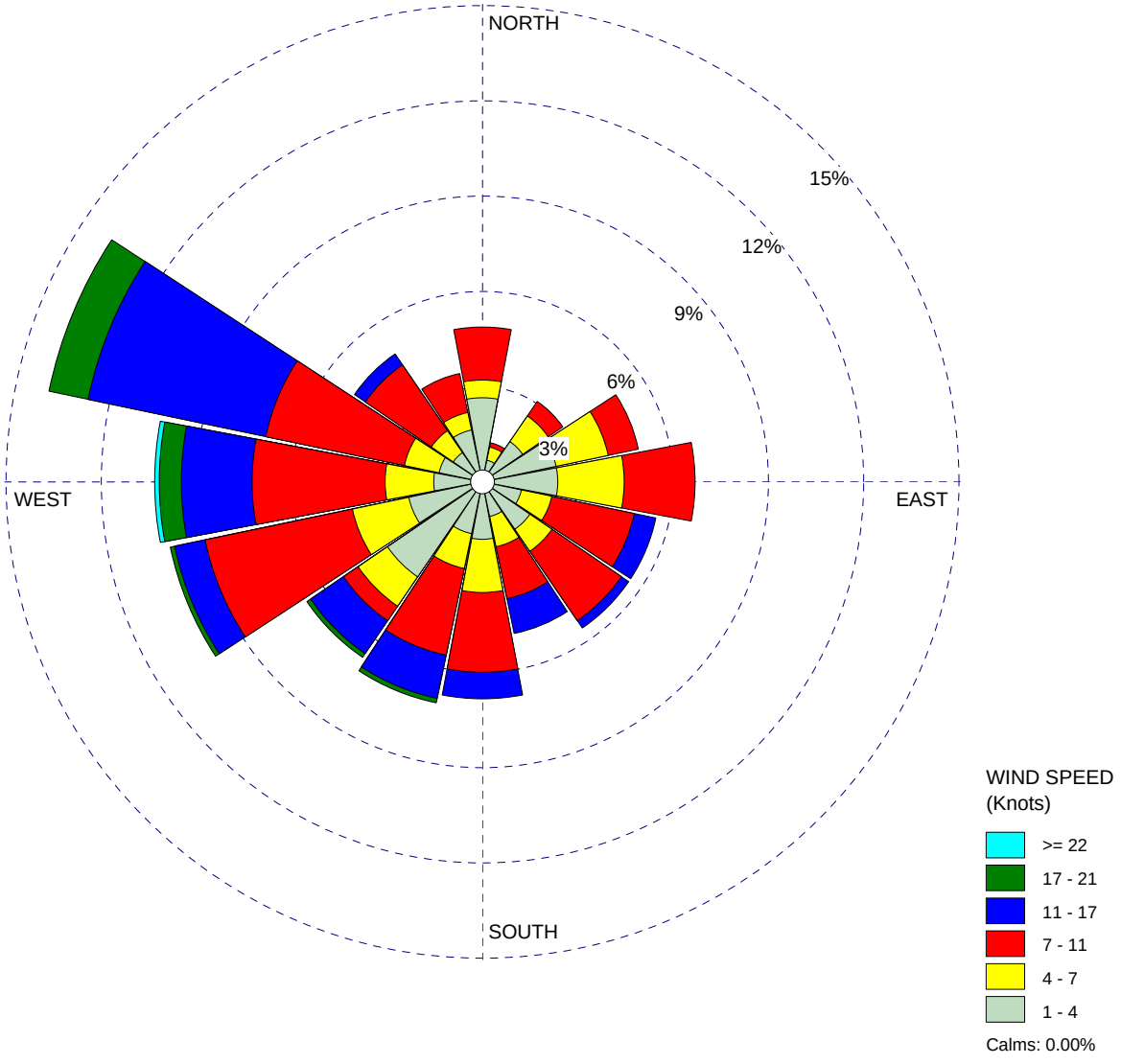
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.3	24.8	8.0		100.0	99.9
Vector Wind Direction (deg)	2	359	206		100.0	99.9
Scalar Wind Speed (mph)	0.7	25.4	8.5		100.0	99.9
Scalar Wind Direction (deg.)	3	360	206		100.0	99.9
Sigma Theta (deg.)	3.5	63.9	18.2		100.0	99.9
Vertical Wind Speed (mph)	-0.17	1.95	0.30		100.0	99.9
Sigma W (mph)	0.05	2.79	1.02		100.0	99.9
Sigma Phi (deg)	2.20	18.1	7.1		100.0	99.9
Temperature (deg-F)	29.3	82.8	48.1		100.0	99.7
2-Meter Level						
Temperature (deg-F)	28.6	80.3	47.3		70.1	69.9
10-m - 2-m Delta Temp (F-deg)	-2.86	7.00	0.92		70.1	69.9
Relative Humidity (percent)	26.7	100.0	72.3		100.0	100.0
Dew Point Temperature (deg-F)	17.7	65.8	38.2		70.1	69.9
Net Radiation (W/m^2)	-116.9	612.2	1408.7	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.81	30.09	29.50		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.83	7.21	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - April 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Apr 1 - Apr 30 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **719 hrs.**	
	AVG. WIND SPEED: **7.40 Knots**	DATE: **5/20/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	June 9, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **MAY 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *The 33-foot level wind vane was replaced on May 26. This replacement was necessary due to damage on the existing vane caused by a large bird. Wind direction data for hour 8 on this day was reaveraged due to the maintenance and allignment of the vane during this hour.*
- *No other operational problems occurred at the Lakeshore/Willis Ave monitoring site in May and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **MAY 2011**

General Predominance for winds from: *due west through west-northwest*

10-meter level

Primary Peak WD:	*WNW*	Max. Wind Speed :	*16.8 mph*
Secondary Peak WD:	*W*	Min. Wind Speed :	*1.0 mph*

2-meter level

Max. Temperature:	*90.4 °F*	Max. Dew Point Temp.	*70.5 °F*	Max. Relative Humidity	*96%*
Min. Temperature:	*39.9 °F*	Min. Dew Point Temp.	*20.6 °F*	Min. Relative Humidity	*17%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **May 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*55.0* %
10-Meter Vector Wind Direction:	*55.0* %
10-Meter Scalar Wind Speed:	*55.0* %
10-Meter Scalar Wind Direction:	*55.0* %
10-Meter Sigma Theta:	*55.0* %
10-Meter Vertical Wind Speed:	*55.0* %
Sigma W:	*55.0* %
Sigma Phi:	*55.0* %
10-Meter Temperature:	*54.9* %

2-Meter Level

2-Meter Temperature:	*54.9* %
Delta Temperature:	*54.9* %
Relative Humidity:	*55.0* %
Dew Point Temperature:	*54.9* %
Solar Radiation:	*55.0* %
Barometric Pressure:	*55.0* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

P. Petrone - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: MAY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: MAY 2011

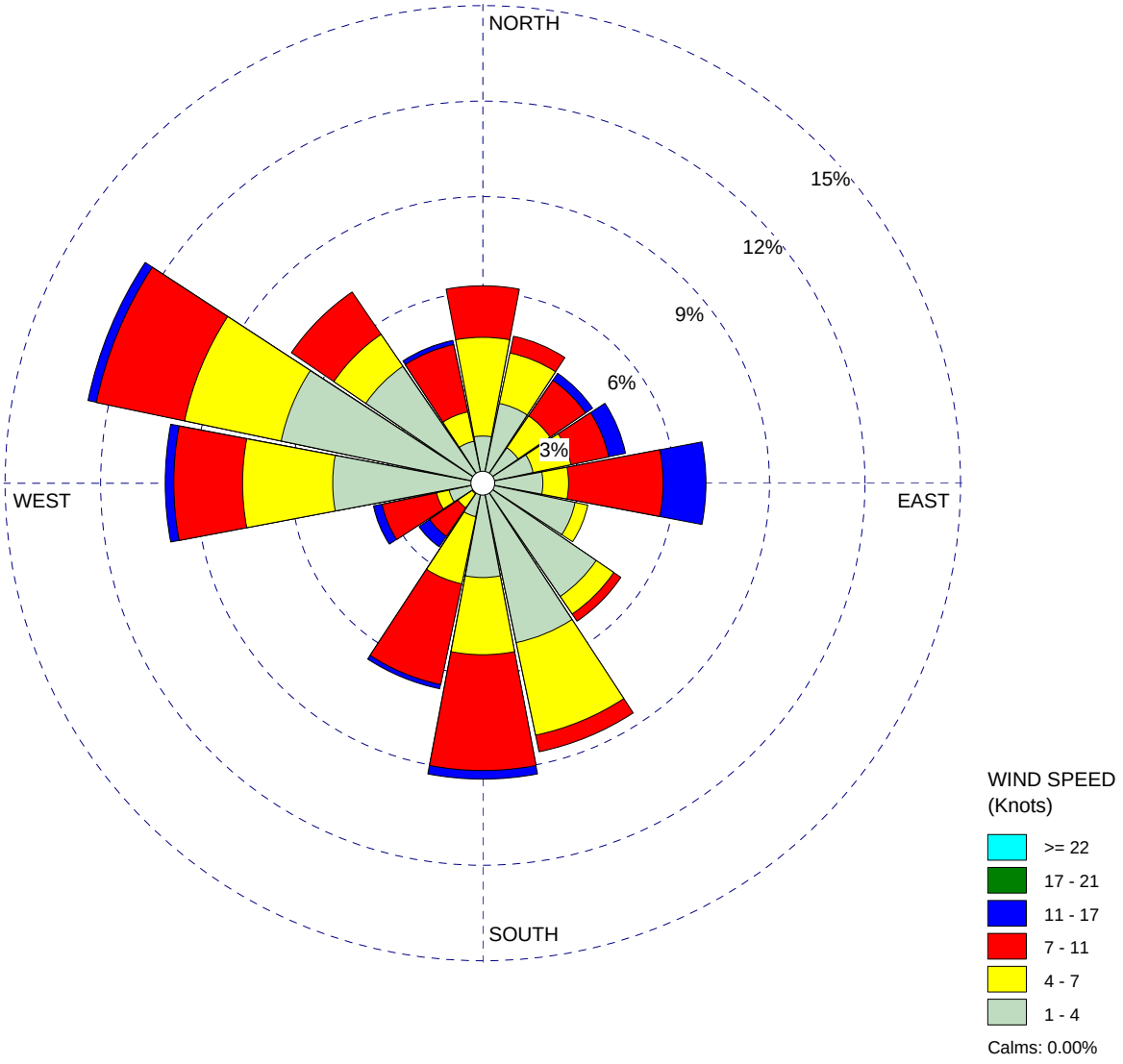
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.3	16.5	5.7		100.0	100.0
Vector Wind Direction (deg)	1	360	195		100.0	100.0
Scalar Wind Speed (mph)	1.0	16.8	6.2		100.0	100.0
Scalar Wind Direction (deg.)	1	360	195		100.0	100.0
Sigma Theta (deg.)	6.3	66.5	22.7		100.0	100.0
Vertical Wind Speed (mph)	-0.28	0.94	0.16		100.0	100.0
Sigma W (mph)	0.04	2.49	0.83		100.0	100.0
Sigma Phi (deg)	1.07	18.6	8.0		100.0	100.0
Temperature (deg-F)	37.5	89.3	60.8		100.0	100.0
2-Meter Level						
Temperature (deg-F)	39.9	90.4	62.0		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-7.74	5.19	-1.21		100.0	100.0
Relative Humidity (percent)	16.6	95.5	70.6		100.0	100.0
Dew Point Temperature (deg-F)	20.6	70.5	50.9		100.0	100.0
Solar Radiation (W/m^2)	0.0	1072.0	5388.1	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.28	29.96	29.65		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - May 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 May 1 - May 31 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **5.41 Knots**	DATE: **6/3/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	June 9, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **MAY 2011**

Data:
- ____ Preliminary
- **X** Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- **X** Final Report
- **X** Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Wastebed 13 meteorological monitoring site in May and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **MAY 2011**

General Predominance for winds from: *west-northwest*

10-meter level

Primary Peak WD: *WNW* Max. Wind Speed : *20.5 mph*
Secondary Peak WD: *S* Min. Wind Speed : *0.9 mph*

2-meter level

Max. Temperature:	*88.9 °F*	Max. Dew Point Temp.	*72.7 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*38.6 °F*	Min. Dew Point Temp.	*23.0 °F*	Min. Relative Humidity	*19%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **May 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*98.6* %
10-Meter Vector Wind Direction:	*98.6* %
10-Meter Scalar Wind Speed:	*98.6* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*98.6* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*92.0* %
Delta Temperature:	*92.0* %
Relative Humidity:	*100* %
Dew Point Temperature:	*92.0* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: MAY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: MAY 2011

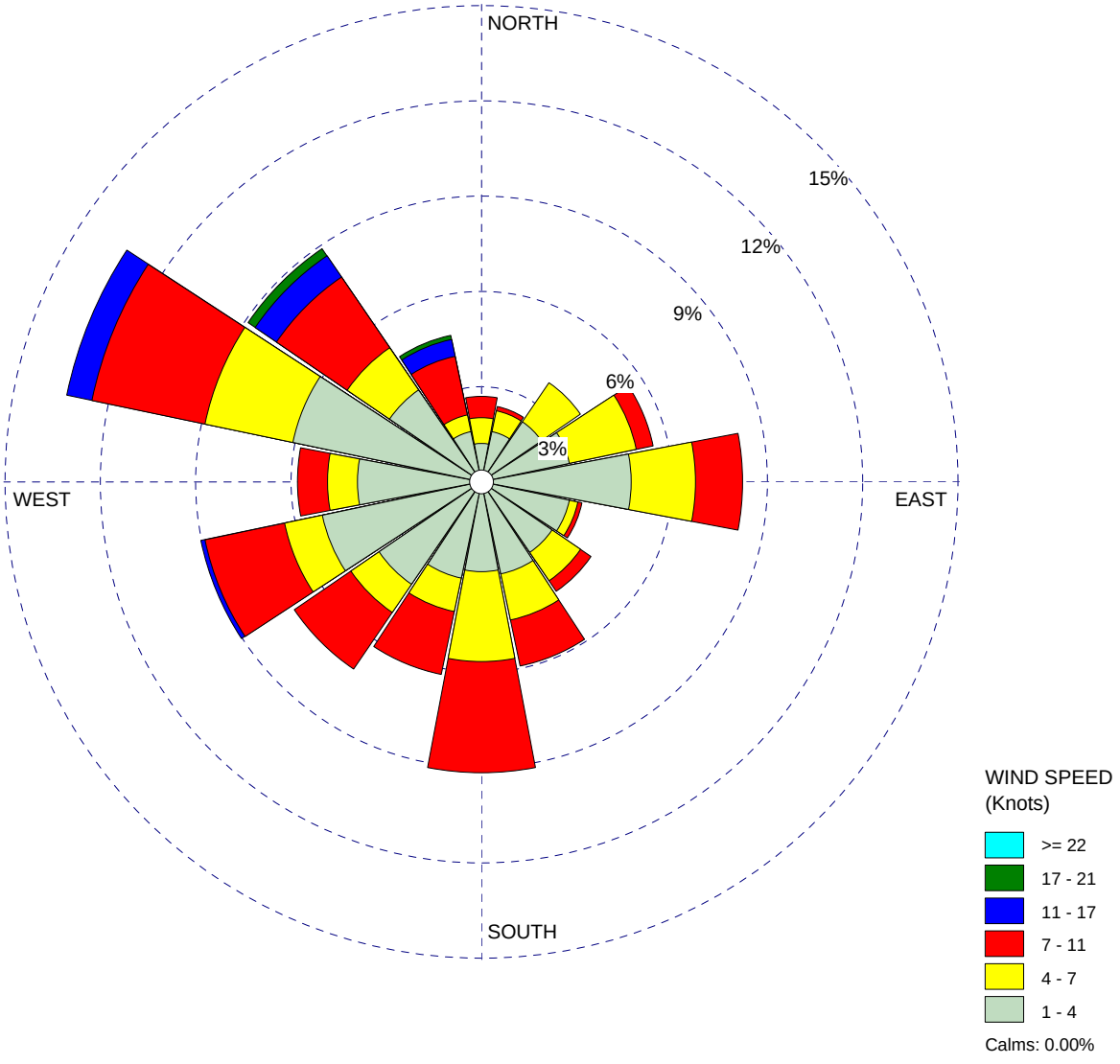
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	19.9	5.3		100.0	100.0
Vector Wind Direction (deg)	2	360	205		100.0	100.0
Scalar Wind Speed (mph)	0.9	20.5	5.8		100.0	100.0
Scalar Wind Direction (deg.)	2	359	203		100.0	100.0
Sigma Theta (deg.)	7.2	70.8	23.2		100.0	100.0
Vertical Wind Speed (mph)	-0.35	1.83	0.17		100.0	100.0
Sigma W (mph)	0.07	2.07	0.85		100.0	100.0
Sigma Phi (deg)	2.82	24.0	8.7		100.0	100.0
Temperature (deg-F)	40.1	88.4	61.4		100.0	100.0
2-Meter Level						
Temperature (deg-F)	38.6	88.9	60.6		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-2.60	5.89	0.76		100.0	100.0
Relative Humidity (percent)	18.8	99.5	75.0		100.0	100.0
Dew Point Temperature (deg-F)	23.0	72.7	51.2		100.0	100.0
Net Radiation (W/m^2)	-94.1	664.5	2353.8	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.17	29.85	29.55		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.31	3.88	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - May 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011** **May 1 - May 31** **00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **5.06 Knots**	DATE: **6/3/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 July 7, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **JUNE 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Lakeshore/Willis Ave monitoring site in June and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **JUNE 2011**

General Predominance for winds from: *due west through west-northwest*

10-meter level

Primary Peak WD: *W* Max. Wind Speed : *19.0 mph*
Secondary Peak WD: *WNW* Min. Wind Speed : *0.8 mph*

2-meter level

Max. Temperature:	*93.8 °F*	Max. Dew Point Temp.	*71.3 °F*	Max. Relative Humidity	*95%*
Min. Temperature:	*48.1 °F*	Min. Dew Point Temp.	*31.6 °F*	Min. Relative Humidity	*20%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **June 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*62.4* %
10-Meter Vector Wind Direction:	*62.4* %
10-Meter Scalar Wind Speed:	*62.4* %
10-Meter Scalar Wind Direction:	*62.4* %
10-Meter Sigma Theta:	*62.4* %
10-Meter Vertical Wind Speed:	*62.4* %
Sigma W:	*62.4* %
Sigma Phi:	*62.4* %
10-Meter Temperature:	*62.4* %

2-Meter Level

2-Meter Temperature:	*62.4* %
Delta Temperature:	*62.4* %
Relative Humidity:	*62.5* %
Dew Point Temperature:	*62.4* %
Solar Radiation:	*62.5* %
Barometric Pressure:	*62.5* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: JUNE 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: JUNE 2011

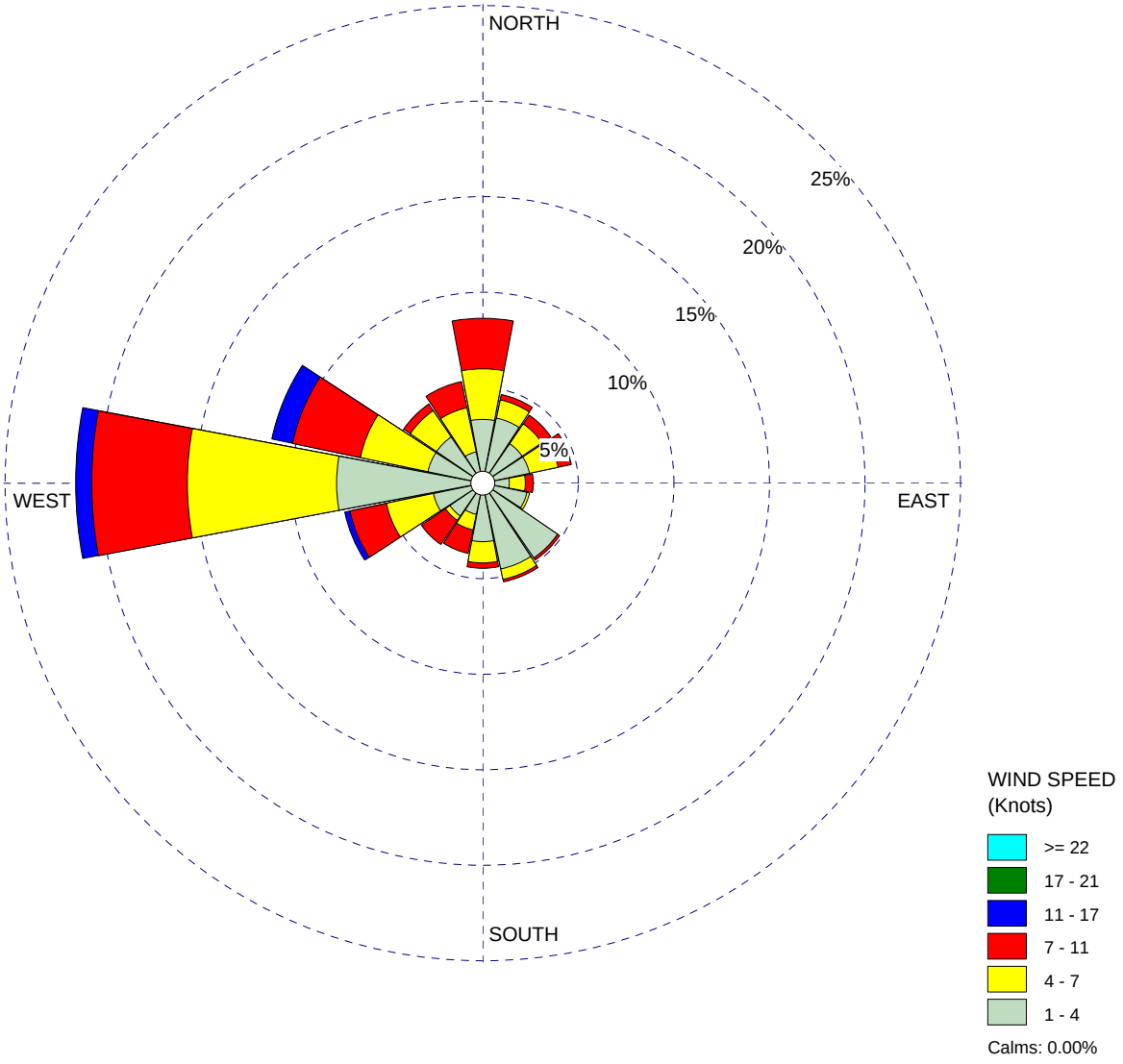
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.3	18.4	5.1		100.0	100.0
Vector Wind Direction (deg)	1	360	210		100.0	100.0
Scalar Wind Speed (mph)	0.8	19.0	5.6		100.0	100.0
Scalar Wind Direction (deg.)	1	360	211		100.0	100.0
Sigma Theta (deg.)	6.4	71.4	23.4		100.0	100.0
Vertical Wind Speed (mph)	-0.23	0.66	0.11		100.0	100.0
Sigma W (mph)	0.03	2.69	0.84		100.0	100.0
Sigma Phi (deg)	1.26	19.5	8.6		100.0	100.0
Temperature (deg-F)	48.9	93.0	67.2		100.0	100.0
2-Meter Level						
Temperature (deg-F)	48.1	93.8	68.1		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-7.19	4.68	-0.91		100.0	100.0
Relative Humidity (percent)	20.1	94.5	68.3		100.0	100.0
Dew Point Temperature (deg-F)	31.6	71.3	55.9		100.0	100.0
Solar Radiation (W/m^2)	0.0	1090.0	6252.3	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.28	29.91	29.62		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - June 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Jun 1 - Jun 30 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **720 hrs.**	
	AVG. WIND SPEED: **4.87 Knots**	DATE: **7/6/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 July 7, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **JUNE 2011**

Data:
- ____ Preliminary
- **X** Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- **X** Final Report
- **X** Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Wastebed 13 meteorological monitoring site in June and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **JUNE 2011**

General Predominance for winds from: *southwest through west to northwest*

10-meter level

Primary Peak WD: *WNW* Max. Wind Speed : *21.6 mph*
Secondary Peak WD: *WSW* Min. Wind Speed : *0.9 mph*

2-meter level

Max. Temperature:	*94.2 °F*	Max. Dew Point Temp.	*70.2 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*47.1 °F*	Min. Dew Point Temp.	*34.0 °F*	Min. Relative Humidity	*24%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **June 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*98.8* %
10-Meter Vector Wind Direction:	*98.8* %
10-Meter Scalar Wind Speed:	*98.8* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*98.8* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*93.3* %
Delta Temperature:	*93.3* %
Relative Humidity:	*100* %
Dew Point Temperature:	*93.3* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: JUNE 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: JUNE 2011

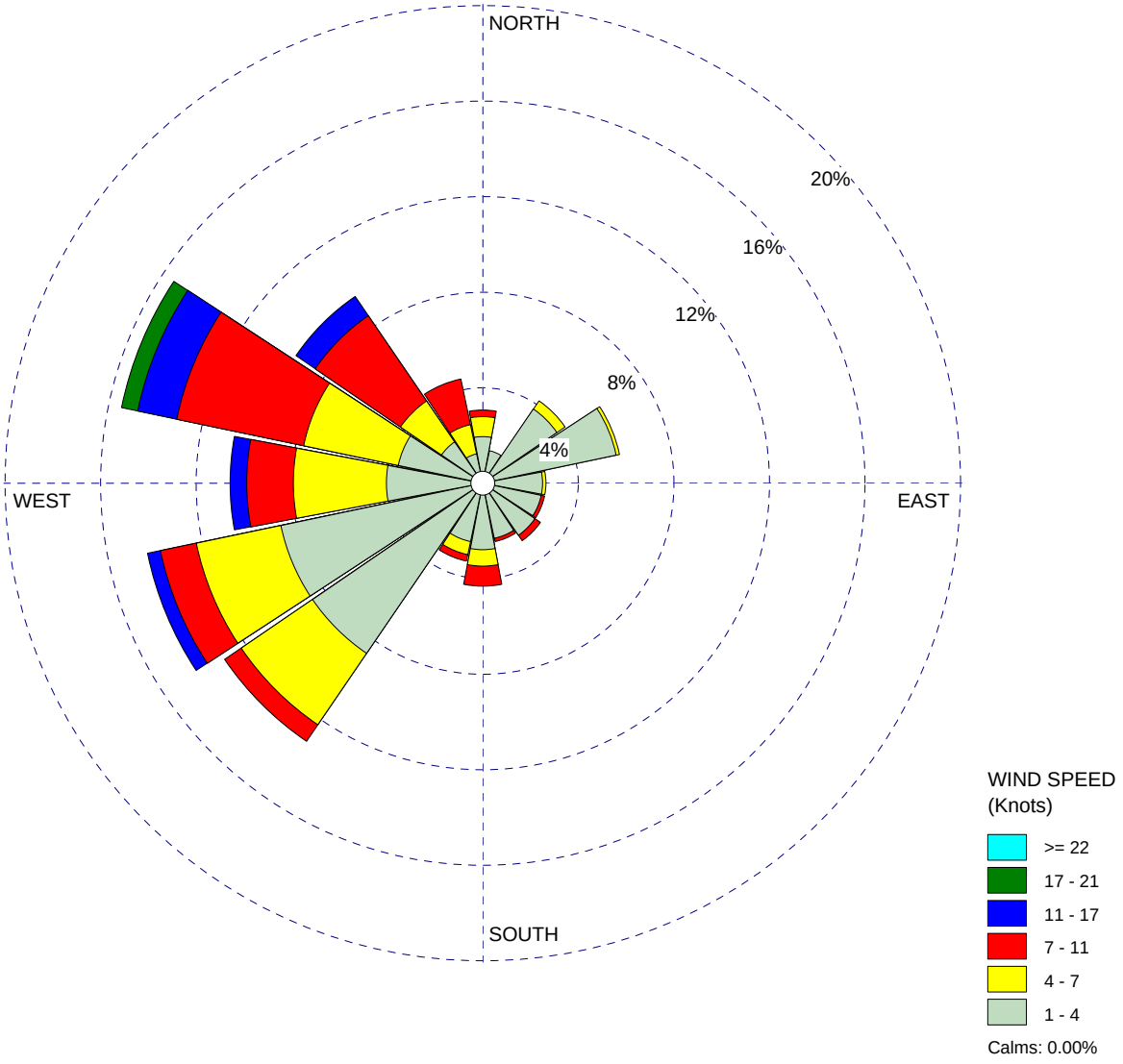
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.2	21.1	5.0		100.0	100.0
Vector Wind Direction (deg)	2	358	224		100.0	100.0
Scalar Wind Speed (mph)	0.9	21.6	5.5		100.0	100.0
Scalar Wind Direction (deg.)	4	360	224		100.0	100.0
Sigma Theta (deg.)	7.2	73.7	24.2		100.0	100.0
Vertical Wind Speed (mph)	-0.26	1.87	0.23		100.0	100.0
Sigma W (mph)	0.07	2.28	0.77		100.0	100.0
Sigma Phi (deg)	2.63	25.8	8.5		100.0	100.0
Temperature (deg-F)	48.6	92.3	66.7		100.0	100.0
2-Meter Level						
Temperature (deg-F)	47.1	94.2	66.6		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-3.15	5.56	0.16		100.0	100.0
Relative Humidity (percent)	23.9	99.5	73.5		100.0	100.0
Dew Point Temperature (deg-F)	34.0	70.2	56.5		100.0	100.0
Net Radiation (W/m^2)	-75.0	671.5	2940.8	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.19	29.81	29.52		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.59	2.45	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - June 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Jun 1 - Jun 30 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **720 hrs.**	
	AVG. WIND SPEED: **4.79 Knots**	DATE: **7/6/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 August 5, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **JULY 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Lakeshore/Willis Ave monitoring site in July and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **JULY 2011**

General Predominance for winds from: *due west through west-northwest*

10-meter level

Primary Peak WD: *W* Max. Wind Speed : *16.1 mph*
Secondary Peak WD: *WNW* Min. Wind Speed : *0.5 mph*

2-meter level

Max. Temperature:	*98.0 °F*	Max. Dew Point Temp.	*75.3 °F*	Max. Relative Humidity	*94%*
Min. Temperature:	*53.9 °F*	Min. Dew Point Temp.	*41.4 °F*	Min. Relative Humidity	*22%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **July 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*67.9* %
10-Meter Vector Wind Direction:	*67.9* %
10-Meter Scalar Wind Speed:	*67.9* %
10-Meter Scalar Wind Direction:	*67.9* %
10-Meter Sigma Theta:	*67.9* %
10-Meter Vertical Wind Speed:	*67.9* %
Sigma W:	*67.9* %
Sigma Phi:	*67.9* %
10-Meter Temperature:	*67.9* %

2-Meter Level

2-Meter Temperature:	*67.9* %
Delta Temperature:	*67.9* %
Relative Humidity:	*67.9* %
Dew Point Temperature:	*67.9* %
Solar Radiation:	*67.9* %
Barometric Pressure:	*67.9* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: JULY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: JULY 2011

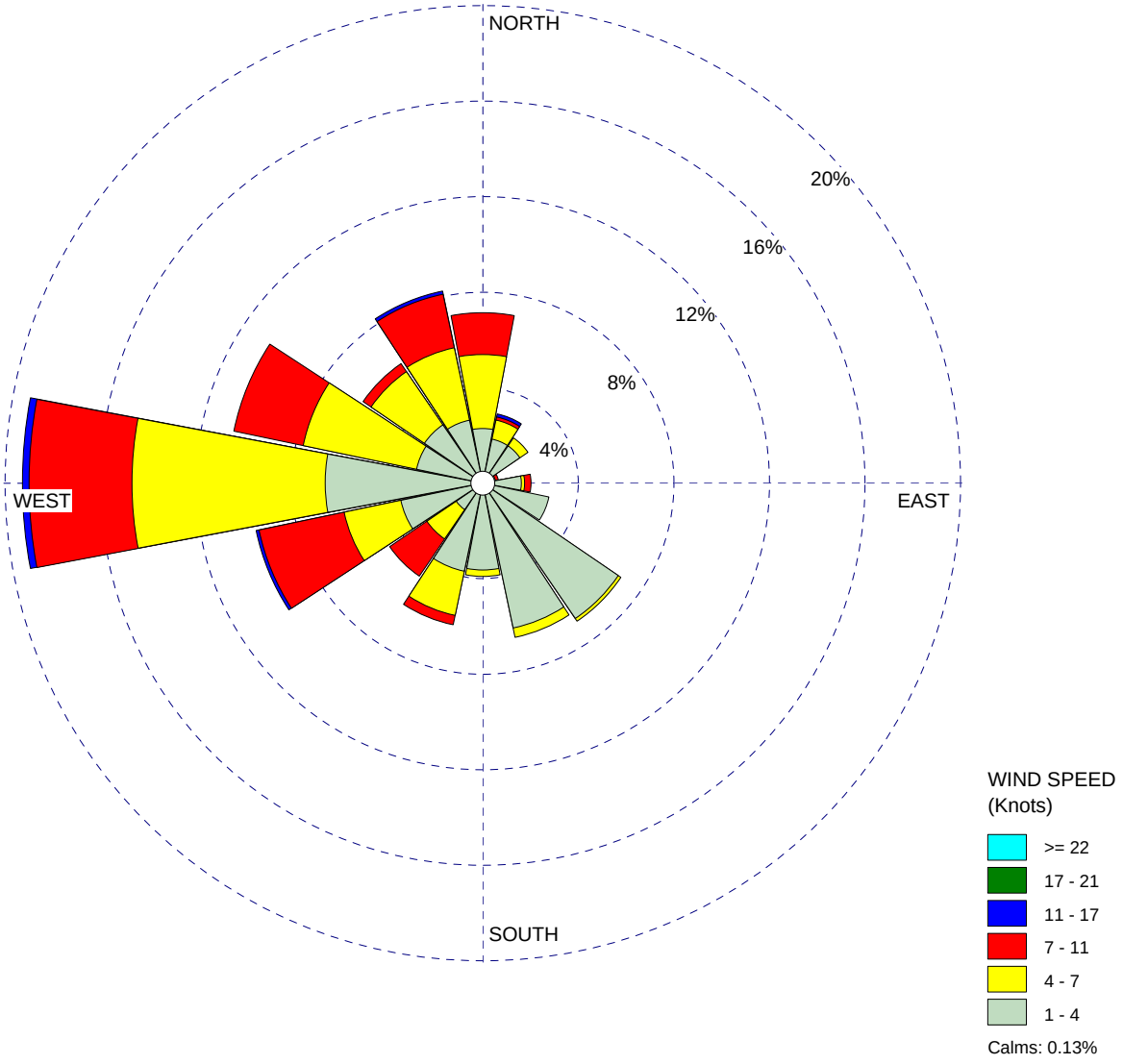
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	MONTHLY DATA RECOVERY RATES (%) BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	15.0	4.7		100.0	100.0
Vector Wind Direction (deg)	1	359	225		100.0	100.0
Scalar Wind Speed (mph)	0.5	16.1	5.2		100.0	100.0
Scalar Wind Direction (deg.)	1	360	227		100.0	100.0
Sigma Theta (deg.)	4.9	68.0	24.7		100.0	100.0
Vertical Wind Speed (mph)	-0.29	0.88	0.10		100.0	100.0
Sigma W (mph)	0.09	2.68	0.82		100.0	100.0
Sigma Phi (deg)	2.77	20.3	9.0		100.0	100.0
Temperature (deg-F)	57.3	97.3	75.0		100.0	100.0
2-Meter Level						
Temperature (deg-F)	53.9	98.0	75.5		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-7.64	5.71	-0.58		100.0	100.0
Relative Humidity (percent)	22.2	94.3	62.8		100.0	100.0
Dew Point Temperature (deg-F)	41.4	75.3	60.4		100.0	100.0
Solar Radiation (W/m^2)	0.0	1076.0	7271.0	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.37	29.85	29.63		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - July 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Jul 1 - Jul 31 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.13%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **4.55 Knots**	DATE: **8/3/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	August 5, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **JULY 2011**

Data:
- ____ Preliminary
- **X** Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- **X** Final Report
- **X** Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Wastebed 13 meteorological monitoring site in July and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **JULY 2011**

General Predominance for winds from: *southwest through west to northwest*

10-meter level

Primary Peak WD: *SW* Max. Wind Speed : *18.3 mph*
Secondary Peak WD: *WSW* Min. Wind Speed : *0.9 mph*

2-meter level

Max. Temperature: *98.9 °F* Max. Dew Point Temp. *75.6 °F* Max. Relative Humidity *99%*
Min. Temperature: *53.0 °F* Min. Dew Point Temp. *44.4 °F* Min. Relative Humidity *23%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **July 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*99.0* %
10-Meter Vector Wind Direction:	*99.0* %
10-Meter Scalar Wind Speed:	*99.0* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*99.0* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*94.3* %
Delta Temperature:	*94.3* %
Relative Humidity:	*100* %
Dew Point Temperature:	*94.3* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: JULY 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: JULY 2011

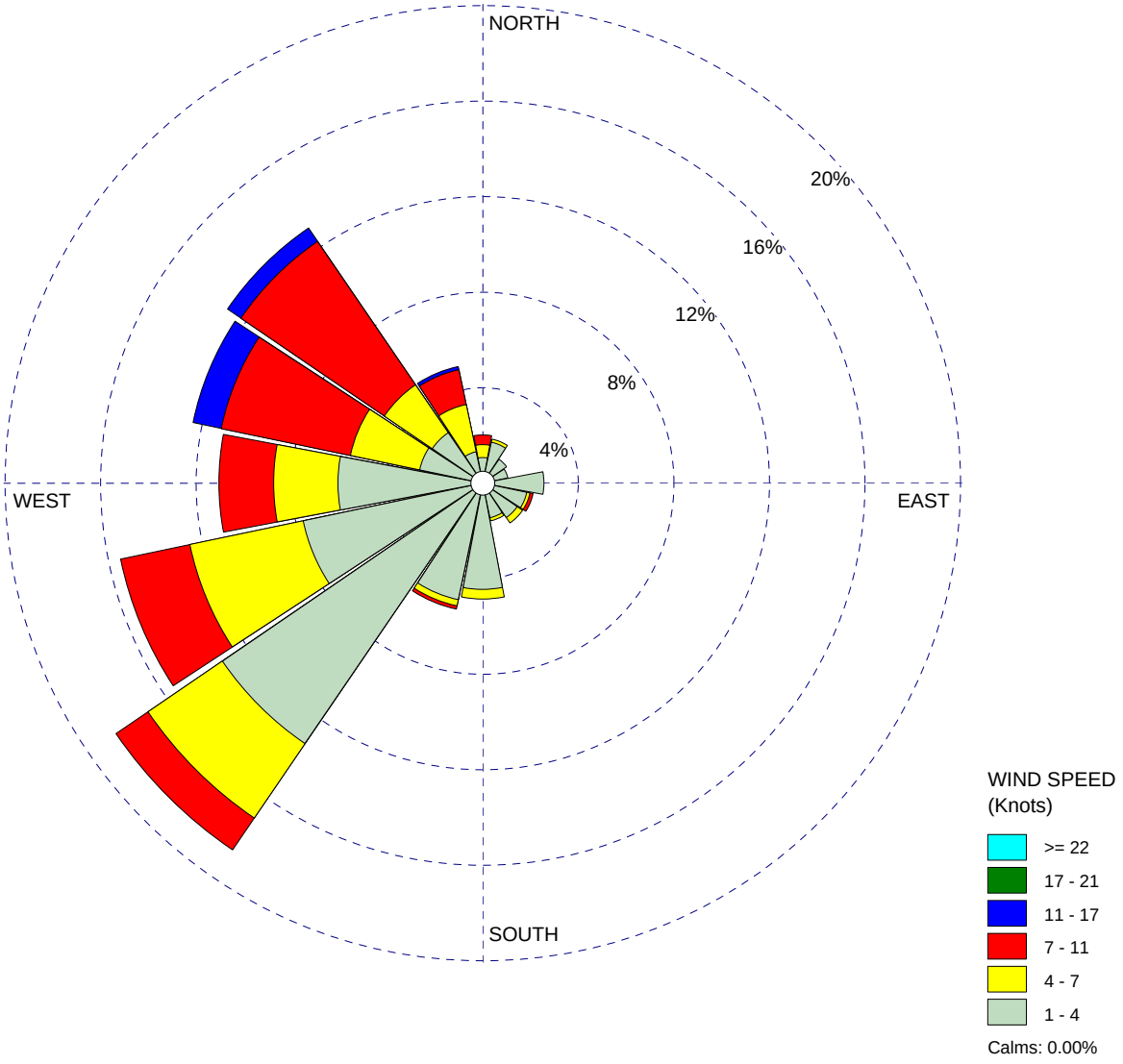
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	17.8	4.9		100.0	100.0
Vector Wind Direction (deg)	1	359	240		100.0	100.0
Scalar Wind Speed (mph)	0.9	18.3	5.3		100.0	100.0
Scalar Wind Direction (deg.)	1	360	239		100.0	100.0
Sigma Theta (deg.)	7.5	75.1	22.5		100.0	100.0
Vertical Wind Speed (mph)	-0.22	1.68	0.21		100.0	100.0
Sigma W (mph)	0.05	1.81	0.71		100.0	100.0
Sigma Phi (deg)	2.66	27.4	7.8		100.0	100.0
Temperature (deg-F)	55.7	97.2	73.8		100.0	100.0
2-Meter Level						
Temperature (deg-F)	53.0	98.9	73.8		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-3.76	7.20	0.09		100.0	100.0
Relative Humidity (percent)	23.3	99.3	68.7		100.0	100.0
Dew Point Temperature (deg-F)	44.4	75.6	61.2		100.0	100.0
Net Radiation (W/m^2)	-84.2	649.9	3474.6	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.28	29.76	29.54		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.56	2.26	(Total)	100.0	0.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - July 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **2011 Jul 1 - Jul 31 00:00 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **4.62 Knots**	DATE: **8/3/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 September 28, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **AUGUST 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *On August 21, the wind direction vane at the Lakeshore monitoring site was damaged by a large bird. Visual inspection revealed that the fin portion of the vane was completely missing from the assembly. A replacement vane was ordered and installed during a performance audit on September 20. Wind direction data (and associated parameters) is reported as missing due to a non-scheduled outage ("N") from August 21 hour 21 through the end of the month.*
- *No other operational problems occurred at the Lakeshore/Willis Ave monitoring site in August and monthly data recovery rates for all parameters range from 67 percent for affected wind direction parameters to 100 percent for all other parameters.*

Climatic Summary: **AUGUST 2011**

General Predominance for winds from: *west-southwest through due west*

10-meter level

Primary Peak WD: *W* Max. Wind Speed : *15.2 mph*
Secondary Peak WD: *WSW* Min. Wind Speed : *0.4 mph*

2-meter level

Max. Temperature:	*88.0 °F*	Max. Dew Point Temp.	*73.7 °F*	Max. Relative Humidity	*95%*
Min. Temperature:	*53.2 °F*	Min. Dew Point Temp.	*45.3 °F*	Min. Relative Humidity	*31%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **August 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*67.8* %
10-Meter Vector Wind Direction:	*67.8* %
10-Meter Scalar Wind Speed:	*72.0* %
10-Meter Scalar Wind Direction:	*67.8* %
10-Meter Sigma Theta:	*67.8* %
10-Meter Vertical Wind Speed:	*72.0* %
Sigma W:	*72.0* %
Sigma Phi:	*72.0* %
10-Meter Temperature:	*72.0* %

2-Meter Level

2-Meter Temperature:	*72.0* %
Delta Temperature:	*72.0* %
Relative Humidity:	*72.0* %
Dew Point Temperature:	*72.0* %
Solar Radiation:	*72.0* %
Barometric Pressure:	*72.0* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: AUGUST 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: AUGUST 2011

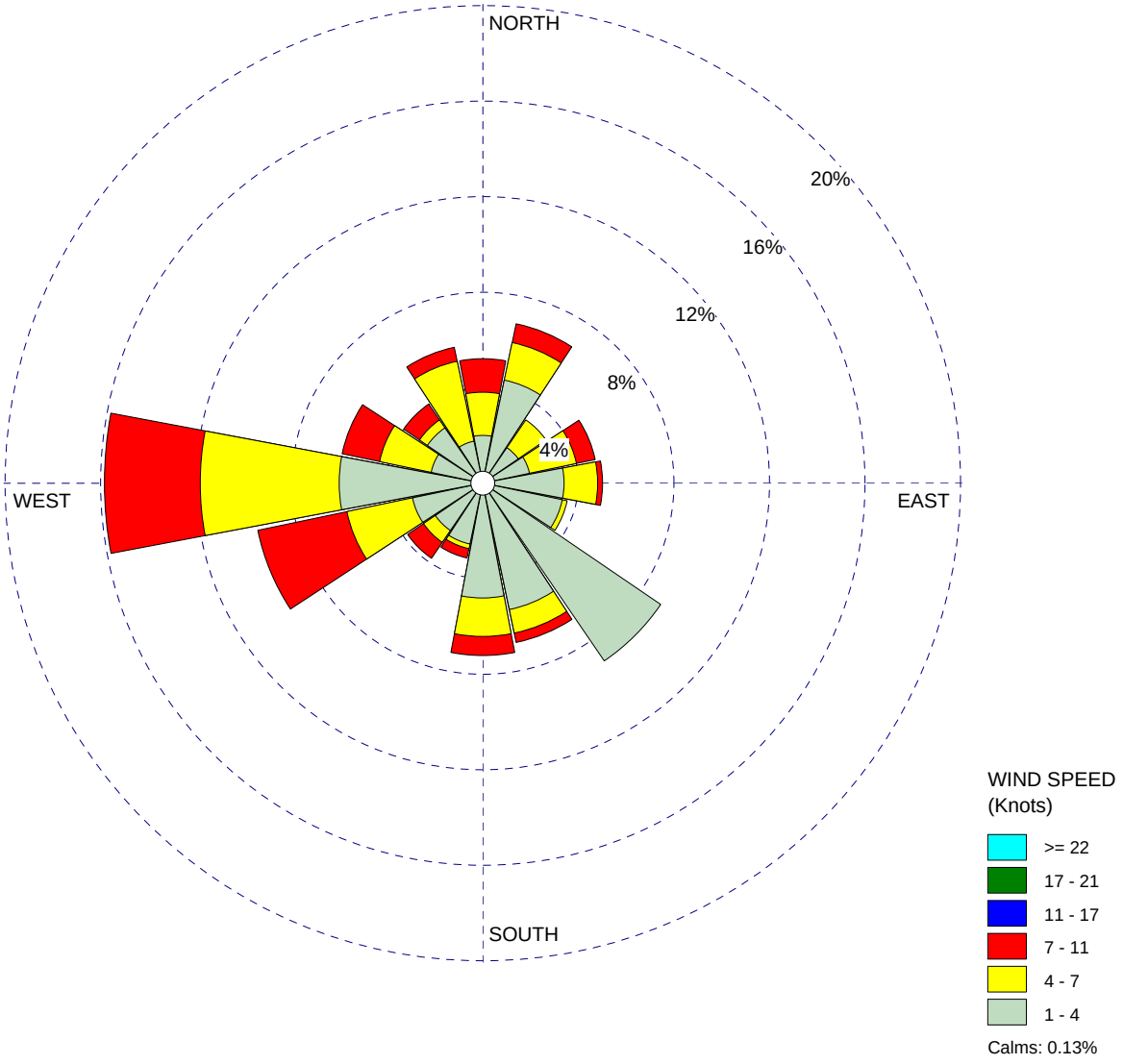
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	11.6	4.5		67.2	67.2
Vector Wind Direction (deg)	2	360	189		67.2	67.2
Scalar Wind Speed (mph)	0.4	15.2	5.3		100.0	100.0
Scalar Wind Direction (deg.)	2	359	191		67.2	67.2
Sigma Theta (deg.)	6.6	67.3	24.3		67.2	67.2
Vertical Wind Speed (mph)	-0.23	0.74	0.14		100.0	100.0
Sigma W (mph)	0.04	2.42	0.77		100.0	100.0
Sigma Phi (deg)	3.15	17.0	8.6		100.0	100.0
Temperature (deg-F)	53.6	85.4	69.9		100.0	100.0
2-Meter Level						
Temperature (deg-F)	53.2	88.0	70.6		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-7.29	4.38	-0.74		100.0	100.0
Relative Humidity (percent)	30.9	95.2	73.2		100.0	100.0
Dew Point Temperature (deg-F)	45.3	73.7	60.5		100.0	100.0
Solar Radiation (W/m^2)	0.0	1093.0	5459.1	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.09	29.94	29.58		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - August 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 8/1/2011 - 00:00** **End Date: 8/21/2011 - 19:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.13%**	TOTAL COUNT: **500 hrs.**	
	AVG. WIND SPEED: **4.31 Knots**	DATE: **10/4/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 September 28, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **AUGUST 2011**

Data:
- ____ Preliminary
- X Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- X Final Report
- X Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Wastebed 13 meteorological monitoring site in August and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **AUGUST 2011**

General Predominance for winds from: *southwest through west-southwest*

10-meter level

Primary Peak WD: *WSW* Max. Wind Speed : *16.3 mph*
Secondary Peak WD: *SW* Min. Wind Speed : *0.6 mph*

2-meter level

Max. Temperature:	*87.0 °F*	Max. Dew Point Temp.	*72.9 °F*	Max. Relative Humidity	*99%*
Min. Temperature:	*50.8 °F*	Min. Dew Point Temp.	*48.8 °F*	Min. Relative Humidity	*35%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **August 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*99.1* %
10-Meter Vector Wind Direction:	*99.1* %
10-Meter Scalar Wind Speed:	*99.1* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*99.1* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*95.0* %
Delta Temperature:	*95.0* %
Relative Humidity:	*100* %
Dew Point Temperature:	*95.0* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: AUGUST 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: AUGUST 2011

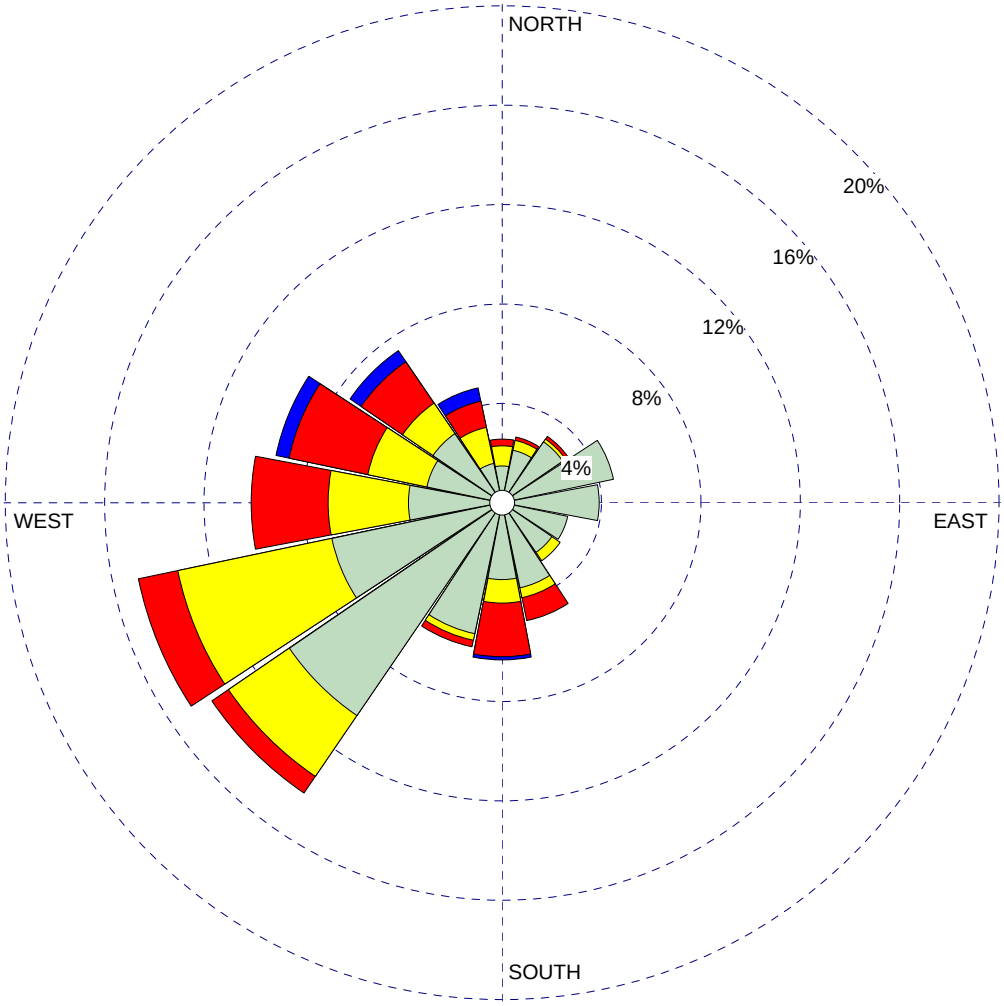
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.1	15.9	4.5		100.0	100.0
Vector Wind Direction (deg)	1	359	214		100.0	100.0
Scalar Wind Speed (mph)	0.6	16.3	5.0		100.0	100.0
Scalar Wind Direction (deg.)	1	360	212		100.0	100.0
Sigma Theta (deg.)	8.3	78.4	23.7		100.0	100.0
Vertical Wind Speed (mph)	-0.37	1.86	0.14		100.0	100.0
Sigma W (mph)	0.06	2.30	0.70		100.0	100.0
Sigma Phi (deg)	2.28	23.1	8.5		100.0	100.0
Temperature (deg-F)	52.2	84.5	69.7		100.0	100.0
2-Meter Level						
Temperature (deg-F)	50.8	87.0	69.2		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-2.99	5.94	0.56		100.0	100.0
Relative Humidity (percent)	35.3	99.2	78.9		100.0	100.0
Dew Point Temperature (deg-F)	48.8	72.9	61.4		100.0	100.0
Net Radiation (W/m^2)	-78.9	667.9	2587.7	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.99	29.85	29.48		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.86	7.78	(Total)	100.0	0.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - August 2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 0.00%

COMMENTS:	DATA PERIOD: **Start Date: 8/1/2011 - 00:00** **End Date: 8/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **744 hrs.**	
	AVG. WIND SPEED: **4.30 Knots**	DATE: **10/3/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	October 11, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **SEPTEMBER 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Wind direction data is reported as missing due to a non-scheduled outage ("N") from the beginning of the month through September 20. This missing data continues from last month and results from significant damage to the vane caused by a large bird. A new vane was ordered from the vendor and was installed as part of performance audit activities on September 20.*
- *Relative humidity (RH) and dew-point are reported as "N" from September 11 hour 17 through the end of the month. Troubleshooting efforts during the September 20 audit were unsuccessful and it was determined that the RH sensor had failed. A new sensor has been ordered and will be installed when received.*
- *A performance audit was conducted at the Lakeshore monitoring site on September 20. As a result of audit activities, minor periods of data are reported as scheduled down ("S") on this day.*

Climatic Summary: **SEPTEMBER 2011**

General Predominance for winds from: *southeast through south-southeast (represents only about 1/3 of monthly data)*

10-meter level

Primary Peak WD:	*SE*	Max. Wind Speed :	*13.6 mph*
Secondary Peak WD:	*SSE*	Min. Wind Speed :	*0.7 mph*

2-meter level

Max. Temperature:	*89.8 °F*	Max. Dew Point Temp.	*72.4 °F*	Max. Relative Humidity	*96%*
Min. Temperature:	*41.6 °F*	Min. Dew Point Temp.	*47.5 °F*	Min. Relative Humidity	*40%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **September 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*64.2* %
10-Meter Vector Wind Direction:	*64.2* %
10-Meter Scalar Wind Speed:	*75.1* %
10-Meter Scalar Wind Direction:	*64.2* %
10-Meter Sigma Theta:	*64.2* %
10-Meter Vertical Wind Speed:	*75.1* %
Sigma W:	*75.1* %
Sigma Phi:	*75.1* %
10-Meter Temperature:	*75.0* %

2-Meter Level

2-Meter Temperature:	*75.0* %
Delta Temperature:	*75.0* %
Relative Humidity:	*68.0* %
Dew Point Temperature:	*68.0* %
Solar Radiation:	*75.1* %
Barometric Pressure:	*75.1* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: SEPTEMBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: SEPTEMBER 2011

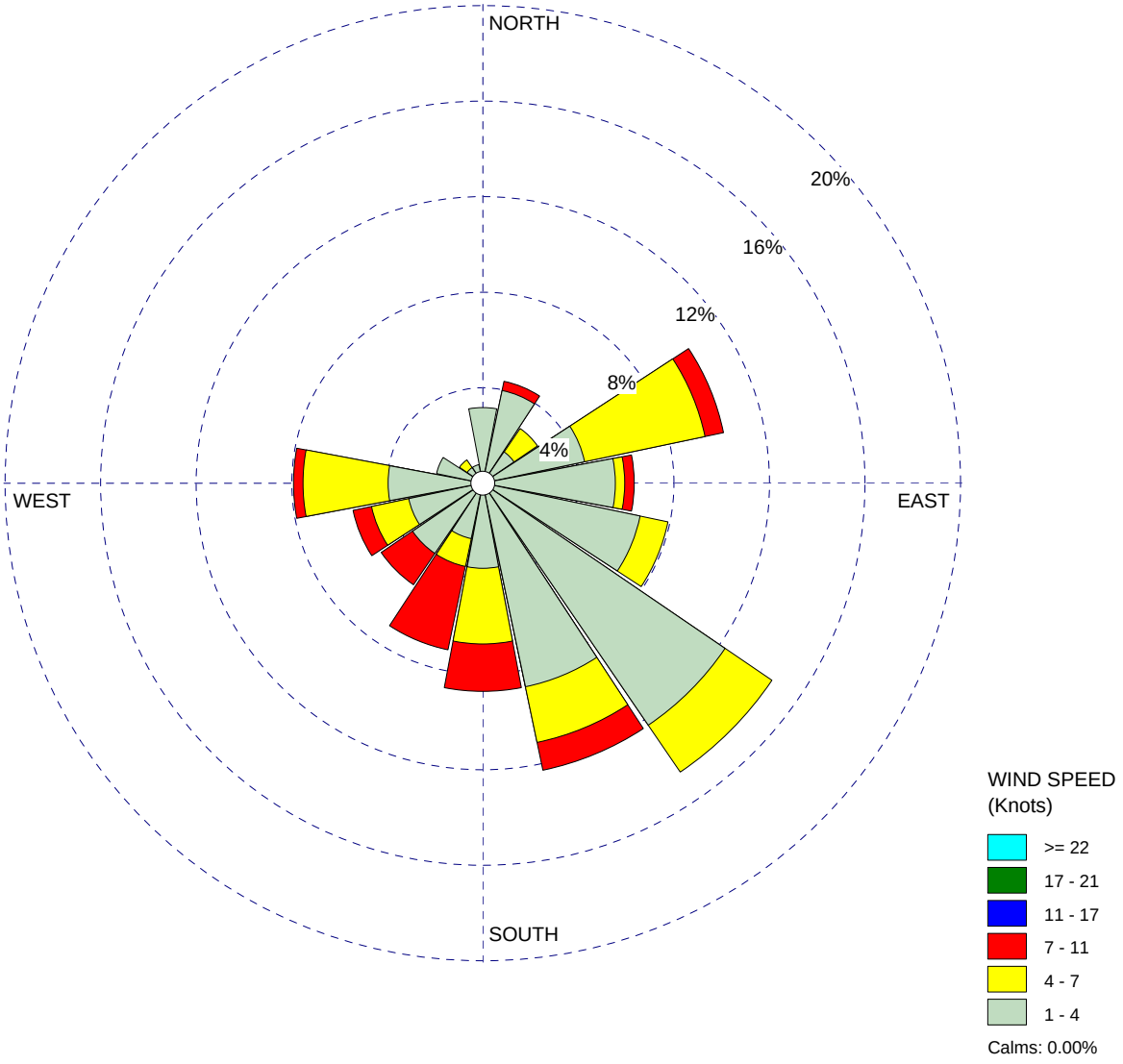
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.2	12.5	4.1		35.3	35.0
Vector Wind Direction (deg)	2	358	154		35.3	35.0
Scalar Wind Speed (mph)	0.7	13.6	5.0		100.0	99.7
Scalar Wind Direction (deg.)	2	356	155		35.3	35.0
Sigma Theta (deg.)	7.0	71.5	25.2		35.3	35.0
Vertical Wind Speed (mph)	-0.18	0.63	0.12		100.0	99.7
Sigma W (mph)	0.06	1.94	0.74		100.0	99.7
Sigma Phi (deg)	2.43	24.5	8.9		100.0	99.7
Temperature (deg-F)	42.1	85.2	64.1		100.0	99.6
2-Meter Level						
Temperature (deg-F)	41.6	89.8	65.1		100.0	99.6
10-m - 2-m Delta Temp (F-deg)	-6.06	5.87	-0.94		100.0	99.6
Relative Humidity (percent)	40.4	96.1	80.1		35.6	35.6
Dew Point Temperature (deg-F)	47.5	72.4	60.9		35.6	35.6
Solar Radiation (W/m^2)	0.0	895.0	3864.3	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.25	30.19	29.71		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - September 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS: Note: windrose represents approximately one-third of monthly data due to damaged wind vane	DATA PERIOD: **Start Date: 9/1/2011 - 00:00** **End Date: 9/30/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **253 hrs.**	
	AVG. WIND SPEED: **3.90 Knots**	DATE: **10/11/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 October 5, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **SEPTEMBER 2011**

Data:
- ____ Preliminary
- X Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- X Final Report
- X Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *A performance audit was conducted on the Wastebed 13 meteorological monitoring system on September 21. As a result of these audit activities, a minor period of data is reported as scheduled down ("S") on this day.*
- *No operational problems occurred at the Wastebed 13 meteorological monitoring site in September and monthly data recovery rates for all parameters range from 99.6 to 100 percent.*

Climatic Summary: **SEPTEMBER 2011**

General Predominance for winds from: *south-southwest through southwest*

10-meter level

Primary Peak WD: *SW* Max. Wind Speed : *14.4 mph*
Secondary Peak WD: *SSW* Min. Wind Speed : *0.8 mph*

2-meter level

Max. Temperature:	*86.4 °F*	Max. Dew Point Temp.	*74.3 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*39.0 °F*	Min. Dew Point Temp.	*38.2 °F*	Min. Relative Humidity	*42%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **September 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*99.2* %
10-Meter Vector Wind Direction:	*99.2* %
10-Meter Scalar Wind Speed:	*99.2* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*99.2* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*95.5* %
Delta Temperature:	*95.5* %
Relative Humidity:	*100* %
Dew Point Temperature:	*95.5* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: SEPTEMBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: SEPTEMBER 2011

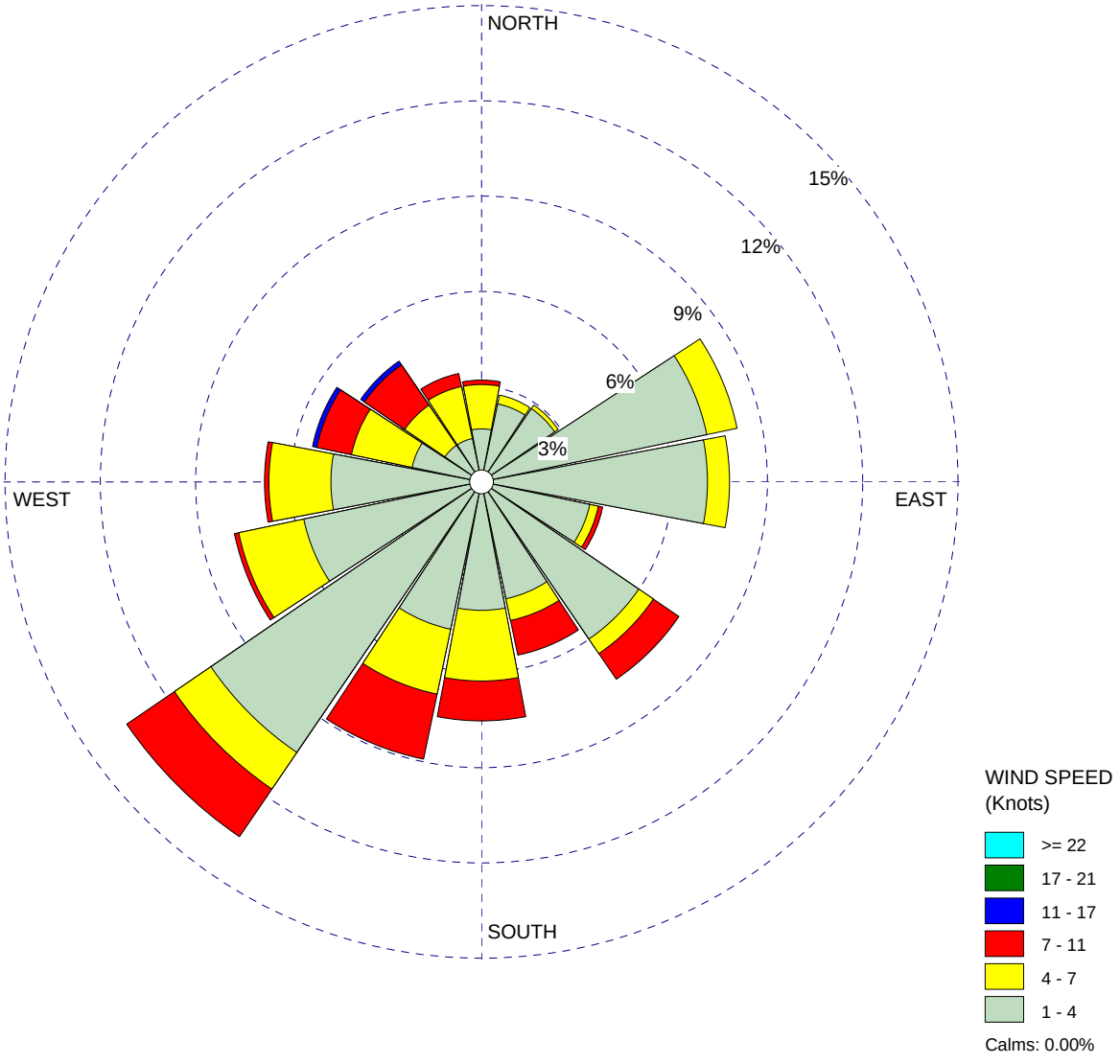
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.2	13.9	3.9		100.0	99.9
Vector Wind Direction (deg)	2	359	191		100.0	99.9
Scalar Wind Speed (mph)	0.8	14.4	4.4		100.0	99.9
Scalar Wind Direction (deg.)	2	360	189		100.0	99.9
Sigma Theta (deg.)	6.7	75.4	26.2		100.0	99.9
Vertical Wind Speed (mph)	-0.36	1.27	0.08		100.0	99.9
Sigma W (mph)	0.05	2.08	0.70		100.0	99.9
Sigma Phi (deg)	2.68	20.0	9.0		100.0	99.9
Temperature (deg-F)	42.2	85.6	64.2		100.0	99.6
2-Meter Level						
Temperature (deg-F)	39.0	86.4	63.6		100.0	99.9
10-m - 2-m Delta Temp (F-deg)	-2.29	7.04	0.64		100.0	99.6
Relative Humidity (percent)	42.4	100.0	83.6		100.0	100.0
Dew Point Temperature (deg-F)	38.2	74.3	57.9		100.0	100.0
Net Radiation (W/m^2)	-98.8	550.3	1733.2	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.15	30.10	29.62		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.53	5.26	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - September 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 9/1/2011 - 00:00** **End Date: 9/30/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **719 hrs.**	
	AVG. WIND SPEED: **3.84 Knots**	DATE: **10/3/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 November 21, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **OCTOBER 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Relative humidity (RH) and dew-point are reported as missing due to a non-scheduled outage ("N") from the beginning of the month through hour 11 on October 14. This missing data results from a failed RH sensor. A new sensor was ordered and installed at the site on October 14.*
- *Beginning as an intermittent problem on October 7 and becoming constant on October 8, erroneously high temperature readings were recorded at both the 2- and 10-meter levels. During the October 14 site visit, both temperature system levels were reset and normal data collection resumed at this time.*
- *The temperature problem discussed above reoccurred briefly on October 25 and was constant again from October 28 through the end of the month. Troubleshooting efforts continue at this time to repair and resolve this issue.*
- *A brief period (1-hour) of wind speed and wind direction data is reported as "N" on October 28 hour 7. This missing data results from an ice buildup on these sensors during a frozen precipitation event.*

Climatic Summary: **OCTOBER 2011**

General Predominance for winds from: *west-southwest through due west*

10-meter level

Primary Peak WD:	*WSW*	Max. Wind Speed :	*20.1 mph*
Secondary Peak WD:	*W*	Min. Wind Speed :	*0.6 mph*

2-meter level

Max. Temperature:	*79.3 °F*	Max. Dew Point Temp.	*71.9 °F*	Max. Relative Humidity	*98%*
Min. Temperature:	*35.6 °F*	Min. Dew Point Temp.	*34.3 °F*	Min. Relative Humidity	*41%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **October 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*67.9* %
10-Meter Vector Wind Direction:	*67.9* %
10-Meter Scalar Wind Speed:	*77.6* %
10-Meter Scalar Wind Direction:	*67.9* %
10-Meter Sigma Theta:	*67.9* %
10-Meter Vertical Wind Speed:	*77.6* %
Sigma W:	*77.6* %
Sigma Phi:	*77.6* %
10-Meter Temperature:	*74.1* %

2-Meter Level

2-Meter Temperature:	*74.1* %
Delta Temperature:	*74.1* %
Relative Humidity:	*66.9* %
Dew Point Temperature:	*65.4* %
Solar Radiation:	*77.6* %
Barometric Pressure:	*77.6* %

Project Meteorologist: Steven Coughlin

Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: OCTOBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: OCTOBER 2011

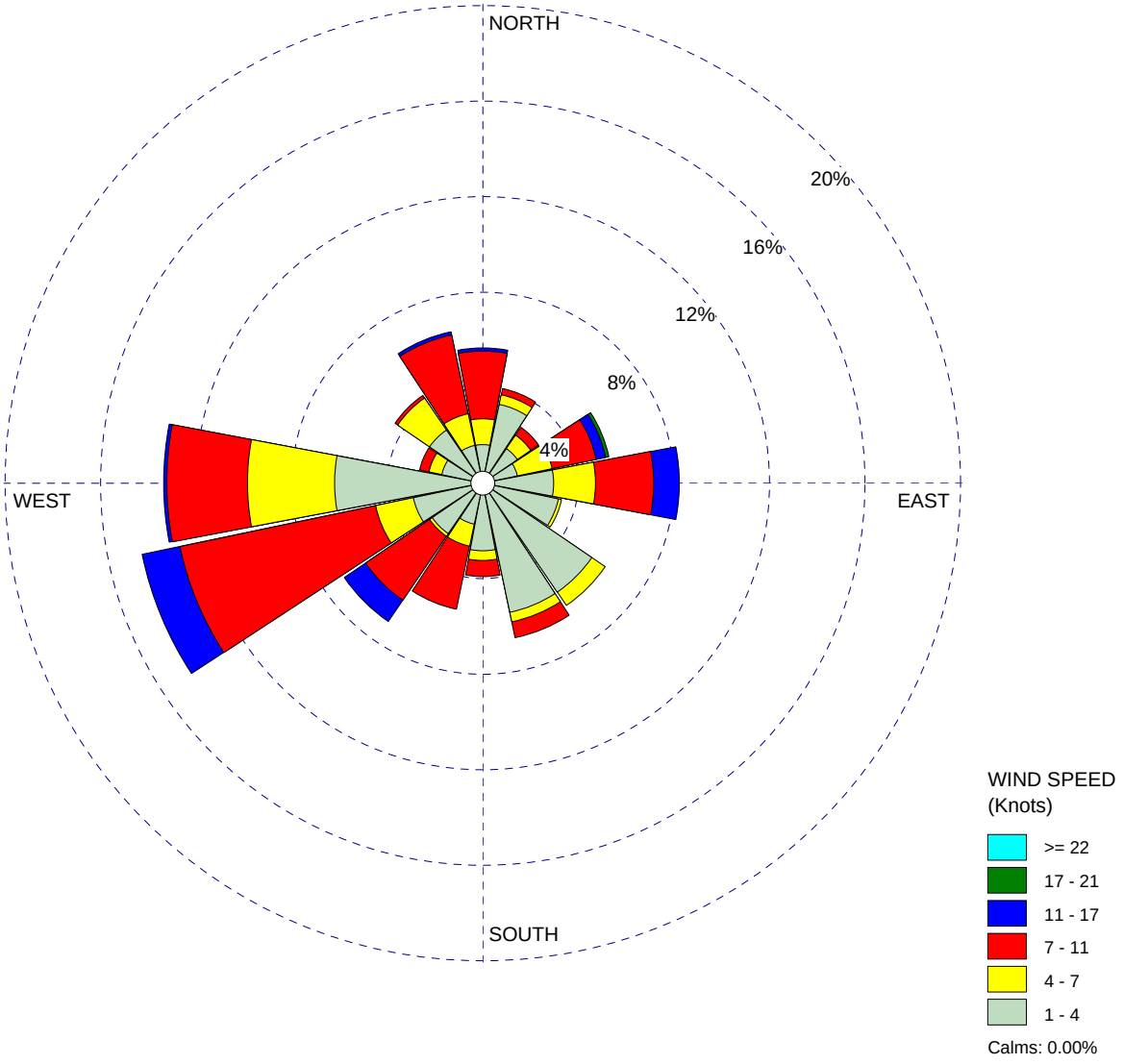
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	MONTHLY DATA RECOVERY RATES (%) BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.2	19.9	5.9		99.9	99.9
Vector Wind Direction (deg)	1	360	199		99.9	99.9
Scalar Wind Speed (mph)	0.6	20.1	6.3		99.9	99.9
Scalar Wind Direction (deg.)	2	360	200		99.9	99.9
Sigma Theta (deg.)	6.9	67.8	19.6		99.9	99.9
Vertical Wind Speed (mph)	-0.16	0.82	0.20		100.0	100.0
Sigma W (mph)	0.01	2.06	0.76		100.0	100.0
Sigma Phi (deg)	0.55	21.5	7.1		99.9	99.9
Temperature (deg-F)	35.6	79.3	53.9		66.0	66.0
2-Meter Level						
Temperature (deg-F)	34.9	79.3	54.5		66.0	66.0
10-m - 2-m Delta Temp (F-deg)	-4.68	4.67	-0.57		66.0	66.0
Relative Humidity (percent)	41.2	98.3	74.1		56.6	56.6
Dew Point Temperature (deg-F)	34.3	71.9	47.2		42.6	42.6
Solar Radiation (W/m^2)	0.0	788.1	2540.9	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.88	30.20	29.69		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - October 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 10/1/2011 - 00:00** **End Date: 10/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **743 hrs.**	
	AVG. WIND SPEED: **5.48 Knots**	DATE: **11/17/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	November 18, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **OCTOBER 2011**

Data:
- ____ Preliminary
- X Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- X Final Report
- X Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *A 4-hour period of wind speed and direction data (along with associated calculated parameters) is reported as missing due to a non-scheduled outage ("N") during the early morning hours of October 28. This missing data is the result of an ice buildup on the sensors during a frozen precipitation event.*
- *No other operational problems occurred at the Wastebed 13 meteorological monitoring site in October and monthly data recovery rate for all parameters range from 99.5 to 100 percent.*

Climatic Summary: **OCTOBER 2011**

General Predominance for winds from: *southwest through west-southwest*

10-meter level

Primary Peak WD:	*WSW*	Max. Wind Speed :	*16.7 mph*
Secondary Peak WD:	*SW*	Min. Wind Speed :	*0.6 mph*

2-meter level

Max. Temperature:	*78.5 °F*	Max. Dew Point Temp.	*64.0 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*27.4 °F*	Min. Dew Point Temp.	*27.2 °F*	Min. Relative Humidity	*33%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **October 31, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*99.2* %
10-Meter Vector Wind Direction:	*99.2* %
10-Meter Scalar Wind Speed:	*99.2* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*99.2* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*96.0* %
Delta Temperature:	*96.0* %
Relative Humidity:	*100* %
Dew Point Temperature:	*96.0* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: OCTOBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: OCTOBER 2011

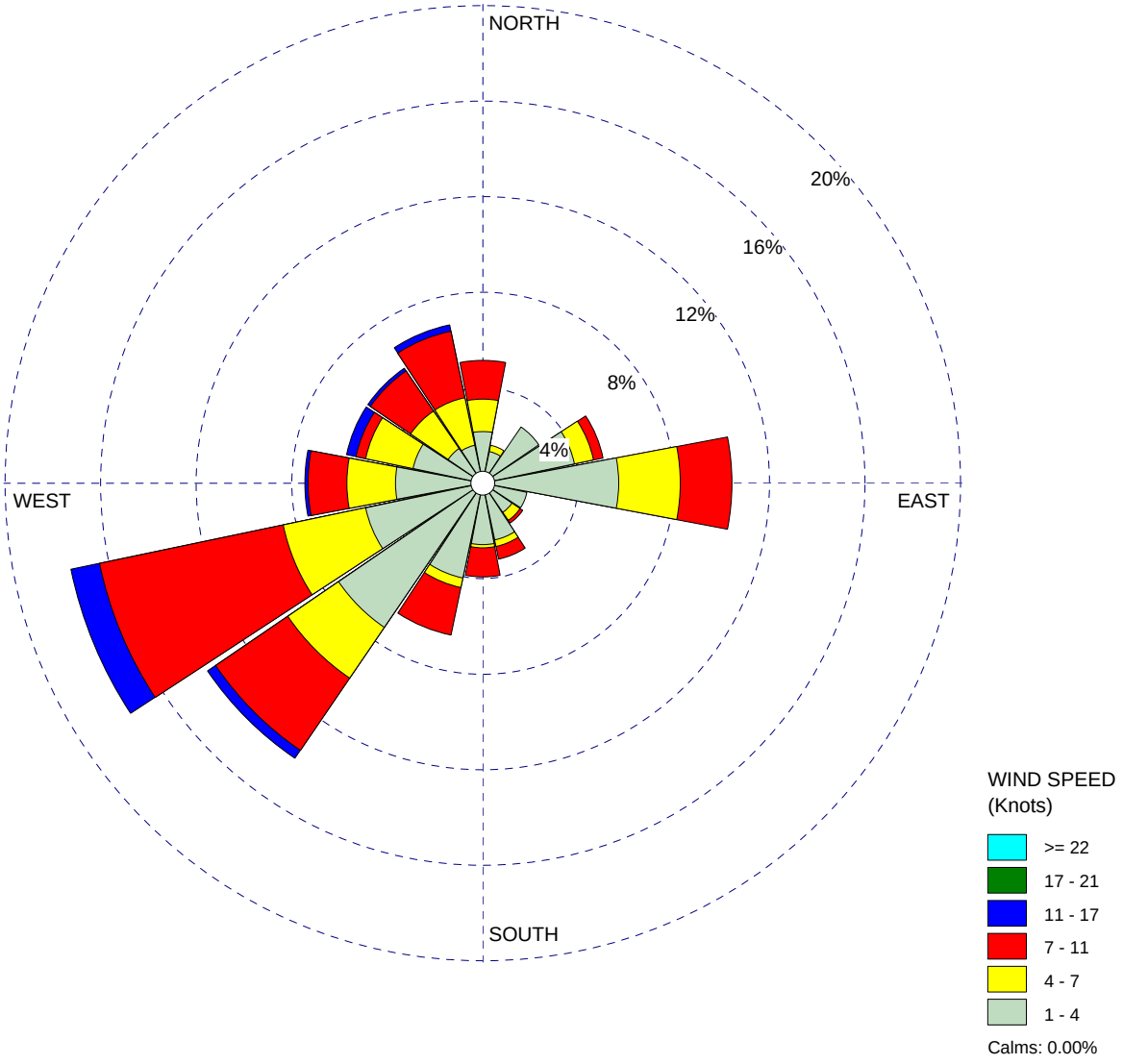
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.0	16.2	5.4		99.5	99.5
Vector Wind Direction (deg)	3	359	212		99.5	99.5
Scalar Wind Speed (mph)	0.6	16.7	5.8		99.5	99.5
Scalar Wind Direction (deg.)	7	360	211		99.5	99.5
Sigma Theta (deg.)	6.9	62.8	20.0		99.5	99.5
Vertical Wind Speed (mph)	-0.28	1.40	0.17		100.0	100.0
Sigma W (mph)	0.06	2.34	0.76		100.0	100.0
Sigma Phi (deg)	2.66	24.9	7.7		99.5	99.5
Temperature (deg-F)	29.7	77.7	51.6		100.0	100.0
2-Meter Level						
Temperature (deg-F)	27.4	78.5	50.5		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-2.00	6.18	1.09		100.0	100.0
Relative Humidity (percent)	33.0	100.0	82.8		100.0	100.0
Dew Point Temperature (deg-F)	27.2	64.0	44.7		100.0	100.0
Net Radiation (W/m^2)	-92.2	439.4	770.7	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.78	30.10	29.58		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.59	4.56	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - October 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 10/1/2011 - 00:00** **End Date: 10/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **740 hrs.**	
	AVG. WIND SPEED: **5.00 Knots**	DATE: **11/17/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:** **Project:** **Job No.:** **Date:**	Honeywell Onondaga Lake - Meteorological Monitoring Program 446671-04140 December 20, 2011

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **NOVEMBER 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Both 2- and 10-meter level temperature data is reported as missing due to a non-scheduled outage ("N") for the month of November. This missing data results from excessively high temperature data recorded from both levels that required removal from the database (calculated delta-temperature and dew-point temperature data are also removed). Troubleshooting activities conducted at the site in November and December led to a failed 10-meter temperature probe that was creating excessive electrical current within the temperature system. A replacement temperature probe was installed at the 10-meter level during the December performance audit.*
- *No other operational problems occurred at the Lakeshore meteorological site in November and monthly data recovery rates for all other parameters are 100 percent.*

Climatic Summary: **NOVEMBER 2011**

General Predominance for winds from: *due south through south-southwest*

10-meter level

Primary Peak WD:	*S*	Max. Wind Speed :	*19.2 mph*
Secondary Peak WD:	*SSW*	Min. Wind Speed :	*1.1 mph*

2-meter level

Max. Temperature:	*- °F*	Max. Dew Point Temp.	*- °F*	Max. Relative Humidity	*99%*
Min. Temperature:	*- °F*	Min. Dew Point Temp.	*- °F*	Min. Relative Humidity	*21%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **November 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*70.7* %
10-Meter Vector Wind Direction:	*70.7* %
10-Meter Scalar Wind Speed:	*79.6* %
10-Meter Scalar Wind Direction:	*70.7* %
10-Meter Sigma Theta:	*70.7* %
10-Meter Vertical Wind Speed:	*79.6* %
Sigma W:	*79.6* %
Sigma Phi:	*79.6* %
10-Meter Temperature:	*67.5* %

2-Meter Level

2-Meter Temperature:	*67.5* %
Delta Temperature:	*67.5* %
Relative Humidity:	*69.8* %
Dew Point Temperature:	*59.5* %
Solar Radiation:	*79.7* %
Barometric Pressure:	*79.7* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: NOVEMBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: NOVEMBER 2011

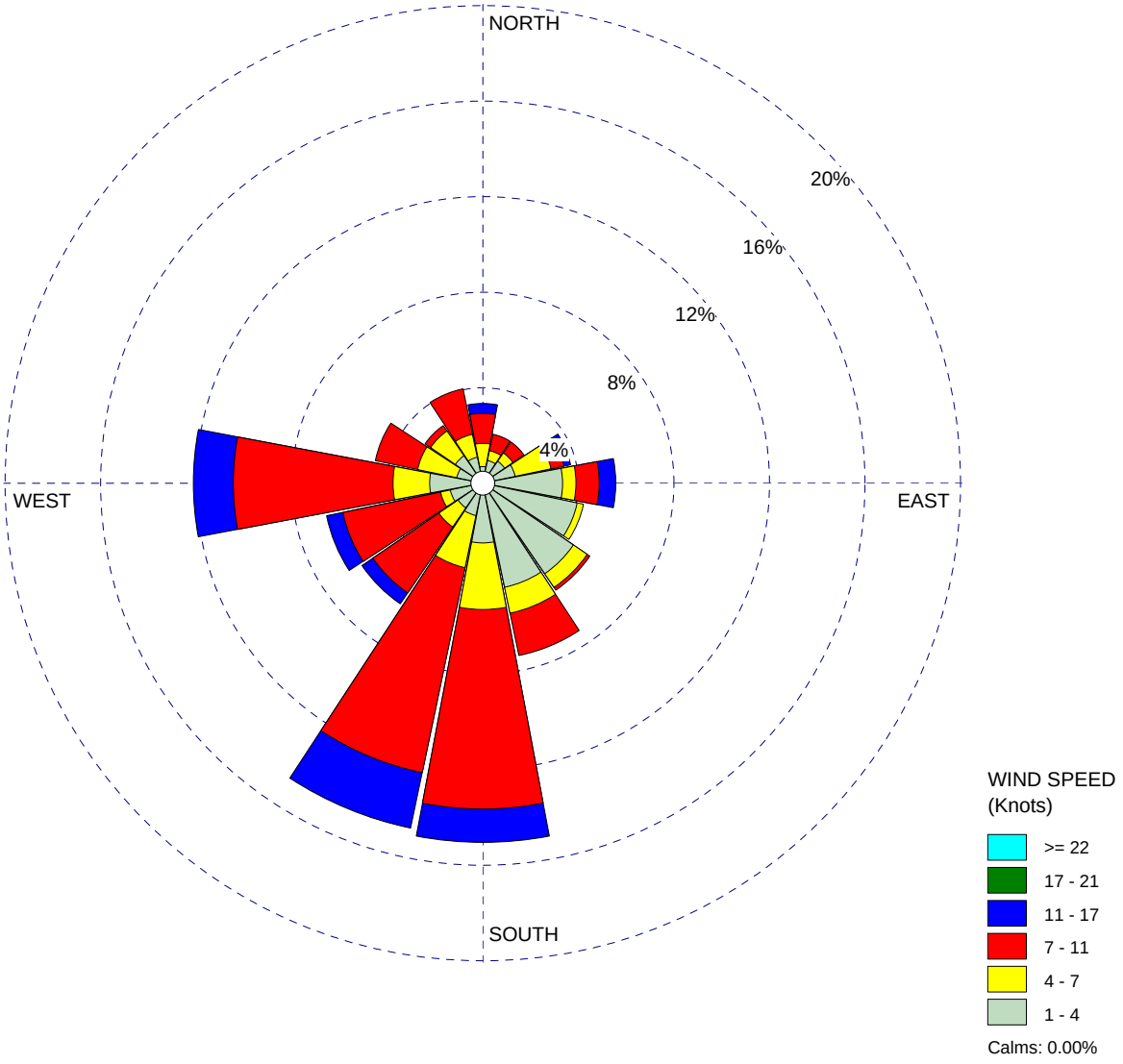
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE	MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER					
10-Meter Level					
Vector Wind Speed (mph)	0.2	18.7	7.1	100.0	100.0
Vector Wind Direction (deg)	1	358	196	100.0	100.0
Scalar Wind Speed (mph)	1.1	19.2	7.5	100.0	100.0
Scalar Wind Direction (deg.)	1	358	196	100.0	100.0
Sigma Theta (deg.)	5.8	68.1	18.4	100.0	100.0
Vertical Wind Speed (mph)	-0.09	1.26	0.30	100.0	100.0
Sigma W (mph)	0.06	2.32	0.89	100.0	100.0
Sigma Phi (deg)	2.09	16.2	7.0	100.0	100.0
Temperature (deg-F)	-	-	-	0.0	0.0
2-Meter Level					
Temperature (deg-F)	-	-	-	0.0	0.0
10-m - 2-m Delta Temp (F-deg)	-	-	-	0.0	0.0
Relative Humidity (percent)	21.2	98.7	64.3	100.0	100.0
Dew Point Temperature (deg-F)	-	-	-	0.0	0.0
Solar Radiation (W/m^2)	0.0	603.6	1954.2 (Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.16	30.21	29.74	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - November 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 11/1/2011 - 00:00** **End Date: 11/30/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **720 hrs.**	
	AVG. WIND SPEED: **6.53 Knots**	DATE: **12/19/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	December 20, 2011

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **NOVEMBER 2011**

Data:
- ____ Preliminary
- X Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- X Final Report
- X Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *No operational problems occurred at the Wastebed 13 meteorological monitoring site in November and monthly data recovery rates for all parameters are 100 percent.*

Climatic Summary: **NOVEMBER 2011**

General Predominance for winds from: *due south through southwest*

10-meter level

Primary Peak WD:	*SSW*	Max. Wind Speed :	*18.1 mph*
Secondary Peak WD:	*SW*	Min. Wind Speed :	*1.0 mph*

2-meter level

Max. Temperature:	*69.7 °F*	Max. Dew Point Temp.	*57.8 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*21.1 °F*	Min. Dew Point Temp.	*16.0 °F*	Min. Relative Humidity	*22%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **November 30, 2011**

10-Meter Level

10-Meter Vector Wind Speed:	*99.3* %
10-Meter Vector Wind Direction:	*99.3* %
10-Meter Scalar Wind Speed:	*99.3* %
10-Meter Scalar Wind Direction:	*99.9* %
10-Meter Sigma Theta:	*99.9* %
10-Meter Vertical Wind Speed:	*99.9* %
Sigma W:	*99.9* %
Sigma Phi:	*99.3* %
10-Meter Temperature:	*99.9* %

2-Meter Level

2-Meter Temperature:	*96.4* %
Delta Temperature:	*96.3* %
Relative Humidity:	*100* %
Dew Point Temperature:	*96.4* %
Net Radiation:	*100* %
Barometric Pressure:	*100* %

Surface

Precipitation (Rain):	*100* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: NOVEMBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: NOVEMBER 2011

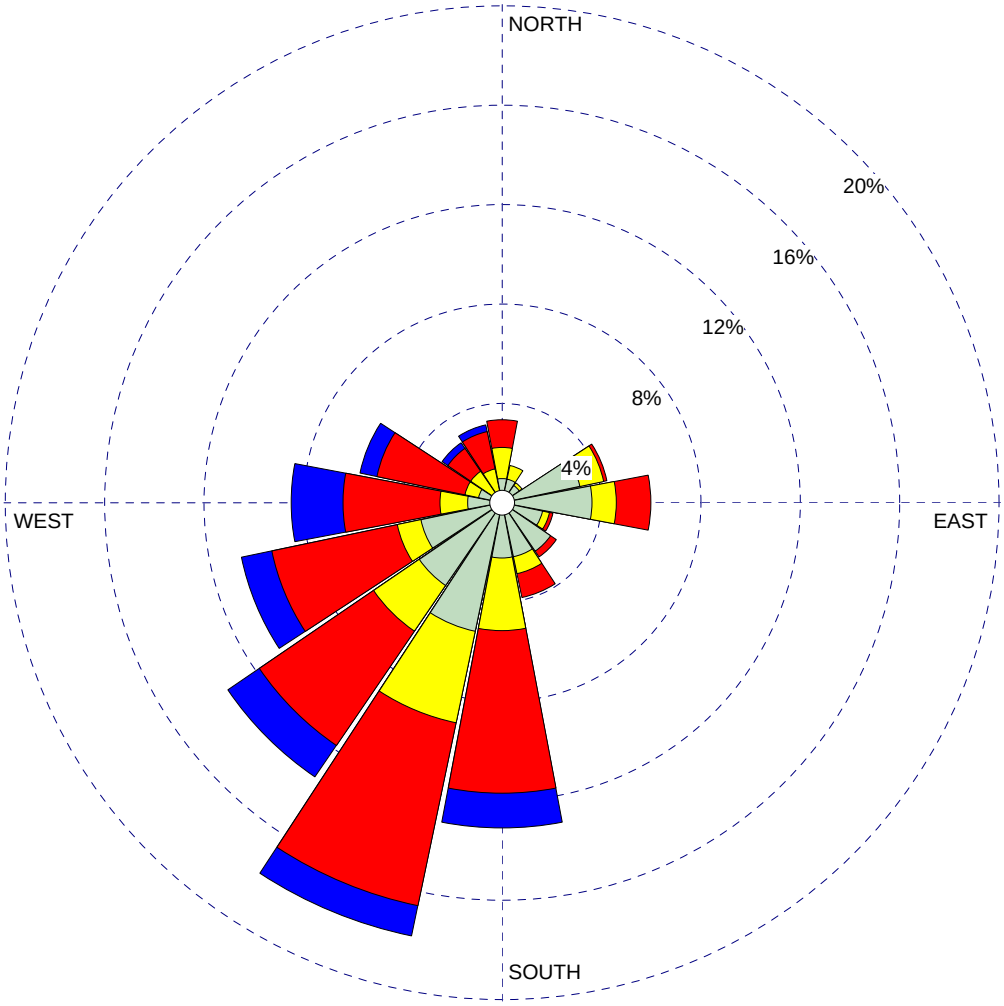
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.4	17.8	7.0		100.0	100.0
Vector Wind Direction (deg)	4	360	205		100.0	100.0
Scalar Wind Speed (mph)	1.0	18.1	7.3		100.0	100.0
Scalar Wind Direction (deg.)	1	359	205		100.0	100.0
Sigma Theta (deg.)	6.4	71.0	18.2		100.0	100.0
Vertical Wind Speed (mph)	-0.43	1.41	0.16		100.0	100.0
Sigma W (mph)	0.08	2.58	0.90		100.0	100.0
Sigma Phi (deg)	2.40	24.2	7.2		100.0	100.0
Temperature (deg-F)	22.5	69.4	47.8		100.0	100.0
2-Meter Level						
Temperature (deg-F)	21.1	69.7	46.7		100.0	100.0
10-m - 2-m Delta Temp (F-deg)	-1.52	7.49	1.03		100.0	100.0
Relative Humidity (percent)	22.2	100.0	69.5		100.0	100.0
Dew Point Temperature (deg-F)	16.0	57.8	35.8		100.0	100.0
Net Radiation (W/m^2)	-116.0	334.6	242.7	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	29.06	30.10	29.64		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.57	3.33	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - November 2011

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 0.00%

COMMENTS:	DATA PERIOD: **Start Date: 11/1/2011 - 00:00** **End Date: 11/30/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **720 hrs.**	
	AVG. WIND SPEED: **6.38 Knots**	DATE: **12/19/2011**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	January 12, 2012

Subject: **Submittal of Lakeshore/Willis Ave Meteorological Data for:** **DECEMBER 2011**

Data:
- ____ Preliminary
- __X__ Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- __X__ Final Report
- __X__ Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *Both 2- and 10-meter level temperature data is reported as missing due to a non-scheduled outage ("N") for much of the month. This missing data results from excessively high temperature data recorded from both levels that required removal from the database (calculated delta-temperature and dew-point temperature data are also removed). Troubleshooting activities conducted at the site in December led to a failed 10-meter temperature probe that was creating excessive electrical current within the temperature system. A replacement temperature probe was installed at the 10-meter level during the December performance audit. However, severe corrosion in and around the 2- and 10-meter level terminals is also a likely contributor to signal interference. The temperature system is scheduled for removal, refurbishment, and reinstallation in January 2012.*
- *A period of wind speed data is reported as "N" during the early morning hours of December 3. This missing data results from an ice buildup on the wind speed sensor during a frozen precipitation event.*
- *A minor period of data is reported as scheduled down ("S") on December 13 due to activities associated with a performance audit.*

Climatic Summary: **DECEMBER 2011**

General Predominance for winds from: *due west*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*21.0 mph*
Secondary Peak WD:	*S*	Min. Wind Speed :	*0.7 mph*

2-meter level

Max. Temperature:	*56.2 °F*	Max. Dew Point Temp.	*50.5 °F*	Max. Relative Humidity	*98%*
Min. Temperature:	*10.8 °F*	Min. Dew Point Temp.	*3.5 °F*	Min. Relative Humidity	*28%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **December 31, 2011 (Annual)**

10-Meter Level

10-Meter Vector Wind Speed:	*73.1* %
10-Meter Vector Wind Direction:	*73.1* %
10-Meter Scalar Wind Speed:	*81.2* %
10-Meter Scalar Wind Direction:	*73.2* %
10-Meter Sigma Theta:	*73.2* %
10-Meter Vertical Wind Speed:	*81.3* %
Sigma W:	*81.3* %
Sigma Phi:	*81.2* %
10-Meter Temperature:	*63.1* %

2-Meter Level

2-Meter Temperature:	*63.1* %
Delta Temperature:	*63.1* %
Relative Humidity:	*72.4* %
Dew Point Temperature:	*55.9* %
Solar Radiation:	*81.4* %
Barometric Pressure:	*81.4* %

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: DECEMBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M SOLAR RADIATION	SOLAR RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
LAKESHORE/WILLIS AVE MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: DECEMBER 2011

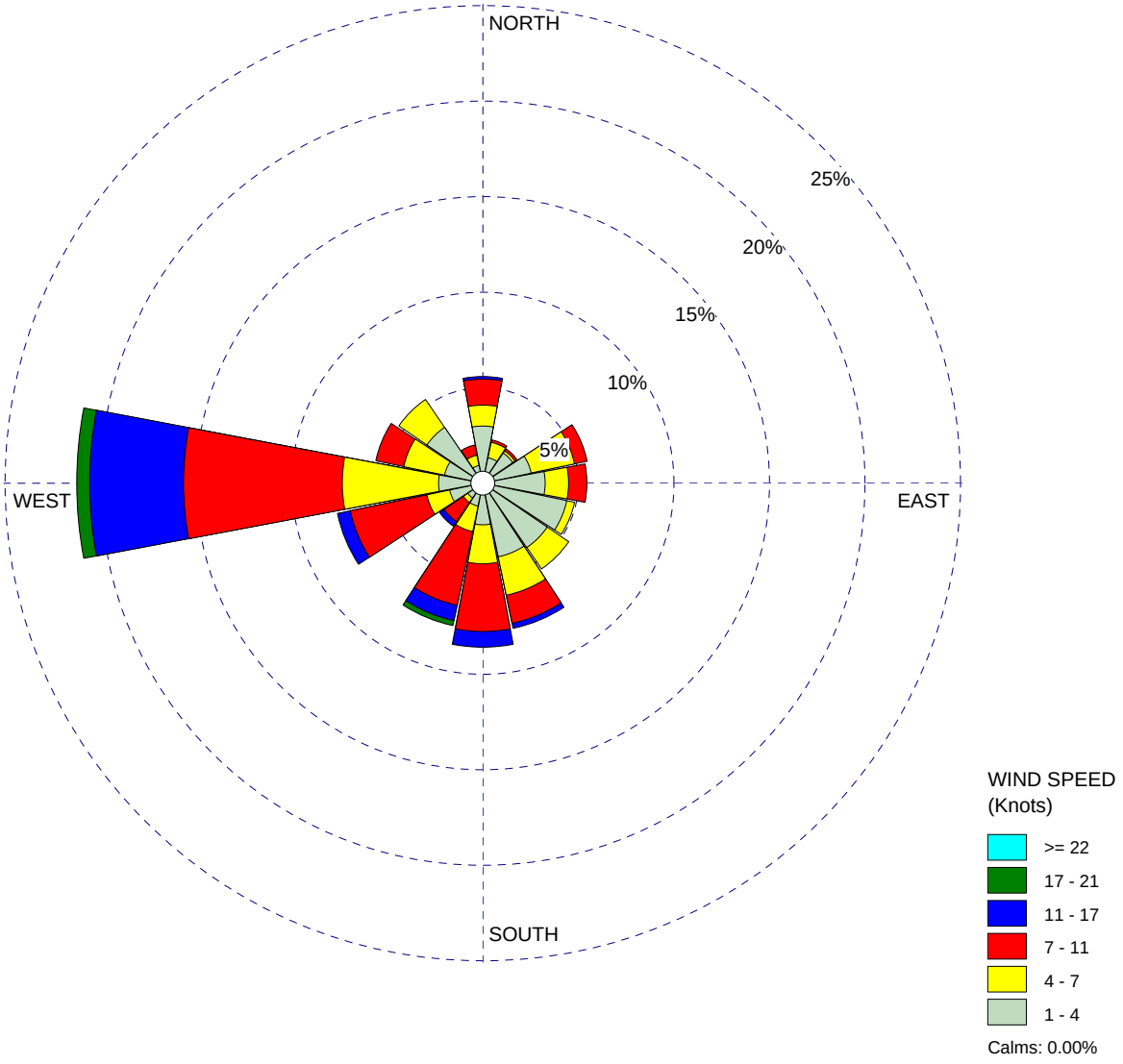
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
LAKESHORE/WILLIS AVE 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.3	20.5	6.6		99.1	98.9
Vector Wind Direction (deg)	1	360	199		99.1	98.9
Scalar Wind Speed (mph)	0.7	21.0	6.9		99.1	98.9
Scalar Wind Direction (deg.)	1	360	200		100.0	99.9
Sigma Theta (deg.)	6.8	75.4	19.1		100.0	99.9
Vertical Wind Speed (mph)	-0.07	1.14	0.24		100.0	99.9
Sigma W (mph)	0.04	2.55	0.82		100.0	99.9
Sigma Phi (deg)	2.03	22.0	7.1		99.1	98.9
Temperature (deg-F)	10.8	56.2	36.5		17.5	16.5
2-Meter Level						
Temperature (deg-F)	10.8	56.2	36.5		17.5	16.5
10-m - 2-m Delta Temp (F-deg)	-1.9	3.0	0.3		17.5	16.5
Relative Humidity (percent)	27.5	97.5	73.3		100.0	100.0
Dew Point Temperature (deg-F)	3.5	50.5	27.4		17.5	16.5
Solar Radiation (W/m^2)	-7.5	482.7	1313.7	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.95	30.35	29.82		100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - December 2011

DISPLAY:

Wind Speed
Direction (blowing from)



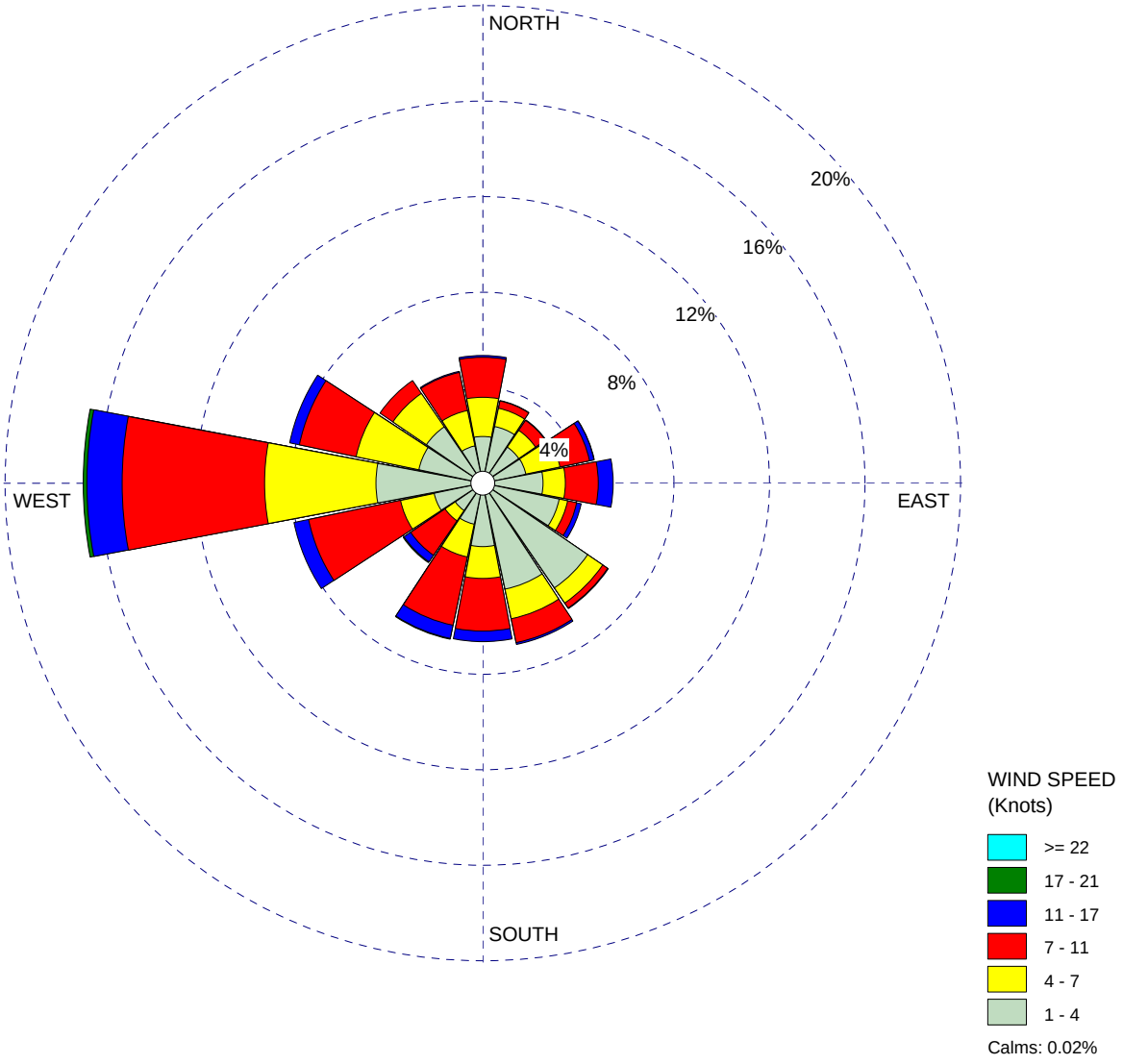
COMMENTS:	DATA PERIOD: **Start Date: 12/1/2011 - 00:00** **End Date: 12/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **736 hrs.**	
	AVG. WIND SPEED: **6.03 Knots**	DATE: **1/12/2012**	PROJECT NO.: **446671-04140**

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Lakeshore/Willis Ave Monitoring Site - 10-Meter Tower - Annual Wind Rose - 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2011 - 00:00** **End Date: 12/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.02%**	TOTAL COUNT: **6407 hrs.**	
	AVG. WIND SPEED: **5.59 Knots**	DATE: **1/12/2012**	PROJECT NO.: **446671-04140**

PARSONS

100 High Street • Boston, Massachusetts 02110 • (617) 946-9400 • Fax: (617) 946-9777

Aerometric Data Transmittal Form

To:	Mr. Tom Drachenberg Parsons 301 Plainfield Road - Suite 350 Syracuse, NY 13212	**Client:**	Honeywell
		Project:	Onondaga Lake - Meteorological Monitoring Program
		Job No.:	446671-04140
		Date:	January 12, 2012

Subject: **Submittal of Wastebed 13 Meteorological Data for:** **DECEMBER 2011**

Data:
- ____ Preliminary
- X Validated
- ____ Adjusted (list parameters)

Attached/Enclosed:
- ____ Preliminary Report
- X Final Report
- X Data Summaries
- ____ AIRS Diskette
- ____ Client Data Disk
- ____ Other (as noted)

Program Operations/Data Collection Activities Summary:

- *A period of wind speed and direction data is reported as a non-scheduled outage ("N") during the early morning hours of December 3. An additional period of wind speed data is reported as "N" on December 23rd and 24th. This missing data results from an ice buildup on the respective sensors during frozen precipitation events.*
- *A minor period of data is reported as scheduled down ("S") on December 14 due to activities associated with a performance audit.*
- *No other operational problems occurred at the Wastebed 13 meteorological monitoring site in December and monthly data recovery rates for all parameters range from 96.6 to 100 percent.*
- *Precipitation bucket is non-heated, so precipitation amounts generally reflect rain events only.*

Climatic Summary: **DECEMBER 2011**

General Predominance for winds from: *due west*

10-meter level

Primary Peak WD:	*W*	Max. Wind Speed :	*22.2 mph*
Secondary Peak WD:	*S*	Min. Wind Speed :	*0.6 mph*

2-meter level

Max. Temperature:	*55.3 °F*	Max. Dew Point Temp.	*50.5 °F*	Max. Relative Humidity	*100%*
Min. Temperature:	*7.3 °F*	Min. Dew Point Temp.	*5.8 °F*	Min. Relative Humidity	*24%*

Cumulative-to-date Data Recovery Rates **Period: January 1, 2011 through** **December 31, 2011 (Annual)**

10-Meter Level

10-Meter Vector Wind Speed:	*99.1*	%
10-Meter Vector Wind Direction:	*99.1*	%
10-Meter Scalar Wind Speed:	*99.1*	%
10-Meter Scalar Wind Direction:	*99.8*	%
10-Meter Sigma Theta:	*99.8*	%
10-Meter Vertical Wind Speed:	*99.8*	%
Sigma W:	*99.8*	%
Sigma Phi:	*99.1*	%
10-Meter Temperature:	*99.9*	%

2-Meter Level

2-Meter Temperature:	*96.7*	%
Delta Temperature:	*96.6*	%
Relative Humidity:	*100*	%
Dew Point Temperature:	*96.7*	%
Net Radiation:	*100*	%
Barometric Pressure:	*100*	%

Surface

Precipitation (Rain):	*100*	%

Project Meteorologist: Steven Coughlin



Distribution:

M. Vetter - Parsons

G. Pacheco - Parsons

HONEYWELL - ONONDAGA LAKE – METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE – 10-METER TOWER

METEOROLOGICAL DATA SUMMARY FOR: DECEMBER 2011

PARAMETER IDENTIFICATION AND SITE DESCRIPTION

PARAMETER	ABBREVIATION	UNITS OF MEASUREMENT
10-M WIND SPEED (VECTOR AVERAGE)	VECTOR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (VECTOR AVERAGE)	VECTOR WIND DIR.	DEGREES FROM TRUE NORTH
10-M WIND SPEED (SCALAR AVERAGE)	SCALAR WIND SPEED	MILES PER HOUR
10-M WIND DIRECTION (SCALAR AVERAGE)	SCALAR WIND DIR.	DEGREES FROM TRUE NORTH
10-M STD. DEV. OF HORIZONTAL WIND DIRECTION	SIGMA THETA	DEGREES
10-M VERTICAL WIND SPEED	VERT WIND SPEED	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND SPEED	SIGMA W	MILES PER HOUR
10-M STD. DEV. OF VERTICAL WIND DIRECTION	SIGMA PHI	DEGREES
WIND PERSISTENCE FACTOR	WIND PERS.	---
10-METER TEMPERATURE	10-M TEMP.	DEGREES FAHRENHEIT
2-METER TEMPERATURE	2-M TEMP.	DEGREES FAHRENHEIT
DELTA TEMPERATURE	10-M – 2-M DELTA TEMP.	FAHRENHEIT DEGREES
2-M RELATIVE HUMIDITY	2M REL. HUM.	PERCENT
2-M DEW POINT TEMPERATURE	2-M DEW POINT TEMP.	DEGREES FAHRENHEIT
2-M NET RADIATION	NET RAD	WATTS PER SQUARE METER
2-M BAROMETRIC PRESSURE	BAR PRESS	INCHES OF MERCURY
SFC PRECIPITATION (RAIN)	RAIN	INCHES OF WATER

THE FOLLOWING DATA CODES ARE USED IN THIS REPORT:

S SIGNIFIES MISSING DATA AS A RESULT OF A SCHEDULED OUTAGE.

N SIGNIFIES MISSING DATA AS A RESULT OF A NON-SCHEDULED OUTAGE.

A DASH (-) INDICATES INSUFFICIENT DATA TO CALCULATE THE VALUE.

ALL TIMES ARE LOCAL STANDARD TIME (LST) AND INDICATE HOUR STARTING TIMES.

THE DAILY AVERAGE WIND SPEED AND DIRECTION ARE COMPUTED AS THE VECTOR, OR RESULTANT WIND FOR THE DAY BASED ON HOURLY VALUES.

PREPARED BY: PARSONS BOSTON, MASS.

HONEYWELL - ONONDAGA LAKE - METEOROLOGICAL MONITORING PROGRAM
WASTEBED 13 MONITORING SITE - 10-METER TOWER

MONTHLY DATA COLLECTION SUMMARY DATA COLLECTION SUMMARY FOR THE MONTH OF: DECEMBER 2011

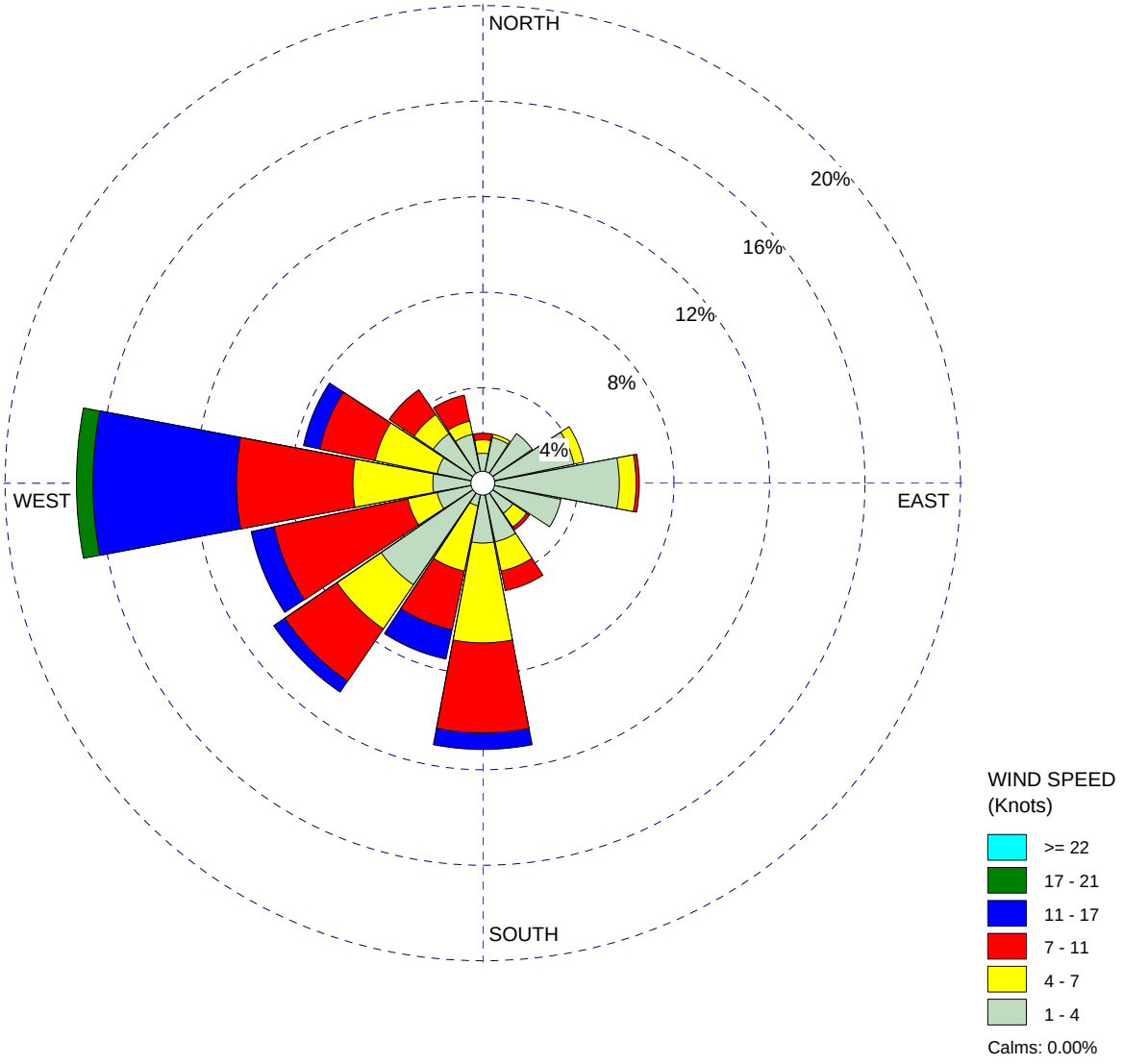
SITE / PARAMETER	MONTHLY MINIMUM VALUE	MONTHLY MAXIMUM VALUE	MONTHLY MEAN VALUE		MONTHLY DATA RECOVERY RATES (%) BASED ON OPERATING SCHEDULE	BASED ON TOTAL HOURS
WASTEBED 13 10-METER TOWER						
10-Meter Level						
Vector Wind Speed (mph)	0.2	21.7	6.6		96.8	96.6
Vector Wind Direction (deg)	1	360	208		96.8	96.6
Scalar Wind Speed (mph)	0.6	22.2	6.9		96.8	96.6
Scalar Wind Direction (deg.)	1	360	206		99.1	98.9
Sigma Theta (deg.)	4.2	73.0	17.9		99.1	98.9
Vertical Wind Speed (mph)	-0.23	1.49	0.21		100.0	99.9
Sigma W (mph)	0.11	2.77	0.79		100.0	99.9
Sigma Phi (deg)	2.13	23.2	7.1		96.8	96.6
Temperature (deg-F)	9.5	55.5	35.5		100.0	99.6
2-Meter Level						
Temperature (deg-F)	7.3	55.3	34.8		100.0	99.9
10-m - 2-m Delta Temp (F-deg)	-1.27	4.95	0.78		100.0	99.6
Relative Humidity (percent)	23.9	100.0	79.9		100.0	100.0
Dew Point Temperature (deg-F)	5.8	50.5	28.6		100.0	99.9
Net Radiation (W/m^2)	-89.8	261.4	10.1	(Avg. Daily Total)	100.0	100.0
Barometric Pressure (in. Hg.)	28.84	30.23	29.71		100.0	100.0
Surface Level						
Precipitation (Rain in inches)	0.00	0.16	2.80	(Total)	100.0	100.0

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - December 2011

DISPLAY:

Wind Speed
Direction (blowing from)



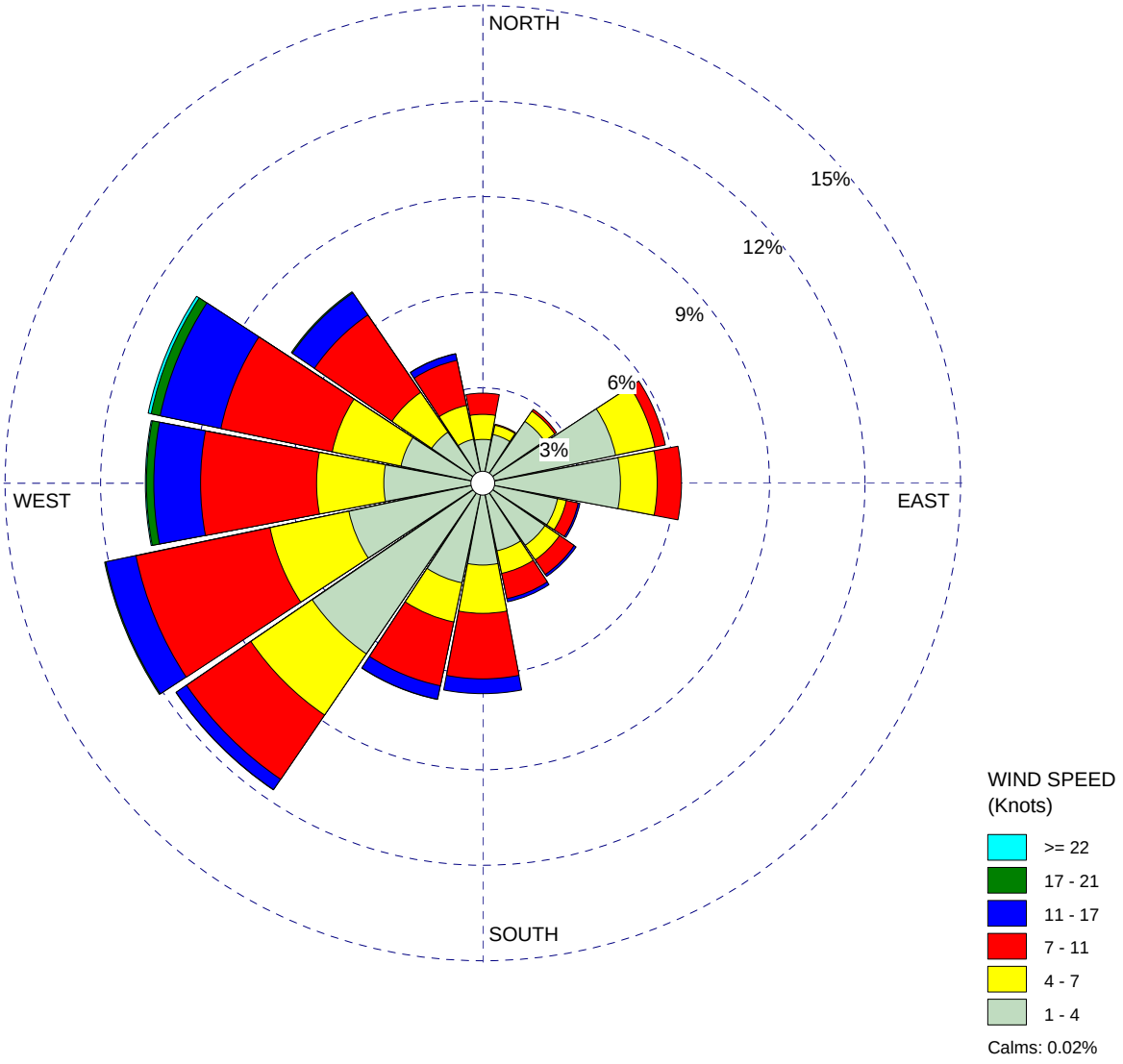
COMMENTS:	DATA PERIOD: **Start Date: 12/1/2011 - 00:00** **End Date: 12/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.00%**	TOTAL COUNT: **719 hrs.**	
	AVG. WIND SPEED: **5.99 Knots**	DATE: **1/11/2012**	PROJECT NO.: **446671-04140**

WIND ROSE PLOT:

Honeywell Onondaga Lake - Meteorological Monitoring Program
Wastebed 13 Monitoring Site - 10-Meter Tower - Annual Wind Rose - 2011

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2011 - 00:00** **End Date: 12/31/2011 - 23:00**	COMPANY NAME: **PARSONS**	
		MODELER:	
	CALM WINDS: **0.02%**	TOTAL COUNT: **8678 hrs.**	
	AVG. WIND SPEED: **5.65 Knots**	DATE: **1/11/2012**	PROJECT NO.: **446671-04140**