

DATA USABILITY SUMMARY

On behalf of Florida Power and Light, E & E reviewed sixteen data packages from Test America (and subcontract labs) for the analysis of groundwater and surface water samples collected during the June/July 2010 Quarterly sampling Event at the Turkey Point facility in Florida City, Florida. Data were reviewed for conformance to the requirements of the guidance document, *Florida Power and Light Turkey Point Monitoring Plan Quality Assurance Project Plan (QAPP), April and August, 2010*.

Intended Use of Data: To provide current data on the environmental conditions of the groundwater and surface waters in the monitoring area and to assess chemicals of concern (COC) levels in groundwater and surface waters and to guide future monitoring actions, if necessary.

Analyses requested included:

- EPA Method 200.7 – Metals, Total, by Inductively Coupled Plasma / Atomic Emission Spectroscopy (ICP/AES) - As, Ba, Be, Cd, Cu, Fe, Pb, Mn, Mo, Ni, Se, Tl, V, and Zn
- EPA Method 200.7 – Metals, Dissolved, by ICP/AES -Silica
- SW-846-6010 - Metals, Total, by ICP/AES - Ca, Mg, K, Na, B, and Sr
- SM 3500 Cr-B – Chromium (VI)
- EPA Method 245.1 – Mercury
- EPA Method 300 – Anions by Ion Chromatography (bromide, chloride, fluoride, sulfate)
- EPA Method 351.2 – Total Kjeldahl Nitrogen
- EPA Method 353.2 – Nitrate/Nitrite as N
- EPA Method 365.1 – Total Phosphorous
- SM 4500-P E - Ortho-phosphate (SRP)
- SM 4500-S2 F – Sulfides
- SM 2320B - Alkalinity
- SM 2540C – Total Dissolved Solids (TDS)
- SW-846-9060 – Dissolved Inorganic Carbon

- EPA Method 900 – Gross Alpha
- Non-standard method - $^{18}\text{O}/^{16}\text{O}$
- Non-standard method - $^2\text{H}/^1\text{H}$
- Non-standard method - $^{13}\text{C}/^{12}\text{C}$
- Non-standard method - $^{87}\text{Sr}/^{86}\text{Sr}$
- Non-standard method - ^3H

Gross alpha analysis was performed by KNL Laboratories in Tampa, Florida. Carbon isotope analysis was performed by to the University of Miami, Stable Isotope Lab, Rosenstiel School of Marine Atmospheric Science. Hydrogen and Oxygen isotope analyses were performed by the University of Miami, Lab of Stable Isotope Ecology. The samples for these analyses were shipped to TestAmerica who forwarded them to the respective labs for analysis. The tritium and strontium isotope samples were shipped directly to USGS, Menlo Park for analysis.

Data were reviewed and validated as described in the *FPL Turkey Point Monitoring Plan QAPP* and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals and field data were examined:

- the reportable data and the results of supporting quality control (QC) analyses,
- the case narratives
- the chain-of-custody (C-O-C) and sample receipt checklist
- sampling logs and field logbooks.

Table 1 lists sample and laboratory identifications, methods requested, QC performed, and identification corrections. Table 2 lists method and laboratory quality control acceptance criteria. Tables 3a, 3b, 3c summarize field duplicate results. Table 4 summarizes the data qualified as a result of this validation. Table 5 lists the qualifier codes and definitions used to qualify data in this validation.

Corrective actions are noted throughout this DUS in bold print and bulleted. Data qualified as unusable are in bold print.

Introduction

A total of 76 samples were received. 33 groundwater samples, 2 groundwater duplicate samples, 8 Biscayne Bay surface water samples, 6 interceptor ditch surface water samples, 12 canal surface water samples, one canal surface water duplicate sample, 12 cooling canal system surface water samples, one (1) field blank, and one (1) equipment blank were analyzed for one or more of the analyses listed above. Table 1 below lists the sample identifications cross-referenced to laboratory identifications and the analyses selected. Also any corrections for the sample ID are noted.

Table 1: Sample Listing

SDG	Matrix	Sample ID	Lab ID	Sample Date	Analyses	QC	ID Corr.
35805	GW	061610-TPGW-5D	660-35805-1	6/16/10	200.7, 6010, 300, 9060, 2320, 2540, 4500, H&O, Sr, 3H, C	LD-2320	None
35805	GW	061610-TPGW-5M	660-35805-2	6/16/10	200.7, 6010, 300, 9060, 2320, 2540, 4500 H&O, Sr, 3H, C		None
35805	GW	061610-TPGW-5S	660-35805-3	6/16/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S H&O, Sr, 3H, C		None
35826	GW	061710-TPGW-3S	660-35826-1	6/17/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-200.7, 6010, 4500NH3 LD-2540	None
35826	GW	061710-TPGW-3M	660-35826-2	6/17/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-3500 LD-200.7	None
35826	GW	061710-TPGW-3D	660-35826-3	6/17/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
35826	GW	061710-TPGW-12S	660-35826-4	6/17/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-353.2	None
35826	GW	061710-TPGW-12M	660-35826-5	6/17/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-300, 365.1, 4500PE LD-2320	None
35826	GW	061710-FB1	660-35826-6	6/17/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, H&O, Sr, 3H	FB	None
35848	GW	061810-TPGW-12D	660-35848-1	6/18/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-200.7, 3500, 4500NH3 LD-2320, 2540, 4500PE	None
35848	GW	061810-	660-35848-2	6/18/10	200.7, 245.1, 6010, 300, 351.2, 353.2,	MS/MSD-	None

SDG	Matrix	Sample ID	Lab ID	Sample Date	Analyses	QC	ID Corr.
		TPGW-2S			365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	245.1,	
35848	GW	061810-TPGW-2M	660-35848-3	6/18/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3		None
35848	GW	061810-TPGW-EB1	660-35848-4	6/18/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, H&O, Sr, 3H, C	EB	None
35848	GW	061810-TPGW-DUP 1	660-35848-5	6/18/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, H&O, Sr, 3H, C	FD1, MS/MSD-300,	None
35863	GW	062110-TPGW-6S	660-35863-1	6/21/10	200.7, 245.1, 6010, 300, 3500, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C	MS/MSD-245.1, 3500	None
35863	GW	062110-TPGW-6M	660-35863-2	6/21/10	200.7, 245.1, 6010, 300, 3500, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35863	GW	062110-TPGW-6D	660-35863-3	6/21/10	200.7, 245.1, 6010, 300, 3500, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C	MS/MSD-300 LD-2320	None
35863	GW	062110-TPGW-Dup1	660-35863-4	6/21/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, H&O, Sr, 3H, C	FD2, MS/MSD-200.7, 300,	None
35863	GW	062110-TPGW-2D	660-35863-5	6/21/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	LD-200.7	None
35863	SW	062110-TPSWC-6S	660-35863-6	6/21/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		062110-TPSWC-6T
35863	SW	062110-TPSWC-6D	660-35863-7	6/21/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-300	062110-TPSWC-6B
35894	SW	062210-BBSW-1S	660-35894-1	6/22/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-200.7, 300 LD-2320	062210-BBSW-1T
35894	SW	062210-BBSW-1D	660-35894-2	6/22/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	LD-4500NH3	062210-BBSW-1B
35894	SW	062210-BBSW-2D	660-35894-3	6/22/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-300	062210-BBSW-2B
35918	SW	062310-BBSW-4D	660-35918-1	6/23/10	200.7, 245.1, 6010, 300, 3500, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-3500	062310-BBSW-4B
35918	SW	062310-BBSW-3D	660-35918-2	6/23/10	200.7, 245.1, 6010, 300, 3500, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-300,	062310-BBSW-3B
35918	SW	062310-BBSW-5S	660-35918-3	6/23/10	200.7, 245.1, 6010, 300, 3500, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		062310-BBSW-5T
35918	SW	062310-BBSW-4S	660-35918-4	6/23/10	200.7, 245.1, 6010, 300, 3500, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		062310-BBSW-4T
35918	SW	062310-	660-35918-5	6/23/10	200.7, 245.1, 6010, 300, 3500, 351.2,		062310-

SDG	Matrix	Sample ID	Lab ID	Sample Date	Analyses	QC	ID Corr.
		BBSW-5D			353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		BBSW-5B
35950	SW	062410-TPGW-4S	660-35950-1	6/24/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C	LD-2320	None
35950	SW	062410-TPGW-4M	660-35950-2	6/24/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C	MS/MSD-300	None
35950	SW	062410-TPGW-4D	660-35950-3	6/24/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35950	SW	062410-TPGW-7S	660-35950-4	6/24/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35950	SW	062410-TPGW-7M	660-35950-5	6/24/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H		None
35950	SW	062410-TPGW-7D	660-35950-6	6/24/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C	LD-2540	None
35970	GW	062510-TPGW-8M	660-35970-1	6/25/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35970	GW	062510-TPGW-8D	660-35970-2	6/25/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35970	GW	062510-TPGW-9S	660-35970-3	6/25/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35970	GW	062510-TPGW-9M	660-35970-4	6/25/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		None
35970	GW	062510-TPGW-9D	660-35970-5	6/25/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C	LD-2320	None
35986	SW	062810-SWCCS-1B	660-35986-1	6/28/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-200.7, 300, 4500 LD-4500PE	None
35986	SW	062810-SWCCS-3B	660-35986-2	6/28/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-353.2	None
35986	SW	062810-SWCCS-7B	660-35986-3	6/28/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-300	None
36007	SW	062910-TPSWID-1B	660-36007-1	6/29/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-4500NH3 LD-2320	None
36007	SW	062910-TPSWID-1T	660-36007-2	6/29/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36007	SW	062910-TPSWID-2B	660-36007-3	6/29/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36007	SW	062910-TPSWID-2T	660-36007-4	6/29/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36031	GW	063010-TPGW-13S	660-36031-1	6/30/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-200.7, 245.1, 3500, 4500PE LD-2320, 4500PE	None
36031	GW	063010-TPGW-13M	660-36031-2	6/30/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	LD-200.7, 2320	None

SDG	Matrix	Sample ID	Lab ID	Sample Date	Analyses	QC	ID Corr.
36031	GW	063010-TPGW-13D	660-36031-3	6/30/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36031	SW	063010-TPSWCCS-2b	660-36031-5	6/30/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C	LD-2540	063010-TPSWCCS-2B
36031	SW	063010-TPSWCCS-8b	660-36031-6	6/30/10	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C		063010-TPSWCCS-8B
36059	SW	070110-TPSWID-3B	660-36059-1	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-200.7, 353.2, 4500NH3, 4500PE LD-4500PE	None
36059	SW	070110-TPSWID-3T	660-36059-2	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	LD-200.7,	None
36059	SW	070110-TPSWC-4B	660-36059-3	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36059	SW	070110-TPSWC-4T	660-36059-4	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-300, 365.1	None
36059	SW	070110-TPSWCCS-4B	660-36059-5	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C		None
36059	SW	070110-TPSWCCS-4T	660-36059-6	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C		None
36059	SW	070110-TPSWC-5T	660-36059-7	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C		None
36059	SW	070110-TPSWC-5B	660-36059-8	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C		None
36059	SW	070110-TPSWC-DUP1	660-36059-9	7/1/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, H&O, Sr, 3H, C	MS/MSD-300	None
36118	SW	070710-TPSWC-1B	660-36118-1	7/07/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-365.1, 4500PE LD-4500PE	None
36118	SW	070710-TPSWC-1T	660-36118-2	7/07/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-351.2	None
36118	SW	070710-TPSWC-2B	660-36118-3	7/07/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	LD-2320	None
36118	SW	070710-TPSWC-2T	660-36118-4	7/07/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	LD-4500NH3	None
36118	SW	070710-	660-36118-5	7/07/10	200.7, 6010, 300, 351.2, 353.2, 365.1,		None

SDG	Matrix	Sample ID	Lab ID	Sample Date	Analyses	QC	ID Corr.
		TPSWC-3B			9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		
36118	SW	070710-TPSWC-3T	660-36118-6	7/07/10	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36118	GW	070610-TPGW-8s	660-36118-7	7/06/10	200.7, 6010, 300, 9060, 2320, 2540, 4500S, H&O, Sr, 3H, C		070610-TPGW-8S
36167	SW	070910-SWCCS-1B	660-3167-1	7/9/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C	MS/MSD-200.7, 365.1 LD-200.7, 2320, 2540	None
36167	SW	070910-SWCCS-5B	660-3167-2	7/9/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C		None
36167	SW	070910-SWCCS-5T	660-3167-3	7/9/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C	MS/MSD-300	None
36195	GW	071210-TPGW-1D	660-36195-1	7/12/2010	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36195	GW	071210-TPGW-1M	660-36195-2	7/12/2010	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C		None
36195	GW	071210-TPGW-1S	660-36195-3	7/12/2010	200.7, 245.1, 6010, 300, 351.2, 353.2, 365.1, 3500, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, H&O, Sr, 3H, C	MS/MSD-365.1 LD-2540	None
36274	SW	071510-TPSWCCS-6B	660-36274-1	7/15/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C	LD-2320	None
36274	SW	071510-TPSWCCS-6T	660-36274-2	7/15/2010	200.7, 6010, 300, 351.2, 353.2, 365.1, 9060, 2320, 2540, 4500NH3, 4500PE, 4500S, TN, Unionized NH3, 900, H&O, Sr, 3H, C	MS/MSD-300	None

Preliminary reports from TestAmerica were submitted between August 2 and August 31. The preliminary reports for SDG's 35805, 35826, 35848, 35863, 35950, and 35970 initially had reported the wrong MDL's for some of the 200.7 analytes and required revisions (Rev 1). "Level 4 Mini Final Reports" were submitted to FPL on October 6, 2010.

Data Review / Validation Results

Analytical Results

All results were evaluated against the method detection limit (MDL), defined as the minimum concentration of an analyte reported with 99% confidence that the analyte concentration is greater than zero. The reporting limit (RL) or practical quantitation limit (PQL), is defined as the lowest non-zero standard concentration in the calibration curve. Results are reported with an "I" flag if less than the RL but greater than the MDL. Non-detected results are reported as less than the value of the MDL.

Quality Control (QC) Acceptance Criteria

Table 2 below summarizes the analytical method and laboratory QC requirements and criteria for each method performed during this event. Criteria reviewed include initial and continuing calibration verifications (ICV/CCV), interference check standards (ICS), contract required quantitation limit (CRQL) standards, laboratory control samples (LCS), matrix spikes (MS), lab duplicates for samples, control, and matrix spikes (Dup), post digestion spikes (PDS), and serial dilutions (SD). Not all criteria are required for each method.

Table 2: Method and Laboratory QC Acceptance Criteria

Method	Source	IC/CCV	ICS	CRQL	LCS	MS	Dup	PDS	SD
200.7	Method	±5/±10	±20%	NA	±15%	±30%	NA	±15%	±10%
	Lab	±5/±10	±20%	±50%	±15%	±30%	20%	±15%	±10%
245.1	Method	±5/±10	NA	NA	±15%	±30%	NA	NA	NA
	Lab	±5/±10	NA	±50%	±15%	±15%	20%	NA	±10%
300	Method	±10/±10	NA	NA	±10%	±20%	NA	NA	NA
	Lab	±10/±10	NA	NA	±10%	±10%	30%	NA	NA
351.2	Method	±10/±10	NA	NA	±10%	±10%	NA	NA	NA
	Lab	±10/±10	NA	NA	±10%	±10%	30%	NA	NA
353.2	Method	±10/±10	NA	NA	±10%	±10%	NA	NA	NA
	Lab	±10/±10	NA	NA	±10%	±10%	30%	NA	NA
365.1	Method	±10/±10	NA	NA	±10%	±10%	NA	NA	NA
	Lab	±10/±10	NA	NA	±10%	±10%	30%	NA	NA
6010	Method	±10%mid ±30%low	NA	NA	±20%	±25%	20%	±20%	±10%
	Lab	±10/±10	±20%	±50%	±25%	±25%	20%	±25%	±10%
900	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	NA	NA	NA	NA	NA

Method	Source	IC/CCV	ICS	CRQL	LCS	MS	Dup	PDS	SD
9060	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	±10/±10	NA	NA	Not listed	NA	NA	NA	NA
4500 S2F	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	±25%	NA	25%	NA	NA
2320B	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	±20%	NA	30%	NA	NA
2540C	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	±20%	NA	20%	NA	NA
4500 NH3	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	±10%	±10%	30%	NA	NA
4500 P E	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	±10%	±10%	30%	NA	NA
3500 CrB	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	±10/±10	NA	NA	±15%	±15%	20%	NA	NA
TN	Method	NA	NA	NA	NA	NA	NA	NA	NA
	Lab	NA	NA	NA	NA	NA	NA	NA	NA
² H/ ¹ H	Lab	NA	NA	NA	±2‰	NA	NA	NA	NA
¹⁸ O/ ¹⁶ O	Lab	NA	NA	NA	±0.07‰	NA	NA	NA	NA
¹³ C/ ¹² C	Lab	NA	NA	NA	±0.1‰	NA	NA	NA	NA
⁸⁷ Sr/ ⁸⁶ Sr	Lab	NA	NA	NA	±0.001%	NA	NA	NA	NA
³ H	Lab	NA	NA	NA	NA	NA	NA	NA	NA

NA = not applicable

The laboratory limits either met or exceeded method requirements in all cases with one exception. The Method 6010 Laboratory Control Sample (LCS) criteria are listed as 80-120% while the laboratories criteria is 75-125% although the laboratory is allowed by the method to establish criteria based on historical results.

Laboratory acceptance limits are used for this validation with the exception of the duplicate precision criteria (20% for aqueous samples, 40% for other matrices).

Documentation

Samples were evaluated for agreement with the C-O-C. All samples were received in the appropriate containers and in good condition with the paperwork filled out properly with a few exceptions. In SDG 35863, a time was not noted on the C-O-C for sample TPGW-

2D. In SDG 35863, samples TPSWC-6S and TPSWC-6D should have been labeled TPSWC-6T and TPSWC-6B, respectively. In SDG 35918, the DIC and DOC samples were received but not marked for analysis on the C-O-C. In SDG 35970, the metals (Method 200.7) samples were received but not marked on the C-O-C for analysis. The laboratory performed analyses and reported results.

- **Samplers should review sample identification requirements and review all paperwork for completeness and accuracy.**

Results for the oxygen and hydrogen isotope analysis collected after July 1, 2010 have not been reported as of 10/20/10. No results are reported for the field blank in SDG 35826 although requested on the C-O-C. The sample results table however lists sample 3S twice. It appears one ID was duplicated and so all ID's for that SDG are off and should be corrected by the lab.

The tritium surface water results summary has a couple of apparent reporting errors. The second instance of EB1 and EB1DUP are mislabeled. EB1 (6/17) corresponds to FB1 (35826-6), EB1 (6/18) corresponds to 061810-TPGW-EB1, and EB1DUP (6/18) corresponds to 061810-TPGW-DUP 1. The tritium groundwater results for TPGW-6S DUP is mislabeled. Duplicates are not identified on sample bottles. ID should be 062110-TPGW-DUP1. The sample results have been corrected and approved by USGS.

The strontium results summary does not report a result for sample TPGW-3M when a sample was submitted. Also, the TPGW-1D result block is empty.

- **Each laboratory should be notified of these errors to revise and resubmit the reported results.**

Preservation and Holding Times

Samples were shipped and received in good condition with one exception. In SDG 36167, the DIC bottle for sample SWCCS-1B was received broken. Another unpreserved sample bottle was used to perform the analysis. Sample receipt temperatures were within the acceptance criteria of 4 ± 2 °C.

Samples were preserved in the field as specified in FPL Turkey Point Monitoring Plan QAPP with a few exceptions. The laboratory reports state an unspecified number of DOC sample bottles were received above the required pH. The laboratory adjusted the samples to the required pH for analysis. This occurred in samples related to SDG's 35805, 35826, 35848, 35863, 35894, 35986, and 36118. No data was qualified. A sample bottle for Method 200.7 in SDG 35805 was received unpreserved. The laboratory adjusted the pH and waited the required 24 hours before processing. No data was qualified.

- **Samplers should be sure to verify and document proper sample bottle preservation in the field.**

Samples were prepared and analyzed within holding times specified in FPL Turkey Point Monitoring Plan QAPP with the following exceptions. In SDG 35826, the ortho-phosphorous samples were analyzed outside the holding time due to matrix issues. Ortho-phosphorous results in sample 061710-TPGW-12M has been qualified as out of holding time and estimated, "QJ-". In SDG 35863, the chromium (Method SM3500 Cr B) samples 062110-TPGW-2D, 062110-TPGW-6D, and 062110-TPGW-6M were received outside of holding time. Chromium results in these samples have been qualified as out of holding time and estimated, "QJ". In SDG 36274, fluoride results are qualified as past holding time in samples 071510-TPSWCCS-6B and 071510-TPSWCCS-6T. However this is not noted in the case narrative.

- **The laboratory should be notified to ensure all qualified data is reported in the narratives.**
- **Samplers should be reminded of the 10AM sampling requirement for chromium.**

Calibrations

Calibration applies to methods 200.7, 6010, 300, 245.1, 351.2, 353.2, 2320, 2540C, and 365.1. According to the data sheets, initial calibration and continuing calibration data met method requirements for each analysis with a few exceptions.

The Initial Calibration Verification sample (ICV) (96199) for mercury in SDG 35826 was below laboratory limits. However, the Continuing Calibration Verification samples (CCV's) bracketing the samples were within limits. No data was qualified.

The ICV (96855) for potassium in SDG 36007 was lower than laboratory limits. Potassium has been qualified as estimated, J, in samples 062910-TPSWID-1B, 062910-TPSWID-1T, 062910-TPSWID-2B, and 062910-TPSWID-2T.

A CCV (70850/112) for iron in SDG's 36007 and 36118 (run on the same sequence) was higher than laboratory limits. Iron has been qualified as estimated, J, in samples 070110-TPSWID-3B, 070110-TPSWID-3T, 070110-TPSWC-4B, and 070110-TPSWC-4T from SDG 36059 and samples 070710-TPSWC-1B, 070710-TPSWC-1T, 070710-TPSWC-2B, 070710-TPSWC-2T, 070710-TPSWC-3B, 070710-TPSWC-3T, and 070710-TPGW-8s in SDG 36118.

A CCV (71119/16) for beryllium in SDG 36195 was higher than laboratory limits. However, the CCV's bracketing the samples was within limits. No data was qualified.

MDL/RL/CRQL

The MDL's for arsenic, lead, and thallium are above the FDEP Class 2 Groundwater criteria. Arsenic, lead, and thallium had an MDL's of 0.012, 0.024, and 0.016 mg/L in many samples due to dilutions based on matrix issues. Sulfide had an MDL of 1.0 mg/L in all analyses, above the Department of Environmental Resource Management (DERM) criterion of 0.2 mg/L.

- **The laboratory should be notified to discuss analytical possibilities for sulfide analyses to meet the criteria.**

The CRQL, or Contract Required Quantitation Limit, is the low level calibration standard analyzed as a sample. This standard is required for methods 200.7 and 6010. The standard must be analyzed during each run and must have a percent recovery within 50-150% of the true value.

According to the analytical run logs, the CRQL standards were run at the required frequency and had acceptable results with the following exceptions. In SDG 35805, sodium had a low CRQL percent recovery. Sodium results in samples 061610-TPGW-5D and 061610-TPGW-5M have been qualified as estimated with a low bias, J-. In SDG 35826, arsenic and selenium had low CRQL percent recoveries. Arsenic and selenium results in samples 061710-TPGW-3S, 061710-TPGW-3M, 061710-TPGW-3D, 061710-TPGW-12S, and 061710-TPGW-12M have been qualified as estimated with a low bias, J-. In SDG 35848, sodium, arsenic, and selenium had low CRQL percent recoveries. Sodium, arsenic and selenium results in samples 061810-TPGW-12D, 061810-TPGW-2S, 061810-TPGW-2M, and 061810-TPGW-DUP1 have been qualified as estimated with a low bias, J-. In SDG 36031, mercury had a low CRQL percent recovery. Mercury results in samples 063010-TPGW-13S, 063010-TPGW-13M, and 063010-TPGW-13D have been qualified as estimated with a low bias, J-. In SDG 36195, mercury had a low CRQL percent recovery. Mercury results in samples 071210-TPGW-1D, 071210-TPGW-1M, and 071210-TPGW-1S have been qualified as estimated with a low bias, J-.

Interference Check Standards

Interference Check Standards (ICS) are required in Methods 6010 and 6020. The ICS consists of two solutions: A and AB. Solution A contains the possible interferents and solution AB contains the analytes and interferents. ICS results must fall within the acceptance recovery criteria of 80-120%.

According to the data sheets, all ICS results were within the acceptance range with one exception. In SDG 35848, selenium had a low percent recovery in the ISCAB standard. Selenium results in samples 061810-TPGW-12D, 061810-TPGW-2S, 061810-TPGW-2M, 061810-TPGW-EB1, and 061810-TPGW-DUP1 have been qualified as estimated, J.

Blanks

For the June 2010 Quarterly Event, one field blank (061710-FB1) and one equipment blank (061810-TPGW-EB1) were collected and submitted for analysis. The laboratory performs calibration and preparation (method) blanks if required by the analytical method. Sample results for analytes detected in an associated method or preparation blank at concentrations less than ten times the equivalent blank concentration will be qualified as "V" at the reported concentration. Sample results for analytes detected in all

other blanks at concentrations less than ten times the equivalent blank concentration shall be qualified as “J” at the reported concentration.

All laboratory blanks were performed at the required frequency. Two field QC blanks were collected for the event. With 74 samples collected, a minimum of four field QC blanks (equipment blank or field blank) should have been collected based on FDEP SOP FQ 1000.

- **Samplers should perform either an equipment blank or field blank at a minimum of every twenty samples collected during an event.**

It should be noted that blank contamination can only be applied to samples collected the same day and with the same equipment. Data from different days can not be qualified based on the blank contamination.

Zinc was detected in the field blank 061710-FB1 in SDG 35826. Zinc has been qualified as estimated, J, in sample 061710-TPGW-12S.

Iron, zinc, calcium, magnesium, sodium, strontium, chloride, nitrite/nitrate, ammonia, ortho-phosphate, and alkalinity were detected in the equipment blank 061810-TPGW-EB1. Nitrite/nitrate results have been qualified as estimated, J, in samples 061810-TPGW-12D and 061810-TPGW-DUP1.

Arsenic was detected in a Method 200.7 method blank associated with SDG 36031. Arsenic results have been qualified as detected in the method blank, V, in samples 063010-TPGW-13S and 063010-TPGW-13M.

Iron was detected in a Method 200.7 method blank associated with SDG 36059. Iron results have been qualified as detected in the method blank, V, in samples 070110-TPSWID-3B and 070110-TPSWID-3T.

Iron was detected in a Method 200.7 method blank associated with SDG 36118. Iron results have been qualified as detected in the method blank, V, in samples 070710-

TPSWC-1B, 070710-TPSWC-1T, 070710-TPSWC-2B, 070710-TPSWC-2T, 070710-TPSWC-3B, and 070110-TPGW-8s.

Laboratory Control Samples

Laboratory Control Samples (LCS) recoveries for all applicable analyses were within laboratory acceptance criteria and were performed at the required frequency.

Matrix Spike/Matrix Spike Duplicates

MS/MSD samples were performed at the required frequency for applicable methods. Recovery calculations are not required if the concentration added is less than 30% of the sample background concentration. MS/MSD recoveries of less than 10% are qualified as unusable due to apparent significant matrix effects. MS/MSD precision and accuracy results for all applicable analyses were within project objectives with the following exceptions.

In SDG 35826, the Method 6010 MS/MSD recoveries of magnesium, potassium, sodium, boron, and strontium exceeded laboratory established limits in sample 061710-TPGW-3S. These analytes have been qualified as estimated with a high bias, J+, in 061710-TPGW-3S. Calcium was detected in the same MS/MSD but below laboratory limits. Calcium has been qualified as estimated with a low bias, J-, in sample 061710-TPGW-3S. The Method SM3500 Cr B MS/MSD recovery of chromium was below laboratory limits in sample 061710-TPGW-3M. Chromium has been qualified as estimated with a low bias, J-, in sample 061710-TPGW-3M. The Method 353.2 MS/MSD recovery of nitrate/nitrite exceeded laboratory limits in sample 061710-TPGW-12S. Nitrate/nitrite has been qualified as estimated with a high bias, J+, in sample 061710-TPGW-12S. The Method 4500 P E MS/MSD recovery of ortho-phosphate was less than 10% in sample 061710-TPGW-12M. **Ortho-phosphate has been qualified as unusable, ?, in sample 061710-TPGW-12M.** The Method 365.1 MS/MSD recovery of phosphorous exceeded laboratory limits in sample 061710-TPGW-12M. Phosphorous has been qualified as estimated with a high bias, J+, in sample 061710-TPGW-12S.

In SDG 35848, the Method 245.1 MS/MSD recoveries of mercury were below laboratory limits in sample 061810-TPGW-2S. Mercury has been qualified as estimated with a low

bias, J-, in 061810-TPGW-2S. The Method SM4500 NH3 MS/MSD recoveries of ammonia exceeded laboratory limits in sample 061810-TPGW-12D. Ammonia has been qualified as estimated with a high bias, J+, in 061810-TPGW-12D. The Method 4500 P E MS/MSD recoveries of ortho-phosphate were less than 10% in sample 061810-TPGW-12D. **Ortho-phosphate has been qualified as unusable, ?, in sample 061810-TPGW-12D.**

In SDG 35863, the Method 300.0 MS/MSD recoveries of fluoride were below laboratory limits in sample 062110-TPGW-Dup1. Fluoride has been qualified as estimated with a low bias, J-, in 062110-TPGW-Dup1.

In SDG 35918, the Method 300.0 MS/MSD recoveries of fluoride were below laboratory limits in sample 062310-BBSW-3D. Fluoride has been qualified as estimated with a low bias, J-, in 062310-BBSW-3D.

In SDG 35986, the Method 300.0 MS recovery of chloride were below laboratory limits in sample 062810-SWCCS-7B. Chloride has been qualified as estimated with a low bias, J-, in 062810-SWCCS-7B.

In SDG 36031, the Method 245.1 MS/MSD recoveries of mercury were below laboratory limits in sample 063010-TPGW-13S. Mercury has been qualified as estimated with a low bias, J-, in 063010-TPGW-13S. The Method SM3500 Cr B MS/MSD recoveries of chromium were below laboratory limits in sample 063010-TPGW-13S. Chromium has been qualified as estimated with a low bias, J-, in 063010-TPGW-13S.

In SDG 36059, the Method 353.2 MS/MSD recoveries of nitrate/nitrite exceeded laboratory limits in sample 070110-TPSWID-3B. Nitrate/nitrite has been qualified as estimated with a high bias, J+, in 070110-TPSWID-3B.

In SDG 36167, the Method 300 MS/MSD recoveries of chloride were below laboratory limits in sample 070910-SWCCS-5T. Chloride has been qualified as estimated with a low bias, J-, in 070910-SWCCS-5T. The Method 365.1 MS/MSD recoveries of phosphorous were below laboratory limits in sample 070910-SWCCS-1B. Phosphorous has been qualified as estimated with a low bias, J-, in 070910-SWCCS-1B.

In SDG 36274, the Method 300 MS/MSD recoveries of fluoride were less than 10% in sample 071510-TPSWCCS-6T. **Fluoride has been qualified as unusable, ?, in 071510-TPSWCCS-6T.**

Post Digestion Spike

A PDS is applicable to Methods 6010 and 200.7 If MS recoveries are outside project objectives and the sample result is < 4x the spike added, a PDS shall be performed. PDS percent recovery acceptance criteria are the same as the MS criteria, 75-125%R.

In SDG 35826, the PDS recovery of boron was below laboratory limits. The MS/MSD recoveries exceeded laboratory limits. Boron has been qualified as estimated, J, in sample 061710-TPGW-3S.

Serial Dilution

ICP serial dilutions are run to help evaluate whether or not significant physical or chemical interferences exist due to sample matrix. When analyte concentrations are sufficiently high (the concentration in the original sample is minimally a factor of 50 above the IDL) the results obtained for a five fold-dilution of the original sample are compared to the original results by means of a percent difference (%D). The %D is compared to a precision acceptance limit of $\pm 10\%$. If the SD does not meet the criteria, all results for that analyte in the associated sample delivery group (SDG) are qualified as estimated (flagged "J/UJ").

In SDG 35826, the serial dilution %D of potassium exceeded laboratory limits in sample 061710-TPGW-3S. Potassium results have been qualified as estimated, J, for all samples in SDG 35826.

In SDG 35848, the serial dilution %D of silica exceeded laboratory limits in sample 061810-TPGW-12D. Silica results have been qualified as estimated, J, for all samples in SDG 35848.

Laboratory Duplicates

Laboratories randomly select samples to perform internal duplicate analyses. Laboratory duplicate precision, as RPD, requirement is less than or equal to 20% for aqueous samples. All duplicate precision was within project objectives with the following exceptions.

In SDG 35826, the 200.7 laboratory duplicate had a high RPD for barium in sample 061710-TPGW-3M. Barium has been qualified as estimated, J, in sample 061710-TPGW-3M.

In SDG 35863, the 200.7 laboratory duplicate had a high RPD for barium in sample 062110-TPGW-2D. Barium has been qualified as estimated, J, in sample 062110-TPGW-2D.

In SDG 36031, the 200.7 laboratory duplicate had a high RPD for arsenic in sample 063010-TPGW-13S. Arsenic has been qualified as estimated, J, in sample 063010-TPGW-13S.

Field Precision

Field duplicate precision, as RPD, requirement is less than or equal to 20% for aqueous samples. The results for analytes where both values are greater than the reporting limit are given as relative percent difference. Results of analytes where one or both values are less than the reporting limit are not considered appropriate for assessing precision.

Three field duplicate pairs were collected during the sampling event: 061810-TPGW-12D & 061810-TPGW-DUP1; 062110-TPGW-2D & 062110-TPGW-Dup1; and 070110-TPSWC-5B & 070110-TPSWC-DUP1. Tables 3a, 3b, and 3c summarize field duplicate precision results.

Table 3a - Field Precision

Method	Analyte	Unit	MQL	061810-TPGW-DUP 1	061810-TPGW-12D	RPD / Abs. Diff.	Rating	Samp Qual
200.7	Barium	mg/L	0.1	0.12	0.1	18.2%	Acceptable	None
200.7	Iron	mg/L	0.5	0.52	0.5	3.9%	Acceptable	None
200.7	Manganese	mg/L	0.1	0.036 I	0.039 I	NC	Acceptable	None
200.7	Vanadium	mg/L	0.1	0.011 I	0.011 I	NC	Acceptable	None
200.7	Zinc	mg/L	0.2	0.094 I	ND	NC	Acceptable	None
6010	Boron	mg/L	0.2	5.4	5.6	3.6%	Acceptable	None
6010	Calcium	mg/L	2.0	580	610	5.0%	Acceptable	None
6010	Potassium	mg/L	50	600	640	6.5%	Acceptable	None
6010	Strontium	mg/L	0.02	11	11	0.0%	Acceptable	None
6010	Magnesium	mg/L	0.32	1700	1700	0.0%	Acceptable	None
6010	Sodium	mg/L	100	14000	15000	6.9%	Acceptable	None
300	Bromide	mg/L	5.0	89	87	2.3%	Acceptable	None
300	Chloride	mg/L	500	25000	24000	4.1%	Acceptable	None
300	Sulfate	mg/L	50	3500	3400	2.9%	Acceptable	None
351.2	TKN	mg/L	0.2	1.4	1.7	19.4%	Acceptable	None
353.2	Nitrate/Nitrite	mg/L	0.01	0.022	0.046	70.6%	Poor	J
365.1	Phosphorous	mg/L	0.01	0.042	0.034	21.1%	Poor	J
2320	Alkalinity	mg/L	1.0	180	180	0.0%	Acceptable	None
2540	TDS	mg/L	250	53000	53000	0.0%	Acceptable	None
4500 NH3	Ammonia	mg/L	0.10	1.2	1.2	0.0%	Acceptable	None
TN	Total Nitrogen	mg/L	0.21	1.4	1.7	19.4%	Acceptable	None
FDEP	Unionized NH3	mg/L	0.000017	NA	0.018	NC	Acceptable	None
200.7	Silica	mg/L	0.5	5.5	4.6	17.8%	Acceptable	None
9060	DIC	mg/L	1.0	46	46	0.0%	Acceptable	None
4500 PE	OP-dissolved	mg/L	0.5	0.11	0.11	0.0%	Acceptable	None
Non-standard	d18O	‰	NA	4.3	4.2	2.4%	Acceptable	None
Non-standard	d2H	‰	NA	22.3	27.1	19.4%	Acceptable	None
Non-standard	d13C	‰	NA	-7.05	-7.05	0.0%	Acceptable	None
Non-standard	dSr87/86	‰	NA	0.70916	0.70914	0.0%	Acceptable	None
Non-standard	Tritium	pCi/L	<5	1764.1	1561.6	12.2%	Acceptable	None

NA – not analyzed
ND – not detected
NC – not calculated

Table 3b - Field Precision

Method	Analyte	Unit	MQL	062110-TPGW-Dup1	062110-TPGW-2D	RPD / Abs. Diff.	Rating	Samp Qual
200.7	Barium	mg/L	0.1	0.14	0.11	24.0%	Poor	J
200.7	Iron	mg/L	0.5	0.91	0.9	1.1%	Acceptable	None
200.7	Manganese	mg/L	0.1	0.052 I	0.055 I	NC	Acceptable	None
200.7	Vanadium	mg/L	0.1	0.016 I	0.014 I	NC	Acceptable	None
6010	Boron	mg/L	0.5	6.6	6.6	0.0%	Acceptable	None
6010	Calcium	mg/L	5.0	680	680	0.0%	Acceptable	None
6010	Potassium	mg/L	200	550	540	1.8%	Acceptable	None
6010	Strontium	mg/L	0.05	14	13	7.4%	Acceptable	None
6010	Magnesium	mg/L	0.8	2000	2000	0.0%	Acceptable	None
6010	Sodium	mg/L	100	16000	16000	0.0%	Acceptable	None
300	Bromide	mg/L	5.0	100	100	0.0%	Acceptable	None
300	Chloride	mg/L	500	30000	29000	3.4%	Acceptable	None
300	Sulfate	mg/L	500	4000	4000	0.0%	Acceptable	None
351.2	TKN	mg/L	0.2	1.8	2.0	10.5%	Acceptable	None
353.2	Nitrate/Nitrite	mg/L	0.01	0.014	0.014	0.0%	Acceptable	None
365.1	Phosphorous	mg/L	0.01	0.057	0.059	3.4%	Acceptable	None
2320	Alkalinity	mg/L	1.0	180	190	5.4%	Acceptable	None
2540	TDS	mg/L	250	63000	62000	1.6%	Acceptable	None
4500 NH3	Ammonia	mg/L	0.05	1.7	1.8	5.7%	Acceptable	None
TN	Total Nitrogen	mg/L	0.21	1.8	2.0	10.5%	Acceptable	None
FDEP	Unionized NH3	mg/L	0.000017	NA	0.010	NC	Acceptable	None
200.7	Silica	mg/L	2.5	4.2	3.5	18.2%	Acceptable	None
9060	DIC	mg/L	1.0	46	46	0.0%	Acceptable	None
4500 PE	OP-dissolved	mg/L	0.5	0.10 I	0.10 I	NC	Acceptable	None
Non-standard	d18O	‰	NA	5	4.9	2.0%	Acceptable	None
Non-standard	d2H	‰	NA	32.5	30	8.0%	Acceptable	None
Non-standard	d13C	‰	NA	-6.44	-6.63	2.9%	Acceptable	None
Non-standard	dSr87/86	‰	NA	0.70917	0.70917	0.0%	Acceptable	None
Non-standard	Tritium	pCi/L	<5	3732.3	3232	14.4%	Acceptable	None

Table 3c - Field Precision

Method	Analyte	Unit	MQL	070110-TPSWC-Dup1	070110-TPSWC-5B	RPD / Abs. Diff.	Rating	Samp Qual
200.7	Barium	mg/L	0.1	0.026	NA	NC	Acceptable	None
200.7	Iron	mg/L	0.5	0.088	NA	NC	Acceptable	None
6010	Boron	mg/L	0.5	5.3	NA	NC	Acceptable	None
6010	Calcium	mg/L	5.0	500	NA	NC	Acceptable	None
6010	Potassium	mg/L	200	470	NA	NC	Acceptable	None
6010	Strontium	mg/L	0.05	9.1	NA	NC	Acceptable	None
6010	Magnesium	mg/L	0.8	1500	NA	NC	Acceptable	None
6010	Sodium	mg/L	100	12000	NA	NC	Acceptable	None
300	Bromide	mg/L	5.0	75	NA	NC	Acceptable	None
300	Chloride	mg/L	500	22000	NA	NC	Acceptable	None
300	Sulfate	mg/L	500	3000	NA	NC	Acceptable	None
351.2	TKN	mg/L	0.2	0.56	NA	NC	Acceptable	None
353.2	Nitrate/Nitrite	mg/L	0.01	0.0073	NA	NC	Acceptable	None
365.1	Phosphorous	mg/L	0.01	0.021	NA	NC	Acceptable	None
2320	Alkalinity	mg/L	1.0	160	NA	NC	Acceptable	None
2540	TDS	mg/L	250	NA	NA	NC	Acceptable	None
4500 NH3	Ammonia	mg/L	0.05	0.036	NA	NC	Acceptable	None
TN	Total Nitrogen	mg/L	0.21	0.57	NA	NC	Acceptable	None
FDEP	Unionized NH3	mg/L	0.000017	NA	NA	NC	Acceptable	None
200.7	Silica	mg/L	2.5	1.9	NA	NC	Acceptable	None
9060	DIC	mg/L	1.0	30	NA	NC	Acceptable	None
4500 PE	OP-dissolved	mg/L	0.5	0.05	NA	NC	Acceptable	None
Non-standard	d18O	‰	NA	2.4	2.5	4.1%	Acceptable	None
Non-standard	d2H	‰	NA	23.9	20.4	15.8%	Acceptable	None
Non-standard	d13C	‰	NA	-5.94	-5.25	12.3%	Acceptable	None
Non-standard	Strontium	‰	NA	0.70918	0.70915	0.0%	Acceptable	None
Non-standard	Tritium	pCi/L	<10	NA	261.6	NC	Acceptable	None

In the field duplicate pair 061810-TPGW-12D & 061810-TPGW-DUP1, the nitrate/nitrite and phosphorous results had high RPD's. These results have been qualified as estimated, J, in both samples.

In the field duplicate pair 062110-TPGW-2D & 062110-TPGW-Dup1, the barium results had high RPD's. Barium has been qualified as estimated, J, in both samples.

- **Sample 070110-TPSWC-5B was submitted to the laboratory but was only analyzed for isotopes.**

ADaPT

The laboratory submitted electronic data deliverables (EDD's) for each SDG in the ADaPT format. These EDD's were run through the ADaPT EDD Error Check by the laboratory against the FDEP generated library "DWM_Library_20100722" before submission. Any critical errors noted in the EDD Error Check are corrected by the laboratory before submission. Comments are provided by the laboratory for the remaining errors noted.

Several Points should be noted concerning the ADaPT files. The Library provided to FPL and TestAmerica has acceptance criteria that do not conform to the analytical methods or the project.

- **A project-specific ADaPT Library, based on DWM_Library_20100722 and populated with project specific criteria, should be created to streamline the review process.**

CRQL, Serial Dilution, post digestion spike, interference check sample data, qualifiers are not added to the ADaPT files as a section for these QC types is not provided.

ADaPT automatically applies data qualifier codes to all samples from a batch based on duplicate (LCSD, MSD, LD) data. While the LCSD data should be applied to all samples

of a batch, the matrix spikes and laboratory duplicate results should be applied to the original sample only, unless the samples are sufficiently similar. For the June 2010 Event ADaPT files, the matrix spike and laboratory duplicate qualified data will not be added to ADaPT.

- **FDEP should be consulted on how to handle such qualified data in the future.**

All other qualifiers have been added to the ADaPT files and saved. The EDD's have been signed as "Reviewed" and "Approved" and uploaded to the FPL database.

Technical Consistency

Certain technical comparisons are performed on data to ensure validity. The comparisons to be made and the acceptance criteria for each are defined FDEP-QA-002/02, Requirements for Field and Analytical Work. While ADaPT does perform these comparisons, the acceptance criteria in ADaPT is not consistent with QA-002/02. For instance, ADaPT specifies the ortho-phosphate result must be less than the total phosphorous result. QA-002/02 specifies the ortho-phosphate must be less than 120% of the total phosphorous result. For this review, the QA-002/02 criteria will be followed. The values for the charge balance determination and the cation and anion calculated conductivity are provided in the ADaPT files. The following is a list of the technical comparisons made and the results of those comparisons. Technical comparison calculations are provided in the results summary table provided with this DUS.

- *The total anion charge must be within 80% - 110% of the total cation charge. TPSWID-2B anion charge was greater than 110% of the cation charge based on values calculated in ADaPT. Calcium, magnesium, sodium, alkalinity, sulfate, chloride, potassium, and nitrate analyses have been qualified as estimated, J, in sample TPSWID-2B.*
- *The measured specific conductivity (umho/cm) must be within 80% - 120% of the conductivity estimated from major cation concentrations (calcium, magnesium, sodium, and potassium). This is only required when the initial charge balance calculation does not pass the criterion. The conductivity versus cation concentration results were within criteria for*

sample TPSWID-2B. Therefore, no ionic data for TPSWID-2B were qualified based on technical comparisons

- *The measured specific conductivity (umho/cm) must be within 80% - 120% of the conductivity estimated from major anion concentrations. This is only required when the initial charge balance calculation does not pass the criterion* The conductivity versus anion concentration results were within criteria for sample TPSWID-2B. Therefore, no ionic data for TPSWID-2B were qualified based on technical comparisons
- *The TDS concentration must be within 40% -120% of the measured conductivity.* TPGW-8S, TPSWCCS-4B did not pass using field conductivity.
- *The total ammonia concentration must be less than 120% of the TKN concentration.* TPGW-1S, 1D and 3M did not pass. The ammonia concentrations in TPGW-1S, TPGW-1M, and TPGW-3M were higher than 120% of the respective TKN (the sum of organic nitrogen, ammonia, and ammonium) concentrations. Ammonia and TKN have been qualified as estimated, J, in TPGW-3M. **TPGW-1S and 1M ammonia results were significantly higher and therefore the ammonia and TKN results have been qualified as unusable, ?, in these samples.**
- *The orthophosphate concentration must be less than 120% of the total phosphorus concentration.* In several SDG's, the ortho-phosphate results are significantly higher than the total phosphorous results. These include 35826, 35848, 35863, 35918, 35986, 36031, 36059, 36167, 36195, and 36274. Both ortho-phosphate and total phosphorous results have been qualified as estimated, J. This is likely due to matrix effects from the high salinity of the samples. This effect was not observed in samples with lower salinities.
- **The laboratory should be notified to discuss possible alternative methods or procedures for the ortho-phosphate and total phosphorus analyses.**

While not specified in QA-002/02, during the validation, a discrepancy in the nitrogen results was observed. In SDG 36031, the Total Nitrogen result is less than the TKN and Nitrate/nitrite sum in sample SWCCS-8B. In sample SWCCS-2B, the Total Nitrogen result is greater than the TKN and nitrate/nitrite sum. The total nitrogen results have been qualified as estimated in samples SWCCS-8B and SWCCS-2B.

Summary

Some results for ortho-phosphate and fluoride have been qualified as unusable, ?, due to poor matrix spike and matrix spike duplicate recoveries. With these exceptions, groundwater and surface water analytical data are usable for the purpose of determining current conditions in groundwater and surface waters at the affected property. Qualified data is summarized in Table 4.

Corrective actions to discuss with the field sampling crew include:

- Samplers should review sample identification requirements and review all paperwork for completeness and accuracy.
- Samplers should be sure to verify and document proper sample bottle preservation in the field.
- Samplers should be reminded of the 10AM sampling requirement for chromium.
- Samplers should perform either an equipment blank or field blank for every twenty samples collected.

Corrective actions to discuss with the laboratory include:

- The MDL's for arsenic, lead, thallium, and sulfides are above the FDEP Class 2 Groundwater criteria. The laboratory should be notified to discuss analytical possibilities to meet the criteria.
- Samples SWC-5T & B were not analyzed by TA although collected and submitted. Isotopes were analyzed. FPL directed TA not to analyze these samples as they were supposed to be re-sampled but never were.
- The laboratory should be notified to ensure all qualified data is reported in the narratives.

- The laboratory should be notified to discuss possible alternative methods or procedures for total phosphorous and ortho-phosphate.

Other notations include:

- TPGW-10, 11, 14 not sampled due to incomplete construction at time of the sampling event.
- BBSW-2S and 3S not collected due to water depth at time of sampling per logbook.
- Sample SWCCS-1B was collected and analyzed twice.
- SWCCS-1T, 2T, 3, T, 7T and 8T not required for collection due to shallow water depths
- 200.7 not requested for TPGW-6S, 6M, and 6D
- Strontium isotope results not reported for TPGW-1D and 3M
- Strontium and tritium not sampled for BBSW-3, 4, 5.
- Tritium result missing for 070101-TPSWC-DUP1.
- Hydrogen and oxygen isotope samples collected after July 1, 2010, have not been reported as of October, 25, 2010.

Data Quality Indicators

Precision and accuracy results are discussed throughout this DUS with a summary of exceptions noted in Table 4. Based on the number of unusable data points compared to the total submitted for analysis, the project met the completeness goal of 95% for the water quality quarterly sampling event. Comparability was met based on sampling procedures and analytical method selection, and the use of consistent reporting units.

Prepared by: Steven Elliott, Chemist, E&E

Date: 10/20/2010

Table 4 - Summary of Qualified Data

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
35805	300	061610-TPGW-5D	Sodium	6500	J-	GW	Low CRQL %R
35805	300	061610-TPGW-5M	Sodium	4900	J-	GW	Low CRQL %R
35826	200.7	061710-TPGW-3S	Arsenic	ND	UJ-	GW	Low CRQL %R
35826	200.7	061710-TPGW-3S	Selenium	ND	UJ-	GW	Low CRQL %R
35826	200.7	061710-TPGW-3M	Arsenic	ND	UJ-	GW	Low CRQL %R
35826	200.7	061710-TPGW-3M	Selenium	ND	UJ-	GW	Low CRQL %R
35826	300	061710-TPGW-3M	Potassium	490	J	GW	High SD %D
36195	351.2	061710-TPGW-3M	TKN	1.1	J	GW	NH3 > 120% TKN
36195	4500 NH3	061710-TPGW-3M	NH3	1.4	J	GW	NH3 > 120% TKN
35826	200.7	061710-TPGW-3D	Arsenic	ND	UJ-	GW	Low CRQL %R
35826	200.7	061710-TPGW-3D	Selenium	ND	UJ-	GW	Low CRQL %R
35826	300	061710-TPGW-3D	Potassium	490	J	GW	High SD %D
35826	200.7	061710-TPGW-12S	Arsenic	ND	UJ-	GW	Low CRQL %R
35826	200.7	061710-TPGW-12S	Selenium	ND	UJ-	GW	Low CRQL %R
35826	300	061710-TPGW-12S	Potassium	440	J	GW	High SD %D
35826	200.7	061710-TPGW-12M	Arsenic	ND	UJ-	GW	Low CRQL %R
35826	200.7	061710-TPGW-12M	Selenium	ND	UJ-	GW	Low CRQL %R
35826	300	061710-TPGW-12M	Potassium	470	J	GW	High SD %D
35826	300	061710-FB1	Potassium	ND	UJ	AQ	High SD %D
35826	200.7	061710-TPGW-3M	Barium	0.11	J	GW	High LD RPD
35826	200.7	061710-TPGW-12S	Zinc	0.0018	IJ	GW	Detected in FB1
35826	6010	061710-TPGW-3S	Calcium	640	J-	GW	Low MS/MSD %R
35826	6010	061710-TPGW-3S	Magnesium	1700	J+	GW	High MS/MSD %R
35826	6010	061710-TPGW-3S	Potassium	450	J+	GW	High MS/MSD %R, High SD %D
35826	6010	061710-TPGW-3S	Sodium	13000	J+	GW	High MS/MSD %R

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
35826	6010	061710-TPGW-3S	Boron	5.0	J	GW	High MS/MSD %R, Low PDS %R
35826	6010	061710-TPGW-3S	Strontium	11.0	J+	GW	High MS/MSD %R
35826	4500PE	061710-TPGW-3S	OP-Dissolved	0.36	IJ	GW	OP> 120% TP
35826	365.1	061710-TPGW-3S	Phosphorous	0.097	IJ	GW	OP> 120% TP
35826	3500 Cr	061710-TPGW-3M	Chromium	ND	UJ-	GW	Low MS/MSD %R
35826	4500PE	061710-TPGW-3M	OP-Dissolved	0.13	IJ	GW	OP> 120% TP
35826	365.1	061710-TPGW-3M	Phosphorous	0.079	IJ	GW	OP> 120% TP
35826	4500PE	061710-TPGW-3D	OP-Dissolved	0.12	J	GW	OP> 120% TP
35826	365.1	061710-TPGW-3D	Phosphorous	0.08	IJ	GW	OP> 120% TP
35826	353.2	061710-TPGW-12S	Nitrate/Nitrite	0.0052	IJ+	GW	High MS/MSD %R
35826	4500PE	061710-TPGW-12S	OP-Dissolved	0.094	IJ	GW	OP> 120% TP
35826	365.1	061710-TPGW-12S	Phosphorous	0.061	IJ	GW	OP> 120% TP
35826	365.1	061710-TPGW-12M	Phosphorous	0.058	IJ+	GW	High MS/MSD %R
35826	4500PE	061710-TPGW-12M	OP-dissolved	0.11	?	GW	Outside HT, MS/MSD < 10%R, OP>TP
35848	300	061810-TPGW-12D	Sodium	15000	J	GW	Low CRQL %R
35848	200.7	061810-TPGW-12D	Arsenic	ND	UJ-	GW	Low CRQL %R
35848	200.7	061810-TPGW-12D	Selenium	ND	UJ-	GW	Low CRQL %R, Low ICS %R
35848	353.2	061810-TPGW-12D	Nitrate/nitrite	0.046	J	GW	High FD RPD
35848	300	061810-TPGW-2S	Sodium	17000	J-	GW	Low CRQL %R
35848	200.7	061810-TPGW-2S	Arsenic	ND	UJ-	GW	Low CRQL %R
35848	200.7	061810-TPGW-2S	Selenium	ND	UJ-	GW	Low CRQL %R, Low ICS %R
35848	300	061810-TPGW-2M	Sodium	18000	J-	GW	Low CRQL %R
35848	200.7	061810-TPGW-2M	Arsenic	ND	UJ-	GW	Low CRQL %R
35848	200.7	061810-TPGW-2M	Selenium	ND	UJ-	GW	Low CRQL %R, Low ICS %R
35848	300	061810-TPGW-DUP1	Sodium	14000	J-	GW	Low CRQL %R
35848	200.7	061810-TPGW-DUP1	Arsenic	ND	J-	GW	Low CRQL %R
35848	200.7	061810-TPGW-DUP1	Selenium	ND	J-	GW	Low CRQL %R, Low ICS %R
35848	245.1	061810-TPGW-2S	Hg	ND	UJ-	GW	Low MS/MSD %R

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
35848	4500PE	061810-TPGW-2S	OP-Dissolved	0.12	IJ	GW	OP> 120% TP
35848	365.1	061810-TPGW-2S	Phosphorous	0.036	J	GW	OP> 120% TP
35848	4500PE	061810-TPGW-2M	OP-Dissolved	0.11	IJ	GW	OP> 120% TP
35848	365.1	061810-TPGW-2M	Phosphorous	0.082	IJ	GW	OP> 120% TP
35848	4500 NH3	061810-TPGW-12D	NH3	1.2	J+	GW	High MSD %R
35848	4500PE	061810-TPGW-12D	OP-Dissolved	0.11	?	GW	MS/MSD %R ≤10% OP> 120% TP,
35848	365.1	061810-TPGW-12D	Phosphorous	0.034	IJ	GW	OP> 120% TP
35848	353.2	061810-TPGW-12D	Nitrate/Nitrite	0.046	J	GW	Detected in EB1
35848	4500PE	061810-TPGW-DUP1	OP-Dissolved	0.11	IJ	GW	OP> 120% TP
35848	365.1	061810-TPGW-DUP1	Phosphorous	0.042	J	GW	OP>TP, High FD RPD
35848	353.2	061810-TPGW-DUP1	Nitrate/Nitrite	0.022	J	GW	Detected in EB1
35863	200.7	062110-TPGW-2D	Barium	0.11	J	GW	High LD, FD RPD
35863	4500PE	062110-TPGW-2D	OP-Dissolved	0.1	IJ	GW	OP> 120% TP
35863	365.1	062110-TPGW-2D	Phosphorous	0.059	J	GW	OP> 120% TP
35863	4500PE	062110-TPGW-6S	OP-Dissolved	0.014	IJ	GW	OP> 120% TP
35863	365.1	062110-TPGW-6S	Phosphorous	0.0044	UJ	GW	OP> 120% TP
35863	300	062110-TPGW-Dup1	Fluoride	ND	UJ-	GW	Low MS/MSD %R
35863	200.7	062110-TPGW-Dup1	Barium	0.14	J	GW	High FD RPD
35863	4500PE	062110-TPGW-Dup1	OP-Dissolved	0.1	IJ	GW	OP> 120% TP
35863	365.1	062110-TPGW-Dup1	Phosphorous	0.057	J	GW	OP> 120% TP
35863	3500 Cr	062110-TPGW-6M	Chromium	ND	UQJ	GW	Outside HT
35863	3500 Cr	062110-TPGW-6D	Chromium	ND	UQJ	GW	Outside HT
35863	3500 Cr	062110-TPGW-2D	Chromium	ND	UQJ	GW	Outside HT
35918	300	062310-BBSW-3D	Fluoride	ND	UJ-	SW	Low MS/MSD %R
35918	4500PE	062310-BBSW-3D	OP-Dissolved	0.048	IJ	SW	OP> 120% TP
35918	365.1	062310-BBSW-3D	Phosphorous	0.019	J	SW	OP> 120% TP
35918	4500PE	062310-BBSW-4D	OP-Dissolved	0.044	IJ	SW	OP> 120% TP
35918	365.1	062310-	Phosphorous	0.02	J	SW	OP> 120% TP

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
		BBSW-4D					
35918	4500PE	062310-BBSW-5S	OP-Dissolved	0.044	IJ	SW	OP> 120% TP
35918	365.1	062310-BBSW-5S	Phosphorous	0.015	J	SW	OP> 120% TP
35918	4500PE	062310-BBSW-4S	OP-Dissolved	0.053	IJ	SW	OP> 120% TP
35918	365.1	062310-BBSW-4S	Phosphorous	0.025	J	SW	OP> 120% TP
35918	4500PE	062310-BBSW-5D	OP-Dissolved	0.047	IJ	SW	OP> 120% TP
35918	365.1	062310-BBSW-5D	Phosphorous	0.016	J	SW	OP> 120% TP
35986	300	062810-SWCCS-7B	Chloride	39000	J-	SW	Low MS %R
35986	4500PE	062810-SWCCS-1B	OP-dissolved	0.069	?	SW	MS/MSD %R <10%
35986	365.1	062810-SWCCS-1B	Phosphorous	0.033	J	SW	OP> 120% TP
35986	4500PE	062810-SWCCS-3B	OP-dissolved	0.071	IJ	SW	OP> 120% TP
35986	365.1	062810-SWCCS-3B	Phosphorous	0.026	J	SW	OP> 120% TP
35986	4500PE	062810-SWCCS-7B	OP-dissolved	0.069	IJ	SW	OP> 120% TP
35986	365.1	062810-SWCCS-7B	Phosphorous	0.025	J	SW	OP> 120% TP
36007	300	062910-TPSWID-1B	Potassium	38	J	SW	Low ICV %R
36007	300	062910-TPSWID-1T	Potassium	37	J	SW	Low ICV %R
36007	300	062910-TPSWID-2B	Potassium	54	J	SW	Low ICV %R
36007	300	062910-TPSWID-2T	Potassium	17	J	SW	Low ICV %R
36031	200.7	063010-TPGW-13S	Arsenic	0.016	IVJ	GW	Detected in MB, high LD RPD
36031	245.1	063010-TPGW-13S	Mercury	0.000072	UJ-	GW	Low CRQL %R, Low MS/MSD %R
36031	245.1	063010-TPGW-13M	Mercury	0.000072	UJ-	GW	Low CRQL %R
36031	245.1	063010-TPGW-13D	Mercury	0.000072	UJ-	GW	Low CRQL %R
36031	3500	063010-TPGW-13S	Chromium	0.003	IJ-	GW	Low MS/MSD %R
36031	200.7	063010-TPGW-13M	Arsenic	0.018	IV	GW	Detected in MB
36031	TN	TPSWCCS-2B	Total Nitrogen	2.6	J	SW	TN ≠ TKN+NOx
36031	TN	TPSWCCS-8B	Total Nitrogen	1.5	J	SW	TN ≠ TKN+NOx
36031	4500PE	063010-TPGW-13S	OP-dissolved	0.081	J	GW	OP> 120% TP
36031	365.1	063010-TPGW-13S	Phosphorous	0.049	J	GW	OP> 120% TP
36031	4500PE	063010-	OP-dissolved	0.072	J	GW	OP> 120% TP

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
		TPGW-13D					
36031	365.1	063010-TPGW-13D	Phosphorous	0.035	J	GW	OP> 120% TP
36031	4500PE	063010-SWCCS-2b	OP-dissolved	0.058	J	SW	OP> 120% TP
36031	365.1	063010-SWCCS-2b	Phosphorous	0.028	J	SW	OP> 120% TP
36031	4500PE	063010-SWCCS-8b	OP-dissolved	0.057	J	SW	OP> 120% TP
36031	365.1	063010-SWCCS-8b	Phosphorous	0.03	J	SW	OP> 120% TP
36059	200.7	070110-TPSWID-3B	Iron	0.033	IVJ	SW	Detected in MB, High CCV %R
36059	353.2	070110-TPSWID-3B	Nitrate/Nitrite	0.016	J+	SW	High MS/MSD %R
36059	200.7	070110-TPSWID-3T	Iron	0.037	IVJ	SW	Detected in MB, High CCV %R
36059	4500PE	070110-TPSWID-3T	OP-dissolved	0.0094	J	SW	OP> 120% TP
36059	365.1	070110-TPSWID-3T	Phosphorous	0.0044	UJ	SW	OP> 120% TP
36059	4500PE	070110-TPSWC-4T	OP-dissolved	0.024	IJ	SW	OP> 120% TP
36059	365.1	070110-TPSWC-4T	Phosphorous	0.011	J	SW	OP> 120% TP
36059	200.7	070110-TPSWC-4T	Iron	0.21	J+	SW	High CCV %R
36059	4500PE	070110-TPSWC-4B	OP-dissolved	0.03	IJ	SW	OP> 120% TP
36059	365.1	070110-TPSWC-4B	Phosphorous	0.02	J	SW	OP> 120% TP
36059	200.7	070110-TPSWC-4B	Iron	0.29	J+	SW	High CCV %R
36059	4500PE	070110-TPSWCCS-4B	OP-dissolved	0.078	IJ	SW	OP> 120% TP
36059	365.1	070110-TPSWCCS-4B	Phosphorous	0.024	J	SW	OP> 120% TP
36059	4500PE	070110-TPSWCCS-4T	OP-dissolved	0.076	IJ	SW	OP> 120% TP
36059	365.1	070110-TPSWCCS-4T	Phosphorous	0.024	J	SW	OP> 120% TP
36059	4500PE	070110-TPSWC-DUP1	OP-dissolved	0.05	IJ	SW	OP> 120% TP
36059	365.1	070110-TPSWC-DUP1	Phosphorous	0.021	J	SW	OP> 120% TP
36118	200.7	070710-TPSWC-1B	Iron	0.028	IVJ+	SW	Detected in MB, High CCV %R
36118	200.7	070710-TPSWC-1T	Iron	0.029	IVJ+	SW	Detected in MB, High CCV %R
36118	200.7	070710-	Iron	0.070	IVJ+	SW	Detected in MB, High

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
		TPSWC-2B					CCV %R
36118	200.7	070710-TPSWC-2T	Iron	0.034	IVJ+	SW	Detected in MB, High CCV %R
36118	200.7	070710-TPSWC-3B	Iron	0.034	IVJ+	SW	Detected in MB, High CCV %R
36118	200.7	070610-TPGW-8s	Iron	0.042	IVJ+	SW	Detected in MB, High CCV %R
36167	300	070910 SWCCS-5T	Chloride	37000	J-	SW	Low MS/MSD %R
36167	4500PE	070910 SWCCS-1B	OP-dissolved	0.051	IJ	SW	OP> 120% TP
36167	365.1	070910 SWCCS-1B	Phosphorous	0.029	J-	SW	Low MS/MSD %R, OP>TP
36167	4500PE	070910 SWCCS-5B	OP-dissolved	0.062	IJ	SW	OP> 120% TP
36167	365.1	070910 SWCCS-5B	Phosphorous	0.024	J	SW	OP> 120% TP
36167	4500PE	070910 SWCCS-5T	OP-dissolved	0.052	IJ	SW	OP> 120% TP
36167	365.1	070910 SWCCS-5T	Phosphorous	0.024	J	SW	OP> 120% TP
36195	4500PE	071210-TPGW-1S	OP-dissolved	0.05	J	GW	OP> 120% TP
36195	365.1	071210-TPGW-1S	Phosphorous	0.021	J	GW	OP> 120% TP
36195	245.1	071210-TPGW-1S	Mercury	0.000072	UJ-	GW	Low CRQL %R
36195	351.2	071210-TPGW-1S	TKN	1.6	?	GW	NH3 >> 120% TKN
36195	4500 NH3	071210-TPGW-1S	NH3	37	?	GW	NH3 >> 120% TKN
36195	351.2	071210-TPGW-1M	TKN	2.2	?	GW	NH3 >> 120% TKN
36195	4500 NH3	071210-TPGW-1M	NH3	15	?	GW	NH3 >> 120% TKN
36195	4500PE	071210-TPGW-1M	OP-dissolved	0.055	J	GW	OP> 120% TP
36195	365.1	071210-TPGW-1M	Phosphorous	0.023	J	GW	OP> 120% TP
36195	245.1	071210-TPGW-1M	Mercury	0.000072	UJ-	GW	Low CRQL %R
36195	4500PE	071210-TPGW-1D	OP-dissolved	0.061	J	GW	OP> 120% TP
36195	365.1	071210-TPGW-1D	Phosphorous	0.023	J	GW	OP> 120% TP
36195	245.1	071210-TPGW-1D	Mercury	0.000072	UJ-	GW	Low CRQL %R
36274	300	071510-TPSWCCS-6T	Fluoride	0.10	UQ?	SW	Out of HT, MS/MSD %R <10%
36274	300	071510-TPSWCCS-6B	Fluoride	0.10	UQ	SW	Out of HT
36274	4500PE	071510-TPSWCCS-6T	OP-dissolved	0.074	IJ	SW	OP> 120% TP

SDG	Method	Sample ID	Analyte	Result	Val Qual	Matrix	Reason for Qualification
36274	365.1	071510-TPSWCCS-6T	Phosphorous	0.016	J	SW	OP> 120% TP
36274	4500PE	071510-TPSWCCS-6B	OP-dissolved	0.073	IJ	SW	OP> 120% TP
36274	365.1	071510-TPSWCCS-6B	Phosphorous	0.019	J	SW	OP> 120% TP

Table 5: Data Qualifier Codes

Code	Definition
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
J	Estimated value. A "J" value shall be accompanied by a detailed explanation to justify the reason(s) for designating the value as estimated. A bias is assigned if discernable.
Q	Holding Time exceeded.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value. Only for method blank and J qualifier for other blanks.
I	Value detected between the MDL and the reporting limit.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
Code	Bias
+	Bias is high.
-	Bias is low.