Table 6-52b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII02

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII02	GW-UAA-3-24FT-R	Groundwater	VOCs	Acetone	25	R,c	25
SAII02	GW-UAA-3-24FT-R	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII02	GW-UAA-3-24FT-R	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII02	GW-UAA-3-24FT-R	Groundwater	Metals	Mercury	0.0002	UJ,p	0.0002
SAII02	GW-UAA-3-24FT-R	Groundwater	Metals	Selenium	0.0092	J,c	0.01
SAII02	GW-UAA-3-24FT-R	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII02	GW-UAA-3-24FT-R	Groundwater	Metals	Thallium	0.0041	J,o	0.01
SAII02	GW-UAA-3-34FT-R	Groundwater	VOCs	Acetone	25	R,c	25
SAII02	GW-UAA-3-44FT	Groundwater	VOCs	Acetone	25	R,c	25
SAII02	GW-UAA-3-54FT	Groundwater	VOCs	Acetone	25	R,c	25

Table 6-68b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII19

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII19	GW-AA-S-1-124	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII19	GW-AA-S-1-124	Groundwater	Methane	Methane	0.77	J,r	0.19
SAII19	GW-AA-S-1-124	Groundwater	Metals	Arsenic	0.01	U,o	0.01
SAII19	GW-AA-S-1-124	Groundwater	Metals	Selenium	0.01	UJ,p	0.01
SAII19	GW-AA-S-1-124	Groundwater	Metals	Zinc	0.099	J,s	0.02
SAII19	GW-AA-S-1-64	Groundwater	VOCs	Acetone	25	R,c	25
SAII19	GW-AA-S-1-64	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII19	GW-AA-S-1-64	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-64	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-64	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-64	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05

Table 6-68b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII19

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII19	GW-AA-S-1-104	Groundwater	VOCs	Acetone	25	R,c	25
SAII19	GW-AA-S-1-104	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII19	GW-AA-S-1-104	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII19	GW-AA-S-1-104	Groundwater	Methane	Methane	8.4	J,r	0.19
SAII19	GW-AA-S-1-104	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII19	GW-AA-S-1-104	Groundwater	Metals	Selenium	0.01	UJ,p	0.01
SAII19	GW-AA-S-1-104	Groundwater	Metals	Zinc	0.16	J,s	0.02
SAII19	GW-AA-S-1-114	Groundwater	VOCs	Acetone	25	R,c	25
SAII19	GW-AA-S-1-114	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII19	GW-AA-S-1-124	Groundwater	VOCs	Acetone	25	R,c	25
SAII19	GW-AA-S-1-124	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that detection limits were raised in several samples due to dilutions. Except for data flagged as unusable, R, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-53a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII03

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII03	GW-UAA-3-104	6/13/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII03	GW-UAA-3-114	6/13/02	Groundwater			X	X												
SAII03	GW-UAA-3-116	6/13/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII03	GW-UAA-3-64	6/12/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X		
SAII03	GW-UAA-3-74	6/12/02	Groundwater			X	X												
SAII03	GW-UAA-3-84	6/12/02	Groundwater			X	X												
SAII03	GW-UAA-3-94	6/12/02	Groundwater			X	X												

results were previously flagged due to initial calibration failure and no additional data flags were applied.

For the pesticide analyses, the recoveries for surrogate decachlorobiphenyl were less than the QC limit (i.e., 30-150%) in samples GW-AA-S-1-104 (26%, 28%), GW-AA-S-1-64 (26%, 28%), and GW-AA-S-1-124 (24%, 24%). All associated sample results were non-detect and were flagged "UJ,s".

For the herbicide analyses, the method blank contained 2,4-D at 0.39 µg/L, pentachlorophenol at 0.64 µg/L, and 2,4,5-T at 0.16 µg/L. Positive pentachlorophenol results in the associated samples were flagged "U, z" or "U, z" at the reporting limit. No positive results were reported for 2,4-D and 2,4,5-T and no data qualifying action was taken. The %D for pentachlorophenol (16.9%) on the primary column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/25/02 at 0743. Positive pentachlorophenol results were previously flagged due to method blank contamination and no additional data flags were applied.

For the metal analyses, the initial CRDL percent recovery for aluminum (124%), the final CRDL percent recoveries for lead (78%) and sodium (78%), and the initial and final CRDL recoveries for selenium (74%, 125%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum, copper and thallium and a negative result for selenium. Positive aluminum and copper results were flagged "U, p" at the reporting limit. Positive results were flagged "J,p" and non-detects were flagged "UJ,p" for selenium in the associated samples. No positive results were reported for thallium and no data qualifying action was taken. The calibration blanks contained positive results for arsenic, barium, copper, manganese, thallium, and vanadium; and negative results for magnesium and mercury. Positive arsenic, barium, copper, manganese, thallium, and vanadium results less than 5 times the blank concentration results were flagged "U, o" at the reporting limit. Mercury non-detects were flagged "UJ,o". Magnesium results were greater than 5 times the blank concentration and no data qualifying action was taken. The serial dilution %D was greater than the QC limit (i.e., 10%) for zinc at 17.3%. Positive zinc results were flagged "J,s" in all samples.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987. Positive methane results were flagged "J, r" in the associated samples.

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII03_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, Dissolved Gases, Wet Chemistry_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____August 7, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: For the VOCs analyses, acetone displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) in the initial calibration (ICAL) at 0.0468 and in the CCV analyzed on 6/20/02 at 09:51 at 0.03905 and in the CCV analyzed on 6/21/02 at 10:19 at 0.0406. All associated sample results were flagged "R,c".

The CCV analyzed on 7/5/02 at 09:44 displayed a %D greater than the control limit for 2,4-dinitrophenol at 88.7%. Since the anomaly for 2,4-dinitrophenol was greater than 80%, associated sample results which were non-detect were flagged "R,c".

Minor Anomalies: For the SVOCs analyses, the method blank analyzed on 6/28/02 displayed positive detections for benzo(k)fluoranthene at 1.0 ug/L and for indeno(1,2,3-cd)pyrene at 0.92 ug/L. Associated sample results with positive detections less than 5x the amount found in the blank were raised to the detection limit and flagged "U,z". The ICAL analyzed on 6/27/02 displayed an r^2 value less than the control limit (0.990) for 2,4-dinitrophenol at 0.989. The ICAL analyzed on 6/28/02 displayed an r^2 value less than the control limit for 2,6-dinitrotoluene at 0.989. Associated sample results were non-detect and were flagged "UJ,r". The ICAL analyzed on 6/28/02 displayed %RSDs greater than the control limit (i.e. 15%) for 2,4-dinitrophenol at 44.3% and for 4,6-dinitro-2-methylphenol at 39.7%. The CCV analyzed on 6/22/02 at 12:17 displayed %Ds greater than the control limit (i.e. 20%) for 2,6-dinitrotoluene at 20.5%, for 2,4-dinitrophenol at 33.5%, for 4-nitrophenol at 24.1%, and for 2,4-dinitrotoluene at 26.9%. The CCV analyzed on 6/23/02 at 11:36 displayed a %D greater than the control limit for 2,4-dinitrophenol at 24.7%. The CCV analyzed on 6/28/02 at 00:03 displayed a %D greater than the control limit for dinoseb at -22.8%. The CCV analyzed on 6/29/02 at 10:25 displayed a %D greater than the control limit for dinoseb at -38.3%. The CCV analyzed on 7/5/02 at 09:44 displayed %Ds greater than the control limit for 4-nitrophenol at 24.7%, for 4,6-dinitro-2-methylphenol at 52.8%,

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII19_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____September 26, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, the relative response factors (RRFs) in the initial (0.0428) and continuing calibration (0.0487, 0.0469, 0.04156) for acetone were less than the QC limit (i.e., 0.05). Positive results were flagged "J,c" unless previously flagged due to trip blank contamination and non-detects were flagged "R,c" in the associated samples.

Minor Anomalies: For the VOC analyses, trip blank, TB-7/15/02 contained acetone at 11 ug/L and tetrachloroethane at 0.5 ug/L. Positive results were flagged "U,y" at the reporting level in the associated samples. The continuing calibration analyzed on 7/18/02 displayed %Ds greater than the control limit (i.e., 20%) for acetone at 21.9% and 1,1-dichloroethane at 34.5%, and the continuing calibration analyzed on 7/22/02 displayed a %D greater than the control limit (i.e., 20%) for 1,1-dichloroethane at 31.4%. Acetone results were previously flagged due to initial calibration failure and no additional data flags were applied. Since 1,1-dichloroethane was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MS recovery for 1,1-dichloroethane (142%) was greater than the control limit (i.e., 51-140%). The MS/MSD relative percent difference (RPDs) for vinyl chloride (41%), 1,1-dichloroethene (31%) and carbon disulfide (36%) were also greater than the upper control limit (i.e., 21%, 30% and 23%, respectively). Since MSD and LCS recoveries were in control, no data qualifying action was taken. Chlorobenzene exceeded the calibration range in sample GW-AA-S-1-114 and was flagged "E" by the laboratory. This result was flagged "J,q". This sample was re-analyzed at a dilution factor of 5 with acceptable results and the result from dilution analysis should be used for this compound for data interpretation.

For the SVOC analyses, the initial calibration analyzed on 7/31/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.987. All associated sample results were non-detects and were flagged "UJ, r". The continuing calibration analyzed on 7/31/02 displayed a%D greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (28.2%). All associated sample

and for hexachlorobenzene at -24.1 %. All ICAL and CCV anomalies which displayed recoveries only marginally outside the limit which were less than 50% and were non-detect; hence, it is the professional judgment of the data reviewer that no further data qualifying action be taken. Since the CCV anomaly for 4,6-dinitro-2-methylphenol analyzed on 7/5/02 was greater than 50%, associated sample results were non-detect and were flagged "UJ,c". Several diluted samples displayed surrogate recoveries at 0%. Since the samples, except GW-UAA-3-84, were analyzed at dilutions greater than 10, no data qualifying action was taken. Sample GW-UAA-3-84 was analyzed at a 5x dilution. The only compound of interest, 4-chloroaniline, was flagged "J,s". Sample 0617G-JMBLCS displayed a %R greater than the control limit for internal standard phenanthrene-d10 at 202%. Since this is a QC sample, no data qualifying action was required. Samples GW-UAA-3-84, GW-UAA-3-94, GW-UAA-3-104, GW-UAA-3-116, and GW-UAA-3-114 contained analytes which exceeded the calibration range. These analytes were flagged "J,q". These samples were re-analyzed at dilutions and the analytes were within calibration range. It is recommended that the reanalyzed analytes be used for data interpretation.

For the pesticides analyses, sample GW-UAA-3-64 displayed a %R less than the lower control limit (i.e. 30%) for surrogate tetrachloro-meta-xylene (TMX) on the primary column at 28%. Since the other surrogates met criteria, no data qualifying action was taken. Sample GW-UAA-3-104 displayed a %R less than the lower control limit for surrogate decachlorobiphenyl (DCBP) on both columns at 26% and 24%. Associated analytes were non-detect and flagged "UJ,s". Sample GW-UAA-3-116 displayed %Rs less than the lower control limit on both columns for surrogates 2,4-DCAA at 24% and 28% and for surrogate DCBP at 17% and 14%. The associated sample with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". The CCV analyzed on 6/18/02 at 14:56 displayed a %D greater than the control limit (i.e. 15%) on the confirmation column for surrogate 2,4-DCAA at -16.3%. The CCV analyzed on 6/19/02 at 02:16 displayed %Ds greater than the control limit on the primary column for endrin aldehyde at -24.2% and for 2,4-DCAA at -23.2% and on the confirmation column for 4,4'-DDD at 20.3%, for 4,4'-DDT at 19.3%, for endrin aldehyde at -19.0%, and for 2,4-DCAA at -22.8%. Since analytes except endrin aldehyde either met criteria on the other column or was a surrogate (2,4-DCAA), no data qualifying action was taken. Endrin aldehyde was flagged "UJ,c" in sample GW-UAA-3-64. The CCV analyzed on 6/25/02 at 23:05 displayed %Ds greater than the control limit for surrogate 2,4-DCAA on both the primary and confirmation column at -17.1% and -19.8%. The CCV analyzed on 6/26/02 at 05:18 displayed %Ds greater than the control limit on the primary column for endosulfan II at 21.1%, for endrin ketone at 16.8%, for 2,4-DCAA at -16.0%, and for decachlorobiphenyl (DCBP) at 39.0% and displayed %Ds greater than the control limit on the confirmation column for heptachlor epoxide at -26.5%, for endrin aldehyde at -19.8%, for endrin ketone at 96.7%, and for 2,4-DCAA at -18.6%. Since analytes, except endrin ketone, either

Table 6-68a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII19

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII19	GW-AA-S-1-104	7/12/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII19	GW-AA-S-1-114	7/12/02	Groundwater			X	X												
SAII19	GW-AA-S-1-124	7/15/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII19	GW-AA-S-1-64	7/12/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII19	GW-AA-S-2-28	7/15/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII19	GW-AA-S-2-38	7/15/02	Groundwater			X	X												
SAII19	GW-AA-S-2-48	7/15/02	Groundwater			X	X												
SAII19	GW-AA-S-3-24FT	7/15/02	Groundwater			X	X	X	X	X	X	X		X	X	X	X	X	
SAII19	GW-AA-S-3-34FT	7/15/02	Groundwater			X													

met criteria on the other column or was a surrogate (2,4-DCAA), no data qualifying action was taken. Endrin ketone was flagged "UJ,c" in the associated sample. The CCV analyzed on 6/28/02 at 10:59 displayed %Ds greater than the control limit on the primary column for 2,4-DCAA at -15.8% and displayed %Ds greater than the control limit on the primary column for 2,4-DCAA at -21.3% and for tetrachloro-meta-xylene at -15.3%. The CCV analyzed on 6/28/02 at 22:13 displayed %Ds greater than the control limit on the primary column for 4,4'-DDT at -20.9%, for methoxychlor at -15.5%, and for 2,4-DCAA at -24.9% and displayed %Ds greater than the control limit on the confirmation column for 4,4'-DDT at -21.7%, for endrin aldehyde at -15.2%, and for 2,4-DCAA at -26.7%. Since this sample was previously flagged for surrogate anomalies, no further data qualifying action was taken. The LCSD displayed a %R less than the lower control limit for delta-BHC at 44%. Since the LCS met criteria, no data qualifying action was taken. The LCS/LCSD pair displayed %RPDs greater than the control limit for endrin at 34%, for 4,4'-DDE at 22%, and for alpha-chlordane at 20%. Since the LCS and LCSD met criteria, no data qualifying action was taken. Samples GW-UAA-3-104 and GW-UAA-3-116 displayed %RPDs between the primary and confirmation column for gamma-BHC, beta-BHC, and heptachlor. These analytes were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These reported results may possibly be less than the actual concentration and may be biased low.

For the herbicides analyses, the CCV analyzed on 6/20/02 at 11:17 displayed a %D greater than the control limit (i.e. 15%) on the confirmation column for 2,4-DB at 26.7%. The CCV analyzed on 6/20/02 at 20:16 displayed %Ds greater than the control limit on the rear column for dicamba at -18.3% and for 2,4-DB at 16.0%. Since the analytes met criteria on the front column, no data qualifying action was taken. The LCS/LCSD pair displayed %RPDs greater than the control limit for MCPA at 44%, for pentachlorophenol at 50%, and for 2,4-DB at 61%. Since the LCS and LCSD met criteria, no data qualifying action was taken. Samples GW-UAA-3-104 and GW-UAA-3-116 displayed %RPDs greater than the control limit between the primary and confirmation column for 2,4-D. 2,4,5-TP, and 2,4-DB. These analytes were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These reported results may possibly be less than the actual concentration and may be biased low.

For the metals analyses, the CRDL displayed %Rs greater than the control limit (i.e. 120%) for iron at 127% and for lead at 129%. The CRDL also displayed a %R less than the lower control limit (i.e. 80%) for arsenic at 79%. Since these results were marginally outside the control limits, no data qualifying action was taken. The ICB, CCBs, and the prep blank displayed positive detections for several analytes. The only affected sample results were copper and vanadium. All associated sample results with positive detections less than 5x the blank concentrations were all less than the reporting limit. The affected copper and

vanadium results were raised to the reporting limit and flagged "U,z". The ICB, prep blank, and CCBs displayed negative detections for several analytes. The only affected sample results were silver, arsenic, mercury, and beryllium. All associated sample results were non-detect. The affected silver, arsenic, mercury, and beryllium results were flagged either "UJ,z" or "UJ,p". The MS/MSD displayed %Rs less than the lower control limit for iron at 36% and 25%. Since the amount found in the parent sample was greater than 4x the amount of the spiking concentration, no data qualifying action was taken.

For the dissolved gases analyses, the initial calibration displayed an r^2 value less than the control limit (i.e. 0.990) for methane at 0.986. All associated sample results were flagged "J,r".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. All data are usable, except those flagged "R", for their intended purpose based on the data reviewed.

Signed: _____

Table 6-53b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII03

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII03	GW-UAA-3-104	Groundwater	VOCs	Acetone	500	R,c	500
SAII03	GW-UAA-3-104	Groundwater	SVOCs	Benzo(k)fluoranthene	10	U,z	10
SAII03	GW-UAA-3-104	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII03	GW-UAA-3-104	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,c	0.1
SAII03	GW-UAA-3-104	Groundwater	Pesticides	gamma-BHC (Lindane)	0.039	J,g	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Heptachlor	0.029	J,g	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII03	GW-UAA-3-104	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII03	GW-UAA-3-104	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.07	J,g	0.5
SAII03	GW-UAA-3-104	Groundwater	Herbicides	2,4-D	0.63	J,g	0.5
SAII03	GW-UAA-3-104	Groundwater	Herbicides	2,4-DB	0.6	J,g	0.5
SAII03	GW-UAA-3-104	Groundwater	Methane	Methane	170	J,r	0.19
SAII03	GW-UAA-3-104	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII03	GW-UAA-3-104	Groundwater	Metals	Beryllium	0.004	UJ,o	0.004
SAII03	GW-UAA-3-104	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002

Table 6-67b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII18

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII18	WASTE-R-3-COMP	Waste	Metals	Lead	18	J,m	0.63
SAII18	WASTE-R-3-COMP	Waste	Metals	Magnesium	4900	J,m	63
SAII18	WASTE-R-3-COMP	Waste	Metals	Manganese	270	J,d	1.3
SAII18	WASTE-R-3-COMP	Waste	Metals	Mercury	3000	J,h	300
SAII18	WASTE-R-3-COMP	Waste	Metals	Potassium	2200	J,m	130
SAII18	WASTE-R-3-COMP	Waste	Metals	Sodium	1700	J,m	63
SAII18	WASTE-R-3-COMP	Waste	Metals	Vanadium	36	J,m	1.3
SAII18	WASTE-R-3-COMP	Waste	Metals	Zinc	1000	J,d	2.5
SAII18	WASTE-R-4-24FT	Waste	VOCs	Acetone	31000	J,c	34000
SAII18	WASTE-R-4-COMP	Waste	SVOCs	Chrysene	320	J,l	4000
SAII18	WASTE-R-4-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	4000	R,l	4000
SAII18	WASTE-R-4-COMP	Waste	Pesticides	Dieldrin	110	J,g	400
SAII18	WASTE-R-4-COMP	Waste	Herbicides	2,2-Dichloropropionic Acid	49000	UJ,c	49000
SAII18	WASTE-R-4-COMP	Waste	Herbicides	MCPP	49000	UJ,c	49000
SAII18	WASTE-R-4-COMP	Waste	Herbicides	Pentachlorophenol	3300	J,g	410
SAII18	WASTE-R-4-COMP	Waste	Metals	Antimony	2.2	UJ,m	2.2
SAII18	WASTE-R-4-COMP	Waste	Metals	Cadmium	0.23	J,p	0.55
SAII18	WASTE-R-4-COMP	Waste	Metals	Calcium	11000	J,d	55
SAII18	WASTE-R-4-COMP	Waste	Metals	Lead	12	J,m	0.55
SAII18	WASTE-R-4-COMP	Waste	Metals	Magnesium	1200	J,m	55
SAII18	WASTE-R-4-COMP	Waste	Metals	Manganese	110	J,d	1.1
SAII18	WASTE-R-4-COMP	Waste	Metals	Potassium	410	J,m	110
SAII18	WASTE-R-4-COMP	Waste	Metals	Sodium	380	J,m	55
SAII18	WASTE-R-4-COMP	Waste	Metals	Vanadium	9.3	J,m	1.1
SAII18	WASTE-R-4-COMP	Waste	Metals	Zinc	30	J,d	2.2

Table 6-53b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII03

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII03	GW-UAA-3-104	Groundwater	Metals	Silver	0.01	UJ,p	0.01
SAII03	GW-UAA-3-104	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII03	GW-UAA-3-114	Groundwater	VOCs	Acetone	120	R,c	120
SAII03	GW-UAA-3-114	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII03	GW-UAA-3-116	Groundwater	VOCs	Acetone	50	R,c	50
SAII03	GW-UAA-3-116	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII03	GW-UAA-3-116	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Aldrin	0.018	J,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	beta-BHC	0.016	J,g	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII03	GW-UAA-3-116	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII03	GW-UAA-3-116	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII03	GW-UAA-3-116	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.086	J,g	0.5
SAII03	GW-UAA-3-116	Groundwater	Methane	Methane	14	J,r	0.19
SAII03	GW-UAA-3-116	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII03	GW-UAA-3-116	Groundwater	Metals	Beryllium	0.004	UJ,o	0.004

Table 6-67b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII18

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII18	WASTE-R-2-COMP	Waste	Pesticides	Methoxychlor	4200	UJ,c	4200
SAII18	WASTE-R-2-COMP	Waste	Herbicides	2,2-Dichloropropionic Acid	10000000	UJ,c	10000000
SAII18	WASTE-R-2-COMP	Waste	Herbicides	MCPP	10000000	UJ,c	10000000
SAII18	WASTE-R-2-COMP	Waste	Herbicides	Pentachlorophenol	86000	U,z	86000
SAII18	WASTE-R-2-COMP	Waste	Metals	Antimony	2.3	UJ,m	2.3
SAII18	WASTE-R-2-COMP	Waste	Metals	Cadmium	0.059	J,p	0.57
SAII18	WASTE-R-2-COMP	Waste	Metals	Calcium	8000	J,d	57
SAII18	WASTE-R-2-COMP	Waste	Metals	Lead	9.9	J,m	0.57
SAII18	WASTE-R-2-COMP	Waste	Metals	Magnesium	2500	J,m	57
SAII18	WASTE-R-2-COMP	Waste	Metals	Manganese	100	J,d	1.1
SAII18	WASTE-R-2-COMP	Waste	Metals	Mercury	2.6	J,h	0.45
SAII18	WASTE-R-2-COMP	Waste	Metals	Potassium	920	J,m	110
SAII18	WASTE-R-2-COMP	Waste	Metals	Sodium	1500	J,m	57
SAII18	WASTE-R-2-COMP	Waste	Metals	Vanadium	15	J,m	1.1
SAII18	WASTE-R-2-COMP	Waste	Metals	Zinc	100	J,d	2.3
SAII18	WASTE-R-3-22FT	Waste	VOCs	Acetone	39000	J,c	61000
SAII18	WASTE-R-3-COMP	Waste	SVOCs	Chrysene	17000	R,l	17000
SAII18	WASTE-R-3-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	17000	R,l	17000
SAII18	WASTE-R-3-COMP	Waste	Pesticides	4,4'-DDT	840	UJ,c	840
SAII18	WASTE-R-3-COMP	Waste	Pesticides	Dieldrin	1800	J,c	840
SAII18	WASTE-R-3-COMP	Waste	Pesticides	Endosulfan Sulfate	380	J,c	840
SAII18	WASTE-R-3-COMP	Waste	Pesticides	Endrin	840	UJ,c	840
SAII18	WASTE-R-3-COMP	Waste	Pesticides	Endrin Ketone	4800	J,c	840
SAII18	WASTE-R-3-COMP	Waste	Pesticides	gamma-BHC (Lindane)	360	J,g	430
SAII18	WASTE-R-3-COMP	Waste	Pesticides	Heptachlor	1600	J,c	430
SAII18	WASTE-R-3-COMP	Waste	Pesticides	Methoxychlor	4300	UJ,c	4300
SAII18	WASTE-R-3-COMP	Waste	Herbicides	2,2-Dichloropropionic Acid	1300000	UJ,c	1300000
SAII18	WASTE-R-3-COMP	Waste	Herbicides	MCPP	1300000	UJ,c	1300000
SAII18	WASTE-R-3-COMP	Waste	Herbicides	Pentachlorophenol	11000	U,z	11000
SAII18	WASTE-R-3-COMP	Waste	Metals	Antimony	2.5	UJ,m	2.5
SAII18	WASTE-R-3-COMP	Waste	Metals	Calcium	8500	J,d	63

Table 6-53b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII03

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII03	GW-UAA-3-116	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII03	GW-UAA-3-116	Groundwater	Metals	Silver	0.01	UJ,p	0.01
SAII03	GW-UAA-3-116	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII03	GW-UAA-3-64	Groundwater	VOCs	Acetone	25	R,c	25
SAII03	GW-UAA-3-64	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII03	GW-UAA-3-64	Groundwater	Methane	Methane	170	J,r	0.19
SAII03	GW-UAA-3-64	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII03	GW-UAA-3-64	Groundwater	Metals	Beryllium	0.004	UJ,p	0.004
SAII03	GW-UAA-3-64	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII03	GW-UAA-3-64	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII03	GW-UAA-3-64	Groundwater	Metals	Silver	0.01	UJ,p	0.01
SAII03	GW-UAA-3-74	Groundwater	VOCs	Acetone	25	R,c	25
SAII03	GW-UAA-3-84	Groundwater	VOCs	Acetone	250	R,c	250
SAII03	GW-UAA-3-84	Groundwater	SVOCs	P-Chloroaniline	470	J,s	100
SAII03	GW-UAA-3-94	Groundwater	VOCs	Acetone	500	R,c	500
SAII03	GW-UAA-3-94	Groundwater	SVOCs	2,4-Dinitrophenol	50	R,c	50
SAII03	GW-UAA-3-94	Groundwater	SVOCs	2,4-Dinitrotoluene	10	UJ,r	10
SAII03	GW-UAA-3-94	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,c	50

Table 6-67b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII18

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII18	WASTE-R-1-19FT	Waste	VOCs	1,1-Dichloroethane	11000	J,l	16000
SAII18	WASTE-R-1-19FT	Waste	VOCs	Acetone	180000	J,c	160000
SAII18	WASTE-R-1-19FT	Waste	VOCs	Chloromethane	32000	U,z	32000
SAII18	WASTE-R-1-COMP	Waste	SVOCs	Chrysene	22000	R,l	22000
SAII18	WASTE-R-1-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	2700	J,l	22000
SAII18	WASTE-R-1-COMP	Waste	Pesticides	Endosulfan II	170	J,g	440
SAII18	WASTE-R-1-COMP	Waste	Pesticides	gamma-Chlordane	530	J,g	230
SAII18	WASTE-R-1-COMP	Waste	Herbicides	2,2-Dichloropropionic Acid	2700000	UJ,c	2700000
SAII18	WASTE-R-1-COMP	Waste	Herbicides	MCPP	2700000	UJ,c	2700000
SAII18	WASTE-R-1-COMP	Waste	Herbicides	Pentachlorophenol	23000	U,z	23000
SAII18	WASTE-R-1-COMP	Waste	Metals	Antimony	2.4	UJ,m	2.4
SAII18	WASTE-R-1-COMP	Waste	Metals	Cadmium	0.15	J,p	0.61
SAII18	WASTE-R-1-COMP	Waste	Metals	Calcium	8200	J,d	61
SAII18	WASTE-R-1-COMP	Waste	Metals	Lead	16	J,m	0.61
SAII18	WASTE-R-1-COMP	Waste	Metals	Magnesium	2200	J,m	61
SAII18	WASTE-R-1-COMP	Waste	Metals	Manganese	140	J,d	1.2
SAII18	WASTE-R-1-COMP	Waste	Metals	Potassium	850	J,m	120
SAII18	WASTE-R-1-COMP	Waste	Metals	Sodium	220	J,m	61
SAII18	WASTE-R-1-COMP	Waste	Metals	Vanadium	20	J,m	1.2
SAII18	WASTE-R-1-COMP	Waste	Metals	Zinc	98	J,d	2.4
SAII18	WASTE-R-2-20FT	Waste	VOCs	Acetone	31000	R,c	31000
SAII18	WASTE-R-2-COMP	Waste	SVOCs	Chrysene	82000	R,l	82000
SAII18	WASTE-R-2-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	82000	R,l	82000
SAII18	WASTE-R-2-COMP	Waste	Pesticides	4,4'-DDT	820	UJ,c	820
SAII18	WASTE-R-2-COMP	Waste	Pesticides	beta-BHC	2200	J,g	420
SAII18	WASTE-R-2-COMP	Waste	Pesticides	Dieldrin	1600	J,c	820
SAII18	WASTE-R-2-COMP	Waste	Pesticides	Endosulfan I	1800	J,g	420
SAII18	WASTE-R-2-COMP	Waste	Pesticides	Endosulfan Sulfate	2000	J,c	820
SAII18	WASTE-R-2-COMP	Waste	Pesticides	Endrin	820	UJ,c	820
SAII18	WASTE-R-2-COMP	Waste	Pesticides	Endrin Ketone	820	UJ,c	820
SAII18	WASTE-R-2-COMP	Waste	Pesticides	gamma-BHC (Lindane)	680	J,g	420

Sample identification WASTE-R-3-COMP was incorrectly assigned as WASTE-R-3-22FT on the chain-of-custody (COC) form for all non-volatile analyses. This error was found by the field crew after the laboratory logged-in this sample as WASTE-R-3-22FT. The correction was not made by the laboratory. The incorrect sample ID was crossed-out and the correct sample ID was entered by the reviewer.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. Except those rejected data point, all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

0.0421 mg/kg, cadmium at -0.0599 mg/kg, calcium at 2.6774 mg/kg, and sodium at 23.4188 mg/kg. Positive cadmium results in samples WASTE-R-1-COMP, WASTE-R-2-COMP, and WASTE-R-4-COMP were flagged "J, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Since all other results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Aluminum, barium, calcium, chromium, copper, magnesium, manganese, thallium, and vanadium were detected in the initial calibration blank (ICB) and/or continuing calibration blanks (CCBs) at low levels. Mercury was detected in the ICB and several CCBs at concentration ranging from -0.066 µg/L to -0.099 µg/L. Since all results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. All samples, except sample WASTE-R-4-COMP, displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. Since positive cadmium results in the associated samples were flagged "J, p" due to preparation blank failure, no additional data flags were applied. Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (61%), lead (205%), magnesium (413% and 142%), potassium (128% and 150%), sodium (127%), and vanadium (132%) were outside the control limits in the SOIL-R-3-6FT MS/MSD pair. These analytes, except antimony, were all detected in the associated samples and were flagged "J, m". Antimony results in the associated samples were flagged "UJ, m". The post-digestion spike analysis was performed and recoveries for these compounds were in control. The RPDs for antimony (26.29%), calcium (28.85%), lead (32.0%), magnesium (40.4%), manganese (25.6%), and zinc (45.4%) were greater than the acceptance limit in the SOIL-R-3-6FT MS/MSD pair. Positive results, except those previously flagged due to MS/MSD recovery failure, were flagged "J, d". The post-digestion spike recovery for mercury (73%) was less than the control limit (i.e., 85%) in sample WASTE-R-3-COMP. The mercury result in this sample was determined by a single point method of standard addition. No data qualifying action was taken. The %D for mercury (27.16%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (WASTE-R-3-COMP). Since the positive mercury result was previously flagged due to holding time violation, no additional data flags were applied.

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, most of the samples were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised. The SVOC extraction date was incorrectly listed on the Form I for sample WASTE-R-1-COMP (7/19/02 instead of 7/22/02). The correct extraction date was entered on the Form Is by the reviewer.

Table 6-54a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII05

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII05	GW-UAA-1-20FT	6/14/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII05	GW-UAA-1-30FT	6/14/02	Groundwater			X	X												
SAII05	GW-UAA-1-40FT	6/14/02	Groundwater			X	X												
SAII05	GW-UAA-1-50FT	6/17/02	Groundwater			X	X												
SAII05	GW-UAA-1-60FT	6/17/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII05	GW-UAA-1-70FT	6/17/02	Groundwater			X	X												
SAII05	GW-UAA-1-80FT	6/17/02	Groundwater			X	X												

MCPP at 19.4%, for 2,4-D at 16.7%, and for PCP at 15.5%. Since associated samples were QC samples, no data qualifying action was taken. The CCV analyzed on 8/8/02 at 10:37 displayed %Ds greater than the control limit on both columns for MCPP at 18.6% and 19.3% and dalapon at 22.3% and 17.6%. The CCV analyzed on 8/8/02 at 20:18 displayed %Ds greater than the control limit on the primary column for MCPP at 23.1%, dalapon at 20.5%, and MCPA at 18.4%; and on the confirmation column for MCPP at 24.4% and dalapon at 19.1%. MCPP and dalapon results in the associated samples were flagged "UJ, c". Since MCPA was not detected in the associated samples and CCV had an acceptable %D on the confirmation column, no data qualifying action was taken. The CCV analyzed on 8/13/02 at 16:01 displayed %Ds greater than the control limit on the primary column for MCPP at 17.1% and 2,4DB at 18.2%; and on the confirmation column for 2,4-DB at 20.7%. Since MCPP and 2,4-DB results were not used for data interpretation in the associated sample WASTE-R-4-COMPDL, no data qualifying action was taken. Surrogates were diluted out in all samples (DF from 20 to 4000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Due to the abundance of target compounds in the parent sample (WASTE-R-3-COMP), the MS and MSD were analyzed at a dilution of 500. All spiking compounds were diluted out and, therefore, the MS/MSD summary form was not provided in this data package. The LCS recovery for 2,4-D was greater than the upper control limit (i.e., 153%) at 172%. Since the LCS was prepared with the same water used for the method blank that displayed the positive detection for 2,4-D at 23.5 µg/kg, which affected the %R, no further data qualifying action was taken. Sample WASTE-R-4-COMP displayed a 2,4-D result that exceeded the calibration range. This result was flagged "J, q". This sample was re-analyzed at a greater dilution (DF=50) and the diluted result was within the calibration range. It is recommended that the diluted 2,4-D result be used for data interpretation. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., 40%) for PCP in all samples. These PCP results, except those flagged due to method blank contamination, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, mercury was analyzed outside the holding time by two to three days for samples WASTE-R-2-COMP and WASTE-R-3-COMP. Positive mercury results in these two samples were flagged "J, h". The initial CRDL percent recoveries for aluminum (124%), selenium (74%), and thallium (134%) and the final CRDL recoveries for lead (78%), selenium (125%), and sodium (78%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The CRDL percent recoveries for mercury (79% and 65%) were less than the lower control limit (i.e., 80-120%). Since associated mercury results were previously flagged due to holding time violation, no additional data flags were applied. The preparation blank contained aluminum at 2.5462 mg/kg, barium at

DATA VALIDATION REPORT - Level IV Review

SDG No.:__SAII05_____ **Fraction:__VOCs, SVOCs, Pest, PCBs, Herbs, Methane, Wet Chem, Metals_**

Lab:___STL, Savannah____ **Project Name:__Sauget Area 2_____**

Reviewer:__RA_____ **Date:____February 2, 2006_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied, the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the USEPA National Functional Guidelines for Data Review, modified to reflect the level of review requested, the specifics of the analytical method employed, and provisions of the approved project-specific QAPP.

Major Anomalies: The initial and continuing calibration RRFs were less than the QC limit (i.e. 0.05) for acetone for the initial calibration analyzed on 6/12/02 (0.0468), and the continuing calibration analyzed on 6/26/02 (0.0405). All associated sample results were non-detects and were flagged "R,c."

For the SVOC analyses, the LCS recoveries were less than the QC limit (i.e., 10-144%) for 3,3-dichlorobenzidine at 0% for the LCS analyzed on 7/13/02 and 7/16/02. The LCSD recoveries for this compound were in control on both analyses. The %RPDs for the LCS/LCSD analysis were greater than the QC limit (i.e., 72%) at 200%. All associated sample results were non-detects and were flagged "R,l."

Minor Anomalies: For the VOC analyses, the continuing calibration %D was greater than the QC limit (i.e., 20%) for bromomethane (-28.7%) for the continuing calibration analyzed on 6/26/02. No positive results were reported for this compound and the failure was not serious enough (i.e. > 50%) to affect the non-detects. No data qualifying action was required. The MSD percent recoveries were greater than the QC limit for 4-methyl-2-pentanone (i.e., 50-150%) at 180% and for 2-hexanone (i.e., 48-155%) at 180% and for 1,1,2,2-tetrachloroethane (i.e., 67-133%) at 142%. The %RPDs were greater than the QC limit for bromomethane (i.e, 33%) at 69%, chloroethane (i.e., 34%) at 38%, carbon disulfide (i.e., 23%) at 24%, 2-butanone (i.e., 31%) at 42%, 2-hexanone (i.e., 36%) at 40%, and 1,1,2,2-tetrachloroethane (i.e., 22%) at 24%. Since these failures were marginally outside the QC limit and the LCS recoveries for these compounds were in control, no data qualifying action was required.

For the SVOC analyses, the initial calibration %RSD was greater than the QC limit (i.e., 15%) for benzo (k) fluoranthene (15.212%) for the initial calibration analyzed on 6/30/02. No positive results were reported for these compounds and the failures were not serious enough (i.e. > 50%) to affect the non-detects. No data qualifying action was

For the pesticides analyses, the CCV analyzed on 8/2/02 at 15:17 displayed %Ds greater than the control limit on the primary column for methoxychlor (25.8%) and tetrachloro-m-xylene (TCMX, -16.2%) and on the confirmation column for 4,4'-DDT (18.5%) and methoxychlor (20.6%). The CCV analyzed on 8/3/02 at 00:38 displayed %Ds greater than the control limit on the primary column for endrin (16.0%), 4,4'-DDT (19.8%), methoxychlor (44.7%), endrin ketone (19.1%), 2,4-DCAA (-19.5%), and TCMX (-15.5%); and on the confirmation column for heptachlor (18.6%), dieldrin (16.0%), endrin (17.0%), 4,4'-DDD (19.7%), 4,4'-DDT (26.1%), endosulfan sulfate (19.7%), methoxychlor (42.0%), endrin ketone (21.3%), and TCMX (-15.8%). Positive heptachlor, dieldrin, and endosulfan sulfate results in the associated samples were flagged "J, c". Endrin, methoxychlor, 4,4'-DDT, and endrin ketone results in the associated samples were flagged "J, c" for positive detections and "UJ, c" for non-detects. Since other outliers either had an acceptable %D on the other column or were surrogates, no data qualifying action was taken. The CCV analyzed on 8/6/02 at 14:28 displayed a %D greater than the control limit on the confirmation column for TCMX (17.6%). The CCV analyzed on 8/7/02 at 02:36 displayed %Ds greater than the control limit on the primary column for aldrin (15.7%) and on the confirmation column for TCMX (-19.3%). Since all outliers either had an acceptable %D on the other column or were surrogates, no data qualifying action was taken. Surrogates were diluted out in all samples (DF from 100 to 200). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Due to the abundance of target compounds in the parent sample (WASTE-R-4-COMP), the MS and MSD were analyzed at a dilution of 100. All spiking compounds were diluted out and, therefore, the MS/MSD summary form was not provided in this data package. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, surrogates were diluted out in all samples (DF from 10 to 100). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken.

For the herbicides analyses, the method blank prepped on 7/22/02 displayed a positive detection for 2,4-D at 4.7 µg/kg and pentachlorophenol (PCP) at 1.8 µg/kg. Positive PCP results less than five times the amount found in the blank were flagged "U, z", or, "U, z" at the reporting limit (RL) when the reported result was less than the RL. Since 2,4-D results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The CCV analyzed on 8/1/02 at 22:38 displayed a %D greater than the control limit on the confirmation column for 2,4-DB at -19.8%. The CCV analyzed on 8/2/02 at 12:42 displayed %Ds greater than the control limit on the primary column for

required. The continuing calibration %Ds were greater than the QC limit (i.e., 20%) for 4-nitrophenol (31.4%) and benzo (k) fluoranthene (-25.9%) for the continuing calibration analyzed on 7/2/02 and bis (2-chloroisopropyl) ether (24%), 2-nitroaniline (30.3%), 4-nitrophenol (36.1%), 2,4-dinitrotoluene (21.3%), 4-nitroaniline (24.3%), pentachlorophenol (20.3%), and indeno (1,2,3-cd) pyrene (20.8%) for the continuing calibration analyzed on 7/16/02. No positive results were reported for these compounds and the failures were not serious enough (i.e. > 50%) to affect the non-detects. No data qualifying action was required. The %RPD for the LCS/LCSD analyses was greater than the QC limit for 4-chloroaniline (i.e., 67%) at 72%. No positive results were reported and no data qualifying action was required.

For the pesticides analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 15%) for methoxychlor (16.2%) on the primary column, and heptachlor (23.2%) on the confirmation column for the continuing calibration analyzed on 6/28/02 at 1132. The continuing calibration %D was also greater than the QC limit (i.e., 15%) for heptachlor (17.1%) on the confirmation column for the continuing calibration analyzed on 6/28/02 at 1854. The continuing calibration %D was greater than the QC limit (i.e., 15%) for heptachlor (15.2%) on the confirmation column for the continuing calibration analyzed on 7/2/02 at 1233. The continuing calibration %Ds were also greater than the QC limit (i.e., 15%) for 4,4-DDE (16.6%), 4,4-DDD (21.8%), endosulfan II (15.7%), endrin ketone (21.5%) on the primary column and heptachlor (25.8%) on the confirmation column for the continuing calibration analyzed on 7/3/02 at 0009. Since these compounds met criteria on the other column and were not detected in the associated samples, no data qualifying action was required. The %RPDs for the LCS analyses were greater than the QC limit for gamma-chlordane (i.e., 18%) at 21%, for endrin (i.e., 25%) at 31%, and endosulfan II (i.e., 22) at 25%. No positive results were reported and no data qualifying action was required. The %D between the two columns was greater than the QC limit (i.e., 40%) for gamma-BHC (84.7%) in sample GW-UAA-1-60FT. This result was flagged "J,g" in this sample. It should be noted that the laboratory reported the lower of the two values due to potential matrix interference. This result may be biased low.

For the herbicides analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 15%) for 2,4-DB (16.7%/20.3%) on both columns for the continuing calibration analyzed on 6/25/02 at 1711. Non-detects were flagged "UJ,c" for 2,4-DB. The continuing calibration %Ds were greater than the QC limit (i.e., 15%) for 2,4-DB (19.9%/20.5%) on both columns for the continuing calibration analyzed on 7/2/02 at 2059. Non-detects were flagged "UJ,c" in the associated samples. The LCS recovery was greater than the QC limit (i.e., 10-100%) for 2,4,5-TP at 105%. No positive results were reported and no data qualifying action was required. The method blank analyzed on 6/25/02 contained 2,4-D at 0.22 ug/L. The positive 2,4-D result less than 5 times the blank concentration was flagged "U,z" at the reporting limit in sample GW-UAA-1-60FT. The %RPDs for the LCS/LCSD analyses were greater than the QC limit (i.e., 28%) for MCPA (32%), (i.e., 34%) for pentachlorophenol (50%), and (i.e., 43%) for

should not be used for data interpretation. Methylene chloride results from re-analyzed samples should be used for data interpretation. Surrogates were diluted out in all samples. Since the affected samples were analyzed at dilutions greater than 10 (DF from 400 to 5000), no data qualifying action was taken. The med-level LCS recoveries for 1,1-dichloroethane were greater than the upper control limit (i.e., 129%) at 132% (1O0722MB) and 132% (1O0723MB). The positive 1,1-dichloroethane result in sample WASTE-R-1-19FT was flagged "J, l". Sample WASTE-R-3-22FT displayed a trichloroethene result that exceeded the calibration range. This result was flagged "J, q". This sample was re-analyzed on 7/23/02 at a greater dilution and the trichloroethene result was within the calibration range. The high methylene chloride result in this diluted sample may have been introduced from the methanol used to preserve the sample. This diluted sample result was crossed-out by the reviewer and should not be used for data interpretation. This sample was re-analyzed on 7/25/02 (from a bulk container) and displayed an acceptable trichloroethene result free of methylene chloride contamination. The positive trichloroethene result from the last analysis (7/25/02) should be used for data interpretation.

For the SVOCs analyses, the continuing calibration verification (CCV) analyzed on 8/5/02 at 10:15 displayed %Ds greater than the control limit for 2,4-dinitrophenol at –33.3%, 2,4-dinitrotoluene at -20.5%, and 4,6-dinitro-2-methyl-phenol at -26.0%. The CCV analyzed on 8/5/02 at 10:44 displayed a %D greater than the control limit for dinoseb at –24.8%. Since these compounds in the associated sample were not used for data interpretation, no data qualifying action was taken. Surrogates were diluted out in all samples (DF from 10 to 500). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Sample WASTE-R-2-COMP displayed a 2,4-dichlorophenol result that exceeded the calibration range. This result was flagged "J, q". This sample was re-analyzed on 7/30/02 at a greater dilution (DF=500) and the result was within the calibration range. The internal standard peak area for perylene-d12 (42.2%) was less than the lower control limit (i.e., 50%) in this diluted sample. These diluted sample results were crossed-out by the reviewer and should not be used for data interpretation. The diluted sample was re-analyzed on 8/5/02 and displayed a chrysene-d12 internal standard peak area less than the control limit at 48.9%. Since the 2,4-dichlorophenol result was not quantified based on either perylene-d12 or chrysene-d12, no data qualifying action was taken. It is recommended that the second diluted 2,4-dichlorophenol result (higher value) be used for data interpretation. Sample WASTE-R-4-COMP displayed phenol and 2,4,6-trichlorophenol results that exceeded the calibration range. These two results were flagged "J, q". This sample was re-analyzed at a greater dilution (DF=40) and these two results were within the calibration range. It is recommended that the diluted phenol and 2,4,6-trichlorophenol results be used for data interpretation.

2,4-DB (46%). No positive results were reported and no data qualifying action was required. The %D between the two columns was greater than the QC limit (i.e., 40%) for 2,4-D (40.6%) in sample GW-UAA-1-60FT. This result was previously flagged and no further data qualifying action was required.

For the metals analyses, the method blank contained negative results for aluminum, arsenic, and cobalt. Positive results less than 5 times the blank concentration were flagged "J,p" and non-detects were flagged "UJ,p" in the associated samples. The method blank also contained positive results for barium, beryllium, calcium, thallium, and silver. Positive results less than 5 times the blank concentration were flagged "U,p" in the associated samples. The initial and continuing calibrations also contained negative results for mercury, calcium, arsenic and aluminum. Non-detects not previously flagged due to other failures were flagged "UJ,o" in the associated samples. The initial and continuing calibrations also contained positive results for aluminum, beryllium, barium, manganese, copper, silver, and vanadium. Positive results not previously flagged due to other failures were flagged "U,o" in the associated samples. The LCS recovery was greater than the QC limit (i.e., 80-120%) for beryllium at 121%. The positive beryllium results were previously flagged due to method blank contamination and no further data qualifying action was required. The MS/MSD recoveries were greater than the QC limit (i.e., 75-125%) for potassium (160%/157%). Positive results were flagged "J,m" in both samples. The serial dilution %D was greater than the QC limit (i.e., 10%) for aluminum at 19.5%. Positive results were flagged "J,s" in both samples.

Correctable Anomalies: None.

Comments: None.

Signed:_____

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII18_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____JA_____ **Date: _____September 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 (RRF=0.0487) and three continuing calibrations analyzed on 7/22/02 09:45 (RRF=0.0416), 7/23/02 10:06 (RRF=0.0420), and 7/25/02 16:17(RRF=0.0417) displayed relative response factors (RRFs) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973. All acetone results were flagged "J, c" for positive detections and "R, c" for non-detects.

For the SVOC analyses, the LCS/LCSD recoveries for n-nitrosodiphenylamine (48% and 48%) and butylbenzylphthalate (54% and 54%) were less than the lower control limits in the LCS/LCSD pair. This LCS/LCSD pair was re-analyzed on 7/29/02. The LCS recoveries for n-nitrosodiphenylamine (48%) and chrysene (54%) were less than the lower control limits. Chrysene and n-nitrosodiphenylamine results in the associated samples were flagged "J, l" for positive detections and "R, l" for non-detects.

Minor Anomalies: For the VOCs analyses, the continuing calibration verifications (CCVs) analyzed on 7/22/02 at 09:45 displayed a %D greater than the control limit for 1,1-dichloroethane at 31.4%. The CCV analyzed on 7/25/02 at 16:17 displayed a %D greater than the control limit for 2-hexanone at -20.7%. Since these two compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The method blank, 1O0723MB, displayed positive detections for chloromethane at 84 µg//kg and ethyl benzene at 27 µg//kg. The chloromethane result in sample WASTE-R-1-19FT was flagged "U, z" at the reporting limit. Since ethyl benzene results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The methanol preserved samples were possibly contaminated with methylene chloride. All samples were re-analyzed from bulk containers for confirmation. Methylene chloride results in all original samples were crossed-out by the reviewer and

Table 6-54b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII05

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII05	GW-UAA-1-20FT	Groundwater	Herbicides	2,4-D	0.5	UJ,c	0.5
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Aluminum	1.4	J,s	0.2
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Beryllium	0.004	U,p	0.004
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Potassium	8.6	J,m	1
SAII05	GW-UAA-1-20FT	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII05	GW-UAA-1-60FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0085	J,g	0.05
SAII05	GW-UAA-1-60FT	Groundwater	Herbicides	2,4-D	0.5	U,z	0.5
SAII05	GW-UAA-1-60FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Aluminum	0.95	J,s	0.2
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Arsenic	0.0047	J,p	0.01
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Beryllium	0.004	U,p	0.004
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Cobalt	0.00086	J,p	0.01
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Potassium	14	J,m	1
SAII05	GW-UAA-1-60FT	Groundwater	Metals	Vanadium	0.01	U,o	0.01

Table 6-67a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII18

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII18	WASTE-R-1-19FT	7/11/02	Waste			X													
SAII18	WASTE-R-1-COMP	7/11/02	Waste				X	X	X	X	X						X		
SAII18	WASTE-R-2-20FT	7/11/02	Waste			X													
SAII18	WASTE-R-2-COMP	7/11/02	Waste				X	X	X	X	X						X		
SAII18	WASTE-R-3-22FT	7/12/02	Waste			X													
SAII18	WASTE-R-3-COMP	7/12/02	Waste				X	X	X	X	X						X		
SAII18	WASTE-R-4-24FT	7/12/02	Waste			X													
SAII18	WASTE-R-4-COMP	7/12/02	Waste				X	X	X	X	X						X		

Table 6-66b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII17

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII17	Waste-R-3-22FT-T	Waste	SVOCs	Cresol o,m,p	2.1	J,s	0.31

Table 6-55a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII06

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII06	GW-AA-O-1-16	6/18/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII06	GW-AA-O-1-26	6/18/02	Groundwater			X	X												
SAII06	GW-AA-O-1-36	6/18/02	Groundwater			X	X												
SAII06	GW-AA-O-1-46	6/18/02	Groundwater			X	X												
SAII06	GW-AA-O-1-46-DUP	6/18/02	Groundwater			X	X												
SAII06	GW-AA-O-1-56	6/18/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII06	GW-UAA-1-100FT	6/18/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII06	GW-UAA-1-110FT	6/18/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII06	GW-UAA-1-90FT	6/18/02	Groundwater			X	X												
SAII06	GW-UAA-2-20FT	6/19/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII06	GW-UAA-2-30FT	6/19/02	Groundwater			X	X												
SAII06	GW-UAA-2-30FT-DUP	6/19/02	Groundwater			X	X												
SAII06	GW-UAA-2-40FT	6/19/02	Groundwater			X	X												
SAII06	GW-UAA-2-50FT	6/19/02	Groundwater			X	X												

calibration analyzed on 8/2/02 at 1517. The %Ds for endrin (16% and 17%) and methoxychlor (44.7% and 42%) on both columns were greater than the criterion for the continuing calibration analyzed on 8/3/02 at 0038. Positive results were flagged "J,c" and non-detects were flagged "UJ,c" in the associated samples unless previously flagged due to other anomalies. The recoveries for surrogate TCX were less than the QC limit (i.e., 30-150%) in samples 0718P-RMB (13% and 15%), 0718P-RFB (18% and 10%), and 0718P-RMBLCS (27%). No action was required since these are QC samples. The recovery for surrogate TCX was less than the QC limit (i.e., 30-150%) in sample WASTE-R-3-22FT (25%). Since other surrogate recoveries were acceptable, no data qualifying action was taken. The RPDs between primary and confirmatory columns for methoxychlor in sample WASTE-R-4-COMP-T (66.7%) and heptachlor in sample WASTE-R-3-22FT (60%) were greater than the acceptance limit (i.e., < 40%). These results were flagged "J,g" unless previously flagged due to other anomalies.

For the herbicide analyses, the %D for 2,4-D (16.7%) on the primary column was greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/2/02 at 1242. Positive 2,4-D results were flagged "J, c" in the associated samples. Surrogates were diluted out in samples WASTE-R-2-COMP-T (DF=100) and WASTE-R-1-COMP-T (DF=100). No data qualifying action was taken for these two samples since the dilution factors were greater than 10. The RPD between primary and confirmatory column for 2,4-D in sample WASTE-R-3-22FT (42.4%) was greater than the acceptance limit (i.e., < 40%). This result was previously flagged due to calibration failure and no data qualifying action was taken.

For the metal analyses, the CRDL percent recovery for arsenic (79%) was less than the control limit (i.e., 80-120%). Since this recovery was only marginally outside the control limit, no data qualifying action was taken. The continuing calibration blanks contained lead at 0.00162 mg/L and chromium at 0.00197 mg/L. All associated sample results were greater than 5 times the blank concentration and no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Except for data flagged "R", all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII06_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, Dissolved Gases, Wet Chemistry_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____August 12,2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: For the VOCs analyses, acetone displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) in the initial calibration (ICAL) at 0.0468 and in the CCV analyzed on 6/27/02 at 09:41 at 0.03769. All associated sample results were flagged "R,c".

Minor Anomalies: For the VOCs analyses, the MSD displayed %Rs greater than the upper control limit for 4-methyl-2-pentanone at 180%, for 2-hexanone at 180%, and for 1,1,2,2-tetrachloroethane at 142%. The MS/MSD pair displayed %RPDs greater than the control limit for bromomethane at 69%, for chloroethane at 38%, for carbon disulfide at 24%, for 2-butanone at 42%, for 2-hexanone at 40%, and for 1,1,2,2-tetrachloroethane at 24%. Since all MS recoveries met criteria, no data qualifying action was taken. Samples GW-UAA-1-100FT, GW-UAA-1-110FT, GW-UAA-1-90FT, and GW-UAA-2-50FT displayed analytes with concentrations greater than the calibration range. These analytes were flagged "J,q". These samples were reanalyzed at dilutions and the analytes were within calibration range. It is recommended that the reanalyzed results be used for data interpretation.

For the SVOCs analyses, the method blank analyzed 7/3/02 displayed positive detections for di-n-butylphthalate at 1.0 ug/L and for bis (2-ethylhexyl) phthalate at 9.6 ug/L. Since all associated sample results were non-detect, no data qualifying action was taken. The CCV analyzed on 7/3/02 at 14:32 displayed a %D greater than the control limit (i.e. 20%) for 4-nitrophenol at 23.1%. The CCV analyzed on 7/5/02 at 07:41 displayed %Ds greater than the control limit for 2,4-dinitroohenol at 25%, for 4-nitrophenol at 39%, for pyrene at -23.4%, and for benzo(k)fluoranthene at -25.1%. Since all associated sample results were non-detect and the affected analytes were only marginally outside the control limit, no data qualifying action was taken.

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII17_____ **Fraction: __TCLP VOCs, SVOCs, Pest., PCBs, Herb.,_Metals, _____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____September 30, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the herbicides analyses, the recovery for surrogate 2,4-DCAA in sample WATE-R-4-COMP-T (0%) was less than the QC limit (i.e., 27-133%) on the confirmation column. Positive results were flagged "J,s" and non-detects were flagged "R,s". The percent completeness was less than the QC limit (i.e., 90%) at 87%.

Minor Anomalies: For the VOC analyses, the continuing calibration analyzed on 7/31/02 displayed a %D greater than the control limit (i.e., 20%) for 2-butanone at 52.8%. Positive results were flagged "J,c" and non-detects were flagged "UJ,c" in the associated samples. The MS recovery (174%) and the %RPD (40%) were greater than the QC limit for 2-butanone. Since the MSD and LCS recoveries were in control, no data qualifying action was taken.

For the SVOC analyses, surrogates were diluted out in samples WASTE-R-4-COMP-T (DF=5), WASTE-R-3-22-FT (DF=5), WASTE-R-2-COMP-T (DF=25), and WASTE-R-1-COMP-T (DF=10). Positive results were flagged "J,s" and non-detects were flagged "UJ,s" in samples WASTE-R-4-COMP-T and WASTE-R-3-22-FT. No data qualifying action was taken for the other two samples since the dilution factors were greater than or equal to 10. Several compounds exceeded the calibration range and were flagged "E" by the laboratory. These results were flagged "J,q". The associated samples were re-analyzed at different dilution factors with acceptable results. Results from the dilution analyses should be used for data interpretation.

For the pesticide analyses, the %Ds for methoxychlor (38.1%) and (43.4%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibrations analyzed on 7/22/02 at 1436 and at 2019, respectively. Since this compound had an acceptable %D on the other column and no positive results were reported in the associated samples, no data qualifying action was taken. The %Ds for methoxychlor (25.8% on the primary column and 20.6% on the confirmation column) were greater than the criterion for the continuing

For the pesticides analyses, the CCV analyzed on 6/29/02 at 14:39 displayed a %D greater than the control limit (i.e. 15%) for surrogate 2,4-DCAA at -21.4% on the primary column and for surrogate tetrachloro-meta-xylene (TMX) at -19.3% on the confirmation column. The CCV analyzed on 6/30/02 at 00:53 displayed %Ds greater than the control limit for surrogate 2,4-DCAA at -20.2% on the primary column and for heptachlor at 16.8%, for surrogate 2,4-DCAA at -20.9%, and for surrogate TMX at -16.2% on the confirmation column. The CCV analyzed on 7/1/02 at 10:40 displayed %Ds greater than the control limit for surrogates 2,4-DCAA at -22.0% and for TMX at -16.6% on the primary column and for heptachlor at 20.4% and for surrogate 2,4-DCAA at -20.6% on the confirmation column. The CCV analyzed on 7/1/02 at 22:06 displayed %Ds greater than the control limit for endrin aldehyde at -16.5% and for surrogate 2,4-DCAA at -22.1% on the primary column and for heptachlor at 18.2% and for surrogate 2,4-DCAA at -18.1% on the confirmation column. The CCV analyzed on 7/2/02 at 12:33 displayed %Ds greater than the control limit for 2,4-DCAA at -21.9% on the primary column and at -18.0% on the confirmation column. The CCV analyzed on 7/3/02 at 00:09 displayed %Ds greater than the control limit for 4,4'-DDE at 16.6%, for 4,4'-DDD at 21.8%, for endosulfan II at 15.7%, for endrin ketone at 21.5%, and for surrogate decachlorobiphenyl (DCBP) at 16.2% and for heptachlor at 25.8% and for surrogate 2,4-DCAA at -17.2% on the confirmation column. Since the above mentioned anomalies were either surrogates or the affected analytes met criteria on the other column or the associated sample results were non-detect, no data qualifying action was taken. Sample 0621Q-MB displayed a %R less than the lower control limit for surrogate TMX on the confirmation column at 28%. Sample GW-UAA-O-1-56 displayed a %R less than the lower control limit for surrogate DCBP at 28% on the confirmation column. Sample GW-UAA-2-20FT displayed a %R less than the lower control limit for surrogate TMX on the confirmation column at 28%. Since the other surrogate met criteria, no data qualifying action was taken. Sample GW-UAA-O-1-110FT displayed %Rs less than the lower control limit for surrogates TMX at 26% and for DCBP at 28% on the confirmation column. Sample GW-UAA-1-100FT displayed %Rs less than the lower control limit for surrogates TMX at 26% and DCBP at 26% on the confirmation column. Associated analytes with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". Samples GW-UAA-O-1-16, GW-UAA-O-1-56, GW-UAA-1-100FT, and GW-UAA-1-110FT displayed %RPDs greater than the control limit (i.e. 40%) for several compounds. These analytes were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These reported results may possibly be less than the actual concentration and may be biased low.

For the herbicides analyses, the CCV analyzed on 6/25/02 at 17:11 displayed a %D greater than the control limit (i.e. 15%) on the primary and confirmation column for 2,4-DB at 16.7% and 20.3%, respectively. All associated sample results were flagged "UJ,c". The method blank displayed a positive detection for

Table 6-66a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII17

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII17	Waste-R-1-COMP-T	7/11/02	Waste				X	X	X								X		
SAII17	Waste-R-2-COMP-T	7/11/02	Waste				X	X	X								X		
SAII17	Waste-R-3-22FT-T	7/12/02	Waste				X	X	X								X		
SAII17	Waste-R-4-COMP-T	7/12/02	Waste				X	X	X								X		

2,4-D at 0.22 ug/L. Since all associated sample results were non-detect, no data qualifying action was taken. The LCS/LCSD displayed %Rs greater than the upper control limit for 2,4,5-TP at 105% and 105%. Since all associated sample results were non-detect, no data qualifying action was taken. Sample GW-UAA-O-1-56 displayed a %RPD greater than the control limit between the primary and confirmation column for analyte 2,4,5-T at 50%. The analyte was flagged "J,g". The MS/MSD displayed %Rs greater than the upper control limit for MCPP at 350% and 325%, for MCPA at 250% and 275%, for 2,4,5-TP at 132% and 128% and for 2,4-DB at 325% and 300%. For MCPP, MCPA, and 2,4-DB, since the LCS met criteria, no data qualifying action was taken on associated samples. For 2,4,5-TP, although the LCS also displayed recoveries greater than the control limit, since associated sample results were non-detect, no data qualifying action was taken.

For the metals analyses, the initial and final CRDLs analyzed on 6/27/02 displayed %Rs greater than the upper control limit (i.e. 120%) for lead at 126% and 134%. The final CRDL analyzed on 7/2/02 displayed a %R greater than the upper control limit for antimony at 122%. The initial CRDL analyzed on 7/2/02 displayed a %R less than the lower control limit (i.e. 80%) for thallium at 74%. Since these recoveries are only slightly outside the control limit, no data qualifying action was taken. The final CRDL analyzed on 6/27/02 displayed a %R greater than the upper control limit for thallium at 141%. Since associated sample results are non-detect, no data qualifying action was taken. The initial CRDL analyzed on 7/12/02 displayed a %R less than the lower control limit for selenium at 54%. Since associated sample results were previously flagged for calibration blank contamination, no further data qualifying action was taken. Several analytes displayed positive detections in prep blanks and CCBs. Associated sample results with positive detections less than 5x the amount found in the blank were raised to the reporting limit and were flagged "U,o". Several analytes displayed negative detections in associated CCBs, prep blanks, and ICBs. Associated sample results with positive detections less than 5x the absolute value found in the blank contaminations were flagged "J,o"; non-detects were flagged "UJ,o". The post digestion spike displayed %Rs greater than the upper control limit for calcium at 161% and for lead at 141%. Since the amount found in the parent sample was greater than 4x the amount of spiking solution added, no data qualifying action was taken.

For the dissolved gases analyses, the initial calibration displayed an r^2 value less than the control limit (i.e. 0.990) for methane at 0.986. All associated sample results were flagged "J,r". Samples GW-UAA-1-100FT and GW-UAA-1-110FT displayed concentrations greater than the calibration range. These samples were reanalyzed at dilutions and were within calibration range. It is recommended that the diluted sample results be used for data interpretation.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. All data are usable, except those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-55b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII06	GW-AA-O-1-16	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-AA-O-1-16	Groundwater	Pesticides	alpha-BHC	0.083	J,g	0.05
SAII06	GW-AA-O-1-16	Groundwater	Pesticides	delta-BHC	0.017	J,g	0.05
SAII06	GW-AA-O-1-16	Groundwater	Pesticides	Dieldrin	0.0065	J,g	0.1
SAII06	GW-AA-O-1-16	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0067	J,g	0.05
SAII06	GW-AA-O-1-16	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII06	GW-AA-O-1-16	Groundwater	Methane	Methane	7	J,r	0.19
SAII06	GW-AA-O-1-16	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII06	GW-AA-O-1-16	Groundwater	Metals	Selenium	0.01	UJ,o	0.01
SAII06	GW-AA-O-1-16	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII06	GW-AA-O-1-26	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-AA-O-1-36	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-AA-O-1-46	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-AA-O-1-46-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-AA-O-1-56	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-AA-O-1-56	Groundwater	Pesticides	alpha-BHC	0.019	J,g	0.05
SAII06	GW-AA-O-1-56	Groundwater	Herbicides	2,4,5-T	0.18	J,g	0.5
SAII06	GW-AA-O-1-56	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII06	GW-AA-O-1-56	Groundwater	Methane	Methane	25	J,r	0.19
SAII06	GW-AA-O-1-56	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII06	GW-AA-O-1-56	Groundwater	Metals	Selenium	0.0046	J,o	0.01
SAII06	GW-AA-O-1-56	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII06	GW-UAA-1-100FT	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	beta-BHC	0.02	J,g	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-R-4-6FT	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	25	U,z	25
SAII16	SOIL-R-4-6FT	Soil	Pesticides	alpha-Chlordane	0.13	J,g	2
SAII16	SOIL-R-4-6FT	Soil	Pesticides	gamma-Chlordane	0.46	J,g	2
SAII16	SOIL-R-4-6FT	Soil	Herbicides	2,4-D	39	U,z	39
SAII16	SOIL-R-4-6FT	Soil	Herbicides	Dichlorprop	18	J,g	470
SAII16	SOIL-R-4-6FT	Soil	Herbicides	MCPP	36000	J,c	9400
SAII16	SOIL-R-4-6FT	Soil	Herbicides	Pentachlorophenol	80	U,z	80
SAII16	SOIL-R-4-6FT	Soil	Metals	Aluminum	8400	J,d	21
SAII16	SOIL-R-4-6FT	Soil	Metals	Antimony	2.1	UJ,m	2.1
SAII16	SOIL-R-4-6FT	Soil	Metals	Barium	120	J,m	1.1
SAII16	SOIL-R-4-6FT	Soil	Metals	Cadmium	0.53	U,o	0.54
SAII16	SOIL-R-4-6FT	Soil	Metals	Lead	8.1	J,m	0.54
SAII16	SOIL-R-4-6FT	Soil	Metals	Magnesium	4600	J,d	54
SAII16	SOIL-R-4-6FT	Soil	Metals	Potassium	800	J,m	110
SAII16	SOIL-R-4-6FT	Soil	Metals	Sodium	130	J,m	54
SAII16	SOIL-R-4-6FT	Soil	Metals	Thallium	1.1	UJ,w	1.1
SAII16	SOIL-R-4-6FT	Soil	Metals	Vanadium	29	J,m	1.1
SAII16	SOIL-R-4-6FT	Soil	Metals	Zinc	40	J,d	2.1
SAII16	SOIL-S-1-0.5	Soil	Pesticides	4,4'-DDD	1700	J,c	3600
SAII16	SOIL-S-1-0.5	Soil	Pesticides	4,4'-DDE	3300	J,g	3600
SAII16	SOIL-S-1-0.5	Soil	Pesticides	4,4'-DDT	16000	J,c	3600
SAII16	SOIL-S-1-0.5	Soil	Pesticides	beta-BHC	26000	J,g	1800
SAII16	SOIL-S-1-0.5	Soil	Pesticides	delta-BHC	740	J,g	1800
SAII16	SOIL-S-1-0.5	Soil	Pesticides	gamma-BHC (Lindane)	7500	J,g	1800
SAII16	SOIL-S-1-0.5	Soil	Pesticides	gamma-Chlordane	2700	J,g	1800
SAII16	SOIL-S-1-0.5	Soil	Pesticides	Heptachlor	1500	J,g	1800
SAII16	SOIL-S-1-0.5	Soil	Herbicides	2,4,5-TP (Silvex)	250	J,g	180
SAII16	SOIL-S-1-0.5	Soil	Herbicides	2,4-D	3300	J,c	180
SAII16	SOIL-S-1-0.5	Soil	Metals	Aluminum	7300	J,d	20
SAII16	SOIL-S-1-0.5	Soil	Metals	Antimony	0.58	J,m	2
SAII16	SOIL-S-1-0.5	Soil	Metals	Barium	120	J,m	0.99

Table 6-55b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII06	GW-UAA-1-100FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII06	GW-UAA-1-100FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII06	GW-UAA-1-100FT	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII06	GW-UAA-1-100FT	Groundwater	Metals	Copper	0.0015	J,o	0.02
SAII06	GW-UAA-1-100FT	Groundwater	Metals	Selenium	0.1	UJ,o	0.1
SAII06	GW-UAA-1-100FT	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII06	GW-UAA-1-110FT	Groundwater	VOCs	Acetone	50	R,c	50
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	beta-BHC	0.0089	J,g	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-R-3-6FT	Soil	Metals	Cadmium	3.8	J,m	0.52
SAII16	SOIL-R-3-6FT	Soil	Metals	Lead	110	J,m	0.52
SAII16	SOIL-R-3-6FT	Soil	Metals	Magnesium	2100	J,d	52
SAII16	SOIL-R-3-6FT	Soil	Metals	Potassium	890	J,m	100
SAII16	SOIL-R-3-6FT	Soil	Metals	Sodium	720	J,m	52
SAII16	SOIL-R-3-6FT	Soil	Metals	Thallium	1	UJ,w	1
SAII16	SOIL-R-3-6FT	Soil	Metals	Vanadium	27	J,m	1
SAII16	SOIL-R-3-6FT	Soil	Metals	Zinc	5900	J,d	10
SAII16	SOIL-R-4-0.5FT	Soil	Pesticides	4,4'-DDT	3.6	UJ,c	3.6
SAII16	SOIL-R-4-0.5FT	Soil	Pesticides	Dieldrin	1	J,c	3.6
SAII16	SOIL-R-4-0.5FT	Soil	Pesticides	Endrin	3.6	UJ,c	3.6
SAII16	SOIL-R-4-0.5FT	Soil	Pesticides	Endrin Ketone	3.6	UJ,c	3.6
SAII16	SOIL-R-4-0.5FT	Soil	Pesticides	gamma-Chlordane	0.23	J,g	1.8
SAII16	SOIL-R-4-0.5FT	Soil	Pesticides	Methoxychlor	18	UJ,c	18
SAII16	SOIL-R-4-0.5FT	Soil	Herbicides	2,4,5-TP (Silvex)	9.3	J,c	9
SAII16	SOIL-R-4-0.5FT	Soil	Herbicides	2,4-D	18	U,z	18
SAII16	SOIL-R-4-0.5FT	Soil	Herbicides	2,4-DB	60	J,g	9
SAII16	SOIL-R-4-0.5FT	Soil	Herbicides	Dichlorprop	44	J,g	110
SAII16	SOIL-R-4-0.5FT	Soil	Herbicides	MCPP	5200	J,g	2200
SAII16	SOIL-R-4-0.5FT	Soil	Herbicides	Pentachlorophenol	26	U,z	18
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Aluminum	8700	J,d	20
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Antimony	2	UJ,m	2
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Barium	120	J,m	0.99
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Cadmium	0.49	U,o	0.49
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Lead	8.6	J,m	0.49
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Magnesium	4500	J,d	49
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Potassium	790	J,m	99
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Sodium	110	J,m	49
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Thallium	0.99	UJ,w	0.99
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Vanadium	29	J,m	0.99
SAII16	SOIL-R-4-0.5FT	Soil	Metals	Zinc	43	J,d	2

Table 6-55b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0084	J,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII06	GW-UAA-1-110FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII06	GW-UAA-1-110FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII06	GW-UAA-1-110FT	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII06	GW-UAA-1-110FT	Groundwater	Metals	Selenium	0.1	UJ,o	0.1
SAII06	GW-UAA-1-110FT	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII06	GW-UAA-1-90FT	Groundwater	VOCs	Acetone	50	R,c	50
SAII06	GW-UAA-2-20FT	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-UAA-2-20FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII06	GW-UAA-2-20FT	Groundwater	Methane	Methane	11	J,r	0.19
SAII06	GW-UAA-2-20FT	Groundwater	Metals	Aluminum	0.0081	J,o	0.2
SAII06	GW-UAA-2-20FT	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII06	GW-UAA-2-20FT	Groundwater	Metals	Selenium	0.01	UJ,o	0.01
SAII06	GW-UAA-2-20FT	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII06	GW-UAA-2-30FT	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-UAA-2-30FT-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-UAA-2-40FT	Groundwater	VOCs	Acetone	25	R,c	25
SAII06	GW-UAA-2-50FT	Groundwater	VOCs	Acetone	100	R,c	100

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-R-3-0.5FT	Soil	Pesticides	Endrin	3.7	UJ,c	3.7
SAII16	SOIL-R-3-0.5FT	Soil	Pesticides	Endrin Ketone	3.7	UJ,c	3.7
SAII16	SOIL-R-3-0.5FT	Soil	Pesticides	Methoxychlor	19	UJ,c	19
SAII16	SOIL-R-3-0.5FT	Soil	Herbicides	2,4-D	37	U,z	37
SAII16	SOIL-R-3-0.5FT	Soil	Herbicides	2,4-DB	26	J,c	37
SAII16	SOIL-R-3-0.5FT	Soil	Herbicides	Dichlorprop	75	J,g	450
SAII16	SOIL-R-3-0.5FT	Soil	Herbicides	MCPP	51000	J,c	9000
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Aluminum	10000	J,d	22
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Antimony	2.2	UJ,m	2.2
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Barium	120	J,m	1.1
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Cadmium	0.56	U,o	0.56
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Lead	10	J,m	0.56
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Magnesium	4800	J,d	56
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Potassium	1000	J,m	110
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Sodium	120	J,m	56
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Thallium	1.1	UJ,w	1.1
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Vanadium	30	J,m	1.1
SAII16	SOIL-R-3-0.5FT	Soil	Metals	Zinc	47	J,d	2.2
SAII16	SOIL-R-3-6FT	Soil	VOCs	Acetone	89000	R,c	89000
SAII16	SOIL-R-3-6FT	Soil	Pesticides	4,4'-DDE	1.6	J,g	3.8
SAII16	SOIL-R-3-6FT	Soil	Pesticides	alpha-BHC	0.61	J,g	2
SAII16	SOIL-R-3-6FT	Soil	Pesticides	Endrin	1.9	J,g	3.8
SAII16	SOIL-R-3-6FT	Soil	Pesticides	gamma-Chlordane	3.5	J,g	2
SAII16	SOIL-R-3-6FT	Soil	Pesticides	Heptachlor Epoxide	1.2	J,g	2
SAII16	SOIL-R-3-6FT	Soil	Herbicides	2,4-D	270	J,c	95
SAII16	SOIL-R-3-6FT	Soil	Herbicides	Dichlorprop	49	J,g	1100
SAII16	SOIL-R-3-6FT	Soil	Herbicides	MCPP	76000	J,c	23000
SAII16	SOIL-R-3-6FT	Soil	Herbicides	Pentachlorophenol	200	U,z	200
SAII16	SOIL-R-3-6FT	Soil	Metals	Aluminum	5400	J,d	21
SAII16	SOIL-R-3-6FT	Soil	Metals	Antimony	4	J,m	2.1
SAII16	SOIL-R-3-6FT	Soil	Metals	Barium	160	J,m	1

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-R-2-6	Soil	Pesticides	delta-BHC	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	Dieldrin	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	Endosulfan I	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	Endosulfan II	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	Endosulfan Sulfate	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	Endrin	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	Endrin Aldehyde	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	Endrin Ketone	5	J,c	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	gamma-BHC (Lindane)	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	gamma-Chlordane	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	Heptachlor	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	Heptachlor Epoxide	1.3	J,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	Methoxychlor	7.2	J,c	20
SAII16	SOIL-R-2-6	Soil	Pesticides	Toxaphene	200	R,s	200
SAII16	SOIL-R-2-6	Soil	Herbicides	2,4-D	280	J,c	95
SAII16	SOIL-R-2-6	Soil	Herbicides	2,4-DB	45	J,c	95
SAII16	SOIL-R-2-6	Soil	Herbicides	MCPP	85000	J,c	23000
SAII16	SOIL-R-2-6	Soil	Herbicides	Pentachlorophenol	200	U,z	200
SAII16	SOIL-R-2-6	Soil	Metals	Aluminum	8100	J,d	21
SAII16	SOIL-R-2-6	Soil	Metals	Antimony	2.1	UJ,m	2.1
SAII16	SOIL-R-2-6	Soil	Metals	Barium	120	J,m	1
SAII16	SOIL-R-2-6	Soil	Metals	Cadmium	0.19	J,m	0.52
SAII16	SOIL-R-2-6	Soil	Metals	Cobalt	7.6	J,s	1
SAII16	SOIL-R-2-6	Soil	Metals	Lead	9.8	J,m	0.52
SAII16	SOIL-R-2-6	Soil	Metals	Magnesium	5500	J,d	52
SAII16	SOIL-R-2-6	Soil	Metals	Potassium	760	J,m	100
SAII16	SOIL-R-2-6	Soil	Metals	Sodium	120	J,m	52
SAII16	SOIL-R-2-6	Soil	Metals	Vanadium	27	J,m	1
SAII16	SOIL-R-2-6	Soil	Metals	Zinc	44	J,d	2.1
SAII16	SOIL-R-3-0.5FT	Soil	Pesticides	4,4'-DDT	3.7	UJ,c	3.7
SAII16	SOIL-R-3-0.5FT	Soil	Pesticides	Dieldrin	0.37	J,c	3.7

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-R-1-6FT	Soil	Metals	Lead	17	J,m	0.57
SAII16	SOIL-R-1-6FT	Soil	Metals	Magnesium	4000	J,d	57
SAII16	SOIL-R-1-6FT	Soil	Metals	Potassium	850	J,m	110
SAII16	SOIL-R-1-6FT	Soil	Metals	Sodium	130	J,m	57
SAII16	SOIL-R-1-6FT	Soil	Metals	Vanadium	31	J,m	1.1
SAII16	SOIL-R-1-6FT	Soil	Metals	Zinc	74	J,d	2.3
SAII16	SOIL-R-2-0.5	Soil	Herbicides	2,4-D	55	J,c	44
SAII16	SOIL-R-2-0.5	Soil	Herbicides	2,4-DB	29	J,c	44
SAII16	SOIL-R-2-0.5	Soil	Herbicides	Dichlorprop	91	J,g	530
SAII16	SOIL-R-2-0.5	Soil	Herbicides	MCPP	43000	J,c	11000
SAII16	SOIL-R-2-0.5	Soil	Herbicides	Pentachlorophenol	90	U,z	90
SAII16	SOIL-R-2-0.5	Soil	Metals	Aluminum	7600	J,d	19
SAII16	SOIL-R-2-0.5	Soil	Metals	Antimony	1.9	UJ,m	1.9
SAII16	SOIL-R-2-0.5	Soil	Metals	Barium	110	J,m	0.97
SAII16	SOIL-R-2-0.5	Soil	Metals	Cadmium	0.76	J,m	0.48
SAII16	SOIL-R-2-0.5	Soil	Metals	Cobalt	6.9	J,s	0.97
SAII16	SOIL-R-2-0.5	Soil	Metals	Lead	19	J,m	0.48
SAII16	SOIL-R-2-0.5	Soil	Metals	Magnesium	4600	J,d	48
SAII16	SOIL-R-2-0.5	Soil	Metals	Potassium	820	J,m	97
SAII16	SOIL-R-2-0.5	Soil	Metals	Sodium	87	J,m	48
SAII16	SOIL-R-2-0.5	Soil	Metals	Vanadium	27	J,m	0.97
SAII16	SOIL-R-2-0.5	Soil	Metals	Zinc	120	J,d	1.9
SAII16	SOIL-R-2-6	Soil	VOCs	Methyl N-Butyl Ketone	24	U,z	24
SAII16	SOIL-R-2-6	Soil	PCBs	Trichlorobiphenyl	1.4	J,n	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	4,4'-DDD	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	4,4'-DDE	0.66	J,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	4,4'-DDT	3.8	R,s	3.8
SAII16	SOIL-R-2-6	Soil	Pesticides	Aldrin	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	alpha-BHC	2	R,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	alpha-Chlordane	0.37	J,s	2
SAII16	SOIL-R-2-6	Soil	Pesticides	beta-BHC	2	R,s	2

Table 6-56a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII07

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII07	GW-AA-O-2-13	6/20/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII07	GW-AA-O-2-23	6/20/02	Groundwater			X	X												
SAII07	GW-AA-O-2-33	6/20/02	Groundwater			X	X												
SAII07	GW-AA-O-2-43	6/21/02	Groundwater			X	X												
SAII07	GW-AA-O-2-53	6/21/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII07	GW-AA-O-2-53-DUP	6/21/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII07	GW-AA-O-2-63	6/21/02	Groundwater			X	X												
SAII07	GW-UAA-2-100FT	6/21/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII07	GW-UAA-2-110FT	6/21/02	Groundwater			X	X												
SAII07	GW-UAA-2-120FT	6/21/02	Groundwater			X	X												
SAII07	GW-UAA-2-60FT	6/20/02	Groundwater			X	X	X	X	X	X	X	X	X	X	X	X	X	
SAII07	GW-UAA-2-70FT	6/20/02	Groundwater			X	X												
SAII07	GW-UAA-2-80FT	6/20/02	Groundwater			X	X												
SAII07	GW-UAA-2-90FT	6/20/02	Groundwater			X	X												

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-R-1-0.5	Soil	Herbicides	2,4-D	45	U,z	45
SAII16	SOIL-R-1-0.5	Soil	Herbicides	Dichlorprop	100	J,g	540
SAII16	SOIL-R-1-0.5	Soil	Herbicides	MCPP	49000	J,c	11000
SAII16	SOIL-R-1-0.5	Soil	Herbicides	Pentachlorophenol	92	U,z	91
SAII16	SOIL-R-1-0.5	Soil	Metals	Aluminum	8700	J,d	20
SAII16	SOIL-R-1-0.5	Soil	Metals	Antimony	0.44	J,m	2
SAII16	SOIL-R-1-0.5	Soil	Metals	Barium	150	J,m	0.98
SAII16	SOIL-R-1-0.5	Soil	Metals	Cadmium	0.49	J,m	0.49
SAII16	SOIL-R-1-0.5	Soil	Metals	Cobalt	15	J,s	0.98
SAII16	SOIL-R-1-0.5	Soil	Metals	Lead	33	J,m	0.49
SAII16	SOIL-R-1-0.5	Soil	Metals	Magnesium	3400	J,d	49
SAII16	SOIL-R-1-0.5	Soil	Metals	Potassium	880	J,m	98
SAII16	SOIL-R-1-0.5	Soil	Metals	Sodium	90	J,m	49
SAII16	SOIL-R-1-0.5	Soil	Metals	Vanadium	34	J,m	0.98
SAII16	SOIL-R-1-0.5	Soil	Metals	Zinc	91	J,d	2
SAII16	SOIL-R-1-6FT	Soil	Pesticides	4,4'-DDT	12	J,c	38
SAII16	SOIL-R-1-6FT	Soil	Pesticides	Aldrin	6	J,g	20
SAII16	SOIL-R-1-6FT	Soil	Pesticides	alpha-Chlordane	5.5	J,g	20
SAII16	SOIL-R-1-6FT	Soil	Pesticides	Dieldrin	10	J,g	38
SAII16	SOIL-R-1-6FT	Soil	Pesticides	Endrin Aldehyde	16	J,g	38
SAII16	SOIL-R-1-6FT	Soil	Pesticides	gamma-Chlordane	5.8	J,g	20
SAII16	SOIL-R-1-6FT	Soil	Herbicides	2,4,5-T	7.6	J,g	48
SAII16	SOIL-R-1-6FT	Soil	Herbicides	2,4-D	420	J,c	48
SAII16	SOIL-R-1-6FT	Soil	Herbicides	2,4-DB	27	J,c	48
SAII16	SOIL-R-1-6FT	Soil	Herbicides	MCPP	51000	J,c	11000
SAII16	SOIL-R-1-6FT	Soil	Herbicides	Pentachlorophenol	93	J,c	98
SAII16	SOIL-R-1-6FT	Soil	Metals	Aluminum	9600	J,d	23
SAII16	SOIL-R-1-6FT	Soil	Metals	Antimony	2.3	UJ,m	2.3
SAII16	SOIL-R-1-6FT	Soil	Metals	Barium	130	J,m	1.1
SAII16	SOIL-R-1-6FT	Soil	Metals	Cadmium	0.36	J,m	0.57
SAII16	SOIL-R-1-6FT	Soil	Metals	Cobalt	7.9	J,s	1.1

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII07_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __ Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____August 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: The MS/MSD recoveries for 3,3'-dichlorobenzidine (0% and 0%) were less than the lower control limit (i.e., 10%) in the GW-AA-O-2-23 MS/MSD pair. The MS and MSD samples were reanalyzed by the laboratory and displayed similar results (0% and 0%). 3,3'-dichlorobenzidine results in the associated samples were flagged "R, m".

Minor Anomalies: For the VOC analyses, the continuing calibration analyzed on 6/27/02 at 10:34 displayed a %D greater than the control limit (i.e., 20%) for bromomethane at -25.2%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The continuing calibration analyzed on 6/28/02 at 08:40 displayed %Ds greater than the control limit (i.e., 20%) for bromomethane at -66.2%, 1,2-dichloroethane at -21.3%, and styrene at -23.5%. Bormomethane results in the associated samples were flagged "UJ, c". Since 1,2-dichloroethane and styrene were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Chloromethane was detected in the method blank at 0.40 µg/L. Since this compound was not detected in the associated samples, no data qualifying action was taken. 1,1-Dichloroethene was detected in one trip blank (TB062002) at 0.36 µg/L. The positive 1,1-dichloroethene result in sample GW-UAA-2-90FT was flagged "U, y" at the reporting limit. Trichloroethane was detected in one trip blank (TB062102) at 0.61 µg/L. Toluene was detected in one trip blank (TB062102-02) at 0.54 µg/L. Since trichloroethane and toluene were not detected in the associated samples, no data qualifying action was taken. Reporting limits were raised due to dilutions in samples GW-UAA-2-60FT (DF=10), GW-UAA-2-70FT (DF=10), GW-UAA-2-80FT (DF=10), GW-UAA-2-90FT (DF=20), GW-UAA-2-100FT (DF=20), GW-UAA-2-110FT (DF=20), and GW-UAA-2-120FT (DF=5).

For the SVOC analyses, the continuing calibration analyzed on 7/5/02 at 07:41

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-O-3-0.5	Soil	Metals	Antimony	2.1	UJ,m	2.1
SAII16	SOIL-O-3-0.5	Soil	Metals	Barium	130	J,m	1.1
SAII16	SOIL-O-3-0.5	Soil	Metals	Cadmium	1.7	J,m	0.54
SAII16	SOIL-O-3-0.5	Soil	Metals	Cobalt	6.9	J,s	1.1
SAII16	SOIL-O-3-0.5	Soil	Metals	Lead	20	J,m	0.54
SAII16	SOIL-O-3-0.5	Soil	Metals	Magnesium	4100	J,d	54
SAII16	SOIL-O-3-0.5	Soil	Metals	Potassium	860	J,m	110
SAII16	SOIL-O-3-0.5	Soil	Metals	Sodium	85	J,m	54
SAII16	SOIL-O-3-0.5	Soil	Metals	Vanadium	28	J,m	1.1
SAII16	SOIL-O-3-0.5	Soil	Metals	Zinc	130	J,d	2.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	4,4'-DDD	7.1	UJ,c	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	4,4'-DDE	7.1	UJ,s	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	4,4'-DDT	2.7	J,c	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Aldrin	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	alpha-BHC	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	alpha-Chlordane	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	beta-BHC	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	delta-BHC	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Dieldrin	1.4	J,c	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Endosulfan I	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Endosulfan II	7.1	UJ,s	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Endosulfan Sulfate	7.1	UJ,s	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Endrin	7.1	UJ,c	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Endrin Aldehyde	7.1	UJ,s	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Endrin Ketone	7.1	UJ,c	7.1
SAII16	SOIL-R-1-0.5	Soil	Pesticides	gamma-BHC (Lindane)	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	gamma-Chlordane	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Heptachlor	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Heptachlor Epoxide	3.6	UJ,s	3.6
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Methoxychlor	36	UJ,c	36
SAII16	SOIL-R-1-0.5	Soil	Pesticides	Toxaphene	360	UJ,s	360

displayed %Ds greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (25.0%), 4-nitrophenol (39.0%), pyrene (-23.4%), and benzo(k)fluoranthene (-25.1%). The continuing calibration analyzed on 7/16/02 at 13:23 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroisopropyl)ether (24.0%), 2-nitroaniline (30.3%), 3-nitroaniline (21.9%), 4-nitrophenol (36.1%), 2,4-dinitrotoluene (21.3%), 4-nitroaniline (24.3%), and indeno(1,2,3-cd)pyrene (20.8%). The continuing calibration analyzed on 7/17/02 at 19:02 displayed a %D greater than the control limit (i.e., <20%) for 2-nitroaniline (30.3%). The positive 4-nitrophenol result in sample GW-AA-O-2-23 was flagged "J, c". Since all other compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. All base/neutral surrogates and one acid surrogate (phenol-d5) were not recovered (0%) in one diluted sample GW-UAA-2-100FT-DL (DF=5). The surrogate recoveries for 2-fluorophenol (130%), phenol-d5 (140%), nitrobenzene-d5 (144%), and 2-fluorobiphenyl (142%) were greater than the upper control limit in one diluted sample GW-UAA-2-120FT-DL (DF=5). Positive 1,4-dichloro-benzene results in these two diluted samples were flagged "J, s". Since all other results were not used for data interpretation, no data qualifying action was taken. The RPD for n-nitrosodiphenylamine (51%) was greater than the acceptance limit in the GW-AA-O-2-23 MS/MSD pair. The MS and MSD samples were reanalyzed by the laboratory and displayed a similar result (44%). Since MS and MSD recoveries for n-nitrosodiphenylamine were in control, no data qualifying action was taken. The internal standard peak areas for 1,4-dichlorobenzene-d4 (222%) and naphthalene-d8 (216%) were greater than the QC limit (i.e., 50-200%) in one QC sample GW-AA-O-2-23-MSDRE. The internal standard peak area for 1,4-dichlorobenzene-d4 (200.1%) was slightly greater than the QC limit (i.e., 50-200%) in one QC sample GW-AA-O-2-23-MSRE. Since there two samples are QC samples, no data qualifying action was taken. 1,4-dichlorobenzene results in samples GW-UAA-2-90FT, GW-UAA-2-100FT, GW-UAA-2-110FT, and GW-UAA-2-120FT exceeded the linear range of the calibration curve. 1,4-dichlorobenzene results in these samples were flagged "J, q". These four samples were diluted and reanalyzed by the laboratory. 1,4-dichlorobenzene results from the dilution analysis should be used for data interpretation.

For the pesticide analyses, the %Ds for methoxychlor (-16.3%) and 2,4-DCAA (-23.3%) on the primary column and for endrin aldehyde (-16.2%), 2,4-DCAA (-26.0%), and decachlorobiphenyl (DCBP, -17.3%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/3/02 at 13:49. The %D for 2,4-DCAA (-25.9%) on the primary column and for endrin aldehyde (-16.1%), 2,4-DCAA (-30.7%), tetrachloro-m-xylene (TCMX, -16.2%), and DCBP (-17.1%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/3/02 at 23:34. These target compounds were not detected in the associated

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-O-2-0.5	Soil	Herbicides	MCPP	12000	J,g	2300
SAII16	SOIL-O-2-0.5	Soil	Herbicides	Pentachlorophenol	23	J,c	19
SAII16	SOIL-O-2-0.5	Soil	Metals	Aluminum	7400	J,d	23
SAII16	SOIL-O-2-0.5	Soil	Metals	Antimony	0.74	J,m	2.3
SAII16	SOIL-O-2-0.5	Soil	Metals	Barium	100	J,m	1.1
SAII16	SOIL-O-2-0.5	Soil	Metals	Cadmium	0.54	J,m	0.57
SAII16	SOIL-O-2-0.5	Soil	Metals	Cobalt	6.6	J,s	1.1
SAII16	SOIL-O-2-0.5	Soil	Metals	Lead	14	J,m	0.57
SAII16	SOIL-O-2-0.5	Soil	Metals	Magnesium	8500	J,d	57
SAII16	SOIL-O-2-0.5	Soil	Metals	Potassium	850	J,m	110
SAII16	SOIL-O-2-0.5	Soil	Metals	Sodium	110	J,m	57
SAII16	SOIL-O-2-0.5	Soil	Metals	Vanadium	28	J,m	1.1
SAII16	SOIL-O-2-0.5	Soil	Metals	Zinc	70	J,d	2.3
SAII16	SOIL-O-3-0.5	Soil	SVOCs	2,4-Dinitrophenol	2000	UJ,r	2000
SAII16	SOIL-O-3-0.5	Soil	Pesticides	4,4'-DDD	86	J,c	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	4,4'-DDT	230	J,c	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	alpha-Chlordane	9.4	J,g	20
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Dieldrin	180	J,c	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Endosulfan II	11	J,g	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Endosulfan Sulfate	170	J,c	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Endrin	39	UJ,c	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Endrin Ketone	22	J,c	39
SAII16	SOIL-O-3-0.5	Soil	Pesticides	gamma-BHC (Lindane)	32	J,g	20
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Heptachlor	16	J,c	20
SAII16	SOIL-O-3-0.5	Soil	Pesticides	Methoxychlor	200	UJ,c	200
SAII16	SOIL-O-3-0.5	Soil	Herbicides	2,4,5-T	17	J,g	9.8
SAII16	SOIL-O-3-0.5	Soil	Herbicides	2,4-D	50	J,c	9.8
SAII16	SOIL-O-3-0.5	Soil	Herbicides	2,4-DB	19	J,c	9.8
SAII16	SOIL-O-3-0.5	Soil	Herbicides	Dichlorprop	10	J,g	120
SAII16	SOIL-O-3-0.5	Soil	Herbicides	MCPP	11000	J,c	2400
SAII16	SOIL-O-3-0.5	Soil	Metals	Aluminum	8600	J,d	21

samples. Since these outliers either had an acceptable %D on the alternate column or for the other surrogates, no data qualifying action was taken. The DCBP surrogate recoveries in samples GW-AA-O-2-53 (20% and 19%) and GW-AA-O-2-53DUP (17% and 16%) were less than the lower control limit (i.e., 30%). Positive results were flagged "J,s" and non-detects were flagged "UJ, s" in these two samples. The DCBP surrogate recovery in sample GW-AA-O-2-13 (26%) was less than the lower control limit (i.e., 30%). Since all other surrogate recoveries were in control, no data qualifying action was taken. The %RPDs between primary and confirmatory columns for alpha-BHC (168.2%) and delta-BHC (158.7%) in sample GW-AA-O-2-53DUP; and for beta-BHC (162.3%) in sample GW-UAA-2-100FT; and for alpha-BHC (169.6%), delta-BHC (159.8%), and heptachlor (42.8%) in sample GW-AA-O-2-53 were greater than the acceptance limit (i.e., < 40%). The positive beta-BHC result in sample GW-UAA-2-100FT was flagged "J, g". Since results in samples GW-AA-O-2-53DUP and GW-AA-O-2-53 were previously flagged due to surrogate recovery failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %Ds for 2,4-DB (-22.0% and -19.3%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/3/02 at 17:53. Positive 2,4-DB results were flagged "J, c" and non-detects were flagged "UJ, c" in the associated samples. The MS recovery for MCPP (198%) and the MSD recovery for 2,4,5-TP (105%) were greater than the upper control limit in the GW-AA-O-2-93FT MS/MSD pair. The LCS recoveries for dalapon (98%) and 2,4,5-TP (102%) were greater than the upper control limit. Positive 2,4,5-TP results were flagged "J, l" in the associated samples. Since MCPP and dalapon were not detected in the associated samples, no data qualifying action was taken. The RPD between primary and confirmatory columns for 2,4-DB in sample GW-AA-O-2-53 (117.8%) was greater than the acceptance limit (i.e., 40%). The %RPDs between primary and confirmatory columns for 2,4,5-TP in samples GW-AA-O-2-53DUP (118.6%), GW-UAA-2-100FT (149.8%), and GW-AA-O-2-53 (121.1%) were greater than the acceptance limit (i.e., 40%). Since these results were previously flagged due to continuing calibration failure or LCS recovery failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for lead (134%) and thallium (122%) and the final CRDL percent recoveries for iron (71%), lead (132%), sodium (68%), thallium (126%) were outside the control limit (i.e., 80-120%). Since these recoveries were marginally outside the control limits, no data qualifying action was taken. Aluminum was detected in the preparation blank (PB) at 11.95 µg/L, the initial calibration blank (ICB) at 31.03 µg/L, and two continuing calibration blanks (CCBs) at concentrations of 11.74 µg/L (CCB3) and

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-O-1-0.5	Soil	VOCs	Vinyl chloride	850	UJ,h	850
SAII16	SOIL-O-1-0.5	Soil	VOCs	Xylenes, Total	80000	J,h	850
SAII16	SOIL-O-1-0.5	Soil	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SAII16	SOIL-O-1-0.5	Soil	Pesticides	4,4'-DDT	3.5	UJ,c	3.5
SAII16	SOIL-O-1-0.5	Soil	Pesticides	Dieldrin	1.4	J,c	3.5
SAII16	SOIL-O-1-0.5	Soil	Pesticides	Endrin	3.5	UJ,c	3.5
SAII16	SOIL-O-1-0.5	Soil	Pesticides	Endrin Ketone	3.5	UJ,c	3.5
SAII16	SOIL-O-1-0.5	Soil	Pesticides	gamma-Chlordane	0.33	J,g	1.8
SAII16	SOIL-O-1-0.5	Soil	Pesticides	Methoxychlor	18	UJ,c	18
SAII16	SOIL-O-1-0.5	Soil	Herbicides	2,4-D	35	U,z	35
SAII16	SOIL-O-1-0.5	Soil	Herbicides	Dichlorprop	11	J,g	430
SAII16	SOIL-O-1-0.5	Soil	Herbicides	MCPP	43000	J,c	8500
SAII16	SOIL-O-1-0.5	Soil	Herbicides	Pentachlorophenol	61	J,c	72
SAII16	SOIL-O-1-0.5	Soil	Metals	Aluminum	5200	J,d	21
SAII16	SOIL-O-1-0.5	Soil	Metals	Antimony	0.81	J,m	2.1
SAII16	SOIL-O-1-0.5	Soil	Metals	Barium	340	J,m	1.1
SAII16	SOIL-O-1-0.5	Soil	Metals	Cadmium	17	J,m	0.53
SAII16	SOIL-O-1-0.5	Soil	Metals	Cobalt	5.9	J,s	1.1
SAII16	SOIL-O-1-0.5	Soil	Metals	Lead	130	J,m	0.53
SAII16	SOIL-O-1-0.5	Soil	Metals	Magnesium	2300	J,d	53
SAII16	SOIL-O-1-0.5	Soil	Metals	Potassium	720	J,m	110
SAII16	SOIL-O-1-0.5	Soil	Metals	Selenium	3.1	U,p	1.1
SAII16	SOIL-O-1-0.5	Soil	Metals	Sodium	96	J,m	53
SAII16	SOIL-O-1-0.5	Soil	Metals	Vanadium	19	J,m	1.1
SAII16	SOIL-O-1-0.5	Soil	Metals	Zinc	940	J,d	2.1
SAII16	SOIL-O-2-0.5	Soil	Pesticides	4,4'-DDT	0.81	J,c	3.8
SAII16	SOIL-O-2-0.5	Soil	Pesticides	Methoxychlor	0.88	J,g	19
SAII16	SOIL-O-2-0.5	Soil	Herbicides	2,4-D	31	J,c	9.4
SAII16	SOIL-O-2-0.5	Soil	Herbicides	2,4-DB	13	J,g	9.4
SAII16	SOIL-O-2-0.5	Soil	Herbicides	Dicamba	2.4	J,g	23
SAII16	SOIL-O-2-0.5	Soil	Herbicides	Dichlorprop	37	J,g	110

16.91 µg/L (CCB4). Barium was detected in CCB3 at 0.91 µg/L and CCB4 at 0.89 µg/L. Calcium was detected in the PB at 9.0 µg/L and CCB4 at 27.36 µg/L. Copper was detected in CCB3 at 0.93 µg/L and CCB4 at 1.10 µg/L. Manganese was detected in CCB3 at 1.6 µg/L and CCB4 at 0.92 µg/L. Potassium was detected in CCB3 at 31.05 µg/L. Silver was detected in the PB at 0.85 µg/L. Thallium was detected in the PB at 4.11 µg/L and CCB3 at 5.84 µg/L. Aluminum, copper, and silver results less than five times the blank concentration were flagged "U, p" or "U, o" at reporting limits in the associated samples. Since barium, calcium, manganese, potassium, and thallium results were either greater than five times the blank concentration or non-detects in the associated samples, no data qualifying action was taken. The MS recoveries for calcium and magnesium and the MSD recovery for calcium were greater than the upper control limits (i.e., 125%). The post-digestion spike recoveries for calcium, iron, and magnesium, were less than the lower control limits. Since these concentrations in the parent sample (non-client sample) were greater than four times the spiking concentration, no data qualifying action was taken.

For the methane analyses, the correlation coefficient on the FID detector for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987. Positive methane results were flagged "J, r" in the associated samples. The MS/MSD recoveries for methane (0% and 12%) were less than the lower control limit (i.e., 75%) in the GW-AA-O-2-93FT MS/MSD pair. Since all methane results were previously flagged due to initial calibration failure, no additional data flags were applied. The methane result from FID detector in sample GW-UAA-2-60FT exceeded the linear range of the calibration curve. Since this methane result was previously flagged due to initial calibration failure, no additional data flags were applied. The methane result form the TCD detector was also reported by the laboratory. The methane result from the TCD detector should be used for data interpretation.

For carbon dioxide determination, field duplicates displayed poor precision at 123.7% RPD. Positive carbon dioxide results were flagged "J, f".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Except 3,3'-dichlorobenzidine data, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-65b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,1,1-Trichloroethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,1,2,2-Tetrachloroethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,1,2-Trichloroethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,1-Dichloroethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,1-Dichloroethylene	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,2-Dichloroethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,2-Dichloroethene (total)	850	UJ,h	850
SAII16	SOIL-O-1-0.5	Soil	VOCs	1,2-Dichloropropane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	2-Butanone (MEK)	2100	UJ,h	2100
SAII16	SOIL-O-1-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	2100	UJ,h	2100
SAII16	SOIL-O-1-0.5	Soil	VOCs	Acetone	4200	R,c	4200
SAII16	SOIL-O-1-0.5	Soil	VOCs	Benzene	590	J,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Bromodichloromethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Bromoform	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Bromomethane	850	UJ,h	850
SAII16	SOIL-O-1-0.5	Soil	VOCs	Carbon Disulfide	180	J,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Carbon Tetrachloride	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Chlorobenzene	5800	J,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Chlorodibromomethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Chloroethane	850	UJ,h	850
SAII16	SOIL-O-1-0.5	Soil	VOCs	Chloroform	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Chloromethane	850	UJ,h	850
SAII16	SOIL-O-1-0.5	Soil	VOCs	cis-1,3-Dichloropropene	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Dichloromethane	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Ethylbenzene	4400	J,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Methyl N-Butyl Ketone	2100	UJ,h	2100
SAII16	SOIL-O-1-0.5	Soil	VOCs	Styrene (Monomer)	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Tetrachloroethene	290	J,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Toluene	870	J,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	trans-1,3-Dichloropropene	420	UJ,h	420
SAII16	SOIL-O-1-0.5	Soil	VOCs	Trichloroethene	420	UJ,h	420

Table 6-56b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII07

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII07	GW-AA-O-2-13	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII07	GW-AA-O-2-13	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-AA-O-2-13	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII07	GW-AA-O-2-13	Groundwater	Methane	Methane	3.3	J,r	0.19
SAII07	GW-AA-O-2-13	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII07	GW-AA-O-2-13	Groundwater	Other Parameters	Carbon Dioxide	130	J,f	1
SAII07	GW-AA-O-2-23	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-AA-O-2-23	Groundwater	SVOCs	4-Nitrophenol	1.5	J,c	50
SAII07	GW-AA-O-2-33	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII07	GW-AA-O-2-33	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-AA-O-2-43	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII07	GW-AA-O-2-43	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-AA-O-2-53	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII07	GW-AA-O-2-53	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	alpha-BHC	0.079	J,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	delta-BHC	0.038	J,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Endosulfan II	0.013	J,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	gamma-Chlordane	0.0084	J,s	0.05

O-2-0.5, SOIL-R-3-0.5FT, and SOIL-S-2-0.5; and recoveries for these compounds were in control. The RPD for aluminum (23.9%), lead (32.0%), magnesium (34.9%), potassium (29.2%), vanadium (28.4%), and zinc (46.7%) were greater than the acceptance limit in the SOIL-R-3-6FT MS/MSD pair. Positive results, except those previously flagged due to MS/MSD recovery failure, were flagged "J, d". The MS/MSD recoveries for antimony (32% and 34%), chromium (177%), copper (183%), lead (71%), and zinc (144%) were outside the control limit in one non-client MS/MSD pair. The RPDs for chromium (22.3%), iron (22.4%), and manganese (24.3%) were greater than the acceptance limit. Since the parent sample is a non-client sample, no data qualifying action was taken. The %Ds for cobalt (13.6% and 12.8%) were greater than the acceptance limit (i.e., <10%) in two serial dilution analyses (SOIL-S-2-0.5 and SOIL-O-2-0.5). Positive cobalt results in the associated samples were flagged "J, s".

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, most of the samples were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. Except those rejected data point, all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-56b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII07

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Heptachlor	0.022	J,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII07	GW-AA-O-2-53	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII07	GW-AA-O-2-53	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.059	J,l	0.5
SAII07	GW-AA-O-2-53	Groundwater	Herbicides	2,4-DB	0.22	J,c	0.5
SAII07	GW-AA-O-2-53	Groundwater	Methane	Methane	13	J,r	0.19
SAII07	GW-AA-O-2-53	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII07	GW-AA-O-2-53	Groundwater	Other Parameters	Carbon Dioxide	33	J,f	1
SAII07	GW-AA-O-2-53-DUP	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII07	GW-AA-O-2-53-DUP	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	alpha-BHC	0.082	J,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	delta-BHC	0.038	J,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Dieldrin	0.019	J,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	gamma-Chlordane	0.0066	J,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Heptachlor	0.016	J,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5

summary form was not provided in this data package. The LCS recovery for 2,4-D (172%) was greater than the upper control limit (i.e., 153%) at 172%. Since all positive 2,4-D results were previously flagged due to continuing calibration failure or method blank contamination, no additional data flags were applied. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., 40%) in several samples. These results, except those flagged due to C. Cal. failure or method blank contamination, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for arsenic (125%), selenium (127%), sodium (74%), and thallium (73% and 55%) and the final CRDL recoveries for aluminum (124%), selenium (145%), and sodium (66%) were outside the control limit (i.e., 80-120%). Thallium results in samples SOIL-R-3-6FT, SOIL-R-3-0.5FT, SOIL-R-4-0.5FT, and SOIL-R-4-6' were flagged "UJ, w". Since positive selenium results were previously flagged due to preparation blank contamination, no additional data flags were applied. Since all other recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blanks contained aluminum at 2.95 mg/kg and 2.64 mg/kg, arsenic at 0.341 mg/kg and –0.354 mg/kg, barium at 0.789 mg/kg, beryllium at 0.0161 mg/kg, cadmium at -0.056 mg/kg, calcium at 2.43 mg/kg, chromium at 0.126 mg/kg, cobalt at 0.151 mg/kg, lead at 0.268 mg/kg, magnesium at 1.87 mg/kg, manganese at 0.201 mg/kg, potassium at 4.08 mg/kg, selenium at 0.532 mg/kg, sodium at 18.7 mg/kg, and vanadium at 0.161 mg/kg. Positive selenium results in samples SOIL-S-2-0.5 and SOIL-O-1-0.5 were flagged "U, p" or "U, p" at the reporting limit. Since all other results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Aluminum, arsenic, barium, cadmium, potassium and selenium were detected in the initial calibration blank and/or continuing calibration blanks at low level. Positive cadmium results in samples SOIL-R-3-0.5FT, SOIL-R-4-0.5FT, and SOIL-R-4-6' were flagged "U, o" at the reporting limit. Since all other results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. All samples, except sample SOIL-S-2-0.5, displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. Since positive cadmium results in the associated samples were flagged "J, m" due to MS/MSD recovery failure, no additional data flags were applied. Since all other affected results either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (61%), barium (129%), cadmium (73%), lead (205%), potassium (140% and 246%), sodium (136% and 129%), and vanadium (153%) were outside the control limits in the SOIL-R-3-6FT MS/MSD pair. These analytes were all detected in the associated samples and were flagged "J, m". The post-digestion spike analysis was performed on client samples SOIL-

Table 6-56b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII07

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII07	GW-AA-O-2-53-DUP	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII07	GW-AA-O-2-53-DUP	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.069	J,l	0.5
SAII07	GW-AA-O-2-53-DUP	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII07	GW-AA-O-2-53-DUP	Groundwater	Methane	Methane	18	J,r	0.19
SAII07	GW-AA-O-2-53-DUP	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII07	GW-AA-O-2-53-DUP	Groundwater	Metals	Silver	0.01	U,p	0.01
SAII07	GW-AA-O-2-53-DUP	Groundwater	Other Parameters	Carbon Dioxide	140	J,f	1
SAII07	GW-AA-O-2-63	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII07	GW-AA-O-2-63	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-UAA-2-100FT	Groundwater	VOCs	Bromomethane	20	UJ,c	20
SAII07	GW-UAA-2-100FT	Groundwater	SVOCs	1,4-Dichlorobenzene	370	J,s	50
SAII07	GW-UAA-2-100FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-UAA-2-100FT	Groundwater	Pesticides	beta-BHC	0.052	J,g	0.05
SAII07	GW-UAA-2-100FT	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.056	J,l	0.5
SAII07	GW-UAA-2-100FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII07	GW-UAA-2-100FT	Groundwater	Methane	Methane	53	J,r	0.19
SAII07	GW-UAA-2-100FT	Groundwater	Other Parameters	Carbon Dioxide	110	J,f	1
SAII07	GW-UAA-2-110FT	Groundwater	VOCs	1,1,1-Trichloroethane	20	UJ,c	20
SAII07	GW-UAA-2-110FT	Groundwater	VOCs	Bromomethane	20	UJ,c	20
SAII07	GW-UAA-2-110FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-UAA-2-120FT	Groundwater	VOCs	Bromomethane	5	UJ,c	5
SAII07	GW-UAA-2-120FT	Groundwater	SVOCs	1,4-Dichlorobenzene	860	J,s	50
SAII07	GW-UAA-2-120FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-UAA-2-60FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-UAA-2-60FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII07	GW-UAA-2-60FT	Groundwater	Metals	Aluminum	0.2	U,o	0.2
SAII07	GW-UAA-2-60FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII07	GW-UAA-2-60FT	Groundwater	Other Parameters	Carbon Dioxide	110	J,f	1
SAII07	GW-UAA-2-70FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII07	GW-UAA-2-80FT	Groundwater	VOCs	Bromomethane	10	UJ,c	10
SAII07	GW-UAA-2-80FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20

qualifying action was taken. The TCMX surrogate recoveries in sample SOIL-R-1-0.5 (26% and 29%) were less than the lower control limit (i.e., 30%). All results, except those previously flagged due to calibration failure, were flagged "J, s" for positive detections or "UJ, s" for non-detects. Surrogates were diluted out in several samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Due to the abundance of target compounds in the parent sample (SOIL-O-3-0.5), the MS and MSD were analyzed at a dilution of 10. All spiking compounds were diluted out and, therefore, the MS/MSD summary form was not provided in this data package. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, the surrogates in samples SOIL-O-1-0.5 (DF=500), SOIL-S-1-0.5 (DF=500), and SOIL –S-1-0.5DL (DF=1000) were diluted out. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The internal standard peak areas for chrysene-d12 were greater than the upper control limit (i.e. 130%) in samples SOIL-R-2-6 (145%) and SOIL-R-3-0.5FT (139%). Positive detections in these two samples were flagged "J, n". The trichlorobiphenyl result in sample SOIL-S-1-0.5 exceeded the linear range of the calibration curve. This result was flagged "J, q". This sample was diluted by a factor of 1000 and re-analyzed by the laboratory. The result from the dilution analysis should be used for data interpretation.

For the herbicides analyses, the method blank prepped on 7/22/02 displayed a positive detection for 2,4-D at 4.7 µg/kg and pentachlorophenol (PCP) at 1.8 µg/kg. Positive 2,4-D and PCP results less than five times the amount found in the blank were flagged "U, z", or, "U, z" at the reporting limit (RL) when the reported result was less than the RL. The CCV analyzed on 7/26/02 at 12:51 displayed %Ds greater than the control limit (i.e. 15%) on the primary column for 2,4-D at 18.6%, PCP at 17.5%, 2,4,5-TP at 17.7%, and 2,4,5-T at 16.9%. The CCV analyzed on 8/1/02 at 22:38 displayed a %D greater than the control limit on the confirmation column for 2,4-DB at -19.8%. The CCV analyzed on 8/2/02 at 12:42 displayed %Ds greater than the control limit on the primary column for MCPP at 19.4%, for 2,4-D at 16.7%, and for PCP at 15.5%. The CCV analyzed on 8/10/02 at 10:46 displayed a %D greater than the control limit on the confirmation column for 2,4-DB at 20.6%. Positive results in the associated samples were flagged "J, c". Surrogates were diluted out in several samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Due to the abundance of target compounds in the parent sample (SOIL-O-3-0.5), the MS and MSD were analyzed at a dilution of 500. All spiking compounds were diluted out and, therefore, the MS/MSD

Table 6-56b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII07

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII07	GW-UAA-2-90FT	Groundwater	VOCs	1,1-Dichloroethylene	20	U,y	20
SAII07	GW-UAA-2-90FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20

not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Surrogates were diluted out in samples SOIL-S-1-0.5 (DF=40) and SOIL-S-1-0.5DL (DF=400). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Sample SOIL-S-1-0.5 displayed a pentachlorophenol (PCP) result that exceeded the calibration range. This result was flagged "J, q". This sample was re-analyzed at a greater dilution and the result was within the calibration range. It is recommended that the diluted PCP result be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 7/22/02 at 18:41 displayed a %D greater than the control limit (i.e. 15%) for decachlorobiphenyl (DCBP, -15.6%) on the primary column. The CCV analyzed on 7/23/02 at 04:22 displayed %Ds greater than the control limit on the primary column for 4,4-DDT (-18.2%) and on the confirmation column for 4,4'-DDD (24.2%) and endosulfan sulfate (23.4%). Positive 4,4'-DDD and 4,4'-DDT results in the associated samples were flagged "J, c". Endosulfan sulfate was not detected in the associated samples. Since other outliers either had an acceptable %D on the other column or were surrogates, no data qualifying action was taken. The CCV analyzed on 8/2/02 at 15:17 displayed %Ds greater than the control limit on the primary column for methoxychlor (25.8%) and tetrachloro-m-xylene (TCMX, -16.2%) and on the confirmation column for 4,4'-DDT (18.5%) and methoxychlor (20.6%). The CCV analyzed on 8/3/02 at 00:38 displayed %Ds greater than the control limit on the primary column for endrin (16.0%), 4,4'-DDT (19.8%), methoxychlor (44.7%), endrin ketone (19.1%), 2,4-DCAA (-19.5%), and TCMX (-15.5%); and on the confirmation column for heptachlor (18.6%), dieldrin (16.0%), endrin (17.0%), 4,4'-DDD (19.7%), 4,4'-DDT (26.1%), endosulfan sulfate (19.7%), methoxychlor (42.0%), endrin ketone (21.3%), and TCMX (-15.8%). Endrin, methoxychlor, 4,4'-DDT, and endrin ketone results in the associated samples were flagged "J, c" for positive detections and "UJ, c" for non-detects. Since other outliers either had an acceptable %D on the other column or were surrogates, no data qualifying action was taken. The CCV analyzed on 8/22/02 at 11:11 displayed %Ds greater than the control limit on the primary column for endrin ketone (16.7%), 2,4-DCAA (-20.3), and TCMX (-16.1%) and on the confirmation column for 4,4'-DDE (17.0%), endrin (15.9%), 4,4'-DDT (15.6%), endosulfan sulfate (15.5%), and 2,4-DCAA (-18.5%). The CCV analyzed on 8/22/02 at 14:07 displayed %Ds greater than the control limit on the primary column for endrin (19.3%), 4,4'-DDT (20.7%), methoxychlor (15.9%), endrin ketone (20.9%), and 2,4-DCAA (-20.2%); and on the confirmation column for 4,4'-DDE (18.6%), endrin (20.6%), 4,4'-DDT (24.9%), endrin aldehyde (16.3%), endosulfan sulfate (18.0%), and 2,4-DCAA (-16.9%). Since associated samples are QC samples, no data qualifying action was taken. Samples SOIL-O-2-0.5, SOIL-O-1-0.5, and SOIL-R-3-6FT displayed recoveries greater than the upper control limit (i.e., 150%) on the confirmation column for DCBP at 263%, 889%, and 1526%, respectively. Since all other surrogate recoveries were in control, no data

trichloroethene was not detected in the associated samples and the toluene result in sample SOIL-O-1-0.5 was not used for data interpretation, no data qualifying action was taken. All surrogate recoveries were greater than the upper control limit in sample SOIL-O-1-0.5. This sample may have been inadvertently spiked with twice the routine amount of surrogate spike solution. The high methylene chloride result in this sample may have been introduced from the methanol used to preserve the sample. These sample results were crossed-out by the reviewer and should not be used for data interpretation. This sample was re-analyzed outside the hold time by 2 days and displayed acceptable surrogate recoveries and was free of methylene chloride contamination. All results were flagged "J, h" or "UJ, h". The re-analyzed sample results should be used for data interpretation. The med-level LCS recoveries for 1,1-dichloroethane were greater than the upper control limit (i.e., 129%) at 150% (2O0715MB) and 132% (1O0722MB). Since this compound was not detected in the associated samples, no data qualifying action was taken. Sample SOIL-R-2-6 displayed a 1,2-dichloroethane result that exceeded the calibration range. This result was flagged "J, q". This sample was re-analyzed on 7/22/02 at a greater dilution (med-level) and the 1,2-dichloroethane result was within the calibration range. The high methylene chloride result in this diluted sample may have been introduced from the methanol used to preserve the sample. This diluted sample result was crossed-out by the reviewer and should not be used for data interpretation. This sample was re-analyzed on 7/25/02 and displayed an acceptable 1,2-dichloroethane result free of methylene chloride contamination. The positive 1,2-dichloroethane result from the last analysis (7/25/02) should be used for data interpretation. The high methylene chloride result in sample SOIL-R-3-6FT may have been introduced from the methanol used to preserve the sample. This sample was re-analyzed on 7/25/02 and was free of methylene chloride contamination. The methylene chloride result from the re-analyzed sample (7/25/02) should be used for data interpretation.

For the SVOCs analyses, the initial calibration analyzed on 7/31/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.987. 2,4-Dinitrophenol was not detected in the associated samples and non-detects were flagged "UJ, r". The initial calibration analyzed on 8/10/02 displayed correlation coefficients less than the control limit for 2,6-dinitrotoluene at 0.987, 3-nitroaniline at 0.988, and 4-nitroaniline at 0.986. Since the associated sample is a QC sample, no data qualifying action was taken. The continuing calibration verification (CCV) analyzed on 8/1/02 at 22:19 displayed a %D greater than the control limit (i.e. 20%) for 4-chloroaniline at –34.8%. The CCV analyzed on 8/4/02 at 12:05 displayed a %D greater than the control limit for bis(2-chloro-isopropyl)ether at –20.9%. The continuing calibration verification (CCV) analyzed on 8/9/02 at 12:21 displayed %Ds greater than the control limit for 4-nitrophenol at –21.2%, hexachlorocyclopentadiene at –27.8%, 2,4-dinitrophenol at 23.2%, and 4,6-dinitro-2-methylphenol at 26.6%. Since these compounds were not detected in the associated samples and the %D failure was

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII16_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____JA_____ **Date: _____September 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 (RRF=0.0487) and three continuing calibrations analyzed on 7/15/02 19:57 (RRF=0.0395), 7/22/02 09:45 (RRF=0.0416), and 7/25/02 16:17(RRF=0.0417) displayed relative response factors (RRFs) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973. All associated sample results were non-detects and were flagged "R, c".

For pesticides analyses, the DCBP surrogate recoveries in sample SOIL-R-2-6 (5% and 4%) were less than the lower control limit (i.e., 30%). Positive results, except those previously flagged due to calibration failure, were flagged "J, s" and non-detects were flagged "R,s" in this sample.

Minor Anomalies: For the VOCs analyses, the continuing calibration verifications (CCVs) analyzed on 7/15/02 at 09:53 and 7/16/02 at 17:08 displayed %Ds greater than the control limit (i.e. 20%) for methylene chloride at -30.9% and -40.0%, respectively. Since the positive methylene chloride result in sample SOIL-O-1-0.5 was not used for data interpretation, no data qualifying action was taken. No data qualification was assigned to non-detect results since the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values. The CCV analyzed on 7/22/02 at 09:45 displayed a %D greater than the control limit for 1,1-dichloroethane at 31.4%. The CCV analyzed on 7/25/02 at 16:17 displayed a %D greater than the control limit for 2-hexanone at -20.7%. Since these two compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The method blank, 2O0715MB, displayed positive detections for trichloroethene at 61 µg//kg and toluene at 200 µg//kg. The method blank, 1M0716MB, displayed positive detections for 4-methyl-2-pentanone (MIBK) at 0.62 µg//kg and 2-hexanone at 1.9 µg//kg. The 2-hexanone result in sample SOIL-R-2-6 and the MIBK result in sample SOIL-R-4-6' were flagged "U, z" at the reporting limit. Since

Table 6-65a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII16

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII16	SOIL-O-1-0.5	7/10/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-O-2-0.5	7/10/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-O-3-0.5	7/10/02	Soil				X	X	X	X	X						X		
SAII16	SOIL-R-1-0.5	7/11/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-1-6FT	7/11/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-2-0.5	7/11/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-2-6	7/11/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-3-0.5FT	7/12/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-3-6FT	7/12/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-4-0.5FT	7/12/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-R-4-6FT	7/12/02	Soil			X	X	X	X	X	X						X		
SAII16	SOIL-S-1-0.5	7/10/02	Soil				X	X	X	X	X						X		
SAII16	SOIL-S-2-0.5	7/10/02	Soil			X	X	X	X	X	X						X		

Table 6-57a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII08

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII08	GW-AA-O-2-103FT	6/25/02	Groundwater			X	X												
SAII08	GW-AA-O-2-113FT	6/25/02	Groundwater			X	X												
SAII08	GW-AA-O-2-121FT	6/25/02	Groundwater			X	X												
SAII08	GW-AA-O-2-73FT	6/24/02	Groundwater			X	X												
SAII08	GW-AA-O-2-83FT	6/24/02	Groundwater			X	X												
SAII08	GW-AA-O-2-93FT	6/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII08	GW-AA-O-3-28FT	6/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII08	GW-AA-O-3-38FT	6/24/02	Groundwater			X	X												
SAII08	GW-AA-O-3-48FT	6/25/02	Groundwater			X	X												
SAII08	GW-AA-O-3-58FT	6/25/02	Groundwater			X	X												
SAII08	GW-AA-O-3-68FT	6/25/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII08	GW-AA-O-3-78FT	6/25/02	Groundwater			X	X												
SAII08	GW-UAA-2-124FT	6/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII08_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____August 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the pesticide analyses, the MS/MSD recoveries for endrin aldehyde (0% and 0%) were less than the lower control limit in the GW-AA-O-2-93FT.MS/MSD pair. All endrin aldehyde non-detect results were flagged "R, m".

Minor Anomalies: For the VOC analyses, the continuing calibration analyzed on 7/1/02 at 09:57 displayed a %D greater than the control limit (i.e., 20%) for chloromethane at 27.5%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MSD recovery for chlorobenzene (60%) was less than the control limit (i.e., 72-127%) in the GW-AA-O-2-93FT MS/MSD pair. Since MS recovery and relative percent difference (RPD) were in control, no data qualifying action was taken. Reporting limits were raised due to dilution (high chlorobenzene conc.) in samples GW-UAA-2-124FT (DF=20), GW-AA-O-2-93FT (DF=5), GW-AA-O-2-83FT (DF=2), GW-AA-0-2-103FT (DF=5), GW-AA-O-2-113FT (DF=10), and GW-AA-O-2-121FT (DF=5).

For the SVOC analyses, the continuing calibration analyzed on 7/14/02 at 09:40 displayed a %D greater than the control limit (i.e., <20%) for dinoseb (-37.8%). The continuing calibration analyzed on 7/15/02 at 20:07 displayed %Ds greater than the control limit (i.e., <20%) for hexachlorocyclopentadiene (-20.6%), 4-nitrophenol (35.1%), 2,4-dinitrotoluene (23.1%), and 4-nitroaniline (31.7%). The continuing calibration analyzed on 7/17/02 at 19:02 displayed a %D greater than the control limit (i.e., <20%) for 2-nitroaniline (30.3%). Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. All base/neutral surrogates were not recovered (0%) in one diluted sample GW-UAA-2-124FT-DL (DF=5). The positive 1,4-dichlorobenzene result in this diluted sample was flagged "J, s". Since all other results were not used for data interpretation, no data qualifying action was taken. The MS/MSD recoveries for 3,3'-dichlorobenzidine (9% and 6%) were less than the lower control limit (i.e., 10%) in the GW-AA-O-2-93FT MS/MSD pair. The MS and MSD samples were

reanalyzed by the laboratory and displayed similar results (4% and 0%). The RPD for n-nitrosodiphenylamine (27%) was greater than the acceptance limit in the reanalysis. Since LCS/LCSD recoveries for 3,3'-dichlorobenzidine and n-nitrosodiphenylamine were in control, no data qualifying action was taken. The internal standard peak area for acenaphthene-d10 (47.6%) was less than the QC limit (i.e., 50-200%) in one QC sample GW-AA-O-2-93Ft-MS. This sample was re-analyzed by the laboratory and displayed acceptable internal standard peak area. No data qualifying action was taken. The 1,4-dichlorobenzene result in sample GW-UAA-2-124FT exceeded the linear range of the calibration curve. The 1,4-dichlorobenzene result in this sample was flagged "J, q". This sample was diluted by a factor of 5 and reanalyzed by the laboratory. The 1,4-dichlorobenzene result from the dilution analysis should be used for data interpretation.

For the pesticide analyses, the %Ds for 2,4-DCAA (-22%) and tetrachloro-m-xylene (TCMX, -16.6%) on the primary column and for heptachlor (20.4%) and 2,4-DCAA (-20.6%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/1/02 at 10:40. The %Ds for endrin aldehyde (-16.5%) and 2,4-DCAA (-22.1%) on the primary column and for heptachlor (18.2%) and 2,4-DCAA (-18.1%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/1/02 at 22:06. The %Ds for 4,4'-DDE (16.6%), 4,4'-DDD (21.8%), endosulfan II (15.7%), endrin ketone (21.5%), and decachlorobiphenyl (DCBP, 16.2%) on the primary column and for heptachlor (25.8%) and 2,4-DCAA (-17.2%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/3/02 at 00:09. The %Ds for 2,4-DCAA (-23.4%) on the primary column and for heptachlor (17.4%) and 2,4-DCAA (-15.9%) on confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/3/02 at 12:07. These compounds were not detected in the associated samples. Since these outliers either had an acceptable %D in other column or surrogates, no data qualifying action was taken. The DCBP surrogate recoveries in samples GW-UAA-2-123FT (20% and 22%), GW-AA-O-2-93FT (20% and 17%), GW-AA-O-2-93FT-MS (28%), GW-AA-O-2-93FT-MSD (28% and 26%), and GW-AA-O-3-68FT (12% and 12%) were less than the lower control limit (i.e., 30%). Positive results were flagged "J,s" and non-detects, except endrin aldehyde which was previously flagged due to MS/MSD recovery failure, were flagged "UJ, s". The MS/MSD recoveries for alpha-BHC (240% and 230%) were greater than the upper control limit (i.e., 131%) in the GW-AA-O-2-93FT.MS/MSD pair. The RPD for gamma-BHC (34%) was greater than the acceptance limit (i.e., < 26%). Since positive results for these two compounds in the associated samples were previously flagged due to surrogate recovery failure, no additional data flags were applied. The RPDs between primary and confirmatory columns for beta-BHC in samples GW-UAA-2-124FT (41.9%) and GW-AA-O-3-68FT (64.7%) and for gamma-BHC in sample GW-AA-O-2-93FT (130.9%) were greater than the

acceptance limit (i.e., < 40%). Since these results were previously flagged due to surrogate recovery failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %Ds for 2,4-DB (-22.0% and -19.3%) on both columns were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 7/3/02 at 17:53. Positive 2,4-DB results were flagged "J, c" and non-detects were flagged "UJ, c" in the associated samples. The 2,4-DCAA surrogate recovery on the primary column (138%) was greater than the upper control limit (i.e., 133%) in sample GW-AA-O-3-68FT. Positive results in this sample were flagged "J, s". The MS recovery for MCPP (198%) and the MSD recovery for 2,4,5-TP (105%) were greater than the upper control limit in the GW-AA-O-2-93FT MS/MSD pair. Since the MSD recovery for MCPP and the MS recovery for 2,4,5-TP were in control, no data qualifying action was taken. The LCS recoveries for dalapon (98%) and 2,4,5-TP (102%) were greater than the upper control limit. Since these two compounds were not detected in the associated samples, no data qualifying action was taken. The RPDs between primary and confirmatory columns for 2,4-DB in samples GW-UAA-2-124FT (40%) and GW-AA-O-2-93FT (92.8%) were greater than the acceptance limit. Since these two results were previously flagged due to continuing calibration failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for lead (135%) and thallium (122%) and the final CRDL percent recovery for thallium (137%) were greater than the upper control limit (120%). Since these two analytes were not detected in the associated samples, no data qualifying action was taken. Aluminum was detected in the preparation blank (PB) at 11.6 µg/L, the initial calibration blank (ICB) at 31.0 µg/L, and two continuing calibration blanks (CCBs) at concentrations of 16.9 µg/L (CCB3) and 9.91 µg/L (CCB4). Barium was detected in four CCBs at concentrations ranging from 0.397 µg/L to 0.893 µg/L. Calcium was detected in the PB at 13.0 µg/L and four CCBs at concentrations ranging from 9.23 µg/L to 28.2 µg/L. Copper was detected in the PB at 1.1 µg/L and five CCBs at concentrations ranging from 0.848 µg/L to 1.1 µg/L. Manganese was detected in three CCBs at concentrations ranging from 0.648 µg/L to 0.919 µg/L. Thallium was detected in the PB at 5.08 µg/L and four CCBs at concentrations ranging from 3.73 µg/L to 5.51 µg/L. Aluminum and copper results less than five times the blank concentration were flagged "U, p" at reporting limits in the associated samples. Since barium, calcium, manganese, and thallium results were either greater than five times the blank concentration or non-detects in the associated samples, no data qualifying action was taken. The MS recoveries for calcium, iron, and sodium and the MSD recovery for calcium were less than the lower control limits. The post-digestion spike recoveries for

Table 6-64b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII15

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	3.5	J,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Carbazole	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Chrysene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Dibenzofuran	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Diethyl Phthalate	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Dimethyl Phthalate	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Di-n-butylphthalate	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Di-n-octylphthalate	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Dinoseb	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Fluoranthene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Fluorene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Hexachlorobenzene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Hexachlorobutadiene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Hexachloroethane	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Isophorone	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Naphthalene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Nitrobenzene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	N-Nitroso-di-n-propylamine	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	N-Nitrosodiphenylamine	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	P-Chloroaniline	20	UJ,h	20
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Pentachlorophenol	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Phenanthrene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Phenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	P-Nitroaniline	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Pyrene	10	UJ,h	10

calcium, iron, magnesium, and sodium were less than the lower control limits. Since these concentration in the parent sample, GW-AA-O-2-93FT, were greater than four times the spiking concentration, no data qualifying action was taken. The %D for potassium (10.8%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (GW-AA-O-3-28FT). The positive potassium result in parent sample GW-AA-O-3-28FT was flagged "J, s". Since the %D result for potassium in another serial dilution analysis (GW-AA-O-2-93FT) was in control, no data flags applied to the associated samples.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987. Positive methane results were flagged "J, r" in the associated samples. The MS/MSD recoveries for methane (0% and 12%) were less than the lower control limit (i.e., 75%) in the GW-AA-O-2-93FT MS/MSD pair. Since all methane results were previously flagged due to initial calibration failure, no additional data flags were applied.

For the sulfate analyses, the MS recovery for sulfate (73%) was less than the lower control limit (i.e., 75%) in the GW-AA-O-2-93FT MS/MSD pair. Since sulfate concentration in the parent sample was greater than four times the spiking concentration, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Except endrin aldehyde data, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-64b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII15

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,4,6-Trichlorophenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,4-Dichlorophenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,4-Dimethylphenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,4-Dinitrotoluene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2-Chloronaphthalene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2-Chlorophenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2-Methylnaphthalene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2-Methylphenol (o-Cresol)	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2-Nitroaniline	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2-Nitrophenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	UJ,h	20
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	3-Nitroaniline	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	4-Bromophenyl Phenyl Ether	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	4-Chloro-3-methylphenol	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	4-Chlorophenyl Phenyl Ether	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	4-Nitrophenol	50	UJ,h	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Acenaphthene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Acenaphthylene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Anthracene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Benzo(a)anthracene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Benzo(a)pyrene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Benzo(b)fluoranthene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Benzo(k)fluoranthene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	bis(2-Chloroethyl)ether	10	UJ,h	10

Table 6-57b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,m	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0094	J,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII08	GW-AA-O-2-93FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII08	GW-AA-O-2-93FT	Groundwater	Herbicides	2,4-DB	0.26	J,c	0.5
SAII08	GW-AA-O-2-93FT	Groundwater	Methane	Methane	45	J,r	0.19
SAII08	GW-AA-O-2-93FT	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII08	GW-AA-O-3-28FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,m	0.1
SAII08	GW-AA-O-3-28FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII08	GW-AA-O-3-28FT	Groundwater	Methane	Methane	1	J,r	0.19
SAII08	GW-AA-O-3-28FT	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII08	GW-AA-O-3-28FT	Groundwater	Metals	Potassium	5.6	J,s	1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1

Table 6-64b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII15

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII15	GW-AA-P-1-104FT	Groundwater	Pesticides	alpha-Chlordane	0.0072	J,g	0.05
SAII15	GW-AA-P-1-104FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII15	GW-AA-P-1-104FT	Groundwater	Herbicides	2,4,5-T	0.5	U,z	0.5
SAII15	GW-AA-P-1-104FT	Groundwater	Herbicides	2,4-D	0.55	U,z	0.55
SAII15	GW-AA-P-1-104FT	Groundwater	Herbicides	Pentachlorophenol	4.7	J,c	1
SAII15	GW-AA-P-1-104FT	Groundwater	Methane	Methane	180	J,r	0.19
SAII15	GW-AA-P-1-104FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII15	GW-AA-P-1-104FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII15	GW-AA-P-1-104FT	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII15	GW-AA-P-1-114FT	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII15	GW-AA-P-1-120FT	Groundwater	VOCs	Dichloromethane	50	U,y	50
SAII15	GW-AA-P-1-120FT	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII15	GW-AA-P-1-120FT	Groundwater	Pesticides	alpha-Chlordane	0.011	J,g	0.05
SAII15	GW-AA-P-1-120FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII15	GW-AA-P-1-120FT	Groundwater	Herbicides	2,4,5-T	0.5	U,z	0.5
SAII15	GW-AA-P-1-120FT	Groundwater	Herbicides	2,4-D	0.59	U,z	0.59
SAII15	GW-AA-P-1-120FT	Groundwater	Herbicides	Pentachlorophenol	3.9	J,c	1
SAII15	GW-AA-P-1-120FT	Groundwater	Methane	Methane	150	J,r	0.19
SAII15	GW-AA-P-1-120FT	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII15	GW-AA-P-1-120FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII15	GW-AA-P-1-120FT	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII15	GW-AA-P-1-120FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII15	GW-AA-P-1-120FT	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII15	GW-AA-S-1-44	Groundwater	SVOCs	2,4-Dinitrophenol	100	UJ,r	100
SAII15	GW-AA-S-1-54	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	1,2,4-Trichlorobenzene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	1,2-Dichlorobenzene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	1,3-Dichlorobenzene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	1,4-Dichlorobenzene	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	10	UJ,h	10
SAII15	GW-AA-S-1-54-DUP	Groundwater	SVOCs	2,4,5-Trichlorophenol	10	UJ,h	10

Table 6-57b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	beta-BHC	0.0092	J,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,m	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII08	GW-AA-O-3-68FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII08	GW-AA-O-3-68FT	Groundwater	Herbicides	2,4,5-T	4.4	J,s	0.5
SAII08	GW-AA-O-3-68FT	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII08	GW-AA-O-3-68FT	Groundwater	Methane	Methane	44	J,r	0.19
SAII08	GW-AA-O-3-68FT	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII08	GW-AA-O-3-68FT	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII08	GW-UAA-2-124FT	Groundwater	SVOCs	1,4-Dichlorobenzene	410	J,s	50
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05

Table 6-64b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII15

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII15	GW-AA-O-1-106	Groundwater	SVOCs	1,3-Dichlorobenzene	1.5	J,l	10
SAII15	GW-AA-O-1-106	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII15	GW-AA-O-1-116	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII15	GW-AA-O-1-120	Groundwater	VOCs	Trichloroethene	2.5	U,y	2.5
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	alpha-BHC	0.065	J,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII15	GW-AA-O-1-120	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII15	GW-AA-O-1-120	Groundwater	Methane	Methane	17	J,r	0.19
SAII15	GW-AA-O-1-120	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII15	GW-AA-O-1-120	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII15	GW-AA-O-1-120	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII15	GW-AA-O-1-120	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII15	GW-AA-O-1-120	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05

Table 6-57b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	beta-BHC	0.17	J,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,m	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII08	GW-UAA-2-124FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII08	GW-UAA-2-124FT	Groundwater	Herbicides	2,4-DB	0.18	J,c	0.5
SAII08	GW-UAA-2-124FT	Groundwater	Methane	Methane	100	J,r	0.19
SAII08	GW-UAA-2-124FT	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII08	GW-UAA-2-124FT	Groundwater	Metals	Copper	0.02	U,p	0.02

120%). Since all recoveries were marginally outside the control limits, no data qualifying action was taken. Aluminum was detected in the preparation blank (PB) at 19.3 µg/L, the initial calibration blank (ICB) at 58.3 µg/L, and two continuing calibration blanks (CCBs) at 18.4 µg/L (CCB3) and 14.3 µg/L (CCB4). Positive results in samples GW-AA-P-1-120FT and GW-AA-O-1-120 were flagged "U, p" at the reporting limit. Arsenic was detected in the PB at -3.01 µg/L and the ICB at -3.57 µg/L. Thallium was detected in the PB at -5.73 µg/L Arsenic and thallium results in the associated samples were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Copper was detected in the PB at 2.19 µg/L, CCB3 at 2.28 µg/L, and CCB4 at 2.20 µg/L. Positive copper results in samples GW-AA-P-1-120FT and GW-AA-P-1-120 were flagged "U, p" at the reporting limit. Barium, calcium, iron, manganese, and potassium were detected in the PB and several CCBs at low levels. Since these results were either greater than five times the blank concentration or non-detects in the associated samples, no data qualifying action was taken.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987. Positive methane results were flagged "J, r" in the associated samples.

For the nitrate-N analyses, the MS/MSD recoveries for nitrate-N (36% and 39%) were less than the lower control limit (i.e., 75%) in the GW-AA-P-1-64FT MS/MSD pair (from SDG: SAII14). All nitrate-N results in the associated samples were flagged "UJ, m".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Except SVOC data points in re-extracted sample GW-AA-S-1-54DUP, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

calibration analyzed on 7/17/02 at 15:45. The %Ds for endosulfan sulfate (22.4%), methoxychlor (18.3%), and TCMX (-16.2) on the primary column and for endosulfan sulfate (15.6%) and TCMX (-18.3%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/17/02 at 21:46. Endosulfan sulfate results, except those flagged due to surrogate recovery failure, were flagged "UJ, c" in the associated samples. All other compounds were not detected in the associated samples. Since these outliers either had an acceptable %D on the other column or were surrogates, no data qualifying action was taken. The DCBP surrogate recoveries in sample GW-AA-O-1-120 (18% and 20%) were less than the lower control limit (i.e., 30%). Positive results were flagged "J, s" and non-detects were flagged "UJ,s" in this sample. The TCMX surrogate recovery (26%) on the confirmation column was less than the lower control limit (i.e., 30%) in sample GW-AA-P-1-104FT. Since all other surrogate recoveries were in control, no data qualifying action was taken. The MS/MSD recoveries for delta-BHC (140% and 180%) and endrin ketone (130% and 155%) and the MSD recoveries for gamma-chlordane (130%), alpha-chlordane (130%), 4,4'-DDT (160%), endosulfan sulfate (180%), and methoxychlor (185%) were greater than the upper control limits in the GW-AA-P-1-64FT.MS/MSD pair (from SDG: SAII14). The RPDs for beta-BHC (42%), gamma-chlordane (26%), alpha-chlordane (26%), and 4,4'-DDE (22%) were greater than the acceptance limits. Since these compounds were not detected in the associated samples, no data qualifying action was taken. The RPDs between primary and confirmatory columns for alpha-chlordane in samples GW-AA-P-1-104FT (118.2%) and GW-AA-P-1-120FT (125.4%) and for alpha-BHC in sample GW-AA-O-1-120 (153.2%) were greater than the acceptance limit (i.e., < 40%). The alpha-chlordane results in these two samples were flagged "J, g". Since the alpha-BHC result in sample GW-AA-P-1-120 was previously flagged due to surrogate recovery failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %D for pentachlorophenol (16.9%) on the primary column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/25/02 at 07:43. Positive pentachlorophenol results were flagged "J, c" in the associated samples. The method blank, 0717N-SMB, contained 2,4-D at 0.39 µg/L, pentachlorophenol at 0.64 µg/L, and 2,4,5-T at 0.16 µg/L. Positive 2,4-D and 2,4,5-T results in the associated samples were flagged "U, z" or "U, z" at the reporting limit. Since positive pentachlorophenol results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for aluminum (135%), thallium (68%), and mercury (70%) and the final CRDL recoveries for iron (69%), selenium (72%), and sodium (69%) were outside the control limit (i.e., 80-

Reporting limits were raised due to dilution (high chlorobenzene conc.) in samples GW-AA-P-1-104FT (DF=25), GW-AA-P-1-120FT (DF=10 and 20), GW-AA-O-1-120 (DF=2.5), GW-AA-P-10114FT (DF=25), GW-AA-O-1-106 (DF=10), and GW-AA-O-1-116 (DF=10).

For the SVOC analyses, the initial calibration analyzed on 7/31/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.987. 2,4-Dinitrophenol results, except those previously flagged due to holding time violation, were flagged "UJ, r" in the associated samples. The continuing calibration analyzed on 7/26/02 at 01:07 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroethyl)ether (25.5%), isophorone (20.7%), bis(2-chloroisopropyl)ether (25.4%), 2-nitroaniline (27.7%), n-nitroso-di-n-propylamine (31.1%), 2,4-dinitrophenol (26.8%), 4-nitrophenol (37.2%), 4-nitroaniline (20.7%), and 4,6-dinitro-2-methylphenol (20.7%). The continuing calibration analyzed on 8/5/02 at 10:15 displayed %Ds greater than the control limit for 2,4-dinitrophenol (-33.3%) and 4,6-dinitro-2-methylphenol (-26.0%). Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The surrogate recovery for phenol-d5 (24%) was less than the lower control limit (i.e., 25%) in sample GW-AA-P-1-120FT. Since all other surrogate recoveries in this sample were in control, no data qualifying action was taken. The MS/MSD recoveries for 3,3'-dichlorobenzidine (2% and 0%) and the MSD recovery for nitrobenzene (48%) were less than the lower control limits in the MS/MSD pair from non-client sample). Twenty-three RPDs in this MS/MSD pair were greater than the acceptance limits. Since the parent sample is not a client sample and LCS recoveries for these compounds were in control, no data qualifying action was taken. The RPDs for 1,3-dichlorobenzene (35%), bis(2-chloroethoxy)methane (25%), 2-chloronaphthalene (27%), dibenzofuran (26%), fluorene (24%), 4-chlorophenyl-phenylether (29%), and benzo(b)fluoranthene (35%) were greater than the acceptance limits in the LCS/LCSD pair. The positive 1,3-dichlorobenzene result in sample GW-AA-O-1-106 was flagged "J, l". Since LCS/LCSD recoveries were in control and all other compounds were not detected in the associated samples, no data qualifying action was taken. Samples GW-AA-P-1-104FT and GW-AA-S-1-44 were extracted using half of normal sample volume (500 ml) due to limited sample volume available. The reporting limits in these two samples were raised by a factor of 2.

For the pesticide analyses, the %Ds for endosulfan sulfate (24.5%) and methoxychlor (16.7%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/17/02 at 10:01. The %Ds for tetrachloro-m-xylene (TCMX, -15.7%) and decachlorobiphenyl (DCBP, -16.6%) on the primary column and for TCMX (-16.2%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing

Table 6-58a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII09

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII09	GW-AA-O-3-108FT	6/26/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII09	GW-AA-O-3-88FT	6/26/02	Groundwater			X	X												
SAII09	GW-AA-O-3-98FT	6/26/02	Groundwater			X	X												
SAII09	GW-AA-S-1-24FT	6/26/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII09	GW-AA-S-1-34FT	6/26/02	Groundwater			X	X												
SAII09	GW-AA-S-1-74FT	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-1-84FT	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-1-84FT-DUP	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-1-94FT	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-3-34FT	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-3-44FT	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-3-54FT	6/28/02	Groundwater			X	X												
SAII09	GW-AA-S-3-64FT	6/28/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII15_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____August 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the SVOC analyses, sample GW-AA-S-1-54DUP was extracted outside the hold time by one day. Positive results were flagged "J, h" and non-detects were flagged "UJ, h" in this sample. Three surrogate recoveries were less than the lower control limits in this sample. Since all results were previously flagged due to holding time violation, no additional data flags were applied. This sample was re-extracted (grossly exceeding the hold time) and re-analyzed to confirm the original results. All results in the re-extracted sample were flagged "R, h" and should not be used for any data interpretation. The original results in sample GW-AA-S-1-54DUP should be used for data interpretation.

Minor Anomalies: For the VOC analyses, the continuing calibration analyzed on 7/17/02 at 07:34 displayed a %D greater than the control limit (i.e., 20%) for bromomethane at -23.2%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The relative percent difference (RPD) for bromomethane (60%) was greater than the acceptance limit (i.e., 33%) in the GW-AA-P-1-94FT MS/MSD pair. Since MS/MSD and LCS recoveries were in control, no data qualifying action was taken. The trip blank, TB-071002-02, contained methylene chloride at 0.32 µg/L, toluene at 0.76 µg/L, and chlorobenzene at 0.62 µg/L. The trip blank, TB-071002 (16:00), contained chloromethane at 0.56 µg/L and trichloroethene at 0.52 µg/L. The positive methylene chloride result in sample GW-AA-P-1-120FT and the positive trichloroethene result in sample GW-AA-O-1-120 were flagged "U, y" at the reporting limit. Since all other compounds were either not detected in the associated sample or had concentration greater than five times the blank concentration, no data qualifying action was taken. The chlorobenzene result in sample GW-AA-P-1-120FT (DF=10) exceeded the linear range of the calibration curve. The chlorobenzene result in this sample was flagged "J, q". This sample was diluted by a factor of 20 and reanalyzed by the laboratory. The chlorobenzene result from the dilution analysis should be used for data interpretation.

DATA VALIDATION REPORT - Level III Review

SDG No.:__SAII09_____ **Fraction:__VOCs, SVOCs, Pest, PCBs, Herbs, Methane, Wet Chem, Metals_**

Lab:___STL, Savannah____ **Project Name:__Sauget Area 2_____**

Reviewer:__RA_____ **Date:____February 2, 2006_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied, the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the USEPA National Functional Guidelines for Data Review, modified to reflect the level of review requested, the specifics of the analytical method employed, and provisions of the approved project-specific QAPP.

Major Anomalies: For the pesticide analyses, the recoveries for surrogate decachlorobiphenyl (13%/9%) were less than the QC limit (i.e., 30-150%) in sample GW-AA-0-3-108FT. Positive results were flagged "J,s" and non-detects were flagged "R,s". It should be noted that percent completeness was less than the QC limit (i.e., 95%) at 70% due to this failure.

Minor Anomalies: For the VOC analyses, the continuing calibration %D was greater than the QC limit (i.e., 20%) for 2-butanone (21.2%) in the continuing calibration analyzed on 7/3/02. The positive 2-butanone result was flagged "J,c" in sample GW-AA-S-1-84FT. The method blank (IP0703MB) contained carbon disulfide at 0.59 ug/L and method blank (IP0705MB) contained methylene chloride at 0.58 ug/l. No positive results were reported in the associated samples and no data qualifying action was required. Trip blank TB-062602 contained methylene chloride at 0.29 ug/l and chlorobenzene at 0.46 ug/L. The positive methylene chloride result in sample GW-AA-0-3-108FT, and the positive chlorobenzene result in sample GW-AA-S-1-34FT were flagged "U,y".

For the SVOC analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 20%) for hexachlorocyclopentadiene (-20.6%), 4-nitrophenol (35.1%), and 4-nitroaniline (31.7%) for the continuing calibration analyzed on 7/15/02, bis(2-chloroisopropyl)ether (24%), 2-nitroaniline (30.3%), 3-nitroaniline (21.8%), 4-nitrophenol (36.1%), 2,4-dinitrotoluene (21.3%), 4-nitroaniline (24.3%), pentachlorophenol (-20.3%), and indeno(1,2,3-cd)pyrene (20.8%) for the continuing calibration analyzed on 7/16/02, and 2-nitroaniline (30.3%) and pentachlorophenol (-20.4%) for the continuing calibration analyzed on 7/17/02. No positive results were reported for these compounds and the failures were not serious enough (i.e. > 50%) to affect the non-detects. No data qualifying action was required. The internal standard areas were greater than the QC limit for 1,4-dichlorobenzene-d4, naphthalene-d8, and acenaphthene-d10 in sample GW-AA-S-1-24FT. Positive results were flagged "J,i" in the associated compounds. This sample was re-analyzed, however, all internal standard

Table 6-64a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII15

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII15	GW-AA-O-1-106	7/10/02	Groundwater			X	X												
SAII15	GW-AA-O-1-116	7/10/02	Groundwater			X	X												
SAII15	GW-AA-O-1-120	7/10/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII15	GW-AA-P-1-104FT	7/10/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII15	GW-AA-P-1-114FT	7/10/02	Groundwater			X	X												
SAII15	GW-AA-P-1-120FT	7/10/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII15	GW-AA-P-1-94FT	7/10/02	Groundwater			X	X												
SAII15	GW-AA-S-1-44	7/11/02	Groundwater			X	X												
SAII15	GW-AA-S-1-54	7/11/02	Groundwater			X	X												
SAII15	GW-AA-S-1-54-DUP	7/11/02	Groundwater			X	X												

areas were greater than the QC limit for the re-analyses. The original sample results should be used for data interpretation.

For the pesticides analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 15%) for methoxychlor (-19.1%/-19.8%) on both columns for the continuing calibration analyzed on 7/9/02 at 1614. All associated sample results were non-detects and were flagged "UJ,c". The recoveries for surrogate decachlorobiphenyl (20%/16%) were less than the QC limit (i.e., 30-150%) in sample GW-AA-S-1-24FT. Positive results were flagged "J,s" and non-detects were flagged "UJ,s". The %D between the two columns was greater than the QC limit (i.e., 40%) for delta-BHC (98.4%) in sample GW-AA-S-1-24FT, and gamma-BHC (61.2%) and beta-BHC (43.5%) in sample GW-AA-0-3-108FT. These results were previously flagged due to surrogate failure and no data qualifying action was required. It should be noted that the laboratory reported the lower of the two values due to potential matrix interference.

For the herbicides analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 15%) for MCPP (18%/15.6%) on both columns, and pentachlorophenol (16.7%), 2,4,5-TP (20%) and 2,4,5-T (17%) on the primary column for the continuing calibration analyzed on 7/21/02 at 0305. Non-detects were flagged "UJ,c" for MCPP in all samples, and the positive 2,4,5-TP result was flagged "J,c: in sample GW-AA-0-3-108FT. The continuing calibration %D was greater than the QC limit (i.e., 15%) for 2,4,5-TP (18.6%) on the confirmation column for the continuing calibration analyzed on 7/21/02 at 1034. The associated sample result was previously flagged and no data qualifying action was required. The LCS/LCSD recoveries were greater than the QC limit (i.e., 10-100%) for 2,4,5-TP (102%/112%). The LCS recovery was greater than the QC limit (i.e., 10-100%) for 2,4,5-TP at 115%. The associated sample results were previously flagged and no data qualifying action was required. The %D between the two columns was greater than the QC limit (i.e., 40%) for 2,4,5-TP (164%) in sample GW-AA-0-3-108FT. This result was previously flagged and no data qualifying action was required. It should be noted that the laboratory reported the lower of the two values due to potential matrix interference.

For methane analyses, the initial calibration correlation coefficient was less than the QC limit (i.e., 0.990) at 0.986 for the initial calibration analyzed on 6/12/02. All associated sample results were positive and were flagged "J,r".

For the metals analyses, the CRDL recoveries were greater than the QC limit (i.e., 80-120%) for thallium (143%) and lead (122%) and less than the QC limit for mercury (78%). No positive results were reported for thallium and no data qualifying action was required. The failures for lead and mercury were not serious enough (i.e., < 60% or > 140%) to affect the sample results. No data qualifying action was required. The method blank contained negative results for aluminum, arsenic, cobalt, and thallium. Positive results less than 5 times the blank concentration were flagged "J,p" and non-detects were flagged "UJ,p" in the associated samples. The method blank also

contained positive results for beryllium, calcium, and magnesium. Positive results less than 5 times the blank concentration were flagged "U,p" in the associated samples. The initial and continuing calibrations also contained negative results for silver, thallium, cobalt, and aluminum. Non-detects not previously flagged due to other failures were flagged "UJ,o" in the associated samples. The initial and continuing calibrations also contained positive results for beryllium, barium, calcium, copper, magnesium, manganese, thallium, lead, and vanadium. Positive results not previously flagged due to other failures were flagged "U,o" in the associated samples. The MS/MSD percent recoveries were greater than the QC limit (i.e., 75-125%) for aluminum (218%/245%) and silver (134%/135%). Positive results were flagged "J,m" unless previously flagged due to other failures.

Correctable Anomalies: None.

Comments: It should be noted that detection limits were raised in several samples due to dilutions.

Signed:_____

Table 6-58b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII09	GW-AA-O-3-108FT	Groundwater	VOCs	Dichloromethane	25	U,y	25
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	4,4'-DDD	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	4,4'-DDE	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	4,4'-DDT	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Aldrin	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	alpha-BHC	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	alpha-Chlordane	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	beta-BHC	0.027	J,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	delta-BHC	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Dieldrin	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Endosulfan I	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Endosulfan II	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Endrin	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Endrin Ketone	0.1	R,s	0.1
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0085	J,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	gamma-Chlordane	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Heptachlor	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	R,s	0.05
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Methoxychlor	0.5	R,s	0.5
SAII09	GW-AA-O-3-108FT	Groundwater	Pesticides	Toxaphene	5	R,s	5
SAII09	GW-AA-O-3-108FT	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.086	J,c	0.5
SAII09	GW-AA-O-3-108FT	Groundwater	Herbicides	MCPP	120	UJ,c	120
SAII09	GW-AA-O-3-108FT	Groundwater	Methane	Methane	84	J,r	0.19
SAII09	GW-AA-O-3-108FT	Groundwater	Metals	Aluminum	0.078	J,p	0.2
SAII09	GW-AA-O-3-108FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII09	GW-AA-O-3-108FT	Groundwater	Metals	Beryllium	0.004	U,p	0.004
SAII09	GW-AA-O-3-108FT	Groundwater	Metals	Cobalt	0.01	UJ,p	0.01
SAII09	GW-AA-O-3-108FT	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII09	GW-AA-O-3-108FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01

Table 6-58b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII09	GW-AA-S-1-24FT	Groundwater	SVOCs	1,2-Dichlorobenzene	1.5	J,n	10
SAII09	GW-AA-S-1-24FT	Groundwater	SVOCs	bis(2-Chloroethyl)ether	1.8	J,n	10
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	alpha-Chlordane	0.024	J,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	delta-BHC	0.016	J,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Endrin Aldehyde	0.032	J,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII09	GW-AA-S-1-24FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII09	GW-AA-S-1-24FT	Groundwater	Herbicides	MCPP	120	UJ,c	120
SAII09	GW-AA-S-1-24FT	Groundwater	Methane	Methane	17	J,r	0.19
SAII09	GW-AA-S-1-24FT	Groundwater	Metals	Aluminum	0.13	J,m	0.2
SAII09	GW-AA-S-1-24FT	Groundwater	Metals	Arsenic	0.0041	J,p	0.01
SAII09	GW-AA-S-1-24FT	Groundwater	Metals	Beryllium	0.004	U,p	0.004
SAII09	GW-AA-S-1-24FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII09	GW-AA-S-1-24FT	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII09	GW-AA-S-1-24FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01

Table 6-63b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII14	GW-AA-P-1-64FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII14	GW-AA-P-1-64FT	Groundwater	Pesticides	Heptachlor	0.0042	J,g	0.05
SAII14	GW-AA-P-1-64FT	Groundwater	Herbicides	Dichlorprop	0.55	J,g	6
SAII14	GW-AA-P-1-64FT	Groundwater	Herbicides	Pentachlorophenol	1	U,z	1
SAII14	GW-AA-P-1-64FT	Groundwater	Methane	Methane	20	J,r	0.19
SAII14	GW-AA-P-1-64FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII14	GW-AA-P-1-64FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII14	GW-AA-P-1-64FT	Groundwater	Metals	Potassium	9.1	J,m	1
SAII14	GW-AA-P-1-64FT	Groundwater	Metals	Thallium	0.01	U,o	0.01
SAII14	GW-AA-P-1-64FT	Groundwater	Other Parameters	Nitrate-N	0.18	J,m	0.05

Table 6-58b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII09	GW-AA-S-1-34FT	Groundwater	VOCs	Chlorobenzene	1.7	U,y	1
SAII09	GW-AA-S-1-84FT	Groundwater	VOCs	2-Butanone (MEK)	7	J,c	10
SAII09	GW-AA-S-3-64FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII09	GW-AA-S-3-64FT	Groundwater	Herbicides	MCPP	120	UJ,c	120
SAII09	GW-AA-S-3-64FT	Groundwater	Methane	Methane	27	J,r	0.19
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Aluminum	0.18	J,m	0.2
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Beryllium	0.004	U,p	0.004
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Cobalt	0.01	UJ,p	0.01
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Silver	0.01	UJ,o	0.01
SAII09	GW-AA-S-3-64FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01

Table 6-63b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII14	GW-AA-P-1-24FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII14	GW-AA-P-1-24FT	Groundwater	Metals	Potassium	4.6	J,m	1
SAII14	GW-AA-P-1-24FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII14	GW-AA-P-1-24FT	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	VOCs	Chloromethane	0.33	J,c	1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Herbicides	Pentachlorophenol	1	U,z	1
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Methane	Methane	0.29	J,r	0.19
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII14	GW-AA-P-1-24FT-DUP	Groundwater	Metals	Potassium	4.8	J,m	1

Table 6-63b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	alpha-BHC	0.042	J,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII14	GW-AA-O-2-124	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.23	J,g	0.5
SAII14	GW-AA-O-2-124	Groundwater	Methane	Methane	50	J,r	0.19
SAII14	GW-AA-O-2-124	Groundwater	Metals	Potassium	30	J,m	1
SAII14	GW-AA-O-2-124	Groundwater	Metals	Selenium	0.01	U,p	0.01
SAII14	GW-AA-O-2-124	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII14	GW-AA-O-2-124	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII14	GW-AA-P-1-24FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII14	GW-AA-P-1-24FT	Groundwater	Herbicides	Pentachlorophenol	0.21	J,h	1
SAII14	GW-AA-P-1-24FT	Groundwater	Methane	Methane	0.4	J,r	0.19
SAII14	GW-AA-P-1-24FT	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII14	GW-AA-P-1-24FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01

Table 6-63b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Benzo(k)fluoranthene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	bis(2-Chloroethyl)ether	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Carbazole	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Chrysene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Dibenzofuran	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Diethyl Phthalate	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Dimethyl Phthalate	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Di-n-butylphthalate	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Di-n-octylphthalate	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Fluoranthene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Fluorene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Hexachlorobenzene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Hexachlorobutadiene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Hexachloroethane	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Isophorone	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Naphthalene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Nitrobenzene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	N-Nitroso-di-n-propylamine	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	N-Nitrosodiphenylamine	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	P-Chloroaniline	20	UJ,s	20
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Phenanthrene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	P-Nitroaniline	50	UJ,s	50
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Pyrene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1

Table 6-63b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII14	GW-AA-O-1-66	Groundwater	VOCs	Chloromethane	0.45	J,c	1
SAII14	GW-AA-O-1-86	Groundwater	VOCs	Bromomethane	5	R,l	5
SAII14	GW-AA-O-1-96	Groundwater	VOCs	Dichloromethane	100	U,y	100
SAII14	GW-AA-O-1-96	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII14	GW-AA-O-1-96	Groundwater	Methane	Methane	60	J,r	0.19
SAII14	GW-AA-O-1-96	Groundwater	Metals	Arsenic	0.014	J,p	0.01
SAII14	GW-AA-O-1-96	Groundwater	Metals	Potassium	28	J,m	1
SAII14	GW-AA-O-1-96	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII14	GW-AA-O-1-96	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII14	GW-AA-O-2-124	Groundwater	VOCs	Chloromethane	0.63	J,c	1
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	1,2,4-Trichlorobenzene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	1,2-Dichlorobenzene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	1,3-Dichlorobenzene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	1,4-Dichlorobenzene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,s	50
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2,4-Dinitrotoluene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2-Chloronaphthalene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2-Methylnaphthalene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	2-Nitroaniline	50	UJ,s	50
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	UJ,s	20
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	3-Nitroaniline	50	UJ,s	50
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	4-Bromophenyl Phenyl Ether	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	4-Chlorophenyl Phenyl Ether	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Acenaphthene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Acenaphthylene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Anthracene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Benzo(a)anthracene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Benzo(a)pyrene	10	UJ,s	10
SAII14	GW-AA-O-2-124	Groundwater	SVOCs	Benzo(b)fluoranthene	10	UJ,s	10

Table 6-59a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII10

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII10	GW-AA-S-3-104FT	7/1/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII10	GW-AA-S-3-114FT	7/2/02	Groundwater			X	X												
SAII10	GW-AA-S-3-124FT	7/2/02	Groundwater			X	X												
SAII10	GW-AA-S-3-132FT	7/2/02	Groundwater			X	X	X	X	X	X			X	X	X	X	X	
SAII10	GW-AA-S-3-74FT	7/1/02	Groundwater			X	X												
SAII10	GW-AA-S-3-84FT	7/1/02	Groundwater			X	X												
SAII10	GW-AA-S-3-94FT	7/1/02	Groundwater			X	X												

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987. Positive methane results were flagged "J, r" in the associated samples. The %D for methane (22.8%) was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/17/02 at 07:47. Since all methane results were previously flagged due to initial calibration failure, no additional data flags were applied.

For the nitrate-N analyses, the nitrate-N was detected in the method blank at 0.0177 mg/L. Since the nitrate-N was not detected in the associated samples, no data qualifying action was taken. The MS/MSD recoveries for nitrate-N (36% and 39%) were less than the lower control limit (i.e., 75%) in the GW-AA-P-1-64FT MS/MSD pair. All nitrate-N results in the associated samples were flagged "UJ, m".

Correctable Anomalies: None.

Comments: Sample GW-AA-P-1-44FT was not analyzed for SVOC due to a laboratory logging error. This sample will be re-collected and re-analyzed for SVOCs only. Data will be provided in a future data package. For the alkalinity analyses, all samples were diluted by a factor of five due to high calcium carbonate concentrations. For the sulfate analyses, sample GW-AA-O-2-124 was analyzed at a 1:20 dilution and all other samples were analyzed at 1:10 dilution.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Except one bromomethane data point, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII10_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, Dissolved Gases, Wet Chemistry_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____August 22, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: None.

Minor Anomalies: For the VOCs analyses, the method blank analyzed on 7/5/02 displayed a positive detection for methylene chloride at 0.31 ug/L. Associated sample results with positive detections less than 5x the amount found in the blank were raised to the reporting limit and flagged "U,z". The trip blanks (trip blank 070102 and trip blank 070202) displayed a positive detection for styrene at 0.36 ug/L and 0.22 ug/L, respectively. Since associated sample results did not displayed any positive detections for styrene, no data qualifying action was taken. Equipment blank, Hose Water, displayed positive detections for chloroform at 47 ug/L, for bromodichloromethane at 8.6 ug/L, and for dibromochloromethane at 1.1 ug/L. Since associated sample results did not displayed any positive detections for these compounds, no data qualifying action was taken. The ICAL analyzed on 7/4/02 displayed a %RSD greater than the control limit (i.e. 15%) for bromomethane at 27.9%. The CCV analyzed on 7/5/02 at 10:25 displayed a %D greater than the control limit for bromomethane at 41.2%. Since the %D and the %RSD were marginally outside the control limit and associated sample results were non-detect, no data qualifying action was taken.

For the SVOCs analyses, the CCV analyzed on 7/22/02 at 18:44 displayed %Ds greater than the control limit (i.e. 20%) for bis (2-chloroethyl)ether at 22.9%, for indeno(1,2,3-cd)pyrene at 32.2%, and for benzo(g,h,i)perylene at 26.0%. Associated sample results with positive detections were flagged "J,c". The CCV analyzed on 7/24/02 at 08:56 displayed %Ds greater than the control limit for bis (2-chloroethyl)ether at -21.9%, for bis (2-chloroisopropyl)ether at 21.4%, for n-nitroso-di-propylamine at 27.9%, for 2,4-dinitrophenol at 24.9%, for 4-nitrophenol at 24.3%, and for 4,6-dinitro-2-chlorophenol at 27.6%. Since the only sample associated with the CCV was a method blank, no data qualifying action was taken.

applied. All other outliers either had an acceptable %D on the alternate column. No data qualifying action was taken. The LCS recovery for pentachlorophenol (190%) was greater than the upper control limit (i.e., 110%). Since the pentachlorophenol result in the associated sample was previously flagged due to holding time violation, no additional data flags were applied. The RPDs between primary and confirmatory columns for 2,4,5-TP in sample GW-AA-O-2-124 (51.6%) and for dichlorprop in sample GW-AA-P-1-64FT (132.2%) were greater than the acceptance limit. These two results were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the CRDL percent recoveries for aluminum (124%, 136%, and 124%), selenium (127% and 145%), sodium (74%, 66%, and 69%), and thallium (73%, 134%, 73%, and 78%) were outside the control limit (i.e., 80-120%). Since the positive selenium result in sample GW-AA-O-2-124 was previously flagged due to method blank contamination, no additional data flags were applied. Since all other recoveries were marginally outside the control limits, no data qualifying action was taken. Aluminum was detected in two preparation blanks (PBs) at 35.5 µg/L and 38.4 µg/L, three initial calibration blanks (ICBs) at 25.6 µg/L, 31.0 µg/L, and 37.0 µg/L, and seven continuing calibration blanks (CCBs) at concentrations ranging from 15.6 µg/L to 38.8 µg/L. Positive results in samples GW-AA-P-1-24FT and GW-AA-P-1-24FT-DUP were flagged "U, p" at the reporting limit. Arsenic was detected in two preparation blanks (PBs) at -4.52 µg/L and -5.2 µg/L and one ICB at -3.07 µg/L. Arsenic results less than five times the absolute blank concentration were flagged "J, p" or "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Copper was detected in three CCBs at concentrations ranging from 1.20 µg/L to 1.46 µg/L. Positive copper results in samples GW-AA-P-1-24FT and GW-AA-P-1-64FT were flagged "U, o" at the reporting limit. Selenium was detected in the PB at 5.42 µg/L and three CCBs at concentrations ranging from 6.21 µg/L to 8.58 µg/L. The positive selenium result in sample GW-AA-O-2-124 was flagged "U, p" at the reporting limit. Thallium was detected in the PB at -3.94 µg/L and three CCBs at concentrations ranging from 4.22 µg/L to 4.89 µg/L. The positive thallium result in sample GW-AA-P-1-64FT was flagged "U, o" at the reporting limit. All other thallium non-detect results were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Barium, cobalt, and manganese were detected in several CCBs at low levels. Since barium, cobalt, and manganese results were either greater than five times the blank concentration or non-detects in the associated samples, no data qualifying action was taken. The MS/MSD recoveries for potassium (126% and 126%) were slightly greater than the upper control limit (i.e., 125%). The post-digestion spike recovery for potassium was in control. Positive potassium results in the associated samples were flagged "J, m".

For the pesticides analyses, the CCV analyzed on 7/10/02 at 10:28 displayed %Ds greater than the control limit (i.e. 15%) for heptachlor at -17.6%, for surrogate 2,4-DCAA at -27.6%, and for surrogate tetrachloro-meta-xylene (TMX) at -21.5% on the primary column and for surrogate 2,4-DCAA at -25.9% on the confirmation column. The CCV analyzed on 7/10/02 at 15:47 displayed %Ds greater than the control limit on the primary column for surrogate 2,4-DCAA at -30.4%, and for surrogate TMX at -22.2%, and on the confirmation column for surrogate 2,4-DCAA at -25.9% and for methoxychlor at 20.6%. Since either the anomalies were QC analytes or associated sample results were non-detect, no data qualifying action was taken. Sample GW-AA-S-3-132FT displayed a %R less than the lower control limit for surrogate decachlorobiphenyl (DCBP) on the primary column at 26%. Since the other surrogate met criteria, no data qualifying action was taken. The LCS/LCSD displayed a %RPD greater than the control limit for methoxychlor at 46%. Since the LCS and LCSD met criteria, no data qualifying action. Sample GW-AA-S-3-132FT displayed a %RPD greater than the control limit between primary and confirmation column for gamma-BHC at 107.7% and for beta-BHC at 46.7%. Gamma-BHC and beta-BHC were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These reported results may possibly be less than the actual concentration and may be biased low.

For the herbicides analyses, equipment blank, Hose Water, displayed a positive detection for dicamba at 0.21 ug/L and for 2,4-D at 0.36 ug/L. Since all associated sample results were non-detect, no data qualifying action was taken. The CCV analyzed on 7/21/02 at 03:05 displayed %Ds greater than the control limit (i.e. 15%) on the primary column for MCPP at 18%, for PCP at 16.7%, for 2,4,5-TP at 20%, for 2,4,5-T at 17%, and for dinoseb at 29.5% and on the confirmation column for MCPP at 15.6%. The CCV analyzed on 7/21/02 at 10:34 displayed %Ds greater than the control limit on the primary column for 2,4,5-TP at 18.6% and for dinoseb at 27.2%. The CCV analyzed on 7/23/02 at 14:12 displayed a %D greater than the control limit on the primary column for 2,4,5-T at 16.3%. The associated sample result analyzed on 7/21/02 for MCPP was flagged "UJ,c". The associated positive sample result analyzed on 7/23/02 for 2,4,5-TP was flagged "J,c". Since all other anomalies were either non-detect or met criteria on the confirmation column, no data qualifying action was taken. The LCSs displayed %Rs greater than the upper control limit for 2,4,5-TP at 115% and 105%. Since all associated sample results were either non-detect or previously flagged for other anomalies, no data qualifying action was taken. Sample GW-AA-S-3-132FT displayed a %RPD greater than the control limit between columns for 2,4,5-TP at 58.8%. Since the analyte was previously flagged. No further data qualifying action was taken. It should be noted that the laboratory reported the smaller of the two values. These reported results may possibly be less than the actual concentration and may be biased low.

For the pesticide analyses, the %Ds for endosulfan sulfate (24.5%) and methoxychlor (16.7%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/17/02 at 10:01. The %Ds for tetrachloro-m-xylene (TCMX, -15.7%) and decachlorobiphenyl (DCBP, -16.6%) on the primary column and for TCMX (-16.2%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/17/02 at 15:45. The %Ds for endosulfan sulfate (22.4%), methoxychlor (18.3%), and TCMX (-16.2) on the primary column and for endosulfan sulfate (15.6%) and TCMX (-18.3%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/17/02 at 21:46. Endosulfan sulfate results, except those flagged due to surrogate recovery failure, were flagged "UJ, c" in the associated samples. All other compounds were not detected in the associated samples. Since these outliers either had an acceptable %D on the other column or were surrogates, no data qualifying action was taken. The DCBP surrogate recoveries in samples GW-AA-O-2-124 (15% and 14%) were less than the lower control limit (i.e., 30%). The TCMX surrogate recoveries in samples GW-AA-P-1-24FT-DUP (20% and 20%) were less than the lower control limit (i.e., 30%). All results in these two samples were flagged "J, s" or "UJ, s". The MS/MSD recoveries for delta-BHC (140% and 180%) and endrin ketone (130% and 155%) and the MSD recoveries for gamma-chlordane (130%), alpha-chlordane (130%), 4,4'-DDT (160%), endosulfan sulfate (180%), and methoxychlor (185%) were greater than the upper control limits in the GW-AA-P-1-64FT.MS/MSD pair. The RPDs for beta-BHC (42%), gamma-chlordane (26%), alpha-chlordane (26%), and 4,4'-DDE (22%) were greater than the acceptance limits. Since these compounds were not detected in the associated samples, no data qualifying action was taken. The RPDs between primary and confirmatory columns for alpha-BHC in sample GW-AA-O-2-124 (161.1%) and for heptachlor in sample GW-AA-P-1-64FT (70.8%) were greater than the acceptance limit (i.e., < 40%). The heptachlor result in sample GW-AA-P-1-64FT was flagged "J, g". Since the alpha-BHC result in sample GW-AA-O-2-124 was previously flagged due to surrogate recovery failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %D for 2,4-DB (-19.8%) on the confirmation column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/1/02 at 22:38. The %Ds for MCPP (19.4%), 2,4-D (16.7%), and pentachlorophenol (15.5%) on the primary column were greater than the criterion for the continuing calibration analyzed on 8/2/02 at 12:42. The %Ds for MCPP (18.9%) and 2,4-D (15.7%) on the primary column and for 2,4-DB (-16.9%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/2/02 at 23:07. Since the positive pentachlorophenol result in the re-extracted sample GW-AA-P-1-24FT was previously flagged due to holding time violation, no additional data flags were

For the metals analyses, the prep blank displayed a positive detection for beryllium (Be) at 0.00044 mg/L and negative detections for arsenic (As) at -0.00372 mg/L and for cobalt (Co) at -0.00087 mg/L. Associated sample results were non-detect and were flagged "UJ,p". CCB3 displayed positive detections for barium (Ba) at 0.0166 mg/L, for Be at 0.00067 ug/L, for calcium (Ca) at 0.01617 mg/L, for copper (Cu) at 0.00128 mg/L, for manganese (Mn) at 0.00132 mg/L, and for vanadium (V) at 0.0017 mg/L. CCB4 displayed positive detections for Ba at 0.00179 mg/L, for Be at 0.00025 mg/L, for Cu at 0.00158 mg/L, for Mn at 0.00152 mg/L, for silver (Ag) at 0.00114 mg/L, for thallium (Tl) at 0.00386 mg/L, and for V at 0.00198 mg/L. Associated sample results less than 5x the amount found in the blank were less than the reporting limit. These results were raised to the reporting limit and flagged "U,o". Equipment blank, Hose Water, displayed positive detections for aluminum (Al) at 0.016 mg/L, for Ba at 0.072 mg/L, for Be at 0.00067 mg/L, for Ca at 68 mg/L, for Cu at 0.015 mg/L, for iron (Fe) at 0.073 mg/L, for magnesium (Mg) at 20 mg/L, for Mn at 0.011 mg/L, for potassium (K) at 4 mg/L, for sodium (Na) at 26 mg/L, for V at 0.0024 mg/L, and for zinc (Zn) at 0.074 mg/L. Associated sample results with positive detections at or above the reporting limit less than 5x the amount found in the blank were flagged "U,x". Associated sample results less than the reporting limit less than 5x the amount found in the blank were raised to the reporting limit and flagged "U,x". The MS/MSD analyzed on 7/8/02 displayed %Rs greater than the upper control limit for silver at 134% and 135%. The MSD displayed %Rs less than the reporting limit for calcium at 67% and for magnesium at 23%. Since the MS/MSD was not from the same site, no data qualifying action was taken. The post-digestion spike displayed %Rs less than the lower control limit for iron at 38% and for calcium at 24%. Since the amount found in the parent sample was greater than 4x the amount spiked, no data qualifying action was taken.

For the dissolved gases analyses, the initial calibration displayed an r^2 value less than the control limit (i.e. 0.990) for methane at 0.986. All associated sample results were flagged "J,r". The equipment blank, Hose Water, displayed a positive detection for methane at 1 mg/L. Since the associated sample results were greater than 5x the amount found in the blank, no further data qualifying action was taken.

Correctable Anomalies: None.

Comments: For the VOCs, herbicides, metals, and methane analyses, trace level contamination was detected in the equipment blank, Hose Water. Since these contaminants in the VOCs, herbicides, and methane analyses were either not detected or greater than 5x the amount found in the blank, there should be no impact on the data quality. However, the field team should stop using hose water to clean equipment.

control limit (i.e., 42-167%) in the GW-AA-P-1-64FT MS/MSD pair. The relative percent difference (RPD) for 2-butanone (68%) was also greater than the acceptance limit (i.e., 31%). Since MS and LCS recoveries were in control, no data qualifying action was taken. The trip blank, associated with COC 027813, contained 1,1-dichloroethane at 0.44 µg/L, methylene chloride at 0.39 µg/L, toluene at 0.38 µg/L, and ethyl benzene at 0.20 µg/L. The positive methylene chloride result in sample GW-AA-O-1-96 was flagged "U, y" at the reporting limit. Since all other compounds were not detected in the associated sample, no data qualifying action was taken. The LCS recovery analyzed on 7/12/02 displayed a %R greater than the upper control limit (174%) for acetone at 180%. Since acetone was not detected in sample GW-AA-O-1-86, no data qualifying action was taken. Reporting limits were raised due to dilutions (high chlorobenzene conc.) in samples GW-AA-O-1-96 (DF=20) and GW-AA-O-1-86 (DF=5).

For the SVOC analyses, the continuing calibration analyzed on 7/24/02 at 08:56 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroethyl)ether (-21.9%), bis(2-chloroisopropyl)ether (21.4%), n-nitroso-di-n-propylamine (27.9%), 2,4-dinitrophenol (24.9%), 4-nitrophenol (24.3%), and 4,6-dinitro-2-methylphenol (27.6%). The continuing calibration analyzed on 7/26/02 at 01:07 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroethyl)ether (25.5%), bis(2-chloroisopropyl)ether (25.4%), isophorone (20.7%), n-nitroso-di-n-propylamine (31.1%), 2-nitroaniline (27.7%), 2,4-dinitrophenol (26.8%), 4-nitrophenol (37.2%), 4-nitroaniline (20.7%), and 4,6-dinitro-2-methylphenol (20.7%). The continuing calibration analyzed on 7/26/02 at 14:20 displayed %Ds greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (-25.6%), benzo(k)fluoranthene (33.3%), and indeno(1,2,3-cd)pyrene (25.8%). The continuing calibration analyzed on 7/28/02 at 07:36 displayed a %D greater than the control limit (i.e., <20%) for bis(2-chloroethyl)ether (22.9%). The continuing calibration analyzed on 7/29/02 at 08:17 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroethyl)ether (22.8%), 2,4-dinitrophenol (24.9%), 4,6-dinitro-2-methylphenol (23.1%), benzo(k)fluoranthene (21.2%), indeno(1,2,3-cd)pyrene (21.1%), and benzo(g,h,i)perylene (21.8%). Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MS/MSD recoveries for acenaphthylene (28% and 28%), hexachlorobenzene (39% and 47%) and 3,3'-dichlorobenzidine (7% and 5%) were less than the lower control limits in the GW-AA-P-1-64FT MS/MSD pair. The RPDs for bis(2-chloroisopropyl)ether (24%), bis(2-chloroethoxy)methane (21%), and nitrobenzene (23%), were greater than the acceptance limits. This MS/MSD pair was re-analyzed by the laboratory and displayed similar results. Since LCS recoveries for these compounds were in control and these compounds were not detected in the associated samples, no data qualifying action was taken.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII14_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____August 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: The VOC LCS recovery analyzed on 7/12/02 displayed a %R less than the lower control limit (i.e., 40%) for bromomethane at 32%. The bromomethane result in sample GW-AA-O-1-86 was flagged "R, l".

The base/neutral surrogates for nitrobenzene-d5 (30%) and 2-fluorobiphenyl (26%) were less than the lower control limits in sample GW-AA-O-2-124. All base/neutral results in sample GW-AA-O-2-124 were flagged "UJ, s". This sample was re-extracted (grossly exceeding the hold time) and re-analyzed to confirm the original results. Positive results were flagged "J, h" and non-detects were flagged "R, h" in this re-extracted sample. The original sample results should be used for data interpretation.

For the herbicide analyses, pentachlorophenol was detected in the method blank at 0.34 µg/L. Positive pentachlorophenol results in associated samples, except in sample GW-AA-P-1-24FT, were flagged "U, z" at the reporting limit. Since the pentachlorophenol result in sample GW-AA-P-1-24FT was greater than the reporting limit and also greater than five times the blank concentration, this sample was re-extracted (grossly exceeding the hold time) and re-analyzed to confirm the laboratory blank contamination. Trace amounts of pentachlorophenol was detected in this re-extracted sample and was flagged "J, h". This pentachlorophenol result should be used for data interpretation. All other herbicide results in the re-extracted sample were flagged "R, h" and should not be used for data interpretation.

Minor Anomalies: For the VOC analyses, the continuing calibration analyzed on 7/11/02 at 10:04 displayed %Ds greater than the control limit (i.e., 20%) for chloromethane at 28.7%, bromomethane at -26.7%, and dibromofluoromethane at 30.3%. Positive chloromethane results in the associated samples were flagged "J, c". Since other compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MSD recovery for 2-butanone (180%) was greater than the

Table 6-59b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII10	GW-AA-S-3-104FT	Groundwater	SVOCs	Benzo(g,h,i)perylene	1.3	J,c	10
SAII10	GW-AA-S-3-104FT	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	0.96	J,c	10
SAII10	GW-AA-S-3-104FT	Groundwater	Herbicides	MCPP	120	UJ,c	120
SAII10	GW-AA-S-3-104FT	Groundwater	Methane	Methane	9.9	J,c	0.19
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Barium	0.33	U,x	0.01
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Calcium	170	U,x	0.5
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Copper	0.075	U,x	0.075
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Magnesium	46	U,x	0.5
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Sodium	22	U,x	0.5
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII10	GW-AA-S-3-104FT	Groundwater	Metals	Zinc	0.086	U,x	0.02
SAII10	GW-AA-S-3-114FT	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII10	GW-AA-S-3-124FT	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII10	GW-AA-S-3-132FT	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII10	GW-AA-S-3-132FT	Groundwater	Pesticides	beta-BHC	0.087	J,g	0.05
SAII10	GW-AA-S-3-132FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0051	J,g	0.05
SAII10	GW-AA-S-3-132FT	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.12	J,c	0.5
SAII10	GW-AA-S-3-132FT	Groundwater	Methane	Methane	42	J,c	0.19
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Barium	0.28	U,x	0.01
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Calcium	220	U,x	0.5
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Cobalt	0.01	UJ,p	0.01
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Magnesium	62	U,x	0.5
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Sodium	51	U,x	0.5
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Thallium	0.0368	U,o	0.0368
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII10	GW-AA-S-3-132FT	Groundwater	Metals	Zinc	0.043	U,x	0.02
SAII10	GW-AA-S-3-74FT	Groundwater	SVOCs	Benzo(g,h,i)perylene	1.2	J,c	10

Table 6-63a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII14

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII14	GW-AA-O-1-66	7/9/02	Groundwater			X	X												
SAII14	GW-AA-O-1-76	7/9/02	Groundwater			X	X												
SAII14	GW-AA-O-1-86	7/9/02	Groundwater			X	X												
SAII14	GW-AA-O-1-96	7/9/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII14	GW-AA-O-2-124	7/8/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII14	GW-AA-P-1-24FT	7/8/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII14	GW-AA-P-1-24FT-DUP	7/8/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII14	GW-AA-P-1-34FT	7/8/02	Groundwater			X	X												
SAII14	GW-AA-P-1-44FT	7/8/02	Groundwater			X													
SAII14	GW-AA-P-1-54FT	7/9/02	Groundwater			X	X												
SAII14	GW-AA-P-1-64FT	7/9/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII14	GW-AA-P-1-74FT	7/9/02	Groundwater			X	X												
SAII14	GW-AA-P-1-84FT	7/9/02	Groundwater			X	X												

Table 6-59b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII10	GW-AA-S-3-74FT	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	1	J,c	10

Table 6-62b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII13	WASTE-S-1-COMP	Waste	PCBs	Trichlorobiphenyl	370	J,m	77
SAII13	WASTE-S-1-COMP	Waste	Pesticides	4,4'-DDE	61	J,g	38
SAII13	WASTE-S-1-COMP	Waste	Pesticides	4,4'-DDT	770	J,c	38
SAII13	WASTE-S-1-COMP	Waste	Pesticides	alpha-BHC	6.8	J,g	20
SAII13	WASTE-S-1-COMP	Waste	Pesticides	Endosulfan II	90	J,g	38
SAII13	WASTE-S-1-COMP	Waste	Pesticides	gamma-Chlordane	79	J,g	20
SAII13	WASTE-S-1-COMP	Waste	Pesticides	Heptachlor	59	J,c	20
SAII13	WASTE-S-1-COMP	Waste	Pesticides	Heptachlor Epoxide	120	J,g	20
SAII13	WASTE-S-1-COMP	Waste	Pesticides	Methoxychlor	200	UJ,c	200
SAII13	WASTE-S-1-COMP	Waste	Herbicides	Pentachlorophenol	55000	U,z	55000
SAII13	WASTE-S-1-COMP	Waste	Metals	Mercury	0.62	J,d	0.21
SAII13	WASTE-S-1-COMP	Waste	Metals	Thallium	1.2	UJ,p	1.2
SAII13	WASTE-S-1-COMP	Waste	Metals	Zinc	220	J,s	2.3
SAII13	WASTE-S-2-6FT	Waste	VOCs	Acetone	10000	J,c	5600
SAII13	WASTE-S-2-COMP	Waste	PCBs	Pentachlorobiphenyl	140	J,m	150
SAII13	WASTE-S-2-COMP	Waste	PCBs	Tetrachlorobiphenyl	150	R,m	150
SAII13	WASTE-S-2-COMP	Waste	PCBs	Trichlorobiphenyl	17	J,m	73
SAII13	WASTE-S-2-COMP	Waste	Pesticides	4,4'-DDD	30	J,g	37
SAII13	WASTE-S-2-COMP	Waste	Pesticides	4,4'-DDT	51	J,c	37
SAII13	WASTE-S-2-COMP	Waste	Pesticides	delta-BHC	19	J,g	19
SAII13	WASTE-S-2-COMP	Waste	Pesticides	Dieldrin	39	J,g	37
SAII13	WASTE-S-2-COMP	Waste	Pesticides	Endosulfan II	17	J,g	37
SAII13	WASTE-S-2-COMP	Waste	Pesticides	gamma-Chlordane	37	J,g	19
SAII13	WASTE-S-2-COMP	Waste	Pesticides	Heptachlor	14	J,c	19
SAII13	WASTE-S-2-COMP	Waste	Pesticides	Heptachlor Epoxide	22	J,g	19
SAII13	WASTE-S-2-COMP	Waste	Pesticides	Methoxychlor	190	UJ,c	190
SAII13	WASTE-S-2-COMP	Waste	Herbicides	Pentachlorophenol	150	U,z	150
SAII13	WASTE-S-2-COMP	Waste	Metals	Mercury	0.26	J,d	0.04
SAII13	WASTE-S-2-COMP	Waste	Metals	Thallium	1	UJ,p	1
SAII13	WASTE-S-2-COMP	Waste	Metals	Zinc	130	J,s	2

Table 6-62b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Heptachlor	19	J,c	2
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Methoxychlor	20	UJ,c	20
SAII13	WASTE-O-2-COMP	Waste	Herbicides	2,4,5-T	110	J,g	1000
SAII13	WASTE-O-2-COMP	Waste	Herbicides	Pentachlorophenol	10000	U,z	10000
SAII13	WASTE-O-2-COMP	Waste	Metals	Cadmium	0.68	J,n	0.55
SAII13	WASTE-O-2-COMP	Waste	Metals	Mercury	0.072	J,d	0.024
SAII13	WASTE-O-2-COMP	Waste	Metals	Thallium	1.1	UJ,p	1.1
SAII13	WASTE-O-2-COMP	Waste	Metals	Zinc	47	J,s	2.2
SAII13	WASTE-O-3-9FT	Waste	VOCs	Bromomethane	5100	R,l	5100
SAII13	WASTE-O-3-9FT	Waste	VOCs	Chlorobenzene	560000	J,h	3800
SAII13	WASTE-O-3-COMP	Waste	PCBs	Pentachlorobiphenyl	12000	J,m	820
SAII13	WASTE-O-3-COMP	Waste	PCBs	Tetrachlorobiphenyl	28000	J,m	820
SAII13	WASTE-O-3-COMP	Waste	PCBs	Trichlorobiphenyl	16000	J,m	400
SAII13	WASTE-O-3-COMP	Waste	Pesticides	4,4'-DDE	690	J,g	400
SAII13	WASTE-O-3-COMP	Waste	Pesticides	4,4'-DDT	2500	J,c	400
SAII13	WASTE-O-3-COMP	Waste	Pesticides	Aldrin	720	J,g	210
SAII13	WASTE-O-3-COMP	Waste	Pesticides	delta-BHC	2600	J,g	210
SAII13	WASTE-O-3-COMP	Waste	Pesticides	Endosulfan II	420	J,g	400
SAII13	WASTE-O-3-COMP	Waste	Pesticides	Endosulfan Sulfate	220	J,g	400
SAII13	WASTE-O-3-COMP	Waste	Pesticides	Heptachlor	1900	J,c	210
SAII13	WASTE-O-3-COMP	Waste	Pesticides	Heptachlor Epoxide	470	J,g	210
SAII13	WASTE-O-3-COMP	Waste	Pesticides	Methoxychlor	2100	UJ,c	2100
SAII13	WASTE-O-3-COMP	Waste	Herbicides	Pentachlorophenol	470000	U,z	470000
SAII13	WASTE-O-3-COMP	Waste	Metals	Cadmium	1.1	J,n	0.55
SAII13	WASTE-O-3-COMP	Waste	Metals	Mercury	1.5	J,d	0.59
SAII13	WASTE-O-3-COMP	Waste	Metals	Thallium	1.1	UJ,p	1.1
SAII13	WASTE-O-3-COMP	Waste	Metals	Zinc	130	J,s	2.2
SAII13	WASTE-S-1-6FT	Waste	VOCs	1,1-Dichloroethane	6600	J,c	7700
SAII13	WASTE-S-1-6FT	Waste	VOCs	Acetone	150000	J,c	77000
SAII13	WASTE-S-1-COMP	Waste	PCBs	Pentachlorobiphenyl	1400	J,m	160
SAII13	WASTE-S-1-COMP	Waste	PCBs	Tetrachlorobiphenyl	1200	J,m	160

Table 6-60a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII11

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII11	Waste-O-1-COMP-T	7/2/02	Waste				X	X	X								X		
SAII11	Waste-O-1-COMP-T-DUP	7/2/02	Waste				X	X	X								X		
SAII11	Waste-O-2-COMP-T	7/1/02	Waste				X	X	X								X		
SAII11	Waste-O-3-COMP-T	7/1/02	Waste				X	X	X								X		
SAII11	Waste-S-1-COMP-T	7/1/02	Waste				X	X	X								X		
SAII11	Waste-S-2-COMP-T	7/1/02	Waste				X	X	X								X		

Table 6-62b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII13	WASTE-O-1-COMP	Waste	PCBs	Tetrachlorobiphenyl	460000	J,m	4700
SAII13	WASTE-O-1-COMP	Waste	PCBs	Trichlorobiphenyl	330000	J,m	3300
SAII13	WASTE-O-1-COMP	Waste	Pesticides	4,4'-DDE	18000	P	1100
SAII13	WASTE-O-1-COMP	Waste	Pesticides	4,4'-DDT	3300	J,g	1600
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Aldrin	2100	J,g	850
SAII13	WASTE-O-1-COMP	Waste	Pesticides	beta-BHC	770	J,g	850
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Dieldrin	8400	J,g	1600
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Endosulfan II	6400	J,n	1100
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Endosulfan Sulfate	21000	J,n	1100
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Heptachlor	590	UJ,c	590
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Heptachlor Epoxide	2700	J,g	850
SAII13	WASTE-O-1-COMP	Waste	Pesticides	Methoxychlor	5900	UJ,c	5900
SAII13	WASTE-O-1-COMP	Waste	Herbicides	2,4,5-T	17000	J,g	58000
SAII13	WASTE-O-1-COMP	Waste	Herbicides	Pentachlorophenol	630000	U,z	630000
SAII13	WASTE-O-1-COMP	Waste	Metals	Mercury	92	J,d	13
SAII13	WASTE-O-1-COMP	Waste	Metals	Thallium	1.2	UJ,p	1.2
SAII13	WASTE-O-1-COMP	Waste	Metals	Zinc	790	J,s	2.3
SAII13	WASTE-O-2-7FT	Waste	VOCs	Acetone	32000	R,c	32000
SAII13	WASTE-O-2-COMP	Waste	PCBs	Pentachlorobiphenyl	170	J,m	160
SAII13	WASTE-O-2-COMP	Waste	PCBs	Tetrachlorobiphenyl	290	J,m	160
SAII13	WASTE-O-2-COMP	Waste	PCBs	Trichlorobiphenyl	480	J,m	80
SAII13	WASTE-O-2-COMP	Waste	Pesticides	4,4'-DDD	5.1	J,g	4
SAII13	WASTE-O-2-COMP	Waste	Pesticides	4,4'-DDE	12	J,g	4
SAII13	WASTE-O-2-COMP	Waste	Pesticides	4,4'-DDT	18	J,c	4
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Aldrin	13	J,g	2
SAII13	WASTE-O-2-COMP	Waste	Pesticides	beta-BHC	12	J,g	2
SAII13	WASTE-O-2-COMP	Waste	Pesticides	delta-BHC	29	J,g	2
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Dieldrin	12	J,g	4
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Endosulfan II	2.7	J,g	4
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Endosulfan Sulfate	2.8	J,g	4
SAII13	WASTE-O-2-COMP	Waste	Pesticides	Endrin Ketone	1.6	J,g	4

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII11 – TCLP Waste__ **Fraction: __VOCs, SVOCs, Pesticide, PCBs,___ __Herbicide and Metals_____**

Lab: _____STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____August 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the continuing calibration analyzed on 7/12/02 at 12:14 displayed %Ds greater than the control limit (i.e., 20%) for 2-butanone at 63.3% and 1,2-dichloroethane at 23.1%. The continuing calibration analyzed on 7/17/02 at 12:22 displayed a %D greater than the control limit for 2-butanone at 67.3%. The continuing calibration analyzed on 7/18/02 at 10:46 displayed a %D greater than the control limit for 2-butanone at 42.1%. Since 1,2-dichloroethane was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. All 2-butanone results were flagged "J, c" or "UJ, c". The MS/MSD recoveries were greater than the upper control limit (i.e., 167%) for 2-butanone at 186% and 184%. Since the parent sample is not collected from project site (non-client sample) and 2-butanone results were previously flagged due to calibration failure, no additional data qualifying action was taken. The LCS recovery was greater than the upper control limit (i.e., 167%) for 2-butanone at 184%. Since 2-butanone results in the associated samples were previously flagged due to calibration failure, no additional data qualifying action was taken. Reporting limits were raised by a factor of 2 in samples WASTE-S-2-6'-T, WASTE-S-1-6'-T, WASTE-O-3-9'-T, and WASTE-O-2-7'-T due to dilutions (abundance of target compounds).

For the SVOC analyses, the continuing calibration analyzed on 7/16/02 at 08:21 displayed a %D greater than the control limit (i.e., 20%) for 2,4,6-tribromophenol (-21.4%). Since this compound is a surrogate and the %D failure was not serious enough (i.e., > 50%) to affect associated sample results, no data qualifying action was taken. Base/neutral surrogates were not recovered (0%) in two diluted samples WASTE-O-1-COMP-T-DL (DF=5) and WASTE-O-1-COMP-T-DUP-DL (DF=5). Since the base/neutral results in these two diluted samples are not to be used for data interpretation, no data qualifying action was taken. Pentachlorophenol results in samples WASTE-S-1-COMP-T, WASTE-O-3-COMP-T,

Table 6-62b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Benzyl Butyl Phthalate	35000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	bis(2-Chloroethoxy)methane	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	bis(2-Chloroethyl)ether	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	bis(2-Ethylhexyl)phthalate	880	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Carbazole	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Chrysene	23000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Dibenzo(a,h)anthracene	1600	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Dibenzofuran	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Diethyl Phthalate	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Dimethyl Phthalate	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Di-n-butylphthalate	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Di-n-octylphthalate	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Dinoseb	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Fluoranthene	3400	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Fluorene	3400	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Hexachlorobenzene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Hexachlorobutadiene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Hexachlorocyclopentadiene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Hexachloroethane	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Indeno(1,2,3-cd)pyrene	620	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Isophorone	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Naphthalene	14000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Nitrobenzene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	N-Nitroso-di-n-propylamine	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	P-Chloroaniline	4600	UJ,s	4600
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Phenanthrene	23000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Phenol	7700	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	P-Nitroaniline	29000	J,s	12000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Pyrene	26000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	PCBs	Pentachlorobiphenyl	180000	J,m	4700

WASTE-O-1-COMP-T, and WASTE-O-1-COMP-T-DUP exceeded the linear range of the calibration curve. Positive pentachlorophenol results in these four samples were flagged "J, q". These samples were diluted by factors of 5 or 10 and reanalyzed by the laboratory. Pentachlorophenol results from the dilution analyses should be used for data interpretation.

For the pesticide analyses, the %Ds for 2,4-DCAA (-27.5%), tetrachloro-m-xylene (TCMX, -18.6%), and decachloro-biphenyl (DCBP, -16.0%) on the primary column and for 2,4-DCAA (-26.2%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/11/02 at 11:23. The %Ds for TCMX (-21.3%) and 2,4-DCAA (-28.0%) on the primary column and for methoxychlor (20.8%) and 2,4-DCAA (-25.2%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/11/02 at 17:33. The positive methoxychlor result in sample WASTE-O-3-COMP-T was flagged "J, c". Since other outliers are surrogates, no data qualifying action was taken. The DCBP surrogate recovery in sample WASTE-O-1-COMP-T (21%) was less than the lower control limit (i.e., 30%) on the primary column. Since all other surrogate recoveries were in control, no data qualifying action was taken. The DCBP and TCMX surrogate recoveries in sample WASTE-O-1-COMP-T-DUP (26% and 29%, respectively) were less than the lower control limit (i.e., 30%) on the primary column. Positive results were flagged "J, s" and non-detects were flagged "UJ, s" in this sample. The internal standard peak area for bromonitro-benzene was greater than the QC limit (i.e., 50-150%) in samples WASTE-O-1-COMP-T (229.7%) and WASTE-O-1-COMP-T-DUP (234.9%). Since no target compounds were detected in these two samples, no data qualifying action was taken. The RPDs between primary and confirmatory columns for gamma-BHC (76.2%) and heptachlor (50.0%) in sample WASTE-S-2-COMP-T and for methoxychlor (58.8%) in sample WASTE-O-3-COMP-T were greater than the acceptance limit (i.e., 40%). These results, except those previously flagged due to calibration failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, the monochlorobiphenol result in sample WASTE-O-3-COMP-T exceeded the linear range of the calibration curve. The positive monochlorobiphenol result in this sample was flagged "J, q". This sample was diluted by a factor of 2 and reanalyzed by the laboratory. The monochlorobiphenol result from the dilution analysis should be used for data interpretation.

For the herbicide analyses, the %Ds for 2,4-D (18.6%) and 2,4,5-TP (17.7%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/26/02 at 12:51. The %D for 2,4,5-TP (16.6%) on the primary column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/26/02 at 17:21. Positive 2,4-D results

Table 6-62b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII13	WASTE-O-1-4FT	Waste	VOCs	Acetone	53000	R,c	53000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	1,3-Dichlorobenzene	5600	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,4,5-Trichlorophenol	1000	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,4,6-Trichlorophenol	11000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,4-Dichlorophenol	11000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,4-Dimethylphenol	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,4-Dinitrophenol	12000	UJ,s	12000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,4-Dinitrotoluene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2,6-Dinitrotoluene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2-Chloronaphthalene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2-Chlorophenol	3000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2-Methylphenol (o-Cresol)	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2-Nitroaniline	12000	UJ,s	12000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	2-Nitrophenol	2200	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	3,3'-Dichlorobenzidine	4600	UJ,s	4600
SAII13	WASTE-O-1-COMP	Waste	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	3200	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	3-Nitroaniline	12000	UJ,s	12000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	4,6-Dinitro-2-methylphenol	12000	UJ,s	12000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	4-Bromophenyl Phenyl Ether	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	4-Chloro-3-methylphenol	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	4-Chlorophenyl Phenyl Ether	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	4-Nitrophenol	12000	UJ,s	12000
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Acenaphthene	1800	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Acenaphthylene	2300	UJ,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Anthracene	28000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Benzo(a)anthracene	10000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Benzo(a)pyrene	11000	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Benzo(b)fluoranthene	6300	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Benzo(g,h,i)perylene	2600	J,s	2300
SAII13	WASTE-O-1-COMP	Waste	SVOCs	Benzo(k)fluoranthene	2300	UJ,s	2300

were flagged "J, c" in the associated samples. 2,4,5-TP was not detected in the associated samples. Since the 2,4,5-TP had acceptable %Ds on the confirmation column, no data qualifying action was taken. The 2,4-DCAA surrogate recoveries on the confirmation column were greater than the upper control limit (i.e., 133%) in samples WASTE-O-1-COMP-T (2150%), WASTE-O-1-COMP-T-DUP (2500%), WASTE-S-1-COMP-T (5500%), and WASTE-O-3-COMP-T (2500%). Positive results in these samples were flagged "J, s". 2,4-D results in samples WASTE-O-1-COMP-T, WASTE-O-1-COMP-T-DUP, and WASTE-O-3-COMP-T exceeded the linear range of the calibration curve. Since these positive 2,4-D results were previously flagged due to surrogate recovery failures, no additional data qualifying action was taken. These samples were diluted by factors of 10 or 20 and reanalyzed by the laboratory. 2,4-D results from the dilution analysis should be used for data interpretation. The RPDs between primary and confirmatory columns for 2,4,5-TP in samples WASTE-O-1-COMP-T (168.5%), WASTE-O-1-COMP-T-DUP (162.6%), and WASTE-O-3-COMP-T (164.2%) were greater than the acceptance limit. Since these results were previously flagged due to surrogate recovery failures, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the final CRDL percent recovery for lead (130%) was greater than the upper control limit (i.e., 120%). Since this recovery was marginally outside the control limit, no data qualifying action was taken. Selenium was detected in the preparation blank (PB) at -0.08336 mg/L and one continuing calibration blank (CCB6) at -0.00717 mg/L. Lead was detected in the initial calibration blank (ICB) at -0.00158 mg/L. Lead and selenium non-detect results in the associated samples were flagged "UJ, p" or "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Barium was detected in CCB6 at 0.00123 mg/L. Cadmium was detected in CCB5 at 0.00109 mg/L and CCB6 at 0.00087 mg/L. Since barium and cadmium results were either greater than five times the blank concentration or non-detects in the associated samples, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: MS/MSD analyses were not performed on these TCLP waste samples. Given that the majority of LCS/LCSD results associated with this SDG are acceptable, and no major matrix interference was observed in the chromatograph associated with these samples, no significant impact on data quality is expected.

COMP). Positive zinc results in the associated samples were flagged "J, s".

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, most of the samples were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. Except those rejected data point, all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of anomalies discussed above. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

blank that displayed the positive detection for PCP at 59 µg/kg, which affected the %R calculation, no further data qualifying action was taken. The LCS, 0731N-SMBLCS, displayed a %R greater than the upper control limit (i.e., 150%) for PCP at 209%. Since the PCP result in the associated sample was rejected due to holding time violation, no additional data flags were applied. The RPDs between primary and confirmatory columns for 2,4-D in sample WASTE-S-2-COMP (97.5%) and for 2,4,5-T in samples WASTE-S-2-COMP (63.6%), WASTE-O-1-COMP (78.6%), and WASTE-O-2-COMP (48.3%) were greater than the acceptance limit. These results, except those flagged due to holding time violation, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for arsenic (132%), lead (78%), and thallium (69%) were outside the control limit (i.e., 80-120%). Since these recoveries were marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 2.68 mg/kg, arsenic at -0.373 mg/kg, cadmium at -0.07 mg/kg, chromium at 0.0875 mg/kg, cobalt at -0.058 mg/kg, potassium at 1.93 mg/kg, sodium at 18.8 mg/kg, and thallium at -0.557 mg/kg. Thallium non-detect results were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Since all other results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Aluminum, barium, chromium, copper, manganese, and vanadium were detected in the initial calibration blank and/or continuing calibration blanks at low level. Since these results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. Samples WASTE-O-3-COMP, WASTE-O-2-COMP, and WASTE-O-1-COMP displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. Samples WASTE-S-1-COMP and WASTE-S-2-COMP displayed calcium concentrations greater than 50% of the calcium concentration in ICSA samples. The positive cadmium results in samples WASTE-O-3-COMP and WASTE-O-2-COMP were flagged "J, n". Since all other affected results either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (67% and 67%), calcium (157% and 146%), magnesium (134% and 175%) and manganese (39% and 64%) were outside the control limits in one non-client MS/MSD pair. Since the parent sample is a non-client sample, no data qualifying action was taken. The post-digestion spike analysis was performed on client samples WASTE-O-1-COMP and WASTE-O-3-COMP and recoveries for these compounds were in control. The RPD for mercury (40.8%) was greater than the acceptance limit (i.e., 35%) in SOIL-S-1-6' MS/MSD pair (in SDG: SAII12). Positive mercury results in the associated samples were flagged "J, d". The %D for zinc (11.7%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (WASTE-O-1-

Table 6-60b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII11	Waste-O-1-COMP-T-DUP	Waste	Pesticides	Chlordane	0.025	UJ,s	0.031

For the PCB analyses, the SOIL-O-2-6' MS/MSD pair displayed %Rs less than the lower control limit for monochlorobiphenyl at 16% and 16%, for hexachlorobiphenyl at 26% and 19%, for heptachlorobiphenyl at 25% and 29%, and for octachlorobiphenyl at 28% and 31%. Since the %Rs were affected by matrix and the LCS recoveries met criteria, no data qualifying action was taken. The internal standard peak areas for phenanthrene-d10 were greater than the upper control limit (i.e. 130%) in samples WASTE-O-1-COMP (212%) and WASTE-O-1-COMPDL (131%). Since phenanthrene-d10 was not used for quantitation, data quality has not been impacted and no data qualifying action was taken. Monochlorobiphenyl, dichlorobiphenyl, and trichlorobiphenyl results in sample WASTE-O-1-COMP exceeded the linear range of the calibration curve. These results, except those previously flagged due to MS/MSD recovery failure, were flagged "J, q" in sample WASTE-O-1-COMP. This sample was diluted by a factor of 1000 and re-analyzed by the laboratory. The results from the dilution analysis should be used for data interpretation.

For the herbicides analyses, the CCV analyzed on 8/1/02 at 10:17 displayed a %D greater than the control limit (i.e. 15%) on the primary column for MCPP at 16.4%. The CCV analyzed on 8/1/02 at 22:38 displayed a %D greater than the control limit (i.e. 15%) on the confirmation column for 2,4-DB at -19.8%. The CCV analyzed on 8/2/02 at 12:42 displayed %Ds greater than the control limit on the primary column for MCPP at 19.4%, for 2,4-D at 16.7%, and for PCP at 15.5%. Since these compounds were either not detected in the associated sample or not used for data interpretation, no data qualifying action was taken. The CCV analyzed on 8/5/02 at 22:19 displayed %Ds greater than the control limit on the primary column for PCP at -21.3%, for 2,4,5-TP at -23.8%, for 2,4,5-T at -25.4%, for 2,4-DB at -27.0%, for dinoseb at -24.4% and on the confirmation column for PCP at -19.7%, for 2,4,5-TP at -21.9%, for 2,4,5-T at -23.4%, for 2,4-DB at -18.0%, and for dinoseb at -23.0%. Since the associated sample is a QC sample (Method Blank), no data qualifying action was taken. The method blank prepped on 7/25/02 displayed a positive detection for pentachlorophenol (PCP) at 59 µg/kg. The method blank prepped on 7/31/02 displayed a positive detection for pentachlorophenol (PCP) at 16 µg/kg. Positive PCP results less than five times the amount found in the blank were flagged "U, z". The positive PCP result in sample WASTE-S-2-COMP was flagged "UR, z, h" due to the combination of method blank contamination and holding time violation. Except for sample WASTE-S-2-COMP, all surrogates were diluted out (DF=100 to 5000). No data qualifying action was taken since dilution factors were all greater than 10. The MS/MSD analyses were performed on sample WASTE-O-1-COMP. Because of the abundance of target compounds, the MS and MSD were analyzed at a 5000 times dilution. All surrogate and spiking compounds were diluted out. Therefore, the MS/MSD summary form was not provided in this data package. The LCS, 0710O-SMBLCS, displayed a %R less than the lower control limit (i.e., 10%) for PCP at 0%. Since the LCS was prepared with the same water used for the method

action was taken. It is recommended that the re-analyzed results for these compounds be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 7/11/02 at 11:05 displayed %Ds greater than the control limit (i.e. 15%) for heptachlor (-15.5%), 4,4'-DDT (-25.7%), endrin aldehyde (-16.8%), methoxychlor (-23.7%), and 2,4-DCAA (-22.9%) on the primary column and for heptachlor (18.8%), methoxychlor (-17.7%), and 2,4-DCAA (-22.8%) on the confirmation column. The CCV analyzed on 7/11/02 at 19:45 displayed %Ds greater than the control limit on the primary column for heptachlor (-23.1%), 4,4'-DDT (-34.9%), methoxychlor (-22.1%), 2,4-DCAA (-23.1%), and tetrachloro-m-xylene (TCMX, -15.7%) and on the confirmation column for 4,4'-DDT (-23.6%), methoxychlor (-25.7%), 2,4-DCAA (-28.7%), and tetrachloro-m-xylene (TCMX, -16.7%). The CCV analyzed on 7/16/02 at 11:48 displayed %Ds greater than the control limit for 2,4-DCAA (-25.1%) and TCMX (-15.5%) on the primary column and for heptachlor (16.1%) and 2,4-DCAA (-34.5%) on the confirmation column. The CCV analyzed on 7/16/02 at 15:59 displayed %Ds greater than the control limit for 2,4-DCAA (-23.5%) on the primary column and for heptachlor (38.7%) and 2,4-DCAA (-28.7%) on the confirmation column. Methoxychlor results in the associated samples were flagged "UJ, c". Positive detections for these compounds were flagged "J, c". Sample WASTE-O-2-COMP displayed a surrogate greater than the upper control limit (i.e., 150%) on the confirmation column for TCMX at 220%. Since all other surrogate recoveries were in control, no data qualifying action was taken. Surrogates were diluted out in all other samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Sample WASTE-O-1-COMP displayed a %R greater than the upper control limit (i.e. 50%) for internal standard bromonitrobenzene at 192%. Positive detections, except those flagged due to continuing calibration failure, were flagged "J, n" in this affected sample. The MS/MSD analyses were performed on sample WASTE-O-3-COMP. Because of the abundance of target compounds, the MS and MSD were analyzed at a 100 times dilution. All surrogate and spiking compounds were diluted out. Therefore, the MS/MSD summary form was not provided in this data package. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low. Aldrin, beta-BHC, heptachlor epoxide, dieldrin, and 4,4'-DDT results in sample WASTE-O-1-COMP exceeded the linear range of the calibration curve. These results were previously flagged due to internal standard failure, and no additional data flags were applied. This sample was diluted by a factor of 500 and reanalyzed by the laboratory. The results from the dilution analysis should be used for data interpretation.

affect the non-detect values, no data qualifying action was taken. The method blank, 1O0715MB, displayed a positive detection for toluene at 86 µg//kg. Since all positive toluene results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Surrogates were diluted out in several samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The LCS/LCSD pair, 2P0715MBLCS, displayed %Rs greater than the upper control limit for acetone (LCS=160%) and 2-hexanone (LCSD=130%). Since acetone and 2-hexanone were not detected in the associated samples, no data qualifying action was taken. All waste samples displayed one to three compounds that exceeded the calibration range. These compounds were flagged "J, q". These samples were re-analyzed at greater dilutions and the compounds were within calibration range. The dilution sample WASTE-O-3-9'DL was analyzed outside the holding time by one day. The chlorobenzene result in this dilution sample was flagged "J, h". Since all other results were not used for data interpretation, no data qualifying action was taken. It is recommended that the re-analyzed results for these compounds be used for data interpretation.

For the SVOCs analyses, the CCV analyzed on 7/24/02 at 08:30 displayed a %D greater than the control limit (i.e. 20%) for 4-nitrophenol at 24.7%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. All surrogates were not recovered (0%) in one diluted sample WASTE-O-1-COMP (DF=5). Positive results were flagged "J, s" and non-detects were flagged "UJ, s" in sample WASTE-O-1-COMP. Surrogates were also diluted out in several samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MS/MSD displayed %Rs less than the lower control limit for n-nitrosodiphenylamine at 40% and 50%. The MS also displayed %Rs less than the lower control limit for dimethylphthalate at 45%, for butyl benzyl phthalate at 49%, for benzo(a)-anthracene at 49%, and for chrysene at 50%. The MS/MSD displayed %RPDs greater than the control limit for 1,2-dichlorobenzene at 27%, for 3-nitroaniline at 40%, and for dibenzo(a,h)anthracene at 26%. Since the MS, MSD, or other QC data met specified criteria, no data qualifying action was taken. Most of the MS/MSD and RPD recoveries were outside the control limit due to most of the analytes being diluted out in the SOIL-0-1-6' MS/MSD pair. No data qualifying action was taken. Samples WASTE-O-3-COMP, WASTE-S-2-COMP, and WASTE-O-1-COMP displayed one to five compounds that exceeded the calibration range. These results, except those previously flagged due to surrogate recovery failure, were flagged "J, q". These samples were re-analyzed at greater dilutions and the results were within calibration range. The dilution sample WASTE-O-1-COMP was analyzed outside the analytical holding time by nine days. The pentachlorophenol result in this dilution sample was flagged "J, h". Since all other results were not used for data interpretation, no data qualifying

Table 6-61a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII12

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII12	SOIL-O-1-6FT	7/2/02	Soil			X	X	X	X	X	X						X		
SAII12	SOIL-O-2-6FT	7/1/02	Soil			X	X	X	X	X	X						X		
SAII12	SOIL-O-3-0.5	7/1/02	Soil			X													
SAII12	SOIL-O-3-6FT	7/1/02	Soil			X	X	X	X	X	X						X		
SAII12	SOIL-O-3-6FT-DUP	7/1/02	Soil			X	X	X	X	X	X						X		
SAII12	SOIL-S-1-0.5	7/1/02	Soil			X													
SAII12	SOIL-S-1-6FT	7/1/02	Soil			X	X	X	X	X	X						X		
SAII12	SOIL-S-2-6FT	7/1/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII13_____ **Fraction:**_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____

Lab: _Severn Trent-Savannah_____ **Project Name:** __Sauget Area 2_____

Reviewer: _____JA_____ **Date:** _____September 19, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 and continuing calibration analyzed on 7/15/02 08:29 displayed relative response factors (RRFs) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973 at 0.0487 and 0.0456, respectively. Associated sample results with positive detections were flagged "J,c"; non-detects were flagged "R,c". The LCS, 2P0715MBLCS, displayed a %R less than the control limit (i.e., 23%) for bromomethane at 13%. The RPD for bromomethane (142%) was greater than the acceptance limit (i.e., 79%). The bromomethane result in sample WASTE-O-3-9' was flagged "R, l". Since all other associated samples are dilution samples and bromomethane results were not used for data interpretation, no data qualifying action was taken.

For the PCBs analyses, the SOIL-O-2-6' MS/MSD pair displayed %Rs less than the lower control limit for trichlorobiphenyl at 0% and 0%, for tetrachlorobiphenyl at 0% and 0%, and for pentachlorobiphenyl at 12% and 0%. Associated sample results with positive detections were flagged "J, m" and non-detects were flagged "R, m".

For the herbicide analyses, sample WASTE-S-2-COMP was re-extracted grossly exceeding the holding time by 16 days to verify laboratory contamination. Associated sample results with positive detections were flagged "J, h" and non-detects were flagged "R, h".

Minor Anomalies: For the VOCs analyses, the CCV analyzed on 7/15/02 at 08:29 displayed a %D greater than the control limit (i.e. 20%) for 1,1-dichloroethane at 30.6%. The positive 1,1-dichloroethane result in sample WASTE-S-1-6' was flagged "J,c". The CCV analyzed on 7/15/02 at 17:33 displayed a %D greater than the control limit for carbon disulfide at -22.6%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII12_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____September 10, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973 at 0.0487. Associated sample results with positive detections were flagged "J,c"; non-detects were flagged "R,c".

For the SVOCs analyses, sample SOIL-0-2-6' displayed a large number of analytes with concentrations less than the reporting limit. After further review of the chromatogram, it is possible that the large number of detections is due to possible instrument carryover. The laboratory was asked to re-analyze the sample, but was informed that the sample had been discarded. All associated sample results were flagged "R,Q".

For the PCBs analyses, the MS/MSD displayed %Rs less than the lower control limit for trichlorobiphenyl at 0% and 0%, for tetrachlorbiphenyl at 0% and 0%, and for pentachlorobiphenyl at 12% and 0%, Associated sample results with positive detections were flagged "J,m", unless previously flagged for internal standard anomalies; non-detects were flagged "R,m".

Minor Anomalies: For the VOCs analyses, the CCV analyzed on 7/11/02 at 09:09 displayed a %D greater than the control limit (i.e. 20%) for methylene chloride at -32.6%. The CCV analyzed on 7/15/02 at 08:29 displayed a %D greater than the control limit for 1,1-dichloroethane at 30.6%. The positive 1,1-dichloroethane result in sample SOIL-S-1-6' was flagged "J,c". Sample SOIL-0-1-6' displayed a %R greater than the upper control limit (i.e. 135%) for surrogate 4-bromofluorobenzene at 138%. Sample SOIL-S-1-6' displayed a %R less than the lower control limit (i.e. 58%) for surrogate dibromofluoromethane at 32%. Since the affected samples were analyzed at dilutions greater than 10x, no data qualifying action was taken. The LCS/LCSD displayed a %RPD greater than the control limit for methylene chloride at 34%. Since the LCS and LCSD met criteria, no data qualifying action

Table 6-62a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII13

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII13	WASTE-O-1-4FT	7/2/02	Waste			X													
SAII13	WASTE-O-1-COMP	7/2/02	Waste				X	X	X	X	X						X		
SAII13	WASTE-O-2-7FT	7/1/02	Waste			X													
SAII13	WASTE-O-2-COMP	7/1/02	Waste				X	X	X	X	X						X		
SAII13	WASTE-O-3-9FT	7/1/02	Waste			X													
SAII13	WASTE-O-3-COMP	7/1/02	Waste				X	X	X	X	X						X		
SAII13	WASTE-S-1-6FT	7/1/02	Waste			X													
SAII13	WASTE-S-1-COMP	7/1/02	Waste				X	X	X	X	X						X		
SAII13	WASTE-S-2-6FT	7/1/02	Waste			X													
SAII13	WASTE-S-2-COMP	7/1/02	Waste				X	X	X	X	X						X		

was taken. The field duplicate displayed %RPDs greater than the control limit for toluene at 166%, for benzene at 175%, for methyl isobutyl ketone at 154%, for chlorobenzene at 138%, for ethylbenzene at 152%, and mixed xylenes at 143%. Affected sample results were flagged "J,f". Samples SOIL-0-2-6', SOIL-0-3-6', and SOIL-S-1-6' displayed analytes that exceeded the calibration range. These analytes were flagged "J,q". These samples were re-analyzed at greater dilutions and the analytes were within calibration range, except for the benzene result in sample SOIL-0-3-6', which was non-detect. It is recommended that the re-analyzed results for these analytes be used for data interpretation, except for the benzene result. The original result for benzene should be used for data interpretation.

For the SVOCs analyses, the CCV analyzed on 7/24/02 at 08:30 displayed a %D greater than the control limit (i.e. 20%) for 4-nitrophenol at 24.7%. Since there were no samples associated with this analyte, no data qualifying action was taken. The MS/MSD analyzed displayed %Rs less than the lower control limit for n-nitrosodiphenylamine at 40% and 50%. The MS also displayed %Rs less than the lower control limit for dimethylphthalate at 45%, for butyl benzyl phthalate at 49%, for benzo(a)anthracene at 49%, and for chrysene at 50%. The MS/MSD displayed %RPDs greater than the control limit for 1,2-dichlorobenzene at 27%, for 3-nitroaniline at 40%, and for dibenzo(a,h)anthracene at 26%. Since the MS, MSD, or other QC data met specified criteria, no data qualifying action was taken. Most of the MS/MSD and RPD recoveries were outside the control limit due to most of the analytes being diluted out in the SOIL-0-1-6' MS/MSD pair. No data qualifying action was taken. Several samples displayed surrogate %RS at 0%. Since these samples were analyzed at dilutions greater than 10x, no data qualifying action was taken. Sample SOIL-0-1-6' displayed an internal standard %R greater than the control limit (i.e. 200%) for phenanthrene-d10 at 214%. Affected analytes with positive detections were flagged "J,n". Field duplicates displayed %RPDs greater than the control limit for 1,4-dichlorobenzene at 136% and for 1,2-dichlorobenzene at 131%. Affected analytes were flagged "J,f". Samples SOIL-0-3-6' and SOIL-0-1-6' displayed analytes with concentrations greater than the calibration range. These samples were re-analyzed at greater dilutions and the analytes were within calibration range. It is recommended that the reanalyzed analytes be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 7/12/02 at 10:59 displayed a %D greater than the control limit (i.e. 15%) on both the primary column and the confirmation column for surrogate 2,4-DCAA at -24.7% and -27.8%. The CCV analyzed on 7/12/02 at 19:08 displayed %Ds greater than the control limit on the primary column for surrogate 2,4-DCAA at -24.2% and on the confirmation column for surrogates 2,4-DCAA at -23.5% and for surrogate tetrachloro-meta-xylene (TMX) at -15.2%. The CCV analyzed on 7/15/02 at 16:42 displayed %Ds

Table 6-61b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII12

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII12	SOIL-S-1-6FT	Soil	PCBs	Trichlorobiphenyl	2200	J,m	88
SAII12	SOIL-S-1-6FT	Soil	Pesticides	Aldrin	190	J,g	110
SAII12	SOIL-S-1-6FT	Soil	Pesticides	gamma-BHC (Lindane)	110	J,g	110
SAII12	SOIL-S-1-6FT	Soil	Pesticides	Heptachlor Epoxide	94	J,g	110
SAII12	SOIL-S-1-6FT	Soil	Herbicides	2,4,5-T	2500	J,g	1100
SAII12	SOIL-S-1-6FT	Soil	Herbicides	2,4-D	1800	J,g	1100
SAII12	SOIL-S-1-6FT	Soil	Herbicides	Pentachlorophenol	440000	UJ,c,z	91000
SAII12	SOIL-S-1-6FT	Soil	Metals	Beryllium	0.33	J,p	0.49
SAII12	SOIL-S-1-6FT	Soil	Metals	Mercury	2.6	J,k	0.67
SAII12	SOIL-S-1-6FT	Soil	Metals	Nickel	15	J,s	4.9
SAII12	SOIL-S-1-6FT	Soil	Metals	Potassium	770	J,s	120
SAII12	SOIL-S-1-6FT	Soil	Metals	Thallium	1.2	UJ,p	1.2
SAII12	SOIL-S-2-6FT	Soil	VOCs	Acetone	27000	R,c	27000
SAII12	SOIL-S-2-6FT	Soil	PCBs	Pentachlorobiphenyl	130	J,m	160
SAII12	SOIL-S-2-6FT	Soil	PCBs	Tetrachlorobiphenyl	160	R,m	160
SAII12	SOIL-S-2-6FT	Soil	PCBs	Trichlorobiphenyl	24	J,m	80
SAII12	SOIL-S-2-6FT	Soil	Pesticides	4,4'-DDT	23	J,g	20
SAII12	SOIL-S-2-6FT	Soil	Pesticides	delta-BHC	5.8	J,g	10
SAII12	SOIL-S-2-6FT	Soil	Pesticides	gamma-Chlordane	3.7	J,g	10
SAII12	SOIL-S-2-6FT	Soil	Herbicides	2,4-D	4.8	J,g	10
SAII12	SOIL-S-2-6FT	Soil	Herbicides	MCPP	240	J,g	2400
SAII12	SOIL-S-2-6FT	Soil	Herbicides	Pentachlorophenol	46	U,z	46
SAII12	SOIL-S-2-6FT	Soil	Metals	Beryllium	0.26	J,p	0.48
SAII12	SOIL-S-2-6FT	Soil	Metals	Mercury	0.4	J,k	0.12
SAII12	SOIL-S-2-6FT	Soil	Metals	Nickel	11	J,s	4.8
SAII12	SOIL-S-2-6FT	Soil	Metals	Potassium	950	J,s	120
SAII12	SOIL-S-2-6FT	Soil	Metals	Thallium	1.2	UJ,p	1.2

Table 6-70a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII21

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII21	Waste-P-1-COMP-T	7/16/02	Waste				X	X	X								X		
SAII21	Waste-P-3-COMP-T	7/17/02	Waste				X	X	X								X		
SAII21	Waste-P-4-COMP-T	7/16/02	Waste				X	X	X								X		
SAII21	Waste-Q-3-COMP-T	7/17/02	Waste				X	X	X								X		
SAII21	Waste-Q-5-COMP-T	7/17/02	Waste				X	X	X								X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII21_____ **Fraction: __TCLP VOCs, SVOCs, Pest., PCBs, Herb., and Metals_____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____October 16, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the continuing calibration %D was greater than the QC limit (i.e., 15%) for 2-butanone (33.1%) in the continuing calibration analyzed on 7/29/02. The positive 2-butanone result was flagged "J,c" in sample WASTE-P-1-15. The MS recovery and the %RPD for the MS/MSD analyses was greater than the QC limit for 2-butanone at 168% and 40%, respectively. The LCS recovery for 2-butanone was also greater than the QC limit at 176%. The positive 2-butanone result was previously flagged in the associated sample due to calibration failure and no further data qualifying action was taken.

For the pesticide analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 15%) for heptachlor (21.5%) on the primary column, and methoxychlor (22.9%) on the confirmation column for the continuing calibration analyzed on 7/26/02 at 2120. No positive results were reported for these compounds in the associated samples and no data qualifying action was taken since the %Ds were acceptable on the alternate column. The recovery for surrogate decachlorobiphenyl was less than the QC limit (i.e., 30-150%) in sample WASTE-P-3-COMP-T (29%). No action is required based on one surrogate failure and no data flags were applied. The recoveries for surrogate tetrachloro-m-xylene were less than the QC limit (i.e., 30-150%) on both columns in sample Fluid Blank (27% and 26%). Since the surrogate recoveries were acceptable in most of the field samples, this was considered to be an isolated situation. No data qualifying action was taken.

For the herbicide analyses, the method blank contained 2,4-D at 0.018 mg/L. Positive 2,4-D results were flagged "U, z" at the reporting limit in samples WASTE-P-3-COMP-T and WASTE-P-1-COMP-T.

For the metal analyses, the initial CRDL percent recoveries for arsenic (59%) and

lead (128%), and the final CRDL percent recovery for lead (124%) were outside the control limit (i.e., 80-120%). Positive results were flagged "J,w" and non-detects were flagged "UJ,w" for arsenic in the associated samples. Since the lead recoveries were only marginally outside the control limits, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that detection limits were raised in several samples due to dilutions. It should also be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-70b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII21

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII21	No Qualifications						

Table 6-71a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII22	SOIL-P-1-0.5	7/16/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-P-1-6FT	7/16/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-P-3-0.5	7/17/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-P-3-6FT	7/17/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-P-4-0.5	7/16/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-P-4-6FT	7/16/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-Q-3-0.5	7/17/02	Soil			X	X	X	X	X							X		
SAII22	SOIL-Q-3-6	7/17/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-Q-5-0.5	7/17/02	Soil			X	X	X	X	X	X						X		
SAII22	SOIL-Q-5-6FT	7/17/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII22_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____RA_____ **Date: _____September 26, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the relative response factors (RRFs) for acetone were less than the control limit (i.e. 0.05) for the initial calibration analyzed on 7/11/02 at 0.0428 and the continuing calibration analyzed on 7/22/02 0945 at 0.04156, the continuing calibration analyzed on 7/23/02 1924 at 0.0467, and the continuing calibration analyzed on 7/25/02 1617 at 0.04167. Associated sample results with positive detections were flagged "J,c"; non-detects were flagged "R,c".

For the SVOC analyses, surrogate recoveries for 2-fluorophenol (8%) and 2,4,6-tribromophenol (0%) were less than the QC limit in sample SOIL-Q-5-6. Positive results were flagged "J,s" and non-detects were flagged "R",s" in the associated compounds.

For the PCBs analyses, the SOIL-O-2-6' MS/MSD pair displayed %Rs less than the lower control limit for trichlorobiphenyl at 0% and 0%, for tetrachlorbiphenyl at 0% and 0%, and for pentachlorobiphenyl at 12% and 0%. Associated sample results with positive detections were flagged "J, m" and non-detects were flagged "R, m".

For the herbicide analyses, sample WASTE-S-2-COMP was re-extracted grossly exceeding the holding time by 16 days to verify laboratory contamination. Associated sample results with positive detections were flagged "J, h" and non-detects were flagged "R, h".

Minor Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/13/02 displayed a correlation coefficient less than the control limit (i.e. 0.990) for carbon disulfide at 0.987. Positive results were flagged "J,r" and non-detects were flagged "UJ,r" in the associated samples. The CCV analyzed on 7/18/02 0748 displayed a %D greater than the control limit (i.e. 20%) for acetone at 40.6%. The CCV analyzed on 7/22/02 1134 displayed %Ds greater than the control limit (i.e. 20%) for

bromomethane at 21.8% and methylene chloride at 43%. The CCV analyzed on 7/22/02 0945 displayed a %D greater than the control limit (i.e. 20%) for 1,1-dichloroethane at 31.4%. The CCV analyzed on 7/23/02 1924 displayed %Ds greater than the control limit (i.e. 20%) for 1,1-dichloroethane at 49.8% and 1,2-dichloroethane at 32.4%. The CCV analyzed on 7/25/02 1617 displayed a %D greater than the control limit (i.e. 20%) for 2-hexanone at 20.7%. Positive results were flagged "J,c" in the associated samples unless previously flagged due to other anomalies. Since the failures were not serious enough (i.e., > 50%) to affect the non-detect values, no further data qualifying action was taken. The method blank, 1M0722MB contained 2-butanone at 1.8 ug/Kg, 4-methyl-2-pentanone at 0.62 ug/Kg, and 2-hexanone at 1.9 ug/Kg. Positive results were flagged "U,z" at the reporting level in the associated samples. The recoveries for surrogate bromofluorobenzene were less than the QC limit (i.e., 63-135%) in samples SOIL-P-3-0.5 (62%), SOIL-Q-5-0.5 (52%), and SOIL-Q-5-0.5RE (48%). Positive results were flagged "J,s" and non-detects were flagged "UJ,s". The medium level LCS recovery was greater than the QC limit (i.e., 51-129%) for 1,1-dichloroethane at 132%. No positive results were reported for this compound and no data qualifying action was taken. The medium level %RPDs for the LCS analyses were greater than the QC limit for acetone (32%), methylene chloride (44%), and 2-hexanone (47%). Positive results were flagged "J,l" in the associated samples unless previously flagged due to other anomalies. The internal standard areas for 1,4-difluorobenzene (33%) and chlorobenzene-d5 (19%) were less than the QC limit (i.e., 50%) in sample SOIL-P-1-0.5. The internal standard areas for 1,4-difluorobenzene (42%) and chlorobenzene-d5 (26%) were less than the QC limit (i.e., 50%) in sample SOIL-P-1-0.5RE. Positive results were flagged "J,n" and non-detects were flagged "UJ,n". The original sample results should be used for data interpretation. The internal standard areas for 1,4-difluorobenzene (40%) and chlorobenzene-d5 (24%) were less than the QC limit (i.e., 50%) in sample SOIL-P-3-0.5. The internal standard areas for 1,4-difluorobenzene (43%) and chlorobenzene-d5 (30%) were less than the QC limit (i.e., 50%) in sample SOIL-P-3-0.5RE. Positive results were flagged "J,n" and non-detects were flagged "UJ,n" unless previously flagged due to other anomalies. The re-analyzed sample results should be used for data interpretation. The internal standard areas for 1,4-difluorobenzene (23%) and chlorobenzene-d5 (11%) were less than the QC limit (i.e., 50%) in sample SOIL-Q-5-0.5. All internal standard areas were less than the QC limit in sample SOIL-Q-5-0.5RE. All associated sample results were previously flagged due to surrogate failure and no further data qualifying action was taken. The original sample results should be used for data interpretation. The internal standard areas for 1,4-difluorobenzene (42%) and chlorobenzene-d5 (34%) were less than the QC limit (i.e., 50%) in sample SOIL-P-3-6. Positive results were flagged "J,n" and non-detects were flagged "UJ,n" unless previously flagged due to other anomalies. Several compounds exceeded the calibration range in sample SOIL-P-3-6 and were flagged "E" by the laboratory. These

results were flagged "J,q". Results from the dilution analyses should be used for the affected compounds.

For the SVOC analyses, sample SOIL-Q-5-6RE was extracted 9 days outside the holding time. Positive results were flagged "J,h" and non-detects were flagged "UJ,h". The initial calibration correlation coefficients were less than the QC limit (i.e, 0.990) for 2,6-dinitrotoluene (0.987), 3-nitroaniline (0.988), and 4-nitroaniline (0.986) for the initial calibration analyzed on 8/10/02. All associated sample results were previously flagged due to holding time failure and no additional data flags were applied. The CCV analyzed on 8/8/02 displayed a%D greater than the control limit (i.e. 20%) for 4-nitrophenol at 24.7%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Surrogates were not recovered (0%) in samples SOIL-P-3-0.5 (DF=5), SOIL-Q-3-0.5 (DF=5), and SOIL-Q-3-6 (DF=5). Positive results were flagged "J, s" and non-detects were flagged "UJ, s" in these samples. Surrogates were also diluted out in several samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MSD recovery for n-nitrosodiphenylamine (50%) was less than the QC limit (i.e., 51-132%). No action was required since the MS and LCS recoveries were acceptable. The LCS recoveries for 2,4-dimethylphenol (91%, 94%) were greater than the QC limit (i.e., 33-84%). No positive results were reported and no data qualifying action was required.

For the pesticides analyses, the CCV analyzed on 8/9/02 at 1749 displayed %Ds greater than the control limit (i.e. 15%) for alpha-BHC (20.1%, 24.8%), heptachlor (21.9%, 18.2%), delta-BHC (26.7%, 28.2%), 4,4,-DDT (17.1%, 16.2%) on both columns, and 4,4-DDE (34.7%) and endosulfan II (15.8%) on the primary column, and heptachlor epoxide (15.4%) on the confirmation column; the CCV analyzed on 8/9/02 at 2359 displayed %Ds greater than the control limit (i.e. 15%) for heptachlor (30.8%, 40.6%) and delta-BHC (18.7%/21.4%) on both columns, 4,4-DDE (24.8%) on the primary column, aldrin (16.7%), dieldrin (21.1%), endrin (23.1%), 4,4-DDD (25.5%), endosulfan II (28.7%), 4,4-DDT (20.8%), and endrin aldehyde (18%) on the confirmation column; the CCV analyzed on 8/10/02 at 0612 displayed %Ds greater than the control limit for heptachlor (34.2%, 29.6%) and delta-BHC (16.7%, 18.5%) on both columns, and 4,4,-DDE (19.4%) and methoxychlor (16.6%) on the primary column, and alpha-BHC (17.7%) on the confirmation column; the CCV analyzed on 8/21/02 at 1338 displayed %Ds greater than the control limit for endrin (16.2%, 19%) and 4,4-DDT (18.2%, 24.8%), on both columns, endrin ketone (18.9%) on the primary column and alpha-BHC (15.8%), heptachlor (18.1%), 4,4,-DDE (17.4%), endrin aldehyde (19.2%), and endosulfan sulfate (18%) on the confirmation column; and the CCV analyzed on 8/21/02 at 1835 displayed %Ds greater than the control limit for methoxychlor (19.2%) on the primary column and endrin (15.5%) on the

confirmation column. Positive results were flagged "J,c" and non-detects were flagged "UJ,c" in the associated samples. Surrogates were diluted out in all samples except SOIL-Q-5-0.5. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Sample SOIL-P-4-6DL displayed a %R greater than the upper control limit (i.e. 150%) for internal standard bromonitrobenzene at 156%. Positive results were previously flagged due to calibration failure and no data qualifying action was taken. The MS/MSD analyses were performed on sample SOIL-P-4-0.5. Because of the abundance of target compounds, the MS and MSD were analyzed at a 20 times dilution. All surrogate and spiking compounds were diluted out. Therefore, MS/MSD summary form was not provided in this data package. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low. 4,4'-DDT in sample SOIL-P-4-6 exceeded the linear range of the calibration curve. This result was previously flagged due to calibration failure, and no additional data flags were applied. This sample was diluted by a factor of 40 and reanalyzed by the laboratory. The results from the dilution analysis should be used for data interpretation.

For the PCB analyses, surrogates were diluted out for samples SOIL-Q-5-0.5 (DF=5) and SOIL-P-4-0.5 (DF=5). Positive results were flagged "J,s" and non-detects were flagged "UJ,s". Surrogates were also diluted out in several other samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MS/MSD recoveries for trichlorobiphenyl (160%, 260%), pentachlorobiphenyl (260%, 530%), hexachlorobiphenyl (200%, 270%), and the MSD recovery for tetrachlorobiphenyl (200%) were greater than the QC limit. No action was required since the LCS recoveries were acceptable.
The internal standard peak areas for chrysene-d12 were greater than the upper control limit (i.e. 130%) in samples SOIL-P-1-6 (186%), SOIL-P-4-6 (153%), SOIL-P-3-6 (145%), SOIL-Q-5-6 (155%), and SOIL-Q-3-0.5 (134%). Positive results were flagged "J,n". The internal standard peak areas for phenanthrene-d10 were greater than the upper control limit (i.e. 130%) in several samples. Since phenanthrene-d10 was not used for quantitation, data quality has not been impacted and no data qualifying action was taken. Trichlorobiphenyl, tetrachlorobiphenyl, pentachlorobiphenyl, and hexachlorobiphenyl results in sample SOIL-P-4-0.5 exceeded the linear range of the calibration curve. These results were flagged "J, q". This sample was diluted by a factor of 5 and re-analyzed by the laboratory. The results from the dilution analysis should be used for data interpretation.

For the herbicides analyses, the CCV analyzed on 8/3/02 at 0741 displayed %Ds greater than the control limit (i.e. 15%) on the primary column for MCPP at

22.2%, MCPA at 16.1%, and 2,4-D at 15.7%; and on the confirmation column for 2,4-DB at 21.5%. The CCV analyzed on 8/3/02 at 1927 displayed %Ds greater than the control limit (i.e. 15%) on the primary column for MCPP at 18.8% and 2,4-D at 18.8%, and on the confirmation column for 2,4-DB 16.3%. Positive results were flagged "J,c" in the associated samples. The recovery for surrogate DCAA in sample SOIL-Q-3-0.5 was greater than the upper control limit (i.e., 189%) at 325%. Positive results were flagged "J,s". The MS/MSD analyses were performed on a non-client sample. Because of the abundance of target compounds, the MS and MSD were analyzed at a high dilution. All surrogate and spiking compounds were diluted out. Therefore, the MS/MSD summary form was not provided in this data package. Pentachlorophenol exceeded the calibration range in sample SOIL-Q-3-0.5. This result was flagged "J,q". This sample was re-analyzed at a dilution factor of 4. The result from the dilution analysis should be used for data interpretation. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failure, were flagged "J, g".

For the metal analyses, the initial CRDL percent recoveries for arsenic (59%), lead (128%), sodium (75%), and thallium (138%), and the final CRDL percent recovery for lead (125%) were outside the control limit (i.e., 80-120%). Positive arsenic results were flagged "J,w" in all samples. Since the recoveries for lead, sodium, and thallium were only marginally outside the control limits, no data qualifying action was taken. The method blanks contained barium at 0.182 mg/kg, chromium at 0.0953 mg/kg, potassium at 3.4 mg/Kg, sodium at 34.1 mg/Kg, and cadmium at – 0.045 mg/Kg. The positive sodium result was flagged "U,p" at the reporting limit in sample SOIL-P-4-0.5. Positive results were greater than five times the blank concentration for the other compounds and no data qualifying action was required. Aluminum, barium, chromium, copper, magnesium, potassium, calcium, and thallium were detected in the initial calibration blank and/or continuing calibration blanks at low levels. Since the results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The MS/MSD recoveries for antimony (39% and 40%) and the MSD recovery for potassium (130%) were outside the control limits (i.e., 75-125%). Positive results were flagged "J,m" and non-detects were flagged "UJ,m" for antimony in the associated samples. Positive results were flagged "J,m" for potassium in the associated samples. The %Ds for serial dilution analyses for zinc (11.8%) and cobalt (10.6%) were greater than the acceptance limit (i.e., <10%). Positive results in the associated samples were flagged "J, s".

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, most of the samples were analyzed at dilutions for all organic analyses and some inorganic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. Except for those rejected data points, all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-1-0.5	Soil	VOCs	1,1,2,2-Tetrachloroethane	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	1,1,2-Trichloroethane	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	1,2-Dichloroethene (total)	18	UJ,n	18
SAII22	SOIL-P-1-0.5	Soil	VOCs	1,2-Dichloropropane	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	21	J,n	45
SAII22	SOIL-P-1-0.5	Soil	VOCs	Bromodichloromethane	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Bromoform	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Carbon Disulfide	1.4	J,r	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Chlorobenzene	4	J,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Chlorodibromomethane	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	cis-1,3-Dichloropropene	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Ethylbenzene	2.4	J,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Methyl N-Butyl Ketone	5.9	J,l	45
SAII22	SOIL-P-1-0.5	Soil	VOCs	Styrene (Monomer)	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Tetrachloroethene	6	J,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Toluene	32	J,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	trans-1,3-Dichloropropene	9.1	UJ,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Trichloroethene	1.5	J,n	9.1
SAII22	SOIL-P-1-0.5	Soil	VOCs	Xylenes, Total	8.6	UJ,n	18
SAII22	SOIL-P-1-0.5	Soil	Pesticides	4,4'-DDT	17	J,c	81
SAII22	SOIL-P-1-0.5	Soil	Pesticides	alpha-BHC	42	UJ,c	42
SAII22	SOIL-P-1-0.5	Soil	Pesticides	delta-BHC	42	UJ,c	42
SAII22	SOIL-P-1-0.5	Soil	Pesticides	Heptachlor	42	UJ,c	42
SAII22	SOIL-P-1-0.5	Soil	Metals	Antimony	1.6	J,m	2.5
SAII22	SOIL-P-1-0.5	Soil	Metals	Arsenic	26	J,w	1.2
SAII22	SOIL-P-1-0.5	Soil	Metals	Cobalt	13	J,s	1.2
SAII22	SOIL-P-1-0.5	Soil	Metals	Potassium	690	J,m	120
SAII22	SOIL-P-1-0.5	Soil	Metals	Zinc	200	J,s	2.5
SAII22	SOIL-P-1-6FT	Soil	PCBs	Trichlorobiphenyl	500	J,n	1900
SAII22	SOIL-P-1-6FT	Soil	Pesticides	4,4'-DDT	76	UJ,c	76
SAII22	SOIL-P-1-6FT	Soil	Pesticides	alpha-BHC	20	J,c	39

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-1-6FT	Soil	Pesticides	alpha-Chlordane	17	J,g	39
SAII22	SOIL-P-1-6FT	Soil	Pesticides	beta-BHC	260	J,g	39
SAII22	SOIL-P-1-6FT	Soil	Pesticides	delta-BHC	39	UJ,c	39
SAII22	SOIL-P-1-6FT	Soil	Pesticides	Endosulfan I	18	J,g	39
SAII22	SOIL-P-1-6FT	Soil	Pesticides	Endosulfan Sulfate	44	J,g	76
SAII22	SOIL-P-1-6FT	Soil	Pesticides	Heptachlor	39	UJ,c	39
SAII22	SOIL-P-1-6FT	Soil	Herbicides	2,4,5-T	7.8	J,g	9.5
SAII22	SOIL-P-1-6FT	Soil	Herbicides	2,4-D	55	J,c	9.5
SAII22	SOIL-P-1-6FT	Soil	Herbicides	Pentachlorophenol	20	J,g	20
SAII22	SOIL-P-1-6FT	Soil	Metals	Antimony	0.86	J,m	2.1
SAII22	SOIL-P-1-6FT	Soil	Metals	Arsenic	27	J,w	1
SAII22	SOIL-P-1-6FT	Soil	Metals	Cobalt	8.4	J,s	1
SAII22	SOIL-P-1-6FT	Soil	Metals	Potassium	1100	J,m	100
SAII22	SOIL-P-1-6FT	Soil	Metals	Zinc	280	J,s	2.1
SAII22	SOIL-P-3-0.5	Soil	VOCs	1,1,2-Trichloroethane	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	1,2-Dichloroethene (total)	28	UJ,n	28
SAII22	SOIL-P-3-0.5	Soil	VOCs	1,2-Dichloropropane	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	2-Butanone (MEK)	70	U,z	70
SAII22	SOIL-P-3-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	17	J,n	70
SAII22	SOIL-P-3-0.5	Soil	VOCs	Bromodichloromethane	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Bromoform	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Chlorobenzene	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Chlorodibromomethane	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	cis-1,3-Dichloropropene	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Ethylbenzene	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Methyl N-Butyl Ketone	70	U,z	70
SAII22	SOIL-P-3-0.5	Soil	VOCs	Styrene (Monomer)	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Tetrachloroethene	1.9	J,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Toluene	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	trans-1,3-Dichloropropene	14	UJ,n	14
SAII22	SOIL-P-3-0.5	Soil	VOCs	Trichloroethene	14	UJ,n	14

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-3-0.5	Soil	VOCs	Xylenes, Total	28	UJ,n	28
SAII22	SOIL-P-3-0.5	Soil	SVOCs	1,2,4-Trichlorobenzene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	1,2-Dichlorobenzene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	1,3-Dichlorobenzene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	1,4-Dichlorobenzene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,4,5-Trichlorophenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,4,6-Trichlorophenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,4-Dichlorophenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,4-Dimethylphenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,4-Dinitrophenol	9600	UJ,s	9600
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,4-Dinitrotoluene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2,6-Dinitrotoluene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2-Chloronaphthalene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2-Chlorophenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2-Methylnaphthalene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2-Methylphenol (o-Cresol)	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2-Nitroaniline	9600	UJ,s	9600
SAII22	SOIL-P-3-0.5	Soil	SVOCs	2-Nitrophenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	3,3'-Dichlorobenzidine	3700	UJ,s	3700
SAII22	SOIL-P-3-0.5	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	3-Nitroaniline	9600	UJ,s	9600
SAII22	SOIL-P-3-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	9600	UJ,s	9600
SAII22	SOIL-P-3-0.5	Soil	SVOCs	4-Bromophenyl Phenyl Ether	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	4-Chloro-3-methylphenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	4-Chlorophenyl Phenyl Ether	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	4-Nitrophenol	9600	UJ,s	9600
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Acenaphthene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Acenaphthylene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Anthracene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Benzo(a)anthracene	1800	UJ,s	1800

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Benzo(a)pyrene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Benzo(b)fluoranthene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Benzo(g,h,i)perylene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Benzo(k)fluoranthene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Benzyl Butyl Phthalate	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	bis(2-Chloroethoxy)methane	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	bis(2-Chloroethyl)ether	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Carbazole	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Chrysene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Dibenzo(a,h)anthracene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Dibenzofuran	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Diethyl Phthalate	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Dimethyl Phthalate	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Di-n-butylphthalate	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Di-n-octylphthalate	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Dinoseb	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Fluoranthene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Fluorene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Hexachlorobenzene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Hexachlorobutadiene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Hexachlorocyclopentadiene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Hexachloroethane	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Isophorone	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Naphthalene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Nitrobenzene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	N-Nitroso-di-n-propylamine	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	N-Nitrosodiphenylamine	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	P-Chloroaniline	3700	UJ,s	3700
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Phenanthrene	1800	UJ,s	1800

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Phenol	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	SVOCs	P-Nitroaniline	9600	UJ,s	9600
SAII22	SOIL-P-3-0.5	Soil	SVOCs	Pyrene	1800	UJ,s	1800
SAII22	SOIL-P-3-0.5	Soil	Pesticides	4,4'-DDT	9.1	J,c	37
SAII22	SOIL-P-3-0.5	Soil	Pesticides	alpha-BHC	19	UJ,c	19
SAII22	SOIL-P-3-0.5	Soil	Pesticides	delta-BHC	19	UJ,c	19
SAII22	SOIL-P-3-0.5	Soil	Pesticides	Dieldrin	3	J,g	37
SAII22	SOIL-P-3-0.5	Soil	Pesticides	Heptachlor	19	UJ,c	19
SAII22	SOIL-P-3-0.5	Soil	Herbicides	Dichlorprop	1.2	J,g	110
SAII22	SOIL-P-3-0.5	Soil	Herbicides	MCPP	560	J,c	2200
SAII22	SOIL-P-3-0.5	Soil	Metals	Antimony	0.56	J,m	2
SAII22	SOIL-P-3-0.5	Soil	Metals	Arsenic	17	J,w	1
SAII22	SOIL-P-3-0.5	Soil	Metals	Cobalt	9.7	J,s	1
SAII22	SOIL-P-3-0.5	Soil	Metals	Potassium	550	J,m	100
SAII22	SOIL-P-3-0.5	Soil	Metals	Zinc	190	J,s	2
SAII22	SOIL-P-3-6FT	Soil	VOCs	1,1,2,2-Tetrachloroethane	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	1,1,2-Trichloroethane	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	1,2-Dichloroethene (total)	16	UJ,n	16
SAII22	SOIL-P-3-6FT	Soil	VOCs	1,2-Dichloropropane	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Acetone	390	J,l	82
SAII22	SOIL-P-3-6FT	Soil	VOCs	Bromodichloromethane	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Bromoform	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Chlorobenzene	17	J,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Chlorodibromomethane	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	cis-1,3-Dichloropropene	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Ethylbenzene	110	J,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Methyl N-Butyl Ketone	48	J,l	41
SAII22	SOIL-P-3-6FT	Soil	VOCs	Styrene (Monomer)	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Tetrachloroethene	11	J,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	trans-1,3-Dichloropropene	8.2	UJ,n	8.2
SAII22	SOIL-P-3-6FT	Soil	VOCs	Trichloroethene	1.3	J,n	8.2

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-3-6FT	Soil	VOCs	Xylenes, Total	430	J,n	16
SAII22	SOIL-P-3-6FT	Soil	Pesticides	4,4'-DDE	19	J,c	190
SAII22	SOIL-P-3-6FT	Soil	Pesticides	4,4'-DDT	190	UJ,c	190
SAII22	SOIL-P-3-6FT	Soil	Pesticides	alpha-BHC	98	UJ,c	98
SAII22	SOIL-P-3-6FT	Soil	Pesticides	delta-BHC	98	UJ,c	98
SAII22	SOIL-P-3-6FT	Soil	Pesticides	Dieldrin	17	J,g	190
SAII22	SOIL-P-3-6FT	Soil	Pesticides	Endrin Aldehyde	59	J,g	190
SAII22	SOIL-P-3-6FT	Soil	Pesticides	Heptachlor	98	UJ,c	98
SAII22	SOIL-P-3-6FT	Soil	Herbicides	MCPP	1500	J,g	2300
SAII22	SOIL-P-3-6FT	Soil	Herbicides	Pentachlorophenol	19	J,g	20
SAII22	SOIL-P-3-6FT	Soil	Metals	Antimony	2.3	UJ,m	2.3
SAII22	SOIL-P-3-6FT	Soil	Metals	Arsenic	8.9	J,w	1.1
SAII22	SOIL-P-3-6FT	Soil	Metals	Cobalt	6.9	J,s	1.1
SAII22	SOIL-P-3-6FT	Soil	Metals	Potassium	930	J,m	110
SAII22	SOIL-P-3-6FT	Soil	Metals	Zinc	2900	J,s	2.3
SAII22	SOIL-P-4-0.5	Soil	VOCs	Carbon Disulfide	9.5	UJ,r	9.5
SAII22	SOIL-P-4-0.5	Soil	PCBs	Hexachlorobiphenyl	1400	J,s	38
SAII22	SOIL-P-4-0.5	Soil	PCBs	Pentachlorobiphenyl	2200	J,s	38
SAII22	SOIL-P-4-0.5	Soil	PCBs	Tetrachlorobiphenyl	1600	J,s	38
SAII22	SOIL-P-4-0.5	Soil	PCBs	Trichlorobiphenyl	360	J,s	19
SAII22	SOIL-P-4-0.5	Soil	Pesticides	4,4'-DDT	1100	J,c	75
SAII22	SOIL-P-4-0.5	Soil	Pesticides	delta-BHC	39	UJ,c	39
SAII22	SOIL-P-4-0.5	Soil	Pesticides	Endosulfan Sulfate	36	J,c	75
SAII22	SOIL-P-4-0.5	Soil	Pesticides	Endrin	75	UJ,c	75
SAII22	SOIL-P-4-0.5	Soil	Pesticides	Endrin Aldehyde	140	J,c	75
SAII22	SOIL-P-4-0.5	Soil	Pesticides	Endrin Ketone	9.7	J,c	75
SAII22	SOIL-P-4-0.5	Soil	Pesticides	Heptachlor	39	UJ,c	39
SAII22	SOIL-P-4-0.5	Soil	Pesticides	Heptachlor Epoxide	15	J,g	39
SAII22	SOIL-P-4-0.5	Soil	Herbicides	2,4,5-T	1.4	J,g	9.4
SAII22	SOIL-P-4-0.5	Soil	Herbicides	2,4-D	10	J,c	9.4
SAII22	SOIL-P-4-0.5	Soil	Herbicides	Dichlorprop	9.5	J,g	110

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-P-4-0.5	Soil	Herbicides	MCPP	2300	J,c	2300
SAII22	SOIL-P-4-0.5	Soil	Metals	Antimony	1.9	UJ,m	1.9
SAII22	SOIL-P-4-0.5	Soil	Metals	Arsenic	4	J,w	0.94
SAII22	SOIL-P-4-0.5	Soil	Metals	Cobalt	6.2	J,s	0.94
SAII22	SOIL-P-4-0.5	Soil	Metals	Potassium	990	J,m	94
SAII22	SOIL-P-4-0.5	Soil	Metals	Zinc	85	J,s	1.9
SAII22	SOIL-P-4-6FT	Soil	VOCs	Acetone	1500	J,c	2300
SAII22	SOIL-P-4-6FT	Soil	PCBs	Dichlorobiphenyl	42	J,n	190
SAII22	SOIL-P-4-6FT	Soil	PCBs	Hexachlorobiphenyl	180	J,n	380
SAII22	SOIL-P-4-6FT	Soil	PCBs	Pentachlorobiphenyl	1200	J,n	380
SAII22	SOIL-P-4-6FT	Soil	PCBs	Trichlorobiphenyl	750	J,n	190
SAII22	SOIL-P-4-6FT	Soil	Pesticides	4,4'-DDE	410	J,c	38
SAII22	SOIL-P-4-6FT	Soil	Pesticides	4,4'-DDT	1700	J,c	150
SAII22	SOIL-P-4-6FT	Soil	Pesticides	alpha-BHC	19	UJ,c	19
SAII22	SOIL-P-4-6FT	Soil	Pesticides	beta-BHC	34	J,g	19
SAII22	SOIL-P-4-6FT	Soil	Pesticides	delta-BHC	19	UJ,c	19
SAII22	SOIL-P-4-6FT	Soil	Pesticides	Endosulfan Sulfate	41	J,g	38
SAII22	SOIL-P-4-6FT	Soil	Pesticides	Endrin Ketone	21	J,g	38
SAII22	SOIL-P-4-6FT	Soil	Pesticides	gamma-BHC (Lindane)	66	J,g	19
SAII22	SOIL-P-4-6FT	Soil	Pesticides	gamma-Chlordane	220	J,g	19
SAII22	SOIL-P-4-6FT	Soil	Pesticides	Heptachlor	19	UJ,c	19
SAII22	SOIL-P-4-6FT	Soil	Pesticides	Methoxychlor	100	J,g	190
SAII22	SOIL-P-4-6FT	Soil	Herbicides	2,4,5-T	3.9	J,g	9.4
SAII22	SOIL-P-4-6FT	Soil	Herbicides	2,4-D	13	J,c	9.4
SAII22	SOIL-P-4-6FT	Soil	Herbicides	Dicamba	3.1	J,g	23
SAII22	SOIL-P-4-6FT	Soil	Metals	Antimony	0.75	J,m	2.1
SAII22	SOIL-P-4-6FT	Soil	Metals	Arsenic	7.9	J,w	1
SAII22	SOIL-P-4-6FT	Soil	Metals	Cobalt	5.1	J,s	1
SAII22	SOIL-P-4-6FT	Soil	Metals	Potassium	1100	J,m	100
SAII22	SOIL-P-4-6FT	Soil	Metals	Zinc	200	J,s	2.1
SAII22	SOIL-Q-3-0.5	Soil	VOCs	2-Butanone (MEK)	28	U,z	28

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-3-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	28	U,z	28
SAII22	SOIL-Q-3-0.5	Soil	VOCs	Acetone	23	J,l	57
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	1,2,4-Trichlorobenzene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	1,2-Dichlorobenzene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	1,3-Dichlorobenzene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	1,4-Dichlorobenzene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,4,5-Trichlorophenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,4,6-Trichlorophenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,4-Dichlorophenol	1000	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,4-Dimethylphenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,4-Dinitrophenol	10000	UJ,s	10000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,4-Dinitrotoluene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2,6-Dinitrotoluene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2-Chloronaphthalene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2-Chlorophenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2-Methylnaphthalene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2-Methylphenol (o-Cresol)	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2-Nitroaniline	10000	UJ,s	10000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	2-Nitrophenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	3,3'-Dichlorobenzidine	4000	UJ,s	4000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	3-Nitroaniline	10000	UJ,s	10000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	10000	UJ,s	10000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	4-Bromophenyl Phenyl Ether	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	4-Chloro-3-methylphenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	4-Chlorophenyl Phenyl Ether	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	4-Nitrophenol	10000	UJ,s	10000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Acenaphthene	160	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Acenaphthylene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Anthracene	510	J,s	2000

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Benzo(a)anthracene	1700	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Benzo(a)pyrene	1600	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Benzo(b)fluoranthene	1600	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Benzo(g,h,i)perylene	820	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Benzo(k)fluoranthene	1400	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Benzyl Butyl Phthalate	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	bis(2-Chloroethoxy)methane	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	bis(2-Chloroethyl)ether	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Carbazole	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Chrysene	1800	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Dibenzo(a,h)anthracene	260	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Dibenzofuran	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Diethyl Phthalate	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Dimethyl Phthalate	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Di-n-butylphthalate	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Di-n-octylphthalate	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Dinoseb	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Fluoranthene	3000	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Fluorene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Hexachlorobenzene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Hexachlorobutadiene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Hexachlorocyclopentadiene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Hexachloroethane	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	690	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Isophorone	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Naphthalene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Nitrobenzene	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	N-Nitroso-di-n-propylamine	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	N-Nitrosodiphenylamine	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	P-Chloroaniline	4000	UJ,s	4000

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Phenanthrene	2500	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Phenol	2000	UJ,s	2000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	P-Nitroaniline	10000	UJ,s	10000
SAII22	SOIL-Q-3-0.5	Soil	SVOCs	Pyrene	3800	J,s	2000
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	4,4'-DDD	39	J,c	80
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	beta-BHC	40	J,c	41
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	Dieldrin	77	J,c	80
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	Endosulfan II	14	J,c	80
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	Endrin	18	J,c	80
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	gamma-BHC (Lindane)	5.7	J,g	41
SAII22	SOIL-Q-3-0.5	Soil	Pesticides	Heptachlor	11	J,c	41
SAII22	SOIL-Q-3-0.5	Soil	Herbicides	2,4-D	4.2	J,s	10
SAII22	SOIL-Q-3-0.5	Soil	Metals	Antimony	2.2	UJ,m	2.2
SAII22	SOIL-Q-3-0.5	Soil	Metals	Arsenic	11	J,w	1.1
SAII22	SOIL-Q-3-0.5	Soil	Metals	Cobalt	9.6	J,s	1.1
SAII22	SOIL-Q-3-0.5	Soil	Metals	Potassium	2300	J,m	110
SAII22	SOIL-Q-3-0.5	Soil	Metals	Zinc	200	J,s	2.2
SAII22	SOIL-Q-3-6	Soil	VOCs	2-Butanone (MEK)	40	U,z	40
SAII22	SOIL-Q-3-6	Soil	SVOCs	1,2,4-Trichlorobenzene	130	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	1,2-Dichlorobenzene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	1,3-Dichlorobenzene	110	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	1,4-Dichlorobenzene	270	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,4,5-Trichlorophenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,4,6-Trichlorophenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,4-Dichlorophenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,4-Dimethylphenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,4-Dinitrophenol	9900	UJ,s	9900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,4-Dinitrotoluene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2,6-Dinitrotoluene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2-Chloronaphthalene	1900	UJ,s	1900

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-3-6	Soil	SVOCs	2-Chlorophenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2-Methylnaphthalene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2-Methylphenol (o-Cresol)	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2-Nitroaniline	9900	UJ,s	9900
SAII22	SOIL-Q-3-6	Soil	SVOCs	2-Nitrophenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	3,3'-Dichlorobenzidine	3800	UJ,s	3800
SAII22	SOIL-Q-3-6	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	3-Nitroaniline	9900	UJ,s	9900
SAII22	SOIL-Q-3-6	Soil	SVOCs	4,6-Dinitro-2-methylphenol	9900	UJ,s	9900
SAII22	SOIL-Q-3-6	Soil	SVOCs	4-Bromophenyl Phenyl Ether	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	4-Chloro-3-methylphenol	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	4-Chlorophenyl Phenyl Ether	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	4-Nitrophenol	9900	UJ,s	9900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Acenaphthene	150	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Acenaphthylene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Anthracene	420	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Benzo(a)anthracene	1300	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Benzo(a)pyrene	1400	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Benzo(b)fluoranthene	1900	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Benzo(g,h,i)perylene	830	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Benzo(k)fluoranthene	1200	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Benzyl Butyl Phthalate	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	bis(2-Chloroethoxy)methane	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	bis(2-Chloroethyl)ether	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	120	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Carbazole	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Chrysene	1800	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Dibenzo(a,h)anthracene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Dibenzofuran	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Diethyl Phthalate	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Dimethyl Phthalate	1900	UJ,s	1900

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-3-6	Soil	SVOCs	Di-n-butylphthalate	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Di-n-octylphthalate	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Dinoseb	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Fluoranthene	2400	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Fluorene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Hexachlorobenzene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Hexachlorobutadiene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Hexachlorocyclopentadiene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Hexachloroethane	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	640	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Isophorone	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Naphthalene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Nitrobenzene	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	N-Nitroso-di-n-propylamine	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	N-Nitrosodiphenylamine	1900	UJ,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	P-Chloroaniline	3800	UJ,s	3800
SAII22	SOIL-Q-3-6	Soil	SVOCs	Phenanthrene	1500	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Phenol	590	J,s	1900
SAII22	SOIL-Q-3-6	Soil	SVOCs	P-Nitroaniline	9900	UJ,s	9900
SAII22	SOIL-Q-3-6	Soil	SVOCs	Pyrene	2900	J,s	1900
SAII22	SOIL-Q-3-6	Soil	Pesticides	4,4'-DDT	210	J,c	190
SAII22	SOIL-Q-3-6	Soil	Pesticides	beta-BHC	14	J,c	99
SAII22	SOIL-Q-3-6	Soil	Pesticides	Dieldrin	430	J,c	190
SAII22	SOIL-Q-3-6	Soil	Pesticides	Endrin Ketone	32	J,g	190
SAII22	SOIL-Q-3-6	Soil	Pesticides	Heptachlor	99	UJ,c	99
SAII22	SOIL-Q-3-6	Soil	Pesticides	Methoxychlor	85	J,g	990
SAII22	SOIL-Q-3-6	Soil	Metals	Antimony	1.8	J,m	2.3
SAII22	SOIL-Q-3-6	Soil	Metals	Arsenic	7.9	J,w	1.2
SAII22	SOIL-Q-3-6	Soil	Metals	Cobalt	4.9	J,s	1.2
SAII22	SOIL-Q-3-6	Soil	Metals	Potassium	790	J,m	120
SAII22	SOIL-Q-3-6	Soil	Metals	Zinc	520	J,s	2.3

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,1,1-Trichloroethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,1,2,2-Tetrachloroethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,1,2-Trichloroethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,1-Dichloroethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,1-Dichloroethylene	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,2-Dichloroethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,2-Dichloroethene (total)	16	UJ,s	16
SAII22	SOIL-Q-5-0.5	Soil	VOCs	1,2-Dichloropropane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	2-Butanone (MEK)	41	U,z	41
SAII22	SOIL-Q-5-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	41	UJ,s	41
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Acetone	83	UJ,s	83
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Benzene	0.76	J,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Bromodichloromethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Bromoform	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Bromomethane	16	UJ,s	16
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Carbon Disulfide	2.8	J,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Carbon Tetrachloride	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Chlorobenzene	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Chlorodibromomethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Chloroethane	16	UJ,s	16
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Chloroform	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Chloromethane	16	UJ,s	16
SAII22	SOIL-Q-5-0.5	Soil	VOCs	cis-1,3-Dichloropropene	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Dichloromethane	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Ethylbenzene	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Methyl N-Butyl Ketone	41	UJ,s	41
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Styrene (Monomer)	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Tetrachloroethene	2.8	J,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Toluene	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	trans-1,3-Dichloropropene	8.3	UJ,s	8.3
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Trichloroethene	8.3	UJ,s	8.3

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Vinyl chloride	16	UJ,s	16
SAII22	SOIL-Q-5-0.5	Soil	VOCs	Xylenes, Total	16	UJ,s	16
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	4,4'-DDE	11	J,c	20
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	alpha-Chlordane	0.86	J,g	10
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	beta-BHC	1.3	J,c	10
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	Dieldrin	18	J,c	20
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	Endrin	2.4	J,c	20
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	Endrin Ketone	2.4	J,g	20
SAII22	SOIL-Q-5-0.5	Soil	Pesticides	Heptachlor	10	UJ,c	10
SAII22	SOIL-Q-5-0.5	Soil	Metals	Antimony	0.71	J,m	2.4
SAII22	SOIL-Q-5-0.5	Soil	Metals	Arsenic	5.6	J,w	1.2
SAII22	SOIL-Q-5-0.5	Soil	Metals	Cobalt	4.2	J,s	1.2
SAII22	SOIL-Q-5-0.5	Soil	Metals	Potassium	290	J,m	120
SAII22	SOIL-Q-5-0.5	Soil	Metals	Zinc	110	J,s	2.4
SAII22	SOIL-Q-5-6FT	Soil	VOCs	2-Butanone (MEK)	40	U,z	40
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2,4,5-Trichlorophenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2,4,6-Trichlorophenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2,4-Dichlorophenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2,4-Dimethylphenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2,4-Dinitrophenol	2200	UJ,h	2200
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2-Chlorophenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2-Methylphenol (o-Cresol)	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	2-Nitrophenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	4,6-Dinitro-2-methylphenol	2200	UJ,h	2200
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	4-Chloro-3-methylphenol	430	UJ,h	430
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	4-Nitrophenol	2200	UJ,h	2200
SAII22	SOIL-Q-5-6FT	Soil	SVOCs	Phenol	270	J,s	430
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	4,4'-DDD	12	J,c	43
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	4,4'-DDE	4.4	J,c	43
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	4,4'-DDT	17	J,c	43

Table 6-71b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII22

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	beta-BHC	15	J,g	22
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	Dieldrin	24	J,c	43
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	Endrin Aldehyde	12	J,c	43
SAII22	SOIL-Q-5-6FT	Soil	Pesticides	Heptachlor	22	UJ,c	22
SAII22	SOIL-Q-5-6FT	Soil	Metals	Antimony	2.4	UJ,m	2.4
SAII22	SOIL-Q-5-6FT	Soil	Metals	Arsenic	6.3	J,w	1.2
SAII22	SOIL-Q-5-6FT	Soil	Metals	Cobalt	4.9	J,s	1.2
SAII22	SOIL-Q-5-6FT	Soil	Metals	Potassium	740	J,m	120
SAII22	SOIL-Q-5-6FT	Soil	Metals	Zinc	140	J,s	2.4

Table 6-72a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII23

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII23	WASTE-P-1-15FT	7/16/02	Waste			X													
SAII23	WASTE-P-1-COMP	7/16/02	Waste				X	X	X	X	X						X		
SAII23	WASTE-P-3-22FT	7/17/02	Waste			X													
SAII23	WASTE-P-3-COMP	7/17/02	Waste				X	X	X	X	X						X		
SAII23	WASTE-P-4-17	7/16/02	Waste			X													
SAII23	WASTE-P-4-COMP	7/16/02	Waste				X	X	X	X	X						X		
SAII23	WASTE-Q-3-6FT	7/17/02	Waste			X													
SAII23	WASTE-Q-5-8	7/17/02	Waste			X													

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII23_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 9, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973 at 0.0487. The CCV analyzed on 7/22/02 at 09:45 displayed a RRF less than the control limit for acetone at 0.04156. The CCV analyzed on 7/23/02 at 19:24 displayed a RRF less than the control limit for acetone at 0.04672. The CCV analyzed on 7/25/02 at 16:17 displayed an RRF less than the control limit for acetone at 0.04167. Associated sample results with positive detections were flagged "J,c"; non-detects were flagged "R,c".

Minor Anomalies: For the VOCs analyses, the CCV analyzed on 7/22/02 at 09:45 displayed a %D greater than the control limit for 1,1-dichloroethane at 31.4%. The CCV analyzed on 7/22/02 at 11:34 on instrument MSM5972 displayed %Ds greater than the control limit for bromomethane at 21.8% and for methylene chloride at -43.0%. The CCV analyzed on 7/23/02 at 19:24 displayed %Ds greater than the control limit for 1,1-dichloroethane at 49.8% and for 1,2-dichloroethene (Total) at 32.4%. The CCV analyzed on 7/25/02 at 16:17 displayed a %D greater than the control limit for 2-hexanone at -20.7%. Since the associated sample results were non-detect and the anomalies were only marginally outside the control limit (i.e. < 50%), no data qualifying action was taken. Method blank, 1M0722MB, analyzed on 7/22/02 displayed positive detections for 2-butanone at 1.8 ug/kg, for 4-methyl-2-pentanone at 0.62 ug/kg, and for 2-hexanone at 1.9 ug/kg. Associated sample results with positive detections less than 10x the amount found in the blank were flagged "U,z" at the reporting limit. The LCS/LCSD analyzed for low level soils displayed %RPDs greater than the control limit for acetone at 32%, for methylene chloride at 44%, and for 2-hexanone at 47%. Associated sample results with positive detections not previously flagged for calibration anomalies were flagged "J,l". The LCS analyzed for medium/high level soils displayed a %R greater than the upper control limit for 1,1-dichloroethane at 132%. Since associated sample results were non-detect, no data qualifying action was taken.

Samples WASTE-P-1-15' and WASTE-P-4-17' were re-analyzed due to the possibility that methylene chloride was a suspected contaminant from a bulk container during the first analysis. It is recommended that the re-analyzed sample results for methylene chloride be used for data interpretation.

For the SVOCs analyses, the all samples were analyzed at dilutions which caused surrogates to be diluted out. No data qualifying action was taken on these samples.

For the pesticides analyses, the CCV analyzed on 8/9/02 at 11:52 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for alpha-BHC at -18.5%, for delta-BHC at -22.9%, for 4,4'-DDE at -25.3%, and for surrogate tetrachloro-meta-xylene (TMX) at -18.2% and on the confirmation column for alpha-BHC at -24.2% and for delta-BHC at -24.6%. The CCV analyzed on 8/9/02 at 17:49 displayed %Ds greater than the control limit on the primary column for alpha-BHC at -20.1%, for heptachlor at -21.9%, for delta-BHC at -26.7%, for alpha-chlordane at -17.8%, for 4,4'-DDE at -34.7%, for endosulfan II at -15.8%, for 4,4'-DDT at -17.1%, for surrogate TMX at -16.2%, for surrogate decachlorobiphenyl (DCBP) at -22.2% and on the confirmation column for alpha-BHC at -24.8%, for heptachlor at -18.2%, for delta-BHC at -28.2%, for 4,4'-DDT at -16.2%, for heptachlor epoxide at -15.4%, and for surrogate DCBP at -19.4%. Associated sample results for alpha-BHC, delta-BHC, heptachlor, and for 4,4'-DDT with positive detections were flagged "J,c"; non-detects were flagged "UJ,c". Since all other analytes met criteria on the alternate column, and were either non-detects or surrogates, no data qualifying action was taken. All samples were analyzed at dilutions which caused surrogates to be diluted out. No data qualifying action was taken. Sample WASATE-P-4-COMP displayed a %R greater than the upper control limit (i.e. 150%) for internal standard bromonitrobenzene at 185%. Positive detections, except those flagged due to calibration anomalies, were flagged "J,n". All samples in this SDG displayed %RPDs greater than the control limit between the primary and confirmation column for several analytes. These analytes were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These results may be biased low.

For the PCBs analyses, the MS/MSD displayed %Rs greater than the upper control limit for trichlorobiphenyl at 160% and 260%, for pentachlorobiphenyl at 260% and 530%, and for hexachlorobiphenyl at 200% and 270%. The MSD displayed a %R greater than the upper control limit for tetrachlorobiphenyl at 200%. Since the amount found in the parent sample was greater than 4x the spiking amount, no data qualifying action was taken. All samples were analyzed at dilutions which caused the surrogates to be diluted out. No data qualifying action was taken.

For the herbicides analyses, the CCV analyzed on 8/3/02 at 07:41 displayed %Ds greater than the control limit (i.e. 15%) on the primary column for MCPP at 22.2%, for MCPA at 16.1%, and for 2,4-D at 15.7% and on the confirmation column for 2,4-DB at -21.5%. The CCV analyzed on 8/3/02 at 19:27 displayed %Ds greater than the control limit on the primary column for MCPP at 18.8% and for 2,4-D at 18.8%, and on the confirmation column for 2,4-DB at -16.3%. Since associated sample results were non-detect, no data qualifying action was taken. The CCV analyzed on 8/15/02 at 12:06 displayed %Ds greater than the control limit on the primary column for MCPP at 18.0%, for 2,4-DB at 16.7%, and for dinoseb at 21.3%, and on the confirmation column for MCPP at 16.6%, for 2,4-DB at 16.2%, and for dinoseb at 21.5%. The CCV analyzed on 8/15/02 at 22:00 displayed %Ds greater than the control limit for MCPP at 16.8%, and on the confirmation column for MCPA at 23.0%, for 2,4-D at 16.1%, and for 2,4-DB at 17.0%. Since the only compound of interest in these analyses was pentachlorophenol, no data qualifying action was taken. Sample WASTE-P-1-COMP displayed a surrogate recovery on the confirmation column of 0%. Since the surrogate met criteria on the primary column, positive detections were flagged "J,s"; non-detects were flagged "UJ,s", unless previously flagged for linear range exceedance. Several samples displayed %RPDs between columns which were greater than the control limit (i.e. 40%). Affected analytes were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These reported results may be biased low. Sample WASTE-P-1-COMP displayed pentachlorophenol exceeding the calibration range. This analyte was flagged "J,q". This sample was re-analyzed at a greater dilution and the analyte was within calibration range. It is recommended that the re-analyzed result be used for data interpretation.

For the metals analyses, the serial dilution displayed absolute differences greater than the control limit (i.e. 10%) for nickel at 11% and for K at 10.6%. Associated sample results were flagged "J,s". An initial CRDL displayed a %R less than the lower control limit (i.e. 80%) for arsenic at 59%. Associated sample results with positive detections were flagged "J,w"; non-detects were flagged "UJ,w". CRDLs displayed %Rs less than the lower control limit for lead at 66% and for sodium at 75%. CRDLs displayed %Rs greater than the upper control limit for lead at 128% and 124%, for thallium at 138%, and for aluminum at 124%. Since these results were only slightly outside the control limit, no data qualifying action was taken. The prep blank displayed detections for barium (Ba) at 0.182 mg/kg, for chromium (Cr) at 0.095 mg/kg, for sodium (Na) at 34.086 mg/kg, for potassium (K) at 3.403 mg/kg, and for cadmium (Cd) at -0.045 mg/kg. Since associated sample results were greater than 5x the amount found in the blank, no data qualifying action was taken. The ICBs displayed positive detections for Al at 28.74 ug/L and 39.56 ug/L. Ba displayed positive detections in CCB4, CCB5, and CCB6 analyzed on 7/25 and in CCB3, CCB4, and CCB5 analyzed on 7/29 ranging from 0.75 ug/L to 0.95 ug/L. CCB3, CCB4, and CCB5 analyzed on 7/29

displayed positive detections for Al ranging from 41.77 ug/L to 51.64 ug/L.CCB5 analyzed on 7/25 displayed a positive detection for calcium (Ca) at 26.19 ug/L.CCB4 analyzed on 7/29 displayed a positive detection for arsenic (As) at 5.14 ug/L. CCB5 analyzed on 7/25 and CCB4 and CCB5 analyzed on 7/29 displayed positive detections for chromium (Cr) ranging from 0.78 ug/L to 1.3 ug/L. CCB4 analyzed on 7/29 displayed a positive detection for cobalt (Co) at 0.57 ug/L. CCB5 and CCB6 analyzed on 7/25 displayed positive detections for magnesium (Mg) at 8.51 ug/L and 8.5 ug/L and for potassium (K) at 14.36 ug/L and 16.33 ug/L. CCB4 and CCB5 analyzed on 7/29 displayed positive detections for thallium (Tl) at 5.39 ug/L and 6.01 ug/L and for vanadium (V) at 1.16 ug/L and 1.08 ug/L. Since all associated sample results were greater than 5x the amount found in the blank, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit (i.e. 125%) for Al at 851% and 1000%, for Ca at 164% and 514%, for iron (Fe) at 411% and 574%, and for Mg at 153% and 513%. Since the amount found in the parent sample was greater than 4x the amount of the spiking solution, no data qualifying action was taken. The MSD displayed a %R less than the lower control limit (i.e. 75%) for manganese (Mn) at 19%. Since the amount found in the parent sample was greater than 4x the amount of the spiking solution, no data qualifying action was taken. The MSD displayed a %R greater than the upper control limit for K at 130%. Since the MS met criteria, no data qualifying action was taken. Mercury displayed %Rs less than the lower control limit in the MS/MSD at -192% and 49%. The %RPD also was greater than the control limit at 102%. Since the amount found in the parent sample was greater than 4x the amount of the spiking solution and the parent sample was not from the same site, no data qualifying action was taken. The MS/MSD displayed %Rs less than the lower control limit for antimony (Sb) at 39% and 40%. Since the MS/MSD was not from the same site, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exceptions described above. All data, except those flagged "R", are usable as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-72b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII23

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII23	WASTE-P-1-15FT	Waste	VOCs	Acetone	4300	J,c	2900
SAII23	WASTE-P-1-COMP	Waste	Pesticides	4,4'-DDT	180	UJ,c	180
SAII23	WASTE-P-1-COMP	Waste	Pesticides	alpha-BHC	16	J,c	94
SAII23	WASTE-P-1-COMP	Waste	Pesticides	delta-BHC	94	UJ,c	94
SAII23	WASTE-P-1-COMP	Waste	Pesticides	Dieldrin	73	J,g	180
SAII23	WASTE-P-1-COMP	Waste	Pesticides	Heptachlor	94	UJ,c	94
SAII23	WASTE-P-1-COMP	Waste	Herbicides	2,2-Dichloropropionic Acid	8.3	J,s	2200
SAII23	WASTE-P-1-COMP	Waste	Herbicides	2,4,5-T	88	J,s	9.2
SAII23	WASTE-P-1-COMP	Waste	Herbicides	2,4,5-TP (Silvex)	9.2	UJ,s	9.2
SAII23	WASTE-P-1-COMP	Waste	Herbicides	2,4-D	54	J,s	9.2
SAII23	WASTE-P-1-COMP	Waste	Herbicides	2,4-DB	9.2	UJ,s	9.2
SAII23	WASTE-P-1-COMP	Waste	Herbicides	Dicamba	22	UJ,s	22
SAII23	WASTE-P-1-COMP	Waste	Herbicides	Dichlorprop	110	UJ,s	110
SAII23	WASTE-P-1-COMP	Waste	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2200	UJ,s	2200
SAII23	WASTE-P-1-COMP	Waste	Herbicides	MCPP	10000	J,s	2200
SAII23	WASTE-P-1-COMP	Waste	Metals	Arsenic	1.7	J,w	1
SAII23	WASTE-P-3-22FT	Waste	VOCs	Acetone	11000	R,c	11000
SAII23	WASTE-P-3-COMP	Waste	Pesticides	4,4'-DDE	98	J,g	190
SAII23	WASTE-P-3-COMP	Waste	Pesticides	4,4'-DDT	760	J,c	190
SAII23	WASTE-P-3-COMP	Waste	Pesticides	Aldrin	89	J,g	99
SAII23	WASTE-P-3-COMP	Waste	Pesticides	alpha-BHC	99	UJ,c	99
SAII23	WASTE-P-3-COMP	Waste	Pesticides	delta-BHC	99	UJ,c	99
SAII23	WASTE-P-3-COMP	Waste	Pesticides	Endosulfan I	100	J,g	99
SAII23	WASTE-P-3-COMP	Waste	Pesticides	Endosulfan Sulfate	95	J,g	190
SAII23	WASTE-P-3-COMP	Waste	Pesticides	gamma-Chlordane	130	J,g	99
SAII23	WASTE-P-3-COMP	Waste	Pesticides	Heptachlor	99	UJ,c	99
SAII23	WASTE-P-3-COMP	Waste	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	210000	J,g	47000
SAII23	WASTE-P-3-COMP	Waste	Herbicides	Pentachlorophenol	2200	J,g	400
SAII23	WASTE-P-3-COMP	Waste	Metals	Arsenic	15	J,w	1.1
SAII23	WASTE-P-4-17	Waste	VOCs	Acetone	2100	J,c	3800
SAII23	WASTE-P-4-COMP	Waste	Pesticides	4,4'-DDT	280	J,c	420

Table 6-72b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII23

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII23	WASTE-P-4-COMP	Waste	Pesticides	alpha-BHC	220	UJ,c	220
SAII23	WASTE-P-4-COMP	Waste	Pesticides	delta-BHC	220	UJ,c	220
SAII23	WASTE-P-4-COMP	Waste	Pesticides	Dieldrin	540	J,n	420
SAII23	WASTE-P-4-COMP	Waste	Pesticides	Endrin	68	J,n	420
SAII23	WASTE-P-4-COMP	Waste	Pesticides	gamma-BHC (Lindane)	84	J,n	220
SAII23	WASTE-P-4-COMP	Waste	Pesticides	gamma-Chlordane	230	J,n	220
SAII23	WASTE-P-4-COMP	Waste	Pesticides	Heptachlor	220	UJ,c	220
SAII23	WASTE-P-4-COMP	Waste	Pesticides	Methoxychlor	96	J,n	2200
SAII23	WASTE-P-4-COMP	Waste	Herbicides	2,4-D	10	J,g	10
SAII23	WASTE-P-4-COMP	Waste	Herbicides	Dichlorprop	1.1	J,g	130
SAII23	WASTE-P-4-COMP	Waste	Herbicides	Pentachlorophenol	140	J,g	22
SAII23	WASTE-Q-3-6FT	Waste	VOCs	2-Butanone (MEK)	42	U,z	42
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	4,4'-DDT	140	J,c	38
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	alpha-BHC	19	UJ,c	19
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	delta-BHC	19	UJ,c	19
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	Dieldrin	54	J,g	38
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	Endosulfan Sulfate	13	J,g	38
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	Endrin Ketone	12	J,g	38
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	gamma-Chlordane	13	J,g	19
SAII23	WASTE-Q-3-COMP	Waste	Pesticides	Heptachlor	19	UJ,c	19
SAII23	WASTE-Q-3-COMP	Waste	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	250	J,g	2300
SAII23	WASTE-Q-3-COMP	Waste	Metals	Arsenic	10	J,w	1.1
SAII23	WASTE-Q-5-8	Waste	VOCs	2-Butanone (MEK)	37	U,z	37
SAII23	WASTE-Q-5-8	Waste	VOCs	4-Methyl-2-pentanone (MIBK)	37	U,z	37
SAII23	WASTE-Q-5-8	Waste	VOCs	Acetone	19	J,l	74
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	4,4'-DDE	4.5	J,g	40
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	4,4'-DDT	13	J,c	40
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	alpha-BHC	20	UJ,c	20
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	beta-BHC	6.1	J,g	20
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	delta-BHC	20	UJ,c	20
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	Dieldrin	11	J,g	40

Table 6-72b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII23

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	gamma-Chlordane	4.7	J,g	20
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	Heptachlor	20	UJ,c	20
SAII23	WASTE-Q-5-COMP	Waste	Pesticides	Methoxychlor	19	J,g	200
SAII23	WASTE-Q-5-COMP	Waste	Metals	Arsenic	13	J,w	1

Table 6-73a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII25

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII25	GW-AA-O-3-118	7/18/02	Groundwater			X	X												
SAII25	GW-AA-O-3-128	7/18/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII25	GW-AA-Q-2-100	7/19/02	Groundwater			X	X												
SAII25	GW-AA-Q-2-60	7/18/02	Groundwater			X	X												
SAII25	GW-AA-Q-2-70	7/18/02	Groundwater			X	X												
SAII25	GW-AA-Q-2-80FT	7/18/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII25	GW-AA-Q-2-90	7/19/02	Groundwater			X	X												
SAII25	GW-AA-Q-3-50	7/19/02	Groundwater			X	X												
SAII25	GW-AA-R-1-28	7/19/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII25	GW-AA-R-1-48	7/19/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII25_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____October 21, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the pesticides analyses, the LCSD recovery for alpha-chlordane (52%) was less than the lower control limit (i.e., 55%). Positive results were flagged "J, l" and non-detects were flagged "R, l".

For the herbicide analyses, the extraction holding time was grossly exceeded (by 15 days) in sample GW-AA-Q-2-80 RE. Positive results were flagged "J, h" and non-detects were flagged "R, h". This had no impact on the quality of data since the results from this sample will not be used for data interpretation. The LCS recovery for 2,4-D (2%) was less than the lower control limit (i.e., 11%). Positive results were flagged "J, l" and non-detects were flagged "R, l" unless previously flagged due to other failures.

Minor Anomalies: For the VOC analyses, the method blank analyzed on 7/24/02 contained chloromethane at 0.39 ug/L and the method blank analyzed on 7/25/02 contained chlorobenzene at 0.78 ug/L. Positive results in the associated samples were flagged "U, z" at the reporting limit. Trip blank TB-071802-KH contained chloromethane at 0.25 ug/L, trichloroethene at 0.67 ug/L, and chlorobenzene at 0.71 ug/L which was previously flagged due to method blank contamination. Trip blank TB-226B-KH contained chloromethane at 0.62 ug/L. No positive results were reported in the associated samples and no data qualifying action was required. The continuing calibration verification (CCV) analyzed on 7/25/02 at 0927 displayed a %D greater than the control limit (i.e. 20%) for bromomethane at 21.5%. Since all associated sample results were non-detects and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The acetone result in sample GW-AA-R-1-48 and the chlorobenzene result in sample GW-AA-Q-3-50 exceeded the linear range of the calibration curve. These results were flagged "J, q". These samples were diluted and reanalyzed by the laboratory. The acetone and chlorobenzene results from the dilution analysis should be used for data interpretation.

For the SVOC analyses, the method blank analyzed on 8/1/02 contained positive results for 40 compounds at low levels. Positive phenol, 1,2-dichlorobenzene and 2,4,6-trichlorophenol results less than 5 times the blank concentration in the associated samples were flagged "U, z" at the reporting limit. Since 2,4-dichlorophenol and 2,4,6-trichlorophenol results in sample GW-AA-Q-20-80FT, phenol and 2,4-dichlorophenol results in sample GW-AA-Q-2-6, and the 2,4-dichlorophenol result in sample GW-AA-Q-2-70 were greater than 5 times the blank concentration, no data qualifying action was taken. Since the holding time was grossly exceeded after the lab discovered this issue, and the impact to the data quality is minimal, the laboratory reported the SVOC results without any corrective action. The initial calibration analyzed on 7/31/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.987. All associated sample results were non-detects and were flagged "UJ, r". The continuing calibration analyzed on 8/1/02 at 0926 displayed %Ds greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (-23.2%) and indeno(1,2,3-cd)-pyrene (-25.9%). The continuing calibrations analyzed on 8/1/02 at 2219 displayed a %D greater than the control limit for 4-chloroaniline (-34.8%). The continuing calibration analyzed on 8/9/02 at 1221 displayed %Ds greater than the control limit for hexachlorocyclopentadiene (-27.8%), 2,4-dinitrophenol (23.2%), 4-nitrophenol (21.2%), and 4,6-dinitro-2-methylphenol (26.6%). The continuing calibration analyzed on 8/9/02 at 1256 displayed a %D greater than the control limit for dinoseb (39.3%). The continuing calibration analyzed on 8/12/02 at 0845 displayed a %D greater than the control limit for hexachlorocyclopentadiene (27.1%). The continuing calibration analyzed on 8/13/02 at 1016 displayed %Ds greater than the control limit for hexachlorocyclopentadiene (39.1%), 2,4-dinitrophenol (32%), 4,6-dinitro-2-methylphenol (25%), and indeno(1,2,3-cd)pyrene (21.3%). The continuing calibration analyzed on 8/13/02 at 1058 displayed a %D greater than the control limit for dinoseb (35.8%). The continuing calibration analyzed on 8/14/02 at 0900 displayed %Ds greater than the control limit for bis(2-chloroethyl)ether (22.9%) and hexachlorocyclopentadiene (41.8%). The continuing calibration analyzed on 8/14/02 at 0933 displayed a %D greater than the control limit for dinoseb (35.7%). All associated sample results were non-detects and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The %RPD for the LCS/LCSD analyses was greater than the QC limit (i.e., 33-132%) for benzo(b)fluoranthene at 38%. No positive results were reported and no data qualifying action was taken. Surrogates were diluted out in samples GW-AA-R-1-28 (DF=50), GW-AA-R-1-28DL (DF=100), GW-AA-R-1-48 (DF=50), and AA-R-1-48DL (DF=500). No data qualifying action was required since the dilution factors were greater than 10. Several compounds exceeded the linear range of the calibration curve in several samples and were flagged "E" by the laboratory. These results were flagged "J, q". These samples were diluted and reanalyzed by the laboratory. The results from the dilution analyses should be used for data interpretation.

For the pesticides analyses, the %D for 4,4-DDT (15.7%) on the primary column; was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/26/02 at 1009. The %Ds for heptachlor (21.5%) on the primary column; and for 4,4'-DDT (16%) and methoxychlor (22.9%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 7/26/02 at 2120. All associated sample results were non-detects and since these compounds had an acceptable %D on the alternate column, no data qualifying action was taken. The recoveries for surrogate decachlorobiphenyl were less than the QC limit (i.e., 30-150%) in samples GW-AA-Q-2-80 (20% and 15%), GW-AA-0-3-128 (16% and 11%), and GW-AA-R-1-28 (22%). No positive results were reported in samples GW-AA-Q-2-80 and GW-AA-0-3-128, and non-detects were flagged "UJ,s". No action is required based on one surrogate failure and no data flags were applied to sample GW-AA-R-1-28. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for several compounds in sample GW-AA-R-1-28. These results were flagged "J,g". It should be noted that the lower result between two columns was reported by the laboratory.

For the herbicide analyses, the method blank extracted on 7/23/02 contained 2,4-D at 3.7 ug/L and pentachlorophenol at 0.2 ug/L. Positive results less than 5 times the blank concentration were flagged "U,z" or "U,z" at the reporting limit. The %D for 2,4-DB (20.5%) on the primary column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/31/02 at 2102. The %Ds for MCPP (16.4%) on the primary column and 2,4-DB (15.4%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/1/02 at 1017. The %D for 2,4-DB (19.8%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 8/2102 at 2238. The %Ds for dalapon (25.3%) and pentachlorophenol (16.4%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/20/02 at 1940. Positive results were previously flagged in the associated samples and no further data qualifying action was required. The 2,4-D result in sample GW-AA-Q-2-80 exceeded the linear range of the calibration curve. Since this result was previously flagged due to method blank contamination, no additional data flags were applied. The result from the dilution analysis should be used for data interpretation. The RPDs between the primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for several compounds. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory.

For the metal analyses, the initial and final CRDL percent recoveries for thallium (67% and 67%) and iron (69% and 122%), the initial CRDL recoveries for aluminum (135%) and arsenic (125%), and the final CRDL recoveries for

selenium (72%) and sodium (69%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum, calcium and copper. Positive copper results less than 5 times the blank concentration were flagged "U,p" at the reporting limit. The method blank contained negative results for arsenic, potassium and thallium. Non-detects were flagged "UJ,p". The calibration blanks contained aluminum, barium, calcium, copper, manganese, and iron at low levels and negative results for arsenic. Positive aluminum, barium, calcium, copper, manganese, and iron results were greater than 5 times the blank concentration and no data qualifying action was required. Arsenic results were previously flagged and no further data qualifying action was required. The serial dilution %Ds were greater than the QC limit (i.e., 10%) for aluminum (15%) and zinc (15.1%). Positive results were flagged "J,s".

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on the flame ionization detector (FID). Positive methane results reported from the FID were flagged "J, r" in the associated samples. The %D for methane (22.6%) on the FID detector was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 7/31/02. The associated sample results were previously flagged due to initial calibration failure and no further data qualifying action was required. The methane result in sample GW-AA-R-1-28 exceeded the linear range of the calibration curve. Since these methane results were previously flagged due to initial calibration failure, no additional data flags were applied. The methane results reported from TCD detector should be used for data interpretation.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Except for data flagged "R", these data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-73b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII25

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII25	GW-AA-O-3-118	Groundwater	VOCs	Chloromethane	5	U,z	5
SAII25	GW-AA-O-3-118	Groundwater	SVOCs	1,2-Dichlorobenzene	10	U,z	10
SAII25	GW-AA-O-3-118	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII25	GW-AA-O-3-118	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	U,z	10
SAII25	GW-AA-O-3-128	Groundwater	SVOCs	1,2-Dichlorobenzene	10	U,z	10
SAII25	GW-AA-O-3-128	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	alpha-Chlordane	0.05	R,l	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII25	GW-AA-O-3-128	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII25	GW-AA-O-3-128	Groundwater	Herbicides	2,4-D	0.5	R,l	0.5
SAII25	GW-AA-O-3-128	Groundwater	Herbicides	2,4-DB	0.5	R,l	0.5
SAII25	GW-AA-O-3-128	Groundwater	Methane	Methane	36	J,r	0.19
SAII25	GW-AA-O-3-128	Groundwater	Metals	Aluminum	3	J,s	0.2

Table 6-73b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII25

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII25	GW-AA-O-3-128	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII25	GW-AA-O-3-128	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII25	GW-AA-O-3-128	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII25	GW-AA-O-3-128	Groundwater	Metals	Zinc	0.051	J,s	0.02
SAII25	GW-AA-Q-2-60	Groundwater	VOCs	Chloromethane	1	U,z	1
SAII25	GW-AA-Q-2-60	Groundwater	SVOCs	2,4,6-Trichlorophenol	10	U,z	10
SAII25	GW-AA-Q-2-60	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII25	GW-AA-Q-2-70	Groundwater	SVOCs	1,2-Dichlorobenzene	10	U,z	10
SAII25	GW-AA-Q-2-70	Groundwater	SVOCs	2,4,6-Trichlorophenol	10	U,z	10
SAII25	GW-AA-Q-2-70	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII25	GW-AA-Q-2-70	Groundwater	SVOCs	Phenol	10	U,z	10
SAII25	GW-AA-Q-2-80FT	Groundwater	VOCs	Chloromethane	1	U,z	1
SAII25	GW-AA-Q-2-80FT	Groundwater	SVOCs	1,2-Dichlorobenzene	10	U,z	10
SAII25	GW-AA-Q-2-80FT	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII25	GW-AA-Q-2-80FT	Groundwater	SVOCs	Phenol	10	U,z	10
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	alpha-Chlordane	0.05	R,l	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05

Table 6-73b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII25

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII25	GW-AA-Q-2-80FT	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII25	GW-AA-Q-2-80FT	Groundwater	Herbicides	2,4-D	9.5	U,z	9.5
SAII25	GW-AA-Q-2-80FT	Groundwater	Herbicides	Dichlorprop	0.56	J,g	6
SAII25	GW-AA-Q-2-80FT	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	24	J,g	120
SAII25	GW-AA-Q-2-80FT	Groundwater	Herbicides	Pentachlorophenol	1	U,z	1
SAII25	GW-AA-Q-2-80FT	Groundwater	Methane	Methane	33	J,r	0.19
SAII25	GW-AA-Q-2-80FT	Groundwater	Metals	Aluminum	0.86	J,s	0.2
SAII25	GW-AA-Q-2-80FT	Groundwater	Metals	Arsenic	0.01	UJ,p	0.01
SAII25	GW-AA-Q-2-80FT	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII25	GW-AA-Q-2-80FT	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII25	GW-AA-Q-2-80FT	Groundwater	Metals	Zinc	0.061	J,s	0.02
SAII25	GW-AA-Q-2-90	Groundwater	VOCs	Trichloroethene	1.1	U,y	1
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	Aldrin	0.033	J,g	0.05
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	alpha-Chlordane	0.14	J,l	0.05
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	beta-BHC	0.16	J,g	0.05
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	delta-BHC	0.015	J,g	0.05
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	Endosulfan I	0.031	J,g	0.05
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	Endosulfan Sulfate	0.018	J,g	0.1
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	gamma-BHC (Lindane)	0.043	J,g	0.05
SAII25	GW-AA-R-1-28	Groundwater	Pesticides	gamma-Chlordane	0.15	J,g	0.05
SAII25	GW-AA-R-1-28	Groundwater	Herbicides	2,4-D	0.5	R,l	0.5
SAII25	GW-AA-R-1-28	Groundwater	Metals	Aluminum	53	J,s	0.2
SAII25	GW-AA-R-1-28	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII25	GW-AA-R-1-28	Groundwater	Metals	Zinc	0.19	J,s	0.02

Table 6-74a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII26

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII26	Waste-P-2-COMP-T	7/16/02	Waste				X	X	X								X		
SAII26	Waste-Q-2-COMP-T	7/18/02	Waste				X	X	X								X		
SAII26	Waste-Q-4-COMP-T	7/18/02	Waste				X	X	X								X		
SAII26	Waste-Q-4-COMP-T-DUP	7/18/02	Waste				X	X	X								X		
SAII26	Waste-Q-6-COMP-T	7/19/02	Waste				X	X	X								X		
SAII26	Waste-Q-7-COMP-T	7/19/02	Waste				X	X	X								X		
SAII26	Waste-Q-8-COMP-T	7/19/02	Waste				X	X	X								X		
SAII26	Waste-Q-8-COMP-T-DUP	7/19/02	Waste				X	X	X								X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII26_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 10, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: None.

Minor Anomalies: For the TCLP VOCs analyses, the CCV analyzed on 7/29/02 at 11:06 displayed a %D greater than the control limit (i.e. <20%) for 2-butanone at 33.1%. Since associated sample results were non-detect and the anomaly was only marginally outside the control limit (i.e. <50%), no data qualifying action was taken. The CCV analyzed on 7/31/02 at 13:14 displayed a %D greater than the control limit for 2-butanone at 52.8%. Associated sample results with positive detections were flagged "J,c"; non-detects were flagged "UJ,c". The MS displayed a %R greater than the upper control limit (i.e. 167%) for 2-butanone at 168%. The MS/MSD pair displayed a %RPD greater than the control limit (i.e. 31%) for 2-butanone at 40%. Since the MSD met criteria, no data qualifying action was taken. The LCS analyzed on 7/29/02 displayed a %R greater than the upper control limit (i.e. 167%) for 2-butanone at 176%. Since associated sample results were non-detect, no data qualifying action was taken.

For the TCLP SVOCs analyses, analyte pentachlorophenol exceeded the linear range in sample WASTE-Q-2-COMP-T and was flagged "J,q". The sample was re-analyzed and pentachlorophenol was within calibration range. It is recommended that the re-analyzed pentachlorophenol result be used for data interpretation. The MS displayed a %R less than the lower control limit (i.e. 49%) for hexachlorobenzene at 48%. Since the MSD and LCS met criteria, no data qualifying action was taken.

For the TCLP pesticides analyses, the CCV analyzed on 8/3/02 at 20:52 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for gamma-BHC at -16.8%, for heptachlor epoxide at -18.2%, and for surrogate tetrachloro-meta-xylene (TCMX) at 36.6%; and on the confirmation column for TCMX at -24.5% and for surrogate 2,4-DCAA at -17.2%. The CCV analyzed on 8/4/02

displayed %Ds greater than the control limit on the primary column for heptachlor at 19.9% and for surrogate TCMX at -22.3%; and on the confirmation column for surrogate 2,4-DCAA at 16.6%. Since either all results were non-detect, the analyte met criteria on the alternate column, or was a surrogate, no data qualifying action was taken. Surrogate TCMX displayed %Rs less than the lower control limit on both columns for samples method blank at 25% and 29%, WASTE-Q-4-COMP-T at 24% and 27%, for WASTE-P-2-COMP-T at 26% and 28%, and for the MSD at 0% and 0%. Surrogate 2,4-DCAA displayed %Rs less than the lower control limit in the MSD at 5% and 4%. For the method blank and the MSD, since these are QC samples and the other surrogates met criteria, no data qualifying action was taken. For the waste samples, all results were non-detect and were flagged "UJ,s". The MSD displayed %Rs less than the lower control limit for heptachlor at 0%, for heptachlor Epoxide at 0%, and for endrin at 32%. The MS/MSD pair displayed %RPDs greater than the control limit for gamma-BHC at 41%, for heptachlor at 200%, for heptachlor epoxide at 200%, and for endrin at 88%. Since the MSD displayed poor recoveries for several analytes due to possible poor injection or extraction efficiency, the MS was used for data interpretation. Since the MS met criteria, no data qualifying action was taken. Sample WASTE-P-2-COMP-T displayed a %RPD greater than the control limit (i.e. <40%) between columns for heptachlor at 102.2%. The analyte was flagged "J,g".

For the TCLP herbicides analyses, the fluid blank displayed a positive detection for 2,4-D at 0.018 mg/L. The 2,4-D result in sample WASTE-Q-2-COMP-T was flagged "U,z" at the reporting limit.

For the TCLP metals analyses, the initial CRDL displayed a %R less than the lower control limit (i.e. >80%) for lead at 66%. Since this result is only marginally outside the control limit, no data qualifying action was taken. CCB3 and CCB5 displayed negative detections for lead at -0.00152 mg/L and -0.00226 mg/L. Associated sample results with positive detections less than 5x the absolute amount found in the blank were flagged "J,o"; non-detects were flagged "UJ,o".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exceptions described above. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-74b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII26

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII26	Waste-P-2-COMP-T	Waste	Pesticides	Chlordane	0.025	UJ,s	0.034
SAII26	Waste-Q-4-COMP-T	Waste	Pesticides	Chlordane	0.025	UJ,s	0.029

Table 6-75a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII27	SOIL-P-2-0.5	7/16/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-P-2-6FT	7/16/02	Soil				X	X	X	X	X						X		
SAII27	SOIL-Q-2-0.5	7/18/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-2-6FT	7/18/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-4-0.5	7/18/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-4-6	7/18/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-6-0.5	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-6-6	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-7-0.5	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-7-0.5-DUP	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-7-6	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-8-0.5	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-8-6	7/19/02	Soil			X	X	X	X	X	X						X		
SAII27	SOIL-Q-8-6-DUP	7/19/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII27_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 16, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the pesticides analyses, the LCS (0729P-RMBLCS) displayed %Rs less than the lower control limit for alpha-chlordane at 30% and for 4,4'-DDE at 28%. Associated sample results with positive detections were flagged "J,l"; non-detects were flagged "R,l". The laboratory had analyzed an LCS on 7/26 with acceptable results and assumed that because this LCS met criteria, that the anomalies in the LCS analyzed on 7/29/02 were marginal and the data associated with the LCS were acceptable. Because of this explanation, URS was not advised of the LCS issue.

For the herbicides analyses, surrogate 2,4-DCAA displayed %Rs less than the lower control limit on both columns for sample SOIL-Q-8-6 at 11% and 8%, and for sample SOIL-Q-8-6DUP at 11% and 2%. Associated sample results with positive detections were flagged "J,s" (except for PCP, which was flagged for calibration anomalies) and non-detects were flagged "R,s". Samples SOIL-Q-8-6 and SOIL-Q-8-6DUP were re-extracted outside the recommended holding time (i.e. 14 days) due to the original analysis low surrogate recoveries. The re-extracted samples displayed surrogate recoveries meeting criteria. Affected analytes with positive detections were flagged "J,h"; non-detects were flagged "UJ,h". It is recommended that the re-extracted sample results be used for data interpretation.

Minor Anomalies: For the VOCs analyses, sample SOIL-Q-8-6DLRE was analyzed outside the recommended holding time (i.e. 14 days) due to possible contamination in the first dilution analysis. Chlorobenzene and total xylene results, the only analytes of interest in the re-analysis, were flagged "J,h". It is recommended that the re-analyzed dilution analysis be used for data interpretation. The method blank analyzed on 7/24/02 displayed positive detections for 4-methyl-2-pentanone at 0.65 ug/kg and for 2-hexanone at 2.0 ug/kg. The method blank analyzed on 7/25/02 displayed positive detections for 4-methyl-2-pentanone at 0.58 ug/kg and for 2-hexanone at 2.0 ug/kg. The mid-level method blank analyzed on 7/30/02

displayed positive detections for benzene at 250 ug/kg, for trichloroethene at 220 ug/kg, for toluene at 240ug/kg, for chlorobenzene at 260 ug/kg, and for 1,1-dichloroethene at 160 ug/kg. Sample results associated with the 4-methyl-2-pentanone results from 7/25 were flagged "U,z" at the reporting limit. The diluted chlorobenzene result from SOIL-Q-8-6 was flagged "U,z". All other associated sample results were either greater than 5x the amount found in the blank, not target analytes, or non-detect and no data qualifying action was taken. The initial calibration analyzed on 7/11/02 on instrument MSO5973 displayed a relative response factor (RRF) less than the control limit (i.e. <0.05) for acetone at 0.0487. Instrument MSO5973 displayed RRFs less than the control limit in the CCVs analyzed on 7/23/02 at 19:24 at 0.04672, on 7/29/02 at 18:13 at 0.04034, on 7/30/02 at 10:00 at 0.04486, and on 8/5/02 at 09:22 at 0.04065. The positive acetone result in sample SOIL-Q-2-6 was flagged "J,c". Since acetone was not a compound of concern in all other associated samples analyzed on this instrument, no data qualifying action was taken. The CCV analyzed on 7/23/02 at 09:48 on instrument MSM5972 displayed a %D greater than the control limit (i.e. 20%) for methylene chloride at -42.5%. The CCV analyzed on 7/23/02 at 19:24 on instrument MSO5973 displayed %Ds greater than the control limit for 1,1-dichloroethane at 49.8% and for 1,2-dichloroethene (total) at 32.4%. The CCV analyzed on 7/24/02 at 10:15 on instrument MSM5972 displayed %Ds greater than the control limit for chloromethane at -21.9% and for methylene chloride at -44.6%. The CCV analyzed on 7/25/02 at 13:26 displayed %Ds greater than the control limit for bromomethane at 39.3% and for methylene chloride at -40.1%. The CCV analyzed on 7/29/02 at 18:13 displayed %Ds greater than the control limit for chloromethane at -26.9% and for 1,1-dichloroethane at 30.8%. The CCV analyzed on 7/30/02 displayed a %D greater than the control limit for 1,1-dichloroethane at 32.0%. Since all associated sample results were non-detect and the anomalies were only marginally outside the control limit, no data qualifying action was taken. The CCV analyzed on 8/5/02 at 09:22 displayed %Ds greater than the control limit for 1,1-dichloroethane at 50.5%, for 2-hexanone at -20.9%, for tetrachloroethene at 26.3%, for dibromochloromethane at 22.7%, for 1,2-dichloroethene (total) at 35.7%, and for surrogate dibromofluoromethane at 22.3%. Since all analytes were either not analytes of concern for this date or a QC analyte, no data qualifying action was taken. Surrogate 4-bromofluorobenzene displayed %Rs less than the lower control limit in samples SOIL-Q-4-0.5RE at 62%, for SOIL-Q-2-0.5 at 58%, and for SOIL-Q-2-0.5RE at 50%. Associated sample results with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". The LCS (2O0729LCS) displayed %Rs greater than the upper control limit for acetone at 170% and for 1,1-dichloroethane at 136%. The LCS (1O0730LCS) displayed %Rs greater than the upper control limit for 1,1-dichloroethane at 136% and for 2-hexanone at 130%. The LCS (1O0805LCS) displayed a %D greater than the upper control limit for 1,1-dichloroethane at 136%. Since associated sample results were either non-detect or previously flagged, no data qualifying action was taken. Sample SOIL-Q-4-0.5 displayed an

internal standard (IS) %R less than the lower control limit (i.e. 50%) for chlorobenzene-d5 at 41%. Sample SOIL-Q-8-6 displayed an IS less than the lower control limit for chlorobenzene-d5 at 36%. Analytes associated with the IS with positive detections were flagged "J,n"; non-detects were flagged "UJ,n". Samples SOIL-Q-2-0.5, SOIL-Q-4-0.5RE, and SOIL-Q-2-0.5RE contained IS %Rs less than the lower control limit. Since these samples were previously flagged for other anomalies, no further data qualifying action was taken. Sample duplicates SOIL-Q-7-0.5 and SOIL-Q-7-0.5-DUP displayed %RPDs greater than the control limit (i.e. 100%) for acetone 175% and for chlorobenzene at 136%. Sample duplicates SOIL-Q-8-6 displayed a %RPD greater than the control limit for ethylbenzene at 148%. Associated sample results with positive detections were flagged "J,f", unless previously flagged for other anomalies.

For the SVOCs analyses, the CCV analyzed on 8/8/02 at 10:34 displayed a %D greater than the control limit (i.e. 20%) for 4-nitrophenol at -24.7%. The CCV analyzed on 8/9/02 at 12:21 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -27.8%, for 2,4-dinitrophenol at 23.2%, for 4,6-dinitro-2-methylphenol at 26.6%, 4-nitrophenol at -21.2%, and for dinoseb at 39.3%. The CCV analyzed on 8/13/02 at 10:16 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -39.1%, for 2,4-dinitrophenol at 32.0%, for 4,6-dinitro-2-methylphenol at 25.0%, for indeno(1,2,3-cd)pyrene at -21.3%, and for dinoseb at 35.8%. The CCV analyzed on 8/14/02 at 09:00 displayed %Ds greater than the control limit for bis (2-chloroethyl) ether at 22.9%, for hexachlorocyclopentadiene at -41.8%, and for dinoseb at 35.7%. The CCV analyzed on 8/15/02 at 22:24 displayed %Ds greater than the control limit for bis (2-chloroethyl) ether at 24.6%, for hexachlorocyclopentadiene at -41.2%, and for dinoseb at 24.9%. Since all associated sample results were non-detect and the anomalies were only marginally outside the control limit (i.e. <50%), no data qualifying action was taken, except the indeno(1,2,3-cd)pyrene positive result in sample SOIL-P-2-0.5, which was flagged "J,c". Several samples displayed surrogate recoveries less than the lower control limit. Samples SOIL-Q-2-6DL, SOIL-P-2-6, and SOIL-Q-7-6 displayed surrogate recoveries of 0% at 5x dilutions. Because of the nature of the samples and the matrix effect, the surrogates may have been impacted by interferences causing the surrogates not to be recovered. Because of this and based on professional judgment, associated analytes with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". Since other samples were analyzed at dilutions at 10x or greater, no data qualifying action was taken. The MS/MSD and the re-analyzed MS/MSD displayed %Rs less than the lower control limit for several analytes. Since many of the anomalies were only slightly outside the control limit and the LCS met criteria for these analytes, no data qualifying action was taken. The 4-chloroaniline result in sample SOIL-Q-2-6 and the 1,4-dichlorobenzene result in sample SOIL-P-2-6 exceeded the calibration range and were flagged "J,q". These samples were re-analyzed at dilutions and the compounds of interest were within

the calibration range. It is recommended that the re-analyzed results for those compounds be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 8/3/02 at 10:23 displayed %Ds greater than the control limit (i.e. 15%) for methoxychlor at 18.7%, for endrin ketone at 18.4%, and for surrogate 2,4-DCAA at 16.2% on the primary column; and for methoxychlor at 26.5%, for endrin ketone at 19.6%, for 4,4'-DDT at 16.5%, and for endosulfan sulfate at 17.9% on the confirmation column. Associated sample results with positive detections for methoxychlor and endrin ketone were flagged "J,c"; non-detects were flagged "UJ,c". Since the other anomalies either met criteria on the alternate column or were surrogates, no data qualifying action was taken. The CCV analyzed on 8/3/02 at 19:33 displayed %Ds greater than the control limit for heptachlor at -17.6%, for endosulfan I at -18.9%, for 4,4'-DDT at -16.7%, for methoxychlor at 17.9%, and for surrogate decachlorobiphenyl (DCBP) at -22.0% on the primary column; and for surrogate DCBP at -19.9% on the confirmation column. The CCV analyzed on 8/8/02 at 21:19 displayed %Ds greater than the control limit for delta-BHC at -16.1%, for 4,4'-DDE at -16.3%, for methoxychlor at 22.5%, and for surrogate 2,4-DCAA at -17.3% on the primary column; and for alpha-BHC at -16.4% on the confirmation column. Since either the associated sample results were non-detect, the analyte met criteria on the alternate column, or the anomaly was a surrogate, no data qualifying action was taken. Sample 0729P-RMBLCS displayed %Rs less than the lower control limit on both columns for surrogate 2,4-DCAA at 26% and 24%, for tetrachloro-meta-xylene (TMX) at 26% and 26%, and for DCBP on the confirmation column at 29%. Since this a QC sample and the LCS %Rs for target analytes were generally acceptable, no data qualifying action was taken. Sample SOIL-Q-6-6 displayed %Rs less than the lower control limit on both columns for surrogates 2,4-DCAA at 26% and 28% and for TMX at 22% and 28%. Associated sample results with positive detections were flagged "J,s"; non-detects were flagged "UJ,s", unless previously flagged for other anomalies. Sample SOIL-Q-8-0.5 displayed %Rs less than the lower control limit on the primary column for 2,4-DCAA at 24% and for TMX at 27%. Since the surrogates met criteria on the alternate column, 2,4-DCAA is only a monitoring analyte (i.e. non-target analyte), and there is evidence of possible matrix interference on the primary column, no data qualifying action was taken. Sample SOIL-Q-2-0.5 displayed a %R greater than the upper control limit on the confirmation column for surrogate DCBP at 161%. Since all other surrogates met criteria, no data qualifying action was taken. Other samples displayed surrogate recoveries outside the control limit. Since these samples were analyzed at dilutions which may have caused the surrogate to be diluted out, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit at 164% and 260% and a %RPD greater than the control limit for methoxychlor at 45%. Since associated sample results were non-detect, no data qualifying action was taken. The MS displayed %Rs greater than the upper control limit for 4,4'-DDD at 192% and for endrin aldehyde at

133%. The MSD displayed a %R greater than the upper control limit for endrin ketone at 123%. The MS/MSD pair displayed %Rs greater than the upper control limit for beta-BHC at 549% and 496%, for gamma-chlordane at 549% and 441%, for 4,4'-DDE at 338% and 284%, for dieldrin at 421% and 338%, and for 4,4'-DDT at 1147% and 873%. Associated sample results with positive detections were flagged "J,m", unless previously flagged for other anomalies. The MS displayed a %R less than the lower control limit for endosulfan II at 6%. The MS/MSD pair displayed %RPDs greater than the control limit for endosulfan II at 70%, 4,4'-DDD at 67%, for endrin at 122%, and for endrin ketone at 83%. Associated sample results with positive detections for endosulfan II and endrin were flagged "J,d", unless previously flagged for other anomalies. Several samples displayed %RPDs between columns greater than the control limit (i.e. 40%). These analytes were flagged "J,g". It should be noted that the laboratory reported the smaller of the two values. These reported results may be biased low. Field duplicates for SOIL-Q-7-0.5 displayed a %RPD greater than the control limit (i.e. 100%) for 4,4'-DDT and were flagged "J,f". Samples SOIL-P-2-6 and SOIL-Q-8-0.5 displayed internal standard %Rs greater than the upper control limit (i.e. 150%) for IS bromonitrobenzene at 520% and 161%. Affected analytes with positive detections were flagged "J,n".

For the PCBs analyses, the MS/MSD displayed %Rs less than the lower control limit for all analyses except trichlorobiphenyl in the MSD due to matrix interference. Since the MS/MSD was analyzed at a 10x dilution, the LCS was the only QC sample used for quality control and no data qualifying action was taken. Several samples displayed surrogate recoveries outside the control limits. Sample SOIL-Q-8-0.5 was analyzed at a dilution factor of 5 and displayed a surrogate recovery of 0%. Because of the nature of the sample and the matrix effect, the surrogate may have been impacted by interferences which may have caused the surrogate not to be recovered. Because of this, associated analytes with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". Since other samples were analyzed at dilutions greater than 10x which may have caused the surrogates to be diluted out, no data qualifying action was taken. Samples SOIL-Q-8-6 and SOIL-Q-8-6DUP displayed internal standard (IS) %Rs greater than the upper control limit (i.e. 130%) for IS chrysened-d12 at 156% and 156%, respectively. Affected analytes with positive detections were flagged "J,n". Sample SOIL-Q-8-6DUP displayed a %R greater than the upper control limit for IS phenanthrene-d10 at 142%. Since this IS is used for monitoring purposes only, no further data qualifying action was taken. Field duplicates SOIL-Q-7-0.5 displayed %RPDs greater than the control limit (i.e. 100%) for trichlorobiphenyl at 103% and for tetrachlorobiphenyl at 105% and associated sample results with positive detections were flagged "J,f", unless previously flagged for other anomalies.

For the herbicides analyses, method blank 0819Q-SMB displayed a positive detection for pentachlorophenol at 1.6 ug/kg. Since associated sample results were greater than 5x the amount found in the blank, no data qualifying action was taken. The CCV analyzed on 8/6/02 at 09:31 displayed %Ds greater than the control limit on both columns for pentachlorophenol at -18.5% and -20.2%; for 2,4,5-TP at -23.8% and -23.3%; for 2,4,5-T at -22.2% and -24.2%; and for 2,4-DB at -20.1% and -16.2%. The CCV analyzed on 8/15/02 at 12:06 displayed %Ds greater than the control limit on both columns for 2,4-DB at 16.7% and 16.2%. Associated sample results with positive detections were flagged "J,c"; non-detects were previously flagged for surrogate failures and no further data qualifying action was taken. The CCV analyzed on 8/5/02 at 22:19 displayed %Ds greater than the control limit (i.e. 15%) on both columns for pentachlorophenol at -21.3% and -19.7%; for 2,4,5-TP at -23.8% and -21.9%; for 2,4,5-T at -25.4% and -23.4%; and for 2,4-DB at -27.0% and -18.0%. The CCV analyzed on 8/6/02 at 20:25 displayed a %D greater than the control limit for MCPA on the confirmation column at 15.5%. The CCV analyzed on 8/12/02 at 15:18 displayed %Ds greater than the control limit for MCPP at 18.4%, for dichloroprop at 18.5%, and for pentachlorophenol at 15.9% on the primary column; and for MCPA at 20.5%, for 2,4-D at 19.1%, and for 2,4-DB at 23.4% on the confirmation column. The CCV analyzed on 8/15/02 at 12:06 displayed a %D greater than the control limit for MCPP at 18.0% on the primary column; and for MCPA at 16.6% on the confirmation column. The CCV analyzed on 8/15/02 at 22:00 displayed a %D greater than the control limit for MCPP at 16.8% on the primary column; and for MCPA at 23.0%, for 2,4-D at 16.1%, and for 2,4-DB at 17.0% on the confirmation column. The CCV analyzed on 8/16/02 at 12:18 displayed a %D greater than the control limit for 2,4-DB at -23.6% on the primary column and for MCPP at -15.7% on the confirmation column. The CCV analyzed on 8/17/02 at 00:39 displayed a %D greater than the control limit for dalapon at -15.5% on the confirmation column. The CCV analyzed on 8/23/02 at 15:03 displayed a %D greater than the control limit for MCPP at -16.9% on the primary column. Since either the analyte met criteria on the alternate column or did not have any samples associated with the anomaly, no data qualifying action was taken. Sample SOIL-Q-7-6 displayed %Rs greater than the upper control limit for surrogate 2,4-DCAA on both columns at 378% and 157%. Associated sample results with positive detections were flagged "J,s". Three other samples displayed surrogate %Rs outside the control limit. Since these samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The LCS (0728N-SMBLCS) displayed a %R greater than the upper control limit for MCPP at 133%. Associated sample results with positive detections were flagged "J,l". Several samples displayed %RPDs between columns greater than the control limit (i.e. 40%) and were flagged "J,g"; unless previously flagged for other anomalies. Field duplicates SOIL-Q-7-0.5 displayed a %RPD greater than the control limit (i.e. 2x the RL) for 2,4-DB. Associated sample results were non-detect and flagged "UJ,f", unless previously flagged for other anomalies.

For the metals analyses, the CRDL displayed %Rs greater than the upper control limit (i.e. 120%) for thallium (Tl) at 127%, 121%, and 124% and for aluminum (Al) at 134%. The CRDL displayed %Rs less than the lower control limit (i.e. 80%) for Tl at 76% and for selenium (Se) at 65%. Since these recoveries were only marginally outside the control limit, no data qualifying action was taken. The prep blank displayed positive detections for Al at 1.1527 mg/kg, for chromium (Cr) at 0.14681 mg/kg, for iron (Fe) at 10.606 mg/kg, for magnesium (Mg) at 0.89039 mg/kg, and for sodium (Na) at 27.03194 mg/kg. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,p". The prep blank also displayed a negative detection for Se at -0.83426 mg/kg. Associated sample results with positive detections less than 5x the absolute amount found in the blank were flagged "J,p"; non-detects were flagged "UJ,p". Al displayed positive detections in the ICB, CCB3, CCB4, and CCB5 at values ranging from 0.01034 mg/L to 0.03536 mg/L. Barium (Ba) displayed positive detections in CCB3, CCB4, and CCB5 ranging from 0.00062 mg/L to 0.00087 mg/L. Calcium (Ca) displayed positive detections in CCB3 and CCB4 at 0.06288 mg/L and 0.04012 mg/L, respectively. Cadmium (Cd) displayed positive detections in the ICB and CCB5 at 0.00072 mg/L and 0.00038 mg/L. Cr displayed positive detections in the ICB, CCB3, CCB4, and CCB5 ranging from 0.0008 mg/L to 0.00137 mg/L. Cobalt (Co) displayed positive detections in the ICB and CCB5 at 0.00095 mg/L and 0.00072 mg/L, respectively. CCB3 also displayed positive detections for copper (Cu) at 0.00156 mg/L and for Mg at 0.01107 mg/L; CCB4 displayed a positive detection for Tl at 0.00617 mg/L; and CCB5 displayed positive detections for Mg at 0.01105 mg/L, for manganese (Mn) at 0.0017 mg/L, for Tl at 0.00801 mg/L, and for vanadium (V) at 0.00099 mg/L. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,o" at the reporting limit. CCB5 displayed a negative detection for potassium (K) at -0.01722 mg/L. Since all associated sample results were greater than 5x the absolute amount found in the blank, no data qualifying action was taken. The laboratory duplicate displayed a %RPD greater than the control limit (i.e. 35%) for zinc at 50.6%. Associated sample results with positive detections were flagged "J,k". The MS/MSD displayed %Rs less than the lower control limit (i.e. 75%) for antimony (Sb) at 65% and 65%, for Cu at 60% and 50%, and for lead (Pb) at 60% and 38%. Mn displayed a %R less than the lower control limit in the MS at 58% while displaying a %R greater than the upper control limit in the MSD at 128%. Associated sample results with positive detections were flagged "J,m"; non-detects were flagged "UJ,m". The MS/MSD displayed %Rs greater than the upper control limit for K at 178% and 142%. Associated sample results with positive detections were flagged "J,m". The MS/MSD displayed %Rs either greater than or less than the control limit for Al at 427% and -145%, for Ca at 13379% and 20636%, for Fe at -2770% and -4212%, for Mg at 831% and 1206%, and for zinc (Zn) at 221% and -147%. Since the amount found in the parent sample was greater than 4x the spiking amount, no

data qualifying action was taken. Mercury displayed %Rs less than the lower control limit at -192% and 49% and an RPD greater than the control limit at 102%. Since the MS/MSD pair was not from the same site, no data qualifying action was taken. The serial dilution displayed a %RPD greater than the control limit (i.e. 10%) for Co at 11.1%. Associated sample results with positive detections were flagged "J,s". Field duplicates SOIL-Q-7-0.5 displayed %RPDs greater than the control limit (i.e. 100% or 2x the RL) for barium at 110.5%, for Zn at 139.6%, and for Hg at 183.8%. Positive Ba and Hg results were flagged "J,f"; non-detects were flagged "UJ,f" in associated samples. Since zinc was previously flagged for lab duplicate imprecision, no further data qualifying action was taken.

Correctable Anomalies: None.

Comments: For the herbicides analyses, the MS/MSD was analyzed at a 25x dilution. Since all analytes were diluted out and did not recover, the MS/MSD data was not included in the data package.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exceptions described above. All data, except those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-P-2-0.5	Soil	VOCs	Ethylbenzene	0.26	J,f	7.1
SAII27	SOIL-P-2-0.5	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	240	J,c	410
SAII27	SOIL-P-2-0.5	Soil	Pesticides	4,4'-DDE	3	J,l	4.1
SAII27	SOIL-P-2-0.5	Soil	Pesticides	4,4'-DDT	8.1	J,g	4.1
SAII27	SOIL-P-2-0.5	Soil	Pesticides	alpha-Chlordane	1.5	J,l	2.1
SAII27	SOIL-P-2-0.5	Soil	Pesticides	Dieldrin	2	J,g	4.1
SAII27	SOIL-P-2-0.5	Soil	Pesticides	Endrin Ketone	4.1	UJ,c	4.1
SAII27	SOIL-P-2-0.5	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII27	SOIL-P-2-0.5	Soil	Herbicides	2,4-DB	10	UJ,f	10
SAII27	SOIL-P-2-0.5	Soil	Herbicides	Dichlorprop	2.4	J,g	120
SAII27	SOIL-P-2-0.5	Soil	Metals	Antimony	0.62	J,m	2.3
SAII27	SOIL-P-2-0.5	Soil	Metals	Barium	180	J,f	1.1
SAII27	SOIL-P-2-0.5	Soil	Metals	Cobalt	7.6	J,s	1.1
SAII27	SOIL-P-2-0.5	Soil	Metals	Copper	59	J,m	2.3
SAII27	SOIL-P-2-0.5	Soil	Metals	Lead	170	J,m	0.57
SAII27	SOIL-P-2-0.5	Soil	Metals	Manganese	360	J,m	1.1
SAII27	SOIL-P-2-0.5	Soil	Metals	Mercury	0.072	J,f	0.023
SAII27	SOIL-P-2-0.5	Soil	Metals	Potassium	1400	J,m	110
SAII27	SOIL-P-2-0.5	Soil	Metals	Selenium	1.1	UJ,p	1.1
SAII27	SOIL-P-2-0.5	Soil	Metals	Zinc	390	J,k	2.3
SAII27	SOIL-P-2-6FT	Soil	SVOCs	1,2,4-Trichlorobenzene	100	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	1,2-Dichlorobenzene	14000	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	1,3-Dichlorobenzene	460	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,4,5-Trichlorophenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,4,6-Trichlorophenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,4-Dichlorophenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,4-Dimethylphenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,4-Dinitrophenol	9800	UJ,s	9800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,4-Dinitrotoluene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2,6-Dinitrotoluene	1900	UJ,s	1900

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2-Chloronaphthalene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2-Chlorophenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2-Methylnaphthalene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2-Methylphenol (o-Cresol)	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2-Nitroaniline	9800	UJ,s	9800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	2-Nitrophenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	3,3'-Dichlorobenzidine	3800	UJ,s	3800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	3-Nitroaniline	9800	UJ,s	9800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	4,6-Dinitro-2-methylphenol	9800	UJ,s	9800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	4-Bromophenyl Phenyl Ether	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	4-Chloro-3-methylphenol	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	4-Chlorophenyl Phenyl Ether	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	4-Nitrophenol	9800	UJ,s	9800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Acenaphthene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Acenaphthylene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Anthracene	340	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Benzo(a)anthracene	160	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Benzo(a)pyrene	150	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Benzo(b)fluoranthene	230	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Benzo(g,h,i)perylene	150	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Benzo(k)fluoranthene	160	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Benzyl Butyl Phthalate	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	bis(2-Chloroethoxy)methane	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	bis(2-Chloroethyl)ether	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	610	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Carbazole	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Chrysene	430	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Dibenzo(a,h)anthracene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Dibenzofuran	380	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Diethyl Phthalate	1900	UJ,s	1900

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Dimethyl Phthalate	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Di-n-butylphthalate	170	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Di-n-octylphthalate	590	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Dinoseb	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Fluoranthene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Fluorene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Hexachlorobenzene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Hexachlorobutadiene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Hexachlorocyclopentadiene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Hexachloroethane	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Isophorone	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Naphthalene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Nitrobenzene	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	N-Nitroso-di-n-propylamine	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	N-Nitrosodiphenylamine	1900	UJ,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	P-Chloroaniline	3800	UJ,s	3800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Phenanthrene	340	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Phenol	780	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	SVOCs	P-Nitroaniline	9800	UJ,s	9800
SAII27	SOIL-P-2-6FT	Soil	SVOCs	Pyrene	330	J,s	1900
SAII27	SOIL-P-2-6FT	Soil	PCBs	Trichlorobiphenyl	550	J,f	190
SAII27	SOIL-P-2-6FT	Soil	Pesticides	4,4'-DDE	19	R,l	19
SAII27	SOIL-P-2-6FT	Soil	Pesticides	alpha-BHC	10	J,n	9.8
SAII27	SOIL-P-2-6FT	Soil	Pesticides	alpha-Chlordane	9.8	R,l	9.8
SAII27	SOIL-P-2-6FT	Soil	Pesticides	Endrin Ketone	19	UJ,c	19
SAII27	SOIL-P-2-6FT	Soil	Pesticides	Methoxychlor	98	UJ,c	98
SAII27	SOIL-P-2-6FT	Soil	Herbicides	2,4-DB	95	UJ,f	95
SAII27	SOIL-P-2-6FT	Soil	Metals	Antimony	1.2	J,m	2.1
SAII27	SOIL-P-2-6FT	Soil	Metals	Barium	110	J,f	1
SAII27	SOIL-P-2-6FT	Soil	Metals	Cobalt	4.3	J,s	1

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-P-2-6FT	Soil	Metals	Copper	52	J,m	2.1
SAII27	SOIL-P-2-6FT	Soil	Metals	Lead	86	J,m	0.52
SAII27	SOIL-P-2-6FT	Soil	Metals	Manganese	210	J,m	1
SAII27	SOIL-P-2-6FT	Soil	Metals	Mercury	3.2	J,f	0.41
SAII27	SOIL-P-2-6FT	Soil	Metals	Potassium	1200	J,m	100
SAII27	SOIL-P-2-6FT	Soil	Metals	Selenium	3.4	J,p	1
SAII27	SOIL-P-2-6FT	Soil	Metals	Thallium	1.1	U,o	1.1
SAII27	SOIL-P-2-6FT	Soil	Metals	Zinc	700	J,k	2.1
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,1,1-Trichloroethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,1,2,2-Tetrachloroethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,1,2-Trichloroethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,1-Dichloroethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,1-Dichloroethylene	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,2-Dichloroethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,2-Dichloroethene (total)	19	UJ,s	19
SAII27	SOIL-Q-2-0.5	Soil	VOCs	1,2-Dichloropropane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	2-Butanone (MEK)	47	UJ,s	47
SAII27	SOIL-Q-2-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	47	UJ,s	47
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Acetone	95	UJ,s	95
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Benzene	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Bromodichloromethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Bromoform	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Bromomethane	19	UJ,s	19
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Carbon Disulfide	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Carbon Tetrachloride	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Chlorobenzene	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Chlorodibromomethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Chloroethane	19	UJ,s	19
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Chloroform	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Chloromethane	19	UJ,s	19
SAII27	SOIL-Q-2-0.5	Soil	VOCs	cis-1,3-Dichloropropene	9.5	UJ,s	9.5

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Dichloromethane	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Ethylbenzene	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Methyl N-Butyl Ketone	47	UJ,s	47
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Styrene (Monomer)	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Tetrachloroethene	2.4	J,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Toluene	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	trans-1,3-Dichloropropene	9.5	UJ,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Trichloroethene	1.5	J,s	9.5
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Vinyl chloride	19	UJ,s	19
SAII27	SOIL-Q-2-0.5	Soil	VOCs	Xylenes, Total	2.2	J,s	19
SAII27	SOIL-Q-2-0.5	Soil	PCBs	Trichlorobiphenyl	17	J,f	70
SAII27	SOIL-Q-2-0.5	Soil	Pesticides	4,4'-DDE	7	R,l	7
SAII27	SOIL-Q-2-0.5	Soil	Pesticides	4,4'-DDT	120	J,m	7
SAII27	SOIL-Q-2-0.5	Soil	Pesticides	alpha-Chlordane	3.6	R,l	3.6
SAII27	SOIL-Q-2-0.5	Soil	Pesticides	Endrin Ketone	7	UJ,c	7
SAII27	SOIL-Q-2-0.5	Soil	Pesticides	Methoxychlor	36	UJ,c	36
SAII27	SOIL-Q-2-0.5	Soil	Herbicides	2,4-D	5	J,g	8.8
SAII27	SOIL-Q-2-0.5	Soil	Herbicides	2,4-DB	8.8	UJ,f	8.8
SAII27	SOIL-Q-2-0.5	Soil	Metals	Antimony	1.6	J,m	1.9
SAII27	SOIL-Q-2-0.5	Soil	Metals	Barium	61	J,f	0.97
SAII27	SOIL-Q-2-0.5	Soil	Metals	Cobalt	16	J,s	0.97
SAII27	SOIL-Q-2-0.5	Soil	Metals	Copper	230	J,m	1.9
SAII27	SOIL-Q-2-0.5	Soil	Metals	Lead	1100	U,m	0.48
SAII27	SOIL-Q-2-0.5	Soil	Metals	Manganese	210	J,m	0.97
SAII27	SOIL-Q-2-0.5	Soil	Metals	Mercury	0.076	J,f	0.019
SAII27	SOIL-Q-2-0.5	Soil	Metals	Potassium	330	J,m	97
SAII27	SOIL-Q-2-0.5	Soil	Metals	Selenium	0.97	UJ,p	0.97
SAII27	SOIL-Q-2-0.5	Soil	Metals	Zinc	8000	J,k	9.6
SAII27	SOIL-Q-2-6FT	Soil	VOCs	Acetone	2700	J,c	98
SAII27	SOIL-Q-2-6FT	Soil	VOCs	Chlorobenzene	36000	J,f	9.8
SAII27	SOIL-Q-2-6FT	Soil	VOCs	Ethylbenzene	990	J,f	9.8

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-2-6FT	Soil	SVOCs	P-Chloroaniline	30000	J,s	3800
SAII27	SOIL-Q-2-6FT	Soil	PCBs	Tetrachlorobiphenyl	540	J,f	76
SAII27	SOIL-Q-2-6FT	Soil	PCBs	Trichlorobiphenyl	130	J,f	38
SAII27	SOIL-Q-2-6FT	Soil	Pesticides	4,4'-DDE	75	R,l	75
SAII27	SOIL-Q-2-6FT	Soil	Pesticides	4,4'-DDT	510	J,g	75
SAII27	SOIL-Q-2-6FT	Soil	Pesticides	alpha-Chlordane	39	R,l	39
SAII27	SOIL-Q-2-6FT	Soil	Pesticides	Methoxychlor	390	UJ,c	390
SAII27	SOIL-Q-2-6FT	Soil	Herbicides	2,4-D	21	J,g	9.4
SAII27	SOIL-Q-2-6FT	Soil	Herbicides	2,4-DB	9.4	UJ,f	9.4
SAII27	SOIL-Q-2-6FT	Soil	Herbicides	Dichlorprop	2.7	J,g	110
SAII27	SOIL-Q-2-6FT	Soil	Herbicides	MCPP	3600	J,l	2300
SAII27	SOIL-Q-2-6FT	Soil	Metals	Antimony	7.9	J,m	2.3
SAII27	SOIL-Q-2-6FT	Soil	Metals	Barium	230	J,f	1.1
SAII27	SOIL-Q-2-6FT	Soil	Metals	Cobalt	4.9	J,s	1.1
SAII27	SOIL-Q-2-6FT	Soil	Metals	Copper	120	J,m	2.3
SAII27	SOIL-Q-2-6FT	Soil	Metals	Lead	1100	J,m	0.57
SAII27	SOIL-Q-2-6FT	Soil	Metals	Manganese	220	J,m	1.1
SAII27	SOIL-Q-2-6FT	Soil	Metals	Mercury	0.98	J,f	0.41
SAII27	SOIL-Q-2-6FT	Soil	Metals	Potassium	430	J,m	110
SAII27	SOIL-Q-2-6FT	Soil	Metals	Selenium	1.1	UJ,p	1.1
SAII27	SOIL-Q-2-6FT	Soil	Metals	Zinc	730	J,k	2.3
SAII27	SOIL-Q-4-0.5	Soil	VOCs	1,1,2,2-Tetrachloroethane	7.2	UJ,n	7.2
SAII27	SOIL-Q-4-0.5	Soil	VOCs	Bromoform	7.2	UJ,n	7.2
SAII27	SOIL-Q-4-0.5	Soil	VOCs	Chlorobenzene	7.2	UJ,n	7.2
SAII27	SOIL-Q-4-0.5	Soil	VOCs	Ethylbenzene	0.34	J,n	7.3
SAII27	SOIL-Q-4-0.5	Soil	VOCs	Styrene (Monomer)	7.2	UJ,n	7.2
SAII27	SOIL-Q-4-0.5	Soil	VOCs	Xylenes, Total	1.8	J,n	15
SAII27	SOIL-Q-4-0.5	Soil	PCBs	Tetrachlorobiphenyl	180	J,f	8.2
SAII27	SOIL-Q-4-0.5	Soil	PCBs	Trichlorobiphenyl	46	J,f	4
SAII27	SOIL-Q-4-0.5	Soil	Pesticides	4,4'-DDE	8	R,l	8
SAII27	SOIL-Q-4-0.5	Soil	Pesticides	4,4'-DDT	29	J,g	8

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-4-0.5	Soil	Pesticides	alpha-Chlordane	4.1	R,l	4.1
SAII27	SOIL-Q-4-0.5	Soil	Pesticides	Endrin Ketone	8	UJ,c	8
SAII27	SOIL-Q-4-0.5	Soil	Pesticides	Methoxychlor	41	UJ,c	41
SAII27	SOIL-Q-4-0.5	Soil	Herbicides	2,4-DB	10	UJ,f	10
SAII27	SOIL-Q-4-0.5	Soil	Herbicides	MCPP	160	J,l	2400
SAII27	SOIL-Q-4-0.5	Soil	Metals	Antimony	0.82	J,m	2.2
SAII27	SOIL-Q-4-0.5	Soil	Metals	Barium	81	J,f	1.1
SAII27	SOIL-Q-4-0.5	Soil	Metals	Cobalt	6.5	J,s	1.1
SAII27	SOIL-Q-4-0.5	Soil	Metals	Copper	39	J,m	2.2
SAII27	SOIL-Q-4-0.5	Soil	Metals	Lead	85	J,m	0.55
SAII27	SOIL-Q-4-0.5	Soil	Metals	Manganese	490	J,m	1.1
SAII27	SOIL-Q-4-0.5	Soil	Metals	Mercury	0.15	J,f	0.022
SAII27	SOIL-Q-4-0.5	Soil	Metals	Potassium	820	J,m	110
SAII27	SOIL-Q-4-0.5	Soil	Metals	Selenium	0.71	J,p	1.1
SAII27	SOIL-Q-4-0.5	Soil	Metals	Zinc	930	J,k	2.2
SAII27	SOIL-Q-4-6	Soil	Pesticides	4,4'-DDE	2	J,l	4
SAII27	SOIL-Q-4-6	Soil	Pesticides	4,4'-DDT	7.6	J,m	4
SAII27	SOIL-Q-4-6	Soil	Pesticides	alpha-Chlordane	2	R,l	2
SAII27	SOIL-Q-4-6	Soil	Pesticides	Endosulfan II	0.49	J,g	4
SAII27	SOIL-Q-4-6	Soil	Pesticides	Endrin Ketone	4	UJ,c	4
SAII27	SOIL-Q-4-6	Soil	Pesticides	gamma-Chlordane	0.21	J,g	2
SAII27	SOIL-Q-4-6	Soil	Pesticides	Methoxychlor	20	UJ,c	20
SAII27	SOIL-Q-4-6	Soil	Herbicides	2,4-DB	10	UJ,f	10
SAII27	SOIL-Q-4-6	Soil	Metals	Antimony	0.81	J,m	2.2
SAII27	SOIL-Q-4-6	Soil	Metals	Barium	110	J,f	1.1
SAII27	SOIL-Q-4-6	Soil	Metals	Cobalt	9.7	J,s	1.1
SAII27	SOIL-Q-4-6	Soil	Metals	Copper	28	J,m	2.2
SAII27	SOIL-Q-4-6	Soil	Metals	Lead	64	J,m	0.55
SAII27	SOIL-Q-4-6	Soil	Metals	Manganese	350	J,m	1.1
SAII27	SOIL-Q-4-6	Soil	Metals	Mercury	0.099	J,f	0.022
SAII27	SOIL-Q-4-6	Soil	Metals	Potassium	800	J,m	110

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-4-6	Soil	Metals	Selenium	1.1	UJ,p	1.1
SAII27	SOIL-Q-4-6	Soil	Metals	Zinc	210	J,k	2.2
SAII27	SOIL-Q-6-0.5	Soil	VOCs	Acetone	23	J,f	56
SAII27	SOIL-Q-6-0.5	Soil	VOCs	Chlorobenzene	1.3	J,f	5.6
SAII27	SOIL-Q-6-0.5	Soil	VOCs	Ethylbenzene	0.53	J,f	5.6
SAII27	SOIL-Q-6-0.5	Soil	PCBs	Tetrachlorobiphenyl	160	J,f	7.4
SAII27	SOIL-Q-6-0.5	Soil	PCBs	Trichlorobiphenyl	47	J,f	3.6
SAII27	SOIL-Q-6-0.5	Soil	Pesticides	Endrin Ketone	7.2	UJ,c	7.2
SAII27	SOIL-Q-6-0.5	Soil	Pesticides	Methoxychlor	37	UJ,c	37
SAII27	SOIL-Q-6-0.5	Soil	Herbicides	2,4-DB	230	UJ,c	230
SAII27	SOIL-Q-6-0.5	Soil	Metals	Antimony	1.9	J,m	2
SAII27	SOIL-Q-6-0.5	Soil	Metals	Barium	110	J,f	1
SAII27	SOIL-Q-6-0.5	Soil	Metals	Cobalt	5	J,s	1
SAII27	SOIL-Q-6-0.5	Soil	Metals	Copper	40	J,m	2
SAII27	SOIL-Q-6-0.5	Soil	Metals	Lead	74	J,m	0.5
SAII27	SOIL-Q-6-0.5	Soil	Metals	Manganese	170	J,m	1
SAII27	SOIL-Q-6-0.5	Soil	Metals	Mercury	0.15	J,f	0.02
SAII27	SOIL-Q-6-0.5	Soil	Metals	Potassium	940	J,m	100
SAII27	SOIL-Q-6-0.5	Soil	Metals	Selenium	1	UJ,p	1
SAII27	SOIL-Q-6-0.5	Soil	Metals	Zinc	340	J,k	2
SAII27	SOIL-Q-6-6	Soil	VOCs	Acetone	160	J,f	87
SAII27	SOIL-Q-6-6	Soil	VOCs	Chlorobenzene	17	J,f	8.7
SAII27	SOIL-Q-6-6	Soil	VOCs	Ethylbenzene	1.2	J,f	8.7
SAII27	SOIL-Q-6-6	Soil	PCBs	Tetrachlorobiphenyl	69	J,f	8.4
SAII27	SOIL-Q-6-6	Soil	Pesticides	4,4'-DDD	4.1	UJ,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	4,4'-DDE	4.1	UJ,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	4,4'-DDT	32	J,g	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Aldrin	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	alpha-BHC	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	alpha-Chlordane	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	beta-BHC	2.1	UJ,s	2.1

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-6-6	Soil	Pesticides	delta-BHC	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Dieldrin	42	J,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Endosulfan I	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Endosulfan II	4.1	UJ,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Endosulfan Sulfate	4.1	UJ,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Endrin	4.1	UJ,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Endrin Aldehyde	4.1	UJ,s	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Endrin Ketone	4.4	J,c	4.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	gamma-BHC (Lindane)	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	gamma-Chlordane	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Heptachlor	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Heptachlor Epoxide	2.1	UJ,s	2.1
SAII27	SOIL-Q-6-6	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII27	SOIL-Q-6-6	Soil	Pesticides	Toxaphene	210	UJ,s	210
SAII27	SOIL-Q-6-6	Soil	Herbicides	2,4-DB	10	UJ,f	10
SAII27	SOIL-Q-6-6	Soil	Metals	Antimony	5.8	J,m	2.3
SAII27	SOIL-Q-6-6	Soil	Metals	Barium	75	J,f	1.1
SAII27	SOIL-Q-6-6	Soil	Metals	Cobalt	11	J,s	1.1
SAII27	SOIL-Q-6-6	Soil	Metals	Copper	150	J,m	2.3
SAII27	SOIL-Q-6-6	Soil	Metals	Lead	120	J,m	0.57
SAII27	SOIL-Q-6-6	Soil	Metals	Manganese	29	J,m	1.1
SAII27	SOIL-Q-6-6	Soil	Metals	Mercury	0.11	J,f	0.023
SAII27	SOIL-Q-6-6	Soil	Metals	Potassium	500	J,m	110
SAII27	SOIL-Q-6-6	Soil	Metals	Sodium	100	U,p	57
SAII27	SOIL-Q-6-6	Soil	Metals	Zinc	80	J,k	2.3
SAII27	SOIL-Q-7-0.5	Soil	VOCs	Acetone	61	J,f	83
SAII27	SOIL-Q-7-0.5	Soil	VOCs	Chlorobenzene	42	J,f	8.3
SAII27	SOIL-Q-7-0.5	Soil	VOCs	Ethylbenzene	25	J,f	8.3
SAII27	SOIL-Q-7-0.5	Soil	PCBs	Tetrachlorobiphenyl	530	J,f	80
SAII27	SOIL-Q-7-0.5	Soil	PCBs	Trichlorobiphenyl	170	J,f	39
SAII27	SOIL-Q-7-0.5	Soil	Pesticides	4,4'-DDD	29	J,g	20

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-7-0.5	Soil	Pesticides	4,4'-DDT	29	J,g	20
SAII27	SOIL-Q-7-0.5	Soil	Pesticides	alpha-BHC	96	J,g	10
SAII27	SOIL-Q-7-0.5	Soil	Pesticides	alpha-Chlordane	2.3	J,g	10
SAII27	SOIL-Q-7-0.5	Soil	Pesticides	Dieldrin	48	J,m	20
SAII27	SOIL-Q-7-0.5	Soil	Pesticides	Endosulfan Sulfate	2.4	J,g	20
SAII27	SOIL-Q-7-0.5	Soil	Herbicides	2,4-D	4.7	J,g	9.9
SAII27	SOIL-Q-7-0.5	Soil	Herbicides	2,4-DB	9.9	UJ,f	9.9
SAII27	SOIL-Q-7-0.5	Soil	Metals	Antimony	1.6	J,m	2.4
SAII27	SOIL-Q-7-0.5	Soil	Metals	Barium	170	J,f	1.2
SAII27	SOIL-Q-7-0.5	Soil	Metals	Cobalt	2.1	J,s	1.2
SAII27	SOIL-Q-7-0.5	Soil	Metals	Copper	15	J,m	2.4
SAII27	SOIL-Q-7-0.5	Soil	Metals	Lead	240	J,m	0.6
SAII27	SOIL-Q-7-0.5	Soil	Metals	Manganese	140	J,m	1.2
SAII27	SOIL-Q-7-0.5	Soil	Metals	Mercury	0.022	UJ,f	0.022
SAII27	SOIL-Q-7-0.5	Soil	Metals	Potassium	730	J,m	120
SAII27	SOIL-Q-7-0.5	Soil	Metals	Selenium	1.2	UJ,p	1.2
SAII27	SOIL-Q-7-0.5	Soil	Metals	Zinc	320	J,k	2.4
SAII27	SOIL-Q-7-0.5-DUP	Soil	VOCs	Acetone	910	J,f	140
SAII27	SOIL-Q-7-0.5-DUP	Soil	VOCs	Chlorobenzene	220	J,f	14
SAII27	SOIL-Q-7-0.5-DUP	Soil	VOCs	Ethylbenzene	45	J,f	14
SAII27	SOIL-Q-7-0.5-DUP	Soil	PCBs	Tetrachlorobiphenyl	1700	J,f	89
SAII27	SOIL-Q-7-0.5-DUP	Soil	PCBs	Trichlorobiphenyl	530	J,f	44
SAII27	SOIL-Q-7-0.5-DUP	Soil	Pesticides	4,4'-DDT	180	J,f	22
SAII27	SOIL-Q-7-0.5-DUP	Soil	Pesticides	alpha-BHC	25	J,g	11
SAII27	SOIL-Q-7-0.5-DUP	Soil	Pesticides	alpha-Chlordane	5.4	J,g	11
SAII27	SOIL-Q-7-0.5-DUP	Soil	Pesticides	Dieldrin	48	J,g	22
SAII27	SOIL-Q-7-0.5-DUP	Soil	Pesticides	Endrin Ketone	22	UJ,c	22
SAII27	SOIL-Q-7-0.5-DUP	Soil	Pesticides	Methoxychlor	110	UJ,c	110
SAII27	SOIL-Q-7-0.5-DUP	Soil	Herbicides	2,4-DB	35	J,g	11
SAII27	SOIL-Q-7-0.5-DUP	Soil	Herbicides	Pentachlorophenol	120	J,g	23
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Antimony	4.9	J,m	2.4

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Barium	590	J,f	1.2
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Cobalt	3.2	J,s	1.2
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Copper	26	J,m	2.4
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Lead	480	J,m	0.61
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Manganese	160	J,m	1.2
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Mercury	0.052	J,f	0.27
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Potassium	1200	J,m	120
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Selenium	1.2	UJ,p	1.2
SAII27	SOIL-Q-7-0.5-DUP	Soil	Metals	Zinc	1800	J,k	2.4
SAII27	SOIL-Q-7-6	Soil	VOCs	Chlorobenzene	40000	J,f	16
SAII27	SOIL-Q-7-6	Soil	VOCs	Ethylbenzene	39	J,f	19
SAII27	SOIL-Q-7-6	Soil	SVOCs	1,2,4-Trichlorobenzene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	1,2-Dichlorobenzene	220	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	1,3-Dichlorobenzene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	1,4-Dichlorobenzene	5800	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,4,5-Trichlorophenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,4,6-Trichlorophenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,4-Dichlorophenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,4-Dimethylphenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,4-Dinitrophenol	18000	UJ,s	18000
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,4-Dinitrotoluene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2,6-Dinitrotoluene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2-Chloronaphthalene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2-Chlorophenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2-Methylnaphthalene	990	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2-Methylphenol (o-Cresol)	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	2-Nitroaniline	18000	UJ,s	18000
SAII27	SOIL-Q-7-6	Soil	SVOCs	2-Nitrophenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	3,3'-Dichlorobenzidine	7000	UJ,s	7000
SAII27	SOIL-Q-7-6	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	550	J,s	3500

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-7-6	Soil	SVOCs	3-Nitroaniline	18000	UJ,s	18000
SAII27	SOIL-Q-7-6	Soil	SVOCs	4,6-Dinitro-2-methylphenol	18000	UJ,s	18000
SAII27	SOIL-Q-7-6	Soil	SVOCs	4-Bromophenyl Phenyl Ether	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	4-Chloro-3-methylphenol	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	4-Chlorophenyl Phenyl Ether	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	4-Nitrophenol	18000	UJ,s	18000
SAII27	SOIL-Q-7-6	Soil	SVOCs	Acenaphthene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Acenaphthylene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Anthracene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Benzo(a)anthracene	640	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Benzo(a)pyrene	390	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Benzo(b)fluoranthene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Benzo(g,h,i)perylene	360	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Benzo(k)fluoranthene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Benzyl Butyl Phthalate	3000	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	bis(2-Chloroethoxy)methane	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	bis(2-Chloroethyl)ether	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	21000	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Carbazole	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Chrysene	680	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Dibenzo(a,h)anthracene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Dibenzofuran	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Diethyl Phthalate	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Dimethyl Phthalate	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Di-n-butylphthalate	2600	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Di-n-octylphthalate	550	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Dinoseb	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Fluoranthene	410	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Fluorene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Hexachlorobenzene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Hexachlorobutadiene	3500	UJ,s	3500

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-7-6	Soil	SVOCs	Hexachlorocyclopentadiene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Hexachloroethane	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Isophorone	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Naphthalene	1200	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Nitrobenzene	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	N-Nitroso-di-n-propylamine	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	N-Nitrosodiphenylamine	3500	UJ,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	P-Chloroaniline	7000	UJ,s	7000
SAII27	SOIL-Q-7-6	Soil	SVOCs	Phenanthrene	650	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	Phenol	430	J,s	3500
SAII27	SOIL-Q-7-6	Soil	SVOCs	P-Nitroaniline	18000	UJ,s	18000
SAII27	SOIL-Q-7-6	Soil	SVOCs	Pyrene	940	J,s	3500
SAII27	SOIL-Q-7-6	Soil	PCBs	Tetrachlorobiphenyl	630	J,f	140
SAII27	SOIL-Q-7-6	Soil	PCBs	Trichlorobiphenyl	350	J,f	70
SAII27	SOIL-Q-7-6	Soil	Pesticides	Endosulfan Sulfate	27	J,g	70
SAII27	SOIL-Q-7-6	Soil	Pesticides	Endrin Ketone	70	UJ,c	70
SAII27	SOIL-Q-7-6	Soil	Pesticides	Methoxychlor	360	UJ,c	360
SAII27	SOIL-Q-7-6	Soil	Herbicides	2,2-Dichloropropionic Acid	68	J,s	8500
SAII27	SOIL-Q-7-6	Soil	Herbicides	2,4-DB	35	UJ,c	35
SAII27	SOIL-Q-7-6	Soil	Herbicides	Pentachlorophenol	630	J,s	72
SAII27	SOIL-Q-7-6	Soil	Metals	Antimony	3.7	J,m	4.3
SAII27	SOIL-Q-7-6	Soil	Metals	Barium	200	J,f	2.1
SAII27	SOIL-Q-7-6	Soil	Metals	Cobalt	6.5	J,s	2.1
SAII27	SOIL-Q-7-6	Soil	Metals	Copper	20000	J,m	1.9
SAII27	SOIL-Q-7-6	Soil	Metals	Lead	300	J,m	1.1
SAII27	SOIL-Q-7-6	Soil	Metals	Manganese	310	J,m	2.1
SAII27	SOIL-Q-7-6	Soil	Metals	Mercury	0.049	J,f	0.039
SAII27	SOIL-Q-7-6	Soil	Metals	Potassium	490	J,m	210
SAII27	SOIL-Q-7-6	Soil	Metals	Selenium	2.1	UJ,p	2.1
SAII27	SOIL-Q-7-6	Soil	Metals	Zinc	430	J,k	4.3

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-8-0.5	Soil	VOCs	4-Methyl-2-pentanone (MIBK)	34	U,z	34
SAII27	SOIL-Q-8-0.5	Soil	VOCs	Acetone	68	J,f	68
SAII27	SOIL-Q-8-0.5	Soil	VOCs	Chlorobenzene	1.6	J,f	6.8
SAII27	SOIL-Q-8-0.5	Soil	VOCs	Ethylbenzene	0.31	J,f	6.8
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Decachlorobiphenyl	100	UJ,s	100
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Dichlorobiphenyl	20	UJ,s	20
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Heptachlorobiphenyl	61	UJ,s	61
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Hexachlorobiphenyl	41	UJ,s	41
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Monochlorobiphenyl	20	UJ,s	20
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Nonachlorobiphenyl	16	J,s	100
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Octachlorobiphenyl	61	UJ,s	61
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Pentachlorobiphenyl	41	UJ,s	41
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Tetrachlorobiphenyl	41	UJ,s	41
SAII27	SOIL-Q-8-0.5	Soil	PCBs	Trichlorobiphenyl	5.8	J,s	20
SAII27	SOIL-Q-8-0.5	Soil	Pesticides	Aldrin	2.1	J,n	2.1
SAII27	SOIL-Q-8-0.5	Soil	Pesticides	Dieldrin	5.2	J,n	4
SAII27	SOIL-Q-8-0.5	Soil	Pesticides	Endrin Ketone	1.1	J,c	4
SAII27	SOIL-Q-8-0.5	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII27	SOIL-Q-8-0.5	Soil	Herbicides	2,4,5-TP (Silvex)	10	UJ,c	10
SAII27	SOIL-Q-8-0.5	Soil	Herbicides	Pentachlorophenol	3.3	J,c	21
SAII27	SOIL-Q-8-0.5	Soil	Metals	Antimony	0.94	J,m	2.2
SAII27	SOIL-Q-8-0.5	Soil	Metals	Barium	93	J,f	1.1
SAII27	SOIL-Q-8-0.5	Soil	Metals	Cobalt	2.4	J,s	1.1
SAII27	SOIL-Q-8-0.5	Soil	Metals	Copper	54	J,m	2.2
SAII27	SOIL-Q-8-0.5	Soil	Metals	Lead	52	J,m	0.55
SAII27	SOIL-Q-8-0.5	Soil	Metals	Manganese	240	J,m	1.1
SAII27	SOIL-Q-8-0.5	Soil	Metals	Mercury	0.27	J,f	0.11
SAII27	SOIL-Q-8-0.5	Soil	Metals	Potassium	1100	J,m	110
SAII27	SOIL-Q-8-0.5	Soil	Metals	Selenium	1.1	UJ,p	1.1
SAII27	SOIL-Q-8-0.5	Soil	Metals	Zinc	100	J,k	2.2
SAII27	SOIL-Q-8-6	Soil	VOCs	1,1,2,2-Tetrachloroethane	5.9	UJ,n	5.9

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-8-6	Soil	VOCs	Acetone	170	J,f	59
SAII27	SOIL-Q-8-6	Soil	VOCs	Bromoform	5.9	UJ,n	5.9
SAII27	SOIL-Q-8-6	Soil	VOCs	Chlorobenzene	2200	J,h	290
SAII27	SOIL-Q-8-6	Soil	VOCs	Ethylbenzene	200	J,n	5.9
SAII27	SOIL-Q-8-6	Soil	VOCs	Styrene (Monomer)	5.9	UJ,n	5.9
SAII27	SOIL-Q-8-6	Soil	PCBs	Dichlorobiphenyl	120	J,n	85
SAII27	SOIL-Q-8-6	Soil	PCBs	Hexachlorobiphenyl	250	J,n	170
SAII27	SOIL-Q-8-6	Soil	PCBs	Monochlorobiphenyl	180	J,n	85
SAII27	SOIL-Q-8-6	Soil	PCBs	Pentachlorobiphenyl	510	J,n	170
SAII27	SOIL-Q-8-6	Soil	PCBs	Trichlorobiphenyl	200	J,n	85
SAII27	SOIL-Q-8-6	Soil	Pesticides	4,4'-DDD	7.6	J,g	21
SAII27	SOIL-Q-8-6	Soil	Pesticides	alpha-Chlordane	4.7	J,g	11
SAII27	SOIL-Q-8-6	Soil	Pesticides	Dieldrin	65	J,g	21
SAII27	SOIL-Q-8-6	Soil	Pesticides	Endrin Aldehyde	16	J,g	21
SAII27	SOIL-Q-8-6	Soil	Herbicides	2,2-Dichloropropionic Acid	2600	UJ,h	2600
SAII27	SOIL-Q-8-6	Soil	Herbicides	2,4,5-T	11	UJ,h	11
SAII27	SOIL-Q-8-6	Soil	Herbicides	2,4,5-TP (Silvex)	11	UJ,h	11
SAII27	SOIL-Q-8-6	Soil	Herbicides	2,4-D	11	UJ,h	11
SAII27	SOIL-Q-8-6	Soil	Herbicides	2,4-DB	11	UJ,h	11
SAII27	SOIL-Q-8-6	Soil	Herbicides	Dicamba	26	UJ,h	26
SAII27	SOIL-Q-8-6	Soil	Herbicides	Dichlorprop	130	UJ,h	130
SAII27	SOIL-Q-8-6	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2600	UJ,h	2600
SAII27	SOIL-Q-8-6	Soil	Herbicides	MCPP	2600	UJ,h	2600
SAII27	SOIL-Q-8-6	Soil	Herbicides	Pentachlorophenol	56	J,h	17
SAII27	SOIL-Q-8-6	Soil	Metals	Antimony	2.3	J,m	2.3
SAII27	SOIL-Q-8-6	Soil	Metals	Barium	510	J,f	1.2
SAII27	SOIL-Q-8-6	Soil	Metals	Cobalt	12	J,s	1.2
SAII27	SOIL-Q-8-6	Soil	Metals	Copper	260	J,m	2.3
SAII27	SOIL-Q-8-6	Soil	Metals	Lead	520	J,m	0.58
SAII27	SOIL-Q-8-6	Soil	Metals	Manganese	3000	J,m	1.2
SAII27	SOIL-Q-8-6	Soil	Metals	Mercury	0.61	J,f	0.26

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-8-6	Soil	Metals	Potassium	1500	J,m	120
SAII27	SOIL-Q-8-6	Soil	Metals	Selenium	1.2	UJ,p	1.2
SAII27	SOIL-Q-8-6	Soil	Metals	Thallium	1.2	U,o	1.2
SAII27	SOIL-Q-8-6	Soil	Metals	Zinc	630	J,k	2.3
SAII27	SOIL-Q-8-6-DUP	Soil	VOCs	Acetone	100	J,f	59
SAII27	SOIL-Q-8-6-DUP	Soil	VOCs	Chlorobenzene	95	J,f	5.9
SAII27	SOIL-Q-8-6-DUP	Soil	VOCs	Ethylbenzene	30	J,f	5.9
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Dichlorobiphenyl	200	J,n	84
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Hexachlorobiphenyl	340	J,n	170
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Monochlorobiphenyl	210	J,n	84
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Nonachlorobiphenyl	68	J,n	430
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Pentachlorobiphenyl	1000	J,n	170
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Tetrachlorobiphenyl	470	J,n	170
SAII27	SOIL-Q-8-6-DUP	Soil	PCBs	Trichlorobiphenyl	170	J,n	84
SAII27	SOIL-Q-8-6-DUP	Soil	Pesticides	Dieldrin	52	J,g	21
SAII27	SOIL-Q-8-6-DUP	Soil	Pesticides	Endrin Ketone	21	UJ,c	21
SAII27	SOIL-Q-8-6-DUP	Soil	Pesticides	Methoxychlor	110	UJ,c	110
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	2,2-Dichloropropionic Acid	20	J,h	2000
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	2,4,5-T	10	UJ,h	10
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	2,4,5-TP (Silvex)	10	UJ,h	10
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	2,4-D	10	UJ,h	10
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	2,4-DB	10	UJ,h	10
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	Dicamba	25	UJ,h	25
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	Dichlorprop	130	UJ,h	130
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2500	UJ,h	2500
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	MCPP	1100	J,h	2000
SAII27	SOIL-Q-8-6-DUP	Soil	Herbicides	Pentachlorophenol	57	J,h	17
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Antimony	2.2	J,m	2.5
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Barium	280	J,f	1.3
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Cobalt	18	J,s	1.3
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Copper	190	J,m	2.5

Table 6-75b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII27

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Lead	640	J,m	2.5
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Manganese	7900	J,m	5
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Mercury	0.92	J,f	0.23
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Potassium	1000	J,m	130
SAII27	SOIL-Q-8-6-DUP	Soil	Metals	Zinc	740	J,k	2.5

Table 6-76a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII28	WASTE-P-2-6FT	7/16/02	Waste			X													
SAII28	WASTE-P-2-COMP	7/16/02	Waste				X	X	X	X	X						X		
SAII28	WASTE-Q-2-8FT	7/18/02	Waste			X													
SAII28	WASTE-Q-2-COMP	7/18/02	Waste				X	X	X	X	X						X		
SAII28	WASTE-Q-4-9	7/18/02	Waste			X													
SAII28	WASTE-Q-4-COMP	7/18/02	Waste				X	X	X	X	X						X		
SAII28	WASTE-Q-6-15	7/19/02	Waste			X													
SAII28	WASTE-Q-6-15-DUP	7/19/02	Waste			X													
SAII28	WASTE-Q-6-COMP	7/19/02	Waste				X	X	X	X	X						X		
SAII28	WASTE-Q-6-COMP-DUP	7/19/02	Waste				X	X	X	X	X						X		
SAII28	WASTE-Q-7-9	7/19/02	Waste			X													
SAII28	WASTE-Q-7-COMP	7/19/02	Waste				X	X	X	X	X						X		
SAII28	WASTE-Q-8-7	7/19/02	Waste			X													
SAII28	WASTE-Q-8-COMP	7/19/02	Waste				X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII28_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____JA_____ **Date: _____October 10, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 (RRF=0.0487) and one continuing calibration analyzed on 7/29/02 18:13 (RRF=0.0403) displayed relative response factors (RRFs) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973. All acetone results were flagged "J, c" for positive detections and "R, c" for non-detects in the associated samples.

For the pesticides analyses, the LCS recovery for 4,4'-DDE (25%) was less than the lower control limit (i.e., 34%) in one LCS sample (0726Q-RMB-LCS). The 4,4'-DDE results in the associated samples were flagged "J, l" for positive detections and "R, l" for non-detects.

Minor Anomalies: For the VOCs analyses, the Encore samplers for sample WASTE-P-2-6' and WASTE-Q-8-7 were received by the laboratory three days after sample collection. The methanol preservation hold time was exceeded by one day. All results in sample WASTE-P-2-6', except acetone result (previously flagged due to acetone RRF failure), were flagged "J, h" for positive detections or "UJ, h" for non-detects. Since samples WASTE-Q-8-7 and WASTE-Q-8-7DL were analyzed from a bulk container (did not use the Encore samplers) and results may be biased low, all results were flagged "J, Q" for positive detections or "UJ, Q" for non-detects. The continuing calibration verification (CCV) analyzed on 7/23/02 at 09:48 displayed a %D greater than the control limit (i.e., 20%) for methylene chloride at -42.5%. The CCV analyzed on 7/25/02 at 13:26 displayed %Ds greater than the control limit for bromomethane at 39.3% and methylene chloride at -40.1%. The CCV analyzed on 7/29/02 at 18:13 displayed %Ds greater than the control limit for chloromethane at -26.9% and 1,1-dichloroethane at 30.8%. Positive chloromethane and 1,1-dichloroethane results in the associated samples were flagged "J, c". Since other compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The method blank,

1M0725MB, displayed positive detections for 4-methyl-2-pentanone (MIBK) at 0.58 µg//kg and 2-hexanone at 2.0 µg//kg. Since these two compounds were not detected in the associated samples, no data qualifying action was taken. The med-level LCS recoveries (2O0729MBLCS) for acetone (170%) and 1,1-dichloroethane (136%) were greater than the upper control limit. Since positive acetone and 1,1-dichloroethane results was previously flagged due to other QC failures, no additional data flags were applied. The internal standard peak areas for 1,4-difluorobenzene (37.5%) and chlorobenzene-d5 (29.4%) were less than the lower control limit (i.e., 50%) in sample WASTE-Q-8-7. Since all VOC results were previously flagged due to other QC failures, no additional data flags were applied. Sample WASTE-Q-7-9 displayed a chlorobenzene result that exceeded the calibration range. Sample WASTE-Q-8-7 displayed toluene, ethylbenzene, and xylene (total) results that exceeded the calibration range. These results, except those previously flagged due to other QC failure, were flagged "J, q". Those two samples were re-analyzed at a greater dilution and these results were within the calibration range. It is recommended that the diluted chlorobenzene result in sample WASTE-Q-7-9, and diluted toluene, ethylbenzene, and xylene (total) results in sample WASTE-Q-8-7 be used for data interpretation.

For the SVOCs analyses, the CCV analyzed on 8/8/02 at 10:34 displayed a %D greater than the control limit (i.e., 20%) for 4-nitrophenol at –24.7%. The CCV analyzed on 8/9/02 at 12:21 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -27.8%, 2,4-dinitrophenol at 23.2%, 4-nitrophenol at -21.2%, and 4,6-dinitro-2-methylphenol at 26.6%. The CCV analyzed on 8/10/02 at 14:19 displayed %Ds greater than the control limit for hexachloro-cyclopentadiene at 48.9%, 2,4-dinitrophenol at 54.1%, 2,4-dinitrotoluene at 28.0%), 4-nitroaniline at 21.1%, and 4,6-dinitro-2-methylphenol at 31.3%. The CCVs analyzed on 8/9/02 at 12:56 (39.3%), 8/10/02 at 14:48 (44.9%), 8/13/02 at 10:58 (35.8%), and 8/14/02 09:33 (35.7%) displayed %Ds greater than the control limit for dinoseb. The CCV analyzed on 8/12/02 at 08:45 displayed a %D greater than the control limit for hexachlorocyclopentadiene at –27.1%. The CCV analyzed on 8/13/02 at 10:16 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -39.1%, 2,4-dinitrophenol at 32.0%, and indeno-(1,2,3-cd)pyrene at -21.3%. The CCV analyzed on 8/14/02 at 09:00 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -41.8% and bis(2-chloroethyl)ether at 22.9%. The 2,4-dinitrophenol result in sample WASTE-Q-8-COMP was flagged "UJ, c". The positive indeno(1,2,3-cd)pyrene result was flagged "J, c" in sample WASTE-Q-2-COMP. Since all other compounds were not detected in the associated samples, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Two base/neutral surrogates, nitrobenzene-d5 and 2-fluoro-biphenyl, were not recovered (0%) in a diluted sample WASTE-Q-4-COMP (DF=4). All surrogates were not recovered in diluted sample WASTE-P-2-COMP (DF=5). All base/neutral results in sample WASTE-Q-4-COMP and all results in

sample WASTE-P-2-COMP were flagged "J, s" for positive detections or "UJ, s" for non-detects. All non-detects results in these two samples would normally (at no dilution) be classified as unusable. Since these two samples were analyzed under dilutions and surrogates have potential to be diluted out, non-detect results should be usable based on reviewer's professional judgement. All results in this sample were flagged "J, s" for positive detections or "UJ, s" for non-detects. Two base/neutral surrogates, nitrobenzene-d5 and 2-fluoro-biphenyl, were not recovered (0%) in a diluted sample WASTE-Q-6-COMP-DUPDL (DF=2). All base/neutral surrogates were not recovered (0%) in a diluted sample WASTE-Q-6-COMPDL (DF=4). Positive phenanthrene and pyrene results in the diluted sample WASTE-Q-6-COMPDL and the positive phenanthrene result in the diluted sample WASTE-Q-6-COMP-DUPDL were flagged "J, s". Since all other compounds in the associated samples were not used for data interpretation, no data qualifying action was taken. Surrogates were diluted out in samples WASTE-Q-4-COMP (DF =10) and WASTE-P-2-COMPDL (DF=20). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MS recoveries for 2,4,6-trichlorophenol (40%), dimethylphthalate (40%), n-nitroso-diphenyl-amine (40%), butylbenzylphthalate (46%), benzo(a)anthracene (39%), chrysene (44%), and benzo(b)fluoranthene (38%), and the MSD recoveries for 2,4-dinitro-phenol (7%) and benzo(a)-anthracene (53%) were less than the lower control limit in the SOIL-Q-6-0.5 MS/MSD pair (in SDG: SAII27). The RPDs for 1,2-dichlorobenzene (25%), 1,2,4-trichlorobenzene (24%), and bis(2-ethylhexyl)-phthalate (24%) were greater than the acceptable limits. This MS/MSD pair was re-analyzed by the laboratory and displayed similar recoveries. The MS/MSD recoveries for naphthalene (132%), acenaphthylene (41%), dimethylphthalate (41% and 39%), n-nitroso-diphenylamine (39% and 39%), butylbenzylphthalate (49% and 51%), benzo(a)-anthracene (45% and 43%), and chrysene (48% and 45%) were outside the control limit in the SOIL-Q-12-6 MS/MSD pair (in SDG: SAII32). Since the recoveries were not critically low, the vast majority of recoveries were acceptable, and the LCS recoveries in the associated extraction batch were in control, no data qualifying action was taken. Sample WASTE-Q-2-COMP displayed a 4-chloro-aniline result that exceeded the calibration range. Sample WASTE-P-2-COMP displayed a 1,4-dichlorobenzene result that exceeded the calibration range. Sample WASTE-Q-6-COMP displayed pentachlorophenol, phenanthrene, and pyrene results that exceeded the calibration range. Sample WASTE-Q-6-COMP-DUP displayed pentachlorophenol and phenanthrene results that exceeded the calibration range. These results, except those previously flagged due to other QC failure, were flagged "J, q". These samples were re-analyzed at a greater dilution and these results were within the calibration range. It is recommended that results from the dilution analyses be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 8/8/02 at 21:19 displayed %Ds greater than the control limit on the primary column for delta-BHC (-16.1%), 4,4'-

DDE (-16.3%), methoxychlor (22.5%), and 2,4-DCAA (-17.3%), and on the confirmation column for alpha-BHC (-16.4%). Positive alpha-BHC, delta-BHC, and methoxychlor results in the associated samples were flagged "J, c". Since positive 4,4'-DDE results were previously flagged due to LCS recovery failure, no additional data flags were applied. The CCV analyzed on 8/15/02 at 13:56 displayed %Ds greater than the control limit on the primary column for alpha-BHC (-20.6%), delta-BHC (-23.0%), 4,4'-DDE (-33.0%), endrin ketone (20.4%), tetrachloro-m-xylene (TCMX, -25.6%), and decachlorobiphenyl (DCBP, -25.0%); and on the confirmation column for alpha-BHC (-24.7%), delta-BHC (-24.9%), methoxychlor (37.9%), and TCMX (-21.6%). The CCV analyzed on 8/15/02 at 18:41 displayed %Ds greater than the control limit on the primary column for alpha-BHC (-16.6%), delta-BHC (-23.3%), 4,4'-DDE (-35.5%), 4,4'-DDD (-16.6%), endosulfan II (-18.9%), 4,4'-DDT (-19.8%), TCMX (-19.7%), and DCBP (-27.7%); and on the confirmation column for alpha-BHC (-20.8%), delta-BHC (-24.9%), and DCBP (-20.8%). Positive alpha-BHC, 4,4'-DDT, methoxychlor, and endrin ketone results in the associated samples were flagged "J, c". The delta-BHC results in the associated samples were flagged "UJ, c". Since positive 4,4'-DDE results were previously flagged due to LCS recovery failure, no additional data flags were applied. Since all other results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. Surrogates were diluted out in most of the samples (DF from 10 to 200). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MS/MSD recoveries for beta-BHC (648% and 595%), gamma-chlordane (648% and 541%), 4,4'-DDE (438% and 384%), diendrin (520% and 438%), 4,4-DDD (192%), endosulfan II (6%), 4,4'-DDT (1247% and 972%), endrin aldehyde (133%), methoxychlor (164% and 260%) and endrin ketone (123%) were outside the control limit in the SOIL-Q-6-0.5 MS/MSD pair (in SDG: SAII27). The RPDs for alpha-chlordane (53%), 4,4'-DDD (67%), endrin (122%), endosulfan II (70%), methoxychlor (45%), and endrin ketone (83%) were greater than the acceptable limit. Since most of the LCS recoveries in the associated extraction batch were in control, no data qualifying action was taken. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, surrogates were diluted out in most of the samples (DF from 10 to 100). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Most of the MS/MSD recoveries were less than the lower control limits due to matrix interference in the SOIL-Q-6-0.5 MS/MSD pair (in SDG: SAII27). The low recoveries or no recoveries may be attributed to the 10X dilution required to minimize the matrix interference. The MS/MSD recoveries for trichlorobiphenyl (220% and 250%), tetrachlorobiphenyl

(550% and 660%), pentachlorobiphenyl (890% and 500%), and hexachlorobiphenyl (290% and 660%) were greater than the upper control limits in the SOIL-Q-12-6 MS/MSD pair (in SDG: SAII32). Since the matrix used for the MS/MSD analysis (soil) was different than the sample matrix (waste) contained in this SDG and the LCS recoveries in the associated extraction batch were in control, no data qualifying action was taken. Sample WASTE-Q-4-COMP displayed a %R greater than the upper control limit (i.e. 130%) for internal standard chrysene-d12 at 130.4%. Since the internal standard %R was only slightly greater than the upper control limit, no data qualifying action was taken. The field duplicates displayed %RPDs between the two samples greater than the control limit for trichlorobiphenyl at 107.7%, for penta-chlorobiphenyl at 151.2%, and for hexachlorobiphenyl at 171.3%. Affected positive results were flagged "J, f" in the associated samples. The data user is advised that the PCB sample results may display more than usual bias or variability and should be used with caution.

For the herbicides analyses, the method blank prepped on 7/29/02 displayed positive detections for MCPA at 100 µg/kg and pentachlorophenol (PCP) at 4.0 µg/kg. Positive PCP results in samples WASTE-Q-7-COMP and WASTE-Q-4-COMP were flagged "U, z" at the reporting limit (RL). Since MCPA was not detected in the associated samples and PCP results in other samples were greater than five times the blank concentration, no data qualifying action was taken. The CCV analyzed on 8/5/02 at 22:19 displayed %Ds greater than the control limit (i.e., 15%) on both columns for PCP at -21.3% and -19.7%, 2,4,5-TP at -23.8% and -21.9%, 2,4,5-T at -25.4% and -23.4%, and 2,4-DB at -27.0% and -18.0%. The CCV analyzed on 8/6/02 at 09:31 displayed %Ds greater than the control limit on both columns for PCP at -18.5% and -20.2%, 2,4,5-TP at -22.1% and -23.3%, 2,4,5-T at -22.2% and -24.2%, and 2,4-DB at -20.1% and -16.2%. 2,4,5-TP, 2,4,5-T, and 2,4-DB results in the associated samples were flagged "J, c" for positive detections or "UJ, c" for non-detects. Since PCP results were previously flagged due to method blank contamination, no additional data flags were applied. The CCV analyzed on 8/13/02 at 16:01 displayed %Ds greater than the control limit on the primary column for MCPP at 17.1% and for 2,4-DB at 18.2% and on the confirmation column for 2,4-DB at 20.7%. The 2,4-DB result in sample WASTE-Q-8-COMP was flagged "UJ, c". The CCV analyzed on 8/16/02 at 12:18 displayed %Ds greater than the control limit on the primary column for 2,4-DB at -23.6% and on the confirmation column for MCPP at -15.7%. The CCV analyzed on 8/17/02 at 00:39 displayed a %D greater than the control limit on the confirmation column for dalapon at -15.5%. Since these compounds were not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. Surrogates were diluted out in several samples (DF from 20 to 2000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. PCP was not recovered (0%) due to matrix interference in the SOIL-Q-6-0.5 MS/MSD pair (in SDG: SAII27). Since the PCP concentration in the parent sample was greater

than four times the spiking concentration, no data qualifying action was taken. The RPD for dichlorprop (47%) was greater than the acceptable limit (i.e., 40%). Since this compound was not detected in the associated samples, no data qualifying action was taken. The LCS recovery for PCP was greater than the upper control limit (i.e., 150%) at 197%. Since the LCS was prepared with the same water used for the method blank that displayed the positive detection for PCP at 4.0 µg/kg, which affected the %R calculation, no further data qualifying action was taken. Sample WASTE-Q-2-COMP displayed a PCP result that exceeded the calibration range. This result was flagged "J, q". This sample was re-analyzed at a greater dilution (DF=2000) and the diluted result was within the calibration range. It is recommended that the diluted PCP result be used for data interpretation. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., 40%) for 2,4-D (44.4%) and 2,4,5-T (71.2%) in sample WASTE-Q-7-COMP. These results, except those flagged due to calibration failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for aluminum (124%) and thallium (73%), and the final CRDL recoveries for aluminum (136%), sodium (69%), and thallium (78%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 2.21 mg/kg, arsenic at -0.452 mg/kg, cadmium at -0.043 mg/kg, chromium at 0.135 mg/kg, iron at 59.0 mg/kg, magnesium at 0.690 mg/kg, mercury at -0.00645 mg/kg, sodium at 21.2 mg/kg, and thallium at -0.574 mg/kg. All thallium results were flagged "J, p" or "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Since all other results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Aluminum, barium, chromium, potassium, and thallium were detected in the initial calibration blank (ICB) and/or continuing calibration blanks (CCBs) at low levels. Since all results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. All samples displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. The positive cadmium results in samples WASTE-Q-7-COMP and WASTE-Q-8-COMP were flagged "J, n". All antimony results, except WASTE-Q-2-COMP, were flagged "J, n" for positive detections or "UJ, n" for non-detects. Positive selenium results in sample WASTE-Q-6-COMP-DUP and WASTE-P-2-COMP were flagged "J, n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (74%), calcium (170% and 158%), chromium (180%), copper (186%), magnesium (147% and 156%), manganese (167% and 646%), sodium (172% and 205%), and zinc (57% and 3201%) were outside the control

limits in one non-client MS/MSD pair. The RPDs for aluminum (56.9%), chromium (55.8%), copper (58.8%), iron (170%), manganese (102.6%), and zinc (172.7%) were greater than the acceptance limit. Since the parent sample is a non-client sample, no data qualifying action was taken. The post-digestion spike analysis was performed and recoveries for these compounds were in control. The %D for zinc (12.3%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (WASTE-Q-4-COMP). Positive zinc results were flagged "J, s".

Correctable Anomalies: Positive PCB results in sample WASTE-Q-8-COMP were incorrectly reported on the Form I. These positive results should be non-detects. These results were correctly reported in the EDD. The revised Form I was received from the laboratory.

Comments: Due to the abundance of target compounds, most of the samples were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points, all data are usable, as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,1,1-Trichloroethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,1,2,2-Tetrachloroethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,1,2-Trichloroethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,1-Dichloroethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,1-Dichloroethylene	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,2-Dichloroethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,2-Dichloroethene (total)	750	J,h	1400
SAII28	WASTE-P-2-6FT	Waste	VOCs	1,2-Dichloropropane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	2-Butanone (MEK)	3600	UJ,h	3600
SAII28	WASTE-P-2-6FT	Waste	VOCs	4-Methyl-2-pentanone (MIBK)	3600	UJ,h	3600
SAII28	WASTE-P-2-6FT	Waste	VOCs	Acetone	4200	J,c	7100
SAII28	WASTE-P-2-6FT	Waste	VOCs	Benzene	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Bromodichloromethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Bromoform	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Bromomethane	1400	UJ,h	1400
SAII28	WASTE-P-2-6FT	Waste	VOCs	Carbon Disulfide	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Carbon Tetrachloride	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Chlorobenzene	3300	J,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Chlorodibromomethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Chloroethane	1400	UJ,h	1400
SAII28	WASTE-P-2-6FT	Waste	VOCs	Chloroform	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Chloromethane	1400	UJ,h	1400
SAII28	WASTE-P-2-6FT	Waste	VOCs	cis-1,3-Dichloropropene	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Dichloromethane	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Ethylbenzene	2500	J,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Methyl N-Butyl Ketone	3600	UJ,h	3600
SAII28	WASTE-P-2-6FT	Waste	VOCs	Styrene (Monomer)	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Tetrachloroethene	140000	J,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Toluene	1900	J,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	trans-1,3-Dichloropropene	710	UJ,h	710
SAII28	WASTE-P-2-6FT	Waste	VOCs	Trichloroethene	990	J,h	710

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-P-2-6FT	Waste	VOCs	Vinyl chloride	1400	UJ,h	1400
SAII28	WASTE-P-2-6FT	Waste	VOCs	Xylenes, Total	8100	J,h	1400
SAII28	WASTE-P-2-COMP	Waste	SVOCs	1,2,4-Trichlorobenzene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	1,2-Dichlorobenzene	6800	J,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	1,3-Dichlorobenzene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,4,5-Trichlorophenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,4,6-Trichlorophenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,4-Dichlorophenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,4-Dimethylphenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,4-Dinitrophenol	11000	UJ,s	11000
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,4-Dinitrotoluene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2,6-Dinitrotoluene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2-Chloronaphthalene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2-Chlorophenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2-Methylnaphthalene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2-Methylphenol (o-Cresol)	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2-Nitroaniline	11000	UJ,s	11000
SAII28	WASTE-P-2-COMP	Waste	SVOCs	2-Nitrophenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	3,3'-Dichlorobenzidine	4400	UJ,s	4400
SAII28	WASTE-P-2-COMP	Waste	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	3-Nitroaniline	11000	UJ,s	11000
SAII28	WASTE-P-2-COMP	Waste	SVOCs	4,6-Dinitro-2-methylphenol	11000	UJ,s	11000
SAII28	WASTE-P-2-COMP	Waste	SVOCs	4-Bromophenyl Phenyl Ether	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	4-Chloro-3-methylphenol	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	4-Chlorophenyl Phenyl Ether	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	4-Nitrophenol	11000	UJ,s	11000
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Acenaphthene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Acenaphthylene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Anthracene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Benzo(a)anthracene	2200	UJ,s	2200

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Benzo(a)pyrene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Benzo(b)fluoranthene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Benzo(g,h,i)perylene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Benzo(k)fluoranthene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Benzyl Butyl Phthalate	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	bis(2-Chloroethoxy)methane	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	bis(2-Chloroethyl)ether	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	bis(2-Ethylhexyl)phthalate	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Carbazole	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Chrysene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Dibenzo(a,h)anthracene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Dibenzofuran	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Diethyl Phthalate	16000	J,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Dimethyl Phthalate	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Di-n-butylphthalate	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Di-n-octylphthalate	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Dinoseb	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Fluoranthene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Fluorene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Hexachlorobenzene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Hexachlorobutadiene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Hexachlorocyclopentadiene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Hexachloroethane	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Indeno(1,2,3-cd)pyrene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Isophorone	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Naphthalene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Nitrobenzene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	N-Nitroso-di-n-propylamine	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	P-Chloroaniline	4400	UJ,s	4400
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Phenanthrene	400	J,s	2200

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Phenol	1000	J,s	2200
SAII28	WASTE-P-2-COMP	Waste	SVOCs	P-Nitroaniline	11000	UJ,s	11000
SAII28	WASTE-P-2-COMP	Waste	SVOCs	Pyrene	2200	UJ,s	2200
SAII28	WASTE-P-2-COMP	Waste	PCBs	Trichlorobiphenyl	140	J,f	450
SAII28	WASTE-P-2-COMP	Waste	Pesticides	4,4'-DDD	19	J,g	110
SAII28	WASTE-P-2-COMP	Waste	Pesticides	4,4'-DDE	26	J,l	110
SAII28	WASTE-P-2-COMP	Waste	Pesticides	alpha-BHC	33	J,c	57
SAII28	WASTE-P-2-COMP	Waste	Pesticides	beta-BHC	33	J,g	57
SAII28	WASTE-P-2-COMP	Waste	Pesticides	Endosulfan I	8.7	J,g	57
SAII28	WASTE-P-2-COMP	Waste	Pesticides	gamma-Chlordane	16	J,g	57
SAII28	WASTE-P-2-COMP	Waste	Metals	Antimony	0.84	J,n	2.7
SAII28	WASTE-P-2-COMP	Waste	Metals	Selenium	4.9	J,n	1.4
SAII28	WASTE-P-2-COMP	Waste	Metals	Thallium	0.82	J,p	1.4
SAII28	WASTE-P-2-COMP	Waste	Metals	Zinc	1200	J,s	2.7
SAII28	WASTE-Q-2-8FT	Waste	VOCs	1,1-Dichloroethane	660	J,c	1200
SAII28	WASTE-Q-2-8FT	Waste	VOCs	Acetone	12000	R,c	12000
SAII28	WASTE-Q-2-8FT	Waste	VOCs	Chloromethane	900	J,c	2400
SAII28	WASTE-Q-2-COMP	Waste	SVOCs	Indeno(1,2,3-cd)pyrene	94	J,c	800
SAII28	WASTE-Q-2-COMP	Waste	PCBs	Hexachlorobiphenyl	18000	J,f	820
SAII28	WASTE-Q-2-COMP	Waste	PCBs	Pentachlorobiphenyl	47000	J,f	820
SAII28	WASTE-Q-2-COMP	Waste	PCBs	Trichlorobiphenyl	12000	J,f	400
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	4,4'-DDE	800	R,l	800
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	alpha-BHC	90	J,c	410
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	delta-BHC	410	UJ,c	410
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	Dieldrin	3200	J,g	800
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	Endosulfan Sulfate	1000	J,g	800
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	Endrin	1700	J,g	800
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	Endrin Ketone	630	J,c	800
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	gamma-BHC (Lindane)	84	J,g	410
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	gamma-Chlordane	1200	J,g	410
SAII28	WASTE-Q-2-COMP	Waste	Pesticides	Methoxychlor	1800	J,c	4100

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-Q-2-COMP	Waste	Metals	Thallium	1.1	UJ,p	1.1
SAII28	WASTE-Q-2-COMP	Waste	Metals	Zinc	1800	J,s	2.2
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	1,2,4-Trichlorobenzene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	1,2-Dichlorobenzene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	1,3-Dichlorobenzene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	1,4-Dichlorobenzene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	2,4-Dinitrotoluene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	2,6-Dinitrotoluene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	2-Chloronaphthalene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	2-Methylnaphthalene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	2-Nitroaniline	9100	UJ,s	9100
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	3,3'-Dichlorobenzidine	3500	UJ,s	3500
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	3-Nitroaniline	9100	UJ,s	9100
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	4-Bromophenyl Phenyl Ether	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	4-Chlorophenyl Phenyl Ether	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Acenaphthene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Acenaphthylene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Anthracene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Benzo(a)anthracene	380	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Benzo(a)pyrene	420	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Benzo(b)fluoranthene	480	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Benzo(g,h,i)perylene	240	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Benzo(k)fluoranthene	380	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Benzyl Butyl Phthalate	120	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	bis(2-Chloroethoxy)methane	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	bis(2-Chloroethyl)ether	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	bis(2-Ethylhexyl)phthalate	1400	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Carbazole	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Chrysene	450	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Dibenzo(a,h)anthracene	1800	UJ,s	1800

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Dibenzofuran	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Diethyl Phthalate	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Dimethyl Phthalate	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Di-n-butylphthalate	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Di-n-octylphthalate	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Dinoseb	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Fluoranthene	880	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Fluorene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Hexachlorobenzene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Hexachlorobutadiene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Hexachlorocyclopentadiene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Hexachloroethane	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Indeno(1,2,3-cd)pyrene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Isophorone	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Naphthalene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Nitrobenzene	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	N-Nitroso-di-n-propylamine	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	N-Nitrosodiphenylamine	1800	UJ,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	P-Chloroaniline	3500	UJ,s	3500
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Phenanthrene	600	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	P-Nitroaniline	9100	UJ,s	9100
SAII28	WASTE-Q-4-COMP	Waste	SVOCs	Pyrene	1000	J,s	1800
SAII28	WASTE-Q-4-COMP	Waste	PCBs	Hexachlorobiphenyl	23	J,f	45
SAII28	WASTE-Q-4-COMP	Waste	PCBs	Trichlorobiphenyl	9.4	J,f	22
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	4,4'-DDE	14	J,l	44
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	4,4'-DDT	15	J,c	44
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	alpha-BHC	4	J,c	23
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	beta-BHC	1.6	J,g	23
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	delta-BHC	23	UJ,c	23
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	Dieldrin	13	J,g	44
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	gamma-Chlordane	6.1	J,g	23

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	Heptachlor	8.3	J,g	23
SAII28	WASTE-Q-4-COMP	Waste	Pesticides	Methoxychlor	8	J,c	230
SAII28	WASTE-Q-4-COMP	Waste	Herbicides	2,4,5-T	11	UJ,c	11
SAII28	WASTE-Q-4-COMP	Waste	Herbicides	2,4,5-TP (Silvex)	11	UJ,c	11
SAII28	WASTE-Q-4-COMP	Waste	Herbicides	2,4-DB	11	UJ,c	11
SAII28	WASTE-Q-4-COMP	Waste	Herbicides	Pentachlorophenol	23	U,z	23
SAII28	WASTE-Q-4-COMP	Waste	Metals	Antimony	0.9	J,n	2.2
SAII28	WASTE-Q-4-COMP	Waste	Metals	Thallium	1.1	UJ,p	1.1
SAII28	WASTE-Q-4-COMP	Waste	Metals	Zinc	400	J,s	2.2
SAII28	WASTE-Q-6-15	Waste	VOCs	Acetone	1400	J,c	2400
SAII28	WASTE-Q-6-15-DUP	Waste	VOCs	Acetone	1700	J,c	2600
SAII28	WASTE-Q-6-COMP	Waste	SVOCs	Phenanthrene	16000	J,s	390
SAII28	WASTE-Q-6-COMP	Waste	SVOCs	Pyrene	11000	J,s	390
SAII28	WASTE-Q-6-COMP	Waste	PCBs	Hexachlorobiphenyl	170	J,f	400
SAII28	WASTE-Q-6-COMP	Waste	PCBs	Pentachlorobiphenyl	1000	J,f	400
SAII28	WASTE-Q-6-COMP	Waste	PCBs	Trichlorobiphenyl	1000	J,f	200
SAII28	WASTE-Q-6-COMP	Waste	Pesticides	4,4'-DDE	51	J,l	99
SAII28	WASTE-Q-6-COMP	Waste	Pesticides	beta-BHC	16	J,g	51
SAII28	WASTE-Q-6-COMP	Waste	Pesticides	delta-BHC	23	J,c	51
SAII28	WASTE-Q-6-COMP	Waste	Pesticides	Dieldrin	41	J,g	99
SAII28	WASTE-Q-6-COMP	Waste	Pesticides	Endrin Aldehyde	48	J,g	99
SAII28	WASTE-Q-6-COMP	Waste	Metals	Antimony	1.3	J,n	2.2
SAII28	WASTE-Q-6-COMP	Waste	Metals	Thallium	1.1	UJ,p	1.1
SAII28	WASTE-Q-6-COMP	Waste	Metals	Zinc	270	J,s	2.2
SAII28	WASTE-Q-6-COMP-DUP	Waste	PCBs	Hexachlorobiphenyl	2200	J,f	400
SAII28	WASTE-Q-6-COMP-DUP	Waste	PCBs	Pentachlorobiphenyl	7200	J,f	400
SAII28	WASTE-Q-6-COMP-DUP	Waste	PCBs	Trichlorobiphenyl	300	J,f	200
SAII28	WASTE-Q-6-COMP-DUP	Waste	Pesticides	4,4'-DDD	18	J,g	99
SAII28	WASTE-Q-6-COMP-DUP	Waste	Pesticides	4,4'-DDE	47	J,l	99
SAII28	WASTE-Q-6-COMP-DUP	Waste	Pesticides	alpha-Chlordane	4	J,g	51
SAII28	WASTE-Q-6-COMP-DUP	Waste	Pesticides	Dieldrin	52	J,g	99

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-Q-6-COMP-DUP	Waste	Pesticides	Endrin Ketone	91	J,g	99
SAII28	WASTE-Q-6-COMP-DUP	Waste	Pesticides	gamma-Chlordane	38	J,g	51
SAII28	WASTE-Q-6-COMP-DUP	Waste	Metals	Antimony	1.1	J,n	2.2
SAII28	WASTE-Q-6-COMP-DUP	Waste	Metals	Selenium	0.97	J,n	1.1
SAII28	WASTE-Q-6-COMP-DUP	Waste	Metals	Thallium	1.1	UJ,p	1.1
SAII28	WASTE-Q-6-COMP-DUP	Waste	Metals	Zinc	330	J,s	2.2
SAII28	WASTE-Q-7-COMP	Waste	PCBs	Hexachlorobiphenyl	390	J,f	84
SAII28	WASTE-Q-7-COMP	Waste	PCBs	Pentachlorobiphenyl	960	J,f	84
SAII28	WASTE-Q-7-COMP	Waste	PCBs	Trichlorobiphenyl	810	J,f	41
SAII28	WASTE-Q-7-COMP	Waste	Pesticides	4,4'-DDE	210	R,l	210
SAII28	WASTE-Q-7-COMP	Waste	Pesticides	Aldrin	110	J,g	110
SAII28	WASTE-Q-7-COMP	Waste	Pesticides	alpha-Chlordane	13	J,g	110
SAII28	WASTE-Q-7-COMP	Waste	Pesticides	Methoxychlor	55	J,c	1100
SAII28	WASTE-Q-7-COMP	Waste	Herbicides	2,4,5-T	7.6	J,c	10
SAII28	WASTE-Q-7-COMP	Waste	Herbicides	2,4,5-TP (Silvex)	10	UJ,c	10
SAII28	WASTE-Q-7-COMP	Waste	Herbicides	2,4-D	3.5	J,g	10
SAII28	WASTE-Q-7-COMP	Waste	Herbicides	2,4-DB	10	UJ,c	10
SAII28	WASTE-Q-7-COMP	Waste	Herbicides	Pentachlorophenol	21	U,z	21
SAII28	WASTE-Q-7-COMP	Waste	Metals	Antimony	2.5	UJ,n	2.5
SAII28	WASTE-Q-7-COMP	Waste	Metals	Cadmium	0.58	J,n	0.62
SAII28	WASTE-Q-7-COMP	Waste	Metals	Thallium	1.3	UJ,p	1.3
SAII28	WASTE-Q-7-COMP	Waste	Metals	Zinc	250	J,s	2.5
SAII28	WASTE-Q-8-7	Waste	VOCs	1,1,1-Trichloroethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	1,1,2,2-Tetrachloroethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	1,1,2-Trichloroethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	1,1-Dichloroethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	1,1-Dichloroethylene	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	1,2-Dichloroethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	1,2-Dichloroethene (total)	120	J,q	14
SAII28	WASTE-Q-8-7	Waste	VOCs	1,2-Dichloropropane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	2-Butanone (MEK)	35	UJ,q	35

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-Q-8-7	Waste	VOCs	4-Methyl-2-pentanone (MIBK)	35	UJ,q	35
SAII28	WASTE-Q-8-7	Waste	VOCs	Acetone	69	UJ,q	69
SAII28	WASTE-Q-8-7	Waste	VOCs	Benzene	250	J,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Bromodichloromethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Bromoform	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Bromomethane	14	UJ,q	14
SAII28	WASTE-Q-8-7	Waste	VOCs	Carbon Disulfide	12	J,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Carbon Tetrachloride	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Chlorobenzene	220	J,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Chlorodibromomethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Chloroethane	14	UJ,q	14
SAII28	WASTE-Q-8-7	Waste	VOCs	Chloroform	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Chloromethane	14	UJ,q	14
SAII28	WASTE-Q-8-7	Waste	VOCs	cis-1,3-Dichloropropene	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Dichloromethane	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Methyl N-Butyl Ketone	35	UJ,q	35
SAII28	WASTE-Q-8-7	Waste	VOCs	Styrene (Monomer)	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Tetrachloroethene	15	J,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	trans-1,3-Dichloropropene	6.9	UJ,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Trichloroethene	29	J,q	6.9
SAII28	WASTE-Q-8-7	Waste	VOCs	Vinyl chloride	3.1	J,q	14
SAII28	WASTE-Q-8-COMP	Waste	SVOCs	2,4-Dinitrophenol	2100	UJ,c	2100
SAII28	WASTE-Q-8-COMP	Waste	Pesticides	4,4'-DDD	1.1	J,g	4.1
SAII28	WASTE-Q-8-COMP	Waste	Pesticides	4,4'-DDE	4.1	R,l	4.1
SAII28	WASTE-Q-8-COMP	Waste	Pesticides	alpha-BHC	0.97	J,g	2.1
SAII28	WASTE-Q-8-COMP	Waste	Pesticides	alpha-Chlordane	1.8	J,g	2.1
SAII28	WASTE-Q-8-COMP	Waste	Pesticides	Endrin Aldehyde	6.4	J,g	4.1
SAII28	WASTE-Q-8-COMP	Waste	Pesticides	gamma-Chlordane	1.9	J,g	2.1
SAII28	WASTE-Q-8-COMP	Waste	Herbicides	2,4-DB	200	UJ,c	200
SAII28	WASTE-Q-8-COMP	Waste	Metals	Antimony	2.5	UJ,n	2.5
SAII28	WASTE-Q-8-COMP	Waste	Metals	Cadmium	0.79	J,n	0.62

Table 6-76b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII28

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII28	WASTE-Q-8-COMP	Waste	Metals	Thallium	1.2	UJ,p	1.2
SAII28	WASTE-Q-8-COMP	Waste	Metals	Zinc	120	J,s	2.5

Table 6-77a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII30	GW-AA-Q-3-60	7/22/02	Groundwater			X	X												
SAII30	GW-AA-Q-3-70	7/22/02	Groundwater			X	X												
SAII30	GW-AA-Q-3-80	7/22/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII30	GW-AA-Q-3-80-DUP	7/22/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII30	GW-AA-Q-4-50	7/22/02	Groundwater			X													
SAII30	GW-AA-Q-4-60	7/23/02	Groundwater			X	X												
SAII30	GW-AA-Q-4-70	7/23/02	Groundwater			X	X												
SAII30	GW-AA-Q-4-80	7/23/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII30	GW-AA-Q-4-90	7/23/02	Groundwater			X	X												
SAII30	GW-AA-R-1-108	7/23/02	Groundwater			X	X												
SAII30	GW-AA-R-1-118	7/23/02	Groundwater			X	X												
SAII30	GW-AA-R-1-128	7/23/02	Groundwater			X	X												
SAII30	GW-AA-R-1-131	7/23/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII30	GW-AA-R-1-58	7/22/02	Groundwater			X	X												
SAII30	GW-AA-R-1-68	7/22/02	Groundwater			X	X												
SAII30	GW-AA-R-1-78	7/22/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII30	GW-AA-R-1-88	7/22/02	Groundwater			X	X												
SAII30	GW-AA-R-1-98	7/23/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII30_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____October 4, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, the initial calibration analyzed on 7/11/02 (RRF=0.0487) and one continuing calibration analyzed on 8/5/02 15:20 (RRF=0.0350) displayed relative response factors (RRFs) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973. Associated sample results with positive detections were flagged "J, c" and non-detects were flagged "R, c".

For the SVOC analyses, the MS/MSD recoveries for 3,3'-dichlorobenzidine (6% and 0%) were less than the lower control limits in one non-client MS/MSD pair. The RPDs for 4-chloroaniline (81%) and 3,3'-dichlorobenzidine (200%) were greater than the acceptance limits. The LCS recoveries for bis(2-chloroethoxy)-methane (17%), 4-chloroaniline (9%), 3,3'-dichlorobenzidine (0%) and carbazole (35%) were less than the lower control limits. This LCS was re-analyzed by the laboratory and displayed similar recoveries. Positive detections for these four compounds were flagged "J, l" and non-detects were flagged "R, l" in the associated samples.

For the pesticides analyses, the LCS recovery for delta-BHC (50%) was less than the lower control limit (i.e., 53%). The non-detected delta-BHC result in sample GW-AA-Q-4-80 was flagged "R, l". Since the positive delta-BHC result in sample GW-AA-R-1-131 was flagged due to calibration failure, no additional data flags were applied.

For the herbicides analyses, the LCS recoveries for dalapon (0%), dichlorprop (24%), and 2,4-DB (38%) were less than the lower control limit. Positive detections for these three compounds in the associated samples were flagged "J, l" and non-detects were flagged "R, l". The percent completeness was less than the control limit (i.e., 95%) at 74%.

Minor Anomalies: For the VOC analyses, the initial calibration analyzed on 8/1/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for bromomethane at 0.987. Bromomethane non-detect results in the associated samples were flagged

"UJ, r". The continuing calibration verification (CCV) analyzed on 8/6/02 at 18:04 displayed a %D greater than the control limit (i.e. 20%) for bromomethane at -23.0%. Since bromomethane results in the associated samples were previously flagged due to initial calibration failure, no additional data flags were applied. The method blank, 2O0805MB, displayed a positive detection for methylene chloride at 1 µg/L. Positive methylene chloride results in the associated samples were flagged "U, z" at the reporting limit. The trip blank, TB072202, displayed positive detections for methylene chloride at 1.3 µg/L and styrene at 0.37 µg/L. The trip blank, TB072302-1, displayed positive detections for chloromethane at 0.28 µg/L and styrene at 2.3 µg/L. Positive chloromethane results in samples GW-AA-R-1-131 and GW-AA-R-1-118 were flagged "U, y" at the reporting limit. The methylene chloride result in trip blank TB072202 was previously flagged due to method blank contamination, therefore, this data was not used to assess the associated samples. Since styrene was not detected in the associated samples, no data qualifying action was taken. The MS recovery for bromoethane (152%) was greater than the control limit (i.e., 40-141%) in the GW-AA-Q-4-80 MS/MSD pair. Since bromomethane was not detected in the associated samples, no data qualifying action was taken. Sample GW-AA-R-1-58DL displayed an internal standard %R less than the lower control limit (i.e. 50%) for 1,2-dichloroethane-d4 at 47.2%. Since only the acetone result in this diluted sample will be used for data interpretation, and the acetone result was previously flagged due to calibration RRF failure, no additional data flags were applied. The acetone results in samples GW-AA-R-1-58, GW-AA-R-1-68, and GW-AA-R-1-118 and the chlorobenzene result in sample GW-AA-R-1-128 exceeded the linear range of the calibration curve. The acetone and chlorobenzene results in these samples, except those previously flagged due to calibration RRF failure, were flagged "J, q". These samples were diluted and reanalyzed by the laboratory. The acetone and chlorobenzene results from the dilution analysis should be used for data interpretation. Reporting limits were raised due to dilutions in samples GW-AA-R-1-78 (DF=50), GW-AA-R-1-58 (DF=50), GW-AA-R-1-68 (DF=50), GW-AA-R-1-88 (DF=10), GW-AA-R-1-131 (DF=20), GW-AA-R-1-128 (DF=10), GW-AA-R-1-98 (DF=10), GW-AA-R-1-108 (DF=50), and GW-AA-R-1-118 (DF=20).

For the SVOC analyses, the initial calibration analyzed on 7/31/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.987. Since the associated samples are QC samples, no data qualifying action was taken. The initial calibration analyzed on 8/10/02 displayed three correlation coefficients less than the control limit for 2,6-dinitrotoluene at 0.987, 3-nitroaniline at 0.989, and 4-nitroaniline at 0.986. These three compounds were not detected in the associated samples and were flagged "UJ, r". The initial calibration analyzed on 8/23/02 displayed three correlation coefficients less than the control limit for pentachlorophenol at 0.988, butylbenzylphthalate at 0.989, and bis(2-ethylhexyl)phthalate at 0.988. These three results in samples GW-AA-Q-4-80RE and GW-AA-Q-4-60 were flagged "J, r" for positive detections, or,

"UJ, r" for non-detects. Since these three results in sample GW-AA-Q-4-70RE were not used for data interpretation, no data qualifying action was taken. The continuing calibration analyzed on 8/1/02 at 09:26 displayed %Ds greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (-23.2%) and indeno(1,2,3-cd)-pyrene (-25.9%). The continuing calibrations analyzed on 8/4/02 at 12:58 (21.7%), 8/12/02 at 21:29 (40.0%), 8/13/02 at 10:58 (35.8%), and 8/14/02 09:33 (35.7%) displayed %Ds greater than the control limit for dinoseb. The continuing calibration analyzed on 8/4/02 at 12:05 displayed a %D greater than the control limit for bis(2-chloroisopropyl)ether (-20.9%). The continuing calibration analyzed on 8/12/02 at 20:58 displayed %Ds greater than the control limit for hexachlorocyclopentadiene (-31.1%), 2,4-dinitrophenol (63.1%), 4-nitro-aniline (22.0%), 2,4-dinitrotoluene (29.1%), and 4,6-dinitro-2-methylphenol (38.7%). The continuing calibration analyzed on 8/13/02 at 10:16 displayed %Ds greater than the control limit for hexachlorocyclopentadiene (-39.1%), 4,6-dinitro-2-methylphenol (25.0%), 2,4-dinitrophenol (32.0%), and indeno(1,2,3-cd)pyrene (-21.3%). The continuing calibrations analyzed on 8/14/02 at 00:06 (25.2%) and 8/16/02 at 10:30 (25.8%) displayed %Ds greater than the control limit for 2,4,6-tribromophenol (surrogate). The continuing calibration analyzed on 8/14/02 at 09:00 displayed %Ds greater than the control limit for bis(2-chloroethyl)ether (22.9%) and hexachlorocyclopentadiene (-41.8%). The continuing calibration analyzed on 8/26/02 at 11:58 displayed %Ds greater than the control limit for butylbenzylphthalate (29.2%) and bis(2-ethylhexyl)phthalate (25.1%). 2,4-Dinitro-phenol results in samples GW-AA-Q-4-70 and GW-AA-Q-4-90 were flagged "UJ, c". Since all other compounds were either not detected in the associated samples or were surrogates, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Sample GW-AA-Q-4-80 displayed three internal standard %Rs less than the lower control limit (i.e. 50%) for phenanthrene-d10 (48.1%), chrysene-d12 (43.9%), and perylene-d12 (29.3%). This sample was re-analyzed by the laboratory and displayed two internal standard %Rs less than the lower control limit for chrysene-d12 (40.2%) and perylene-d12 (39.8%). Since the re-analyzed sample displayed better internal standard recoveries, the original data were crossed-out by the reviewer and should not be used for data interpretation. Affected results, except those previously flagged due to other QC failures, were flagged "UJ, n" in the re-analyzed sample. Sample GW-AA-Q-4-70 displayed an internal standard %R less than the lower control limit for perylene-d12 (43.3%). Affected results were flagged "UJ, n" in sample GW-AA-Q-4-70. This sample was re-analyzed by the laboratory and displayed three internal standard %Rs less than the lower control limit for phenanthrene-d10 (43.6%), chrysene-d12 (36.7%) and perylene-d12 (41.3%). Since the original sample displayed better internal standard recoveries, the re-analyzed sample data were crossed-out by the reviewer and should not be used for data interpretation. Sample GW-AA-R-1-128 displayed two internal standard %Rs greater than the upper control limit (i.e., 200%) for naphthalene-d8 (206.8%) and acenaphthene-d10 (208.9%). Affected

positive results in sample GW-AA-R-1-128 were flagged "J, n". The 4-chloroaniline results in all nine Site R samples and phenol results in samples GW-AA-R-1-88 and GW-AA-R-1-108 exceeded the linear range of the calibration curve. These results, except those previously flagged due to LCS recovery failure, were flagged "J, q". These samples were diluted and reanalyzed by the laboratory. The 4-chloroaniline and phenol results from the dilution analysis should be used for data interpretation.

For the pesticides analyses, the %Ds for heptachlor (-17.6%), endosulfan I (-18.9%), 4,4'-DDT (-16.7%), methoxychlor (17.9%), and decachlorobiphenyl (DCBP, -22.0%) on the primary column; and for DCBP (-19.9%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/3/02 at 19:33. The %Ds for heptachlor (-32.5%), gamma-chlordane (-20.2%), alpha-chlordane (-17.8%), endosulfan II (-20.4%), 4,4'-DDT (-28.3%), endrin aldehyde (-20.1%), endosulfan sulfate (-16.4%), and DCBP (-31.2%) on the primary column; and for heptachlor (-36.7%), gamma-chlordane (-15.7%), 4,4'-DDT (-35.9%), endrin aldehyde (-17.2%), methoxychlor (-21.0%), endrin ketone (-15.8%), and DCBP (-29.3%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/4/02 at 08:29. Heptachlor, gamma-chlordane, 4,4'-DDT, and endrin aldehyde results in samples GW-AA-Q-3-80, GQ-AA-Q-3-80-DUP, and GW-AA-Q-4-80 were flagged "UJ, c". All other compounds were not detected in the associated samples. Since these other results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. The %Ds for delta-BHC (-17.4%), 4,4'-DDE (-26.6%), tetrachloro-m-xylene (TCMX, -18.7%) and DCBP (-22.7%) on the primary column; and for alpha-BHC (-18.5%), delta-BHC (-19.2%), and methoxychlor (-15.5%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/16/02 at 11:42. The %Ds for delta-BHC (-17.7%), 4,4'-DDE (-25.6%), dieldrin (16.3%), 4,4'-DDT (-17.3%), endrin ketone (15.7%), TCMX (-19.8%), and DCBP (-18.2%) on the primary column; and for alpha-BHC (-20.3%), delta-BHC (-20.5%), dieldrin (19.1%), and endrin (17.1%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/16/02 at 18:01. Positive delta-BHC and dieldrin results in samples GW-AA-R-1-78 and GW-AA-R-1-131 were flagged "J, c", and non-detects were flagged "UJ, c". Positive alpha-BHC, methoxychlor, and endrin ketone results in samples GW-AA-R-1-78 and GW-AA-R-1-131 were flagged "J, c". All other compounds were not detected in the associated samples. Since these other results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. The TCMX surrogate recoveries on both columns in samples GW-AA-Q-3-80 (22% and 26%) and GW-AA-Q-3-80-DUP (22% and 24%) were less than the lower control limit (i.e., 30%). The TCMX surrogate recovery on the primary column (28%), and the DCBP surrogate recoveries on both columns (16% and 19%) in sample GW-AA-Q-4-80 were less than the lower control limit.

The TCMX surrogate recovery on the confirmation column (480%), and the DCBP surrogate recoveries on the confirmation column (17%) in sample GW-AA-R-1-78 were outside the control limit (i.e., 30-150%). The TCMX surrogate recovery on the confirmation column (158%), and the DCBP surrogate recoveries on both columns (12% and 18%) in sample GW-AA-R-1-131 were outside the control limit. All results in these five samples, except those previously flagged due to calibration and LCS recovery failures, were flagged "J, s" or "UJ, s". The RPDs for alpha-BHC (43%), gamma-BHC (32%), heptachlor (27%), aldrin (27%), gamma-chlordane (25%), and alpha-chlordane (24%) were greater than the acceptance limits in one non-client MS/MSD pair. Since the parent sample is a non-client sample and all results in the associated samples were previously flagged due to other QC failures, no additional data flags were applied. Sample GW-AA-Q-4-80 displayed an internal standard %R slightly greater than the upper control limit (i.e., 150%) for bromonitrobenzene (150.6%). Since all results in sample GW-AA-Q-4-80 were previously flagged due to other QC failures, no additional data flags were applied. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %Ds for MCPP (18.9%) and 2,4-D (15.7%) on the primary column, and for 2,4-DB (-16.9%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/2/02 at 23:07. The %Ds for MCPP (22.2%), MCPA (16.1%), and 2,4-D (15.7%) on the primary column, and for 2,4-DB (-21.5%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/3/02 at 07:41. The %Ds for 2,4-DB (-23.6%) on the primary column, and for MCPP (-15.7%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/16/02 at 12:18. The %D for dalapon (-15.5%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 8/17/02 at 00:39. Positive MCPP, MCPA, and 2,4-D results in the associated samples were flagged "J, c". Since dalapon and 2,4-DB results were previously flagged due to LCS recovery failure, no additional data flags were applied. The MS recovery for 2,4,5-TP (105%) was greater than the upper control limit (i.e., 100%) in one non-client MS/MSD pair. Since the MSD and LCS recoveries for this compound were in control, no data qualifying action was taken. The dichloroprop result in sample GW-AA-R-1-78 exceeded the linear range of the calibration curve. Since this result was previously flagged due to LCS recovery failure, no additional data flags were applied. Because of sample matrix (high dichloroprop concentration), target compound 2,4-D could not be quantitated for this sample. The 2,4-D result was denoted with a "F" data qualifier by the laboratory. This sample was diluted by a factor of 5 and reanalyzed by the laboratory. The dichloroprop and 2,4-D results from the

dilution analysis should be used for data interpretation. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recovery for thallium (127%) and the final CRDL recoveries for aluminum (134%), selenium (65%), and thallium (121%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. Antimony was detected in one continuing calibration blank (CCB6) at 0.0052 mg/L. Arsenic was detected in the initial calibration blank (ICB) at –0.00319 mg/L, CCB5 at 0.00379 mg/L and CCB6 0.00371 mg/L. Cadmium was detected in the ICB at 0.00072 mg/L. Cobalt was detected in the ICB at 0.00095 mg/l and CCB4 at 0.00090 mg/L. Thallium was detected in the ICB at 0.00506 mg/L, CCB4 at 0.0053 mg/L, CCB5 at 0.00532 mg/L, and CCB6 at 0.00737 mg/L. Positive antimony, arsenic, cadmium, cobalt, and thallium results less than five times the blank concentration were flagged "U, o" for results greater than the reporting limit, or, "U, o" at the reporting limit for results less than the reporting limit. Aluminum, barium, magnesium, and manganese were also detected in the preparation blank, ICB and CCBs at low levels. Since these analyte results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The MSD recovery for potassium (129%) was greater than the upper control limit (i.e., 125%) in one client MS/MSD pair (in SDG: SAII29). Positive potassium results in the associated samples were flagged "J, m". The post-digestion spike recovery for potassium was in control. The %D for potassium (10.4%) was slightly greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (GW-AA-R-1-78). Since potassium results in the associated samples were previously flagged due to MS/MSD recovery failure, no additional data flags were applied. The field duplicates displayed a absolute difference greater than the control limit (i.e., two times the reporting limit, 0.0004 mg/L) for mercury at 0.00047 mg/L. Affected mercury results were flagged "J, f" for positive detections or "UJ, f" for non-detects.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on the flame ionization detector (FID). Positive methane results reported from the FID were flagged "J, r" in the associated samples. The %D for methane (20%) on the thermo-conductivity detector (TCD) was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/1/02 at 09:44. Positive methane results reported from TCD were flagged "J, c". The MS/MSD recoveries for methane (50% and 50%) were less than the lower control limit (i.e., 75%) in one non-client Ms/MSD pair. Since all methane results were previously flagged

due to other QC failure, no additional data flags were applied. The methane results in samples GW-AA-R-1-78, GW-AA-R-1-131, and GW-AA-Q-4-80 exceeded the linear range of the calibration curve. Since these methane results were previously flagged due to initial calibration failure, no additional data flags were applied. The methane results reported from TCD detector should be used for data interpretation. The field duplicates displayed a RPD greater than the control limit (i.e., 50%) for methane at 56.7%. Since all methane results were previously flagged due to other QC failure, no additional data flags were applied.

For the nitrate-N analyses, the MS/MSD recoveries for nitrate-N (24% and 17%) were less than the lower control limit (i.e., 75%) in the GW-AA-R-1-78 MS/MSD pair. Positive nitrate-N results in the associated samples were flagged "J, m" and non-detects were flagged "UJ, m".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-Q-3-60	Groundwater	VOCs	Acetone	25	R,c	25
SAII30	GW-AA-Q-3-60	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII30	GW-AA-Q-3-60	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII30	GW-AA-Q-3-60	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-60	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-70	Groundwater	VOCs	Acetone	25	R,c	25
SAII30	GW-AA-Q-3-70	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII30	GW-AA-Q-3-70	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII30	GW-AA-Q-3-70	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-70	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-80	Groundwater	VOCs	Acetone	25	R,c	25
SAII30	GW-AA-Q-3-80	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII30	GW-AA-Q-3-80	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII30	GW-AA-Q-3-80	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-80	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Endrin Ketone	0.018	J,s	0.1
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,c	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Heptachlor	0.05	UJ,c	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII30	GW-AA-Q-3-80	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII30	GW-AA-Q-3-80	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	R,l	120
SAII30	GW-AA-Q-3-80	Groundwater	Herbicides	2,4-D	1.8	J,c	0.5
SAII30	GW-AA-Q-3-80	Groundwater	Herbicides	2,4-DB	0.5	R,l	0.5
SAII30	GW-AA-Q-3-80	Groundwater	Herbicides	Dichlorprop	6	R,l	6
SAII30	GW-AA-Q-3-80	Groundwater	Herbicides	MCPP	11	J,c	120
SAII30	GW-AA-Q-3-80	Groundwater	Herbicides	Pentachlorophenol	0.18	J,g	1
SAII30	GW-AA-Q-3-80	Groundwater	Methane	Methane	43	J,r	0.19
SAII30	GW-AA-Q-3-80	Groundwater	Metals	Antimony	0.02	U,o	0.02
SAII30	GW-AA-Q-3-80	Groundwater	Metals	Arsenic	0.01	U,o	0.01
SAII30	GW-AA-Q-3-80	Groundwater	Metals	Cobalt	0.01	U,o	0.01
SAII30	GW-AA-Q-3-80	Groundwater	Metals	Mercury	0.00053	J,f	0.0002
SAII30	GW-AA-Q-3-80	Groundwater	Metals	Potassium	9.8	J,m	1
SAII30	GW-AA-Q-3-80	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII30	GW-AA-Q-3-80-DUP	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII30	GW-AA-Q-3-80-DUP	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII30	GW-AA-Q-3-80-DUP	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-80-DUP	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Endrin Ketone	0.021	J,s	0.1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,c	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Heptachlor	0.05	UJ,c	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	R,l	120
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Herbicides	2,4-D	2.6	J,c	0.5
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Herbicides	2,4-DB	0.5	R,l	0.5
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Herbicides	Dichlorprop	6	R,l	6
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Methane	Methane	24	J,r	0.19
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Metals	Arsenic	0.01	U,o	0.01
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Metals	Cobalt	0.01	U,o	0.01
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Metals	Mercury	0.0002	UJ,f	0.0002
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Metals	Potassium	9.8	J,m	1
SAII30	GW-AA-Q-3-80-DUP	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII30	GW-AA-Q-4-50	Groundwater	VOCs	Acetone	25	R,c	25
SAII30	GW-AA-Q-4-50	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII30	GW-AA-Q-4-60	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,l	20
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,l	10
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	Carbazole	10	R,l	10

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	P-Chloroaniline	20	R,l	20
SAII30	GW-AA-Q-4-60	Groundwater	SVOCs	Pentachlorophenol	50	UJ,r	50
SAII30	GW-AA-Q-4-70	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,c	50
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,l	20
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Benzo(a)pyrene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Benzo(b)fluoranthene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Benzo(k)fluoranthene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,l	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Carbazole	10	R,l	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Hexachlorobenzene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	UJ,n	10
SAII30	GW-AA-Q-4-70	Groundwater	SVOCs	P-Chloroaniline	20	R,l	20
SAII30	GW-AA-Q-4-80	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,l	20
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Benzo(a)anthracene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Benzo(a)pyrene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Benzo(b)fluoranthene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Benzo(k)fluoranthene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,l	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	0.87	J,r	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Carbazole	10	R,l	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Chrysene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Di-n-octylphthalate	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Dinoseb	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	UJ,n	10

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	P-Chloroaniline	20	R,l	20
SAII30	GW-AA-Q-4-80	Groundwater	SVOCs	Pyrene	10	UJ,n	10
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	beta-BHC	0.027	J,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	delta-BHC	0.05	R,l	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,c	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Heptachlor	0.05	UJ,c	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Heptachlor Epoxide	0.0056	J,s	0.05
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII30	GW-AA-Q-4-80	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII30	GW-AA-Q-4-80	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	R,l	120
SAII30	GW-AA-Q-4-80	Groundwater	Herbicides	2,4-D	1.2	J,c	0.5
SAII30	GW-AA-Q-4-80	Groundwater	Herbicides	2,4-DB	0.5	R,l	0.5
SAII30	GW-AA-Q-4-80	Groundwater	Herbicides	Dichlorprop	6	R,l	6
SAII30	GW-AA-Q-4-80	Groundwater	Herbicides	Pentachlorophenol	0.41	J,g	1
SAII30	GW-AA-Q-4-80	Groundwater	Methane	Methane	690	J,c	0.19
SAII30	GW-AA-Q-4-80	Groundwater	Metals	Mercury	0.00018	J,f	0.0002
SAII30	GW-AA-Q-4-80	Groundwater	Metals	Potassium	9.4	J,m	1

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-Q-4-80	Groundwater	Metals	Thallium	0.01	U,o	0.01
SAII30	GW-AA-Q-4-80	Groundwater	Other Parameters	Nitrate-N	0.026	J,m	0.05
SAII30	GW-AA-Q-4-90	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII30	GW-AA-Q-4-90	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,c	50
SAII30	GW-AA-Q-4-90	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,l	20
SAII30	GW-AA-Q-4-90	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,l	10
SAII30	GW-AA-Q-4-90	Groundwater	SVOCs	Carbazole	10	R,l	10
SAII30	GW-AA-Q-4-90	Groundwater	SVOCs	P-Chloroaniline	20	R,l	20
SAII30	GW-AA-R-1-108	Groundwater	VOCs	Bromomethane	50	UJ,r	50
SAII30	GW-AA-R-1-108	Groundwater	SVOCs	3,3'-Dichlorobenzidine	200	R,l	200
SAII30	GW-AA-R-1-108	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	100	R,l	100
SAII30	GW-AA-R-1-108	Groundwater	SVOCs	Carbazole	100	R,l	100
SAII30	GW-AA-R-1-108	Groundwater	SVOCs	P-Chloroaniline	11000	J,l	2000
SAII30	GW-AA-R-1-118	Groundwater	VOCs	Bromomethane	20	UJ,r	20
SAII30	GW-AA-R-1-118	Groundwater	VOCs	Chloromethane	20	U,y	20
SAII30	GW-AA-R-1-118	Groundwater	SVOCs	3,3'-Dichlorobenzidine	1000	R,l	1000
SAII30	GW-AA-R-1-118	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	500	R,l	500
SAII30	GW-AA-R-1-118	Groundwater	SVOCs	Carbazole	500	R,l	500
SAII30	GW-AA-R-1-118	Groundwater	SVOCs	P-Chloroaniline	16000	J,l	4000
SAII30	GW-AA-R-1-128	Groundwater	VOCs	Bromomethane	10	UJ,r	10
SAII30	GW-AA-R-1-128	Groundwater	VOCs	Chloromethane	10	U,y	10
SAII30	GW-AA-R-1-128	Groundwater	SVOCs	3,3'-Dichlorobenzidine	200	R,l	200
SAII30	GW-AA-R-1-128	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	100	R,l	100
SAII30	GW-AA-R-1-128	Groundwater	SVOCs	Carbazole	100	R,l	100
SAII30	GW-AA-R-1-128	Groundwater	SVOCs	Naphthalene	180	J,n	100
SAII30	GW-AA-R-1-128	Groundwater	SVOCs	P-Chloroaniline	10000	J,l	1000
SAII30	GW-AA-R-1-131	Groundwater	VOCs	Bromomethane	20	UJ,r	20
SAII30	GW-AA-R-1-131	Groundwater	VOCs	Chloromethane	20	U,y	20
SAII30	GW-AA-R-1-131	Groundwater	SVOCs	3,3'-Dichlorobenzidine	1000	R,l	1000
SAII30	GW-AA-R-1-131	Groundwater	SVOCs	P-Chloroaniline	15000	J,l	2000
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	alpha-BHC	0.086	J,c	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	beta-BHC	0.088	J,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	delta-BHC	0.043	J,c	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Endosulfan Sulfate	0.16	J,s	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Endrin Ketone	0.12	J,c	0.1
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Heptachlor	0.06	J,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Heptachlor Epoxide	0.026	J,s	0.05
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII30	GW-AA-R-1-131	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII30	GW-AA-R-1-131	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	R,l	120
SAII30	GW-AA-R-1-131	Groundwater	Herbicides	2,4-DB	0.5	R,l	0.5
SAII30	GW-AA-R-1-131	Groundwater	Herbicides	Dichlorprop	2.3	J,l	6
SAII30	GW-AA-R-1-131	Groundwater	Herbicides	MCPP	49	J,c	120
SAII30	GW-AA-R-1-131	Groundwater	Methane	Methane	1200	J,c	0.19
SAII30	GW-AA-R-1-131	Groundwater	Metals	Cadmium	0.005	U,o	0.005
SAII30	GW-AA-R-1-131	Groundwater	Metals	Mercury	0.0002	UJ,f	0.0002
SAII30	GW-AA-R-1-131	Groundwater	Metals	Potassium	22	J,m	1
SAII30	GW-AA-R-1-131	Groundwater	Metals	Thallium	0.01	U,o	0.01
SAII30	GW-AA-R-1-131	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII30	GW-AA-R-1-58	Groundwater	VOCs	Acetone	21000	J,c	12000

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-R-1-58	Groundwater	VOCs	Dichloromethane	250	U,z	250
SAII30	GW-AA-R-1-68	Groundwater	VOCs	Dichloromethane	250	U,z	250
SAII30	GW-AA-R-1-78	Groundwater	VOCs	Acetone	2500	J,c	1200
SAII30	GW-AA-R-1-78	Groundwater	VOCs	Dichloromethane	250	U,z	250
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	4,4'-DDD	0.2	UJ,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	4,4'-DDE	0.2	UJ,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	4,4'-DDT	0.2	UJ,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Aldrin	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	alpha-BHC	0.44	J,c	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	alpha-Chlordane	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	beta-BHC	0.32	J,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	delta-BHC	0.1	UJ,c	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Dieldrin	0.46	J,c	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Endosulfan I	0.1	UJ,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Endosulfan II	0.028	J,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Endosulfan Sulfate	0.16	J,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Endrin	0.2	UJ,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Endrin Aldehyde	0.2	UJ,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Endrin Ketone	0.2	UJ,s	0.2
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	gamma-BHC (Lindane)	0.086	J,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	gamma-Chlordane	0.059	J,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Heptachlor	0.25	J,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Heptachlor Epoxide	0.015	J,s	0.1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Methoxychlor	0.025	J,c	1
SAII30	GW-AA-R-1-78	Groundwater	Pesticides	Toxaphene	10	UJ,s	10
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	R,l	120
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	2,4-D	1.7	J,g	2.5
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	2,4-DB	0.5	R,l	0.5
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	Dichlorprop	43	J,l	30
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	44	J,c	120
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	MCPP	110	J,c	120

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-R-1-78	Groundwater	Herbicides	Pentachlorophenol	0.9	J,g	1
SAII30	GW-AA-R-1-78	Groundwater	Methane	Methane	1300	J,c	0.19
SAII30	GW-AA-R-1-78	Groundwater	Metals	Cadmium	0.0058	U,o	0.0058
SAII30	GW-AA-R-1-78	Groundwater	Metals	Mercury	0.0002	UJ,f	0.0002
SAII30	GW-AA-R-1-78	Groundwater	Metals	Potassium	17	J,m	1
SAII30	GW-AA-R-1-78	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII30	GW-AA-R-1-88	Groundwater	VOCs	Acetone	470	J,c	250
SAII30	GW-AA-R-1-88	Groundwater	VOCs	Dichloromethane	50	U,z	50
SAII30	GW-AA-R-1-98	Groundwater	VOCs	Bromomethane	10	UJ,r	10
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	1,2,4-Trichlorobenzene	20	J,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	1,2-Dichlorobenzene	940	J,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	1,3-Dichlorobenzene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	1,4-Dichlorobenzene	300	J,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	2,4-Dinitrotoluene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	2,6-Dinitrotoluene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	2-Chloronaphthalene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	2-Methylnaphthalene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	2-Nitroaniline	250	UJ,s	250
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	3,3'-Dichlorobenzidine	100	R,l	100
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	3-Nitroaniline	250	UJ,s	250
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	4-Bromophenyl Phenyl Ether	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	4-Chlorophenyl Phenyl Ether	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Acenaphthene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Acenaphthylene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Anthracene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Benzo(a)anthracene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Benzo(a)pyrene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Benzo(b)fluoranthene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Benzo(g,h,i)perylene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Benzo(k)fluoranthene	50	UJ,s	50

Table 6-77b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII30

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Benzyl Butyl Phthalate	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	50	R,l	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	bis(2-Chloroethyl)ether	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Carbazole	50	R,l	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Chrysene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Dibenzo(a,h)anthracene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Dibenzofuran	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Diethyl Phthalate	14	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Dimethyl Phthalate	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Di-n-butylphthalate	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Di-n-octylphthalate	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Dinoseb	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Fluoranthene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Fluorene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Hexachlorobenzene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Hexachlorobutadiene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Hexachlorocyclopentadiene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Hexachloroethane	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Isophorone	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Naphthalene	180	J,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Nitrobenzene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	N-Nitroso-di-n-propylamine	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	N-Nitrosodiphenylamine	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	P-Chloroaniline	4800	J,l	500
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Phenanthrene	50	UJ,s	50
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	P-Nitroaniline	250	UJ,s	250
SAII30	GW-AA-R-1-98	Groundwater	SVOCs	Pyrene	50	UJ,s	50

Table 6-78a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII31

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII31	Waste-Q-11-COMP-T	7/22/02	Waste				X	X	X								X		
SAII31	Waste-Q-12-COMP-T	7/22/02	Waste				X	X	X								X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII31_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 9, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: None.

Minor Anomalies: For the TCLP VOCs analyses, the CCV analyzed on 7/31/02 at 13:14 displayed a %D greater than the control limit (i.e. 20%) for 2-butanone at 52.8%. Associated sample results were non-detect and flagged "UJ,c". The MS/MSD pair displayed a %RPD greater than the control limit (i.e. 31%) for 2-butanone at 35%. Since the MS and MSD met criteria, no data qualifying action was taken.

For the TCLP SVOCs analyses, pentachlorophenol (PCP) exceeded the calibration range in sample WASTE-Q-11-COMP-T and was flagged "J,q". The sample was re-analyzed at a higher dilution and PCP was within the calibration range. It is recommended that the re-analyzed PCP result be used for data interpretation. Re-analyzed sample WASTE-Q-11-COMP-T displayed surrogate %Rs less than the lower control limit for nitrobenzene-d5 at 0% and for terphenyl-d14 at 0%. Since these surrogates are base/neutral surrogates and the only compound of interest, PCP, is in the acid fraction, no data qualifying action was taken.

For the TCLP pesticides analyses, the LCS (0731P-JMPLCS) displayed surrogate %Rs less than the lower control limit on both columns for decachlorobiphenyl (DCBP) at 28% and 25%. Since this is a QC sample and target compound recoveries in the LCS were in control, no data qualifying action was taken. Sample WASTE-Q-11-COMP-T displayed an internal standard (IS) greater than the upper control limit (i.e. 150%) for bromonitrobenzene at 164%. Since the sample was non-detect, no data qualifying action was taken.

For the TCLP herbicides analyses, surrogate 2,4-DCAA displayed %Rs greater than the upper control limit (i.e. 133%) on the confirmation column for samples WASTE-Q-11-COMP-T at 700% and for 0802N-SFB at 170%. Since the

surrogate met criteria on the primary column and the samples were either non-detect or a QC sample, no data qualifying action was taken.

For the TCLP metals analyses, the CRDLs displayed %Rs greater than the upper control limit for arsenic (As) at 138% and for selenium (Se) at 132% and 122%. Since the anomalies were only marginally outside the control limit, no data qualifying action was taken. The prep blank displayed a positive detection for lead (Pb) at 22.2 ug/L. The positive result in sample WASTE-Q-12-COMP-T was flagged "U,p". CCB4 and CCB5 displayed positive detections for arsenic, barium, and chromium at low levels. Since associated sample results were either non-detect or greater than 5x the amount found in the blank, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exceptions described above. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-78b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII31

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII31	No Qualifications						

Table 6-79a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII32

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII32	SOIL-Q-11-0.5		7/22/02	Soil			X	X	X	X	X	X						X		
SAII32	SOIL-Q-11-0.5-DUP		7/22/02	Soil			X	X	X	X	X	X						X		
SAII32	SOIL-Q-11-6		7/22/02	Soil			X	X	X	X	X	X						X		
SAII32	SOIL-Q-12-0.5		7/22/02	Soil			X	X	X	X	X	X						X		
SAII32	SOIL-Q-12-6		7/22/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII32_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____JA_____ **Date: _____October 17, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the VOC analyses, the relative response factors (RRFs) for acetone were less than the control limit (i.e. 0.05) for the initial calibration analyzed on 7/11/02 at 0.0487 and two continuing calibrations analyzed on 7/29/02 18:13 at 0.04034 and on 8/5/02 0922 at 0.04065. The acetone result in sample SOIL-Q-12-6 was flagged "R, c". Since acetone results in other associated samples, SOIL-Q-11-6DL and SOIL-Q-12-6DL, were not used for data interpretation, no data flags were applied.

For the pesticides analyses, the LCS recoveries for alpha-chlordane (30%) and 4,4'-DDE (28%) were less than the lower control limit. Positive results were flagged "J, l" and non-detects were flagged "R, l" in the associated samples. All other LCS recoveries were within the control limits but at the low end. The surrogate recoveries for tetrachloro-m-xylene (26% and 26%) and decachloro-biphenyl (29%) were less than the lower control limit (i.e., 30%) in this LCS sample. The low recoveries may be attributed to low extraction efficiency. Since surrogate recoveries in the associated field samples were all diluted out, the extraction efficiency in this analytical batch cannot be completely assessed. The data user should be aware that all pesticide data may be biased low.

Minor Anomalies: For the VOC analyses, the continuing calibration verification (CCV) analyzed on 7/26/02 10:56 displayed a %D greater than the control limit (i.e., 20%) for methylene chloride at -41.0%. The CCV analyzed on 7/29/02 18:13 displayed %Ds greater than the control limit for chloromethane at -26.9% and 1,1-dichloro-ethane at 30.8%. These three compounds were not detected in the associated samples. Since the failures were not serious enough (i.e., > 50%) to affect the non-detect values, no further data qualifying action was taken. The CCV analyzed on 8/5/02 09:22 displayed %Ds greater than the control limit for 1,1-dichloro-ethane at 50.5%, tetrachloroethene at 26.3%, 2-hexanone at -20.9%, dibromo-chloromethane at 22.7%, total 1,2-dichloroethene at 35.7%, and surrogate

dibromo-fluoromethane at 22.3%. Since these results in the associated sample, SOIL-Q-12-6DL, were not used for data interpretation, no data flags were applied. The medium level LCS recoveries analyzed on 7/29/02 were greater than the QC limit for acetone at 170% and 1,1-dichloroethane at 136%. The medium level LCS recovery analyzed on 8/5/02 was greater than the QC limit for 1,1-dichloroethane at 136%. The positive 1,1-dichloroethane result in sample SOIL-Q-11-6 was flagged "J, l". No positive results were reported for acetone in the associated samples and no data qualifying action was taken. The chlorobenzene result in sample SOIL-Q-11-6 and the toluene, ethyl benzene, and xylene results in sample SOIL-Q-12-6 exceeded the calibration range and were flagged "E" by the laboratory. These results were flagged "J, q". These two samples were diluted and reanalyzed by the laboratory. Results from the dilution analyses should be used for the affected compounds. Field duplicates displayed %RPD or absolute difference greater than the control limit for chlorobenzene (difference > 2X RL) and xylene (RPD at 115%). Xylene and chlorobenzene results in the associated samples were flagged "J, f".

For the SVOC analyses, the CCV analyzed on 8/10/02 14:19 displayed %Ds greater than the control limit (i.e. 20%) for hexachlorocyclopentadiene at -48.9%, 2,4-dinitrophenol at 54.1%, 2,4-dinitrotoluene at 28.0%, 4-nitroaniline at 21.1%, and 4,6-dinitro-2-methylphenol at 31.3%. The CCVs analyzed on 8/10/02 at 14:48 (44.9%) and 8/14/02 09:33 (35.7%) displayed %Ds greater than the control limit for dinoseb. The CCV analyzed on 8/12/02 at 08:45 displayed a %D greater than the control limit for hexachlorocyclopentadiene at –27.1%. The CCV analyzed on 8/14/02 at 09:00 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -41.8% and bis(2-chloroethyl)ether at 22.9%. The 2,4-dinitrophenol results in samples SOIL-Q-11-0.5 and SOIL-Q-11-0.5-DUP were flagged "UJ, c". Since other compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The surrogate 2-fluorobiphenyl recovery (25%) was less than the control limit (i.e., 30%) in sample SOIL-Q-11-0.5DUP. Since all other surrogate recoveries were in control, no data qualifying action was taken. Surrogates were not recovered (0%) in samples SOIL-Q-11-6 (DF=20) and SOIL-Q-11-6DL (DF=100). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MS/MSD recoveries for naphthalene (132%), dimethylphthalate (41% and 39%), n-nitrosodiphenylamine (39% and 39%), butylbenzylphthalate (49% and 51%), benzo(a)anthracene (45% and 43%), and chrysene (48% and 45%) were outside the QC limit in the SOIL-Q-12-6 MS/MSD pair. No action was required since the LCS recoveries were acceptable and the vast majority of MS/MSD recoveries were in control. The bis(2-ethylhexyl)-phthalate result in sample SOIL-Q-11-0.5 and the pentachlorophenol result in sample SOIL-Q-11-6 exceeded the calibration range and were flagged "E" by the laboratory. These results were flagged "J, q". These two samples were diluted and reanalyzed by

the laboratory. Results from the dilution analyses should be used for the affected compounds. Field duplicates displayed %RPDs greater than the control limit for phenanthrene at 113% and bis(2-ethylhexyl)phthalate at 102%. These two results, except those previously flagged due to other QC failures, were flagged "J, f" in the associated samples.

For the pesticides analyses, the CCV analyzed on 8/3/02 at 10:23 displayed %Ds greater than the control limit (i.e. 15%) for methoxychlor (18.7%), endrin ketone (18.4%), and 2,4-DCAA (-16.2%) on the primary column; and for 4,4'-DDT (16.5%), endosulfan sulfate (17.9%), methoxychlor (26.5%), and endrin ketone (19.6%) on the confirmation column. Since associated samples are QC samples, no data qualifying action was taken. The CCV analyzed on 8/3/02 at 19:33 displayed %Ds greater than the control limit on the primary column for heptachlor (-17.6%), endosulfan I (-18.9%), 4,4'-DDT (-16.7%), methoxychlor (17.9%), and decachlorobiphenyl (DCBP, -22.0%); and on the confirmation column for DCBP (-19.9%). The CCV analyzed on 8/4/02 at 08:29 displayed %Ds greater than the control limit on the primary column for heptachlor (-32.5%), gamma-chlordane (-20.2%), alpha-chlordane (-17.8%), endosulfan II (-20.4%), 4,4'-DDT (-28.3%), endrin aldehyde (-20.1%), endosulfan sulfate (-16.4%), and DCBP (-31.2%); and on the confirmation column for heptachlor (-36.7%), gamma-chlordane (-15.7%), 4,4'-DDT (-35.9%), endrin aldehyde (-17.2%), methoxychlor (-21.0%), endrin ketone (-15.8%), and DCBP (-29.3%). Positive results for these compounds were flagged "J, c" in the associated samples. All non-detects for heptachlor, gamma-chlordane, 4,4'-DDT and endrin aldehyde were flagged "UJ, c" in the associated samples. The CCV analyzed on 8/21/02 at 13:38 displayed %Ds greater than the control limit on the primary column for endrin (16.2%), 4,4'-DDT (18.2%), endrin ketone (18.9%), 2,4-DCAA (-20.1%), and tetrachloro-m-xylene (TCMX, -15.9%); and on the confirmation column for alpha-BHC (-15.8%), heptachlor (18.1%), 4,4'-DDE (17.4%), endrin (19.0%), 4,4'-DDT (24.8%), endrin aldehyde (19.2%), endosulfan sulfate (18.0%), and 2,4-DCAA (-17.8%). The CCV analyzed on 8/21/02 at 18:35 displayed %Ds greater than the control limit on the primary column for methoxychlor (19.2%) and 2,4-DCAA (-20.1%); and on the confirmation column for endrin (15.5%) and 2,4-DCAA (-16.1%). Positive results for these compounds were flagged "J, c" in sample SOIL-Q-12-6. The non-detect result for endrin was flagged "UJ, c" in sample SOIL-Q-12-6. Surrogates were diluted out in all samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Due to matrix interference in the parent sample SOIL-Q-12-6, the MS and MSD were analyzed at a dilution of 10. Because of the level of dilution required, spiking compounds were not recovered; therefore, MS/MSD summary form was not provided in this data package. Samples SOIL-Q-12-6MS and SOIL-Q-12-6MSD displayed %Rs greater than the upper control limit (i.e., 150%) for internal standard bromonitrobenzene at 158.6% and 161.2%. Since these two samples are QC samples, no data qualifying action was taken. The RPDs between primary

and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, surrogates were diluted out for samples SOIL-Q-11-0.5 (DF=10), SOIL-Q-11-0.5DUP (DF=10), and SOIL-Q-11-6 (DF=10). Since the affected samples were analyzed at dilutions equal to 10, no data qualifying action was taken. The MS/MSD recoveries for trichlorobiphenyl (190% and 240%), tetrachlorobiphenyl (550% and 660%), pentachlorobiphenyl (890% and 780%), hexachlorobiphenyl (340%) were greater than the QC limit in the SOIL-Q-12-6 MS/MSD pair. The RPD for hexachlorobiphenyl (85%) was greater than the acceptance limit (i.e., 50%). No action was required since the LCS recoveries were acceptable.

For the herbicides analyses, the method blank prepped on 7/29/02 displayed a positive detection for pentachlorophenol (PCP) at 4.0 µg/kg. Since all positive PCP results were greater than five times the blank concentration, no data qualifying action was taken. The CCV analyzed on 8/5/02 at 22:19 displayed %Ds greater than the control limit (i.e. 15%) on both columns for PCP at -21.3% and -19.7%, 2,4,5-TP at -23.8% and -21.9%, 2,4,5-T at -25.4% and -23.4%, and 2,4-DB at -27.0% and -18.0%. The CCV analyzed on 8/6/02 at 09:31 displayed %Ds greater than the control limit on both columns for PCP at -18.5% and -20.2%, 2,4,5-TP at -22.1% and -23.3%, 2,4,5-T at -22.2% and -24.2%, and 2,4-DB at -20.1% and -16.2%. Positive results in samples SOIL-Q-11-0.5-DUP and SOIL-Q-12-0.5 were flagged "J, c" and non-detects were flagged "UJ, c". The CCV analyzed on 8/17/02 at 00:39 displayed a %D greater than the control limit on the confirmation column for dalapon at -15.5%. The CCV analyzed on 8/17/02 at 11:54 displayed a %D greater than the control limit on the primary column for 2,4-DB at -24.0%. The CCV analyzed on 9/5/02 at 02:34 displayed a %D greater than the control limit on the confirmation column for 2,4-D at 17.8%. Since these compounds were not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. The recoveries for surrogate 2,4-DCAA on the confirmation column in sample SOIL-Q-11-0.5-DUP (629%), SOIL-Q-12-6 (360%), SOIL-Q-12-6MS (315%), and SOIL-Q-12-6MSD (337%) were greater than the upper control limit (i.e., 189%). Positive results, except those previously flagged due to calibration failure, were flagged "J, s" in samples SOIL-Q-11-0.5-DUP and SOIL-Q-12-6. Since the other two samples are QC samples, no data qualifying action was taken. Surrogates were diluted out in samples SOIL-Q-11-0.5 (DF=20), SOIL-Q-11-6 (DF=1000), and SOIL-Q-11-0.5-DUPDL (DF=20). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. PCP was not recovered (0%) due to matrix interference (high PCP concentration in parent sample) in the SOIL-Q-12-6 MS/MSD pair. The LCS recovery for PCP was

greater than the upper control limit (i.e., 150%) at 197%. PCP was detected in all associated samples and positive detections were flagged "J, l". The RPD for dichloroprop (47%) was greater than the acceptance limit (i.e., 40%). Since both MS and MSD recoveries were in control, no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for several positive results. These results, except those previously flagged due to other QC failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for lead (66%), sodium (75%), and thallium (138% and 127%), and the final CRDL percent recoveries for aluminum (124%) and thallium (121% and 73%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained aluminum at 2.767 mg/kg, cadmium at -0.038 mg/kg, chromium at 0.103 mg/kg, potassium at 1.457 mg/Kg, sodium at 39.848 mg/Kg. Positive sodium results less than five times the blank concentration were flagged "U, p". The positive cadmium result in sample SOIL-Q-12-6 was flagged "J, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Aluminum, arsenic, barium, cadmium, chromium, copper, thallium, and vanadium were detected in the initial calibration blank and/or continuing calibration blanks at low levels. Since the results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. All samples displayed calcium and/or iron concentrations greater than 50% of the calcium and iron concentration in ICSA samples. Since the positive cadmium result in sample SOIL-Q-12-6 was previously flagged due to method blank contamination, no additional data flags were applied. All selenium results were flagged "J, n" for positive detections or "UJ, n" for non-detects. The positive vanadium result in sample SOIL-Q-11-6 was flagged "J, n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (45% and 45%) and potassium (134% and 144%) were outside the control limits (i.e., 75-125%) in the SOIL-Q-12-6 MS/MSD pair. The post-digestion spike recoveries were in control. All antimony and potassium results were positive and were flagged "J, m" in the associated samples. The %D for potassium (12.3%) was greater than the acceptance limit (i.e., <10%) in the serial dilution sample. Since potassium results were previously flagged due to MS/MSD recovery failure, no additional data flags were applied.

Correctable Anomalies: None.

Comments: Sample SOIL-Q-12-6 was designated for the MS/MSD analyses. Due to the abundance of target VOC compounds in the parent sample, it was analyzed at a 1000X dilution. The spike compounds would have been diluted out, therefore, the MS/MSD analyses were not performed for VOC analyses.

Due to the abundance of target compounds, several samples were analyzed at dilutions for organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. Except for the rejected data points (i.e., "R" flags), all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-79b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII32

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII32	SOIL-Q-11-0.5	Soil	VOCs	Chlorobenzene	45	J,f	12
SAII32	SOIL-Q-11-0.5	Soil	VOCs	Xylenes, Total	67	J,f	25
SAII32	SOIL-Q-11-0.5	Soil	SVOCs	2,4-Dinitrophenol	2400	UJ,c	2400
SAII32	SOIL-Q-11-0.5	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	13000	J,f	940
SAII32	SOIL-Q-11-0.5	Soil	SVOCs	Phenanthrene	780	J,f	470
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	4,4'-DDE	570	J,l	94
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	4,4'-DDT	1500	J,c	94
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	alpha-Chlordane	53	J,l	49
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	Dieldrin	400	J,g	94
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	Endosulfan Sulfate	32	J,c	94
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	Endrin Aldehyde	94	UJ,c	94
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	Endrin Ketone	110	J,c	94
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	gamma-Chlordane	410	J,c	49
SAII32	SOIL-Q-11-0.5	Soil	Pesticides	Heptachlor	48	UJ,c	48
SAII32	SOIL-Q-11-0.5	Soil	Herbicides	Pentachlorophenol	2300	J,l	490
SAII32	SOIL-Q-11-0.5	Soil	Metals	Antimony	26	J,m	2.9
SAII32	SOIL-Q-11-0.5	Soil	Metals	Potassium	1100	J,m	140
SAII32	SOIL-Q-11-0.5	Soil	Metals	Selenium	3	J,n	1.4
SAII32	SOIL-Q-11-0.5-DUP	Soil	VOCs	Chlorobenzene	10	J,f	10
SAII32	SOIL-Q-11-0.5-DUP	Soil	VOCs	Xylenes, Total	250	J,f	21
SAII32	SOIL-Q-11-0.5-DUP	Soil	SVOCs	2,4-Dinitrophenol	2500	UJ,c	2500
SAII32	SOIL-Q-11-0.5-DUP	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	4200	J,f	480
SAII32	SOIL-Q-11-0.5-DUP	Soil	SVOCs	Phenanthrene	2800	J,f	480
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	4,4'-DDE	560	J,l	96
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	4,4'-DDT	1400	J,c	96
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	alpha-BHC	200	J,g	49
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	alpha-Chlordane	60	J,l	49
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	Dieldrin	350	J,g	96
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	Endosulfan Sulfate	43	J,c	96
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	Endrin Aldehyde	96	UJ,c	96
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	Endrin Ketone	110	J,c	96

Table 6-79b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII32

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	gamma-Chlordane	390	J,c	49
SAII32	SOIL-Q-11-0.5-DUP	Soil	Pesticides	Heptachlor	49	UJ,c	49
SAII32	SOIL-Q-11-0.5-DUP	Soil	Herbicides	2,4,5-T	7.4	J,c	12
SAII32	SOIL-Q-11-0.5-DUP	Soil	Herbicides	2,4,5-TP (Silvex)	12	UJ,c	12
SAII32	SOIL-Q-11-0.5-DUP	Soil	Herbicides	2,4-DB	12	UJ,c	12
SAII32	SOIL-Q-11-0.5-DUP	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	720	J,s	2900
SAII32	SOIL-Q-11-0.5-DUP	Soil	Herbicides	MCPP	5200	J,s	2900
SAII32	SOIL-Q-11-0.5-DUP	Soil	Herbicides	Pentachlorophenol	3600	J,l	490
SAII32	SOIL-Q-11-0.5-DUP	Soil	Metals	Antimony	20	J,m	2.6
SAII32	SOIL-Q-11-0.5-DUP	Soil	Metals	Potassium	1100	J,m	130
SAII32	SOIL-Q-11-0.5-DUP	Soil	Metals	Selenium	2.5	J,n	1.3
SAII32	SOIL-Q-11-6	Soil	VOCs	Chlorobenzene	1100	J,f	5.3
SAII32	SOIL-Q-11-6	Soil	VOCs	Xylenes, Total	2200	J,f	830
SAII32	SOIL-Q-11-6	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	11000	J,f	14000
SAII32	SOIL-Q-11-6	Soil	SVOCs	Phenanthrene	6100	J,f	14000
SAII32	SOIL-Q-11-6	Soil	Pesticides	4,4'-DDD	1400	J,g	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	4,4'-DDE	280	R,l	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	4,4'-DDT	1500	J,c	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	Aldrin	210	J,g	140
SAII32	SOIL-Q-11-6	Soil	Pesticides	alpha-BHC	50	J,g	140
SAII32	SOIL-Q-11-6	Soil	Pesticides	alpha-Chlordane	31	J,l	140
SAII32	SOIL-Q-11-6	Soil	Pesticides	Dieldrin	460	J,g	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	Endosulfan II	86	J,c	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	Endosulfan Sulfate	76	J,c	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	Endrin Aldehyde	2600	J,c	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	Endrin Ketone	220	J,c	280
SAII32	SOIL-Q-11-6	Soil	Pesticides	gamma-Chlordane	140	UJ,c	140
SAII32	SOIL-Q-11-6	Soil	Pesticides	Heptachlor	140	UJ,c	140
SAII32	SOIL-Q-11-6	Soil	Herbicides	Pentachlorophenol	240000	J,l	35000
SAII32	SOIL-Q-11-6	Soil	Metals	Antimony	14	J,m	4.2
SAII32	SOIL-Q-11-6	Soil	Metals	Potassium	660	J,m	210

Table 6-79b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII32

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII32	SOIL-Q-11-6	Soil	Metals	Selenium	2.1	UJ,n	2.1
SAII32	SOIL-Q-11-6	Soil	Metals	Sodium	300	U,p	100
SAII32	SOIL-Q-11-6	Soil	Metals	Vanadium	12	J,n	2.1
SAII32	SOIL-Q-12-0.5	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	780	J,f	410
SAII32	SOIL-Q-12-0.5	Soil	SVOCs	Phenanthrene	26	J,f	410
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	4,4'-DDE	81	R,l	81
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	4,4'-DDT	790	J,c	81
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	alpha-Chlordane	14	J,l	42
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	Endosulfan Sulfate	20	J,c	81
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	Endrin Aldehyde	81	UJ,c	81
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	gamma-Chlordane	42	UJ,c	42
SAII32	SOIL-Q-12-0.5	Soil	Pesticides	Heptachlor	42	UJ,c	42
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	2,4,5-T	10	UJ,c	10
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	2,4,5-TP (Silvex)	10	UJ,c	10
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	2,4-D	4.7	J,g	10
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	2,4-DB	10	UJ,c	10
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	Dichlorprop	3.7	J,g	120
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	1100	J,g	2500
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	MCPP	2000	J,g	2500
SAII32	SOIL-Q-12-0.5	Soil	Herbicides	Pentachlorophenol	36	J,c	21
SAII32	SOIL-Q-12-0.5	Soil	Metals	Antimony	2.2	UJ,m	2.2
SAII32	SOIL-Q-12-0.5	Soil	Metals	Potassium	1600	J,m	110
SAII32	SOIL-Q-12-0.5	Soil	Metals	Selenium	1.1	UJ,n	1.1
SAII32	SOIL-Q-12-0.5	Soil	Metals	Sodium	110	U,p	56
SAII32	SOIL-Q-12-6	Soil	VOCs	1,1-Dichloroethane	760	J,l	270
SAII32	SOIL-Q-12-6	Soil	VOCs	Acetone	2700	R,c	2700
SAII32	SOIL-Q-12-6	Soil	VOCs	Chlorobenzene	1200	J,f	270
SAII32	SOIL-Q-12-6	Soil	VOCs	Xylenes, Total	1900000	J,f	22000
SAII32	SOIL-Q-12-6	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	2900	J,f	440
SAII32	SOIL-Q-12-6	Soil	SVOCs	Phenanthrene	33	J,f	440
SAII32	SOIL-Q-12-6	Soil	Pesticides	4,4'-DDE	44	R,l	44

Table 6-79b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII32

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII32	SOIL-Q-12-6	Soil	Pesticides	4,4'-DDT	790	J,c	44
SAII32	SOIL-Q-12-6	Soil	Pesticides	alpha-Chlordane	23	R,l	23
SAII32	SOIL-Q-12-6	Soil	Pesticides	Endrin	44	UJ,c	44
SAII32	SOIL-Q-12-6	Soil	Pesticides	gamma-BHC (Lindane)	3.8	J,g	23
SAII32	SOIL-Q-12-6	Soil	Pesticides	Heptachlor	5.8	J,c	23
SAII32	SOIL-Q-12-6	Soil	Herbicides	Pentachlorophenol	410	J,s	91
SAII32	SOIL-Q-12-6	Soil	Metals	Antimony	2.7	UJ,m	2.7
SAII32	SOIL-Q-12-6	Soil	Metals	Cadmium	0.13	J,p	0.67
SAII32	SOIL-Q-12-6	Soil	Metals	Potassium	1900	J,m	130
SAII32	SOIL-Q-12-6	Soil	Metals	Selenium	1.3	UJ,n	1.3
SAII32	SOIL-Q-12-6	Soil	Metals	Sodium	210	U,p	67

Table 6-80a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII33

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII33	WASTE-Q-11-8	7/22/02	Waste			X													
SAII33	WASTE-Q-11-COMP	7/22/02	Waste				X	X	X	X	X						X		
SAII33	WASTE-Q-12-4	7/22/02	Waste			X													
SAII33	WASTE-Q-12-4-DUP	7/22/02	Waste			X													
SAII33	WASTE-Q-12-COMP	7/22/02	Waste				X	X	X	X	X						X		
SAII33	WASTE-Q-12-COMP-DUP	7/22/02	Waste				X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII33_____ **Fraction:**_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____

Lab: _Severn Trent-Savannah_____ **Project Name:** __Sauget Area 2_____

Reviewer: _____JA_____ **Date:** _____October 17, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the pesticides analyses, the LCS recoveries for alpha-chlordane (30%) and 4,4'-DDE (28%) were less than the lower control limit. Positive results were flagged "J, l" and non-detects were flagged "R, l" in the associated samples. All other LCS recoveries were within the control limits but at the lower end. The surrogate recoveries for tetrachloro-m-xylene (26% and 26%) and decachloro-biphenyl (29%) were less than the lower control limit (i.e., 30%) in this LCS sample. The low recoveries may be attributed to low extraction efficiency. Since surrogate recoveries in the associated field samples were all diluted out, the extraction efficiency in this analytical batch cannot be completely assessed. The data user should be aware that all pesticide data may be biased low and that this data should be used with caution.

Minor Anomalies: For the VOC analyses, the relative response factors (RRFs) for acetone were less than the control limit (i.e. 0.05) for the initial calibration analyzed on 7/11/02 at 0.0487 and the continuing calibration analyzed on 8/5/02 0922 at 0.04065. Since the acetone result in associated sample, WASTE-Q-11-8DL, was not used for data interpretation, no data qualifying action was taken. The continuing calibration verification (CCV) analyzed on 7/26/02 10:56 displayed a %D greater than the control limit (i.e., 20%) for methylene chloride at -41.0%. Methylene chloride was not detected in the associated samples. Since this failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCV analyzed on 8/5/02 09:22 displayed %Ds greater than the control limit for 1,1-dichloro-ethane at 50.5%, tetrachloroethene at 26.3%, 2-hexanone at -20.9%, dibromochloro-methane at 22.7%, total 1,2-dichloroethene at 35.7%, and surrogate dibromo-fluoromethane at 22.3%. Since these results in associated sample, WASTE-Q-11-8DL, were not used for data interpretation, no data flags were applied. The medium level LCS recovery analyzed on 8/5/02 was greater than the QC limit for 1,1-dichloroethane at 136%. Since the 1,1-dichloroethane result in associated sample WASTE-Q-11-8DL was not used for data interpretation, no data qualifying action was taken. Chlorobenzene, ethyl

benzene, and total xylene results in sample WASTE-Q-11-8 exceeded the calibration range and were flagged "E" by the laboratory. These results were flagged "J, q". This sample was diluted and reanalyzed by the laboratory. Results from the dilution analyses should be used for the affected compounds.

For the SVOC analyses, the initial calibration analyzed on 8/25/02 displayed three correlation coefficients less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9873, for 4,6-dinitro-2-methylphenol at 0.9873, and for dinoseb at 0.9869. Since these results in associated sample WASTE-Q-11-COMPDL were not used for data interpretation, no data qualifying action was taken. The CCV analyzed on 8/10/02 14:19 displayed %Ds greater than the control limit (i.e. 20%) for hexachlorocyclopentadiene at -48.9%, 2,4-dinitrophenol at 54.1%, 2,4-dinitrotoluene at 28.0%, 4-nitroaniline at 21.1%, and 4,6-dinitro-2-methyl-phenol at 31.3%. Since the associated samples were QC samples, no data qualifying action was taken. The CCVs analyzed on 8/10/02 at 14:48 (44.9%) and 8/26/02 12:36 (25.1%) displayed %Ds greater than the control limit for dinoseb. The CCV analyzed on 8/12/02 at 08:45 displayed a %D greater than the control limit for hexachlorocyclopentadiene at -27.1%. The CCV analyzed on 8/23/02 at 15:53 displayed %Ds greater than the control limit for hexachlorocyclopentadiene at -23.9% and 4-nitroaniline at 22.2%. Since these compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCV analyzed on 8/26/02 12:36 displayed %Ds greater than the control limit (i.e. 20%) for 2-nitroaniline at 30.0%, 3-nitroaniline at 29.0%, 2,4-dinitrophenol at 31.9%, 4-nitrophenol at 21.9%, 4-nitroaniline at 21.9%, and 4,6-dinitro-2-methylphenol at 26.6%. Since these results in associated sample, WASTE-Q-11-COMPDL, were not used for data interpretation, no data qualifying action was taken. The surrogate 2-fluoro-biphenyl recovery (24%) was less than the control limit (i.e., 30%) in sample WASTE-Q-12-COMP. Since all other surrogate recoveries were in control, no data qualifying action was taken. Surrogates were not recovered (0%) in samples WASTE-Q-11-COMP (DF=10) and WASTE-Q-11-COMPDL (DF=100). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The MS/MSD recoveries for naphthalene (132%), dimethyl-phthalate (41% and 39%), n-nitrosodiphenylamine (39% and 39%), butylbenzyl-phthalate (49% and 51%), benzo(a)anthracene (45% and 43%), and chrysene (48% and 45%) were outside the QC limit in the SOIL-Q-12-6 MS/MSD pair (in SDG: SAII32). No action was required since the failures were not critically low (i.e., <10%), the vast majority of MS/MSD recoveries were acceptable, and the LCS recoveries were acceptable. The pentachlorophenol result in sample WASTE-Q-11-COMP exceeded the calibration range and was flagged "E" by the laboratory. This result was flagged "J, q". This sample was diluted by a factor of 100 and reanalyzed by the laboratory. The pentachlorophenol result from the dilution analyses should be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 8/3/02 at 10:23 displayed %Ds greater than the control limit (i.e. 15%) for methoxychlor (18.7%), endrin ketone (18.4%), and 2,4-DCAA (-16.2%) on the primary column; and for 4,4'-DDT (16.5%), endosulfan sulfate (17.9%), methoxychlor (26.5%), and endrin ketone (19.6%) on the confirmation column. The CCV analyzed on 8/3/02 at 19:33 displayed %Ds greater than the control limit on the primary column for heptachlor (-17.6%), endosulfan I (-18.9%), 4,4'-DDT (-16.7%), methoxychlor (17.9%), and decachlorobiphenyl (DCBP, -22.0%); and on the confirmation column for DCBP (-19.9%). The CCV analyzed on 8/4/02 at 08:29 displayed %Ds greater than the control limit on the primary column for heptachlor (-32.5%), gamma-chlordane (-20.2%), alpha-chlordane (-17.8%), endosulfan II (-20.4%), 4,4'-DDT (-28.3%), endrin aldehyde (-20.1%), endosulfan sulfate (-16.4%), and DCBP (-31.2%); and on the confirmation column for heptachlor (-36.7%), gamma-chlordane (-15.7%), 4,4'-DDT (-35.9%), endrin aldehyde (-17.2%), methoxychlor (-21.0%), endrin ketone (-15.8%), and DCBP (-29.3%). Since associated samples are QC samples, no data qualifying action was taken. The CCV analyzed on 8/28/02 at 12:34 displayed %Ds greater than the control limit on the primary column for dieldrin (15.5%), 4,4'-DDD (17.1%), methoxychlor (21.7%), endrin ketone (17.3%); and on the confirmation column for alpha-BHC (-20.9%) and endosulfan sulfate (15.6%). The CCV analyzed on 8/28/02 at 21:19 displayed %Ds greater than the control limit on the primary column for alpha-chlordane (18.5%), dieldrin (19.5%), endrin (20.1%), 4,4'-DDD (36.0%), 4,4'-DDT (-16.4%), endrin aldehyde (-26.1%), methoxychlor (16.3%), and endrin ketone (18.7%); and on the confirmation column for alpha-BHC (-18.9%), endosulfan I (15.6%), dieldrin (16.2%), endrin (16.7%), 4,4'-DDD (29.5%), endosulfan II (15.9%), endrin aldehyde (-25.1%), and endosulfan sulfate (17.9%). Positive results for these compounds, except those previously flagged due to LCS recovery failure, were flagged "J, c" in sample WASTE-Q-12-COMP. The non-detect result for 4,4'-DDD was flagged "UJ, c" in sample WASTE-Q-12-COMP. The CCV analyzed on 8/29/02 at 16:41 displayed %Ds greater than the control limit on the primary column for alpha-BHC (-16.8%) and delta-BHC (-18.9%); and on the confirmation column for alpha-BHC (-25.0%). The CCV analyzed on 8/30/02 at 00:20 displayed %Ds greater than the control limit on the primary column for 4,4'-DDD (20.0%), 4,4'-DDT (-21.0%), and endrin aldehyde (-23.1%); and on the confirmation column for alpha-BHC (-21.1%), 4,4'-DDD (16.4%), 4,4'-DDT (-16.5%), and endrin aldehyde (-26.1%). Positive results for these compounds were flagged "J, c" in samples WASTE-Q-11-COMP, WASTE-Q-12-COMP-DUP, and WASTE-Q-12-COMPDL (for 4,4'-DDT only). The non-detect results for alpha-BHC, 4,4'-DDD, and endrin aldehyde were flagged "UJ, c" in samples WASTE-Q-11-COMP and WASTE-Q-12-COMP-DUP. Surrogates were diluted out in all samples. Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Due to matrix interference in the parent sample SOIL-Q-12-6 (in SDG: SAII32), the MS and MSD were analyzed at a dilution of 10. Because of the level of dilution required, spiking compounds were

not recovered; therefore, MS/MSD summary form was not provided in this data package. Sample WASTE-Q-12-COMP displayed a %R greater than the upper control limit (i.e., 150%) on the confirmation column for internal standard bromonitrobenzene at 154.4%. Positive detections, except those previously flagged due to other QC failure, were flagged "J, n" in this affected sample. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low. Field duplicates displayed absolute differences greater than the control limit (difference < 2X RL) for 4,4'-DDE, endrin aldehyde, endosulfan sulfate, and endrin ketone. Endosulfan sulfate and endrin ketone results in sample WASTE-Q-12-COMP-DUP were flagged "J, f". Since all other results were previously flagged due to other QC failures in the associated samples, no additional data flags were applied.

For the PCB analyses, surrogates were diluted out for samples SOIL-Q-11-0.5 (DF=10), SOIL-Q-11-0.5DUP (DF=10), and SOIL-Q-11-6 (DF=10). Since the affected samples were analyzed at dilutions equal to 10, no data qualifying action was taken. The MS/MSD recoveries for trichlorobiphenyl (190% and 240%), tetrachlorobiphenyl (550% and 660%), pentachlorobiphenyl (890% and 780%), hexachlorobiphenyl (340%) were greater than the QC limit in the SOIL-Q-12-6 MS/MSD pair (in SDG: SAII32). The RPD for hexachlorobiphenyl (85%) was greater than the acceptance limit (i.e., 50%). No action was required since the LCS recoveries were acceptable. Samples WASTE-Q-11-COMP (151.4%), WASTE-Q-12-COMP (139.8%), and WASTE-Q-12-COMP-DUP (135.8%) displayed %Rs greater than the upper control limit (i.e., 130%) for internal standard chrysene. Positive detections were flagged "J, n" in these three samples.

For the herbicides analyses, the method blank prepped on 7/29/02 displayed a positive detection for pentachlorophenol (PCP) at 5.3 µg/kg. Since all positive PCP results were greater than five times the blank concentration, no data qualifying action was taken. The CCV analyzed on 8/5/02 at 22:19 displayed %Ds greater than the control limit (i.e. 15%) on the primary column for dicamba at 27.2%, MCPP at 25.5%, MCPA at 16.2%, dichloroprop at 15.5%, 2,4-D at 17.8%, and 2,4'-DCAA at 29.3%; and on the confirmation column for dalapon at -18.1%, dichloroprop at -16.6%, 2,4-D at -16.4%, PCP at -23.9%, 2,4,5-TP at -25.5%, 2,4,5-T at -27.9% and 2,4-DB at -29.5%. The CCV analyzed on 8/6/02 at 09:31 displayed %Ds greater than the control limit on the primary column for dalapon at 30.2%, dicamba at 31.9%, MCPP at 30.6%, MCPA at 20.6%, dichloroprop at 17.8%, 2,4-D at 19.6%, and 2,4'-DCAA at 31.9%; and on the confirmation column for dichloroprop at -16.9%, 2,4-D at -17.4%, PCP at -24.3%, 2,4,5-TP at -26.9%, 2,4,5-T at -28.7% and 2,4-DB at -28.0%. Dichlorprop, 2,4-D, and PCP results in associated samples WASTE-Q-12-COMP and WASTE-Q-12-COMP-DUP were flagged "J, c" for positive detections and "UJ, c" for non-

detects. Surrogates were diluted out in samples WASTE-Q-11-COMP (DF=200) and WASTE-Q-11-COMPDL (DF=2500). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. PCP was not recovered (0%) due to matrix interference (high PCP concentration in parent sample) in the SOIL-Q-12-6 MS/MSD pair (in SDG: SAII32). The LCS recovery for PCP was greater than the upper control limit (i.e., 150%) at 197%. PCP was detected in all associated samples and positive detections, except those previously flagged due to calibration failure, were flagged "J, l". The RPD for dichloroprop (47%) was greater than the acceptance limit (i.e., 40%). Since both MS and MSD recoveries were in control, no data qualifying action was taken. The pentachlorophenol result in sample WASTE-Q-11-COMP exceeded the calibration range and was flagged "E" by the laboratory. Since this result was previously flagged due to LCS recovery failure, no additional data flags were applied. This sample was diluted by a factor of 2500 and reanalyzed by the laboratory. The pentachlorophenol result from the dilution analyses should be used for data interpretation.

For the metal analyses, the initial CRDL percent recoveries for lead (66%), sodium (75%), and thallium (138%), and the final CRDL percent recoveries for aluminum (124%) and thallium (73%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained aluminum at 2.767 mg/kg, cadmium at -0.038 mg/kg, chromium at 0.103 mg/kg, potassium at 1.457 mg/Kg, and sodium at 39.848 mg/Kg. Positive sodium results less than five times the blank concentration were flagged "U, p". Since other results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Aluminum, arsenic, barium, chromium, copper, mercury, potassium, and vanadium were detected in the initial calibration blank and/or continuing calibration blanks at low levels. Since the results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. All samples displayed iron concentrations greater than 50% of the calcium and iron concentration in ICSA samples. All selenium results were flagged "J, n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (45% and 45%) and potassium (134% and 144%) were outside the control limits (i.e., 75-125%) in the SOIL-Q-12-6 MS/MSD pair (in SDG: SAII32). The post-digestion spike recoveries were in control. All antimony and potassium results were positive and were flagged "J, m" in the associated samples. The RPD for mercury (36.42%) was greater than the acceptance limit (i.e., 35%) in the SOIL-Q-1-6 MS/MSD pair (in SDG: SAII39). Positive mercury results were flagged "J, d". The %D for zinc (11.0%) was greater than the acceptance limit (i.e., <10%) in the serial dilution sample. Positive zinc results were flagged "J, s" in the associated samples.

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, several samples were analyzed at dilutions for organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. Except for rejected data points, all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-80b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII33

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	4,4'-DDD	120	UJ,c	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	4,4'-DDE	200	J,l	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	4,4'-DDT	630	J,c	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	Aldrin	300	J,n	60
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	alpha-BHC	60	UJ,c	60
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	alpha-Chlordane	9.9	J,l	60
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	Dieldrin	200	J,n	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	Endosulfan Sulfate	76	J,n	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	Endrin	60	J,n	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	Endrin Aldehyde	120	UJ,c	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	Endrin Ketone	220	J,n	120
SAII33	WASTE-Q-11-COMP	Waste	Pesticides	gamma-Chlordane	120	J,n	60
SAII33	WASTE-Q-11-COMP	Waste	Herbicides	Pentachlorophenol	470000	J,l	60000
SAII33	WASTE-Q-11-COMP	Waste	Metals	Antimony	8.3	J,m	2.3
SAII33	WASTE-Q-11-COMP	Waste	Metals	Mercury	5.1	J,d	0.51
SAII33	WASTE-Q-11-COMP	Waste	Metals	Potassium	830	J,m	120
SAII33	WASTE-Q-11-COMP	Waste	Metals	Selenium	0.92	J,n	1.2
SAII33	WASTE-Q-11-COMP	Waste	Metals	Zinc	3300	J,s	2.3
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Decachlorobiphenyl	86	J,n	200
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Dichlorobiphenyl	570	J,n	39
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Heptachlorobiphenyl	1800	J,n	120
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Hexachlorobiphenyl	3200	J,n	80
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Octachlorobiphenyl	460	J,n	120
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Pentachlorobiphenyl	8500	J,n	80
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Tetrachlorobiphenyl	9400	J,n	80
SAII33	WASTE-Q-12-COMP	Waste	PCBs	Trichlorobiphenyl	3700	J,n	39
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	4,4'-DDD	200	UJ,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	4,4'-DDE	1200	J,l	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	4,4'-DDT	4200	J,c	390
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Aldrin	130	J,g	100
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	alpha-BHC	8.6	J,c	100

Table 6-80b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII33

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	alpha-Chlordane	160	J,l	100
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Dieldrin	680	J,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Endosulfan I	120	J,c	100
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Endosulfan II	560	J,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Endosulfan Sulfate	1800	J,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Endrin	340	J,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Endrin Aldehyde	1500	J,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Endrin Ketone	720	J,c	200
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	gamma-BHC (Lindane)	150	J,g	100
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	gamma-Chlordane	780	J,g	100
SAII33	WASTE-Q-12-COMP	Waste	Pesticides	Heptachlor Epoxide	300	J,g	100
SAII33	WASTE-Q-12-COMP	Waste	Herbicides	2,4-D	9.9	UJ,c	9.9
SAII33	WASTE-Q-12-COMP	Waste	Herbicides	Dichlorprop	120	UJ,c	120
SAII33	WASTE-Q-12-COMP	Waste	Herbicides	Pentachlorophenol	63	J,c	20
SAII33	WASTE-Q-12-COMP	Waste	Metals	Antimony	8.1	J,m	2.2
SAII33	WASTE-Q-12-COMP	Waste	Metals	Mercury	0.32	J,d	0.22
SAII33	WASTE-Q-12-COMP	Waste	Metals	Potassium	1100	J,m	110
SAII33	WASTE-Q-12-COMP	Waste	Metals	Selenium	1.6	J,n	1.1
SAII33	WASTE-Q-12-COMP	Waste	Metals	Sodium	180	U,p	54
SAII33	WASTE-Q-12-COMP	Waste	Metals	Zinc	1200	J,s	2.2
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Decachlorobiphenyl	190	J,n	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Dichlorobiphenyl	280	J,n	43
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Heptachlorobiphenyl	1700	J,n	130
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Hexachlorobiphenyl	3800	J,n	88
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Nonachlorobiphenyl	3.7	J,n	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Octachlorobiphenyl	480	J,n	130
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Pentachlorobiphenyl	6600	J,n	88
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Tetrachlorobiphenyl	7100	J,n	88
SAII33	WASTE-Q-12-COMP-DUP	Waste	PCBs	Trichlorobiphenyl	2200	J,n	43
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	4,4'-DDD	220	UJ,c	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	4,4'-DDE	220	R,l	220

Table 6-80b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII33

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	4,4'-DDT	3300	J,c	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	alpha-BHC	110	UJ,c	110
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	alpha-Chlordane	62	J,l	110
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	Endosulfan II	150	J,g	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	Endosulfan Sulfate	220	UJ,f	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	Endrin	350	J,g	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	Endrin Aldehyde	220	UJ,c	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	Endrin Ketone	220	UJ,f	220
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	gamma-BHC (Lindane)	42	J,g	110
SAII33	WASTE-Q-12-COMP-DUP	Waste	Pesticides	Heptachlor Epoxide	160	J,g	110
SAII33	WASTE-Q-12-COMP-DUP	Waste	Herbicides	2,4-D	12	J,c	11
SAII33	WASTE-Q-12-COMP-DUP	Waste	Herbicides	Dichlorprop	130	UJ,c	130
SAII33	WASTE-Q-12-COMP-DUP	Waste	Herbicides	Pentachlorophenol	72	J,c	22
SAII33	WASTE-Q-12-COMP-DUP	Waste	Metals	Antimony	4.1	J,m	2.6
SAII33	WASTE-Q-12-COMP-DUP	Waste	Metals	Mercury	0.69	J,d	0.47
SAII33	WASTE-Q-12-COMP-DUP	Waste	Metals	Potassium	1400	J,m	130
SAII33	WASTE-Q-12-COMP-DUP	Waste	Metals	Selenium	1	J,n	1.3
SAII33	WASTE-Q-12-COMP-DUP	Waste	Metals	Sodium	190	U,p	66
SAII33	WASTE-Q-12-COMP-DUP	Waste	Metals	Zinc	850	J,s	2.6

Table 6-81a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII34

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII34	GW-AA-Q-7-24	7/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII34	GW-AA-Q-7-34	7/24/02	Groundwater			X	X												
SAII34	GW-AA-Q-7-44	7/24/02	Groundwater			X	X												
SAII34	GW-AA-Q-7-54	7/24/02	Groundwater			X	X												
SAII34	GW-AA-Q-7-64	7/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII34	GW-AA-Q-7-64-Filtered	7/24/02	Groundwater				X				X						X		
SAII34	GW-AA-Q-7-74	7/24/02	Groundwater			X	X												
SAII34	GW-AA-Q-7-74-DUP	7/24/02	Groundwater			X	X												
SAII34	GW-AA-Q-7-84	7/24/02	Groundwater			X	X												
SAII34	GW-AA-UAA-4-20	7/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII34	GW-AA-UAA-4-20-DUP	7/24/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII34	GW-AA-UAA-4-20-DUP-Filtered	7/24/02	Groundwater				X				X						X		
SAII34	GW-AA-UAA-4-20-Filtered	7/24/02	Groundwater				X				X						X		
SAII34	GW-AA-UAA-4-30	7/24/02	Groundwater			X	X												
SAII34	GW-AA-UAA-4-40	7/24/02	Groundwater			X	X												
SAII34	GW-AA-UAA-4-50	7/24/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII34_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____October 16, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the trip blanks, TB072402-RSL and TB072402-RSLDUP, displayed a positive detection for styrene at 2.3 µg/L and 2.2 µg/L, respectively. The positive styrene result in sample GW-AA-Q-7-74-DUP was flagged "U, y". The trip blank displayed a positive detection for chloromethane at 0.23 µg/L. Positive chloromethane results in the associated samples were flagged "U, y" at the reporting limit. The initial calibration analyzed on 8/1/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for bromomethane at 0.987. Bromomethane was not detected in the associated samples and non-detects were flagged "UJ, r". The continuing calibration verification (CCV) analyzed on 8/7/02 at 12:18 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at -27.6% and bromomethane at -40.9%. The positive chloromethane result in sample Trip Blank was flagged "J, c". Since all other chloromethane and bromomethane results in the associated samples were previously flagged due to other QC failures, no additional data flags were applied. The relative percent differences (RPDs) for 2-butanone (36%), chloroform (28%), ethyl benzene (19%), 1,1,2,2-tetrachloroethane (25%), and 1,2-dichloroethene (total, 25%) were greater than the acceptance limits in the GW-AA-UAA-4-30 MS/MSD pair. Since the MS/MSD recoveries for these compounds were in control, no data qualifying action was taken.

For the SVOC analyses, the method blank, 0729F-EMB, displayed positive detections for indeno(1,2,3-cd)pyrene at 1.1 µg/L, dibenzo(a,h)anthracene at 1.3 µg/L, and benzo(g,h,i)perylene at 1.5 µg/L. Positive results in the associated samples were flagged "U, z" at the reporting limit. The CCVs analyzed on 8/14/02 at 09:33 and 8/14/02 22:53 displayed %Ds greater than the control limit (i.e., <20%) for dinoseb at 35.7% and 24.9%, respectively. The CCV analyzed on 8/14/02 at 09:00 displayed %Ds greater than the control limit for bis(2-chloro-ethyl)ether (22.9%) and hexachlorocyclopentadiene (-41.8%). The CCV analyzed

on 8/14/02 at 22:24 displayed %Ds greater than the control limit for bis(2-chloro-ethyl)-ether (24.6%), hexachlorocyclopentadiene (-41.2%), and nitrobenzene-d5 (21.7%). Since all compounds were either not detected in the associated samples or were surrogates, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the pesticides analyses, the %Ds for 2,4-DCAA (-16.6%) on the primary column; and for heptachlor (20.1%), 2,4-DCAA (-16.8%), tetrachloro-m-xylene (TCMX, -23.0%), decachlorobiphenyl (DCBP, -21.8%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/2/02 at 15:36. The %Ds for 2,4-DCAA (-17.5%) on the primary column; and for heptachlor (31.4%), 2,4-DCAA (-19.6%), TCMX (-22.7%), DCBP (-18.2%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/3/02 at 02:54. The positive heptachlor result in sample GW-AA-Q-7-64 was flagged "J, c". The DCBP surrogate recoveries in sample GW-AA-Q-7-24 (15% and 13%) and in the laboratory control sample (22% and 18%) were less than the lower control limit. No target compounds were detected in sample GW-AA-Q-7-24 and these non-detects were flagged "UJ, s". Since the laboratory control sample is a QC sample and all LCS recoveries were in control, no data qualifying action was taken. The TCMX surrogate recovery on the confirmation column (24%) and DCBP recoveries (14% and 10%) on both columns were less than the lower control limit in sample GW-AA-Q-7-64. All results, except those previously flagged due to calibration failure, were flagged "UJ, s". The DCBP surrogate recovery on the confirmation column (28%) was less than the lower control limit in sample GW-AA-UAA-4-20DUP. Since only one recovery was slightly outside the control limit and all other surrogate recoveries were in control, no data qualifying action was taken. The RPDs for alpha-BHC (43%), gamma-BHC (32%), heptachlor (27%), aldrin (27%), gamma-chlordane (25%), and alpha-chlordane (24%) were greater than the acceptance limits in the GW-AA-UAA-4-20 MS/MSD pair. Since the MS/MSD recoveries were in control for these compounds, no data qualifying action was taken. The RPD between primary and confirmation columns for heptachlor in sample GW-AA-Q-7-64 (50.0%) was greater than the acceptance limit (i.e., < 40%). Since this result was previously flagged due to calibration failure, no additional data flags were applied. It should be noted that the lower result was reported by the laboratory. This result may be biased low.

For the herbicide analyses, the %D for MCPA (15.5%) on the confirmation column was greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/6/02 at 20:25. The %Ds for dalapon (25.3%) and MCPA (23.6%) on the primary column and for dalapon (18.4%), MCPP (-15.8%), and MCPA (18.8%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/7/02 at 08:36. Dalapon and MCPA were not detected in the associated samples and were flagged "UJ, c". Since

MCPP was not detected in the associated samples and these results had an acceptable %D on the alternate column, no data qualifying action was taken. The LCS recovery for pentachlorophenol (PCP) was greater than the upper control limit (i.e., 110%) at 145%. Since PCP was not detected in the associated samples, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for lead (124%) and sodium (66%) were outside the control limit (i.e., 80-120%). Since the recoveries for lead and sodium were only marginally outside the control limits, no data qualifying action was taken. Aluminum was detected in the preparation blank (PB) at 0.02999 mg/L, in the initial calibration blank (ICB) at 0.03520 mg/L, and in three continuing calibration blanks at 0.03595 mg/L (CCB3), 0.04131 mg/L (CCB4), and 0.03621 mg/L (CCB5). Copper was detected in CCB3 at 0.00105 mg/L, CCB4 at 0.00167 mg/L, and CCB5 at 0.00125 mg/L. Selenium was detected in the ICB at 0.00508 mg/L, CCB3 at 0.00731 mg/L, and CCB5 at 0.00471 mg/L. Positive aluminum, copper, and selenium results less than five times the blank concentration were flagged "U, o" at the reporting limit in the associated samples. Zinc was detected in the PB at 0.00417 mg/L. All positive zinc results were flagged "U, p" for results greater than the reporting limit or "U, p" at the reporting limit for results less than the reporting limit. Arsenic was detected in the ICB at -0.00368 mg/L. Thallium was detected in the ICB at -0.00411 mg/L and CCB5 at -0.00554 mg/L. Arsenic and thallium results were flagged "J, o" for positive detections or "UJ, o" for non-detects due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Barium, calcium, iron, magnesium, and manganese were also detected in the PB, ICB and/or CCBs at low level. Since the results for these analytes in the associated samples were greater than five times the blank concentration, no data qualifying action was taken.

For the methane analyses, the correlation coefficient for the initial calibration analyzed on 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on the flame ionization detector (FID). Positive methane results in the associated samples were flagged "J, r". The %D for methane (20.0%) on the thermo-conductivity detector (TCD) was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/1/02 at 09:44. Positive methane results reported from the TCD were flagged "J, c". The methane result in sample GW-AA-Q-7-64 exceeded the linear range of the calibration curve. Since this methane result was previously flagged due to initial calibration failure, no additional data flags were applied. The methane results reported from the TCD detector should be used for data interpretation. The MS/MSD recoveries for methane (50% and 50%) were less than the lower control limit (i.e., 75%) in the GW-AA-UAA-4-20 MS/MSD pair. Since all methane results were previously flagged due to other QC failure, no additional data flags were applied. The field duplicates displayed a RPD greater than the control limit (i.e., 50%) for methane at 130.8%. Since all

methane results were previously flagged due to other QC failures, no additional data flags were applied.

For the nitrate-N analyses, the MS/MSD recoveries (47% and 44%) were less than the lower control limit (i.e., 75%) in the GW-AA-UAA-4-60 MS/MSD pair (in SDG: SAII36). All nitrate-N results in the associated samples were flagged "UJ, m".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-81b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII34

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII34	GW-AA-Q-7-24	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII34	GW-AA-Q-7-24	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII34	GW-AA-Q-7-24	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120
SAII34	GW-AA-Q-7-24	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII34	GW-AA-Q-7-24	Groundwater	Methane	Methane	78	J,r	0.19
SAII34	GW-AA-Q-7-24	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-Q-7-24	Groundwater	Metals	Thallium	0.01	UJ,o	0.01
SAII34	GW-AA-Q-7-24	Groundwater	Metals	Zinc	0.021	U,p	0.02
SAII34	GW-AA-Q-7-24	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII34	GW-AA-Q-7-34	Groundwater	VOCs	Bromomethane	2	UJ,r	2
SAII34	GW-AA-Q-7-34	Groundwater	VOCs	Chloromethane	2	U,y	2

Table 6-81b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII34

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII34	GW-AA-Q-7-34	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII34	GW-AA-Q-7-34	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10
SAII34	GW-AA-Q-7-34	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII34	GW-AA-Q-7-44	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-54	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-64	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Heptachlor	0.0078	J,c	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII34	GW-AA-Q-7-64	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII34	GW-AA-Q-7-64	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120
SAII34	GW-AA-Q-7-64	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII34	GW-AA-Q-7-64	Groundwater	Methane	Methane	1900	J,c	0.19
SAII34	GW-AA-Q-7-64	Groundwater	Metals	Aluminum	0.2	U,o	0.2

Table 6-81b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII34

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII34	GW-AA-Q-7-64	Groundwater	Metals	Arsenic	0.011	J,o	0.01
SAII34	GW-AA-Q-7-64	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-Q-7-64	Groundwater	Metals	Thallium	0.01	UJ,o	0.01
SAII34	GW-AA-Q-7-64	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII34	GW-AA-Q-7-64	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII34	GW-AA-Q-7-64-Filtered	Groundwater	Metals	Aluminum	0.2	U,o	0.2
SAII34	GW-AA-Q-7-64-Filtered	Groundwater	Metals	Arsenic	0.0098	J,o	0.01
SAII34	GW-AA-Q-7-64-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-Q-7-64-Filtered	Groundwater	Metals	Thallium	0.01	UJ,o	0.01
SAII34	GW-AA-Q-7-64-Filtered	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII34	GW-AA-Q-7-74	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-74-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-74-DUP	Groundwater	VOCs	Styrene (Monomer)	2.2	U,y	2.2
SAII34	GW-AA-Q-7-84	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-Q-7-84	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII34	GW-AA-Q-7-84	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10
SAII34	GW-AA-Q-7-84	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII34	GW-AA-UAA-4-20	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-UAA-4-20	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII34	GW-AA-UAA-4-20	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120
SAII34	GW-AA-UAA-4-20	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII34	GW-AA-UAA-4-20	Groundwater	Methane	Methane	33	J,r	0.19
SAII34	GW-AA-UAA-4-20	Groundwater	Metals	Arsenic	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-UAA-4-20	Groundwater	Metals	Selenium	0.01	U,o	0.01
SAII34	GW-AA-UAA-4-20	Groundwater	Metals	Thallium	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII34	GW-AA-UAA-4-20	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120

Table 6-81b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII34

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Methane	Methane	6.9	J,r	0.19
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Metals	Arsenic	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII34	GW-AA-UAA-4-20-DUP	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII34	GW-AA-UAA-4-20-DUP-Filtered	Groundwater	Metals	Aluminum	0.2	U,o	0.2
SAII34	GW-AA-UAA-4-20-DUP-Filtered	Groundwater	Metals	Arsenic	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20-DUP-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-UAA-4-20-DUP-Filtered	Groundwater	Metals	Thallium	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20-DUP-Filtered	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII34	GW-AA-UAA-4-20-Filtered	Groundwater	Metals	Aluminum	0.2	U,o	0.2
SAII34	GW-AA-UAA-4-20-Filtered	Groundwater	Metals	Arsenic	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII34	GW-AA-UAA-4-20-Filtered	Groundwater	Metals	Thallium	0.01	UJ,o	0.01
SAII34	GW-AA-UAA-4-20-Filtered	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII34	GW-AA-UAA-4-30	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-UAA-4-30	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII34	GW-AA-UAA-4-40	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII34	GW-AA-UAA-4-40	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII34	GW-AA-UAA-4-50	Groundwater	VOCs	Bromomethane	1	UJ,r	1

Table 6-82a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII36

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII36	GW-AA-Q-6-24	7/25/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII36	GW-AA-Q-6-24-DUP	7/25/02	Groundwater			X	X	X		X	X		X	X	X	X	X	X	
SAII36	GW-AA-Q-6-24-DUP-Filter	7/25/02	Groundwater				X				X						X		
SAII36	GW-AA-Q-6-24-Filter	7/25/02	Groundwater				X				X						X		
SAII36	GW-AA-Q-6-34	7/25/02	Groundwater			X	X												
SAII36	GW-AA-Q-6-34-DUP	7/25/02	Groundwater			X	X												
SAII36	GW-AA-Q-6-44	7/25/02	Groundwater			X	X												
SAII36	GW-AA-UAA-4-60	7/25/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII36	GW-AA-UAA-4-60-Filtered	7/25/02	Groundwater				X				X						X		
SAII36	GW-AA-UAA-4-70	7/25/02	Groundwater			X	X												
SAII36	GW-AA-UAA-4-80	7/25/02	Groundwater			X	X												
SAII36	GW-AA-UAA-4-90	7/25/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SAII36_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____October 25, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the pesticide analyses, the LCS/LCSD recoveries were less than the QC limit (i.e., 46-131%) for alpha-BHC (43% and 38%). The LCSD recovery for 4,4-DDE was also less than the QC limit (i.e., 48-145%) at 42%. Positive results were previously flagged due to calibration failure and no data qualifying action was taken. Non-detects were flagged "R",l" in the associated samples.

Minor Anomalies: For the VOC analyses, the trip blank TB072502-RSL contained chloromethane at 0.34 ug/L and ethylbenzene at 0.88 ug/L. Positive results less than five times the blank concentration were flagged "U,y" for results greater than the RL, and "U,y" at the reporting limit for results less than the RL. The initial calibration correlation coefficient for bromomethane (0.987) was less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 8/1/02. All associated sample results were non-detects and were flagged "UJ,r". The continuing calibration %D was greater than the QC limit (i.e., 20%) for chloromethane (-38.2%) for the continuing calibration analyzed on 8/7/02 at 2230. The positive chloromethane result in the trip blank was flagged "J,c".

For the SVOC analyses, the method blank contained indeno (1,2,3-cd) pyrene at 0.7 ug/L, dibenzo (a,h) anthracene at 0.58 ug/L, and benzo (g,h,i) perylene at 0.65 ug/L. Positive results less than five times the blank concentration were flagged "U,z" at the reporting limit. The initial calibration correlation coefficients for 2,6-dinitrotoluene (0.986), 3-nitroaniline (0.988), and 4-nitroaniline (0.986) were less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 8/10/02. All associated sample results were non-detects and were flagged "UJ,r". The %D was greater than the QC limit (i.e., 20%) for 2,4-dinitrophenol (25.5%) for the continuing calibration analyzed on 8/13/02 at 1035. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The recovery for surrogate 2-fluorobiphenyl (35%) was less than the lower control limit in sample GW-AA-UAA-4-70. No action is required based on one surrogate failure and no data flags were applied. Three base-neutral surrogates in sample

GW-AA-Q-6-24DL (DF = 4), and surrogate terphenyl-d14 in samples GW-AA-Q-6-24-DUP DL (DF = 4), GW-AA-Q-6-34 DL (DF = 4), and GW-AA-Q-6-24-DUPFILTERED DL (DF = 4) were diluted out. Positive results were flagged "J,s" and non-detects were flagged "UJ,s". Several compounds exceeded the calibration range in several samples and were flagged "E" by the laboratory. These results were flagged "J,q". These samples were re-analyzed at different dilution factors and the results from the dilution analyses should be used for data interpretation. The %RPDs were greater than the QC limit (i.e., 50%) for naphthalene (51%) in the field duplicate pair, GW-AA-Q-6-24/ GW-AA-Q-6-24 DUP, for phenol (95%) in the field duplicate pair, GW-AA-Q-6-34/ GW-AA-Q-6-34DUP, and for naphthalene (52%) and 2-methylnaphthalene (60%) in the field duplicate pair, GW-AA-Q-6-24FILTER/ GW-AA-Q-6-24FILTER DUP. These results were flagged "J,f".

For the pesticide analyses, the %Ds for alpha-BHC (-16.5% and –21.9%) on both columns, 4,4-DDE (-16.6%) and endrin ketone (16.3%) on the primary column and delta-BHC (-19.7%), 4,4-DDT (16.3%), endrin aldehyde (15.9%), and endosulfan sulfate (18.3%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/19/02 at 1835. The %Ds for alpha-BHC (-16.5% and –22.3%), endrin (17.7% and 19.3%), 4,4-DDT (22.7% and 29.1%), and methoxychlor (37.1% and 20.0%) on both columns, 4,4,-DDE (-15.5%) and endrin ketone (21.4%) on the primary column, delta-BHC (-20.4%), endrin ketone (21.4%), endosulfan sulfate (20.6%), and endrin aldehyde (20.6%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/20/02 at 0054. Positive results were flagged "J,c" and non-detects were flagged "UJ,c" for alpha-BHC, endrin, 4,4-DDT and methoxychlor in the associated samples. Positive results were flagged "J,c" for the other compounds in the associated samples. No data flags were applied to the non-detects for the other compounds since the recoveries were acceptable on the alternate column. The MS/MSD recoveries for alpha-BHC (32% and 44%) and the MS recoveries for gamma-BHC (38%) and delta-BHC (49%) were less than the QC limit. The %RPDs for alpha-BHC (32%), gamma-BHC (40%), heptachlor (39%), gamma-chlordane (23%), alpha-chlordane (24%), endosulfan I (28%), 4,4-DDE (28%), and endrin ketone (26%) were greater than the QC limit. Alpha-BHC and 4,4-DDE results were previously flagged due to LCS failure and no further data qualifying action was required. The MS and or MSD and LCS recoveries were acceptable for the other compounds and no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., < 40%) for several compounds in several samples. These results were flagged "J,g".

For the herbicide analyses, the %D for MCPA (15.5%) on the confirmation column was greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/6/02 at 2025. The %Ds for dalapon (25.3% and 18.4%)

and MCPA (23.6% and 18.8%) on both columns, and MCPP (-15.8%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/7/02 at 0836. Positive results were flagged "J,c" and non-detects were flagged "UJ,c" for MCPA and dalapon the associated samples. All associated sample results were non-detects for MCPP and no data qualifying action was required since the %D was acceptable on the alternate column. The LCS recovery for pentachlorophenol (145%) was greater than the QC limit (i.e., 11-110%). No positive results were reported and no data qualifying action was required.

For the metal analyses, the initial CRDL percent recoveries for lead (124%) and sodium (66% and 76%) and the final CRDL percent recoveries for sodium (78%) and thallium (67%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum, copper and zinc and negative results for calcium and thallium. Positive results less than 5 times the blank concentration were flagged "U,p" at the reporting limit for aluminum, copper and zinc. Thallium non-detects were flagged "UJ,p" in all samples. Calcium results were greater than 5 times the blank concentration and no data qualifying action was required. The initial and continuing calibration blanks also contained negative results for arsenic, calcium, magnesium and thallium and positive results for selenium, manganese, aluminum, barium, thallium, calcium and magnesium at low levels. All associated sample results were either previously flagged due to method blank contamination or were greater than 5 times the blank concentration and no data qualifying action was required. The MS/MSD recoveries for the filtered samples were greater than the QC limit (i.e., 75-125%) for aluminum (140% and 140%) and potassium (128% and 126%). Positive results were flagged "J,m" unless previously flagged due to other failures. The serial dilution %D was greater than the QC limit (i.e., 10%) for aluminum (22.6%). Positive results were flagged "J,s".

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.986 for instrument VMTFID1. Positive methane results were flagged "J, r" in the associated samples. No MS/MSD recoveries were calculated. No data qualifying action was required since the sample concentration was greater than 4 times the spiking amount. Methane exceeded the calibration range in all samples and was flagged "E" by the laboratory. These results were previously flagged due to calibration failure, and no data qualifying action was taken. The results from the TCD detector should be used.

For the wet chemistry analyses, the %RPD was greater than the QC limit (i.e., 50%) for CO2 (67%) in the field duplicate pair, GW-AA-Q-6-24/ GW-AA-Q-6-24 DUP. These results were flagged "J,f".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, except for those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-82b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII36

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII36	GW-AA-Q-6-24	Groundwater	VOCs	Bromomethane	5	UJ,r	5
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	2-Methylnaphthalene	410	J,s	40
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	Naphthalene	120	J,f	10
SAII36	GW-AA-Q-6-24	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	4,4'-DDD	0.029	J,g	0.1
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	4,4'-DDE	0.019	J,c	0.1
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	4,4'-DDT	0.029	J,c	0.1
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	alpha-BHC	0.56	J,c	0.05
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	alpha-Chlordane	0.015	J,g	0.05
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	gamma-BHC (Lindane)	0.17	J,g	0.05
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	gamma-Chlordane	0.027	J,g	0.05
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	Heptachlor	0.13	J,g	0.05
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	Heptachlor Epoxide	0.02	J,g	0.05
SAII36	GW-AA-Q-6-24	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII36	GW-AA-Q-6-24	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120
SAII36	GW-AA-Q-6-24	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	19	J,c	120
SAII36	GW-AA-Q-6-24	Groundwater	Methane	Methane	320	J,r	0.19
SAII36	GW-AA-Q-6-24	Groundwater	Metals	Aluminum	0.6	J,s	0.2
SAII36	GW-AA-Q-6-24	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII36	GW-AA-Q-6-24	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII36	GW-AA-Q-6-24	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII36	GW-AA-Q-6-24	Groundwater	Other Parameters	Carbon Dioxide	77	J,f	1
SAII36	GW-AA-Q-6-24-DUP	Groundwater	VOCs	Bromomethane	2.5	UJ,r	2.5
SAII36	GW-AA-Q-6-24-DUP	Groundwater	VOCs	Chloromethane	2.5	U,y	2.5
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	2-Methylnaphthalene	500	J,s	40

Table 6-82b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII36

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	Naphthalene	71	J,f	10
SAII36	GW-AA-Q-6-24-DUP	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	4,4'-DDD	0.027	J,g	0.1
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	4,4'-DDE	0.1	R,l	0.1
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	4,4'-DDT	0.03	J,c	0.1
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	alpha-BHC	0.64	J,c	0.05
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	alpha-Chlordane	0.018	J,g	0.05
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	Endosulfan I	0.0081	J,g	0.05
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	Endrin Ketone	0.014	J,c	0.1
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	gamma-BHC (Lindane)	0.19	J,g	0.05
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	gamma-Chlordane	0.024	J,g	0.05
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	Heptachlor Epoxide	0.02	J,g	0.05
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Methane	Methane	240	J,r	0.19
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Metals	Aluminum	0.24	J,s	0.2
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII36	GW-AA-Q-6-24-DUP	Groundwater	Other Parameters	Carbon Dioxide	38	J,f	1
SAII36	GW-AA-Q-6-24-DUP-Filter	Groundwater	SVOCs	2-Methylnaphthalene	420	J,s	40
SAII36	GW-AA-Q-6-24-DUP-Filter	Groundwater	SVOCs	Naphthalene	53	J,f	10
SAII36	GW-AA-Q-6-24-DUP-Filter	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII36	GW-AA-Q-6-24-DUP-Filter	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII36	GW-AA-Q-6-24-DUP-Filter	Groundwater	Metals	Potassium	8	J,m	1

Table 6-82b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII36

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII36	GW-AA-Q-6-24-DUP-Filter	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII36	GW-AA-Q-6-24-Filter	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-Q-6-24-Filter	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-24-Filter	Groundwater	SVOCs	Naphthalene	91	J,f	10
SAII36	GW-AA-Q-6-24-Filter	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-24-Filter	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII36	GW-AA-Q-6-24-Filter	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII36	GW-AA-Q-6-24-Filter	Groundwater	Metals	Potassium	8	J,m	1
SAII36	GW-AA-Q-6-24-Filter	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII36	GW-AA-Q-6-34	Groundwater	VOCs	Bromomethane	100	UJ,r	100
SAII36	GW-AA-Q-6-34	Groundwater	VOCs	Ethylbenzene	100	U,y	100
SAII36	GW-AA-Q-6-34	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-Q-6-34	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-34	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-34-DUP	Groundwater	VOCs	Bromomethane	100	UJ,r	100
SAII36	GW-AA-Q-6-34-DUP	Groundwater	VOCs	Ethylbenzene	100	U,y	100
SAII36	GW-AA-Q-6-34-DUP	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-Q-6-34-DUP	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-34-DUP	Groundwater	SVOCs	Phenol	120	J,f	10
SAII36	GW-AA-Q-6-34-DUP	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-44	Groundwater	VOCs	Bromomethane	5	UJ,r	5
SAII36	GW-AA-Q-6-44	Groundwater	VOCs	Ethylbenzene	5.7	U,y	5
SAII36	GW-AA-Q-6-44	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-Q-6-44	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-Q-6-44	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-60	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII36	GW-AA-UAA-4-60	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII36	GW-AA-UAA-4-60	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-UAA-4-60	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-60	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII36	GW-AA-UAA-4-60	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10

Table 6-82b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII36

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII36	GW-AA-UAA-4-60	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII36	GW-AA-UAA-4-60	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-60	Groundwater	Pesticides	4,4'-DDE	0.1	R,l	0.1
SAII36	GW-AA-UAA-4-60	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII36	GW-AA-UAA-4-60	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII36	GW-AA-UAA-4-60	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII36	GW-AA-UAA-4-60	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII36	GW-AA-UAA-4-60	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,c	120
SAII36	GW-AA-UAA-4-60	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII36	GW-AA-UAA-4-60	Groundwater	Methane	Methane	440	J,r	0.19
SAII36	GW-AA-UAA-4-60	Groundwater	Metals	Aluminum	0.69	J,s	0.2
SAII36	GW-AA-UAA-4-60	Groundwater	Metals	Arsenic	0.01	UJ,o	0.01
SAII36	GW-AA-UAA-4-60	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII36	GW-AA-UAA-4-60	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII36	GW-AA-UAA-4-60	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	Metals	Potassium	6.5	J,m	1
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII36	GW-AA-UAA-4-60-Filtered	Groundwater	Metals	Zinc	0.02	U,p	0.02
SAII36	GW-AA-UAA-4-70	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII36	GW-AA-UAA-4-70	Groundwater	VOCs	Ethylbenzene	1	U,y	1
SAII36	GW-AA-UAA-4-70	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-UAA-4-70	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-70	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII36	GW-AA-UAA-4-70	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10
SAII36	GW-AA-UAA-4-70	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII36	GW-AA-UAA-4-70	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50

Table 6-82b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII36

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII36	GW-AA-UAA-4-80	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII36	GW-AA-UAA-4-80	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII36	GW-AA-UAA-4-80	Groundwater	VOCs	Ethylbenzene	1	U,y	1
SAII36	GW-AA-UAA-4-80	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-UAA-4-80	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-80	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII36	GW-AA-UAA-4-80	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10
SAII36	GW-AA-UAA-4-80	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII36	GW-AA-UAA-4-80	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-90	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII36	GW-AA-UAA-4-90	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII36	GW-AA-UAA-4-90	Groundwater	VOCs	Ethylbenzene	1	U,y	1
SAII36	GW-AA-UAA-4-90	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII36	GW-AA-UAA-4-90	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII36	GW-AA-UAA-4-90	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	U,z	10
SAII36	GW-AA-UAA-4-90	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	U,z	10
SAII36	GW-AA-UAA-4-90	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	U,z	10
SAII36	GW-AA-UAA-4-90	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50

Table 6-83a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII37	GW-AA-Q-1-50	7/29/02	Groundwater			X		X	X	X	X		X	X	X	X	X	X	
SAII37	GW-AA-Q-1-50-Filtered	7/29/02	Groundwater				X				X						X		
SAII37	GW-AA-Q-6-104	7/29/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII37	GW-AA-Q-6-104-Filtered	7/29/02	Groundwater				X				X						X		
SAII37	GW-AA-Q-6-110	7/29/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII37	GW-AA-Q-6-110-Filtered	7/29/02	Groundwater				X				X						X		
SAII37	GW-AA-Q-6-54	7/26/02	Groundwater			X	X												
SAII37	GW-AA-Q-6-64	7/26/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII37	GW-AA-Q-6-64-Filtered	7/26/02	Groundwater				X				X						X		
SAII37	GW-AA-Q-6-74	7/26/02	Groundwater			X	X												
SAII37	GW-AA-Q-6-84	7/29/02	Groundwater			X	X												
SAII37	GW-AA-Q-6-94	7/29/02	Groundwater			X	X												
SAII37	GW-AA-UAA-4-100	7/26/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII37	GW-AA-UAA-4-100-Filtered	7/26/02	Groundwater				X				X						X		
SAII37	GW-AA-UAA-4-110	7/26/02	Groundwater			X													
SAII37	GW-AA-UAA-4-113	7/29/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII37	GW-AA-UAA-4-113-Filtered	7/29/02	Groundwater				X				X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII37_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____October 25, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the SVOC analyses, the MS/MSD recoveries for 3,3'-dichlorobenzidine (0% and 2%) were less than the lower control limit (i.e., 10%) in the GW-AA-Q-6-54 MS/MSD pair. The MSD recovery for nitrobenzene (48%) was less than the lower control limit (i.e., 50%). This MS/MSD pair displayed 24 of 64 RPDs greater than the acceptance limit. This MS/MSD pair was re-analyzed and displayed similar results (MS and MSD recoveries for 3,3'-dichlorobenzidine at 3% and 6%, respectively). All 3,3'-dichlorobenzidine results in the associated samples were flagged "R, m". Since the MS recovery for nitrobenzene was in control and the MS/MSD recoveries for other RPD outliers were in control, no further data qualifying action was taken.

Minor Anomalies: For the VOC analyses, the trip blank displayed a positive detection for styrene at 2.3 µg/L. Since this compound was not detected in the associated samples, no data qualifying action was taken. The trip blank, TB072902-RSL, displayed positive detections for chloromethane at 0.18 µg/L and benzene at 0.29 µg/L. Positive chloromethane and benzene results less than five times the blank concentration were flagged "U, y" at the reporting limit in the associated samples. The initial calibration analyzed on 8/1/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for bromomethane at 0.987. Bromomethane non-detect results in the associated samples were flagged "UJ, r". The continuing calibration verification (CCV) analyzed on 8/8/02 at 10:13 displayed %Ds greater than the control limit (i.e. 20%) for bromomethane at -38.8% and acetone at 20.5%. The continuing calibration verification (CCV) analyzed on 8/9/02 at 21:03 displayed %Ds greater than the control limit for chloromethane at -27.2% and bromomethane at -26.3%. Positive acetone results in samples GW-AA-Q-6-74 and GW-AA-Q-1-50 were flagged "J, c". Since bromomethane results in the associated samples were previously flagged due to initial calibration failure, no additional data flags were applied. Since chloromethane was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MS/MSD

recoveries for benzene (0% and 20%) were less than the lower control limit (62%) in the GW-AA-Q-6-54 MS/MSD pair. Since the benzene concentration in the parent sample was greater than four times the spiking concentration and the LCS recovery for benzene was in control, no data qualifying action was taken.

For the SVOC analyses, the CCV analyzed on 8/5/02 at 10:15 displayed %Ds greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (-33.3%), 2,4-dinitrotoluene (-20.5%), and 4,6-dinitro-2-methylphenol (-26.0%). The CCV analyzed on 8/15/02 at 11:29 displayed %Ds greater than the control limit for bis(2-chloroethyl)ether (25.7%), hexachlorocyclopentadiene (-44.2%), and 2,4-dinitrophenol (24.6%). The CCVs analyzed on 8/5/02 at 10:44 and 8/15/02 at 12:00 displayed %Ds greater than the control limit for dinoseb at -24.8% and 41.9%, respectively. The CCV analyzed on 8/28/02 at 14:38 displayed a %D greater than the control limit for bis(2-ethylhexyl)phthalate (24.8%). The CCV analyzed on 8/29/02 at 09:19 displayed %Ds greater than the control limit for 2,4-dinitrophenol (-26.2%), 4,6-dinitro-2-methylphenol (-23.4%), and dinoseb (-20.6%). Since these compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Sample GW-AA-Q-6-54MSRE displayed %Rs greater than the upper control limit (i.e., 200%) for internal standards chrysene-d12 (264.3%) and perylene-d12 (262.4%). Since this re-analyzed QC sample results were used to confirm the original MS/MSD analysis and not used for data interpretation, no data qualifying action was taken.

For the pesticides analyses, the %D for surrogate tetrachloro-m-xylene (TCMX, -17.6%) on the confirmation column was greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/6/02 at 14:28. The %Ds for aldrin (15.7%) on the primary column and the surrogate TCMX (-19.3%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/7/02 at 02:36. The positive aldrin result in sample GW-AA-Q-6-64 was flagged "J, c". Since TCMX is a surrogate, no data qualifying action was taken. The DCBP surrogate recoveries on both columns in samples GW-AA-Q-6-110 (24% and 22%), GW-AA-UAA-4-113 (26% and 22%), and GW-AA-Q-1-50 (20% and 14%) were less than the lower control limit (i.e., 30%). All results in these three samples were flagged "J, s" for positive detections or "UJ, s" for non-detects. The DCBP surrogate recoveries on the confirmation column in the method blank (20%) and sample GW-AA-UAA-4-100 (28%) were less than the lower control limit (i.e., 30%). Since all other surrogate recoveries were in control, no data qualifying action was taken. The RPD for 4,4'-DDE (20%) was greater than the acceptance limit (i.e., 18%) in the LCS/LCSD pair. Since both LCS and LCSD recoveries were in control and 4,4'-DDE was not detected in the associated samples, no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for all positive results. These results, except those previously flagged due

to other QC failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the herbicide analyses, the method blank prepped on 8/1/02 displayed a positive detection for pentachlorophenol (PCP) at 0.24 µg/L. Positive PCP results were flagged "U, z" at the reporting limit in the associated samples. The CCV analyzed on 8/6/02 at 09:31 displayed %Ds greater than the control limit on both columns for PCP at -18.5% and -20.2%, 2,4,5-TP at -22.1% and -23.3%, 2,4,5-T at -22.2% and -24.2%, and 2,4-DB at -20.1% and -16.2%. These compounds were not detected in the associated samples and non-detects were flagged "UJ, c". The CCV analyzed on 8/6/02 at 20:25 displayed a %D greater than the control limit on the confirmation column for MCPA at 15.5%. Since MCPA was not detected in the associated samples and this result had an acceptable %D on the alternate column, no data qualifying action was taken. The recovery for surrogate 2,4-DCAA on the primary column in sample GW-AA-Q-1-50 (275%) was greater than the upper control limit (i.e., 133%). Positive results, except those previously flagged due to calibration failure, were flagged "J, s" in this sample. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for all positive results detected in sample GW-AA-Q-1-50. Since these results were previously flagged due to calibration failure or surrogate recovery failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for iron (79%) and selenium (123%), and the final CRDL percent recoveries for iron (79%), lead (124%), and selenium (129%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 0.02207 mg/L and calcium at 0.01840 mg/L. Positive aluminum results in the associated samples less than five times the blank concentration were flagged "U, p" at the reporting limits. Since calcium results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Copper was detected in four continuing calibration blanks (CCBs) at concentrations ranging from 0.00082 mg/L (CCB4) to 0.00106 mg/L (CCB5). Positive copper results in samples GW-AA-Q-6-64-filtered and GW-AA-Q-6-110-filtered were flagged "U, o" at the reporting limit. Vanadium was detected in CCB3 at 0.00119 mg/L, CCB4 at 0.00125 mg/L, and CCB5 at 0.00106 mg/L. Positive vanadium results in samples GW-AA-UAA-4-100-filtered, GW-AA-UAA-4-113-filtered, and GW-AA-Q-1-50-filtered were flagged "U, o" at the reporting limit. Aluminum, Barium, calcium, magnesium, and manganese were also detected in the initial calibration blank (ICB) and/or CCBs at low levels. Since these analyte results in the associated samples were either previously flagged due to preparation blank contamination or were greater than five times the blank concentration, no data qualifying action was taken. The MS/MSD

recoveries for aluminum (184% and 156%), potassium (127% in MS), and sodium (129% in MS) were greater than the upper control limit (i.e., 125%) in the GW-AA-Q-6-64 MS/MSD pair. Positive aluminum, potassium, and sodium results in the associated samples were flagged "J, m". The post-digestion spike recoveries were in control.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on the flame ionization detector (FID). Positive methane results in the associated samples were flagged "J, r". The %D for methane (24.9%) on the FID detector was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/6/02 at 13:25. Since all methane results were previously flagged due to initial calibration failure, no additional data flags were applied. The MS/MSD recoveries for methane (66% and 74%) were less than the lower control limit (i.e., 75%) in one non-client MS/MSD pair. Since the parent sample is a non-client sample and the LCS recovery was in control, no data qualifying action was taken. The methane results in samples GW-AA-Q-6-64, GW-AA-Q-6-110, and GW-AA-Q-6-104 exceeded the linear range of the calibration curve on the FID detector. Since these methane results were previously flagged due to initial calibration failure, no additional data flags were applied. The methane results reported from the thermo-conductivity detector (TCD) should be used for data interpretation.

For the nitrate-N analyses, the MS/MSD recoveries (40% and 41%) were less than the lower control limit (i.e., 75%) in the GW-AA-Q-6-64 MS/MSD pair. Positive nitrate-N results in the associated samples were flagged "J, m" and non-detects were flagged "UJ, m".

For the sulfate analyses, the MS/MSD recoveries (68% and 68%) were less than the lower control limit (i.e., 75%) in one non-client Ms/MSD pair. Since the parent sample is a non-client sample and the LCS recovery was in control, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-83b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII37	GW-AA-Q-1-50	Groundwater	VOCs	Acetone	11	J,c	25
SAII37	GW-AA-Q-1-50	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Heptachlor Epoxide	0.011	J,s	0.05
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII37	GW-AA-Q-1-50	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII37	GW-AA-Q-1-50	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII37	GW-AA-Q-1-50	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.17	J,c	0.5
SAII37	GW-AA-Q-1-50	Groundwater	Herbicides	2,4-D	0.67	J,s	0.5
SAII37	GW-AA-Q-1-50	Groundwater	Herbicides	2,4-DB	0.89	J,c	0.5
SAII37	GW-AA-Q-1-50	Groundwater	Herbicides	Dichlorprop	1.5	J,s	6
SAII37	GW-AA-Q-1-50	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII37	GW-AA-Q-1-50	Groundwater	Methane	Methane	120	J,r	0.19
SAII37	GW-AA-Q-1-50	Groundwater	Metals	Aluminum	37	J,m	0.2

Table 6-83b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII37	GW-AA-Q-1-50	Groundwater	Metals	Potassium	21	J,m	1
SAII37	GW-AA-Q-1-50	Groundwater	Metals	Sodium	66	J,m	0.5
SAII37	GW-AA-Q-1-50	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII37	GW-AA-Q-1-50-Filtered	Groundwater	SVOCs	2-Methylnaphthalene	10	R,m	10
SAII37	GW-AA-Q-1-50-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII37	GW-AA-Q-1-50-Filtered	Groundwater	Metals	Potassium	14	J,m	1
SAII37	GW-AA-Q-1-50-Filtered	Groundwater	Metals	Sodium	71	J,m	0.5
SAII37	GW-AA-Q-1-50-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII37	GW-AA-Q-6-104	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-6-104	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-Q-6-104	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-104	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-104	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-104	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII37	GW-AA-Q-6-104	Groundwater	Metals	Aluminum	3.7	J,m	0.2
SAII37	GW-AA-Q-6-104	Groundwater	Metals	Potassium	12	J,m	1
SAII37	GW-AA-Q-6-104	Groundwater	Metals	Sodium	24	J,m	0.5
SAII37	GW-AA-Q-6-104	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII37	GW-AA-Q-6-104-Filtered	Groundwater	Metals	Aluminum	0.18	J,m	0.2
SAII37	GW-AA-Q-6-104-Filtered	Groundwater	Metals	Potassium	11	J,m	1
SAII37	GW-AA-Q-6-104-Filtered	Groundwater	Metals	Sodium	24	J,m	0.5
SAII37	GW-AA-Q-6-110	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-6-110	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII37	GW-AA-Q-6-110	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05

Table 6-83b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII37	GW-AA-Q-6-110	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII37	GW-AA-Q-6-110	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-110	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-110	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-110	Groundwater	Herbicides	Pentachlorophenol	1	U,z	1
SAII37	GW-AA-Q-6-110	Groundwater	Metals	Aluminum	13	J,m	0.2
SAII37	GW-AA-Q-6-110	Groundwater	Metals	Potassium	25	J,m	1
SAII37	GW-AA-Q-6-110	Groundwater	Metals	Sodium	52	J,m	0.5
SAII37	GW-AA-Q-6-110	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII37	GW-AA-Q-6-110-Filtered	Groundwater	SVOCs	2-Methylnaphthalene	10	R,m	10
SAII37	GW-AA-Q-6-110-Filtered	Groundwater	Metals	Aluminum	0.82	J,m	0.2
SAII37	GW-AA-Q-6-110-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII37	GW-AA-Q-6-110-Filtered	Groundwater	Metals	Potassium	23	J,m	1
SAII37	GW-AA-Q-6-110-Filtered	Groundwater	Metals	Sodium	53	J,m	0.5
SAII37	GW-AA-Q-6-54	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-6-54	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-Q-6-64	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-6-64	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20

Table 6-83b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII37	GW-AA-Q-6-64	Groundwater	Pesticides	Aldrin	0.014	J,c	0.05
SAII37	GW-AA-Q-6-64	Groundwater	Pesticides	alpha-BHC	0.033	J,g	0.05
SAII37	GW-AA-Q-6-64	Groundwater	Pesticides	gamma-BHC (Lindane)	0.0073	J,g	0.05
SAII37	GW-AA-Q-6-64	Groundwater	Pesticides	Heptachlor	0.015	J,g	0.05
SAII37	GW-AA-Q-6-64	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-64	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-64	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII37	GW-AA-Q-6-64	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII37	GW-AA-Q-6-64	Groundwater	Metals	Aluminum	5	J,m	0.2
SAII37	GW-AA-Q-6-64	Groundwater	Metals	Potassium	17	J,m	1
SAII37	GW-AA-Q-6-64	Groundwater	Metals	Sodium	18	J,m	0.5
SAII37	GW-AA-Q-6-64	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII37	GW-AA-Q-6-64-Filtered	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-Q-6-64-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII37	GW-AA-Q-6-64-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII37	GW-AA-Q-6-64-Filtered	Groundwater	Metals	Potassium	16	J,m	1
SAII37	GW-AA-Q-6-64-Filtered	Groundwater	Metals	Sodium	17	J,m	0.5
SAII37	GW-AA-Q-6-74	Groundwater	VOCs	Acetone	14	J,c	25
SAII37	GW-AA-Q-6-74	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-6-74	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-Q-6-84	Groundwater	VOCs	Bromomethane	5	UJ,r	5
SAII37	GW-AA-Q-6-84	Groundwater	SVOCs	2-Chloronaphthalene	10	R,m	10
SAII37	GW-AA-Q-6-94	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-Q-6-94	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII37	GW-AA-Q-6-94	Groundwater	SVOCs	2-Chloronaphthalene	10	R,m	10
SAII37	GW-AA-UAA-4-100	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-UAA-4-100	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-UAA-4-100	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII37	GW-AA-UAA-4-100	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII37	GW-AA-UAA-4-100	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII37	GW-AA-UAA-4-100	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1

Table 6-83b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII37	GW-AA-UAA-4-100	Groundwater	Methane	Methane	13	J,r	0.19
SAII37	GW-AA-UAA-4-100	Groundwater	Metals	Aluminum	2.1	J,m	0.2
SAII37	GW-AA-UAA-4-100	Groundwater	Metals	Potassium	6.2	J,m	1
SAII37	GW-AA-UAA-4-100	Groundwater	Metals	Sodium	18	J,m	0.5
SAII37	GW-AA-UAA-4-100	Groundwater	Other Parameters	Nitrate-N	0.013	J,m	0.05
SAII37	GW-AA-UAA-4-100-Filtered	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII37	GW-AA-UAA-4-100-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII37	GW-AA-UAA-4-100-Filtered	Groundwater	Metals	Potassium	5.5	J,m	1
SAII37	GW-AA-UAA-4-100-Filtered	Groundwater	Metals	Sodium	17	J,m	0.5
SAII37	GW-AA-UAA-4-100-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII37	GW-AA-UAA-4-110	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-UAA-4-113	Groundwater	VOCs	Benzene	1	U,y	1
SAII37	GW-AA-UAA-4-113	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII37	GW-AA-UAA-4-113	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII37	GW-AA-UAA-4-113	Groundwater	SVOCs	2-Chloronaphthalene	10	R,m	10
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05

Table 6-83b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII37

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII37	GW-AA-UAA-4-113	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII37	GW-AA-UAA-4-113	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII37	GW-AA-UAA-4-113	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII37	GW-AA-UAA-4-113	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII37	GW-AA-UAA-4-113	Groundwater	Herbicides	Pentachlorophenol	1	U,z	1
SAII37	GW-AA-UAA-4-113	Groundwater	Methane	Methane	11	J,r	0.19
SAII37	GW-AA-UAA-4-113	Groundwater	Metals	Aluminum	8.3	J,m	0.2
SAII37	GW-AA-UAA-4-113	Groundwater	Metals	Potassium	7.9	J,m	1
SAII37	GW-AA-UAA-4-113	Groundwater	Metals	Sodium	16	J,m	0.5
SAII37	GW-AA-UAA-4-113	Groundwater	Other Parameters	Nitrate-N	0.05	UJ,m	0.05
SAII37	GW-AA-UAA-4-113-Filtered	Groundwater	SVOCs	2-Methylnaphthalene	10	R,m	10
SAII37	GW-AA-UAA-4-113-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII37	GW-AA-UAA-4-113-Filtered	Groundwater	Metals	Potassium	5.5	J,m	1
SAII37	GW-AA-UAA-4-113-Filtered	Groundwater	Metals	Sodium	15	J,m	0.5
SAII37	GW-AA-UAA-4-113-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01

Table 6-84a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII38

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII38	Waste-Q-10-COMP-T	7/26/02	Waste				X	X	X								X		
SAII38	Waste-Q-1-COMP-T	7/26/02	Waste				X	X	X								X		
SAII38	Waste-Q-9-COMP-T	7/26/02	Waste				X	X	X								X		
SAII38	Waste-Q-9-COMP-T-DUP	7/26/02	Waste				X	X	X								X		

DATA VALIDATION REPORT - Level III Review

SDG No.: SAII38 **Fraction: TCLP - VOCs, SVOCs, Pest., PCBs, Herb., Metals**

Lab: Severn Trent-Savannah **Project Name: Sauget Area 2**

Reviewer: JA **Date: October 24, 2002**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the TCLP herbicide analyses, surrogate 2,4-DCAA was not recovered (0%) on the confirmation column for sample WASTE-Q-1-COMP-T. The positive 2,4-D result was flagged "J, s" and the non-detect 2,4,5-TP result was flagged "R, s". The 2,4-D result in this sample exceeded the linear range of the calibration curve. Since this 2,4-D result was previously flagged due to surrogate recovery failure, no additional data flags were applied. This sample was diluted by a factor of 10 and re-analyzed by the laboratory. Surrogate 2,4-DCAA was diluted out in this diluted sample. No data qualifying action was taken for this diluted sample since the dilution factor was equal to 10. The 2,4-D and 2,4,5-TP results from the dilution analysis should be used for data interpretation.

Minor Anomalies: For the TCLP VOC analyses, the continuing calibration verification (CCV) analyzed on 8/9/02 at 09:51 displayed a %D greater than the control limit (i.e. 20%) for 2-butanone at -32.2%. Since 2-butanone was not detected in the associated samples, and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The RPDs for 2-butanone were greater than the control limit (i.e. 31%) in the WASTE-Q-9-8 MS/MSD pair (42%) and in the WASTE-Q-10-8 MS/MSD pair (43%). Since the MS and MSD recoveries met criteria and 2-butanone was not detected in the associated samples, no data qualifying action was taken.

For the TCLP SVOC analyses, two base/neutral surrogates, nitrobenzene-d5 and 2-fluorobiphenyl, were diluted out (0%) in sample WASTE-Q-1-COMP-T (DF=5). Positive base/neutral results were flagged "J, s" and non-detects were flagged "UJ, s" in sample WASTE-Q-1-COMP-T. All base/neutral surrogates and two acid surrogates were diluted out in the diluted sample WASTE-Q-1-COMP-TDL (DF=10). No data qualifying action was taken for this diluted sample since the dilution factor was greater than or equal to 10. The pentachlorophenol result in sample WASTE-Q-1-COMP-T exceeded the

calibration range and was flagged "E" by the laboratory. This result was flagged "J, q". This sample was re-analyzed at a higher dilution factor with acceptable results. The pentachlorophenol result from the dilution analyses should be used for data interpretation.

For the TCLP pesticides analyses, the %Ds for 2,4-DCAA (-16.0%) and tetrachloro-m-xylene (TCMX, -16.7%) on the primary column, and for alpha-BHC (-33.0%), delta-BHC (-30.2%), 4,4-DDE (-28.9%), TCMX (-23.0%) and decachlorobiphenyl (DCBP, 28.2%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/9/02 at 22:09. The %Ds for 4,4'-DDT (16.0%), 2,4-DCAA (-20.6%) and TCMX (-21.0%) on the primary column, and for alpha-BHC (-32.8%), delta-BHC (-29.4%), 4,4-DDE (-29.9%), 2,4-DCAA (-17.3%), TCMX (-23.6%) and DCBP (-20.2%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/10/02 at 08:11. These target compounds were not detected in the associated samples. Since these results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. The method blank (0801O-IMB) displayed a surrogate %R less than the lower control limit (i.e., 30%) on confirmation column for DCBP at 26%. Since this is a QC sample and all other surrogate recoveries were in control, no data qualifying action was taken. The LCS (0801O-IMBLCS) displayed surrogate %Rs less than the lower control limit on both columns for DCBP at 22% and 18%. Since this is a QC sample and target compound recoveries in the LCS were in control, no data qualifying action was taken. The TCMX surrogate recovery on the confirmation column (16%) and the DCBP surrogate recoveries on both columns (27% and 11%) in sample WASTE-Q-1-COMP-T were less than the lower control limit. All results in this sample were flagged "UJ, s". Sample WASTE-Q-1-COMP-T displayed an internal standard (IS) greater than the upper control limit (i.e. 150%) for bromonitrobenzene at 346.1%. Since the sample was non-detect, no data qualifying action was taken.

For the TCLP herbicides analyses, the %Ds for 2,4-D (16.4% and 20.3%) and 2,4,5-TP (16.2% and 19.1%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/16/02 at 11:07. Since the associated samples are QC samples (MS/MSD), no data qualifying action was taken. The %D for 2,4-D (17.8%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 9/5/02 at 02:34. The positive 2,4-D result in the diluted sample, WASTE-Q-1-COMP-TDL, was flagged "J, c".

For the TCLP metals analyses, the preparation blank displayed a positive detection for selenium at -72.8 µg/L. The selenium results in the associated samples were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. The MS/MSD

recoveries for lead (1328% and 1327%) were greater than the upper control limit (i.e., 125%) in the WASTE-Q-10-COMP-T MS/MSD pair. Positive lead results in the associated samples were flagged "J, m". The post-digestion spike recovery for lead was in control. The field duplicates displayed an absolute difference greater than the control limit (i.e., two times the reporting limit, 0.40 mg/L) for lead at 0.45 mg/L. Since all lead results were previously flagged due to MS/MSD recovery failure, no additional data flags were applied.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exceptions described above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-84b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII38

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII38	Waste-Q-1-COMP-T	Waste	SVOCs	Pyridine	1.2	UJ,s	1.2
SAII38	Waste-Q-1-COMP-T	Waste	Pesticides	Chlordane	0.025	UJ,s	0.025

Table 6-85a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII39	SOIL-Q-1-0.5FT	7/26/02	Soil			X	X	X	X	X	X						X		
SAII39	SOIL-Q-10-0.5	7/26/02	Soil			X	X	X	X	X	X						X		
SAII39	SOIL-Q-10-0.5-DUP	7/26/02	Soil			X	X	X	X	X	X						X		
SAII39	SOIL-Q-10-6	7/26/02	Soil			X	X	X	X	X	X						X		
SAII39	SOIL-Q-1-6FT	7/26/02	Soil			X	X	X	X	X	X						X		
SAII39	SOIL-Q-9-0.5	7/26/02	Soil			X	X	X	X	X	X						X		
SAII39	SOIL-Q-9-6	7/26/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII39_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 22, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the initial calibration analyzed on 7/11/02 on instrument SMO5973 displayed a relative response factor (RRF) less than the control limit (i.e. <0.05) for acetone at 0.0487. The CCV analyzed on 8/5/02 at 09:22 on instrument MSO5973 displayed a RRF less than the control limit for acetone at 0.04065. Associated sample results displayed positive detections and were flagged "J,c". The CCV analyzed on 8/5/02 also displayed %Ds greater than the control limit (i.e. <20%) for 1,1-dichloroethane at 50.5%, for tetrachloroethene at 26.3%, for 2-hexanone at -20.9%, for dibromochloromethane at 22.7%, and for 1,2-dichloroethene (total) at 35.7%. Associated sample results with positive detections were flagged "J,c". Non-detect 1,1-dichloroethane results were flagged "UJ,c". The CCV analyzed on 7/31/02 at 08:04 on instrument MSM5972 displayed %Ds greater than the control limit for bromomethane at 43.3%, for acetone at 25.6%, and for methylene chloride at -32.6%. Since all associated sample results were non-detect and the anomalies were only marginally outside the control limit, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the control limit for toluene at 252% and 252%, for tetrachloroethene at 214% and 214%, for chlorobenzene at 176% and 172%, for ethylbenzene at 138% and 141%, for xylene (total) at 182% and 193%, and in the MSD for 1,1-dichloroethane at 138%. Since the majority of MS/MSD results were acceptable and the LCS met criteria for these compounds, or, these compounds were previously flagged for other anomalies, no data qualifying action was taken. The mid-level LCS displayed a %R greater than the upper control limit for 1,1-dichlorothane at 136%. Since the positive 1,1-dichloroethane result was previously flagged for CCV anomalies, no further data qualifying action was taken.

For the SVOC analyses, sample SOIL-Q-9-0.5 was extracted past the recommended holding time (i.e. 14 days) by three days. Analytes with positive detections were flagged "J,h"; non-detects were flagged "UJ,h". The CCV analyzed on 8/16/02 at 00:50 displayed %Ds greater than the control limit (i.e. <20%) for bis (2-chloroethyl) ether at 27.7%, for hexachlorocyclopentadiene at -49.4%, for 4,6-dinitro-2-methylphenol at 21.9%, and for dinoseb at 44.0%, which was analyzed on 8/16/02 at 01:47. The CCV analyzed on 8/30/02 at 09:50 displayed %Ds greater than the control limit for bis (2-chloroisopropyl) ether at 22.3%, for 4,6-dinitro-2-methylphenol at -29.4%, and for dinoseb at -21.4%. Since the associated sample results were non-detect and the anomalies were only marginally outside the control limit, no data qualifying action was taken. The CCV analyzed on 8/16/02 at 18:09 displayed %Ds greater than the control limit for bis (2-chloroethyl) ether at 21.0%, for hexachlorocyclopentadiene at -40.7%, for 2,4-dinitrophenol at 24.5%, for 4,6-dinitro-2-methylphenol at 22.2%, and for dinoseb at 51.1%, which was analyzed on 8/16/02 at 18:42. Associated non-detect dinoseb results were flagged "UJ,c". Since all other analytes were non-detect and the anomalies were only marginally outside the control limit, no data qualifying action was taken. Samples SOIL-Q-1-6, SOIL-Q-1-6DL, SOIL-Q-9-6, and SOIL-Q-10-0.5-DUP displayed surrogate recoveries less than the lower control limit at 0%. Since these samples were analyzed at dilutions greater than 10x, no data qualifying action was taken. Pentachlorophenol exceeded the calibration range in sample SOIL-Q-1-6 and was flagged "J,q". The sample was re-analyzed at a dilution and pentachlorophenol was within calibration range. It is recommended that the re-analyzed pentachlorophenol result be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 8/28/02 at 12:34 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for dieldrin at 15.5%, for 4,4'-DDD at 17.1%, for methoxychlor at 21.7%, and for endrin ketone at 17.3% and on the confirmation column for alpha-BHC at -20.9% and for endosulfan sulfate at 15.6%. Since the analytes met criteria on the alternate column, no data qualifying action was taken. The CCV analyzed on 8/29/02 at 16:41 displayed %Ds greater than the control limit on both columns for alpha-BHC at -16.8% and -25.0% and on the primary column for delta-BHC at -18.9%. Since these were non-target analytes, no data qualifying action was taken. The CCVs analyzed on 8/28/02 at 21:19 and on 8/30/02 at 00:20 displayed several compounds with %D anomalies on either column or both columns. Since there were no samples associated with these CCVs, no data qualifying action was taken. Surrogate tetrachloro-meta-xylene (TCMX) displayed %Rs less than the control limit (i.e. 30%) in the method blank on the primary column at 29% and in the LCS on both columns at 26% and 28%. Since these are QC samples and the other surrogate, decachlorobiphenyl (DCBP) met criteria, no data qualifying action was taken. Sample SOIL-Q-10-0.5 displayed a surrogate recovery less than the lower control limit for TCMX on the primary column at 26%. Since surrogate DCBP met criteria, no data qualifying action was taken. Sample SOIL-Q-1-0.5-DL displayed surrogate recoveries greater than the upper control limit for DCBP on both columns at 184% and 226%. The only analyte of concern in this diluted sample, 4,4'-DDT, was flagged "J,s". Sample SOIL-Q-10-0.5-

DUP displayed surrogate recoveries less than the lower control limit for TCMX on both columns at 19% and 22% and displayed %Rs greater than the control limit on both columns for surrogate DCBP at 440% and 340%. Associated sample results with positive detections were flagged "J,s"; non-detects were flagged "UJ,s", unless previously flagged for dual column imprecision. Other samples displayed surrogate %Rs at 0%. Since these samples were analyzed at dilutions greater than 10x, no data qualifying action was taken. Several sample results displayed %RPDs between columns greater than the control limit (i.e. <40%) and were flagged "J,g". 4,4'-DDT displayed results greater than the calibration range in samples SOIL-Q-1-0.5 and SOIL-Q-9-0.5 and were flagged "J,q". These samples were re-analyzed at dilutions and the 4,4'-DDT results were within calibration range. It is recommended that the re-analyzed 4,4'-DDT results be used for data interpretation. Field duplicates SOIL-Q-10-0.5 and SOIL-Q-10-0.5-DUP displayed %RPDs or absolute differences greater than the control limit (i.e. <100% or <2x the RL) for heptachlor epoxide at 4.28 ug/kg, gamma-chlordane at 173.5%, for 4,4'-DDT at 174.5%, for dieldrin at 12.4 ug/kg, and for endrin aldehyde at 13.6 ug/kg. For associated sample results with %RPD anomalies, positive detections were flagged "J,f", unless previously flagged for other anomalies. Associated positive sample results associated with the absolute difference anomalies were flagged "J,f"; non-detects were flagged "UJ,f", unless previously flagged for other anomalies.

For the PCB analyses, several samples displayed surrogate %Rs at 0%. Since these samples were analyzed at dilutions greater than 10x, no data qualifying action was taken.

For the herbicides analyses, the method blank displayed a positive detection for pentachlorophenol at 14 ug/kg. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,z". The CCV analyzed on 8/6/02 at 20:25 displayed a %D greater than the control limit (i.e. <20%) for MCPA on the confirmation column at 15.5%. Since the analyte met criteria on the alternate column, no data qualifying action was taken. Sample SOIL-Q-1-0.5 displayed a surrogate recovery of 0%. Since this sample was analyzed at a dilution greater than 10x, no data qualifying action was taken. Several sample results displayed %RPDs between columns greater than the control limit (i.e. 40%) and were flagged "J,g".

For the metals analyses, the initial and final CRDLs displayed %Rs greater than the upper control limit (i.e. <120%) for aluminum at 124% and 136% and for lead at 136% and 124%. The CRDLs also displayed %Rs less than the lower control limit (i.e. 80%) for thallium at 73%, 78%, 67% and 73%; and for sodium at 69%. Since the anomalies were only marginally outside the control limit, no data qualifying action was taken. The prep blank displayed positive detections for aluminum at 2.3402 mg/kg, for calcium at 2.0763 mg/kg, for magnesium at 0.6902 mg/kg, and for sodium at 41.274 mg/kg. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,p". The prep blank also displayed negative detections for arsenic at -0.6313 mg/kg and for cadmium at -0.0523 mg/kg.

Associated sample results positive detections less than 5x the absolute amount found in the blank were flagged "J,p"; non-detects were flagged "UJ,p". The ICB, CCB4, CCB5, and CCB6 displayed positive detections for several analytes. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,o". CCB5 and CCB6 displayed negative detections for arsenic and potassium. Since the associated sample results were greater than 5x the absolute amount found in the blank, no data qualifying action was taken. Mercury displayed a negative detection in the ICB at -0.059 ug/L. Since the associated sample results were greater than 5x the absolute amount found in the blank, no data qualifying action was taken. The MS/MSD pair displayed %RPDs greater than the control limit (i.e. <35%) for copper at 130% and for mercury at 36.4%. Associated sample results with positive detections were flagged "J,d". The MS/MSD displayed %Rs either greater than the upper control limit (i.e. <125%) or less than the lower control limit (i.e. 75%) for antimony at 67% and 69% and for potassium in the MS at 126%. Associated antimony results with positive detections were flagged "J,m", unless previously flagged for blank contamination. Since the MSD and the post-digestion spike met criteria for potassium and the outlier was only slightly greater than the control limit, no data qualifying action was taken. The serial dilution displayed an absolute difference greater than the control limit (i.e. 10%) for zinc at 11.7%. Associated sample results with positive detections were flagged "J,s".

Correctable Anomalies: None.

Comments: For the SVOC, pesticides, PCBs, and herbicides analyses, the MS/MSDs were analyzed at high dilutions. Because of this, most of the analytes were not recovered. The LCS was used for data qualification.

For the SVOC analyses, field duplicates SOIL-Q-10-0.5 and SOIL-Q-10-0.5-DUP were analyzed at 1x and 10x dilutions, respectively. Due to the difference in dilution factors used in the field duplicate pair, it was not feasible to use this data to determine if the field duplicates were within control.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exceptions described above. All data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-85b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII39	SOIL-Q-1-0.5FT	Soil	Pesticides	4,4'-DDT	260	J,s	15
SAII39	SOIL-Q-1-0.5FT	Soil	Pesticides	alpha-Chlordane	6.6	J,g	1.9
SAII39	SOIL-Q-1-0.5FT	Soil	Pesticides	Dieldrin	6.4	J,g	3.7
SAII39	SOIL-Q-1-0.5FT	Soil	Pesticides	Endrin Aldehyde	1.6	J,g	3.7
SAII39	SOIL-Q-1-0.5FT	Soil	Pesticides	Heptachlor	1	J,g	1.9
SAII39	SOIL-Q-1-0.5FT	Soil	Pesticides	Heptachlor Epoxide	3.8	J,g	1.9
SAII39	SOIL-Q-1-0.5FT	Soil	Herbicides	2,4-D	8.9	J,g	9.3
SAII39	SOIL-Q-1-0.5FT	Soil	Herbicides	MCPP	1200	J,g	2200
SAII39	SOIL-Q-1-0.5FT	Soil	Metals	Antimony	0.54	J,o	2
SAII39	SOIL-Q-1-0.5FT	Soil	Metals	Arsenic	3.1	J,p	1
SAII39	SOIL-Q-1-0.5FT	Soil	Metals	Copper	19	J,d	2
SAII39	SOIL-Q-1-0.5FT	Soil	Metals	Mercury	0.076	J,d	0.022
SAII39	SOIL-Q-1-0.5FT	Soil	Metals	Sodium	190	U,p	51
SAII39	SOIL-Q-1-0.5FT	Soil	Metals	Zinc	150	J,s	2
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	4,4'-DDT	5.3	J,g	4.1
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	Dieldrin	2.6	J,f	4.1
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	Endosulfan II	1	J,g	4.1
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	Endrin Aldehyde	1.4	J,g	4.1
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	Endrin Ketone	4.9	J,g	4.1
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	gamma-Chlordane	1.7	J,g	2.1
SAII39	SOIL-Q-10-0.5	Soil	Pesticides	Heptachlor Epoxide	0.52	J,g	2.1
SAII39	SOIL-Q-10-0.5	Soil	Herbicides	2,4-DB	28	J,g	10
SAII39	SOIL-Q-10-0.5	Soil	Metals	Antimony	3	J,m	2.2
SAII39	SOIL-Q-10-0.5	Soil	Metals	Copper	300	J,d	2.2
SAII39	SOIL-Q-10-0.5	Soil	Metals	Mercury	2.5	J,d	0.49
SAII39	SOIL-Q-10-0.5	Soil	Metals	Sodium	190	U,p	56
SAII39	SOIL-Q-10-0.5	Soil	Metals	Zinc	1200	J,s	2.5
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	4,4'-DDD	7.8	UJ,s	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	4,4'-DDE	7.8	UJ,s	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	4,4'-DDT	78	J,g	7.9
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Aldrin	4	UJ,s	4

Table 6-85b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	alpha-BHC	4	UJ,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	alpha-Chlordane	5.2	J,g	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	beta-BHC	4	UJ,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	delta-BHC	4	UJ,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Dieldrin	15	J,g	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Endosulfan I	4	UJ,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Endosulfan II	1.5	J,g	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Endosulfan Sulfate	7.8	UJ,s	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Endrin	7.8	UJ,s	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Endrin Aldehyde	15	J,g	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Endrin Ketone	7.8	UJ,s	7.8
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	gamma-BHC (Lindane)	4	UJ,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	gamma-Chlordane	24	J,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Heptachlor	4	UJ,s	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Heptachlor Epoxide	4.8	J,g	4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Methoxychlor	40	UJ,s	40
SAII39	SOIL-Q-10-0.5-DUP	Soil	Pesticides	Toxaphene	400	UJ,s	400
SAII39	SOIL-Q-10-0.5-DUP	Soil	Herbicides	2,4,5-T	1.3	J,g	9.9
SAII39	SOIL-Q-10-0.5-DUP	Soil	Herbicides	Dichlorprop	1.5	J,g	120
SAII39	SOIL-Q-10-0.5-DUP	Soil	Herbicides	Pentachlorophenol	36	U,z	36
SAII39	SOIL-Q-10-0.5-DUP	Soil	Metals	Antimony	2.5	J,m	2.4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Metals	Copper	410	J,d	2.4
SAII39	SOIL-Q-10-0.5-DUP	Soil	Metals	Mercury	2.7	J,d	0.43
SAII39	SOIL-Q-10-0.5-DUP	Soil	Metals	Selenium	1	U,o	1
SAII39	SOIL-Q-10-0.5-DUP	Soil	Metals	Sodium	200	U,p	60
SAII39	SOIL-Q-10-0.5-DUP	Soil	Metals	Zinc	1200	J,s	2.4
SAII39	SOIL-Q-10-6	Soil	VOCs	Acetone	48	J,c	130
SAII39	SOIL-Q-10-6	Soil	SVOCs	Dinoseb	520	UJ,c	520
SAII39	SOIL-Q-10-6	Soil	Pesticides	4,4'-DDD	7.8	J,g	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	4,4'-DDT	74	J,f	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	alpha-Chlordane	4.9	J,g	2.7

Table 6-85b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII39	SOIL-Q-10-6	Soil	Pesticides	delta-BHC	0.52	J,g	2.6
SAII39	SOIL-Q-10-6	Soil	Pesticides	Dieldrin	34	J,f	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	Endosulfan II	3.9	J,g	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	Endosulfan Sulfate	6	J,g	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	Endrin	6.8	J,g	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	Endrin Aldehyde	5.2	UJ,f	5.2
SAII39	SOIL-Q-10-6	Soil	Pesticides	gamma-Chlordane	3.2	J,g	2.7
SAII39	SOIL-Q-10-6	Soil	Pesticides	Heptachlor Epoxide	7	J,g	2.7
SAII39	SOIL-Q-10-6	Soil	Metals	Antimony	16	J,m	3.1
SAII39	SOIL-Q-10-6	Soil	Metals	Copper	1700	J,d	3.1
SAII39	SOIL-Q-10-6	Soil	Metals	Mercury	0.49	J,d	0.14
SAII39	SOIL-Q-10-6	Soil	Metals	Zinc	1900	J,s	3.1
SAII39	SOIL-Q-1-6FT	Soil	VOCs	1,1-Dichloroethane	560	UJ,c	560
SAII39	SOIL-Q-1-6FT	Soil	VOCs	Acetone	3000	J,c	5600
SAII39	SOIL-Q-1-6FT	Soil	VOCs	Tetrachloroethene	28000	J,c	560
SAII39	SOIL-Q-1-6FT	Soil	Pesticides	4,4'-DDT	5000	J,f	930
SAII39	SOIL-Q-1-6FT	Soil	Pesticides	alpha-BHC	64	J,g	480
SAII39	SOIL-Q-1-6FT	Soil	Pesticides	Dieldrin	1200	J,g	930
SAII39	SOIL-Q-1-6FT	Soil	Pesticides	Endrin Aldehyde	930	UJ,f	930
SAII39	SOIL-Q-1-6FT	Soil	Pesticides	Heptachlor Epoxide	480	UJ,f	480
SAII39	SOIL-Q-1-6FT	Soil	Metals	Antimony	84	J,m	2.6
SAII39	SOIL-Q-1-6FT	Soil	Metals	Copper	3800	J,d	2.6
SAII39	SOIL-Q-1-6FT	Soil	Metals	Mercury	1.8	J,d	0.51
SAII39	SOIL-Q-1-6FT	Soil	Metals	Zinc	11000	J,s	2.5
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	1,2,4-Trichlorobenzene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	1,2-Dichlorobenzene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	1,3-Dichlorobenzene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	1,4-Dichlorobenzene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,4,5-Trichlorophenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,4,6-Trichlorophenol	420	UJ,h	420

Table 6-85b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,4-Dichlorophenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,4-Dimethylphenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,4-Dinitrophenol	2200	UJ,h	2200
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,4-Dinitrotoluene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2,6-Dinitrotoluene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2-Chloronaphthalene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2-Chlorophenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2-Methylnaphthalene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2-Methylphenol (o-Cresol)	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2-Nitroaniline	2200	UJ,h	2200
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	2-Nitrophenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	3,3'-Dichlorobenzidine	850	UJ,h	850
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	3-Nitroaniline	2200	UJ,h	2200
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	2200	UJ,h	2200
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	4-Bromophenyl Phenyl Ether	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	4-Chloro-3-methylphenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	4-Chlorophenyl Phenyl Ether	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	4-Nitrophenol	2200	UJ,h	2200
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Acenaphthene	51	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Acenaphthylene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Anthracene	340	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Benzo(a)anthracene	1800	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Benzo(a)pyrene	1800	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Benzo(b)fluoranthene	3300	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Benzo(g,h,i)perylene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Benzo(k)fluoranthene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Benzyl Butyl Phthalate	870	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	bis(2-Chloroethoxy)methane	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	bis(2-Chloroethyl)ether	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	bis(2-Ethylhexyl)phthalate	540	J,h	420

Table 6-85b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Carbazole	79	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Chrysene	2400	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Dibenzo(a,h)anthracene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Dibenzofuran	29	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Diethyl Phthalate	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Dimethyl Phthalate	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Di-n-butylphthalate	110	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Di-n-octylphthalate	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Dinoseb	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Fluoranthene	3200	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Fluorene	62	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Hexachlorobenzene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Hexachlorobutadiene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Hexachlorocyclopentadiene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Hexachloroethane	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Isophorone	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Naphthalene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Nitrobenzene	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	N-Nitroso-di-n-propylamine	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	N-Nitrosodiphenylamine	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	P-Chloroaniline	850	UJ,h	850
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Phenanthrene	1600	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Phenol	420	UJ,h	420
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	P-Nitroaniline	2200	UJ,h	2200
SAII39	SOIL-Q-9-0.5	Soil	SVOCs	Pyrene	3300	J,h	420
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	4,4'-DDT	2600	J,f	170
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	beta-BHC	11	J,g	22
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	Dieldrin	42	UJ,f	42
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	Endrin	170	J,g	42
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	Endrin Aldehyde	42	UJ,f	42

Table 6-85b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII39

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	gamma-Chlordane	150	J,g	22
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	Heptachlor Epoxide	76	J,g	22
SAII39	SOIL-Q-9-0.5	Soil	Pesticides	Methoxychlor	92	J,g	220
SAII39	SOIL-Q-9-0.5	Soil	Metals	Antimony	47	J,m	2.3
SAII39	SOIL-Q-9-0.5	Soil	Metals	Copper	710	J,d	2.3
SAII39	SOIL-Q-9-0.5	Soil	Metals	Mercury	1	J,d	0.23
SAII39	SOIL-Q-9-0.5	Soil	Metals	Selenium	2.6	U,o	1.2
SAII39	SOIL-Q-9-0.5	Soil	Metals	Zinc	3000	J,s	2.3
SAII39	SOIL-Q-9-6	Soil	Pesticides	4,4'-DDT	490	J,f	42
SAII39	SOIL-Q-9-6	Soil	Pesticides	Dieldrin	120	J,g	42
SAII39	SOIL-Q-9-6	Soil	Pesticides	Endosulfan II	10	J,g	42
SAII39	SOIL-Q-9-6	Soil	Pesticides	Endrin	39	J,g	42
SAII39	SOIL-Q-9-6	Soil	Pesticides	Endrin Aldehyde	42	UJ,f	42
SAII39	SOIL-Q-9-6	Soil	Pesticides	gamma-Chlordane	210	J,f	22
SAII39	SOIL-Q-9-6	Soil	Pesticides	Heptachlor Epoxide	58	J,g	22
SAII39	SOIL-Q-9-6	Soil	Herbicides	2,4-D	4.8	J,g	10
SAII39	SOIL-Q-9-6	Soil	Herbicides	MCPP	560	J,g	2500
SAII39	SOIL-Q-9-6	Soil	Metals	Antimony	27	J,m	2.5
SAII39	SOIL-Q-9-6	Soil	Metals	Copper	520	J,d	2.5
SAII39	SOIL-Q-9-6	Soil	Metals	Mercury	0.62	J,d	0.23
SAII39	SOIL-Q-9-6	Soil	Metals	Selenium	0.8	U,o	0.8
SAII39	SOIL-Q-9-6	Soil	Metals	Zinc	2300	J,s	2.5

Table 6-86a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII40

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII40	WASTE-Q-10-8	7/26/02	Waste			X													
SAII40	WASTE-Q-10-8-DUP	7/26/02	Waste			X													
SAII40	WASTE-Q-10-COMP	7/26/02	Waste				X	X	X	X	X						X		
SAII40	WASTE-Q-10-COMP-DUP	7/26/02	Waste				X	X	X	X	X						X		
SAII40	WASTE-Q-1-5FT	7/26/02	Waste			X													
SAII40	WASTE-Q-1-COMP	7/26/02	Waste				X	X	X	X	X						X		
SAII40	WASTE-Q-9-8	7/26/02	Waste			X													
SAII40	WASTE-Q-9-COMP	7/26/02	Waste				X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII40_____ **Fraction:** _VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____

Lab: _Severn Trent-Savannah_____ **Project Name:** __Sauget Area 2_____

Reviewer: _____JA_____ **Date:** _____October 22, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the SVOC analyses, the MS and MSD samples were analyzed at a 10 times dilution due to matrix interference in the WASTE-Q-1-COMP MS/MSD pair. Most of the spiking compounds were diluted out. No data qualifying action was taken on this basis. Hexachlorocyclopentadiene (0% and 0%), 4,6-dinitro-2-methylphenol (0% and 0%), 2,4-dinitrophenol (0% and 0%) , and benzo(b)-fluoranthene (0% in MS) were not recovered in the WASTE-Q-9-COMP MS/MSD pair. This MS/MSD pair was re-analyzed by the laboratory. 2,4-Dinitrophenol (0% in MSD) and hexachlorocyclopentadiene (0% and 0%) were still not recovered. All 2,4-dinitrophenol and hexachlorocyclopentadiene results in the associated samples were flagged "R, m". Almost half of the MS/MSD recoveries were less than the lower control limit in the WASTE-Q-9-COMP MS/MSD pair. The surrogate recoveries for 2-fluorobiphenyl were less than the lower control limit (i.e., 30%) in samples WASTE-Q-9-COMPMS (21%), WASTE-Q-9-COMPMSD (24%), WASTE-Q-9-COMPMSRE (21%), and WASTE-Q-9-COMPMSDRE (22%). All other surrogate recoveries were in control but at low end. These MS and MSD samples displayed one or more internal standard peak area failures. The low MS/MSD recoveries may be attributed to the matrix interference and/or low extraction efficiency. The MS/MSD recoveries should not be used to assess the associated samples. Since LCS recoveries in the associated extraction batch were in control, no data qualifying action was taken. The data user is advised that the SVOC sample results may display more than usual bias or variability and should be used with caution.

Minor Anomalies: For the VOCs analyses, the Encore samplers for sample WASTE-Q-10-8 were received empty. This sample was analyzed from a bulk container and results may be biased low. All results in sample WASTE-Q-10-8 were flagged "J, Q" for positive detections and "UJ, Q" for non-detects. The continuing calibration verification (CCV) analyzed on 7/31/02 at 08:08 displayed %Ds greater than the

control limit (i.e., 20%) for bromomethane at 43.3%, acetone at 25.6%, and methylene chloride at -32.6%. Positive acetone and methylene chloride results were flagged "J, c" in the associated samples. Since bromomethane was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCV analyzed on 7/31/02 at 20:23 displayed %Ds greater than the control limit for bromomethane at 35.5%, methylene chloride at -41.6%, and 2-butanone at -21.0%. Since associated samples were QC samples, no data qualifying action was taken. The MS/MSD recoveries for bromomethane (289% and 286%), acetone (173% and 177%), benzene (264% and 1292%), 1,2-dichloroethane (258% and 824%), trichloroethene (151%), 4-methyl-2-pentanone (168% and 322%), toluene (469% and 1621%), tetrachloroethene (258% and 659%), 2-hexanone (184% and 228%), chlorobenzene (415% and 969%), ethyl benzene (189% and 366%), total xylene (200% and 430%) were greater than the upper control limit due to matrix interference in the WASTE-Q-1-5' MS/MSD pair. The relative percent differences (RPDs) for benzene (124%), 1,2-dichloroethane (100%), 4-methyl-2-pentanone (58%), toluene (103%), tetrachloroethene (80%), chlorobenzene (74%), ethyl benzene (57%), and total xylene (64%) were greater than the acceptance limit. Positive detections for these compounds, except those flagged due to calibration failure, were flagged "J, m" in the parent sample. The MS/MSD recoveries for bromomethane (225% and 231%) and 1,1,1-trichloroethane (135% in MS) were greater than the upper control limit due to matrix interference in the WASTE-Q-9-8' MS/MSD pair. The RPDs for acetone (34%), methylene chloride (39%), chloroform (41%), 1,2-dichloroethane (37%), trichloroethene (41%), 1,2-dichloropropane (36%), bromodichloromethane (40%), cis-1,3-dichloropropene (40%), toluene (37%), 1,1,2-trichloroethane (41%), dibromochloromethane (35%), chlorobenzene (36%), bromoform (40%), and 1,1,2,2-tetrachloroethane (35%) were greater than the acceptance limit. Since these compounds were not detected in the parent sample, no data qualifying action was taken. Since LCS recoveries in the associated extraction batch were in control, no data qualifying action was taken to the associated samples. The data user is advised that the VOC sample results may display more than usual bias or variability and should be used with caution. The internal standard peak areas for chlorobenzene-d5 were less than the lower control limit (i.e., 50%) in samples WASTE-Q-1-5'MS (49.8%) and WASTE-Q-1-5'MSD (41.0%). Since these two samples are QC samples, no data qualifying action was taken. Field duplicates displayed absolute differences greater than the control limit (difference < 2X RL) for acetone and chlorobenzene. Acetone and chlorobenzene results, except those previously flagged due to calibration failure, were flagged "J, f" for positive detections or "UJ, f" for non-detects in the associated samples.

For the SVOCs analyses, the CCV analyzed on 8/16/02 at 00:55 displayed %Ds greater than the control limit (i.e., 20%) for bis(2-chloroethyl)ether at 27.7%, hexachlorocyclopentadiene at -49.4%, 4,6-dinitro-2-methylphenol at 21.9%, and

surrogate nitrobenzene-d5 at 21.2%. The CCV analyzed on 8/16/02 at 18:09 displayed %Ds greater than the control limit for bis(2-chloroethyl)ether at 21.0%, hexachlorocyclopentadiene at -40.7%, 4,6-dinitro-2-methylphenol at 22.2%, and 2,4-dinitrophenol at 24.5%. The CCV analyzed on 8/30/02 at 09:50 displayed %Ds greater than the control limit for bis(2-chloroethyl)ether at 22.3%, 4,6-dinitro-2-methylphenol at -29.4%, and dinoseb at -21.4%. Since all compounds were not detected in the associated samples, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCVs analyzed on 8/16/02 at 01:47 and 8/16/02 at 18:42 displayed %Ds greater than the control limit for dinoseb at 44.0% and 51.1%, respectively. The dinoseb results in samples WASTE-Q-9-COMP and WASTE-Q-10-COMP-DUP were flagged "UJ, c". The surrogate recovery for 2-fluorobiphenyl was less than the lower control limit (i.e., 30%) in sample WASTE-Q-10-COMP (23%). Since all other surrogates in this sample were in control, no data qualifying action was taken. Surrogates were diluted out in samples WASTE-Q-1-COMP (DF =10), WASTE-Q-1-COMPDL (DF =50), WASTE-Q-1-COMPMS (DF =10), and WASTE-Q-1-COMPMSD (DF=10). Since the affected samples were analyzed at dilutions equal to or greater than 10, no data qualifying action was taken. Sample WASTE-Q-10-COMP-DUP displayed %Rs less than the lower control limit (i.e., 50%) for internal standards chrysene (44.9%) and perylene-d12 (31.3%). All results associated with those two surrogates were flagged "J, n" for positive detections or "UJ, n" for non-detects. This sample was re-analyzed on 8/16/02 by the laboratory and displayed three internal standard peak areas less than the lower control limits. The re-analyzed sample results should not be used for data interpretation. Sample WASTE-Q-1-COMP displayed 2,4-dichlorophenol and pentachlorophenol results that exceeded the calibration range. These results were flagged "J, q". This sample was re-analyzed at a greater dilution and these results were within the calibration range. It is recommended that results from the dilution analysis be used for data interpretation.

For the pesticides analyses, the CCV analyzed on 8/7/02 at 18:57 displayed a %D greater than the control limit on the confirmation column for endosulfan I (-15.7%). The positive endosulfan I result in sample WASTE-Q-10-COMP was flagged "J, c". The CCV analyzed on 8/8/02 at 05:33 displayed %Ds greater than the control limit on the confirmation column for endrin ketone (-20.9%), tetrachloro-m-xylene (TCMX, -16.7%), and decachlorobiphenyl (DCBP, -19.5%). Since all results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. Surrogates were diluted out in samples WASTE-Q-1-COMP (DF=50), WASTE-Q-9-COMP (DF=50), and their associated MS/MSD samples (DF=50). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Because of the abundance of target compounds in parent samples WASTE-Q-1-COMP (DF=50), WASTE-Q-9-COMP, the MS and MSD samples were analyzed at 50 times dilution. Therefore, the spiked pesticide compounds were not recovered and

MS/MSD summary forms have not been provided in this SDG. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, surrogates were diluted out in all field samples and their associated MS/MSD samples (DF from 10 to 500). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Because of the abundance of target compounds in parent samples WASTE-Q-1-COMP (DF=500), WASTE-Q-9-COMP (DF=100), the MS and MSD samples were analyzed at the same dilution as the parent sample. Therefore, the spiked PCBs were not recovered in either MS/MSD pair (except the MSD recovery for octachlorobiphenyl in the WASTE-Q-9-COMP MS/MSD pair at 33%). The RPDs for dichlorobiphenyl (60%) and heptachlorobiphenyl (143%) were greater than the QC limit for WASTE-Q-1-COMP MS/MSD pair. The RPDs for trichlorobiphenyl (134%), tetrachlorobiphenyl (114%), pentachlorobiphenyl (112%), hexachlorobiphenyl (108%), heptachlorobiphenyl (163%), and octachlorobiphenyl (200%) were greater than the QC limit for WASTE-Q-9-COMP MS/MSD pair. Since all MS and MSD samples were analyzed at high dilution factors, no data qualifying action was taken. The data user is advised that the PCB sample results may display more than usual bias or variability and should be used with caution.

For the herbicides analyses, the method blank prepped on 8/6/02 displayed a positive detection for pentachlorophenol (PCP) at 4.4 µg/kg. Positive PCP results in samples WASTE-Q-9-COMP and WASTE-Q-10-COMP-DUP were flagged "U, z" at the reporting limit (RL). The CCV analyzed on 8/10/02 at 10:46 displayed a %D greater than the control limit (i.e., 15%) on the primary column for 2,4-DB at 20.6%. Since 2,4-DB was not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. Surrogates were diluted out in sample WASTE-Q-1-COMP (DF=5000) and its associated MS/MSD samples (DF=5000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Because of the abundance of target compounds in parent sample WASTE-Q-1-COMP (DF=5000), the MS and MSD samples were analyzed at the same dilution as the parent sample. Therefore, the spiked herbicide compounds were not recovered in this MS/MSD pair and MS/MSD summary forms have not been provided in this SDG. The RPDs for MCPP (74%), 2,4-D (62%), and pentachlorophenol (67%) were greater than the acceptance limit in the WASTE-Q-9-COMP MS/MSD pair. Since all MS and MSD recoveries in this MS/MSD pair and the LCS in this analytical batch were in control, no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., 40%) for several positive detections. These results were flagged "J, g". It should be noted that the lower results were reported by the

laboratory. These results may be biased low. Field duplicates displayed absolute differences greater than the control limit (difference < 2X RL) for 2,4-D and PCP. 2,4-D and PCP results, except those previously flagged due to other QC failures, were flagged "J, f" for positive detections or "UJ, f" for non-detects in the associated samples.

For the metal analyses, the initial CRDL percent recoveries for aluminum (124%), arsenic (127%), lead (136%), and thallium (73%, 76%, and 67%), and the final CRDL recoveries for aluminum (136%), lead (124%), sodium (69%), and thallium (78% and 79%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 2.3402 mg/kg, arsenic at -0.6313 mg/kg, cadmium at -0.0523 mg/kg, calcium at 2.0763 mg/kg, chromium at 0.1536 mg/kg, magnesium at 0.6902 mg/kg, and sodium at 41.274 mg/kg. Since all results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Selenium was detected in one continuing calibration blank at 0.00608 mg/L. The positive selenium result in sample WASTE-Q-9-COMP was flagged "U, o". Aluminum, arsenic, barium, chromium, cobalt, copper, manganese, mercury, potassium, thallium, and vanadium were detected in the initial calibration blank (ICB) and/or continuing calibration blanks (CCBs) at low levels. Since all results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. All samples displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. The positive selenium results in samples WASTE-Q-10-COMP and WASTE-Q-10-COMP-DUP were flagged "J, n". The positive vanadium result in sample WASTE-Q-10-COMP-DUP was also flagged "J, n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (66% and 59%), cadmium (52% and 46%), and potassium (61% and 39%) were less than the lower control limit (i.e., 75%) in the WASTE-Q-1-COMP MS/MSD pair. All antimony, cadmium, and potassium results in sample WASTE-Q-1-COMP were flagged "J, m". The RPD for mercury (115.9%) was greater than the acceptance limit (i.e., 35%) in the WASTE-Q-1-COMP MS/MSD pair. The positive mercury result in sample WASTE-Q-1-COMP was flagged "J, d". Since the RPD result was in control in the WASTE-Q-9-COMP MS/MSD pair, no data qualifying action was taken for mercury results in other field samples. The MS/MSD recoveries for antimony (43% and 44%), nickel (46% in MS), potassium (47% in MS), and silver (61% in MS) were less than the lower control limit (i.e., 75%) in the WASTE-Q-9-COMP MS/MSD pair. All antimony, nickel, potassium, and silver results in samples WASTE-Q-9-COMP, WASTE-Q-10-COMP, and WASTE-Q-10-COMP-DUP were flagged "J, m". The RPDs for copper (45.99%), iron (45.21%), and manganese (35.89%) were greater than the acceptance limit (i.e., 35%) in the WASTE-Q-9-COMP

MS/MSD pair. Positive copper, iron, and manganese results in samples WASTE-Q-9-COMP, WASTE-Q-10-COMP, and WASTE-Q-10-COMP-DUP were flagged "J, d". The post-digestion spike analysis was performed and recoveries for these compounds were in control. Field duplicates displayed a RPD greater than the control limit (i.e., 100%) for nickel at 181.0%. The positive nickel result in sample WASTE-Q-1-COMP was flagged "J, f". Since all other nickel results were previously flagged due to MS/MSD recovery failure, no additional data flags were applied.

Correctable Anomalies: The SVOC case narrative was incorrect in this data package. The laboratory was contacted and revised case narrative was received.

Comments: Due to the abundance of target compounds, some samples were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points, all data are usable, as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-86b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII40

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII40	WASTE-Q-10-8	Waste	VOCs	1,1,1-Trichloroethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	1,1,2,2-Tetrachloroethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	1,1,2-Trichloroethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	1,1-Dichloroethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	1,1-Dichloroethylene	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	1,2-Dichloroethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	1,2-Dichloroethene (total)	13	UJ,q	13
SAII40	WASTE-Q-10-8	Waste	VOCs	1,2-Dichloropropane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	2-Butanone (MEK)	33	UJ,q	33
SAII40	WASTE-Q-10-8	Waste	VOCs	4-Methyl-2-pentanone (MIBK)	33	UJ,q	33
SAII40	WASTE-Q-10-8	Waste	VOCs	Acetone	66	UJ,q	66
SAII40	WASTE-Q-10-8	Waste	VOCs	Benzene	0.62	J,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Bromodichloromethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Bromoform	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Bromomethane	13	UJ,q	13
SAII40	WASTE-Q-10-8	Waste	VOCs	Carbon Disulfide	0.95	J,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Carbon Tetrachloride	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Chlorobenzene	3.8	J,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Chlorodibromomethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Chloroethane	13	UJ,q	13
SAII40	WASTE-Q-10-8	Waste	VOCs	Chloroform	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Chloromethane	13	UJ,q	13
SAII40	WASTE-Q-10-8	Waste	VOCs	cis-1,3-Dichloropropene	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Dichloromethane	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Ethylbenzene	0.94	J,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Methyl N-Butyl Ketone	33	UJ,q	33
SAII40	WASTE-Q-10-8	Waste	VOCs	Styrene (Monomer)	0.37	J,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Tetrachloroethene	1	J,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Toluene	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	trans-1,3-Dichloropropene	6.6	UJ,q	6.6
SAII40	WASTE-Q-10-8	Waste	VOCs	Trichloroethene	13	J,q	6.6

Table 6-86b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII40

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII40	WASTE-Q-10-8	Waste	VOCs	Vinyl chloride	13	UJ,q	13
SAII40	WASTE-Q-10-8	Waste	VOCs	Xylenes, Total	2.8	J,q	13
SAII40	WASTE-Q-10-8-DUP	Waste	VOCs	Acetone	280	J,c	120
SAII40	WASTE-Q-10-8-DUP	Waste	VOCs	Chlorobenzene	34	J,f	12
SAII40	WASTE-Q-10-COMP	Waste	SVOCs	2,4-Dinitrophenol	2400	R,m	2400
SAII40	WASTE-Q-10-COMP	Waste	SVOCs	Hexachlorocyclopentadiene	460	R,m	460
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	4,4'-DDD	12	J,g	4.6
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	4,4'-DDE	6.7	J,g	4.6
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	4,4'-DDT	10	J,g	4.6
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	Endosulfan I	1.1	J,c	2.4
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	Endosulfan II	3.3	J,g	4.6
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	Endrin Aldehyde	6.5	J,g	4.6
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	gamma-BHC (Lindane)	0.69	J,g	2.4
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	gamma-Chlordane	8.8	J,g	2.4
SAII40	WASTE-Q-10-COMP	Waste	Pesticides	Heptachlor Epoxide	3.3	J,g	2.4
SAII40	WASTE-Q-10-COMP	Waste	Herbicides	2,4-D	33	J,f	12
SAII40	WASTE-Q-10-COMP	Waste	Herbicides	MCPP	1300	J,g	2800
SAII40	WASTE-Q-10-COMP	Waste	Herbicides	Pentachlorophenol	170	J,f	24
SAII40	WASTE-Q-10-COMP	Waste	Metals	Antimony	33	J,m	2.8
SAII40	WASTE-Q-10-COMP	Waste	Metals	Copper	4600	J,d	2.8
SAII40	WASTE-Q-10-COMP	Waste	Metals	Iron	130000	J,d	6.9
SAII40	WASTE-Q-10-COMP	Waste	Metals	Manganese	1000	J,d	1.4
SAII40	WASTE-Q-10-COMP	Waste	Metals	Nickel	5200	J,m	2.8
SAII40	WASTE-Q-10-COMP	Waste	Metals	Potassium	2200	J,m	140
SAII40	WASTE-Q-10-COMP	Waste	Metals	Selenium	3.9	J,n	1.4
SAII40	WASTE-Q-10-COMP	Waste	Metals	Silver	37	J,m	1.4
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	2,4-Dinitrophenol	2200	R,m	2200
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	3,3'-Dichlorobenzidine	840	UJ,n	840
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Benzo(a)anthracene	210	J,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Benzo(a)pyrene	420	UJ,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Benzo(b)fluoranthene	420	UJ,n	420

Table 6-86b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII40

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Benzo(g,h,i)perylene	420	UJ,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Benzo(k)fluoranthene	440	J,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Benzyl Butyl Phthalate	82	J,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	bis(2-Ethylhexyl)phthalate	220	J,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Chrysene	290	J,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Dibenzo(a,h)anthracene	420	UJ,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Di-n-octylphthalate	420	UJ,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Dinoseb	420	UJ,c	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Hexachlorocyclopentadiene	420	R,m	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Indeno(1,2,3-cd)pyrene	420	UJ,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	SVOCs	Pyrene	770	J,n	420
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	4,4'-DDD	10	J,g	4.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	4,4'-DDE	6.7	J,g	4.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	4,4'-DDT	6.9	J,g	4.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	alpha-Chlordane	8.6	J,g	2.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	beta-BHC	0.21	J,g	2.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	Endrin Aldehyde	5.7	J,g	4.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	gamma-BHC (Lindane)	0.75	J,g	2.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	gamma-Chlordane	8.4	J,g	2.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	Heptachlor Epoxide	2.6	J,g	2.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Pesticides	Methoxychlor	5.4	J,g	22
SAII40	WASTE-Q-10-COMP-DUP	Waste	Herbicides	2,4-D	3.8	J,g	10
SAII40	WASTE-Q-10-COMP-DUP	Waste	Herbicides	MCPP	1000	J,g	2500
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Antimony	44	J,m	1.1
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Copper	2800	J,d	1.1
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Iron	130000	J,d	1.1
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Manganese	1000	J,d	1.1
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Nickel	260	J,m	4.2
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Potassium	1500	J,m	110
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Selenium	2.2	J,n	1.1
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Silver	17	J,m	1.1

Table 6-86b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII40

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII40	WASTE-Q-10-COMP-DUP	Waste	Metals	Vanadium	21	J,n	1.1
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Acetone	22	J,c	94
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Benzene	24	J,m	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Chlorobenzene	7.8	J,m	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Dichloromethane	9.1	J,c	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Ethylbenzene	7	J,m	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Tetrachloroethene	9.9	J,m	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Toluene	25	J,m	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Trichloroethene	2.2	J,m	9.4
SAII40	WASTE-Q-1-5FT	Waste	VOCs	Xylenes, Total	40	J,m	19
SAII40	WASTE-Q-1-COMP	Waste	SVOCs	2,4-Dinitrophenol	21000	R,m	21000
SAII40	WASTE-Q-1-COMP	Waste	SVOCs	Hexachlorocyclopentadiene	4000	R,m	4000
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	4,4'-DDT	540	J,g	200
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	beta-BHC	1300	J,g	100
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	Endosulfan II	220	J,g	200
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	Endrin	600	J,g	200
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	gamma-BHC (Lindane)	310	J,g	100
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	gamma-Chlordane	56	J,g	100
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	Heptachlor Epoxide	150	J,g	100
SAII40	WASTE-Q-1-COMP	Waste	Pesticides	Methoxychlor	180	J,g	1000
SAII40	WASTE-Q-1-COMP	Waste	Herbicides	2,4-D	110000	J,f	51000
SAII40	WASTE-Q-1-COMP	Waste	Herbicides	Pentachlorophenol	290000	J,f	100000
SAII40	WASTE-Q-1-COMP	Waste	Metals	Antimony	4.3	J,m	2.2
SAII40	WASTE-Q-1-COMP	Waste	Metals	Cadmium	8	J,m	0.55
SAII40	WASTE-Q-1-COMP	Waste	Metals	Mercury	1.1	J,d	0.44
SAII40	WASTE-Q-1-COMP	Waste	Metals	Nickel	56	J,f	4.4
SAII40	WASTE-Q-1-COMP	Waste	Metals	Potassium	1000	J,m	110
SAII40	WASTE-Q-9-8	Waste	VOCs	Acetone	93	UJ,f	93
SAII40	WASTE-Q-9-8	Waste	VOCs	Chlorobenzene	9.3	UJ,f	9.3
SAII40	WASTE-Q-9-COMP	Waste	SVOCs	2,4-Dinitrophenol	2600	R,m	2600
SAII40	WASTE-Q-9-COMP	Waste	SVOCs	Dinoseb	500	UJ,c	500

Table 6-86b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII40

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII40	WASTE-Q-9-COMP	Waste	SVOCs	Hexachlorocyclopentadiene	500	R,m	500
SAII40	WASTE-Q-9-COMP	Waste	Pesticides	4,4'-DDE	50	J,g	250
SAII40	WASTE-Q-9-COMP	Waste	Pesticides	4,4'-DDT	390	J,g	250
SAII40	WASTE-Q-9-COMP	Waste	Pesticides	Dieldrin	29	J,g	250
SAII40	WASTE-Q-9-COMP	Waste	Pesticides	Endosulfan II	87	J,g	250
SAII40	WASTE-Q-9-COMP	Waste	Pesticides	gamma-BHC (Lindane)	25	J,g	130
SAII40	WASTE-Q-9-COMP	Waste	Pesticides	Heptachlor Epoxide	180	J,g	130
SAII40	WASTE-Q-9-COMP	Waste	Herbicides	2,4-D	12	UJ,f	12
SAII40	WASTE-Q-9-COMP	Waste	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	290	J,g	3000
SAII40	WASTE-Q-9-COMP	Waste	Herbicides	MCPP	540	J,g	3000
SAII40	WASTE-Q-9-COMP	Waste	Metals	Antimony	35	J,m	2.5
SAII40	WASTE-Q-9-COMP	Waste	Metals	Copper	1000	J,d	2.5
SAII40	WASTE-Q-9-COMP	Waste	Metals	Iron	77000	J,d	6.3
SAII40	WASTE-Q-9-COMP	Waste	Metals	Manganese	1000	J,d	1.3
SAII40	WASTE-Q-9-COMP	Waste	Metals	Nickel	120	J,m	5
SAII40	WASTE-Q-9-COMP	Waste	Metals	Potassium	1100	J,m	130
SAII40	WASTE-Q-9-COMP	Waste	Metals	Selenium	2.9	U,o	1.3
SAII40	WASTE-Q-9-COMP	Waste	Metals	Silver	8.1	J,m	1.3

Table 6-87a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII41	GW-AA-Q-1-110	7/30/02	Groundwater			X	X												
SAII41	GW-AA-Q-1-120	7/30/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII41	GW-AA-Q-1-120-Filtered	7/30/02	Groundwater				X				X						X		
SAII41	GW-AA-Q-1-127 1/2	7/30/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII41	GW-AA-Q-1-127 1/2-DUP	7/30/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII41	GW-AA-Q-1-127 1/2-Filtered	7/30/02	Groundwater				X				X						X		
SAII41	GW-AA-Q-7-104	7/30/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII41	GW-AA-Q-7-104-DUP	7/30/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII41	GW-AA-Q-7-104-Filtered	7/30/02	Groundwater				X				X						X		
SAII41	GW-AA-Q-7-104-Filtered-DUP	7/30/02	Groundwater				X				X						X		
SAII41	GW-AA-Q-7-94	7/30/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII41_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____October 21, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the pesticide analyses, the recovery for surrogate decachlorobiphenyl (9%) was less than the QC limit (i.e., 30-150%) in sample GW-AA-Q-1-127 ½. Positive results were flagged "J,s" and non-detects were flagged "R",s".

Minor Anomalies: For the VOC analyses, the trip blank TB-0730-KC contained carbon disulfide at 0.31 ug/L and styrene at 2.4 ug/L. Positive carbon disulfide results less than five times the blank concentration were flagged "U,y" at the reporting limit. All associated sample results were non-detects for styrene and no data qualifying action was required. The initial calibration correlation coefficient for bromomethane (0.987) was less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 8/1/02. All associated sample results were non-detects and were flagged "UJ,r". The %Ds were greater than the QC limit (i.e., 20%) for chloromethane (-27.2%) and bromomethane (-26.3%) for the continuing calibration analyzed on 8/9/02. The %Ds were greater than the QC limit for chloromethane (-21.4%) for the continuing calibration analyzed on 8/11/02. Positive results were flagged "J,c" unless previously flagged due to initial calibration failure. The MS recovery was greater than the QC limit (i.e., 40-141%) for bromomethane at 150%. The MSD and LCS recoveries were acceptable and no data qualifying action was required. Chlorobenzene exceeded the calibration range in several samples and was flagged "E" by the laboratory. These results were flagged "J,q". These samples were re-analyzed at different dilution factors and the results from the dilution analyses should be used for data interpretation.

For the SVOC analyses, the %Ds were greater than the QC limit (i.e., 20%) for bis(2-chloroisopropyl)ether (22.3%), 4,6-dinitro-2-methylphenol (-29.4%), and dinoseb (-21.4%) for the continuing calibration analyzed on 8/30/02 at 0950. The %Ds were greater than the QC limit for 2,4-dinitrophenol (37%) and dinoseb (24.7%) for the continuing calibration analyzed on 9/4/02 at 0805. The %Ds were greater than the QC limit for 2,4-dinitrophenol (45.2%), 4,6-dinitro-2-

methylphenol (27.6%), 3,3-dichlorobenzidine (-22.5%) and dinoseb (27.2%) for the continuing calibration analyzed on 9/5/02 at 1137. Since these compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Surrogates were not recovered in samples GW-AA-Q-1-127 1/2 (DF = 10), GW-AA-Q-1-127 1/2 DL (DF = 20), GW-AA-Q-1-127 1/2 –DUP (DF = 10), GW-AA-Q-1-127 1/2 –DUP DL (DF = 20), GW-AA-Q-1-127 1/2 FILTERED DL (DF = 20), and GW-AA-Q-1-127 ½-DUP FILTERED DL (DF = 20). No data qualifying action was required since the dilution factors were greater than or equal to 10. Several compounds exceeded the calibration range in several samples and were flagged "E" by the laboratory. These results were flagged "J,q". These samples were re-analyzed at different dilution factors and the results from the dilution analyses should be used for data interpretation.

For the pesticide analyses, the %Ds for 4,4-DDT (16%) on the primary column and alpha-BHC (-32.8%), delta-BHC (-29.4%), and 4,4,-DDE (-29.6%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/10/02 at 0811. The %Ds for alpha-BHC (-33%), delta-BHC (-30.2%), and 4,4,-DDE (-28.9%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/9/02 at 2209. The %Ds for 4,4-DDT (-21.3%) and methoxychlor (-18.9%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/21/02 at 1314. The positive alpha-BHC result was flagged "J,c" in sample GW-AA-Q-1-127 1/2 –D. No positive results were reported for the other compounds and no data flags were applied since the recoveries were acceptable on the alternate column. The recoveries for surrogate dacachlorobiphenyl were less than the QC limit (i.e. 30-150%) on both columns in all samples. The recovery for surrogate tetrachloro-m-xylene was less than the QC limit (i.e. 30-150%) on one column in sample GW-AA-Q-1-127 1/2 (26%). All associated sample results were non-detects and were flagged "UJ,s". The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., < 40%) for several compounds in several samples. These results were previously flagged due to surrogate failure and no data qualifying action was taken. The recovery for internal standard bromonitrobenzene was greater than the QC limit (i.e. 50-150%) in samples GW-AA-Q-1-127 1/2 (158%)and GW-AA-Q-1-127 1/2 DUP (155%). All associated sample results were previously flagged and no data qualifying action was taken.

For the herbicide analyses, the method blank contained pentachlorophenol at 0.24 ug/L. All associated sample results were non-detects and no data qualifying action was required. The %Ds for pentachlorophenol (-18.5% and –20.2%), 2,4,5-TP (-22.1% and –23.3%), 2,4,5-T (-22.2% and –24.2%), and 2,4-DB (-20.1% and –16.2%) on both columns were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/6/02 at 0931. The %D for

MCPA (15.5%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 8/6/02 at 2025. Non-detects were flagged "UJ,c" for pentachlorophenol, 2,4,5-TP, 2,4,5-T, and 2,4-DB. All associated sample results were non-detects for MCPA and no data qualifying action was required since the %D was acceptable on the alternate column.

For the metal analyses, the initial and final CRDL percent recoveries for iron (79%, 126%, and 79%), selenium (123%, 132%, and 129%), and thallium (124% and 77%), and the final CRDL recoveries for lead (124% and 126%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum, calcium, and magnesium. Positive aluminum results less than 5 times the blank concentration were flagged "U,p" at the reporting limit. The initial and continuing calibration blanks also contained aluminum, barium, magnesium, copper, vanadium and manganese at low levels. All associated sample results were greater than 5 times the blank concentration and no data qualifying action was taken. The MS and or MSD recoveries were greater than the QC limit (i.e., 75-125%) for aluminum (184% and 156%), potassium (127%) and sodium (129%). Positive results were flagged "J,m" unless previously flagged due to other failures.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 for instrument VMTFID1. Positive methane results were flagged "J, r" in the associated samples. The continuing calibration %D was greater than the QC limit (i.e., 15%) for the FID detector (20.6%) for the continuing calibration analyzed on 8/7/02. This result was previously flagged and no further action was required. The continuing calibration %D was greater than the QC limit (i.e., 15%) for the TCD detector (19.9%) for the continuing calibration analyzed on 8/7/02. The positive methane result was flagged "J,c" in the associated samples. Methane exceeded the calibration range in several samples and was flagged "E" by the laboratory. These results were previously flagged due to calibration failure, and no data qualifying action was taken. The results from the TCD detector should be used. The MS/MSD recoveries were less than the QC limit (i.e., 75-125%) for methane (66% and 74%). These results were previously flagged due to calibration failure, and no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, except for those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-87b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII41	GW-AA-Q-1-110	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII41	GW-AA-Q-1-110	Groundwater	VOCs	Carbon Disulfide	1	U,y	1
SAII41	GW-AA-Q-1-110	Groundwater	VOCs	Chloromethane	0.21	J,c	1
SAII41	GW-AA-Q-1-120	Groundwater	VOCs	Bromomethane	2	UJ,r	2
SAII41	GW-AA-Q-1-120	Groundwater	VOCs	Carbon Disulfide	2	U,y	2
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII41	GW-AA-Q-1-120	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII41	GW-AA-Q-1-120	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-120	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-120	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-120	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII41	GW-AA-Q-1-120	Groundwater	Methane	Methane	98	J,r	0.19

Table 6-87b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII41	GW-AA-Q-1-120	Groundwater	Metals	Aluminum	30	J,m	0.2
SAII41	GW-AA-Q-1-120	Groundwater	Metals	Potassium	24	J,m	1
SAII41	GW-AA-Q-1-120	Groundwater	Metals	Sodium	61	J,m	0.5
SAII41	GW-AA-Q-1-120-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII41	GW-AA-Q-1-120-Filtered	Groundwater	Metals	Potassium	16	J,m	1
SAII41	GW-AA-Q-1-120-Filtered	Groundwater	Metals	Sodium	63	J,m	0.5
SAII41	GW-AA-Q-1-127 1/2	Groundwater	VOCs	Bromomethane	5	UJ,r	5
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	4,4'-DDD	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	4,4'-DDE	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	4,4'-DDT	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Aldrin	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	alpha-BHC	0.056	J,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	alpha-Chlordane	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	beta-BHC	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	delta-BHC	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Dieldrin	0.076	J,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Endosulfan I	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Endosulfan II	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Endosulfan Sulfate	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Endrin	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Endrin Ketone	0.1	R,s	0.1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	gamma-Chlordane	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Heptachlor	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Heptachlor Epoxide	0.05	R,s	0.05
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Methoxychlor	0.5	R,s	0.5
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Pesticides	Toxaphene	5	R,s	5
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5

Table 6-87b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Methane	Methane	89	J,r	0.19
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Metals	Aluminum	21	J,m	0.2
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Metals	Potassium	32	J,m	1
SAII41	GW-AA-Q-1-127 1/2	Groundwater	Metals	Sodium	66	J,m	0.5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	VOCs	Bromomethane	5	UJ,r	5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	VOCs	Chloromethane	2.7	J,c	5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	alpha-BHC	0.056	J,c	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Endosulfan II	0.04	J,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Endosulfan Sulfate	0.051	J,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Endrin	0.055	J,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Heptachlor Epoxide	0.45	J,s	0.05
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5

Table 6-87b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII41	GW-AA-Q-1-127 1/2-DUP	Groundwater	Methane	Methane	110	J,r	0.19
SAII41	GW-AA-Q-1-127 1/2-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII41	GW-AA-Q-1-127 1/2-Filtered	Groundwater	Metals	Potassium	26	J,m	1
SAII41	GW-AA-Q-1-127 1/2-Filtered	Groundwater	Metals	Sodium	64	J,m	0.5
SAII41	GW-AA-Q-7-104	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII41	GW-AA-Q-7-104	Groundwater	VOCs	Chloromethane	0.5	J,c	1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII41	GW-AA-Q-7-104	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII41	GW-AA-Q-7-104	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII41	GW-AA-Q-7-104	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII41	GW-AA-Q-7-104	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5

Table 6-87b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII41	GW-AA-Q-7-104	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1
SAII41	GW-AA-Q-7-104	Groundwater	Methane	Methane	470	J,c	0.19
SAII41	GW-AA-Q-7-104	Groundwater	Metals	Aluminum	0.18	J,m	0.2
SAII41	GW-AA-Q-7-104	Groundwater	Metals	Potassium	10	J,m	1
SAII41	GW-AA-Q-7-104	Groundwater	Metals	Sodium	15	J,m	0.5
SAII41	GW-AA-Q-7-104-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Herbicides	2,4,5-T	0.5	UJ,c	0.5
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	UJ,c	0.5
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Herbicides	Pentachlorophenol	1	UJ,c	1

Table 6-87b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII41

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Methane	Methane	660	J,c	0.19
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Metals	Aluminum	0.35	J,m	0.2
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Metals	Potassium	10	J,m	1
SAII41	GW-AA-Q-7-104-DUP	Groundwater	Metals	Sodium	15	J,m	0.5
SAII41	GW-AA-Q-7-104-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII41	GW-AA-Q-7-104-Filtered	Groundwater	Metals	Potassium	11	J,m	1
SAII41	GW-AA-Q-7-104-Filtered	Groundwater	Metals	Sodium	16	J,m	0.5
SAII41	GW-AA-Q-7-104-Filtered-DUP	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII41	GW-AA-Q-7-104-Filtered-DUP	Groundwater	Metals	Potassium	10	J,m	1
SAII41	GW-AA-Q-7-104-Filtered-DUP	Groundwater	Metals	Sodium	15	J,m	0.5
SAII41	GW-AA-Q-7-94	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII41	GW-AA-Q-7-94	Groundwater	VOCs	Carbon Disulfide	1	U,y	1

Table 6-88a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII42

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII42	GW-AA-Q-2-110	7/31/02	Groundwater			X	X												
SAII42	GW-AA-Q-2-110-DUP	7/31/02	Groundwater				X												
SAII42	GW-AA-Q-2-120	7/31/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII42	GW-AA-Q-2-120-Filtered	7/31/02	Groundwater				X				X						X		
SAII42	GW-AA-Q-2-60	7/31/02	Groundwater					X	X	X	X		X	X	X	X	X	X	
SAII42	GW-AA-Q-2-60-DUP	7/31/02	Groundwater										X						
SAII42	GW-AA-Q-2-60-Filtered	7/31/02	Groundwater				X				X						X		
SAII42	GW-AA-Q-8-24	7/31/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII42	GW-AA-Q-8-24-Filtered	7/31/02	Groundwater				X				X						X		
SAII42	GW-AA-Q-8-34	7/31/02	Groundwater			X	X												
SAII42	GW-AA-Q-8-34-DUP	7/31/02	Groundwater			X	X												
SAII42	GW-AA-Q-8-44	7/31/02	Groundwater			X	X												
SAII42	GW-AA-Q-8-54	7/31/02	Groundwater			X	X												
SAII42	GW-AA-Q-8-64	7/31/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII42	GW-AA-Q-8-64-Filtered	7/31/02	Groundwater				X				X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII42_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, Dissolved Gases, Wet Chemistry_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 29, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: For the VOCs analyses, acetone displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) in the initial calibration at 0.0487, the CCV analyzed on 8/6/02 at 15:03 at 0.04013, and in the CCV analyzed on 8/7/02 at 08:32 at 0.04357. Associated sample results were non-detect and were flagged "R,c".

For the pesticides analyses, the LCS/LCSD displayed %Rs less than the lower control limit (i.e. 46%) for alpha-BHC at 40% and 44%. Associated sample results were non-detect and flagged "R,l".

For the herbicides analyses, samples GW-AA-Q-2-120 and GW-AA-Q-8-64 were re-extracted outside the holding time (i.e. 14 days) by 28 days due to possible blank contamination from the original method blank. Associated sample results with positive detections were flagged "J,h"; non-detects were flagged "R,h". It is recommended that the original results be used for data interpretation.

Minor Anomalies: For the VOCs analyses, method blank 2O0806MB displayed positive detections for methylene chloride at 1.3 ug/L, for carbon tetrachloride at 0.11 ug/L, for ethylbenzene at 0.20 ug/L, for styrene at 0.18 ug/L, and for total xylenes at 0.64 ug/L. Method blank 1O0807MB displayed positive detections for methylene chloride at 1.4 ug/L, for ethylbenzene at 0.11 ug/L, and for total xylenes at 0.31 ug/L. Associated sample results with positive detections less than 5x or 10x (for common laboratory contaminations) the amount found in the blank were flagged "U,z" at the reporting limit. The CCV analyzed on 8/6/02 at 15:03 displayed %Ds greater than the control limit (i.e. <20%) for 1,1-dichloroethane at 38.4% and for tetrachloroethene (PCE) at 24.7%. The CCV analyzed on 8/7/02 at 08:32 displayed %Ds greater than the control limit for bromomethane at 26.5%, for chloroethane at 22.2%, for 1,1-dichloroethane at 48.5%, for PCE at 28.5%, and for 1,2-dichloroethene (total) at 34.7%. Positive 1,1-dichloroethane results in samples GW-AA-Q-8-44 and GW-AA-Q-8-54 were flagged "J,c". All other associated sample results were non-detect and no data qualifying action was taken due to the anomalies being only slightly greater than the control limit.

For the SVOCs analyses, the initial calibration analyzed on 8/23/02 displayed correlation coefficients less than the control limit (i.e. 0.990) for 4-nitrophenol at 0.9895, for pentachlorophenol (PCP) at 0.9878, for butylbenzylphthalate at 0.989, and for bis (2-ethylhexyl) phthalate at 0.9877. Associated sample results were non-detect and were flagged "UJ,r". The CCV analyzed on 8/26/02 at 11:58 displayed a %D greater than the

control limit (i.e. <20%) for butylbenzylphthalate at 29.2%. Since this analyte was previously flagged, no further data qualifying action was taken. The CCV analyzed on 8/30/02 at 08:17 displayed %Ds greater than the control limit for 2,6-dinitrotoluene at 33.5%, for 2,4-dinitrophenol at 24.0%, for 2,4-dinitrotoluene at 31.1%, for 4,6-dinitro-2-methylphenol at 29.5%, and for dinoseb at 26.2%. Since the associated sample results were non-detect and the anomalies were only slightly greater than the control limit, no data qualifying action was taken.

For the pesticides analyses, the CCV analyzed on 8/10/02 at 08:11 displayed %Ds greater than the control limit (i.e. <15%) for 4,4'-DDT at 16.0%, for surrogate 2,4-DCAA at -20.6%, and for surrogate tetrachloro-meta-xylene (TCMX) at -21.0% on the primary column; and for alpha-BHC at -32.8%, for delta-BHC at -29.4%, for 4,4'-DDE at -29.9%, for surrogate decachlorobiphenyl (DCBP) at -20.2%, for surrogate 2,4-DCAA at -17.3%, and for surrogate TCMX at -23.6% on the confirmation column. The CCV analyzed on 8/10/02 at 17:48 for surrogate 2,4-DCAA at -19.6% and for surrogate TCMX at -21.5% on the primary column; and for alpha-BHC at -30.4%, for delta-BHC at -26.1%, for 4,4'-DDE at -27.3%, for 4,4'-DDT at -16.4%, for surrogate DCBP at -17.2%, and for surrogate TCMX at -20.2% on the confirmation column. Since the anomalies either met criteria on the alternate column or were surrogates, no data qualifying action was taken. Surrogate DCBP displayed %Rs less than the lower control limit on both column in samples GW-AA-Q-8-24 at 14% and 15%, for sample GW-AA-Q-2-120 at 15% and 10%, and for GW-AA-Q-2-60 at 14% and 12%. Associated sample results with positive detections were flagged "J,s"; non-detects were flagged "UJ,s", unless previously flagged for other anomalies. Sample GW-AA-Q-8-64 displayed a %R less than the lower control limit for surrogate DCBP on the confirmation column at 24%. Since the surrogate met criteria on the alternate column, no data qualifying action was taken. Sample GW-AA-Q-8-24 displayed a %RPD greater than the control limit (i.e. <40%) between columns for endosulfan I at 52.6% and was flagged "J,g".

For the herbicides analyses, method blank 0807N-SMB displayed positive detections for dicamba at 0.13 ug/L, for MCPP at 37 ug/L, for dichloroprop at 0.14 ug/L, for 2,4-D at 2.1 ug/L, for PCP at 1.6 ug/L, for 2,4,5-TP at 0.12 ug/L, and for 2,4,5-T at 0.21 ug/L. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,z". The CCV analyzed on 8/12/02 at 15:18 displayed %Ds greater than the control limit (i.e. <15%) for MCPP at 18.4%, for dichloroprop at 18.5%, and for PCP at 15.9% on the primary column; and for MCPA at 20.5%, for 2,4-D at 19.1%, and for 2,4-DB at 23.4% on the confirmation column. Since these compounds met criteria on the alternate column, no data qualifying action was taken. The LCS displayed a %R greater than the control limit for PCP at 290% and a %RPD greater than the control limit for the LCS/LCSD pair at 102%. Since associated PCP results were non-detect, no data qualifying action was taken. Sample GW-AA-Q-2-60 displayed a %RPD greater than the control limit (I.e. <40%) between columns for dichloroprop at 122.7%. Since this result was previously flagged due to method blank contamination, no further data qualifying action was taken.

For the metals analyses, the CRDL displayed %Rs less than the lower control limit (i.e. 80%) for iron at 79% and 79%. The CRDLs also displayed %Rs greater than the upper control limit (i.e. <120%) for selenium at 123% and 129%, and for lead at 124%. Since the anomalies were only marginally outside the control limit, no data qualifying action

was taken. The prep blank displayed positive detections for aluminum at 0.02256 mg/L, for calcium at 0.03087 ug/L, and for magnesium at 0.00934 mg/L. Associated sample results with positive detections less than 5x the amount found in the blank for aluminum, calcium, and magnesium were flagged "U,p" at the reporting limit. Aluminum displayed positive detections in the ICB and in CCB5 through CCB7 ranging from 0.01534 mg/L to 0.03292 mg/L, barium in CCB5 through CCB7 ranging from 0.0007 mg/L to 0.00115 mg/L, calcium in CCB5 through CCB7 ranging from 0.01314 mg/L to 0.01378 mg/L, copper in CCB6 and CCB7 at 0.00164 mg/L and 0.00156 mg/L, magnesium in the ICB and CCB6 at 0.00687 mg/L and 0.007 mg/L, manganese in CCB5 through CCB7 ranging from 0.00064 mg/L to 0.00123 mg/L, and for vanadium in CCB6 and CCB7 at 0.00148 mg/L and 0.00154 mg/L. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,o" at the reporting limit. The MSD displayed %Rs less than the lower control limit (i.e. 75%) for calcium at 49% and for iron at 73%. Since the amount found in the parent sample was greater than 4x the amount of spiking solution used, no data qualifying action was taken.

For the dissolved gases analyses, the initial calibration displayed a correlation coefficient value less than the control limit (i.e. 0.990) for methane on the FID detector at 0.987. All associated sample results were flagged "J,r. The MS/MSD displayed %Rs less than the lower control limit for methane at 66% and 74%. Since associated sample results were previously flagged for initial calibration anomalies, no further data qualifying action was taken.

Correctable Anomalies: None.

Comments: For the VOCs analyses, the laboratory flagged all benzene results with a "B" qualifier. There is no evidence of blank contamination for benzene. The "B" qualifier was lined out by the data reviewer.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method except for those mentioned above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that there were no anomalies observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-88b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII42

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII42	GW-AA-Q-2-110	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-2-110	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-2-110-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-2-110-DUP	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-2-110-DUP	Groundwater	VOCs	Ethylbenzene	1	U,z	1
SAII42	GW-AA-Q-2-110-DUP	Groundwater	VOCs	Xylenes, Total	2	U,z	2
SAII42	GW-AA-Q-2-110-DUP	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50
SAII42	GW-AA-Q-2-110-DUP	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-2-110-DUP	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-2-110-DUP	Groundwater	SVOCs	Pentachlorophenol	50	UJ,r	50
SAII42	GW-AA-Q-2-120	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-2-120	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-2-120	Groundwater	VOCs	Xylenes, Total	20	U,z	20
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05

Table 6-88b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII42

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII42	GW-AA-Q-2-120	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII42	GW-AA-Q-2-120	Groundwater	Herbicides	2,4-D	0.58	U,z	0.58
SAII42	GW-AA-Q-2-120	Groundwater	Methane	Methane	7.7	J,r	0.19
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	SVOCs	Pentachlorophenol	50	UJ,r	50
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII42	GW-AA-Q-2-120-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05

Table 6-88b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII42

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII42	GW-AA-Q-2-60	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII42	GW-AA-Q-2-60	Groundwater	Herbicides	Dichlorprop	6	U,z	6
SAII42	GW-AA-Q-2-60	Groundwater	Methane	Methane	16	J,r	0.19
SAII42	GW-AA-Q-2-60-DUP	Groundwater	Methane	Methane	5.4	J,r	0.19
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	SVOCs	Pentachlorophenol	50	UJ,r	50
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII42	GW-AA-Q-2-60-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII42	GW-AA-Q-8-24	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-8-24	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-8-24	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50
SAII42	GW-AA-Q-8-24	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-24	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	beta-BHC	0.012	J,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Endosulfan I	0.0049	J,g	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1

Table 6-88b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII42

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Methoxychlor	0.01	J,s	0.5
SAII42	GW-AA-Q-8-24	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII42	GW-AA-Q-8-24	Groundwater	Herbicides	2,4,5-T	0.5	U,z	0.5
SAII42	GW-AA-Q-8-24	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	U,z	0.5
SAII42	GW-AA-Q-8-24	Groundwater	Herbicides	Dicamba	1.2	U,z	1.2
SAII42	GW-AA-Q-8-24	Groundwater	Herbicides	Dichlorprop	6	U,z	6
SAII42	GW-AA-Q-8-24	Groundwater	Methane	Methane	4.8	J,r	0.19
SAII42	GW-AA-Q-8-24-Filtered	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50
SAII42	GW-AA-Q-8-24-Filtered	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-24-Filtered	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-24-Filtered	Groundwater	SVOCs	Pentachlorophenol	50	UJ,r	50
SAII42	GW-AA-Q-8-24-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII42	GW-AA-Q-8-24-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII42	GW-AA-Q-8-34	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-8-34	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-8-34-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-8-34-DUP	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-8-44	Groundwater	VOCs	1,1-Dichloroethane	0.52	J,c	1
SAII42	GW-AA-Q-8-44	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-8-44	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-8-54	Groundwater	VOCs	1,1-Dichloroethane	0.57	J,c	1
SAII42	GW-AA-Q-8-54	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-8-54	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-8-54	Groundwater	VOCs	Ethylbenzene	1	U,z	1
SAII42	GW-AA-Q-8-54	Groundwater	VOCs	Xylenes, Total	2	U,z	2
SAII42	GW-AA-Q-8-54	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50

Table 6-88b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII42

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII42	GW-AA-Q-8-54	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-54	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-54	Groundwater	SVOCs	Pentachlorophenol	50	UJ,r	50
SAII42	GW-AA-Q-8-64	Groundwater	VOCs	Acetone	25	R,c	25
SAII42	GW-AA-Q-8-64	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII42	GW-AA-Q-8-64	Groundwater	SVOCs	4-Nitrophenol	50	UJ,r	50
SAII42	GW-AA-Q-8-64	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-64	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	UJ,r	10
SAII42	GW-AA-Q-8-64	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII42	GW-AA-Q-8-64	Groundwater	Herbicides	2,4-D	2.2	U,z	2.2
SAII42	GW-AA-Q-8-64	Groundwater	Methane	Methane	5.5	J,r	0.19
SAII42	GW-AA-Q-8-64	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII42	GW-AA-Q-8-64	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII42	GW-AA-Q-8-64-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII42	GW-AA-Q-8-64-Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02

Table 6-89a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII43

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII43	GW-AA-Q-2-130	8/1/02	Groundwater			X	X												
SAII43	GW-AA-Q-2-130B	8/1/02	Groundwater					X	X	X	X		X	X	X	X	X	X	
SAII43	GW-AA-Q-2-130B-Filtered	8/1/02	Groundwater				X				X						X		
SAII43	GW-AA-Q-3-100	8/2/02	Groundwater			X	X												
SAII43	GW-AA-Q-3-50	8/2/02	Groundwater					X	X	X	X		X	X	X	X	X	X	
SAII43	GW-AA-Q-3-50-Filter	8/2/02	Groundwater				X				X						X		
SAII43	GW-AA-Q-3-90	8/2/02	Groundwater			X	X												
SAII43	GW-AA-Q-8-104	8/2/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII43	GW-AA-Q-8-104-Filter	8/2/02	Groundwater				X				X						X		
SAII43	GW-AA-Q-8-111	8/2/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII43	GW-AA-Q-8-111-Filter	8/2/02	Groundwater				X				X						X		
SAII43	GW-AA-Q-8-74	8/1/02	Groundwater			X	X												
SAII43	GW-AA-Q-8-84	8/1/02	Groundwater			X	X												
SAII43	GW-AA-Q-8-94	8/1/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SAII43_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____RA_____ **Date:** _____November 4, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the herbicide analyses, the extraction holding times were grossly exceeded for samples GW-AA-Q-2-130BRE (20 days), GW-AA-Q-8-104BRE (35 days), and GW-AA-Q-3-50RE (19 days). These samples were re-extracted by the laboratory since several target compounds were present above the reporting limit. No positive results were reported and non-detects were flagged "R,h". The original sample results should be used for data interpretations.

Minor Anomalies: For the VOC analyses, the trip blank, TB080102-KH contained chloromethane at 0.63 ug/L and ethylbenzene at 0.88 ug/L. Positive results less than five times the blank concentration were flagged "U,y" at the reporting limit for results less than the RL. Trip blank, TB0802-KH contained methylene chloride at 0.77 ug/L and benzene at 0.15 ug/L. No positive results were reported and no data qualifying action was required. The initial calibration correlation coefficient for bromomethane (0.987) was less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 8/1/02. All associated sample results were non-detects and were flagged "UJ,r". The continuing calibration %Ds were greater than the QC limit (i.e., 20%) for chloromethane (-27%) and bromomethane (-26.3%) for the continuing calibration analyzed on 8/9/02 at 2103. The continuing calibration %D was greater than the QC limit for chloromethane (-21.4%) for the continuing calibration analyzed on 8/11/02 at 0918. Positive results were flagged "J,c" in the associated samples unless previously flagged due to other failures. The MS recovery for bromomethane (150%) was greater than the QC limit (i.e., 40-141%). No data qualifying action was required since the MSD and LCS recoveries were acceptable.

For the SVOC analyses, the initial calibration correlation coefficients for 2,6-dinitrotoluene (0.987), 3-nitroaniline (0.988), and 4-nitroaniline (0.986) were less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 8/10/02. All associated sample results were non-detects and were flagged "UJ,r". The %Ds were greater than the QC limit (i.e., 20%) for butylbenzylphthalate (29.2%) and bis (2-ethylhexyl) phthalate (25.1%) for the continuing calibration analyzed on

8/26/02 at 1158. The %Ds were greater than the QC limit for 2,6-dinitrotoluene (33.5%), 2,4-dinitrophenol (24%), 2,4-dinitrotoluene (31.1%), 4,6-dinitro-2-methyl-phenol (29.5%), and dinoseb (26.2%) for the continuing calibration analyzed on 8/30/02 at 0817. The %Ds were greater than the QC limit for 2,6-dinitrotoluene (36.1%), 3-nitroaniline (20.4%), 2,4-dinitrophenol (30%), 2,4-dinitrotoluene (33.9%), 4,6-dinitro-2-methyl-phenol (38.8%), and dinoseb (36.9%) for the continuing calibration analyzed on 8/30/02 at 1926. The %Ds were greater than the QC limit for 2,6-dinitrotoluene (39.3%), 3-nitroaniline (25.8%), 2,4-dinitrotoluene (39.9%), 4-nitroaniline (30.9%), 4,6-dinitro-2-methyl-phenol (21%), and dinoseb (22.2%) for the continuing calibration analyzed on 9/1/02 at 1104. Since these compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the pesticide analyses, the %Ds for endrin aldehyde (16%), 2,4-DCAA (-20.6%), and TCMX (-21%) on the primary column, and alpha-BHC (-32.8%), delta-BHC (-29.4%), 2,4-DCAA (-17.5%), TCMX (-23.6%), DCBP (-20.2%), and 4,4-DDE (-29.9%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/10/02 at 0811. The %Ds for 4,4-DDT (15.2%), 2,4-DCAA (-19.6%), and TCMX (-21.5%) on the primary column, and alpha-BHC (-30.4%), delta-BHC (-26.1%), 4,4-DDE (-27.3%), TCMX (-20.2%), DCBP (-17.2%) and 4,4-DDT (-16.4%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/10/02 at 1748. 4,4-DDT non-detects were flagged "UJ,c" in all samples. No data flags were applied to the non-detects for the other compounds since the recoveries were acceptable on the alternate column. The recoveries for surrogate decachlorobiphenyl were less than the QC limit (i.e., 30-150%) on the confirmation column in samples GW-AA-Q-2-130B (26%) and GW-AA-Q-8-111 (26%). No data qualifying action is required based on one surrogate failure. The recoveries for surrogate decachlorobiphenyl were less than the QC limit (i.e., 30-150%) for both columns in samples GW-AA-Q-8-104 (26% and 24%) and GW-AA-Q-3-50 (26% and 15%). Positive results were flagged "J,s" and non-detects were flagged "UJ,s" unless previously flagged due to other anomalies. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., < 40%) for several compounds in sample GW-AA-Q-3-50. These results were previously flagged due to surrogate recovery failures, and no data flags were applied.

For the herbicide analyses, the method blank extracted on 8/7/02 contained positive results for dicamba, MCPP, dichloroprop, 2,4-D, pentachlorophenol, 2,4,5-TP, and 2,4,5-T. Positive results less than 5 times the blank concentration were flagged "U,z" or "U,z" at the reporting level. The method blank extracted on 9/13/02 contained a positive result for 2,4-D at 0.33 ug/L. No positive results were reported in the associated samples and no data qualifying action was

required. The %Ds for MCPP (18.4%), dichloroprop (18.5%), and pentachlorophenol (15.9%) on the primary column, and MCPA (20.5%), 2,4-D (19.1%), and 2,4-DB (23.4%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/12/02 at 1518. The %Ds for MCPA (-24.3% and –42%) on both columns, and 2,4-DB (-16.3%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 9/18/02 at 1403. Positive results were previously flagged due to other anomalies and no further data qualifying action was required. Non-detects were previously flagged due to holding time failures, and no further data qualifying action was required. The LCS recovery and %RPD for pentachlorophenol (290% and 102%) were greater than the QC limit. Positive results were previously flagged due to method blank contamination and no further data qualifying action was required.

For the metal analyses, the initial and final CRDL percent recoveries for iron (79% and 79%) and selenium (123% and 129%), and the final CRDL percent recoveries for arsenic (78%) and thallium (73%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum, calcium, and magnesium. Positive results less than 5 times the blank concentration were flagged "U,p" at the reporting limit for aluminum. Calcium and magnesium results were greater than 5 times the blank concentration and no data qualifying action was required. The initial and continuing calibration blanks also contained positive results for aluminum, barium, manganese, copper, calcium, vanadium, and magnesium at low levels. All associated sample results were either previously flagged due to method blank contamination or were greater than 5 times the blank concentration and no data qualifying action was required.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.986 for instrument VMTFID1. Positive methane results were flagged "J, r" in the associated samples. The MS/MSD recoveries were less than the QC limit (i.e., 75-125%) at 66% and 74%, respectively. Associated sample results not previously flagged due to other failures were flagged "J,m". Methane exceeded the calibration range in sample GW-AA-Q-3-50 and was flagged "E" by the laboratory. This result was previously flagged due to calibration failure, and no further data qualifying action was taken. The results from the TCD detector should be used.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, except for those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-89b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII43

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII43	GW-AA-Q-2-130	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-2-130	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII43	GW-AA-Q-2-130B	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII43	GW-AA-Q-2-130B	Groundwater	Herbicides	2,4-D	1.5	U,z	1.5
SAII43	GW-AA-Q-2-130B	Groundwater	Methane	Methane	12	J,r	0.19
SAII43	GW-AA-Q-2-130B-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII43	GW-AA-Q-3-100	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	alpha-BHC	0.0054	J,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	beta-BHC	0.06	J,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII43	GW-AA-Q-3-50	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII43	GW-AA-Q-3-50	Groundwater	Herbicides	2,4,5-T	0.5	U,z	0.5
SAII43	GW-AA-Q-3-50	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.5	U,z	0.5
SAII43	GW-AA-Q-3-50	Groundwater	Herbicides	2,4-D	2.6	U,z	2.6

Table 6-89b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII43

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII43	GW-AA-Q-3-50	Groundwater	Herbicides	Dichlorprop	6	U,z	6
SAII43	GW-AA-Q-3-50	Groundwater	Herbicides	MCPP	120	U,z	120
SAII43	GW-AA-Q-3-50	Groundwater	Herbicides	Pentachlorophenol	4.2	U,z	4.2
SAII43	GW-AA-Q-3-50	Groundwater	Methane	Methane	670	J,m	0.19
SAII43	GW-AA-Q-3-50-Filter	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII43	GW-AA-Q-3-90	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-3-90	Groundwater	VOCs	Chloromethane	0.31	J,c	1
SAII43	GW-AA-Q-8-104	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-8-104	Groundwater	VOCs	Chloromethane	0.24	J,c	1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII43	GW-AA-Q-8-104	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII43	GW-AA-Q-8-104	Groundwater	Herbicides	Pentachlorophenol	1	U,z	1

Table 6-89b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII43

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII43	GW-AA-Q-8-104	Groundwater	Methane	Methane	100	J,r	0.19
SAII43	GW-AA-Q-8-104	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII43	GW-AA-Q-8-104-Filter	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII43	GW-AA-Q-8-111	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-8-111	Groundwater	VOCs	Chloromethane	0.22	J,c	1
SAII43	GW-AA-Q-8-111	Groundwater	SVOCs	2,6-Dinitrotoluene	10	UJ,r	10
SAII43	GW-AA-Q-8-111	Groundwater	SVOCs	3-Nitroaniline	50	UJ,r	50
SAII43	GW-AA-Q-8-111	Groundwater	SVOCs	P-Nitroaniline	50	UJ,r	50
SAII43	GW-AA-Q-8-111	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII43	GW-AA-Q-8-111	Groundwater	Methane	Methane	47	J,r	0.19
SAII43	GW-AA-Q-8-111-Filter	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII43	GW-AA-Q-8-74	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-8-84	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-8-84	Groundwater	VOCs	Ethylbenzene	1	U,y	1
SAII43	GW-AA-Q-8-94	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII43	GW-AA-Q-8-94	Groundwater	VOCs	Chloromethane	1	U,y	1

Table 6-90a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII44

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII44	GW-AA-P-2-24		8/5/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII44	GW-AA-P-2-24 Filtered		8/5/02	Groundwater				X				X						X		
SAII44	GW-AA-P-2-34		8/5/02	Groundwater			X	X												
SAII44	GW-AA-P-2-34-DUP		8/5/02	Groundwater			X	X												
SAII44	GW-AA-P-2-44		8/5/02	Groundwater			X	X												
SAII44	GW-AA-P-2-54		8/5/02	Groundwater			X	X												
SAII44	GW-AA-P-2-64		8/5/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII44	GW-AA-Q-3-110		8/5/02	Groundwater			X	X												
SAII44	GW-AA-Q-3-120		8/5/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII44	GW-AA-Q-3-120 Filtered		8/5/02	Groundwater				X				X						X		
SAII44	GW-AA-Q-4-50		7/31/02	Groundwater								X								
SAII44	GW-AA-Q-4-50		8/5/02	Groundwater				X	X	X	X	X		X	X	X	X	X	X	
SAII44	GW-AA-Q-4-50 Filtered		8/5/02	Groundwater				X				X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SAII44_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, Dissolved Gases, Wet Chemistry_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____October 23, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOCs analyses, the initial calibration displayed a correlation coefficient less than the control limit (i.e. 0.990) for bromomethane at 0.987. Associated sample results were non-detect and were flagged "UJ,r". The initial calibration also displayed a %RSD greater than the control limit (i.e. 15%) for 2-hexanone at 15.26%. Associated sample results with positive detections were flagged "J,r". The CCV analyzed on 8/11/02 at 09:18 displayed a %D greater than the control limit (i.e. <20%) for chloromethane at -21.4%. Associated sample results with positive detections were flagged "J,c".

For the SVOCs analyses, the CCV analyzed on 9/1/02 at 11:04 displayed %Ds greater than the control limit (i.e. <20%) for 2,6-dinitrotoluene at 39.3%, for 3-nitroaniline at 25.8%, for 2,4-dinitrotoluene at 39.9%, 4-nitroaniline at 30.9%, for 4,6-dinitro-2-methylphenol at 21.0%, and for dinoseb at 22.2%. Since all associated sample results were non-detect and that the anomalies were only marginally outside the control limit, no data qualifying action was taken. The LCS/LCSD displayed %Rs greater than the upper control limit for 2,4-dinitrotoluene at 130% and 130%. Since the associated sample results were non-detect, no data qualifying action was taken.

For the pesticides analyses, the CCV analyzed on 8/12/02 at 17:55 displayed %Ds greater than the control limit (i.e. <15%) for 4,4'-DDE at -21.1%, for dieldrin at 17.6%, for endrin at 16.9%, for methoxychlor at 21.9%, and for endrin ketone at 18.7% on the primary column; and for 4,4'-DDE at 15.4%, for dieldrin at 16.4%, for endrin at 18.7%, for alpha-BHC at -16.1%, for delta-BHC at -16.5%, and for endosulfan II at 18.5% on the confirmation column. The CCV analyzed on 8/13/02 at 03:47 displayed %Ds greater than the control limit for 4,4'-DDE at -25.2% and for methoxychlor at 27.2% on the primary column; and for alpha-BHC at -18.1%, for delta-BHC at -18.1%, for endrin at 15.5%, and for endosulfan II on

the confirmation column. For 4,4'-DDE, dieldrin, and endrin, associated sample results were non-detect and were flagged "UJ,c". For all other anomalies, since the analytes met criteria on the alternate column and that the results were non-detect, no data qualifying action was taken. Surrogate decachlorobiphenyl (DCBP) displayed %Rs less than the lower control limit in sample GW-AA-Q-4-50 at 20% and 22%. Associated sample results with positive detections were flagged previously flagged and no further data qualifying action was taken; non-detects were flagged "UJ,s", unless previously flagged for other anomalies. Beta-BHC displayed a %RPD between columns greater than the control limit (i.e. <40%) in sample GW-AA-Q-4-50 at 105.9% and was flagged "J,g".

For the herbicides analyses, the method blank displayed positive detections for dichloroprop at 0.11 ug/L, for 2,4,5-TP at 0.13 ug/L, and for 2,4,5-T at 0.18 ug/L. Since associated sample results were non-detect, no data qualifying action was taken.

For the metals analyses, the CRDL displayed %Rs less than the lower control limit (i.e. 80%) for sodium at 76% and 78% and for thallium at 67%. Since the anomalies were only marginally outside the control limit, no data qualifying action was taken. The prep blank displayed positive detections for aluminum at 0.01238 mg/L, for calcium at 0.01560 ug/L, and for magnesium at 0.00745 mg/L and a negative detection for thallium at -0.00547 mg/L. Associated sample results for Tl were non-detect and were flagged "UJ,p". Associated sample results with positive detections less than 5x the amount found in the blank for Aluminum, Calcium, and Mg were flagged "U,p" at the reporting limit. Aluminum displayed positive detections in the ICB and CCB3 at 0.02783 mg/L and 0.02098 mg/L, barium in CCB3 and CCB5 at 0.00078 mg/L and 0.00067 mg/L, calcium in the ICB, CCB3, and CCB5 ranging from 0.05322 mg/L to 0.00968 mg/L, copper in CCB3, CCB4, and CCB5 at 0.00101 mg/L, 0.00097 mg/L and 0.00123 mg/L, magnesium in CCB3 at 0.01302 mg/L, manganese in CCB3 and CCB5 at 0.00074 mg/L and 0.00068 ug/L, vanadium in CCB3 and CCB5 at 0.00126 mg/L and 0.00122 mg/L, and for zinc in the ICB at 0.00854 mg/L. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,o" at the reporting limit. The MSD displayed %Rs less than the lower control limit (i.e. 75%) for calcium at 58% and for iron at 71%. Since the amount found in the parent sample was greater than 4x the amount of spiking solution used, no data qualifying action was taken.

For the dissolved gases analyses, the initial calibration displayed a correlation coefficient less than the control limit (i.e. 0.990) for methane on the FID detector at 0.987. All associated sample results were flagged "J,r"; except for sample GW-AA-Q-4-50, which was flagged "J,q" for exceeding the calibration range on the FID. The methane result was reported from the TCD detector and should be used for data interpretation.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method except for those mentioned above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that there were no anomalies observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-90b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII44

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII44	GW-AA-P-2-24	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII44	GW-AA-P-2-24	Groundwater	VOCs	Chloromethane	0.34	J,c	1
SAII44	GW-AA-P-2-24	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,c	0.1
SAII44	GW-AA-P-2-24	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII44	GW-AA-P-2-24	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII44	GW-AA-P-2-24	Groundwater	Methane	Methane	0.93	J,r	0.19
SAII44	GW-AA-P-2-24	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-P-2-24	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII44	GW-AA-P-2-24 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII44	GW-AA-P-2-24 Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII44	GW-AA-P-2-24 Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-P-2-24 Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII44	GW-AA-P-2-34	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII44	GW-AA-P-2-34-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII44	GW-AA-P-2-34-DUP	Groundwater	VOCs	Chloromethane	0.36	J,c	1
SAII44	GW-AA-P-2-44	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII44	GW-AA-P-2-44	Groundwater	VOCs	Chloromethane	0.26	J,c	1
SAII44	GW-AA-P-2-54	Groundwater	VOCs	Bromomethane	1	UJ,c	1
SAII44	GW-AA-P-2-54	Groundwater	VOCs	Chloromethane	0.36	J,c	1
SAII44	GW-AA-P-2-64	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII44	GW-AA-P-2-64	Groundwater	VOCs	Methyl N-Butyl Ketone	0.87	J,r	10
SAII44	GW-AA-P-2-64	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,c	0.1
SAII44	GW-AA-P-2-64	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII44	GW-AA-P-2-64	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII44	GW-AA-P-2-64	Groundwater	Methane	Methane	3.8	J,r	0.19
SAII44	GW-AA-P-2-64	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-Q-3-120	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII44	GW-AA-Q-3-120	Groundwater	VOCs	Chloromethane	0.3	J,c	1
SAII44	GW-AA-Q-3-120	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,c	0.1
SAII44	GW-AA-Q-3-120	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII44	GW-AA-Q-3-120	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1

Table 6-90b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII44

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII44	GW-AA-Q-3-120	Groundwater	Methane	Methane	63	J,r	0.19
SAII44	GW-AA-Q-3-120	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-Q-3-120 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII44	GW-AA-Q-3-120 Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-Q-3-120 Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,c	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	beta-BHC	0.16	J,g	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII44	GW-AA-Q-4-50	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII44	GW-AA-Q-4-50	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-Q-4-50 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII44	GW-AA-Q-4-50 Filtered	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII44	GW-AA-Q-4-50 Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII44	GW-AA-Q-4-50 Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01

Table 6-91a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII45

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII45	GW-AA-P-2-104	8/6/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII45	GW-AA-P-2-104 Filtered	8/6/02	Groundwater				X				X						X		
SAII45	GW-AA-P-2-64 Filtered	8/6/02	Groundwater				X				X						X		
SAII45	GW-AA-P-2-74	8/6/02	Groundwater			X	X												
SAII45	GW-AA-P-2-84	8/6/02	Groundwater			X	X												
SAII45	GW-AA-P-2-94	8/6/02	Groundwater			X	X												
SAII45	GW-AA-Q-4-100	8/6/02	Groundwater			X	X												
SAII45	GW-AA-Q-4-100-DUP	8/6/02	Groundwater			X	X												
SAII45	GW-AA-Q-4-110	8/6/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII45	GW-AA-Q-4-110 Filtered	8/6/02	Groundwater				X				X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII45_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____RA_____ **Date:** _____October 16, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, trip blank TB-0806-KH contained styrene at 2.4 ug/L. The positive styrene result was flagged "U,y" in sample GW-AA-P-2-104. The initial calibration analyzed on 8/1/02 displayed a correlation coefficient less than the QC limit (i.e., 0.990) for bromomethane at 0.987. All associated sample results were non-detects and were flagged "UJ,r". The initial calibration analyzed on 8/1/02 displayed a %RSD greater than the QC limit (i.e., 15%) for 2-hexanone at 15.3%. All associated sample results were non-detects and the failure was not serious enough (i.e., > 50%) to affect the non-detects. No data qualifying action was required.

For the SVOC analyses, the continuing calibration analyzed on 9/4/02 at 0805 displayed %Ds greater than the control limit (i.e., <20%) for 2,4-dinitrophenol (37%) and dinoseb (24.7%). The continuing calibration analyzed on 9/4/02 at 2054 displayed %Ds greater than the control limit for bis(2-chloroethyl)ether (20.8%), 2,4-dinitrophenol (31%) and dinoseb (29%). The continuing calibration analyzed on 9/5/02 at 1137 displayed %Ds greater than the control limit for n-nitroso-di-n-propylamine (21.9%), 3&4-methylphenol (23.7%), 2,4-dinitrophenol (45.2%), dinoseb (27.2%), 4,6-dinitro-2-methylphenol (27.6%), and 3,3-dichlorobenzidine (22.5%). Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Three base/neutral surrogates were diluted out in samples GW-AA-P-2-104 (DF = 5) and GW-AA-P-2-104 Filtered (DF = 5). Since only phenol results (acid fraction) in these two samples will be used for data interpretation, no data qualifying action was taken. Phenol exceeded the calibration range in several samples and was flagged "E" by the laboratory. These results were flagged "J,q". These samples were re-analyzed at a dilution factor of 5 and the results from dilution analyses should be used for phenol for data interpretation.

For the pesticide analyses, the %Ds for 4,4-DDE (21.1% and 15.4%), dieldrin (17.6% and 16.4%), and endrin (18.7% and 16.9%) on both columns, endrin ketone (18.7%) and methoxychlor (21.9%) on the primary column, and alpha-BHC (16.1%), delta-BHC (16.5%), and endosulfan II (18.5%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/12/02 at 1755. The %Ds for alpha-BHC (18.1%), delta-BHC (18.1%), endrin (15.5%), and 4,4-DDD (16%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/13/02 at 0347. Non-detects were flagged "UJ,c" for 4,4-DDE, dieldrin, and endrin in the associated samples. The positive alpha-BHC result was flagged "J,c" in sample GW-AA-P-2-104. The recoveries for surrogate dacachlorobiphenyl were less than the QC limit (i.e. 30-150%) in samples GW-AA-Q-4-110 (26% and 28%) and GW-AA-P-2-104 (28%). Positive results were flagged "J,s" and non-detects were flagged "UJ,s" in sample GW-AA-Q-4-110 unless previously flagged. No action is required based on one surrogate failure and no data flags were applied to sample GW-AA-P-2-104. The RPDs between primary and confirmatory columns for alpha-BHC in sample GW-AA-P-2-104 (81.7%) and heptachlor in sample GW-AA-P-1-104FT (118.2%) and GW-AA-P-1-120FT (125.4%) and for alpha-BHC in sample GW-AA-Q-4-110 (47.8%) were greater than the acceptance limit (i.e., < 40%). These results were previously flagged and no data qualifying action was taken.

For the herbicide analyses, the method blank contained dicamba at 0.13 µg/L, dichloroprop at 0.11 µg/L, 2,4,5-TP at 0.13 µg/L, and 2,4,5-T at 0.18 µg/L. No positive results were reported and no data qualifying action was taken. The %Ds for 2,4-DB (18.2% and 20.7%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/13/02 at 1601. Non-detects were flagged "UJ,c" in the associated samples. The RPD between primary and confirmation columns for MCPP in sample GW-AA-P-2-104 (154.6%) was greater than the acceptance limit (i.e., < 40%). This result was flagged "J,g".

For the metal analyses, the initial and final CRDL percent recoveries for sodium (76% and 78%) and the final CRDL recovery for thallium (67%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum, calcium, and magnesium and a negative result for thallium. The initial and continuing calibration blanks also contained aluminum, calcium, zinc, magnesium, copper, and manganese at low levels. Positive aluminum results less than 5 times the blank concentration were flagged "U,p" at the reporting limit. Thallium non-detects were flagged "UJ,p" in all samples. Positive results for other analytes were greater than 5 times the blank concentration and no data qualifying action was taken. Several analytes were

detected in the ICSA initial and final analyses at low levels. Sample GW-AA-Q-4-110 displayed iron and calcium concentrations greater than 50% of the iron and calcium concentrations in the ICSA solution. Positive antimony and cadmium results were flagged "J,n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The %D for the serial dilution analyses was greater than the QC limit (i.e., 10%) for zinc at 11%. Positive results were flagged "J,s".

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 for instrument VMTFID1. Positive methane results were flagged "J, r" in the associated samples. Methane exceeded the calibration range in sample GW-AA-P-2-104. This result was previously flagged due to calibration failure, and no data qualifying action was taken. The result from the thermoconductivity detector should be used.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-91b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII45

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII45	GW-AA-P-2-104	Groundwater	VOCs	Bromomethane	50	UJ,r	50
SAII45	GW-AA-P-2-104	Groundwater	VOCs	Styrene (Monomer)	110	U,y	50
SAII45	GW-AA-P-2-104	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,c	0.1
SAII45	GW-AA-P-2-104	Groundwater	Pesticides	alpha-BHC	0.0084	J,c	0.05
SAII45	GW-AA-P-2-104	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII45	GW-AA-P-2-104	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII45	GW-AA-P-2-104	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII45	GW-AA-P-2-104	Groundwater	Herbicides	MCPP	32	J,g	120
SAII45	GW-AA-P-2-104	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII45	GW-AA-P-2-104	Groundwater	Metals	Zinc	0.016	J,s	0.02
SAII45	GW-AA-P-2-104 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII45	GW-AA-P-2-104 Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII45	GW-AA-P-2-64 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII45	GW-AA-P-2-64 Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII45	GW-AA-P-2-74	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII45	GW-AA-P-2-84	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII45	GW-AA-P-2-94	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII45	GW-AA-Q-4-100	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII45	GW-AA-Q-4-100-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII45	GW-AA-Q-4-110	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,c	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	beta-BHC	0.0093	J,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1

Table 6-91b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII45

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Heptachlor	0.0043	J,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII45	GW-AA-Q-4-110	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII45	GW-AA-Q-4-110	Groundwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII45	GW-AA-Q-4-110	Groundwater	Methane	Methane	29	J,r	0.19
SAII45	GW-AA-Q-4-110	Groundwater	Metals	Antimony	0.0061	J,n	0.02
SAII45	GW-AA-Q-4-110	Groundwater	Metals	Cadmium	0.0013	J,n	0.005
SAII45	GW-AA-Q-4-110	Groundwater	Metals	Zinc	0.37	J,s	0.02
SAII45	GW-AA-Q-4-110 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII45	GW-AA-Q-4-110 Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII45	GW-AA-Q-4-110 Filtered	Groundwater	Metals	Zinc	0.01	J,s	0.02

Table 6-92a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII46

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII46	GW-AA-P-2-114	8/7/02	Groundwater			X	X												
SAII46	GW-AA-P-2-114-DUP	8/7/02	Groundwater			X	X												
SAII46	GW-AA-P-2-122	8/7/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII46	GW-AA-P-2-122-Filtered	8/7/02	Groundwater				X				X						X		
SAII46	GW-AA-P-3-32	8/7/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII46	GW-AA-P-3-32-Filtered	8/7/02	Groundwater				X				X						X		
SAII46	GW-AA-Q-5-45	8/7/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII46	GW-AA-Q-5-45-Filtered	8/7/02	Groundwater				X				X						X		
SAII46	GW-AA-Q-5-55	8/7/02	Groundwater			X	X												
SAII46	GW-AA-Q-5-55-DUP	8/7/02	Groundwater			X	X												
SAII46	GW-AA-Q-5-65	8/7/02	Groundwater			X	X												
SAII46	GW-AA-Q-5-75	8/7/02	Groundwater			X	X												
SAII46	GW-AA-Q-5-75-DUP	8/7/02	Groundwater			X	X												

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII46_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____October 15, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, the initial calibration analyzed on 7/11/02 displayed a RRF less than the QC limit (i.e., 0.05) for acetone at 0.0428. Positive results were flagged "J,c" and non-detects and were flagged "R,c".

For the SVOC analyses, the MS/MSD recoveries were less than the QC limit (i.e., 10-144%) for 3,3-dichlorobenzidine (0% and 0%). This analysis was repeated with similar results. All associated sample results were non-detects and were flagged "R,m".

For the pesticide analyses, the recoveries for surrogate dacachlorobiphenyl were less than the QC limit (i.e. 30-150%) in sample GW-AA-Q-5-45 (4% and 5%). Positive results were flagged "J,s" and non-detects were flagged "R,s" in this sample. As a result, the percent completeness was less than the QC limit (i.e. 95%) at 71%.

Minor Anomalies: For the VOC analyses, the method blanks contained methylene chloride at 1.1 ug/L and 1.2 ug/L. Positive results in the associated samples were flagged "U,z" at the reporting limit. Trip blank TB-0807-KH contained styrene at 0.62 ug/L. All associated sample results were non-detects, and no data qualifying action was required. The %Ds were greater than the QC limit (i.e., 20%) for 1,1,-dichloroethane (20.3%), 1,1-dichloroethane (41%), 4-methyl-2-pentanone (27.2%), and tetrachloroethene (20.9%) for the continuing calibration analyzed on 8/11/02. The %Ds were greater than the QC limit for 1,1-dichloroethane (34.9%) and 1,2-dichloroethene (23.8%) for the continuing calibration analyzed on 8/12/02. All associated sample results were non-detects and the failures were not serious enough (i.e., > 50%) to affect the non-detects. No data qualifying action was required. The MS/MSD recoveries were greater than the QC limit (i.e., 51-140%) for 1,1,-dichloroethane (142% and 144%). The LCS recovery was greater than the QC limit (i.e., 51-140%) for 1,1-dichloroethane (146%). All associated sample results were non-detects, and no data qualifying action was required. Chlorobenzene exceeded the calibration range in several samples and was flagged

"E" by the laboratory. These results were flagged "J,q". These samples were re-analyzed at different dilution factors and the results from the dilution analyses should be used for data interpretation.

For the SVOC analyses, the %Ds were greater than the QC limit (i.e., 20%) for bis(2-chloroisopropyl)ether (-21.4%) and 2,4-dinitrophenol (25.1%) for the continuing calibration analyzed on 9/4/02 at 1433. The %D was greater than the QC limit for bis(2-chloroisopropyl)ether (-26%) for the continuing calibration analyzed on 9/5/02 at 0739. The %Ds were greater than the QC limit for bis(2-chloroisopropyl)ether (-22.5%), 4,6-dinitro-2-methylphenol (30.6%), dinoseb (24.2%) and 2,4-dinitrophenol (33.4%) for the continuing calibration analyzed on 9/5/02 at 2106. The %Ds were greater than the QC limit for 2,4-dinitrophenol (24%) and 4-nitrophenol (29%) for the continuing calibration analyzed on 9/9/02 at 1156. Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Three base/neutral surrogates were not recovered in sample GW-AA-Q-5-65DL (DF = 5). Positive associated results were flagged "J,s" and non-detects were flagged "UJ,s". The MS/MSD recoveries were less than the QC limit (i.e., 41-121%) for acenaphthylene (32%, 30%, 31% and 29%). The MS recovery was greater than the upper QC limit (i.e., 143%) for 4-nitrophenol (150%). The LCS recoveries were acceptable and no data qualifying action was taken. 4-Chloroaniline exceeded the calibration range in sample GW-AA-Q-5-65 and was flagged "E" by the laboratory. This result was flagged "J,q". These samples were re-analyzed at a dilution factor of 5 and the results from the dilution analyses should be used for data interpretation.

For the pesticide analyses, the %Ds for methoxychlor (-17.8%) and decachlorobiphenyl (-19.5%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/20/02 at 1050. No positive results were reported and no data flags were applied since the recovery was acceptable on the alternate column. The recoveries for surrogate dacachlorobiphenyl were less than the QC limit (i.e. 30-150%) in sample GW-AA-P-3-32 (21% and 23%). Positive results were flagged "J,s" and non-detects were flagged "UJ,s" in this sample. The RPDs between primary and confirmation columns for beta-BHC (95.1%) and aldrin (55.3%) in sample GW-AA-Q-5-45 were greater than the acceptance limit (i.e., < 40%). These results were previously flagged and no data qualifying action was taken.

For the herbicide analyses, the %Ds for 2,4-DB (-15.2%) on the primary column and dalapon (15.5%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/17/02 at 0039. The %Ds for 2,4-DB (-24%) and dalapon (-15.2%) on the primary column were greater than the criterion for the continuing calibration analyzed on 8/17/02 at 1154. No positive results were reported and no data flags were applied since the

recovery was acceptable on the alternate column. The RPD between primary and confirmation columns for MCPP in sample GW-AA-Q-5-45 (159.6%) was greater than the acceptance limit (i.e., < 40%). This result was flagged "J,g".

For the metal analyses, the initial and final CRDL percent recoveries for sodium (76% and 78%) and the final CRDL recovery for thallium (67%) were outside the control limit (i.e., 80-120%). Since the recoveries were only marginally outside the control limits, no data qualifying action was taken. The method blank contained positive results for aluminum and calcium, and a negative result for thallium. The initial and continuing calibration blanks also contained aluminum, barium, calcium, magnesium, copper, and manganese at low levels. Positive aluminum results less than 5 times the blank concentration were flagged "U,p" at the reporting limit. Thallium non-detects were flagged "UJ,p" in all samples. Positive results for other analytes were greater than 5 times the blank concentration and no data qualifying action was taken.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 for instrument VMTFID1. Positive methane results were flagged "J, r" in the associated samples. The continuing calibration %D was greater than the QC limit (i.e., 15%) for the FID detector (23.9%) for the continuing calibration analyzed on 8/15/02 at 0945. This result was previously flagged and no further action was required. The continuing calibration %D was greater than the QC limit (i.e., 15%) for the TCD detector (16.9%) for the continuing calibration analyzed on 8/15/02 at 1135. The positive methane result was flagged "J,c" in the associated samples. Methane exceeded the calibration range in samples GW-AA-Q-5-45 and GW-AA-P-2-122. These results were previously flagged due to calibration failure, and no data qualifying action was taken. The results from the PCD detector should be used.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, except for those flagged "R", are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-92b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII46

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII46	GW-AA-P-2-114	Groundwater	VOCs	Acetone	1200	R,c	1200
SAII46	GW-AA-P-2-114	Groundwater	VOCs	Dichloromethane	250	U,z	250
SAII46	GW-AA-P-2-114	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-P-2-114-DUP	Groundwater	VOCs	Acetone	1200	R,c	1200
SAII46	GW-AA-P-2-114-DUP	Groundwater	VOCs	Dichloromethane	250	U,z	250
SAII46	GW-AA-P-2-114-DUP	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-P-2-122	Groundwater	VOCs	Acetone	500	R,c	500
SAII46	GW-AA-P-2-122	Groundwater	VOCs	Dichloromethane	100	U,z	100
SAII46	GW-AA-P-2-122	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-P-2-122	Groundwater	Methane	Methane	720	J,c	0.19
SAII46	GW-AA-P-2-122	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII46	GW-AA-P-2-122-Filtered	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-P-2-122-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII46	GW-AA-P-2-122-Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII46	GW-AA-P-3-32	Groundwater	VOCs	Acetone	25	R,c	25
SAII46	GW-AA-P-3-32	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII46	GW-AA-P-3-32	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1

Table 6-92b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII46

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII46	GW-AA-P-3-32	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII46	GW-AA-P-3-32	Groundwater	Methane	Methane	47	J,r	0.19
SAII46	GW-AA-P-3-32	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII46	GW-AA-P-3-32-Filtered	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-P-3-32-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII46	GW-AA-P-3-32-Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII46	GW-AA-Q-5-45	Groundwater	VOCs	Acetone	25	R,c	25
SAII46	GW-AA-Q-5-45	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII46	GW-AA-Q-5-45	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	4,4'-DDD	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	4,4'-DDE	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	4,4'-DDT	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Aldrin	0.0068	J,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	alpha-BHC	0.012	J,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	alpha-Chlordane	0.05	R,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	beta-BHC	0.096	J,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	delta-BHC	0.05	R,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Dieldrin	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Endosulfan I	0.05	R,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Endosulfan II	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Endosulfan Sulfate	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Endrin	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Endrin Ketone	0.1	R,s	0.1
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	R,s	0.05

Table 6-92b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII46

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	gamma-Chlordane	0.05	R,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Heptachlor	0.05	R,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Heptachlor Epoxide	0.05	R,s	0.05
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Methoxychlor	0.5	R,s	0.5
SAII46	GW-AA-Q-5-45	Groundwater	Pesticides	Toxaphene	5	R,s	5
SAII46	GW-AA-Q-5-45	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	27	J,g	120
SAII46	GW-AA-Q-5-45	Groundwater	Methane	Methane	700	J,c	0.19
SAII46	GW-AA-Q-5-45	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII46	GW-AA-Q-5-45-Filtered	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-Q-5-45-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII46	GW-AA-Q-5-45-Filtered	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII46	GW-AA-Q-5-55	Groundwater	VOCs	Acetone	14	J,c	25
SAII46	GW-AA-Q-5-55	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-Q-5-55-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII46	GW-AA-Q-5-55-DUP	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII46	GW-AA-Q-5-55-DUP	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-Q-5-65	Groundwater	VOCs	4-Methyl-2-pentanone (MIBK)	0.86	J,c	10
SAII46	GW-AA-Q-5-65	Groundwater	VOCs	Acetone	25	R,c	25
SAII46	GW-AA-Q-5-65	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII46	GW-AA-Q-5-65	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-Q-5-75	Groundwater	VOCs	Acetone	25	R,c	25
SAII46	GW-AA-Q-5-75	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII46	GW-AA-Q-5-75	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20
SAII46	GW-AA-Q-5-75-DUP	Groundwater	VOCs	4-Methyl-2-pentanone (MIBK)	0.94	J,c	10
SAII46	GW-AA-Q-5-75-DUP	Groundwater	VOCs	Acetone	25	R,c	25
SAII46	GW-AA-Q-5-75-DUP	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII46	GW-AA-Q-5-75-DUP	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,m	20

Table 6-93a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII47

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII47	GW-AA-P-3-42	8/8/02	Groundwater			X	X												
SAII47	GW-AA-P-3-42-DUP	8/8/02	Groundwater			X	X												
SAII47	GW-AA-P-3-52	8/8/02	Groundwater			X	X												
SAII47	GW-AA-P-3-62	8/8/02	Groundwater			X	X												
SAII47	GW-AA-P-3-62-DUP	8/8/02	Groundwater			X	X												
SAII47	GW-AA-P-3-72	8/8/02	Groundwater																
SAII47	GW-AA-P-3-72	8/8/02	Groundwater			X	X	X	X	X	X		X	X		X	X	X	
SAII47	GW-AA-P-3-72 Filtered	8/8/02	Groundwater				X												
SAII47	GW-AA-Q-5-105	8/8/02	Groundwater			X	X												
SAII47	GW-AA-Q-5-106	8/8/02	Groundwater					X	X	X	X		X	X	X	X	X	X	
SAII47	GW-AA-Q-5-106-Filtered	8/8/02	Groundwater				X				X						X		
SAII47	GW-AA-Q-5-85	8/8/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII47	GW-AA-Q-5-85-Filtered	8/8/02	Groundwater				X				X						X		
SAII47	GW-AA-Q-5-95	8/8/02	Groundwater			X	X												
SAII47	SEEP-Q-1	8/8/02	Seep			X	X	X	X	X	X						X		
SAII47	SEEP-Q-2	8/8/02	Seep			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII47_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____October 9, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the pesticide analyses, the DCBP surrogate recoveries on both columns in sample GW-AA-Q-5-85 (5% and 4%) were less than the lower control limit (i.e., 30%). All results in this sample were flagged "J, s" for positive detections or "R, s" for non-detects. As a result, the percent completeness for pesticides analysis was outside the control limit (i.e., 95%) at 81.9%.

Minor Anomalies: For the VOC analyses, the trip blank, TB-0808-KH, displayed a positive detection for chloromethane at 0.19 µg/L. Positive chloromethane results less than five times the blank concentration in the associated samples were flagged "U, y" at the reporting limit. The initial calibration analyzed on 8/1/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for bromomethane at 0.987. Bromomethane non-detect results in the associated samples were flagged "UJ, r". The continuing calibration verification (CCV) analyzed on 8/12/02 at 19:36 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at -26.1% and bromomethane at -33.2%. Since bromomethane results in the associated samples were previously flagged due to initial calibration failure, no additional data flags were applied. Positive chloromethane results in samples TB-0808-KH and SEEP-Q-1 were flagged "J, c". Since other positive chloromethane results were previously flagged due to trip blank contamination, no additional data flags were applied. The CCV analyzed on 8/13/02 at 10:18 displayed %Ds greater than the control limit (i.e. 20%) for bromomethane at -45.0%, chloroethane at -24.9%, trichloroethene at 23.6%, and 1,1,2,2-tetrachloroethane at -43.9%. Since these compounds were not detected in the associated samples, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MSD recoveries for bromomethane (152% and 152%) were greater than the upper control limit (i.e., 141%) in two MS/MSD pairs. Since MS and LCS recoveries for this compound were in control, no data qualifying action was taken.

For the SVOC analyses, the method blank, 0815C-EMB, displayed a positive detection for bis(2-ethylhexyl)phthalate at 0.93 µg//L. Positive bis(2-ethylhexyl)-phthalate results less than ten times the blank concentration in the associated

samples were flagged "U, z" at the reporting limit. The initial calibration analyzed on 9/11/02 displayed two correlation coefficients less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9888 and 4,6-dinitro-2-methylphenol at 0.9882. These compounds were not detected in the associated samples and were flagged "UJ, r". The initial calibration analyzed on 9/15/02 displayed three correlation coefficients less than the control limit for hexachlorocyclopentadiene at 0.9882, 2,4-dinitrophenol at 0.9885, and dinoseb at 0.9885. Since these results in sample GW-AA-Q-5-85-FilteredRE were not used for data interpretation, no data qualifying action was taken. The continuing calibration analyzed on 9/5/02 at 11:37 displayed %Ds greater than the control limit (i.e., <20%) for n-nitroso-di-n-propylamine (21.9%), 3&4-methylphenol (23.7%), 2,4-dinitrophenol (45.2%), 4,6-dinitro-2-methylphenol (27.6%), dinoseb (27.2%), and 3,3'-dichlorobenzidine (-22.5%). The continuing calibrations analyzed on 9/6/02 at 09:20 displayed %Ds greater than the control limit for 4-nitrophenol (21.4%), 4-nitroaniline (26.4%), 2,4-dinitrophenol (52.9%), 4,6-dinitro-2-methylphenol (22.2%), dinoseb (29.2%), and benzo(g,h,i)perylene (-20.6%). Since all associated samples are QC samples, no data qualifying action was taken. The continuing calibration analyzed on 9/8/02 at 12:03 displayed %Ds greater than the control limit for 2,4-dinitrophenol (43.7%) and dinoseb (32.0%). The continuing calibration analyzed on 9/12/02 at 10:59 displayed %Ds greater than the control limit for hexachlorocyclopentadiene (-54.4%) and 2,4-dinitrophenol (-21.5%). The hexachlorocyclopentadiene results in the associated samples were flagged "UJ, c". Since all other compounds were either not detected in the associated samples or were surrogates, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The continuing calibration analyzed on 9/17/02 at 10:57 displayed %Ds greater than the control limit for hexachlorocyclopentadiene (-28.3%), 2,4-dinitrophenol (-35.9%), 4,6-dinitro-2-methylphenol (-27.4%), 4-bromophenyl-phenylether (-20.7%), benzo(k)fluoranthene (24.1%), and 2,4,6-tribromophenol (-22.9%). Since the associated sample GW-AA-Q-5-85-FilteredRE was not used for data interpretation, no data qualifying action was taken. Sample GW-AA-Q-5-95 displayed a base/neutral surrogate %R less than the lower control limit (i.e. 36%) for 2-fluorobiphenyl at 32%. Since the other two base/neutral surrogate recoveries were in control, no data qualifying action was taken. Sample GW-AA-Q-5-85-Filtered displayed two acid fraction surrogate %Rs less than the lower control limits for 2-fluorophenol (28%) and phenol-d5 (22%). All acid fraction results in this sample, except those previously flagged due to calibration failure, were flagged "J, s" for positive detections or "UJ, s" for non-detects. This sample was re-extracted (grossly exceeding the hold time by 29 days) and re-analyzed by the laboratory for confirmation propose, and displayed acceptable surrogate recoveries. All acid fraction results in the original analysis were confirmed by this re-analysis data. Since the holding time was grossly exceeded, this re-analysis data should not be used for data interpretation. These results were crossed-out by the reviewer. The original results in sample GW-AA-Q-5-85-Filtered should be used for data interpretation. Three surrogate recoveries in sample GW-AA-Q-5-95MS and four surrogate recoveries in sample

GW-AA-Q-5-95MSD were less than the lower control limits. Since these two samples are QC samples, no data qualifying action was taken. The RPD for 3,3-dichlorobenzidine (83%) was greater than the acceptance limit (i.e., 72%) in the GW-AA-P-3-52 MS/MSD pair. Regarding the MS/MSD recoveries, 71 of 128 recoveries and 33 of 64 RPDs were outside the control limit in the GW-AA-Q-5-95 MS/MSD pair. These recoveries and RPD failures may be attributed to low extraction efficiency by the laboratory (surrogate recoveries were also low in this MS/MSD pair) but the poor recoveries are limited to the MS and MSD samples. Since all recoveries and most of the RPD results in the GW-AA-P-3-52 MS/MSD pair were in control and associated LCS recoveries were also in control, no data qualifying action was taken. The 4-chloroaniline result in sample GW-AA-Q-5-85 exceeded the linear range of the calibration curve. This result was flagged "J, q". This sample was diluted by a factor of 2 and reanalyzed by the laboratory. The 4-chloroaniline result from the dilution analysis should be used for data interpretation.

For the pesticides analyses, the %Ds for methoxychlor (-17.8%), 2,4-DCAA (-21.1%), and decachlorobiphenyl (DCBP, -19.5%) on the primary column; and for DCBP (-16.5%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/20/02 at 10:50. The %Ds for 2,4-DCAA (-17.4%) and DCBP (-18.6%) on the primary column were greater than the criterion for the continuing calibration analyzed on 8/20/02 at 21:15. Since these results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. The TCMX surrogate recoveries on both columns in sample SEEP-Q-2 (28% and 26%) were less than the lower control limit (i.e., 30%). The DCBP surrogate recoveries on both columns in samples GW-AA-P-3-72 (17% and 18%) and SEEP-Q-1 (22% and 22%) were less than the lower control limit (i.e., 30%). All results in these three samples were flagged "J, s" for positive detections or "UJ, s" for non-detects. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for beta-BHC (146.2%) and aldrin (50.0%) in sample GW-AA-Q-5-85. Since these two results were previously flagged due to surrogate recovery failure, no additional data flags were applied. It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %D for dalapon (-15.5%) on the confirmation column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/17/02 at 00:39. The %D for 2,4-DB (-24.0%) on the primary column was greater than the criterion for the continuing calibration analyzed on 8/17/02 at 11:54. Since dalapon and 2,4-DB were not detected in the associated samples and these results had an acceptable %D on the alternate column, no data qualifying action was taken. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for MCPP ((172.7%) in sample GW-AA-P-3-72 and MCPA (173.8%) in sample GW-

AA-Q-5-85. These two results were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recovery for arsenic (76%), selenium (121%), and thallium (125%) and the final CRDL recovery for selenium (121%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 0.0279 mg/L, calcium at 0.0149 mg/L, copper at 0.00111 mg/L, and thallium at 0.00402 mg/L. Positive aluminum and copper results in the associated samples less than five times the blank concentration were flagged "U, p" at the reporting limits. Since calcium and thallium results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Selenium was detected in three continuing calibration blanks (CCB) at concentrations ranging form 4.90 µg/L to 7.14 µg/L. Silver was detected in CCB4 at 0.788 µg/L. Vanadium was detected in CCB4 at 1.01 µg//L. Positive selenium, silver, and vanadium results in the associated samples less than five times the blank concentration were flagged "U, o" at the reporting limits. Aluminum, barium, calcium, copper, manganese, and thallium were also detected in the initial calibration blank (ICB) and/or CCBs at low levels. Since these analyte results in the associated samples were either previously flagged due to preparation blank contamination or greater than five times the blank concentration, no data qualifying action was taken.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on the flame ionization detector (FID). Positive methane results reported from the FID were flagged "J, r" in the associated samples. The %D for methane (20.2%) on the thermo-conductivity detector (TCD) was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/19/02 at 09:44. Positive methane results reported from the TCD were flagged "J, c". The methane results in samples GW-AA-Q-5-85 and GW-AA-Q-5-106 exceeded the linear range of the calibration curve. Since these methane results were previously flagged due to initial calibration failure, no additional data flags were applied. The methane results reported from the TCD detector should be used for data interpretation. The MS recovery for methane (61%) was less than the lower control limit (i.e., 75%) in the GW-AA-P-3-71 MS/MSD pair. Since all methane results were previously flagged due to other QC failure, no additional data flags were applied.

For the sulfate analyses, the %R for sulfate (88%) was less than the criterion (i.e., 90-110%) for the continuing calibration analyzed on 8/22/02 at 17:35. The positive sulfate result in sample GW-AA-P-3-72 was flagged "J, c".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-93b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII47

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII47	GW-AA-P-3-42	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-P-3-42	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII47	GW-AA-P-3-42	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	U,z	10
SAII47	GW-AA-P-3-42-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-P-3-42-DUP	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII47	GW-AA-P-3-42-DUP	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	U,z	10
SAII47	GW-AA-P-3-52	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-P-3-52	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII47	GW-AA-P-3-62	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-P-3-62	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	U,z	10
SAII47	GW-AA-P-3-62-DUP	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-P-3-62-DUP	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,c	10
SAII47	GW-AA-P-3-72	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-P-3-72	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII47	GW-AA-P-3-72	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII47	GW-AA-P-3-72	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,r	50
SAII47	GW-AA-P-3-72	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,c	10
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1

Table 6-93b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII47

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII47	GW-AA-P-3-72	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII47	GW-AA-P-3-72	Groundwater	Herbicides	MCPP	22	J,g	120
SAII47	GW-AA-P-3-72	Groundwater	Methane	Methane	19	J,r	0.19
SAII47	GW-AA-P-3-72	Groundwater	Metals	Selenium	0.01	U,o	0.01
SAII47	GW-AA-P-3-72	Groundwater	Other Parameters	Sulfate as SO4	140	J,c	25
SAII47	GW-AA-Q-5-105	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-Q-5-106	Groundwater	Methane	Methane	900	J,c	0.19
SAII47	GW-AA-Q-5-106	Groundwater	Metals	Selenium	0.01	U,o	0.01
SAII47	GW-AA-Q-5-106	Groundwater	Metals	Silver	0.1	U,o	0.1
SAII47	GW-AA-Q-5-106-Filtered	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII47	GW-AA-Q-5-106-Filtered	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,r	50
SAII47	GW-AA-Q-5-106-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII47	GW-AA-Q-5-106-Filtered	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII47	GW-AA-Q-5-106-Filtered	Groundwater	Metals	Selenium	0.01	U,o	0.01
SAII47	GW-AA-Q-5-106-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII47	GW-AA-Q-5-85	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	GW-AA-Q-5-85	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	4,4'-DDD	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	4,4'-DDE	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	4,4'-DDT	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Aldrin	0.012	J,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	alpha-BHC	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	alpha-Chlordane	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	beta-BHC	0.028	J,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	delta-BHC	0.05	R,s	0.05

Table 6-93b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII47

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Dieldrin	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Endosulfan I	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Endosulfan II	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Endosulfan Sulfate	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Endrin	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Endrin Aldehyde	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Endrin Ketone	0.1	R,s	0.1
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	gamma-Chlordane	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Heptachlor	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Heptachlor Epoxide	0.05	R,s	0.05
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Methoxychlor	0.5	R,s	0.5
SAII47	GW-AA-Q-5-85	Groundwater	Pesticides	Toxaphene	5	R,s	5
SAII47	GW-AA-Q-5-85	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	33	J,g	120
SAII47	GW-AA-Q-5-85	Groundwater	Methane	Methane	4000	J,c	0.19
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2,4,5-Trichlorophenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2,4,6-Trichlorophenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2,4-Dichlorophenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2,4-Dimethylphenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2-Chlorophenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2-Methylphenol (o-Cresol)	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	2-Nitrophenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	5.7	J,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,r	50
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	4-Chloro-3-methylphenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	4-Nitrophenol	50	UJ,s	50
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,c	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	Pentachlorophenol	50	UJ,s	50
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	SVOCs	Phenol	10	UJ,s	10
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2

Table 6-93b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII47

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII47	GW-AA-Q-5-85-Filtered	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII47	GW-AA-Q-5-95	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII47	SEEP-Q-1	Seep	VOCs	Bromomethane	1	UJ,r	1
SAII47	SEEP-Q-1	Seep	VOCs	Chloromethane	0.97	J,c	1
SAII47	SEEP-Q-1	Seep	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	delta-BHC	0.051	J,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	Endrin	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII47	SEEP-Q-1	Seep	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII47	SEEP-Q-1	Seep	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII47	SEEP-Q-1	Seep	Pesticides	Toxaphene	5	UJ,s	5
SAII47	SEEP-Q-1	Seep	Metals	Selenium	0.01	U,o	0.01
SAII47	SEEP-Q-2	Seep	VOCs	Bromomethane	1	UJ,r	1
SAII47	SEEP-Q-2	Seep	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	4,4'-DDT	0.1	UJ,s	0.1

Table 6-93b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII47

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII47	SEEP-Q-2	Seep	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	Endrin	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII47	SEEP-Q-2	Seep	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII47	SEEP-Q-2	Seep	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII47	SEEP-Q-2	Seep	Pesticides	Toxaphene	5	UJ,s	5

Table 6-94a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII48

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII48	GW-AA-P-3-102	8/9/02	Groundwater			X	X												
SAII48	GW-AA-P-3-112	8/9/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII48	GW-AA-P-3-112 Filtered	8/9/02	Groundwater				X				X						X		
SAII48	GW-AA-P-3-72 Filtered	8/9/02	Groundwater								X						X		
SAII48	GW-AA-P-3-82	8/9/02	Groundwater			X	X												
SAII48	GW-AA-P-3-92	8/9/02	Groundwater			X	X												
SAII48	SEEP-R-1	8/9/02	Seep			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII48_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____October 17, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the method blank contained methylene chloride at 1.1 ug/L. Positive results less than 10 times the blank concentration were flagged "U,z" at the reporting limit. Trip blank TB-0809-KH contained chloromethane at 0.83 ug/L and methylene chloride at 1.2 ug/L which was previously flagged "U,z" due to method blank contamination. Positive chloromethane results less than 5 times the blank concentration were flagged "U,y" or "U,y" at the reporting limit in the associated samples. The initial calibration analyzed on 8/1/02 displayed a correlation coefficient less than the QC limit (i.e., 0.990) for bromomethane at 0.987. All associated sample results were non-detects and were flagged "UJ,r". The continuing calibration analyzed on 8/19/02 displayed a %D greater than the QC limit (i.e., 20%) for bromomethane at 34.3%. All associated sample results were previously flagged due to initial calibration failure and no further data qualifying action was required.

For the SVOC analyses, the method blank contained bis(2-ethylhexyl)phthalate at 0.93 ug/L. Positive results less than 10 times the blank concentration were flagged "U,z" at the reporting limit. The initial calibration %RSD was greater than the control limit (i.e., 15%) for 2-nitrophenol (15.06%) in the initial calibration analyzed on 8/27/02. Since this compound was not detected in the associated samples and the failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The continuing calibration analyzed on 9/5/02 at 1137 displayed %Ds greater than the QC limit (i.e., 20%) for n-nitroso-di-n-propylamine (21.9%), 3&4-methylphenol (23.7%), 2,4-dinitrophenol (45.2%), dinoseb (27.2%), 4,6-dinitro-2-methylphenol (27.6%), and 3,3-dichlorobenzidine (-22.5%). The continuing calibration analyzed on 9/6/02 at 0920 displayed %Ds greater than the QC limit for 3-nitroaniline (20.4%), 2,4-dinitrophenol (52.9%), 4-nitrophenol (21.4%), 4-nitroaniline (26.4%), 4,6-dinitro-2-methylphenol (22.2%), benzo(g,h,i)perylene (-20.6%), and dinoseb (29.6%). The continuing calibration analyzed on 9/12/02 at 1059

displayed %Ds greater than the control limit for hexachlorocyclopentadiene (-54.5%) and 2,4-dinitrophenol (-21.6%). All associated sample results were non-detects and the only failures that were serious enough (i.e., > 50%) to affect the non-detects were 2,4-dinitrophenol and hexachlorocyclopentadiene. Non-detects for these two compounds were flagged "UJ,c" in the associated samples. Surrogates were not recovered in samples SEEP-R-1 (DF = 25) and SEEP-R-1DL (DF = 50). No data qualifying action was required since the dilution factors were greater than 10. The %RPD for the MS/MSD analyses was greater than the QC limit (i.e., 72%) for 3,3-dichlorobenzidine (83%). No data qualifying action was required since the MS/MSD and LCS recoveries were acceptable. 4-Chloroaniline exceeded the calibration range in sample SEEP-R-1 and was flagged "E" by the laboratory. This result was flagged "J,q". This sample was re-analyzed at a dilution factor of 50 and the result from the dilution analyses should be used for data interpretation.

For the pesticide analyses, the %Ds for methoxychlor (-17.8%) and decachlorobiphenyl (-19.5%) on the primary column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/20/02 at 1050. The positive methoxychlor results were flagged "J,c" in the associated samples. No data qualifying action was required for decachlorobiphenyl since it is a surrogate compound. The recoveries for surrogate decachlorobiphenyl (24% and 24%) were less than the QC limit (i.e., 30-150%) in sample GW-AA-P-3-112. All associated sample results were non-detects and were flagged "UJ,s". The RPDs between the two columns were greater than the acceptance limit (i.e., < 40%) for several compounds in sample SEEP-R-1. These results were flagged "J,g". The recovery for the internal standard bromonitrobenzene was greater than the QC limit (i.e., 50-150%) in sample SEEP-R-1 at 177%. The positive sample results not previously flagged in this sample, were flagged "J,n".

For the herbicide analyses, the %Ds for 2,4-DB (-15.2%) on the primary column and dalapon (-15.5%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 8/17/02 at 0039. The %Ds for 2,4-DB (-24%) on the primary column and dalapon (-15.2%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 8/17/02 at 1154. The %D for 2,4-D (17.8%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 9/5/02 at 0234. The positive 2,4-D result was flagged "J,c" in the diluted sample SEEP-R-1. No positive results were reported for 2,4-DB and dalapon and no data qualifying action was taken since the %Ds were acceptable on the alternate column. The recovery for surrogate 2,4-DCAA (155%) was greater than the QC limit (i.e., 27-133%) in sample SEEP-R-1. Positive results were flagged "J,s". Dichloroprop and 2,4-D exceeded the calibration range in sample SEEP-R-1 and were flagged "E" by the laboratory. These results were previously flagged due to surrogate failure and no further data qualifying action was required. This sample

was re-analyzed at a dilution factor of 25 and the results for these two compounds from the dilution analyses should be used for data interpretation. The RPDs between the two columns were greater than the acceptance limit (i.e., < 40%) for several compounds in sample SEEP-R-1. These results were previously flagged due to surrogate or calibration failure and no further data qualifying action was required.

For the metal analyses, the method blank contained positive results for aluminum, barium, copper and thallium. The initial and continuing calibration blanks also contained positive results at low levels for aluminum, copper and thallium, and negative results for calcium and magnesium. Positive aluminum, copper and thallium results less than 5 times the blank concentration were flagged "U,p" at the reporting limit. Positive results for other analytes were greater than 5 times the blank concentration and no data qualifying action was taken. The %D for the serial dilution analyses was greater than the QC limit (i.e., 10%) for sodium at 11.4%. Positive results were flagged "J,s".

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on instrument VMTFID1. Positive methane results were flagged "J, r" in the associated samples. Methane exceeded the calibration range in sample GW-AA-P-3-112. This result was previously flagged due to calibration failure, and no data qualifying action was taken. The result from the TCD detector should be used. The MS recovery was less than the QC limit (i.e., 75-125%) at 71%. No data qualifying action was required since the MSD and LCS recoveries were acceptable.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-94b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII48

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII48	GW-AA-P-3-102	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII48	GW-AA-P-3-102	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII48	GW-AA-P-3-112	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII48	GW-AA-P-3-112	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII48	GW-AA-P-3-112	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	U,z	10
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII48	GW-AA-P-3-112	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII48	GW-AA-P-3-112	Groundwater	Metals	Sodium	240	J,s	2.5
SAII48	GW-AA-P-3-112 Filtered	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	U,z	10
SAII48	GW-AA-P-3-112 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII48	GW-AA-P-3-112 Filtered	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII48	GW-AA-P-3-112 Filtered	Groundwater	Metals	Sodium	240	J,s	2.5

Table 6-94b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII48

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII48	GW-AA-P-3-72 Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII48	GW-AA-P-3-72 Filtered	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII48	GW-AA-P-3-72 Filtered	Groundwater	Metals	Sodium	12	J,s	0.5
SAII48	GW-AA-P-3-72 Filtered	Groundwater	Metals	Thallium	0.01	U,p	0.01
SAII48	GW-AA-P-3-82	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII48	GW-AA-P-3-82	Groundwater	VOCs	Chloromethane	1	U,y	1
SAII48	GW-AA-P-3-82	Groundwater	VOCs	Dichloromethane	5	U,y	5
SAII48	GW-AA-P-3-92	Groundwater	VOCs	Bromomethane	1	UJ,r	1
SAII48	GW-AA-P-3-92	Groundwater	VOCs	Chloromethane	1.3	U,y	1
SAII48	GW-AA-P-3-92	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII48	GW-AA-P-3-92	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,c	50
SAII48	SEEP-R-1	Seep	VOCs	Bromomethane	5	UJ,r	5
SAII48	SEEP-R-1	Seep	VOCs	Chloromethane	5	U,y	5
SAII48	SEEP-R-1	Seep	SVOCs	2,4-Dinitrophenol	1200	UJ,c	1200
SAII48	SEEP-R-1	Seep	Pesticides	Aldrin	0.32	J,g	0.1
SAII48	SEEP-R-1	Seep	Pesticides	alpha-BHC	0.062	J,n	0.1
SAII48	SEEP-R-1	Seep	Pesticides	Endrin Aldehyde	0.081	J,g	0.2
SAII48	SEEP-R-1	Seep	Pesticides	gamma-Chlordane	0.056	J,g	0.1
SAII48	SEEP-R-1	Seep	Pesticides	Heptachlor Epoxide	0.47	J,g	0.1
SAII48	SEEP-R-1	Seep	Pesticides	Methoxychlor	0.072	J,g	1
SAII48	SEEP-R-1	Seep	Herbicides	2,4-D	12	J,c	12
SAII48	SEEP-R-1	Seep	Herbicides	Pentachlorophenol	0.42	J,s	1
SAII48	SEEP-R-1	Seep	Metals	Sodium	60	J,s	0.5
SAII48	SEEP-R-1	Seep	Metals	Thallium	0.01	U,p	0.01

Table 6-95a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII49

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII49	GW-AA-P-1-44FT		8/13/02	Groundwater				X												
SAII49	GW-AA-P-3-122		8/12/02	Groundwater			X	X												
SAII49	GW-AA-P-3-126		8/12/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII49	GW-AA-P-3-126-Filtered		8/12/02	Groundwater				X				X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII49_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____October 9, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOCs analyses, the initial calibration analyzed on 7/11/02 (RRF=0.0487) displayed an average relative response factor (RRF) less than the control limit (i.e. 0.05) for acetone on instrument MSO5973. All acetone results were flagged "J, c" for positive detections and "R, c" for non-detects.

The LCS recoveries for 4-chloroaniline (5%), 3-nitroaniline (0%), 3,3'-dichlorobenzidine (0%), and carbazole (43%) were less than the lower control limit in one LCS/LCSD pair (0819C-EMB). These results in sample GW-AA-P-1-44 were flagged "R, l".

Minor Anomalies: For the VOC analyses, the method blank, 1O0821MB, displayed a positive detection for methylene chloride at 1.7 µg/L. Positive methylene chloride results in the associated samples were flagged "U, z" at the reporting limit. The trip blank, TB-0812-KH, displayed positive detections for methylene chloride at 1.2 µg/L, benzene at 0.14 µg/L, and styrene at 0.47 µg/L. Positive benzene and styrene results in sample GW-AA-P-3-122 were flagged "U, y" at the reporting limit. Since the methylene chloride result in this trip blank was previously flagged due to method blank contamination, therefore, this result was not used to assess the associated samples. The continuing calibration verification (CCV) analyzed on 8/21/02 at 10:16 displayed %Ds greater than the control limit (i.e. 20%) for acetone at 30.8%, methylene chloride at 33.3%, 1,1-dichloroethane at 32.3%, 4-methyl-2-pentanone at -20.8%, and tetrachloroethene at 21.7%. Since acetone and methylene chloride results in the associated samples were previously flagged due to other QC failures, no additional data flags were applied. Since 1,1-dichloroethane, 4-methyl-2-pentanone, and tetrachloroethene were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The LCS recoveries for 1,1-dichloroethane (154%), dibromochloromethane (130%), and total 1,2-dichloroethene (140%) were greater than the upper control limit. Since these three compounds were not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the initial calibration analyzed on 9/11/02 displayed two correlation coefficients less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9888 and 4,6-dinitro-2-methylphenol at 0.9882. The initial calibration analyzed on 9/15/02 displayed three correlation coefficients less than the control limit for hexachlorocyclopentadiene at 0.9882, 2,4-dinitrophenol at 0.9885, and dinoseb at 0.9885. These compounds were not detected in the associated samples and were flagged "UJ, r". The continuing calibration analyzed on 9/12/02 at 10:59 displayed %Ds greater than the control limit (i.e., <20%) for hexachlorocyclopentadiene (-54.4%) and 2,4-dinitrophenol (-21.5%). The continuing calibration analyzed on 9/16/02 at 08:20 displayed a %D greater than the control limit for 4-nitroaniline (25.2%). The hexachlorocyclopentadiene results in the associated samples were flagged "UJ, c". Since all other compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Sample GW-AA-P-1-44 displayed an acid surrogate %R less than the lower control limit (i.e. 25%) for phenol-d5 at 24%. Since the other two acid surrogate recoveries were in control, no data qualifying action was taken. All surrogate recoveries (270% to 360%) were greater than the upper control limits in one LCSD sample (0819C-EMBLCSD). Since this is an QC sample, no data qualifying action was taken. The LCS recoveries for benzo(b)fluoranthene (150%), benzo(a)pyrene (130%), and dibenzo(a,h)anthracene (160%) were greater than the upper control limit in one LCS/LCSD pair (0819C-EMB). Since these three compounds were not detected in the associated sample, no data qualifying action was taken. For the LCSD, 62 of 64 recoveries and all RPD values were greater than the control limits in one LCS/LCSD pair (0819C-EMB). This LCSD sample may have been double or triple spiked. All internal standard peak areas in this LCSD sample were less than the lower control limits. Thes results were not used for data interpretation.

For the pesticides analyses, the %Ds for methoxychlor (-17.8%), 2,4-DCAA (-21.1%), and decachlorobiphenyl (DCBP, -19.5%) on the primary column; and for DCBP (-16.5%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/20/02 at 10:50. The %Ds for 2,4-DCAA (-17.4%) and DCBP (-18.6%) on the primary column were greater than the criterion for the continuing calibration analyzed on 8/20/02 at 21:15. Since these results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken.

For the herbicide analyses, the %D for dalapon (-15.5%) on the confirmation column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 8/17/02 at 00:39. The %D for 2,4-DB (-24.0%) on the primary column was greater than the criterion for the continuing calibration analyzed on 8/17/02 at 11:54. Since dalapon and 2,4-DB were not detected in the

associated samples and these results had an acceptable %D on the alternate column, no data qualifying action was taken.

For the metal analyses, the preparation blank contained aluminum at 0.01144 mg/L, barium at 0.00043 mg/L, copper at 0.00080 mg/L, and thallium at 0.00439 mg/L. Positive aluminum, copper, and thallium results in the associated samples less than five times the blank concentration were flagged "U, p" at the reporting limits. Since barium results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Arsenic was detected in two continuing calibration blanks (CCB) at -0.00347 mg/L (CCB3) and -0.00302 mg/L (CCB4). Positive arsenic results in associated samples were flagged "J, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Copper was detected in the initial calibration blank (ICB) at 0.00108 mg/L, CCB3 at 0.00194 mg/L, and CCB4 at 0.00164 mg/L. The positive copper result in sample GW-AA-P-3-126 was flagged "U, o". Barium, calcium, magnesium, and thallium were also detected in the initial calibration blank (ICB) and/or CCBs at low levels. Since these analyte results in the associated samples were either previously flagged due to preparation blank contamination or greater than five times the blank concentration, no data qualifying action was taken. The %D for potassium (11.1%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (GW-AA-P-3-126). Positive potassium results in the associated samples were flagged "J, s".

For the methane analyses, the correlation coefficient for the initial calibration analyzed 6/12/02 was less than the QC limit (i.e., 0.990) for methane at 0.987 on the flame ionization detector (FID). The positive methane result in sample GW-AA-P-3-126 was flagged "J, r". The MS recovery for methane (71%) was less than the lower control limit (i.e., 75%) in one non-client MS/MSD pair. Since the parent sample is a non-client sample, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-95b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII49

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII49	GW-AA-P-1-44FT	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII49	GW-AA-P-1-44FT	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,l	20
SAII49	GW-AA-P-1-44FT	Groundwater	SVOCs	3-Nitroaniline	50	R,l	50
SAII49	GW-AA-P-1-44FT	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,r	50
SAII49	GW-AA-P-1-44FT	Groundwater	SVOCs	P-Chloroaniline	20	R,l	20
SAII49	GW-AA-P-3-122	Groundwater	VOCs	Acetone	25	R,c	25
SAII49	GW-AA-P-3-122	Groundwater	VOCs	Benzene	1	U,y	1
SAII49	GW-AA-P-3-122	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII49	GW-AA-P-3-122	Groundwater	VOCs	Styrene (Monomer)	1	U,y	1
SAII49	GW-AA-P-3-122	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII49	GW-AA-P-3-122	Groundwater	SVOCs	Dinoseb	10	UJ,r	10
SAII49	GW-AA-P-3-122	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,r	10
SAII49	GW-AA-P-3-126	Groundwater	VOCs	Acetone	16	J,c	25
SAII49	GW-AA-P-3-126	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII49	GW-AA-P-3-126	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII49	GW-AA-P-3-126	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,r	50
SAII49	GW-AA-P-3-126	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,c	10
SAII49	GW-AA-P-3-126	Groundwater	Methane	Methane	59	J,r	0.19
SAII49	GW-AA-P-3-126	Groundwater	Metals	Arsenic	0.0043	J,o	0.01
SAII49	GW-AA-P-3-126	Groundwater	Metals	Copper	0.053	U,o	0.02
SAII49	GW-AA-P-3-126	Groundwater	Metals	Potassium	12	J,s	1
SAII49	GW-AA-P-3-126-Filtered	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII49	GW-AA-P-3-126-Filtered	Groundwater	SVOCs	4,6-Dinitro-2-methylphenol	50	UJ,r	50
SAII49	GW-AA-P-3-126-Filtered	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	UJ,c	10
SAII49	GW-AA-P-3-126-Filtered	Groundwater	Metals	Aluminum	0.2	U,p	0.2
SAII49	GW-AA-P-3-126-Filtered	Groundwater	Metals	Arsenic	0.0031	J,o	0.01
SAII49	GW-AA-P-3-126-Filtered	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII49	GW-AA-P-3-126-Filtered	Groundwater	Metals	Potassium	11	J,s	1
SAII49	GW-AA-P-3-126-Filtered	Groundwater	Metals	Thallium	0.01	U,p	0.01

Table 6-96a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII50	SOIL-OS-1-0.5FT	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-1-6FT	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-2-0.5FT	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-2-0.5FT DUP	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-2-6FT	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-2-6FT DUP	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-3-0.5FT	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-3-6FT	8/14/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-4-0.5FT	8/15/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-4-6FT	8/15/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-4-6FT-DUP	8/15/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-5-0.5ft	8/15/02	Soil			X	X	X	X	X	X						X		
SAII50	SOIL-OS-5-6ft	8/15/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SAII50_____ **Fraction:** _VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____

Lab: _Severn Trent-Savannah_____ **Project Name:** __Sauget Area 2_____

Reviewer: _____JA_____ **Date:** _____October 28, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: None.

Minor Anomalies: For the VOCs analyses, the method blank analyzed on 8/23/02 displayed positive detections for benzene at 0.60 µg/kg, trichloroethene at 0.48 µg/kg, toluene at 0.95 µg/kg, and chlorobenzene at 0.90 µg/kg. Positive results less than five times the blank concentration in the associated samples were flagged "U, z" at the reporting limit. The method blank analyzed on 8/26/02 displayed positive detections for 2-butanone at 1.2 µg/kg, toluene at 1.6 µg/kg, and styrene at 0.21 µg/kg. Since the associated samples are MS/MSD samples (QC samples) and MS/MSD recoveries for these compounds were in control, no data qualifying action was taken. The trip blank, TB-0815-KH, displayed positive detections for benzene at 0.59 µg/kg, trichloroethene at 0.45 µg/kg, toluene at 0.96 µg/kg, and chlorobenzene at 0.88 µg/kg. Since these results were previously flagged due to method blank contamination, these data were not used to assess the associated samples. The initial calibration analyzed on 8/6/02 displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 52.4%. Bromomethane non-detect results in the associated samples were flagged "UJ, r". The continuing calibration verification (CCV) analyzed on 8/23/02 at 10:32 displayed %Ds greater than the control limit (i.e., 20%) for chloromethane at -51.2%, bromomethane at -63.1%, and methylene chloride at -20.5%. Chloromethane results in the associated samples were flagged "J, c" for positive detections and "UJ, c" for non-detects. Positive methylene chloride results were flagged "J, c" in the associated samples. Since bromomethane results were previously flagged due to initial calibration failure, no additional data flags were applied. The CCV analyzed on 8/26/02 at 11:07 displayed %Ds greater than the control limit for chloromethane at 22.8%, acetone at -21.9%, and 1,1,1-trichloroethane at -21.5%. Since associated samples were QC samples (MS/MSD samples), no data qualifying action was taken. The MSD recovery for carbon disulfide (138%) and

the RPD for acetone (32%) were greater the control limit in the SOIL-OS-3-0.5' MS/MSD pair. Since the MS recovery for carbon disulfide and both MS and MSD recoveries for acetone were in control, no data qualifying action was taken. The MS recovery for carbon disulfide (154%) and the RPDs for chloromethane (70%), acetone (51%), 1,2-dichloroethane (36%), 1,2-dichloropropane (34%), bromodichloromethane (35%), cis-1,3-dichloropropene (38%), 4-methyl-2-pentanone (44%), 1,1,2-trichloroethane (41%), 2-hexanone (43%), dibromochloromethane (35%), bromoform (36%), and 1,1,2,2-tetrachloroethane (40%) were greater the control limit in the SOIL-OS-3-6' MS/MSD pair. Since the MS recovery for carbon disulfide and both MS and MSD recoveries for those RPD outliers were in control, no data qualifying action was taken. The MS/MSD recoveries for chloromethane (171% and 152%), carbon disulfide (171% and 141%); the MS recoveries for vinyl chloride (146%), bromomethane (305%), chloroethane (146%), 1,1-dichloroethane (134); and the RPDs for acetone (37%), 1,2-dichloroethane (28%), 4-methyl-2-pentanone (56%), 1,1,2-trichloroethane (38%), 2-hexanone (55%), bromoform (32%), and 1,1,2,2-tetrachloroethane (41%) were greater the control limit in the SOIL-Q-13-0.5FT MS/MSD pair. Since these compounds were not detected in the associated samples (from Site Q), no data qualifying action was taken.

For the SVOCs analyses, the method blank prepared on 8/28/02 displayed positive detections for benzo(a)pyrene at 25 µg/kg, indeno(1,2,3-cd)pyrene at 29 µg/kg, and benzo(g,h,i)perylene at 31 µg/kg. Positive results less than five times the blank concentration in the associated samples were flagged "U, z" at the reporting limit. The initial calibration analyzed on 9/11/02 displayed correlation coefficients less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9888 and 4,6-dinitro-2-methylphenol at 0.9881. These two results in sample SOIL-OS-1-0.5' were flagged "UJ, r". The CCV analyzed on 9/12/02 at 10:59 displayed %Ds greater than the control limit (i.e., 20%) for hexachlorocyclopentadiene at -54.4% and 2,4-dinitrophenol at -21.5%. Since the associated samples were QC samples, no data qualifying action was taken. The CCV analyzed on 9/13/02 at 01:03 displayed a %D greater than the control limit for 4,6-dinitro-2-methylphenol at 30.5%. Since this result in the associated sample was previously flagged due to initial calibration failure, no additional data flags were applied. The CCV analyzed on 9/16/02 at 19:58 displayed a %D greater than the control limit for 2-nitroaniline at 25.3%. The CCV analyzed on 9/17/02 at 08:22 displayed %Ds greater than the control limit for 2,4-dinitrophenol at 25.9%, benzo(b)fluoranthene at 22.5%, and dinoseb at 22.5%. Since these compounds were not detected in the associated samples, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The surrogate recoveries for 2,4,6-tribromophenol were less than the lower control limit (i.e., 30%) in samples SOIL-OS-3-6' (22%) and SOIL-OS-3-0.5' (22%). Since all other surrogates in these samples were in control, no data qualifying action was taken. Surrogate recoveries for 2,4,6-tribromophenol (acid

fraction) and terphenyl-d14 (base/neutral) were less than the lower control limit in samples SOIL-OS-2-0.5'-DUP (22% and 25%) and SOIL-OS-3-0.5'MS (17% and 19%). Since only one surrogate recovery from each fraction was out in sample SOIL-OS-2-0.5'-DUP and the sample SOIL-OS-3-0.5'MS was a QC sample, no data qualifying action was taken. Sample SOIL-OS-2-0.5'-DUP was re-analyzed by the laboratory and displayed acceptable surrogate recoveries. The original sample results in sample SOIL-OS-2-0.5'-DUP should be used for data interpretation. There are 26 of 64 MS recoveries, four MSD recoveries, and 17 of 64 RPDs outside the control limits in the SOIL-OS-3-0.5' MS/MSD pair. The low MS recoveries and high RPDs in this MS/MSD pair may be attributed to low extraction efficiency which indicated by low surrogate recoveries. Since the majority of the MS/MSD recoveries were in control and the LCS recoveries were in control, no data qualifying action was taken. The MS/MSD recoveries for dimethylphthalate (46%), n-nitrosodiphenylamine (46%), butylbenzylphthalate (40% and 48%), benzo(a)anthracene (48%), and chrysene (48% and 54%) were less than the lower control limits in the SOIL-OS-3-6' MS/MSD pair. The MS/MSD recoveries for dimethylphthalate (45%), n-nitrosodiphenylamine (50%), butylbenzylphthalate (43% and 45%), benzo(a)anthracene (52% and 50%), and chrysene (55% and 50%) were less than the lower control limits in the SOIL-Q-13-0.5FT MS/MSD pair. The RPD for 1,2,4-trichlorobenzene (27%) was greater than the acceptance limit (i.e., 22%) in this MS/MSD pair. Since these MS/MSD recoveries were slightly less than the lower control limit and the LCS recoveries for these compounds were in control, no data qualifying action was taken. The LCS recovery for 2,4-dimethylphenol (91%) was greater than the upper control limit (i.e., 84%). Since this compound was not detected in the associated samples, no data qualifying action was taken. Sample SOIL-OS-2-6' displayed a %R less than the lower control limit (i.e., 50%) for internal standard chrysene-d12 (47.6%). All results associated with this internal standard were non-detects and were flagged "UJ, n". This sample was re-analyzed and displayed a similar recovery (49.5%) and confirmed original sample results. The original sample results should be used for data interpretation. Samples SOIL-Q-13-6FT, SOIL-OS-4-0.5FT, and SOIL-OS-2-0.5-DUP displayed %Rs greater than the upper control limit (i.e., 200%) for internal standards 1,4-dichlorobenzene-d4 and naphthalene-d8. Since sample results associated with these two internal standards were non-detects and high internal standard recovery has no impact on non-detect results, no data qualifying action was taken. These samples were reanalyzed by the laboratory and displayed several internal standard %Rs less than the lower control limits. These re-analyzed sample data should not be used for data interpretation. Samples SOIL-OS-3-6', SOIL-OS-3-0.5MS, and SOIL-OS-3-0.5MSD displayed %Rs greater than the upper control limit (i.e., 200%) for internal standards 1,4-dichlorobenzene-d4 and naphthalene-d8. Sample SOIL-OS-3-0.5' displayed %Rs greater than the upper control limit (i.e., 200%) for internal standards 1,4-dichlorobenzene-d4 (382.4%), naphthalene-d8 (334.7%), and acenaphthene-d10 (201.7%). Since results associated with these internal

standards were non-detects in samples SOIL-OS-3-6' and SOIL-OS-3-0.5', and MS/MSD samples were QC samples, no data qualifying action was taken.

For the pesticides analyses, the method blank prepared on 8/28/02 displayed a positive detection for endrin ketone at 0.34 µg/kg. Positive endrin ketone results less than five times the blank concentration in the associated samples were flagged "U, z" at the reporting limit. The CCV analyzed on 8/31/02 at 14:38 displayed %Ds greater than the control limit (i.e., 15%) on the primary column for alpha-BHC (-20.7%) and delta-BHC (-18.2%) and on both columns for 4,4'-DDD (16.9% and 18.8%), 4,4'-DDT (-33.3% and -29.4%), endrin aldehyde (-35.4% and -26.6%), and methoxychlor (-17.3% and -20.9%). Positive 4,4'-DDD, 4,4'-DDT, endrin aldehyde, and methoxychlor results were flagged "J, c" and non-detects were flagged "UJ, c" in the associated samples. Since alpha-BHC and delta-BHC were not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. The CCV analyzed on 9/11/02 at 16:09 displayed %Ds greater than the control limit on the primary column for alpha-BHC (-22.6%), delta-BHC (-20.4%), endrin aldehyde (-24.9%), and endrin ketone (16.0%) and on the confirmation column for endrin aldehyde (-20.9%) and methoxychlor (-17.5%). The CCV analyzed on 9/12/02 at 10:34 displayed %Ds greater than the control limit on the primary column for alpha-BHC (-23.9%), gamma-BHC (-17.1%), delta-BHC (-21.8%), 4,4'-DDT (-16.7%), and methoxychlor (-26.4%), and on the confirmation column for 4,4'-DDT (-16.6%), endrin aldehyde (-20.8%) and methoxychlor (-24.6%). The CCV analyzed on 9/12/02 at 20:52 displayed %Ds greater than the control limit on the primary column for alpha-BHC (-23.0%), gamma-BHC (-16.0%), delta-BHC (-20.7%), endrin aldehyde (-20.2%), and on the confirmation column for endrin aldehyde (-19.4%) and methoxychlor (-17.1%). 4,4'-DDT, endrin aldehyde, and methoxychlor results were flagged "J, c" for positive detections and "UJ, c" for non-detects in the associated samples. Positive alpha-BHC and delta-BHC results in sample SOIL-OS-1-0.5 were flagged "J, c". Since other compounds were not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. The tetrachloro-m-xylene (TCMX) surrogate recoveries on both columns (21% and 24%) were less than the lower control limit (i.e., 30%) and the decachlorobiphenyl (358% and 374%) were greater than the upper control limit (i.e., 150%) in sample SOIL-OS-3-0.5'. All positive results were flagged "J, s" and non-detects were flagged "UJ, s" with the exception of those data previously flagged due to calibration failure. The DCBP recoveries were greater than the upper control limit (i.e., 150%) in samples SOIL-OS-2-0.5'-DUP and SOIL-OS-2-0.5'. Positive detections were flagged "J, s" in these two samples with the exception of those data previously flagged due to calibration failure. The DCBP recoveries were greater than the upper control limit (i.e., 150%) in samples SOIL-OS-3-0.5'MS and SOIL-OS-3-0.5'MSD. Since these two samples were QC samples, no data qualifying action was taken. The TCMX recoveries on the primary column were less than the lower control limit in

samples SOIL-Q-13-6FT (29%) and SOIL-OS-4-6FT (27%). No data qualifying action was taken since only one surrogate recovery was outside the control limit. The DCBP recovery was greater than the upper control limit on the confirmation column in sample SOIL-Q-13-0.5FtMS (167%). Since this sample was a QC sample and only one surrogate recovery was outside the control limit, no data qualifying action was taken. The MS/MSD recoveries for endosulfan I (214%), 4,4'-DDE (145%), 4,4'-DDD (147% and 147%), 4,4'-DDT (307% and 333%), endrin aldehyde (133%), and methoxychlor (187%) were greater than the upper control limits in the SOIL-OS-3-0.5' MS/MSD pair. The RPDs for aldrin (44%), endosulfan I (55%), endosulfan II (72%), methoxychlor (59%), and endrin ketone (62%) were greater than the acceptance limit. The high MS/MSD recoveries and high RPDs in this MS/MSD pair may be attributed to matrix interference which is indicated by high surrogate recoveries in both MS and MSD samples. Since all results in the parent sample were previously flagged due to surrogate recovery failure, no additional data flags were applied. The RPDs for 4,4'-DDE (40%), endrin (45%), 4,4'-DDT (46%), methoxychlor (55%), and endrin ketone (32%) were greater than the acceptance limit in the SOIL-OS-3-6' MS/MSD pair. The MSD recovery for endrin aldehyde (144%) and the RPDs for gamma-BHC (51%) and endrin ketone (32%) were greater than the control limit in the SOIL-Q-13-0.5FT MS/MSD pair. Since majority of the MS/MSD recoveries were in control, no data qualifying action was taken. The LCS recovery for endrin ketone was slightly greater than the upper control limit (i.e., 112%) at 113% due to method blank contamination. Since all positive endrin ketone results were previously flagged due to method blank contamination, no additional data flags were applied. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failure, were flagged "J, g". It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, the MS/MSD recoveries for hexachlorobiphenyl (31% and 39%) and octachlorobiphenyl (38% in MS) were less than the lower control limit (i.e., 40%) in the SOIL-OS-3-0.5' MS/MSD pair. The MS/MSD recoveries for hexachlorobiphenyl (36% and 39%) were less than the lower control limit in the SOIL-OS-3-6' MS/MSD pair. The MS recovery for hexachlorobiphenyl (35%) was less than the lower control limit in the SOIL-Q-13-0.5FT MS/MSD pair. Since these recoveries were only slightly less than the lower control limit and the LCS recoveries for these two compounds were in control, no data qualifying action was taken. The data user is advised that the hexachlorobiphenyl results may be biased low and should be used with caution.

For the herbicides analyses, the CCV analyzed on 9/17/02 at 09:57 displayed %Ds greater than the control limit (i.e., 15%) on the primary column for dalapon at 16.2%, dicamba at 22.3%, MCPP at 18.3%, dichlorprop at 15.6%, pentachloro-

phenol at 19.2%, and 2,4,5-TP at 16.7%. Positive detections for these compounds were flagged "J, c" in the associated samples. The CCV analyzed on 9/19/02 at 21:19 displayed a %D greater than the control limit on the confirmation column for 2,4-DB at -16.0%. Since 2,4-DB was not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. The 2,4-DCAA recoveries were less than the lower control limit (i.e., 30%) on the primary column in samples SOIL-OS-2-6'-DUP (28%) and SOIL-Q-13-0.5FT (20%). All results, except those previously flagged due to calibration failure, were flagged "J, s" for positive detections and "UJ, s" for non-detects. The MS recovery (169%) and the RPD (64%) for MCPP were greater than the control limit in the SOIL-Q-13-0.5FT MS/MSD pair. Since MCPP was not detected in the associated samples, no data qualifying action was taken. The dichlorprop result in sample SOIL-OS-2-0.5'-DUP exceeded the linear range of the calibration curve. Since this result was previously flagged due to calibration failure, no additional data flags were applied. This sample was diluted by a factor of 2 and reanalyzed by the laboratory. The dichlorprop result from the dilution analysis should be used for data interpretation. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. Since these results were previously flagged due to other QC failure, no additional data flags were applied. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for selenium (148%) and vanadium (121%), and the final CRDL recovery for lead (74%) were outside the control limit (i.e., 80-120%). The positive selenium result in sample SOIL-OS-2-0.5' was flagged "J, w". Since all other recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 1.09873 mg/kg, arsenic at 0.44473 mg/kg, barium at 0.39174 mg/kg, beryllium at 0.01718 mg/kg, calcium at 2.21070 mg/kg, chromium at 0.19564 mg/kg, magnesium at 2.41547 mg/kg, potassium at 3.22578 mg/kg, sodium at 21.80473 mg/kg and vanadium at 0.28907 mg/kg. Positive sodium results less than five times the blank concentration were flagged "U, p". Since all other results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Aluminum, arsenic, barium, beryllium, calcium, chromium, magnesium, manganese, potassium, and vanadium were detected in the initial calibration blank (ICB) and/or continuing calibration blanks (CCBs) at low levels. Since all results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. Several samples displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. Positive cadmium results in samples SOIL-OS-3-0.5', SOIL-OS-2-6', SOIL-Q-13-0.5FT, SOIL-OS-4-0.5FT, and SOIL-OS-4-6FT were flagged "J, n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags

were applied. The MS/MSD recoveries for antimony (42% and 44%) and lead (51% and 40%) were less than the lower control limit (i.e., 75%) in the SOIL-OS-3-0.5' MS/MSD pair. The MS/MSD recoveries for antimony (62% and 63%) and potassium (64% and 68%) were less than the lower control limit (i.e., 75%) in the SOIL-OS-3-6' MS/MSD pair. Antimony, lead (except sample SOIL-OS-3-6'), and potassium (except SOIL-OS-3-0.5') results were flagged "J, m" for positive detections and "UJ, m" for non-detects in the associated off-site samples. The MS/MSD recoveries for antimony (37% and 43%) and mercury (135%) were outside the control limit in the SOIL-Q-13-0.5FT MS/MSD pair. Antimony and mercury results in all Site Q samples were flagged "J, m" for positive detections and "UJ, m" for non-detects. The post-digestion spike analysis was performed and recoveries for these compounds were in control. The %D for vanadium (11.4%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (SOIL-OS-3-6'). Positive vanadium results were flagged "J, s". Field duplicates displayed a RPD greater than the control limit (i.e., 100%) for copper at 110.9% in one SOIL-OS-2-0.5/SOIL-OS-2-0.5-DUP field duplicate pair. Positive copper results in samples SOIL-OS-2-0.5' and SOIL-OS-2-0.5'-DUP were flagged "J, f". Since the RPDs for copper in two other field duplicate pairs were in control, no further data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data are usable, as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-1-0.5FT	Soil	VOCs	Benzene	4.3	U,z	4.3
SAII50	SOIL-OS-1-0.5FT	Soil	VOCs	Bromomethane	8.7	UJ,r	8.7
SAII50	SOIL-OS-1-0.5FT	Soil	VOCs	Chlorobenzene	4.3	U,z	4.3
SAII50	SOIL-OS-1-0.5FT	Soil	VOCs	Chloromethane	8.7	UJ,c	8.7
SAII50	SOIL-OS-1-0.5FT	Soil	VOCs	Toluene	4.3	U,z	4.3
SAII50	SOIL-OS-1-0.5FT	Soil	VOCs	Trichloroethene	4.3	U,z	4.3
SAII50	SOIL-OS-1-0.5FT	Soil	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SAII50	SOIL-OS-1-0.5FT	Soil	SVOCs	4,6-Dinitro-2-methylphenol	1800	UJ,r	1800
SAII50	SOIL-OS-1-0.5FT	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	350	U,z	350
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	4,4'-DDE	11	J,g	35
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	4,4'-DDT	41	J,c	35
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	Aldrin	4.9	J,g	18
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	alpha-BHC	120	J,c	18
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	alpha-Chlordane	12	J,g	18
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	delta-BHC	34	J,c	18
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	Dieldrin	12	J,g	35
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	Endrin Aldehyde	5.8	J,c	35
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	Heptachlor	74	J,g	18
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	Heptachlor Epoxide	18	J,g	18
SAII50	SOIL-OS-1-0.5FT	Soil	Pesticides	Methoxychlor	180	UJ,c	180
SAII50	SOIL-OS-1-0.5FT	Soil	Metals	Antimony	2	UJ,m	2
SAII50	SOIL-OS-1-0.5FT	Soil	Metals	Lead	78	J,m	0.49
SAII50	SOIL-OS-1-0.5FT	Soil	Metals	Potassium	530	J,m	98
SAII50	SOIL-OS-1-0.5FT	Soil	Metals	Vanadium	8.8	J,s	0.98
SAII50	SOIL-OS-1-6FT	Soil	VOCs	Bromomethane	12	UJ,r	12
SAII50	SOIL-OS-1-6FT	Soil	VOCs	Chloromethane	12	UJ,c	12
SAII50	SOIL-OS-1-6FT	Soil	VOCs	Toluene	6.2	U,z	6.2
SAII50	SOIL-OS-1-6FT	Soil	VOCs	Trichloroethene	6.2	U,z	6.2
SAII50	SOIL-OS-1-6FT	Soil	SVOCs	Benzo(g,h,i)perylene	350	U,z	350
SAII50	SOIL-OS-1-6FT	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	350	U,z	350
SAII50	SOIL-OS-1-6FT	Soil	Pesticides	4,4'-DDT	3.5	UJ,c	3.5

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-1-6FT	Soil	Pesticides	Endrin Aldehyde	3.5	UJ,c	3.5
SAII50	SOIL-OS-1-6FT	Soil	Pesticides	Endrin Ketone	3.5	U,z	3.5
SAII50	SOIL-OS-1-6FT	Soil	Pesticides	Methoxychlor	18	UJ,c	18
SAII50	SOIL-OS-1-6FT	Soil	Metals	Antimony	1.9	UJ,m	1.9
SAII50	SOIL-OS-1-6FT	Soil	Metals	Lead	5.2	J,m	0.48
SAII50	SOIL-OS-1-6FT	Soil	Metals	Potassium	600	J,m	97
SAII50	SOIL-OS-1-6FT	Soil	Metals	Vanadium	11	J,s	0.97
SAII50	SOIL-OS-2-0.5FT	Soil	VOCs	Bromomethane	12	UJ,r	12
SAII50	SOIL-OS-2-0.5FT	Soil	VOCs	Chloromethane	12	UJ,c	12
SAII50	SOIL-OS-2-0.5FT	Soil	VOCs	Toluene	5.8	U,z	5.8
SAII50	SOIL-OS-2-0.5FT	Soil	SVOCs	Benzo(g,h,i)perylene	400	U,z	400
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	4,4'-DDD	6.6	J,s	4
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	4,4'-DDE	16	J,s	4
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	4,4'-DDT	46	J,c	4
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	Dieldrin	9.6	J,s	4
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	Endosulfan Sulfate	1.1	J,s	4
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	Endrin Aldehyde	4	UJ,c	4
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	Heptachlor Epoxide	2.3	J,s	2.1
SAII50	SOIL-OS-2-0.5FT	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII50	SOIL-OS-2-0.5FT	Soil	Herbicides	Dichlorprop	59	J,c	120
SAII50	SOIL-OS-2-0.5FT	Soil	Herbicides	MCPP	6600	J,c	2400
SAII50	SOIL-OS-2-0.5FT	Soil	Herbicides	Pentachlorophenol	5.1	J,c	21
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Antimony	1.9	J,m	2.2
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Copper	150	J,f	2.2
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Lead	130	J,m	0.55
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Potassium	2300	J,m	110
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Selenium	0.62	J,w	1.1
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Sodium	87	U,p	55
SAII50	SOIL-OS-2-0.5FT	Soil	Metals	Vanadium	22	J,s	1.1
SAII50	SOIL-OS-2-0.5FT DUP	Soil	VOCs	Bromomethane	15	UJ,r	15
SAII50	SOIL-OS-2-0.5FT DUP	Soil	VOCs	Chloromethane	15	UJ,c	15

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-2-0.5FT DUP	Soil	VOCs	Toluene	7.5	U,z	7.5
SAII50	SOIL-OS-2-0.5FT DUP	Soil	SVOCs	Benzo(k)fluoranthene	36	U,z	380
SAII50	SOIL-OS-2-0.5FT DUP	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	380	U,z	380
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	4,4'-DDD	2.4	J,c	3.8
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	4,4'-DDE	8.4	J,s	3.8
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	4,4'-DDT	25	J,c	3.8
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	Dieldrin	3.8	J,s	3.8
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	Endosulfan I	0.19	J,s	1.9
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	Endrin Aldehyde	3.8	UJ,c	3.8
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	Heptachlor Epoxide	0.77	J,s	1.9
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Pesticides	Methoxychlor	2.8	J,c	19
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Herbicides	MCPP	2200	J,c	2300
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Herbicides	Pentachlorophenol	2.8	J,c	19
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Metals	Antimony	1.5	J,m	2.1
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Metals	Copper	43	J,f	2.1
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Metals	Lead	77	J,m	0.52
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Metals	Potassium	2300	J,m	100
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Metals	Sodium	82	U,p	52
SAII50	SOIL-OS-2-0.5FT DUP	Soil	Metals	Vanadium	25	J,s	1
SAII50	SOIL-OS-2-6FT	Soil	VOCs	Bromomethane	12	UJ,r	12
SAII50	SOIL-OS-2-6FT	Soil	VOCs	Chloromethane	12	UJ,c	12
SAII50	SOIL-OS-2-6FT	Soil	VOCs	Toluene	5.8	U,z	5.8
SAII50	SOIL-OS-2-6FT	Soil	VOCs	Trichloroethene	5.8	U,z	5.8
SAII50	SOIL-OS-2-6FT	Soil	SVOCs	Benzo(g,h,i)perylene	390	U,z	390
SAII50	SOIL-OS-2-6FT	Soil	Pesticides	4,4'-DDD	3.9	UJ,c	3.9
SAII50	SOIL-OS-2-6FT	Soil	Pesticides	4,4'-DDT	3.9	UJ,c	3.9
SAII50	SOIL-OS-2-6FT	Soil	Pesticides	Endrin Aldehyde	3.9	UJ,c	3.9
SAII50	SOIL-OS-2-6FT	Soil	Pesticides	Methoxychlor	20	UJ,c	20
SAII50	SOIL-OS-2-6FT	Soil	Metals	Antimony	2.1	UJ,m	2.1
SAII50	SOIL-OS-2-6FT	Soil	Metals	Cadmium	0.21	J,n	0.54
SAII50	SOIL-OS-2-6FT	Soil	Metals	Lead	8.4	J,m	0.54

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-2-6FT	Soil	Metals	Potassium	1300	J,m	110
SAII50	SOIL-OS-2-6FT	Soil	Metals	Sodium	97	U,p	54
SAII50	SOIL-OS-2-6FT	Soil	Metals	Vanadium	20	J,s	1.1
SAII50	SOIL-OS-2-6FT DUP	Soil	VOCs	Bromomethane	12	UJ,r	12
SAII50	SOIL-OS-2-6FT DUP	Soil	VOCs	Chloromethane	12	UJ,c	12
SAII50	SOIL-OS-2-6FT DUP	Soil	VOCs	Dichloromethane	3.2	J,c	6
SAII50	SOIL-OS-2-6FT DUP	Soil	VOCs	Toluene	6	U,z	6
SAII50	SOIL-OS-2-6FT DUP	Soil	SVOCs	3,3'-Dichlorobenzidine	770	UJ,n	770
SAII50	SOIL-OS-2-6FT DUP	Soil	SVOCs	Benzo(a)anthracene	380	UJ,n	380
SAII50	SOIL-OS-2-6FT DUP	Soil	SVOCs	Benzyl Butyl Phthalate	380	UJ,n	380
SAII50	SOIL-OS-2-6FT DUP	Soil	SVOCs	Chrysene	380	UJ,n	380
SAII50	SOIL-OS-2-6FT DUP	Soil	SVOCs	Pyrene	380	UJ,n	380
SAII50	SOIL-OS-2-6FT DUP	Soil	Pesticides	4,4'-DDD	3.8	UJ,c	3.8
SAII50	SOIL-OS-2-6FT DUP	Soil	Pesticides	4,4'-DDT	3.8	UJ,c	3.8
SAII50	SOIL-OS-2-6FT DUP	Soil	Pesticides	Endrin Aldehyde	3.8	UJ,c	3.8
SAII50	SOIL-OS-2-6FT DUP	Soil	Pesticides	Methoxychlor	20	UJ,c	20
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	2,2-Dichloropropionic Acid	2300	UJ,s	2300
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	2,4,5-T	9.6	UJ,s	9.6
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	2,4,5-TP (Silvex)	9.6	UJ,s	9.6
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	2,4-D	9.6	UJ,s	9.6
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	2,4-DB	9.6	UJ,s	9.6
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	Dicamba	23	UJ,s	23
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	Dichlorprop	120	UJ,s	120
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2300	UJ,s	2300
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	MCPP	2300	UJ,s	2300
SAII50	SOIL-OS-2-6FT DUP	Soil	Herbicides	Pentachlorophenol	20	UJ,s	20
SAII50	SOIL-OS-2-6FT DUP	Soil	Metals	Antimony	2.1	UJ,m	2.1
SAII50	SOIL-OS-2-6FT DUP	Soil	Metals	Lead	6.5	J,m	0.53
SAII50	SOIL-OS-2-6FT DUP	Soil	Metals	Potassium	910	J,m	110
SAII50	SOIL-OS-2-6FT DUP	Soil	Metals	Sodium	100	U,p	53
SAII50	SOIL-OS-2-6FT DUP	Soil	Metals	Vanadium	15	J,s	1.1

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-3-0.5FT	Soil	VOCs	Benzene	5.5	U,z	5.5
SAII50	SOIL-OS-3-0.5FT	Soil	VOCs	Bromomethane	11	UJ,r	11
SAII50	SOIL-OS-3-0.5FT	Soil	VOCs	Chloromethane	0.45	J,c	11
SAII50	SOIL-OS-3-0.5FT	Soil	VOCs	Toluene	5.5	U,z	5.5
SAII50	SOIL-OS-3-0.5FT	Soil	SVOCs	Benzo(a)pyrene	370	U,z	370
SAII50	SOIL-OS-3-0.5FT	Soil	SVOCs	Benzo(g,h,i)perylene	370	U,z	370
SAII50	SOIL-OS-3-0.5FT	Soil	SVOCs	Indeno(1,2,3-cd)pyrene	370	U,z	370
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	4,4'-DDD	3.7	UJ,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	4,4'-DDE	4.1	J,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	4,4'-DDT	16	J,c	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Aldrin	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	alpha-BHC	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	alpha-Chlordane	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	beta-BHC	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	delta-BHC	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Dieldrin	3	J,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Endosulfan I	2.1	J,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Endosulfan II	0.58	J,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Endosulfan Sulfate	0.71	J,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Endrin	3.7	UJ,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Endrin Aldehyde	3	J,c	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Endrin Ketone	3.7	UJ,s	3.7
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	gamma-BHC (Lindane)	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	gamma-Chlordane	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Heptachlor	1.9	UJ,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Heptachlor Epoxide	1.2	J,s	1.9
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Methoxychlor	19	UJ,c	19
SAII50	SOIL-OS-3-0.5FT	Soil	Pesticides	Toxaphene	190	UJ,s	190
SAII50	SOIL-OS-3-0.5FT	Soil	Herbicides	Pentachlorophenol	1.7	J,c	19
SAII50	SOIL-OS-3-0.5FT	Soil	Metals	Antimony	0.93	J,m	2.2
SAII50	SOIL-OS-3-0.5FT	Soil	Metals	Cadmium	1.1	J,n	0.56

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-3-0.5FT	Soil	Metals	Lead	78	J,m	0.56
SAII50	SOIL-OS-3-0.5FT	Soil	Metals	Sodium	75	U,p	56
SAII50	SOIL-OS-3-0.5FT	Soil	Metals	Vanadium	21	J,s	1.1
SAII50	SOIL-OS-3-6FT	Soil	VOCs	Bromomethane	13	UJ,r	13
SAII50	SOIL-OS-3-6FT	Soil	VOCs	Chloromethane	13	UJ,c	13
SAII50	SOIL-OS-3-6FT	Soil	VOCs	Dichloromethane	3.3	J,c	6.6
SAII50	SOIL-OS-3-6FT	Soil	VOCs	Toluene	6.6	U,z	6.6
SAII50	SOIL-OS-3-6FT	Soil	Pesticides	4,4'-DDT	3.5	UJ,c	3.5
SAII50	SOIL-OS-3-6FT	Soil	Pesticides	Endrin Aldehyde	3.5	UJ,c	3.5
SAII50	SOIL-OS-3-6FT	Soil	Pesticides	Endrin Ketone	3.5	U,z	3.5
SAII50	SOIL-OS-3-6FT	Soil	Pesticides	Methoxychlor	18	UJ,c	18
SAII50	SOIL-OS-3-6FT	Soil	Herbicides	Dichlorprop	2.9	J,c	110
SAII50	SOIL-OS-3-6FT	Soil	Metals	Antimony	1.9	UJ,m	1.9
SAII50	SOIL-OS-3-6FT	Soil	Metals	Potassium	580	J,m	97
SAII50	SOIL-OS-3-6FT	Soil	Metals	Sodium	60	U,p	48
SAII50	SOIL-OS-3-6FT	Soil	Metals	Vanadium	11	J,s	0.97
SAII50	SOIL-OS-4-0.5FT	Soil	VOCs	Bromomethane	18	UJ,r	18
SAII50	SOIL-OS-4-0.5FT	Soil	VOCs	Chloromethane	18	UJ,c	18
SAII50	SOIL-OS-4-0.5FT	Soil	VOCs	Toluene	9.1	U,z	9.1
SAII50	SOIL-OS-4-0.5FT	Soil	VOCs	Trichloroethene	9.1	U,z	9.1
SAII50	SOIL-OS-4-0.5FT	Soil	Pesticides	4,4'-DDD	3.8	UJ,c	3.8
SAII50	SOIL-OS-4-0.5FT	Soil	Pesticides	4,4'-DDT	3.8	UJ,c	3.8
SAII50	SOIL-OS-4-0.5FT	Soil	Pesticides	Endrin Aldehyde	3.8	UJ,c	3.8
SAII50	SOIL-OS-4-0.5FT	Soil	Pesticides	Endrin Ketone	3.8	U,z	3.8
SAII50	SOIL-OS-4-0.5FT	Soil	Pesticides	Methoxychlor	20	UJ,c	20
SAII50	SOIL-OS-4-0.5FT	Soil	Metals	Antimony	2.1	UJ,m	2.1
SAII50	SOIL-OS-4-0.5FT	Soil	Metals	Cadmium	0.34	J,n	0.53
SAII50	SOIL-OS-4-0.5FT	Soil	Metals	Lead	31	J,m	0.53
SAII50	SOIL-OS-4-0.5FT	Soil	Metals	Potassium	1300	J,m	110
SAII50	SOIL-OS-4-0.5FT	Soil	Metals	Sodium	93	U,p	53
SAII50	SOIL-OS-4-0.5FT	Soil	Metals	Vanadium	18	J,s	1.1

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-4-6FT	Soil	VOCs	Bromomethane	20	UJ,r	20
SAII50	SOIL-OS-4-6FT	Soil	VOCs	Chloromethane	20	UJ,c	20
SAII50	SOIL-OS-4-6FT	Soil	VOCs	Toluene	9.8	U,z	9.8
SAII50	SOIL-OS-4-6FT	Soil	Pesticides	4,4'-DDD	4	UJ,c	4
SAII50	SOIL-OS-4-6FT	Soil	Pesticides	4,4'-DDT	4	UJ,c	4
SAII50	SOIL-OS-4-6FT	Soil	Pesticides	Endrin Aldehyde	4	UJ,c	4
SAII50	SOIL-OS-4-6FT	Soil	Pesticides	Endrin Ketone	4	U,z	4
SAII50	SOIL-OS-4-6FT	Soil	Pesticides	Methoxychlor	0.51	J,c	21
SAII50	SOIL-OS-4-6FT	Soil	Metals	Antimony	0.64	J,m	2.2
SAII50	SOIL-OS-4-6FT	Soil	Metals	Cadmium	0.27	J,n	0.55
SAII50	SOIL-OS-4-6FT	Soil	Metals	Lead	9.9	J,m	0.55
SAII50	SOIL-OS-4-6FT	Soil	Metals	Potassium	1300	J,m	110
SAII50	SOIL-OS-4-6FT	Soil	Metals	Sodium	120	U,p	55
SAII50	SOIL-OS-4-6FT	Soil	Metals	Vanadium	18	J,s	1.1
SAII50	SOIL-OS-4-6FT-DUP	Soil	VOCs	Bromomethane	14	UJ,r	14
SAII50	SOIL-OS-4-6FT-DUP	Soil	VOCs	Chloromethane	14	UJ,c	14
SAII50	SOIL-OS-4-6FT-DUP	Soil	VOCs	Toluene	6.8	U,z	6.8
SAII50	SOIL-OS-4-6FT-DUP	Soil	VOCs	Trichloroethene	6.8	U,z	6.8
SAII50	SOIL-OS-4-6FT-DUP	Soil	Pesticides	4,4'-DDD	4	UJ,c	4
SAII50	SOIL-OS-4-6FT-DUP	Soil	Pesticides	4,4'-DDT	4	UJ,c	4
SAII50	SOIL-OS-4-6FT-DUP	Soil	Pesticides	Endrin Aldehyde	4	UJ,c	4
SAII50	SOIL-OS-4-6FT-DUP	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII50	SOIL-OS-4-6FT-DUP	Soil	Metals	Antimony	2.4	UJ,m	2.4
SAII50	SOIL-OS-4-6FT-DUP	Soil	Metals	Lead	9.3	J,m	0.61
SAII50	SOIL-OS-4-6FT-DUP	Soil	Metals	Potassium	1200	J,m	120
SAII50	SOIL-OS-4-6FT-DUP	Soil	Metals	Sodium	130	U,p	61
SAII50	SOIL-OS-4-6FT-DUP	Soil	Metals	Vanadium	18	J,s	1.2
SAII50	SOIL-OS-5-0.5ft	Soil	VOCs	Bromomethane	11	UJ,r	11
SAII50	SOIL-OS-5-0.5ft	Soil	VOCs	Chloromethane	11	UJ,c	11
SAII50	SOIL-OS-5-0.5ft	Soil	VOCs	Toluene	5.6	U,z	5.6
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	4,4'-DDD	0.86	J,c	4.1

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	4,4'-DDE	1.6	J,g	4.1
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	4,4'-DDT	6.5	J,c	4.1
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	alpha-Chlordane	0.42	J,g	2.1
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	Endrin Aldehyde	4.1	UJ,c	4.1
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	Endrin Ketone	4.1	U,z	4.1
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	gamma-Chlordane	0.72	J,g	2.1
SAII50	SOIL-OS-5-0.5ft	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	2,2-Dichloropropionic Acid	2500	UJ,s	2500
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	2,4,5-T	10	UJ,s	10
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	2,4,5-TP (Silvex)	10	UJ,s	10
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	2,4-D	10	UJ,s	10
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	2,4-DB	10	UJ,s	10
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	Dicamba	25	UJ,s	25
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	Dichlorprop	4.9	J,c	120
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2500	UJ,s	2500
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	MCPP	2500	UJ,s	2500
SAII50	SOIL-OS-5-0.5ft	Soil	Herbicides	Pentachlorophenol	1.2	J,s	21
SAII50	SOIL-OS-5-0.5ft	Soil	Metals	Antimony	2.3	UJ,m	2.3
SAII50	SOIL-OS-5-0.5ft	Soil	Metals	Cadmium	1.1	J,n	0.57
SAII50	SOIL-OS-5-0.5ft	Soil	Metals	Mercury	0.06	J,m	0.023
SAII50	SOIL-OS-5-0.5ft	Soil	Metals	Sodium	75	U,p	57
SAII50	SOIL-OS-5-0.5ft	Soil	Metals	Vanadium	26	J,s	1.1
SAII50	SOIL-OS-5-6ft	Soil	VOCs	Bromomethane	19	UJ,r	19
SAII50	SOIL-OS-5-6ft	Soil	VOCs	Chloromethane	19	UJ,c	19
SAII50	SOIL-OS-5-6ft	Soil	VOCs	Toluene	9.6	U,z	9.6
SAII50	SOIL-OS-5-6ft	Soil	Pesticides	4,4'-DDD	3.8	UJ,c	3.8
SAII50	SOIL-OS-5-6ft	Soil	Pesticides	4,4'-DDT	0.52	J,c	3.8
SAII50	SOIL-OS-5-6ft	Soil	Pesticides	Endrin Aldehyde	3.8	UJ,c	3.8
SAII50	SOIL-OS-5-6ft	Soil	Pesticides	Endrin Ketone	3.8	U,z	3.8
SAII50	SOIL-OS-5-6ft	Soil	Pesticides	gamma-Chlordane	0.12	J,g	2
SAII50	SOIL-OS-5-6ft	Soil	Pesticides	Methoxychlor	20	UJ,c	20

Table 6-96b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII50

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII50	SOIL-OS-5-6ft	Soil	Metals	Antimony	0.57	J,m	2.3
SAII50	SOIL-OS-5-6ft	Soil	Metals	Mercury	0.0066	J,m	0.021
SAII50	SOIL-OS-5-6ft	Soil	Metals	Sodium	120	U,p	57
SAII50	SOIL-OS-5-6ft	Soil	Metals	Vanadium	17	J,s	1.1

Table 6-97a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII51

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII51	GW-AA-O-3-28FT		6/24/02	Groundwater									X							
SAII51	GW-UAA-2-124FT		6/24/02	Groundwater									X							

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII51_____ **Fraction:** _____Ferrous Iron (Fe^{+2})_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____October 31, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: None.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-97b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII51

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII51	No Qualifications						

Table 6-98a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII54

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII54	BDRK-O-1		8/30/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII54_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____RA_____ **Date: _____November 4, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the initial calibration correlation coefficient for 2-butanone (0.987) was less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 9/3/02. The associated sample result was flagged "UJ,r". The continuing calibration %Ds were greater than the QC limit (i.e., 20%) for bromomethane (-20.3%) and acetone (33%) for the continuing calibration analyzed on 9/5/02 at 1014. The continuing calibration %Ds were greater than the QC limit for bromomethane (-38.4%) and 2-butanone (-25.9%) for the continuing calibration analyzed on 9/13/02 at 0922. All associated sample results were non-detects and no data qualifying action was required since the %D failures were not serious enough (i.e., > 50%) to affect the non-detects.

For the pesticide analyses, the %Ds for methoxychlor (-17.4%) on the primary column, and endosulfan sulfate (15.9%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 9/9/02 at 1005. The %Ds for endrin ketone (21% and 18.3%) on both columns and endosulfan sulfate (15.5%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 9/9/02 at 2022. Endrin ketone non-detect was flagged "UJ,c" in the associated sample. No data flags were applied to the non-detects for the other compounds since the recoveries were acceptable on the alternate column. The internal standard area was greater than the QC limit for bromonitrobenzene on the confirmation column. No positive results were reported and no data qualifying action was required.

For the herbicide analyses, the %Ds for dalapon (19.7%), dicamba (20.7%), pentachlorophenol (17.3%), 2,4,5-TP (16.2%), and 2,4,5-T (16.1%) on the primary column, and 2,4-D (21.1%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 9/6/02 at 1609. No positive results were reported and no data qualifying action was required since the %D was acceptable on the alternate column. The recoveries for

surrogate 2,4-DCAA (16% and 16%) were less than the QC limit (i.e., 27-133%) for the MSD sample. No action was required since this was a QC sample. The MSD recoveries for dicamba (20%), dichloroprop (14%), and 2,4,5-T (20%) were less than the QC limit. The %RPDs for all compounds were greater than the QC limit. The MS and LCS recoveries were acceptable and no data qualifying action was required. The MSD recovery for dalapon was 0%. The recoveries for surrogate 2,4-DCAA (16% and 16%) were less than the QC limit (i.e., 27-133%) for the MSD sample. The %RPDs for all compounds were greater than the QC limit. Since the MS and LCS recoveries are acceptable, this indicates that the low MSD recovery is due to laboratory error. Based on professional judgement, the dalapon non-detect was flagged "UJ,m" in sample BDRK-0-1.

For the metal analyses, the method blank contained positive results for aluminum, calcium, and copper. The positive copper result less than 5 times the blank concentration was flagged "U,p" at the reporting limit. Calcium and aluminum results were greater than 5 times the blank concentration and no data qualifying action was required. The initial and continuing calibration blanks also contained positive results for aluminum, barium, manganese, copper, calcium, thallium, and magnesium at low levels. All associated sample results were either previously flagged due to method blank contamination or were greater than 5 times the blank concentration and no data qualifying action was required. The serial dilution %D for sodium (10.8%) was greater than the QC limit (i.e., 10%). The positive sodium result was flagged "J,s".

For the wet chemistry analyses, the MSD recovery for sulfate (66%) was less than the QC limit (i.e., 75-125%). The positive sulfate result was flagged "J,m" in sample BDRK-0-1.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, except for those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-98b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII54

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII54	BDRK-O-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,c	0.1
SAII54	BDRK-O-1	Groundwater	Herbicides	2,2-Dichloropropionic Acid	120	UJ,m	120
SAII54	BDRK-O-1	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII54	BDRK-O-1	Groundwater	Metals	Sodium	120	J,s	2.5
SAII54	BDRK-O-1	Groundwater	Other Parameters	Sulfate as SO4	190	J,m	50

Table 6-99a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII55

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII55	BDRK-Q-2		9/3/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII55	BDRK-Q-2-DUP		9/3/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII55_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____RA_____ **Date:** _____November 4, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the method blank contained methylene chloride at 2.4 ug/l. Positive result less than 10 times the blank concentration was flagged "U,z" at the reporting limit in the trip blank sample. The initial calibration correlation coefficients for 2-hexanone (0.988), chloroethane (0.988), and 1,1,2,2-tetrachloroethane (0.989) were less than the QC limit (i.e., 0.990) for the initial calibration analyzed on 8/6/02. The associated sample results were non-detects and were flagged "UJ,r". The initial calibration %RSD for bromomethane (28%) was greater than the QC limit (i.e.,15%) for the initial calibration analyzed on 8/6/02. All associated sample results were non-detects and no data qualifying action was required since the %RSD failure was not serious enough (i.e., > 50%) to affect the non-detects. The continuing calibration %D was greater than the QC limit (i.e., 20%) for 1,1,2,2-tetrachloroethane (22.8%) for the continuing calibration analyzed on 9/11/02 at 0744. All associated sample results were non-detects and no data qualifying action was required since the %D failures were not serious enough (i.e., > 50%) to affect the non-detects.

For the SVOC analyses, the continuing calibration %Ds were greater than the QC limit (i.e., 20%) for 2,4-dinitrotoluene (23.1%), diethylphthalate (24.3%), 4-nitroaniline (23%), and di-n-octylphthalate (20.4%) for the continuing calibration analyzed on 9/20/02 at 1052. All associated sample results were non-detects and no data qualifying action was required since the %D failures were not serious enough (i.e., > 50%) to affect the non-detects.

For the pesticide analyses, the %Ds for endosulfan sulfate (15.3%), DBCP (19.6%), and methoxychlor (30.5%) on the confirmation column were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 9/18/02 at 1033. The %Ds for dieldrin (16% and 15.8%), endrin (21.4% and 18.1%), endosulfan sulfate (18% and 18.6%), DBCP (21.8% and 22.3%), and methoxychlor (25.5% and 40.2%) on both columns, 4,4-DDD (16.4%) and endrin

ketone (22.9%) on the primary column, and heptachlor (16.1%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 918/02 at 1757. Dieldrin, endrin, endosulfan sulfate, and methoxychlor non-detects were flagged "UJ,c" in the associated samples. No data flags were applied to the non-detects for the other compounds since the recoveries were acceptable on the alternate column.

For the herbicide analyses, the %D for dalapon (17.1%) on the primary column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/12/02 at 1221. All associated sample results were non-detects and no data qualifying action was required since recoveries were acceptable on the alternate column.

For the metal analyses, the method blank contained positive results for aluminum, calcium, and magnesium. The initial and continuing calibration blanks also contained positive results for aluminum, barium, calcium, manganese, thallium, vanadium, and magnesium at low levels. All associated sample results were greater than 5 times the blank concentration and no data qualifying action was required. The serial dilution %D for sodium (20.7%) was greater than the QC limit (i.e., 10%). Positive sodium results were flagged "J,s". The MS/MSD recoveries for aluminum (506% and 531%) were greater than the QC limit (i.e., 75-125%). No action was required since the parent sample did not belong to this project.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data, except for those flagged "R", are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-99b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII55

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII55	BDRK-Q-2	Groundwater	VOCs	1,1,2,2-Tetrachloroethane	1	UJ,r	1
SAII55	BDRK-Q-2	Groundwater	VOCs	Chloroethane	1	UJ,r	1
SAII55	BDRK-Q-2	Groundwater	VOCs	Methyl N-Butyl Ketone	10	UJ,r	10
SAII55	BDRK-Q-2	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII55	BDRK-Q-2	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII55	BDRK-Q-2	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII55	BDRK-Q-2	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII55	BDRK-Q-2	Groundwater	Metals	Sodium	55	J,s	0.5
SAII55	BDRK-Q-2-DUP	Groundwater	VOCs	1,1,2,2-Tetrachloroethane	1	UJ,r	1
SAII55	BDRK-Q-2-DUP	Groundwater	VOCs	Chloroethane	1	UJ,r	1
SAII55	BDRK-Q-2-DUP	Groundwater	VOCs	Methyl N-Butyl Ketone	10	UJ,r	10
SAII55	BDRK-Q-2-DUP	Groundwater	Pesticides	Dieldrin	0.1	UJ,c	0.1
SAII55	BDRK-Q-2-DUP	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,c	0.1
SAII55	BDRK-Q-2-DUP	Groundwater	Pesticides	Endrin	0.1	UJ,c	0.1
SAII55	BDRK-Q-2-DUP	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII55	BDRK-Q-2-DUP	Groundwater	Metals	Sodium	56	J,s	0.5

Table 6-100a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII56

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII56	BDRK-R-1		9/5/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII56	BDRK-S-1		9/6/02	Groundwater			X	X	X	X	X	X			X	X	X	X	X	

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII56_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____October 9, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, acetone displayed a relative response factor less than the control limit (i.e. 0.05) in one continuing calibration analyzed on 9/9/02 at 11:47 at 0.04091. Positive acetone results were flagged "J, c" and non-detects were flagged "R, c" in the associated samples.

For the pesticides analyses, the LCS/LCSD recoveries for alpha-BHC (34% and 38%) were less than the lower control limit (i.e., 46%). Alpha-BHC results in the associated samples were flagged "R, l".

Minor Anomalies: For the VOC analyses, the method blank (1B0909MB) contained methylene chloride at 1.0 µg/L. The positive methylene chloride result in sample BDRK-R-1 was flagged "U, z" at the reporting limit. Styrene was detected in one trip blank at 0.71 µg/L (TB-090502). Trichloroethene was detected in one trip blank at 0.40 µg/L (TB-090602). Since styrene and trichloroethene were not detected in the associated samples, no data qualifying action was taken. The continuing calibration verification (CCV) analyzed on 9/9/02 at 11:47 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at -20.6%, acetone at -31.8%, 2-butanone at -30.6%, 4-methyl-2-pentanone at -23.4%, 2-hexanone at -22.0%, and 1,1,2,2-tetrachloroethane at -22.4%. Positive 2-butanone results in the associated samples were flagged "J, c". Since positive acetone results were previously flagged due to calibration RRF failure, no further data qualifying action was taken. Since all other compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the SVOC analyses, the continuing calibration verification (CCV) analyzed on 9/24/02 at 11:01 displayed a %D greater than the control limit (i.e., <20%) for 4,6-dinitro-2-methylphenol (-21.9%). Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Surrogates were

diluted out in sample BDRK-R-1DL (DF=10). Since the affected sample was analyzed at a dilution equal to 10, no data qualifying action was taken. The 4-chloroaniline result in sample BDRK-R-1 exceeded the linear range of the calibration curve. The positive 4-chloroaniline result in this sample was flagged "J, q". This sample was diluted by a factor of 10 and reanalyzed by the laboratory. The 4-chloroaniline result from the dilution analyses should be used for data interpretation.

For the pesticides analyses, the %Ds for alpha-BHC (-21.2% and -25.8%) and surrogate 2,4-DCAA (16.4% and 18.2%) on both columns; and for heptachlor (15.5%) and delta-BHC (-20.3%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/11/02 at 10:31. The %Ds for alpha-BHC (-20.0%), heptachlor (20.2%), delta-BHC (-19.8%), and 2,4-DCAA (19%) on the primary column; and for alpha-BHC (-24.0%), 2,4-DCAA (20.9%), and DCBP (-16.4%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 9/11/02 at 21:18. Since alpha-BHC results were previously flagged due to LCS/LCSD recovery failure, no further data qualifying action was taken. Since all other compounds were not detected in the associated samples and either had an acceptable %D on the alternate column or was a surrogate, no data qualifying action was taken. The decachlorobiphenyl surrogate recoveries were less than the lower control limit (i.e., 30%) on both columns in sample BDRK-S-1 (28% and 28%). The decachlorobiphenyl surrogate recoveries (18% and 17%) were less than the lower control limit (i.e., 30%) on both columns and the tetrachloro-m-xylene recovery (26%) on the primary column in sample BDRK-R-1. No target compounds were detected in this sample and non-detects were flagged "UJ, s" with the exception of those data previously flagged due to calibration failure. The RPDs for heptachlor (41%) and heptachlor epoxide (51%) were greater than the acceptance limit in the LCS/LCSD pair. Since those two compounds were not detected in the associated samples, no data qualifying action was taken.

For the herbicide analyses, the LCS recovery for pentachlorophenol (120%) was greater than the upper control limit (i.e., 110%). Since this compound was not detected in the associated samples, no data qualifying action was taken. The RPD between primary and confirmation columns was greater than the acceptance limit (i.e., <40%) for 2,4-D in sample BDRK-R-1. The 2,4-D result was flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. This result may be biased low.

For the metal analyses, the initial CRDL percent recoveries for selenium (134%) and thallium (72%), and the final CRDL recovery for selenium (132%) were outside the control limit (i.e., 80-120%). Since these recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained cobalt at 0.00096 mg/L, magnesium at 0.00836 mg/L,

and silver at 0.00102 mg/L. The positive cobalt result in sample BDRK-S-1 was flagged "U, p" at the reporting limit. Since magnesium and silver results in the associated samples were all greater than five times the blank concentration, no data qualifying action was taken. Barium was detected in two calibration blanks at 0.00266 mg/L (CCB5) and 0.00131 mg/L (CCB6). The positive barium result in sample BDRK-S-1 was flagged "U, o". Beryllium was detected in CCB5 at 0.00042 mg/L and CCB6 at 0.00036 mg/L. Positive beryllium results in the associated samples less than five times the blank concentration were flagged "U, o" at the reporting limit. Chromium was detected in CCB5 at 0.00349 mg/L. Copper was detected in CCB5 at 0.00217 mg/L. Chromium and copper results in sample BDRK-S-1 were flagged "U, o" at the reporting limit. Selenium was detected in CCB5 at 0.00545 mg/L and CCB6 at 0.00714 mg/L. Selenium result in sample BDRK-R-1 was flagged "U, o" at the reporting limit. Thallium was detected in CCB5 at 0.00617 mg/L. Thallium result was flagged "U, o" at the reporting limit in sample BDRK-R-1. Calcium, iron, magnesium, manganese, silver and vanadium were also detected in the ICB and/or CCBs at low levels. Since these analyte results in the associated samples were either greater than five times the blank concentration or non-detects, no data qualifying action was taken. The %D for potassium (14%) was greater than the acceptance limit (i.e., <10%) in one serial dilution analysis (BDRK-R-1). Positive potassium results in the associated samples were flagged "J, s".

For the methane analyses, the %D for methane (22.7%) was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/19/02 at 08:51. Positive methane results were flagged "J, c" in the associated samples.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-100b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII56

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII56	BDRK-R-1	Groundwater	VOCs	2-Butanone (MEK)	1.5	J,c	10
SAII56	BDRK-R-1	Groundwater	VOCs	Acetone	20	J,c	25
SAII56	BDRK-R-1	Groundwater	VOCs	Dichloromethane	5	U,z	5
SAII56	BDRK-R-1	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII56	BDRK-R-1	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII56	BDRK-R-1	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII56	BDRK-R-1	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII56	BDRK-R-1	Groundwater	Herbicides	2,4-D	3.1	J,g	0.5
SAII56	BDRK-R-1	Groundwater	Methane	Methane	4	J,c	0.19
SAII56	BDRK-R-1	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII56	BDRK-R-1	Groundwater	Metals	Potassium	23	J,s	1
SAII56	BDRK-R-1	Groundwater	Metals	Selenium	0.01	U,o	0.01
SAII56	BDRK-R-1	Groundwater	Metals	Thallium	0.01	U,o	0.01
SAII56	BDRK-S-1	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1

Table 6-100b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII56

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII56	BDRK-S-1	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	alpha-BHC	0.05	R,l	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII56	BDRK-S-1	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII56	BDRK-S-1	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII56	BDRK-S-1	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII56	BDRK-S-1	Groundwater	Metals	Barium	0.018	U,o	0.01
SAII56	BDRK-S-1	Groundwater	Metals	Beryllium	0.004	U,o	0.004
SAII56	BDRK-S-1	Groundwater	Metals	Chromium	0.01	U,o	0.01
SAII56	BDRK-S-1	Groundwater	Metals	Cobalt	0.01	U,p	0.01
SAII56	BDRK-S-1	Groundwater	Metals	Copper	0.02	U,o	0.02
SAII56	BDRK-S-1	Groundwater	Metals	Potassium	13	J,s	1

Table 6-101a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII57

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII57	BDRK-P-1		9/9/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII57	BDRK-Q-1		9/9/02	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII57	BDRK-S-1		9/9/02	Groundwater										X						
SAII57	LEACH-R-1		9/10/02	Leachate			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII57_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____November 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: The surrogate recovery for terphenyl-d14 (4%) was less than the lower control limit (i.e., 14%) in sample BDRK-P-1. All positive base/neutral results were flagged "J, s" and non-detects were flagged "R, s" in sample BDRK-P-1. This sample was re-extracted on 9/30/02 (holding time was grossly exceeded by 14 days) and re-analyzed by the laboratory and displayed acceptable surrogate recoveries. This re-extracted data set was crossed-out by the reviewer and should not be used for data interpretation. The original data should be used for data interpretation. The percent completeness for this analysis was less than the control limit (i.e., 95%) at 78.1%.

Minor Anomalies: For the VOC analyses, styrene was detected in two trip blanks at 0.28 µg/L (TB-090902) and 0.77 µg/L (D91002). Since styrene was not detected in the associated samples, no data qualifying action was taken. The MS/MSD recoveries for chloroethane (32% and 22%) were less than the lower control limit (i.e., 47%) in the LEACH-R-1 MS/MSD pair. The RPD for this compound (37%) was also greater than the acceptance limit (i.e., 34%). Since the LCS recovery for chloroethane in this analytical batch was in control, no data qualifying action was taken.

For the SVOC analyses, the method blank contained di-n-butylphthalate at 2.9 µg/L. Since this compound was not detected in the associated samples, no data qualifying action was taken. The continuing calibration verification (CCV) analyzed on 9/24/02 at 11:01 displayed a %D greater than the control limit (i.e., <20%) for 4,6-dinitro-2-methylphenol (-21.9%). The CCV analyzed on 9/25/02 at 21:51 displayed a %D greater than the control limit for 3-nitroaniline (-21.5%). The CCV analyzed on 9/26/02 at 10:12 displayed %Ds greater than the control limit for 3-nitroaniline (-20.8%) and 4,6-dinitro-2-methylphenol (-21.2%). The CCV analyzed on 10/2/02 at 07:47 displayed %Ds greater than the control limit for bis(2-chloroisopropyl)ether (-27.4%) and 4-nitrophenol (-22.0%). The CCV analyzed on 10/3/02 at 06:27 displayed %Ds greater than the control limit for bis(2-chloroisopropyl)ether (-26.7%) and 3,3'dichlorobenzidine (-25.0%). Since these compounds were not detected in the associated samples and the %D failures

were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Surrogates were diluted out in samples LEACH-R-1 and LEACH-R-1DL and their associated MS/MSD samples (DF from 200 to 1000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Because of the abundance of target compounds in parent sample LEACH-R-1 (DF=200 and 1000), the MS and MSD samples were analyzed at the same dilution (DF=1000) as the parent sample. Therefore, the spiked SVOCs were not recovered in the MS/MSD pair. Since all MS and MSD samples were analyzed at high dilution factors, no data qualifying action was taken. The phenol result in sample LEACH–R-1 exceeded the linear range of the calibration curve. The positive phenol result in this sample was flagged "J, q". This sample was diluted by a factor of 1000 and reanalyzed by the laboratory. The phenol result from the dilution analyses should be used for data interpretation.

For the pesticides analyses, the %Ds for alpha-BHC (-24.0%), gamma-BHC (-17.2%), delta-BHC (-22.5%), aldrin (-15.5%) on the primary column; and for 4,4'-DDD (16.4% and 16.0%), 4,4'-DDT (-17.3% and -22.2%), endrin aldehyde (-15.4% and -21.3%), and methoxychlor (-19.7% and -20.5%) on both columns were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 9/13/02 at 09:34. The %Ds for alpha-BHC (-24.6%), gamma-BHC (-17.4%), delta-BHC (-22.5%), 4,4'-DDD (16.6%), 4,4'-DDT (-19.1%), and endrin ketone (16.6%) on the primary column; and for 4,4'-DDD (16.0%), 4,4'-DDT (-20.5%), and methoxychlor (-17.4%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 9/13/02 at 16:39. Positive gamma-BHC and 4,4'-DDT results in sample LEACH-R-1 were flagged "J, c". All non-detect results for 4,4'-DDT, endrin aldehyde, methoxychlor, and 4,4'-DDD in the associated samples were flagged "UJ, c". The decachlorobiphenyl surrogate recoveries were less than the lower control limit (i.e., 30%) in samples BDRK-P-1 (13% and 11%) and BDRK-Q-1 (28% and 26%). All positive results were flagged "J, s" and non-detects were flagged "UJ, s" with the exception of those data previously flagged due to calibration failure. Surrogates were diluted out in sample LEACH-R-1 and their associated MS/MSD samples (DF = 400). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Because of the abundance of target compounds in parent sample LEACH-R-1 (DF=400), the MS and MSD samples were analyzed at the same dilution as the parent sample. Therefore, the spiked pesticides were not recovered in the MS/MSD pair and the MS/MSD summary form was not provided in the SDG. Since all MS and MSD samples were analyzed at high dilution factors, no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for all positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the PCB analyses, surrogates were diluted out in sample LEACH-R-1 and their associated MS/MSD samples (DF = 10). Since the affected samples were analyzed at dilutions equal to 10, no data qualifying action was taken. Because of the abundance of target compounds in parent sample LEACH-R-1 (DF=10), the MS and MSD samples were analyzed at the same dilution as the parent sample. Therefore, the spiked PCBs were not recovered in the MS/MSD pair. Since all MS and MSD samples were analyzed at high dilution factors, no data qualifying action was taken.

For the herbicide analyses, surrogates were diluted out in sample LEACH-R-1 and their associated MS/MSD samples (DF = 1000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. Because of the abundance of target compounds in parent sample LEACH-R-1 (DF=1000), the MS and MSD samples were analyzed at the same dilution as the parent sample. Therefore, the spiked herbicides were not recovered in the MS/MSD pair. Since all MS and MSD samples were analyzed at high dilution factors, no data qualifying action was taken. The LCS recovery for pentachlorophenol (120%) was greater than the upper control limit (i.e., 110%). Since this compound was not detected in the associated samples, no data qualifying action was taken. The RPD between primary and confirmation columns was greater than the acceptance limit (i.e., <40%) for MCPA in sample BDRK-P-1. The MCPA result was flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for arsenic (64%) and sodium (70%), and the final CRDL recoveries for aluminum (124%), arsenic (121% and 66%), iron (129%), lead (148%) were outside the control limit (i.e., 80-120%). Positive lead results in the associated samples were flagged "J, w". Since all other recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 0.02099 mg/L, calcium at 0.01304 mg/L, and copper at 0.00153 mg/L. Since aluminum, calcium, and copper results in the associated samples were all greater than five times the blank concentration, no data qualifying action was taken. Arsenic was detected in the initial calibration blank (ICB) at 0.00348 mg/L. The positive arsenic result in sample BDRK-P-1 was flagged "U, o". Arsenic was also detected in the ICB at -0.00369 mg/L and one continuing calibration blank at -0.00465 mg/L (CCB4). The positive arsenic result in sample LEACH-R-1 was flagged "J, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Aluminum, barium, calcium, copper, manganese, thallium and vanadium were also detected in the ICB and/or CCBs at low levels. Since these analyte results in the associated samples were either greater than five times the blank concentration or non-detects, no data qualifying action was taken. The MS recovery for aluminum (138%) was greater than the upper control limit in the LEACH-R-1 MS/MSD pair. The positive

aluminum result in sample LEACH-R-1 was flagged "J, m". Since the associated samples are collected from difference site (may have different sample matrix), no data qualifying action was taken based on MS recovery failure. The RPD for mercury (53.16%) was greater than the acceptance limit in the LEACH-R-1 MS/MSD pair. All positive mercury results were flagged "J, d" in the associated samples.

For the methane analyses, the %D for methane (24.3%) was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/12/02 at 08:52. Positive methane results were flagged "J, c" in the associated samples.

Correctable Anomalies: The nitrate result in sample BDRK-P-1 was incorrectly reported. The laboratory was contacted and revised Form I was received.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-101b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII57

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII57	BDRK-P-1	Groundwater	SVOCs	1,2,4-Trichlorobenzene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	1,2-Dichlorobenzene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	1,3-Dichlorobenzene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	1,4-Dichlorobenzene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	2,4-Dinitrophenol	50	R,s	50
SAII57	BDRK-P-1	Groundwater	SVOCs	2,4-Dinitrotoluene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	2,6-Dinitrotoluene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	2-Chloronaphthalene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	2-Methylnaphthalene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	2-Nitroaniline	50	R,s	50
SAII57	BDRK-P-1	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,s	20
SAII57	BDRK-P-1	Groundwater	SVOCs	3-Nitroaniline	50	R,s	50
SAII57	BDRK-P-1	Groundwater	SVOCs	4-Bromophenyl Phenyl Ether	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	4-Chlorophenyl Phenyl Ether	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Acenaphthene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Acenaphthylene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Anthracene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Benzo(a)anthracene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Benzo(a)pyrene	1.3	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Benzo(b)fluoranthene	1.6	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Benzo(g,h,i)perylene	1.8	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Benzo(k)fluoranthene	1.8	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	bis(2-Chloroethyl)ether	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	1.3	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Carbazole	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Chrysene	0.68	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Dibenzo(a,h)anthracene	1.5	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Dibenzofuran	10	R,s	10

Table 6-101b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII57

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII57	BDRK-P-1	Groundwater	SVOCs	Diethyl Phthalate	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Dimethyl Phthalate	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Di-n-butylphthalate	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Di-n-octylphthalate	1.1	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Dinoseb	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Fluoranthene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Fluorene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Hexachlorobenzene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Hexachlorobutadiene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Hexachloroethane	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	1.3	J,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Isophorone	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Naphthalene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	Nitrobenzene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	N-Nitroso-di-n-propylamine	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	N-Nitrosodiphenylamine	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	P-Chloroaniline	20	R,s	20
SAII57	BDRK-P-1	Groundwater	SVOCs	Phenanthrene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	SVOCs	P-Nitroaniline	50	R,s	50
SAII57	BDRK-P-1	Groundwater	SVOCs	Pyrene	10	R,s	10
SAII57	BDRK-P-1	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,c	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05

Table 6-101b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII57

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII57	BDRK-P-1	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII57	BDRK-P-1	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	Heptachlor	0.0063	J,s	0.046
SAII57	BDRK-P-1	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII57	BDRK-P-1	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII57	BDRK-P-1	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII57	BDRK-P-1	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	52	J,g	120
SAII57	BDRK-P-1	Groundwater	Methane	Methane	1.5	J,c	0.19
SAII57	BDRK-P-1	Groundwater	Metals	Arsenic	0.015	U,o	0.01
SAII57	BDRK-P-1	Groundwater	Metals	Lead	0.0036	J,w	0.005
SAII57	BDRK-P-1	Groundwater	Metals	Mercury	0.00011	J,d	0.0002
SAII57	BDRK-Q-1	Groundwater	SVOCs	1,2,4-Trichlorobenzene	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	1,4-Dichlorobenzene	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	2,4-Dichlorophenol	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	2,4-Dimethylphenol	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	2,4-Dinitrotoluene	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	4-Bromophenyl Phenyl Ether	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	4-Nitrophenol	50	R,s	50
SAII57	BDRK-Q-1	Groundwater	SVOCs	Anthracene	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	Benzo(g,h,i)perylene	1	J,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	bis(2-Chloroethyl)ether	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	Dibenzofuran	10	R,s	10

Table 6-101b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII57

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII57	BDRK-Q-1	Groundwater	SVOCs	Dimethyl Phthalate	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	Di-n-octylphthalate	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	Hexachlorobenzene	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	P-Chloroaniline	20	R,s	20
SAII57	BDRK-Q-1	Groundwater	SVOCs	Phenol	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	SVOCs	P-Nitroaniline	50	R,s	50
SAII57	BDRK-Q-1	Groundwater	SVOCs	Pyrene	10	R,s	10
SAII57	BDRK-Q-1	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,c	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,c	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII57	BDRK-Q-1	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII57	BDRK-Q-1	Groundwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII57	BDRK-Q-1	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII57	BDRK-Q-1	Groundwater	Methane	Methane	5.8	J,c	0.19
SAII57	BDRK-Q-1	Groundwater	Metals	Lead	0.027	J,w	0.005
SAII57	BDRK-Q-1	Groundwater	Metals	Mercury	0.00024	J,d	0.0002

Table 6-101b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII57

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII57	BDRK-S-1	Groundwater	Methane	Methane	11	J,c	0.19
SAII57	LEACH-R-1	Leachate	Pesticides	4,4'-DDD	160	UJ,c	160
SAII57	LEACH-R-1	Leachate	Pesticides	4,4'-DDT	210	J,c	160
SAII57	LEACH-R-1	Leachate	Pesticides	beta-BHC	200	J,g	80
SAII57	LEACH-R-1	Leachate	Pesticides	Dieldrin	190	J,g	160
SAII57	LEACH-R-1	Leachate	Pesticides	Endosulfan II	31	J,g	160
SAII57	LEACH-R-1	Leachate	Pesticides	Endrin Aldehyde	160	UJ,c	160
SAII57	LEACH-R-1	Leachate	Pesticides	gamma-BHC (Lindane)	28	J,c	80
SAII57	LEACH-R-1	Leachate	Pesticides	Heptachlor	210	J,g	80
SAII57	LEACH-R-1	Leachate	Pesticides	Methoxychlor	800	UJ,c	800
SAII57	LEACH-R-1	Leachate	Metals	Aluminum	15	J,m	1
SAII57	LEACH-R-1	Leachate	Metals	Arsenic	0.021	J,o	0.05
SAII57	LEACH-R-1	Leachate	Metals	Mercury	0.013	J,d	0.001

Table 6-102a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII58

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII58	LEACH-O-1		9/10/02	Leachate			X	X	X	X	X	X						X		
SAII58	LEACH-Q-1		9/11/02	Leachate			X	X	X	X	X	X						X		
SAII58	LEACH-Q-1-DUP		9/11/02	Leachate			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII58_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____November 19, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the method blanks contained chloromethane at 0.46 µg/L (1P0919MB) and 0.70 µg/L (1P0922MB). Positive chloromethane results in the associated samples were flagged "U, z" at the reporting limit. The trip blank, TB-091102, contained chloromethane at 0.40 µg/L and styrene at 0.78 µg/L. No data qualifying action was taken since the chloromethane result was previously flagged due to method blank contamination and styrene was not detected in the associated samples. The initial calibration analyzed on 9/3/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2-butanone at 0.987. 2-Butanone results in the associated samples were flagged "J, r" for positive detections and flagged "UJ, r" for non-detects. The continuing calibration verification (CCV) analyzed on 9/19/02 at 07:30 displayed %Ds greater than the control limit (i.e. 20%) for bromomethane at –52.3%, 1,2-dichloroethane at 35.7%, and bromodichloromethane at 24.1%. The CCV analyzed on 9/20/02 at 09:17 displayed %Ds greater than the control limit for chloromethane at 48.9%, bromomethane at –54.2%, 1,1,1-trichloroethane at 31.8%, 1,2-dichloroethane at 42.0%, and bromodichloromethane at 34.4%. The CCV analyzed on 9/22/02 at 15:17 displayed a %D greater than the control limit for bromomethane at –61.6%. Bromomethane was not detected in the associated samples and non-detects were flagged "UJ, c". Positive 1,1,1-trichloroethane and 1,2-dichloroethane results were flagged "J, c' in the associated samples. Since all other compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MS/MSD recoveries for benzene (52% and 52%), chlorobenzene (0% and 0%), ethylbenzene (68% and 72%), and xylenes (47% and 53%) were less than the lower control limits due to matrix interference in the Leach-O-1 MS/MSD pair. Chlorobenzene was detected in all associated samples and positive detections were flagged "J, m". Since other compounds displayed MS/MSD recoveries only slightly less than the lower control limits and LCS recoveries for these compounds were in control, no data qualifying action was taken. The LCS recoveries for

chloromethane (147%), 1,1,1-trichloroethane (136%), 1,2-dichloroethane (146%), and bromodichloromethane (134%) were greater than the upper control limit in one LCS sample (1P0919MB-LCS). The LCS recoveries for 1,1,1-trichloroethane (132%), 1,2-dichloroethane (142%), and bromodichloromethane (134%) were greater than the upper control limit in one LCS sample (1P0920MB-LCS). Since positive detections for these compounds were previously flagged due to other QC failures, no further data qualifying action was taken. The chlorobenzene result in sample LEACH-O-1 exceeded the linear range of the calibration curve. Since this chlorobenzene result was previously flagged due to MS/MSD recovery failure, no further data qualifying action was taken. This sample was diluted by a factor of 5 and reanalyzed by the laboratory. The chlorobenzene result from the dilution analysis should be used for data interpretation. Reporting limits were raised due to dilutions in samples LEACH-Q-1 (DF=20), LEACH-Q-1-DUP (DF=20), LEACH-O-1 (DF=5), and LEACH-O-1DL (DF=10).

For the SVOC analyses, the CCV analyzed on 9/24/02 at 11:01 displayed a %D greater than the control limit (i.e., <20%) for 4,6-dinitro-2-methylphenol (-21.92%). The CCV analyzed on 9/25/02 at 21:51 displayed a %D greater than the control limit for 3-nitroaniline (-21.5%). The CCV analyzed on 9/26/02 at 10:12 displayed %Ds greater than the control limit for 3-nitroaniline (-20.8%) and 4,6-dinitro-2-methylphenol (-21.2%). Since all compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Surrogates were diluted out in all field samples and their associated dilution samples (DF from 25 to 1000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The pentachlorophenol result in sample LEACH–O-1 and 2,4-dichlorophenol results in samples LEACH-Q-1 and LEACH-Q-1-DUP exceeded the linear range of the calibration curve. Positive pentachlorophenol and 2,4-dichlorophenol results in these samples were flagged "J, q". These samples were diluted and reanalyzed by the laboratory. Pentachlorophenol and 2,4-dichlorophenol results from the dilution analyses should be used for data interpretation.

For the pesticides analyses, the %Ds for methoxychlor (28.0% and 36.3%), endrin ketone (19.6% and 17.5%), and surrogate decachlorobiphenyl (DCBP, 20.3% and 20.6%) on both columns were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 9/19/02 at 16:28. Positive methoxychlor and endrin ketone results were flagged "J, c" and non-detects were flagged "UJ, c". Since DCBP was a QC compound, no data qualifying action was taken. Surrogates were diluted out in all field samples (DF from 25 to 50). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were

flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the PCB analyses, because of the abundance of target compounds in parent sample LEACH-R-1 (DF=100, in SDG: SAII57), the MS and MSD samples were analyzed at the same dilution as the parent sample. Therefore, the spiked PCBs were not recovered in the MS/MSD pair. Since all MS and MSD samples were analyzed at high dilution factors, no data qualifying action was taken. The data user is advised that the PCB sample results may display more than usual bias or variability and should be used with caution. Reporting limits were raised in sample LEACH-O-1 due to a five times dilution and a reduced extract volume of 750 mL (normal volume is 1000 mL).

For the herbicide analyses, the method blank, 0913N-SMB, contained 2,4-D at 0.33 µg/L. Since 2,4-D results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The %Ds for dicamba (18.0%) and 2,4-DB (-16.3%) on the confirmation column, and for MCPA (-24.3% and -42.0%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/18/02 at 14:03. Since associated samples are QC samples, no data qualifying action was taken. The %Ds for dalapon (20.5%), dicamba (16.3%), 2,4-D (17.4%), pentachlorophenol (PCP, 17.7%), 2,4,5-TP (16.0%) on the primary column, and for 2,4-DB (-16.1%) on the confirmation column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/24/02 at 15:05. Positive 2,4-D and PCP results in the associated samples were flagged "J, c". Since other outliers were not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. The %D for 2,4-DB (-23.0%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 9/25/02 at 10:56. The %D for 2,4-DB (-25.2%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 9/25/02 at 18:49. Since 2,4-DB was not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. Surrogates were diluted out in all field samples (DF from 100 to 20000). Since the affected samples were analyzed at dilutions greater than 10, no data qualifying action was taken. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for PCP in sample LEACH-Q-1 and LEACH-Q-1-DUP. These two results were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recovery for arsenic (136%), sodium (77%), and mercury (121%) and the final CRDL recoveries for arsenic (126%), selenium (126% and 75%), sodium (65%), and thallium (122%) were outside the control limit (i.e., 80-120%). Since all recoveries were only

marginally outside the control limits, no data qualifying action was taken. Cobalt was detected in one continuing calibration blank (CCB5) at -0.00075 mg/L. Mercury was detected in the initial calibration blank (ICB) at –0.0760 µg/L and in CCB3 at –0.093 µg/L. The positive cobalt result in sample LEACH-O-1 and mercury non-detects in samples LEACH-Q-1 and LEACH-Q-1-DUP were less than five times the absolute blank concentration and were flagged "J, o" or "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Aluminum was detected in the preparation blank (PB) at 0.01098 mg/L, ICB at 0.02211 mg/L, CCB4 at 0.01482 mg/L, and CCB5 at 0.01443 mg/L. Arsenic was detected in the ICB at 0.00321 mg/L, CCB4 at 0.00541 mg/L, and CCB5 at 0.00471 mg/L. Copper was detected in CCB5 at 0.00082 mg/L. Selenium was detected in CCB4 at 0.00775 mg/L and CCB5 at 0.00667 mg/L. Vanadium was detected in CCB5 at 0.00122 mg/L. Aluminum, arsenic, copper, selenium and vanadium results less than five times the blank concentration were flagged "U, o" at the reporting limit. Barium, calcium, and manganese were also detected in the preparation blank and CCBs at low levels. Since these analyte results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The MSD recovery for mercury (73%) was less than the lower control limit (i.e., 75%) in one non-client MS/MSD pair. Since the parent sample was not a client sample and the MS recovery for mercury was in control, no data qualifying action was taken. The post-digestion spike recovery for mercury was in control.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data are usable, as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-102b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII58

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII58	LEACH-O-1	Leachate	VOCs	2-Butanone (MEK)	20	J,r	50
SAII58	LEACH-O-1	Leachate	VOCs	Bromomethane	5	UJ,c	5
SAII58	LEACH-O-1	Leachate	VOCs	Chlorobenzene	1700	J,m	10
SAII58	LEACH-O-1	Leachate	VOCs	Chloromethane	5	U,z	5
SAII58	LEACH-O-1	Leachate	Pesticides	beta-BHC	2.5	J,g	1.2
SAII58	LEACH-O-1	Leachate	Pesticides	Dieldrin	0.26	J,g	2.5
SAII58	LEACH-O-1	Leachate	Pesticides	Endrin Ketone	2.5	UJ,c	2.5
SAII58	LEACH-O-1	Leachate	Pesticides	Heptachlor	0.23	J,g	1.2
SAII58	LEACH-O-1	Leachate	Pesticides	Methoxychlor	12	UJ,c	12
SAII58	LEACH-O-1	Leachate	Herbicides	2,4-D	930	J,c	50
SAII58	LEACH-O-1	Leachate	Herbicides	Pentachlorophenol	780	J,c	100
SAII58	LEACH-O-1	Leachate	Metals	Cobalt	0.0024	J,o	0.01
SAII58	LEACH-O-1	Leachate	Metals	Vanadium	0.01	U,o	0.01
SAII58	LEACH-Q-1	Leachate	VOCs	1,1,1-Trichloroethane	14	J,c	20
SAII58	LEACH-Q-1	Leachate	VOCs	1,2-Dichloroethane	2200	J,c	20
SAII58	LEACH-Q-1	Leachate	VOCs	2-Butanone (MEK)	200	UJ,r	200
SAII58	LEACH-Q-1	Leachate	VOCs	Bromomethane	20	UJ,c	20
SAII58	LEACH-Q-1	Leachate	VOCs	Chlorobenzene	1100	J,m	20
SAII58	LEACH-Q-1	Leachate	Pesticides	beta-BHC	13	J,g	2.5
SAII58	LEACH-Q-1	Leachate	Pesticides	Endrin Ketone	3.6	J,c	5
SAII58	LEACH-Q-1	Leachate	Pesticides	Methoxychlor	25	UJ,c	25
SAII58	LEACH-Q-1	Leachate	Herbicides	Pentachlorophenol	4400	J,g	20000
SAII58	LEACH-Q-1	Leachate	Metals	Arsenic	0.01	U,o	0.01
SAII58	LEACH-Q-1	Leachate	Metals	Copper	0.02	U,o	0.02
SAII58	LEACH-Q-1	Leachate	Metals	Mercury	0.0002	UJ,o	0.0002
SAII58	LEACH-Q-1	Leachate	Metals	Selenium	0.01	U,o	0.01
SAII58	LEACH-Q-1-DUP	Leachate	VOCs	1,2-Dichloroethane	2100	J,c	20
SAII58	LEACH-Q-1-DUP	Leachate	VOCs	2-Butanone (MEK)	200	UJ,r	200
SAII58	LEACH-Q-1-DUP	Leachate	VOCs	Bromomethane	20	UJ,c	20
SAII58	LEACH-Q-1-DUP	Leachate	VOCs	Chlorobenzene	1200	J,m	20
SAII58	LEACH-Q-1-DUP	Leachate	Pesticides	Endrin Ketone	2.8	J,c	5

Table 6-102b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII58

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII58	LEACH-Q-1-DUP	Leachate	Pesticides	Methoxychlor	25	UJ,c	25
SAII58	LEACH-Q-1-DUP	Leachate	Herbicides	Pentachlorophenol	4800	J,g	20000
SAII58	LEACH-Q-1-DUP	Leachate	Metals	Aluminum	0.2	U,o	0.2
SAII58	LEACH-Q-1-DUP	Leachate	Metals	Arsenic	0.01	U,o	0.01
SAII58	LEACH-Q-1-DUP	Leachate	Metals	Copper	0.02	U,o	0.02
SAII58	LEACH-Q-1-DUP	Leachate	Metals	Mercury	0.0002	UJ,o	0.0002
SAII58	LEACH-Q-1-DUP	Leachate	Metals	Selenium	0.01	U,o	0.01

Table 6-103a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII59

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII59	STORM-Q-1		9/18/02	Stormwater			X	X	X	X	X	X						X		
SAII59	STORM-Q-2		9/18/02	Stormwater			X	X	X	X	X	X						X		
SAII59	STORM-R-1		9/18/02	Stormwater			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII59_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals_____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____November 18, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, acetone displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) in one CCV analyzed on 9/26/02 at 10:18 at 0.03484. Positive acetone results were flagged "J, c" and non-detects were flagged "R, c" in the associated samples.

For the pesticides analyses, the decachlorobiphenyl (DCBP) surrogate recoveries (9% and 9%) were less than the lower control limit in sample STORM-Q-1. All positive detections, except those previously flagged due to calibration failure, were flagged "J, s" and non-detects were flagged "R, s". The percent completeness for this analysis was less than the control limit (i.e., 95%) at 76.2%.

Minor Anomalies: For the VOC analyses, the continuing calibration verification (CCV) analyzed on 9/26/02 at 10:18 displayed %Ds greater than the control limit (i.e. 20%) for 1,1,1-trichloroethane at 20.9% and 1,2-dichloroethane at 23.8%. Since these two compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The LCS recovery for 1,1,1-trichloroethane (126%) was greater than the upper control limit (i.e., 120%). Since this compound was not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the CCV analyzed on 9/24/02 at 11:01 displayed a %D greater than the control limit (i.e., <20%) for 4,6-dinitro-2-methylphenol (-21.9%). The CCV analyzed on 9/25/02 at 21:51 displayed a %D greater than the control limit for 3-nitroaniline (-21.5%). Since these two compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the pesticides analyses, the %Ds for methoxychlor (-42.1% and -30.7%) on both columns and for alpha-BHC (-23.6%), gamma-BHC (-17.8%), and aldrin (-23.7%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/23/02 at 09:48. The %Ds for alpha-BHC

(-22.4%), delta-BHC (-19.8%), and endrin ketone (17.1%) on the primary column and for methoxychlor (-22.2% and -17.7%) and surrogate 2,4-DCAA (23.5% and 20.4%) on both columns were greater than the criterion for the continuing calibration analyzed on 9/23/02 at 20:16. Positive aldrin and gamma-BHC results were flagged "J, c" in the associated samples. Methoxychlor was not detected in the associated samples and non-detects were flagged "UJ, c" unless previously flagged due to surrogate recovery failure. Since all other compounds were not detected in the associated samples and either had an acceptable %D on the alternate column or was a surrogate, no data qualifying action was taken. The DCBP surrogate recoveries in sample STORM-Q-1 (28% and 22%) were less than the lower control limit. All positive detections, except those previously flagged due to calibration failure, were flagged "J, s" and non-detects were flagged "UJ, s". The LCS recovery for methoxychlor (48%) was less than the lower control limit (i.e., 60%). Since the LCSD recovery for methoxychlor was in control (but at the low end) and methoxychlor results were previously flagged due to calibration failure or surrogate recovery failure, no further data qualifying action was taken. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failuress, were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %D for 2,4-DB (-23.0%) on the confirmation column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 9/25/02 at 10:56. The %D for 2,4-DB (-25.2%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 9/25/02 at 18:49. Positive 2,4-DB results were flagged "J, c". The LCSD recoveries for 2,4-D (180%) and pentachlorophenol (125%) were greater than the upper control limit. Since these two compounds were not detected in the associated samples, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recovery for lead (74%) and the final CRDL recoveries for aluminum (131%), arsenic (58%), and lead (64%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. Arsenic was detected in the preparation blank (PB) at -0.00349 mg/L, initial calibration blank (ICB) at -0.00441 mg/L, and two continuing calibration blanks at -0.00438 mg/L (CCB5) and -0.00439 mg/L (CCB6). Mercury was detected in the ICB at -0.072 µg/L and CCB4 at -0.075 µg/L. All arsenic and mercury results were flagged "J, p" or "J, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Thallium was detected in the PB at 0.00458 mg/L, CCB5 at 0.00717 mg/L, and CCB7 at 0.00594 mg/L. Positive thallium results were flagged "U, p" at the reporting limit. Aluminum, barium, calcium, copper, manganese, and vanadium were also detected in the

preparation blank and CCBs at low levels. Since these analyte results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points (i.e., those flagged "R"), all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-103b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII59

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII59	STORM-Q-1	Stormwater	VOCs	Acetone	35	J,c	25
SAII59	STORM-Q-1	Stormwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	Dieldrin	0.0061	J,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII59	STORM-Q-1	Stormwater	Pesticides	gamma-BHC (Lindane)	0.0067	J,c	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	Heptachlor	0.031	J,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII59	STORM-Q-1	Stormwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII59	STORM-Q-1	Stormwater	Pesticides	Toxaphene	5	UJ,s	5
SAII59	STORM-Q-1	Stormwater	Herbicides	2,4-DB	1.1	J,c	0.5
SAII59	STORM-Q-1	Stormwater	Metals	Arsenic	0.0062	J,p	0.01
SAII59	STORM-Q-1	Stormwater	Metals	Mercury	0.00036	J,o	0.0002
SAII59	STORM-Q-2	Stormwater	VOCs	Acetone	40	J,c	25
SAII59	STORM-Q-2	Stormwater	Pesticides	4,4'-DDD	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	4,4'-DDE	0.01	J,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	4,4'-DDT	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	Aldrin	0.042	J,c	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	alpha-BHC	0.05	R,s	0.05

Table 6-103b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII59

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII59	STORM-Q-2	Stormwater	Pesticides	alpha-Chlordane	0.011	J,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	beta-BHC	0.05	R,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	delta-BHC	0.05	R,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	Dieldrin	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	Endosulfan I	0.014	J,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	Endosulfan II	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	Endosulfan Sulfate	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	Endrin	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	Endrin Aldehyde	0.011	J,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	Endrin Ketone	0.1	R,s	0.1
SAII59	STORM-Q-2	Stormwater	Pesticides	gamma-BHC (Lindane)	0.05	R,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	gamma-Chlordane	0.05	R,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	Heptachlor	0.035	J,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	Heptachlor Epoxide	0.05	R,s	0.05
SAII59	STORM-Q-2	Stormwater	Pesticides	Methoxychlor	0.5	R,s	0.5
SAII59	STORM-Q-2	Stormwater	Pesticides	Toxaphene	5	R,s	5
SAII59	STORM-Q-2	Stormwater	Metals	Arsenic	0.0064	J,p	0.01
SAII59	STORM-Q-2	Stormwater	Metals	Mercury	0.00024	J,o	0.0002
SAII59	STORM-Q-2	Stormwater	Metals	Thallium	0.01	U,p	0.01
SAII59	STORM-R-1	Stormwater	VOCs	Acetone	24	J,c	25
SAII59	STORM-R-1	Stormwater	Pesticides	Aldrin	0.008	J,c	0.048
SAII59	STORM-R-1	Stormwater	Pesticides	Dieldrin	0.014	J,g	0.095
SAII59	STORM-R-1	Stormwater	Pesticides	Heptachlor	0.015	J,g	0.048
SAII59	STORM-R-1	Stormwater	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SAII59	STORM-R-1	Stormwater	Herbicides	2,4-DB	1.4	J,c	0.5
SAII59	STORM-R-1	Stormwater	Metals	Arsenic	0.0049	J,p	0.01
SAII59	STORM-R-1	Stormwater	Metals	Mercury	0.00023	J,o	0.0002
SAII59	STORM-R-1	Stormwater	Metals	Thallium	0.01	U,p	0.01

Table 6-104a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII60

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII60	STORM-Q-1-10-3-02		10/3/02	Stormwater			X	X	X	X	X	X						X		
SAII60	STORM-Q-2-10-3-02		10/3/02	Stormwater			X	X	X	X	X	X						X		
SAII60	STORM-R-1-10-3-02		10/3/02	Stormwater			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII60_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____November 19, 2002_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, one trip blank contained 1,1-dichloroethene at 0.70 µg/L, benzene at 0.43 µg/L, trichloroethene at 0.44 µg/L, chlorobenzene at 0.34 µg/L, toluene at 0.54 µg/L, ethylbenzene at 0.11 µg/L and styrene at 0.73 µg/L. Positive 1,1-dichloroethene and benzene results were flagged "U, y" at the reporting limit and the positive toluene result was flagged "U, y" in sample STORM-Q-2. The initial calibration analyzed on 9/3/02 displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 32.646%. The continuing calibration verification (CCV) analyzed on 10/8/02 at 09:23 displayed %Ds greater than the control limit (i.e. 20%) for bromomethane at 29.4% and chloroethane at -21.0%. Since bromomethane and chloroethane were not detected in the associated samples, and %RSD and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The LCS recovery for bromomethane (160%) was greater than the upper control limit (i.e., 141%). Since this compound was not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the initial calibration analyzed on 10/15/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for dinoseb at 0.989. Dinoseb was not detected in the associated samples and non-detects were flagged "UJ, r". The CCV analyzed on 10/18/02 at 10:29 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroisopropyl)ether (-23.0%), 2,6-dinitrotoluene (26.5%), n-nitroso-di-n-propylamine (-22.6%), 3-nitroaniline (31.9%), 2,4-dinitrophenol (24.1%), 4-nitrophenol (25.8%), 2,4-dinitrotoluene (77.3%), 4-nitroaniline (73.4%), 4,6-dinitro-2-methylphenol (39.0%), dinoseb (37.6%), 4-bromophenyl-phenylether (-21.2%), and surrogate 2,4,6-tribromophenol (29.4%). Positive 4-nitrophenol results in the associated samples were flagged "J, c". 2,4-Dinitrotoluene and 4-nitroaniline results were flagged "UJ, c" in the associated samples. Since all other compounds were not detected in the associated samples or were surrogates and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the pesticides analyses, the %D for methoxychlor (17.7%) on the primary column was greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 10/9/02 at 21:06. The positive methoxychlor result was flagged "J, c" in sample STORM-Q-1-10-3-02. No data qualifying action was taken for non-detects since this compound had an acceptable %D on the alternate column. The decachlorobiphenyl (DCBP) surrogate recoveries were less than the lower control limit (i.e., 30%) on both columns in samples STORM-R-1 (28% and 27%), STORM-Q-1 (18% and 16%), and STORM-Q-2 (12% and 12%). All positive results were flagged "J, s" and non-detects were flagged "UJ, s" with the exception of those data previously flagged due to calibration failure. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. Since all positive detections were previously flagged due to other QC failures, no further data qualifying action was taken. It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the %Ds for MCPP (-15.6%) on the confirmation column; and for MCPA (-25.4% and -41.3%) and 2,4-DB (-17.5% and -24.0%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 10/8/02 at 12:10. The %Ds for MCPP (18.5%) and 2,4-DB (26.7%) on the primary column were greater than the criterion for the continuing calibration analyzed on 10/8/02 at 23:20. Positive MCPP results were flagged "J, c" in samples STORM-R-1 and STORM-Q-2. All MCPA and 2,4-DB results were flagged "J, c" for positive detections or "UJ, c" for non-detects. The MS/MSD recoveries for 2,4,5-TP (115% and 122%) and 2,4,5-T (132%) were greater than the upper control limits in one non-client MS/MSD pair. Since parent sample is not a client sample, no data qualifying action was taken. The LCS recoveries for dalapon (110%) and 2,4,5-TP (110%) were greater than the upper control limit. Since these two compounds were not detected in the associated samples, no data qualifying action was taken. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results, except those previously flagged due to other QC failures, were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recovery for lead (64%), sodium (72%), and thallium (130%) and the final CRDL recoveries for lead (64%) and selenium (76% and 129%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. Copper was detected in three continuing calibration blanks at 0.899 µg/L (CCB4), 1.56 µg/L (CCB5), and 1.71 µg/L (CCB6). Thallium was detected in the initial calibration blank (ICB) at 6.80 µg/L, CCB5 at 6.78 µg/L, and CCB6 at 7.17 µg/L. Vanadium was detected in CCB6 at 1.27 µg/L. Positive

copper, thallium, and vanadium results in sample STORM-Q-2 were flagged "U, o" at the reporting limit. Lead was detected in CCB5 at -3.48 µg/L. The positive lead result in sample STORM-R-1 was flagged "J, o" and the non-detect result in sample STORM-Q-2 was flagged "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Aluminum, magnesium, manganese, and potassium were also detected in the ICB and/or CCBs at low levels. Since these results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. All data are usable, as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-104b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII60

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII60	STORM-Q-1-10-3-02	Stormwater	SVOCs	2,4-Dinitrotoluene	10	UJ,c	10
SAII60	STORM-Q-1-10-3-02	Stormwater	SVOCs	4-Nitrophenol	1.5	J,c	50
SAII60	STORM-Q-1-10-3-02	Stormwater	SVOCs	Dinoseb	10	UJ,r	10
SAII60	STORM-Q-1-10-3-02	Stormwater	SVOCs	P-Nitroaniline	50	UJ,c	50
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Heptachlor	0.0099	J,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Methoxychlor	0.032	J,c	0.5
SAII60	STORM-Q-1-10-3-02	Stormwater	Pesticides	Toxaphene	5	UJ,s	5
SAII60	STORM-Q-1-10-3-02	Stormwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII60	STORM-Q-1-10-3-02	Stormwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII60	STORM-Q-2-10-3-02	Stormwater	VOCs	1,1-Dichloroethylene	1	U,y	1
SAII60	STORM-Q-2-10-3-02	Stormwater	VOCs	Benzene	1	U,y	1
SAII60	STORM-Q-2-10-3-02	Stormwater	VOCs	Toluene	1.2	U,y	1
SAII60	STORM-Q-2-10-3-02	Stormwater	SVOCs	2,4-Dinitrotoluene	10	UJ,c	10

Table 6-104b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII60

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII60	STORM-Q-2-10-3-02	Stormwater	SVOCs	4-Nitrophenol	1.2	J,c	50
SAII60	STORM-Q-2-10-3-02	Stormwater	SVOCs	Dinoseb	10	UJ,r	10
SAII60	STORM-Q-2-10-3-02	Stormwater	SVOCs	P-Nitroaniline	50	UJ,c	50
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	gamma-Chlordane	0.0078	J,s	0.052
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Heptachlor Epoxide	0.012	J,s	0.052
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII60	STORM-Q-2-10-3-02	Stormwater	Pesticides	Toxaphene	5	UJ,s	5
SAII60	STORM-Q-2-10-3-02	Stormwater	Herbicides	2,4-D	0.42	J,g	0.5
SAII60	STORM-Q-2-10-3-02	Stormwater	Herbicides	2,4-DB	0.5	UJ,c	0.5
SAII60	STORM-Q-2-10-3-02	Stormwater	Herbicides	Dicamba	0.52	J,g	1.2
SAII60	STORM-Q-2-10-3-02	Stormwater	Herbicides	Dichlorprop	0.15	J,g	6
SAII60	STORM-Q-2-10-3-02	Stormwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	J,c	120
SAII60	STORM-Q-2-10-3-02	Stormwater	Herbicides	MCPP	280	J,c	120
SAII60	STORM-Q-2-10-3-02	Stormwater	Metals	Copper	0.02	U,o	0.02

Table 6-104b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII60

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII60	STORM-Q-2-10-3-02	Stormwater	Metals	Lead	0.005	UJ,o	0.005
SAII60	STORM-Q-2-10-3-02	Stormwater	Metals	Thallium	0.01	U,o	0.01
SAII60	STORM-Q-2-10-3-02	Stormwater	Metals	Vanadium	0.01	U,o	0.01
SAII60	STORM-R-1-10-3-02	Stormwater	SVOCs	2,4-Dinitrotoluene	10	UJ,c	10
SAII60	STORM-R-1-10-3-02	Stormwater	SVOCs	4-Nitrophenol	1.4	J,c	50
SAII60	STORM-R-1-10-3-02	Stormwater	SVOCs	Dinoseb	10	UJ,r	10
SAII60	STORM-R-1-10-3-02	Stormwater	SVOCs	P-Nitroaniline	50	UJ,c	50
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Dieldrin	0.0079	J,s	0.09
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Heptachlor	0.0046	J,s	0.045
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII60	STORM-R-1-10-3-02	Stormwater	Pesticides	Toxaphene	5	UJ,s	5
SAII60	STORM-R-1-10-3-02	Stormwater	Herbicides	2,4-D	0.37	J,g	0.5
SAII60	STORM-R-1-10-3-02	Stormwater	Herbicides	2,4-DB	2.1	J,c	0.5
SAII60	STORM-R-1-10-3-02	Stormwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	38	J,c	120

Table 6-104b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII60

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII60	STORM-R-1-10-3-02	Stormwater	Herbicides	MCPP	19	J,c	120
SAII60	STORM-R-1-10-3-02	Stormwater	Metals	Lead	0.0094	J,o	0.005

Table 6-105a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII61

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII61	SOIL-Q-13-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-14-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-15-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-16-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-17-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-18-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-19-0.5		10/7/02	Soil			X	X	X	X	X	X						X		
SAII61	SOIL-Q-20-0.5		10/7/02	Soil			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII61_____ **Fraction: _VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals _____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____JA_____ **Date: _____November 19, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the pesticide analyses, the CCV analyzed on 10/21/02 at 10:46 displayed %Ds greater than the control limit (i.e., 15%) on the primary column for surrogate 2,4-DCAA (17.3%) and surrogate decachlorobiphenyl (DCBP, 23.0%). The CCV analyzed on 10/21/02 at 22:42 displayed %Ds greater than the control limit on both columns for 4,4'-DDD (26.8% and 33.5%), 4,4'-DDT (-48.6% and -62.7%), and methoxychlor (-53.9% and -52.9%); and on the primary column for surrogate 2,4-DCAA (17.0%). Positive 4,4'-DDD results were flagged "J, c" and non-detects were flagged "UJ, c". Positive 4,4'-DDT results were flagged "J, c" in the associated samples. All 4,4'-DDT and methoxychlor non-detect results were flagged "R, c". Since the 4,4'-DDT and methoxychlor %Ds were in control in the beginning of the analytical sequence (10/21/02 10:46), the laboratory suspects that the 4,4'-DDT and methoxychlor %D failures at the ending may be attributed to the sample matrix. All associated samples were diluted by a factor of 10 and re-analyzed by the laboratory. 4,4'-DDT and methoxychlor results from re-analyzed samples should be used for data interpretation.

Minor Anomalies: For the VOC analyses, one trip blank contained acetone at 6.0 µg/L and styrene at 0.82 µg/L. The positive acetone result in sample SOIL-Q-19-0.5 was flagged "U, y" at the reporting limit. Since styrene was not detected in the associated samples, no data qualifying action was taken. The continuing calibration verification (CCV) analyzed on 10/11/02 at 11:09 displayed %Ds greater than the control limit (i.e., 20%) for acetone at –31.9% and 1,2-dichloroethane at –21.4%. Positive acetone results, except those previously flagged due to trip blank contamination, were flagged "J, c" in the associated samples. Since 1,2-dichloroethane was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the SVOC analyses, the initial calibration analyzed on 10/15/02 displayed a correlation coefficient less than the control limit (i.e., 0.990) for dinoseb at 0.989.

Since the associated samples were QC samples, no data qualifying action was taken. The initial calibration analyzed on 10/23/02 displayed correlation coefficients less than the control limit for 2-nitroaniline at 0.9885, 2,4-dinitrophenol at 0.9863, 4-nitrophenol at 0.9867, 4,6-dinitro-2-methylphenol at 0.9897, 2,4-dinitrotoluene at 0.9891, and dinoseb at 0.9872. These compounds were not detected in the associated samples and non-detects were flagged "UJ, r". The CCV analyzed on 10/18/02 at 23:13 displayed %Ds greater than the control limit (i.e., 20%) for bis(2-chloroethyl)ether at –24.4%, bis(2-chloroisopropyl)ether at –23.4%, n-nitroso-di-n-propylamine at –21.0%, and 2,4-dinitrotoluene at 21.8%. Since the associated samples were QC samples, no data qualifying action was taken. The CCV analyzed on 10/24/02 at 08:16 displayed %Ds greater than the control limit for 2,4-dinitrophenol at 43.2%, 2,4-dinitrotoluene at 25.6%, 4-nitroaniline at 30.5%, 4,6-dinitro-2-methylphenol at 24.0%, and surrogate 2,4,6-tribromophenol at 22.8%. The CCV analyzed on 10/29/02 at 07:16 displayed a %D greater than the control limit for 4-nitrophenol at –23.3%. Since 2,4-dinitrophenol, 2,4-dinitrotoluene, and 4,6-dinitro-2-methyl-phenol results in the associated samples were previously flagged due to initial calibration failure, no further data qualifying action was taken. Since all other compounds were not detected in the associated samples, and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MS recovery for butylbenzylphthalate (57%) was less than the lower control limit (i.e., 58%) in the SOIL-Q-16-0.5 MS/MSD pair. Since the MSD recovery and the LCS recovery were in control for this compound, no data qualifying action was taken.

For the pesticide analyses, the CCV analyzed on 10/24/02 at 17:40 displayed %Ds greater than the control limit (i.e., 15%) on both columns for 4,4'-DDT (-39.8% and –33.7%) and methoxychlor (-35.0% and –30.0%) and on the confirmation column for 4,4'DDD (27.9%). Positive 4,4'-DDT results were flagged "J, c" and non-detect methoxychlor results were flagged "UJ, c" in the associated samples. The CCV analyzed on 10/28/02 at 17:38 displayed %Ds greater than the control limit on the confirmation column for alpha-BHC (18.9%), gamma-BHC (16.3%), beta-BHC (15.9%), delta-BHC (19.8%), aldrin (20.6%), heptachlor epoxide (17.0%), gamma-chlordane (17.9%), alpha-chlordane (20.1%), endosulfan I (18.6%), 4,4'-DDE (17.9%), dieldrin (15.5%), 4,4'-DDD (16.8%), endosulfan II (21.2%), endosulfan sulfate (22.0%), and endrin ketone (16.8%). The CCV analyzed on 10/28/02 at 22:03 displayed %Ds greater than the control limit on the primary column for methoxychlor (-16.8%) and surrogate DCBP (-15.6%); and on the confirmation column for alpha-BHC (16.1%), delta-BHC (17.2%), aldrin (17.8%), alpha-chlordane (16.1%), endosulfan I (17.1%), 4,4'-DDE (15.8%), 4,4'-DDD (19.2%), endosulfan II (19.6%), endosulfan sulfate (19.4%), and endrin ketone (17.9%). Positive detections for these compounds were flagged "J, c". No data qualifying action was taken for surrogates or non-detects since these compounds had an acceptable %D on the alternate column. The CCV analyzed

on 10/29/02 at 02:28 displayed %Ds greater than the control limit on both columns for 4,4'-DDT (-36.4% and -29.8%) and methoxychlor (-32.0% and -27.6%); and on the confirmation column for alpha-BHC (16.4%), delta-BHC (17.9%), aldrin (17.7%), alpha-chlordane (16.3%), endosulfan I (15.9%), 4,4'-DDE (15.5%), 4,4'-DDD (29.0%), endosulfan II (20.5%), endosulfan sulfate (19.5%), and endrin ketone (17.2%). Positive detections for these target compounds were flagged "J, c" and non-detect methoxychlor results were flagged "UJ, c" in the associated samples. No data qualifying action was taken for other non-detects since these compounds had acceptable %Ds on the alternate column. The tetrachloro-m-xylene (TCMX) surrogate recoveries were less than the lower control limit (i.e., 30%) in sample SOIL-Q-18-0.5 (29% and 29%). All positive results were flagged "J, s" and non-detects were flagged "UJ, s" with the exception of those data previously flagged due to calibration failure. The TCMX surrogate recovery was less than the lower control limit on the primary column in sample SOIL-Q-16-0.5 (28%). No data qualifying action was taken due to only one surrogate recovery failure. The MS/MSD recoveries for 4,4'-DDE (31% and 32%), dieldrin (13% and 15%), and 4,4'-DDT (0% and 0%) were less than the lower control limit due to matrix interference in the SOIL-Q-16-0.5 MS/MSD pair. Positive 4,4'-DDT results were flagged "J, m" or "UJ, m" in the associated samples with the exception of those data previously flagged due to other QC failures. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. These results were flagged "J, g" with the exception of those data previously flagged due to other QC failures. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the PCB analyses, surrogates were diluted out in samples SOIL-Q-14-0.5 (DF=10) and SOIL-Q-15-0.5 (DF=10). Since the affected samples were analyzed at dilutions equal to 10, no data qualifying action was taken. The MS/MSD recoveries for hexachlorobiphenyl (39% and 27%), heptachlorobiphenyl (32% and 31%), octachlorobiphenyl (28% and 28%), and decachlorobiphenyl (16% and 15%) were less than the lower control limits in the SOIL-Q-16-0.5 MS/MSD pair. Since all LCS recoveries for these compounds were in control, no data qualifying action was taken. The data user is advised that the PCB sample results may display more than usual biases or variability and should be used with caution.

For the herbicides analyses, the CCV analyzed on 10/17/02 at 10:05 displayed %Ds greater than the control limit (i.e., 15%) on the primary column for MCPA at 18.9% and 2,4-D at 25.4%. Positive MCPA and 2,4-D results were flagged "J, c" in the associated samples. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., 40%) for most of positive detections. These results were flagged "J, g" with the exception of those data previously flagged due to calibration failure. It should be noted that the lower results were reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for lead (64%) and thallium (128%); and the final CRDL recoveries for lead (72%) and selenium (121%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained aluminum at 1.66 mg/kg, barium at 0.0402 mg/kg, cadmium at -0.048 mg/kg, chromium at 0.0815 mg/kg, potassium at 3.16 mg/kg, and sodium at 18.6 mg/kg. All positive sodium results were flagged "U, p" in the associated samples. Since all other results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Selenium was detected in one continuing calibration blank at 0.00608 mg/L. Aluminum and barium were also detected in the initial calibration blank (ICB) and/or continuing calibration blanks (CCBs) at low levels. Since all results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Several analytes were detected in the ICSA initial and final analyses at low levels. Six soil samples displayed iron concentrations greater than 50% of the iron concentration in ICSA samples. The positive cadmium results in samples SOIL-Q-16-0.5, SOIL-Q-19-0.5, SOIL-Q-20-0.5, and SOIL-Q-15-0.5 were flagged "J, n". Since all other affected results were either greater than five times the ICSA concentration or non-detects, no data flags were applied. The MS/MSD recoveries for antimony (57% and 62%), magnesium (155% and 130%), manganese (164% and 167%), and potassium (132%) were outside the control limit (i.e., 75%-125%) in one non-client MS/MSD pair. The post-digestion spike analysis was performed on samples SOIL-Q-16-0.5 (for ICP) and SOIL-Q-13-0.5 (for Hg) and recoveries were in control. Since the parent sample is not a client sample and the post-digestion spike met criteria, no data qualifying action was taken. The serial dilution %D was greater than the QC limit (i.e., 10%) for cobalt at 10.8%. Positive cobalt results were flagged "J, s" in all samples.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method with the exception of anomalies discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points, all data are usable, as qualified, for their intended purpose, based on the data reviewed.

Signed: _____

Table 6-105b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII61

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII61	SOIL-Q-13-0.5	Soil	Pesticides	4,4'-DDE	43	J,c	46
SAII61	SOIL-Q-13-0.5	Soil	Pesticides	4,4'-DDT	71	J,c	46
SAII61	SOIL-Q-13-0.5	Soil	Pesticides	alpha-Chlordane	14	J,c	24
SAII61	SOIL-Q-13-0.5	Soil	Pesticides	Endosulfan Sulfate	5.5	J,c	46
SAII61	SOIL-Q-13-0.5	Soil	Pesticides	Endrin Aldehyde	12	J,g	46
SAII61	SOIL-Q-13-0.5	Soil	Pesticides	Methoxychlor	240	UJ,c	240
SAII61	SOIL-Q-13-0.5	Soil	Herbicides	2,4-D	12	J,c	12
SAII61	SOIL-Q-13-0.5	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	600	J,c	2800
SAII61	SOIL-Q-13-0.5	Soil	Herbicides	MCPP	750	J,g	2800
SAII61	SOIL-Q-13-0.5	Soil	Metals	Cobalt	11	J,s	1.3
SAII61	SOIL-Q-13-0.5	Soil	Metals	Sodium	99	U,p	64.1
SAII61	SOIL-Q-14-0.5	Soil	Pesticides	4,4'-DDD	20	UJ,c	20
SAII61	SOIL-Q-14-0.5	Soil	Pesticides	4,4'-DDT	39	J,c	20
SAII61	SOIL-Q-14-0.5	Soil	Pesticides	Dieldrin	2.2	J,g	20
SAII61	SOIL-Q-14-0.5	Soil	Pesticides	Heptachlor Epoxide	12	J,g	10
SAII61	SOIL-Q-14-0.5	Soil	Pesticides	Methoxychlor	210	UJ,c	210
SAII61	SOIL-Q-14-0.5	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	3700	J,c	2400
SAII61	SOIL-Q-14-0.5	Soil	Herbicides	MCPP	1500	J,g	2400
SAII61	SOIL-Q-14-0.5	Soil	Metals	Cobalt	6.8	J,s	1.1
SAII61	SOIL-Q-14-0.5	Soil	Metals	Sodium	100	U,p	55.5
SAII61	SOIL-Q-15-0.5	Soil	Pesticides	4,4'-DDT	530	J,c	44
SAII61	SOIL-Q-15-0.5	Soil	Pesticides	alpha-Chlordane	3.9	J,c	23
SAII61	SOIL-Q-15-0.5	Soil	Pesticides	Endrin Aldehyde	17	J,g	44
SAII61	SOIL-Q-15-0.5	Soil	Pesticides	Methoxychlor	230	UJ,c	230
SAII61	SOIL-Q-15-0.5	Soil	Herbicides	2,4-D	8.7	J,c	11
SAII61	SOIL-Q-15-0.5	Soil	Herbicides	MCPP	1700	J,g	2700
SAII61	SOIL-Q-15-0.5	Soil	Herbicides	Pentachlorophenol	2.4	J,g	23
SAII61	SOIL-Q-15-0.5	Soil	Metals	Cadmium	1.9	J,n	0.68
SAII61	SOIL-Q-15-0.5	Soil	Metals	Cobalt	8.6	J,s	1.4
SAII61	SOIL-Q-15-0.5	Soil	Metals	Sodium	110	U,p	67.6
SAII61	SOIL-Q-16-0.5	Soil	VOCs	Acetone	150	J,c	61

Table 6-105b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII61

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII61	SOIL-Q-16-0.5	Soil	SVOCs	2,4-Dinitrophenol	2200	UJ,r	2200
SAII61	SOIL-Q-16-0.5	Soil	SVOCs	2,4-Dinitrotoluene	420	UJ,r	420
SAII61	SOIL-Q-16-0.5	Soil	SVOCs	2-Nitroaniline	2200	UJ,r	2200
SAII61	SOIL-Q-16-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	2200	UJ,r	2200
SAII61	SOIL-Q-16-0.5	Soil	SVOCs	4-Nitrophenol	2200	UJ,r	2200
SAII61	SOIL-Q-16-0.5	Soil	SVOCs	Dinoseb	420	UJ,r	420
SAII61	SOIL-Q-16-0.5	Soil	Pesticides	4,4'-DDT	5.1	J,c	4.2
SAII61	SOIL-Q-16-0.5	Soil	Pesticides	gamma-Chlordane	0.53	J,g	2.2
SAII61	SOIL-Q-16-0.5	Soil	Pesticides	Methoxychlor	22	UJ,c	22
SAII61	SOIL-Q-16-0.5	Soil	Herbicides	2,4-D	6.9	J,c	10
SAII61	SOIL-Q-16-0.5	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	1600	J,c	2500
SAII61	SOIL-Q-16-0.5	Soil	Herbicides	MCPP	2200	J,g	2500
SAII61	SOIL-Q-16-0.5	Soil	Metals	Cadmium	1	J,n	0.63
SAII61	SOIL-Q-16-0.5	Soil	Metals	Cobalt	6.8	J,s	1.3
SAII61	SOIL-Q-16-0.5	Soil	Metals	Sodium	100	U,p	63.3
SAII61	SOIL-Q-17-0.5	Soil	VOCs	Acetone	180	J,c	64
SAII61	SOIL-Q-17-0.5	Soil	SVOCs	2,4-Dinitrophenol	2100	UJ,r	2100
SAII61	SOIL-Q-17-0.5	Soil	SVOCs	2,4-Dinitrotoluene	400	UJ,r	400
SAII61	SOIL-Q-17-0.5	Soil	SVOCs	2-Nitroaniline	2100	UJ,r	2100
SAII61	SOIL-Q-17-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	2100	UJ,r	2100
SAII61	SOIL-Q-17-0.5	Soil	SVOCs	4-Nitrophenol	2100	UJ,r	2100
SAII61	SOIL-Q-17-0.5	Soil	SVOCs	Dinoseb	400	UJ,r	400
SAII61	SOIL-Q-17-0.5	Soil	Pesticides	4,4'-DDT	2.1	J,c	4
SAII61	SOIL-Q-17-0.5	Soil	Pesticides	Dieldrin	0.66	J,g	4
SAII61	SOIL-Q-17-0.5	Soil	Pesticides	Methoxychlor	21	UJ,c	21
SAII61	SOIL-Q-17-0.5	Soil	Herbicides	2,4-D	7.8	J,c	10
SAII61	SOIL-Q-17-0.5	Soil	Herbicides	Dichlorprop	6.1	J,g	120
SAII61	SOIL-Q-17-0.5	Soil	Herbicides	Pentachlorophenol	1.1	J,g	21
SAII61	SOIL-Q-17-0.5	Soil	Metals	Cobalt	5.2	J,c	1.1
SAII61	SOIL-Q-17-0.5	Soil	Metals	Sodium	78	U,p	55.5
SAII61	SOIL-Q-18-0.5	Soil	Pesticides	4,4'-DDD	3.8	UJ,c	3.8

Table 6-105b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII61

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII61	SOIL-Q-18-0.5	Soil	Pesticides	4,4'-DDT	38	UJ,m	38
SAII61	SOIL-Q-18-0.5	Soil	Pesticides	alpha-Chlordane	0.15	J,g	2
SAII61	SOIL-Q-18-0.5	Soil	Pesticides	Heptachlor Epoxide	0.23	J,g	2
SAII61	SOIL-Q-18-0.5	Soil	Herbicides	2,4-D	7.9	J,c	9.5
SAII61	SOIL-Q-18-0.5	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	720	J,c	2300
SAII61	SOIL-Q-18-0.5	Soil	Metals	Cobalt	5	J,s	1
SAII61	SOIL-Q-18-0.5	Soil	Metals	Sodium	78	U,p	52.3
SAII61	SOIL-Q-19-0.5	Soil	VOCs	Acetone	60	U,y	58
SAII61	SOIL-Q-19-0.5	Soil	SVOCs	2,4-Dinitrophenol	2200	UJ,r	2200
SAII61	SOIL-Q-19-0.5	Soil	SVOCs	2,4-Dinitrotoluene	420	UJ,r	420
SAII61	SOIL-Q-19-0.5	Soil	SVOCs	2-Nitroaniline	2200	UJ,r	2200
SAII61	SOIL-Q-19-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	2200	UJ,r	2200
SAII61	SOIL-Q-19-0.5	Soil	SVOCs	4-Nitrophenol	2200	UJ,r	2200
SAII61	SOIL-Q-19-0.5	Soil	SVOCs	Dinoseb	420	UJ,r	420
SAII61	SOIL-Q-19-0.5	Soil	Pesticides	4,4'-DDD	5.7	J,c	4.2
SAII61	SOIL-Q-19-0.5	Soil	Pesticides	4,4'-DDE	0.81	J,g	4.2
SAII61	SOIL-Q-19-0.5	Soil	Pesticides	4,4'-DDT	44	J,m	4.2
SAII61	SOIL-Q-19-0.5	Soil	Pesticides	Endrin Aldehyde	0.92	J,g	4.2
SAII61	SOIL-Q-19-0.5	Soil	Pesticides	Heptachlor Epoxide	0.5	J,g	2.2
SAII61	SOIL-Q-19-0.5	Soil	Herbicides	2,4-D	6.4	J,c	11
SAII61	SOIL-Q-19-0.5	Soil	Herbicides	Dichlorprop	6.2	J,g	130
SAII61	SOIL-Q-19-0.5	Soil	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2800	J,c	2600
SAII61	SOIL-Q-19-0.5	Soil	Herbicides	MCPP	2600	J,g	2600
SAII61	SOIL-Q-19-0.5	Soil	Metals	Cadmium	1	J,n	0.58
SAII61	SOIL-Q-19-0.5	Soil	Metals	Cobalt	6.8	J,s	1.2
SAII61	SOIL-Q-19-0.5	Soil	Metals	Sodium	110	U,p	58.3
SAII61	SOIL-Q-20-0.5	Soil	VOCs	Acetone	260	J,c	73
SAII61	SOIL-Q-20-0.5	Soil	SVOCs	2,4-Dinitrophenol	2200	UJ,r	2200
SAII61	SOIL-Q-20-0.5	Soil	SVOCs	2,4-Dinitrotoluene	430	UJ,r	430
SAII61	SOIL-Q-20-0.5	Soil	SVOCs	2-Nitroaniline	2200	UJ,r	2200
SAII61	SOIL-Q-20-0.5	Soil	SVOCs	4,6-Dinitro-2-methylphenol	2200	UJ,r	2200

Table 6-105b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII61

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII61	SOIL-Q-20-0.5	Soil	SVOCs	4-Nitrophenol	2200	UJ,r	2200
SAII61	SOIL-Q-20-0.5	Soil	SVOCs	Dinoseb	430	UJ,r	430
SAII61	SOIL-Q-20-0.5	Soil	Pesticides	4,4'-DDD	1.2	J,c	4.3
SAII61	SOIL-Q-20-0.5	Soil	Pesticides	4,4'-DDT	43	UJ,m	43
SAII61	SOIL-Q-20-0.5	Soil	Pesticides	Dieldrin	0.41	J,g	4.3
SAII61	SOIL-Q-20-0.5	Soil	Pesticides	Endrin Ketone	0.52	J,g	4.3
SAII61	SOIL-Q-20-0.5	Soil	Pesticides	Heptachlor Epoxide	0.57	J,g	2.2
SAII61	SOIL-Q-20-0.5	Soil	Herbicides	2,4-D	14	J,c	11
SAII61	SOIL-Q-20-0.5	Soil	Herbicides	MCPP	3100	J,g	2600
SAII61	SOIL-Q-20-0.5	Soil	Metals	Cadmium	1.6	J,n	0.66
SAII61	SOIL-Q-20-0.5	Soil	Metals	Cobalt	8.4	J,s	1.3
SAII61	SOIL-Q-20-0.5	Soil	Metals	Sodium	100	U,p	65.8

Table 6-106a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII62

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII62	LEACH-Q-1		2/5/03	Leachate			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII62_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____March 19, 2003_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, the LCS recoveries for chloromethane (22%) and vinyl chloride (32%) were less than the lower control limit in one laboratory control sample (1B0214MB). The positive chloromethane result in sample LEACH-Q-1 was flagged "J, l". All non-detected results for these two compounds in the associated samples were flagged "R, l".

For the SVOC analyses, the LCS recovery for indeno(1,2,3-cd)pyrene (36%) was less than the lower control limit (i.e., 37%) in one laboratory control sample (0212B-MB). This compound was not detected in sample LEACH-Q-1 and the non-detected result was flagged "R, l".

Minor Anomalies: For the VOC analyses, the continuing calibration verification (CCV) analyzed on 2/18/03 at 10:40 displayed a %D greater than the control limit (i.e., 20%) for bromomethane at -50.6%. This compound also displayed a relative response factor (RRF) less than the control limit (i.e. 0.05) at 0.03953. Since the associated samples are QC samples (MS and MSD) and MS/MSD percent recoveries for bromomethane were in control, no data qualifying action was taken.

For the SVOC analyses, the initial calibration analyzed on 2/14/03 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9884. 2,4-Dinitrophenol was not detected in sample LEACH-Q-1 and the non-detect result was flagged "UJ, r". Due to the level of target compounds presented in sample LEACH-Q-1, this sample and the designated matrix spike and matrix spike duplicate samples (MS/MSD) were analyzed at a 200X dilution and all surrogates and MS/MSD spiking compounds were not recovered (0%). No data qualifying action was taken since surrogates and spiking compounds are expected to be diluted out at a 200X dilution. The 2,4-dichlorophenol result in sample LEACH-Q-1 exceeded the linear range of the calibration curve. This sample was diluted by a factor of 2000 and reanalyzed by the laboratory. The 2,4-dichloro-phenol result from the dilution analysis should be used for data interpretation.

For the pesticides analyses, the %Ds for methoxychlor (-21.2% and -23.1%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 2/17/03 at 10:29. Methoxychlor was not detected in sample LEACH-Q-1 and the non-detect result was flagged "UJ, c". Due to the level of target compounds presented in sample LEACH-Q-1, this sample and the designated matrix spike and matrix spike duplicate samples (MS/MSD) were analyzed at a 100X dilution and all surrogates and MS/MSD spiking compounds were not recovered (0%). No data qualifying action was taken since surrogates and spiking compounds are expected to be diluted out at a 100X dilution. Sample LEACH-Q-1 (245.8%) and their designated MS/MSD samples (224.1% and 236.2%) displayed internal standard %Rs for bromonitrobenzene greater than the upper control limit (i.e., 150%). Positive results in sample LEACH-Q-1 were flagged "J, n". Since MS/MSD samples are QC samples, no data qualifying action was taken.

For the PCB analyses, the MS/MSD recoveries for dichlorobiphenyl (1.4% and 0%) were less than the lower control limits in the LEACH-Q-1 MS/MSD pair. The positive dichlorobiphenyl result in sample LEACH-Q-1 was flagged "J, m'. Sample LEACH-Q-1MSD displayed internal standard %Rs for phenanthrene-d10 (48.1%) and chrysene-d12 (64.3%) less than the lower control limit (i.e., 70%). Since this sample is a QC sample, no data qualifying action was taken.

For the herbicide analyses, the %Ds for MCPA (-17.3% and -23.6%) on both columns were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 2/27/03 at 07:56. MCPA was not detected in sample LEACH-Q-1 and the non-detect result was flagged "UJ, c". Due to the level of target compounds presented in sample LEACH-Q-1, this sample and the designated matrix spike and matrix spike duplicate samples (MS/MSD) were analyzed at a 50,000X dilution and all surrogates and MS/MSD spiking compounds were not recovered (0%). No data qualifying action was taken since surrogates and spiking compounds are expected to be diluted out at a 50,000X dilution.

For the metal analyses, the initial CRDL percent recovery for iron (76%), lead (76%), thallium (74%), and mercury (78%) and the final CRDL recoveries for iron (61%) and thallium (79%) were less than the lower control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken.

The preparation blank displayed a positive detection for calcium at 0.01284 mg/L and a negative detection for thallium at -0.0038 mg/L. Calcium was also detected in one continuing calibration blank (CCB5) at 0.01007 mg/L. Since calcium result in sample LEACH-Q-1 was greater than five times the blank concentration; no data qualifying action was taken. Thallium was not detected in sample LEACH-Q-1 and the non-detect result was flagged "UJ, p" due to the possibility

of a negative drift in the instrument that may give rise to a detection limit with a low bias. Antimony was detected in CCB5 at -0.00518 mg/L. Mercury was detected in the initial calibration blank at -0.000104 mg/L and CCB6 at -0.000081 mg/L. The positive antimony result was flagged "J, o" and the mercury non-detect result was flagged "UJ, o" in sample LEACH-Q-1 due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Arsenic was detected in CCB5 at 0.00309 mg/L. Copper was detected in CCB4 at 0.00095 mg/L. Positive arsenic and copper results in sample LEACH-Q-1 were flagged "U, o" at the reporting limit. Barium, manganese, and vanadium were also detected in CCBs at low levels. Since these results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken.

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, most of the samples were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____
Jason Ai

Table 6-106b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII62

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII62	LEACH-Q-1	Leachate	VOCs	Chloromethane	9.2	J,1	20
SAII62	LEACH-Q-1	Leachate	VOCs	Vinyl chloride	20	R,1	20
SAII62	LEACH-Q-1	Leachate	SVOCs	2,4-Dinitrophenol	10000	uJ,r	10000
SAII62	LEACH-Q-1	Leachate	SVOCs	Indeno(1,2,3-cd)pyrene	2000	R,1	2000
SAII62	LEACH-Q-1	Leachate	PCBs	Dichlorobiphenyl	0.21	J,m	1
SAII62	LEACH-Q-1	Leachate	Pesticides	beta-BHC	17	J,n	5
SAII62	LEACH-Q-1	Leachate	Pesticides	Methoxychlor	50	UJ,c	50
SAII62	LEACH-Q-1	Leachate	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	6000000	UJ,c	6000000
SAII62	LEACH-Q-1	Leachate	Metals	Antimony	0.012	J,o	0.02
SAII62	LEACH-Q-1	Leachate	Metals	Arsenic	0.01	U,o	0.01
SAII62	LEACH-Q-1	Leachate	Metals	Copper	0.02	U,o	0.02
SAII62	LEACH-Q-1	Leachate	Metals	Mercury	0.0002	UJ,o	0.0002
SAII62	LEACH-Q-1	Leachate	Metals	Thallium	0.01	UJ,p	0.01

Table 6-107a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII63

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII63	BDRK-O-1	2/11/03	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII63	BDRK-O-1-DUP	2/11/03	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII63	BDRK-P-1	2/11/03	Groundwater			X					X		X	X	X	X	X	X	
SAII63	BDRK-Q-1	2/10/03	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII63	BDRK-R-1	2/10/03	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII63	BDRK-S-1	2/11/03	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SAII63_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____March 19, 2003_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the VOC analyses, the LCS recoveries for chloromethane (22%) and vinyl chloride (32%) were less than the lower control limit in one laboratory control sample (1B0214MB). Chloromethane and vinyl chloride were not detected in the associated samples and non-detected results were flagged "R, l".

For the SVOC analyses, the LCS recovery for indeno(1,2,3-cd)pyrene (36%) was less than the lower control limit (i.e., 37%) in one laboratory control sample (0212B-MB). This compound was not detected in samples BDRK-Q-1 and BDRK-R-1 and non-detected results were flagged "R, l".

Minor Anomalies: For the VOC analyses, the continuing calibration verification (CCV) analyzed on 2/17/03 at 1148 displayed a negative %D greater than the control limit (i.e., ±20%) for bromomethane at -25.4%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the SVOC analyses, the initial calibration analyzed on 2/14/03 displayed a correlation coefficient less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9884. 2,4-Dinitrophenol was not detected in the associated samples and non-detect results were flagged "UJ, r". Due to the level of target compounds presented in sample LEACH-Q-1 (in SDG: SAII62), this sample and the designated matrix spike and matrix spike duplicate samples (MS/MSD) were analyzed at a 200X dilution. Since spiking compounds are expected to be diluted out at a 200X dilution and the matrix of parent sample (leachate) is different than the matrix of associated batch samples BDRK-Q-1 and BDRK-R-1, no data qualifying action was taken. All %Rs and RPDs were in control in the BDRK-Q-2 MS/MSD pair (in SDG: SAII64). Since the matrix of parent sample (BDRK-Q-2) has the same matrix as the samples in this SDG, all SVOC data should be acceptable for data interpretation.

For the pesticides analyses, the %Ds for methoxychlor (16.1%) on the primary column (RTX CLP) and for 4,4'-DDD (-21.6%), endosulfan II (-20.7%), 4,4'-

DDT (-17.1%), endrin aldehyde (-20.3), endosulfan sulfate (-18.0%), and endrin ketone (-18.6%) on the confirmation column (RTX CLP2) were greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 2/14/03 at 0949. The %Ds for endosulfan I (16.3%), 4,4'-DDD (19.9%), and endrin ketone (23.0%) on the primary column and for 4,4'-DDT (-16.3%) and methoxychlor (-16.4%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 2/20/03 at 0918. The %Ds for endosulfan I (16.6%) and endrin ketone (22.5%) on the primary column were greater than the criterion for the continuing calibration analyzed on 2/20/03 at 1725. These compounds were not detected in the associated samples. Since these outliers had an acceptable %D on the alternate column, no data qualifying action was taken. The decachlorobiphenyl (DCBP) surrogate recoveries in sample BDRK-R-1 (13% and 11%) were less than the lower control limit (i.e., 30%). No target compounds were detected in this sample and non-detects were flagged "UJ, s". The DCBP surrogate recovery on the confirmation column in sample BDRK-S-1 (28%) was less than the lower control limit. Since all other surrogate recoveries in sample BDRK-S-1 were in control, no data qualifying action was taken.

For the PCB analyses, the MS/MSD recoveries for dichlorobiphenyl (1.4% and 0%) were less than the lower control limits in the LEACH-Q-1 MS/MSD pair. Since the matrix of parent sample (leachate) is different than the matrix of associated batch samples BDRK-Q-1 and BDRK-R-1, no data qualifying action was taken. All %Rs and RPDs were in control in the BDRK-Q-2 MS/MSD pair (in SDG: SAII64). Since the matrix of parent sample BDRK-Q-2 has the same matrix as the samples in this SDG, all PCB data should be acceptable for data interpretation.

For the herbicide analyses, the %D for 2,4-DB (-19.8%) on the confirmation column was greater than the criterion (i.e., %D ≤ 15%) for the continuing calibration analyzed on 2/17/03 at 1159. The %D for 2,4,5-T (-16.0%) on the confirmation column was greater than the criterion for the continuing calibration analyzed on 2/17/03 at 2126. Positive 2,4,5-T results were flagged "J, c" in the associated samples. 2,4-DB was not detected in the associated samples. Since 2,4-DB had an acceptable %D on the alternate column, no data qualifying action was taken. The LCSD percent recovery for 2,4,5-TP was greater than the upper control limit (i.e., 100%) in the LCS/LCSD pair at 110%. The positive 2,4,5-TP result in sample BDRK-Q-1 was flagged "J, l".

For the metal analyses, the initial CRDL percent recovery for iron (76%), lead (76%), thallium (74%), and mercury (72%) and the final CRDL recoveries for iron (61%) and thallium (79%) were less than the lower control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank displayed a positive detection for calcium at 0.01284 mg/L and a negative detection for thallium at -0.0038 mg/L. Calcium was also detected in four continuing calibration blanks at

concentrations ranging from 0.00868 mg/L to 0.02587 mg/L. Since calcium results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. Thallium was not detected in the associated samples and non-detect results were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Antimony was detected in CCB5 at -0.00518 mg/L. Mercury was detected in the initial calibration blank at -0.000116 mg/L, CCB2 at -0.00011 mg/L, and CCB5 at -0.000078 mg/L. Antimony and mercury were not detected in the associated samples and non-detect results were flagged "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Arsenic was detected in CCB5 at 0.00309 mg/L. Vanadium was detected in CCB5 at 0.00108 mg/L. Positive arsenic and vanadium results in the associated samples were flagged "U, o" for results greater than the reporting limit or "U, o" at the reporting limit for results less than the reporting limit. Aluminum, barium, and manganese were also detected in CCBs at low levels. Since these results in the associated samples were greater than five times the blank concentration; no data qualifying action was taken. The field duplicates displayed a %RPD greater than the control limit (i.e., 50%) for iron at 53.6%. Affected iron results were flagged "J, f".

For the methane analyses, the correlation coefficient for the initial calibration analyzed 1/17/03 was less than the QC limit (i.e., 0.990) for methane at 0.9870 on the flame ionization detector (FID). Positive methane results reported from the FID were flagged "J, r" in the associated samples. The field duplicates displayed a RPD greater than the control limit (i.e., 50%) for methane at 112.7%. Since all methane results were previously flagged due to other QC failure, no additional data flags were applied.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____
Jason Ai

Table 6-107b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII63

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII63	BDRK-O-1	Groundwater	VOCs	Chloromethane	1	R,l	1
SAII63	BDRK-O-1	Groundwater	VOCs	Vinyl chloride	1	R,l	1
SAII63	BDRK-O-1	Groundwater	Methane	Methane	43	J,r	0.19
SAII63	BDRK-O-1	Groundwater	Metals	Antimony	0.02	UJ,o	0.02
SAII63	BDRK-O-1	Groundwater	Metals	Arsenic	0.01	U,o	0.01
SAII63	BDRK-O-1	Groundwater	Metals	Iron	0.71	J,f	0.05
SAII63	BDRK-O-1	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII63	BDRK-O-1	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII63	BDRK-O-1	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII63	BDRK-O-1-DUP	Groundwater	VOCs	Chloromethane	1	R,l	1
SAII63	BDRK-O-1-DUP	Groundwater	VOCs	Vinyl chloride	1	R,l	1
SAII63	BDRK-O-1-DUP	Groundwater	Herbicides	2,4,5-T	0.041	J,c	0.5
SAII63	BDRK-O-1-DUP	Groundwater	Methane	Methane	12	J,r	0.19
SAII63	BDRK-O-1-DUP	Groundwater	Metals	Antimony	0.02	UJ,o	0.02
SAII63	BDRK-O-1-DUP	Groundwater	Metals	Iron	0.41	J,f	0.05
SAII63	BDRK-O-1-DUP	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII63	BDRK-O-1-DUP	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII63	BDRK-O-1-DUP	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII63	BDRK-P-1	Groundwater	VOCs	Chloromethane	1	R,l	1
SAII63	BDRK-P-1	Groundwater	VOCs	Vinyl chloride	1	R,l	1
SAII63	BDRK-P-1	Groundwater	Methane	Methane	11	J,r	0.19
SAII63	BDRK-P-1	Groundwater	Metals	Iron	30	J,f	0.05
SAII63	BDRK-P-1	Groundwater	Metals	Mercury	0.00011	J,o	0.0002
SAII63	BDRK-P-1	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII63	BDRK-Q-1	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII63	BDRK-Q-1	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	R,l	10
SAII63	BDRK-Q-1	Groundwater	Herbicides	2,4,5-T	0.11	J,c	0.5
SAII63	BDRK-Q-1	Groundwater	Herbicides	2,4,5-TP (Silvex)	0.15	J,l	0.5
SAII63	BDRK-Q-1	Groundwater	Methane	Methane	18	J,r	0.19
SAII63	BDRK-Q-1	Groundwater	Metals	Antimony	0.02	UJ,o	0.02
SAII63	BDRK-Q-1	Groundwater	Metals	Iron	0.23	J,f	0.05

Table 6-107b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII63

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII63	BDRK-Q-1	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII63	BDRK-Q-1	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII63	BDRK-Q-1	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII63	BDRK-R-1	Groundwater	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SAII63	BDRK-R-1	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	R,l	10
SAII63	BDRK-R-1	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII63	BDRK-R-1	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII63	BDRK-R-1	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII63	BDRK-R-1	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII63	BDRK-R-1	Groundwater	Herbicides	2,4,5-T	0.064	J,c	0.5
SAII63	BDRK-R-1	Groundwater	Methane	Methane	6.8	J,r	0.19
SAII63	BDRK-R-1	Groundwater	Metals	Antimony	0.02	UJ,o	0.02
SAII63	BDRK-R-1	Groundwater	Metals	Arsenic	0.011	U,o	0.01
SAII63	BDRK-R-1	Groundwater	Metals	Iron	0.8	J,f	0.05

Table 6-107b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII63

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII63	BDRK-R-1	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII63	BDRK-R-1	Groundwater	Metals	Thallium	0.0043	J,p	0.01
SAII63	BDRK-R-1	Groundwater	Metals	Vanadium	0.01	U,o	0.01
SAII63	BDRK-S-1	Groundwater	VOCs	Chloromethane	1	R,l	1
SAII63	BDRK-S-1	Groundwater	VOCs	Vinyl chloride	1	R,l	1
SAII63	BDRK-S-1	Groundwater	Methane	Methane	6.9	J,r	0.19
SAII63	BDRK-S-1	Groundwater	Metals	Iron	1.4	J,f	0.05
SAII63	BDRK-S-1	Groundwater	Metals	Mercury	0.0002	UJ,o	0.0002
SAII63	BDRK-S-1	Groundwater	Metals	Thallium	0.01	UJ,p	0.01

Table 6-108a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SAII64

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SAII64	BDRK-P-1	2/11/03	Groundwater				X	X	X	X									
SAII64	BDRK-Q-2	2/13/03	Groundwater			X	X	X	X	X	X		X	X	X	X	X	X	
SAII64	LEACH-R-1	2/12/03	Leachate			X	X	X	X	X	X						X		
SAII64	LEACH-R-1-DUP	2/12/03	Leachate			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SAII64_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Methane, Wet Chem._____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____March 28, 2003_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the SVOC analyses, the terphenyl-d14 surrogate recovery was less than the lower control limit (i.e., 14%) in sample BDRK-P-1 at 8%. All base/neutral results were flagged "R, s". This sample was not re-extracted and re-analyzed by the laboratory. This percent completeness was less than the control limit (i.e., 95%) at 80.4%.

Minor Anomalies: For the VOC analyses, the continuing calibration verification (CCV) analyzed on 2/25/03 at 1959 displayed negative %Ds greater than the control limit (i.e., ±20%) for bromomethane at -74.4%, chloroethane at -76.2%, acetone at -23.0%, 2-butanone at -20.6%, and bromoform at -25.2%. Bromomethane and chloroethane were not detected in the associated samples and non-detect results were flagged "UJ, c". Positive acetone and 2-butanone results were flagged "J, c" in the associated samples. Since %D failures for acetone, 2-butanone, and bromoform were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the SVOC analyses, the CCV analyzed on 3/3/03 at 0812 displayed %Ds greater than the control limit (i.e., 20%) for 4,6-dinitro-2-methylphenol at 26.6%, 4-bromophenyl-phenylether at 20.7%, and benzo(k)fluoranthene at -26.9%. Since these three compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. Due to the level of target compounds presented in samples LEACH-R-1 and LEACH-R-1-DUP, these two samples were analyzed at 20X and 400X dilutions and all surrogates were not recovered (0%). Since surrogates are expected to be diluted out at 20X dilution or higher, no data qualifying action was taken. The phenol result in sample LEACH-R-1 and phenol and 4-chloroaniline results in sample LEACH-R-1-DUP exceeded the linear range of the calibration curve. These results were flagged "J, q". These samples were diluted and reanalyzed by the laboratory. The 4-chloroaniline and/or phenol results from the dilution analysis should be used for data interpretation. The field duplicates displayed %RPDs greater than the control limit (i.e., 50% or 2X the reporting limit) for 2-chlorophenol, 4-chloroaniline, dimethylphthalate, 4-nitro-

aniline, diethylphthalate, and butylbenzylphthalate. Affected results, except those previously flagged due to other QC failure, were flagged "J, f" or "UJ, f" in samples LEACH-R-1 and LEACH-R-1-DUP.

For the pesticides analyses, the %Ds for endosulfan I (16.3%), 4,4'-DDD (19.9%), and endrin ketone (23.0%) on the primary column and for 4,4'-DDT (-16.3%) and methoxychlor (-16.4%) on the confirmation column were greater than the criterion (i.e., 15%) for the continuing calibration analyzed on 2/20/03 at 0918. The %Ds for endosulfan I (16.6%) and endrin ketone (22.5%) on the primary column were greater than the criterion for the continuing calibration analyzed on 2/20/03 at 1725. The %Ds for endosulfan I (15.9%), 4,4'-DDD (26.1%), and endrin ketone (19.0%) on the primary column and for 4,4'-DDT (-20.9%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 2/21/03 at 1140. The %Ds for endosulfan I (15.9%), 4,4'-DDD (16.3%), and endrin ketone (22.3%) on the primary column and for 4,4'-DDT (-18.5%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 2/21/03 at 1656. The %Ds for 4,4'-DDE (17.4%) and 4,4'-DDD (16.8%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 2/26/03 at 2301. Since these compounds were not detected in the associated samples and had an acceptable %D on the alternate column, no data qualifying action was taken. The surrogate recoveries for decachlorobiphenyl in sample BDRK-P-1 (17% and 16%) were less than the lower control limit (i.e., 30%). Positive detections in sample BDRK-P-1 were flagged "J, s" and non-detects were flagged "UJ, s". The LCS recovery (44%) and RPD (69%) for gamma-chlordane were outside the acceptance limit in the LCS/LCSD pair. Since the LCSD recovery for this compound was in control, the gamma-chlordane result in sample BDRK-P-1 was not rejected based on reviewer's professional judgment. No further data qualifying action was taken since this result was previously flagged due to surrogate recovery failure. The RPD between primary and confirmation columns was greater than the acceptance limit (i.e., <40%) for endrin aldehyde in sample BDRK-P-1 at 186.4%. Since this result was previously flagged due to surrogate recovery failure, no further data qualifying action was taken. It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low. Due to matrix interference, sample LEACH-R-1 was analyzed at a 200X dilution and sample LEACH-R-1-DUP was analyzed at a 50,000X dilution. No target compounds were detected in these two samples. Field precision cannot be evaluated for pesticide analysis.

For the PCB analyses, the trichlorobiphenyl result in sample LEACH-R-1-DUP exceeded the linear range of the calibration curve. This result was flagged "J, q". This sample was diluted and reanalyzed by the laboratory. The trichlorobiphenyl result from the dilution analysis should be used for data interpretation. Sample LEACH-R-1 was analyzed at a 10X dilution and sample LEACH-R-1-DUP was analyzed at 100X and 200X dilution. No target compounds were detected in

sample LEACH-R-1. The field duplicates displayed absolute differences greater than the control limit (i.e., 2X the reporting limit) for all target compounds. Affected results, except those previously flagged due to other QC failure, were flagged "J, f" or "UJ, f" in samples LEACH-R-1 and LEACH-R-1-DUP.

For the herbicide analyses, the %Ds for dalapon (31.3%), dicamba (30.4%), dichlorprop (23.0%), 2,4-D (28.5%), pentachlorophenol (21.9%), 2,4,5-TP (27.3%), 2,4,5-T (28.0%), 2,4-DB (31.8%), dinoseb (18.3%), and surrogate 2,4-DCAA (29.0%) on the primary column were greater than the criterion (i.e., %D $\leq$ 15%) for the continuing calibration analyzed on 2/25/03 at 1042. Since associated samples are QC samples, no data qualifying action was taken. The %Ds for MCPA (-17.3% and -23.6%) on both columns were greater than the criterion for the continuing calibration analyzed on 2/27/03 at 0756. MCPA was not detected in the associated samples and non-detect results were flagged "UJ, c". The MS/MSD percent recoveries for dalapon (110% and 115%) and 2,4,5-TP (110% and 120%) were greater than the upper control limit in the BDRK-Q-2 MS/MSD pair. Since these two compounds were not detected in the associated samples, no data qualifying action was taken. Sample LEACH-R-1 was analyzed at a 100X dilution and sample LEACH-R-1-DUP was analyzed at a 250X dilution. No target compounds were detected in these two samples.

For the metal analyses, the initial CRDL percent recovery for arsenic (122%), iron (78%), and lead (76%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank displayed positive detections for calcium at 0.02325 mg/L and copper at 0.0010 mg/L and negative detections for aluminum at -0.03872 mg/L and thallium at -0.00674 mg/L. Copper was also detected in four continuing calibration blanks at concentrations ranging from 0.00185 mg/L to 0.00249 mg/L. Positive copper results in the associated samples were flagged "U, p" at the reporting limit. Aluminum and thallium were also detected in the initial calibration blank (ICB) and continuing calibration blanks (CCBs) at low levels. The aluminum result was flagged "J, p" and the thallium result was flagged "UJ, p" in sample BDRK-Q-2 due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Aluminum results in other associated samples were greater than five times the absolute blank concentration, no data qualifying action was taken. Thallium was not detected in samples LEACH-R-1 and LEACH-R-1-DUP. Since the thallium reporting limits (0.10 mg/L) in these two samples were much higher than the action level (0.034 mg/L), no data qualifying action was taken. Manganese was detected in CCB4 at 0.00178 mg/L and CCB5 at 0.00323 mg/L. The positive manganese result in sample BDRK-Q-2 was flagged "U, o" at the reporting limit. Mercury was detected in CCB3 at 0.000084 mg/L and CCB5 at 0.000078 mg/L. Positive mercury results in samples LEACH-R-1 and LEACH-R-1-DUP were flagged "U, o". Barium, chromium, nickel, selenium, and vanadium were also detected in CCBs at low levels. Since these results in the associated samples were either

greater than five times the blank concentration or non-detect; no data qualifying action was taken.

For the methane analyses, the correlation coefficient for the initial calibration analyzed 1/17/03 was less than the QC limit (i.e., 0.990) for methane at 0.9870 on the flame ionization detector (FID). Positive methane results reported from the FID were flagged "J, r" in the associated samples.

For the wet chemistry analyses, the MS/MSD percent recoveries for sulfate (144% and 150%) were greater than the upper control limit in the BDRK-Q-2 MS/MSD pair. Since sulfate was not detected in the associated samples, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: Due to the abundance of target compounds, samples LEACH-R-1 and LEACH-R-1-DUP were analyzed at dilutions for all organic analyses. Therefore, the reporting limits were raised.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____
Jason Ai

Table 6-108b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII64

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII64	BDRK-P-1	Groundwater	SVOCs	1,2,4-Trichlorobenzene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	1,2-Dichlorobenzene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	1,3-Dichlorobenzene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	1,4-Dichlorobenzene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	2,4-Dinitrotoluene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	2,6-Dinitrotoluene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	2-Chloronaphthalene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	2-Methylnaphthalene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	2-Nitroaniline	50	R,s	50
SAII64	BDRK-P-1	Groundwater	SVOCs	3,3'-Dichlorobenzidine	20	R,s	20
SAII64	BDRK-P-1	Groundwater	SVOCs	3-Nitroaniline	50	R,s	50
SAII64	BDRK-P-1	Groundwater	SVOCs	4-Bromophenyl Phenyl Ether	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	4-Chlorophenyl Phenyl Ether	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Acenaphthene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Acenaphthylene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Anthracene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Benzo(a)anthracene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Benzo(a)pyrene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Benzo(b)fluoranthene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Benzo(g,h,i)perylene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Benzo(k)fluoranthene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Benzyl Butyl Phthalate	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	bis(2-Chloroethoxy)methane	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	bis(2-Chloroethyl)ether	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	bis(2-Ethylhexyl)phthalate	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Carbazole	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Chrysene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Dibenzo(a,h)anthracene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Dibenzofuran	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Diethyl Phthalate	10	R,s	10

Table 6-108b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII64

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII64	BDRK-P-1	Groundwater	SVOCs	Dimethyl Phthalate	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Di-n-butylphthalate	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Di-n-octylphthalate	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Dinoseb	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Fluoranthene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Fluorene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Hexachlorobenzene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Hexachlorobutadiene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Hexachlorocyclopentadiene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Hexachloroethane	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Indeno(1,2,3-cd)pyrene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Isophorone	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Naphthalene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	Nitrobenzene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	N-Nitroso-di-n-propylamine	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	N-Nitrosodiphenylamine	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	P-Chloroaniline	20	R,s	20
SAII64	BDRK-P-1	Groundwater	SVOCs	Phenanthrene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	SVOCs	P-Nitroaniline	50	R,s	50
SAII64	BDRK-P-1	Groundwater	SVOCs	Pyrene	10	R,s	10
SAII64	BDRK-P-1	Groundwater	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	Aldrin	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	alpha-BHC	0.024	J,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	beta-BHC	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	delta-BHC	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	Dieldrin	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	Endosulfan II	0.1	UJ,s	0.1

Table 6-108b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII64

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII64	BDRK-P-1	Groundwater	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	Endrin	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	Endrin Aldehyde	0.013	J,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SAII64	BDRK-P-1	Groundwater	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	Heptachlor	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SAII64	BDRK-P-1	Groundwater	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SAII64	BDRK-P-1	Groundwater	Pesticides	Toxaphene	5	UJ,s	5
SAII64	BDRK-P-1	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII64	BDRK-Q-2	Groundwater	VOCs	1,1-Dichloroethylene	1	UJ,c	1
SAII64	BDRK-Q-2	Groundwater	VOCs	2-Butanone (MEK)	2.9	J,c	10
SAII64	BDRK-Q-2	Groundwater	VOCs	Chloroethane	1	UJ,c	1
SAII64	BDRK-Q-2	Groundwater	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	120	UJ,c	120
SAII64	BDRK-Q-2	Groundwater	Methane	Methane	16	J,r	0.19
SAII64	BDRK-Q-2	Groundwater	Metals	Aluminum	0.036	J,p	0.2
SAII64	BDRK-Q-2	Groundwater	Metals	Copper	0.02	U,p	0.02
SAII64	BDRK-Q-2	Groundwater	Metals	Manganese	0.01	U,o	0.01
SAII64	BDRK-Q-2	Groundwater	Metals	Thallium	0.01	UJ,p	0.01
SAII64	LEACH-R-1	Leachate	VOCs	2-Butanone (MEK)	10000	J,c	20000
SAII64	LEACH-R-1	Leachate	VOCs	Acetone	45000	J,c	50000
SAII64	LEACH-R-1	Leachate	VOCs	Bromomethane	2000	UJ,c	2000
SAII64	LEACH-R-1	Leachate	VOCs	Chloroethane	2000	UJ,c	2000
SAII64	LEACH-R-1	Leachate	SVOCs	2-Chlorophenol	10000	J,f	4000
SAII64	LEACH-R-1	Leachate	SVOCs	Benzyl Butyl Phthalate	4000	UJ,f	4000
SAII64	LEACH-R-1	Leachate	SVOCs	Diethyl Phthalate	4000	UJ,f	4000
SAII64	LEACH-R-1	Leachate	SVOCs	Dimethyl Phthalate	3000	J,f	4000
SAII64	LEACH-R-1	Leachate	SVOCs	P-Chloroaniline	47000	J,f	8000
SAII64	LEACH-R-1	Leachate	SVOCs	P-Nitroaniline	26000	J,f	20000
SAII64	LEACH-R-1	Leachate	PCBs	Decachlorobiphenyl	110	UJ,f	110

Table 6-108b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII64

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII64	LEACH-R-1	Leachate	PCBs	Dichlorobiphenyl	22	UJ,f	22
SAII64	LEACH-R-1	Leachate	PCBs	Heptachlorobiphenyl	65	UJ,f	65
SAII64	LEACH-R-1	Leachate	PCBs	Hexachlorobiphenyl	43	UJ,f	43
SAII64	LEACH-R-1	Leachate	PCBs	Monochlorobiphenyl	22	UJ,f	22
SAII64	LEACH-R-1	Leachate	PCBs	Nonachlorobiphenyl	110	UJ,f	110
SAII64	LEACH-R-1	Leachate	PCBs	Octachlorobiphenyl	65	UJ,f	65
SAII64	LEACH-R-1	Leachate	PCBs	Pentachlorobiphenyl	43	UJ,f	43
SAII64	LEACH-R-1	Leachate	PCBs	Tetrachlorobiphenyl	43	UJ,f	43
SAII64	LEACH-R-1	Leachate	PCBs	Trichlorobiphenyl	22	UJ,f	22
SAII64	LEACH-R-1	Leachate	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	12000	UJ,c	12000
SAII64	LEACH-R-1	Leachate	Metals	Copper	0.02	U,p	0.02
SAII64	LEACH-R-1	Leachate	Metals	Mercury	0.00029	U,o	0.0002
SAII64	LEACH-R-1-DUP	Leachate	VOCs	2-Butanone (MEK)	8500	J,c	10000
SAII64	LEACH-R-1-DUP	Leachate	VOCs	Acetone	37000	J,c	25000
SAII64	LEACH-R-1-DUP	Leachate	VOCs	Bromomethane	1000	UJ,c	1000
SAII64	LEACH-R-1-DUP	Leachate	VOCs	Chloroethane	1000	UJ,c	1000
SAII64	LEACH-R-1-DUP	Leachate	SVOCs	2-Chlorophenol	24000	J,f	4000
SAII64	LEACH-R-1-DUP	Leachate	SVOCs	Benzyl Butyl Phthalate	12000	J,f	4000
SAII64	LEACH-R-1-DUP	Leachate	SVOCs	Diethyl Phthalate	29000	J,f	4000
SAII64	LEACH-R-1-DUP	Leachate	SVOCs	Dimethyl Phthalate	15000	J,f	4000
SAII64	LEACH-R-1-DUP	Leachate	SVOCs	P-Chloroaniline	150000	J,f	160000
SAII64	LEACH-R-1-DUP	Leachate	SVOCs	P-Nitroaniline	78000	J,f	20000
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Decachlorobiphenyl	270	J,f	1000
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Dichlorobiphenyl	7900	J,f	200
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Heptachlorobiphenyl	5200	J,f	600
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Hexachlorobiphenyl	21000	J,f	400
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Monochlorobiphenyl	1100	J,f	200
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Nonachlorobiphenyl	240	J,f	1000
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Octachlorobiphenyl	960	J,f	600
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Pentachlorobiphenyl	50000	J,f	400
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Tetrachlorobiphenyl	57000	J,f	400

Table 6-108b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SAII64

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SAII64	LEACH-R-1-DUP	Leachate	PCBs	Trichlorobiphenyl	31000	J,f	400
SAII64	LEACH-R-1-DUP	Leachate	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	30000	UJ,c	30000
SAII64	LEACH-R-1-DUP	Leachate	Metals	Copper	0.02	U,p	0.02
SAII64	LEACH-R-1-DUP	Leachate	Metals	Mercury	0.00029	U,o	0.0002

Table 6-109a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB04	R6AD1S	11/6/02	Sediment			X	X	X	X	X	X						X		
SIIB04	R6AM1S	11/7/02	Sediment			X	X	X	X	X	X						X		
SIIB04	R6AM2S	11/7/02	Sediment			X	X	X	X	X	X						X		
SIIB04	R6AU1S	11/6/02	Sediment			X	X	X	X	X	X						X		
SIIB04	R6BM1S	11/7/02	Sediment			X	X	X	X	X	X						X		
SIIB04	R6BU1S	11/6/02	Sediment			X	X	X	X	X	X						X		
SIIB04	R6CM1S	11/7/02	Sediment			X	X	X		X	X						X		

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SIIB04_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, pH, TOC, and Grain Size__**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____February 10, 2003_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: For the pesticides analyses, the surrogate recoveries for tetrachloro-m-xylene (TCMX, 10% and 7%) and decachlorobiphenyl (DCBP, 21% and 25%) in sample R6AM1S were less than the lower control limit (i.e., 30-150%). This sample was re-extracted on 11/19/02 (within holding time), re-analyzed by the laboratory displaying similar recoveries. Only raw data were provided in the data package. The surrogate recoveries for TCMX (6% and 6%) in sample R6CM1S were less than the lower control limit. Positive detections in these two samples were flagged "J, s" and non-detects were flagged "R, s". The percent completeness for this analysis was less than the control limit (i.e., 95%) at 73.5%.

Minor Anomalies: For the VOC analyses, the trip blank shipped on 11/07/02 contained chloromethane at 0.51 µg/L (in SDG SIIB05). No data qualifying action was taken since this compound was previously flagged due to method blank contamination. The initial calibration, analyzed on 11/15/02, displayed a correlation coefficient less than the control limit (i.e., 0.990) for chloromethane at 0.9886. Chloromethane was not detected in the associated samples and non-detects were flagged "UJ, r". The continuing calibration verification (CCV) analyzed on 11/20/02 at 09:29 displayed %Ds greater than the control limit (i.e. 20%) for bromomethane at 30.9% and 2-butanone at –22.9%. Positive 2-butanone results were flagged "J, c". Since bromomethane was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The RPDs for acetone (54%) and 1,2-dichloroethane (26%) were greater than the acceptance limit in the LCS/LCSD pair (1L1120-MB). Positive acetone results were flagged "J, d" in the associated samples. Since 1,2-dichloroethane was not detected in the associated samples and LCS/LCSD %Rs were in control, no data qualifying action was taken. The field duplicates pair, R6AM1S and R6AM2S, displayed an absolute difference greater than the control limit (i.e., two times the reporting limit, 14.8 µg/kg) for styrene at 37 µg/kg. Affected styrene results were flagged "J, f" for positive detections or "UJ, f" for non-detects.

For the SVOC analyses, the method blank, 1114F-MB, contained benzo(a)pyrene at 22 µg/kg, bis(2-ethylhexyl)phthalate at 19 µg/kg, indeno(1,2,3-cd)pyrene at 23 µg/kg, and benzo(g,h,i)perylene at 28 µg/kg. Positive detections for these compounds were flagged "U, z" at the reporting limit in the associated samples. The CCV analyzed on 11/27/02 at 08:15 displayed %Ds greater than the control limit (i.e., <20%) for hexachlorocyclopentadiene at 32.2% and dinoseb at 26.3%. Since these two compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The base/neutral surrogate recoveries for 2-fluorobiphenyl (21%) and terphenyl-d14 (28%) in sample R6AU1S were less than the lower control limit. All base/neutral results were flagged "J, s" for positive detections or "UJ, s" for non-detects in sample R6AU1S. The base/neutral surrogate recoveries for 2-fluorobiphenyl were less than the lower control limit in samples R6AD1S (25%) and R6AM2S (25%). Since all other base/neutral surrogates displayed acceptable recoveries in these two samples, no data qualifying action was taken. These three samples were re-extracted outside the holding time by one to two days and re-analyzed by the laboratory. All surrogate recoveries were in control in these three re-analyzed samples and SVOC results confirmed the original analysis. However, due to the holding time violation, the original data should be used for data interpretation. All re-analyzed results were crossed-out by the reviewer and should not be used for data interpretation. There are 35 MS recoveries and 29 MSD recoveries less than the lower control limit in the R5AM3S MS/MSD pair (in SIIB07). The RPDs for hexachloroethane (35%) and hexachlorocyclopentadiene (88%) were greater than the acceptance limit. Surrogates 2-fluorobiphenyl and terphenyl-d14 recoveries for MS and MSD samples were less than the lower control limit (see detail discussion in SDG SIIB07). The combination of the two surrogates displaying low recoveries and many compounds in the MS/MSD displayed low recoveries may have resulted from a poor extraction. Therefore, the results of the MS/MSD recovery failures were not used to assess the associated data. Since LCS recoveries were in control, no data qualifying action was taken.

For the pesticides analyses, the %Ds for 4,4'-DDE (-16.3%), 4,4'-DDT (-20.7%), endrin aldehyde (-16.3%), methoxychlor (-28.0%), and surrogate 2,4-DCAA (-16.8%) on the primary column; and for 4,4'-DDD (-18.7%) and methoxychlor (-32.0%) on the confirmation column were greater than the criterion (i.e., %D < ±15%) for the continuing calibration analyzed on 11/17/02 at 16:43. The %Ds for 4,4'-DDE (-20.8%), 4,4'-DDD (16.1%), 4,4'-DDT (-41.2%), and surrogate 2,4-DCAA (16.4%) on the primary column; and for 4,4'-DDT (-32.4%) and endrin aldehyde (-15.5%) on the confirmation column were greater than the criterion for the continuing calibration analyzed on 11/18/02 at 01:34. Positive 4,4'-DDE results, except those previously flagged due to surrogate recovery failure, were flagged "J, c" in the associated samples. Methoxychlor and 4,4'-DDT results, except those previously flagged due to surrogate recovery failure, were flagged "UJ, c" in the associated samples. All other target compounds were not detected

in the associated samples. Since these other results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken. The TCMX surrogate recoveries in samples R6BM1W (26% and 23%) and R6AM2S (14% and 11%) were less than the lower control limit (i.e., 30-150%). All results, except those previously flagged due to calibration failure, were flagged "J, s" or "UJ, s" in these two sample. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for most of the positive results. Since these results were previously flagged due to other QC failures, no further data qualifying action was taken. It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the CCV analyzed on 11/15/02 at 17:26 displayed a %D greater than the control limit (i.e., 15%) for 2,4-DB at –20.5% on the primary column. 2,4-DB was not detected in the associated samples. Since this compound had an acceptable %D on the alternate column, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for iron (78%) and thallium (78%); and the final CRDL recoveries for arsenic (75%), sodium (70%), and thallium (139% and 76%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank contained arsenic at -0.52809 mg/kg, cadmium at –0.04048 mg/kg, chromium at 0.18891 mg/kg, potassium at 3.27795 mg/kg, and sodium at 41.67883 mg/kg. Arsenic was also detected in two continuing calibration blanks at –0.00804 mg/L (CCB5) and –0.00368 mg/L (CCB9). Positive arsenic results less than five times the absolute blank concentration were flagged "J, p" or "J, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Since positive cadmium results were greater than five times the absolute blank concentration, no data qualifying action was taken. The cadmium result was reported as a non-detect at the reporting limit (0.58 mg/kg) in sample R6CM1S. Since the action level (five times the absolute blank concentration) was much less than the reporting limit, non-detects were judged not affected by the reviewer and no data qualifying action was taken. Positive sodium results were flagged "U, p" in the associated samples. Chromium and potassium results were greater than five times the blank concentration in the associated samples. Therefore, no data qualifying action was required. Copper was detected in four CCBs at concentrations ranging from 0.00201 mg/L to 0.00346 mg/L. The positive copper result in sample R6CM1S was flagged "U, o" at the reporting limit. All other copper results were greater than five times the blank concentration, therefore, no data qualifying action was taken. Thallium was detected in CCB6 at –0.00720 mg/L. Thallium was not detected in associated samples R6BM1S, R6AM2S, and R6CM1S and non-detects were flagged "UJ, o". Aluminum, barium, cadmium, chromium, cobalt, lead, manganese, potassium, sodium, thallium, and vanadium

were also detected in ICB and CCBs at low levels. Since these results were either greater than five times the blank concentration or non-detects in the associated samples, no data qualifying action was taken. The MS recovery for magnesium (326%) was greater than the upper control limit (i.e., 125%) in a non-client MS/MSD pair. The RPDs for calcium (62.11%) and magnesium (72.82%) were greater than the acceptance limit. Since the parent sample is not a client sample, these recoveries and RPD failures were not used to assess the associated samples. The %D for cobalt (12.5%) was greater than the control limit (i.e., 10%) in the serial dilution sample (R6AU1S). Positive cobalt results in the associated samples were flagged "J, s".

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Jason Ai

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6AD1S	Sediment	VOCs	2-Butanone (MEK)	3	J,c	8.8
SIIB04	R6AD1S	Sediment	VOCs	Acetone	22	J,d	18
SIIB04	R6AD1S	Sediment	VOCs	Chloromethane	8.8	UJ,r	8.8
SIIB04	R6AD1S	Sediment	VOCs	Styrene (Monomer)	4.4	UJ,f	4.4
SIIB04	R6AD1S	Sediment	SVOCs	Benzo(g,h,i)perylene	570	U,z	570
SIIB04	R6AD1S	Sediment	SVOCs	Indeno(1,2,3-cd)pyrene	570	U,z	570
SIIB04	R6AD1S	Sediment	Pesticides	4,4'-DDE	1.7	J,c	0.1
SIIB04	R6AD1S	Sediment	Pesticides	4,4'-DDT	5.7	UJ,c	5.7
SIIB04	R6AD1S	Sediment	Pesticides	Methoxychlor	29	UJ,c	29
SIIB04	R6AD1S	Sediment	Metals	Arsenic	5.4	J,o	0.01
SIIB04	R6AD1S	Sediment	Metals	Cobalt	7	J,s	0.01
SIIB04	R6AD1S	Sediment	Metals	Sodium	220	U,p	220
SIIB04	R6AM1S	Sediment	VOCs	2-Butanone (MEK)	5.5	J,c	8.8
SIIB04	R6AM1S	Sediment	VOCs	Acetone	150	J,d	18
SIIB04	R6AM1S	Sediment	VOCs	Chloromethane	15	UJ,r	15
SIIB04	R6AM1S	Sediment	VOCs	Styrene (Monomer)	37	J,f	1
SIIB04	R6AM1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	630	U,z	630
SIIB04	R6AM1S	Sediment	Pesticides	4,4'-DDD	6.3	R,s	6.3
SIIB04	R6AM1S	Sediment	Pesticides	4,4'-DDE	0.73	J,s	0.1
SIIB04	R6AM1S	Sediment	Pesticides	4,4'-DDT	6.3	R,s	6.3
SIIB04	R6AM1S	Sediment	Pesticides	Aldrin	2.1	J,s	0.05
SIIB04	R6AM1S	Sediment	Pesticides	alpha-BHC	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	alpha-Chlordane	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	beta-BHC	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	delta-BHC	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	Dieldrin	0.55	J,s	0.1
SIIB04	R6AM1S	Sediment	Pesticides	Endosulfan I	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	Endosulfan II	6.3	R,s	6.3
SIIB04	R6AM1S	Sediment	Pesticides	Endosulfan Sulfate	6.3	R,s	6.3
SIIB04	R6AM1S	Sediment	Pesticides	Endrin	6.3	R,s	6.3
SIIB04	R6AM1S	Sediment	Pesticides	Endrin Aldehyde	6.3	R,s	6.3

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6AM1S	Sediment	Pesticides	Endrin Ketone	6.3	R,s	6.3
SIIB04	R6AM1S	Sediment	Pesticides	gamma-BHC (Lindane)	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	gamma-Chlordane	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	Heptachlor	3.3	R,s	3.3
SIIB04	R6AM1S	Sediment	Pesticides	Methoxychlor	33	R,s	33
SIIB04	R6AM1S	Sediment	Pesticides	Toxaphene	330	R,s	330
SIIB04	R6AM1S	Sediment	Metals	Cobalt	7.3	J,s	0.01
SIIB04	R6AM1S	Sediment	Metals	Sodium	210	U,p	210
SIIB04	R6AM2S	Sediment	VOCs	Acetone	24	J,d	18
SIIB04	R6AM2S	Sediment	VOCs	Chloromethane	20	UJ,r	20
SIIB04	R6AM2S	Sediment	VOCs	Styrene (Monomer)	10	UJ,f	10
SIIB04	R6AM2S	Sediment	Pesticides	4,4'-DDD	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	4,4'-DDE	1.5	J,c	0.1
SIIB04	R6AM2S	Sediment	Pesticides	4,4'-DDT	7.3	UJ,c	7.3
SIIB04	R6AM2S	Sediment	Pesticides	Aldrin	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	alpha-BHC	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	alpha-Chlordane	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	beta-BHC	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	delta-BHC	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	Dieldrin	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	Endosulfan I	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	Endosulfan II	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	Endosulfan Sulfate	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	Endrin	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	Endrin Aldehyde	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	Endrin Ketone	7.3	UJ,s	7.3
SIIB04	R6AM2S	Sediment	Pesticides	gamma-BHC (Lindane)	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	gamma-Chlordane	0.45	J,s	0.05
SIIB04	R6AM2S	Sediment	Pesticides	Heptachlor	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	Heptachlor Epoxide	3.8	UJ,s	3.8
SIIB04	R6AM2S	Sediment	Pesticides	Methoxychlor	38	UJ,c	38

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6AM2S	Sediment	Pesticides	Toxaphene	380	UJ,s	380
SIIB04	R6AM2S	Sediment	Metals	Cobalt	10	J,s	0.01
SIIB04	R6AM2S	Sediment	Metals	Sodium	260	U,p	260
SIIB04	R6AM2S	Sediment	Metals	Thallium	2.2	UJ,o	2.2
SIIB04	R6AU1S	Sediment	VOCs	2-Butanone (MEK)	7.5	J,c	8.8
SIIB04	R6AU1S	Sediment	VOCs	Acetone	130	J,d	18
SIIB04	R6AU1S	Sediment	VOCs	Chloromethane	14	UJ,r	14
SIIB04	R6AU1S	Sediment	VOCs	Styrene (Monomer)	8.4	J,f	1
SIIB04	R6AU1S	Sediment	SVOCs	1,2,4-Trichlorobenzene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	1,2-Dichlorobenzene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	1,3-Dichlorobenzene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	1,4-Dichlorobenzene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2,4-Dimethylphenol	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2,4-Dinitrotoluene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2,6-Dinitrotoluene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2-Chloronaphthalene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2-Methylnaphthalene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	2-Nitroaniline	3700	UJ,s	3700
SIIB04	R6AU1S	Sediment	SVOCs	3,3'-Dichlorobenzidine	1400	UJ,s	1400
SIIB04	R6AU1S	Sediment	SVOCs	3-Nitroaniline	3700	UJ,s	3700
SIIB04	R6AU1S	Sediment	SVOCs	4-Bromophenyl Phenyl Ether	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	4-Chlorophenyl Phenyl Ether	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Acenaphthene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Acenaphthylene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Anthracene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Benzo(a)anthracene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Benzo(a)pyrene	720	U,z	720
SIIB04	R6AU1S	Sediment	SVOCs	Benzo(b)fluoranthene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Benzo(g,h,i)perylene	720	U,z	720
SIIB04	R6AU1S	Sediment	SVOCs	Benzo(k)fluoranthene	720	UJ,s	720

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6AU1S	Sediment	SVOCs	Benzyl Butyl Phthalate	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	bis(2-Chloroethoxy)methane	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	bis(2-Chloroethyl)ether	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Carbazole	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Chrysene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Dibenzo(a,h)anthracene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Dibenzofuran	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Diethyl Phthalate	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Dimethyl Phthalate	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Di-n-butylphthalate	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Di-n-octylphthalate	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Dinoseb	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Fluoranthene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Fluorene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Hexachlorobenzene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Hexachlorobutadiene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Hexachlorocyclopentadiene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Hexachloroethane	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Indeno(1,2,3-cd)pyrene	720	U,z	720
SIIB04	R6AU1S	Sediment	SVOCs	Isophorone	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Naphthalene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Nitrobenzene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	N-Nitroso-di-n-propylamine	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	N-Nitrosodiphenylamine	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	P-Chloroaniline	1400	UJ,s	1400
SIIB04	R6AU1S	Sediment	SVOCs	Phenanthrene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	Phenol	720	UJ,s	720
SIIB04	R6AU1S	Sediment	SVOCs	P-Nitroaniline	3700	UJ,s	3700
SIIB04	R6AU1S	Sediment	SVOCs	Pyrene	720	UJ,s	720
SIIB04	R6AU1S	Sediment	Pesticides	4,4'-DDT	7.2	UJ,c	7.2

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6AU1S	Sediment	Pesticides	Methoxychlor	37	UJ,c	37
SIIB04	R6AU1S	Sediment	Metals	Arsenic	4.8	J,p	0.01
SIIB04	R6AU1S	Sediment	Metals	Cobalt	7.4	J,s	0.01
SIIB04	R6AU1S	Sediment	Metals	Sodium	250	U,p	250
SIIB04	R6BM1S	Sediment	VOCs	Acetone	37	J,d	18
SIIB04	R6BM1S	Sediment	VOCs	Chloromethane	8.9	UJ,r	8.9
SIIB04	R6BM1S	Sediment	VOCs	Styrene (Monomer)	4.4	UJ,f	4.4
SIIB04	R6BM1S	Sediment	Pesticides	4,4'-DDD	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	4,4'-DDE	0.57	J,c	0.1
SIIB04	R6BM1S	Sediment	Pesticides	4,4'-DDT	4.4	UJ,c	4.4
SIIB04	R6BM1S	Sediment	Pesticides	Aldrin	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	alpha-BHC	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	alpha-Chlordane	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	beta-BHC	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	delta-BHC	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	Dieldrin	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	Endosulfan I	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	Endosulfan II	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	Endosulfan Sulfate	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	Endrin	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	Endrin Aldehyde	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	Endrin Ketone	4.4	UJ,s	4.4
SIIB04	R6BM1S	Sediment	Pesticides	gamma-BHC (Lindane)	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	gamma-Chlordane	0.4	J,s	0.05
SIIB04	R6BM1S	Sediment	Pesticides	Heptachlor	2.3	UJ,s	2.3
SIIB04	R6BM1S	Sediment	Pesticides	Methoxychlor	23	UJ,c	23
SIIB04	R6BM1S	Sediment	Pesticides	Toxaphene	230	UJ,s	230
SIIB04	R6BM1S	Sediment	Metals	Arsenic	2.9	J,p	0.01
SIIB04	R6BM1S	Sediment	Metals	Cobalt	3.7	J,s	0.01
SIIB04	R6BM1S	Sediment	Metals	Sodium	110	U,p	110
SIIB04	R6BM1S	Sediment	Metals	Thallium	1.2	UJ,o	1.2

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6BU1S	Sediment	VOCs	2-Butanone (MEK)	3.1	J,c	8.8
SIIB04	R6BU1S	Sediment	VOCs	Acetone	20	J,d	18
SIIB04	R6BU1S	Sediment	VOCs	Chloromethane	6.7	UJ,r	6.7
SIIB04	R6BU1S	Sediment	VOCs	Styrene (Monomer)	3.3	UJ,f	3.3
SIIB04	R6BU1S	Sediment	SVOCs	Benzo(a)pyrene	470	U,z	470
SIIB04	R6BU1S	Sediment	SVOCs	Benzo(g,h,i)perylene	470	U,z	470
SIIB04	R6BU1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	470	U,z	470
SIIB04	R6BU1S	Sediment	Pesticides	4,4'-DDE	1.1	J,c	0.1
SIIB04	R6BU1S	Sediment	Pesticides	4,4'-DDT	4.7	UJ,c	4.7
SIIB04	R6BU1S	Sediment	Pesticides	Methoxychlor	24	UJ,c	24
SIIB04	R6BU1S	Sediment	Metals	Arsenic	2.9	J,p	0.01
SIIB04	R6BU1S	Sediment	Metals	Cobalt	4.7	J,s	0.01
SIIB04	R6BU1S	Sediment	Metals	Sodium	180	U,p	180
SIIB04	R6CM1S	Sediment	VOCs	Acetone	5.5	J,d	18
SIIB04	R6CM1S	Sediment	VOCs	Chloromethane	6	UJ,r	6
SIIB04	R6CM1S	Sediment	VOCs	Styrene (Monomer)	3	UJ,f	3
SIIB04	R6CM1S	Sediment	Pesticides	4,4'-DDD	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	4,4'-DDE	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	4,4'-DDT	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	Aldrin	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	alpha-BHC	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	alpha-Chlordane	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	beta-BHC	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	delta-BHC	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	Dieldrin	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	Endosulfan I	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	Endosulfan II	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	Endosulfan Sulfate	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	Endrin	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	Endrin Aldehyde	4.2	R,s	4.2
SIIB04	R6CM1S	Sediment	Pesticides	Endrin Ketone	4.2	R,s	4.2

Table 6-109b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB04

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB04	R6CM1S	Sediment	Pesticides	gamma-BHC (Lindane)	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	gamma-Chlordane	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	Heptachlor	2.2	R,s	2.2
SIIB04	R6CM1S	Sediment	Pesticides	Methoxychlor	22	R,s	22
SIIB04	R6CM1S	Sediment	Pesticides	Toxaphene	220	R,s	220
SIIB04	R6CM1S	Sediment	Metals	Arsenic	1.4	J,p	0.01
SIIB04	R6CM1S	Sediment	Metals	Cobalt	2.3	J,s	0.01
SIIB04	R6CM1S	Sediment	Metals	Copper	2.3	U,o	2.3
SIIB04	R6CM1S	Sediment	Metals	Sodium	80	U,p	80
SIIB04	R6CM1S	Sediment	Metals	Thallium	1.2	UJ,o	1.2

Table 6-110a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB05

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB05	R5AD1W	11/7/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R5AD1W-Filtered	11/7/02	Surface water								X						X		
SIIB05	R6AD1W	11/6/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6AD1W-Filtered	11/6/02	Surface water								X						X		
SIIB05	R6AM1W	11/7/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6AM1W-Filtered	11/7/02	Surface water								X						X		
SIIB05	R6AM2W	11/7/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6AM2W-Filtered	11/7/02	Surface water								X						X		
SIIB05	R6AU1W	11/6/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6AU1W-Filtered	11/6/02	Surface water								X						X		
SIIB05	R6BM1W	11/7/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6BM1W-Filtered	11/7/02	Surface water								X						X		
SIIB05	R6BU1W	11/6/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6BU1W-Filtered	11/6/02	Surface water								X						X		
SIIB05	R6CM1W	11/7/02	Surface water			X	X	X	X	X	X						X		X
SIIB05	R6CM1W-Filtered	11/7/02	Surface water								X						X		

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SIIB05_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Hardness_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____February 4, 2003_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the method blank, 1B1120MB, contained chloromethane at 0.64 µg/L. Positive chloromethane results in the associated samples were flagged "U, z" at the reporting limit. The trip blank shipped on 11/7/02 contained chloromethane at 0.51 µg/L. No data qualifying action was taken since this chloromethane result was previously flagged due to method blank contamination. The holding time was exceeded by one day in one re-analyzed sample R5AD1W-RE. All positive results were flagged "J, h" and non-detects were flagged "UJ, h". The initial calibration, analyzed on 11/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for chloromethane at 0.9887, carbon tetrachloride at 0.9866, 1,1,1-trichloroethane at 0.9854, and bromodichloromethane at 0.9871. This initial calibration also displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 22.0%. Since these results in the associated sample R5AD1W-RE were previously flagged due to holding time violation, no further data qualifying action was taken. The continuing calibration verification (CCV) analyzed on 11/20/02 at 13:23 displayed a %D greater than the control limit (i.e. 20%) for bromomethane at –47.6%. Since this compound was not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCV analyzed on 11/22/02 at 10:38 displayed %Ds greater than the control limit for bromomethane at 117.1% (instrument sensitivity increased) and chloroethane at 27.1%. Since these two results in the associated sample R5AD1W-RE were previously flagged due to holding time violation, no further data qualifying action was taken. The LCS/LCSD recoveries for chloromethane (24% and 24%) and vinyl chloride (32% and 34%), and the LCS recovery for bromomethane (36%) were less than the lower control limit in one LCS/LCSD pair. Since the associated samples are MS and MSD samples (QC samples), no data qualifying action was taken. The LCS recovery for chloroethane (6%) and the LCSD recovery for bromomethane (200%) were outside the control limit in another LCS/LCSD pair. The relative percent differences (RPDs) for bromo-

methane (45%), chloroethane (181%), 1,1,1-trichloroethane (28%), and 1,2-dichloroethane (31%) were greater than the acceptance limit. The chloroethane results in the associated samples would be rejected based on National Functional Guidelines. However, since the LCSD recovery for chloroethane was in control and all associated results were previously flagged due to holding time violation, no further data qualifying action was taken. Sample R5AD1W displayed internal standard percent recoveries less than the lower control limit (i.e. 50%) for 1,2-dichloroethane-d4 at 28.8%, 1,4-difluorobenzene (26.8%), and chlorobenzene-d5 (26.1%). All results in sample R5AD1W were flagged "J, n" for positive detections or "UJ, n" for non-detects. This sample was re-analyzed outside the holding time and displayed acceptable internal standard recoveries. The re-analyzed sample results should be used for data interpretation.

For the SVOC analyses, the CCV analyzed on 11/23/02 at 12:14 displayed a %D greater than the control limit (i.e., <20%) for 4-nitrophenol at -24.7%. The CCV analyzed on 11/24/02 at 12:33 displayed %Ds greater than the control limit for 1,2,4-trichlorobenzene at 20.5%, di-n-butylphthalate at -26.2%, 4-nitrophenol at -22.7%, and benzo(k)fluoranthene (-21.5%). Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the pesticides analyses, the CCVs analyzed on 11/11/02 at 10:22 and 22:38 displayed %Ds greater than the control limit (i.e., 15%) on the confirmation column for surrogate 2,4-DCAA at 23.4% and 20.9%, respectively. The CCV analyzed on 11/12/02 at 09:54 displayed %Ds greater than the control limit on the primary column for methoxychlor at -25.4%; and on the confirmation column for endrin aldehyde at -18.0%. The CCV analyzed on 11/12/02 at 20:32 displayed a %D greater than the control limit on the primary column for surrogate 2,4-DCAA at 16.7%. Methoxychlor and endrin aldehyde were not detected in the associated samples. Since these results either had an acceptable %D on the alternate column or were surrogates, no data qualifying action was taken.

For the PCBs analyses, the MS/MSD displayed %Rs less than the lower control limit for hexachlorobiphenyl at 35% and 34% in the R5AM3W MS/MSD pair (in SDG: SIIB06). Since the LCS recovery met criteria for hexachlorobiphenyl, no data qualifying action was taken. Sample R6AM1W displayed a %R less than the lower control limit (i.e. 70%) for internal standard phenanthrene-d10 at 57.1%. Since this internal standard was not used for sample quantitation and internal standard chrysene-d12 recovery was in control (used for quantitation), no data qualifying action was taken.

For the herbicide analyses, the CCV analyzed on 11/13/02 at 19:09 displayed %Ds greater than the control limit (i.e., 15%) on both columns for 2,4-DB at -16.0% and -15.8%. The CCV analyzed on 11/14/02 at 13:43 displayed %Ds

greater than the control limit on both columns for 2,4-DB at -21.4% and -19.3%. The CCV analyzed on 11/15/02 at 02:28 displayed %Ds greater than the control limit on both columns for 2,4-DB at -22.4% and -16.5%. All 2,4-DB results in the associated samples were flagged "UJ, c". The MS recovery for 2,4,5-TP (105%) was greater than the upper control limit (i.e., 100%) in the R5AU1W MS/MSd pair (in SDG: SIIB06). Since this compound was not detected in the associated samples, no data qualifying action was taken. The RPD for 2,4-DB (44%) was greater than the acceptance limit (i.e., 43%) in one LCS/LCSD pair. The LCS recovery for 2,4,5-TP (108%) was greater than the upper control limit (i.e., 100%). Since these two compounds were not detected in the associated samples, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for iron (138%), lead (64% and 74%), selenium (145%, 123%, and 69%), sodium (52%), thallium (77%), and mercury (75%); and the final CRDL recoveries for aluminum (122%), iron (125% and 121%), lead (60%), selenium (137% and 128%), sodium (75%), and thallium (129% and 148%) were outside the control limit (i.e., 80-120%). The positive dissolved sodium result in sample R6AD1WF was flagged "J, w". Since the dissolved thallium result in sample R6AD1WF was flagged due to calibration blank contamination, no further data qualifying action was taken. Since all other recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank for total metals analysis contained aluminum at 0.01642 mg/L and 0.01109 mg/L, calcium at 0.00901 mg/L, magnesium at 0.00953 mg/L, and thallium at –0.00537 mg/L (for S248089A). Thallium was not detected in the associated samples and non-detects were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Since aluminum, calcium, and magnesium results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The preparation blank for dissolved metals analysis contained aluminum at 0.01746 mg/L and 0.00872 mg/L, arsenic at 0.00437 mg/L (for S248089A), barium at 0.00035 mg/L, calcium at 0.04042 mg/L and 0.03186 mg/L, copper 0.00143 mg/L (for S248089A), magnesium at 0.01187 mg/L. Aluminum, arsenic, and copper results in the associated filtered samples were flagged "U, p" at the reporting limit. Since calcium and magnesium results in the associated filtered samples were greater than five times the blank concentration, no data qualifying action was taken. Aluminum was also detected in two initial calibration blanks (ICBs) and several continuing calibration blanks (CCBs) at concentrations ranging from 0.00999 mg/L to 0.0415 mg/L. The total aluminum result in sample R6BU1W was flagged "U, o". Antimony was detected in the ICB at –0.00473 mg/L. Total and dissolved antimony results in the associated samples (for S248089A) were flagged "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Cobalt was detected in CCB4 at 0.00146 mg/L. The dissolved cobalt result in sample R5AD1WF was flagged "U, o" at the

reporting limit. Copper was also detected in several CCBs at concentrations ranging from 0.00106 mg/L to 0.00308 mg/L. Positive total and dissolved copper results, except those previously flagged due to preparation blank contamination, were flagged "U, o" at the reporting limit in the associated samples. Manganese was detected in several CCBs at concentrations ranging from 0.00076 mg/L to 0.00198 mg/L. Positive dissolved manganese results were flagged "U, o" at the reporting limit in the associated samples. Vanadium was detected in several CCBs at concentrations ranging from 0.00162 mg/L to 0.0219 mg/L. Positive total and dissolved vanadium results were flagged "U, o" at the reporting limit in the associated samples. Thallium was also detected in CCB4 at 0.00506 mg/L and CCB5 at –0.00494 mg/L. All dissolved thallium results in the associated samples (for S248089A) were flagged "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Thallium was also detected in CCB3 at 0.00796 mg/L and CCB4 at 0.00652 mg/L. Positive dissolved thallium result in sample R6AD1WF was flagged "U, o" at the reporting limit. Antimony, arsenic, barium, beryllium, calcium, magnesium, silver, and selenium were also detected in the ICBs and CCBs at low levels. Since results for these analytes in the associated samples were either non-detects or greater than five times the blank concentration, no data qualifying action was taken. The MSD recovery for mercury (125%) was equal to the upper control limit (i.e., 125%) in the R6AD1W MS/MSD pair. The positive dissolved mercury result in sample R5AD1WF was flagged "J, m'. The post-digestion spike recovery for mercury was in control.

Correctable Anomalies: None.

Comments: MS/MSD analyses were not performed on SVOC and pesticides fractions. Given that the LCS/LCSD results for SVOC and pesticides analysis are acceptable, and no major matrix interference was observed in the chromatograph associated with these samples, no significant impact on data quality is expected.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Jason Ai

Table 6-110b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB05

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB05	R5AD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	1,1,2,2-Tetrachloroethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	1,1,2-Trichloroethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	1,1-Dichloroethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	1,1-Dichloroethylene	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	1,2-Dichloroethane	0.13	J,h	1
SIIB05	R5AD1W	Surface Water	VOCs	1,2-Dichloroethene (total)	2	UJ,h	2
SIIB05	R5AD1W	Surface Water	VOCs	1,2-Dichloropropane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	2-Butanone (MEK)	10	UJ,h	10
SIIB05	R5AD1W	Surface Water	VOCs	4-Methyl-2-pentanone (MIBK)	10	UJ,h	10
SIIB05	R5AD1W	Surface Water	VOCs	Acetone	25	UJ,h	25
SIIB05	R5AD1W	Surface Water	VOCs	Benzene	0.27	J,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Bromoform	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Bromomethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Carbon Disulfide	0.31	J,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Chlorobenzene	1.3	J,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Chlorodibromomethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Chloroethane	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Chloroform	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Chloromethane	0.4	J,h	0.5
SIIB05	R5AD1W	Surface Water	VOCs	cis-1,3-Dichloropropene	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Dichloromethane	5	UJ,h	5
SIIB05	R5AD1W	Surface Water	VOCs	Ethylbenzene	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Methyl N-Butyl Ketone	10	UJ,h	10
SIIB05	R5AD1W	Surface Water	VOCs	Styrene (Monomer)	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Tetrachloroethene	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Toluene	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	trans-1,3-Dichloropropene	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Trichloroethene	1	UJ,h	1

Table 6-110b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB05

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB05	R5AD1W	Surface Water	VOCs	Vinyl chloride	1	UJ,h	1
SIIB05	R5AD1W	Surface Water	VOCs	Xylenes, Total	2	UJ,h	2
SIIB05	R5AD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R5AD1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R5AD1W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R5AD1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB05	R5AD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R5AD1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R5AD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R5AD1W-Filtered	Surface Water	Metals	Cobalt	0.01	U,o	0.01
SIIB05	R5AD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB05	R5AD1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB05	R5AD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6AD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R6AD1W-Filtered	Surface Water	Metals	Aluminum	0.02	U,p	0.02
SIIB05	R6AD1W-Filtered	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB05	R6AD1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6AD1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB05	R6AD1W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB05	R6AD1W-Filtered	Surface Water	Metals	Thallium	0.01	U,o	0.01
SIIB05	R6AM1W	Surface Water	VOCs	Chloromethane	1	U,z	1
SIIB05	R6AM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R6AM1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6AM1W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6AM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB05	R6AM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6AM1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R6AM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6AM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB05	R6AM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB05	R6AM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-110b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB05

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB05	R6AM2W	Surface Water	VOCs	Chloromethane	1	U,z	1
SIIB05	R6AM2W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R6AM2W	Surface Water	Metals	Aluminum	0.75	U,o	0.75
SIIB05	R6AM2W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6AM2W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6AM2W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB05	R6AM2W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6AM2W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R6AM2W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6AM2W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB05	R6AM2W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB05	R6AM2W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6AU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R6AU1W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6AU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6AU1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R6AU1W-Filtered	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB05	R6AU1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6AU1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB05	R6AU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6BM1W	Surface Water	VOCs	Chloromethane	1	U,z	1
SIIB05	R6BM1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6BM1W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6BM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB05	R6BM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6BM1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R6BM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6BM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB05	R6BM1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB05	R6BM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB05	R6BM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-110b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB05

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB05	R6BU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R6BU1W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6BU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6BU1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R6BU1W-Filtered	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB05	R6BU1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6BU1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB05	R6BU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6CM1W	Surface Water	VOCs	Chloromethane	1	U,z	1
SIIB05	R6CM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB05	R6CM1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6CM1W	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB05	R6CM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB05	R6CM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB05	R6CM1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,p	0.2
SIIB05	R6CM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB05	R6CM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB05	R6CM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB05	R6CM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-111a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB06	R5AM1W	11/8/02	Surface water			X	X	X	X	X	X						X		X
SIIB06	R5AM1W-Filtered	11/8/02	Surface water								X						X		
SIIB06	R5AU1W	11/8/02	Surface water			X	X	X	X	X	X						X		X
SIIB06	R5AU1W-Filtered	11/8/02	Surface water								X						X		
SIIB06	R5BD1W	11/8/02	Surface water			X	X	X	X	X	X						X		X
SIIB06	R5BD1W-Filtered	11/8/02	Surface water								X						X		
SIIB06	R5BM1W	11/9/02	Surface water			X	X	X	X	X	X						X		X
SIIB06	R5BM1W-Filtered	11/9/02	Surface water								X						X		
SIIB06	R5BU1W	11/9/02	Surface water			X	X	X	X	X	X						X		X
SIIB06	R5BU1W-Filtered	11/9/02	Surface water								X						X		
SIIB06	R5CM1W	11/9/02	Surface water			X	X	X	X	X	X						X		X
SIIB06	R5CM1W-Filtered	11/9/02	Surface water								X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SIIB06_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ _Metals , Wet Chem_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____RA_____ **Date: _____January 23, 2003_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical methods employed.

Major Anomalies: For the pesticides analyses, the recoveries for surrogate decachlorobiphenyl (8%, 8%) were less than the QC limit (i.e., 30-150%) in sample R5BU1W. All associated sample results were non-detects and were flagged "R,s". The percent completeness was less than the QC limit (i.e., 95%) at 88% due to this failure.

Minor Anomalies: For the VOC analyses, the initial calibration analyzed on 11/12/02 displayed correlation coefficients less than the control limit (i.e. 0.990) for chloromethane (0.989), 1,1,1-trichloroethane (0.985), carbon tetrachloride (0.987), and bromodichloromethane (0.987). Positive results were flagged "J,r" and non-detects were flagged "UJ,r" in the associated samples. This initial calibration also displayed a %RSD greater than the control limit (i.e. 15%) for bromomethane at 22%. All associated sample results were non-detects and no data qualifying action was required since the failure was not serious enough (i.e., > 50%) to affect the non-detect values. Rinse blank R5BU4W contained chloromethane at 0.22 ug/L, toluene at 0.7 ug/L, and 1,2-dichloroethene at 0.38 ug/L. Positive results were flagged "U,x" at the reporting level in the associated samples. The MS recovery (188%) and %RPD (85%) for bromomethane were greater than the QC limit. The %RPDs for 1,1,1-trichloroethane (28%), 1,2-dichloroethane (26%), bromodichloromethane (33%), and cis-1,3-dichloropropene (26%) were greater than the QC limit. No action is required based on MS/MSD failure and no data flags were applied. The LCS percent recovery for chloromethane (146%), the LCSD percent recovery and %RPD for bromomethane (194% and 108%), and the %RPD for 1,2-dichloroethane (24%) were greater than the QC limit. All associated sample results were non-detects and no data qualifying action was required.

For the SVOC analyses, the CCV analyzed on 11/21/02 displayed %Ds greater than the control limit (i.e. 20%) for indeno (1,2,3-cd) pyrene at –28%, dibenzo (a,h) anthracene at –24.2%, and benzo (g,h,i) perylene at –21.8%. Since these

compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken.

For the pesticides analyses, the CCV analyzed on 11/14/02 at 0852 displayed %Ds greater than the control limit (i.e. 15%) for endrin aldehyde (-19.7%, -20.4%), and methoxychlor (-28.6%, -16%) on both columns, and 4,4-DDT (-20.1%) on the primary column. Non-detects were flagged "UJ,c" for endrin aldehyde and methoxychlor in all samples. No data flags were applied to 4,4-DDT results since the %D was acceptable on the alternate column. The recoveries for surrogate tetrachloro-m-xylene (24%, 26%) were less than the QC limit (i.e., 30-150%) in sample R5AMW3. The recoveries for surrogate decachlorobiphenyl were less than the QC limit (i.e., 30-150%) in samples R5AU1W (14%, 14%), R5CM1W (16%, 16%), R5BU4W (21%, 20%), R5BM1W (21%, 20%), and R5BU4S (13%, 12%). All associated sample results were non-detects and were flagged "UJ,s" unless previously flagged due to other failures.

For the PCB analyses, the MS/MSD recoveries for hexachlorobiphenyl (36%, 34%) were less than the QC limit (i.e., 40-140%). No action was required since the LCS recoveries were acceptable.

For the herbicides analyses, the CCV analyzed on 11/14/02 at 1343 displayed %Ds greater than the control limit (i.e. 15%) on both columns for 2,4-DB at –21.4% and –19.3%. The CCV analyzed on 11/15/02 at 0228 displayed %Ds greater than the control limit on both columns for 2,4-DB at –22.4% and –16.5%. All associated sample results were non-detects and were flagged "UJ,c". The MS recovery for 2,4,5-TP was greater than the control limit (i.e. 10-100%) at 105%. The LCS recovery for 2,4,5-TP was also greater than the control limit (i.e. 10-100%) at 108%. All associated sample results were non-detects and no data qualifying action was required. The RPDs between primary and confirmation columns were greater than the acceptance limit (i.e., <40%) for dichloroprop in sample R5AM1W (121.4%) and MCPP in sample R5BM1W (47.5%). These results were flagged "J, g".

For the metal analyses, the initial CRDL percent recoveries for antimony (74%) and zinc (121%) and the final CRDL percent recoveries for iron (69%), sodium (52%), and thallium (72%) were outside the control limit (i.e., 80-120%). Positive sodium results were flagged "J,w" and non-detects were flagged "UJ,w" in all samples. Since the recoveries for antimony, zinc, iron, and thallium were only marginally outside the control limits, no data qualifying action was taken. The method blanks contained aluminum at 0.01035 mg/L and 0.01166 mg/L, arsenic at – 0.00341 mg/L, barium at 0.00043 mg/L, calcium at 0.01472 mg/L and 0.03456 mg/L, copper at 0.00158 mg/L and 0.00187 mg/L, thallium at – 0.00445 mg/L, mercury at – 0.000078 mg/L, zinc at 0.00341 mg/L, and vanadium at

0.0011 mg/L. Positive results less than 5 times the blank concentration were flagged "U,p" at the reporting limit in the associated samples. Non-detects were flagged "UJ,p" for arsenic and thallium in the associated samples. Positive results were flagged "J,p" and non-detects were flagged "UJ,p" for mercury in the associated samples. The initial and continuing calibration blanks also contained positive results for aluminum, barium, calcium, copper, magnesium, manganese, and vanadium, and negative results for antimony, arsenic, and mercury. Positive results less than 5 times the blank concentration were flagged "U,o" at the reporting limit in the associated samples unless previously flagged due to other failures. Rinse blank R5BU4W contained calcium at 0.016 mg/L and magnesium at 0.0065 mg/L. Positive results in the associated samples were previously flagged due to method blank contamination and no further action was required. The %D for serial dilution analyses for total aluminum (10.9%) was greater than the acceptance limit (i.e., <10%). Positive results were flagged "J, s" in the associated samples.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method. It should be noted that detection limits were raised in several samples due to dilutions. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that no anomalies were observed for that fraction. Except for rejected data points, all data are usable, as qualified, for their intended purpose based on the data reviewed.

Signed: _____

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5AM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB06	R5AM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB06	R5AM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB06	R5AM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB06	R5AM1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB06	R5AM1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB06	R5AM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB06	R5AM1W	Surface Water	Herbicides	Dichlorprop	0.11	J,g	6
SIIB06	R5AM1W	Surface Water	Metals	Aluminum	0.52	J,s	0.02
SIIB06	R5AM1W	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5AM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5AM1W	Surface Water	Metals	Mercury	0.00014	J,p	0.0002
SIIB06	R5AM1W	Surface Water	Metals	Sodium	22	J,w	80
SIIB06	R5AM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5AM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5AM1W	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Mercury	0.00012	J,p	0.0002
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Sodium	22	J,w	80
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5AM1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5AU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB06	R5AU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB06	R5AU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB06	R5AU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB06	R5AU1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	4,4'-DDT	0.1	UJ,s	0.1

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5AU1W	Surface Water	Pesticides	Aldrin	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	beta-BHC	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	Dieldrin	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB06	R5AU1W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB06	R5AU1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB06	R5AU1W	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB06	R5AU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB06	R5AU1W	Surface Water	Metals	Aluminum	0.39	J,s	0.02
SIIB06	R5AU1W	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5AU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5AU1W	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002
SIIB06	R5AU1W	Surface Water	Metals	Sodium	22	J,w	80
SIIB06	R5AU1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5AU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5AU1W	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Sodium	21	J,w	80
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5AU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB06	R5BD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB06	R5BD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB06	R5BD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB06	R5BD1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB06	R5BD1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB06	R5BD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB06	R5BD1W	Surface Water	Metals	Aluminum	0.46	J,s	0.02
SIIB06	R5BD1W	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5BD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5BD1W	Surface Water	Metals	Mercury	0.0002	J,p	0.0002
SIIB06	R5BD1W	Surface Water	Metals	Sodium	21	J,w	80
SIIB06	R5BD1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5BD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BD1W	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Sodium	21	J,w	80
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5BD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB06	R5BM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB06	R5BM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB06	R5BM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB06	R5BM1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5BM1W	Surface Water	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	Aldrin	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	beta-BHC	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	Dieldrin	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB06	R5BM1W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB06	R5BM1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB06	R5BM1W	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB06	R5BM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB06	R5BM1W	Surface Water	Herbicides	MCPP	53	J,g	120
SIIB06	R5BM1W	Surface Water	Metals	Aluminum	0.72	J,s	0.02
SIIB06	R5BM1W	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5BM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5BM1W	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB06	R5BM1W	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002
SIIB06	R5BM1W	Surface Water	Metals	Sodium	19	J,w	80
SIIB06	R5BM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5BM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BM1W	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5BM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5BM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5BM1W-Filtered	Surface Water	Metals	Mercury	0.00012	J,p	0.0002
SIIB06	R5BM1W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB06	R5BM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5BM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB06	R5BU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB06	R5BU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB06	R5BU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB06	R5BU1W	Surface Water	Pesticides	4,4'-DDD	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	4,4'-DDE	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	4,4'-DDT	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	Aldrin	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	alpha-BHC	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	alpha-Chlordane	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	beta-BHC	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	delta-BHC	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	Dieldrin	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	Endosulfan I	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	Endosulfan II	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	Endrin	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	Endrin Ketone	0.1	R,s	0.1
SIIB06	R5BU1W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	gamma-Chlordane	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	Heptachlor	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	R,s	0.05
SIIB06	R5BU1W	Surface Water	Pesticides	Methoxychlor	0.5	R,s	0.5
SIIB06	R5BU1W	Surface Water	Pesticides	Toxaphene	5	R,s	5
SIIB06	R5BU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5BU1W	Surface Water	Metals	Aluminum	0.73	J,s	0.02
SIIB06	R5BU1W	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5BU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5BU1W	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002
SIIB06	R5BU1W	Surface Water	Metals	Sodium	19	J,w	80
SIIB06	R5BU1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5BU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BU1W	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5BU1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB06	R5CM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB06	R5CM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB06	R5CM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB06	R5CM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB06	R5CM1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	Aldrin	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	beta-BHC	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	Dieldrin	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1

Table 6-111b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB06

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB06	R5CM1W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB06	R5CM1W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB06	R5CM1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB06	R5CM1W	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB06	R5CM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB06	R5CM1W	Surface Water	Metals	Aluminum	0.15	J,s	0.02
SIIB06	R5CM1W	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5CM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5CM1W	Surface Water	Metals	Mercury	0.00008	J,p	0.0002
SIIB06	R5CM1W	Surface Water	Metals	Sodium	18	J,w	80
SIIB06	R5CM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5CM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Mercury	0.0002	UJ,p	0.0002
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Sodium	18	J,w	80
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB06	R5CM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-112a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB07

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB07	R5AM1S		11/8/02	Sediment			X	X	X	X	X	X						X		
SIIB07	R5AU1S		11/8/02	Sediment			X	X	X	X	X	X						X		
SIIB07	R5BM1S		11/9/02	Sediment			X	X	X	X	X	X						X		
SIIB07	R5BU1S		11/9/02	Sediment			X	X	X	X	X	X						X		
SIIB07	R5CM1S		11/9/02	Sediment			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level IV Review

SDG No.: _SIIB07_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,_ Metals, TOC, pH, Particle Size_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____February 5, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOCs analyses, the method blank analyzed on 11/21/02 displayed a positive detection for acetone at 3.7 ug/kg. Since only QC samples were associated with this method blank, no data qualifying action was taken. The equipment blank, R5BU4S, displayed a positive detection for toluene at 0.84 ug/L. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,x" at the reporting limit. The continuing calibration analyzed on 11/21/02 displayed a %D greater than the control limit (i.e. <20%) for bromomethane at -21.6%. Since associated sample results were non-detect and the %D was only slightly outside the control limit (i.e. <50%), no data qualifying action was taken. Acetone displayed relative response factors (RRFs) less than the control limit (i.e. <0.05) in the CCVs analyzed on 11/20/02 and 11/21/02 at 0.04418 and 0.04639, respectively. Since acetone was calibrated using peak area and linear regression, no data qualifying action was taken. The LCS analyzed on 11/21/02 displayed a %R greater than the upper control limit (i.e. 133%) for chloroform at 144%. Since associated sample results were non-detect, no data qualifying action was taken.

For the SVOCs analyses, the method blank analyzed on 11/18/02 displayed positive detections for bis (2-ethylhexyl) phthalate at 19 ug/kg, for benzo(a)pyrene at 22 ug/kg, for indeno(1,2,3-cd)pyrene at 23 ug/kg, and for benzo(g,h,i)perylene at 28 ug/kg. Since associated sample results were non-detect, no data qualifying action was taken. Surrogates 2-fluorobiphenyl and terphenyl-d14 displayed %Rs less than the lower control limit in the MS and the MSD at 23%, 26%, 25%, and 26%, respectively. Since these are QC samples, no data qualifying action was taken. A large number of MS and MSD results displayed %Rs less than the lower control limit. Since the LCS met criteria for these compounds, no data qualifying action was taken. The combination of the two surrogates displaying low recoveries and many compounds in the MS/MSD displayed low recoveries may

have resulted from a poor extraction. The MS/MSDs were not re-extracted or re-analyzed by the laboratory. The results of the MS/MSD recovery failures were not used to assess the associated data.

For the pesticides analyses, the CCV analyzed on 11/17/02 at 16:43 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for 4,4'-DDE at -16.3%, for 4,4'-DDD at -20.7%, for endrin aldehyde at -16.3%, methoxychlor at -28.0%, and for surrogate 2,4-DCAA at 16.8%; and on the confirmation column for 4,4'-DDD at -18.7% and for methoxychlor at -32.0%. The CCV analyzed on 11/18/02 at 01:34 displayed %Ds greater than the control limit on the primary column for 4,4'-DDE at -20.8%, for 4,4'-DDD at 16.1%, for 4,4'-DDT at -41.2%, and for surrogate 2,4-DCAA at 16.4%; and on the confirmation column for 4,4'-DDT at -32.4% and for endrin aldehyde at -15.5%. Associated sample results for 4,4'-DDD, 4,4'-DDT, and methoxychlor with positive detections were flagged "J,c"; non-detects were flagged "UJ,c". Since other compounds displaying anomalies either met criteria on the alternate column or were surrogates, no data qualifying action was taken. Analyte 4,4'-DDT in sample R5AU1S displayed a %RPD greater than control limit (i.e. <40%) at 59.2%. Since this result was previously flagged for calibration anomalies, no further data qualifying action was taken.

For the herbicides analyses, the CCV analyzed on 11/15/02 at 17:26 displayed a %D greater than the control limit (i.e. <15%) for 2,4-DB at -20.5% on the primary column. The CCV analyzed on 11/25/02 at 19:45 displayed a %D greater than the control limit for 2,4-DB at 16.4% on the primary column. Since the analyte met criteria on the alternate column, no data qualifying action was taken. Analyte 2,4-D displayed a %RPD greater than the control limit (i.e. <40%) at 64.7% and was flagged "J,g".

For the metals analyses, the initial and final CRDL displayed %Rs less than the lower control limit (i.e. 80%) for thallium at 72% and 72%. The initial and final CRDL also displayed %Rs greater than the upper control limit (i.e. 120%) for iron at 135%, for lead at 132%, and for arsenic at 123%. Since these anomalies were only slightly outside the control limit, no data qualifying action was taken. The prep blank displayed positive detections for barium at 0.12884 mg/kg, for chromium at 0.15486 mg/kg, for copper at 0.16651 mg/kg, for iron at 2.59891 mg/kg, for lead at 0.2132 mg/kg, for magnesium at 0.6805 mg/kg, and for potassium at 4.12669 mg/kg and negative detections for aluminum at -1.37365 mg/kg and for thallium at -0.63588 mg/kg. Associated thallium results were non-detect and were flagged "UJ,p". All other associated sample results were either non-detect or greater than 5x the amount found in the blank and no data qualifying action was taken. CCB5 displayed a positive detection for cadmium at 0.00038 mg/L and for copper at 0.0039 mg/L. Associated sample results with positive detections less than 5x the amount found in the blank for cadmium and copper

were flagged "U,o" at the reporting limit. Several other metals displayed either positive or negative detections. Since associated sample results were either non-detect or greater than 5x the amount found in the blank and no data qualifying action was taken. The equipment blank, R5BU4S, displayed positive detections for calcium at 0.27 mg/L, for iron at 0.033 mg/L, for magnesium at 0.068 mg/L, for potassium at 0.07 mg/L, and for sodium at 0.45 mg/L. Since associated sample results were greater than 5x the amount found in the blank, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit (i.e. 125%) for several compounds and a %RPD greater than the control limit for iron at 58.96%. Since the MS/MSD was spiked on a non-client sample, no data qualifying action was taken.

Correctable Anomalies: During a Level IV review of the data, it was determined that the MSD result in the pesticides analysis was incorrectly calculated. The summary form for the MS/MSD was corrected by the data reviewer. No other QC data was incorrectly calculated.

Comments: During a Level IV review of the SVOCs data, the data reviewer noticed that the ICAL analyzed on 11/15/02 displayed results for a 100 ppb standard, even though there was no raw data to confirm the reported result. This was also confirmed as there was no 100ppb standard (lab file EQ556) listed on the tune summary for that date. The laboratory was contacted and submitted the missing raw data.

Two trip blanks and one equipment blank associated with sediment samples were analyzed by the laboratory and results were reported in SDG# SIIB06. Any validation anomalies found which affected the results of the trip blanks and equipment blank were addressed in SDG# SIIB06. Only positive detections which may impact sediment data quality were discussed in this data validation report.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method except for those mentioned above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that there were no anomalies observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-112b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB07

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB07	R5AM1S	Sediment	Pesticides	4,4'-DDD	4.3	UJ,c	4.3
SIIB07	R5AM1S	Sediment	Pesticides	4,4'-DDT	4.3	UJ,c	4.3
SIIB07	R5AM1S	Sediment	Pesticides	Methoxychlor	22	UJ,c	22
SIIB07	R5AM1S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB07	R5AU1S	Sediment	Pesticides	4,4'-DDD	4.6	UJ,c	4.6
SIIB07	R5AU1S	Sediment	Pesticides	4,4'-DDT	0.5	J,g	0.1
SIIB07	R5AU1S	Sediment	Pesticides	Methoxychlor	24	UJ,c	24
SIIB07	R5AU1S	Sediment	Herbicides	2,4-D	9.2	J,g	0.5
SIIB07	R5AU1S	Sediment	Metals	Thallium	1.3	UJ,p	1.3
SIIB07	R5BM1S	Sediment	VOCs	Toluene	2.7	U,x	2.7
SIIB07	R5BM1S	Sediment	Pesticides	4,4'-DDD	4.3	UJ,c	4.3
SIIB07	R5BM1S	Sediment	Pesticides	4,4'-DDT	4.3	UJ,c	4.3
SIIB07	R5BM1S	Sediment	Pesticides	Heptachlor Epoxide	2.2	UJ,s	2.2
SIIB07	R5BM1S	Sediment	Pesticides	Methoxychlor	22	UJ,c	22
SIIB07	R5BM1S	Sediment	Metals	Cadmium	0.65	U,o	0.65
SIIB07	R5BM1S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB07	R5BU1S	Sediment	VOCs	Toluene	2.4	U,x	2.4
SIIB07	R5BU1S	Sediment	Pesticides	4,4'-DDD	4.8	UJ,c	4.8
SIIB07	R5BU1S	Sediment	Pesticides	4,4'-DDT	4.8	UJ,c	4.8
SIIB07	R5BU1S	Sediment	Pesticides	Methoxychlor	25	UJ,c	25
SIIB07	R5BU1S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB07	R5CM1S	Sediment	VOCs	Toluene	2.5	U,x	2.5
SIIB07	R5CM1S	Sediment	Pesticides	4,4'-DDD	3.8	UJ,c	3.8
SIIB07	R5CM1S	Sediment	Pesticides	4,4'-DDT	3.8	UJ,c	3.8
SIIB07	R5CM1S	Sediment	Pesticides	Methoxychlor	20	UJ,c	20
SIIB07	R5CM1S	Sediment	Metals	Cadmium	0.58	U,o	0.58
SIIB07	R5CM1S	Sediment	Metals	Copper	2.1	U,o	2.1
SIIB07	R5CM1S	Sediment	Metals	Thallium	1.1	UJ,p	1.1

Table 6-113a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB08	R3AD1W		11/12/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R3AD1W-Filtered		11/12/02	Surface water								X						X		
SIIB08	R3AM1W		11/12/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R3AM1W-Filtered		11/12/02	Surface water								X						X		
SIIB08	R3BD1W		11/12/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R3BD1W-Filtered		11/12/02	Surface water								X						X		
SIIB08	R3BM1W		11/12/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R3BM1W-Filtered		11/12/02	Surface water								X						X		
SIIB08	R4AD1W		11/10/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4AD1W-Filtered		11/10/02	Surface water								X						X		
SIIB08	R4AM1W		11/10/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4AM1W-Filtered		11/10/02	Surface water								X						X		
SIIB08	R4AU1W		11/11/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4AU1W-Filtered		11/11/02	Surface water								X						X		
SIIB08	R4BD1W		11/10/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4BD1W-Filtered		11/10/02	Surface water								X						X		
SIIB08	R4BM1W		11/11/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4BM1W-Filtered		11/11/02	Surface water								X						X		
SIIB08	R4BU1W		11/11/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4BU1W-Filtered		11/11/02	Surface water								X						X		

Table 6-113a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB08	R4CM1W		11/11/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4CM1W-Filtered		11/11/02	Surface water								X						X		
SIIB08	R4CM2W		11/11/02	Surface water			X	X	X	X	X	X						X		X
SIIB08	R4CM2W-Filtered		11/11/02	Surface water								X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SIIB08_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Hardness_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____February 10, 2003_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, the trip blank shipped on 11/10/02 contained benzene at 0.22 µg/L. Positive benzene results in the associated samples were flagged "U, y" at the reporting limit. The rinse blank for aqueous samples, R3BD4W, contained chloromethane at 0.82 µg/L and toluene at 0.64 µg/L. Positive toluene results in the associated samples were flagged "U, x" at the reporting limit. No data qualifying action was taken for chloromethane since this compound was not detected in the associated samples. The rinse blank for sediment samples, R3BD4S, contained toluene at 0.60 µg/L. Since sediment samples were reported in different data packages, no data qualifying action was taken. The initial calibration, analyzed on 11/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for chloromethane at 0.9887, carbon tetrachloride at 0.9866, 1,1,1-trichloroethane at 0.9854, and bromodichloromethane at 0.9871. Positive results were flagged "J, r" and non-detects were flagged "UJ,r" in the associated samples. This initial calibration also displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 22.0%. All associated sample results were non-detects and no data qualifying action was required since the failure was not serious enough (i.e., > 50%) to affect the non-detect values. The continuing calibration verification (CCV) analyzed on 11/21/02 at 08:55 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at 40.7%, bromomethane at –20.6%, chloroethane at 38.8%, dibromochloromethane at 31.6%, bromoform at 34.6%, and xylene at 24.5%. The CCV analyzed on 11/22/02 at 10:38 displayed %Ds greater than the control limit for bromomethane at 117.1% (instrument sensitivity increased) and chloroethane at 27.1%. The continuing calibration verification (CCV) analyzed on 11/23/02 at 09:42 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at 30.5%, chloroethane at 33.2%, 1,1,1-trichloroethane at 21.1%, 1,2-dichloroethane at 20.9%, dibromochloromethane at 32.5%, bromoform at 34.0%, carbon tetrachloride at 23.2%, 1,1,2,2-tetrachloroethane at 21.6%, and xylene at 24.5%. Bromomethane results were flagged "UJ, c" in the associated samples. Since other compounds were not detected in the associated samples and the %D failure

was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MSD recovery (200%) and relative percent difference (RPD, 78%) for bromomethane were greater than the acceptance limit in the R3BM1W MS/MSD pair. Since bromomethane was not detected in the associated samples, no data qualifying action was taken. The MS/MSD RPD for 1,2-dichloroethane (24%) was greater than the acceptance limit (i.e., 23%). Positive 1,2-dichloroethane results in the associated samples were flagged "J, m". The LCS recoveries for bromomethane (176% and 200%) were greater than the upper control limit in two LCSs (1P1121MB and 1P1123MB). Since bromomethane was not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the method blank, 1113E-MB, contained chrysene at 0.78 µg/L. Since this compound was not detected in the associated samples, no data qualifying action was taken. The initial calibration, analyzed on 12/7/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for 2,4-dinitrophenol at 0.9871 and dinoseb at 0.9891. These compounds were not detected in the associated samples and non-detects were flagged "UJ, r". The CCV analyzed on 12/2/02 at 07:30 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroisopropyl)ether at 26.3%, hexachlorocyclopentadiene at –20.7%, and 4-nitrophenol at 22.0%. The CCV analyzed on 12/11/02 at 12:41 displayed %Ds greater than the control limit for bis(2-chloroisopropyl)ether at 30.3%, di-n-butyl-phthalate at 22.9%, and bis(2-ethylhexyl)phthalate at 21.8%. Since the associated samples are QC samples, no data qualifying action was taken. 29 out of 64 RPDs were greater than the acceptance limit in one LCS/LCSD pair (1113E-MB). The RPD for hexachlorocyclopentadiene (76%) was greater than the acceptance limit (i.e., 67%) in another LCS/LCSD pair (1114D-MB). These compounds were not detected in the associated samples. Since all LCS/LCSD recoveries were in control, non-detect results for these compounds were judged not affected and no data qualifying action was taken.

For the pesticides analyses, the CCV analyzed on 11/14/02 at 21:59 displayed a %D greater than the control limit (i.e., 15%) on the confirmation column for surrogate 2,4-DCAA at 25.8%. The CCVs analyzed on 11/15/02 at 07:05 and 10:30 displayed %Ds (ranging from 16.9% to 29.0%) greater than the control limit for surrogate 2,4-DCAA on both columns. The CCV analyzed on 11/15/02 at 23:03 displayed %Ds greater than the control limit for endrin at 17.7% on the primary column; and for 4,4'-DDD at 23.6% and 25.5%, endrin aldehyde at –18.8% and –17.2%, and surrogate 2,4-DCAA at 16.8% and 27.6% on both columns. 4,4'-DDD and endrin aldehyde results were flagged "UJ, c" in the associated samples. Endrin was not detected in the associated samples. Since these results either had an acceptable %D on the alternate column or were surrogates, therefore, no data qualifying action was taken. The decachlorobiphenyl (DCBP) surrogate recoveries on the confirmation column (28%) in samples R4BU1W (28%) and R3BD1W (28%) were less than the lower control

limit (i.e., 30-150%). No data qualifying action was taken since all other surrogate recoveries were in control. The DCBP surrogate recoveries in samples R3BD4W (28% and 26%) and R3BD4S (15% and 12%) were less than the lower control limit on both columns. All results in these two sample, except those previously flagged due to calibration failure, were flagged "UJ, s". The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for two beta-BHC results. These two results were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the CCV analyzed on 11/18/02 at 17:07 displayed %Ds greater than the control limit (i.e., 15%) for 2,4-DB at 20.5% and 20.1% on both columns. The CCV analyzed on 11/19/02 at 04:29 displayed %Ds greater than the control limit for 2,4-DB (i.e., –25.7% and 15.6%) on both columns. All 2,4-DB results in the associated samples were flagged "UJ, c". The LCS/LCSD recoveries for 2,4,5-TP (108% and 110%) were greater than the upper control limit (i.e., 100%) in the LCS/LCSD pair. Since this compound was not detected in the associated samples, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for antimony (74%), iron (135%), thallium (72%), and zinc (121%); and the final CRDL recoveries for arsenic (123%), iron (69%), lead (132%), sodium (52% and 68%), and thallium (72%) were outside the control limit (i.e., 80-120%). Positive dissolved sodium results were flagged "J, w" and non-detects were flagged "UJ, w" in the associated samples. Since all other recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank for total metals analysis contained aluminum at –0.03256 mg/L, beryllium at –0.00022 mg/L, calcium at 0.01505 mg/L, copper at 0.00220 mg/L, iron at 0.02927 mg/L, and nickel at 0.00485 mg/L. Aluminum was also detected in three continuing calibration blanks (CCBs) at concentrations ranging from -0.01457 mg/L to -0.02775 mg/L. Since all positive aluminum results were greater than five times the absolute blank concentration, no data qualifying action was taken. Total aluminum results in samples R3BD4W and R3BD4S were reported as non-detects at the reporting limit (0.20 mg/L). Since the action level (five times the absolute blank concentration) was much less than the reporting limit, non-detects were judged not affected by the reviewer and no data qualifying action was taken. Beryllium was also detected in CCB5 at –0.00028 mg/L. Total beryllium results were reported as non-detects at the reporting limit (0.0040 mg/L). Since the action level (five times the absolute blank concentration) was much less than the reporting limit, non-detects were judged not affected by the reviewer and no data qualifying action was taken. Calcium was also detected in the initial calibration blank (ICB) at 0.00985 mg/L, CCB4 at 0.02797 mg/L, and CCB5 at 0.01914 mg/L. The total calcium result in sample R3BD4W was flagged "U, p" at the reporting limit. Copper was also detected in CCB4 at 0.00381 mg/L, CCB5 at 0.00608 mg/L, and CCB6 at 0.00461 mg/L. All total copper results in the

associated samples were flagged "U, p" at the reporting limit. Iron was also detected in CCB5 at 0.02373 mg/L. Positive total iron results in samples R3BD4W and R3BD4S were flagged "U, p" at the reporting limit. Nickel was not detected in the associated samples. Therefore, no data qualifying action was taken. Barium was detected in CCB4 at 0.00224 mg/L, CCB5 at 0.00482 mg/L, and CCB6 at 0.00318 mg/L. The positive total barium result in sample R3BD4S was flagged "U, o" at the reporting limit. Magnesium was detected in CCB5 at 0.00645 mg/L. The positive total magnesium result in sample R3BD4S was flagged "U, o" at the reporting limit. Selenium and thallium were detected in ICB at –0.00495 mg/L and –0.00734 mg/L, respectively. Total selenium and total thallium were not detected in the associated samples and non-detected were flagged "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Vanadium was detected in CCB4 at 0.00153 mg/L, CCB5 at 0.00475 mg/L, and CCB6 at 0.00297 mg/L. Positive total vanadium results were flagged "U, o" at the reporting limit in the associated samples. Cadmium, chromium, and manganese were also detected in several CCBs at low levels. Since these analyte results in the associated samples were either non-detects or greater than five times the blank concentration, no data qualifying action was taken. The preparation blank for dissolved metals analysis contained antimony -0.00575 mg/L, arsenic at –0.00428 mg/L, barium at 0.00048 mg/L, calcium at 0.02588 mg/L, copper 0.00321 mg/L, potassium at 0.16839 mg/L, sodium at 0.46932 mg/L, and zinc at 0.00733 mg/L. Antimony was also detected in CCB4 at –0.00546 mg/L and CCB5 at –0.00471 mg/L. Arsenic was also detected in CCB6 at –0.00391 mg/L. All dissolved antimony and dissolved arsenic results were flagged "UJ, p" in the associated samples. Barium was also detected in the ICB at 0.00043 mg/L, CCB4 at 0.00212 mg/L, CCB5 at 0.00256 mg/L, and CCB6 at 0.00188 mg/L. The dissolved barium and dissolved calcium results in sample R3BD4WF were flagged "U, p" at the reporting limit. Cupper was also detected in CCB4 at 0.00272 mg/L, CCB5 at 0.00406 mg/L, and CCB6 at 0.00291 mg/L. All positive dissolved copper results were flagged "U, p" at the reporting limit. Since dissolved potassium and dissolved sodium results were greater than five times the blank concentration in the associated samples, no data qualifying action was taken. Positive dissolved zinc results in the associated samples were flagged "U, p" at the reporting limit. Aluminum was detected in the ICB at 0.01778 mg/L and CCB4 at –0.00784 mg/L. Positive dissolved aluminum results in samples R4BD1WF, R4CM1WF, and R4AM1WF were flagged "J, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Positive dissolved aluminum results in samples R3BD1WF and R3AD1WF were flagged "U, o" at the reporting limit. Manganese was detected in CCB4 at 0.00189 mg/L, CCB5 at 0.00250 mg/L, and CCB6 at 0.00185 mg/L. The positive dissolved manganese result in sample R4BM1WF was flagged "U, o" at the reporting limit. Vanadium was detected in CCB4 at 0.00261 mg/L, CCB5 at 0.00319 mg/L, and CCB6 at 0.00262 mg/L. All positive dissolved vanadium results in the associated samples were flagged "U, o" at the reporting limit. Cadmium, lead, magnesium, and thallium were detected in

the ICB and/or several CCBs at low levels. Since these analyte results in the associated samples were either non-detects or greater than five times the blank concentration, no data qualifying action was taken. The MS/MSD recoveries for total potassium (139% and 149%) were greater than the upper control limit (i.e., 125%) in one non-client MS/MSD pair. Since the parent sample is not a client sample, this failure was not used to assess the associated sample results. The serial dilution displayed a %D for total aluminum (14.1%) greater than the acceptance limit (i.e., 10%). All aluminum results, except those previously flagged due to blank contamination, were flagged "J, s". The rinse blank, R3BD4W, contained total calcium at 0.034 mg/L, total copper at 0.0012 mg/L, total iron at 0.029 mg/L, and total zinc at 0.0054 mg/L. Since total calcium, total copper, and total iron results were previously flagged as non-detects in this sample due to blank contamination, these three results were not used to assess the associated samples. Positive total zinc result less than five times the blank concentration were flagged "U, x" at the reporting limit in the associated samples. The rinse blank, R3BD4W, contained dissolved barium at 0.00036 mg/L, dissolved calcium at 0.059 mg/L, dissolved copper at 0.0020 mg/L, and dissolved zinc at 0.0037 mg/L. Since these results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. Trace barium, calcium, copper, iron, magnesium, potassium, and zinc were detected in one rinse blank R3BD4S (for sediment samples). Since associated sediment samples were not provided in this data package, no data qualifying action was taken.

Correctable Anomalies: 2,6-Dinitrotoluene was incorrectly identified and reported in sample R4CM1W. The laboratory was contacted and a revised Form I and raw data were received.

Comments: MS/MSD analyses were not performed on SVOC, pesticides, PCBs and herbicides fractions. Given that most of the LCS/LCSD results are acceptable, and no major matrix interference was observed in the chromatograph associated with these samples, no significant impact on data quality is expected.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Jason Ai

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R3AD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R3AD1W	Surface Water	VOCs	1,2-Dichloroethane	0.26	J,m	1
SIIB08	R3AD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R3AD1W	Surface Water	VOCs	Bromomethane	1	UJ,c	1
SIIB08	R3AD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R3AD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R3AD1W	Surface Water	VOCs	Toluene	1	U,x	1
SIIB08	R3AD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R3AD1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R3AD1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,c	0.1
SIIB08	R3AD1W	Surface Water	Pesticides	beta-BHC	0.0092	J,g	0.05
SIIB08	R3AD1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB08	R3AD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R3AD1W	Surface Water	Metals	Aluminum	0.86	J,s	0.02
SIIB08	R3AD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3AD1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R3AD1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R3AD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R3AD1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R3AD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R3AD1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R3AD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3AD1W-Filtered	Surface Water	Metals	Sodium	22	J,w	80
SIIB08	R3AD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R3AM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R3AM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R3AM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R3AM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R3AM1W	Surface Water	VOCs	Toluene	1	U,x	1
SIIB08	R3AM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R3AM1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R3AM1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,c	0.1
SIIB08	R3AM1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB08	R3AM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R3AM1W	Surface Water	Metals	Aluminum	0.94	J,s	0.02
SIIB08	R3AM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3AM1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R3AM1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R3AM1W	Surface Water	Metals	Vanadium	0.01	U,p	0.01
SIIB08	R3AM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R3AM1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,o	0.2
SIIB08	R3AM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R3AM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R3AM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3AM1W-Filtered	Surface Water	Metals	Sodium	23	J,w	80
SIIB08	R3AM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R3BD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R3BD1W	Surface Water	VOCs	1,2-Dichloroethane	0.29	J,m	1
SIIB08	R3BD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R3BD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R3BD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R3BD1W	Surface Water	VOCs	Toluene	1	U,x	1
SIIB08	R3BD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R3BD1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R3BD1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,c	0.1
SIIB08	R3BD1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB08	R3BD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R3BD1W	Surface Water	Metals	Aluminum	0.92	J,s	0.02
SIIB08	R3BD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3BD1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R3BD1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R3BD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R3BD1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R3BD1W-Filtered	Surface Water	Metals	Aluminum	0.2	U,o	0.2
SIIB08	R3BD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R3BD1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R3BD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3BD1W-Filtered	Surface Water	Metals	Sodium	22	J,w	80
SIIB08	R3BD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R3BM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R3BM1W	Surface Water	VOCs	1,2-Dichloroethane	0.4	J,m	1
SIIB08	R3BM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R3BM1W	Surface Water	VOCs	Bromomethane	1	UJ,c	1
SIIB08	R3BM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R3BM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R3BM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R3BM1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R3BM1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,c	0.1
SIIB08	R3BM1W	Surface Water	Pesticides	beta-BHC	0.008	J,g	0.05
SIIB08	R3BM1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,c	0.1
SIIB08	R3BM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R3BM1W	Surface Water	Metals	Aluminum	0.78	J,s	0.02
SIIB08	R3BM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3BM1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R3BM1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R3BM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R3BM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R3BM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R3BM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R3BM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R3BM1W-Filtered	Surface Water	Metals	Sodium	23	J,w	80
SIIB08	R3BM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R3BM1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R4AD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4AD1W	Surface Water	VOCs	1,2-Dichloroethane	0.34	J,m	1
SIIB08	R4AD1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4AD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4AD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4AD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4AD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4AD1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4AD1W	Surface Water	Metals	Aluminum	0.96	J,s	0.02
SIIB08	R4AD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4AD1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4AD1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4AD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4AD1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4AD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4AD1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4AD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4AD1W-Filtered	Surface Water	Metals	Sodium	21	J,w	80
SIIB08	R4AD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4AD1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB08	R4AM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4AM1W	Surface Water	VOCs	1,2-Dichloroethane	0.31	J,m	1
SIIB08	R4AM1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4AM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4AM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4AM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4AM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4AM1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4AM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R4AM1W	Surface Water	Metals	Aluminum	0.89	J,s	0.02
SIIB08	R4AM1W	Surface Water	Metals	Copper	0.02	U,p	0.02

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R4AM1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4AM1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4AM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4AM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4AM1W-Filtered	Surface Water	Metals	Aluminum	0.0092	J,o	0.02
SIIB08	R4AM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4AM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4AM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4AM1W-Filtered	Surface Water	Metals	Sodium	21	J,w	80
SIIB08	R4AM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4AU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4AU1W	Surface Water	VOCs	1,2-Dichloroethane	0.26	J,m	1
SIIB08	R4AU1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4AU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4AU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4AU1W	Surface Water	VOCs	Chloromethane	0.96	J,r	0.5
SIIB08	R4AU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4AU1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4AU1W	Surface Water	Metals	Aluminum	0.81	J,s	0.02
SIIB08	R4AU1W	Surface Water	Metals	Copper	0.01	U,p	0.01
SIIB08	R4AU1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4AU1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4AU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4AU1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4AU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4AU1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4AU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4AU1W-Filtered	Surface Water	Metals	Sodium	23	J,w	80
SIIB08	R4AU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4AU1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB08	R4BD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R4BD1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4BD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4BD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4BD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4BD1W	Surface Water	VOCs	Xylenes, Total	0.2	J,c	2
SIIB08	R4BD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4BD1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4BD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R4BD1W	Surface Water	Metals	Aluminum	0.91	J,s	0.02
SIIB08	R4BD1W	Surface Water	Metals	Copper	0.01	U,p	0.01
SIIB08	R4BD1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4BD1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4BD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4BD1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Aluminum	0.0079	J,o	0.02
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4BD1W-Filtered	Surface Water	Metals	Zinc	0.029	U,p	0.029
SIIB08	R4BM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4BM1W	Surface Water	VOCs	1,2-Dichloroethane	0.21	J,m	1
SIIB08	R4BM1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4BM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4BM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4BM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4BM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4BM1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4BM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R4BM1W	Surface Water	Metals	Aluminum	0.77	J,s	0.02

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R4BM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4BM1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4BM1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4BM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4BM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4BM1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB08	R4BU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4BU1W	Surface Water	VOCs	1,2-Dichloroethane	0.31	J,m	1
SIIB08	R4BU1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4BU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4BU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4BU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4BU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4BU1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4BU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R4BU1W	Surface Water	Metals	Aluminum	0.7	J,s	0.02
SIIB08	R4BU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4BU1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4BU1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4BU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4BU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4BU1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4BU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4BU1W-Filtered	Surface Water	Metals	Sodium	23	J,w	80
SIIB08	R4BU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R4CM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4CM1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB08	R4CM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4CM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4CM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4CM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4CM1W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4CM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R4CM1W	Surface Water	Metals	Aluminum	0.82	J,s	0.02
SIIB08	R4CM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4CM1W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4CM1W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB08	R4CM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4CM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4CM1W-Filtered	Surface Water	Metals	Aluminum	0.012	J,o	0.02
SIIB08	R4CM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4CM1W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4CM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4CM1W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB08	R4CM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4CM2W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB08	R4CM2W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB08	R4CM2W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB08	R4CM2W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB08	R4CM2W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB08	R4CM2W	Surface Water	SVOCs	Dinoseb	10	UJ,r	10
SIIB08	R4CM2W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB08	R4CM2W	Surface Water	Metals	Aluminum	0.7	J,s	0.02
SIIB08	R4CM2W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4CM2W	Surface Water	Metals	Selenium	0.01	UJ,o	0.01
SIIB08	R4CM2W	Surface Water	Metals	Thallium	0.01	UJ,o	0.01

Table 6-113b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB08

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB08	R4CM2W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB08	R4CM2W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB08	R4CM2W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB08	R4CM2W-Filtered	Surface Water	Metals	Arsenic	0.01	UJ,p	0.01
SIIB08	R4CM2W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB08	R4CM2W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB08	R4CM2W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-114a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB09	R3AD1S		11/12/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R3AM1S		11/12/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R3BD1S		11/12/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R3BM1S		11/12/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4AD1S		11/10/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4AM1S		11/10/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4AU1S		11/11/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4BD1S		11/10/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4BM1S		11/11/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4BU1S		11/11/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4CM1S		11/11/02	Sediment			X	X	X	X	X	X						X		
SIIB09	R4CM2S		11/11/02	Sediment			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SIIB09_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, TOC, pH, Particle Size_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____February 5, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOCs analyses, the initial calibration analyzed on 11/12/02 on instrument MSP5973 displayed r^2 values less than the control limit (i.e. $r^2 > 0.990$) for chloromethane at 0.989, for 1,1,1-trichloroethane at 0.985, for carbon tetrachloride at 0.987, and for bromodichloromethane at 0.987 and a %RSD greater than the control limit (i.e. <15%) for bromomethane at 22.0%. The CCV analyzed on 11/26/02 at 12:50 displayed %Ds greater than the control limit (i.e. <20%) for bromomethane at 83.7%, for chloroethane at 36.9%, for dibromochloromethane at 25.2%, and for bromoform at 26.4%. Since the only compound reported from this run was chlorobenzene, no data qualifying action was taken. The initial calibration analyzed on 11/15/02 displayed a linear range less than the control limit for chloromethane at 0.9886. Associated sample results were non-detect and were flagged "UJ,r". The CCV analyzed on 11/21/02 displayed %Ds greater than the control limit for acetone at -22.9% and for 2-butanone at -21.2%. Positive acetone results were flagged "J,c". Since all other associated sample results were non-detect and the anomalies were only slightly outside the control limit (i.e. <50%), no data qualifying action was taken. Equipment blank, R3BD4S, displayed a positive detection for toluene at 0.6 ug/L. Associated sample results with positive detections less than 5x the amount found in the blank were flagged "U,x" at the reporting limit. The trip blank analyzed on 11/23/02 displayed a positive detection for benzene at 0.22 ug/L. Since associated sample results were non-detect, no data qualifying action was taken. Chlorobenzene in sample R3AD1S exceeded the calibration range and was flagged "J,q". The sample was re-analyzed at a dilution and the diluted result should be used for data interpretation. Sample R3AD1S displayed surrogate %Rs less than the lower control limit for toluene-d8 at 61% and for 4-bromofluorobenzene at 57%. Since this sample was analyzed at a dilution greater than 10x, no data qualifying action was taken.

For the SVOCs analyses, the CCV analyzed on 12/11/02 at 12:41 displayed %Ds greater than the control limit (i.e. <20%) for bis (2-chloroisopropyl) ether at 30.3%, for di-n-butyl phthalate at 22.9%, and for bis (2-ethylhexyl) phthalate at 21.8%. Associated sample results with positive detections for bis (2-ethylhexyl) phthalate

were flagged "J,c". Since other associated sample results were non-detect and the anomalies were only slightly outside the control limit (i.e. <50%), no data qualifying action was taken. Several analytes in the MS/MSD displayed %Rs less than the lower control limit or %RPDs greater than the control limit. Since the LCS met criteria for these compounds and the anomalies were only slightly outside the control limit, no data qualifying action was taken.

For the pesticides analyses, the CCV analyzed on 11/23/02 at 15:51 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for delta-BHC at -15.8%, for 4,4'-DDD at -16.8%, for methoxychlor at -16.2%, and for surrogate 2,4-DCAA at 15.7%; and on the confirmation column for methoxychlor at -19.2%, for 4,4'-DDT at -16.6%, and for surrogate 2,4-DCAA at 17.3%. Associated sample results for methoxychlor with positive detections were flagged "J,c"; non-detects were flagged "UJ,c". Since other analytes either met criteria on the alternate column or were surrogates, no further data qualifying action was taken. The CCV analyzed on 11/24/02 at 03:54 displayed %Ds greater than the control limit on the primary column for heptachlor at -16.7%, for 4,4'-DDT at -39.3%, and for methoxychlor at -29.3%; and on the confirmation column for heptachlor at -21.0%, for 4,4'-DDT at -42.3%, for methoxychlor at -23.0%, and for 4,4'-DDD at 31.0%. Associated sample results for heptachlor, 4,4'-DDT, and methoxychlor were non-detect and were flagged "UJ,c". Since 4,4'-DDD met criteria on the alternate column, no data qualifying action was taken. Sample R4BU1S displayed surrogate %Rs less than the control limit on the primary column for 2,4-DCAA at 28% and for tetrachloro-meta-xylene (TCMX) at 25%. Since DCAA is used as a monitoring surrogate only and TCMX met criteria on the alternate column, no data qualifying action was taken. Sample R4BM1S displayed surrogate %Rs less than the lower control limit on both columns for DCAA at 24% and 24% and for TCMX at 24% and 22%. Associated analytes with positive detections were flagged "J,s"; non-detects were flagged "UJ,s"; unless previously flagged for calibration anomaly. Sample R3AM1S displayed surrogate %Rs less than the lower control limit on the primary column for TCMX at 27% and for decachlorobiphenyl at 26%. Since the surrogates met criteria on the alternate column, no data qualifying action was taken. Several samples displayed %RPDs between columns greater than the control limit (i.e. <40%) and were flagged "J,g"; unless previously flagged for calibration anomalies. Sample R4BD1S displayed an internal standard %R greater than the control limit (i.e. 150%) for bromonitrobenzene at 179.8%. The positive endrin aldehyde result was flagged "J,n".

For the herbicides analyses, the CCV analyzed on 11/21/02 at 17:26 displayed %Ds greater than the control limit (i.e. <15%) on both columns for 2,4-D at -37.3% and -31.3%. Associated sample results with positive detections were flagged "J,c"; non-detects were flagged "UJ,c". The CCV analyzed on 11/22/02 at 04:15 displayed %Ds greater than the control limit on the confirmation column for MCPP at 24.7% and for MCPA at 17.3%. Since the analytes met criteria on the alternate column, no data qualifying action was taken. Several samples displayed %RPDs between column greater than the control limit (i.e. <40%) and were flagged "J,g".

For the metals analyses, the initial and final CRDLs displayed %Rs less than the lower control limit (i.e. 80%) for antimony at 74%, iron at 69%, for sodium at 52%, and for thallium at 72% and a %R greater than the upper control limit (i.e. 120%) for zinc at 121%. Associated sodium results with positive detections were flagged "J,w"; unless previously flagged for blank contamination. Since the other anomalies were only slightly outside the control limit, no data qualifying action was taken. The prep blank displayed positive detections for barium at 0.04801 mg/kg, for copper at 0.25416 mg/kg, for sodium at 45.13151 mg/kg, and for potassium at 2.9081 mg/kg and negative detections for aluminum at -1.16198 mg/kg, for antimony at -0.51577 mg/kg, for arsenic at -0.34228 mg/kg, and for thallium at -0.96812 mg/kg. Associated thallium, antimony, and arsenic results with positive detections less than 5x the absolute amount found in the blank were flagged "J,p"; non-detects were flagged "UJ,p". Positive sodium and copper results less than 5x the amount found in the blank were flagged "U,p". CCB4 displayed a positive detection for cadmium at 0.00056 mg/L. Associated sample results with positive detections less than 5x the amount found in the blank for cadmium were flagged "U,o" at the reporting limit. Several other metals displayed either positive or negative detections. Since associated sample results were either non-detect or greater than 5x the amount found in the blank and no data qualifying action was taken. Equipment blank, R3BD4S, displayed positive detections for calcium at 0.16 mg/L, for potassium at 0.033 mg/L, and for zinc at 0.02 mg/L. Since associated sample results were greater than 5x the amount found in the blank, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit (i.e. 125%) for aluminum at 331% and 435%, for mercury at 226% and 386%, and in the MS for magnesium at 165% and for iron at 620%; and in the MSD for calcium at 3130%. The MS/MSD also displayed %Rs less than the lower control limit (i.e. 75%) for lead at 69% and 72%; and in the MS for calcium at -124%; and in the MSD for iron at 25% and for zinc at 12%. The MS/MSD pair displayed %RPDs greater than the control limit for calcium at 129.1% and for zinc at 55.8%. Associated zinc and lead results with positive detections were flagged "J,m"; non-detects were flagged "UJ,m". Since the amount found in the parent sample for aluminum, iron, and mercury were greater than 4x the amount of spike used, no data qualifying action was taken. Since magnesium met criteria in the MSD and in the LCS, no data qualifying action was taken. Positive calcium results were flagged "J,d."

Correctable Anomalies: The Form I for sample R4AD1S reported analytes which are not part of the project list. These analytes were crossed out by the data reviewer.

Comments: Three trip blanks and one equipment blank were analyzed by the laboratory in SDG# SIIB08. These samples were used for validation purposes in this SDG and any anomalies were discussed above. Any validation anomalies found which affected the results of the trip blanks and equipment blank were addressed in SDG# SIIB08.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method except for those mentioned above. It should be noted that if a

given fraction (analysis) is not discussed in this report, it indicates that there were no anomalies observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R3AD1S	Sediment	VOCs	Acetone	7.8	J,c	18
SIIB09	R3AD1S	Sediment	VOCs	Chloromethane	4.8	UJ,r	4.8
SIIB09	R3AD1S	Sediment	VOCs	Toluene	2.4	U,x	2.4
SIIB09	R3AD1S	Sediment	Pesticides	4,4'-DDE	0.54	J,g	0.1
SIIB09	R3AD1S	Sediment	Pesticides	4,4'-DDT	4.2	UJ,c	4.2
SIIB09	R3AD1S	Sediment	Pesticides	gamma-BHC (Lindane)	0.18	J,g	0.05
SIIB09	R3AD1S	Sediment	Pesticides	gamma-Chlordane	0.78	J,g	0.05
SIIB09	R3AD1S	Sediment	Pesticides	Heptachlor	2.2	UJ,c	2.2
SIIB09	R3AD1S	Sediment	Pesticides	Heptachlor Epoxide	0.61	J,g	0.05
SIIB09	R3AD1S	Sediment	Pesticides	Methoxychlor	22	UJ,c	22
SIIB09	R3AD1S	Sediment	Herbicides	2,4-D	6.6	J,c	0.5
SIIB09	R3AD1S	Sediment	Herbicides	Dichlorprop	3.1	J,g	100
SIIB09	R3AD1S	Sediment	Herbicides	Pentachlorophenol	2.8	J,g	1
SIIB09	R3AD1S	Sediment	Metals	Antimony	2.3	UJ,p	2.3
SIIB09	R3AD1S	Sediment	Metals	Calcium	7300	J,d	1.1
SIIB09	R3AD1S	Sediment	Metals	Lead	41	J,m	0.005
SIIB09	R3AD1S	Sediment	Metals	Sodium	150	U,p	150
SIIB09	R3AD1S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB09	R3AD1S	Sediment	Metals	Zinc	260	J,m	0.02
SIIB09	R3AM1S	Sediment	VOCs	Acetone	12	J,c	18
SIIB09	R3AM1S	Sediment	VOCs	Chloromethane	6	UJ,r	6
SIIB09	R3AM1S	Sediment	VOCs	Toluene	3	U,x	3
SIIB09	R3AM1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	46	J,c	10
SIIB09	R3AM1S	Sediment	Pesticides	4,4'-DDD	5.4	UJ,s	5.4
SIIB09	R3AM1S	Sediment	Pesticides	4,4'-DDE	1.3	UJ,s	1.3
SIIB09	R3AM1S	Sediment	Pesticides	4,4'-DDT	5.4	UJ,c	5.4
SIIB09	R3AM1S	Sediment	Pesticides	Aldrin	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	alpha-BHC	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	alpha-Chlordane	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	beta-BHC	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	delta-BHC	2.8	UJ,s	2.8

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R3AM1S	Sediment	Pesticides	Dieldrin	5.4	UJ,s	5.4
SIIB09	R3AM1S	Sediment	Pesticides	Endosulfan I	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	Endosulfan II	5.4	UJ,s	5.4
SIIB09	R3AM1S	Sediment	Pesticides	Endosulfan Sulfate	5.4	UJ,s	5.4
SIIB09	R3AM1S	Sediment	Pesticides	Endrin	5.4	UJ,s	5.4
SIIB09	R3AM1S	Sediment	Pesticides	Endrin Aldehyde	2.7	J,s	0.1
SIIB09	R3AM1S	Sediment	Pesticides	Endrin Ketone	5.4	UJ,s	5.4
SIIB09	R3AM1S	Sediment	Pesticides	gamma-BHC (Lindane)	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	gamma-Chlordane	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	Heptachlor	0.4	J,c	0.05
SIIB09	R3AM1S	Sediment	Pesticides	Heptachlor Epoxide	2.8	UJ,s	2.8
SIIB09	R3AM1S	Sediment	Pesticides	Methoxychlor	28	UJ,c	28
SIIB09	R3AM1S	Sediment	Pesticides	Toxaphene	280	UJ,s	280
SIIB09	R3AM1S	Sediment	Herbicides	2,4-D	14	UJ,c	14
SIIB09	R3AM1S	Sediment	Herbicides	Dichlorprop	6.8	J,g	100
SIIB09	R3AM1S	Sediment	Herbicides	MCPP	1000	J,g	120
SIIB09	R3AM1S	Sediment	Metals	Antimony	3.3	UJ,p	3.3
SIIB09	R3AM1S	Sediment	Metals	Calcium	12000	J,d	1.1
SIIB09	R3AM1S	Sediment	Metals	Lead	35	J,m	0.005
SIIB09	R3AM1S	Sediment	Metals	Sodium	270	J,w	100
SIIB09	R3AM1S	Sediment	Metals	Thallium	1.6	UJ,p	1.6
SIIB09	R3AM1S	Sediment	Metals	Zinc	310	J,m	0.02
SIIB09	R3BD1S	Sediment	VOCs	Acetone	3.6	J,c	18
SIIB09	R3BD1S	Sediment	VOCs	Chloromethane	5.3	UJ,r	5.3
SIIB09	R3BD1S	Sediment	VOCs	Toluene	2.7	U,x	2.7
SIIB09	R3BD1S	Sediment	Pesticides	Endrin Ketone	0.41	J,g	0.1
SIIB09	R3BD1S	Sediment	Pesticides	Methoxychlor	20	UJ,c	20
SIIB09	R3BD1S	Sediment	Herbicides	2,4-D	9.5	UJ,c	9.5
SIIB09	R3BD1S	Sediment	Metals	Antimony	2.1	UJ,p	2.1
SIIB09	R3BD1S	Sediment	Metals	Arsenic	1.4	J,p	0.01
SIIB09	R3BD1S	Sediment	Metals	Calcium	1600	J,d	1.1

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R3BD1S	Sediment	Metals	Lead	11	J,m	0.005
SIIB09	R3BD1S	Sediment	Metals	Sodium	92	U,p	92
SIIB09	R3BD1S	Sediment	Metals	Thallium	1	UJ,p	1
SIIB09	R3BD1S	Sediment	Metals	Zinc	87	J,m	0.02
SIIB09	R3BM1S	Sediment	VOCs	Acetone	7.9	J,c	18
SIIB09	R3BM1S	Sediment	VOCs	Chloromethane	10	UJ,r	10
SIIB09	R3BM1S	Sediment	VOCs	Toluene	5.1	U,x	5.1
SIIB09	R3BM1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	88	J,c	10
SIIB09	R3BM1S	Sediment	Pesticides	4,4'-DDD	1.2	J,g	0.1
SIIB09	R3BM1S	Sediment	Pesticides	4,4'-DDT	7.7	UJ,c	7.7
SIIB09	R3BM1S	Sediment	Pesticides	Endrin Ketone	1.2	J,g	0.1
SIIB09	R3BM1S	Sediment	Pesticides	gamma-Chlordane	3	J,g	0.05
SIIB09	R3BM1S	Sediment	Pesticides	Heptachlor	0.98	J,c	0.05
SIIB09	R3BM1S	Sediment	Pesticides	Methoxychlor	40	UJ,c	40
SIIB09	R3BM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	4.7	J,g	120
SIIB09	R3BM1S	Sediment	Herbicides	2,4-D	19	UJ,c	19
SIIB09	R3BM1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	380	J,g	120
SIIB09	R3BM1S	Sediment	Herbicides	Pentachlorophenol	3.6	J,g	1
SIIB09	R3BM1S	Sediment	Metals	Antimony	4.2	UJ,p	4.2
SIIB09	R3BM1S	Sediment	Metals	Calcium	13000	J,d	1.1
SIIB09	R3BM1S	Sediment	Metals	Lead	43	J,m	0.005
SIIB09	R3BM1S	Sediment	Metals	Sodium	290	J,w	100
SIIB09	R3BM1S	Sediment	Metals	Thallium	2.1	UJ,p	2.1
SIIB09	R3BM1S	Sediment	Metals	Zinc	180	J,m	0.02
SIIB09	R4AD1S	Sediment	VOCs	Acetone	3	J,c	18
SIIB09	R4AD1S	Sediment	VOCs	Chloromethane	6	UJ,r	6
SIIB09	R4AD1S	Sediment	VOCs	Toluene	3	U,x	3
SIIB09	R4AD1S	Sediment	Pesticides	Endrin Ketone	0.38	J,g	0.1
SIIB09	R4AD1S	Sediment	Pesticides	Heptachlor	0.33	J,g	0.05
SIIB09	R4AD1S	Sediment	Pesticides	Methoxychlor	21	UJ,c	21
SIIB09	R4AD1S	Sediment	Herbicides	2,4-D	10	UJ,c	10

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R4AD1S	Sediment	Metals	Antimony	2.5	UJ,p	2.5
SIIB09	R4AD1S	Sediment	Metals	Cadmium	0.63	U,o	0.63
SIIB09	R4AD1S	Sediment	Metals	Calcium	6400	J,d	1.1
SIIB09	R4AD1S	Sediment	Metals	Copper	2.5	U,p	2.5
SIIB09	R4AD1S	Sediment	Metals	Lead	7.7	J,m	0.005
SIIB09	R4AD1S	Sediment	Metals	Sodium	140	U,p	140
SIIB09	R4AD1S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB09	R4AD1S	Sediment	Metals	Zinc	40	J,m	0.02
SIIB09	R4AM1S	Sediment	VOCs	Chloromethane	5.3	UJ,r	5.3
SIIB09	R4AM1S	Sediment	VOCs	Toluene	2.7	U,x	2.7
SIIB09	R4AM1S	Sediment	Pesticides	Methoxychlor	21	UJ,c	21
SIIB09	R4AM1S	Sediment	Herbicides	2,4-D	10	UJ,c	10
SIIB09	R4AM1S	Sediment	Metals	Antimony	2.3	UJ,p	2.3
SIIB09	R4AM1S	Sediment	Metals	Calcium	3300	J,d	1.1
SIIB09	R4AM1S	Sediment	Metals	Lead	11	J,m	0.005
SIIB09	R4AM1S	Sediment	Metals	Sodium	100	U,p	100
SIIB09	R4AM1S	Sediment	Metals	Thallium	1.1	UJ,p	1.1
SIIB09	R4AM1S	Sediment	Metals	Zinc	140	J,m	0.02
SIIB09	R4AU1S	Sediment	VOCs	Acetone	3.1	J,c	18
SIIB09	R4AU1S	Sediment	VOCs	Chloromethane	4.1	UJ,r	4.1
SIIB09	R4AU1S	Sediment	VOCs	Toluene	2.1	U,x	2.1
SIIB09	R4AU1S	Sediment	Pesticides	Heptachlor	0.31	J,g	0.05
SIIB09	R4AU1S	Sediment	Pesticides	Methoxychlor	20	UJ,c	20
SIIB09	R4AU1S	Sediment	Herbicides	2,4-D	9.9	UJ,c	9.9
SIIB09	R4AU1S	Sediment	Metals	Antimony	2.4	UJ,p	2.4
SIIB09	R4AU1S	Sediment	Metals	Calcium	6100	J,d	1.1
SIIB09	R4AU1S	Sediment	Metals	Lead	47	J,m	0.005
SIIB09	R4AU1S	Sediment	Metals	Sodium	130	U,p	130
SIIB09	R4AU1S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB09	R4AU1S	Sediment	Metals	Zinc	190	J,m	0.02
SIIB09	R4BD1S	Sediment	VOCs	Chloromethane	5	UJ,r	5

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R4BD1S	Sediment	VOCs	Toluene	2.5	U,x	2.5
SIIB09	R4BD1S	Sediment	Pesticides	Endrin Aldehyde	2.1	J,n	0.1
SIIB09	R4BD1S	Sediment	Pesticides	Methoxychlor	3.3	J,c	0.5
SIIB09	R4BD1S	Sediment	Herbicides	2,4-D	10	UJ,c	10
SIIB09	R4BD1S	Sediment	Metals	Antimony	2.2	UJ,p	2.2
SIIB09	R4BD1S	Sediment	Metals	Cadmium	0.61	U,o	0.61
SIIB09	R4BD1S	Sediment	Metals	Calcium	1600	J,d	1.1
SIIB09	R4BD1S	Sediment	Metals	Copper	2.4	U,p	2.4
SIIB09	R4BD1S	Sediment	Metals	Lead	4.2	J,m	0.005
SIIB09	R4BD1S	Sediment	Metals	Sodium	110	U,p	110
SIIB09	R4BD1S	Sediment	Metals	Thallium	1.1	UJ,p	1.1
SIIB09	R4BD1S	Sediment	Metals	Zinc	53	J,m	0.02
SIIB09	R4BM1S	Sediment	VOCs	Chloromethane	3.5	UJ,r	3.5
SIIB09	R4BM1S	Sediment	VOCs	Toluene	1.8	U,x	1.8
SIIB09	R4BM1S	Sediment	Pesticides	4,4'-DDD	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	4,4'-DDE	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	4,4'-DDT	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	Aldrin	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	alpha-BHC	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	alpha-Chlordane	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	beta-BHC	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	delta-BHC	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	Dieldrin	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	Endosulfan I	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	Endosulfan II	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	Endosulfan Sulfate	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	Endrin	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	Endrin Aldehyde	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	Endrin Ketone	3.9	UJ,s	3.9
SIIB09	R4BM1S	Sediment	Pesticides	gamma-BHC (Lindane)	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	gamma-Chlordane	2	UJ,s	2

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R4BM1S	Sediment	Pesticides	Heptachlor	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	Heptachlor Epoxide	2	UJ,s	2
SIIB09	R4BM1S	Sediment	Pesticides	Methoxychlor	20	UJ,c	20
SIIB09	R4BM1S	Sediment	Pesticides	Toxaphene	200	UJ,s	200
SIIB09	R4BM1S	Sediment	Herbicides	2,4-D	9.9	UJ,c	9.9
SIIB09	R4BM1S	Sediment	Metals	Antimony	2	UJ,p	2
SIIB09	R4BM1S	Sediment	Metals	Arsenic	1.4	J,p	0.01
SIIB09	R4BM1S	Sediment	Metals	Cadmium	0.59	U,o	0.59
SIIB09	R4BM1S	Sediment	Metals	Calcium	2400	J,d	1.1
SIIB09	R4BM1S	Sediment	Metals	Lead	11	J,m	0.005
SIIB09	R4BM1S	Sediment	Metals	Sodium	100	U,p	100
SIIB09	R4BM1S	Sediment	Metals	Thallium	0.99	UJ,p	0.99
SIIB09	R4BM1S	Sediment	Metals	Zinc	60	J,m	0.02
SIIB09	R4BU1S	Sediment	VOCs	Acetone	3.2	J,c	18
SIIB09	R4BU1S	Sediment	VOCs	Chloromethane	5.1	UJ,r	5.1
SIIB09	R4BU1S	Sediment	VOCs	Toluene	2.6	U,x	2.6
SIIB09	R4BU1S	Sediment	Pesticides	4,4'-DDE	0.4	J,g	0.1
SIIB09	R4BU1S	Sediment	Pesticides	4,4'-DDT	3	J,g	0.1
SIIB09	R4BU1S	Sediment	Pesticides	gamma-Chlordane	1.2	J,g	0.05
SIIB09	R4BU1S	Sediment	Pesticides	Methoxychlor	21	UJ,c	21
SIIB09	R4BU1S	Sediment	Herbicides	2,4-D	10	UJ,c	10
SIIB09	R4BU1S	Sediment	Metals	Antimony	2.1	UJ,p	2.1
SIIB09	R4BU1S	Sediment	Metals	Arsenic	1.6	J,p	0.01
SIIB09	R4BU1S	Sediment	Metals	Calcium	2200	J,d	1.1
SIIB09	R4BU1S	Sediment	Metals	Lead	18	J,m	0.005
SIIB09	R4BU1S	Sediment	Metals	Sodium	110	U,p	110
SIIB09	R4BU1S	Sediment	Metals	Thallium	1	UJ,p	1
SIIB09	R4BU1S	Sediment	Metals	Zinc	71	J,m	0.02
SIIB09	R4CM1S	Sediment	VOCs	Acetone	3.3	J,c	18
SIIB09	R4CM1S	Sediment	VOCs	Chloromethane	6.4	UJ,r	6.4
SIIB09	R4CM1S	Sediment	VOCs	Toluene	3.2	U,x	3.2

Table 6-114b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB09

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB09	R4CM1S	Sediment	Pesticides	Endrin Ketone	0.76	J,g	0.1
SIIB09	R4CM1S	Sediment	Pesticides	Methoxychlor	0.9	J,c	0.5
SIIB09	R4CM1S	Sediment	Herbicides	2,4-D	9.6	UJ,c	9.6
SIIB09	R4CM1S	Sediment	Metals	Antimony	2.1	UJ,p	2.1
SIIB09	R4CM1S	Sediment	Metals	Arsenic	1.7	J,p	0.01
SIIB09	R4CM1S	Sediment	Metals	Cadmium	0.58	U,o	0.58
SIIB09	R4CM1S	Sediment	Metals	Calcium	1900	J,d	1.1
SIIB09	R4CM1S	Sediment	Metals	Copper	2.3	U,p	2.3
SIIB09	R4CM1S	Sediment	Metals	Lead	4.1	J,m	0.005
SIIB09	R4CM1S	Sediment	Metals	Sodium	120	U,p	120
SIIB09	R4CM1S	Sediment	Metals	Thallium	1.1	UJ,p	1.1
SIIB09	R4CM1S	Sediment	Metals	Zinc	23	J,m	0.02
SIIB09	R4CM2S	Sediment	VOCs	Acetone	4.4	J,c	18
SIIB09	R4CM2S	Sediment	VOCs	Chloromethane	5.9	UJ,r	5.9
SIIB09	R4CM2S	Sediment	VOCs	Toluene	2.9	U,x	2.9
SIIB09	R4CM2S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	30	J,c	10
SIIB09	R4CM2S	Sediment	Pesticides	Methoxychlor	0.76	J,c	0.5
SIIB09	R4CM2S	Sediment	Herbicides	2,4-D	10	UJ,c	10
SIIB09	R4CM2S	Sediment	Metals	Antimony	2.4	UJ,p	2.4
SIIB09	R4CM2S	Sediment	Metals	Calcium	1800	J,d	1.1
SIIB09	R4CM2S	Sediment	Metals	Copper	2.4	U,p	2.4
SIIB09	R4CM2S	Sediment	Metals	Lead	18	J,m	0.005
SIIB09	R4CM2S	Sediment	Metals	Sodium	120	U,p	120
SIIB09	R4CM2S	Sediment	Metals	Thallium	1.2	UJ,p	1.2
SIIB09	R4CM2S	Sediment	Metals	Zinc	14	J,m	0.02

Table 6-115a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID		Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB10	R2AD1W		11/13/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2AD1W-Filtered		11/13/02	Surface water								X						X		
SIIB10	R2AM1W		11/14/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2AM1W-Filtered		11/14/02	Surface water								X						X		
SIIB10	R2AM2W		11/14/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2AM2W-Filtered		11/14/02	Surface water								X						X		
SIIB10	R2AU1W		11/14/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2AU1W-Filtered		11/14/02	Surface water								X						X		
SIIB10	R2BD1W		11/13/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2BD1W-Filtered		11/13/02	Surface water								X						X		
SIIB10	R2BM1W		11/14/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2BM1W-Filtered		11/14/02	Surface water								X						X		
SIIB10	R2CM1W		11/14/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R2CM1W-Filtered		11/14/02	Surface water								X						X		
SIIB10	R3AU1W		11/13/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R3AU1W-Filtered		11/13/02	Surface water								X						X		
SIIB10	R3BU1W		11/13/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R3BU1W-Filtered		11/13/02	Surface water								X						X		
SIIB10	R3CM1W		11/13/02	Surface water			X	X	X	X	X	X						X		X
SIIB10	R3CM1W-Filtered		11/13/02	Surface water								X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SIIB10_____ **Fraction:** __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Hardness_____

Lab: ___STL – Savannah_____ **Project Name:** _____Sauget Area II_____

Reviewer: _____JA_____ **Date:** _____February 10, 2003_____

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: The relative response factor (RRF) was observed to be less than criteria (i.e., 0.05) in one continuing calibration (11/24/00 20:00) for bromomethane at 0.04566. The bromomethane result in sample R2AU1W was flagged "R, c".

Minor Anomalies: For the VOC analyses, the trip blank shipped on 11/13/02 contained styrene at 0.25 µg/L. No data qualifying action was taken since this compound was not detected in the associated samples. The initial calibration, analyzed on 11/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for chloromethane at 0.9887, carbon tetrachloride at 0.9866, 1,1,1-trichloroethane at 0.9854, and bromodichloromethane at 0.9871. Positive results were flagged "J, r" and non-detects were flagged "UJ, r" in the associated samples. This initial calibration also displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 22.0%. All associated sample results were non-detects and no data qualifying action was required since the failure was not serious enough (i.e., > 50%) to affect the non-detect values. The continuing calibration verification (CCV) analyzed on 11/23/02 at 09:42 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at 30.5%, chloroethane at 33.2%, 1,1,1-trichloroethane at 21.1%, carbon tetrachloride at 23.3%, 1,2-dichloroethane at 20.9%, dibromochloromethane at 32.5%, bromoform at 34.0%, 1,1,2,2-tetrachloroethane at 21.6%, and xylene at 24.5%. Positive 1,2-dichloroethane and xylene results were flagged "J, c". Since other compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCV analyzed on 11/24/02 at 20:00 displayed %Ds greater than the control limit for bromomethane at -36.1%, acetone at -26.2%, 2-butanone at -27.1%, 4-methyl-2-pentanone at -26.2%, and 2-hexanone at -29.7%. Since these compounds were not detected in the associated samples and the %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MSD recovery (200%) and relative percent difference (RPD, 101%) for bromomethane were greater than the acceptance limit in the R3CM1W MS/MSD pair. Since bromomethane was not detected in the associated samples, no data qualifying action was taken. The LCS recovery for bromomethane (200%) was greater than

the upper control limit in one LCS/LCSD pair (1P1123MB). The RPDs for bromomethane (68%), 1,2-dichloroethane (25%), and 1,1,2,2-tetrachloroethane (24%) were greater than the acceptance limit. Positive 1,2-dichloroethane results were previously flagged due to calibration failure, therefore, further data qualifying action was not required. Since all other compounds were not detected in the associated samples, no data qualifying action was taken. The LCS/LCSD recoveries for bromomethane (480% and 240%) were greater than the upper control limit in another LCS/LCSD pair (1P1124MB). The RPDs for bromomethane (67%) and 1,1,2,2-tetrachloroethane (25%) were greater than the acceptance limit. Since these two compounds were not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the initial calibration, analyzed on 12/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for 2-nitroaniline at 0.9885, 3-nitroaniline at 0.9884, and 2,4-dinitrophenol at 0.9876. These compounds were not detected in the associated samples and non-detects were flagged "UJ, r". The CCV analyzed on 12/11/02 at 12:41 displayed %Ds greater than the control limit (i.e., <20%) for bis(2-chloroisopropyl)ether at 30.3%, di-n-butylphthalate at 22.9%, and bis(2-ethylhexyl)phthalate at 21.8%. Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The MS recoveries for nitrobenzene (41%), dibenzofuran (45%), hexachlorobenzene (41%), and benzo(a)pyrene (42%) were less than the lower control limit in the R3CM1W MS/MSD pair. 57 out of 64 RPDs were greater than the acceptance limit. Sample R3CM1WMS displayed all internal standard %Rs greater than the upper control limit (i.e. 200%) for 1,4-dichlorobenzene-d4 (206.0%), naphthalene-d8 (212.7), acenaphthene-d10 (220.8%), phenanthrene-d10 (224.2%), chrysene-d12 (286.4%), and perylene-d12 (314.0%). The internal standard may have been double spiked by the laboratory. This sample was not re-extracted and re-analyzed by the laboratory. Since this sample is a QC sample, no data qualifying action was taken. However, the low MS recoveries and high RPDs may be affected by high internal standard peak area count (used for quantitation). Therefore, MS recovery and RPD failures were not used to assess the associated samples. Since LCS and MSD recoveries were in control, SVOC data quality should not be adversely affected.

For the pesticides analyses, the decachlorobiphenyl (DCBP) surrogate recovery on the confirmation column (28%) in sample R3CM1W was less than the lower control limit (i.e., 30-150%). No data qualifying action was taken since all other surrogate recoveries were in control. The DCBP surrogate recoveries on both columns (25% and 23%) in sample R2AM1W were less than the lower control limit. All results in this sample were non-detects and were flagged "UJ, s".

For the PCBs analyses, the extraction holding time criteria was exceeded by 6 or 7 days for all samples due to laboratory error. PCBs were not detected in the associated samples and non-detects were flagged "UJ, h".

For the herbicide analyses, the CCV analyzed on 11/20/02 at 03:35 displayed %Ds greater than the control limit (i.e., 15%) for 2,4-DB at -27.6% and -20.0% on both columns. All 2,4-DB results in the associated samples were flagged "UJ, c". The CCV analyzed on 11/21/02 at 17:26 displayed %Ds greater than the control limit for 2,4-DB at -37.3% and -31.3% on both columns. The CCV analyzed on 11/22/02 at 04:15 displayed %Ds greater than the control limit for MCPP at 24.7% and MCPA at 17.3% on the confirmation column. Since these compounds in the associated sample R3AU1WDL (for 2,4-D only) were not used for data interpretation, no data qualifying action was taken. The DCAA surrogate recoveries in samples R3BU1W (150%), R3AU1W (1000%), and R3AU1WDL (1950%) were greater than the upper control limit (i.e., 133%) on the confirmation column. All positive results in these samples were flagged "J, s". The MS/MSD recoveries for 2,4,5-TP (102% and 110%) were greater than the upper control limit (i.e., 100%) in the R3CM1W MS/MSD pair. The LCS recovery for 2,4,5-TP (115%) was greater than the upper control limit (i.e., 100%). Since this compound was not detected in the associated samples, no data qualifying action was taken. The 2,4-D result in sample R3CM1W exceeded the linear range of the calibration curve. Since this result was previously flagged due to surrogate recovery failure, no additional data flags were applied. This sample was diluted by a factor of 4 and reanalyzed by the laboratory. The 2,4-D result from the dilution analysis should be used for data interpretation. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for three positive results. Since these results were either flagged due to surrogate recovery failure or not used for data interpretation, no further data qualifying action was taken. It should be noted that the lower result between the two columns was reported by the laboratory. These results may be biased low.

For the metal analyses, the initial CRDL percent recoveries for antimony (68%) and sodium (62%); and the final CRDL recovery for sodium (59%) were less than the lower control limit (i.e., 80-120%). Positive sodium results were flagged "J, w". Since the antimony recovery was only marginally outside the control limits, no data qualifying action was taken. The preparation blank for total metals analysis contained antimony at -0.00649 mg/L, calcium at 0.01016 mg/L, cobalt at 0.00101 mg/L, copper at 0.00171 mg/L, and thallium at 0.00373 mg/L. The preparation blank for dissolved metals analysis contained aluminum at -0.01654 mg/L, antimony -0.00452 mg/L, barium at 0.00042 mg/L, calcium at 0.04848 mg/L, copper 0.00152 mg/L, and zinc at 0.00356 mg/L. Aluminum was also detected in the initial calibration blank (ICB) at 0.01977 mg/L and four continuing calibration blanks (CCBs) at concentrations ranging from -0.01217 mg/L to -0.02172 mg/L. Since all positive aluminum results were greater than five times the absolute blank concentration, no data qualifying action was taken. Some

aluminum results were reported as non-detects at the reporting limit (0.20 mg/L). Since the action level (five times the absolute blank concentration) was much less than the reporting limit, non-detects were judged not affected by the reviewer and no data qualifying action was taken. Antimony was also detected in the ICB at -0.00478 mg/L, CCB6 at -0.00621 mg/L, and -0.00566 mg/L. Antimony was not detected in the associated samples and non-detects were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Cobalt was also detected in CCB7 at 0.00096 mg/L. Positive total cobalt results in the associated samples were flagged "U, p" at the reporting limit. Copper was also detected in five CCBs at concentrations ranging from 0.00151 mg/L to 0.00319 mg/L. All positive copper results were flagged "U, p" at the reporting limit. Thallium was also detected in the ICB at 0.00600 mg/L and five CCBs at concentrations ranging from 0.00415 mg/L to 0.00829 mg/L. Positive total thallium results were flagged "U, p" at the reporting limit and positive dissolved thallium results were flagged "U, o" at the reporting limit. Zinc was also detected in CCB5 at 0.00627 mg/L. Positive dissolved zinc results less than five times blank concentration were flagged "U, p" at the reporting limit and positive total zinc results in the associated samples were flagged "U, o" at the reporting limit. Arsenic was detected in CCB5 at 0.00315 mg/L and CCB7 at 0.00301 mg/L. Vanadium was detected in four CCBs at concentrations ranging from 0.00141 mg/L to 0.00244 mg/L. Positive arsenic and vanadium results less than five times the blank concentration were flagged "U, o" at the reporting limit in the associated samples. Manganese was detected in five CCBs at concentrations ranging from 0.00094 mg/L to 0.00256 mg/L. Positive dissolved manganese result in sample R3AU1WF and R2CM1WF were flagged "U, o" at the reporting limit. Barium, cadmium, calcium, and magnesium were also detected in several CCBs at low levels. Since these analyte results in the associated samples were either non-detects or greater than five times the blank concentration, no data qualifying action was taken. The MSD recovery for dissolved sodium (126%) was greater than the upper control limit (i.e., 125%) in the R3CM1WF MS/MSD pair. Since all sodium results were previously flagged due to CRDL recovery failure, no additional data flags were applied. The post-digestion spike recovery for mercury was in control.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Jason Ai

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2AD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2AD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2AD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R2AD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R2AD1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AD1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AD1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AD1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AD1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AD1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AD1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AD1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AD1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AD1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R2AD1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AD1W	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2AD1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB10	R2AD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AD1W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2AD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2AM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2AM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R2AM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R2AM1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R2AM1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R2AM1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2AM1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AM1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AM1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AM1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AM1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AM1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AM1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AM1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AM1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	Aldrin	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	beta-BHC	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	Dieldrin	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB10	R2AM1W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB10	R2AM1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SIIB10	R2AM1W	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB10	R2AM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2AM1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AM1W	Surface Water	Metals	Cobalt	0.01	U,p	0.01
SIIB10	R2AM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AM1W	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2AM1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB10	R2AM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AM1W	Surface Water	Metals	Zinc	0.02	U,o	0.02
SIIB10	R2AM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AM1W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB10	R2AM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AM2W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2AM2W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2AM2W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R2AM2W	Surface Water	VOCs	Chloromethane	0.48	J,r	0.5
SIIB10	R2AM2W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R2AM2W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R2AM2W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R2AM2W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AM2W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AM2W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AM2W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AM2W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AM2W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AM2W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AM2W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AM2W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AM2W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AM2W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R2AM2W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AM2W	Surface Water	Metals	Arsenic	0.01	U,o	0.01

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2AM2W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AM2W	Surface Water	Metals	Sodium	20	J,w	80
SIIB10	R2AM2W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AM2W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AM2W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AM2W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2AM2W-Filtered	Surface Water	Metals	Thallium	0.01	U,o	0.01
SIIB10	R2AM2W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2AU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2AU1W	Surface Water	VOCs	Bromomethane	1	R,c	1
SIIB10	R2AU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R2AU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R2AU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R2AU1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R2AU1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R2AU1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AU1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AU1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AU1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AU1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AU1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2AU1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2AU1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AU1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2AU1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2AU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R2AU1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AU1W	Surface Water	Metals	Cobalt	0.01	U,p	0.01
SIIB10	R2AU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AU1W	Surface Water	Metals	Sodium	20	J,w	80

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2AU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AU1W	Surface Water	Metals	Zinc	0.02	U,o	0.02
SIIB10	R2AU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2AU1W-Filtered	Surface Water	Metals	Arsenic	0.01	U,o	0.01
SIIB10	R2AU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2AU1W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB10	R2AU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2AU1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB10	R2BD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2BD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2BD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R2BD1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R2BD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R2BD1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R2BD1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R2BD1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2BD1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2BD1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2BD1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2BD1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2BD1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2BD1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2BD1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2BD1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2BD1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2BD1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R2BD1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2BD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2BD1W	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2BD1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB10	R2BD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2BD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2BD1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2BD1W-Filtered	Surface Water	Metals	Sodium	18	J,w	80
SIIB10	R2BD1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2BM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2BM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2BM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R2BM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R2BM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R2BM1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R2BM1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R2BM1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2BM1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2BM1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2BM1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2BM1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2BM1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2BM1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2BM1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2BM1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2BM1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2BM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R2BM1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2BM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2BM1W	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2BM1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB10	R2BM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2BM1W	Surface Water	Metals	Zinc	0.02	U,o	0.02
SIIB10	R2BM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2BM1W-Filtered	Surface Water	Metals	Arsenic	0.01	U,o	0.01
SIIB10	R2BM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2BM1W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R2BM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2CM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R2CM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R2CM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R2CM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R2CM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R2CM1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R2CM1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R2CM1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2CM1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2CM1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2CM1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2CM1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2CM1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R2CM1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R2CM1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2CM1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R2CM1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R2CM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R2CM1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2CM1W	Surface Water	Metals	Cobalt	0.01	U,p	0.01
SIIB10	R2CM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2CM1W	Surface Water	Metals	Sodium	20	J,w	80
SIIB10	R2CM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R2CM1W	Surface Water	Metals	Zinc	0.02	U,o	0.02
SIIB10	R2CM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R2CM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R2CM1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB10	R2CM1W-Filtered	Surface Water	Metals	Sodium	20	J,w	80
SIIB10	R2CM1W-Filtered	Surface Water	Metals	Thallium	0.01	U,o	0.01

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R2CM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R3AU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R3AU1W	Surface Water	VOCs	1,2-Dichloroethane	0.7	J,c	1
SIIB10	R3AU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R3AU1W	Surface Water	VOCs	Carbon Tetrachloride	0.17	J,r	1
SIIB10	R3AU1W	Surface Water	VOCs	Chloromethane	0.2	J,r	0.5
SIIB10	R3AU1W	Surface Water	VOCs	Xylenes, Total	3	J,c	2
SIIB10	R3AU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R3AU1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R3AU1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R3AU1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R3AU1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3AU1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R3AU1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3AU1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3AU1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R3AU1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R3AU1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3AU1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3AU1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3AU1W	Surface Water	Herbicides	2,4,5-T	0.3	J,s	0.5
SIIB10	R3AU1W	Surface Water	Herbicides	2,4-D	29	J,s	0.5
SIIB10	R3AU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R3AU1W	Surface Water	Herbicides	Dichlorprop	2.2	J,s	6
SIIB10	R3AU1W	Surface Water	Herbicides	Pentachlorophenol	1.9	J,s	1
SIIB10	R3AU1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R3AU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R3AU1W	Surface Water	Metals	Sodium	24	J,w	80
SIIB10	R3AU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R3AU1W	Surface Water	Metals	Zinc	0.02	U,o	0.02
SIIB10	R3AU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R3AU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R3AU1W-Filtered	Surface Water	Metals	Manganese	0.01	U,o	0.01
SIIB10	R3AU1W-Filtered	Surface Water	Metals	Sodium	24	J,w	80
SIIB10	R3AU1W-Filtered	Surface Water	Metals	Thallium	0.01	U,o	0.01
SIIB10	R3AU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R3BU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R3BU1W	Surface Water	VOCs	1,2-Dichloroethane	0.42	J,c	1
SIIB10	R3BU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R3BU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R3BU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R3BU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB10	R3BU1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB10	R3BU1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB10	R3BU1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R3BU1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3BU1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R3BU1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3BU1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3BU1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R3BU1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R3BU1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3BU1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3BU1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3BU1W	Surface Water	Herbicides	2,4-D	5.4	J,s	0.5
SIIB10	R3BU1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R3BU1W	Surface Water	Herbicides	Dichlorprop	0.77	J,s	6
SIIB10	R3BU1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R3BU1W	Surface Water	Metals	Cobalt	0.01	U,p	0.01
SIIB10	R3BU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R3BU1W	Surface Water	Metals	Sodium	21	J,w	80
SIIB10	R3BU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R3BU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R3BU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R3BU1W-Filtered	Surface Water	Metals	Sodium	22	J,w	80
SIIB10	R3BU1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R3BU1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02
SIIB10	R3CM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB10	R3CM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB10	R3CM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB10	R3CM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB10	R3CM1W	Surface Water	PCBs	Decachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R3CM1W	Surface Water	PCBs	Dichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3CM1W	Surface Water	PCBs	Heptachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R3CM1W	Surface Water	PCBs	Hexachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3CM1W	Surface Water	PCBs	Monochlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3CM1W	Surface Water	PCBs	Nonachlorobiphenyl	0.5	UJ,h	0.5
SIIB10	R3CM1W	Surface Water	PCBs	Octachlorobiphenyl	0.3	UJ,h	0.3
SIIB10	R3CM1W	Surface Water	PCBs	Pentachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3CM1W	Surface Water	PCBs	Tetrachlorobiphenyl	0.2	UJ,h	0.2
SIIB10	R3CM1W	Surface Water	PCBs	Trichlorobiphenyl	0.1	UJ,h	0.1
SIIB10	R3CM1W	Surface Water	Herbicides	2,4-DB	0.5	UJ,c	0.5
SIIB10	R3CM1W	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R3CM1W	Surface Water	Metals	Arsenic	0.01	U,o	0.01
SIIB10	R3CM1W	Surface Water	Metals	Cobalt	0.02	U,p	0.02
SIIB10	R3CM1W	Surface Water	Metals	Sodium	20	J,w	80
SIIB10	R3CM1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB10	R3CM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB10	R3CM1W	Surface Water	Metals	Zinc	0.02	U,o	0.02
SIIB10	R3CM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,p	0.02
SIIB10	R3CM1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB10	R3CM1W-Filtered	Surface Water	Metals	Sodium	19	J,w	80
SIIB10	R3CM1W-Filtered	Surface Water	Metals	Vanadium	0.01	U,o	0.01

Table 6-115b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB10

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB10	R3CM1W-Filtered	Surface Water	Metals	Zinc	0.02	U,p	0.02

Table 6-116a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB11	R2AD1S	11/13/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R2AM1S	11/14/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R2AM2S	11/14/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R2AU1S	11/14/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R2BD1S	11/13/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R2BM1S	11/14/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R2CM1S	11/14/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R3AU1S	11/13/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R3BU1S	11/13/02	Sediment			X	X	X	X	X	X						X		
SIIB11	R3CM1S	11/13/02	Sediment			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SIIB11_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, TOC, pH, Particle Size_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____February 12, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: For the SVOCs analyses, samples R2AD1S, R2BD1S, R2BM1S, and R2AM2S were re-extracted outside the recommended holding time (i.e. 14 days) by 19 days. The samples were re-extracted due to low surrogate recoveries in the original sample results. Re-extracted sample results with positive detections were flagged "J,h"; non-detects were flagged "R,h". It is recommended that the original results be used for data interpretation. Sample R2BM1S displayed internal standard recoveries less than the lower control limit (i.e. 50%) for 1,4-dichlorobenzene-d4 at 2.16%, for naphthalene-d8 at 1.64%, for acenaphthene-d10 at 0.65%, for phenanthrene-d10 at 0.4%, for chrysene-d12 at 1.67%, and for perylene-d12 at 2.67%. Associated sample results were non-detect and were flagged "R,n". The original sample R2BM1S displayed surrogate recoveries outside the control limit for 2-fluorophenol at 279%, for phenol-d5 at 907%, for 2-fluorobiphenol at 0%, for 2,4,6-tribromophenol at 0%, and for terphenyl-d14 at 0%. Since this sample was previously flagged for internal standard failures, no further data qualifying action was taken. The original sample R2AD1S displayed %Rs less than the lower control limit for surrogate nitrobenzene-d5 at 8%, for 2-fluorobiphenol at 10%, for 2,4,6-tribromophenol at 20%, and for terphenyl-d14 at 18%. Associated sample results for base/neutral fractions were non-detect and were flagged "R,s". Since only one acid surrogate was out, no data qualifying action was taken on the acid fraction.

For the pesticides analyses, the 4,4'-DDT/endrin breakdown analyzed on 11/27/02 at 11:47 displayed percentages greater than the control limit (i.e. <20%) on both columns for 4,4'-DDD breakdown at 20.5% and 27.6%, respectively and 4,4'-DDD and 4,4'-DDE combined breakdown at 20.5% and 27.6%, respectively. Associated sample result with a positive detection for 4,4'-DDT in sample R3AU1S was flagged "J,b". In sample R2AM2S, since the 4,4'-DDT result was non-detect and the 4,4'-DDE result was positive, the 4,4'-DDE result was flagged "R,b".

For the herbicides analyses, the LCS analyzed on 12/2/02 displayed a %R less than the lower control limit for dalapon at 7%. Since associated sample results were non-detect, associated sample results were flagged "R,l".

Minor Anomalies: For the VOCs analyses, the initial calibration analyzed on 11/15/02 on instrument MSL5972 displayed a linear range less than the control limit (i.e. $r^2 > 0.990$) for chloromethane at 0.9886. Associated sample results were non-detect and were flagged "UJ,r". The initial calibration analyzed on 11/12/02 on instrument MSP5973 displayed linear ranges less than the control limit for chloromethane at 0.989, for 1,1,1-trichloroethane at 0.985, for carbon tetrachloride at 0.987, and for bromodichloromethane at 0.987 and a %RSD greater than the control limit (i.e. <15%) for bromomethane at 22.0%. Since the only compound of interest was chlorobenzene, no data qualifying action was taken. The initial calibration analyzed on 12/3/02 on instrument MSL5972 displayed a linear range less than the control limit for bromomethane at 0.987. Since only QC samples were associated with this anomaly, no data qualifying action was taken. The CCV analyzed on 11/21/02 displayed %Ds greater than the control limit for acetone at -22.9% and for 2-butanone at -21.2%. Positive acetone results were flagged "J,c". The CCV analyzed on 11/26/02 at 12:50 displayed %Ds greater than the control limit (i.e. <20%) for bromomethane at 83.7%, for chloroethane at 36.9%, for dibromochloromethane at 25.2%, and for bromoform at 26.4%. Since the only compound reported was chlorobenzene, no data qualifying action was taken. The CCV analyzed on 12/6/02 at 15:07 displayed %Ds greater than the control limit for acetone at -67.0% and for methylene chloride at -29.2%. Since only QC samples were associated with these anomalies, no data qualifying action was taken. The MS/MSD pair displayed a %R less than the lower control limit for acetone in the MSD at 33% and displayed a %RPD greater than the control limit at 59%. Since associated samples were previously flagged for calibration anomalies and the LCS for acetone met criteria, no further data qualifying action was taken. The LCS analyzed on 12/6/02 displayed a %R less than the lower control limit for acetone in the LCSD at 23% and a %RPD greater than the control limit at 95%. Since only QC samples were associated with these anomalies, no data qualifying action was taken. Chlorobenzene in samples R3BU1S and R3AU1S exceeded the calibration range and were flagged "J,q". These samples were re-analyzed at dilutions and the chlorobenzene results were within calibration range. It is the recommendation of the data reviewer that the diluted chlorobenzene results be used for data interpretation.

For the SVOCs analyses, the initial calibration analyzed on 12/12/02 displayed linear range factor less than the control limit (i.e. 0.990) for 2-nitroaniline at 0.9885, for 3-nitroaniline at 0.9884, and for 2,4-dinitrophenol at 0.988. Since associated sample results were previously flagged for holding time violations, no further data qualifying action was taken. The initial calibration analyzed on 12/16/02 displayed a linear range factor less than the control limit for dinoseb at

0.986. Associated sample results were non-detect and were flagged "UJ,r", except for R2AD1S, which was flagged for low surrogate recovery. The CCV analyzed on 12/13/02 at 16:03 displayed a %D greater than the control limit (i.e. <20%) for dinoseb at 30.9%. Since associated results were previously flagged for linear range factor failures, no further data qualifying action was taken. The CCV analyzed on 12/14/02 at 07:18 displayed %Ds greater than the control limit for 2,4-dinitrophenol at 28.5%, for 4,6-dinitro-2-methylphenol at 24.9%, and for dinoseb at 35.8%. Since associated non-detect sample results were either only slightly greater than the control limit (i.e. <50%) or previously flagged for linear range factor anomalies, no further data qualifying action was taken. The CCV analyzed on 12/17/02 at 10:06 displayed %Ds greater than the control limit for indeno(1,2,3-cd)pyrene at 28.1% and for benzo(g,h,i)perylene at 20.8%. Associated positive results were flagged "J,c". Sample R2AM2S displayed surrogate recoveries less than the lower control limit for nitrobenzene-d5 at 17%, for 2-fluorobiphenyl at 27%, and for terphenyl-d14 at 25%. Sample R2BD1S displayed surrogate recoveries less than the lower control limit for 2-fluorobiphebnyl at 25% and for terphenyl-d14 at 27%. Associated base/neutral results with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". The MS/MSD pair displayed a %Rs less than the lower control limit in the MS for butylbenzylphthalate at 54% and for chrysene at 54%. Since these compounds met criteria in the MS and the LCS, no data qualifying action was taken.

For the pesticides analyses, the confirmation column displayed a combined 4,4'-DDT/endrin breakdown percentage greater than the control limit (i.e. <30%) at 32.7%. Since the combined breakdown percentage on the primary column met criteria and endrin results were non-detect, no data qualifying action was taken. The CCV analyzed on 11/27/02 at 12:09 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for 4,4'-DDT at -49.8%, for methoxychlor at -35.8%, for endrin ketone at -16.7%, for 2,4-DCAA at 15.6%, and for DCBP at -19.4%; and on the confirmation column for 4,4'-DDT at -49.3%, for methoxychlor at -50.4%, for endrin aldehyde at -18.6%, for 2,4-DCAA at 17.7%, and for DCBP at -23.7%. Associated sample results for 4,4'-DDT and methoxychlor with positive detections were flagged "J,c"; non-detects were flagged "UJ,c". Since endrin ketone and endrin aldehyde results were non-detect and had acceptable %Ds on the alternate column, no data qualifying action was taken. Since 2,4-DCAA and DCBP are surrogates, no data qualifying action was taken. The CCV analyzed on 11/27/02 at 05:14 displayed %Ds greater than the control limit on both columns for surrogates 2,4-DCAA at 18.6% and 16% and for decachlorobiphenyl (DCBP) at -17.0% and -22.1%. The CCV analyzed on 11/28/02 at 06:02 displayed a %D greater than the control limit on the confirmation column for 2,4-DCAA at 17.8%. The CCV analyzed on 11/28/02 at 13:43 displayed %Ds greater than the control limit on both columns for surrogate 2,4-DCAA at 17.5% and 17.6%, respectively. Since 2,4-DCAA and DCBP are

surrogates (QC compounds), no data qualifying action was taken. Sample R2AU1S displayed surrogate %Rs less than the control limit on both columns for tetrachloro-meta-xylene (TCMX) at 23% and 26%, respectively. Associated sample results non-detect and were flagged "UJ,s". Sample R2BM1S displayed surrogate %Rs less than the lower control limit on both columns for for TCMX at 12% and 13%. Associated analytes with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". Sample R2AM1S displayed surrogate %Rs less than the lower control limit on the primary column for TCMX at 27% and on both columns for decachlorobiphenyl at 26% and 25%, respectively. Associated sample results were non-detect and were flagged "UJ,c", unless previously flagged for calibration anomalies. Several samples displayed %RPDs between columns greater than the control limit (i.e. <40%) and were flagged "J,g", unless previously flagged for calibration anomalies. Samples R3BU1S, R3AU1S, R2AM1S, and R2AM2S were re-analyzed at 10x dilutions due to the possibility of matrix effect causing false positives. It is the recommendation that the original results be used for data interpretation.

For the PCBs analyses, internal standard (IS) phenanthrene-d10 displayed %Rs less than the lower control limit (i.e. 70%) in the MS and MSD at 61.9% and 63.6%, respectively. Since the MS/MSD are QC samples and phenanthrene-d10 was not used for quantitation (reference only), no data qualifying action was taken. IS chrysene-d12 displayed a %R greater than the upper control limit (i.e. 130%) for sample R2AU1S at 151.8%. Since associated sample results are non-detect, no data qualifying action is taken.

For the herbicides analyses, the CCV analyzed on 12/2/02 at 10:47 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for 2,4-D at 17.2% and on the confirmation column for 2,4-D at 15.9% and for 2,4-DB at 28.6%. The CCV analyzed on 12/2/02 at 19:49 displayed a %D greater than the control limit on the confirmation column for 2,4-DB at 19.9%. Associated sample results for 2,4-D were non-detect and were flagged "UJ,c". Since associated sample results for 2,4-DB were non-detect and had acceptable %Ds on the alternate column, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit for MCPP at 139% and 133%. Since associated sample results were non-detect, no data qualifying action was taken. Several samples displayed %RPDs between column greater than the control limit (i.e. <40%) and were flagged "J,g".

For the metals analyses, the initial and final CRDLs displayed %Rs less than the lower control limit (i.e. 80%) for lead at 68% and 54% and for arsenic at 74%and %Rs greater than the upper control limit (i.e. 120%) for selenium at 121%. Associated lead results with positive detections were flagged "J,w". Since the other anomalies were only slightly outside the control limit, no data qualifying action was taken. The prep blank displayed positive detections for antimony at

0.4808 mg/kg, barium at 0.09996 mg/kg, beryllium at 0.06023 mg/kg, chromium at 0.11534 mg/kg, lead at 0.37757 mg/kg, magnesium at 0.68826 mg/kg, for potassium at 2.2078 mg/kg and negative detections for cadmium at -0.11311 mg/kg and for silver at -0.10028 mg/kg. Associated antimony and beryllium results with positive detections less than 5x the amount found in the blank were flagged "U,p" at the detection limit. Associated non-detect cadmium and silver results were flagged "UJ,p". CCB3 and CCB4 displayed positive detections for beryllium at 0.470 mg/L and 0.765 mg/L. Associated sample results less than 5x the amount found in the blank were flagged "U,o" at the reporting limit; unless previously flagged for prep blank contamination. Several other metals displayed either positive or negative detections. Since associated sample results were either non-detect or greater than 5x the amount found in the blank and no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit (i.e. 125%) for aluminum at 158% and 283% and for calcium at 160% and 163%. The MS/MSD pair displayed a %RPD greater than the control limit for aluminum at 22.11%. Associated aluminum and calcium results with positive detections were flagged "J,m".

Correctable Anomalies: None.

Comments: Two trip blanks were analyzed by the laboratory for VOCs in SDG# SIIB10. Any validation anomalies found which affected the results of the trip blanks were addressed in SDG# SIIB10. Only positive detections that may impact data quality were discussed in this data validation report.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method except for those mentioned above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that there were no anomalies observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2AD1S	Sediment	VOCs	2-Butanone (MEK)	5	J,c	8.8
SIIB11	R2AD1S	Sediment	VOCs	Acetone	40	J,c	18
SIIB11	R2AD1S	Sediment	VOCs	Chloromethane	6	UJ,r	6
SIIB11	R2AD1S	Sediment	SVOCs	1,2,4-Trichlorobenzene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	1,2-Dichlorobenzene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	1,3-Dichlorobenzene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	1,4-Dichlorobenzene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	2,4-Dinitrotoluene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	2,6-Dinitrotoluene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	2-Chloronaphthalene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	2-Methylnaphthalene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	2-Nitroaniline	2500	R,s	2500
SIIB11	R2AD1S	Sediment	SVOCs	3,3'-Dichlorobenzidine	960	R,s	960
SIIB11	R2AD1S	Sediment	SVOCs	3-Nitroaniline	2500	R,s	2500
SIIB11	R2AD1S	Sediment	SVOCs	4-Bromophenyl Phenyl Ether	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	4-Chlorophenyl Phenyl Ether	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Acenaphthene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Acenaphthylene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Anthracene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Benzo(a)anthracene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Benzo(a)pyrene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Benzo(b)fluoranthene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Benzo(g,h,i)perylene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Benzo(k)fluoranthene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Benzyl Butyl Phthalate	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	bis(2-Chloroethoxy)methane	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	bis(2-Chloroethyl)ether	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Carbazole	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Chrysene	480	R,s	480

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2AD1S	Sediment	SVOCs	Dibenzo(a,h)anthracene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Dibenzofuran	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Diethyl Phthalate	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Dimethyl Phthalate	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Di-n-butylphthalate	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Di-n-octylphthalate	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Dinoseb	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Fluoranthene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Fluorene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Hexachlorobenzene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Hexachlorobutadiene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Hexachlorocyclopentadiene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Hexachloroethane	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Indeno(1,2,3-cd)pyrene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Isophorone	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Naphthalene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Nitrobenzene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	N-Nitroso-di-n-propylamine	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	N-Nitrosodiphenylamine	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	P-Chloroaniline	960	R,s	960
SIIB11	R2AD1S	Sediment	SVOCs	Phenanthrene	480	R,s	480
SIIB11	R2AD1S	Sediment	SVOCs	Pyrene	480	R,s	480
SIIB11	R2AD1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2900	R,l	2900
SIIB11	R2AD1S	Sediment	Herbicides	2,4-D	12	UJ,c	12
SIIB11	R2AD1S	Sediment	Metals	Aluminum	6300	J,m	0.02
SIIB11	R2AD1S	Sediment	Metals	Antimony	2.9	U,p	2.9
SIIB11	R2AD1S	Sediment	Metals	Cadmium	0.66	UJ,p	0.66
SIIB11	R2AD1S	Sediment	Metals	Calcium	12000	J,m	1.1
SIIB11	R2AD1S	Sediment	Metals	Lead	11	J,w	0.005
SIIB11	R2AD1S	Sediment	Metals	Silver	1.3	UJ,p	1.3
SIIB11	R2AM1S	Sediment	VOCs	Acetone	6.4	J,c	18

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2AM1S	Sediment	VOCs	Chloromethane	5.5	UJ,r	5.5
SIIB11	R2AM1S	Sediment	SVOCs	Dinoseb	460	UJ,r	460
SIIB11	R2AM1S	Sediment	Pesticides	4,4'-DDD	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	4,4'-DDE	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	4,4'-DDT	4.6	UJ,c	4.6
SIIB11	R2AM1S	Sediment	Pesticides	Aldrin	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	alpha-BHC	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	alpha-Chlordane	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	beta-BHC	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	delta-BHC	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	Dieldrin	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	Endosulfan I	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	Endosulfan II	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	Endosulfan Sulfate	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	Endrin	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	Endrin Aldehyde	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	Endrin Ketone	4.6	UJ,s	4.6
SIIB11	R2AM1S	Sediment	Pesticides	gamma-BHC (Lindane)	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	gamma-Chlordane	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	Heptachlor	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	Heptachlor Epoxide	2.4	UJ,s	2.4
SIIB11	R2AM1S	Sediment	Pesticides	Methoxychlor	24	UJ,c	24
SIIB11	R2AM1S	Sediment	Pesticides	Toxaphene	240	UJ,s	240
SIIB11	R2AM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2800	R,l	2800
SIIB11	R2AM1S	Sediment	Herbicides	2,4-D	12	UJ,c	12
SIIB11	R2AM1S	Sediment	Metals	Aluminum	3800	J,m	0.02
SIIB11	R2AM1S	Sediment	Metals	Antimony	2.8	U,p	2.8
SIIB11	R2AM1S	Sediment	Metals	Beryllium	0.56	U,o	0.56
SIIB11	R2AM1S	Sediment	Metals	Cadmium	0.64	UJ,p	0.64
SIIB11	R2AM1S	Sediment	Metals	Calcium	8700	J,m	1.1
SIIB11	R2AM1S	Sediment	Metals	Lead	10	J,w	0.005

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2AM1S	Sediment	Metals	Silver	1.3	UJ,p	1.3
SIIB11	R2AM2S	Sediment	VOCs	Acetone	3.5	J,c	18
SIIB11	R2AM2S	Sediment	VOCs	Chloromethane	7	UJ,r	7
SIIB11	R2AM2S	Sediment	SVOCs	Dinoseb	470	UJ,r	470
SIIB11	R2AM2S	Sediment	Pesticides	4,4'-DDE	0.56	R,b	0.1
SIIB11	R2AM2S	Sediment	Pesticides	4,4'-DDT	4.7	UJ,c	4.7
SIIB11	R2AM2S	Sediment	Pesticides	Methoxychlor	24	UJ,c	24
SIIB11	R2AM2S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2800	R,l	2800
SIIB11	R2AM2S	Sediment	Herbicides	2,4-D	12	UJ,c	12
SIIB11	R2AM2S	Sediment	Metals	Aluminum	4200	J,m	0.02
SIIB11	R2AM2S	Sediment	Metals	Antimony	2.86	U,p	2.86
SIIB11	R2AM2S	Sediment	Metals	Beryllium	0.57	U,o	0.57
SIIB11	R2AM2S	Sediment	Metals	Cadmium	0.71	UJ,p	0.71
SIIB11	R2AM2S	Sediment	Metals	Calcium	9200	J,m	1.1
SIIB11	R2AM2S	Sediment	Metals	Lead	11	J,w	0.005
SIIB11	R2AM2S	Sediment	Metals	Silver	1.4	UJ,p	1.4
SIIB11	R2AU1S	Sediment	VOCs	Acetone	4.4	J,c	18
SIIB11	R2AU1S	Sediment	VOCs	Chloromethane	5.1	UJ,r	5.1
SIIB11	R2AU1S	Sediment	SVOCs	Dinoseb	420	UJ,r	420
SIIB11	R2AU1S	Sediment	Pesticides	4,4'-DDD	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	4,4'-DDE	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	4,4'-DDT	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	Aldrin	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	alpha-BHC	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	alpha-Chlordane	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	beta-BHC	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	delta-BHC	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	Dieldrin	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	Endosulfan I	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	Endosulfan II	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	Endosulfan Sulfate	4.2	UJ,s	4.2

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2AU1S	Sediment	Pesticides	Endrin	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	Endrin Aldehyde	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	Endrin Ketone	4.2	UJ,s	4.2
SIIB11	R2AU1S	Sediment	Pesticides	gamma-BHC (Lindane)	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	gamma-Chlordane	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	Heptachlor	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	Heptachlor Epoxide	2.2	UJ,s	2.2
SIIB11	R2AU1S	Sediment	Pesticides	Methoxychlor	22	UJ,s	22
SIIB11	R2AU1S	Sediment	Pesticides	Toxaphene	220	UJ,s	220
SIIB11	R2AU1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2600	R,l	2600
SIIB11	R2AU1S	Sediment	Herbicides	2,4-D	11	UJ,c	11
SIIB11	R2AU1S	Sediment	Metals	Aluminum	1200	J,m	0.02
SIIB11	R2AU1S	Sediment	Metals	Antimony	2.6	U,p	2.6
SIIB11	R2AU1S	Sediment	Metals	Beryllium	0.51	U,p	0.51
SIIB11	R2AU1S	Sediment	Metals	Cadmium	0.58	UJ,p	0.58
SIIB11	R2AU1S	Sediment	Metals	Calcium	2400	J,m	1.1
SIIB11	R2AU1S	Sediment	Metals	Lead	4	J,w	0.005
SIIB11	R2AU1S	Sediment	Metals	Silver	1.2	UJ,p	1.2
SIIB11	R2BD1S	Sediment	VOCs	Acetone	3.9	J,c	18
SIIB11	R2BD1S	Sediment	VOCs	Chloromethane	6.2	UJ,r	6.2
SIIB11	R2BD1S	Sediment	SVOCs	1,2,4-Trichlorobenzene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	1,2-Dichlorobenzene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	1,3-Dichlorobenzene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	1,4-Dichlorobenzene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	2,4-Dinitrotoluene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	2,6-Dinitrotoluene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	2-Chloronaphthalene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	2-Methylnaphthalene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	2-Nitroaniline	2300	UJ,s	2300
SIIB11	R2BD1S	Sediment	SVOCs	3,3'-Dichlorobenzidine	890	UJ,s	890

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2BD1S	Sediment	SVOCs	3-Nitroaniline	2300	UJ,s	2300
SIIB11	R2BD1S	Sediment	SVOCs	4-Bromophenyl Phenyl Ether	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	4-Chlorophenyl Phenyl Ether	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Acenaphthene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Acenaphthylene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Anthracene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Benzo(a)anthracene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Benzo(a)pyrene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Benzo(b)fluoranthene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Benzo(g,h,i)perylene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Benzo(k)fluoranthene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Benzyl Butyl Phthalate	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	bis(2-Chloroethoxy)methane	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	bis(2-Chloroethyl)ether	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Carbazole	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Chrysene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Dibenzo(a,h)anthracene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Dibenzofuran	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Diethyl Phthalate	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Dimethyl Phthalate	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Di-n-butylphthalate	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Di-n-octylphthalate	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Dinoseb	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Fluoranthene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Fluorene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Hexachlorobenzene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Hexachlorobutadiene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Hexachlorocyclopentadiene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Hexachloroethane	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Indeno(1,2,3-cd)pyrene	440	UJ,s	440

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2BD1S	Sediment	SVOCs	Isophorone	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Naphthalene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	Nitrobenzene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	N-Nitroso-di-n-propylamine	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	N-Nitrosodiphenylamine	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	P-Chloroaniline	890	UJ,s	890
SIIB11	R2BD1S	Sediment	SVOCs	Phenanthrene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	SVOCs	P-Nitroaniline	2300	UJ,s	2300
SIIB11	R2BD1S	Sediment	SVOCs	Pyrene	440	UJ,s	440
SIIB11	R2BD1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2700	R,l	2700
SIIB11	R2BD1S	Sediment	Herbicides	2,4-D	11	UJ,c	11
SIIB11	R2BD1S	Sediment	Metals	Aluminum	1300	J,m	0.02
SIIB11	R2BD1S	Sediment	Metals	Beryllium	0.54	U,p	0.54
SIIB11	R2BD1S	Sediment	Metals	Cadmium	0.61	UJ,p	0.61
SIIB11	R2BD1S	Sediment	Metals	Calcium	3000	J,m	1.1
SIIB11	R2BD1S	Sediment	Metals	Lead	5.8	J,w	0.005
SIIB11	R2BD1S	Sediment	Metals	Silver	1.2	UJ,p	1.2
SIIB11	R2BM1S	Sediment	VOCs	Acetone	3.3	J,c	18
SIIB11	R2BM1S	Sediment	VOCs	Chloromethane	5.3	UJ,r	5.3
SIIB11	R2BM1S	Sediment	SVOCs	1,2,4-Trichlorobenzene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	1,2-Dichlorobenzene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	1,3-Dichlorobenzene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	1,4-Dichlorobenzene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether)	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,4,5-Trichlorophenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,4,6-Trichlorophenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,4-Dichlorophenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,4-Dimethylphenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,4-Dinitrophenol	2200	R,n	2200
SIIB11	R2BM1S	Sediment	SVOCs	2,4-Dinitrotoluene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2,6-Dinitrotoluene	420	R,n	420

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2BM1S	Sediment	SVOCs	2-Chloronaphthalene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2-Chlorophenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2-Methylnaphthalene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2-Methylphenol (o-Cresol)	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	2-Nitroaniline	2200	R,n	2200
SIIB11	R2BM1S	Sediment	SVOCs	2-Nitrophenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	3,3'-Dichlorobenzidine	850	R,n	850
SIIB11	R2BM1S	Sediment	SVOCs	3-Methylphenol/4-Methylphenol (m&p-Cresol)	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	3-Nitroaniline	2200	R,n	2200
SIIB11	R2BM1S	Sediment	SVOCs	4,6-Dinitro-2-methylphenol	2200	R,n	2200
SIIB11	R2BM1S	Sediment	SVOCs	4-Bromophenyl Phenyl Ether	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	4-Chloro-3-methylphenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	4-Chlorophenyl Phenyl Ether	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	4-Nitrophenol	2200	R,n	2200
SIIB11	R2BM1S	Sediment	SVOCs	Acenaphthene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Acenaphthylene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Anthracene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Benzo(a)anthracene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Benzo(a)pyrene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Benzo(b)fluoranthene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Benzo(g,h,i)perylene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Benzo(k)fluoranthene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Benzyl Butyl Phthalate	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	bis(2-Chloroethoxy)methane	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	bis(2-Chloroethyl)ether	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	bis(2-Ethylhexyl)phthalate	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Carbazole	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Chrysene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Dibenzo(a,h)anthracene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Dibenzofuran	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Diethyl Phthalate	420	R,n	420

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2BM1S	Sediment	SVOCs	Dimethyl Phthalate	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Di-n-butylphthalate	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Di-n-octylphthalate	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Dinoseb	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Fluoranthene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Fluorene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Hexachlorobenzene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Hexachlorobutadiene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Hexachlorocyclopentadiene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Hexachloroethane	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Indeno(1,2,3-cd)pyrene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Isophorone	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Naphthalene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Nitrobenzene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	N-Nitroso-di-n-propylamine	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	N-Nitrosodiphenylamine	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	P-Chloroaniline	850	R,n	850
SIIB11	R2BM1S	Sediment	SVOCs	Phenanthrene	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	Phenol	420	R,n	420
SIIB11	R2BM1S	Sediment	SVOCs	P-Nitroaniline	2200	R,n	2200
SIIB11	R2BM1S	Sediment	SVOCs	Pyrene	420	R,n	420
SIIB11	R2BM1S	Sediment	Pesticides	4,4'-DDD	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	4,4'-DDE	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	4,4'-DDT	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	Aldrin	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	alpha-BHC	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	alpha-Chlordane	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	beta-BHC	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	delta-BHC	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	Dieldrin	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	Endosulfan I	2.2	UJ,s	2.2

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R2BM1S	Sediment	Pesticides	Endosulfan II	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	Endosulfan Sulfate	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	Endrin	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	Endrin Aldehyde	4.2	UJ,s	4.2
SIIB11	R2BM1S	Sediment	Pesticides	Endrin Ketone	1.2	J,s	0.1
SIIB11	R2BM1S	Sediment	Pesticides	gamma-BHC (Lindane)	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	gamma-Chlordane	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	Heptachlor	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	Heptachlor Epoxide	2.2	UJ,s	2.2
SIIB11	R2BM1S	Sediment	Pesticides	Methoxychlor	22	UJ,s	22
SIIB11	R2BM1S	Sediment	Pesticides	Toxaphene	220	UJ,s	220
SIIB11	R2BM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2600	R,l	2600
SIIB11	R2BM1S	Sediment	Herbicides	2,4-D	11	UJ,c	11
SIIB11	R2BM1S	Sediment	Metals	Aluminum	960	J,m	0.02
SIIB11	R2BM1S	Sediment	Metals	Antimony	2.6	U,p	2.6
SIIB11	R2BM1S	Sediment	Metals	Beryllium	0.51	U,p	0.51
SIIB11	R2BM1S	Sediment	Metals	Cadmium	0.58	UJ,p	0.58
SIIB11	R2BM1S	Sediment	Metals	Calcium	2200	J,m	1.1
SIIB11	R2BM1S	Sediment	Metals	Lead	19	J,w	0.005
SIIB11	R2BM1S	Sediment	Metals	Silver	1.2	UJ,p	1.2
SIIB11	R2CM1S	Sediment	VOCs	Chloromethane	6	UJ,r	6
SIIB11	R2CM1S	Sediment	SVOCs	Dinoseb	340	UJ,r	340
SIIB11	R2CM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100
SIIB11	R2CM1S	Sediment	Herbicides	2,4-D	8.6	UJ,c	8.6
SIIB11	R2CM1S	Sediment	Metals	Aluminum	780	J,m	0.02
SIIB11	R2CM1S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB11	R2CM1S	Sediment	Metals	Cadmium	0.47	UJ,p	0.47
SIIB11	R2CM1S	Sediment	Metals	Calcium	790	J,m	1.1
SIIB11	R2CM1S	Sediment	Metals	Lead	2	J,w	0.005
SIIB11	R2CM1S	Sediment	Metals	Silver	0.95	UJ,p	0.95
SIIB11	R3AU1S	Sediment	VOCs	Chloromethane	6.7	UJ,r	6.7

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R3AU1S	Sediment	SVOCs	Dinoseb	540	UJ,r	540
SIIB11	R3AU1S	Sediment	Pesticides	4,4'-DDT	3.3	J,b	0.1
SIIB11	R3AU1S	Sediment	Pesticides	Endrin Ketone	0.78	J,c	0.1
SIIB11	R3AU1S	Sediment	Pesticides	gamma-Chlordane	1	J,g	0.05
SIIB11	R3AU1S	Sediment	Pesticides	Heptachlor Epoxide	0.31	J,g	0.05
SIIB11	R3AU1S	Sediment	Pesticides	Methoxychlor	28	UJ,c	28
SIIB11	R3AU1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	3300	R,l	3300
SIIB11	R3AU1S	Sediment	Herbicides	2,4-D	14	UJ,c	14
SIIB11	R3AU1S	Sediment	Metals	Aluminum	5800	J,m	0.02
SIIB11	R3AU1S	Sediment	Metals	Antimony	3.3	U,p	3.3
SIIB11	R3AU1S	Sediment	Metals	Calcium	10000	J,m	1.1
SIIB11	R3AU1S	Sediment	Metals	Lead	47	J,w	0.005
SIIB11	R3AU1S	Sediment	Metals	Silver	1.5	UJ,p	1.5
SIIB11	R3BU1S	Sediment	VOCs	Acetone	5.1	J,c	18
SIIB11	R3BU1S	Sediment	VOCs	Chloromethane	4.5	UJ,r	4.5
SIIB11	R3BU1S	Sediment	SVOCs	Dinoseb	410	UJ,r	410
SIIB11	R3BU1S	Sediment	Pesticides	4,4'-DDT	4.1	UJ,r	4.1
SIIB11	R3BU1S	Sediment	Pesticides	gamma-Chlordane	0.54	J,g	0.05
SIIB11	R3BU1S	Sediment	Pesticides	Methoxychlor	21	UJ,c	21
SIIB11	R3BU1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2500	R,l	2500
SIIB11	R3BU1S	Sediment	Herbicides	2,4-D	10	UJ,c	10
SIIB11	R3BU1S	Sediment	Metals	Aluminum	1600	J,m	0.02
SIIB11	R3BU1S	Sediment	Metals	Antimony	2.5	U,p	2.5
SIIB11	R3BU1S	Sediment	Metals	Beryllium	0.5	U,p	0.5
SIIB11	R3BU1S	Sediment	Metals	Cadmium	0.57	UJ,p	0.57
SIIB11	R3BU1S	Sediment	Metals	Calcium	1800	J,m	1.1
SIIB11	R3BU1S	Sediment	Metals	Lead	7	J,w	0.005
SIIB11	R3BU1S	Sediment	Metals	Silver	1.1	UJ,p	1.1
SIIB11	R3CM1S	Sediment	VOCs	Chloromethane	5.7	UJ,r	5.7
SIIB11	R3CM1S	Sediment	SVOCs	Dinoseb	340	UJ,r	340
SIIB11	R3CM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100

Table 6-116b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB11

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB11	R3CM1S	Sediment	Herbicides	2,4-D	8.6	UJ,c	8.6
SIIB11	R3CM1S	Sediment	Metals	Aluminum	650	J,m	0.02
SIIB11	R3CM1S	Sediment	Metals	Antimony	2.1	U,p	2.1
SIIB11	R3CM1S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB11	R3CM1S	Sediment	Metals	Cadmium	0.47	UJ,p	0.47
SIIB11	R3CM1S	Sediment	Metals	Calcium	1200	J,m	1.1
SIIB11	R3CM1S	Sediment	Metals	Lead	1.9	J,w	0.005
SIIB11	R3CM1S	Sediment	Metals	Silver	0.95	UJ,p	0.95

Table 6-117a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB12

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB12	R1AD1W	11/15/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1AD1W-Filtered	11/15/02	Surface water								X						X		
SIIB12	R1AM1W	11/15/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1AM1W-Filtered	11/15/02	Surface water								X						X		
SIIB12	R1AU1W	11/16/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1AU1W-Filtered	11/16/02	Surface water								X						X		
SIIB12	R1BD1W	11/15/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1BD1W-Filtered	11/15/02	Surface water								X						X		
SIIB12	R1BM1W	11/16/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1BM1W-Filtered	11/16/02	Surface water								X						X		
SIIB12	R1BM2W	11/16/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1BM2W-Filtered	11/15/02	Surface water								X						X		
SIIB12	R1CM1W	11/16/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R1CM1W-Filtered	11/16/02	Surface water								X						X		
SIIB12	R2BU1W	11/15/02	Surface water			X	X	X	X	X	X						X		X
SIIB12	R2BU1W-Filtered	11/15/02	Surface water								X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _____SIIB12_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Hardness_____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____February 10, 2003_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: The relative response factor (RRF) was observed to be less than criteria (i.e., 0.05) in one continuing calibration (11/24/00 20:00) for bromomethane at 0.04566. The bromomethane result in sample R1AD4W was flagged "R, c".

Minor Anomalies: For the VOC analyses, the first trip blank shipped on 11/16/02 contained toluene at 0.51 µg/L, ethylbenzene at 0.65 µg/L, and xylene at 0.80 µg/L. The second trip blank shipped on 11/16/02 contained toluene at 0.41 µg/L, ethylbenzene at 0.31 µg/L, and styrene at 0.30 µg/L. Positive toluene and xylene results in the associated samples were flagged "U, y" at the reporting limit. Since ethylbenzene and styrene were not detected in the associated blanks, no data qualifying action was taken. The rinse blank for aqueous samples, R1AD4W, contained acetone at 11 µg/L, toluene at 0.91 µg/L, and xylene at 0.22 µg/L. The rinse blank for aqueous samples, R1CM4W, contained toluene at 0.91 µg/L. No data qualifying action was taken for acetone since this compound was not detected in the associated samples. Since toluene and xylene results in these two rinse blanks were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. The rinse blank for sediment samples, R1AD4S, contained toluene at 0.62 µg/L. Since this toluene result was previously flagged as non-detects due to blank contamination, this result was not used to assess the associated samples. The initial calibration, analyzed on 11/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for chloromethane at 0.9887, carbon tetrachloride at 0.9866, 1,1,1-trichloroethane at 0.9854, and bromodichloromethane at 0.9871. Positive results were flagged "J, r" and non-detects were flagged "UJ, r" in the associated samples. This initial calibration also displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 22.0%. All associated sample results were non-detects and no data qualifying action was required since the failure was not serious enough (i.e., > 50%) to affect the non-detect values. The continuing calibration verification (CCV) analyzed on 11/23/02 at 09:42 displayed %Ds greater than the control limit (i.e. 20%) for chloromethane at 30.5%, chloroethane at 33.2%, 1,1,1-trichloroethane at 21.1%, carbon tetrachloride at 23.2%, 1,2-dichloroethane at 20.9%, dibromochloromethane at 32.5%, bromoform at 34.0%, 1,1,2,2-

tetrachloroethane at 21.6%, and xylene at 24.5%. The CCV analyzed on 11/24/02 at 20:00 displayed %Ds greater than the control limit for bromomethane at -36.1%, acetone at -26.2%, 2-butanone at -27.1%, 4-methyl-2-pentanone at -26.2%, and 2-hexanone at -29.7%. Since positive chloromethane results were previously flagged due to initial calibration failure, no further data qualifying action was taken. Since other compounds were not detected in the associated samples and the %D failure was not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The CCV analyzed on 11/25/02 at 09:22 displayed a %D greater than the control limit for bromomethane at 128.1% (instrument sensitivity increased). Bromomethane results in two trip blanks were flagged "UJ, c". The MSD recovery (154%) and relative percent difference (RPD, 90%) for bromomethane were greater than the acceptance limit in the R1CM4S (a rinse blank) MS/MSD pair. The MS/MSD RPD for 1,2-dichloroethane (24%) was greater than the acceptance limit (i.e., 23%). Since bromomethane and 1,2-dichloroethane were not detected in the associated samples, no data qualifying action was taken. The LCS recoveries for bromomethane (200%, 240%, and 240%) were greater than the upper control limit in three LCS (1P1123MB, 1P1124MB, and 1P1125MB). Since bromomethane was not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the rinse blanks for sediment samples, R1AD4S and R1CM4S, contained bis(2-ethylhexyl)phthalate at 8.4 µg/L and 5.0 µg/L, respectively. Since associated sediment samples were not provided in this data package, no data qualifying action was taken. The initial calibration, analyzed on 12/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for 2-nitroaniline at 0.9885, 3-nitroaniline at 0.9884, and 2,4-dinitrophenol at 0.9876. These compounds were not detected in the associated samples and non-detects were flagged "UJ, r". The RPDs for bis(2-ethylhexyl)phthalate (28%), benzo(b)fluoranthene (36%), and benzo(a)pyrene (27%) were greater than the acceptance limit in the LCS/LCSD pair (1121A-MB). Positive bis(2-ethylhexyl)-phthalate results in the associated samples were flagged "J, d". Since benzo(b)-fluoranthene and benzo(a)pyrene were not detected in the associated samples and LCS/LCSD recoveries were in control, no data qualifying action was taken.

For the pesticide analyses, the rinse blank for sediment samples, R1CM4S, contained gamma-chlordane at 80.0058 µg/L. Since associated sediment samples were not provided in this data package, no data qualifying action was taken. The decachlorobiphenyl (DCBP) surrogate recoveries in sample R1AD4S (21% and 18%) were less than the lower control limit (i.e., 30%) on both columns. All results in this sample were flagged "UJ, s". The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for endrin ketone in sample R1AU1W and gamma-chlordane in sample R1CM4S. These two results were flagged "J, g". It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the CCV analyzed on 11/25/02 at 19:45 displayed a %D greater than the control limit (i.e., 15%) for 2,4-DB at 16.4% on the primary column. The CCV analyzed on 11/26/02 at 08:28 displayed %Ds greater than the control limit for 2,4-D at 21.0% and 2,4-DB at 24.8% on the primary column. 2,4-D and 2,4-DB were not detected in the associated samples. No data flags were applied to 2,4-D and 2,4-DB results since the %Ds were acceptable on the alternate column. The LCS recovery for 2,4,5-TP (118%) was greater than the upper control limit (i.e., 100%). Since this compound was not detected in the associated samples, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for iron (78%) and thallium (76%); and the final CRDL recoveries for arsenic (134%), lead (122%), and sodium (134%) were outside the control limit (i.e., 80-120%). Since all recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank for total metals analysis contained arsenic at 0.00303 mg/L, calcium at 0.0133 mg/L, copper at 0.00183 mg/L, sodium at 0.37139 mg/L, and thallium at -0.00660 mg/L. Calcium, copper, and sodium were also detected in the initial calibration blank (ICB) and/or continuing calibration blanks (CCBs) at low levels. Positive total arsenic, calcium, copper, sodium results less than five times the blank concentration were flagged "U, p" at the reporting limit in the associated samples. Thallium was also detected in the ICB at -0.00493 mg/L. The positive total thallium result in sample R1CM1W was flagged "J, p" and all other non-detects were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Aluninum, barium, magnesium, manganese, selenium, and vanadium were detected in the ICB and/or CCBs at low levels. Positive total aluminum, barium, magnesium, manganese, selenium, and vanadium results less than five times the blank concentrations were flagged "U, o" at the reporting limit in the associated samples. The preparation blank for dissolved metals analysis contained aluminum -0.01907 mg/L, arsenic at 0.00392 mg/L, barium at -0.00034 mg/L, beryllium at -0.00020 mg/L, calcium at 0.01482 mg/L, magnesium -0.00643 mg/L, sodium at 0.31574 mg/L, and thallium at -0.00530 mg/L. Aluminum was also detected in ICB at 0.01903 mg/L and four CCBs at concentrations ranging from -0.01713 mg/L to -0.02872 mg/L. All dissolved aluminum and beryllium results were reported as non-detects at the reporting limits 0.20 mg/L and 0.0040 mg/L, respectively, in the associated samples. Since the action levels for aluminum and beryllium (five times the absolute blank concentration) were much less than the reporting limits, non-detects were judged not affected by the reviewer and no data qualifying action was taken. Arsenic was also detected in the ICB at 0.00501 mg/L, CCB4 at 0.00324 mg/L, and CCB5 at 0.00427 mg/L. Positive dissolved arsenic results less than five times the blank concentration were flagged "U, p" at the reporting limit in the associated samples. Barium was also detected in the ICB at -0.00046 mg/L, CCB3 at 0.00040 mg/L, CCB5 0.00064 mg/L, and CCB6 at 0.00040 mg/L. Magnesium was also detected in CCB3 at

-0.00645 mg/L, CCB4 at -0.00644 mg/L, and CCB5 at -0.00958 mg/L. Barium and magnesium were reported as non-detects at the reporting limits, 0.010 mg/L and 0.50 mg/L, respectively, in samples R1AD4WF and R1CM4WF. Since the action levels for barium and magnesium (five times the absolute blank concentration) were much less than the reporting limits, non-detects were judged not affected by the reviewer and no data qualifying action was taken. All other positive dissolved barium and magnesium results were greater than five times the blank concentration, therefore, no data qualifying action was taken. Positive dissolved calcium results were flagged "U, p" at the reporting limit in samples R1AD4WF and R1CM4WF. Since all positive dissolved sodium results were greater than five times the blank concentration, no data qualifying action was taken. All dissolved thallium results were flagged "UJ, p" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Antimony was detected in the ICB at -0.00553 mg/L. All dissolved antimony results were flagged "UJ, o". Copper was detected in the ICB at -0.00128 mg/L, and four CCBs at concentrations ranging from 0.00127 mg/L to 0.00184 mg/L. All positive dissolved copper results were flagged "U, o" at the reporting limit. Selenium was detected in CCB3 at 0.00575 mg/L. Since selenium was not detected in the associated samples, no data qualifying action was taken. The MS/MSD recoveries for total potassium (130% and 139%) were greater than the upper control limit (i.e., 125%) in one non-client MS/MSD pair. Since the parent sample is not a client sample, this failure was not used to assess the associated sample results. The rinse blank, R1AD4W, contained total barium at 0.00034 mg/L, total calcium at 0.031 mg/L, total copper at 0.0016 mg/L, total sodium at 0.36 mg/L, and total zinc at 0.0074 mg/L. Since total barium, total calcium, total copper, and total sodium results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. Positive total zinc results less than five times the blank concentration in the associated samples were flagged "U, x" at the reporting limit. The rinse blank, R1AD4WF, contained dissolved calcium at 0.020 mg/L and dissolved copper at 0.00094 mg/L. Since these results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. The rinse blank, R1CM4W, contained total aluminum at 0.0091 mg/L, total calcium at 0.030 mg/L, total copper at 0.0016 mg/L, total iron at 0.022 mg/L, and total zinc at 0.0086 mg/L. Since total aluminum, total calcium, and total copper results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. Positive total zinc results less than five times the blank concentration in the associated samples were flagged "U, x" at the reporting limit. Since positive total iron results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. The rinse blank, R1CM4WF, contained dissolved calcium at 0.028 mg/L, dissolved copper at 0.0012 mg/L, and dissolved zinc at 0.0058 mg/L. Since dissolved calcium and dissolved copper results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. Since dissolved zinc was

not detected in the associated samples, no data qualifying action was taken. Trace amounts of aluminum, arsenic, barium, calcium, copper, iron, magnesium, manganese, potassium, sodium, and zinc were detected in the rinse blank R1AD4S (for sediment samples). Since associated sediment samples were not provided in this data package, no data qualifying action was taken.

For the hardness analyses, the rinse blank, R1CM4W, contained hardness at 200 mg/L. Positive hardness results in the associated samples were flagged "U, x".

Correctable Anomalies: None.

Comments: MS/MSD analyses were not performed on SVOC and pesticides fractions. Given that most of the LCS/LCSD results are acceptable, and no major matrix interference was observed in the chromatograph associated with these samples, no significant impact on data quality is expected.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. Excepting the rejected data points, all data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____
Jason Ai

Table 6-117b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB12

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB12	R1AD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1AD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1AD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1AD1W	Surface Water	VOCs	Chloromethane	0.5	UJ,r	0.5
SIIB12	R1AD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1AD1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1AD1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1AD1W	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB12	R1AD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1AD1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1AD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1AD1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1AD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1AD1W-Filtered	Surface Water	Metals	Arsenic	0.1	U,p	0.1
SIIB12	R1AD1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R1AD1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1AM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1AM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1AM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1AM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB12	R1AM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1AM1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1AM1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1AM1W	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB12	R1AM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1AM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1AM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1AM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1AM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1AM1W-Filtered	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB12	R1AM1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02

Table 6-117b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB12

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB12	R1AM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1AU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1AU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1AU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1AU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB12	R1AU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1AU1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1AU1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1AU1W	Surface Water	Pesticides	Endrin Ketone	0.015	J,g	0.1
SIIB12	R1AU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1AU1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1AU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1AU1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1AU1W	Surface Water	Other Parameters	Hardness, Carbonate	200	U,x	200
SIIB12	R1AU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1AU1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R1AU1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,o	0.01
SIIB12	R1BD1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1BD1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1BD1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1BD1W	Surface Water	VOCs	Chloromethane	0.5	J,r	0.5
SIIB12	R1BD1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1BD1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1BD1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1BD1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1BD1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1BD1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1BD1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1BD1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1BD1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R1BD1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01

Table 6-117b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB12

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB12	R1BM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1BM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1BM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1BM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB12	R1BM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1BM1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1BM1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1BM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1BM1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1BM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1BM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1BM1W	Surface Water	Other Parameters	Hardness, Carbonate	210	U,x	210
SIIB12	R1BM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1BM1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R1BM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1BM2W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1BM2W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1BM2W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1BM2W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB12	R1BM2W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1BM2W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1BM2W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1BM2W	Surface Water	SVOCs	bis(2-Ethylhexyl)phthalate	14	J,d	10
SIIB12	R1BM2W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1BM2W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R1BM2W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1BM2W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1BM2W	Surface Water	Other Parameters	Hardness, Carbonate	210	U,x	210
SIIB12	R1BM2W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1BM2W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R1BM2W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01

Table 6-117b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB12

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB12	R1CM1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R1CM1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R1CM1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R1CM1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB12	R1CM1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R1CM1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R1CM1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R1CM1W	Surface Water	Metals	Arsenic	0.01	U,p	0.01
SIIB12	R1CM1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R1CM1W	Surface Water	Metals	Thallium	0.0052	J,p	0.01
SIIB12	R1CM1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R1CM1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R1CM1W	Surface Water	Other Parameters	Hardness, Carbonate	200	U,x	200
SIIB12	R1CM1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R1CM1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R1CM1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R2BU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB12	R2BU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB12	R2BU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB12	R2BU1W	Surface Water	VOCs	Chloromethane	0.57	J,r	0.5
SIIB12	R2BU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB12	R2BU1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB12	R2BU1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB12	R2BU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB12	R2BU1W	Surface Water	Metals	Thallium	0.01	UJ,p	0.01
SIIB12	R2BU1W	Surface Water	Metals	Vanadium	0.01	U,o	0.01
SIIB12	R2BU1W	Surface Water	Metals	Zinc	0.02	U,x	0.02
SIIB12	R2BU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB12	R2BU1W-Filtered	Surface Water	Metals	Arsenic	0.1	U,p	0.1
SIIB12	R2BU1W-Filtered	Surface Water	Metals	Copper	0.02	U,o	0.02
SIIB12	R2BU1W-Filtered	Surface Water	Metals	Thallium	0.01	UJ,p	0.01

Table 6-118a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB13	P11S	11/18/02	Sediment			X	X	X	X	X	X						X		
SIIB13	P12S	11/18/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1AD1S	11/15/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1AM1S	11/15/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1AU1S	11/16/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1BD1S	11/15/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1BM1S	11/16/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1BM2S	11/16/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1BU1S	11/16/02	Sediment							X									
SIIB13	R1BU1S	11/17/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R1CM1S	11/16/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R2BU1S	11/15/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R5AN1S	11/17/02	Sediment			X	X	X	X	X	X						X		
SIIB13	R5BN1S	11/17/02	Sediment			X	X	X	X	X	X						X		

DATA VALIDATION REPORT - Level III Review

SDG No.: _SIIB13_____ **Fraction:_VOCs, SVOCs, Pest., PCBs, Herb.,__ Metals, Wet Chemistry_____**

Lab: _Severn Trent-Savannah_____ **Project Name: __Sauget Area 2_____**

Reviewer: _____MRS_____ **Date: _____February 14, 2002_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, copies of data reports with data qualifying flags applied (as required), the completed data validation checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP and the National Functional Guidelines for Organic and Inorganic Data Review (February 1994) and the specifics of the analytical method employed.

Major Anomalies: For the pesticides analyses, the 4,4'-DDT breakdown analyzed on 11/28/02 at 18:29 displayed a percentage greater than the control limit (i.e. <20%) on both columns for 4,4'-DDD at 71.6% and 70.7% and for combined 4,4'-DDD/4,4'-DDE at 71.6% and 72.1%. The combined 4,4'-DDT/endrin breakdown displayed a percentage greater than the control limit (i.e. <30%) on both columns at 78.3% and 80.8%. The positive 4,4'-DDE result in sample R1AD1S and the positive endrin ketone results on samples R5AN1S and R5BN1S were flagged "R,b". The positive 4,4'-DDT result in sample P12S was flagged "J,b". The CCV analyzed on 11/28/02 displayed %Ds greater than the control limit (i.e. <15%) on both columns for 4,4'-DDT at -81.5% and -81.2%, respectively. Associated sample results were non-detect and were flagged "R,c"; unless previously flagged for breakdown anomalies.

For the herbicides analyses, the LCS analyzed displayed very low recoveries for all analytes due to the extraction vessel having a leak during the concentration part of the extraction. The laboratory did not attempt to re-extract an LCS. Associated sample results with positive detections were flagged "J,l"; non-detects were flagged "R,l". The data completeness failed the completeness criteria of 90% at 10% due to samples being flagged for LCS anomalies.

Minor Anomalies: For the VOCs analyses, the initial calibration analyzed on 11/15/02 on instrument MSL5972 displayed a linear range less than the control limit (i.e. $r^2 > 0.990$) for chloromethane at 0.9886. Associated sample results were non-detect and were flagged "UJ,r". The initial calibration analyzed on 11/12/02 on instrument MSP5973 displayed linear ranges less than the control limit for chloromethane at 0.989, for 1,1,1-trichloroethane at 0.985, for carbon tetrachloride at 0.987, and for bromodichloromethane at 0.987 and a %RSD greater than the control limit (i.e. <15%) for bromomethane at 22.0%. Since the only compound of interest was acetone, no data qualifying action was taken. The initial calibration analyzed on 12/3/02 on instrument MSL5972 displayed a linear range less than the control limit for bromomethane at 0.987. Since only QC samples were associated with this anomaly, no data qualifying action was taken. The CCV analyzed on 11/25/02

at 09:51 displayed %Ds greater than the control limit for acetone at -39.1% and for bromomethane at 63.4%. Positive acetone results were flagged "J,c". Non-detect bromomethane results were flagged "UJ,c". The CCV analyzed on 11/26/02 at 12:50 displayed %Ds greater than the control limit (i.e. <20%) for bromomethane at 83.7%, for chloroethane at 36.9%, for dibromochloromethane at 25.2%, and for bromoform at 26.4%. Since the only compound reported was acetone, no data qualifying action was taken. The CCV analyzed on 12/6/02 at 15:07 displayed %Ds greater than the control limit for acetone at -67.0% and for methylene chloride at -29.2%. Since only QC samples were associated with these anomalies, no data qualifying action was taken. The trip blanks received on 11/18/02 displayed positive detections for toluene at 0.51 ug/L and 0.41 ug/L, for ethylbenzene at 0.65 ug/L and 0.31 ug/L, for styrene at 0.30 ug/L, and for total xylenes at 0.80 ug/L. Samples received on 11/18/02 with positive detections less than 5x the amount found in the blank were flagged "U,y" at either at the reporting limit or if the result was greater than the reporting limit, at the result. The equipment blank P14S displayed a positive detection for acetone at 15 ug/L. The positive acetone result in P12S was flagged "U,x" at the reporting limit. Trip blanks received on 11/19/02 displayed positive detections for chloromethane at 0.88 ug/L, for methylene chloride at 1.1 ug/L, for toluene at 0.3 ug/L and 0.36 ug/L, for benzene at 0.18 ug/L, and for styrene at 0.44 ug/L. Since associated samples received on the same day were non-detect, no data qualifying action was taken. The MS/MSD was analyzed on 12/7/02, which exceeded the holding time (i.e. 14 days) by 6 days. Since the LCS met criteria, no data qualifying action was taken. The MS/MSD pair displayed %Rs greater than the upper control limit for bromomethane and acetone in the MS at 238% and -3602%, respectively and a %R greater than the upper control limit for acetone in the MSD at 1111%. The MS/MSD pair displayed a %RPD greater than the control limit for acetone at 195%. Since the amount of acetone found in the parent sample was greater than 4x the amount of spiking solution used, no data qualifying action was taken. Since bromomethane met criteria in the MSD and in the LCS, no data qualifying action was taken. Non-detect acetone results were flagged "UJ,d". Since positive detections were previously flagged for calibration anomalies, no further data qualifying action was taken. Sample P11S displayed surrogate %Rs less than the lower control limit for dibromofluoromethane at 36%, for toluene-d8 at 28%, and for 4-bromofluorobenzene at 35%. Since this sample was analyzed at a dilution greater than 10x, no data qualifying action was taken. The LCS/LCSD pair analyzed on 11/25/02 displayed a %RPD for bromomethane at 145%. Since bromomethane was previously flagged for calibration anomalies, no data qualifying action was taken. The LCS analyzed on 12/6/02 displayed a %R less than the lower control limit for acetone in the LCSD at 23% and a %RPD greater than the control limit at 95%. Since only QC samples were associated with these anomalies, no data qualifying action was taken. Internal standard (IS) chlorobenzene-d5 displayed a %R less than the lower control limit (i.e. <50%) in sample P11S at 46.1%. Analytes associated with the IS with positive detections

were flagged "J,n"; non-detects were flagged "UJ,n". The MS/MSD pair displayed %Rs less than the lower control limit for all three ISs. Since the MS/MSD pair are QC samples, no data qualifying action was taken. Acetone in samples R5AN1S and P11S exceeded the calibration range and were flagged "J,q". Sample P11S was re-analyzed at a dilution and the acetone result was non-detect. Since acetone has poor solubility in methanol, it is the recommendation of the data reviewer that the original result for acetone be used for data interpretation. Sample R5AN1S was not re-analyzed at a dilution.

For the SVOCs analyses, the initial calibration analyzed on 12/12/02 displayed linear range factor less than the control limit (i.e. 0.990) for 2-nitroaniline at 0.9885, for 3-nitroaniline at 0.9884, and for 2,4-dinitrophenol at 0.988. Associated sample results were non-detect and were flagged "UJ,r". The initial calibration analyzed on 12/16/02 displayed a linear range factor less than the control limit for dinoseb at 0.986. Since only QC samples were associated with this CCV, no data qualifying action was taken. The CCV analyzed on 11/26/02 at 07:45 displayed %Ds greater than the control limit (i.e. <20%) for 4-nitrophenol at -29.2% and for di-n-butylphthalate at -27.6%. The CCV analyzed on 12/2/02 at 18:39 displayed a %D greater than the control limit for bis (2-chloroisopropyl) ether at 21.8%. Since only QC samples were associated with the CCVs, no data qualifying action was taken. The CCV analyzed on 12/15/02 at 11:04 displayed %Ds greater than the control limit for 2,4-dinitrophenol at 62.5%, for 4-nitrophenol at 22.3%, for 4,6-dinitro-2-methylphenol at 46.5%, and for dinoseb at 59.8%. Associated sample results for dinoseb were non-detect and were flagged "UJ,c". Since 2,4-dinitrophenol was previously flagged for linear range anomalies, no further data qualifying action was taken. Since 4-nitrophenol and 4,6-dinitro-2-methylphenol were non-detect and were only slightly greater outside the control limit (i.e. <50%), no data qualifying action was taken. Equipment blanks R1AD4S and R1CM4S displayed a positive detection for bis (2-ethylhexyl) phthalate at 8.4 ug/L and 5.0 ug/L, respectively. Since associated sample results were non-detect, no data qualifying action was taken. Sample R2BM1S displayed surrogate recoveries outside the control limit for 2-fluorophenol at 279%, for phenol-d5 at 907%, for 2-fluorobiphenol at 0%, for 2,4,6-tribromophenol at 0%, and for terphenyl-d14 at 0%. Since this sample was previously flagged for internal standard failures, no further data qualifying action was taken. Sample R2AD1S displayed %Rs less than the lower control limit for surrogate nitrobenzene-d5 at 8%, for 2-fluorobiphenol at 10%, for 2,4,6-tribromophenol at 20%, and for terphenyl-d14 at 18%. Associated sample results for both acid and base/neutral fractions with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". Sample R2AM2S displayed surrogate recoveries less than the lower control limit for nitrobenzene-d5 at 17% and for 2-fluorobiphenyl at 27%. Associated base/neutral results with positive detections were flagged "J,s"; non-detects were flagged "UJ,s". Sample R2BD1S displayed surrogate recoveries less than the lower control limit for 2-fluorobiphebnyl at 25% and for terphenyl-d14 at

27%. Since the other surrogates met criteria, no data qualifying action was taken. The MS/MSD pair displayed %Rs less than the lower control limit for dimethylphthalate at 42% and 45%, for n-nitrosodiphenylamine at 45% and 48%, for butylbenzylphthalate at 49% and 52%, for benzo(a)anthracene at 48% and 49%, and for chrysene at 48% and 49%. The MS/MSD pair also displayed a %RPD greater than the control limit for hexachlorocyclopentadiene at 117%. Associated sample results for hexachlorocyclopentadiene were non-detect and were flagged "UJ,d". Since these compounds met criteria in the LCS, no data qualifying action was taken.

For the pesticides analyses, the CCV analyzed on 11/28/02 at 18:51 displayed %Ds greater than the control limit (i.e. <15%) on the primary column for gamma-BHC at -16.0%, for heptachlor at -38.2%, for 4,4'-DDD at 38.2%, for methoxychlor at -75.5%, and for endrin ketone at -26.6%; and on the confirmation column for heptachlor at -42.3%, for 4,4'-DDD at 40.2%, for methoxychlor at -74.4%, for endrin ketone at -28.6%, for endosulfan II at 18.8%, and for surrogate 2,4-DCAA at 17.8%. Since 2,4-DCAA is a QC analyte, no data qualifying action was taken. Since gamma-BHC and endosulfan II were non-detect in associated samples, no data qualifying action was taken. For the other anomalies, associated sample results were non-detect and were flagged "UJ,c"; unless previously flagged for 4,4'-DDT/endrin breakdown anomalies. The CCV analyzed on 11/28/02 at 06:02 displayed a %D greater than the control limit on the confirmation column for 2,4-DCAA at 17.8%. The CCV analyzed on 11/28/02 at 13:43 displayed %Ds greater than the control limit on both columns for surrogate 2,4-DCAA at 17.5% and 17.6%, respectively. Since both surrogates are QC samples, no data qualifying action was taken. Sample R5BN1S and the MS/MSD displayed %Rs less than the lower control limit (i.e. 30%) for surrogate 2,4-DCAA on the primary column at 25%, 25%, and 28%, respectively. Since 2,4-DCAA is used only as a monitoring surrogate and the other surrogates met criteria, no data qualifying action was taken. Several diluted samples displayed all surrogate recoveries of 0%. Since these samples were analyzed at dilutions greater than 10x, no data qualifying action was taken. The MS/MSD analyzed on sample P11S displayed several analytes with recoveries greater than the upper control limit. Since the associated sample results were either non-detect or were previously flagged for other anomalies, no further data qualifying action was taken. Another MS/MSD was analyzed on sample P11S and displayed 0% recovery for all compounds except endrin, which displayed %Rs greater than the upper control limit. Since this MS/MS was analyzed at a 10x dilution, most of the recoveries were diluted out. No data qualifying action was taken. Samples P11S and the MS/MSD displayed %Rs greater than the upper control limit for internal standard (IS) bromonitrobenzene at 174.9%, for 185.9%, and for 169.3%. Since either the samples were QC samples or associated sample results were either non-detect or previously flagged, no data qualifying action was taken. Equipment blank R1CM4S displayed a positive detection for gamma-chlordane at 0.0058

ug/L. Since associated sample results were non-detect, no data qualifying action was taken. Several samples displayed %RPDs between columns greater than the control limit (i.e. <40%) Since these analytes were previously flagged calibration anomalies, no further data qualifying action was taken.. Samples R1AM1S, R1AD1S, R5AN1S, P11S, P12S, and R5BN1S were re-analyzed at 10x dilutions. It is the recommendation that the original results be used for data interpretation.

For the PCBs analyses, the MS displayed a %R less than the lower control limit (i.e. 40%) for pentachlorobiphenyl at 36%. Since the MSD and the LCS met criteria, no data qualifying action was taken.

For the herbicides analyses, the CCV analyzed on 12/2/02 at 19:49 displayed a %D greater than the control limit on the confirmation column for 2,4-DB at 19.9%. The CCV analyzed on 12/3/02 at 05:42 displayed a %D greater than the control limit for 2,4-DB at 20.6%. Since associated sample results were non-detect, no data qualifying action was taken. The LCS displayed surrogate recoveries less than the lower control limit for surrogate 2,4-DCAA at 6% and 8%. Since the analytes associated with the LCS also displayed very low recoveries, associated sample results were flagged as described above. The MS/MSD pair displayed a %RPD greater than the control limit for dichloroprop at 59%. Since associated sample results were previously flagged for LCS anomalies, no further data qualifying action was taken. Several samples displayed %RPDs between columns greater than the control limit (i.e. <40%). Since these analytes were previously flagged for LCS anomalies, no further data qualifying action was taken.

For the metals analyses, the initial CRDL displayed a %R greater than the upper control limit (i.e. 120%) for selenium at 142%. The final CRDL displayed a %R greater than the upper control limit (i.e. 120%) for thallium at 135% and a %R less than the lower control limit for iron at 70%. Since associated sample results were either non-detect (selenium) or only slightly outside the control limit (iron and thallium), no data qualifying action was taken. The prep blank displayed positive detections for antimony 0.81737 mg/kg, for beryllium at 0.06077 mg/kg, and for lead at 0.25794 mg/kg and negative detections for arsenic at -0.38393 mg/kg, for cobalt at -0.1736 mg/kg, and for silver at -0.18682 mg/kg. Associated antimony and beryllium results with positive detections less than 5x the amount found in the blank were flagged "U,p" at the detection limit. Associated positive arsenic results less than 5x the absolute value found in the blank were flagged "J,p". The positive silver result in sample P12S was flagged "UJ,p" at the detection limit. Non-detect cadmium and silver results were flagged "UJ,p". Positive or negative blank detections were observed in CCB3, CCB4, CCB5, CCB7, and CCB8 Since associated sample results were either non-detect, previously flagged for prep blank contamination, or greater than 5x the amount found in the blank and no data qualifying action was taken. Rinsate blanks R1CM4S, R1AD4S, and P14S displayed positive detections for calcium ranging

from 0.12 mg/L to 0.24 mg/L, for potassium at 0.059 mg/L and 0.041 mg/L, for iron at 0.025 mg/L and 0.033 mg/L, and for zinc ranging from 0.0047 mg/L to 0.057 mg/L. The zinc results in samples R1BD1S and R2BU1S were flagged "U,x". Since other associated sample results were either non-detect or greater than 5x the amount found in the blank, no data qualifying action was taken. The MS/MSD displayed %Rs greater than the upper control limit (i.e. 125%) for aluminum at 855% and 1162%, for calcium at 270% and 231%, for iron at 1357% and 1603%, for magnesium at 164% and 169%, and for manganese at 155% and 152%. The MS/MSD also displayed %Rs less than the lower control limit (i.e. 75%) for antimony at 50% and 52%. Associated antimony results not flagged for prep blank contamination with positive detections were flagged "J,m". Since the amount found in the parent sample for aluminum, calcium, iron, magnesium, and manganese were greater than 4x the amount of spike used, no data qualifying action was taken. Zinc displayed a serial dilution %RPD greater than the control limit (i.e. 10%) at 11.0%. Associated zinc results were positive and were flagged "J,s".

Correctable Anomalies: None.

Comments: Three trip blanks and three rinse blanks were analyzed by the laboratory in SDG# SIIB12. Any validation anomalies found which affected the results of the trip blanks were addressed in SDG# SIIB12. Only positive detections which may impact sediment data quality were discussed in this data validation report.

On the basis of this evaluation, the laboratory appears to have followed the specified analytical method except for those mentioned above. It should be noted that if a given fraction (analysis) is not discussed in this report, it indicates that there were no anomalies observed for that fraction. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	P11S	Sediment	VOCs	1,1,2,2-Tetrachloroethane	4.5	UJ,n	4.5
SIIB13	P11S	Sediment	VOCs	Acetone	2900	J,q	18
SIIB13	P11S	Sediment	VOCs	Bromoform	4.5	UJ,n	4.5
SIIB13	P11S	Sediment	VOCs	Bromomethane	9	UJ,c	9
SIIB13	P11S	Sediment	VOCs	Chlorobenzene	4.5	UJ,n	4.5
SIIB13	P11S	Sediment	VOCs	Chloromethane	9	UJ,r	9
SIIB13	P11S	Sediment	VOCs	Ethylbenzene	4.5	UJ,n	4.5
SIIB13	P11S	Sediment	VOCs	Styrene (Monomer)	4.5	UJ,n	4.5
SIIB13	P11S	Sediment	VOCs	Xylenes, Total	6.8	J,n	11
SIIB13	P11S	Sediment	SVOCs	2,4-Dinitrophenol	3600	UJ,r	3600
SIIB13	P11S	Sediment	SVOCs	2-Nitroaniline	3600	UJ,r	3600
SIIB13	P11S	Sediment	SVOCs	3-Nitroaniline	3600	UJ,r	3600
SIIB13	P11S	Sediment	SVOCs	Dinoseb	700	UJ,c	700
SIIB13	P11S	Sediment	SVOCs	Hexachlorocyclopentadiene	700	UJ,d	700
SIIB13	P11S	Sediment	Pesticides	4,4'-DDD	7	UJ,c	7
SIIB13	P11S	Sediment	Pesticides	4,4'-DDT	7	R,c	7
SIIB13	P11S	Sediment	Pesticides	Endrin Ketone	7	UJ,c	7
SIIB13	P11S	Sediment	Pesticides	Heptachlor	3.6	UJ,c	3.6
SIIB13	P11S	Sediment	Pesticides	Methoxychlor	36	UJ,c	36
SIIB13	P11S	Sediment	Herbicides	2,2-Dichloropropionic Acid	4200	R,l	4200
SIIB13	P11S	Sediment	Herbicides	2,4,5-T	18	R,l	18
SIIB13	P11S	Sediment	Herbicides	2,4,5-TP (Silvex)	18	R,l	18
SIIB13	P11S	Sediment	Herbicides	2,4-D	18	R,l	18
SIIB13	P11S	Sediment	Herbicides	2,4-DB	18	R,l	18
SIIB13	P11S	Sediment	Herbicides	Dicamba	42	R,l	42
SIIB13	P11S	Sediment	Herbicides	Dichlorprop	210	R,l	210
SIIB13	P11S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	4200	R,l	4200
SIIB13	P11S	Sediment	Herbicides	MCPP	4200	R,l	4200
SIIB13	P11S	Sediment	Herbicides	Pentachlorophenol	36	R,l	36
SIIB13	P11S	Sediment	Metals	Antimony	3.9	UJ,m	3.9
SIIB13	P11S	Sediment	Metals	Silver	1.9	UJ,p	1.9

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	P11S	Sediment	Metals	Zinc	190	J,s	0.02
SIIB13	P12S	Sediment	VOCs	Acetone	38	U,x	38
SIIB13	P12S	Sediment	VOCs	Bromomethane	7.6	UJ,c	7.6
SIIB13	P12S	Sediment	VOCs	Chloromethane	7.6	UJ,r	7.6
SIIB13	P12S	Sediment	VOCs	Toluene	3.8	U,y	3.8
SIIB13	P12S	Sediment	SVOCs	2,4-Dinitrophenol	3600	UJ,r	3600
SIIB13	P12S	Sediment	SVOCs	2-Nitroaniline	3600	UJ,r	3600
SIIB13	P12S	Sediment	SVOCs	3-Nitroaniline	3600	UJ,r	3600
SIIB13	P12S	Sediment	SVOCs	Dinoseb	700	UJ,c	700
SIIB13	P12S	Sediment	SVOCs	Hexachlorocyclopentadiene	700	UJ,d	700
SIIB13	P12S	Sediment	Pesticides	4,4'-DDD	7	UJ,c	7
SIIB13	P12S	Sediment	Pesticides	4,4'-DDT	57	J,b	0.1
SIIB13	P12S	Sediment	Pesticides	Endrin Ketone	7	UJ,c	7
SIIB13	P12S	Sediment	Pesticides	Heptachlor	3.6	UJ,c	3.6
SIIB13	P12S	Sediment	Pesticides	Methoxychlor	36	UJ,c	36
SIIB13	P12S	Sediment	Herbicides	2,2-Dichloropropionic Acid	4200	R,l	4200
SIIB13	P12S	Sediment	Herbicides	2,4,5-T	18	R,l	18
SIIB13	P12S	Sediment	Herbicides	2,4,5-TP (Silvex)	18	R,l	18
SIIB13	P12S	Sediment	Herbicides	2,4-D	18	R,l	18
SIIB13	P12S	Sediment	Herbicides	2,4-DB	18	R,l	18
SIIB13	P12S	Sediment	Herbicides	Dicamba	42	R,l	42
SIIB13	P12S	Sediment	Herbicides	Dichlorprop	3.7	J,l	100
SIIB13	P12S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	4200	R,l	4200
SIIB13	P12S	Sediment	Herbicides	MCPP	630	J,l	120
SIIB13	P12S	Sediment	Herbicides	Pentachlorophenol	2.5	J,l	1
SIIB13	P12S	Sediment	Metals	Antimony	4.3	U,p	4.3
SIIB13	P12S	Sediment	Metals	Silver	2.1	UJ,p	2.1
SIIB13	P12S	Sediment	Metals	Zinc	240	J,s	0.02
SIIB13	R1AD1S	Sediment	VOCs	Acetone	26	J,c	18
SIIB13	R1AD1S	Sediment	VOCs	Bromomethane	5.8	UJ,c	5.8
SIIB13	R1AD1S	Sediment	VOCs	Chloromethane	5.8	UJ,r	5.8

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1AD1S	Sediment	VOCs	Ethylbenzene	2.9	U,y	2.9
SIIB13	R1AD1S	Sediment	VOCs	Toluene	2.9	U,y	2.9
SIIB13	R1AD1S	Sediment	VOCs	Xylenes, Total	9.3	U,y	9.3
SIIB13	R1AD1S	Sediment	SVOCs	2,4-Dinitrophenol	2600	UJ,r	2600
SIIB13	R1AD1S	Sediment	SVOCs	2-Nitroaniline	2600	UJ,r	2600
SIIB13	R1AD1S	Sediment	SVOCs	3-Nitroaniline	2600	UJ,r	2600
SIIB13	R1AD1S	Sediment	SVOCs	Dinoseb	500	UJ,c	500
SIIB13	R1AD1S	Sediment	SVOCs	Hexachlorocyclopentadiene	500	UJ,d	500
SIIB13	R1AD1S	Sediment	Pesticides	4,4'-DDD	5	UJ,c	5
SIIB13	R1AD1S	Sediment	Pesticides	4,4'-DDE	1.1	R,b	1.1
SIIB13	R1AD1S	Sediment	Pesticides	4,4'-DDT	5	R,c	5
SIIB13	R1AD1S	Sediment	Pesticides	Endrin Ketone	5	UJ,c	5
SIIB13	R1AD1S	Sediment	Pesticides	Heptachlor	2.6	UJ,c	2.6
SIIB13	R1AD1S	Sediment	Pesticides	Methoxychlor	26	UJ,c	26
SIIB13	R1AD1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	3000	R,l	3000
SIIB13	R1AD1S	Sediment	Herbicides	2,4,5-T	12	R,l	12
SIIB13	R1AD1S	Sediment	Herbicides	2,4,5-TP (Silvex)	12	R,l	12
SIIB13	R1AD1S	Sediment	Herbicides	2,4-D	12	R,l	12
SIIB13	R1AD1S	Sediment	Herbicides	2,4-DB	12	R,l	12
SIIB13	R1AD1S	Sediment	Herbicides	Dicamba	30	R,l	30
SIIB13	R1AD1S	Sediment	Herbicides	Dichlorprop	150	R,l	150
SIIB13	R1AD1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	3000	R,l	3000
SIIB13	R1AD1S	Sediment	Herbicides	MCPP	370	J,l	120
SIIB13	R1AD1S	Sediment	Herbicides	Pentachlorophenol	26	R,l	26
SIIB13	R1AD1S	Sediment	Metals	Antimony	3	U,p	3
SIIB13	R1AD1S	Sediment	Metals	Silver	1.3	UJ,p	1.3
SIIB13	R1AD1S	Sediment	Metals	Zinc	89	J,s	0.02
SIIB13	R1AM1S	Sediment	VOCs	Acetone	98	J,c	18
SIIB13	R1AM1S	Sediment	VOCs	Bromomethane	6.9	UJ,c	6.9
SIIB13	R1AM1S	Sediment	VOCs	Chloromethane	6.9	UJ,r	6.9
SIIB13	R1AM1S	Sediment	VOCs	Xylenes, Total	6.9	U,y	6.9

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1AM1S	Sediment	SVOCs	2,4-Dinitrophenol	2300	UJ,r	2300
SIIB13	R1AM1S	Sediment	SVOCs	2-Nitroaniline	2300	UJ,r	2300
SIIB13	R1AM1S	Sediment	SVOCs	3-Nitroaniline	2300	UJ,r	2300
SIIB13	R1AM1S	Sediment	SVOCs	Dinoseb	440	UJ,c	440
SIIB13	R1AM1S	Sediment	SVOCs	Hexachlorocyclopentadiene	440	UJ,d	440
SIIB13	R1AM1S	Sediment	Pesticides	4,4'-DDD	4.4	UJ,c	4.4
SIIB13	R1AM1S	Sediment	Pesticides	4,4'-DDT	4.4	R,c	4.4
SIIB13	R1AM1S	Sediment	Pesticides	Endrin Ketone	4.4	UJ,c	4.4
SIIB13	R1AM1S	Sediment	Pesticides	Heptachlor	2.3	UJ,c	2.3
SIIB13	R1AM1S	Sediment	Pesticides	Methoxychlor	23	UJ,c	23
SIIB13	R1AM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2700	R,l	2700
SIIB13	R1AM1S	Sediment	Herbicides	2,4,5-T	11	R,l	11
SIIB13	R1AM1S	Sediment	Herbicides	2,4,5-TP (Silvex)	11	R,l	11
SIIB13	R1AM1S	Sediment	Herbicides	2,4-D	11	R,l	11
SIIB13	R1AM1S	Sediment	Herbicides	2,4-DB	11	R,l	11
SIIB13	R1AM1S	Sediment	Herbicides	Dicamba	27	R,l	27
SIIB13	R1AM1S	Sediment	Herbicides	Dichlorprop	130	R,l	130
SIIB13	R1AM1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2700	R,l	2700
SIIB13	R1AM1S	Sediment	Herbicides	MCPP	2700	R,l	2700
SIIB13	R1AM1S	Sediment	Herbicides	Pentachlorophenol	23	R,l	23
SIIB13	R1AM1S	Sediment	Metals	Antimony	2.4	UJ,m	2.4
SIIB13	R1AM1S	Sediment	Metals	Beryllium	0.53	U,p	0.53
SIIB13	R1AM1S	Sediment	Metals	Cadmium	0.61	UJ,p	0.61
SIIB13	R1AM1S	Sediment	Metals	Silver	1.2	UJ,p	1.2
SIIB13	R1AM1S	Sediment	Metals	Zinc	34	J,s	0.02
SIIB13	R1AU1S	Sediment	VOCs	Acetone	12	J,c	18
SIIB13	R1AU1S	Sediment	VOCs	Bromomethane	6.8	UJ,c	6.8
SIIB13	R1AU1S	Sediment	VOCs	Chloromethane	6.8	UJ,r	6.8
SIIB13	R1AU1S	Sediment	VOCs	Ethylbenzene	3.4	U,y	3.4
SIIB13	R1AU1S	Sediment	VOCs	Toluene	3.4	U,y	3.4
SIIB13	R1AU1S	Sediment	VOCs	Xylenes, Total	11	U,y	11

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1AU1S	Sediment	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SIIB13	R1AU1S	Sediment	SVOCs	2-Nitroaniline	1800	UJ,r	1800
SIIB13	R1AU1S	Sediment	SVOCs	3-Nitroaniline	1800	UJ,r	1800
SIIB13	R1AU1S	Sediment	SVOCs	Dinoseb	350	UJ,c	350
SIIB13	R1AU1S	Sediment	SVOCs	Hexachlorocyclopentadiene	350	UJ,d	350
SIIB13	R1AU1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100
SIIB13	R1AU1S	Sediment	Herbicides	2,4,5-T	8.8	R,l	8.8
SIIB13	R1AU1S	Sediment	Herbicides	2,4,5-TP (Silvex)	8.8	R,l	8.8
SIIB13	R1AU1S	Sediment	Herbicides	2,4-D	8.8	R,l	8.8
SIIB13	R1AU1S	Sediment	Herbicides	2,4-DB	8.8	R,l	8.8
SIIB13	R1AU1S	Sediment	Herbicides	Dicamba	21	R,l	21
SIIB13	R1AU1S	Sediment	Herbicides	Dichlorprop	12	J,l	100
SIIB13	R1AU1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2100	R,l	2100
SIIB13	R1AU1S	Sediment	Herbicides	MCPP	2100	R,l	2100
SIIB13	R1AU1S	Sediment	Herbicides	Pentachlorophenol	18	R,l	18
SIIB13	R1AU1S	Sediment	Metals	Antimony	2.1	U,p	2.1
SIIB13	R1AU1S	Sediment	Metals	Arsenic	1.8	J,p	0.01
SIIB13	R1AU1S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB13	R1AU1S	Sediment	Metals	Cadmium	0.48	UJ,p	0.48
SIIB13	R1AU1S	Sediment	Metals	Silver	0.97	UJ,p	0.97
SIIB13	R1AU1S	Sediment	Metals	Zinc	8.2	J,s	0.02
SIIB13	R1BD1S	Sediment	VOCs	Acetone	28	UJ,d	28
SIIB13	R1BD1S	Sediment	VOCs	Bromomethane	5.6	UJ,c	5.6
SIIB13	R1BD1S	Sediment	VOCs	Chloromethane	5.6	UJ,r	5.6
SIIB13	R1BD1S	Sediment	VOCs	Xylenes, Total	5.7	U,y	5.7
SIIB13	R1BD1S	Sediment	SVOCs	2,4-Dinitrophenol	2300	UJ,r	2300
SIIB13	R1BD1S	Sediment	SVOCs	2-Nitroaniline	2300	UJ,r	2300
SIIB13	R1BD1S	Sediment	SVOCs	3-Nitroaniline	2300	UJ,r	2300
SIIB13	R1BD1S	Sediment	SVOCs	Dinoseb	440	UJ,c	440
SIIB13	R1BD1S	Sediment	SVOCs	Hexachlorocyclopentadiene	440	UJ,d	440
SIIB13	R1BD1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2700	R,l	2700

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1BD1S	Sediment	Herbicides	2,4,5-T	11	R,l	11
SIIB13	R1BD1S	Sediment	Herbicides	2,4,5-TP (Silvex)	11	R,l	11
SIIB13	R1BD1S	Sediment	Herbicides	2,4-D	11	R,l	11
SIIB13	R1BD1S	Sediment	Herbicides	2,4-DB	11	R,l	11
SIIB13	R1BD1S	Sediment	Herbicides	Dicamba	27	R,l	27
SIIB13	R1BD1S	Sediment	Herbicides	Dichlorprop	130	R,l	130
SIIB13	R1BD1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2700	R,l	2700
SIIB13	R1BD1S	Sediment	Herbicides	MCPP	2700	R,l	2700
SIIB13	R1BD1S	Sediment	Herbicides	Pentachlorophenol	23	R,l	23
SIIB13	R1BD1S	Sediment	Metals	Antimony	2.7	U,p	2.7
SIIB13	R1BD1S	Sediment	Metals	Beryllium	0.53	U,p	0.53
SIIB13	R1BD1S	Sediment	Metals	Cadmium	0.61	UJ,p	0.61
SIIB13	R1BD1S	Sediment	Metals	Silver	1.2	UJ,p	1.2
SIIB13	R1BD1S	Sediment	Metals	Zinc	15	U,x	15
SIIB13	R1BM1S	Sediment	VOCs	Acetone	3.4	J,c	18
SIIB13	R1BM1S	Sediment	VOCs	Bromomethane	4.9	UJ,c	4.9
SIIB13	R1BM1S	Sediment	VOCs	Chloromethane	4.9	UJ,r	4.9
SIIB13	R1BM1S	Sediment	VOCs	Ethylbenzene	2.4	U,y	2.4
SIIB13	R1BM1S	Sediment	VOCs	Toluene	2.4	U,y	2.4
SIIB13	R1BM1S	Sediment	VOCs	Xylenes, Total	6.5	U,y	6.5
SIIB13	R1BM1S	Sediment	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SIIB13	R1BM1S	Sediment	SVOCs	2-Nitroaniline	1800	UJ,r	1800
SIIB13	R1BM1S	Sediment	SVOCs	3-Nitroaniline	1800	UJ,r	1800
SIIB13	R1BM1S	Sediment	SVOCs	Dinoseb	340	UJ,c	340
SIIB13	R1BM1S	Sediment	SVOCs	Hexachlorocyclopentadiene	340	UJ,d	340
SIIB13	R1BM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100
SIIB13	R1BM1S	Sediment	Herbicides	2,4,5-T	8.6	R,l	8.6
SIIB13	R1BM1S	Sediment	Herbicides	2,4,5-TP (Silvex)	8.6	R,l	8.6
SIIB13	R1BM1S	Sediment	Herbicides	2,4-D	5.2	J,l	0.5
SIIB13	R1BM1S	Sediment	Herbicides	2,4-DB	8.6	R,l	8.6
SIIB13	R1BM1S	Sediment	Herbicides	Dicamba	21	R,l	21

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1BM1S	Sediment	Herbicides	Dichlorprop	21	J,l	100
SIIB13	R1BM1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2100	R,l	2100
SIIB13	R1BM1S	Sediment	Herbicides	MCPP	460	J,l	120
SIIB13	R1BM1S	Sediment	Herbicides	Pentachlorophenol	18	R,l	18
SIIB13	R1BM1S	Sediment	Metals	Antimony	2.1	U,p	2.1
SIIB13	R1BM1S	Sediment	Metals	Arsenic	1.5	J,p	0.01
SIIB13	R1BM1S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB13	R1BM1S	Sediment	Metals	Cadmium	0.47	UJ,p	0.47
SIIB13	R1BM1S	Sediment	Metals	Silver	0.95	UJ,p	0.95
SIIB13	R1BM1S	Sediment	Metals	Zinc	8.2	J,s	0.02
SIIB13	R1BM2S	Sediment	VOCs	Acetone	8.1	J,c	18
SIIB13	R1BM2S	Sediment	VOCs	Bromomethane	5	UJ,c	5
SIIB13	R1BM2S	Sediment	VOCs	Chloromethane	5	UJ,r	5
SIIB13	R1BM2S	Sediment	VOCs	Ethylbenzene	2.5	U,y	2.5
SIIB13	R1BM2S	Sediment	VOCs	Toluene	2.5	U,y	2.5
SIIB13	R1BM2S	Sediment	VOCs	Xylenes, Total	5.8	U,y	5.8
SIIB13	R1BM2S	Sediment	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SIIB13	R1BM2S	Sediment	SVOCs	2-Nitroaniline	1800	UJ,r	1800
SIIB13	R1BM2S	Sediment	SVOCs	3-Nitroaniline	1800	UJ,r	1800
SIIB13	R1BM2S	Sediment	SVOCs	Dinoseb	340	UJ,c	340
SIIB13	R1BM2S	Sediment	SVOCs	Hexachlorocyclopentadiene	340	UJ,d	340
SIIB13	R1BM2S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100
SIIB13	R1BM2S	Sediment	Herbicides	2,4,5-T	8.6	R,l	8.6
SIIB13	R1BM2S	Sediment	Herbicides	2,4,5-TP (Silvex)	8.6	R,l	8.6
SIIB13	R1BM2S	Sediment	Herbicides	2,4-D	8.6	R,l	8.6
SIIB13	R1BM2S	Sediment	Herbicides	2,4-DB	8.6	R,l	8.6
SIIB13	R1BM2S	Sediment	Herbicides	Dicamba	21	R,l	21
SIIB13	R1BM2S	Sediment	Herbicides	Dichlorprop	19	J,l	100
SIIB13	R1BM2S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2100	R,l	2100
SIIB13	R1BM2S	Sediment	Herbicides	MCPP	2100	R,l	2100
SIIB13	R1BM2S	Sediment	Herbicides	Pentachlorophenol	18	R,l	18

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1BM2S	Sediment	Metals	Antimony	2.1	U,p	2.1
SIIB13	R1BM2S	Sediment	Metals	Arsenic	1.1	J,p	0.01
SIIB13	R1BM2S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB13	R1BM2S	Sediment	Metals	Cadmium	0.47	UJ,p	0.47
SIIB13	R1BM2S	Sediment	Metals	Silver	0.95	UJ,p	0.95
SIIB13	R1BM2S	Sediment	Metals	Zinc	7.2	J,s	0.02
SIIB13	R1BU1S	Sediment	VOCs	Acetone	87	J,c	18
SIIB13	R1BU1S	Sediment	VOCs	Bromomethane	6.1	UJ,c	6.1
SIIB13	R1BU1S	Sediment	VOCs	Chloromethane	6.1	UJ,r	6.1
SIIB13	R1BU1S	Sediment	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SIIB13	R1BU1S	Sediment	SVOCs	2-Nitroaniline	1800	UJ,r	1800
SIIB13	R1BU1S	Sediment	SVOCs	3-Nitroaniline	1800	UJ,r	1800
SIIB13	R1BU1S	Sediment	SVOCs	Dinoseb	340	UJ,c	340
SIIB13	R1BU1S	Sediment	SVOCs	Hexachlorocyclopentadiene	340	UJ,d	340
SIIB13	R1BU1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100
SIIB13	R1BU1S	Sediment	Herbicides	2,4,5-T	8.6	R,l	8.6
SIIB13	R1BU1S	Sediment	Herbicides	2,4,5-TP (Silvex)	8.6	R,l	8.6
SIIB13	R1BU1S	Sediment	Herbicides	2,4-D	8.6	R,l	8.6
SIIB13	R1BU1S	Sediment	Herbicides	2,4-DB	8.6	R,l	8.6
SIIB13	R1BU1S	Sediment	Herbicides	Dicamba	21	R,l	21
SIIB13	R1BU1S	Sediment	Herbicides	Dichlorprop	23	J,l	100
SIIB13	R1BU1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2100	R,l	2100
SIIB13	R1BU1S	Sediment	Herbicides	MCPP	2100	R,l	2100
SIIB13	R1BU1S	Sediment	Herbicides	Pentachlorophenol	18	R,l	18
SIIB13	R1BU1S	Sediment	Metals	Antimony	2.1	U,p	2.1
SIIB13	R1BU1S	Sediment	Metals	Arsenic	1.4	J,p	0.01
SIIB13	R1BU1S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB13	R1BU1S	Sediment	Metals	Cadmium	0.52	UJ,p	0.52
SIIB13	R1BU1S	Sediment	Metals	Silver	1	UJ,p	1
SIIB13	R1BU1S	Sediment	Metals	Zinc	6.7	J,s	0.02
SIIB13	R1CM1S	Sediment	VOCs	Acetone	9.3	J,c	18

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R1CM1S	Sediment	VOCs	Bromomethane	4.8	UJ,c	4.8
SIIB13	R1CM1S	Sediment	VOCs	Chloromethane	4.8	UJ,r	4.8
SIIB13	R1CM1S	Sediment	VOCs	Xylenes, Total	4.8	U,y	4.8
SIIB13	R1CM1S	Sediment	SVOCs	2,4-Dinitrophenol	1800	UJ,r	1800
SIIB13	R1CM1S	Sediment	SVOCs	2-Nitroaniline	1800	UJ,r	1800
SIIB13	R1CM1S	Sediment	SVOCs	3-Nitroaniline	1800	UJ,r	1800
SIIB13	R1CM1S	Sediment	SVOCs	Dinoseb	350	UJ,c	350
SIIB13	R1CM1S	Sediment	SVOCs	Hexachlorocyclopentadiene	350	UJ,d	350
SIIB13	R1CM1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2100	R,l	2100
SIIB13	R1CM1S	Sediment	Herbicides	2,4,5-T	8.8	R,l	8.8
SIIB13	R1CM1S	Sediment	Herbicides	2,4,5-TP (Silvex)	8.8	R,l	8.8
SIIB13	R1CM1S	Sediment	Herbicides	2,4-D	8.8	R,l	8.8
SIIB13	R1CM1S	Sediment	Herbicides	2,4-DB	8.8	R,l	8.8
SIIB13	R1CM1S	Sediment	Herbicides	Dicamba	21	R,l	21
SIIB13	R1CM1S	Sediment	Herbicides	Dichlorprop	15	J,l	100
SIIB13	R1CM1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2100	R,l	2100
SIIB13	R1CM1S	Sediment	Herbicides	MCPP	2100	R,l	2100
SIIB13	R1CM1S	Sediment	Herbicides	Pentachlorophenol	18	R,l	18
SIIB13	R1CM1S	Sediment	Metals	Antimony	2.1	U,p	2.1
SIIB13	R1CM1S	Sediment	Metals	Arsenic	1	J,p	0.01
SIIB13	R1CM1S	Sediment	Metals	Beryllium	0.42	U,p	0.42
SIIB13	R1CM1S	Sediment	Metals	Cadmium	0.53	UJ,p	0.53
SIIB13	R1CM1S	Sediment	Metals	Silver	1.1	UJ,p	1.1
SIIB13	R1CM1S	Sediment	Metals	Zinc	7.6	J,s	0.02
SIIB13	R2BU1S	Sediment	VOCs	Acetone	6.3	J,c	18
SIIB13	R2BU1S	Sediment	VOCs	Bromomethane	4.6	UJ,c	4.6
SIIB13	R2BU1S	Sediment	VOCs	Chloromethane	4.6	UJ,r	4.6
SIIB13	R2BU1S	Sediment	VOCs	Ethylbenzene	2.3	U,y	2.3
SIIB13	R2BU1S	Sediment	VOCs	Toluene	2.3	U,y	2.3
SIIB13	R2BU1S	Sediment	VOCs	Xylenes, Total	5.2	U,y	5.2
SIIB13	R2BU1S	Sediment	SVOCs	2,4-Dinitrophenol	2100	UJ,r	2100

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R2BU1S	Sediment	SVOCs	2-Nitroaniline	2100	UJ,r	2100
SIIB13	R2BU1S	Sediment	SVOCs	3-Nitroaniline	2100	UJ,r	2100
SIIB13	R2BU1S	Sediment	SVOCs	Dinoseb	410	UJ,c	410
SIIB13	R2BU1S	Sediment	SVOCs	Hexachlorocyclopentadiene	410	UJ,d	410
SIIB13	R2BU1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2500	R,l	2500
SIIB13	R2BU1S	Sediment	Herbicides	2,4,5-T	10	R,l	10
SIIB13	R2BU1S	Sediment	Herbicides	2,4,5-TP (Silvex)	10	R,l	10
SIIB13	R2BU1S	Sediment	Herbicides	2,4-D	10	R,l	10
SIIB13	R2BU1S	Sediment	Herbicides	2,4-DB	10	R,l	10
SIIB13	R2BU1S	Sediment	Herbicides	Dicamba	25	R,l	25
SIIB13	R2BU1S	Sediment	Herbicides	Dichlorprop	120	R,l	120
SIIB13	R2BU1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2500	R,l	2500
SIIB13	R2BU1S	Sediment	Herbicides	MCPP	2500	R,l	2500
SIIB13	R2BU1S	Sediment	Herbicides	Pentachlorophenol	21	R,l	21
SIIB13	R2BU1S	Sediment	Metals	Antimony	2.5	U,p	2.5
SIIB13	R2BU1S	Sediment	Metals	Beryllium	0.5	U,p	0.5
SIIB13	R2BU1S	Sediment	Metals	Cadmium	0.57	UJ,p	0.57
SIIB13	R2BU1S	Sediment	Metals	Silver	1.1	UJ,p	1.1
SIIB13	R2BU1S	Sediment	Metals	Zinc	14	U,x	14
SIIB13	R5AN1S	Sediment	VOCs	Acetone	290	J,q	18
SIIB13	R5AN1S	Sediment	VOCs	Bromomethane	5.2	UJ,c	5.2
SIIB13	R5AN1S	Sediment	VOCs	Chloromethane	5.2	UJ,r	5.2
SIIB13	R5AN1S	Sediment	SVOCs	2,4-Dinitrophenol	2100	UJ,r	2100
SIIB13	R5AN1S	Sediment	SVOCs	2-Nitroaniline	2100	UJ,r	2100
SIIB13	R5AN1S	Sediment	SVOCs	3-Nitroaniline	2100	UJ,r	2100
SIIB13	R5AN1S	Sediment	SVOCs	Dinoseb	400	UJ,c	400
SIIB13	R5AN1S	Sediment	SVOCs	Hexachlorocyclopentadiene	400	UJ,d	400
SIIB13	R5AN1S	Sediment	Pesticides	4,4'-DDD	4	UJ,c	4
SIIB13	R5AN1S	Sediment	Pesticides	4,4'-DDT	4	R,c	4
SIIB13	R5AN1S	Sediment	Pesticides	Endrin Ketone	0.51	J,g	0.1
SIIB13	R5AN1S	Sediment	Pesticides	Heptachlor	2.1	UJ,c	2.1

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R5AN1S	Sediment	Pesticides	Methoxychlor	21	UJ,c	21
SIIB13	R5AN1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	2400	R,l	2400
SIIB13	R5AN1S	Sediment	Herbicides	2,4,5-T	10	R,l	10
SIIB13	R5AN1S	Sediment	Herbicides	2,4,5-TP (Silvex)	10	R,l	10
SIIB13	R5AN1S	Sediment	Herbicides	2,4-D	7.9	J,l	0.5
SIIB13	R5AN1S	Sediment	Herbicides	2,4-DB	10	R,l	10
SIIB13	R5AN1S	Sediment	Herbicides	Dicamba	24	R,l	24
SIIB13	R5AN1S	Sediment	Herbicides	Dichlorprop	120	R,l	120
SIIB13	R5AN1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	2400	R,l	2400
SIIB13	R5AN1S	Sediment	Herbicides	MCPP	2400	R,l	2400
SIIB13	R5AN1S	Sediment	Herbicides	Pentachlorophenol	21	R,l	21
SIIB13	R5AN1S	Sediment	Metals	Antimony	2.4	U,p	2.4
SIIB13	R5AN1S	Sediment	Metals	Beryllium	0.49	U,p	0.49
SIIB13	R5AN1S	Sediment	Metals	Cadmium	0.61	UJ,p	0.61
SIIB13	R5AN1S	Sediment	Metals	Silver	1.2	UJ,p	1.2
SIIB13	R5AN1S	Sediment	Metals	Zinc	42	J,s	0.02
SIIB13	R5BN1S	Sediment	VOCs	Acetone	17	J,c	18
SIIB13	R5BN1S	Sediment	VOCs	Bromomethane	8.6	UJ,c	8.6
SIIB13	R5BN1S	Sediment	VOCs	Chloromethane	8.6	UJ,r	8.6
SIIB13	R5BN1S	Sediment	VOCs	Toluene	4.3	U,y	4.3
SIIB13	R5BN1S	Sediment	SVOCs	2,4-Dinitrophenol	2500	UJ,r	2500
SIIB13	R5BN1S	Sediment	SVOCs	2-Nitroaniline	2500	UJ,r	2500
SIIB13	R5BN1S	Sediment	SVOCs	3-Nitroaniline	2500	UJ,r	2500
SIIB13	R5BN1S	Sediment	SVOCs	Dinoseb	490	UJ,c	490
SIIB13	R5BN1S	Sediment	SVOCs	Hexachlorocyclopentadiene	490	UJ,d	490
SIIB13	R5BN1S	Sediment	Pesticides	4,4'-DDD	4.9	UJ,c	4.9
SIIB13	R5BN1S	Sediment	Pesticides	4,4'-DDT	4.9	R,c	4.9
SIIB13	R5BN1S	Sediment	Pesticides	Endrin Ketone	0.65	J,g	0.1
SIIB13	R5BN1S	Sediment	Pesticides	Heptachlor	2.5	UJ,c	2.5
SIIB13	R5BN1S	Sediment	Pesticides	Methoxychlor	25	UJ,c	25
SIIB13	R5BN1S	Sediment	Herbicides	2,2-Dichloropropionic Acid	3000	R,l	3000

Table 6-118b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB13

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB13	R5BN1S	Sediment	Herbicides	2,4,5-T	12	R,l	12
SIIB13	R5BN1S	Sediment	Herbicides	2,4,5-TP (Silvex)	12	R,l	12
SIIB13	R5BN1S	Sediment	Herbicides	2,4-D	13	J,l	0.5
SIIB13	R5BN1S	Sediment	Herbicides	2,4-DB	12	R,l	12
SIIB13	R5BN1S	Sediment	Herbicides	Dicamba	30	R,l	30
SIIB13	R5BN1S	Sediment	Herbicides	Dichlorprop	150	R,l	150
SIIB13	R5BN1S	Sediment	Herbicides	MCPA (2-Methyl-4-Chlorophenoxyacetic Acid)	3000	R,l	3000
SIIB13	R5BN1S	Sediment	Herbicides	MCPP	3000	R,l	3000
SIIB13	R5BN1S	Sediment	Herbicides	Pentachlorophenol	25	R,l	25
SIIB13	R5BN1S	Sediment	Metals	Antimony	3	U,p	3
SIIB13	R5BN1S	Sediment	Metals	Cadmium	0.75	UJ,p	0.75
SIIB13	R5BN1S	Sediment	Metals	Silver	1.5	UJ,p	1.5
SIIB13	R5BN1S	Sediment	Metals	Zinc	97	J,s	0.02

Table 6-119a

SAMPLE SUMMARY SAUGET AREA 2 PHASE 1

SDG SIIB14

SDG	Sample ID	Sample Date	Matrix	Dioxins/Furans (SW8290)	Dioxins/Furans (SW8280A)	VOC (8260B)	SVOC (8270C)	Pesticides (8081A)	PCB Homologs (680)	Herbicides (8151A)	Metals (6010B)	Ferrous Iron (SM3500)	Methane (STL SOP AR30)	Alkalinity (310.1)	Nitrogen, Nitrate-Nitrite (353.2)	Sulfate (375.4)	Mercury (7470A/7471A)	Carbon Dioxide (SM4500-CO_2)	Hardness (130.2)
SIIB14	P11W	11/18/02	Surface water			X	X	X	X	X	X						X		X
SIIB14	P11W-Filtered	11/18/02	Surface water								X						X		
SIIB14	P12W	11/18/02	Surface water			X													
SIIB14	P12W-Filtered	11/18/02	Surface water				X	X	X	X									X
SIIB14	R1BU1W	11/17/02	Surface water			X	X	X	X	X	X						X		X
SIIB14	R1BU1W-Filtered	11/17/02	Surface water								X						X		
SIIB14	R5AN1W	11/17/02	Surface water			X	X	X	X	X	X						X		X
SIIB14	R5AN1W-Filtered	11/17/02	Surface water								X						X		
SIIB14	R5BN1W	11/17/02	Surface water			X	X	X	X	X	X						X		X
SIIB14	R5BN1W-Filtered	11/17/02	Surface water								X						X		

DATA VALIDATION REPORT - Level IV Review

SDG No.: _____SIIB14_____ **Fraction: __VOCs, SVOCs, Pest., PCBs, Herb.,_ __Metals, Hardness_____**

Lab: ___STL – Savannah_____ **Project Name: _____Sauget Area II_____**

Reviewer: _____JA_____ **Date: _____February 10, 2003_____**

This report presents the findings of a review of the referenced data. The report consists of this summary, a listing of the samples included in the review, copies of data reports with data qualifying flags applied (as required), the data review checklist, supporting documentation, and an explanation of the data qualifying flags employed. The review performed is based on the Sauget Area II Project QAPP, the National Functional Guidelines for Organic and Inorganic Data Review (February 1994), and the specifics of the analytical method employed.

Major Anomalies: None.

Minor Anomalies: For the VOC analyses, one trip blank contained chloromethane at 0.88 µg/L, methylene chloride at 1.1 µg/L, and toluene at 0.30 µg/L. The second trip blank contained benzene at 0.18 µg/L, toluene at 0.36 µg/L, and styrene at 0.44 µg/L. Positive benzene and toluene results in the associated samples were flagged "U, y" for results equal to or greater than the reporting limit or "U, y" at the reporting limit for results less than the reporting limit. Since chloromethane, methylene chloride, and styrene were not detected in the associated samples, no data qualifying action was taken. The rinse blank for aqueous samples, P14W, contained toluene at 1.0 µg/L. Since this toluene result was previously flagged as a non-detect due to blank contamination, this result was not used to assess the associated aqueous samples. The rinse blank for sediment samples, P14S, contained acetone at 15 µg/L and toluene at 0.79 µg/L. Since the toluene result was previously flagged as a non-detect due to blank contamination, this result was not used to assess the associated sediment samples. Since all sediment samples were reported in different data packages, no data qualifying action was taken. The initial calibration, analyzed on 11/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for chloromethane at 0.9887, carbon tetrachloride at 0.9866, 1,1,1-tri-chloroethane at 0.9854, and bromodichloromethane at 0.9871. Positive results were flagged "J, r" and non-detects were flagged "UJ, r" in the associated samples. This initial calibration also displayed a %RSD greater than the control limit (i.e., 15%) for bromomethane at 22.0%. All associated sample results were non-detects and no data qualifying action was required since the failure was not serious enough (i.e., > 50%) to affect the non-detect values. The continuing calibration verification (CCV) analyzed on 11/27/02 at 03:03 displayed a %D greater than the control limit (i.e. 20%) for chloroethane at –52.7%. All chloroethane results were flagged "UJ, c" in the associated samples. The CCV analyzed on 11/27/02 at 14:12 displayed a %D greater than the control limit for bromomethane at 122.8% (instrument sensitivity increased). Since associated samples are QC samples, no data qualifying action was taken. The MSD recovery (220%) and relative percent difference (RPD,

126%) for bromomethane were greater than the acceptance limit in the P11W MS/MSD pair. The LCS recoveries for bromomethane were greater than the upper control limit in two LCSs (1P1127MB and 2P1127MB). Since bromomethane was not detected in the associated samples, no data qualifying action was taken.

For the SVOC analyses, the initial calibration, analyzed on 12/12/02, displayed correlation coefficients less than the control limit (i.e., 0.990) for 2-nitroaniline at 0.9885, 3-nitroaniline at 0.9884, and 2,4-dinitrophenol at 0.9876. These compounds were not detected in the associated samples and non-detects were flagged "UJ, r". The CCV analyzed on 12/13/02 at 16:03 displayed %Ds greater than the control limit (i.e., <20%) for 4-nitrophenol at –34.5% and di-n-butyl-phthalate at –28.3%. The CCV analyzed on 11/25/02 at 06:20 displayed %Ds greater than the control limit for 4,6-dinitro-2-methylphenol at 22.4% and dinoseb at 30.9%. Since these compounds were not detected in the associated samples and %D failures were not serious enough (i.e., > 50%) to affect the non-detect values, no data qualifying action was taken. The base/neutral surrogate recoveries for terphenyl-d14 in samples P11WMS (7%) and P11WMSD (10%) were less than the lower control limit (i.e., 14-148%). Since these two samples are QC samples, no data qualifying action was taken. There are 22 MS recoveries, 20 MSD recoveries, and four relative percent differences (RPDs) outside the control limits in the P11W MS/MSD pair. The low MS and MSD recoveries may be attributed to low surrogate recoveries (low extraction efficiency). Therefore, MS/MSD recovery and RPD failures were not used to assess the associated samples. Since LCS recoveries were in control and no major matrix interference was observed in the associated samples, SVOC data quality should not be affected.

For the pesticide analyses, the CCV analyzed on 11/25/02 at 08:37 displayed %Ds greater than the control limit (i.e., 15%) on both columns for methoxychlor at –29.9% and –16.1%. Methoxychlor was not detected in the associated samples and non-detects were flagged "UJ, c". The decachlorobiphenyl (DCBP) surrogate recovery on the confirmation column (26%) in sample R1BU1W was less than the lower control limit (i.e., 30-150%). No data qualifying action was taken since all other surrogate recoveries were in control. The DCBP surrogate recoveries on both columns in samples R5BN1W (28% and 26%), P14W (22% and 20%), P12W (22% and 22%), and P14S (10% and 11%) were less than the lower control limit. All results, except those previously flagged due to calibration failure, were flagged "J, s" or "UJ, s" in these four samples. The tetrachloro-m-xylene (TCMX) and DCBP surrogate recoveries on both columns in samples P11W (19%/23% and 12%/11%), P11WMS (24%/28% and 13%/13%), and P11WMSD (20%/24% and 9%/8%) were less than the lower control limit. All positive results in sample P11W were flagged "J, s" and non-detects were flagged "UJ, s". Since P11WMS and P11WMSD are QC samples, no data qualifying action was taken. The MS/MSD recoveries for alpha-chlordane (54% and 47%) and the MSD recoveries for heptachlor epoxide (42%), gamma-chlordane (48%), and

4,4'-DDT (36%) were less than the lower control limit in the P11W MS/MSD pair. The RPDs for gamma-chlordane (26%) and endrin aldehyde (46%) were also greater than the acceptance limits. The low MS and MSD recoveries may be attributed to low surrogate recoveries (low extraction efficiency). Since LCS recoveries were in control and these MS/MSD recoveries were only marginally outside the control limits, no data qualifying action was taken. The RPDs between primary and confirmatory columns were greater than the acceptance limit (i.e., <40%) for beta-BHC and aldrin in sample P12W. Since these two results were previously flagged due to surrogate recovery failure, no further data qualifying action was taken. It should be noted that the lower result between two columns was reported by the laboratory. These results may be biased low.

For the herbicide analyses, the CCV analyzed on 11/25/02 at 19:45 displayed a %D greater than the control limit (i.e., 15%) for 2,4-DB at 16.4% on the primary column. The CCV analyzed on 11/26/02 at 08:28 displayed %Ds greater than the control limit for 2,4-D at 21.0% and 2,4-DB at 24.8% on the primary column. Positive 2,4-D results were flagged "J, c" in the associated samples. 2,4-DB was not detected in the associated samples. No data qualifying action was taken since this compound had an acceptable %D on the alternate column. The LCS recovery for 2,4,5-TP (118%) was greater than the upper control limit (i.e., 100%). Since this compound was not detected in the associated samples, no data qualifying action was taken.

For the metal analyses, the initial CRDL percent recoveries for iron (71%), thallium (78%), and mercury (142%), and the final CRDL recoveries for antimony (71%), iron (132%), lead (122%), and sodium (79%) were outside the control limit (i.e., 80-120%). Since mercury was not detected in the associated samples, no data qualifying action was taken. Since all other recoveries were only marginally outside the control limits, no data qualifying action was taken. The preparation blank for total metals analysis contained aluminum at –0.04736 mg/L, beryllium at –0.00021 mg/L, copper at 0.00159 mg/L, and thallium at 0.00371 mg/L. The preparation blank for dissolved metals analysis contained aluminum at -0.04562 mg/L, beryllium at -0.00023 mg/L, calcium at 0.01981 mg/L, copper at 0.00219 mg/L, thallium at 0.00492 mg/L, and zinc at 0.00421 mg/L. Aluminum was also detected in the initial calibration blank (ICB) at 0.05130 mg/L and four continuing calibration blanks (CCBs) at concentrations ranging from -0.04210 mg/L to -0.07625 mg/L. All non-detected aluminum results were flagged "UJ, p". Since all positive aluminum results were greater than five times the blank concentration, no data qualifying action was taken. Beryllium was also detected in CCB4 at –0.00021 mg/L, CCB5 at –0.00023 mg/L, and CCB6 at –0.00027 mg/L. All beryllium results were reported as non-detects at the reporting limit (0.0040 mg/L). Since the action level (five times the absolute blank concentration) was much less than the reporting limit, non-detects were judged not affected by the reviewer and no data qualifying action was taken. Calcium was detected in the ICB at 0.03360 mg/L, and CCB3 at 0.01047 mg/L. Copper

was also detected in four CCBs at concentrations ranging from 0.00187 mg/L to 0.00258 mg/L. Positive calcium, copper, thallium, and zinc results less than five times the blank concentration were flagged "U, p" or "U, o" at the reporting limit. Antimony was detected in CCB4 at -0.00460 mg/L. Antimony was not detected in the associated samples and non-detects were flagged "UJ, o" due to the possibility of a negative drift in the instrument that may give rise to a detection limit with a low bias. Barium was detected in four CCBs at concentrations ranging from 0.00035 mg/L to 0.00082 mg/L. Magnesium was detected in the ICB at 0.03134 mg/L and CCB3 at 0.01322 mg/L. Positive barium and magnesium results in samples P14WF and P14S were flagged "U, o" at the reporting limit. Manganese was detected in CCB3 at 0.00090 mg/L, CCB4 at 0.00066 mg/L, and CCB5 at 0.00069 mg/L. The positive manganese result in sample P14S was flagged "U, o" at the reporting limit. Potassium was detected in CCB3 at –0.02839 mg/L. Since positive potassium results in the associated samples were greater than five times the blank concentration, no data qualifying action was taken. Thallium was also detected in CCB6 at –0.00382 mg/L. Thallium results in sample P14W and P14S were flagged "UJ, o". The MS/MSD recoveries for total aluminum (142% and 138%) were greater than the upper control limit (i.e., 125%) in the P11W MS/MSD pair. Positive total aluminum results in the associated samples were flagged "J, m". The post-digestion spike recovery for aluminum was in control. The percent difference (%D) for total aluminum was greater than the acceptance limit (i.e., 10%) at 26.2% in the serial dilution sample (R5AN1W). Since all total aluminum results were previously flagged due to matrix spike recovery failure, no further data qualifying action was taken. The rinse blank, P14WF, contained total calcium at 0.013 mg/L and total copper at 0.0028 mg/L. Since total calcium and total copper results were previously flagged as non-detects due to blank contamination, these two results were not used to assess the associated samples. The rinse blank, P14W, contained dissolved barium at 0.00041 mg/L, dissolved calcium at 0.042 mg/L, dissolved copper at 0.0029 mg/L, dissolved magnesium at 0.0067 mg/L, and dissolved zinc at 0.0083 mg/L. Since these results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. Trace amounts of barium, calcium, copper, iron, magnesium, manganese, and zinc were detected in one rinse blank P14S (for sediment samples). Since barium, copper, magnesium, and manganese results were previously flagged as non-detects due to blank contamination, these results were not used to assess the associated samples. Since the associated sediment samples were not provided in this data package, no data qualifying action was taken.

Correctable Anomalies: None.

Comments: On the basis of this evaluation, the laboratory appears to have followed the specified analytical method, with the exception of errors discussed above. All data, as qualified, are usable for their intended purpose based on the data reviewed.

Signed: _____
Jason Ai

Table 6-119b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB14	P11W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB14	P11W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB14	P11W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB14	P11W	Surface Water	VOCs	Chloroethane	1	UJ,c	1
SIIB14	P11W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB14	P11W	Surface Water	VOCs	Toluene	1	U,y	1
SIIB14	P11W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB14	P11W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB14	P11W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB14	P11W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	4,4'-DDT	0.028	J,s	0.1
SIIB14	P11W	Surface Water	Pesticides	Aldrin	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	beta-BHC	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	Dieldrin	0.01	J,s	0.1
SIIB14	P11W	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB14	P11W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB14	P11W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,s	0.5
SIIB14	P11W	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB14	P11W	Surface Water	Metals	Aluminum	7.7	J,m	0.02

Table 6-119b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB14	P11W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	P11W-Filtered	Surface Water	Metals	Aluminum	0.2	UJ,p	0.2
SIIB14	P11W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	P11W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	P11W-Filtered	Surface Water	Metals	Zinc	0.02	UJ,p	0.02
SIIB14	P12W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB14	P12W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB14	P12W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB14	P12W	Surface Water	VOCs	Chloroethane	1	UJ,c	1
SIIB14	P12W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB14	P12W	Surface Water	VOCs	Toluene	1	U,y	1
SIIB14	P12W-Filtered	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB14	P12W-Filtered	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB14	P12W-Filtered	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB14	P12W-Filtered	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	Aldrin	0.0089	J,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	beta-BHC	0.0079	J,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	Dieldrin	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB14	P12W-Filtered	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05

Table 6-119b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB14	P12W-Filtered	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB14	P12W-Filtered	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB14	P12W-Filtered	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB14	R1BU1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB14	R1BU1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB14	R1BU1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB14	R1BU1W	Surface Water	VOCs	Chloroethane	1	UJ,c	1
SIIB14	R1BU1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB14	R1BU1W	Surface Water	VOCs	Toluene	1	U,y	1
SIIB14	R1BU1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB14	R1BU1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB14	R1BU1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB14	R1BU1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB14	R1BU1W	Surface Water	Metals	Aluminum	0.66	J,m	0.02
SIIB14	R1BU1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	R1BU1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	R1BU1W-Filtered	Surface Water	Metals	Aluminum	0.2	UJ,p	0.2
SIIB14	R1BU1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	R1BU1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	R5AN1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB14	R5AN1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB14	R5AN1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB14	R5AN1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB14	R5AN1W	Surface Water	VOCs	Chloroethane	1	UJ,c	1
SIIB14	R5AN1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB14	R5AN1W	Surface Water	VOCs	Toluene	1	U,y	1
SIIB14	R5AN1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB14	R5AN1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB14	R5AN1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB14	R5AN1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5

Table 6-119b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB14	R5AN1W	Surface Water	Herbicides	2,4-D	1.8	J,c	0.5
SIIB14	R5AN1W	Surface Water	Metals	Aluminum	0.76	J,m	0.02
SIIB14	R5AN1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	R5AN1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	R5AN1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB14	R5AN1W-Filtered	Surface Water	Metals	Aluminum	0.2	UJ,p	0.2
SIIB14	R5AN1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	R5AN1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	R5BN1W	Surface Water	VOCs	1,1,1-Trichloroethane	1	UJ,r	1
SIIB14	R5BN1W	Surface Water	VOCs	Benzene	1	U,y	1
SIIB14	R5BN1W	Surface Water	VOCs	Bromodichloromethane	1	UJ,r	1
SIIB14	R5BN1W	Surface Water	VOCs	Carbon Tetrachloride	1	UJ,r	1
SIIB14	R5BN1W	Surface Water	VOCs	Chloroethane	1	UJ,c	1
SIIB14	R5BN1W	Surface Water	VOCs	Chloromethane	1	UJ,r	1
SIIB14	R5BN1W	Surface Water	VOCs	Toluene	1	U,y	1
SIIB14	R5BN1W	Surface Water	SVOCs	2,4-Dinitrophenol	50	UJ,r	50
SIIB14	R5BN1W	Surface Water	SVOCs	2-Nitroaniline	50	UJ,r	50
SIIB14	R5BN1W	Surface Water	SVOCs	3-Nitroaniline	50	UJ,r	50
SIIB14	R5BN1W	Surface Water	Pesticides	4,4'-DDD	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	4,4'-DDE	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	4,4'-DDT	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	Aldrin	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	alpha-BHC	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	alpha-Chlordane	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	beta-BHC	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	delta-BHC	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	Dieldrin	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	Endosulfan I	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	Endosulfan II	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	Endosulfan Sulfate	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	Endrin	0.1	UJ,s	0.1

Table 6-119b

QUALIFIED DATA SAUGET AREA 2 PHASE 1

SDG SIIB14

SDG	Sample ID	Matrix	Parameter	Chemical	Result	URS Qualifiers, Code	RL
SIIB14	R5BN1W	Surface Water	Pesticides	Endrin Aldehyde	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	Endrin Ketone	0.1	UJ,s	0.1
SIIB14	R5BN1W	Surface Water	Pesticides	gamma-BHC (Lindane)	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	gamma-Chlordane	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	Heptachlor	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	Heptachlor Epoxide	0.05	UJ,s	0.05
SIIB14	R5BN1W	Surface Water	Pesticides	Methoxychlor	0.5	UJ,c	0.5
SIIB14	R5BN1W	Surface Water	Pesticides	Toxaphene	5	UJ,s	5
SIIB14	R5BN1W	Surface Water	Herbicides	2,4-D	1.6	J,c	0.5
SIIB14	R5BN1W	Surface Water	Metals	Aluminum	0.69	J,m	0.02
SIIB14	R5BN1W	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	R5BN1W	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	R5BN1W	Surface Water	Metals	Thallium	0.01	U,p	0.01
SIIB14	R5BN1W-Filtered	Surface Water	Metals	Aluminum	0.2	UJ,p	0.2
SIIB14	R5BN1W-Filtered	Surface Water	Metals	Antimony	0.02	UJ,o	0.02
SIIB14	R5BN1W-Filtered	Surface Water	Metals	Copper	0.02	U,p	0.02
SIIB14	R5BN1W-Filtered	Surface Water	Metals	Thallium	0.01	U,p	0.01

DATA VALIDATION REPORT

SUPPLEMENTAL INVESTIGATION – PHASE I

Sauget Area 2

Volume 1 – Text, Tables & Appendix B (SAS001 – SAS019)

Prepared for

Sauget Area 2 Sites Group
c/o Steve Smith
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 6314

Mr. Gary Uphoff
American Zinc
5934 Nicklaus Drive
Fort Collins, Colorado 80528

August 2006

URS Corporation
1001 Highland Plaza Drive West, Suite 300
St. Louis, MO 63110
(314) 429-0100
Project #21561510

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Appendix B Data Validation Worksheets

LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
CCC	Calibration Check Compound
CV	Calibration Verification
CLP	Contract Laboratory Program
COC	Chain of Custody
DI	Deionized
DO	Dissolved Oxygen
DQO	Data Quality Objective
FSP	Field Sampling Plan
GC/MS	Gas Chromatography/Mass Spectrometry
HCl	Hydrochloric Acid
ICP-AES	Inductively Coupled Plasma- Atomic Emission Spectrometry
ICS	Interference Check Sample
ICV	Initial Calibration Verification
ID	Identification
IDL	Instrument Detection Limit
IS	Internal Standard
J	Estimated Value
LCS	Laboratory Control Sample
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MW	Monitoring Well
ND	Non-detect
%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
PARCCS	Precision, Accuracy, Representativeness, Completeness, Comparability and Sensitivity
PID	Photo ionization Detector
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
r	Correlation coefficient
R	Rejected value
RF	Response Factor
RL	Reporting Limit
RPD	Relative Percent Difference
SDG	Sample Delivery Group
SOP	Standard Operating Procedure
SSHP	Site Safety and Health Plan
STL	Severn-Trent Laboratories
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
U	Non-detect Value (under the MDL)
UJ	Estimated Non-detect (under the MDL)

LIST OF ACRONYMS AND ABBREVIATIONS

URS	URS Corporation
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOA	Volatile Organic Analysis
VOCs	Volatile Organic Compound
WP	Work Plan

The purpose of this investigation was to collect additional soil, waste, groundwater, surface water and sediment samples as part of a Supplemental Investigation conducted at the Sauget Area 2 Sites in Sauget, Illinois. This Validation Report discusses the laboratory analyses for the various media performed by Severn Trent Laboratories located in Savannah, Georgia and Sacramento, California. The field investigation was conducted by URS Corporation (URS). Field quality control activities such as equipment decontamination, field equipment calibration, sample verification that could have affected the data are also addressed. The data usability is assessed in this Report in support of additional data characterization for the site.

1.1 PROJECT DESCRIPTION

The purpose of the sampling performed was to fill gaps in the data characterization at the Sauget Area 2 Sites. The scope of work was developed after several working meetings were conducted between the Sauget Area 2 Sites Group's (SA2SG) and the Agency. The rationale for each specific sampling activity, which included the type, number, and location of samples to be collected, was agreed upon by SA2SG, USEPA, USEPA's oversight contractor CH2MHill and IEPA. Surface and subsurface soil samples were collected from trenches, well installation and soil borings. Groundwater samples were collected from monitoring wells and from groundwater profiling activities. Sediment and surface water samples were also collected. The sampling was completed using Standard Operating Procedures (SOPs), which are included in the Supplemental Investigation work plan. The samples collected as part of this investigation are listed in Table 1 of this report.

1.2 OVERALL PROJECT OBJECTIVES

The objective of the sampling was to fill the data gaps identified by the Agency. The scope of work was agreed on by SA2SG and the Agency. All historical documents, aerial photographs, and analytical results relevant to the various projects in Sauget were reviewed before the scope of work was finalized.

2.1 QUALITY CONTROL ACTIVITIES

Document review and decontamination activities took place prior to and concurrent with the field program implementation. Communication with the project manager clarified and confirmed the proposed sampling activities described in the work plan document. The review and continuous communication assured that the samples collected during this program would meet prescribed project guidelines and satisfy the project data quality objectives (DQOs). Documentation of sampling activities and sample shipment chain-of-custody (COC) records were designed to confirm that all proposed investigation activities were completed as planned. Copies of the COC forms are presented in Appendix A of this report.

2.1.1 Document Review

Prior to the startup of field activities, the Supplemental Investigation Work Plan, the QAPP, and the Health and Safety Plan were provided to the members of the field sampling teams for their review. This familiarized them with the site being investigated, the objectives of the investigation, and the SOPs under which the field activities were to be completed. Field personnel were briefed on the work to be completed prior to project startup. Coordination of the field sampling activities was maintained through open communication among project management personnel, the field sampling teams, and the analytical laboratories.

2.1.2 Equipment Decontamination

The equipment decontamination was performed in accordance with SOP No. 4 (Decontamination) of the Supplemental Investigation Work Plan. Mobile decontamination supplies were provided to ensure that re-usable equipment was decontaminated between sampling locations. An Alconox® and potable water mixture solution was used on all reusable equipment after each sample was collected. A distilled water rinse was applied after the Alconox® mixture. Disposable nitrile gloves were worn during decontamination activities, and were changed between locations. Reusable equipment includes but is not limited to the stainless steel trowels, spoons, well probes, pumps and dredge used during the trenching activities, groundwater collection and sediment sampling. All new tubing was used at each well and profiling location. Decontamination activities during the field investigation were overseen and verified at various times by the URS Field Supervisor.

Used decontamination solutions and solid waste generated during the sampling activities were stored on-site in double-walled tanks and roll-off boxes for later disposal.

2.1.3 Sample Verification

During field activities, the field sampling team reviewed the QAPP to verify the sample collection requirements for each sampling location. The review included the verification of target analytes, sample container requirements and the quality assurance/quality control (QA/QC) sampling requirements. Information concerning the number and type of samples collected at each location was documented as identified in Section 2.2.2. Any questions or inconsistencies that arose during the field activities were directed to the URS project manager for resolution.

2.1.4 Field Equipment Calibration

All field instrumentation was calibrated prior to and during continued use. The calibration and maintenance history of project-specific field instrumentation is an important aspect of the project's overall QA/QC program. Trained personnel followed the manufacturers' recommended instructions and SOP No.3 (Calibration and Maintenance of Field Instruments) to complete all initial and continuing calibration procedures. This ensured the equipment was functioning within the tolerances established by the manufacturer and the USEPA method-specific requirements, where applicable. The calibration and maintenance was the responsibility of the field supervisor and documented in Equipment Calibration Log Forms. Entries in the Form included:

- Date and time of calibration
- Type of equipment
- Name of person completing calibration
- Reference standard used for calibration
- Initial reading.

Air monitors equipped with a 11.7 eV photo ionization detector (PID) lamp were utilized to perform air monitoring during activities. The air monitors were calibrated daily in accordance with manufacturer's instructions. Details of the air monitoring procedures and other health and safety procedures are described in the Health and Safety Plan.

Temperature, pH, conductivity, dissolved oxygen (DO), and turbidity were measured in the field at all the groundwater locations sampled. Measurements were made using a Troll 9000 water quality meter following manufacturer procedures. Prior to the daily field activities, the water

quality meter was calibrated and verified to be within the instrument manufacturer's specified criteria.

2.2 SAMPLE COLLECTION ACTIVITIES

Samples were collected for chemical analyses during the investigation in accordance with the field sampling procedures summarized in the Supplemental Investigation work plan. The samples were collected at the Sauget Area 2 Sites from May to September 2005. Table 1 of this Validation Report summarizes the samples collected and includes sample identification, sampling date and time, sample matrix, and parameters analyzed for each sample.

Samples were submitted to Severn-Trent Laboratories (STL) in Savannah, Georgia for all parameters with the exception of the Dioxin samples. These samples were sent to STL in Sacramento, California.

2.2.1 Sample Containers, Handling, and Labeling

The samples were placed in certified pre-cleaned sample containers containing preservatives, if required, sealed, and affixed with a sample label in accordance with the Sample Handling Procedures listed in SOP No. 25 (Sample Containers, Preservation and Holding Times). The samples were then placed immediately on ice. Sample labels included the sample identification number, the target analytes, the type of QC for the sample being collected, sampler's initials, and the sample collection date and time as specified in Section 5 of the QAPP. Sample labels were covered with clear tape to prevent the tearing or loss of the sample identification label, should it become wet or abraded, in the sample cooler during transit.

Sample information, such as identification numbers, targeted analytes, sampling times, and QA/QC sample types, was documented on COC forms for shipment to the analytical laboratory. Completed COC forms were signed and one copy of the completed COC form was removed and retained for the field and office files. STL St. Louis packed the coolers after the daily sampling collection activities were completed and shipped them via overnight delivery service to STL Savannah or Sacramento.

The analytical laboratories and URS were in contact regularly regarding the number and type of samples shipped. These conversations also allowed for the expedient resolution of any questions or discrepancies arising from previous sample shipments.

2.2.2 Documentation of Field Activities

Field logbooks and sample collection field sheets were completed for the documentation of the field activities. All field activities and samples collected were documented in the field logbooks. Sample collection was also documented on the COCs. In addition, the groundwater samples were documented on sample collection field sheets.

2.2.3 Sample Designation

Samples collected during the Supplemental Investigation were labeled with unique sample identification as summarized in Section 4 of the QAPP. A few transcription errors were noted and are listed in Table 1 in the Comments column. The appropriate corrections were made to all associated documents and tables.

2.2.4 Field QA/QC Samples

QA/QC activities in the field included the collection of field blank/trip blank, duplicate sample pairs, and matrix spike/matrix spike duplicate (MS/MSD) samples. The following sections detail the field QA/QC samples collected.

2.2.4.1 Trip Blank Samples

Trip blanks accompanied samples collected for volatile organic analyses and consisted of VOC vials filled with organic-free water and chemical preservative (HCl) at the laboratory. Trip blank samples were shipped by the laboratory to the site with the empty sample containers and sent back to the laboratory with environmental samples. The VOC vials were opened only in the laboratory at the time of analysis. At least one trip blank sample accompanied each cooler, which contained VOC samples, used to ship samples to the laboratory. Trip blank information was used to estimate error associated with sample shipment, sample containers and laboratory analysis.

2.2.4.4 Field Duplicate Samples

Field duplicate samples were collected and submitted for analysis at an approximate ten percent frequency. Field duplicates were collected following the same procedures as the original samples. The field duplicates were submitted to STL as routine analytical samples.

Field duplicate results provided estimates for overall precision of sample collection, field sample preparation, and laboratory analysis. The duplicate sample data was used to assess the usability

of the sample data. Field duplicates are identified in Table 2-1. The results of the field duplicate samples are discussed in the data reviews summarized in Section 7 of this Validation Report.

2.2.4.3 Matrix Spike/Matrix Spike Duplicate Samples

The field supervisor selected which samples were used for MS/MSD analysis. Samples collected for MS/MSD analysis had 2 times the required volume submitted to the laboratory for the additional analyses. MS/MSD data was evaluated to assess accuracy and precision of the methods utilized for the analyses of samples associated with the field activities. Results of the MS/MSD samples are discussed in the data reviews and data validations summarized in Sections 6 and 7 of this report.

2.2.4.4 Field Blanks

Field blanks were collected and submitted to the laboratory with the investigative samples and analyzed for the same parameters as the investigative samples. Field blanks consisted of distilled or de-ionized water which was poured over cleaned sampling equipment in between sample collections. Field blanks were collected unless dedicated sampling equipment was used to collect samples. Field blanks were analyzed to check for procedural contamination at the site which may have caused sample contamination.

3.1 SAMPLE DOCUMENTATION

Documentation of sample tracking is an important aspect of environmental investigations and is designed to maintain the sample integrity subsequent to sample collection.

The URS field crews were responsible for completing COC forms which described the sample identification, time of collection, sample matrix, analyses requested, preservatives (if required), and any additional comments. The COCs were placed in the coolers shipped to the laboratory. Upon receipt of the coolers, the laboratory reviewed each cooler and accompanying COCs. Copies of the completed COCs are presented in Appendix A.

The laboratory sent URS sample confirmations via e-mail. Several minor discrepancies were noted during the sample receipt. These issues were addressed immediately with the field manager and were corrected prior to the submittal of the data package. URS was contacted regarding an anomaly for samples received May 28, 2005. There was insufficient sample to proceed with the analyses of AT-P-2-NAPL. This sample was cancelled due to insufficient sample volume. VOCs, SVOCs and metal analyses were requested for sample AT-P-4-NAPL. Only the VOCs and metals analyses were performed on this sample due to insufficient sample volume. No additional problems or discrepancies were noted.

4.1 LABORATORY PROCEDURES

The samples collected during the Supplemental Investigation were analyzed following USEPA methods as summarized below. The associated QC review and data validation summaries are provided in Sections 6 and 7, respectively. The laboratory provided, in various batches, documentation for the methods listed below, including sample preparation, sample tracking, and documentation controls.

The data reported by the laboratory were reviewed and qualified accordingly. The qualifiers assigned are listed in Table 4.

4.1.1 Volatile Organics

VOC analysis were analyzed by US Environmental Protection Agency (USEPA) Method 8260B (SW-846) and prepared by USEPA Method 5030B and 5035. Method 8260B utilizes gas chromatography/mass spectrometry (GC/MS) for separation and detection, respectively.

4.1.2 Semi-Volatile Organics

USEPA Method 8270C (SW-846) is a GC/MS method that was used for determining extractable base/neutral and acid compounds. Samples were prepared by following USEPA Method 3520C and 3550B. Then samples were analyzed using Method 8270C.

4.1.3 Polychlorinated Biphenyls

EPA Method 680 is a GCMS method that was used for the determination of PCBs. Samples were cleaned by USEPA Method 3640A. Samples were prepared by EPA 680-P-Solid method.

4.1.4 Organochlorine Pesticides

USEPA Method 8081A (SW-846) uses Gas Chromatography. This method was used for the determination of Pesticides. The samples were prepared using USEPA Method 3550B.

4.1.5 Herbicides

USEPA Method 8151A uses Gas Chromatography. This method was used for the determination of Herbicides. The samples were prepared using USEPA Method 8151A.

4.1.6 Metals

USEPA Method 6010B by inductively coupled plasma-atomic emission spectrometry (ICP-AES) was used for the determination of metals. The samples were prepared using USEPA Methods 3050B and 3005A. "Trace" ICP technology was used for all metals analysis except mercury. Samples were prepared and analyzed for mercury using Method 7470A and 7471A.

4.1.7 Nitrogen (Ammonia)

MCAWW Method 350.1 colorimetric was used for the determination of ammonia. Samples were prepared using EPA Method 3-154.

4.1.8 Dioxins/Furans

USEPA Methods 8280A and 8290 were used for the determination of Dioxins. Samples were prepared as outlined in the respective methods. Method 8280 utilizes high resolution GC and low resolution MS. Method 80290 utilizes high resolution GC and high resolution MS.

4.1.9 Monitored Natural Attenuation Parameters

Selected groundwater samples had monitored natural attenuation (MNA) parameters tested using the following methods:

- Nitrogen, Nitrate-Nitrite using Method 353.2
- Alkalinity using Method 310.1
- Sulfate using Method 375.4
- Chloride using Method 325.2
- Total Organic Carbon using Method 415.1
- Dissolved Gases in Water using Robert S. Kerr (RSK) laboratory Method 175.

4.2 LABORATORY QA/QC SAMPLES

4.2.1 Method or Preparation Blank

The method or preparation blank for the analysis consisted of organic-free water. The blank was carried through each step of the analytical method, from extraction to analysis. The method and preparation blank data were used to evaluate potential contamination contributed to sample preparation and analysis during normal laboratory operations.

4.2.2 Surrogate Spikes

Surrogate spikes are compounds added to every blank, sample, matrix spike, matrix spike duplicate, and standard when specified in the analytical methodology. The results are utilized to evaluate the accuracy of analytical measurements on a sample-specific basis. Surrogates are generally brominated, fluorinated, or isotopically labeled compounds not expected to be present in environmental media. Results are expressed as percent recovery (%R) of the surrogate spike. Recoveries outside of criteria can indicate evidence of matrix interference or problems with internal standards.

4.2.3 Laboratory Control Samples

Laboratory control samples (LCS) are well-characterized, laboratory-generated samples and are used to monitor the laboratory's day-to-day performance of analytical methods. The organics LCS limits are based on ± three sigma and are updated every six months. Inorganic LCS limits are based on a prescribed set of limits with each standard lot. LCSs are used to monitor the precision and accuracy of the analytical process independent of matrix effects. In some instances, the LCS is used to identify any background interference or contamination of the analytical system, which may lead to the reporting of elevated concentration levels or false positive results. The results of the LCS are compared to well-defined evaluation criteria to determine whether the laboratory system is "in control." Controlling laboratory operations with LCS, rather than surrogates or MS/MSD, offers the advantage of being able to differentiate low recoveries due to procedural errors from those due to matrix effects.

4.2.4 Matrix Spike/Matrix Spike Duplicates

MS/MSD samples are used to evaluate accuracy and precision using matrix as an indicator for organic and inorganic analyses. Organics MS/MSD limits are based on ± three sigma and are updated every six months. Inorganic MS/MSD limits are based on a prescribed set of limits with each standard lot. The laboratory analyzes MS/MSD samples with each analytical batch. MS/MSD criteria are established from either historical laboratory limits or those values identified in USEPA SW-846 methodology.

5.2.5 Internal Standards Performance

Internal standards, which are compounds not found in environmental samples, are spiked into blanks, samples, MS/MSDs, and LCSs at the time of sample preparation. Internal standards for polychlorinated dibenzodioxin (PCDD) and polychlorinated dibenzofuran (PCDF) analyses are

used to quantitate target compounds and to correct for variability of sample preparation, cleanup, and analysis with respect to individual sample matrices. Internal standards must meet retention time and performance criteria specified in the analytical method or the sample would have been reanalyzed.

The data review process, which involved a review of the laboratory summary data, was implemented to assess the quality of data resulting from the field sampling program with respect to the quality assurance objectives established for the project. In order to evaluate the appropriate usage of the data, in supporting decisions to be made, the data was evaluated with respect to data quality, major data uses, and the remedial decision to be made. Data that did not meet the criteria were qualified or discussed for the limitation on usability. In addition, approximately 10 percent of the data underwent a more comprehensive evaluation which included the review of raw data (i.e., chromatograms, run logs, etc.), recalculation of data, and sample tracking. For the purpose of this document, this extended review was termed full validation.

The following sections summarize the data review and data validation approach used for the Sauget A2 samples. In general, the review and validation followed guidance as presented in USEPA Contract Laboratory Program (CLP) National Functional Guidelines for low concentration Organic Data Review (USEPA 2001) and Inorganic Data Review (USEPA 2004), as applicable to SW-846 analytical methods and method-specific criteria. As indicated above, the data review involved reviewing QC summary forms, whereas the validation additionally involved the review of raw data. Table 3.1 of the Sauget A2 QAPP (URS 2004) summarizes the data review/validation criteria in tabular format. Professional judgment was used to determine appropriate actions and may not have necessarily followed the criteria outlined.

5.1 DATA REVIEW/VALIDATION ELEMENTS

Analytical laboratory results were reviewed following guidance presented in USEPA CLP National Functional Guidelines for Low Concentration Organic Data Review (USEPA 2001) and USEPA CLP National Functional Guidelines for Inorganic Data Review (USEPA 2004). The data were reviewed/validated using the QC criteria specified in the Sauget A2 QAPP (URS 2004). These guidelines were used as applicable to SW-846 methods. Method-specific and established laboratory criteria were used for data assessment. Based on results of the data review/validation processes, sample data may have been qualified as **J** (estimated), **UJ** (estimated non-detects), **U** (non-detects), or **R** (rejected).

In accordance with these guidelines, professional judgment was used in certain areas to determine the need for data qualification. Professional judgment, as prescribed by the USEPA Functional Guidelines, involved a secondary evaluation of data with respect to qualifications. This took into account additional knowledge based on experience with laboratory practices,

analyte-specific factors such as chemical properties, and other current resolutions of technical issues addressed in the literature.

Although the data packages provided were not CLP deliverables, the CLP guidance was followed where applicable to SW-846 methodology. The QC elements reviewed in laboratory analytical data packages included the following:

- Completeness of the data package
- Laboratory case narrative and cooler receipt forms
- Compliance with required holding times and sample preservation
- Presence of analytes in method blanks and trip blanks
- Results of LCS
- Recoveries of surrogate spikes in samples
- Results of MS/MSD
- Recoveries of internal standards
- Field duplicate samples
- Serial dilution samples (metals only)
- Laboratory duplicate samples.

The data validation included all of the items identified above and additionally included the items below:

- Instrument performance check samples
- Run logs review
- Chromatograms review
- Initial calibration
- Calibration verifications (CV)
- Retention time windows
- Interference check samples (ICP metals only)
- Analytical result verification.

When a result was above the MDL and below the reporting limit, the laboratory flagged data **J** to indicate that the concentration reported is an estimated value. The data, including all post-analysis qualifiers, are presented in the data summary tables in Appendix A. The data review results are presented in Section 7 and the data validation results are presented in Section 8.0.

The data review and validation procedures used to evaluate the Sauget A2 data are described in this section. The QC review details quality control issues associated with the analysis of the samples, describes if the data required qualification, and describes the use of professional judgment.

5.1.1 Completeness of Data Package

Data packages were reviewed to make certain that they contained the data contractually required in the deliverable. This included checking the data package for the results of each analyte requested on each field sample submitted in the analytical batch, along with the requested QC documentation for the respective methods.

5.1.2 Sample Preservation and Holding Times

Sample holding times were calculated by subtracting the date of sampling, as determined from the COC forms, from the date of sample extraction/analysis. If the sample analysis was completed outside of the required holding times, data was qualified as estimated **J** (detects) or **UJ** (nondetects), or rejected **R**, depending on the severity of the exceeded holding time. The validation additionally included reviewing run logs and chromatograms to ensure the dates presented on the summary forms were accurate.

5.1.3 Blanks

Guidance provided in the USEPA CLP National Functional Guidelines for Low Concentration Organic and Inorganic Data Review were used for the evaluation of method blanks, preparation blanks, calibration blanks and trip blanks. If analytes were detected in a blank sample, but not in samples associated with the blank sample, then data was not qualified. If analytes were reported in a blank and in associated samples, the following actions were taken:

- Positive sample results were reported without qualification when the concentration of the analyte in the sample exceeded 10 times (10x) the amount in a blank for common laboratory contaminants (methylene chloride, acetone, 2-butanone, bis(2-ethylhexyl) phthalate, di-n-butyl phthalate), or exceeded 5 times (5x) the amount in a blank for other compounds. Note: The 10x rule was only applied to method blank samples.

- When the sample results were greater than the reporting limit, but less than the required multiple (5x or 10x) of the method blank result, sample results were qualified as non-detects **U**, and the RL was raised to the sample concentration.
- When the sample results were less than the RLs and less than the required multiple of the method blank result, sample results were qualified as non-detects **U** at the RL.
- If any analyte was reported in a blank sample and was reported in associated samples, the data was closely reviewed and qualified as necessary based on professional judgment.

During the data validation, the chromatograms were reviewed to ensure all peaks were identified and explained. In addition, extraction and run logs were reviewed to ensure a method or preparation blank was analyzed with each batch.

5.1.4 Surrogates

Surrogates were used to assess accuracy for VOC, SVOCs, PCBs, pesticides, and herbicides analyses on a sample specific basis. Criteria for recovery of surrogate compounds spiked into samples are provided in Table 3.3 of the QAPP (URS 2004). For VOC, PCB, pesticide, and herbicide analyses, if any surrogate was out of specification due to recoveries greater than the upper evaluation limit, indicating a high bias, positive results for that sample were qualified as estimated **J**, and non-detects data were not qualified. If recoveries were below the lower evaluation limit, indicating a low bias, but greater than 10 percent, positive results for that sample were qualified as estimated **J**, and non-detects results were qualified as estimated **UJ**. For any surrogate recovery below 10 percent, positive results for that sample were qualified as estimated **J**, and non-detects results were qualified as rejected **R**. For SVOC analyses, the same approach was used except data were only qualified if two or more surrogate recoveries per fraction (acid, base/neutral) were outside criteria or any one surrogate compound recovery less than ten percent.

The validation additionally included recalculating the surrogate values from the raw data and reviewing the chromatograms to ensure the surrogate compounds were within the established retention time windows.

5.1.5 Laboratory Control Samples

LCS are well characterized, laboratory-generated samples used to monitor the laboratory's day-to-day performance for inorganic and organic analyses, and to assess the accuracy and precision of the analytical process independent of matrix effects. Evaluation criteria for LCS are provided

in appendix A of the QAPP (URS 2004). Sample results associated with a LCS recovery below the evaluation limit were qualified as estimated **J** (detects) or **UJ** (nondetects) based on a potential low bias. If LCS recoveries were less than half the lower evaluation limit, sample results reported as non-detects were qualified rejected **R**. Detected sample results associated with a LCS recovery above the evaluation limit were qualified as estimated **J** based on a potential high bias. Data reported as non-detects were not qualified based on a LCS with potential high bias.

The validation additionally included reviewing extraction and run logs to ensure a LCS was analyzed with each batch. Approximately 10 percent of the LCS recoveries were recalculated using the raw data. In addition, chromatograms were reviewed to ensure the LCS compounds were within the retention time windows.

5.1.6 Matrix Spike/Matrix Spike Duplicate Samples

MS/MSD samples were analyzed for VOC, SVOC, PCB, pesticide, herbicide, metals, and wet chemistry parameter analyses. Evaluation criteria for accuracy (%R) and precision (Relative Percent Difference [RPD]) of the MS/MSD samples are provided in appendix of the QAPP (URS 2004). Per USEPA CLP National Functional Guidelines for Low Concentration Organic Data Review (USEPA 2001), no action was taken on organic MS/MSD data alone. MS/MSD data for organic methods were reviewed in conjunction with other QC parameters to determine if qualification was required. Samples analyzed for metals and wet chemistry parameters were qualified following USEPA CLP National Functional Guidelines for Inorganic Data Review (USEPA 2004).

In general, results for the sample on which the MS/MSD was prepared were qualified using the above guidelines. However using informed professional judgment, in conjunction with a review of the other QC criteria, the data reviewer may have determined the need for qualification of other sample data for the analytical batch from the site.

The validation additionally included reviewing extraction and run logs to ensure a MS/MSD was analyzed with each batch. Approximately 10 percent of the MS/MSD recoveries were recalculated using the raw data. Chromatograms from the organic analyses were also reviewed to ensure the MS/MSD compounds were within the retention time windows.

5.1.7 Field Duplicate Samples

Field duplicate samples were collected at a frequency of approximately 10 percent, as required by the Sauget A2 QAPP (URS 2004). RPDs were calculated for each field duplicate pair. Precision evaluation criteria of 50 percent RPD for aqueous samples and criteria of 100 percent RPD for soil samples were considered if the analyte concentrations were greater than 5x the RL for both samples. For analytical results less than 5x the RL, for either or both samples, RPD evaluation criteria of ± 2x the RL were utilized. Duplicate results were evaluated on a case-by-case basis to determine if qualification of data was necessary. Where it was determined that qualification of field duplicate samples was required, associated data were qualified **J** (detects) or **UJ** (nondetects).

5.1.7 ICP Serial Dilution (Metals Data Review Only)

The serial dilution of samples quantified by ICP determines whether or not significant physical or chemical interference's exist due to sample matrix. The ICP serial dilution analysis is measured on one sample from each analytical batch or SDG. A serial dilution of a sample with sufficiently high analyte concentrations (i.e. greater that a factor of 50 above the IDL) must agree within a 10 %D with the original analysis after correction for the dilution. If the 10 %D criteria are not met for analytes of sufficient concentration, then the associated data were qualified as estimated (**J**). Additionally, one hundred percent of the analytes detected in the serial dilution analysis were recalculated using the raw data.

The following identifies additional parameters involved in the data validation that are not included in the data review.

5.1.8 Instrument Performance Check (Data Validation Only)

The laboratory was required to analyze an instrument performance check sample every 12 hours of sample analysis. The instrument performance check sample summaries were compared to the method criteria. In addition, approximately 20 percent of the values were recalculated from the raw data. The laboratory was required to meet the method criteria prior to analyzing samples. If the laboratory did not meet the tuning criteria, the associated samples were qualified as **R**.

5.1.9 Preparation and Run Log Review (Data Validation Only)

Review of the preparation and run logs involved reviewing the logs to determine that samples were extracted and analyzed as presented on the sample summary forms. The preparation and sample run logs were reviewed to determine that the correct sample volume was prepared, the

appropriate QC samples (e.g., LCS, MS...) were analyzed as part of the analytical batch, and the samples were analyzed in the method-required order.

5.1.10 Chromatogram Review (Data Validation Only)

This involved a review of each chromatogram to determine that peaks were within the acceptable retention time windows of the associated standard. The review also included comparing the analysis times presented on the instrument run logs to those presented on the sample chromatograms. In addition, the review identified all peaks present on the chromatogram as either: target analytes, internal standards, surrogates, or tentatively identified compounds.

5.1.11 Initial Calibration (Data Validation Only)

Each method required establishing an initial calibration curve. The data validation involved reviewing the percent relative standard deviations (%RSDs), the response factors (RFs) or the correlation coefficient ® if linear regression was employed. If %RSDs, RFs, or correlation coefficient ® were not met for an analyte, the associated data was qualified as **J**, **UJ**, or **R,** depending on the severity of the outlying data point. One analyte per internal standard was recalculated using the raw data.

5.1.12 Calibration Verification (Data Validation Only)

Each method required the analysis of calibration verification (CV) samples to ensure the initial calibration was still valid. The data validation involved reviewing the percent difference (%D) of the RFs between the CV and the associated calibration curve. If the RF or %D criteria were not met for an analyte, the associated data was qualified as **J**, **UJ**, or **R**, depending on the severity of the outlying data. One analyte per internal standard, or 10 percent of the data presented on the continuing calibration summary forms, were recalculated using the raw data.

5.1.13 ICP Interference Check Sample (Metals Validation Only)

An ICP interference check sample (ICS) verifies the laboratory's inter-element and background correction factors. The ICS consists of two solutions, A and AB. Solution A consists of the interferents and solution AB consists of the target analytes mixed with the interferents. The ICS analysis consists of analyzing both solutions consecutively, starting with solution A for all wavelengths used for each analyte reported by ICP. The ICS is run at the beginning and end of each analytical batch, or a minimum of twice per 8-hour shift. The results of the ICS analysis of solution AB must fall within the control limits of $\pm$20% of the true value for the analytes included in the solution. For samples where the ICS analyte recoveries exceed the control limits,

data were qualified as **J**, **UJ**, or **R**, depending on the severity of the outlying data. Additionally, one hundred percent of the analytes in the ICS were recalculated using the raw data.

5.2 MEASUREMENT OF QUALITY ASSURANCE OBJECTIVES

The measurement of quality assurance was determined by the assessment of precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS). The PARCCS definitions are included below and the PARCCS assessments are included in Section 6.

5.2.1 Precision

Precision is the measure of variability between individual sample measurements under prescribed conditions. Replicate measurements of known standards and the analysis of duplicate environmental samples assess precision. Evaluating the RPDs obtained from results of MSD, laboratory duplicate, and field duplicate samples assessed precision. The precision of the data is discussed in Section 6.

5.2.2 Accuracy

Accuracy is the degree of agreement between the measurement of a known sample and an accepted reference or true value. Evaluating %Rs for LCS, MS samples, and surrogates assessed accuracy. The accuracy of the data is discussed in Section 6.

5.2.3 Completeness

Following the QC review and validation of the data packages for the site, the data were assessed with respect to the fulfillment of QA objectives and usability. The completeness for laboratory analytical data for the site was calculated by the ratio of acceptable (including estimated data) analyses requested on the samples submitted for analysis, to the total number of analytical results requested.

$$\%Complete = \frac{Number\ of\ Valid\ Analytical\ Results\ (including\ estimated\ J\ results)}{Total\ Number\ of\ Analytical\ Results\ Requested}$$

The percent completeness, with respect to overall project objectives for the Sauget A2 project, was evaluated for the data required in making decisions on a case-by-case basis. In general, samples critical to the decision process required a 95 percent completeness goal.

5.2.4 Representativeness

Representativeness is the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a parameter primarily concerned with the proper design of the sampling program (such as sampling location strategy) or sub-sampling of a given sample. Assessment of representativeness includes an evaluation of precision. Therefore, reviewing the precision of field duplicate samples collected from a site can assess representativeness of the analytical results, with respect to the medium sampled. Review criteria for field duplicate analyses are identified in Section 5.1.8.

5.2.5 Comparability

Comparability expresses qualitatively the confidence with which one data set can be compared to another. Data are comparable when collection techniques, measurement procedures, methods, and reporting are equivalent for all samples within the sample set. Section 6 contains a qualitative assessment of data comparability.

5.2.6 Sensitivity

Sensitivity broadly describes the RL established to meet the project-specific DQOs. The sample RL is the lowest concentration of an analyte present in a sample that can be quantified with a specified level of confidence. The RLs are a function of the sample characteristics, MDLs, and laboratory performance.

MDLs are determined by the laboratory and defined as the level at which the laboratory can reliably quantify the concentration of an analyte on multiple analyses. The RLs are greater than the MDLs because MDL studies are performed using laboratory-prepared samples (spiked deionized [DI] water); whereas, environmental samples are naturally more variable. USACE requires that RLs are 3-5 times the MDL. MDLs and RLs are provided in Tables 1.4B through 1.4D of the Sauget A2 QAPP (URS 2004). For this project, data are reported below the RLs as estimated **J**. Factors that may result in elevated RLs are discussed below.

- High concentrations of target or non-target analytes may require that the sample extract be diluted to avoid saturation of the detector, or to quantify the analyte concentration within the calibration range of the instrument. Consequently, RLs are elevated in proportion to the dilution factor.

- Matrix interference may require that the sample be diluted to reduce or eliminate the interference. Consequently, the RLs are elevated in proportion to the dilution factor.
- The physical characteristics of the matrix do not permit concentration to the required final volume during sample preparation, resulting in a larger sample extract volume and, consequently, an elevation in RLs.
- Matrix interference may require the RLs be elevated because of the inability to quantify data below the elevated RL.

In a given sample, one or more of these effects may be exhibited. When the RLs have been elevated as a result of one or more of the above causes, surrogate or target compounds present at low concentrations may not be detected. Therefore, elevated RLs may cause limitations to the application of the data for its intended use. These limitations on data for contaminants of concern are discussed on a case-by-case basis.

5.3 DATA ASSESSMENT

The assessment of data involves the consideration of data uses, the identification of data which were qualified or otherwise deviated from the Sauget A2 QAPP requirements, and the limitations associated with the evaluation of data in supporting decisions to be made.

5.3.1 Summary of Data Quality Requirements

Data collected in the CM must be of known quality to support the uses for which it is intended. Data must meet the minimum quality standards to be useful in assessing the chemicals of concern, if any were released from the site, the acceptable level of uncertainty, and the concentrations in environmental media of concern at potential exposure points. Additionally, RLs must meet the levels necessary to determine whether analytes are present at concentrations of concern (i.e., above relative background concentrations, regulatory standards, or risk-based concentrations).

Inherent in providing defensible data is the need for a QA/QC program. The QA/QC program must have measurement tools so that data collected will be of known quality and legally defensible. QA/QC objectives for sampling and analysis were developed for this project which use the following as indicators: precision, accuracy, completeness, comparability, representativeness, and sensitivity.

5.3.2 Data Usability Assessment

A determination of data usability was made with respect to project DQOs. Sampling issues and data review/validation issues were discussed in terms of appropriateness of using the data as intended, as well as making recommendations or limitations on data usage. These discussions address items such as elevated RLs, analytes suspected as laboratory contaminants, potential bias in results, and professional judgment utilized in the data review/validation. The data assessment summary is provided in Section 7 of this QCSR.

The A2 sampling activities from May, 2005 to November, 2005 resulted in the collection of 382 groundwater samples, 201 soil samples, 64 trip blank samples, 18 field blank samples, and 4 IDW samples. The sample results were submitted in multiple sample delivery groups (SDGs) and are noted SAS001 through SAS042. The Dioxin sample results were also submitted in multiple sample delivery groups and given unique names, each beginning with G5E or G5F and followed by a six digit number. The samples were identified for the following parameters VOCs, SVOCs, PCBs (including congeners), pesticides, herbicides, metals, and wet chemistry parameters. All samples were sent to STL in Savannah, GA.

The following sections contain the data quality reviews for all samples. The data quality reviews have been organized by SDGs and parameters.

6.1 DATA QUALITY REVIEW CHECKLISTS FOR ALL SDGS

SDGs were reviewed for each parameter separately. The following section contains the detailed review checklists for each parameter. In addition, a list of qualifiers for each SDG is provided at the end of the subsequent checklists for that SDG.

7.1 INTRODUCTION

This section summarizes the full validation reports for ten percent of the chemical data for samples collected during the 2005 Sauget A2 field effort. The validation was completed in accordance with USEPA CLP National Functional Guidelines for Organic Data Review (USEPA 2001) and Inorganic Data Review (USEPA 2004), where applicable to SW-846 Methods. Additionally, QA/QC criteria established in the QAPP (URS 2004) was used.

7.2 FULL VALIDATION FOR ALL SDGS

SDGs were validated at a rate of ten percent for each parameter. The following section contains the detailed validation checklists from select parameters.

8.1 OVERALL DATA ASSESSMENT

Quality issues for the data were assessed to evaluate their affect on the major data uses. In general, the objective of the sampling event was to gather data sufficient to evaluate data usability in support the supplemental Phase II investigation.

Based on the criteria outlined, all data have met the DQOs and should be accepted for their intended use with the exception of those data qualified as rejected ®.

Overall precision, assessed by the analysis of LCS RPD and MS/MSD RPD, was approximately 90 percent. Overall accuracy, assessed by the analysis of LCS, LCSD, MS, MSD and surrogate compounds, was approximately 89 percent. Representativeness, assessed by the analysis of field blank samples and field duplicate samples was also acceptable. Ninety nine percent of the field duplicate results were within criteria. Completeness, defined as the percentage of usable data (data not qualified as R), was approximately 98 percent. Comparability was acceptable as samples were analyzed using the standard operating procedures throughout the project duration. Therefore, the overall PARCC parameters were acceptable. Sensitivity, and its impact on data usability, is included in the report.

8.2 SAMPLING ISSUES

No sampling issues impacted data quality. Insufficient water sample volume was encountered at one monitoring well. Section 4 summarizes this issue and documents its impact to the project DQO's.

8.2 DATA REVIEW/VALIDATION ISSUES

For laboratory analytical data, QA objectives were specified in the Sauget A2 QAPP (URS 2004). The QA objectives were used as indicators of the quality of data necessary to support identification and quantification of potential chemicals of concern. The data were reviewed and validated as identified in the QAPP (URS 2004). While the data review assessed the data based on the QC summary forms, the data validation was completed to determine if a more extensive review of the data indicated noncompliance with the method SOPs.

As presented in Sections 6 and 7, analytical results for some samples were qualified as **UJ** or **J** to indicate the quality control associated with that data did not meet evaluation criteria; however, they could be used for decision-making purposes. Analytical results were also qualified **R** could not be used for decision-making purposes. Analytical results were also qualified as **U** due to

method blank, field blank, or trip blank contamination. Section 7 summarizes all qualifications based on Data Quality Reviews and Section 8 summarizes all qualifications based on Data Quality Validations.

8.4 APPROPRIATENESS

Analytical methodologies identified in Section 5 were utilized to help determine the presence of any chemicals of concern. With respect to the site description, the analytical methods utilized were appropriate to assess all chemicals of concern.

8.5 LIMITATIONS

Limitations occur when reporting limits have been elevated above the decision point, data were detected below reporting limits (resulting in estimated data), or when data were rejected. The summary of analytical data presented in Appendix A identifies the reporting limits for each sample analysis, and the qualifications associated with the data. The only limitations were the results flagged as rejected (R), these results were not used for decision-making purposes. Table 6-51 summarizes all qualifications to the data based on the data review and validation procedures.

U.S. Environmental Protection Agency (USEPA). 1998. Test Methods for Evaluating Solid Waste Physical/Chemical Methods. SW846. Third Edition. Final Update IIIa.

U.S. Environmental Protection Agency (USEPA). 2001. National Functional Guidelines for Low Concentration Organic Data Review. USEPA Contract Laboratory Program. EPA 540/R-00/006. June.

U.S. Environmental Protection Agency (USEPA). 2004. National Functional Guidelines for Inorganic Data Review. USEPA Contract Laboratory Program. EPA 540/R/01/008. July.

Table 6-1
All Qualifiers List for
SDG SAS001

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS001	All Reextractions	SVOCs	All Chemicals	R	H	

Notes:
R = Rejected

Table 6-2
All Qualifier list for
SDG SAS002

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS002	AT-Q-31-SB-6	VOCs	Toluene	J	S	
SAS002	AT-Q-31-SB-6	VOCs	Chlorobenzene	J	S	
SAS002	AT-Q-31-SB-6	VOCs	Ethylbenzene	J	S	
SAS002	AT-Q-31-SB-6	VOCs	Xylenes, Total	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Toluene	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Chlorobenzene	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Ethylbenzene	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Xylenes, Total	J	S	
SAS002	AT-Q-23-SS-0.5	VOCs	All VOCs	J/UJ	S	
SAS002	AT-Q-23-SB-6	VOCs	All detected VOCs	J	I	
SAS002	AT-Q-23-SB-6	VOCs	All non-detect VOCs	R	I	
SAS002	AT-Q-23-SB-6RA	VOCs	All detected VOCs	J	I	
SAS002	AT-Q-23-SB-6RA	VOCs	All non-detect VOCs	R	I	
SAS002	SA-Q-7-SB-5	VOCs	Xylenes, total	UJ	F	
SAS002	SA-Q-7-SB-5-D	VOCs	Xylenes, total	J	F	
SAS002	AT-Q-23-SB-6RE	SVOCs	All SVOCs	J/UJ	H	
SAS002	AT-Q-23-SB-6	SVOCs	All detected SVOC	J	I	
SAS002	AT-Q-23-SB-6	SVOCs	All non-detect SVOC	R	I	
SAS002	AT-Q-23-SB-6	PCBs	all PCBs	J/UJ	H	
SAS002	AT-Q-23-SS-0.5	PCBs	all PCBs	J/UJ	H	
SAS002	SA-Q-6-WS-16'	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-6-SB-6	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-7-SS-1	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-5-SS-1.5	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-5-SB-6	PCBs	all PCBs	J/UJ	S,M,L	
SAS002	AT-Q-31-WS-12	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-6-SS-0.5'	PCBs	all PCBs	J/UJ	L	
SAS002	SA-Q-7-SB-5	PCBs	all PCBs	J/UJ	L	
SAS002	SA-Q-7-SB-5-D	PCBs	all PCBs	J/UJ	L	
SAS002	AT-Q-23-SB-6	Pesticides	All Pesticides	J/UJ	H,S	
SAS002	AT-Q-23-SS-0.5	Pesticides	All Pesticides	J/UJ	H,S	
SAS002	AT-Q-23-SB-6RE	Pesticides	All Pesticides	R	H	
SAS002	AT-Q-23-SS-0.5RE	Pesticides	All Pesticides	R	H	
SAS002	SA-Q-6-WS-16'	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-6-SS-0.5'	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-6-SB-6	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-7-SS-1	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-7-SB-5	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-7-SB-5-D	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-5-SS-1.5	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-5-SB-6	Pesticides	Endosulfan II	J/UJ	L	
SAS002	AT-Q-31-WS-12	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-6-WS-16'	Metals	Sodium	U	P	240
SAS002	SA-Q-6-SB-6	Metals	Sodium	U	P	240
SAS002	SA-Q-7-SB-5	Metals	Sodium	U	P	140
SAS002	SA-Q-7-SB-5-D	Metals	Sodium	U	P	130
SAS002	SA-Q-5-SB-6	Metals	Sodium	U	P	340
SAS002	AT-Q-31-SB-6	Metals	Sodium	U	P	310
SAS002	AT-Q-31-WS-12	Metals	Sodium	U	P	180
SAS002	AT-Q-31-SS-0.5	Metals	Sodium	U	P	310

Table 6-2
All Qualifier list for
SDG SAS002

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS002	SA-Q-5-SB-6	Metals	Calcium	J	K	
SAS002	SA-Q-5-SB-6	Metals	Chromium	J	K	
SAS002	SA-Q-5-SB-6	Metals	Mercury	J	K	
SAS002	SA-Q-5-SB-6	Metals	Zinc	J	K	
SAS002	SA-Q-5-SB-6	Metals	Antimony	J	M	
SAS002	SA-Q-5-SB-6	Metals	Chromium	J	M	
SAS002	SA-Q-5-SB-6	Metals	Lead	J	M	
SAS002	SA-Q-5-SB-6	Metals	Potassium	J	M	
SAS002	SA-Q-5-SB-6	Metals	Mercury	J	M	
SAS002	SA-Q-6-WS-16	Metals	Antimony	J	M	
SAS002	SA-Q-7-SB-5	Wet Chemistry	Ammonia	U	Z	
SAS002	SA-Q-7-SB-5-D	Wet Chemistry	Ammonia	U	Z	
SAS002	AT-Q-23-SS-0.5	Wet Chemistry	Ammonia	U	Z	0.27
SAS002	SA-Q-5-SB-6	Wet Chemistry	Ammonia	J	M	

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

R = Rejected

Table 6-3
All Qualifiers List for
SDG SAS003

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS003	AP-P-5-34	VOCs	Acetone	UJ	C	
SAS003	AA-P-8-122	VOCs	Acetone	UJ	C	
SAS003	AA-P-8-122-D	VOCs	Acetone	UJ	C	
SAS003	AA-P-7-92	VOCs	Acetone	UJ	C	
SAS003	SA-Q-2-FB	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-70	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-70-D	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-90	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-110	VOCs	Acetone	UJ	C	
SAS003	AA-SLAY-3-50	VOCs	Acetone	UJ	C	
SAS003	AA-SLAY-3-70	VOCs	Acetone	UJ	C	
SAS003	AA-SLAY-3-70-D	VOCs	Acetone	UJ	C	
SAS003	AA-P-7-110	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-54	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-74	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-114	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-30	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-50	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-94	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-70	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-70-D	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-90	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-110	VOCs	2-Butanone	UJ	C	
SAS003	AA-SLAY-3-50	VOCs	2-Butanone	UJ	C	
SAS003	AA-SLAY-3-70	VOCs	2-Butanone	UJ	C	
SAS003	AA-SLAY-3-70-D	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-7-110	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-54	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-74	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-114	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-30	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-50	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-94	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-70	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-70-D	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-90	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-110	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-SLAY-3-50	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-SLAY-3-70	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-SLAY-3-70-D	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-7-110	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-54	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-74	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-114	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-30	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-50	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-94	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-34RE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-6-70RE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-6-70-DRE	SVOCs	All SVOCs	R	H	

Table 6-3
All Qualifiers List for
SDG SAS003

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS003	AA-P-8-122RE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-5-34	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS003	AA-P-6-70	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS003	AA-P-6-70-D	SVOCs	All SVOCs	UJ	S	
SAS003	AA-P-8-122	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS003	AA-P-5-114	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-5-114	SVOCs	4,6-Dinitro-2-methylphenol	UJ	R	
SAS003	AA-P-5-34	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-8-122-D	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-7-72	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-7-92	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	SA-Q-2-FB	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-6-70	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-6-70-D	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-SLAY-3-50	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-5-114	SVOCs	Bis (2-chloroethyl)ether	UJ	C	
SAS003	AA-P-5-114	SVOCs	4-Nitrophenol	UJ	C	
SAS003	AA-P-5-34	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-8-122-D	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-7-72	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-7-92	SVOCs	Dinoseb	UJ	C	
SAS003	SA-Q-2-FB	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-70	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-70-D	SVOCs	Dinoseb	UJ	C	
SAS003	AA-SLAY-3-50	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-94	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-30	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-50	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-90	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-110	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-8-122	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-54	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-74	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-94	Herbicides	MCPP	J	S	
SAS003	AA-P-5-34	Metals	Aluminum	J	K,M	
SAS003	AA-P-5-34	Metals	Iron	J	K	
SAS003	AA-P-5-34	Metals	Zinc	J	K,M	
SAS003	AA-P-5-34	Metals	Potassium	J	M	
SAS003	AA-P-5-34	Metals	Lead	U	O	
SAS003	AA-P-8-122	Metals	Antimony	U	O	
SAS003	AA-P-8-122-D	Metals	Antimony	U	O	
SAS003	AA-P-7-72	Metals	Arsenic	U	O	
SAS003	AA-P-7-72	Metals	Lead	U	O	
SAS003	AA-SLAY-3-50	Metals	Beryllium	U	O	
SAS003	AA-P-5-34	Wet Chemistry	Ammonia	U	X	
SAS003	AA-P-6-70	Wet Chemistry	Ammonia	J	M	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-4
All Qualifiers List for
SDG SAS004

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-2-SS-0.5	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-2-SS-0.5RA	VOCs	All VOCs	J/UJ	S,I	
SAS004	AT-Q-27-SB-6'	VOCs	All VOCs	J/UJ	S,I	
SAS004	AT-Q-27-SB-6'RA	VOCs	All VOCs	J/UJ	S,I	
SAS004	AT-Q-28-SB-6'-DUP	VOCs	All VOCs	J/UJ	S	
SAS004	AT-Q-28-SB-6'-DUPRA	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-3-SS-0.5	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-3-SS-0.5RA	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-3-WS-12	VOCs	All detected VOCs	J	S,I	
SAS004	SA-Q-3-WS-12	VOCs	All non-detect VOCs	R	I	
SAS004	SA-Q-3-WS-12RA	VOCs	All detected VOCs	J	S,I	
SAS004	SA-Q-3-WS-12RA	VOCs	All non-detect VOCs	R	I	
SAS004	SA-Q-4-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-4-SB-6RA	VOCs	All VOCs	J/UJ	S	
SAS004	SA-Q-4-SB-6RA	VOCs	2-Butanone	J	L	
SAS004	AT-Q-29-SB-6'	VOCs	2-Butanone	J	L	
SAS004	AT-Q-28-SB-6'	VOCs	All VOCs	J/UJ	I	
SAS004	SA-Q-2-SS-0.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	SA-Q-2-SB-4	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-24-SB-6	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-24-SS-0.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-26-SB-6	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-27-SB-6	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-27-SS-1	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-28-SB-6-D	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-28-SS-1.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	SA-Q-3-SS-0.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	SA-Q-2-SS-0.5RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-2-SS-0.5RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	SA-Q-2-SS-0.5RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-4-SS-0.5	VOCs	Acetone	UJ	C	
SAS004	SA-Q-4-SS-0.5	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-4-SS-0.5	VOCs	2-Butanone	UJ	C	
SAS004	AT-Q-26-SS-1.5	VOCs	Acetone	J	C	
SAS004	AT-Q-26-SS-1.5	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-26-SS-1.5	VOCs	2-Butanone	UJ	C	
SAS004	AT-Q-27-SB-6RA	VOCs	Acetone	J/UJ	C	
SAS004	AT-Q-27-SB-6RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	AT-Q-27-SB-6RA	VOCs	2-Butanone	J/UJ	C	
SAS004	AT-Q-28-SB-6	VOCs	Acetone	J	C	
SAS004	AT-Q-28-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-28-SB-6	VOCs	2-Butanone	UJ	C	
SAS004	AT-Q-28-SB-6-DRA	VOCs	Acetone	J/UJ	C	
SAS004	AT-Q-28-SB-6-DRA	VOCs	2-Hexanone	J/UJ	C	
SAS004	AT-Q-28-SB-6-DRA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-3-SS-0.5RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-3-SS-0.5RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	SA-Q-3-SS-0.5RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-3-SB-6	VOCs	Acetone	J	C	
SAS004	SA-Q-3-SB-6	VOCs	2-Hexanone	UJ	C	

Table 6-4
All Qualifiers List for
SDG SAS004

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-3-SB-6	VOCs	2-Butanone	J	C	
SAS004	SA-Q-3-SB-6-D	VOCs	Acetone	J	C	
SAS004	SA-Q-3-SB-6-D	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-3-SB-6-D	VOCs	2-Butanone	J	C	
SAS004	SA-Q-3-WS-12RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-3-WS-12RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	SA-Q-3-WS-12RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-4-SB-6	VOCs	Acetone	J	C	
SAS004	SA-Q-4-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-4-SB-6	VOCs	2-Butanone	J	C	
SAS004	AT-Q-28-WS-16	VOCs	Acetone	J	C	
SAS004	AT-Q-28-WS-16	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-28-WS-16	VOCs	2-Butanone	J	C	
SAS004	SA-Q-4-SB-6RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-4-SB-6RA	VOCs	1,1-Dichloroethane	J/UJ	C	
SAS004	SA-Q-4-SB-6RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-4-SB-6RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	AT-Q-29-SB-6	VOCs	Acetone	J	C	
SAS004	AT-Q-29-SB-6	VOCs	1,1-Dichloroethane	J/UJ	C	
SAS004	AT-Q-29-SB-6	VOCs	2-Butanone	J	C	
SAS004	AT-Q-29-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-24-SB-6	SVOCs	All SVOCs	J/UJ	M	
SAS004	AT-Q-26-SB-6	SVOCs	All detected SVOCs	J	I	
SAS004	AT-Q-26-SB-6RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-26-SS-1.5RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-27-SB-6'	SVOCs	All SVOCs	J/UJ	L	
SAS004	AT-Q-27-SB-6RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-27-SS-1'	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	AT-Q-27-SS-1'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-SB-6'	SVOCs	All SVOCs	J/UJ	L	
SAS004	AT-Q-28-SB-6'-DUP	SVOCs	All SVOCs	J/UJ	L	
SAS004	AT-Q-28-SB-6'-DUPRA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-SB-6'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-SS-1.5'	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	AT-Q-28-SS-1.5'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-WS-16'	SVOCs	All SVOCs	J/UJ	S	
SAS004	AT-Q-28-WS-16'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-WS-16'RADL	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-29-SB-6'	SVOCs	All detected SVOCs	J	M,L,S	
SAS004	AT-Q-29-SB-6'	SVOCs	All non-detect SVOCs	UJ	M,L	
SAS004	AT-Q-29-SB-6'RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-2-SB-4	SVOCs	All detected SVOCs	J	I	
SAS004	SA-Q-2-SB-4RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-2-SS-0.5RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	SA-Q-3-SB-6-D	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	SA-Q-3-SB-6-D DL	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6-DRE	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6-DREDL	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6RA	SVOCs	All SVOCs	R	H	

Table 6-4
All Qualifiers List for
SDG SAS004

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-3-SB-6REDL	SVOCs	All SVOCs	**R**	H	
SAS004	SA-Q-3-SS-0.5	SVOCs	All SVOCs	**J/UJ**	L	
SAS004	SA-Q-3-SS-0.5RA	SVOCs	All SVOCs	**R**	H	
SAS004	SA-Q-3-WS-12	SVOCs	All SVOCs	**J/UJ**	L	
SAS004	SA-Q-3-WS-12RA	SVOCs	All SVOCs	**R**	H	
SAS004	SA-Q-4-SB-6	SVOCs	All SVOCs	**J/UJ**	S,L	
SAS004	SA-Q-4-SB-6RA	SVOCs	All SVOCs	**R**	H	
SAS004	SA-Q-4-SS-0.5RA	SVOCs	All SVOCs	**R**	H	
SAS004	SA-Q-2-SS-0.5	SVOCs	Hexachlorocyclopentadiene	**UJ**	C	
SAS004	SA-Q-2-SB-4	SVOCs	Hexachlorocyclopentadiene	**UJ**	C	
SAS004	AT-Q-24-SB-6	SVOCs	Hexachlorocyclopentadiene	**UJ**	C	
SAS004	AT-Q-24-SS-0.5	SVOCs	Hexachlorocyclopentadiene	**UJ**	C	
SAS004	AT-Q-26-SB-6	SVOCs	Hexachlorocyclopentadiene	**UJ**	C	
SAS004	AT-Q-27-SB-6	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	AT-Q-27-SS-1	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	AT-Q-28-SB-6	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	AT-Q-28-SB-6-DUP	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	AT-Q-28-SS-1.5	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-SS-0.5	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-SB-6	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-SB-6-D	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-WS-12	SVOCs	4-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-SB-6	SVOCs	2,4-Dinitrophenol	**UJ**	C	
SAS004	SA-Q-3-SB-6-D	SVOCs	2,4-Dinitrophenol	**UJ**	C	
SAS004	AT-Q-28-SS-1.5	SVOCs	2-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-SB-6	SVOCs	2-Nitrophenol	**UJ**	C	
SAS004	SA-Q-3-SB-6-D	SVOCs	2-Nitrophenol	**UJ**	C	
SAS004	SA-Q-4-SS-0.5	SVOCs	2-Nitrophenol	**UJ**	C	
SAS004	AT-Q-28-WS-16	SVOCs	2-Nitrophenol	**UJ**	C	
SAS004	AT-Q-28-WS-16	SVOCs	2,4-Dinitrophenol	**UJ**	C	
SAS004	AT-Q-28-WS-16	SVOCs	4,6-Dinitro-2-methylphenol	**UJ**	C	
SAS004	SA-Q-2-SB-4RA	PCBs	All PCBs	**R**	H	
SAS004	SA-Q-3-WS-12RA	PCBs	All PCBs	**R**	H	
SAS004	SA-Q-2-SB-4	PCBs	All PCBs	**UJ**	S	
SAS004	SA-Q-3-WS-12	PCBs	All PCBs	**UJ**	S	
SAS004	SA-Q-2-SS-0.5	Pesticides	All Pesticides	**UJ**	S	
SAS004	SA-Q-3-SB-6	Pesticides	All Detected Pesticides	**J**	S	
SAS004	SA-Q-3-SB-6-DUP	Pesticides	All Detected Pesticides	**J**	S	
SAS004	SA-Q-3-WS-12	Pesticides	All Pesticides	**UJ**	S	
SAS004	AT-Q-24-SB-6	Pesticides	Endrin, 4,4-DDD and Methoxychlor	**J/UJ**	C	
SAS004	AT-Q-24-SS-0.5	Pesticides	Endrin, 4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-26-SB-6	Pesticides	Endrin, 4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	SA-Q-2-SB-4	Pesticides	Endrin, 4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	SA-Q-2-SS-0.5	Pesticides	Endrin, 4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-26-SS-1.5	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-27-SB-6	Pesticides	4,4-DDD and Methoxychlor	**J/UJ**	C	
SAS004	AT-Q-27-SS-1	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-28-SB-6	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-28-SB-6-DUP	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-28-SS-1.5	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	

Table 6-4
All Qualifiers List for
SDG SAS004

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-3-WS-12	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	SA-Q-4-SB-6	Pesticides	4,4-DDD and Methoxychlor	**UJ**	C	
SAS004	AT-Q-28-WS-16	Pesticides	Heptachlor, 4,4'-DDT, Methoxychlor	**J/UJ**	C	
SAS004	SA-Q-3-SB-6	Pesticides	Heptachlor, 4,4'-DDT, Methoxychlor	**J/UJ**	C	
SAS004	SA-Q-3-SB-6-D	Pesticides	Heptachlor, 4,4'-DDT, Methoxychlor	**UJ**	C	
SAS004	AT-Q-24-SB-6	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-24-SS-0.5	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-26-SB-6	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-2-SB-4	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-2-SS-0.5	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-28-WS-16	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-3-SB-6	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-3-SB-6-D	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-26-SS-1.5'	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-27-SB-6'	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-27-SS-1'	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-28-SB-6'	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-28-SB-6'-DUP	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	AT-Q-28-SS-1.5'	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-3-WS-12	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-4-SB-6	Pesticides	Endosulfan II, Endrin ketone	**UJ**	L	
SAS004	SA-Q-3-WS-12 RE	Herbicides	All Herbicides	**R**	H	
SAS004	SA-Q-3-WS-12	Herbicides	All Herbicides	**UJ**	S	
SAS004	AT-Q-29-SB-6'	Herbicides	Pentachlorophenol	**J**	M,L	
SAS004	SA-Q-4-SS-0.5	Herbicides	Pentachlorophenol	**J**	L	
SAS004	SA-Q-4-SB-6	Herbicides	Pentachlorophenol	**J**	L	
SAS004	AT-Q-28-WS-16'	Herbicides	Pentachlorophenol	**J**	L	
SAS004	AT-Q-26-SB-6	Metals	Mercury	**J**	M	
SAS004	AT-Q-29-SB-6'	Metals	Antimony	**J**	M	
SAS004	AT-Q-29-SB-6'	Metals	Copper	**J**	M	
SAS004	AT-Q-29-SB-6'	Metals	Lead	**J**	M	
SAS004	AT-Q-29-SB-6'	Metals	Mercury	**J**	K	
SAS004	AT-Q-29-SB-6'	Metals	Potassium	**J**	M	
SAS004	AT-Q-24-SS-0.5	Other	Sodium	**U**	P	
SAS004	AT-Q-28-SS-1.5'	Other	Sodium	**U**	P	
SAS004	SA-Q-4-SS-0.5	Other	Sodium	**U**	P	

Table 6-5
All Qualifiers List for
SDG SAS005

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS005	AA-SLAY-2-82	Metals	Aluminum	**J**	K	
SAS005	AA-SLAY-2-82	Metals	Potassium	**J**	M	
SAS005	AA-SLAY-2-42	Wet Chemistry	Ammonia	**U**	X	
SAS005	AA-SLAY-2-62	Wet Chemistry	Ammonia	**U**	X	
SAS005	AA-SLAY-4-46	Wet Chemistry	Ammonia	**U**	X	
SAS005	AA-SLAY-2-82	Wet Chemistry	Ammonia	**J**	M	

Notes:
J = Estimated
U = Non-detect

Table 6-6
All Qualifiers List for
SDG SAS006

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS006	AT-Q-25-WS-9	VOCs	All VOCs	**J/UJ**	S	
SAS006	AT-Q-25-WS-9RA	VOCs	All VOCs	**J/UJ**	S	
SAS006	SA-O-1-SS-0.5-D	VOCs	All VOCs	**J/UJ**	I	
SAS006	AT-Q-25-WS-9	SVOCs	All detected SVOCs	**J**	I,L,S	
SAS006	AT-Q-25-WS-9	SVOCs	All non-detect SVOCs	**R**	S	
SAS006	AT-Q-25-WS-9RE	SVOCs	All SVOCs	**R**	H	
SAS006	AT-Q-25-WS-9REDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-1-SB-3	SVOCs	All detected SVOCs	**J**	I,L,S	
SAS006	SA-O-1-SB-3	SVOCs	All non-detect SVOCs	**R**	S	
SAS006	SA-O-1-SB-3RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-1-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S,L	
SAS006	SA-O-1-SS-0.5DL	SVOCs	All SVOCs	**J/UJ**	I	
SAS006	SA-O-1-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-1-SS-0.5REDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-1-SS-0.5-D	SVOCs	All SVOCs	**J/UJ**	L	
SAS006	SA-O-1-SS-0.5-DDL	SVOCs	All SVOCs	**J/UJ**	I	
SAS006	SA-O-1-SS-0.5-DRE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-1-SS-0.5-DREDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-2-SB-5	SVOCs	All detected SVOCs	**J**	Z,I,S,L	
SAS006	SA-O-2-SB-5	SVOCs	All non-detect SVOCs	**UJ**	S,L	
SAS006	SA-O-2-SB-5RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-2-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S,L	
SAS006	SA-O-2-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-2-WS-9	SVOCs	All detected SVOCs	**J**	Z,I,M,L,S	
SAS006	SA-O-2-WS-9	SVOCs	All non-detect SVOCs	**R**	S	
SAS006	SA-O-2-WS-9DL	SVOCs	All detected SVOCs	**J**	Z	
SAS006	SA-O-2-WS-9RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-2-WS-9REDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-2-WS-9-D	SVOCs	All detected SVOCs	**J**	I,L,S	
SAS006	SA-O-2-WS-9-D	SVOCs	All non-detect SVOCs	**R**	S	
SAS006	SA-O-2-WS-9-DRE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-2-WS-9-DREDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-3-SB-4RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-3-SB-4	SVOCs	All detected SVOCs	**J**	Z,S,L	
SAS006	SA-O-3-SB-4	SVOCs	All non-detect SVOCs	**UJ**	S,L	
SAS006	SA-O-3-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S,M,L	
SAS006	SA-O-3-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-3-WS-9	SVOCs	All detected SVOCs	**J**	Z,L,S	
SAS006	SA-O-3-WS-9	SVOCs	All non-detect SVOCs	**R**	S	
SAS006	SA-O-3-WS-9RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-3-WS-9REDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-3-WS-9-DL	SVOCs	All detected SVOCs	**J**	Z	
SAS006	SA-O-4-SB-6	SVOCs	All detected SVOCs	**J**	Z,I,L,S	
SAS006	SA-O-4-SB-6	SVOCs	All non-detect SVOCs	**R**	S	
SAS006	SA-O-4-SB-6RE	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-4-SB-6REDL	SVOCs	All SVOCs	**R**	H	
SAS006	SA-O-4-SS-0.5	SVOCs	All detected SVOCs	**J**	Z,S,L	
SAS006	SA-O-4-SS-0.5	SVOCs	All non-detect SVOCs	**UJ**	S,L	
SAS006	SA-O-4-SS-0.5DL	SVOCs	All detected SVOCs	**J**	Z	
SAS006	SA-O-4-SS-0.5RE	SVOCs	All SVOCs	**R**	H	

Table 6-6
All Qualifiers List for
SDG SAS006

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS006	SA-P-1-SB-6	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-P-1-SB-6	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-P-1-SB-6DL	SVOCs	All detected SVOCs	J	Z,I	
SAS006	SA-P-1-SB-6RE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-SS-0.5	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-P-1-SS-0.5	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-P-1-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-SS-0.5-D	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-P-1-SS-0.5-D	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-P-1-SS-0.5-DRE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-WS-8	SVOCs	All detected SVOCs	J	Z,I,L,S	
SAS006	SA-P-1-WS-8	SVOCs	All non-detect SVOCs	R	S	
SAS006	SA-P-1-WS-8RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-SB-4RE	PCBs	all PCBs	R	H	
SAS006	SA-O-3-SB-4	PCBs	all PCBs	UJ	S	
SAS006	SA-O-3-WS-9	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-4-SB-6	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-2-SB-5	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-2-WS-9	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-2-WS-9-D	PCBs	All PCBs	J/UJ	L	
SAS006	AT-Q-25-WS-9	PCBs	All PCBs	J/UJ	L	
SAS006	SA-P-1-WS-8	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-3-SB-4	Pesticides	All Pesticides	J/UJ	S	
SAS006	SA-O-3-SB-4	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-3-SB-4	Pesticides	Endrin ketone	UJ	L	
SAS006	SA-O-2-SB-5	Pesticides	All Pesticides	J/UJ	S	
SAS006	SA-O-2-SB-5	Pesticides	Endosulfan II	UJ	L	
SAS006	AT-Q-25-WS-9	Pesticides	All Pesticides	J/UJ	S	
SAS006	AT-Q-25-WS-9	Pesticides	Endosulfan II	J	L	
SAS006	SA-O-1-SB-3	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-1-SB-3	Pesticides	Endrin ketone	UJ	L	
SAS006	SA-O-4-SB-6	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-2-WS-9-D	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-3-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-2-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-P-1-WS-8	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-4-SS-0.5DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-4-SB-6DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-2-WS-9DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-2-WS-9-DDL	Herbicides	All Herbicides	J/UJ	H	
SAS006	AT-Q-25-WS-9DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-P-1-SS-0.5DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-2-SB-5DL	Herbicides	All detected Herbicides	J	H,S	
SAS006	SA-O-2-SB-5DL	Herbicides	All Non-detect Herbicides	R	S	
SAS006	SA-O-2-SB-5	Herbicides	All Herbicides	J/R	S	
SAS006	SA-P-1-WS-8	Herbicides	All Herbicides	J/R	S	
SAS006	SA-O-3-SS-0.5	Herbicides	Pentachlorophenol	J	M,L	
SAS006	SA-O-1-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-1-SS-0.5-D	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-1-SB-3	Herbicides	Pentachlorophenol	J	L	

Table 6-6
All Qualifiers List for
SDG SAS006

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS006	SA-O-3-SB-4	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-1-SS-0.5	Metals	Mercury	J	H	
SAS006	SA-O-1-SS-0.5-D	Metals	Mercury	J	H	
SAS006	SA-O-1-SB-3	Metals	Mercury	J	H	
SAS006	SA-O-3-WS-9	Metals	Mercury	J	H	
SAS006	SA-O-4-SS-0.5	Metals	Mercury	J	H	
SAS006	SA-O-4-SB-6	Metals	Mercury	J	H	
SAS006	SA-O-2-SS-0.5	Metals	Mercury	J	H	
SAS006	SA-O-2-SB-5	Metals	Mercury	J	H	
SAS006	SA-O-2-WS-9	Metals	Mercury	J	H	
SAS006	SA-O-2-WS-9-D	Metals	Mercury	J	H	
SAS006	AT-Q-25-WS-9	Metals	Mercury	J	H	
SAS006	SA-P-1-SB-6	Metals	Mercury	J	H,M	
SAS006	SA-O-3-SS-0.5	Metals	Antimony	UJ	M	
SAS006	SA-P-1-SS-0.5	Metals	Lead	J	F	
SAS006	SA-P-1-SS-0.5-D	Metals	Lead	J	F	
SAS006	SA-P-1-SS-0.5	Wet Chemistry	Ammonia	U	Z	
SAS006	SA-P-1-SS-0.5-D	Wet Chemistry	Ammonia	U	Z	
SAS006	SA-O-1-SS-0.5	Wet Chemistry	Ammonia	J	F	
SAS006	SA-O-1-SS-0.5-D	Wet Chemistry	Ammonia	J	F	

Notes:

R = Rejected

J = Estimated

UJ = Estiamted non-detect

U = Non-detect

Table 6-7
All Qualifiers List for
SDG SAS007

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS007	AA-SLAY-2-138	SVOCs	All SVOCs	**J/UJ**	I	
SAS007	AA-SLAY-1-34	Wet Chemistry	Ammonia	**U**	X	
SAS007	AA-SLAY-1-54	Wet Chemistry	Ammonia	**U**	X	

Notes:

J = Estimated

U = Non-detect

UJ = Estimated non-detect

Table 6-8
All Qualifiers List for
SDG SAS008

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS008	SA-P-3-WS-14	VOCs	All VOCs	**J/UJ**	S	
SAS008	SA-P-3-WS-14RA	VOCs	All VOCs	**J/UJ**	S	
SAS008	SA-P-2-SS-0.5	VOCs	All VOCs	**J/R**	S	
SAS008	SA-P-2-WS-9	VOCs	All VOCs	**J/UJ**	S	
SAS008	SA-P-2-WS-9RE	VOCs	All VOCs	**J/UJ**	S	
SAS008	SA-P-3-SS-1.5	VOCs	All VOCs	**J/UJ**	I	
SAS008	SA-P-3-SS-1.5RE	VOCs	All VOCs	**J/UJ**	I	
SAS008	SA-P-2-SB-5	SVOCs	All detected SVOCs	**J**	Z,L	
SAS008	SA-P-2-SB-5	SVOCs	All non-detect SVOCs	**UJ**	L	
SAS008	SA-P-2-SB-5RE	SVOCs	All SVOCs	**R**	H	
SAS008	SA-P-2-SS-0.5	SVOCs	All detected SVOCs	**J**	Z,L	
SAS008	SA-P-2-SS-0.5	SVOCs	All non-detect SVOCs	**UJ**	L	
SAS008	SA-P-2-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS008	SA-P-2-WS-9	SVOCs	All detected SVOCs	**J**	Z,L	
SAS008	SA-P-2-WS-9	SVOCs	All non-detect SVOCs	**UJ**	L	
SAS008	SA-P-2-WS-9RE	SVOCs	All SVOCs	**R**	H	
SAS008	SA-P-3-SB-4	SVOCs	All detected SVOCs	**J**	Z,L	
SAS008	SA-P-3-SB-4	SVOCs	All non-detect SVOCs	**UJ**	L	
SAS008	SA-P-3-SB-4RE	SVOCs	All SVOCs	**R**	H	
SAS008	SA-P-3-SS-1.5	SVOCs	All detected SVOCs	**J**	Z,L	
SAS008	SA-P-3-SS-1.5	SVOCs	All non-detect SVOCs	**UJ**	L	
SAS008	SA-P-3-SS-1.5RE	SVOCs	All SVOCs	**R**	H	
SAS008	SA-P-3-WS-14	SVOCs	All detected SVOCs	**J**	Z,L	
SAS008	SA-P-3-WS-14	SVOCs	All non-detect SVOCs	**UJ**	L	
SAS008	SA-P-3-WS-14RE	SVOCs	All SVOCs	**R**	H	
SAS008	SA-P-2-SB-5	PCBs	All PCBs	**R**	H	
SAS008	SA-P-2-WS-9	PCBs	All PCBs	**R**	H	
SAS008	SA-P-3-SB-4	PCBs	All PCBs	**R**	H	
SAS008	SA-P-3-WS-14	PCBs	All PCBs	**R**	H	
SAS008	SA-P-3-SB-4	Pesticides	Endosulfan II	**J/UJ**	L	
SAS008	SA-P-3-WS-14	Pesticides	Endosulfan II	**J/UJ**	L	
SAS008	SA-P-2-SB-5	Pesticides	Endosulfan II	**J/UJ**	L	
SAS008	SA-P-2-WS-9	Pesticides	Endosulfan II	**J/UJ**	L	
SAS008	SA-P-3-SS-1.5	Metals	Mercury	**J**	H	
SAS008	SA-P-3-SB-4	Metals	Mercury	**J**	H	
SAS008	SA-P-3-WS-14	Metals	Mercury	**J**	H	
SAS008	SA-P-2-SS-0.5	Metals	Mercury	**J**	H	
SAS008	SA-P-2-SB-5	Metals	Mercury	**J**	H	
SAS008	SA-P-2-WS-9	Metals	Mercury	**J**	H	
SAS008	SA-P-3-SS-1.5	Other	Soduim	**U**	P	
SAS008	SA-P-2-SB-5	Other	Soduim	**U**	P	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-10
All Qualifiers List for
SDG SAS010

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS010	AT-Q-20-SB-6	VOCs	All VOCs	**J/UJ**	S,I	
SAS010	SA-Q-1-SB-6	VOCs	All VOCs	**J/UJ**	I	
SAS010	SA-Q-1-SB-6RA	VOCs	All VOCs	**J/UJ**	I	
SAS010	SA-Q-1-SS-1	VOCs	All VOCs	**J/UJ**	S,I	
SAS010	SA-Q-1-SS-1RA	VOCs	All VOCs	**J/UJ**	I	
SAS010	AT-Q-20-SB-6	SVOCs	All detected SVOCs	**J**	I,S	
SAS010	AT-Q-20-SB-6	SVOCs	All non-detect SVOCs	**UJ**	S	
SAS010	AT-Q-20-SB-6RE	SVOCs	All SVOCs	**R**	H	
SAS010	AT-Q-20-SS-1	SVOCs	All SVOCs	**J/UJ**	S	
SAS010	AT-Q-20-SS-1RE	SVOCs	All SVOCs	**R**	H	
SAS010	AT-Q-21-SB-6	SVOCs	All detected SVOCs	**J**	I	
SAS010	AT-Q-21-SB-6RE	SVOCs	All SVOCs	**R**	H	
SAS010	AT-Q-21-WS-8	SVOCs	All detected SVOCs	**J**	I	
SAS010	AT-Q-21-WS-8RE	SVOCs	All SVOCs	**R**	H	
SAS010	AT-Q-21-WS-8REDL	SVOCs	All SVOCs	**R**	H	
SAS010	AT-Q-21-WS-8-DRE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-Q-1-SB-6	SVOCs	All detected SVOCs	**J**	I,S	
SAS010	SA-Q-1-SB-6	SVOCs	All non-detect SVOCs	**UJ**	S	
SAS010	SA-Q-1-SB-6RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-Q-1-SS-1	SVOCs	All SVOCs	**J/UJ**	S	
SAS010	SA-Q-1-SS-1RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-Q-8-SB-5	SVOCs	All detected SVOCs	**J**	I,S	
SAS010	SA-Q-8-SB-5	SVOCs	All non-detect SVOCs	**UJ**	S	
SAS010	SA-Q-8-SB-5RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-Q-8-SB-5REDL	SVOCs	All SVOCs	**R**	H	
SAS010	SA-Q-8-SS-0.5	SVOCs	All detected SVOCs	**J**	I,S	
SAS010	SA-Q-8-SS-0.5	SVOCs	All non-detect SVOCs	**UJ**	S	
SAS010	SA-Q-8-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-1-SB-5RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-1-SB-5REDL	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-1-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S	
SAS010	SA-S-1-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-1-WS-9	SVOCs	All detected SVOCs	**J**	I,S	
SAS010	SA-S-1-WS-9	SVOCs	All non-detect SVOCs	**UJ**	S	
SAS010	SA-S-1-WS-9RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-2-SB-4	SVOCs	All detected SVOCs	**J**	I,S	
SAS010	SA-S-2-SB-4	SVOCs	All non-detect SVOCs	**R**	S	
SAS010	SA-S-2-SB-4DL	SVOCs	All SVOCs	**J/UJ**	I	
SAS010	SA-S-2-SB-4RE	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-2-SB-4REDL	SVOCs	All SVOCs	**R**	H	
SAS010	SA-S-2-SS-1.5	SVOCs	All SVOCs	**J/UJ**	S	
SAS010	SA-S-2-SS-1.5RE	SVOCs	All SVOCs	**R**	H	
SAS010	AT-Q-20-SB-6	PCBs	All PCBs	**J/UJ**	M,L	
SAS010	AT-Q-21-SB-6	PCBs	All PCBs	**J/UJ**	L	
SAS010	AT-Q-21-WS-8	PCBs	All PCBs	**J/UJ**	L	
SAS010	AT-Q-21-WS-8-D	PCBs	All PCBs	**J/UJ**	L	
SAS010	SA-Q-1-SB-6	PCBs	All PCBs	**J/UJ**	L	
SAS010	SA-Q-8-SB-5	PCBs	All PCBs	**J/UJ**	L	
SAS010	SA-Q-8-SS-0.5	PCBs	All PCBs	**J/UJ**	L	
SAS010	SA-S-1-WS-9	PCBs	All PCBs	**J/UJ**	L	

Table 6-10
All Qualifiers List for
SDG SAS010

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS010	SA-S-2-SB-4	PCBs	All PCBs	J/UJ	L	
SAS010	AT-Q-20-SB-6	Herbicides	Pentachlorophenol	J	M,L	
SAS010	AT-Q-21-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS010	AT-Q-21-WS-8	Herbicides	Pentachlorophenol	J	L	
SAS010	AT-Q-21-WS-8-D	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-2-SB-4	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-1-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-1-SB-5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-1-WS-9	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-1-SS-1	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-1-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-8-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-8-SB-5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-2-SB-4	Pesticides	All detected Pesticides	J	S	
SAS010	SA-Q-1-SB-6	Pesticides	All detected Pesticides	J	S	
SAS010	SA-Q-8-SB-5	Pesticides	All detected Pesticides	J	S	
SAS010	AT-Q-21-SB-6	Metals	Mercury	J	H	
SAS010	AT-Q-20-SB-6	Metals	Copper	J	M	
SAS010	AT-Q-20-SB-6	Metals	Magnesium	J	M	
SAS010	AT-Q-20-SB-6	Metals	Potassium	J	M	
SAS010	AT-Q-20-SB-6	Metals	Zinc	J	M	
SAS010	AT-Q-20-SB-6	Metals	Mercury	J	M	
SAS010	AT-Q-21-WS-8	Other	Calcium	J	F	
SAS010	AT-Q-21-WS-8-D	Other	Calcium	J	F	
SAS010	AT-Q-20-SB-6	Wet Chemistry	Ammonia	UJ	M	

Notes:
J = Estimated
UJ = Estimated non-detect
R = Rejected

Table 6-11
All Qualifiers List for
SDG SAS011

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS011	AA-0-4-102	SVOCs	All SVOCs	**J/UJ**	S	
SAS011	AA-0-4-102RE	SVOCs	All SVOCs	**R**	H	
SAS011	AA-0-4-102REDL	SVOCs	All SVOCs	**R**	H	
SAS011	AA-CLAY-1-86	SVOCs	All SVOCs	**J/UJ**	I	
SAS011	AA-CLAY-1-86RE	SVOCs	All SVOCs	**R**	H	
SAS011	AA-CLAY-1-86REDL	SVOCs	All SVOCs	**R**	H	
SAS011	AA-P-4-22	SVOCs	All SVOCs	**J/UJ**	S	
SAS011	AA-P-4-22RE	SVOCs	All SVOCs	**R**	H	
SAS011	AA-P-4-42	SVOCs	All SVOCs	**J/UJ**	S	
SAS011	AA-P-4-42RE	SVOCs	All SVOCs	**R**	H	
SAS011	AA-P-4-62	SVOCs	All SVOCs	**J/UJ**	S	
SAS011	AA-P-4-62RE	SVOCs	All SVOCs	**R**	H	
SAS011	AA-P-4-62-D	SVOCs	All Acid Fraction Analytes Analytes	**J/UJ**	S	
SAS011	AA-P-4-62	Herbicides	MCPP	**J**	F	
SAS011	AA-P-4-62-D	Herbicides	MCPP	**J**	F	
SAS011	AA-0-4-119	Wet Chemistry	Ammonia	**J**	M	

Notes:

J = Estimated

UJ = Estimated non-detect

R = Rejected

Table 6-12
All Qualifiers List for
SDG SAS012

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS012	AT-Q-19-SB-6	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-19-SB-6 RA	VOCs	All VOCs	J/UJ	H,S	
SAS012	AT-Q-19-SB-6-D	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-19-SB-6-D RA	VOCs	All detected VOCs	J	H,S	
SAS012	AT-Q-19-SB-6-D RA	VOCs	All non-detect VOCs	R	S	
SAS012	AT-Q-21-SS-1	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-21-SS-1 RA	VOCs	All detected VOCs	J	H,S	
SAS012	AT-Q-21-SS-1 RA	VOCs	All non-detect VOCs	R	S	
SAS012	AT-Q-21-SS-1-D	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-21-SS-1-D RA	VOCs	All VOCs	R	S	
SAS012	SA-Q-10-SB-2	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-10-SB-2	VOCs	All VOCs	J/UJ	S	
SAS012	SA-Q-10-SB-2 RE	VOCs	2-Butanone	J	L	
SAS012	SA-Q-10-SB-2 RE	VOCs	All VOCs	J/UJ	S	
SAS012	SA-Q-10-SS-0.5	VOCs	2-Butanone	J	L	
SAS012	SA-Q-10-SS-0.5	VOCs	Trichloroethene	J	F	
SAS012	SA-Q-10-SS-0.5	VOCs	Tetrachloroethene	J	F	
SAS012	SA-Q-10-SS-0.5-D	VOCs	2-Butanone	J	L	
SAS012	SA-Q-10-SS-0.5-D	VOCs	All VOCs	J/UJ	I	
SAS012	SA-Q-10-SS-0.5-D	VOCs	Trichloroethene	J	F	
SAS012	SA-Q-10-SS-0.5-D	VOCs	Tetrachloroethene	J	F	
SAS012	SA-Q-10-SS-0.5-D DL	VOCs	2-Hexanone	UJ	L	
SAS012	SA-Q-10-SS-0.5-D DL	VOCs	Acetone	R	L	
SAS012	SA-Q-10-SS-0.5-D DL	VOCs	Methylene chloride	UJ	L	
SAS012	SA-Q-11-SB-2	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-11-SS-0.5	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-9-SB-5	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-9-SB-5-D	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-9-SS-0.5	VOCs	2-Butanone	J	L	
SAS012	AT-Q-19-SB-6	SVOCs	All SVOCs	J/UJ	S	
SAS012	AT-Q-19-SB-6	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	460
SAS012	AT-Q-19-SB-6-D	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	AT-Q-19-SB-6-D	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	590
SAS012	AT-Q-21-SS-1	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	
SAS012	AT-Q-21-SS-1-D	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	AT-Q-21-SS-1-D	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	
SAS012	SA-Q-11-SS-0.5 RE	SVOCs	All SVOCs	R	H	
SAS012	SA-Q-13-SS-1	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	360
SAS012	SA-Q-14-SB-5	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	SA-Q-14-SS-0.5	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	SA-Q-15-SS-0.5	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	SA-Q-15-SS-0.5	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	390
SAS012	SA-Q-11-SS-0.5	PCBs	All PCBs	J/UJ	S	
SAS012	SA-Q-11-SB-2	PCBs	All PCBs	J/UJ	S	
SAS012	SA-Q-9-SB-5	PCBs	All PCBs	UJ	S	
SAS012	SA-Q-10-SB-2	PCBs	All PCBs	J/UJ	S	
SAS012	SA-Q-9-SS-0.5	PCBs	All PCBs	UJ	L	
SAS012	SA-Q-9-SB-5-D	PCBs	All PCBs	UJ	L	
SAS012	SA-Q-10-SS-0.5	PCBs	All PCBs	J/UJ	L	
SAS012	SA-Q-10-SS-0.5-D	PCBs	All PCBs	J/UJ	L	

Table 6-12
All Qualifiers List for
SDG SAS012

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS012	SA-Q-10-SB-2	Pesticides	Pesticide detections	J	S	
SAS012	SA-Q-10-SB-2 DL	Pesticides	Pesticide detections	J	S	
SAS012	SA-Q-10-SB-2 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-10-SS-0.5 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-10-SS-0.5-D RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-11-SB-2	Pesticides	Pesticide detections	J	S	
SAS012	SA-Q-11-SB-2 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-11-SS-0.5 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-13-SB-2	Pesticides	All Pesticides	J/UJ	S	
SAS012	SA-Q-13-SB-2 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-13-SS-1	Pesticides	All Pesticides	J/UJ	S	
SAS012	SA-Q-13-SS-1 RE	Pesticides	All Pesticides	UJ	H	
SAS012	SA-Q-14-SB-5 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-14-SS-0.5 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-15-SB-2 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-15-SS-0.5 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-9-SB-5	Pesticides	All Pesticides	UJ	S	
SAS012	SA-Q-9-SB-5 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-9-SB-5-D	Pesticides	All Pesticides	UJ	S	
SAS012	SA-Q-9-SB-5-D RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-9-SS-0.5 RE	Pesticides	All Pesticides	R	H	
SAS012	AT-Q-19-SB-6	Herbicides	All Herbicides	J/UJ	S	
SAS012	SA-Q-13-SB-2	Metals	Mercury	J	H	
SAS012	AT-Q-19-SB-6	Metals	Mercury	J	H	
SAS012	AT-Q-19-SB-6-D	Metals	Mercury	J	H	
SAS012	SA-Q-9-SS-0.5	Metals	Mercury	R	H	
SAS012	SAQ-9-SB-5	Metals	Mercury	R	H	
SAS012	SAQ-9-SB-5-D	Metals	Mercury	R	H	
SAS012	AT-Q-21-SS-1	Metals	Aluminum	J	F	
SAS012	AT-Q-21-SS-1	Metals	Barium	J	F	
SAS012	AT-Q-21-SS-1	Metals	Cadmium	J	F	
SAS012	AT-Q-21-SS-1	Metals	Lead	J	F	
SAS012	AT-Q-21-SS-1	Metals	Magnesium	J	F	
SAS012	AT-Q-21-SS-1	Metals	Manganese	J	F	
SAS012	AT-Q-21-SS-1	Metals	Zinc	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Aluminum	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Barium	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Cadmium	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Lead	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Magnesium	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Manganese	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Zinc	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Barium	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Chromium	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Copper	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Iron	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Lead	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Zinc	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Barium	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Chromium	J	F	

Table 6-12
All Qualifiers List for
SDG SAS012

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS012	SA-Q-10-SS-0.5-D	Metals	Copper	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Iron	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Lead	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Zinc	J	F	
SAS012	SA-Q-13-SS-1	Metals	Antimony	J	M	
SAS012	SA-Q-13-SS-1	Metals	Calcium	J	K	
SAS012	SA-Q-13-SS-1	Metals	Potassium	J	M	
SAS012	SA-Q-15-SB-2	Metals	Antimony	J	M	
SAS012	SA-Q-15-SB-2	Metals	Cadmium	J	M	
SAS012	SA-Q-15-SB-2	Metals	Iron	J	K	
SAS012	SA-Q-15-SB-2	Metals	Lead	J	S	
SAS012	SA-Q-15-SB-2	Metals	Magnesium	J	S	
SAS012	SA-Q-15-SB-2	Metals	Mercury	J	M	
SAS012	SA-Q-15-SB-2	Metals	Nickel	J	K	
SAS012	SA-Q-15-SB-2	Metals	Silver	J	M	
SAS012	SA-Q-15-SB-2	Metals	Zinc	J	S	
SAS012	SA-Q-9-SS-0.5	Other	Sodium	U	P	
SAS012	SA-Q-9-SB-5	Other	Sodium	U	P	
SAS012	SA-Q-9-SB-5-D	Other	Sodium	U	P	
SAS012	SA-Q-10-SS-0.5-D	Other	Sodium	U	P	

Notes:

R = Rejected

J = Estimated

U = Non-detect

UJ = Estimated non-detect

Table 6-13
All Qualifiers List for
SDG SAS013

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS013	AA-Q-10-38RE	SVOCs	All SVOCs	**R**	H	
SAS013	AA-Q-10-38	SVOCs	All SVOCs	**J/UJ**	S	
SAS013	AA-P-4-102RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-P-4-112	Herbicides	Pentachlorophenol	**U**	x	
SAS013	AA-P-4-112RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-P-4-82	Herbicides	2,4-D	**U**	x	
SAS013	AA-P-4-82RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-P-9-34RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-P-9-54RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-18	Herbicides	2,4-D	**U**	x	
SAS013	AA-Q-10-18	Herbicides	Pentachlorophenol	**U**	x	1.4
SAS013	AA-Q-10-18-DRE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-18RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-38	Herbicides	2,4-D	**U**	x	
SAS013	AA-Q-10-38RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-58	Herbicides	2,4-D	**U**	x	
SAS013	AA-Q-10-58	Herbicides	Pentachlorophenol	**U**	x	0.27
SAS013	AA-Q-10-58RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-78	Herbicides	2,4-D	**U**	x	
SAS013	AA-Q-10-78	Herbicides	Pentachlorophenol	**U**	x	
SAS013	AA-Q-10-78RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-94	Herbicides	2,4-D	**U**	x	
SAS013	AA-Q-10-94RE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-Q-10-94RE	Herbicides	Pentachlorophenol	**U**	x	0.38
SAS013	SA-Q-10-FBRE	Herbicides	All Herbicides	**J/UJ**	H	
SAS013	AA-P-4-82	Other	Potassium	**J**	M	

Notes:

J = Estimated

UJ = Estimated non-detect

R = Rejected

U = Non-detect

Table 6-14
All Qualifiers Lists for
SDG SAS014

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS014	AA-0-5-102	SVOCs	2-Chlorophenol	**J**	L	
SAS014	AA-P-9-114	SVOCs	1,4-Dichlorobenzene	**J**	L	
SAS014	AA-P-9-114	SVOCs	2-Chlorophenol	**J**	L	
SAS014	AA-P-9-114	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS014	AA-P-9-114	SVOCs	All SVOCs	**J/UJ**	I	
SAS014	AA-P-9-114DL	SVOCs	2-Chlorophenol	**J**	L	
SAS014	AA-P-9-126	SVOCs	1,4-Dichlorobenzene	**J**	L	
SAS014	AA-P-9-126	SVOCs	2-Chlorophenol	**J**	L	
SAS014	AA-P-9-126	SVOCs	Benzo[g,h,i]perylene	**U**	Z	
SAS014	AA-P-9-126	SVOCs	Indeno[1,2,3-cd]pyrene	**U**	Z	
SAS014	AA-P-9-74	SVOCs	2-Chlorophenol	**J**	L	
SAS014	AA-P-9-94	SVOCs	2-Chlorophenol	**J**	L	
SAS014	UAA-8-46	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS014	UAA-8-66	SVOCs	All SVOCs	**J/UJ**	I	
SAS014	UAA-8-26	Herbicides	Pentachlorophenol	**U**	Z	
SAS014	UAA-8-66	Herbicides	Pentachlorophenol	**U**	Z	0.6
SAS014	AA-P-9-94	Herbicides	Pentachlorophenol	**U**	Z	0.27
SAS014	AA-P-9-114	Herbicides	Pentachlorophenol	**U**	Z	
SAS014	UAA-6-18	Herbicides	Pentachlorophenol	**U**	Z	0.3
SAS014	UAA-8-46	Metals	Chromium	**J**	M	
SAS014	UAA-8-46	Wet Chemistry	Ammonia	**UJ**	Z,M	0.06

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-15
All Qualifiers List for
SDG SAS015

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS015	SA-Q-12-SS-0.5	VOCs	1,1-Dichloroethane	**UJ**	L	
SAS015	SA-Q-12-SB-6	VOCs	1,1-Dichloroethane	**UJ**	L	
SAS015	SA-Q-16-SS-0.5	VOCs	1,1-Dichloroethane	**UJ**	L	
SAS015	SA-Q-16-SB-3	VOCs	1,1-Dichloroethane	**UJ**	L	
SAS015	AT-Q-36-SB-6	VOCs	1,1-Dichloroethane	**UJ**	L	
SAS015	AT-Q-36-SS-0.5	VOCs	1,1-Dichloroethane	**UJ**	L	
SAS015	AT-Q-33-SB-5	VOCs	Acetone	**UJ**	L	
SAS015	AT-Q-35-WS-8'	VOCs	Acetone	**J**	L	
SAS015	SA-Q-12-SB-6	VOCs	All VOCs	**J/UJ**	I	
SAS015	AT-Q-35-SB-6	SVOCs	1,2,4-Trichlorobenzene	**UJ**	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4,5-Trichlorophenol	**R**	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4,6-Trichlorophenol	**UJ**	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4-Dichlorophenol	**UJ**	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4-Dinitrophenol	**UJ**	L	
SAS015	AT-Q-35-SB-6	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS015	AT-Q-35-SB-6	SVOCs	Pentachlorophenol	**R**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	1,2,4-Trichlorobenzene	**UJ**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4,5-Trichlorophenol	**R**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4,6-Trichlorophenol	**UJ**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4-Dichlorophenol	**UJ**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4-Dinitrophenol	**UJ**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	All detected SVOCs	**J**	I	
SAS015	AT-Q-35-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S	
SAS015	AT-Q-35-SS-0.5	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	Pentachlorophenol	**R**	L	
SAS015	AT-Q-35-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS015	AT-Q-35-WS-8	SVOCs	1,2,4-Trichlorobenzene	**UJ**	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4,5-Trichlorophenol	**R**	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4,6-Trichlorophenol	**UJ**	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4-Dichlorophenol	**UJ**	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4-Dinitrophenol	**UJ**	L	
SAS015	AT-Q-35-WS-8	SVOCs	All SVOCs	**J/UJ**	S	
SAS015	AT-Q-35-WS-8	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS015	AT-Q-35-WS-8	SVOCs	Pentachlorophenol	**R**	L	
SAS015	AT-Q-35-WS-8RE	SVOCs	All SVOCs	**R**	H	
SAS015	AT-Q-35-WS-8REDL	SVOCs	All SVOCs	**R**	H	
SAS015	AT-Q-36-SB-6RE	SVOCs	All SVOCs	**R**	H	
SAS015	AT-Q-36-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S	
SAS015	AT-Q-36-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS015	AT-Q-33-SB-5	SVOCs	1,2,4-Trichlorobenzene	**UJ**	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4,5-Trichlorophenol	**R**	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4,6-Trichlorophenol	**UJ**	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4-Dichlorophenol	**UJ**	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4-Dinitrophenol	**UJ**	L	
SAS015	AT-Q-33-SB-5	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS015	AT-Q-33-SB-5	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS015	AT-Q-33-SB-5	SVOCs	Pentachlorophenol	**R**	L	
SAS015	AT-Q-SB-5RE	SVOCs	All SVOCs	**R**	H	
SAS015	SA-Q-12-SB-6	SVOCs	1,2,4-Trichlorobenzene	**UJ**	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4,5-Trichlorophenol	**R**	L	

Table 6-15
All Qualifiers List for
SDG SAS015

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS015	SA-Q-12-SB-6	SVOCs	2,4,6-Trichlorophenol	**UJ**	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4-Dichlorophenol	**UJ**	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4-Dinitrophenol	**UJ**	L	
SAS015	SA-Q-12-SB-6	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS015	SA-Q-12-SB-6	SVOCs	Pentachlorophenol	**R**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	1,2,4-Trichlorobenzene	**UJ**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4,5-Trichlorophenol	**R**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4,6-Trichlorophenol	**UJ**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4-Dichlorophenol	**UJ**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4-Dinitrophenol	**UJ**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	Pentachlorophenol	**R**	L	
SAS015	SA-Q-16-SB-3RE	SVOCs	All SVOCs	**R**	H	
SAS015	SA-Q-16-SS-0.5	SVOCs	All detected SVOCs	**J**	I,S,M	
SAS015	SA-Q-16-SS-0.5	SVOCs	All non-detect SVOCs	**UJ**	S,M	
SAS015	SA-Q-16-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS015	SA-Q-16-SS-0.5	PCBs	All PCBs	**J/UJ**	S,M	
SAS015	SA-Q-16-SB-3	PCBs	All PCBs	**J/UJ**	S	
SAS015	AT-Q-36-SB-6	PCBs	All PCBs	**J/UJ**	S	
SAS015	AT-Q-36-SS-0.5	PCBs	All PCBs	**J/UJ**	S	
SAS015	AT-Q-35-WS-8	PCBs	All PCBs	**J/UJ**	S	
SAS015	AT-Q-36-SB-6	Pesticides	All Pesticides	**J/UJ**	S	
SAS015	SA-Q-16-SB-3	Metals	Mercury	**J**	H	
SAS015	AT-Q-36-SB-6	Metals	Mercury	**UJ**	H	
SAS015	SA-Q-12-SS-0.5	Metals	Antimony	**UJ**	M	
SAS015	SA-Q-12-SS-0.5	Metals	Barium	**J**	M	
SAS015	SA-Q-12-SS-0.5	Metals	Copper	**J**	M	
SAS015	SA-Q-12-SS-0.5	Metals	Lead	**J**	M	
SAS015	SA-Q-12-SS-0.5	Metals	Potassium	**J**	M	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-16
All Qualifiers List for
SDG SAS016

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS016	UAA-9-30	SVOCs	Acid fraction	**UJ**	S	
SAS016	AA-05-62	SVOCs	2-Chlorophenol	**J**	S	
SAS016	UAA-6-78	SVOCs	3,3 dichlorobenzidiene	**R**	M	
SAS016	UAA-6-78	SVOCs	4-chloroaniline	**UJ**	M	
SAS016	UAA-8-106	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-8-106-D	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-9-50	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-9-50-D	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-9-70	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-9-90	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-6-98	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-6-98-D	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	AA-0-5-22	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	AA-0-5-42	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	AA-0-5-42-D	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	AA-05-62	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	AA-0-5-82	SVOCs	4-chloroaniline	**UJ**	L	
SAS016	UAA-9-30	SVOCs	All SVOCs	**R**	I	
SAS016	UAA-9-30 RE	SVOCs	All detected SVOCs	**UJ**	I	
SAS016	UAA-6-78	Herbicides	Pentachlorophenol	**R**	M	
SAS016	UAA-6-78	Metals	Mercury	**UJ**	H	
SAS016	UAA-6-78	Metals	Aluminum	**J**	M	
SAS016	UAA-6-78	Wet Chemistry	Ammonia	**J**	M	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect

Table 6-17
All Qualifiers List for
SDG SAS017

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS017	AA-Clay-2-42	SVOCs	2-Methylphenol	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	3,4-Methylphenol	J	F	
SAS017	AA-Clay-2-42	SVOCs	4-chloro-3-methylphenol	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Butyl benzyl phthalate	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Bis (2-ethylhexyl) phthalate	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Di-n-butylphthalate	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Di-n-octylphthalate	UJ	F	
SAS017	AA-Clay-2-42 DL	SVOCs	All detected SVOCs	J	S	
SAS017	AA-Clay-2-42-D	SVOCs	All SVOCs	J/UJ	I	
SAS017	AA-Clay-2-42-D	SVOCs	2-Methylphenol	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	3,4-Methylphenol	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	4-chloro-3-methylphenol	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Butyl benzyl phthalate	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Bis (2-ethylhexyl) phthalate	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Di-n-butylphthalate	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Di-n-octylphthalate	UJ	F	
SAS017	UAA-7-38	Herbicides	Pentachlorophenol	R	M	
SAS017	UAA-7-38	Metals	Aluminum	J	M	
SAS017	UAA-7-38	Wet Chemistry	Ammonia	J	M	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect

Table 6-18
All Qualifiers List for
SDG SAS018

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS018	AT-Q-34-SS-0.5	VOCs	Chlorobenzene	U	Z	
SAS018	AT-Q-33-SS-0.5DL	VOCs	Methylene Chloride	U	Z	
SAS018	AT-Q-33-SS-0.5DL	VOCs	Chlorobenzene	U	Z	
SAS018	AT-Q-32-SB-6DL	VOCs	Methylene Chloride	U	Z	
SAS018	AT-Q-32-SB-6	VOCs	All detected VOCs	J	S	
SAS018	AT-Q-34-SB-6	VOCs	Acetone	J	L	
SAS018	AT-Q-33-SS-0.5DL	VOCs	Acetone	UJ	L	
SAS018	AT-Q-33-SS-0.5	VOCs	Acetone	J	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Chloromethane	UJ	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Acetone	UJ	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Trichloroethene	UJ	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Ethylbenzene	UJ	L	
SAS018	AT-Q-34-SS-0.5	SVOCs	Bis-(2-ethylhexyl) phthalate	U	Z	
SAS018	AT-Q-34-SB-6	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS018	AT-Q-33-SS-0.5	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS018	AT-Q-32-SB-6DL	SVOCs	All SVOCs	J/UJ	I	
SAS018	AT-Q-33-SS-0.5	PCBs	All PCBs	J/UJ	S	
SAS018	AT-Q-33-SS-0.5	Pesticides	Endrin Ketone	UJ	L	
SAS018	AT-Q-33-SS-0.5DL	Pesticides	Endrin Ketone	UJ	L	
SAS018	AT-Q-32-SB-6	Pesticides	Endrin Ketone	UJ	L	
SAS018	AT-Q-34-SS-0.5	Herbicides	Pentachlorophenol	J	M,L	
SAS018	AT-Q-34-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS018	AT-Q-33-S-0.5	Herbicides	Pentachlorophenol	J	L	
SAS018	AT-Q-32-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS018	AT-Q-32-SS-2	Herbicides	Pentachlorophenol	UJ	L	
SAS018	AT-Q-34-SS-0.5	Metals	Mercury	J	H,M	

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-19
All Qualifiers List for
SDG SAS019

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS019	AA-CLAY-2-102	SVOCs	4-Chloroaniline	**J**	L	
SAS019	AA-CLAY-2-102DL	SVOCs	4-Chloroaniline	**UJ**	L	
SAS019	AA-CLAY-2-119	SVOCs	4-Chloroaniline	**UJ**	L	
SAS019	AA-CLAY-2-82	SVOCs	4-Chloroaniline	**UJ**	L	
SAS019	AT-P-4-SS-0.5-FB	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	AT-P-4-WS-10-FB	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	SOIL-O-5-FB	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	UAA-10-102	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	UAA-10-22	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	UAA-10-42	SVOCs	Bis(2-ethylhexyl) phthalate	**U**	X	
SAS019	UAA-10-42	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	UAA-10-62	SVOCs	Bis(2-ethylhexyl) phthalate	**U**	X	
SAS019	UAA-10-62	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	UAA-10-82	SVOCs	Hexachlorobutadiene	**UJ**	L	
SAS019	UAA-5-50	Metals	Barium	**J**	M	
SAS019	UAA-5-50	Metals	Chromium	**J**	M	
SAS019	UAA-5-50	Metals	Potassium	**J**	M	
SAS019	UAA-5-50	Metals	Zinc	**J**	M	
SAS019	UAA-10-42	Wet Chemistry	Ammonia	**J**	M	
SAS019	UAA-5-50	Wet Chemistry	Ammonia	**J**	M	

Notes:
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-20
All Qualifiers List for
SDG SAS020

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS020	AT-P-2-WS-10	VOCs	2-Butanone	**UJ**	M	
SAS020	AT-P-2-WS-10	VOCs	Acetone	**J**	M	
SAS020	AT-P-4-SB-4	VOCs	2-Butanone	**UJ**	L	
SAS020	AT-P-4-SB-4	VOCs	Acetone	**J**	L	
SAS020	AT-P-4-SB-4	VOCs	Chloromethane	**UJ**	L	
SAS020	AT-P-4-SB-4-D	VOCs	2-Butanone	**UJ**	L	
SAS020	AT-P-4-SB-4-D	VOCs	Acetone	**J**	L	
SAS020	AT-P-4-SB-4-D	VOCs	Chloromethane	**UJ**	L	
SAS020	AT-P-4-SB-4-DDL	VOCs	2-Butanone	**UJ**	L	
SAS020	AT-P-4-SB-4-DDL	VOCs	Acetone	**UJ**	L	
SAS020	AT-P-4-SB-4-DDL	VOCs	Chloromethane	**UJ**	L	
SAS020	AT-P-4-SB-4DL	VOCs	2-Butanone	**UJ**	L	
SAS020	AT-P-4-SB-4DL	VOCs	Acetone	**UJ**	L	
SAS020	AT-P-4-SB-4DL	VOCs	Chloromethane	**UJ**	L	
SAS020	SOIL-O-5-SB-5.5	VOCs	All VOCs	**J/R**	S	
SAS020	SOIL-O-6-SB-5	VOCs	All VOCs	**J/UJ**	I	
SAS020	AT-P-2-SB-6	SVOCs	All SVOCs	**J/UJ**	S	
SAS020	AT-P-2-SB-6RE	SVOCs	All SVOCs	**R**	H	
SAS020	AT-P-2-SS-0.5	SVOCs	All SVOCs	**J/UJ**	S	
SAS020	AT-P-2-SS-0.5RE	SVOCs	All SVOCs	**R**	H	
SAS020	AT-P-2-WS-10	SVOCs	All SVOCs	**J/UJ**	S	
SAS020	AT-P-2-WS-10RE	SVOCs	All SVOCs	**R**	H	
SAS020	SOIL-O-6-SB-5	SVOCs	All SVOCs	**J/UJ**	S	
SAS020	SOIL-O-7-SS-1.0	SVOCs	All detected SVOCs	**J**	S	
SAS020	SOIL-O-7-SS-1.0RE	SVOCs	All SVOCs	**R**	H	
SAS020	AT-P-2-WS-10	PCBs	DCB Decachlorobiphenyl	**J**	M	
SAS020	AT-P-2-WS-10	PCBs	Heptachlorobiphenyl	**J**	M	
SAS020	AT-P-2-WS-10	PCBs	Hexachlorobiphenyl	**J**	M	
SAS020	AT-P-2-WS-10	PCBs	Octachlorobiphenyl	**J**	M	
SAS020	AT-P-4-SB-4	PCBs	Monochlorobihphenyl	**UJ**	L	
SAS020	AT-P-4-SB-4	PCBs	Tetrachlorobiphenyl	**J**	L	
SAS020	AT-P-4-SB-4-D	PCBs	Monochlorobihphenyl	**UJ**	L	
SAS020	AT-P-4-SB-4-D	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS020	SOIL-O-5-SB-5.5	PCBs	Monochlorobihphenyl	**J**	L	
SAS020	SOIL-O-5-SB-5.5	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS020	SOIL-O-4-SB-5.5	PCBs	Monochlorobihphenyl	**J**	L	
SAS020	SOIL-O-4-SB-5.5	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS020	AT-P-2-WS-10	PCBs	Monochlorobihphenyl	**J**	L	
SAS020	AT-P-2-WS-10	PCBs	Tetrachlorobiphenyl	**J**	L	
SAS020	SOIL-O-7-SB-6.0	PCBs	Monochlorobihphenyl	**J**	L	
SAS020	SOIL-O-7-SB-6.0	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS020	AT-P-4-SB-4	Herbicides	Pentachlorophenol	**J**	L	
SAS020	AT-P-4-SB-4-D	Herbicides	Pentachlorophenol	**J**	L	
SAS020	SOIL-O-4-SB-5.5	Metals	Mercury	**J**	H	
SAS020	AT-P-4-SS-0.5	Metals	Antimony	**J**	M	
SAS020	AT-P-4-SS-0.5	Metals	Barium	**J**	M	
SAS020	AT-P-4-SS-0.5	Metals	Nickel	**J**	M	
SAS020	AT-P-4-SS-0.5	Metals	Potassium	**J**	M	
SAS020	AT-P-4-SS-0.5	Metals	Sodium	**J**	M	
SAS020	AT-P-2-WS-10	Metals	Antimony	**J**	M	

Table 6-20
All Qualifiers List for
SDG SAS020

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS020	AT-P-2-WS-10	Metals	Barium	J	M	
SAS020	AT-P-2-WS-10	Metals	Cadmium	J	M	
SAS020	AT-P-2-WS-10	Metals	Manganese	J	M	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect

Table 6-21
All Qualifiers List for
SDG SAS021

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS021	AT-P-4-NAPL	Metals	Mercury	**J**	H	
SAS021	AT-P-4-NAPL	Metals	Lead	**U**	P	1.1
SAS021	AT-P-4-NAPL	Other	Sodium	**U**	P	

Notes:
J = Estimated
U = Non-detect

Table 6-22
All Qualifiers List for
SDG SAS023

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS023	AT-Q-30-SB-6	VOCs	Tetrachloroethene	UJ	L	
SAS023	IDW-AT-Q-32	VOCs	2-Butanone	UJ	L	
SAS023	IDW-AT-Q-32	VOCs	Acetone	UJ	L	
SAS023	IDW-SITES	VOCs	All VOCs	J/UJ	H	
SAS023	IDW-SITES	VOCs	Methylene Chloride	U	Z	
SAS023	IDW-SITESRA	VOCs	All VOCs	J/UJ	I	
SAS023	SOIL-0-8	VOCs	2-Butanone	UJ	L	
SAS023	SOIL-0-8	VOCs	Acetone	UJ	L	
SAS023	AT-Q-30-SB-6	SVOCs	All SVOCs	J/UJ	M	
SAS023	AT-Q-30-SB-6	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS023	AT-Q-30-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	AT-Q-30-SB-6	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[a]pyrene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[b]fluoranthene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[g,h,i]perylene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[k]fluoranthene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Bis (2-ethylhexyl) phthalate	R	L	
SAS023	AT-Q-30-SB-6	SVOCs	Butyl benzyl phthalate	R	L	
SAS023	AT-Q-30-SB-6	SVOCs	Chrysene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Indeno[1,2,3-cd]pyrene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS023	IDW-AT-Q-32	SVOCs	All SVOCs	J/UJ	S	
SAS023	IDW-AT-Q-32	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	IDW-AT-Q-32	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[a]pyrene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[b]fluoranthene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[g,h,i]perylene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Bis (2-ethylhexyl) phthalate	J	L	
SAS023	IDW-AT-Q-32	SVOCs	Butyl benzyl phthalate	J	L	
SAS023	IDW-AT-Q-32	SVOCs	Chrysene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Indeno[1,2,3-cd]pyrene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Pentachlorophenol	UJ	L	
SAS023	IDW-SITES	SVOCs	All SVOCs	J/UJ	S	
SAS023	IDW-SITES	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	IDW-SITES	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	IDW-SITES	SVOCs	Benzo[a]pyrene	R	L	
SAS023	IDW-SITES	SVOCs	Benzo[b]fluoranthene	R	L	
SAS023	IDW-SITES	SVOCs	Benzo[g,h,i]perylene	R	L	
SAS023	IDW-SITES	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	IDW-SITES	SVOCs	Bis (2-ethylhexyl) phthalate	R	L	
SAS023	IDW-SITES	SVOCs	Butyl benzyl phthalate	R	L	
SAS023	IDW-SITES	SVOCs	Chrysene	R	L	
SAS023	IDW-SITES	SVOCs	Indeno[1,2,3-cd]pyrene	R	L	
SAS023	IDW-SITES	SVOCs	Pentachlorophenol	UJ	L	
SAS023	IDW-SITESRE	SVOCs	All SVOCs	R	H	
SAS023	SOIL-0-10	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS023	SOIL-0-10	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	SOIL-0-10	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	SOIL-0-10	SVOCs	Benzo[a]pyrene	R	L	

Table 6-22
All Qualifiers List for
SDG SAS023

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS023	SOIL-0-10	SVOCs	Benzo[b]fluoranthene	**R**	L	
SAS023	SOIL-0-10	SVOCs	Benzo[g,h,i]perylene	**J**	L	
SAS023	SOIL-0-10	SVOCs	Benzo[k]fluoranthene	**R**	L	
SAS023	SOIL-0-10	SVOCs	Bis (2-ethylhexyl) phthalate	**J**	L	
SAS023	SOIL-0-10	SVOCs	Butyl benzyl phthalate	**J**	L	
SAS023	SOIL-0-10	SVOCs	Chrysene	**J**	L	
SAS023	SOIL-0-10	SVOCs	Indeno[1,2,3-cd]pyrene	**J**	L	
SAS023	SOIL-0-10	SVOCs	Pentachlorophenol	**U**	Z	
SAS023	SOIL-0-8	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS023	SOIL-0-8	SVOCs	2,4-Dinitrophenol	**R**	L	
SAS023	SOIL-0-8	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS023	SOIL-0-8	SVOCs	Benzo[a]pyrene	**J**	L	
SAS023	SOIL-0-8	SVOCs	Benzo[b]fluoranthene	**J**	L	
SAS023	SOIL-0-8	SVOCs	Benzo[g,h,i]perylene	**R**	L	
SAS023	SOIL-0-8	SVOCs	Benzo[k]fluoranthene	**R**	L	
SAS023	SOIL-0-8	SVOCs	Bis (2-ethylhexyl) phthalate	**J**	L	
SAS023	SOIL-0-8	SVOCs	Butyl benzyl phthalate	**J**	L	
SAS023	SOIL-0-8	SVOCs	Chrysene	**J**	L	
SAS023	SOIL-0-8	SVOCs	Indeno[1,2,3-cd]pyrene	**J**	L	
SAS023	SOIL-0-8	SVOCs	Pentachlorophenol	**U**	Z	
SAS023	SOIL-0-8RE	SVOCs	All SVOCs	**R**	H	
SAS023	SOIL-0-9	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS023	SOIL-0-9	SVOCs	2,4-Dinitrophenol	**R**	L	
SAS023	SOIL-0-9	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS023	SOIL-0-9	SVOCs	Benzo[a]pyrene	**R**	L	
SAS023	SOIL-0-9	SVOCs	Benzo[b]fluoranthene	**R**	L	
SAS023	SOIL-0-9	SVOCs	Benzo[g,h,i]perylene	**J**	L	
SAS023	SOIL-0-9	SVOCs	Benzo[k]fluoranthene	**R**	L	
SAS023	SOIL-0-9	SVOCs	Bis (2-ethylhexyl) phthalate	**J**	L	
SAS023	SOIL-0-9	SVOCs	Butyl benzyl phthalate	**R**	L	
SAS023	SOIL-0-9	SVOCs	Chrysene	**J**	L	
SAS023	SOIL-0-9	SVOCs	Indeno[1,2,3-cd]pyrene	**R**	L	
SAS023	SOIL-0-9	SVOCs	Pentachlorophenol	**U**	Z	
SAS023	IDW-SITES	PCBs	Monochlorobiphenyl	**J**	L	
SAS023	IDW-SITES	PCBs	Tetrachlorobiphenyl	**J**	L	
SAS023	IDW-AT-Q-32	PCBs	Monochlorobiphenyl	**UJ**	L	
SAS023	IDW-AT-Q-32	PCBs	Tetrachlorobiphenyl	**J**	L	
SAS023	AT-Q-30-SB-6	Herbicides	Pentachlorophenol	**J**	M,L	
SAS023	SOIL-0-9	Herbicides	Pentachlorophenol	**J**	L	
SAS023	SOIL-0-10	Herbicides	Pentachlorophenol	**J**	L	
SAS023	SOIL-0-8	Herbicides	Pentachlorophenol	**J**	L	
SAS023	IDW-SITES	Herbicides	Pentachlorophenol	**J**	L	
SAS023	IDW-AT-Q-32	Herbicides	Pentachlorophenol	**J**	L	
SAS023	SOIL-0-9	Metals	Mercury	**J**	H	
SAS023	SOIL-0-10	Metals	Mercury	**J**	H	
SAS023	SOIL-0-8	Metals	Mercury	**J**	H	
SAS023	IDW-SITES	Metals	Mercury	**J**	H	
SAS023	IDW-AT-Q-32	Metals	Mercury	**J**	H	
SAS023	AT-Q-30-SB-6	Metals	Mercury	**J**	H	
SAS023	AT-Q-30-SB-6	Metals	Antimony	**J**	M	

Table 6-22
All Qualifiers List for
SDG SAS023

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS023	AT-Q-30-SB-6	Metals	Copper	J	M	
SAS023	AT-Q-30-SB-6	Metals	Potassium	J	M	
SAS023	AT-Q-30-SB-6	Metals	Zinc	J	M	
SAS023	AT-Q-30-SB-6	Wet Chemistry	Ammonia	J	M	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-23
All Qualifiers List for
SDG SAS025

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS025	AT-P-3-SB-6	VOCs	Styrene	UJ	L	
SAS025	AT-P-3-SS-0.5	VOCs	Chlorobenzene	UJ	L	
SAS025	AT-P-3-SS-0.5	VOCs	Styrene	UJ	L	
SAS025	AT-P-3-SS-0.5	VOCs	Tetrachloroethene	UJ	L	
SAS025	AT-P-3-WS-10	VOCs	Styrene	J	L	
SAS025	AT-P-3-WS-10DL	VOCs	Styrene	UJ	L	
SAS025	AT-P-5-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS025	AT-P-5-SB-6RE	VOCs	All VOCs	J/UJ	S	
SAS025	AT-P-5-SB-6RE	VOCs	Chlorobenzene	J	L	
SAS025	AT-P-5-SS-0.5	VOCs	Chlorobenzene	J	L	
SAS025	AT-P-5-SS-0.5	VOCs	Styrene	UJ	L	
SAS025	AT-P-5-SS-0.5	VOCs	Tetrachloroethene	J	L	
SAS025	AT-Q-19-SS-1.5	VOCs	All VOCs	J/UJ	S,I	
SAS025	AT-Q-19-SS-1.5RE	VOCs	All VOCs	J/UJ	S	
SAS025	AT-Q-19-SS-1.5RE	VOCs	1,1,2-Trichloroethane	UJ	L	
SAS025	AT-Q-19-SS-1.5RE	VOCs	Carbon Tetrachloride	UJ	L	
SAS025	AT-Q-19-SS-1.5RE	VOCs	Methylene Chloride	U	Z	
SAS025	AT-Q-22-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS025	AT-Q-22-SB-6RE	VOCs	All VOCs	J/UJ	S	
SAS025	AT-Q-22-SB-6RE	VOCs	1,1,2-Trichloroethane	UJ	L	
SAS025	AT-Q-22-SB-6RE	VOCs	Carbon Tetrachloride	UJ	L	
SAS025	AT-P-3-SB-6	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-P-3-SB-6	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-P-3-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-3-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-3-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-P-3-SS-0.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-3-SS-0.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-3-WS-10	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-P-3-WS-10	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-P-3-WS-10	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-3-WS-10	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-5-SB-6	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS025	AT-P-5-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-5-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-5-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-P-5-SS-0.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-5-SS-0.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-5-WS-12	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-P-5-WS-12	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-P-5-WS-12	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-5-WS-12	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-19-SS-1.5	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-Q-19-SS-1.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-19-SS-1.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-22-SB-6	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-Q-22-SB-6	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-Q-22-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-22-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-22-SS-0.5	SVOCs	All SVOCs	J/UJ	I	

Table 6-23
All Qualifiers List for
SDG SAS025

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS025	AT-Q-22-SS-0.5	SVOCs	2,4-Dinitrophenol	**R**	L	
SAS025	AT-Q-22-SS-0.5	SVOCs	Pentachlorophenol	**UJ**	L	
SAS025	AT-Q-29-SS-1	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS025	AT-Q-29-SS-1	SVOCs	All detected SVOCs	**J**	I	
SAS025	AT-Q-29-SS-1	SVOCs	2,4-Dinitrophenol	**R**	L	
SAS025	AT-Q-29-SS-1	SVOCs	Pentachlorophenol	**UJ**	L	
SAS025	AT-Q-30-SS-1	SVOCs	All SVOCs	**J/UJ**	S	
SAS025	AT-Q-30-SS-1	SVOCs	2,4-Dinitrophenol	**R**	L	
SAS025	AT-Q-30-SS-1	SVOCs	Pentachlorophenol	**UJ**	L	
SAS025	AT-Q-30-SS-1-D	SVOCs	All SVOCs	**J/UJ**	S	
SAS025	AT-Q-30-SS-1-D	SVOCs	2,4-Dinitrophenol	**R**	L	
SAS025	AT-Q-30-SS-1-D	SVOCs	Pentachlorophenol	**UJ**	L	
SAS025	AT-P-3-WS-10	PCBs	All PCBs	**J/UJ**	S	
SAS025	AT-P-3-SB-6	PCBs	All PCBs	**J/UJ**	S	
SAS025	AT-Q-22-SS-0.5	PCBs	All PCBs	**J/UJ**	M	
SAS025	AT-Q-22-SB-6	PCBs	Monochlorobihpenyl	**UJ**	L	
SAS025	AT-Q-22-SB-6	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SB-6	PCBs	Pentachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SB-6	PCBs	Hexachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SB-6	PCBs	Heptachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SB-6	PCBs	Octachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Monochlorobihpenyl	**UJ**	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Pentachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Hexachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Heptachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Octachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-29-SS-1	PCBs	Monochlorobihpenyl	**UJ**	L	
SAS025	AT-Q-29-SS-1	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-29-SS-1	PCBs	Pentachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-29-SS-1	PCBs	Hexachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-29-SS-1	PCBs	Heptachlorobiphenyl	**UJ**	L	
SAS025	AT-Q-29-SS-1	PCBs	Octachlorobiphenyl	**UJ**	L	
SAS025	AT-P-5-WS-12	PCBs	Monochlorobihpenyl	**J**	L	
SAS025	AT-P-5-WS-12	PCBs	Tetrachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12	PCBs	Pentachlorobiphenyl	**UJ**	L	
SAS025	AT-P-5-WS-12	PCBs	Hexachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12	PCBs	Heptachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12	PCBs	Octachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12DL	PCBs	Monochlorobihpenyl	**J**	L	
SAS025	AT-P-5-WS-12DL	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS025	AT-P-5-WS-12DL	PCBs	Pentachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12DL	PCBs	Hexachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12DL	PCBs	Heptachlorobiphenyl	**J**	L	
SAS025	AT-P-5-WS-12DL	PCBs	Octachlorobiphenyl	**J**	L	
SAS025	AT-P-3-WS-10	PCBs	Monochlorobihpenyl	**J**	L	
SAS025	AT-P-3-WS-10	PCBs	Tetrachlorobiphenyl	**UJ**	L	
SAS025	AT-P-3-WS-10	PCBs	Pentachlorobiphenyl	**J**	L	
SAS025	AT-P-3-WS-10	PCBs	Hexachlorobiphenyl	**J**	L	
SAS025	AT-P-3-WS-10	PCBs	Heptachlorobiphenyl	**J**	L	

Table 6-23
All Qualifiers List for
SDG SAS025

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS025	AT-P-3-WS-10	PCBs	Octachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-P-3-WS-10DL	PCBs	Tetrachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Pentachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Heptachlorobiphenyl	UJ	L	
SAS025	AT-P-3-WS-10DL	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-P-3-SB-6	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-P-3-SB-6	PCBs	Tetrachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Pentachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Heptachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	Metals	Antimony	J	M	
SAS025	AT-Q-22-SS-0.5	Metals	Barium	J	M	
SAS025	AT-Q-22-SS-0.5	Metals	Zinc	J	M	
SAS025	AT-Q-22-SS-0.5	Metals	Mercury	J	M	
SAS025	AT-Q-30-SS-1	Metals	Zinc	J	F	
SAS025	AT-Q-30-SS-1-D	Metals	Zinc	J	F	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-24
All Qualifiers List for
SDG SAS026

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS026	AT-Q-25-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	AT-Q-28-WS-16	VOCs	All VOCs	J/UJ	H	
SAS026	AT-Q-28-WS-16	VOCs	Methylene Chloride	U	Z	
SAS026	AT-Q-31-WS-12	VOCs	All VOCs	J/UJ	H	
SAS026	AT-Q-31-WS-12	VOCs	Methylene Chloride	U	Z	
SAS026	SA-0-1-SB-3	VOCs	All VOCs	J/UJ	H	
SAS026	SA-0-1-SB-3	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-2-WS-9	VOCs	Benzene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Chlorobenzene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Ethylbenzene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-2-WS-9	VOCs	Toluene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Xylenes, Total	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Benzene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Chlorobenzene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Ethylbenzene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-2-WS-9-D	VOCs	Toluene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Xylenes, Total	J	F	
SAS026	SA-O-3-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-4-SB-6	VOCs	Methylene Chloride	U	Z	
SAS026	SA-P-1-WS-8	VOCs	Methylene Chloride	U	Z	
SAS026	SA-P-2-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	SA-P-3-WS-14	VOCs	Methylene Chloride	U	Z	
SAS026	SA-Q-3-WS-12	VOCs	All VOCs	J/UJ	H	
SAS026	SA-Q-3-WS-12	VOCs	Methylene Chloride	U	Z	
SAS026	SA-Q-6-WS-16	VOCs	All VOCs	J/UJ	H	
SAS026	SA-Q-6-WS-16	VOCs	Methylene Chloride	U	Z	
SAS026	AT-Q-25-WS-9	SVOCs	All SVOCs	J/UJ	S,I	
SAS026	AT-Q-28-WS-16	SVOCs	All SVOCs	J/UJ	I	
SAS026	AT-Q-28-WS-16RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-0-1-SB-3	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-O-2-WS-9	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-O-2-WS-9-D	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-O-3-WS-9	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-P-1-WS-8	SVOCs	All SVOCs	J/UJ	S,I	
SAS026	SA-P-1-WS-8RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-P-2-WS-9RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-P-3-WS-14	SVOCs	All SVOCs	J/UJ	S,I	
SAS026	SA-P-3-WS-14RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-3-WS-12	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-Q-3-WS-12	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-3-WS-12-RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-6-WS-16	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-Q-6-WS-16	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-6-WS-16RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-O-4-SB-6	PCBs	Tetrachlorobiphenyl	U	X	
SAS026	AT-Q-25-WS-9	Pesticides	All Pesticides	J/UJ	S	
SAS026	AT-Q-25-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	AT-Q-28-WS-16	Pesticides	Endosulfan II	UJ	L	

Table 6-24
All Qualifiers List for
SDG SAS026

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS026	AT-Q-31-WS-12	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-0-1-SB-3	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-0-1-SB-3	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-2-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-2-WS-9-D	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-3-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-4-SB-6	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-P-1-WS-8	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-P-1-WS-8	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-P-2-WS-9	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-P-2-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-P-3-WS-14	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-P-3-WS-14	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-Q-3-WS-12	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-Q-6-WS-16	Pesticides	Endosulfan II	UJ	L	
SAS026	AT-Q-28-WS-16	Herbicides	All Herbicides	J/UJ	S	
SAS026	AT-Q-25-WS-9	Metals	Aluminum	U	P	
SAS026	AT-Q-25-WS-9	Metals	Copper	U	P	
SAS026	AT-Q-25-WS-9	Metals	Mercury	UJ	H	
SAS026	AT-Q-25-WS-9	Metals	Selenium	U	P	
SAS026	AT-Q-28-WS-16	Metals	Mercury	UJ	H	
SAS026	AT-Q-28-WS-16	Metals	Selenium	U	P	
SAS026	AT-Q-31-WS-12	Metals	Aluminum	U	P	
SAS026	AT-Q-31-WS-12	Metals	Copper	U	P	
SAS026	AT-Q-31-WS-12	Metals	Mercury	UJ	H	
SAS026	AT-Q-31-WS-12	Metals	Selenium	U	P	
SAS026	SA-0-1-SB-3	Metals	Mercury	J	H	
SAS026	SA-0-1-SB-3	Metals	Selenium	U	P	
SAS026	SA-O-2-WS-9	Metals	Copper	U	P	
SAS026	SA-O-2-WS-9	Metals	Mercury	UJ	H	
SAS026	SA-O-2-WS-9	Metals	Selenium	U	P	
SAS026	SA-O-2-WS-9-D	Metals	Aluminum	U	P	
SAS026	SA-O-2-WS-9-D	Metals	Copper	U	P	
SAS026	SA-O-2-WS-9-D	Metals	Mercury	UJ	H	
SAS026	SA-O-3-WS-9	Metals	Aluminum	U	P	
SAS026	SA-O-3-WS-9	Metals	Mercury	J	H	
SAS026	SA-O-3-WS-9	Metals	Selenium	U	P	
SAS026	SA-O-4-SB-6	Metals	Mercury	J	H	
SAS026	SA-O-4-SB-6	Metals	Selenium	U	P	
SAS026	SA-P-1-WS-8	Metals	Aluminum	U	P	
SAS026	SA-P-1-WS-8	Metals	Copper	U	P	
SAS026	SA-P-1-WS-8	Metals	Mercury	UJ	H	
SAS026	SA-P-1-WS-8	Metals	Selenium	U	P	
SAS026	SA-P-2-WS-9	Metals	Copper	U	P	
SAS026	SA-P-2-WS-9	Metals	Mercury	UJ	H	
SAS026	SA-P-2-WS-9	Metals	Selenium	U	P	
SAS026	SA-P-3-WS-14	Metals	Aluminum	U	P	
SAS026	SA-P-3-WS-14	Metals	Copper	U	P	
SAS026	SA-P-3-WS-14	Metals	Mercury	UJ	H	
SAS026	SA-Q-3-WS-12	Metals	Copper	U	P	

Table 6-24
All Qualifiers List for
SDG SAS026

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS026	SA-Q-3-WS-12	Metals	Mercury	UJ	H	
SAS026	SA-Q-3-WS-12	Metals	Selenium	U	P	
SAS026	SA-Q-6-WS-16	Metals	Aluminum	U	P	
SAS026	SA-Q-6-WS-16	Metals	Copper	U	P	
SAS026	SA-Q-6-WS-16	Metals	Mercury	UJ	H	
SAS026	SA-Q-6-WS-16	Metals	Selenium	U	P	
SAS026	SA-P-3-WS-14	Wet Chemistry	Ammonia	U	Z	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-25
All Qualifiers List for
SDG SAS027

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS027	AT-Q-21-WS-8	VOCs	Methylene Chloride	**U**	Z	
SAS027	AT-Q-21-WS-8	VOCs	Methyl Isobutyl ketone	**U**	Z	
SAS027	AT-Q-21-WS-8-D	VOCs	Methylene Chloride	**U**	Z	
SAS027	AT-Q-21-WS-8-D	VOCs	Methyl Isobutyl ketone	**U**	Z	
SAS027	SA-S-2-SB-4	VOCs	Methylene Chloride	**U**	Z	
SAS027	SA-S-1-WS-9	VOCs	Methylene Chloride	**U**	Z	
SAS027	AT-Q-32-SB-6	VOCs	Methylene Chloride	**U**	Z	
SAS027	AT-Q-32-SB-6	VOCs	Methyl Isobutyl ketone	**U**	Z	
SAS027	AT-P-4-SB-4	VOCs	Methylene Chloride	**U**	Z	
SAS027	AT-P-4-SB-4-D	VOCs	Methylene Chloride	**U**	Z	
SAS027	AT-Q-33-SB-5	SVOCs	All SVOCs	**J/UJ**	L	
SAS027	AT-Q-35-WS-8	SVOCs	All SVOCs	**J/UJ**	L	
SAS027	AT-P-4-SB-4	SVOCs	All SVOCs	**J/UJ**	L	
SAS027	AT-P-4-SB-4-D	SVOCs	All SVOCs	**J/UJ**	L	
SAS027	At-P-4-SB-4-DDL	SVOCs	All SVOCs	**J/UJ**	L	
SAS027	SA-S-2-SB-4	Pesticides	All Pesticides	**J/R**	S	
SAS027	AT-Q-33-SB-5	Pesticides	All Pesticides	**J/UJ**	S	
SAS027	AT-Q-21-WS-8	Pesticides	Dieldrin	**UJ**	L	
SAS027	AT-Q-21-WS-8	Pesticides	Endrin	**R**	L	
SAS027	AT-Q-21-WS-8-D	Pesticides	Dieldrin	**UJ**	L	
SAS027	AT-Q-21-WS-8-D	Pesticides	Endrin	**R**	L	
SAS027	SA-S-2-SB-4	Pesticides	Endrin	**R**	L	
SAS027	SA-S-1-WS-9	Pesticides	Dieldrin	**UJ**	L	
SAS027	SA-S-1-WS-9	Pesticides	Endrin	**R**	L	
SAS027	AT-Q-32-SB-6	Pesticides	Dieldrin	**UJ**	L	
SAS027	AT-Q-32-SB-6	Pesticides	Endrin	**R**	L	
SAS027	AT-Q-21-WS-8	Herbicides	Pentachlorophenol	**J**	L	
SAS027	AT-Q-21-WS-8-D	Herbicides	Pentachlorophenol	**J**	L	
SAS027	SA-S-1-WS-9	Herbicides	Pentachlorophenol	**J**	L	
SAS027	AT-Q-33-SB-5	Herbicides	Pentachlorophenol	**J**	L	
SAS027	AT-Q-35-WS-8	Herbicides	Pentachlorophenol	**J**	L	
SAS027	AT-P-4-SB-4	Herbicides	Pentachlorophenol	**J**	L	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-26
All Qualifiers List for
SDG SAS028

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS028	SOIL-O-5-SB-5.5	VOCs	Methylene chloride	**U**	Z	
SAS028	AT-P-2-WS-10	VOCs	Methylene chloride	**U**	Z	
SAS028	SOIL-O-9	VOCs	Methylene chloride	**U**	Z	
SAS028	SOIL-O-5-SB-5.5	SVOCs	All SVOCs	**J/UJ**	L	
SAS028	SOIL-O-5-SB-5.5DL	SVOCs	All SVOCs	**J/UJ**	L	
SAS028	AT-P-2-WS-10	SVOCs	All SVOCs	**J/UJ**	L,M	
SAS028	AT-P-2-WS-10DL	SVOCs	All SVOCs	**J/UJ**	L	
SAS028	SOIL-O-10	Herbicides	All Herbicides	**J/UJ**	S	
SAS028	IDW-SITES	Herbicides	All Herbicides	**J/UJ**	S	
SAS028	SOIL-O-9	Herbicides	Pentachlorophenol	**J**	L	
SAS028	Soil-O-5-SB-5.5	Metals	Chromium	**U**	P	
SAS028	AT-P-2-WS-10	Metals	Chromium	**U**	P	
SAS028	AT-P-2-WS-10	Metals	Copper	**U**	P	
SAS028	AT-P-2-WS-10	Metals	Selenium	**U**	P	
SAS028	SOIL-O-9	Metals	Aluminum	**U**	P	
SAS028	SOIL-O-9	Metals	Chromium	**U**	P	
SAS028	SOIL-O-9	Metals	Selenium	**U**	P	
SAS028	SOIL-O-10	Metals	Aluminum	**U**	P	
SAS028	SOIL-O-10	Metals	Selenium	**U**	P	
SAS028	SOIL-O-8	Metals	Aluminum	**U**	P	
SAS028	SOIL-O-8	Metals	Copper	**U**	P	
SAS028	SOIL-O-8	Metals	Selenium	**U**	P	
SAS028	IDW-SITES	Metals	Copper	**U**	P	
SAS028	IDW-SITES	Metals	Selenium	**U**	P	
SAS028	IDW-AT-Q-32	Metals	Aluminum	**U**	P	
SAS028	IDW-AT-Q-32	Metals	Chromium	**U**	P	
SAS028	IDW-AT-Q-32	Metals	Selenium	**U**	P	
SAS028	AT-P-2-WS-10	Metals	Cadmium	**J**	M	
SAS028	AT-P-2-WS-10	Metals	Lead	**J**	M	
SAS028	AT-P-2-WS-10	Metals	Nickel	**J**	M	

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-27
All Qualifiers List for
SDG SAS029

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS029	AT-P-5-WS-12	Pesticides	Dieldrin	**UJ**	L	
SAS029	AT-P-5-WS-12	Pesticides	Endrin	**R**	L	
SAS029	AT-P-3-WS-10	Pesticides	Dieldrin	**UJ**	L	
SAS029	AT-P-3-WS-10	Pesticides	Endrin	**R**	L	
SAS029	AT-P-5-WS-12	Metals	Aluminum	**U**	P	
SAS029	AT-P-3-WS-10	Metals	Aluminum	**U**	P	
SAS029	AT-P-3-WS-10	Metals	Chromium	**U**	P	

Notes:

R = Rejected

UJ = Estimated non-detect

U = Non-detect

Table 6-28
All Qualifiers List for
SDG SAS030

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS030	GM-19A	SVOCs	4-Chloroaniline	J	L	
SAS030	GM-19A-D	SVOCs	4-Chloroaniline	J	L	
SAS030	GM-19C	SVOCs	All SVOCs	J/UJ	I	
SAS030	GM-19C	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-0-1	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-0-2	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-0-3	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-0-3-D	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-2	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-Q-3	SVOCs	All SVOCs	J/UJ	I	
SAS030	SA-Q-3	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-4	SVOCs	All SVOCs	J/UJ	S	
SAS030	SA-Q-4	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-4RE	SVOCs	All SVOCs	J/UJ	H,S	
SAS030	SA-Q-4RE	SVOCs	Diethyl phthalate	U	Z	
SAS030	SA-Q-5	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-Q-6	SVOCs	All SVOCs	J/UJ	I	
SAS030	SA-Q-6	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-7	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-Q-8	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-0-02	Pesticides	All Pesticides	J/UJ	S	
SAS030	GM-19C	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-5	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-8	Pesticides	All Pesticides	J/R	S	
SAS030	SA-Q-4	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-6	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-3	Pesticides	All Pesticides	J/R	S	
SAS030	SA-Q-2	Pesticides	All Pesticides	J/UJ	S	
SAS030	GM-19A	Metals	Chromium	U	P	
SAS030	GM-19A-D	Metals	Chromium	U	P	
SAS030	GM-19C	Metals	Chromium	U	P	
SAS030	SA-0-1	Metals	Cobalt	U	P	
SAS030	SA-0-1	Metals	Manganese	J	M	
SAS030	SA-0-1	Metals	Sodium	J	M	
SAS030	SA-0-3	Metals	Chromium	U	P	
SAS030	SA-0-3-D	Metals	Chromium	U	P	
SAS030	SA-Q-2	Metals	Chromium	U	P	
SAS030	SA-Q-4	Metals	Chromium	U	P	
SAS030	SA-Q-6	Metals	Chromium	U	P	
SAS030	SA-Q-7	Metals	Chromium	U	P	
SAS030	SA-0-1	Wet Chemistry	Ammonia	J	M	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-29
All Qualifiers List for
SDG SAS031

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS031	SA-Q-9	VOCs	Dibromochloromethane	**U**	Y	
SAS031	SA-Q-9	VOCs	Bromoform	**U**	Y	
SAS031	GM-4A	VOCs	Bromoform	**U**	Y	
SAS031	SA-Q-1RE	SVOCs	All SVOCs	**R**	H	
SAS031	SA-Q-1REDL	SVOCs	All SVOCs	**R**	H	
SAS031	SA-Q-15RE	SVOCs	All SVOCs	**R**	H	
SAS031	MW-7BRE	SVOCs	All SVOCs	**R**	H	
SAS031	SA-Q-1	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS031	SA-Q-15	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS031	MW-7B	SVOCs	All SVOCs	**J/R**	S	
SAS031	SA-Q-1	Pesticides	All Pesticides	**J/R**	S	
SAS031	SA-Q-14	Pesticides	All Pesticides	**J//UJ**	S	
SAS031	MW-3C	Wet Chemistry	Chloride	**J**	M	
SAS031	MW-3C	Wet Chemistry	Ammonia	**J**	M	

Notes:

U = Non-detect

R = Rejected

J = Estimated

UJ = Estimated non-detect

Table 6-30
All Qualifiers List for
SDG SAS032

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS032	GM-18A	VOCs	Chlorobenzene	U	Y	
SAS032	GM-18A-D	VOCs	Chlorobenzene	U	Y	
SAS032	GM-18A	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS032	SA-P-2	SVOCs	All SVOCs	J/UJ	I	
SAS032	SA-P-2	Pesticides	Endosulfan II	UJ	L	
SAS032	SA-0-4	Pesticides	Endosulfan II	UJ	L	
SAS032	GM-5	Metals	Cobalt	U	P	
SAS032	GM-18A	Metals	Cobalt	U	P	
SAS032	GM-6B	Metals	Cobalt	U	P	
SAS032	MW-3B	Metals	Cobalt	U	P	
SAS032	SA-P-2	Metals	Cobalt	U	P	
SAS032	GM-6A	Metals	Cobalt	U	P	
SAS032	SA-0-4	Metals	Cobalt	U	P	

Notes:

U = Non-detect

J = Estimated

UJ = Estimated non-detect

Table 6-31
All Qualifiers List for
SDG SAS033

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS033	SA-P-1RE	SVOCs	All SVOCs	**R**	H	
SAS033	EEG-107	SVOCs	All Base/Neutral Analytes	**J/R**	S	
SAS033	EE-01	SVOCs	All detected Acid Fraction	**J**	S	
SAS033	SA-P-1	SVOCs	All Base/Neutral Analytes	**J/UJ**	S	
SAS033	SA-P-3	Pesticides	All Pesticides	**UJ**	S	
SAS033	SA-Q-12	Pesticides	All Pesticides	**R**	S	
SAS033	SA-P-1	Pesticides	All Pesticides	**UJ**	S	
SAS033	SA-S-2	Pesticides	All Pesticides	**R**	S	
SAS033	SA-P-3	Metals	Arsenic	**U**	P	
SAS033	SA-Q-12	Metals	Nickel	**U**	P	
SAS033	EEG-107	Metals	Arsenic	**U**	P	
SAS033	IMW-1I	Metals	Arsenic	**U**	P	
SAS033	IMW-1I	Metals	Nickel	**U**	P	
SAS033	IMW-1D	Metals	Nickel	**U**	P	
SAS033	BDRK-0-1	Metals	Nickel	**U**	P	
SAS033	SA-S-2	Metals	Nickel	**U**	P	
SAS033	BDRK-Q-1	Metals	Arsenic	**U**	P	
SAS033	BDRK-Q-1	Metals	Nickel	**U**	P	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-32
All Qualifiers List for
SDG SAS034

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS034	BDRK-Q-2RE	SVOCs	All SVOCs	**R**	H	
SAS034	GM-31A	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS034	BDRK-Q-2	SVOCs	All SVOCs	**J/UJ**	S	
SAS034	GM-8	SVOCs	All SVOCs	**J/UJ**	S	
SAS034	BDRK-P-1	Pesticides	All Pesticides	**J/UJ**	S	
SAS034	SA-S-1	Pesticides	All Pesticides	**J/UJ**	S	
SAS034	SA-S-1-D	Pesticides	All Pesticides	**J/UJ**	S	
SAS034	GM-59A	Metals	Copper	**U**	P	
SAS034	GM-31B	Metals	Copper	**U**	P	
SAS034	GM-31B-D	Metals	Zinc	**U**	P	
SAS034	GM-31A	Metals	Copper	**U**	P	
SAS034	GM-31A	Metals	Zinc	**U**	P	
SAS034	BDRK-Q-2	Metals	Zinc	**U**	P	
SAS034	BDRK-Q-2-D	Metals	Zinc	**U**	P	
SAS034	GM-60B	Metals	Zinc	**U**	P	
SAS034	GM-60B-D	Metals	Zinc	**U**	P	
SAS034	GM-8	Metals	Copper	**U**	P	
SAS034	GM-8	Metals	Zinc	**U**	P	
SAS034	IMW-1S	Metals	Zinc	**U**	P	
SAS034	IMW-1S-D	Metals	Zinc	**U**	P	
SAS034	BDRK-P-1	Metals	Copper	**U**	P	
SAS034	BDRK-P-1	Metals	Zinc	**U**	P	
SAS034	SA-S-1	Metals	Zinc	**U**	P	
SAS034	SA-S-1-D	Metals	Zinc	**U**	P	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-33
All Qualifiers List for
SDG SAS035

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS035	GM-10B	SVOCs	All detected Acid Fraction	**J**	S	
SAS035	GM-12B	SVOCs	Phenol	**J**	S	
SAS035	BR-H	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-10B	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-10BDL	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-10B-D	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-10B-DDL	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	BDRK-S-1	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-20B	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-20BDL	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-27B	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-27BDL	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-2	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-2DL	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-12B	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-12C	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-9B	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-27C	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-9C	SVOCs	3,3'-Dichlorobenzidine	**UJ**	L	
SAS035	GM-2	SVOCs	All SVOCs	**J/UJ**	I	
SAS035	GM-1	SVOCs	All SVOCs	**J/UJ**	I	
SAS035	BR-H	Herbicides	Pentachlorophenol	**R**	M	
SAS035	GM-9B	Metals	Copper	**J**	M	
SAS035	GM-9B	Wet Chemistry	Chloride	**J**	M	
SAS035	GM-9B	Wet Chemistry	Ammonia	**J**	M	
SAS035	BR-H	Wet Chemistry	Ammonia	**J**	M	
SAS035	GM-12B	Wet Chemistry	Ammonia	**J**	M	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

Table 6-34
All Qualifiers List for
SDG SAS036

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS036	EE-03	SVOCs	Di-n-butyl phthalate	U	Z	
SAS036	EE-03RE	SVOCs	All SVOCs	J/UJ	S	
SAS036	PIEZ-7MRE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS036	B-24A	SVOCs	4-Chloroaniline	R	L	
SAS036	B-24A	SVOCs	3-Nitroaniline	UJ	L	
SAS036	B-24A	SVOCs	4-Nitrophenol	UJ	L	
SAS036	B-24A	SVOCs	4-Nitroaniline	UJ	L	
SAS036	B-24A	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	B-22A	SVOCs	4-Chloroaniline	J	L	
SAS036	B-22A	SVOCs	3-Nitroaniline	UJ	L	
SAS036	B-22A	SVOCs	4-Nitrophenol	UJ	L	
SAS036	B-22A	SVOCs	4-Nitroaniline	UJ	L	
SAS036	B-22A	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	GM-15	SVOCs	4-Chloroaniline	R	L	
SAS036	GM-15	SVOCs	3-Nitroaniline	UJ	L	
SAS036	GM-15	SVOCs	4-Nitrophenol	UJ	L	
SAS036	GM-15	SVOCs	4-Nitroaniline	UJ	L	
SAS036	GM-15	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	EE-03	SVOCs	4-Chloroaniline	R	L	
SAS036	EE-03	SVOCs	3-Nitroaniline	UJ	L	
SAS036	EE-03	SVOCs	4-Nitrophenol	UJ	L	
SAS036	EE-03	SVOCs	4-Nitroaniline	UJ	L	
SAS036	EE-03	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	GM-60A	SVOCs	4-Chloroaniline	R	L	
SAS036	GM-60A	SVOCs	3-Nitroaniline	UJ	L	
SAS036	GM-60A	SVOCs	4-Nitrophenol	UJ	L	
SAS036	GM-60A	SVOCs	4-Nitroaniline	UJ	L	
SAS036	GM-60A	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	B-28B	SVOCs	4-Chloroaniline	J	L	
SAS036	B-28B	SVOCs	3-Nitroaniline	UJ	L	
SAS036	B-28B	SVOCs	4-Nitrophenol	UJ	L	
SAS036	B-28B	SVOCs	4-Nitroaniline	UJ	L	
SAS036	B-28B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	PIEZ-7M	SVOCs	4-Chloroaniline	R	L	
SAS036	PIEZ-7M	SVOCs	3-Nitroaniline	UJ	L	
SAS036	PIEZ-7M	SVOCs	4-Nitrophenol	UJ	L	
SAS036	PIEZ-7M	SVOCs	4-Nitroaniline	UJ	L	
SAS036	PIEZ-7M	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	PIEZ-7S	Pesticides	All Pesticides	UJ	S	
SAS036	GM-15	Herbicides	Silvex	J	S	
SAS036	GM-15	Herbicides	Pentachlorophenol	J	S	
SAS036	GM-15	Metals	Nickel	U	X	
SAS036	GM-15	Metals	Zinc	U	X	
SAS036	EE-03	Metals	Copper	U	X	
SAS036	EE-03	Metals	Nickel	U	X	
SAS036	EE-03	Metals	Zinc	U	X	
SAS036	GM-60A	Metals	Copper	U	X	
SAS036	GM-60A	Metals	Zinc	U	X	
SAS036	B-28B	Metals	Copper	U	X	
SAS036	B-28B	Metals	Nickel	U	X	

Table 6-34
All Qualifiers List for
SDG SAS036

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS036	B-28B	Metals	Zinc	U	X	
SAS036	PIEZ-7M	Metals	Nickel	U	X	
SAS036	PIEZ-7S	Metals	Copper	U	X	
SAS036	PIEZ-7S	Metals	Nickel	U	X	
SAS036	PIEZ-7S	Metals	Zinc	U	X	
SAS036	EE-03	Wet Chemistry	Ammonia	J	M	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-35
All Qualifiers List for
SDG SAS037

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS037	BR-G	VOCs	Methylene Chloride	U	Y	
SAS037	CA-3	VOCs	Methylene Chloride	U	Y	
SAS037	GM-11	Herbicides	2,4-D	U	X	1.1
SAS037	CA-3	Herbicides	2,4-D	U	X	1.1
SAS037	BR-G	Metals	Zinc	U	X	
SAS037	B-29B	Metals	Zinc	U	X	
SAS037	GM-11	Vet Chemistr	Ammonia	U	X	
SAS037	CP-MW-16	Vet Chemistr	Ammonia	U	X	

Notes:
U = Non-detect

Table 6-36
All Qualifiers List for
SDG SAS038

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS038	GM-46DL	VOCs	All VOCs	J/UJ	H	
SAS038	CP-MW-10	Herbicides	2,4-D	U	X	
SAS038	CP-MW-22	Herbicides	2,4-D	U	X	
SAS038	CP-MW-6	Herbicides	2,4-D	U	X	
SAS038	CP-MW-6-D	Herbicides	2,4-D	U	X	
SAS038	CP-MW-10	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-10	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-10	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-10	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-10	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-10	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-7	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-7	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-7	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-7	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-7	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-7	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-24	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-24	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-24	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-24	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-24	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-24	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-22	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-22	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-22	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-22	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-22	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-22	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-20	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-20	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-20	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-20	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-20	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-20	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-20-D	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-20-D	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-20-D	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-20-D	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-20-D	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-20-D	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-6	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-6	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-6	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-6	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-6	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-6	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-6-D	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-6-D	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-6-D	Herbicides	Dalapon	UJ	L	

Table 6-36
All Qualifiers List for
SDG SAS038

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS038	CP-MW-6-D	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-6-D	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-6-D	Herbicides	MCPP	UJ	L	
SAS038	GM-33	Herbicides	2,4,5-T	J	L	
SAS038	GM-33	Herbicides	Silvex	J	L	
SAS038	GM-33	Herbicides	Dalapon	UJ	L	
SAS038	GM-33	Herbicides	Dichloprop	J	L	
SAS038	GM-33	Herbicides	MCPA	UJ	L	
SAS038	GM-33	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-18	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-18	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-18	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-18	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-18	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-18	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-14	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-14	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-14	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-14	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-14	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-14	Herbicides	MCPP	J	L	
SAS038	GM-9A	Herbicides	2,4,5-T	UJ	L	
SAS038	GM-9A	Herbicides	Silvex	UJ	L	
SAS038	GM-9A	Herbicides	Dalapon	UJ	L	
SAS038	GM-9A	Herbicides	Dichloprop	UJ	L	
SAS038	GM-9A	Herbicides	MCPA	UJ	L	
SAS038	GM-9A	Herbicides	MCPP	UJ	L	
SAS038	GM-46	Herbicides	2,4,5-T	UJ	L	
SAS038	GM-46	Herbicides	Silvex	UJ	L	
SAS038	GM-46	Herbicides	Dalapon	UJ	L	
SAS038	GM-46	Herbicides	Dichloprop	UJ	L	
SAS038	GM-46	Herbicides	MCPA	UJ	L	
SAS038	GM-46	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-10	Metals	Chromium	U	X	
SAS038	CP-MW-10	Metals	Zinc	U	X	
SAS038	CP-MW-7	Metals	Chromium	U	X	
SAS038	CP-MW-7	Metals	Zinc	U	X	
SAS038	CP-MW-24	Metals	Chromium	U	X	
SAS038	CP-MW-22	Metals	Chromium	U	X	
SAS038	CP-MW-20	Metals	Chromium	U	X	
SAS038	CP-MW-20	Metals	Zinc	U	X	
SAS038	CP-MW-6	Metals	Chromium	U	X	
SAS038	CP-MW-6	Metals	Zinc	U	X	
SAS038	CP-MW-6-D	Metals	Chromium	U	X	
SAS038	CP-MW-6-D	Metals	Zinc	U	X	
SAS038	GM-33	Metals	Iron	U	X	
SAS038	GM-33	Metals	Zinc	U	X	
SAS038	CP-MW-18	Metals	Chromium	U	X	
SAS038	CP-MW-14	Metals	Chromium	U	X	
SAS038	CP-MW-14	Metals	Zinc	U	X	

Table 6-36
All Qualifiers List for
SDG SAS038

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS038	GM-9A	Metals	Zinc	U	X	
SAS038	CP-MW-18	Wet Chemistry	Ammonia	J	M	

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-37
All Qualifiers List for
SDG SAS039

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS039	CP-MW-12RE	SVOCs	All SVOCs	**J/UJ**	H	
SAS039	CP-MW-ERE	SVOCs	All SVOCs	**J/UJ**	H	
SAS039	B-24CRE	SVOCs	All SVOCs	**J/UJ**	H	
SAS039	B-24CREDL	SVOCs	All SVOCs	**J/UJ**	H	
SAS039	CP-MW-12	SVOCs	All Acid Fraction Analytes	**J/UJ**	S	
SAS039	CP-MW-12	SVOCs	4-Chloroaniline	**R**	L	
SAS039	CP-MW-12	SVOCs	3-Nitroaniline	**UJ**	L	
SAS039	CP-MW-12	SVOCs	4-Nitrophenol	**UJ**	L	
SAS039	CP-MW-12	SVOCs	4-Nitroaniline	**UJ**	L	
SAS039	CP-MW-12	SVOCs	4,6-Dinitro-2-methylphenol	**UJ**	L	
SAS039	CP-MW-12	SVOCs	3,3'-Dichlorobenzidine	**R**	L	
SAS039	CP-MW-E	SVOCs	4-Chloroaniline	**R**	L	
SAS039	CP-MW-E	SVOCs	3-Nitroaniline	**UJ**	L	
SAS039	CP-MW-E	SVOCs	4-Nitrophenol	**UJ**	L	
SAS039	CP-MW-E	SVOCs	4-Nitroaniline	**UJ**	L	
SAS039	CP-MW-E	SVOCs	4,6-Dinitro-2-methylphenol	**UJ**	L	
SAS039	CP-MW-E	SVOCs	3,3'-Dichlorobenzidine	**R**	L	
SAS039	B-24C	SVOCs	4-Chloroaniline	**J**	L	
SAS039	B-24C	SVOCs	3-Nitroaniline	**UJ**	L	
SAS039	B-24C	SVOCs	4-Nitrophenol	**UJ**	L	
SAS039	B-24C	SVOCs	4-Nitroaniline	**J**	L	
SAS039	B-24C	SVOCs	4,6-Dinitro-2-methylphenol	**UJ**	L	
SAS039	B-24C	SVOCs	3,3'-Dichlorobenzidine	**R**	L	
SAS039	B-24CDL	SVOCs	4-Chloroaniline	**J**	L	
SAS039	B-24CDL	SVOCs	3-Nitroaniline	**UJ**	L	
SAS039	B-24CDL	SVOCs	4-Nitrophenol	**UJ**	L	
SAS039	B-24CDL	SVOCs	4-Nitroaniline	**J**	L	
SAS039	B-24CDL	SVOCs	4,6-Dinitro-2-methylphenol	**UJ**	L	
SAS039	B-24CDL	SVOCs	3,3'-Dichlorobenzidine	**R**	L	
SAS039	B-28A	Herbicides	2,4-D	**U**	X	2.5
SAS039	B-28A	Herbicides	Pentachlorophenol	**U**	X	2.9
SAS039	CP-MW-12	Metals	Aluminum	**U**	P	
SAS039	CP-MW-15	Metals	Aluminum	**U**	P	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-38
All Qualifiers List for
SDG SAS040

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS040	SW-SA2-GMCS-PDA2	VOCs	Chlorobenzene	J	F	
SAS040	DUP-SW	VOCs	Chlorobenzene	J	F	
SAS040	SW-SA2-GMCS-PDA2	SVOCs	All SVOCs	UJ	H	
SAS040	SW-SA2-GMCS-PDA2	Pesticides	All Pesticides	UJ	S	
SAS040	DUP SW	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA3	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA4	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA5	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA9	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-R3AM	Metals	Mercury	UJ	H	
SAS040	SW-SA2-GMCS-R3AM	Metals	Mercury, dissolved	UJ	H	
SAS040	SW-SA2-GMCS-R3BM	Metals	Mercury	UJ	H	
SAS040	SW-SA2-GMCS-R3BM	Metals	Mercury, dissolved	UJ	H	
SAS040	SW-SA2-GMCS-R3CM	Metals	Mercury	UJ	H	
SAS040	SW-SA2-GMCS-R3CM	Metals	Mercury, dissolved	UJ	H	
SAS040	SW-SA2-GMCS-R3AM	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-R3AM	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-R3BM	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-R3BM	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-R3CM	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-PDA2	Metals	Selenium, dissolved	U	P	
SAS040	DUP SW	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-PDA3	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-PDA4	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-PDA5	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-PDA9A	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-PDA9	Metals	Aluminum	J	M	

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-39
All Qualifiers List for
SDG SAS041

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS041	SED-SA2-GMCS-PDA2	VOCs	Chlorobenzene	J	F	
SAS041	DUP-SED	VOCs	Chlorobenzene	J	F	
SAS041	SED-SA2-GMCS-R3AM RE	SVOCs	All SVOCs	R	H	
SAS041	SED-SA2-GMCS-PDA2 RE	SVOCs	All SVOCs	R	H	
SAS041	DUP SED RE	SVOCs	All SVOCs	R	H	
SAS041	DUP SED	SVOCs	All SVOCs	J/UJ	S	
SAS041	SED-SA2-GMCS-R3CM	Pesticides	All Pesticides	UJ	S	
SAS041	SED-SA2-GMCS-PDA9	Pesticides	All Pesticides	UJ	S	
SAS041	SED-SA2-GMCS-PDA9A	Pesticides	All Pesticides	UJ	S	
SAS041	SED-SA2-GMCS-PDA9	Pesticides	Endrin Ketone	UJ	M,L	
SAS041	SED-SA2-GMCS-R3AM	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-R3BM	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-R3CM	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA2	Pesticides	Endrin Ketone	UJ	L	
SAS041	DUP SED	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA3	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA4	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA5	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA9A	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA2	Herbicides	2,4-D	J	F	
SAS041	DUP-SED	Herbicides	2,4-D	J	F	
SAS041	SED-SA2-GMCS-R3AM	Metals	Mercury	J	H	
SAS041	SED-SA2-GMCS-R3BM	Metals	Mercury	UJ	H	
SAS041	SED-SA2-GMCS-R3CM	Metals	Mercury	J	H	
SAS041	SED-SA2-GMCS-R3AM	Metals	Sodium	U	P	200
SAS041	SED-SA2-GMCS-R3BM	Metals	Sodium	U	P	140
SAS041	SED-SA2-GMCS-R3CM	Metals	Sodium	U	P	110
SAS041	SED-SA2-GMCS-PDA2	Metals	Sodium	U	P	360
SAS041	DUP SED	Metals	Sodium	U	P	360
SAS041	SED-SA2-GMCS-PDA3	Metals	Sodium	U	P	210
SAS041	SED-SA2-GMCS-PDA4	Metals	Sodium	U	P	150
SAS041	SED-SA2-GMCS-PDA5	Metals	Sodium	U	P	270
SAS041	SED-SA2-GMCS-PDA9	Metals	Sodium	U	P	140
SAS041	SED-SA2-GMCS-PDA9A	Metals	Sodium	U	P	150
SAS041	SED-SA2-GMCS-PDA9	Metals	Manganese	J	K,M	
SAS041	SED-SA2-GMCS-PDA9	Metals	Vanadium	J	K	
SAS041	SED-SA2-GMCS-PDA9	Metals	Calcium	J	M	
SAS041	SED-SA2-GMCS-PDA9	Metals	Magnesium	J	M	
SAS041	SED-SA2-GMCS-R3AM	Metals	Lead	J	M	
SAS041	SED-SA2-GMCS-R3AM	Metals	Manganese	J	M	

Notes:

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-40
All Qualifiers List For
SDG SAS042

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS042	ABWTF	Pesticides	All Pesticides	**J/UJ**	S	
SAS042	ABWTF	Herbicides	Dicamba	**J**	L	
SAS042	ABWTF	Metals	Selenium	**U**	P	
SAS042	ABWTF	Metals	Selenium, dissolved	**U**	P	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-41
All Qualifiers List for SDG G5E070192

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,6,7,8-HpCDF	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,7,8,9-HpCDF	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,7,8-HxCDF	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,6,7,8-HxCDD	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	OCDD	J	Q,I	
G5E070192	SA-O-1-SB-3	Dioxins	OCDF	J	I	
G5E070192	SA-O-1-SB-3 (TCLP)	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E070192	SA-O-1-SB-3 (TCLP)	Dioxins	OCDD	J	Q	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-42
All Qualifiers List for SDG G5E110377

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E110377	AT-Q-25-WS-9'	Dioxins	1,2,3,6,7,8 - HxCDD	J	L	
G5E110377	AT-Q-25-WS-9'	Dioxins	2,3,7,8-TCDD	J	L	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,6,7,8-HpCDD	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,6,7,8-HpCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,7,8,9-HpCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,7,8-HxCDD	UJ	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,7,8-HxCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,6,7,8 - HxCDD	J	L,I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,6,7,8-HxCDF	UJ	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,7,8,9 - HxCDD	J	L,I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,7,8,9-HxCDF	UJ	I	
G5E110377	SA-O-2-WS-9	Dioxins	2,3,4,6,7,8-HxCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HpCDD	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HpCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HxCDD	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HxCDF	J	I	
G5E110377	SA-O-2-WS-9 (TCLP)	Dioxins	1,2,3,4, 6,7,8-HpCDD	U	Z	
G5E110377	SA-O-2-WS-9 (TCLP)	Dioxins	OCDD	U	Z	
G5E110377	SA-O-2-WS-9 (TCLP)	Dioxins	Total HpCDD	U	Z	
G5E110377	SA-O-2-WS-9-D	Dioxins	1,2,3,6,7,8 - HxCDD	J	L	
G5E110377	SA-O-2-WS-9-D (TCLP)	Dioxins	OCDD	U	Z	
G5E110377	SA-O-3-WS-9	Dioxins	All detected Dioxins	J	M	
G5E110377	SA-O-3-WS-9	Dioxins	All non-detect Dioxins	UJ	M	
G5E110377	SA-O-3-WS-9	Dioxins	1,2,3,6,7,8 - HxCDD	J	L,M	
G5E110377	SA-O-3-WS-9	Dioxins	1,2,3,7,8,9 - HxCDD	J	L,M	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	1,2,3,4,6,7,8-HpCDD	U	Z	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	OCDD	U	Z	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	Total HpCDD	U	Z	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	Total HpCDF	U	Z	
G5E110377	SA-O-4-SB-6	Dioxins	1,2,3,6,7,8 - HxCDD	J	L	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-43
All Qualifiers List for SDG G5E120226

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E120226	SA-P-1-FB	Dioxins	2,3,7,8-TCDF	UJ	L	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-44
All Qualifiers List for G5E140175

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E140175	AT-Q-21-WS-8'	Dioxins	1,2,3,4,7,8-HxCDD	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	1,2,3,6,7,8-HxCDD	J	L,F	
G5E140175	AT-Q-21-WS-8'	Dioxins	1,2,3,7,8,9-HxCDD	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	OCDD	J	Q,I	
G5E140175	AT-Q-21-WS-8'	Dioxins	OCDF	J	I	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total HxCDD	J	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total PeCDD	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total PeCDF	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total TCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	1,2,3,4,7,8-HxCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	1,2,3,6,7,8-HxCDD	J	L,F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	1,2,3,7,8,9-HxCDD	J	L,F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	OCDD	J	Q	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total HxCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total PeCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total PeCDF	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total TCDD	J	F	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-45
All Qualifiers List For SDG G5E190437

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E190437	SA-Q-10-SS-0.5	Dioxins	OCDD	J	Q	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-46
All Qualifiers List for SDG G5E210201

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E210201	AT-Q-33-SB-5 (TCLP)	Dioxins	OCDD	U	Z	
G5E210201	HT-Q-35-WS-8' (TCLP)	Dioxins	OCDD	U	Z	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-47
All Qualifiers List for SDG G5E260238

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E260238	HT-Q-32-SB-6'	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E260238	HT-Q-32-SB-6'	Dioxins	OCDD	J	Q,I	
G5E260238	HT-Q-32-SB-6'	Dioxins	OCDF	J	I	
G5E260238	HT-Q-32-SB-6' (TCLP)	Dioxins	OCDD	U	Z	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-48
All Qualifiers List for SDG G5E280189

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E280189	AT-P-4-SB-4'	Dioxins	OCDD	J	Q	
G5E280189	AT-P-4-SB-4' (TCLP)	Dioxins	OCDD	U	Z	
G5E280189	AT-P-4-SB-4'-D (TCLP)	Dioxins	OCDD	U	Z	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-49
All Qualifiers List for SDG G5E280206

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E280206	AT-P-2-WS-10'	Dioxins	OCDD	**J**	X	
G5E280206	AT-P-2-WS-10-FB	Dioxins	2,3,7,8-TCDD	**UJ**	L	
G5E280206	SOIL-0-5-FB	Dioxins	2,3,7,8-TCDD	**UJ**	L	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,6,7,8-HpCDD	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,6,7,8-HpCDF	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,7,8,9-HpCDF	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,7,8-HxCDF	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,6,7,8-HxCDD	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	2,3,4,7,8-PeCDF	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	2,3,7,8-TCDF	**J**	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	OCDD	**J**	Z	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	OCDF	**J**	Q	

Notes:

R = Rejected

J = Estimated

UJ = Estimated non-detect

U = Non-detect

Table 6-50
All Qualifiers List for SDG G5F150460

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5F150460	AT-P-3-WS-10	Dioxins	OCDD	J	Q	

Notes:
R = Rejected
J = Estimated
UJ = Estimated non-detect
U = Non-detect

Table 6-51
Sauget Area 2
2005 Qualifiers

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS001	All Reextractions	SVOCs	All SVOCs	R	H	
SAS002	AT-Q-31-SB-6	VOCs	Toluene	J	S	
SAS002	AT-Q-31-SB-6	VOCs	Chlorobenzene	J	S	
SAS002	AT-Q-31-SB-6	VOCs	Ethylbenzene	J	S	
SAS002	AT-Q-31-SB-6	VOCs	Xylenes, Total	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Toluene	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Chlorobenzene	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Ethylbenzene	J	S	
SAS002	AT-Q-31-SB-6RA	VOCs	Xylenes, Total	J	S	
SAS002	AT-Q-23-SS-0.5	VOCs	All VOCs	J/UJ	S	
SAS002	AT-Q-23-SB-6	VOCs	All detected VOCs	J	I	
SAS002	AT-Q-23-SB-6	VOCs	All non-detect VOCs	R	I	
SAS002	AT-Q-23-SB-6RA	VOCs	All detected VOCs	J	I	
SAS002	AT-Q-23-SB-6RA	VOCs	All non-detect VOCs	R	I	
SAS002	SA-Q-7-SB-5	VOCs	Xylenes, total	UJ	F	
SAS002	SA-Q-7-SB-5-D	VOCs	Xylenes, total	J	F	
SAS002	AT-Q-23-SB-6RE	SVOCs	All SVOCs	J/UJ	H	
SAS002	AT-Q-23-SB-6	SVOCs	All detected SVOC	J	I	
SAS002	AT-Q-23-SB-6	SVOCs	All non-detect SVOC	R	I	
SAS002	AT-Q-23-SB-6	PCBs	all PCBs	J/UJ	H	
SAS002	AT-Q-23-SS-0.5	PCBs	all PCBs	J/UJ	H	
SAS002	SA-Q-6-WS-16'	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-6-SB-6	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-7-SS-1	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-5-SS-1.5	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-5-SB-6	PCBs	all PCBs	J/UJ	S,M,L	
SAS002	AT-Q-31-WS-12	PCBs	all PCBs	J/UJ	S,L	
SAS002	SA-Q-6-SS-0.5'	PCBs	all PCBs	J/UJ	L	
SAS002	SA-Q-7-SB-5	PCBs	all PCBs	J/UJ	L	
SAS002	SA-Q-7-SB-5-D	PCBs	all PCBs	J/UJ	L	
SAS002	AT-Q-23-SB-6	Pesticides	All Pesticides	J/UJ	H,S	
SAS002	AT-Q-23-SS-0.5	Pesticides	All Pesticides	J/UJ	H,S	
SAS002	AT-Q-23-SB-6RE	Pesticides	All Pesticides	R	H	
SAS002	AT-Q-23-SS-0.5RE	Pesticides	All Pesticides	R	H	
SAS002	SA-Q-6-WS-16'	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-6-SS-0.5'	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-6-SB-6	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-7-SS-1	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-7-SB-5	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-7-SB-5-D	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-5-SS-1.5	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-5-SB-6	Pesticides	Endosulfan II	J/UJ	L	
SAS002	AT-Q-31-WS-12	Pesticides	Endosulfan II	J/UJ	L	
SAS002	SA-Q-6-WS-16'	Metals	Sodium	U	P	240
SAS002	SA-Q-6-SB-6	Metals	Sodium	U	P	240
SAS002	SA-Q-7-SB-5	Metals	Sodium	U	P	140
SAS002	SA-Q-7-SB-5-D	Metals	Sodium	U	P	130
SAS002	SA-Q-5-SB-6	Metals	Sodium	U	P	340
SAS002	AT-Q-31-SB-6	Metals	Sodium	U	P	310
SAS002	AT-Q-31-WS-12	Metals	Sodium	U	P	180
SAS002	AT-Q-31-SS-0.5	Metals	Sodium	U	P	310
SAS002	SA-Q-5-SB-6	Metals	Calcium	J	K	
SAS002	SA-Q-5-SB-6	Metals	Chromium	J	K	
SAS002	SA-Q-5-SB-6	Metals	Mercury	J	K	
SAS002	SA-Q-5-SB-6	Metals	Zinc	J	K	
SAS002	SA-Q-5-SB-6	Metals	Antimony	J	M	
SAS002	SA-Q-5-SB-6	Metals	Chromium	J	M	
SAS002	SA-Q-5-SB-6	Metals	Lead	J	M	
SAS002	SA-Q-5-SB-6	Metals	Potassium	J	M	
SAS002	SA-Q-5-SB-6	Metals	Mercury	J	M	
SAS002	SA-Q-6-WS-16	Metals	Antimony	J	M	
SAS002	SA-Q-7-SB-5	Wet Chemistry	Ammonia	U	Z	
SAS002	SA-Q-7-SB-5-D	Wet Chemistry	Ammonia	U	Z	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS002	AT-Q-23-SS-0.5	Wet Chemistry	Ammonia	U	Z	0.27
SAS002	SA-Q-5-SB-6	Wet Chemistry	Ammonia	J	M	
SAS003	AP-P-5-34	VOCs	Acetone	UJ	C	
SAS003	AA-P-8-122	VOCs	Acetone	UJ	C	
SAS003	AA-P-8-122-D	VOCs	Acetone	UJ	C	
SAS003	AA-P-7-92	VOCs	Acetone	UJ	C	
SAS003	SA-Q-2-FB	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-70	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-70-D	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-90	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-110	VOCs	Acetone	UJ	C	
SAS003	AA-SLAY-3-50	VOCs	Acetone	UJ	C	
SAS003	AA-SLAY-3-70	VOCs	Acetone	UJ	C	
SAS003	AA-SLAY-3-70-D	VOCs	Acetone	UJ	C	
SAS003	AA-P-7-110	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-54	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-74	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-114	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-30	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-50	VOCs	Acetone	UJ	C	
SAS003	AA-P-5-94	VOCs	Acetone	UJ	C	
SAS003	AA-P-6-70	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-70-D	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-90	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-110	VOCs	2-Butanone	UJ	C	
SAS003	AA-SLAY-3-50	VOCs	2-Butanone	UJ	C	
SAS003	AA-SLAY-3-70	VOCs	2-Butanone	UJ	C	
SAS003	AA-SLAY-3-70-D	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-7-110	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-54	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-74	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-114	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-30	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-50	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-5-94	VOCs	2-Butanone	UJ	C	
SAS003	AA-P-6-70	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-70-D	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-90	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-110	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-SLAY-3-50	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-SLAY-3-70	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-SLAY-3-70-D	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-7-110	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-54	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-74	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-114	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-30	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-6-50	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-94	VOCs	2-Hexanone (Methyl N-Butyl Ketone)	UJ	C	
SAS003	AA-P-5-34RE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-6-70RE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-6-70-DRE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-8-122RE	SVOCs	All SVOCs	R	H	
SAS003	AA-P-5-34	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS003	AA-P-6-70	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS003	AA-P-6-70-D	SVOCs	All SVOCs	UJ	S	
SAS003	AA-P-8-122	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS003	AA-P-5-114	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-5-114	SVOCs	4,6-Dinitro-2-methylphenol	UJ	R	
SAS003	AA-P-5-34	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-8-122-D	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-7-72	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-7-92	SVOCs	2,4-Dinitrophenol	UJ	R	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS003	SA-Q-2-FB	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-6-70	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-6-70-D	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-SLAY-3-50	SVOCs	2,4-Dinitrophenol	UJ	R	
SAS003	AA-P-5-114	SVOCs	Bis (2-chloroethyl)ether	UJ	C	
SAS003	AA-P-5-114	SVOCs	4-Nitrophenol	UJ	C	
SAS003	AA-P-5-34	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-8-122-D	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-7-72	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-7-92	SVOCs	Dinoseb	UJ	C	
SAS003	SA-Q-2-FB	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-70	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-70-D	SVOCs	Dinoseb	UJ	C	
SAS003	AA-SLAY-3-50	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-94	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-30	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-50	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-90	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-6-110	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-8-122	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-54	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-74	SVOCs	Dinoseb	UJ	C	
SAS003	AA-P-5-94	Herbicides	MCPP	J	S	
SAS003	AA-P-5-34	Metals	Aluminum	J	K,M	
SAS003	AA-P-5-34	Metals	Iron	J	K	
SAS003	AA-P-5-34	Metals	Zinc	J	K,M	
SAS003	AA-P-5-34	Metals	Potassium	J	M	
SAS003	AA-P-5-34	Metals	Lead	U	O	
SAS003	AA-P-8-122	Metals	Antimony	U	O	
SAS003	AA-P-8-122-D	Metals	Antimony	U	O	
SAS003	AA-P-7-72	Metals	Arsenic	U	O	
SAS003	AA-P-7-72	Metals	Lead	U	O	
SAS003	AA-SLAY-3-50	Metals	Beryllium	U	O	
SAS003	AA-P-5-34	Wet Chemistry	Ammonia	U	X	
SAS003	AA-P-6-70	Wet Chemistry	Ammonia	J	M	
SAS004	SA-Q-2-SS-0.5	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-2-SS-0.5RA	VOCs	All VOCs	J/UJ	S,I	
SAS004	AT-Q-27-SB-6'	VOCs	All VOCs	J/UJ	S,I	
SAS004	AT-Q-27-SB-6'RA	VOCs	All VOCs	J/UJ	S,I	
SAS004	AT-Q-28-SB-6'-DUP	VOCs	All VOCs	J/UJ	S	
SAS004	AT-Q-28-SB-6'-DUPRA	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-3-SS-0.5	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-3-SS-0.5RA	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-3-WS-12	VOCs	All detected VOCs	J	S,I	
SAS004	SA-Q-3-WS-12	VOCs	All non-detect VOCs	R	I	
SAS004	SA-Q-3-WS-12RA	VOCs	All detected VOCs	J	S,I	
SAS004	SA-Q-3-WS-12RA	VOCs	All non-detect VOCs	R	I	
SAS004	SA-Q-4-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS004	SA-Q-4-SB-6RA	VOCs	All VOCs	J/UJ	S	
SAS004	SA-Q-4-SB-6RA	VOCs	2-Butanone	J	L	
SAS004	AT-Q-29-SB-6'	VOCs	2-Butanone	J	L	
SAS004	AT-Q-28-SB-6'	VOCs	All VOCs	J/UJ	I	
SAS004	SA-Q-2-SS-0.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	SA-Q-2-SB-4	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-24-SB-6	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-24-SS-0.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-26-SB-6	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-27-SB-6	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-27-SS-1	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-28-SB-6-D	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	AT-Q-28-SS-1.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	SA-Q-3-SS-0.5	VOCs	1,1-Dichloroethane	UJ	C	
SAS004	SA-Q-2-SS-0.5RA	VOCs	Acetone	J/UJ	C	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-2-SS-0.5RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	SA-Q-2-SS-0.5RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-4-SS-0.5	VOCs	Acetone	UJ	C	
SAS004	SA-Q-4-SS-0.5	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-4-SS-0.5	VOCs	2-Butanone	UJ	C	
SAS004	AT-Q-26-SS-1.5	VOCs	Acetone	J	C	
SAS004	AT-Q-26-SS-1.5	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-26-SS-1.5	VOCs	2-Butanone	UJ	C	
SAS004	AT-Q-27-SB-6RA	VOCs	Acetone	J/UJ	C	
SAS004	AT-Q-27-SB-6RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	AT-Q-27-SB-6RA	VOCs	2-Butanone	J/UJ	C	
SAS004	AT-Q-28-SB-6	VOCs	Acetone	J	C	
SAS004	AT-Q-28-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-28-SB-6	VOCs	2-Butanone	UJ	C	
SAS004	AT-Q-28-SB-6-DRA	VOCs	Acetone	J/UJ	C	
SAS004	AT-Q-28-SB-6-DRA	VOCs	2-Hexanone	J/UJ	C	
SAS004	AT-Q-28-SB-6-DRA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-3-SS-0.5RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-3-SS-0.5RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	SA-Q-3-SS-0.5RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-3-SB-6	VOCs	Acetone	J	C	
SAS004	SA-Q-3-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-3-SB-6	VOCs	2-Butanone	J	C	
SAS004	SA-Q-3-SB-6-D	VOCs	Acetone	J	C	
SAS004	SA-Q-3-SB-6-D	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-3-SB-6-D	VOCs	2-Butanone	J	C	
SAS004	SA-Q-3-WS-12RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-3-WS-12RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	SA-Q-3-WS-12RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-4-SB-6	VOCs	Acetone	J	C	
SAS004	SA-Q-4-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	SA-Q-4-SB-6	VOCs	2-Butanone	J	C	
SAS004	AT-Q-28-WS-16	VOCs	Acetone	J	C	
SAS004	AT-Q-28-WS-16	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-28-WS-16	VOCs	2-Butanone	J	C	
SAS004	SA-Q-4-SB-6RA	VOCs	Acetone	J/UJ	C	
SAS004	SA-Q-4-SB-6RA	VOCs	1,1-Dichloroethane	J/UJ	C	
SAS004	SA-Q-4-SB-6RA	VOCs	2-Butanone	J/UJ	C	
SAS004	SA-Q-4-SB-6RA	VOCs	2-Hexanone	J/UJ	C	
SAS004	AT-Q-29-SB-6	VOCs	Acetone	J	C	
SAS004	AT-Q-29-SB-6	VOCs	1,1-Dichloroethane	J/UJ	C	
SAS004	AT-Q-29-SB-6	VOCs	2-Butanone	J	C	
SAS004	AT-Q-29-SB-6	VOCs	2-Hexanone	UJ	C	
SAS004	AT-Q-24-SB-6	SVOCs	All SVOCs	J/UJ	M	
SAS004	AT-Q-26-SB-6	SVOCs	All detected SVOCs	J	I	
SAS004	AT-Q-26-SB-6RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-26-SS-1.5RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-27-SB-6'	SVOCs	All SVOCs	J/UJ	L	
SAS004	AT-Q-27-SB-6RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-27-SS-1'	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	AT-Q-27-SS-1'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-SB-6'	SVOCs	All SVOCs	J/UJ	L	
SAS004	AT-Q-28-SB-6'-DUP	SVOCs	All SVOCs	J/UJ	L	
SAS004	AT-Q-28-SB-6'-DUPRA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-SB-6'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-SS-1.5'	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	AT-Q-28-SS-1.5'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-WS-16'	SVOCs	All SVOCs	J/UJ	S	
SAS004	AT-Q-28-WS-16'RA	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-28-WS-16'RADL	SVOCs	All SVOCs	R	H	
SAS004	AT-Q-29-SB-6'	SVOCs	All detected SVOCs	J	M,L,S	
SAS004	AT-Q-29-SB-6'	SVOCs	All non-detect SVOCs	UJ	M,L	
SAS004	AT-Q-29-SB-6'RA	SVOCs	All SVOCs	R	H	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-2-SB-4	SVOCs	All detected SVOCs	J	I	
SAS004	SA-Q-2-SB-4RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-2-SS-0.5RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	SA-Q-3-SB-6-D	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	SA-Q-3-SB-6-D DL	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6-DRE	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6-DREDL	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SB-6REDL	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-SS-0.5	SVOCs	All SVOCs	J/UJ	L	
SAS004	SA-Q-3-SS-0.5RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-3-WS-12	SVOCs	All SVOCs	J/UJ	L	
SAS004	SA-Q-3-WS-12RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-4-SB-6	SVOCs	All SVOCs	J/UJ	S,L	
SAS004	SA-Q-4-SB-6RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-4-SS-0.5RA	SVOCs	All SVOCs	R	H	
SAS004	SA-Q-2-SS-0.5	SVOCs	Hexachlorocyclopentadiene	UJ	C	
SAS004	SA-Q-2-SB-4	SVOCs	Hexachlorocyclopentadiene	UJ	C	
SAS004	AT-Q-24-SB-6	SVOCs	Hexachlorocyclopentadiene	UJ	C	
SAS004	AT-Q-24-SS-0.5	SVOCs	Hexachlorocyclopentadiene	UJ	C	
SAS004	AT-Q-26-SB-6	SVOCs	Hexachlorocyclopentadiene	UJ	C	
SAS004	AT-Q-27-SB-6	SVOCs	4-Nitrophenol	UJ	C	
SAS004	AT-Q-27-SS-1	SVOCs	4-Nitrophenol	UJ	C	
SAS004	AT-Q-28-SB-6	SVOCs	4-Nitrophenol	UJ	C	
SAS004	AT-Q-28-SB-6-DUP	SVOCs	4-Nitrophenol	UJ	C	
SAS004	AT-Q-28-SS-1.5	SVOCs	4-Nitrophenol	UJ	C	
SAS004	SA-Q-3-SS-0.5	SVOCs	4-Nitrophenol	UJ	C	
SAS004	SA-Q-3-SB-6	SVOCs	4-Nitrophenol	UJ	C	
SAS004	SA-Q-3-SB-6-D	SVOCs	4-Nitrophenol	UJ	C	
SAS004	SA-Q-3-WS-12	SVOCs	4-Nitrophenol	UJ	C	
SAS004	SA-Q-3-SB-6	SVOCs	2,4-Dinitrophenol	UJ	C	
SAS004	SA-Q-3-SB-6-D	SVOCs	2,4-Dinitrophenol	UJ	C	
SAS004	AT-Q-28-SS-1.5	SVOCs	2-Nitrophenol	UJ	C	
SAS004	SA-Q-3-SB-6	SVOCs	2-Nitrophenol	UJ	C	
SAS004	SA-Q-3-SB-6-D	SVOCs	2-Nitrophenol	UJ	C	
SAS004	SA-Q-4-SS-0.5	SVOCs	2-Nitrophenol	UJ	C	
SAS004	AT-Q-28-WS-16	SVOCs	2-Nitrophenol	UJ	C	
SAS004	AT-Q-28-WS-16	SVOCs	2,4-Dinitrophenol	UJ	C	
SAS004	AT-Q-28-WS-16	SVOCs	4,6-Dinitro-2-methylphenol	UJ	C	
SAS004	SA-Q-2-SB-4RA	PCBs	All PCBs	R	H	
SAS004	SA-Q-3-WS-12RA	PCBs	All PCBs	R	H	
SAS004	SA-Q-2-SB-4	PCBs	All PCBs	UJ	S	
SAS004	SA-Q-3-WS-12	PCBs	All PCBs	UJ	S	
SAS004	SA-Q-2-SS-0.5	Pesticides	All Pesticides	UJ	S	
SAS004	SA-Q-3-SB-6	Pesticides	All Detected Pesticides	J	S	
SAS004	SA-Q-3-SB-6-DUP	Pesticides	All Detected Pesticides	J	S	
SAS004	SA-Q-3-WS-12	Pesticides	All Pesticides	UJ	S	
SAS004	AT-Q-24-SB-6	Pesticides	Endrin, 4,4-DDD and Methoxychlor	J/UJ	C	
SAS004	AT-Q-24-SS-0.5	Pesticides	Endrin, 4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-26-SB-6	Pesticides	Endrin, 4,4-DDD and Methoxychlor	UJ	C	
SAS004	SA-Q-2-SB-4	Pesticides	Endrin, 4,4-DDD and Methoxychlor	UJ	C	
SAS004	SA-Q-2-SS-0.5	Pesticides	Endrin, 4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-26-SS-1.5	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-27-SB-6	Pesticides	4,4-DDD and Methoxychlor	J/UJ	C	
SAS004	AT-Q-27-SS-1	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-28-SB-6	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-28-SB-6-DUP	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-28-SS-1.5	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	SA-Q-3-WS-12	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	SA-Q-4-SB-6	Pesticides	4,4-DDD and Methoxychlor	UJ	C	
SAS004	AT-Q-28-WS-16	Pesticides	Heptachlor, 4,4'-DDT, Methoxychlor	J/UJ	C	
SAS004	SA-Q-3-SB-6	Pesticides	Heptachlor, 4,4'-DDT, Methoxychlor	J/UJ	C	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS004	SA-Q-3-SB-6-D	Pesticides	Heptachlor, 4,4'-DDT, Methoxychlor	UJ	C	
SAS004	AT-Q-24-SB-6	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-24-SS-0.5	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-26-SB-6	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-2-SB-4	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-2-SS-0.5	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-28-WS-16	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-3-SB-6	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-3-SB-6-D	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-26-SS-1.5'	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-27-SB-6'	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-27-SS-1'	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-28-SB-6'	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-28-SB-6'-DUP	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	AT-Q-28-SS-1.5'	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-3-WS-12	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-4-SB-6	Pesticides	Endosulfan II, Endrin ketone	UJ	L	
SAS004	SA-Q-3-WS-12 RE	Herbicides	All Herbicides	R	H	
SAS004	SA-Q-3-WS-12	Herbicides	All Herbicides	UJ	S	
SAS004	AT-Q-29-SB-6'	Herbicides	Pentachlorophenol	J	M,L	
SAS004	SA-Q-4-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS004	SA-Q-4-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS004	AT-Q-28-WS-16'	Herbicides	Pentachlorophenol	J	L	
SAS004	AT-Q-26-SB-6	Metals	Mercury	J	M	
SAS004	AT-Q-29-SB-6'	Metals	Antimony	J	M	
SAS004	AT-Q-29-SB-6'	Metals	Copper	J	M	
SAS004	AT-Q-29-SB-6'	Metals	Lead	J	M	
SAS004	AT-Q-29-SB-6'	Metals	Mercury	J	K	
SAS004	AT-Q-29-SB-6'	Metals	Potassium	J	M	
SAS004	AT-Q-24-SS-0.5	Other	Sodium	U	P	
SAS004	AT-Q-28-SS-1.5'	Other	Sodium	U	P	
SAS004	SA-Q-4-SS-0.5	Other	Sodium	U	P	
SAS005	AA-SLAY-2-82	Metals	Aluminum	J	K	
SAS005	AA-SLAY-2-82	Metals	Potassium	J	M	
SAS005	AA-SLAY-2-42	Wet Chemistry	Ammonia	U	X	
SAS005	AA-SLAY-2-62	Wet Chemistry	Ammonia	U	X	
SAS005	AA-SLAY-4-46	Wet Chemistry	Ammonia	U	X	
SAS005	AA-SLAY-2-82	Wet Chemistry	Ammonia	J	M	
SAS006	AT-Q-25-WS-9	VOCs	All VOCs	J/UJ	S	
SAS006	AT-Q-25-WS-9RA	VOCs	All VOCs	J/UJ	S	
SAS006	SA-O-1-SS-0.5-D	VOCs	All VOCs	J/UJ	I	
SAS006	AT-Q-25-WS-9	SVOCs	All detected SVOCs	J	I,L,S	
SAS006	AT-Q-25-WS-9	SVOCs	All non-detect SVOCs	R	S	
SAS006	AT-Q-25-WS-9RE	SVOCs	All SVOCs	R	H	
SAS006	AT-Q-25-WS-9REDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-1-SB-3	SVOCs	All detected SVOCs	J	I,L,S	
SAS006	SA-O-1-SB-3	SVOCs	All non-detect SVOCs	R	S	
SAS006	SA-O-1-SB-3RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-1-SS-0.5	SVOCs	All SVOCs	J/UJ	S,L	
SAS006	SA-O-1-SS-0.5DL	SVOCs	All SVOCs	J/UJ	I	
SAS006	SA-O-1-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-1-SS-0.5REDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-1-SS-0.5-D	SVOCs	All SVOCs	J/UJ	L	
SAS006	SA-O-1-SS-0.5-DDL	SVOCs	All SVOCs	J/UJ	I	
SAS006	SA-O-1-SS-0.5-DRE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-1-SS-0.5-DREDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-2-SB-5	SVOCs	All detected SVOCs	J	Z,I,S,L	
SAS006	SA-O-2-SB-5	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-O-2-SB-5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-2-SS-0.5	SVOCs	All SVOCs	J/UJ	S,L	
SAS006	SA-O-2-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-2-WS-9	SVOCs	All detected SVOCs	J	Z,I,M,L,S	
SAS006	SA-O-2-WS-9	SVOCs	All non-detect SVOCs	R	S	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS006	SA-O-2-WS-9DL	SVOCs	All detected SVOCs	J	Z	
SAS006	SA-O-2-WS-9RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-2-WS-9REDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-2-WS-9-D	SVOCs	All detected SVOCs	J	I,L,S	
SAS006	SA-O-2-WS-9-D	SVOCs	All non-detect SVOCs	R	S	
SAS006	SA-O-2-WS-9-DRE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-2-WS-9-DREDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-SB-4RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-SB-4	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-O-3-SB-4	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-O-3-SS-0.5	SVOCs	All SVOCs	J/UJ	S,M,L	
SAS006	SA-O-3-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-WS-9	SVOCs	All detected SVOCs	J	Z,L,S	
SAS006	SA-O-3-WS-9	SVOCs	All non-detect SVOCs	R	S	
SAS006	SA-O-3-WS-9RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-WS-9REDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-WS-9-DL	SVOCs	All detected SVOCs	J	Z	
SAS006	SA-O-4-SB-6	SVOCs	All detected SVOCs	J	Z,I,L,S	
SAS006	SA-O-4-SB-6	SVOCs	All non-detect SVOCs	R	S	
SAS006	SA-O-4-SB-6RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-4-SB-6REDL	SVOCs	All SVOCs	R	H	
SAS006	SA-O-4-SS-0.5	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-O-4-SS-0.5	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-O-4-SS-0.5DL	SVOCs	All detected SVOCs	J	Z	
SAS006	SA-O-4-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-SB-6	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-P-1-SB-6	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-P-1-SB-6DL	SVOCs	All detected SVOCs	J	Z,I	
SAS006	SA-P-1-SB-6RE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-SS-0.5	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-P-1-SS-0.5	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-P-1-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-SS-0.5-D	SVOCs	All detected SVOCs	J	Z,S,L	
SAS006	SA-P-1-SS-0.5-D	SVOCs	All non-detect SVOCs	UJ	S,L	
SAS006	SA-P-1-SS-0.5-DRE	SVOCs	All SVOCs	R	H	
SAS006	SA-P-1-WS-8	SVOCs	All detected SVOCs	J	Z,I,L,S	
SAS006	SA-P-1-WS-8	SVOCs	All non-detect SVOCs	R	S	
SAS006	SA-P-1-WS-8RE	SVOCs	All SVOCs	R	H	
SAS006	SA-O-3-SB-4RE	PCBs	all PCBs	R	H	
SAS006	SA-O-3-SB-4	PCBs	all PCBs	UJ	S	
SAS006	SA-O-3-WS-9	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-4-SB-6	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-2-SB-5	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-2-WS-9	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-2-WS-9-D	PCBs	All PCBs	J/UJ	L	
SAS006	AT-Q-25-WS-9	PCBs	All PCBs	J/UJ	L	
SAS006	SA-P-1-WS-8	PCBs	All PCBs	J/UJ	L	
SAS006	SA-O-3-SB-4	Pesticides	All Pesticides	J/UJ	S	
SAS006	SA-O-3-SB-4	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-3-SB-4	Pesticides	Endrin ketone	UJ	L	
SAS006	SA-O-2-SB-5	Pesticides	All Pesticides	J/UJ	S	
SAS006	SA-O-2-SB-5	Pesticides	Endosulfan II	UJ	L	
SAS006	AT-Q-25-WS-9	Pesticides	All Pesticides	J/UJ	S	
SAS006	AT-Q-25-WS-9	Pesticides	Endosulfan II	J	L	
SAS006	SA-O-1-SB-3	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-1-SB-3	Pesticides	Endrin ketone	UJ	L	
SAS006	SA-O-4-SB-6	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-2-WS-9-D	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-3-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-2-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-P-1-WS-8	Pesticides	Endosulfan II	UJ	L	
SAS006	SA-O-4-SS-0.5DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-4-SB-6DL	Herbicides	All Herbicides	J/UJ	H	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS006	SA-O-2-WS-9DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-2-WS-9-DDL	Herbicides	All Herbicides	J/UJ	H	
SAS006	AT-Q-25-WS-9DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-P-1-SS-0.5DL	Herbicides	All Herbicides	J/UJ	H	
SAS006	SA-O-2-SB-5DL	Herbicides	All detected Herbicides	J	H,S	
SAS006	SA-O-2-SB-5DL	Herbicides	All Non-detect Herbicides	R	S	
SAS006	SA-O-2-SB-5	Herbicides	All Herbicides	J/R	S	
SAS006	SA-P-1-WS-8	Herbicides	All Herbicides	J/R	S	
SAS006	SA-O-3-SS-0.5	Herbicides	Pentachlorophenol	J	M,L	
SAS006	SA-O-1-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-1-SS-0.5-D	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-1-SB-3	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-3-SB-4	Herbicides	Pentachlorophenol	J	L	
SAS006	SA-O-1-SS-0.5	Metals	Mercury	J	H	
SAS006	SA-O-1-SS-0.5-D	Metals	Mercury	J	H	
SAS006	SA-O-1-SB-3	Metals	Mercury	J	H	
SAS006	SA-O-3-WS-9	Metals	Mercury	J	H	
SAS006	SA-O-4-SS-0.5	Metals	Mercury	J	H	
SAS006	SA-O-4-SB-6	Metals	Mercury	J	H	
SAS006	SA-O-2-SS-0.5	Metals	Mercury	J	H	
SAS006	SA-O-2-SB-5	Metals	Mercury	J	H	
SAS006	SA-O-2-WS-9	Metals	Mercury	J	H	
SAS006	SA-O-2-WS-9-D	Metals	Mercury	J	H	
SAS006	AT-Q-25-WS-9	Metals	Mercury	J	H	
SAS006	SA-P-1-SB-6	Metals	Mercury	J	H,M	
SAS006	SA-O-3-SS-0.5	Metals	Antimony	UJ	M	
SAS006	SA-P-1-SS-0.5	Metals	Lead	J	F	
SAS006	SA-P-1-SS-0.5-D	Metals	Lead	J	F	
SAS006	SA-P-1-SS-0.5	Wet Chemistry	Ammonia	U	Z	
SAS006	SA-P-1-SS-0.5-D	Wet Chemistry	Ammonia	U	Z	
SAS006	SA-O-1-SS-0.5	Wet Chemistry	Ammonia	J	F	
SAS006	SA-O-1-SS-0.5-D	Wet Chemistry	Ammonia	J	F	
SAS007	AA-SLAY-2-138	SVOCs	All SVOCs	J/UJ	I	
SAS007	AA-SLAY-1-34	Wet Chemistry	Ammonia	U	X	
SAS007	AA-SLAY-1-54	Wet Chemistry	Ammonia	U	X	
SAS008	SA-P-3-WS-14	VOCs	All VOCs	J/UJ	S	
SAS008	SA-P-3-WS-14RA	VOCs	All VOCs	J/UJ	S	
SAS008	SA-P-2-SS-0.5	VOCs	All VOCs	J/R	S	
SAS008	SA-P-2-WS-9	VOCs	All VOCs	J/UJ	S	
SAS008	SA-P-2-WS-9RE	VOCs	All VOCs	J/UJ	S	
SAS008	SA-P-3-SS-1.5	VOCs	All VOCs	J/UJ	I	
SAS008	SA-P-3-SS-1.5RE	VOCs	All VOCs	J/UJ	I	
SAS008	SA-P-2-SB-5	SVOCs	All detected SVOCs	J	Z,L	
SAS008	SA-P-2-SB-5	SVOCs	All non-detect SVOCs	UJ	L	
SAS008	SA-P-2-SB-5RE	SVOCs	All SVOCs	R	H	
SAS008	SA-P-2-SS-0.5	SVOCs	All detected SVOCs	J	Z,L	
SAS008	SA-P-2-SS-0.5	SVOCs	All non-detect SVOCs	UJ	L	
SAS008	SA-P-2-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS008	SA-P-2-WS-9	SVOCs	All detected SVOCs	J	Z,L	
SAS008	SA-P-2-WS-9	SVOCs	All non-detect SVOCs	UJ	L	
SAS008	SA-P-2-WS-9RE	SVOCs	All SVOCs	R	H	
SAS008	SA-P-3-SB-4	SVOCs	All detected SVOCs	J	Z,L	
SAS008	SA-P-3-SB-4	SVOCs	All non-detect SVOCs	UJ	L	
SAS008	SA-P-3-SB-4RE	SVOCs	All SVOCs	R	H	
SAS008	SA-P-3-SS-1.5	SVOCs	All detected SVOCs	J	Z,L	
SAS008	SA-P-3-SS-1.5	SVOCs	All non-detect SVOCs	UJ	L	
SAS008	SA-P-3-SS-1.5RE	SVOCs	All SVOCs	R	H	
SAS008	SA-P-3-WS-14	SVOCs	All detected SVOCs	J	Z,L	
SAS008	SA-P-3-WS-14	SVOCs	All non-detect SVOCs	UJ	L	
SAS008	SA-P-3-WS-14RE	SVOCs	All SVOCs	R	H	
SAS008	SA-P-2-SB-5	PCBs	All PCBs	R	H	
SAS008	SA-P-2-WS-9	PCBs	All PCBs	R	H	
SAS008	SA-P-3-SB-4	PCBs	All PCBs	R	H	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS008	SA-P-3-WS-14	PCBs	All PCBs	R	H	
SAS008	SA-P-3-SB-4	Pesticides	Endosulfan II	J/UJ	L	
SAS008	SA-P-3-WS-14	Pesticides	Endosulfan II	J/UJ	L	
SAS008	SA-P-2-SB-5	Pesticides	Endosulfan II	J/UJ	L	
SAS008	SA-P-2-WS-9	Pesticides	Endosulfan II	J/UJ	L	
SAS008	SA-P-3-SS-1.5	Metals	Mercury	J	H	
SAS008	SA-P-3-SB-4	Metals	Mercury	J	H	
SAS008	SA-P-3-WS-14	Metals	Mercury	J	H	
SAS008	SA-P-2-SS-0.5	Metals	Mercury	J	H	
SAS008	SA-P-2-SB-5	Metals	Mercury	J	H	
SAS008	SA-P-2-WS-9	Metals	Mercury	J	H	
SAS008	SA-P-3-SS-1.5	Other	Soduim	U	P	
SAS008	SA-P-2-SB-5	Other	Soduim	U	P	
SAS009	AA-SLAY-1-114	SVOCs	4-Chloroaniline	J	L	
SAS009	AA-Q-9-132	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-CLAY-1-26	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-CLAY-1-46	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-O-4-42	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-O-4-62	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-O-4-82	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-FB	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-38	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-58	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-78	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-78-D	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-98	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-118	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-SLAY-1-74	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-SLAY-1-94	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-SLAY-1-132	SVOCs	4-Chloroaniline	UJ	L	
SAS009	AA-Q-9-132	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-CLAY-1-26	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-CLAY-1-46	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-O-4-42	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-O-4-62	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-O-4-82	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-FB	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-38	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-58	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-78	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-78-D	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-98	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-Q-9-118	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-SLAY-1-74	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-SLAY-1-94	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-SLAY-1-114	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-SLAY-1-132	SVOCs	3,3-Dichlorobenzidine	UJ	L	
SAS009	AA-SLAY-1-132	SVOCs	All SVOCs	J/UJ	I	
SAS009	AA-Q-9-132	Wet Chemistry	Ammonia	J	M	
SAS010	AT-Q-20-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS010	SA-Q-1-SB-6	VOCs	All VOCs	J/UJ	I	
SAS010	SA-Q-1-SB-6RA	VOCs	All VOCs	J/UJ	I	
SAS010	SA-Q-1-SS-1	VOCs	All VOCs	J/UJ	S,I	
SAS010	SA-Q-1-SS-1RA	VOCs	All VOCs	J/UJ	I	
SAS010	AT-Q-20-SB-6	SVOCs	All detected SVOCs	J	I,S	
SAS010	AT-Q-20-SB-6	SVOCs	All non-detect SVOCs	UJ	S	
SAS010	AT-Q-20-SB-6RE	SVOCs	All SVOCs	R	H	
SAS010	AT-Q-20-SS-1	SVOCs	All SVOCs	J/UJ	S	
SAS010	AT-Q-20-SS-1RE	SVOCs	All SVOCs	R	H	
SAS010	AT-Q-21-SB-6	SVOCs	All detected SVOCs	J	I	
SAS010	AT-Q-21-SB-6RE	SVOCs	All SVOCs	R	H	
SAS010	AT-Q-21-WS-8	SVOCs	All detected SVOCs	J	I	
SAS010	AT-Q-21-WS-8RE	SVOCs	All SVOCs	R	H	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS010	AT-Q-21-WS-8REDL	SVOCs	All SVOCs	R	H	
SAS010	AT-Q-21-WS-8-DRE	SVOCs	All SVOCs	R	H	
SAS010	SA-Q-1-SB-6	SVOCs	All detected SVOCs	J	I,S	
SAS010	SA-Q-1-SB-6	SVOCs	All non-detect SVOCs	UJ	S	
SAS010	SA-Q-1-SB-6RE	SVOCs	All SVOCs	R	H	
SAS010	SA-Q-1-SS-1	SVOCs	All SVOCs	J/UJ	S	
SAS010	SA-Q-1-SS-1RE	SVOCs	All SVOCs	R	H	
SAS010	SA-Q-8-SB-5	SVOCs	All detected SVOCs	J	I,S	
SAS010	SA-Q-8-SB-5	SVOCs	All non-detect SVOCs	UJ	S	
SAS010	SA-Q-8-SB-5RE	SVOCs	All SVOCs	R	H	
SAS010	SA-Q-8-SB-5REDL	SVOCs	All SVOCs	R	H	
SAS010	SA-Q-8-SS-0.5	SVOCs	All detected SVOCs	J	I,S	
SAS010	SA-Q-8-SS-0.5	SVOCs	All non-detect SVOCs	UJ	S	
SAS010	SA-Q-8-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS010	SA-S-1-SB-5RE	SVOCs	All SVOCs	R	H	
SAS010	SA-S-1-SB-5REDL	SVOCs	All SVOCs	R	H	
SAS010	SA-S-1-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS010	SA-S-1-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS010	SA-S-1-WS-9	SVOCs	All detected SVOCs	J	I,S	
SAS010	SA-S-1-WS-9	SVOCs	All non-detect SVOCs	UJ	S	
SAS010	SA-S-1-WS-9RE	SVOCs	All SVOCs	R	H	
SAS010	SA-S-2-SB-4	SVOCs	All detected SVOCs	J	I,S	
SAS010	SA-S-2-SB-4	SVOCs	All non-detect SVOCs	R	S	
SAS010	SA-S-2-SB-4DL	SVOCs	All SVOCs	J/UJ	I	
SAS010	SA-S-2-SB-4RE	SVOCs	All SVOCs	R	H	
SAS010	SA-S-2-SB-4REDL	SVOCs	All SVOCs	R	H	
SAS010	SA-S-2-SS-1.5	SVOCs	All SVOCs	J/UJ	S	
SAS010	SA-S-2-SS-1.5RE	SVOCs	All SVOCs	R	H	
SAS010	AT-Q-20-SB-6	PCBs	All PCBs	J/UJ	M,L	
SAS010	AT-Q-21-SB-6	PCBs	All PCBs	J/UJ	L	
SAS010	AT-Q-21-WS-8	PCBs	All PCBs	J/UJ	L	
SAS010	AT-Q-21-WS-8-D	PCBs	All PCBs	J/UJ	L	
SAS010	SA-Q-1-SB-6	PCBs	All PCBs	J/UJ	L	
SAS010	SA-Q-8-SB-5	PCBs	All PCBs	J/UJ	L	
SAS010	SA-Q-8-SS-0.5	PCBs	All PCBs	J/UJ	L	
SAS010	SA-S-1-WS-9	PCBs	All PCBs	J/UJ	L	
SAS010	SA-S-2-SB-4	PCBs	All PCBs	J/UJ	L	
SAS010	AT-Q-20-SB-6	Herbicides	Pentachlorophenol	J	M,L	
SAS010	AT-Q-21-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS010	AT-Q-21-WS-8	Herbicides	Pentachlorophenol	J	L	
SAS010	AT-Q-21-WS-8-D	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-2-SB-4	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-1-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-1-SB-5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-1-WS-9	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-1-SS-1	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-1-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-8-SS-0.5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-Q-8-SB-5	Herbicides	Pentachlorophenol	J	L	
SAS010	SA-S-2-SB-4	Pesticides	All detected Pesticides	J	S	
SAS010	SA-Q-1-SB-6	Pesticides	All detected Pesticides	J	S	
SAS010	SA-Q-8-SB-5	Pesticides	All detected Pesticides	J	S	
SAS010	AT-Q-21-SB-6	Metals	Mercury	J	H	
SAS010	AT-Q-20-SB-6	Metals	Copper	J	M	
SAS010	AT-Q-20-SB-6	Metals	Magnesium	J	M	
SAS010	AT-Q-20-SB-6	Metals	Potassium	J	M	
SAS010	AT-Q-20-SB-6	Metals	Zinc	J	M	
SAS010	AT-Q-20-SB-6	Metals	Mercury	J	M	
SAS010	AT-Q-21-WS-8	Other	Calcium	J	F	
SAS010	AT-Q-21-WS-8-D	Other	Calcium	J	F	
SAS010	AT-Q-20-SB-6	Wet Chemistry	Ammonia	UJ	M	
SAS011	AA-0-4-102	SVOCs	All SVOCs	J/UJ	S	
SAS011	AA-0-4-102RE	SVOCs	All SVOCs	R	H	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS011	AA-0-4-102REDL	SVOCs	All SVOCs	R	H	
SAS011	AA-CLAY-1-86	SVOCs	All SVOCs	J/UJ	I	
SAS011	AA-CLAY-1-86RE	SVOCs	All SVOCs	R	H	
SAS011	AA-CLAY-1-86REDL	SVOCs	All SVOCs	R	H	
SAS011	AA-P-4-22	SVOCs	All SVOCs	J/UJ	S	
SAS011	AA-P-4-22RE	SVOCs	All SVOCs	R	H	
SAS011	AA-P-4-42	SVOCs	All SVOCs	J/UJ	S	
SAS011	AA-P-4-42RE	SVOCs	All SVOCs	R	H	
SAS011	AA-P-4-62	SVOCs	All SVOCs	J/UJ	S	
SAS011	AA-P-4-62RE	SVOCs	All SVOCs	R	H	
SAS011	AA-P-4-62-D	SVOCs	All Acid Fraction Analytes Analytes	J/UJ	S	
SAS011	AA-P-4-62	Herbicides	MCPP	J	F	
SAS011	AA-P-4-62-D	Herbicides	MCPP	J	F	
SAS011	AA-0-4-119	Wet Chemistry	Ammonia	J	M	
SAS012	AT-Q-19-SB-6	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-19-SB-6 RA	VOCs	All VOCs	J/UJ	H,S	
SAS012	AT-Q-19-SB-6-D	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-19-SB-6-D RA	VOCs	All detected VOCs	J	H,S	
SAS012	AT-Q-19-SB-6-D RA	VOCs	All non-detect VOCs	R	S	
SAS012	AT-Q-21-SS-1	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-21-SS-1 RA	VOCs	All detected VOCs	J	H,S	
SAS012	AT-Q-21-SS-1 RA	VOCs	All non-detect VOCs	R	S	
SAS012	AT-Q-21-SS-1-D	VOCs	All VOCs	J/UJ	S	
SAS012	AT-Q-21-SS-1-D RA	VOCs	All VOCs	R	S	
SAS012	SA-Q-10-SB-2	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-10-SB-2	VOCs	All VOCs	J/UJ	S	
SAS012	SA-Q-10-SB-2 RE	VOCs	2-Butanone	J	L	
SAS012	SA-Q-10-SB-2 RE	VOCs	All VOCs	J/UJ	S	
SAS012	SA-Q-10-SS-0.5	VOCs	2-Butanone	J	L	
SAS012	SA-Q-10-SS-0.5	VOCs	Trichloroethene	J	F	
SAS012	SA-Q-10-SS-0.5	VOCs	Tetrachloroethene	J	F	
SAS012	SA-Q-10-SS-0.5-D	VOCs	2-Butanone	J	L	
SAS012	SA-Q-10-SS-0.5-D	VOCs	All VOCs	J/UJ	I	
SAS012	SA-Q-10-SS-0.5-D	VOCs	Trichloroethene	J	F	
SAS012	SA-Q-10-SS-0.5-D	VOCs	Tetrachloroethene	J	F	
SAS012	SA-Q-10-SS-0.5-D DL	VOCs	2-Hexanone	UJ	L	
SAS012	SA-Q-10-SS-0.5-D DL	VOCs	Acetone	R	L	
SAS012	SA-Q-10-SS-0.5-D DL	VOCs	Methylene chloride	UJ	L	
SAS012	SA-Q-11-SB-2	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-11-SS-0.5	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-9-SB-5	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-9-SB-5-D	VOCs	2-Butanone	UJ	L	
SAS012	SA-Q-9-SS-0.5	VOCs	2-Butanone	J	L	
SAS012	AT-Q-19-SB-6	SVOCs	All SVOCs	J/UJ	S	
SAS012	AT-Q-19-SB-6	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	460
SAS012	AT-Q-19-SB-6-D	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	AT-Q-19-SB-6-D	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	590
SAS012	AT-Q-21-SS-1	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	
SAS012	AT-Q-21-SS-1-D	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	AT-Q-21-SS-1-D	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	
SAS012	SA-Q-11-SS-0.5 RE	SVOCs	All SVOCs	R	H	
SAS012	SA-Q-13-SS-1	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	360
SAS012	SA-Q-14-SB-5	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	SA-Q-14-SS-0.5	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	SA-Q-15-SS-0.5	SVOCs	All Acid Fraction Analytes	UJ	S	
SAS012	SA-Q-15-SS-0.5	SVOCs	Bis (2-ethylhexyl)phthalate	U	Z	390
SAS012	SA-Q-11-SS-0.5	PCBs	All PCBs	J/UJ	S	
SAS012	SA-Q-11-SB-2	PCBs	All PCBs	J/UJ	S	
SAS012	SA-Q-9-SB-5	PCBs	All PCBs	UJ	S	
SAS012	SA-Q-10-SB-2	PCBs	All PCBs	J/UJ	S	
SAS012	SA-Q-9-SS-0.5	PCBs	All PCBs	UJ	L	
SAS012	SA-Q-9-SB-5-D	PCBs	All PCBs	UJ	L	
SAS012	SA-Q-10-SS-0.5	PCBs	All PCBs	J/UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS012	SA-Q-10-SS-0.5-D	PCBs	All PCBs	J/UJ	L	
SAS012	SA-Q-10-SB-2	Pesticides	Pesticide detections	J	S	
SAS012	SA-Q-10-SB-2 DL	Pesticides	Pesticide detections	J	S	
SAS012	SA-Q-10-SB-2 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-10-SS-0.5 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-10-SS-0.5-D RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-11-SB-2	Pesticides	Pesticide detections	J	S	
SAS012	SA-Q-11-SB-2 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-11-SS-0.5 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-13-SB-2	Pesticides	All Pesticides	J/UJ	S	
SAS012	SA-Q-13-SB-2 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-13-SS-1	Pesticides	All Pesticides	J/UJ	S	
SAS012	SA-Q-13-SS-1 RE	Pesticides	All Pesticides	UJ	H	
SAS012	SA-Q-14-SB-5 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-14-SS-0.5 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-15-SB-2 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-15-SS-0.5 RE	Pesticides	All Pesticides	J/UJ	H	
SAS012	SA-Q-9-SB-5	Pesticides	All Pesticides	UJ	S	
SAS012	SA-Q-9-SB-5 RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-9-SB-5-D	Pesticides	All Pesticides	UJ	S	
SAS012	SA-Q-9-SB-5-D RE	Pesticides	All Pesticides	R	H	
SAS012	SA-Q-9-SS-0.5 RE	Pesticides	All Pesticides	R	H	
SAS012	AT-Q-19-SB-6	Herbicides	All Herbicides	J/UJ	S	
SAS012	SA-Q-13-SB-2	Metals	Mercury	J	H	
SAS012	AT-Q-19-SB-6	Metals	Mercury	J	H	
SAS012	AT-Q-19-SB-6-D	Metals	Mercury	J	H	
SAS012	SA-Q-9-SS-0.5	Metals	Mercury	R	H	
SAS012	SAQ-9-SB-5	Metals	Mercury	R	H	
SAS012	SAQ-9-SB-5-D	Metals	Mercury	R	H	
SAS012	AT-Q-21-SS-1	Metals	Aluminum	J	F	
SAS012	AT-Q-21-SS-1	Metals	Barium	J	F	
SAS012	AT-Q-21-SS-1	Metals	Cadmium	J	F	
SAS012	AT-Q-21-SS-1	Metals	Lead	J	F	
SAS012	AT-Q-21-SS-1	Metals	Magnesium	J	F	
SAS012	AT-Q-21-SS-1	Metals	Manganese	J	F	
SAS012	AT-Q-21-SS-1	Metals	Zinc	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Aluminum	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Barium	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Cadmium	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Lead	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Magnesium	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Manganese	J	F	
SAS012	AT-Q-21-SS-1-D	Metals	Zinc	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Barium	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Chromium	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Copper	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Iron	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Lead	J	F	
SAS012	SA-Q-10-SS-0.5	Metals	Zinc	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Barium	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Chromium	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Copper	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Iron	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Lead	J	F	
SAS012	SA-Q-10-SS-0.5-D	Metals	Zinc	J	F	
SAS012	SA-Q-13-SS-1	Metals	Antimony	J	M	
SAS012	SA-Q-13-SS-1	Metals	Calcium	J	K	
SAS012	SA-Q-13-SS-1	Metals	Potassium	J	M	
SAS012	SA-Q-15-SB-2	Metals	Antimony	J	M	
SAS012	SA-Q-15-SB-2	Metals	Cadmium	J	M	
SAS012	SA-Q-15-SB-2	Metals	Iron	J	K	
SAS012	SA-Q-15-SB-2	Metals	Lead	J	S	
SAS012	SA-Q-15-SB-2	Metals	Magnesium	J	S	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS012	SA-Q-15-SB-2	Metals	Mercury	J	M	
SAS012	SA-Q-15-SB-2	Metals	Nickel	J	K	
SAS012	SA-Q-15-SB-2	Metals	Silver	J	M	
SAS012	SA-Q-15-SB-2	Metals	Zinc	J	S	
SAS012	SA-Q-9-SS-0.5	Other	Sodium	U	P	
SAS012	SA-Q-9-SB-5	Other	Sodium	U	P	
SAS012	SA-Q-9-SB-5-D	Other	Sodium	U	P	
SAS012	SA-Q-10-SS-0.5-D	Other	Sodium	U	P	
SAS013	AA-Q-10-38RE	SVOCs	All SVOCs	R	H	
SAS013	AA-Q-10-38	SVOCs	All SVOCs	J/UJ	S	
SAS013	AA-P-4-102RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-P-4-112	Herbicides	Pentachlorophenol	U	x	
SAS013	AA-P-4-112RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-P-4-82	Herbicides	2,4-D	U	x	
SAS013	AA-P-4-82RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-P-9-34RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-P-9-54RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-18	Herbicides	2,4-D	U	x	
SAS013	AA-Q-10-18	Herbicides	Pentachlorophenol	U	x	1.4
SAS013	AA-Q-10-18-DRE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-18RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-38	Herbicides	2,4-D	U	x	
SAS013	AA-Q-10-38RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-58	Herbicides	2,4-D	U	x	
SAS013	AA-Q-10-58	Herbicides	Pentachlorophenol	U	x	0.27
SAS013	AA-Q-10-58RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-78	Herbicides	2,4-D	U	x	
SAS013	AA-Q-10-78	Herbicides	Pentachlorophenol	U	x	
SAS013	AA-Q-10-78RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-94	Herbicides	2,4-D	U	x	
SAS013	AA-Q-10-94RE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-Q-10-94RE	Herbicides	Pentachlorophenol	U	x	0.38
SAS013	SA-Q-10-FBRE	Herbicides	All Herbicides	J/UJ	H	
SAS013	AA-P-4-82	Other	Potassium	J	M	
SAS014	AA-0-5-102	SVOCs	2-Chlorophenol	J	L	
SAS014	AA-P-9-114	SVOCs	1,4-Dichlorobenzene	J	L	
SAS014	AA-P-9-114	SVOCs	2-Chlorophenol	J	L	
SAS014	AA-P-9-114	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS014	AA-P-9-114	SVOCs	All SVOCs	J/UJ	I	
SAS014	AA-P-9-114DL	SVOCs	2-Chlorophenol	J	L	
SAS014	AA-P-9-126	SVOCs	1,4-Dichlorobenzene	J	L	
SAS014	AA-P-9-126	SVOCs	2-Chlorophenol	J	L	
SAS014	AA-P-9-126	SVOCs	Benzo[g,h,i]perylene	U	Z	
SAS014	AA-P-9-126	SVOCs	Indeno[1,2,3-cd]pyrene	U	Z	
SAS014	AA-P-9-74	SVOCs	2-Chlorophenol	J	L	
SAS014	AA-P-9-94	SVOCs	2-Chlorophenol	J	L	
SAS014	UAA-8-46	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS014	UAA-8-66	SVOCs	All SVOCs	J/UJ	I	
SAS014	UAA-8-26	Herbicides	Pentachlorophenol	U	Z	
SAS014	UAA-8-66	Herbicides	Pentachlorophenol	U	Z	0.6
SAS014	AA-P-9-94	Herbicides	Pentachlorophenol	U	Z	0.27
SAS014	AA-P-9-114	Herbicides	Pentachlorophenol	U	Z	
SAS014	UAA-6-18	Herbicides	Pentachlorophenol	U	Z	0.3
SAS014	UAA-8-46	Metals	Chromium	J	M	
SAS014	UAA-8-46	Wet Chemistry	Ammonia	UJ	Z,M	0.06
SAS015	SA-Q-12-SS-0.5	VOCs	1,1-Dichloroethane	UJ	L	
SAS015	SA-Q-12-SB-6	VOCs	1,1-Dichloroethane	UJ	L	
SAS015	SA-Q-16-SS-0.5	VOCs	1,1-Dichloroethane	UJ	L	
SAS015	SA-Q-16-SB-3	VOCs	1,1-Dichloroethane	UJ	L	
SAS015	AT-Q-36-SB-6	VOCs	1,1-Dichloroethane	UJ	L	
SAS015	AT-Q-36-SS-0.5	VOCs	1,1-Dichloroethane	UJ	L	
SAS015	AT-Q-33-SB-5	VOCs	Acetone	UJ	L	
SAS015	AT-Q-35-WS-8'	VOCs	Acetone	J	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS015	SA-Q-12-SB-6	VOCs	All VOCs	J/UJ	I	
SAS015	AT-Q-35-SB-6	SVOCs	1,2,4-Trichlorobenzene	UJ	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4,5-Trichlorophenol	R	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4,6-Trichlorophenol	UJ	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4-Dichlorophenol	UJ	L	
SAS015	AT-Q-35-SB-6	SVOCs	2,4-Dinitrophenol	UJ	L	
SAS015	AT-Q-35-SB-6	SVOCs	Hexachlorobutadiene	UJ	L	
SAS015	AT-Q-35-SB-6	SVOCs	Pentachlorophenol	R	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	1,2,4-Trichlorobenzene	UJ	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4,5-Trichlorophenol	R	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4,6-Trichlorophenol	UJ	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4-Dichlorophenol	UJ	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	2,4-Dinitrophenol	UJ	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	All detected SVOCs	J	I	
SAS015	AT-Q-35-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS015	AT-Q-35-SS-0.5	SVOCs	Hexachlorobutadiene	UJ	L	
SAS015	AT-Q-35-SS-0.5	SVOCs	Pentachlorophenol	R	L	
SAS015	AT-Q-35-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS015	AT-Q-35-WS-8	SVOCs	1,2,4-Trichlorobenzene	UJ	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4,5-Trichlorophenol	R	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4,6-Trichlorophenol	UJ	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4-Dichlorophenol	UJ	L	
SAS015	AT-Q-35-WS-8	SVOCs	2,4-Dinitrophenol	UJ	L	
SAS015	AT-Q-35-WS-8	SVOCs	All SVOCs	J/UJ	S	
SAS015	AT-Q-35-WS-8	SVOCs	Hexachlorobutadiene	UJ	L	
SAS015	AT-Q-35-WS-8	SVOCs	Pentachlorophenol	R	L	
SAS015	AT-Q-35-WS-8RE	SVOCs	All SVOCs	R	H	
SAS015	AT-Q-35-WS-8REDL	SVOCs	All SVOCs	R	H	
SAS015	AT-Q-36-SB-6RE	SVOCs	All SVOCs	R	H	
SAS015	AT-Q-36-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS015	AT-Q-36-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS015	AT-Q-33-SB-5	SVOCs	1,2,4-Trichlorobenzene	UJ	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4,5-Trichlorophenol	R	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4,6-Trichlorophenol	UJ	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4-Dichlorophenol	UJ	L	
SAS015	AT-Q-33-SB-5	SVOCs	2,4-Dinitrophenol	UJ	L	
SAS015	AT-Q-33-SB-5	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS015	AT-Q-33-SB-5	SVOCs	Hexachlorobutadiene	UJ	L	
SAS015	AT-Q-33-SB-5	SVOCs	Pentachlorophenol	R	L	
SAS015	AT-Q-SB-5RE	SVOCs	All SVOCs	R	H	
SAS015	SA-Q-12-SB-6	SVOCs	1,2,4-Trichlorobenzene	UJ	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4,5-Trichlorophenol	R	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4,6-Trichlorophenol	UJ	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4-Dichlorophenol	UJ	L	
SAS015	SA-Q-12-SB-6	SVOCs	2,4-Dinitrophenol	UJ	L	
SAS015	SA-Q-12-SB-6	SVOCs	Hexachlorobutadiene	UJ	L	
SAS015	SA-Q-12-SB-6	SVOCs	Pentachlorophenol	R	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	1,2,4-Trichlorobenzene	UJ	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4,5-Trichlorophenol	R	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4,6-Trichlorophenol	UJ	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4-Dichlorophenol	UJ	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	2,4-Dinitrophenol	UJ	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	Hexachlorobutadiene	UJ	L	
SAS015	SA-Q-12-SS-0.5	SVOCs	Pentachlorophenol	R	L	
SAS015	SA-Q-16-SB-3RE	SVOCs	All SVOCs	R	H	
SAS015	SA-Q-16-SS-0.5	SVOCs	All detected SVOCs	J	I,S,M	
SAS015	SA-Q-16-SS-0.5	SVOCs	All non-detect SVOCs	UJ	S,M	
SAS015	SA-Q-16-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS015	SA-Q-16-SS-0.5	PCBs	All PCBs	J/UJ	S,M	
SAS015	SA-Q-16-SB-3	PCBs	All PCBs	J/UJ	S	
SAS015	AT-Q-36-SB-6	PCBs	All PCBs	J/UJ	S	
SAS015	AT-Q-36-SS-0.5	PCBs	All PCBs	J/UJ	S	
SAS015	AT-Q-35-WS-8	PCBs	All PCBs	J/UJ	S	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS015	AT-Q-36-SB-6	Pesticides	All Pesticides	J/UJ	S	
SAS015	SA-Q-16-SB-3	Metals	Mercury	J	H	
SAS015	AT-Q-36-SB-6	Metals	Mercury	UJ	H	
SAS015	SA-Q-12-SS-0.5	Metals	Antimony	UJ	M	
SAS015	SA-Q-12-SS-0.5	Metals	Barium	J	M	
SAS015	SA-Q-12-SS-0.5	Metals	Copper	J	M	
SAS015	SA-Q-12-SS-0.5	Metals	Lead	J	M	
SAS015	SA-Q-12-SS-0.5	Metals	Potassium	J	M	
SAS016	UAA-9-30	SVOCs	Acid fraction	UJ	S	
SAS016	AA-05-62	SVOCs	2-Chlorophenol	J	S	
SAS016	UAA-6-78	SVOCs	3,3 dichlorobenzidiene	R	M	
SAS016	UAA-6-78	SVOCs	4-chloroaniline	UJ	M	
SAS016	UAA-8-106	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-8-106-D	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-9-50	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-9-50-D	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-9-70	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-9-90	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-6-98	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-6-98-D	SVOCs	4-chloroaniline	UJ	L	
SAS016	AA-0-5-22	SVOCs	4-chloroaniline	UJ	L	
SAS016	AA-0-5-42	SVOCs	4-chloroaniline	UJ	L	
SAS016	AA-0-5-42-D	SVOCs	4-chloroaniline	UJ	L	
SAS016	AA-05-62	SVOCs	4-chloroaniline	UJ	L	
SAS016	AA-0-5-82	SVOCs	4-chloroaniline	UJ	L	
SAS016	UAA-9-30	SVOCs	All SVOCs	R	I	
SAS016	UAA-9-30 RE	SVOCs	All detected SVOCs	UJ	I	
SAS016	UAA-6-78	Herbicides	Pentachlorophenol	R	M	
SAS016	UAA-6-78	Metals	Mercury	UJ	H	
SAS016	UAA-6-78	Metals	Aluminum	J	M	
SAS016	UAA-6-78	Wet Chemistry	Ammonia	J	M	
SAS017	AA-Clay-2-42	SVOCs	2-Methylphenol	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	3,4-Methylphenol	J	F	
SAS017	AA-Clay-2-42	SVOCs	4-chloro-3-methylphenol	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Butyl benzyl phthalate	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Bis (2-ethylhexyl) phthalate	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Di-n-butylphthalate	UJ	F	
SAS017	AA-Clay-2-42	SVOCs	Di-n-octylphthalate	UJ	F	
SAS017	AA-Clay-2-42 DL	SVOCs	All detected SVOCs	J	S	
SAS017	AA-Clay-2-42-D	SVOCs	All SVOCs	J/UJ	I	
SAS017	AA-Clay-2-42-D	SVOCs	2-Methylphenol	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	3,4-Methylphenol	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	4-chloro-3-methylphenol	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Butyl benzyl phthalate	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Bis (2-ethylhexyl) phthalate	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Di-n-butylphthalate	UJ	F	
SAS017	AA-Clay-2-42-D	SVOCs	Di-n-octylphthalate	UJ	F	
SAS017	UAA-7-38	Herbicides	Pentachlorophenol	R	M	
SAS017	UAA-7-38	Metals	Aluminum	J	M	
SAS017	UAA-7-38	Wet Chemistry	Ammonia	J	M	
SAS018	AT-Q-34-SS-0.5	VOCs	Chlorobenzene	U	Z	
SAS018	AT-Q-33-SS-0.5DL	VOCs	Methylene Chloride	U	Z	
SAS018	AT-Q-33-SS-0.5DL	VOCs	Chlorobenzene	U	Z	
SAS018	AT-Q-32-SB-6DL	VOCs	Methylene Chloride	U	Z	
SAS018	AT-Q-32-SB-6	VOCs	All detected VOCs	J	S	
SAS018	AT-Q-34-SB-6	VOCs	Acetone	J	L	
SAS018	AT-Q-33-SS-0.5DL	VOCs	Acetone	UJ	L	
SAS018	AT-Q-33-SS-0.5	VOCs	Acetone	J	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Chloromethane	UJ	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Acetone	UJ	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Trichloroethene	UJ	L	
SAS018	AT-Q-32-SB-6DL	VOCs	Ethylbenzene	UJ	L	
SAS018	AT-Q-34-SS-0.5	SVOCs	Bis-(2-ethylhexyl) phthalate	U	Z	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS018	AT-Q-34-SB-6	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS018	AT-Q-33-SS-0.5	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS018	AT-Q-32-SB-6DL	SVOCs	All SVOCs	J/UJ	I	
SAS018	AT-Q-33-SS-0.5	PCBs	All PCBs	J/UJ	S	
SAS018	AT-Q-33-SS-0.5	Pesticides	Endrin Ketone	UJ	L	
SAS018	AT-Q-33-SS-0.5DL	Pesticides	Endrin Ketone	UJ	L	
SAS018	AT-Q-32-SB-6	Pesticides	Endrin Ketone	UJ	L	
SAS018	AT-Q-34-SS-0.5	Herbicides	Pentachlorophenol	J	M,L	
SAS018	AT-Q-34-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS018	AT-Q-33-S-0.5	Herbicides	Pentachlorophenol	J	L	
SAS018	AT-Q-32-SB-6	Herbicides	Pentachlorophenol	J	L	
SAS018	AT-Q-32-SS-2	Herbicides	Pentachlorophenol	UJ	L	
SAS018	AT-Q-34-SS-0.5	Metals	Mercury	J	H,M	
SAS019	AA-CLAY-2-102	SVOCs	4-Chloroaniline	J	L	
SAS019	AA-CLAY-2-102DL	SVOCs	4-Chloroaniline	UJ	L	
SAS019	AA-CLAY-2-119	SVOCs	4-Chloroaniline	UJ	L	
SAS019	AA-CLAY-2-82	SVOCs	4-Chloroaniline	UJ	L	
SAS019	AT-P-4-SS-0.5-FB	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	AT-P-4-WS-10-FB	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	SOIL-O-5-FB	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	UAA-10-102	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	UAA-10-22	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	UAA-10-42	SVOCs	Bis(2-ethylhexyl) phthalate	U	X	
SAS019	UAA-10-42	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	UAA-10-62	SVOCs	Bis(2-ethylhexyl) phthalate	U	X	
SAS019	UAA-10-62	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	UAA-10-82	SVOCs	Hexachlorobutadiene	UJ	L	
SAS019	UAA-5-50	Metals	Barium	J	M	
SAS019	UAA-5-50	Metals	Chromium	J	M	
SAS019	UAA-5-50	Metals	Potassium	J	M	
SAS019	UAA-5-50	Metals	Zinc	J	M	
SAS019	UAA-10-42	Wet Chemistry	Ammonia	J	M	
SAS019	UAA-5-50	Wet Chemistry	Ammonia	J	M	
SAS020	AT-P-2-WS-10	VOCs	2-Butanone	UJ	M	
SAS020	AT-P-2-WS-10	VOCs	Acetone	J	M	
SAS020	AT-P-4-SB-4	VOCs	2-Butanone	UJ	L	
SAS020	AT-P-4-SB-4	VOCs	Acetone	J	L	
SAS020	AT-P-4-SB-4	VOCs	Chloromethane	UJ	L	
SAS020	AT-P-4-SB-4-D	VOCs	2-Butanone	UJ	L	
SAS020	AT-P-4-SB-4-D	VOCs	Acetone	J	L	
SAS020	AT-P-4-SB-4-D	VOCs	Chloromethane	UJ	L	
SAS020	AT-P-4-SB-4-DDL	VOCs	2-Butanone	UJ	L	
SAS020	AT-P-4-SB-4-DDL	VOCs	Acetone	UJ	L	
SAS020	AT-P-4-SB-4-DDL	VOCs	Chloromethane	UJ	L	
SAS020	AT-P-4-SB-4DL	VOCs	2-Butanone	UJ	L	
SAS020	AT-P-4-SB-4DL	VOCs	Acetone	UJ	L	
SAS020	AT-P-4-SB-4DL	VOCs	Chloromethane	UJ	L	
SAS020	SOIL-O-5-SB-5.5	VOCs	All VOCs	J/R	S	
SAS020	SOIL-O-6-SB-5	VOCs	All VOCs	J/UJ	I	
SAS020	AT-P-2-SB-6	SVOCs	All SVOCs	J/UJ	S	
SAS020	AT-P-2-SB-6RE	SVOCs	All SVOCs	R	H	
SAS020	AT-P-2-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS020	AT-P-2-SS-0.5RE	SVOCs	All SVOCs	R	H	
SAS020	AT-P-2-WS-10	SVOCs	All SVOCs	J/UJ	S	
SAS020	AT-P-2-WS-10RE	SVOCs	All SVOCs	R	H	
SAS020	SOIL-O-6-SB-5	SVOCs	All SVOCs	J/UJ	S	
SAS020	SOIL-O-7-SS-1.0	SVOCs	All detected SVOCs	J	S	
SAS020	SOIL-O-7-SS-1.0RE	SVOCs	All SVOCs	R	H	
SAS020	AT-P-2-WS-10	PCBs	DCB Decachlorobiphenyl	J	M	
SAS020	AT-P-2-WS-10	PCBs	Heptachlorobiphenyl	J	M	
SAS020	AT-P-2-WS-10	PCBs	Hexachlorobiphenyl	J	M	
SAS020	AT-P-2-WS-10	PCBs	Octachlorobiphenyl	J	M	
SAS020	AT-P-4-SB-4	PCBs	Monochlorobihphenyl	UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS020	AT-P-4-SB-4	PCBs	Tetrachlorobiphenyl	J	L	
SAS020	AT-P-4-SB-4-D	PCBs	Monochlorobihphenyl	UJ	L	
SAS020	AT-P-4-SB-4-D	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS020	SOIL-O-5-SB-5.5	PCBs	Monochlorobihphenyl	J	L	
SAS020	SOIL-O-5-SB-5.5	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS020	SOIL-O-4-SB-5.5	PCBs	Monochlorobihphenyl	J	L	
SAS020	SOIL-O-4-SB-5.5	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS020	AT-P-2-WS-10	PCBs	Monochlorobihphenyl	J	L	
SAS020	AT-P-2-WS-10	PCBs	Tetrachlorobiphenyl	J	L	
SAS020	SOIL-O-7-SB-6.0	PCBs	Monochlorobihphenyl	J	L	
SAS020	SOIL-O-7-SB-6.0	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS020	AT-P-4-SB-4	Herbicides	Pentachlorophenol	J	L	
SAS020	AT-P-4-SB-4-D	Herbicides	Pentachlorophenol	J	L	
SAS020	SOIL-O-4-SB-5.5	Metals	Mercury	J	H	
SAS020	AT-P-4-SS-0.5	Metals	Antimony	J	M	
SAS020	AT-P-4-SS-0.5	Metals	Barium	J	M	
SAS020	AT-P-4-SS-0.5	Metals	Nickel	J	M	
SAS020	AT-P-4-SS-0.5	Metals	Potassium	J	M	
SAS020	AT-P-4-SS-0.5	Metals	Sodium	J	M	
SAS020	AT-P-2-WS-10	Metals	Antimony	J	M	
SAS020	AT-P-2-WS-10	Metals	Barium	J	M	
SAS020	AT-P-2-WS-10	Metals	Cadmium	J	M	
SAS020	AT-P-2-WS-10	Metals	Manganese	J	M	
SAS021	AT-P-4-NAPL	Metals	Mercury	J	H	
SAS021	AT-P-4-NAPL	Metals	Lead	U	P	1.1
SAS021	AT-P-4-NAPL	Other	Sodium	U	P	
SAS023	AT-Q-30-SB-6	VOCs	Tetrachloroethene	UJ	L	
SAS023	IDW-AT-Q-32	VOCs	2-Butanone	UJ	L	
SAS023	IDW-AT-Q-32	VOCs	Acetone	UJ	L	
SAS023	IDW-SITES	VOCs	All VOCs	J/UJ	H	
SAS023	IDW-SITES	VOCs	Methylene Chloride	U	Z	
SAS023	IDW-SITESRA	VOCs	All VOCs	J/UJ	I	
SAS023	SOIL-0-8	VOCs	2-Butanone	UJ	L	
SAS023	SOIL-0-8	VOCs	Acetone	UJ	L	
SAS023	AT-Q-30-SB-6	SVOCs	All SVOCs	J/UJ	M	
SAS023	AT-Q-30-SB-6	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS023	AT-Q-30-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	AT-Q-30-SB-6	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[a]pyrene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[b]fluoranthene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[g,h,i]perylene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Benzo[k]fluoranthene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Bis (2-ethylhexyl) phthalate	R	L	
SAS023	AT-Q-30-SB-6	SVOCs	Butyl benzyl phthalate	R	L	
SAS023	AT-Q-30-SB-6	SVOCs	Chrysene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Indeno[1,2,3-cd]pyrene	J	L	
SAS023	AT-Q-30-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS023	IDW-AT-Q-32	SVOCs	All SVOCs	J/UJ	S	
SAS023	IDW-AT-Q-32	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	IDW-AT-Q-32	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[a]pyrene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[b]fluoranthene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[g,h,i]perylene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Bis (2-ethylhexyl) phthalate	J	L	
SAS023	IDW-AT-Q-32	SVOCs	Butyl benzyl phthalate	J	L	
SAS023	IDW-AT-Q-32	SVOCs	Chrysene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Indeno[1,2,3-cd]pyrene	R	L	
SAS023	IDW-AT-Q-32	SVOCs	Pentachlorophenol	UJ	L	
SAS023	IDW-SITES	SVOCs	All SVOCs	J/UJ	S	
SAS023	IDW-SITES	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	IDW-SITES	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	IDW-SITES	SVOCs	Benzo[a]pyrene	R	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS023	IDW-SITES	SVOCs	Benzo[b]fluoranthene	R	L	
SAS023	IDW-SITES	SVOCs	Benzo[g,h,i]perylene	R	L	
SAS023	IDW-SITES	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	IDW-SITES	SVOCs	Bis (2-ethylhexyl) phthalate	R	L	
SAS023	IDW-SITES	SVOCs	Butyl benzyl phthalate	R	L	
SAS023	IDW-SITES	SVOCs	Chrysene	R	L	
SAS023	IDW-SITES	SVOCs	Indeno[1,2,3-cd]pyrene	R	L	
SAS023	IDW-SITES	SVOCs	Pentachlorophenol	UJ	L	
SAS023	IDW-SITESRE	SVOCs	All SVOCs	R	H	
SAS023	SOIL-0-10	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS023	SOIL-0-10	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	SOIL-0-10	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	SOIL-0-10	SVOCs	Benzo[a]pyrene	R	L	
SAS023	SOIL-0-10	SVOCs	Benzo[b]fluoranthene	R	L	
SAS023	SOIL-0-10	SVOCs	Benzo[g,h,i]perylene	J	L	
SAS023	SOIL-0-10	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	SOIL-0-10	SVOCs	Bis (2-ethylhexyl) phthalate	J	L	
SAS023	SOIL-0-10	SVOCs	Butyl benzyl phthalate	J	L	
SAS023	SOIL-0-10	SVOCs	Chrysene	J	L	
SAS023	SOIL-0-10	SVOCs	Indeno[1,2,3-cd]pyrene	J	L	
SAS023	SOIL-0-10	SVOCs	Pentachlorophenol	U	Z	
SAS023	SOIL-0-8	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS023	SOIL-0-8	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	SOIL-0-8	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	SOIL-0-8	SVOCs	Benzo[a]pyrene	J	L	
SAS023	SOIL-0-8	SVOCs	Benzo[b]fluoranthene	J	L	
SAS023	SOIL-0-8	SVOCs	Benzo[g,h,i]perylene	R	L	
SAS023	SOIL-0-8	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	SOIL-0-8	SVOCs	Bis (2-ethylhexyl) phthalate	J	L	
SAS023	SOIL-0-8	SVOCs	Butyl benzyl phthalate	J	L	
SAS023	SOIL-0-8	SVOCs	Chrysene	J	L	
SAS023	SOIL-0-8	SVOCs	Indeno[1,2,3-cd]pyrene	J	L	
SAS023	SOIL-0-8	SVOCs	Pentachlorophenol	U	Z	
SAS023	SOIL-0-8RE	SVOCs	All SVOCs	R	H	
SAS023	SOIL-0-9	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS023	SOIL-0-9	SVOCs	2,4-Dinitrophenol	R	L	
SAS023	SOIL-0-9	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS023	SOIL-0-9	SVOCs	Benzo[a]pyrene	R	L	
SAS023	SOIL-0-9	SVOCs	Benzo[b]fluoranthene	R	L	
SAS023	SOIL-0-9	SVOCs	Benzo[g,h,i]perylene	J	L	
SAS023	SOIL-0-9	SVOCs	Benzo[k]fluoranthene	R	L	
SAS023	SOIL-0-9	SVOCs	Bis (2-ethylhexyl) phthalate	J	L	
SAS023	SOIL-0-9	SVOCs	Butyl benzyl phthalate	R	L	
SAS023	SOIL-0-9	SVOCs	Chrysene	J	L	
SAS023	SOIL-0-9	SVOCs	Indeno[1,2,3-cd]pyrene	R	L	
SAS023	SOIL-0-9	SVOCs	Pentachlorophenol	U	Z	
SAS023	IDW-SITES	PCBs	Monochlorobiphenyl	J	L	
SAS023	IDW-SITES	PCBs	Tetrachlorobiphenyl	J	L	
SAS023	IDW-AT-Q-32	PCBs	Monochlorobiphenyl	UJ	L	
SAS023	IDW-AT-Q-32	PCBs	Tetrachlorobiphenyl	J	L	
SAS023	AT-Q-30-SB-6	Herbicides	Pentachlorophenol	J	M,L	
SAS023	SOIL-0-9	Herbicides	Pentachlorophenol	J	L	
SAS023	SOIL-0-10	Herbicides	Pentachlorophenol	J	L	
SAS023	SOIL-0-8	Herbicides	Pentachlorophenol	J	L	
SAS023	IDW-SITES	Herbicides	Pentachlorophenol	J	L	
SAS023	IDW-AT-Q-32	Herbicides	Pentachlorophenol	J	L	
SAS023	SOIL-0-9	Metals	Mercury	J	H	
SAS023	SOIL-0-10	Metals	Mercury	J	H	
SAS023	SOIL-0-8	Metals	Mercury	J	H	
SAS023	IDW-SITES	Metals	Mercury	J	H	
SAS023	IDW-AT-Q-32	Metals	Mercury	J	H	
SAS023	AT-Q-30-SB-6	Metals	Mercury	J	H	
SAS023	AT-Q-30-SB-6	Metals	Antimony	J	M	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS023	AT-Q-30-SB-6	Metals	Copper	J	M	
SAS023	AT-Q-30-SB-6	Metals	Potassium	J	M	
SAS023	AT-Q-30-SB-6	Metals	Zinc	J	M	
SAS023	AT-Q-30-SB-6	Wet Chemistry	Ammonia	J	M	
SAS025	AT-P-3-SB-6	VOCs	Styrene	UJ	L	
SAS025	AT-P-3-SS-0.5	VOCs	Chlorobenzene	UJ	L	
SAS025	AT-P-3-SS-0.5	VOCs	Styrene	UJ	L	
SAS025	AT-P-3-SS-0.5	VOCs	Tetrachloroethene	UJ	L	
SAS025	AT-P-3-WS-10	VOCs	Styrene	J	L	
SAS025	AT-P-3-WS-10DL	VOCs	Styrene	UJ	L	
SAS025	AT-P-5-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS025	AT-P-5-SB-6RE	VOCs	All VOCs	J/UJ	S	
SAS025	AT-P-5-SB-6RE	VOCs	Chlorobenzene	J	L	
SAS025	AT-P-5-SS-0.5	VOCs	Chlorobenzene	J	L	
SAS025	AT-P-5-SS-0.5	VOCs	Styrene	UJ	L	
SAS025	AT-P-5-SS-0.5	VOCs	Tetrachloroethene	J	L	
SAS025	AT-Q-19-SS-1.5	VOCs	All VOCs	J/UJ	S,I	
SAS025	AT-Q-19-SS-1.5RE	VOCs	All VOCs	J/UJ	S	
SAS025	AT-Q-19-SS-1.5RE	VOCs	1,1,2-Trichloroethane	UJ	L	
SAS025	AT-Q-19-SS-1.5RE	VOCs	Carbon Tetrachloride	UJ	L	
SAS025	AT-Q-19-SS-1.5RE	VOCs	Methylene Chloride	U	Z	
SAS025	AT-Q-22-SB-6	VOCs	All VOCs	J/UJ	S,I	
SAS025	AT-Q-22-SB-6RE	VOCs	All VOCs	J/UJ	S	
SAS025	AT-Q-22-SB-6RE	VOCs	1,1,2-Trichloroethane	UJ	L	
SAS025	AT-Q-22-SB-6RE	VOCs	Carbon Tetrachloride	UJ	L	
SAS025	AT-P-3-SB-6	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-P-3-SB-6	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-P-3-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-3-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-3-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-P-3-SS-0.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-3-SS-0.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-3-WS-10	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-P-3-WS-10	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-P-3-WS-10	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-3-WS-10	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-5-SB-6	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS025	AT-P-5-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-5-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-5-SS-0.5	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-P-5-SS-0.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-5-SS-0.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-5-WS-12	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-P-5-WS-12	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-P-5-WS-12	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-P-5-WS-12	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-19-SS-1.5	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-Q-19-SS-1.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-19-SS-1.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-22-SB-6	SVOCs	All detected SVOCs	J	I,S	
SAS025	AT-Q-22-SB-6	SVOCs	All non-detect SVOCs	UJ	S	
SAS025	AT-Q-22-SB-6	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-22-SB-6	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-22-SS-0.5	SVOCs	All SVOCs	J/UJ	I	
SAS025	AT-Q-22-SS-0.5	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-22-SS-0.5	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-29-SS-1	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS025	AT-Q-29-SS-1	SVOCs	All detected SVOCs	J	I	
SAS025	AT-Q-29-SS-1	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-29-SS-1	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-Q-30-SS-1	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-Q-30-SS-1	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-30-SS-1	SVOCs	Pentachlorophenol	UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS025	AT-Q-30-SS-1-D	SVOCs	All SVOCs	J/UJ	S	
SAS025	AT-Q-30-SS-1-D	SVOCs	2,4-Dinitrophenol	R	L	
SAS025	AT-Q-30-SS-1-D	SVOCs	Pentachlorophenol	UJ	L	
SAS025	AT-P-3-WS-10	PCBs	All PCBs	J/UJ	S	
SAS025	AT-P-3-SB-6	PCBs	All PCBs	J/UJ	S	
SAS025	AT-Q-22-SS-0.5	PCBs	All PCBs	J/UJ	M	
SAS025	AT-Q-22-SB-6	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-Q-22-SB-6	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SB-6	PCBs	Pentachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SB-6	PCBs	Hexachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SB-6	PCBs	Heptachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SB-6	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Pentachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Hexachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Heptachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-Q-29-SS-1	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-Q-29-SS-1	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS025	AT-Q-29-SS-1	PCBs	Pentachlorobiphenyl	UJ	L	
SAS025	AT-Q-29-SS-1	PCBs	Hexachlorobiphenyl	UJ	L	
SAS025	AT-Q-29-SS-1	PCBs	Heptachlorobiphenyl	UJ	L	
SAS025	AT-Q-29-SS-1	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-P-5-WS-12	PCBs	Monochlorobihpenyl	J	L	
SAS025	AT-P-5-WS-12	PCBs	Tetrachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12	PCBs	Pentachlorobiphenyl	UJ	L	
SAS025	AT-P-5-WS-12	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12	PCBs	Heptachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12	PCBs	Octachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12DL	PCBs	Monochlorobihpenyl	J	L	
SAS025	AT-P-5-WS-12DL	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS025	AT-P-5-WS-12DL	PCBs	Pentachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12DL	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12DL	PCBs	Heptachlorobiphenyl	J	L	
SAS025	AT-P-5-WS-12DL	PCBs	Octachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10	PCBs	Monochlorobihpenyl	J	L	
SAS025	AT-P-3-WS-10	PCBs	Tetrachlorobiphenyl	UJ	L	
SAS025	AT-P-3-WS-10	PCBs	Pentachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10	PCBs	Heptachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10	PCBs	Octachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-P-3-WS-10DL	PCBs	Tetrachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Pentachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-3-WS-10DL	PCBs	Heptachlorobiphenyl	UJ	L	
SAS025	AT-P-3-WS-10DL	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-P-3-SB-6	PCBs	Monochlorobihpenyl	UJ	L	
SAS025	AT-P-3-SB-6	PCBs	Tetrachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Pentachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Hexachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Heptachlorobiphenyl	J	L	
SAS025	AT-P-3-SB-6	PCBs	Octachlorobiphenyl	UJ	L	
SAS025	AT-Q-22-SS-0.5	Metals	Antimony	J	M	
SAS025	AT-Q-22-SS-0.5	Metals	Barium	J	M	
SAS025	AT-Q-22-SS-0.5	Metals	Zinc	J	M	
SAS025	AT-Q-22-SS-0.5	Metals	Mercury	J	M	
SAS025	AT-Q-30-SS-1	Metals	Zinc	J	F	
SAS025	AT-Q-30-SS-1-D	Metals	Zinc	J	F	
SAS026	AT-Q-25-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	AT-Q-28-WS-16	VOCs	All VOCs	J/UJ	H	
SAS026	AT-Q-28-WS-16	VOCs	Methylene Chloride	U	Z	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS026	AT-Q-31-WS-12	VOCs	All VOCs	J/UJ	H	
SAS026	AT-Q-31-WS-12	VOCs	Methylene Chloride	U	Z	
SAS026	SA-0-1-SB-3	VOCs	All VOCs	J/UJ	H	
SAS026	SA-0-1-SB-3	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-2-WS-9	VOCs	Benzene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Chlorobenzene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Ethylbenzene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-2-WS-9	VOCs	Toluene	J	F	
SAS026	SA-O-2-WS-9	VOCs	Xylenes, Total	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Benzene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Chlorobenzene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Ethylbenzene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-2-WS-9-D	VOCs	Toluene	J	F	
SAS026	SA-O-2-WS-9-D	VOCs	Xylenes, Total	J	F	
SAS026	SA-O-3-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	SA-O-4-SB-6	VOCs	Methylene Chloride	U	Z	
SAS026	SA-P-1-WS-8	VOCs	Methylene Chloride	U	Z	
SAS026	SA-P-2-WS-9	VOCs	Methylene Chloride	U	Z	
SAS026	SA-P-3-WS-14	VOCs	Methylene Chloride	U	Z	
SAS026	SA-Q-3-WS-12	VOCs	All VOCs	J/UJ	H	
SAS026	SA-Q-3-WS-12	VOCs	Methylene Chloride	U	Z	
SAS026	SA-Q-6-WS-16	VOCs	All VOCs	J/UJ	H	
SAS026	SA-Q-6-WS-16	VOCs	Methylene Chloride	U	Z	
SAS026	AT-Q-25-WS-9	SVOCs	All SVOCs	J/UJ	S,I	
SAS026	AT-Q-28-WS-16	SVOCs	All SVOCs	J/UJ	I	
SAS026	AT-Q-28-WS-16RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-0-1-SB-3	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-O-2-WS-9	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-O-2-WS-9-D	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-O-3-WS-9	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-P-1-WS-8	SVOCs	All SVOCs	J/UJ	S,I	
SAS026	SA-P-1-WS-8RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-P-2-WS-9RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-P-3-WS-14	SVOCs	All SVOCs	J/UJ	S,I	
SAS026	SA-P-3-WS-14RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-3-WS-12	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-Q-3-WS-12	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-3-WS-12-RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-6-WS-16	SVOCs	All SVOCs	J/UJ	I	
SAS026	SA-Q-6-WS-16	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-Q-6-WS-16RE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS026	SA-O-4-SB-6	PCBs	Tetrachlorobiphenyl	U	X	
SAS026	AT-Q-25-WS-9	Pesticides	All Pesticides	J/UJ	S	
SAS026	AT-Q-25-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	AT-Q-28-WS-16	Pesticides	Endosulfan II	UJ	L	
SAS026	AT-Q-31-WS-12	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-0-1-SB-3	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-0-1-SB-3	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-2-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-2-WS-9-D	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-3-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-O-4-SB-6	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-P-1-WS-8	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-P-1-WS-8	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-P-2-WS-9	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-P-2-WS-9	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-P-3-WS-14	Pesticides	All Pesticides	J/UJ	S	
SAS026	SA-P-3-WS-14	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-Q-3-WS-12	Pesticides	Endosulfan II	UJ	L	
SAS026	SA-Q-6-WS-16	Pesticides	Endosulfan II	UJ	L	
SAS026	AT-Q-28-WS-16	Herbicides	All Herbicides	J/UJ	S	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS026	AT-Q-25-WS-9	Metals	Aluminum	U	P	
SAS026	AT-Q-25-WS-9	Metals	Copper	U	P	
SAS026	AT-Q-25-WS-9	Metals	Mercury	UJ	H	
SAS026	AT-Q-25-WS-9	Metals	Selenium	U	P	
SAS026	AT-Q-28-WS-16	Metals	Mercury	UJ	H	
SAS026	AT-Q-28-WS-16	Metals	Selenium	U	P	
SAS026	AT-Q-31-WS-12	Metals	Aluminum	U	P	
SAS026	AT-Q-31-WS-12	Metals	Copper	U	P	
SAS026	AT-Q-31-WS-12	Metals	Mercury	UJ	H	
SAS026	AT-Q-31-WS-12	Metals	Selenium	U	P	
SAS026	SA-0-1-SB-3	Metals	Mercury	J	H	
SAS026	SA-0-1-SB-3	Metals	Selenium	U	P	
SAS026	SA-O-2-WS-9	Metals	Copper	U	P	
SAS026	SA-O-2-WS-9	Metals	Mercury	UJ	H	
SAS026	SA-O-2-WS-9	Metals	Selenium	U	P	
SAS026	SA-O-2-WS-9-D	Metals	Aluminum	U	P	
SAS026	SA-O-2-WS-9-D	Metals	Copper	U	P	
SAS026	SA-O-2-WS-9-D	Metals	Mercury	UJ	H	
SAS026	SA-O-3-WS-9	Metals	Aluminum	U	P	
SAS026	SA-O-3-WS-9	Metals	Mercury	J	H	
SAS026	SA-O-3-WS-9	Metals	Selenium	U	P	
SAS026	SA-O-4-SB-6	Metals	Mercury	J	H	
SAS026	SA-O-4-SB-6	Metals	Selenium	U	P	
SAS026	SA-P-1-WS-8	Metals	Aluminum	U	P	
SAS026	SA-P-1-WS-8	Metals	Copper	U	P	
SAS026	SA-P-1-WS-8	Metals	Mercury	UJ	H	
SAS026	SA-P-1-WS-8	Metals	Selenium	U	P	
SAS026	SA-P-2-WS-9	Metals	Copper	U	P	
SAS026	SA-P-2-WS-9	Metals	Mercury	UJ	H	
SAS026	SA-P-2-WS-9	Metals	Selenium	U	P	
SAS026	SA-P-3-WS-14	Metals	Aluminum	U	P	
SAS026	SA-P-3-WS-14	Metals	Copper	U	P	
SAS026	SA-P-3-WS-14	Metals	Mercury	UJ	H	
SAS026	SA-Q-3-WS-12	Metals	Copper	U	P	
SAS026	SA-Q-3-WS-12	Metals	Mercury	UJ	H	
SAS026	SA-Q-3-WS-12	Metals	Selenium	U	P	
SAS026	SA-Q-6-WS-16	Metals	Aluminum	U	P	
SAS026	SA-Q-6-WS-16	Metals	Copper	U	P	
SAS026	SA-Q-6-WS-16	Metals	Mercury	UJ	H	
SAS026	SA-Q-6-WS-16	Metals	Selenium	U	P	
SAS026	SA-P-3-WS-14	Wet Chemistry	Ammonia	U	Z	
SAS027	AT-Q-21-WS-8	VOCs	Methylene Chloride	U	Z	
SAS027	AT-Q-21-WS-8	VOCs	Methyl Isobutyl ketone	U	Z	
SAS027	AT-Q-21-WS-8-D	VOCs	Methylene Chloride	U	Z	
SAS027	AT-Q-21-WS-8-D	VOCs	Methyl Isobutyl ketone	U	Z	
SAS027	SA-S-2-SB-4	VOCs	Methylene Chloride	U	Z	
SAS027	SA-S-1-WS-9	VOCs	Methylene Chloride	U	Z	
SAS027	AT-Q-32-SB-6	VOCs	Methylene Chloride	U	Z	
SAS027	AT-Q-32-SB-6	VOCs	Methyl Isobutyl ketone	U	Z	
SAS027	AT-P-4-SB-4	VOCs	Methylene Chloride	U	Z	
SAS027	AT-P-4-SB-4-D	VOCs	Methylene Chloride	U	Z	
SAS027	AT-Q-33-SB-5	SVOCs	All SVOCs	J/UJ	L	
SAS027	AT-Q-35-WS-8	SVOCs	All SVOCs	J/UJ	L	
SAS027	AT-P-4-SB-4	SVOCs	All SVOCs	J/UJ	L	
SAS027	AT-P-4-SB-4-D	SVOCs	All SVOCs	J/UJ	L	
SAS027	At-P-4-SB-4-DDL	SVOCs	All SVOCs	J/UJ	L	
SAS027	SA-S-2-SB-4	Pesticides	All Pesticides	J/R	S	
SAS027	AT-Q-33-SB-5	Pesticides	All Pesticides	J/UJ	S	
SAS027	AT-Q-21-WS-8	Pesticides	Dieldrin	UJ	L	
SAS027	AT-Q-21-WS-8	Pesticides	Endrin	R	L	
SAS027	AT-Q-21-WS-8-D	Pesticides	Dieldrin	UJ	L	
SAS027	AT-Q-21-WS-8-D	Pesticides	Endrin	R	L	
SAS027	SA-S-2-SB-4	Pesticides	Endrin	R	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS027	SA-S-1-WS-9	Pesticides	Dieldrin	UJ	L	
SAS027	SA-S-1-WS-9	Pesticides	Endrin	R	L	
SAS027	AT-Q-32-SB-6	Pesticides	Dieldrin	UJ	L	
SAS027	AT-Q-32-SB-6	Pesticides	Endrin	R	L	
SAS027	AT-Q-21-WS-8	Herbicides	Pentachlorophenol	J	L	
SAS027	AT-Q-21-WS-8-D	Herbicides	Pentachlorophenol	J	L	
SAS027	SA-S-1-WS-9	Herbicides	Pentachlorophenol	J	L	
SAS027	AT-Q-33-SB-5	Herbicides	Pentachlorophenol	J	L	
SAS027	AT-Q-35-WS-8	Herbicides	Pentachlorophenol	J	L	
SAS027	AT-P-4-SB-4	Herbicides	Pentachlorophenol	J	L	
SAS028	SOIL-O-5-SB-5.5	VOCs	Methylene chloride	U	Z	
SAS028	AT-P-2-WS-10	VOCs	Methylene chloride	U	Z	
SAS028	SOIL-O-9	VOCs	Methylene chloride	U	Z	
SAS028	SOIL-O-5-SB-5.5	SVOCs	All SVOCs	J/UJ	L	
SAS028	SOIL-O-5-SB-5.5DL	SVOCs	All SVOCs	J/UJ	L	
SAS028	AT-P-2-WS-10	SVOCs	All SVOCs	J/UJ	L,M	
SAS028	AT-P-2-WS-10DL	SVOCs	All SVOCs	J/UJ	L	
SAS028	SOIL-O-10	Herbicides	All Herbicides	J/UJ	S	
SAS028	IDW-SITES	Herbicides	All Herbicides	J/UJ	S	
SAS028	SOIL-O-9	Herbicides	Pentachlorophenol	J	L	
SAS028	Soil-O-5-SB-5.5	Metals	Chromium	U	P	
SAS028	AT-P-2-WS-10	Metals	Chromium	U	P	
SAS028	AT-P-2-WS-10	Metals	Copper	U	P	
SAS028	AT-P-2-WS-10	Metals	Selenium	U	P	
SAS028	SOIL-O-9	Metals	Aluminum	U	P	
SAS028	SOIL-O-9	Metals	Chromium	U	P	
SAS028	SOIL-O-9	Metals	Selenium	U	P	
SAS028	SOIL-O-10	Metals	Aluminum	U	P	
SAS028	SOIL-O-10	Metals	Selenium	U	P	
SAS028	SOIL-O-8	Metals	Aluminum	U	P	
SAS028	SOIL-O-8	Metals	Copper	U	P	
SAS028	SOIL-O-8	Metals	Selenium	U	P	
SAS028	IDW-SITES	Metals	Copper	U	P	
SAS028	IDW-SITES	Metals	Selenium	U	P	
SAS028	IDW-AT-Q-32	Metals	Aluminum	U	P	
SAS028	IDW-AT-Q-32	Metals	Chromium	U	P	
SAS028	IDW-AT-Q-32	Metals	Selenium	U	P	
SAS028	AT-P-2-WS-10	Metals	Cadmium	J	M	
SAS028	AT-P-2-WS-10	Metals	Lead	J	M	
SAS028	AT-P-2-WS-10	Metals	Nickel	J	M	
SAS029	AT-P-5-WS-12	Pesticides	Dieldrin	UJ	L	
SAS029	AT-P-5-WS-12	Pesticides	Endrin	R	L	
SAS029	AT-P-3-WS-10	Pesticides	Dieldrin	UJ	L	
SAS029	AT-P-3-WS-10	Pesticides	Endrin	R	L	
SAS029	AT-P-5-WS-12	Metals	Aluminum	U	P	
SAS029	AT-P-3-WS-10	Metals	Aluminum	U	P	
SAS029	AT-P-3-WS-10	Metals	Chromium	U	P	
SAS030	GM-19A	SVOCs	4-Chloroaniline	J	L	
SAS030	GM-19A-D	SVOCs	4-Chloroaniline	J	L	
SAS030	GM-19C	SVOCs	All SVOCs	J/UJ	I	
SAS030	GM-19C	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-0-1	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-0-2	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-0-3	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-0-3-D	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-2	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-Q-3	SVOCs	All SVOCs	J/UJ	I	
SAS030	SA-Q-3	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-4	SVOCs	All SVOCs	J/UJ	S	
SAS030	SA-Q-4	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-4RE	SVOCs	All SVOCs	J/UJ	H,S	
SAS030	SA-Q-4RE	SVOCs	Diethyl phthalate	U	Z	
SAS030	SA-Q-5	SVOCs	4-Chloroaniline	UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS030	SA-Q-6	SVOCs	All SVOCs	J/UJ	I	
SAS030	SA-Q-6	SVOCs	4-Chloroaniline	J	L	
SAS030	SA-Q-7	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-Q-8	SVOCs	4-Chloroaniline	UJ	L	
SAS030	SA-0-02	Pesticides	All Pesticides	J/UJ	S	
SAS030	GM-19C	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-5	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-8	Pesticides	All Pesticides	J/R	S	
SAS030	SA-Q-4	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-6	Pesticides	All Pesticides	J/UJ	S	
SAS030	SA-Q-3	Pesticides	All Pesticides	J/R	S	
SAS030	SA-Q-2	Pesticides	All Pesticides	J/UJ	S	
SAS030	GM-19A	Metals	Chromium	U	P	
SAS030	GM-19A-D	Metals	Chromium	U	P	
SAS030	GM-19C	Metals	Chromium	U	P	
SAS030	SA-0-1	Metals	Cobalt	U	P	
SAS030	SA-0-1	Metals	Manganese	J	M	
SAS030	SA-0-1	Metals	Sodium	J	M	
SAS030	SA-0-3	Metals	Chromium	U	P	
SAS030	SA-0-3-D	Metals	Chromium	U	P	
SAS030	SA-Q-2	Metals	Chromium	U	P	
SAS030	SA-Q-4	Metals	Chromium	U	P	
SAS030	SA-Q-6	Metals	Chromium	U	P	
SAS030	SA-Q-7	Metals	Chromium	U	P	
SAS030	SA-0-1	Wet Chemistry	Ammonia	J	M	
SAS031	SA-Q-9	VOCs	Dibromochloromethane	U	Y	
SAS031	SA-Q-9	VOCs	Bromoform	U	Y	
SAS031	GM-4A	VOCs	Bromoform	U	Y	
SAS031	SA-Q-1RE	SVOCs	All SVOCs	R	H	
SAS031	SA-Q-1REDL	SVOCs	All SVOCs	R	H	
SAS031	SA-Q-15RE	SVOCs	All SVOCs	R	H	
SAS031	MW-7BRE	SVOCs	All SVOCs	R	H	
SAS031	SA-Q-1	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS031	SA-Q-15	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS031	MW-7B	SVOCs	All SVOCs	J/R	S	
SAS031	SA-Q-1	Pesticides	All Pesticides	J/R	S	
SAS031	SA-Q-14	Pesticides	All Pesticides	J//UJ	S	
SAS031	MW-3C	Wet Chemistry	Chloride	J	M	
SAS031	MW-3C	Wet Chemistry	Ammonia	J	M	
SAS032	GM-18A	VOCs	Chlorobenzene	U	Y	
SAS032	GM-18A-D	VOCs	Chlorobenzene	U	Y	
SAS032	GM-18A	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS032	SA-P-2	SVOCs	All SVOCs	J/UJ	I	
SAS032	SA-P-2	Pesticides	Endosulfan II	UJ	L	
SAS032	SA-0-4	Pesticides	Endosulfan II	UJ	L	
SAS032	GM-5	Metals	Cobalt	U	P	
SAS032	GM-18A	Metals	Cobalt	U	P	
SAS032	GM-6B	Metals	Cobalt	U	P	
SAS032	MW-3B	Metals	Cobalt	U	P	
SAS032	SA-P-2	Metals	Cobalt	U	P	
SAS032	GM-6A	Metals	Cobalt	U	P	
SAS032	SA-0-4	Metals	Cobalt	U	P	
SAS033	SA-P-1RE	SVOCs	All SVOCs	R	H	
SAS033	EEG-107	SVOCs	All Base/Neutral Analytes	J/R	S	
SAS033	EE-01	SVOCs	All detected Acid Fraction	J	S	
SAS033	SA-P-1	SVOCs	All Base/Neutral Analytes	J/UJ	S	
SAS033	SA-P-3	Pesticides	All Pesticides	UJ	S	
SAS033	SA-Q-12	Pesticides	All Pesticides	R	S	
SAS033	SA-P-1	Pesticides	All Pesticides	UJ	S	
SAS033	SA-S-2	Pesticides	All Pesticides	R	S	
SAS033	SA-P-3	Metals	Arsenic	U	P	
SAS033	SA-Q-12	Metals	Nickel	U	P	
SAS033	EEG-107	Metals	Arsenic	U	P	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS033	IMW-1I	Metals	Arsenic	U	P	
SAS033	IMW-1I	Metals	Nickel	U	P	
SAS033	IMW-1D	Metals	Nickel	U	P	
SAS033	BDRK-0-1	Metals	Nickel	U	P	
SAS033	SA-S-2	Metals	Nickel	U	P	
SAS033	BDRK-Q-1	Metals	Arsenic	U	P	
SAS033	BDRK-Q-1	Metals	Nickel	U	P	
SAS034	BDRK-Q-2RE	SVOCs	All SVOCs	R	H	
SAS034	GM-31A	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS034	BDRK-Q-2	SVOCs	All SVOCs	J/UJ	S	
SAS034	GM-8	SVOCs	All SVOCs	J/UJ	S	
SAS034	BDRK-P-1	Pesticides	All Pesticides	J/UJ	S	
SAS034	SA-S-1	Pesticides	All Pesticides	J/UJ	S	
SAS034	SA-S-1-D	Pesticides	All Pesticides	J/UJ	S	
SAS034	GM-59A	Metals	Copper	U	P	
SAS034	GM-31B	Metals	Copper	U	P	
SAS034	GM-31B-D	Metals	Zinc	U	P	
SAS034	GM-31A	Metals	Copper	U	P	
SAS034	GM-31A	Metals	Zinc	U	P	
SAS034	BDRK-Q-2	Metals	Zinc	U	P	
SAS034	BDRK-Q-2-D	Metals	Zinc	U	P	
SAS034	GM-60B	Metals	Zinc	U	P	
SAS034	GM-60B-D	Metals	Zinc	U	P	
SAS034	GM-8	Metals	Copper	U	P	
SAS034	GM-8	Metals	Zinc	U	P	
SAS034	IMW-1S	Metals	Zinc	U	P	
SAS034	IMW-1S-D	Metals	Zinc	U	P	
SAS034	BDRK-P-1	Metals	Copper	U	P	
SAS034	BDRK-P-1	Metals	Zinc	U	P	
SAS034	SA-S-1	Metals	Zinc	U	P	
SAS034	SA-S-1-D	Metals	Zinc	U	P	
SAS035	GM-10B	SVOCs	All detected Acid Fraction	J	S	
SAS035	GM-12B	SVOCs	Phenol	J	S	
SAS035	BR-H	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-10B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-10BDL	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-10B-D	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-10B-DDL	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	BDRK-S-1	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-20B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-20BDL	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-27B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-27BDL	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-2	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-2DL	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-12B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-12C	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-9B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-27C	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-9C	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS035	GM-2	SVOCs	All SVOCs	J/UJ	I	
SAS035	GM-1	SVOCs	All SVOCs	J/UJ	I	
SAS035	BR-H	Herbicides	Pentachlorophenol	R	M	
SAS035	GM-9B	Metals	Copper	J	M	
SAS035	GM-9B	Wet Chemistry	Chloride	J	M	
SAS035	GM-9B	Wet Chemistry	Ammonia	J	M	
SAS035	BR-H	Wet Chemistry	Ammonia	J	M	
SAS035	GM-12B	Wet Chemistry	Ammonia	J	M	
SAS036	EE-03	SVOCs	Di-n-butyl phthalate	U	Z	
SAS036	EE-03RE	SVOCs	All SVOCs	J/UJ	S	
SAS036	PIEZ-7MRE	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS036	B-24A	SVOCs	4-Chloroaniline	R	L	
SAS036	B-24A	SVOCs	3-Nitroaniline	UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS036	B-24A	SVOCs	4-Nitrophenol	UJ	L	
SAS036	B-24A	SVOCs	4-Nitroaniline	UJ	L	
SAS036	B-24A	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	B-22A	SVOCs	4-Chloroaniline	J	L	
SAS036	B-22A	SVOCs	3-Nitroaniline	UJ	L	
SAS036	B-22A	SVOCs	4-Nitrophenol	UJ	L	
SAS036	B-22A	SVOCs	4-Nitroaniline	UJ	L	
SAS036	B-22A	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	GM-15	SVOCs	4-Chloroaniline	R	L	
SAS036	GM-15	SVOCs	3-Nitroaniline	UJ	L	
SAS036	GM-15	SVOCs	4-Nitrophenol	UJ	L	
SAS036	GM-15	SVOCs	4-Nitroaniline	UJ	L	
SAS036	GM-15	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	EE-03	SVOCs	4-Chloroaniline	R	L	
SAS036	EE-03	SVOCs	3-Nitroaniline	UJ	L	
SAS036	EE-03	SVOCs	4-Nitrophenol	UJ	L	
SAS036	EE-03	SVOCs	4-Nitroaniline	UJ	L	
SAS036	EE-03	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	GM-60A	SVOCs	4-Chloroaniline	R	L	
SAS036	GM-60A	SVOCs	3-Nitroaniline	UJ	L	
SAS036	GM-60A	SVOCs	4-Nitrophenol	UJ	L	
SAS036	GM-60A	SVOCs	4-Nitroaniline	UJ	L	
SAS036	GM-60A	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	B-28B	SVOCs	4-Chloroaniline	J	L	
SAS036	B-28B	SVOCs	3-Nitroaniline	UJ	L	
SAS036	B-28B	SVOCs	4-Nitrophenol	UJ	L	
SAS036	B-28B	SVOCs	4-Nitroaniline	UJ	L	
SAS036	B-28B	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	PIEZ-7M	SVOCs	4-Chloroaniline	R	L	
SAS036	PIEZ-7M	SVOCs	3-Nitroaniline	UJ	L	
SAS036	PIEZ-7M	SVOCs	4-Nitrophenol	UJ	L	
SAS036	PIEZ-7M	SVOCs	4-Nitroaniline	UJ	L	
SAS036	PIEZ-7M	SVOCs	3,3'-Dichlorobenzidine	UJ	L	
SAS036	PIEZ-7S	Pesticides	All Pesticides	UJ	S	
SAS036	GM-15	Herbicides	Silvex	J	S	
SAS036	GM-15	Herbicides	Pentachlorophenol	J	S	
SAS036	GM-15	Metals	Nickel	U	X	
SAS036	GM-15	Metals	Zinc	U	X	
SAS036	EE-03	Metals	Copper	U	X	
SAS036	EE-03	Metals	Nickel	U	X	
SAS036	EE-03	Metals	Zinc	U	X	
SAS036	GM-60A	Metals	Copper	U	X	
SAS036	GM-60A	Metals	Zinc	U	X	
SAS036	B-28B	Metals	Copper	U	X	
SAS036	B-28B	Metals	Nickel	U	X	
SAS036	B-28B	Metals	Zinc	U	X	
SAS036	PIEZ-7M	Metals	Nickel	U	X	
SAS036	PIEZ-7S	Metals	Copper	U	X	
SAS036	PIEZ-7S	Metals	Nickel	U	X	
SAS036	PIEZ-7S	Metals	Zinc	U	X	
SAS036	EE-03	Wet Chemistry	Ammonia	J	M	
SAS037	BR-G	VOCs	Methylene Chloride	U	Y	
SAS037	CA-3	VOCs	Methylene Chloride	U	Y	
SAS037	GM-11	Herbicides	2,4-D	U	X	1.1
SAS037	CA-3	Herbicides	2,4-D	U	X	1.1
SAS037	BR-G	Metals	Zinc	U	X	
SAS037	B-29B	Metals	Zinc	U	X	
SAS037	GM-11	Wet Chemistry	Ammonia	U	X	
SAS037	CP-MW-16	Wet Chemistry	Ammonia	U	X	
SAS038	GM-46DL	VOCs	All VOCs	J/UJ	H	
SAS038	CP-MW-10	Herbicides	2,4-D	U	X	
SAS038	CP-MW-22	Herbicides	2,4-D	U	X	
SAS038	CP-MW-6	Herbicides	2,4-D	U	X	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS038	CP-MW-6-D	Herbicides	2,4-D	U	X	
SAS038	CP-MW-10	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-10	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-10	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-10	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-10	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-10	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-7	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-7	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-7	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-7	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-7	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-7	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-24	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-24	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-24	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-24	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-24	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-24	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-22	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-22	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-22	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-22	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-22	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-22	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-20	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-20	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-20	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-20	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-20	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-20	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-20-D	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-20-D	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-20-D	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-20-D	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-20-D	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-20-D	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-6	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-6	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-6	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-6	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-6	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-6	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-6-D	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-6-D	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-6-D	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-6-D	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-6-D	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-6-D	Herbicides	MCPP	UJ	L	
SAS038	GM-33	Herbicides	2,4,5-T	J	L	
SAS038	GM-33	Herbicides	Silvex	J	L	
SAS038	GM-33	Herbicides	Dalapon	UJ	L	
SAS038	GM-33	Herbicides	Dichloprop	J	L	
SAS038	GM-33	Herbicides	MCPA	UJ	L	
SAS038	GM-33	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-18	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-18	Herbicides	Silvex	UJ	L	
SAS038	CP-MW-18	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-18	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-18	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-18	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-14	Herbicides	2,4,5-T	UJ	L	
SAS038	CP-MW-14	Herbicides	Silvex	UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS038	CP-MW-14	Herbicides	Dalapon	UJ	L	
SAS038	CP-MW-14	Herbicides	Dichloprop	UJ	L	
SAS038	CP-MW-14	Herbicides	MCPA	UJ	L	
SAS038	CP-MW-14	Herbicides	MCPP	J	L	
SAS038	GM-9A	Herbicides	2,4,5-T	UJ	L	
SAS038	GM-9A	Herbicides	Silvex	UJ	L	
SAS038	GM-9A	Herbicides	Dalapon	UJ	L	
SAS038	GM-9A	Herbicides	Dichloprop	UJ	L	
SAS038	GM-9A	Herbicides	MCPA	UJ	L	
SAS038	GM-9A	Herbicides	MCPP	UJ	L	
SAS038	GM-46	Herbicides	2,4,5-T	UJ	L	
SAS038	GM-46	Herbicides	Silvex	UJ	L	
SAS038	GM-46	Herbicides	Dalapon	UJ	L	
SAS038	GM-46	Herbicides	Dichloprop	UJ	L	
SAS038	GM-46	Herbicides	MCPA	UJ	L	
SAS038	GM-46	Herbicides	MCPP	UJ	L	
SAS038	CP-MW-10	Metals	Chromium	U	X	
SAS038	CP-MW-10	Metals	Zinc	U	X	
SAS038	CP-MW-7	Metals	Chromium	U	X	
SAS038	CP-MW-7	Metals	Zinc	U	X	
SAS038	CP-MW-24	Metals	Chromium	U	X	
SAS038	CP-MW-22	Metals	Chromium	U	X	
SAS038	CP-MW-20	Metals	Chromium	U	X	
SAS038	CP-MW-20	Metals	Zinc	U	X	
SAS038	CP-MW-6	Metals	Chromium	U	X	
SAS038	CP-MW-6	Metals	Zinc	U	X	
SAS038	CP-MW-6-D	Metals	Chromium	U	X	
SAS038	CP-MW-6-D	Metals	Zinc	U	X	
SAS038	GM-33	Metals	Iron	U	X	
SAS038	GM-33	Metals	Zinc	U	X	
SAS038	CP-MW-18	Metals	Chromium	U	X	
SAS038	CP-MW-14	Metals	Chromium	U	X	
SAS038	CP-MW-14	Metals	Zinc	U	X	
SAS038	GM-9A	Metals	Zinc	U	X	
SAS038	CP-MW-18	Wet Chemistry	Ammonia	J	M	
SAS039	CP-MW-12RE	SVOCs	All SVOCs	J/UJ	H	
SAS039	CP-MW-ERE	SVOCs	All SVOCs	J/UJ	H	
SAS039	B-24CRE	SVOCs	All SVOCs	J/UJ	H	
SAS039	B-24CREDL	SVOCs	All SVOCs	J/UJ	H	
SAS039	CP-MW-12	SVOCs	All Acid Fraction Analytes	J/UJ	S	
SAS039	CP-MW-12	SVOCs	4-Chloroaniline	R	L	
SAS039	CP-MW-12	SVOCs	3-Nitroaniline	UJ	L	
SAS039	CP-MW-12	SVOCs	4-Nitrophenol	UJ	L	
SAS039	CP-MW-12	SVOCs	4-Nitroaniline	UJ	L	
SAS039	CP-MW-12	SVOCs	4,6-Dinitro-2-methylphenol	UJ	L	
SAS039	CP-MW-12	SVOCs	3,3'-Dichlorobenzidine	R	L	
SAS039	CP-MW-E	SVOCs	4-Chloroaniline	R	L	
SAS039	CP-MW-E	SVOCs	3-Nitroaniline	UJ	L	
SAS039	CP-MW-E	SVOCs	4-Nitrophenol	UJ	L	
SAS039	CP-MW-E	SVOCs	4-Nitroaniline	UJ	L	
SAS039	CP-MW-E	SVOCs	4,6-Dinitro-2-methylphenol	UJ	L	
SAS039	CP-MW-E	SVOCs	3,3'-Dichlorobenzidine	R	L	
SAS039	B-24C	SVOCs	4-Chloroaniline	J	L	
SAS039	B-24C	SVOCs	3-Nitroaniline	UJ	L	
SAS039	B-24C	SVOCs	4-Nitrophenol	UJ	L	
SAS039	B-24C	SVOCs	4-Nitroaniline	J	L	
SAS039	B-24C	SVOCs	4,6-Dinitro-2-methylphenol	UJ	L	
SAS039	B-24C	SVOCs	3,3'-Dichlorobenzidine	R	L	
SAS039	B-24CDL	SVOCs	4-Chloroaniline	J	L	
SAS039	B-24CDL	SVOCs	3-Nitroaniline	UJ	L	
SAS039	B-24CDL	SVOCs	4-Nitrophenol	UJ	L	
SAS039	B-24CDL	SVOCs	4-Nitroaniline	J	L	
SAS039	B-24CDL	SVOCs	4,6-Dinitro-2-methylphenol	UJ	L	

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS039	B-24CDL	SVOCs	3,3'-Dichlorobenzidine	R	L	
SAS039	B-28A	Herbicides	2,4-D	U	X	2.5
SAS039	B-28A	Herbicides	Pentachlorophenol	U	X	2.9
SAS039	CP-MW-12	Metals	Aluminum	U	P	
SAS039	CP-MW-15	Metals	Aluminum	U	P	
SAS040	SW-SA2-GMCS-PDA2	VOCs	Chlorobenzene	J	F	
SAS040	DUP-SW	VOCs	Chlorobenzene	J	F	
SAS040	SW-SA2-GMCS-PDA2	SVOCs	All SVOCs	UJ	H	
SAS040	SW-SA2-GMCS-PDA2	Pesticides	All Pesticides	UJ	S	
SAS040	DUP SW	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA3	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA4	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA5	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-PDA9	Pesticides	All Pesticides	UJ	S	
SAS040	SW-SA2-GMCS-R3AM	Metals	Mercury	UJ	H	
SAS040	SW-SA2-GMCS-R3AM	Metals	Mercury, dissolved	UJ	H	
SAS040	SW-SA2-GMCS-R3BM	Metals	Mercury	UJ	H	
SAS040	SW-SA2-GMCS-R3BM	Metals	Mercury, dissolved	UJ	H	
SAS040	SW-SA2-GMCS-R3CM	Metals	Mercury	UJ	H	
SAS040	SW-SA2-GMCS-R3CM	Metals	Mercury, dissolved	UJ	H	
SAS040	SW-SA2-GMCS-R3AM	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-R3AM	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-R3BM	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-R3BM	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-R3CM	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-PDA2	Metals	Selenium, dissolved	U	P	
SAS040	DUP SW	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-PDA3	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-PDA4	Metals	Selenium	U	P	
SAS040	SW-SA2-GMCS-PDA5	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-PDA9A	Metals	Selenium, dissolved	U	P	
SAS040	SW-SA2-GMCS-PDA9	Metals	Aluminum	J	M	
SAS041	SED-SA2-GMCS-PDA2	VOCs	Chlorobenzene	J	F	
SAS041	DUP-SED	VOCs	Chlorobenzene	J	F	
SAS041	SED-SA2-GMCS-R3AM RE	SVOCs	All SVOCs	R	H	
SAS041	SED-SA2-GMCS-PDA2 RE	SVOCs	All SVOCs	R	H	
SAS041	DUP SED RE	SVOCs	All SVOCs	R	H	
SAS041	DUP SED	SVOCs	All SVOCs	J/UJ	S	
SAS041	SED-SA2-GMCS-R3CM	Pesticides	All Pesticides	UJ	S	
SAS041	SED-SA2-GMCS-PDA9	Pesticides	All Pesticides	UJ	S	
SAS041	SED-SA2-GMCS-PDA9A	Pesticides	All Pesticides	UJ	S	
SAS041	SED-SA2-GMCS-PDA9	Pesticides	Endrin Ketone	UJ	M,L	
SAS041	SED-SA2-GMCS-R3AM	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-R3BM	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-R3CM	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA2	Pesticides	Endrin Ketone	UJ	L	
SAS041	DUP SED	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA3	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA4	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA5	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA9A	Pesticides	Endrin Ketone	UJ	L	
SAS041	SED-SA2-GMCS-PDA2	Herbicides	2,4-D	J	F	
SAS041	DUP-SED	Herbicides	2,4-D	J	F	
SAS041	SED-SA2-GMCS-R3AM	Metals	Mercury	J	H	
SAS041	SED-SA2-GMCS-R3BM	Metals	Mercury	UJ	H	
SAS041	SED-SA2-GMCS-R3CM	Metals	Mercury	J	H	
SAS041	SED-SA2-GMCS-R3AM	Metals	Sodium	U	P	200
SAS041	SED-SA2-GMCS-R3BM	Metals	Sodium	U	P	140
SAS041	SED-SA2-GMCS-R3CM	Metals	Sodium	U	P	110
SAS041	SED-SA2-GMCS-PDA2	Metals	Sodium	U	P	360
SAS041	DUP SED	Metals	Sodium	U	P	360
SAS041	SED-SA2-GMCS-PDA3	Metals	Sodium	U	P	210
SAS041	SED-SA2-GMCS-PDA4	Metals	Sodium	U	P	150

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SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
SAS041	SED-SA2-GMCS-PDA5	Metals	Sodium	U	P	270
SAS041	SED-SA2-GMCS-PDA9	Metals	Sodium	U	P	140
SAS041	SED-SA2-GMCS-PDA9A	Metals	Sodium	U	P	150
SAS041	SED-SA2-GMCS-PDA9	Metals	Manganese	J	K,M	
SAS041	SED-SA2-GMCS-PDA9	Metals	Vanadium	J	K	
SAS041	SED-SA2-GMCS-PDA9	Metals	Calcium	J	M	
SAS041	SED-SA2-GMCS-PDA9	Metals	Magnesium	J	M	
SAS041	SED-SA2-GMCS-R3AM	Metals	Lead	J	M	
SAS041	SED-SA2-GMCS-R3AM	Metals	Manganese	J	M	
SAS042	ABWTF	Pesticides	All Pesticides	J/UJ	S	
SAS042	ABWTF	Herbicides	Dicamba	J	L	
SAS042	ABWTF	Metals	Selenium	U	P	
SAS042	ABWTF	Metals	Selenium, dissolved	U	P	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,6,7,8-HpCDF	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,7,8,9-HpCDF	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,4,7,8-HxCDF	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	1,2,3,6,7,8-HxCDD	J	Q	
G5E070192	SA-O-1-SB-3	Dioxins	OCDD	J	Q,I	
G5E070192	SA-O-1-SB-3	Dioxins	OCDF	J	I	
G5E070192	SA-O-1-SB-3 (TCLP)	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E070192	SA-O-1-SB-3 (TCLP)	Dioxins	OCDD	J	Q	
G5E110377	AT-Q-25-WS-9'	Dioxins	1,2,3,6,7,8 - HxCDD	J	L	
G5E110377	AT-Q-25-WS-9'	Dioxins	2,3,7,8-TCDD	J	L	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,6,7,8-HpCDD	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,6,7,8-HpCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,7,8,9-HpCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,7,8-HxCDD	UJ	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,4,7,8-HxCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,6,7,8 - HxCDD	J	L,I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,6,7,8-HxCDF	UJ	I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,7,8,9 - HxCDD	J	L,I	
G5E110377	SA-O-2-WS-9	Dioxins	1,2,3,7,8,9-HxCDF	UJ	I	
G5E110377	SA-O-2-WS-9	Dioxins	2,3,4,6,7,8-HxCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HpCDD	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HpCDF	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HxCDD	J	I	
G5E110377	SA-O-2-WS-9	Dioxins	Total HxCDF	J	I	
G5E110377	SA-O-2-WS-9 (TCLP)	Dioxins	1,2,3,4, 6,7,8-HpCDD	U	Z	
G5E110377	SA-O-2-WS-9 (TCLP)	Dioxins	OCDD	U	Z	
G5E110377	SA-O-2-WS-9 (TCLP)	Dioxins	Total HpCDD	U	Z	
G5E110377	SA-O-2-WS-9-D	Dioxins	1,2,3,6,7,8 - HxCDD	J	L	
G5E110377	SA-O-2-WS-9-D (TCLP)	Dioxins	OCDD	U	Z	
G5E110377	SA-O-3-WS-9	Dioxins	All detected Dioxins	J	M	
G5E110377	SA-O-3-WS-9	Dioxins	All non-detect Dioxins	UJ	M	
G5E110377	SA-O-3-WS-9	Dioxins	1,2,3,6,7,8 - HxCDD	J	L,M	
G5E110377	SA-O-3-WS-9	Dioxins	1,2,3,7,8,9 - HxCDD	J	L,M	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	1,2,3,4,6,7,8-HpCDD	U	Z	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	OCDD	U	Z	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	Total HpCDD	U	Z	
G5E110377	SA-O-3-WS-9 (TCLP)	Dioxins	Total HpCDF	U	Z	
G5E110377	SA-O-4-SB-6	Dioxins	1,2,3,6,7,8 - HxCDD	J	L	
G5E120226	SA-P-1-FB	Dioxins	2,3,7,8-TCDF	UJ	L	
G5E140175	AT-Q-21-WS-8'	Dioxins	1,2,3,4,7,8-HxCDD	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	1,2,3,6,7,8-HxCDD	J	L,F	
G5E140175	AT-Q-21-WS-8'	Dioxins	1,2,3,7,8,9-HxCDD	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	OCDD	J	Q,I	
G5E140175	AT-Q-21-WS-8'	Dioxins	OCDF	J	I	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total HxCDD	J	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total PeCDD	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total PeCDF	UJ	F	
G5E140175	AT-Q-21-WS-8'	Dioxins	Total TCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	1,2,3,4,7,8-HxCDD	J	F	

Table 6-51
Sauget Area 2
2005 Qualifiers

SDG	Field ID	Analysis	Analyte	URS Qual.	Code	New RL
G5E140175	AT-Q-21-WS-8'-D	Dioxins	1,2,3,6,7,8-HxCDD	J	L,F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	1,2,3,7,8,9-HxCDD	J	L,F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	OCDD	J	Q	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total HxCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total PeCDD	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total PeCDF	J	F	
G5E140175	AT-Q-21-WS-8'-D	Dioxins	Total TCDD	J	F	
G5E190437	SA-Q-10-SS-0.5	Dioxins	OCDD	J	Q	
G5E210201	AT-Q-33-SB-5 (TCLP)	Dioxins	OCDD	U	Z	
G5E210201	HT-Q-35-WS-8' (TCLP)	Dioxins	OCDD	U	Z	
G5E260238	HT-Q-32-SB-6'	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E260238	HT-Q-32-SB-6'	Dioxins	OCDD	J	Q,I	
G5E260238	HT-Q-32-SB-6'	Dioxins	OCDF	J	I	
G5E260238	HT-Q-32-SB-6' (TCLP)	Dioxins	OCDD	U	Z	
G5E280189	AT-P-4-SB-4'	Dioxins	OCDD	J	Q	
G5E280189	AT-P-4-SB-4' (TCLP)	Dioxins	OCDD	U	Z	
G5E280189	AT-P-4-SB-4'-D (TCLP)	Dioxins	OCDD	U	Z	
G5E280206	AT-P-2-WS-10'	Dioxins	OCDD	J	X	
G5E280206	AT-P-2-WS-10-FB	Dioxins	2,3,7,8-TCDD	UJ	L	
G5E280206	SOIL-0-5-FB	Dioxins	2,3,7,8-TCDD	UJ	L	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,6,7,8-HpCDD	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,6,7,8-HpCDF	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,7,8,9-HpCDF	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,4,7,8-HxCDF	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	1,2,3,6,7,8-HxCDD	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	2,3,4,7,8-PeCDF	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	2,3,7,8-TCDF	J	Q	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	OCDD	J	Z	
G5E280206	SOIL-0-5-SB-5.5	Dioxins	OCDF	J	Q	
G5F150460	AT-P-3-WS-10	Dioxins	OCDD	J	Q	

Not included in this document

SAS001 through SAS019

DATA VALIDATION WORKSHEET
VOLATILE ORGANIC ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/11/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS001
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No analytes required qualification based on this data review.

Field IDs:

TB-2
AA-P-7-32
AA-P-8-42
AA-P-8-62
AA-P-8-82
AA-P-7-52
AA-P-8-102
Trip Blank 1
Trip Blank 2
Trip Blank 3

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		x	

Note: No anomalies were noted in the case narrative or cooler receipt forms.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If sample preservation and/or temperature was inappropriate (i.e., <2° >6°C, etc.), comment in report. If unpreserved or temperature is outside the range 0° (but not frozen) to 10° flag all positive results with a "J" and all non-detects "UJ". If temperature exceeds 10°, flag positive detections "J" and non-detects "R".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? If yes, J(+)/UJ(-).		x	
	Matrix / Preserved / Aromatic / All others			
	Aqueous / No / 7 days / 14 days			
	Yes / 14 days / 14 days			
	Soil/Sediment / 4 ^{o}C $\pm$ 2 ^{o}C / 14 days / 14 days			
2.3	Have any technical holding times been grossly (twice the holding time) exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 GC/MS Instrument Performance Check (Code T)

		Yes	No	NA
3.1	Are GC/MS Tuning and Mass Calibration forms present for bromofluorobenzene (BFB)?			x
3.2	Have all samples been analyzed within twelve hours of the BFB tune? If no, flag R.			x
3.3	Have ion abundance criteria for BFB been met for each instrument used? If no, flag R.			x

Note:

4.0 Blanks (Method Blanks, Field Blanks and Trip Blanks)

(Code X - Field Blank Contamination, Code Y - Trip blank contamination, Code Z - Method blank contamination)

		Yes	No	NA
4.1	Is a Method Blank Summary form present for each batch?	x		
4.2	Do any method blanks have positive VOA results (TCL and/or TIC)?		x	
4.3	Do any field/trip rinse/equipment blanks have positive VOA results (TCL and/or TIC)?		x	
	Action: Positive sample results <5X (or 10X for common volatile lab contaminants- methylene chloride, acetone, and 2-butanone) the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
4.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

5.0 GC/MS Initial Calibration (Code C)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are CCCs linear applying either %RSD 30% and all other compounds <15% or >0.990?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	Do any SPCC compounds have an RRF less than specification or any other compounds < 0.05 (use 0.01 for poor responders like ketones or alcohols)? If yes, J(+)/R(-).			x
5.4	Is the lowest standard at the same concentration, or lower, as the RL reported? If not, elevate RL.			x
5.5	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Have all SPCCs and CCCs met method specifications? If not, comment in report, proceed to 6.4.			x
6.4	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration RRF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.5	Do any compounds have an RRF < 0.05 (use 0.01 for poor responders)? If yes, J(+)/R(-).			x
6.6	If Level IV, calculate a sample of RFs and %Ds from each RF to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?	x		
7.3	If No in Section 7.2, were these sample(s)) or method blank(s)) reanalyzed?			x
7.4	If No in Section 7.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)			x
	Note: If SMC recoveries do not meet acceptance criteria in samples chosen for the MS/MSD or diluted samples, then no reanalysis is required.			
	> UCL / 10% to LCL / < 10%			
	Positive: J / J / J			
	Non-detect: None / UJ / R			

Note: All surrogate recoveries were within evaluation criteria.

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Recovery - Code M, RPD - Code D)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?		x	
8.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?			x
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?			x
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* . Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note:

9.0 Laboratory Control Sample (LCS/LCSD) (Recovery - Code L, RPD - Code E)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
9.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
9.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note: All LCS recoveries were within evaluation criteria.

10.0 Internal Standards (Code I)

					Yes	No	NA
10.1	Are internal standard areas for every sample and blank within upper and lower QC limits?				x		
		Area > +100%	Area < -50%	Area < -10%			
	Positive	J	J	J			
	Non-detect	None	UJ	R			
	Note: The method specification is for the continuing calibration to be compared to the mid-point initial calibration, not sample to continuing calibration. Thus, if all other QC specifications are met for a given sample, using informed professional judgment, the reviewer may choose not to flag individual samples in this case.						
10.2	Are retention times of internal standards within 30 seconds of the associated calibration standard?				x		
	Action: The chromatogram must be examined to determine if any false positives or negatives exist. For shift of a large magnitude, the reviewer may consider partial or total rejection of the data for non-detects in that sample/fraction.						

Note: All internal standard area counts and retention times were within evaluation criteria.

11.0 TCL Identification (Code W)

		Yes	No	NA
11.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x
11.2	Are the three ions of greatest intensity present in the standard mass spectrum also present in the sample mass spectrum; and do sample and standard relative ion intensities agree within 30%?			x

Note:

12.0 TCL/TIC Quantitation and Reported Detection limits (Code K)

		Yes	No	NA
12.1	Are RLs used consistent with those specified in the QAPP?			x
12.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
12.3	Are TIC ions greater than ten percent in the reference spectrum also present in the sample spectrum?			x
12.4	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
12.5	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note: TICs were not reported.

13.0 Field Duplicate Samples (Code F)

		Yes	No	NA
13.1	Were any field duplicates submitted for VOC analysis?		x	
13.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?			x
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note:

14.0 Data Completeness

			Yes	No	NA
14.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
14.2	Number of samples:	10			
14.3	Number of target compounds in each analysis:	33			
14.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((14.1 * 14.2) - 14.3) / (14.1 * 14.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
SEMIVOLATILE ORGANIC ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/11/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS 001
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No samples were qualified in this SDG.

Field IDs:

AA-P-7-32
AA-P-8-42
AA-P-8-62
AA-P-8-82
AA-P-7-52
AA-P-8-102

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: Samples had to be reanalyzed outside of holding time due to internal standards outside QC limits. The MS/MSD had recoveries outside QC limits. The surrogate analytes had recoveries outside QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (>10°), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time) If yes, J(+)/UJ(-).	x		
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).	x		

Note: All samples were re-extracted 25 days outside of holding time. The original analyses will be used.

3.0 GC/MS Instrument Performance Check (Code T)

		Yes	No	NA
3.1	Are GC/MS Tuning and Mass Calibration forms present for DFTPP?	x		
3.2	Have all samples been analyzed within twelve hours of the tune?	x		
	If no, the data for the affected standards, blanks, field samples or QC samples are rejected "R".			
3.3	Have ion abundance criteria for DFTPP been met for each instrument used?	x		
	If no, all standards, blanks, field samples and QC samples are rejected "R".			

Note:

4.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
4.1	Is a Method Blank Summary form present for each batch?	x		
4.2	Do any method/instrument/reagent blanks have positive results (TCL, and/or TIC)?		x	
4.3	Do any field equipment blanks have positive results (TCL, and/or TIC)?		x	
	Action: Positive sample results <5X (or 10X for phthalate contaminants) the blank concentration should be qualified "U" and the detection limit elevated to the RL for estimate concentrations.			
4.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

5.0 GC/MS Initial Calibration (Code C)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are CCCs linear applying either %RSD 30% and all other compounds <15% or >0.990?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			x
5.3	Do any SPCC compounds have an RRF les than specification or any other compounds < 0.05 (use 0.01 for poor responders like amines and phenols)? If yes, J(+)/R(-).			x
5.4	Is the lowest standard at the same concentration, or lower, as the RL reported? If not, elevate RL.			x
5.5	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Have all SPCCs and CCCs met method specifications? If not, comment in report, proceed to 6.4.			x
6.4	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration RRF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.5	Do any compounds have an RRF < 0.05 (use 0.01 for poor responders)? If yes, J(+)/R(-).			x
6.6	If Level IV, calculate a sample of RFs and %Ds from each RF to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples and method blanks?		x	
7.3	Are more than one of either fraction outside the acceptance criteria?	x		
7.4	If Yes in Section 7.3, are these sample(s)) or method blank(s)) reanalyzed?		x	
7.5	If Yes in Section 7.3, is any sample dilution factor greater than 10?			x
	Note: If SMC recoveries display unacceptable recoveries in the MS and/ or diluted samples, then no reanalysis is required and acids and base/ neutrals are assessed separately.			
	> UCL 10% to LCL < 10%			
	Positive J J J			
	Non-detect None UJ R			

Note: Two surrogate recoveries in the method blank were outside QC limits. No qualification of data was required.

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Recovery - Code M, RPD - Code D)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
8.2	Are MS/MSDs analyzed at the required frequency not to exceed twenty field samples for each matrix?	x		
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria provided by the laboratory?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Several analytes were outside QC limits for the MS/MSD sample; however the LCS was within QC limits. Therefore, no qualification of data was required.

9.0 Laboratory Control Sample (LCS/LCSD) (Recovery - Code L, RPD - Code E)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is LCS analyzed at the required frequency for each matrix?	x		
9.3	Are all LCS %Rs (and RPDs) within acceptance criteria?	x		
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			
9.4	If Level IV, verify the % recoveries are calculated correctly.			x

Note:

10.0 Internal Standards (Code I)

		Yes	No	NA
10.1	Are internal standard area of every sample and blank within upper and lower QC limits for each continuing calibration?		x	
	Area > +100% / Area < -50% / Area < -10%			
	Positive: J / J / J			
	Non-detect: None / UJ / R			
	Note: The method specification is for the continuing calibration to be compared to the mid-point initial calibration, not sample to continuing calibration. Thus, if all other QC specifications are met for a given sample, using informed professional judgment, the reviewer may choose not to flag individual samples in this case.			
10.2	Are retention times of internal standards within 30 seconds of the associated calibration standard?	x		
	Action: The chromatogram must be examined to determine if any false positives or negatives exist. For shift of a large magnitude, the reviewer may consider partial or total rejection of the data for non-detects in that sample/fraction.			

Note: The method blank had internal standards outside QC limits.

11.0 TCL Identification (Code W)

		Yes	No	NA
11.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x
11.2	Are the three ions of greatest intensity present in the standard mass spectrum also present in the sample mass spectrum; and do sample and standard relative ion intensities agree within 30%?			x

Note:

12.0 TCL/TIC Quantitation and Reported Detection limits (Code K)

		Yes	No	NA
12.1	Are RLs used consistent with those specified in the QAPP?			x
12.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
12.3	Are TIC ions greater than ten percent in the reference spectrum also present in the sample spectrum?			x
12.4	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
12.5	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

13.0 Field Duplicate Samples (Code F)

		Yes	No	NA
13.1	Were any field duplicates submitted for SVOC analysis?		x	
13.2	Were all RPD or absolute difference values within the control limits?			x
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note:

14.0 Data Completeness

			Yes	No	NA
14.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
14.2	Number of samples:	6			
14.3	Number of target compounds in each analysis:	65			
14.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((14.1 x 14.2) - 14.3) / (14.1 x 14.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
HERBICIDES ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/11/2005	**Project Number:**	21561510.60010
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS001
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No samples required qualification in this SDG.

Field IDs:

AA-P-7-32
AA-P-8-42
AA-P-8-62
AA-P-8-82
AA-P-8-102
AA-P-7-52

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The laboratory case narrative indicated the MS/MSD had recoveries outside the QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage conditions meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{o}C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time) If yes, J(+)/UJ(-).		x	
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 Blanks (Method Blanks and Field Blanks)

(Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
3.1	Is a Method Blank Summary form present for each batch?	x		
3.2	Do any method blanks have positive results?		x	
3.3	Do any field/rinse/equipment blanks have positive results?		x	
	Action: Positive sample results <5X the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
3.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note: All method blanks were non-detect for all target analytes.

4.0 Initial Calibration (Code R)

		Yes	No	NA
4.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
4.2	Are calibration factors stable (%RSD values < 20% or >0.995) over the concentration range of the instrument?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
4.3	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

5.0 Continuing Calibration (Code C)

		Yes	No	NA
5.1	Are Continuing Calibration Summary forms present and complete?			x
5.2	Has a continuing calibration standard been analyzed every 12 hours?			x
5.3	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration CF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
5.4	If Level IV, calculate a sample of CFs and %Ds from each CF to verify correct calculations.			x

Note:

6.0 Surrogate Recovery (Code S)

					Yes	No	NA
6.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?				x		
6.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?				x		
6.3	If No in Section 6.2, were these sample(s)) or method blank(s)) reanalyzed?						x
6.4	If No in Section 6.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)						x
		> UCL	10% to LCL	< 10%			
	Positive	J	J	J			
	Non-detect	None	UJ	R			

Note: All surrogate recoveries were within evaluation criteria.

7.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Code M - recovery, Code D - RPD)

		Yes	No	NA
7.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?		x	
7.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?			x
7.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?			x
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* . Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: The narrative indicated that the MS/MSD results were outside QC limits. However, the MS/MSD sample for this batch was not analyzed with this SDG. Therefore, no qualification of data was required.

8.0 Laboratory Control Sample (LCS/LCSD) (Code L - LCS recovery Code E - RPD)

		Yes	No	NA
8.1	Is an LCS recovery form present?	x		
8.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
8.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
8.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note: All LCS recoveries were within evaluation criteria.

9.0 TCL Identification (Code W)

		Yes	No	NA
9.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x

Note:

10.0 TCL Quantitation and Reported Detection limits (Code P)

		Yes	No	NA
10.1	Are RLs used consistent with those specified in the QAPP?			x
10.2	Are these limits adjusted to reflect dilutions and/or percent solids as required?			x
10.3	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
10.4	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

11.0 Field Duplicate Samples (Code F)

		Yes	No	NA
11.1	Were any field duplicates submitted for herbicide analysis?		x	
11.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?		x	
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note:

12.0 Data Completeness

			Yes	No	NA
12.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
12.2	Number of samples:	6			
12.3	Number of target compounds in each analysis:	10			
12.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((12.1 x 12.2) - 12.3) / (12.1 x 12.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET - Level III Review
Inorganic - ICP, ICP-MS, GFAA, and CVAA

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/11/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS001
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No samples required qualification.

Field IDs:

AA-P--7-32
AA-P-8-42
AA-P-8-62
AA-P-8-82
AA-P-7-52
AA-P-8-102

1.0 Chain of Custody/Sample Condition/Raw Data

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples that were analyzed?	x									x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x									x		
1.3	Do the traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x										x	
1.4	Does sample preservation, collection and storage meet method requirements? (water samples: with Nitric Acid to pH < 2, and soil/sediment samples: 4 $^{o}C \pm 2\ ^{o}C$)	x									x		
1.5	Are the digestion logs present and complete with pH values, sample weights, dilutions, final volumes. % solids (for soil samples), and preparation dates? For any missing or incomplete documentation, contact the laboratory for explanation/resubmittal.	x									x		

Note: The laboratory case narrative indicated that the MS/MSD had recoveries outside the QC limits.

2.0 Holding Time (Code H)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
2.1	Have any technical holding times, determined from date of collection to date of analysis, been exceeded? (Hg: 28days, other metals: 6 months) See attached Holding Time Table.		x									x	
	Action: J(+)/UJ(-). If the holding times are grossly exceeded (twice the holding time criteria) J(+)/R(-).												

Note: All samples were analyzed within holding time criteria.

3.0 Instrument Calibration (Code C)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
3.1	Are sufficient standards included in the calibration curve? (ICP/ICP-MS: blank + one standard; GFAA: blank + three standards; CVAA: blank + five standards)			x									
3.2	Are the correlation coefficients > 0.995? (for GFAA and CVAA) Action: J(+)/UJ(-).												x
3.3	Was an initial calibration verification (ICV) analyzed at the beginning of each analysis? Action: If no, use professional judgment to determine affect on the data and note in reviewer narrative.			x									x
3.4	Was continuing calibration verification (CCV) performed every 10 analysis or every 2 hours, whichever is more frequent? Action: If no, use professional judgment to determine affect on the data and note in reviewer narrative.			x									x
3.5	Are all calibration standard percent recoveries (ICV and CCV) within the control limits? Mercury (80%-120%) and other Metals (90%-110%).			x									x
	Action: R(+/-) J(+)/UJ(-) J(+) R(+)												
	Mercury < 65% 65% - 79% 121% - 135% > 135%												
	Other Metals < 75% 75% - 89% 111% - 125% > 125%												

Note:

4.0 Blanks (Code 0 - Calibration blank failure, Code P - Preparation blank failure, Code X - Field blank failure)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
4.1	Were preparation blank (PB) prepared at the appropriate frequency (one per 20 samples, per batch, per matrix and per level)?	x									x		
4.2	Are there reported PB values > + IDL? Action: If yes, action level of 5 times the blank value are determined for positive and negative blank values.	x										x	
4.3	Were initial calibration blanks (ICB) analyzed? Action: If no, use professional judgment to determine affect on the data note in reviewer narrative.	x									x		
4.4	Were continuing calibration blanks (CCB) analyzed after every 10 samples or every 2 hours whichever is more frequent? Action: If no, use professional judgment to determine affect on the data to note in reviewer narrative.	x									x		
4.5	Are there reported ICB or CCB values > + IDL? Action: If yes, action level of 5 times the blank value are determined for positive and negative blank values.	x										x	
4.6	Are there samples with concentrations less than five times the highest level in associated blanks? Action: If yes, U at reported concentration.		x									x	
4.7	Are there samples with non-detect results or with concentrations less than five times the most negative value in associated blanks? Action; If yes, J(+)/UJ(-).		x									x	

Note: Several target analytes were detected above the IDL; however, the sample values were greater than 5 times the blank results. No qualification of data was required.

5.0 ICP Interference Check Sample (ICS) (Code N)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
5.1	Was ICS AB analyzed at beginning of each ICP run (or at least twice every 8 hours), and at the beginning or once every 8 hours (whichever is more frequent) for ICP-MS?			x									
5.2	Are the ICS AB recoveries within 80% - 120%?			x									
5.3	Are the results for unspiked analytes (in ICS A) < + IDL?			x									
5.4	If not, are the associated sample Al, Ca, Fe, and Mg concentrations less than the level in the ICS?			x									
	Action: Not Spiked Analytes; Spiked analytes (ICS AB analytes)												
	< -IDL; > IDL; < 50%; 50% - 79%; > 120%												
	UJ(-); J(+); R(+/-); J(+)/UJ(-); J(+)												

Note:

6.0 Laboratory Control Sample (LCS) (Code L - Recovery, Code E - RPD)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
6.1	Was an LCS prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+) any sample not associated with LCS results.	x									x		
6.2	Is any LCS recovery outside the control limits? (Aqueous limits: 80% - 120% - except Ag and Sb; Solid limits: as per EPA-EMSL/LV)		x									x	
	Action: Solid / Aqueous												
	< LCL / > UCL / < 50% / 50% - 79% / > 120%												
	J(+)/UJ(-) / J(+) / R(+/-) / J(+)/UJ(-) / J(+)												

Note: All recoveries were within criteria.

7.0 Laboratory Duplicates (Code K)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
7.1	Were Laboratory duplicates prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+), with professional judgment, analytes not associated with Duplicate results.	x									x		
7.2	Was a field blank used for the duplicate analysis? Action: If yes, J(+) with professional judgment. Note in worksheet.		x									x	
7.3	Are all analyte duplicate results within control? (RPD values < 20% or difference < ± PQL for aqueous, and RPD < 35% or difference < ±2 X PQL for solids) Action: If no, J(+).	x									x		
	Note: RPD criteria is used when both sample and duplicate results are > 5 X IDL.												

Note: All RPDs were within criteria. Sample AA-P-8-42 was used as the duplicate sample.

8.0 Spike Sample Analysis -Pre-Digestion (Code M - Recovery, Code D - RPD)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
8.1	Was a spiked sample prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+), with professional judgment, analytes not associated with matrix spike results.	x									x		
8.2	Was a field blank used for the MS analysis? Action: If yes, J(+) with professional judgment. Note in worksheet.		x									x	
	Note: Matrix spike analysis may be performed on a field blank when it is the only aqueous sample in an SDG.												
8.3	For all analytes with sample concentration < 4 x spike concentration, are spike recoveries within the control limit of 75-125%? (No control limit applies to analytes with concentration > 4 x spike concentration.)	x									x		
	%R > 125% 30% < %R < 74% %R < 30%												
	Positive J J J												
	Non-detect None UJ R												

Note: Sample AA-P-8-42 was spiked and analyzed. All recoveries were within QC limits.

9.0 Instrument Detection Limits (IDL)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
9.1	Are all IDL equal to or less than the reporting limits specified?			x									x

Note:

10.0 ICP Serial Dilutions (Code S)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
10.1	Were serial dilutions performed?	x											
10.2	Was a five-fold dilution performed?	x											
10.3	Did the serial dilution results agree within 10% for analyte concentration > 50 x the IDL in the original sample? If no, J(+).	x											

Note: Sample AA-P-8-42 was diluted and analyzed. All %Ds were within QC limits.

11.0 Field Duplicate Samples (Code F)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
11.1	Were any field duplicates submitted for metal analysis?		x									x	
11.2	Are all field duplicate results within control? (For aqueous sample, RPD values < 50% or difference < ± 2 x PQL and For solids, RPD < 100% or difference < ± 4 x PQL)			x									x

Note:

12.0 Result Verification (Code Q)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
12.1	Were all results and detection limits for solid-matrix samples reported on a dry-weight basis?			x									x
12.2	Were all dilution reflected in the positive results and detection limits?			x									x

Note:

13.0 Data Completeness

13.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)							
13.2	Number of samples:	6		0		0		6
13.3	Number of target compounds in each analysis:	22		22		0		1
13.4	Number of results rejected and not reported:	0		0		0		0
	% Completeness = 100 x ((13.1 x 13.2) - 13.3) / (13.1 x 13.2)							
	% Completeness	**100**		**####**		**####**		**100**

Note:

DATA VALIDATION WORKSHEET
WET CHEMISTRY ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/11/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS001
Test Name:	Ammonia	**Review Level:**	Level III
Method No.:	350.1		

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No samples were qualified in this SDG.

Field IDs:

AA-P-7-32
AA-P-8-42
AA-P-8-62
AA-P-8-82
AA-P-8-102
AA-P-7-52

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		x	

Note:

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{o}C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time) If yes, J(+)/UJ(-).		x	
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
3.1	Is a Method Blank Summary form present for each batch?	x		
3.2	Do any method blanks have positive results?		x	
3.3	Do any field/rinse/equipment blanks have positive results?		x	
	Action: Positive sample results <5X the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
3.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

4.0 Initial Calibration (Code C)

		Yes	No	NA
4.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
4.2	Are correlation coefficients stable (>0.995) over the concentration range of the instrument?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
4.3	If Level IV, recalculate the correlation coefficient to verify correct calculations are being made.			x

Note:

5.0 Continuing Calibration (Code R)

		Yes	No	NA
5.1	Are Continuing Calibration Summary forms present and complete?			x
5.2	Has a continuing calibration standard been analyzed every 10 samples?			x
5.3	Do any analytes have a %R outside QC limits (80-120%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %R < 50%, flag R.			
5.4	If Level IV, calculate a sample of %Rs.			x

Note:

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Code M - recovery, Code D - RPD)

		Yes	No	NA
6.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
6.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?	x		
6.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: The MS/MSD sample had recoveries outside the QC limits; however, the parent sample was not included in this SDG. No qualification of data was required.

7.0 Laboratory Control Sample (LCS/LCSD) (Code L - LCS recovery Code E - RPD)

		Yes	No	NA
7.1	Is an LCS recovery form present?	x		
7.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
7.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
7.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note: All LCS recoveries were within evaluation criteria.

8.0 Analyte Identification

		Yes	No	NA
8.1	Is the relative retention time (RRT) of each reported compound (if applicable) within 0.06 RRT units of the standard RRT in the continuing calibration?			x

Note:

9.0 Analyte Quantitation and Reported Detection limits

		Yes	No	NA
9.1	Are RLs used consistent with those specified in the QAPP?			x
9.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
9.3	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
9.4	If Level IV, calculate a sample of positive results to verify correct calculations			x

Note:

10.0 Field Duplicate Samples (Code F)

		Yes	No	NA
10.1	Were any field duplicates submitted?		x	
10.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?			x
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note:

11.0 Laboratory Duplicates (Code K)

		Yes	No	NA
11.1	Were Laboratory duplicates prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+), with professional judgment, analytes not associated with duplicate results.	x		
11.2	Was a field blank used for the duplicate analysis? Action: If yes, J(+) with professional judgment. Note in worksheet.		x	
11.3	Are all analyte duplicate results within control? (RPD values < 20% or difference < + PQL for aqueous, and RPD < 35% or difference < + 2 X PQL for solids)? Action: If no, J(+). Note: RPD criteria is used when both sample and duplicate results are > 5 X IDL.	x		

Note: All RPD's were within criteria.

12.0 Data Completeness

			Yes	No	NA
12.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample)		x		
12.2	Number of samples:	6			
12.3	Number of target compounds in each analysis:	1			
12.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((12.1 x 12.2) - 12.3) / (12.1 x 12.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
VOLATILE ORGANIC ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	8/2/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS002
		Review Level:	Level III

Major Anomalies:

Samples AT-Q-23-SB-6 and AT-Q-23-SB-6RA had analytes that were rejected, these are listed below.

Minor Anomalies:

Samples AT-Q-31-SB-6, AT-Q-31-SB-6RA, AT-Q-23-SS-0.5, AT-Q-23-SB-6, AT-Q-23-SB-6RA, and SA-Q-7-SB-5 had several analytes that were qualified estimated. These are listed in the sections below.

Field IDs:

SA-Q-6-WS-16'	TB-1	SA-Q-6-SS-0.5'
SA-Q-6-SB-6	SA-Q-7-SS-1	SA-Q-7-SB-5
SA-Q-7-SB-5-D	SA-Q-5-SS-1.5	SA-Q-5-SB-6
AT-Q-31-SB-6	AT-Q-31-WS-12	AT-Q-23-SB-6
AT-Q-23-SS-0.5	AT-Q-31-SS-0.5	

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The laboratory case narrative indicated that certain analytes in the surrogate and MS/MSD analysis were outside QC limits. The narrative also indicated that several samples were analyzed at initial dilutions due to target analyte abundance.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If sample preservation and/or temperature was inappropriate (i.e., <2° >6°C, etc.), comment in report. If unpreserved or temperature is outside the range 0° (but not frozen) to 10° flag all positive results with a "J" and all non-detects "UJ". If temperature exceeds 10°, flag positive detections "J" and non-detects "R".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? If yes, J(+)/UJ(-).	x		
	Matrix / Preserved / Aromatic / All others			
	Aqueous / No / 7 days / 14 days			
	Yes / 14 days / 14 days			
	Soil/Sediment / 4 ^{o}C ± 2 ^{o}C / 14 days / 14 days			
2.3	Have any technical holding times been grossly (twice the holding time) exceeded? If yes, J(+)/ R(-).		x	

Note: The holding time for sample TB-1 was exceeded by 4 days. However, this sample is a trip blank and no qualification of data was required.

3.0 GC/MS Instrument Performance Check (Code T)

		Yes	No	NA
3.1	Are GC/MS Tuning and Mass Calibration forms present for bromofluorobenzene (BFB)?			x
3.2	Have all samples been analyzed within twelve hours of the BFB tune? If no, flag R.			x
3.3	Have ion abundance criteria for BFB been met for each instrument used? If no, flag R.			x

Note:

4.0 Blanks (Method Blanks, Field Blanks and Trip Blanks)

(Code X - Field Blank Contamination, Code Y - Trip blank contamination, Code Z - Method blank contamination)

		Yes	No	NA
4.1	Is a Method Blank Summary form present for each batch?	x		
4.2	Do any method blanks have positive VOA results (TCL and/or TIC)?		x	
4.3	Do any field/trip rinse/equipment blanks have positive VOA results (TCL and/or TIC)?		x	
	Action: Positive sample results <5X (or 10X for common volatile lab contaminants- methylene chloride, acetone, and 2-butanone) the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
4.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

5.0 GC/MS Initial Calibration (Code C)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are CCCs linear applying either %RSD 30% and all other compounds <15% or >0.990?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	Do any SPCC compounds have an RRF less than specification or any other compounds < 0.05 (use 0.01 for poor responders like ketones or alcohols)? If yes, J(+)/R(-).			x
5.4	Is the lowest standard at the same concentration, or lower, as the RL reported? If not, elevate RL.			x
5.5	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Have all SPCCs and CCCs met method specifications? If not, comment in report, proceed to 6.4.			x
6.4	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration RRF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.5	Do any compounds have an RRF < 0.05 (use 0.01 for poor responders)? If yes, J(+)/R(-).			x
6.6	If Level IV, calculate a sample of RFs and %Ds from each RF to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?		x	
7.3	If No in Section 7.2, were these sample(s) or method blank(s) reanalyzed?	x		
7.4	If No in Section 7.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)	x		
	Note: If SMC recoveries do not meet acceptance criteria in samples chosen for the MS/MSD or diluted samples, then no reanalysis is required.			
	> UCL 10% to LCL < 10%			
	Positive J J J			
	Non-detect None UJ R			

Note: Samples SA-Q-6-WS-16' and SA-Q-6-WS-16'RA had surrogates that were not recovered due to dilutions. No qualification of data was required. Samples AT-Q-31-SB-6 and AT-Q-31-SB-6RA had surrogate recoveries above QC limits. All positive results were qualified as estimated (J). Sample AT-Q-23-SB-6RA had surrogates outside QC limits and results from the original analysis should be used. Sample AT-Q-23-SS-0.5 had surrogate recoveries outside QC limits, all associated analytes were qualified estimated (J/UJ).

Sample ID	Surrogate	Surrogate Recoveries	Surrogate Limits
AT-Q-31-SB-6	BFB / DBFM / TOL	**126 / 155 / 130**	68-121 / 66-127 / 65-128
AT-Q-31-SB-6RA	BFB / DBFM / TOL	**194 / 233 / 197**	68-121 / 66-127 / 65-128
AT-Q-23-SS-0.5	BFB	**47**	68-121

BFB = 4-Bromofluorobenzene DBFM = Dibromofluoromethane TOL = Toluene-d8

Sample ID	Analyte	Qualification	Code
AT-Q-31-SB-6	Toluene	J	S
AT-Q-31-SB-6	Chlorobenzene	J	S
AT-Q-31-SB-6	Ethylbenzene	J	S
AT-Q-31-SB-6	Xylenes, Total	J	S
AT-Q-31-SB-6RA	Toluene	J	S
AT-Q-31-SB-6RA	Chlorobenzene	J	S
AT-Q-31-SB-6RA	Ethylbenzene	J	S
AT-Q-31-SB-6RA	Xylenes, Total	J	S
AT-Q-23-SS-0.5	All VOCs	J/UJ	S

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Recovery - Code M, RPD - Code D)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
8.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?	x		
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria Specified in the QAPP?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Sample SA-Q-5-SB-6 was used as the MS/MSD. The MS/MSD had several analytes outside QC limits. Qualifications should not be made based on MS MSD alone and the LCS recoveries were within QC limits. No qualification of data was required.

9.0 Laboratory Control Sample (LCS/LCSD) (Recovery - Code L, RPD - Code E)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
9.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
9.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note:

10.0 Internal Standards (Code I)

		Yes	No	NA
10.1	Are internal standard areas for every sample and blank within upper and lower QC limits?		x	
	Area > +100% Area < -50% Area < -10%			
	Positive J J J			
	Non-detect None UJ R			
Note:	The method specification is for the continuing calibration to be compared to the mid-point initial calibration, not sample to continuing calibration. Thus, if all other QC specifications are met for a given sample, using informed professional judgment, the reviewer may choose not to flag individual samples in this case.			
10.2	Are retention times of internal standards within 30 seconds of the associated calibration standard?	x		
	Action: The chromatogram must be examined to determine if any false positives or negatives exist. For shift of a large magnitude, the reviewer may consider partial or total rejection of the data for non-detects in that sample/fraction.			

Note: Samples AT-Q-23-SB-6 and AT-Q-23-SB-6RA had internal standards outside QC limits. These samples were qualified estimated (J) for all detects and rejected (R) for all non-detects.

Field ID	Analytes	IS Recovery low/High	Internal Standard	Qualification	Code
AT-Q-23-SB-6	All detects	IS recoveries low	DCA / DFB / CBZ	J	I
AT-Q-23-SB-6	All Nondetects	IS recoveries low	DCA / DFB / CBZ	R	I
AT-Q-23-SB-6RA	All detects	IS recoveries low	DCA / DFB / CBZ	J	I
AT-Q-23-SB-6RA	All Nondetects	IS recoveries low	DCA / DFB / CBZ	R	I

DCA = 1,2-Dichloroethane-d4 DFB = 1,4-Difluorobenzene CBZ = Chlorobenzene-d5

11.0 TCL Identification (Code W)

		Yes	No	NA
11.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x
11.2	Are the three ions of greatest intensity present in the standard mass spectrum also present in the sample mass spectrum; and do sample and standard relative ion intensities agree within 30%?			x

Note:

12.0 TCL/TIC Quantitation and Reported Detection limits (Code K)

		Yes	No	NA
12.1	Are RLs used consistent with those specified in the QAPP?			x
12.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
12.3	Are TIC ions greater than ten percent in the reference spectrum also present in the sample spectrum?			x
12.4	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
12.5	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

13.0 Field Duplicate Samples (Code F)

		Yes	No	NA
13.1	Were any field duplicates submitted for VOC analysis?	x		
13.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?		x	
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Sample SA-Q-7-SB-5 was the parent sample of SA-Q-7-SB-5-D.

Field ID	Analytes	Qualification	Code
SA-Q-7-SB-5	Xylenes, total	UJ	F
SA-Q-7-SB-5-D	Xylenes, total	J	F

14.0 Data Completeness

			Yes	No	NA
14.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
14.2	Number of samples:	14			
14.3	Number of target compounds in each analysis:	33			
14.4	Number of results rejected and not reported:	32			
	% Completeness = 100 x ((14.1 * 14.2) - 14.3) / (14.1 * 14.2)				
	% Completeness	**93.1**			

Note:

DATA VALIDATION WORKSHEET
SEMIVOLATILE ORGANIC ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	8/3/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS002
		Review Level:	SAS002

Major Anomalies:

Analytes in samples AT-Q-23-SB-6 and AT-Q-23-SB-6 were rejected based on holding times and internal standard recoveries. These qualifications are listed below.

Minor Anomalies:

Analytes in sample AT-Q-23-SB-6 were qualified as estimated (J) due to internal standard recoveries.

Field IDs:

SA-Q-6-WS-16'	SA-Q-6-SS-0.5'	SA-Q-6-SB-6
SA-Q-7-SS-1	SA-Q-7-SB-5	SA-Q-7-SB-5-D
SA-Q-65-SS-1.5	SA-Q-5-SB-6	AT-Q-31-SB-6
AT-Q-31-WS-12	AT-Q-23-SB-6	AT-Q-23-SS-0.5
AT-Q-31-SS-0.5		

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: Samples were reanalyzed outside of holding time due to surrogate recoveries outside QC limits.
The MS/MSD had recoveries outside QC limits. The method blank sample had detections above the MDL.
The surrogate and internal standard analytes had recoveries outside QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10°C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time.) If yes, J(+)/UJ(-).	x		
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).	x		

Note: Sample AT-Q-23-SB-6RE was extracted 20 days outside of holding time. The original analyses will be used.

Field ID	Analyte	Qualification	Days late	Code
AT-Q-23-SB-6RE	All SVOCs	J/UJ	20	H

3.0 GC/MS Instrument Performance Check (Code T)

		Yes	No	NA
3.1	Are GC/MS Tuning and Mass Calibration forms present for DFTPP?			x
3.2	Have all samples been analyzed within twelve hours of the tune?			x
	If no, the data for the affected standards, blanks, field samples or QC samples are rejected "R".			
3.3	Have ion abundance criteria for DFTPP been met for each instrument used?			x
	If no, all standards, blanks, field samples and QC samples are rejected "R".			

Note:

4.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
4.1	Is a Method Blank Summary form present for each batch?	x		
4.2	Do any method/instrument/reagent blanks have positive results (TCL, and/or TIC)?	x		
4.3	Do any field equipment blanks have positive results (TCL, and/or TIC)?		x	
	Action: Positive sample results <5X (or 10X for phthalate contaminants) the blank concentration should be qualified "U" and the detection limit elevated to the RL for estimate concentrations.			
4.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note: The method blank associated with sample AT-Q-23-SB-6RE had a detection of Bis(2-ethylhexyl) phthalate. However, this sample has already been previously qualified due to hold time exceedances; therefore no further qualification of data was required.

5.0 GC/MS Initial Calibration (Code C)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are CCCs linear applying either %RSD 30% and all other compounds <15% or >0.990?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	Do any SPCC compounds have an RRF les than specification or any other compounds <0.05 (use 0.01 for poor responders like amines and phenols)? If yes, J(+)/R(-).			x
5.4	Is the lowest standard at the same concentration, or lower, as the RL reported? If not, elevate RL.			x
5.5	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Have all SPCCs and CCCs met method specifications? If not, comment in report, proceed to 6.4.			x
6.4	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration RRF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.5	Do any compounds have an RRF < 0.05 (use 0.01 for poor responders)? If yes, J(+)/R(-).			x
6.6	If Level IV, calculate a sample of RFs and %Ds from ave RF to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples and method blanks?		x	
7.3	Are more than one of either fraction outside the acceptance criteria?	x		
7.4	If Yes in Section 7.3, are these sample(s) or method blank(s) reanalyzed?		x	
7.5	If Yes in Section 7.3, is any sample dilution factor greater than 10?			x
	Note: If SMC recoveries display unacceptable recoveries in the MS and/ or diluted samples, then no reanalysis is required and acids and base/ neutrals are assessed separately.			
	> UCL 10% to LCL < 10%			
	Positive J J J			
	Non-detect None UJ R			

Note: Two surrogate recoveries in sample AT-Q-23-SB-6RE were outside QC limits; this sample was previously qualified due to hold time exceedances. No qualification of data was required.

Sample SA-Q-5-SB-6MS/MSD had surrogate recoveries outside QC limits. No qualification of data was required.

Sample AT-Q-23-SB-6 had one surrogate recovery outside QC limits; all other surrogate recoveries were within QC limits. No qualification of data was required.

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Recovery - Code M, RPD - Code D)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
8.2	Are MS/MSDs analyzed at the required frequency not to exceed twenty field samples for each matrix?	x		
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria provided by the laboratory?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Sample SA-Q-5-SB-6 was used as the MS/MSD sample. Several analytes were outside QC limits for the MS/MSD sample; however, the LCS was within QC limits. No qualification of data was required.

9.0 Laboratory Control Sample (LCS/LCSD) (Recovery - Code L, RPD - Code E)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is LCS analyzed at the required frequency for each matrix?	x		
9.3	Are all LCS %Rs (and RPDs) within acceptance criteria?	x		
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			
9.4	If Level IV, verify the % recoveries are calculated correctly.			x

Note:

10.0 Internal Standards (Code I)

		Yes	No	NA
10.1	Are internal standard area of every sample and blank within upper and lower QC limits for each continuing calibration?		x	
	Area > +100% Area < -50% Area < -10%			
	Positive J J J			
	Non-detect None UJ R			
Note:	The method specification is for the continuing calibration to be compared to the mid-point initial calibration, not sample to continuing calibration. Thus, if all other QC specifications are met for a given sample, using informed professional judgment, the reviewer may choose not to flag individual samples in this case.			
10.2	Are retention times of internal standards within 30 seconds of the associated calibration standard?	x		
	Action: The chromatogram must be examined to determine if any false positives or negatives exist. For shift of a large magnitude, the reviewer may consider partial or total rejection of the data for non-detects in that sample/fraction.			

Note: Two internal standard recoveries in sample AT-Q-23-SB-6RE were outside QC limits; this sample was previously qualified due to hold time exceedances. No qualification of data was required.

Sample SA-Q-5-SB-6MSD had internal standard recoveries outside QC limits. No qualification of data was required.

Sample AT-Q-23-SB-6 had internal standard recoveries below QC limits. Qualifications are listed below.

Field ID	Analytes	IS Recoveries Low/High	Internal Standards	Qualification	Code
AT-Q-23-SB-6	All detected SVOC	IS Recoveries Low	NPT / ANT	J	I
AT-Q-23-SB-6	All non-detected SVOC	IS Recoveries Low	NPT / ANT	R	I

NPT = Naphthalene-d8 ANT = Acenaphthene-d10

11.0 TCL Identification (Code W)

		Yes	No	NA
11.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x
11.2	Are the three ions of greatest intensity present in the standard mass spectrum also present in the sample mass spectrum; and do sample and standard relative ion intensities agree within 30%?			x

Note:

12.0 TCL/TIC Quantitation and Reported Detection limits (Code K)

		Yes	No	NA
12.1	Are RLs used consistent with those specified in the QAPP?			x
12.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
12.3	Are TIC ions greater than ten percent in the reference spectrum also present in the sample spectrum?			x
12.4	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
12.5	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

13.0 Field Duplicate Samples (Code F)

		Yes	No	NA
13.1	Were any field duplicates submitted for SVOC analysis?	x		
13.2	Were all RPD or absolute difference values within the control limits?	x		
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Sample SA-Q-7-SB-5 was the parent sample for SA-Q-7-SB-5-D

14.0 Data Completeness

			Yes	No	NA
14.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
14.2	Number of samples:	13			
14.3	Number of target compounds in each analysis:	65			
14.4	Number of results rejected and not reported:	60			
	% Completeness = 100 x ((14.1 x 14.2) - 14.3) / (14.1 x 14.2)				
	% Completeness	**92.9**			

Note:

DATA VALIDATION WORKSHEET
PESTICIDES/PCBs ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	8/3/2005	**Project Number:**	21561511.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS002
		Review Level:	Level III

Major Anomalies:

The re-extraction of samples AT-Q-23-SB-6 and AT-Q-23-SS-0.5 were performed outside holding time criteria, qualifications are listed below.

Minor Anomalies:

Several sample had outlying LCS, MS/MSD, and surrogate analytes, there qualifications are listed below.

Field IDs:

SA-Q-6-WS-16'	SA-Q-6-SS-0.5'	SA-Q-6-SB-6
SA-Q-7-SS-1	SA-Q-7-SB-5	SA-Q-7-SB-5-D
SA-Q-5-SS-1.5	SA-Q-5-SB-6	AT-Q-31-WS-12
AT-Q-23-SB-6	AT-Q-23-SS-0.5	

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The laboratory case narrative indicated that the LCS, MS/MSD, surrogate, and internal standard recoveries were outside QC limits. Although it is beyond the scope of this review it should be noted that the ICAL and CCV had recoveries outside the QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{o}C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time.) If yes, J(+)/UJ(-).	x		
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).	x		

Note: Samples AT-Q-23-SB-6 and AT-Q-23-SS-0.5 were initially extracted ten days outside holding times; these results are qualified estimated (J/UJ).
Samples AT-Q-23-SB-6 and AT-Q-23-SS-0.5 were re-extracted for pesticides 28 days outside holding times; these results are qualified rejected (R).

Sample ID	Analytes	Qualification	Code
AT-Q-23-SB-6	All PCB/Pesticide analytes	J/UJ	H
AT-Q-23-SS-0.5	All PCB/Pesticide analytes	J/UJ	H
AT-Q-23-SB-6RE	All Pesticide analytes	R	H
AT-Q-23-SS-0.5RE	All Pesticide analytes	R	H

3.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method Blank Contamination)

		Yes	No	NA
3.1	Is a Method Blank Summary form present for each batch?	x		
3.2	Do any method blanks have positive results (TCL)?		x	
3.3	Do any field/rinse/equipment blanks have positive results (TCL)?		x	
	Action: Positive sample results <5X the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
3.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

4.0 GC/ECD Instrument Performance Check (Code B)

		Yes	No	NA
4.1	Are Endrin and 4,4'-DDT breakdown forms present?			x
4.2	Have all samples been analyzed within twelve hours of the performance check sample?			x
	If no, the data for the affected standards, blanks, field samples or QC samples are rejected "R".			
4.3	Have percent breakdown criteria (15%) for endrin and 4,4'-DDT been met?			x
	If no, all standards, blanks, field samples and QC samples are rejected "R".			

Note:

5.0 Initial Calibration (Code R)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are response factors stable (%RSD values < 20% or >0.995) over the concentration range of the instrument?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code c)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration CF outside QC limits (%D < 15%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.4	If Level IV, calculate a sample of CFs and %Ds to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

					Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?				x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?					x	
7.3	If No in Section 7.2, were these sample(s))) or method blank(s))) reanalyzed?					x	
7.4	If No in Section 7.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)					x	
		> UCL	10% to LCL	< 10%			
	Positive	J	J	J			
	Non-detect	None	UJ	R			

Note: Several samples had surrogate recoveries outside QC limits, qualifications are listed below.

Sample ID	Surrogates	Surrogate Recoveries	Surrogate Limits
SA-Q-6-WS-16'	Decachlorobiphenyl-13C12	14	30-130
SA-Q-6-SB-6	Decachlorobiphenyl-13C12	22	30-130
SA-Q-7-SS-1	Decachlorobiphenyl-13C12	25	30-130
SA-Q-5-SS-1.5	Decachlorobiphenyl-13C12	19	30-130
SA-Q-5-SB-6	Decachlorobiphenyl-13C12	18	30-130
AT-Q-31-WS-12	Decachlorobiphenyl-13C12	18	30-130
AT-Q-23-SB-6	Tetrachloro-m-xylene	16	30-150
AT-Q-23-SS-0.5	Tetrachloro-m-xylene	26	30-150

Sample ID	Analytes	Qualification	Code
SA-Q-6-WS-16'	all PCBs	J/UJ	S
SA-Q-6-SB-6	all PCBs	J/UJ	S
SA-Q-7-SS-1	all PCBs	J/UJ	S
SA-Q-5-SS-1.5	all PCBs	J/UJ	S
SA-Q-5-SB-6	all PCBs	J/UJ	S
AT-Q-31-WS-12	all PCBs	J/UJ	S
AT-Q-23-SB-6	All pesticides	J/UJ	S
AT-Q-23-SS-0.5	All pesticides	J/UJ	S

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Code M - recovery, Code D - RPD)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
8.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?	x		
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Sample SA-Q-5-SB-6 was spiked and analyzed for PCBs and pesticides with recoveries outside QC limits, qualifications are listed below.

Sample ID	Analytes	MS/MSD Recoveries	MS/MSD Limits	Qualification	Code
SA-Q-5-SB-6	All PCB analytes	All analytes recovered Low	30-130 / 50	J/UJ	M

9.0 Laboratory Control Sample (LCS/LCSD) (Code L - LCS recovery Code E - RPD)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
9.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?		x	
9.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note: The PCB and pesticide LCS samples had recoveries outside QC limits, qualifications are listed below.

Sample ID	Analytes	LCS/LCSD Recoveries	LCS/LCSD/RPD limits	Qualification	Code
SA-Q-6-WS-16'	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-6-SS-0.5'	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-6-SB-6	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-7-SS-1	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-7-SB-5	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-7-SB-5-D	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-5-SS-1.5	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
SA-Q-5-SB-6	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L
AT-Q-31-WS-12	All PCBs and Endosulfan II	All recoveries low	30-130 / 50	J/UJ	L

10.0 TCL Identification (Code W)

		Yes	No	NA
10.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x

Note:

11.0 TCL Quantitation and Reported Detection limits (Code P)

		Yes	No	NA
11.1	Are RLs used consistent with those specified in the QAPP?			x
11.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
11.3	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
11.4	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

12.0 Field Duplicate Samples (Code F)

		Yes	No	NA
12.1	Were any field duplicates submitted for analysis?	x		
12.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?	x		
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Sample SA-Q-7-SB-5 was the parent sample to SA-Q-7-SB-5-D.

13.0 Data Completeness

			Yes	No	NA
13.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
13.2	Number of samples:	11			
13.3	Number of target compounds in each analysis:	21			
13.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((13.1 x 13.2) - 13.3) / (13.1 x 13.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
HERBICIDES ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	8/3/2005	**Project Number:**	21561510.60010
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS002
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No samples required qualification in this SDG.

Field IDs:

SA-Q-6-WS-16'	SA-Q-6-SS-0.5'	SA-Q-6-SB-6
SA-Q-7-SS-1	SA-Q-7-SB-5	SA-Q-7-SB-5-D
SA-Q-5-SS-1.5	SA-Q-5-SB-6	AT-Q-31-SB-6
AT-Q-31-WS-12	AT-Q-23-SB-6	AT-Q-23-SS-0.5
AT-Q-31-SS-0.5		

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The laboratory case narrative indicated that the MS/MSD had recoveries outside the QC limits.
Although it is beyond the scope of this review, it should be noted that the ICAL and CCV had recoveries outside the QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage conditions meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{o}C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time) If yes, J(+)/UJ(-).		x	
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
3.1	Is a Method Blank Summary form present for each batch?	x		
3.2	Do any method blanks have positive results?		x	
3.3	Do any field/rinse/equipment blanks have positive results?		x	
	Action: Positive sample results <5X the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
3.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

4.0 Initial Calibration (Code R)

		Yes	No	NA
4.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
4.2	Are calibration factors stable (%RSD values < 20% or >0.995) over the concentration range of the instrument?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
4.3	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

5.0 Continuing Calibration (Code C)

		Yes	No	NA
5.1	Are Continuing Calibration Summary forms present and complete?			x
5.2	Has a continuing calibration standard been analyzed every 12 hours?			x
5.3	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration CF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
5.4	If Level IV, calculate a sample of CFs and %Ds from each CF to verify correct calculations.			x

Note:

6.0 Surrogate Recovery (Code S)

		Yes	No	NA
6.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
6.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?	x		
6.3	If No in Section 6.2, were these sample(s) or method blank(s) reanalyzed?			x
6.4	If No in Section 6.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)			x
	> UCL / 10% to LCL / < 10%			
	Positive: J / J / J			
	Non-detect: None / UJ / R			

Note:

7.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Code M - recovery, Code D - RPD)

		Yes	No	NA
7.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
7.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?	x		
7.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Sample SA-Q-5-SB-6 was used as the MS/MSD sample. The MS/MSD recoveries were outside QC limits, however all other QC samples were within QC limits. No qualification of data was required.

8.0 Laboratory Control Sample (LCS/LCSD) (Code L - LCS recovery Code E - RPD)

		Yes	No	NA
8.1	Is an LCS recovery form present?	x		
8.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
8.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
8.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note:

9.0 TCL Identification (Code W)

		Yes	No	NA
9.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x

Note:

10.0 TCL Quantitation and Reported Detection limits (Code P)

		Yes	No	NA
10.1	Are RLs used consistent with those specified in the QAPP?			x
10.2	Are these limits adjusted to reflect dilutions and/or percent solids as required?			x
10.3	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
10.4	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

11.0 Field Duplicate Samples (Code F)

		Yes	No	NA
11.1	Were any field duplicates submitted for herbicide analysis?	x		
11.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?	x		
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Sample SA-Q-7-SB-5 was the parent sample to SA-Q-7-SB-5-D.

12.0 Data Completeness

			Yes	No	NA
12.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
12.2	Number of samples:	13			
12.3	Number of target compounds in each analysis:	10			
12.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((12.1 x 12.2) - 12.3) / (12.1 x 12.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET - Level III Review
Inorganic - ICP, ICP-MS, GFAA, and CVAA

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	8/3/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS002
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

Samples were qualified due to blank contamination, laboratory duplicate RPDs outside QC limits, and spike sample analysis.

Field IDs:

SA-Q-6-WS-16'	SA-Q-6-SS-0.5'	SA-Q-6-SB-6
SA-Q-7-SS-1	SA-Q-7-SB-5	SA-Q-7-SB-5-D
SA-Q-5-SS-1.5	SA-Q-5-SB-6	AT-Q-31-SB-6
AT-Q-31-WS-12	AT-Q-23-SB-6	AT-Q-23-SS-0.5
AT-Q-31-SS-0.5		

1.0 Chain of Custody/Sample Condition/Raw Data

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples that were analyzed?	x									x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x									x		
1.3	Do the traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x										x	
1.4	Does sample preservation, collection and storage meet method requirements? (water samples: with Nitric Acid to pH < 2, and soil/sediment samples: 4°C ± 2 °C)	x									x		
1.5	Are the digestion logs present and complete with pH values, sample weights, dilutions, final volumes, % solids (for soil samples), and preparation dates? For any missing or incomplete documentation, contact the laboratory for explanation/resubmittal.	x									x		

Note: The laboratory case narrative indicated that the MS/MSD had recoveries outside the QC limits.
The narrative also indicated that the CCV blank had detections above the MDL.
The sample duplicates had RSD values outside QC limits.

2.0 Holding Time (Code H)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
2.1	Have any technical holding times, determined from date of collection to date of analysis, been exceeded? (Hg: 28days, other metals: 6 months) See attached Holding Time Table.		x									x	
	Action: J(+)/UJ(-). If the holding times are grossly exceeded (twice the holding time criteria) J(+)/R(-).												

Note:

3.0 Instrument Calibration (Code C)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
3.1	Are sufficient standards included in the calibration curve? (ICP/ICP-MS: blank + one standard; GFAA: blank + three standards; CVAA: blank + five standards)			x									
3.2	Are the correlation coefficients > 0.995? (for GFAA and CVAA) Action: J(+)/UJ(-).												x
3.3	Was an initial calibration verification (ICV) analyzed at the beginning of each analysis? Action: If no, use professional judgment to determine affect on the data and note in reviewer narrative			x									x
3.4	Was continuing calibration verification (CCV) performed every 10 analysis or every 2 hours, whichever is more frequent? Action: If no, use professional judgment to determine affect on the data and note in reviewer narrative.			x									x
3.5	Are all calibration standard percent recoveries (ICV and CCV) within the control limits? Mercury (80%-120%) and other Metals (90%-110%).			x									x

Action:	R(+/-)	J(+)/UJ(-)	J(+)	R(+)
Mercury	< 65%	65% - 79%	121% - 135%	> 135%
Other Metals	< 75%	75% - 89%	111% - 125%	> 125%

Note:

4.0 Blanks (Code O - Calibration blank failure, Code P - Preparation blank failure, Code X - Field blank failure)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
4.1	Were preparation blank (PB) prepared at the appropriate frequency (one per 20 samples, per batch, per matrix and per level)?	x									x		
4.2	Are there reported PB values > + IDL? Action: If yes, action level of 5 times the blank value are determined for positive and negative blank values.	x										x	
4.3	Were initial calibration blanks (ICB) analyzed? Action: If no, use professional judgment to determine affect on the data note in reviewer narrative.	x									x		
4.4	Were continuing calibration blanks (CCB) analyzed after every 10 samples or every 2 hours (whichever is more frequent)? Action: If no, use professional judgment to determine affect on the data to note in reviewer narrative.	x									x		
4.5	Are there reported ICB or CCB values > + IDL? Action: If yes, action level of 5 times the blank value are determined for positive and negative blank values.	x										x	
4.6	Are there samples with concentrations less than five times the highest level in associated blanks? Action: If yes, U at reported concentration.		x									x	
4.7	Are there samples with non-detect results or with concentrations less than five times the most negative value in associated blanks? Action; If yes, J(+)/UJ(-).		x									x	

Note: Several target analyte values were detected above the IDL. The qualifications are listed below.

Sample ID	Analytes	Qualification	Code	NEW RL
SA-Q-6-WS-16'	Sodium	U	P	240
SA-Q-6-SB-6	Sodium	U	P	240
SA-Q-7-SB-5	Sodium	U	P	140
SA-Q-7-SB-5-D	Sodium	U	P	130
SA-Q-5-SB-6	Sodium	U	P	340
AT-Q-31-SB-6	Sodium	U	P	310
AT-Q-31-WS-12	Sodium	U	P	180
AT-Q-31-SS-0.5	Sodium	U	P	310

5.0 ICP Interference Check Sample (ICS) (Code N)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
5.1	Was ICS AB analyzed at beginning of each ICP run (or at least twice every 8 hours), and at the beginning or once every 8 hours (whichever is more frequent) for ICP-MS?			x									
5.2	Are the ICS AB recoveries within 80% - 120%?			x									
5.3	Are the results for unspiked analytes (in ICS A) < + IDL?			x									
5.4	If not, are the associated sample Al, Ca, Fe, and Mg concentrations less than the level in the ICS?			x									
	Action: Not Spiked Analytes / Spiked analytes (ICS AB analytes)												
	< -IDL / > IDL / < 50% / 50% - 79% / > 120%												
	UJ(-) / J(+) / R(+/-) / J(+)/UJ(-) / J(+)												

Note:

6.0 Laboratory Control Sample (LCS) (Code L - Recovery, Code E - RPD)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
6.1	Was an LCS prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+) any sample not associated with LCS results.	x									x		
6.2	Is any LCS recovery outside the control limits? (Aqueous limits: 80% - 120% - except Ag and Sb; Solid limits: as per EPA-EMSL/LV)		x									x	
	Action: Solid / Aqueous												
	< LCL / > UCL / < 50% / 50% - 79% / > 120%												
	J(+)/UJ(-) / J(+) / R(+/-) / J(+)/UJ(-) / J(+)												

Note:

7.0 Laboratory Duplicates (Code K)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
7.1	Were Laboratory duplicates prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+), with professional judgment, analytes not associated with Duplicate results.	x									x		
7.2	Was a field blank used for the duplicate analysis? Action: If yes, J(+) with professional judgment. Note in worksheet.		x									x	
7.3	Are all analyte duplicate results within control? (RPD values < 20% or difference < ± PQL for aqueous, and RPD < 35% or difference < ±2 X PQL for solids) Action: If no, J(+).		x									x	
	Note: RPD criteria is used when both sample and duplicate results are > 5 X IDL.												

Note: Samples SA-Q-6-WS-16, SA-Q-5-SB-6, and SA-Q-5-SB-6 were analyzed in duplicate. Several analytes had RPD values outside QC limits. Qualifications are listed below.

Sample ID	Analytes	Qualification	Code
SA-Q-5-SB-6	Calcium	J	K
SA-Q-5-SB-6	Chromium	J	K
SA-Q-5-SB-6	Zinc	J	K
SA-Q-5-SB-6	Mercury	J	K

8.0 Spike Sample Analysis -Pre-Digestion (Code M - Recovery, Code D - RPD)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
8.1	Was a spiked sample prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+), with professional judgment, analytes not associated with matrix spike results.	x									x		
8.2	Was a field blank used for the MS analysis? Action: If yes, J(+) with professional judgment. Note in worksheet.		x									x	
	Note: Matrix spike analysis may be performed on a field blank when it is the only aqueous sample in an SDG.												
8.3	For all analytes with sample concentration < 4 x spike concentration, are spike recoveries within the control limit of 75-125%? (No control limit applies to analytes with concentration > 4 x spike concentration.)		x									x	
	%R > 125% 30% < %R < 74% %R < 30%												
	Positive J J J												
	Non-detect None UJ R												

Note: The spike samples SA-Q-5-SB-6 and SA-Q-6-WS-16 had recoveries outside QC limits for several analytes. Qualifications are listed below.

Sample ID	Analytes	MS/MSD/RPD	MS/MSD/RPD Limits
SA-Q-5-SB-6	Antimony	42/43 / 3	75-125 / 20
SA-Q-5-SB-6	Chromium	158/107 / 25	75-125 / 20
SA-Q-5-SB-6	Lead	64/39 / 11	75-125 / 20
SA-Q-5-SB-6	Potassium	128/116 / 3	75-125 / 20
SA-Q-5-SB-6	Mercury	94/211 / 27	80-120 / 20
SA-Q-6-WS-16	Antimony	46/48 / 4	75-125 / 20

Sample ID	Analytes	Qualification	Code
SA-Q-5-SB-6	Antimony	J	M
SA-Q-5-SB-6	Chromium	J	M
SA-Q-5-SB-6	Lead	J	M
SA-Q-5-SB-6	Potassium	J	M
SA-Q-5-SB-6	Mercury	J	M
SA-Q-6-WS-16	Antimony	J	M

9.0 Instrument Detection Limits (IDL)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
9.1	Are all IDL equal to or less than the reporting limits specified?			x									x

Note:

10.0 ICP Serial Dilutions (Code S)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
10.1	Were serial dilutions performed?	x											
10.2	Was a five-fold dilution performed?	x											
10.3	Did the serial dilution results agree within 10% for analyte concentration> 50 x the IDL in the original sample? If no, J(+).	x											

Note: Samples SA-Q-6-WS-16, SA-Q-5-SB-6, and SA-Q-5-SB-6 were diluted.

11.0 Field Duplicate Samples (Code F)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
11.1	Were any field duplicates submitted for metal analysis?	x									x		
11.2	Are all field duplicate results within control? (For aqueous sample, RPD values < 50% or difference <±2 x PQL and for solids, RPD < 100% or difference <±4 x PQL.)	x									x		

Note: Sample SA-Q-7-SB-5 was the parent sample to SA-Q-7-SB-5-D.

12.0 Result Verification (Code Q)

		ICP			ICP-MS			GFAA			CVAA-Hg		
		Yes	No	NA	Yes	No	NA	Yes	No	NA	Yes	No	NA
12.1	Were all results and detection limits for solid-matrix samples reported on a dry-weight basis?			x									x
12.2	Were all dilution reflected in the positive results and detection limits?			x									x

Note:

13.0 Data Completeness

13.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)							
13.2	Number of samples:	13		0		0		13
13.3	Number of target compounds in each analysis:	22		22		0		1
13.4	Number of results rejected and not reported:	0		0		0		0
	% Completeness = 100 x ((13.1 x 13.2) - 13.3) / (13.1 x 13.2)							
	% Completeness	**100**		**####**		**####**		**100**

Note:

DATA VALIDATION WORKSHEET
WET CHEMISTRY ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	8/2/2005	**Project Number:**	21561510.6
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS002
Test Name:	Ammonia	**Review Level:**	Level III
Method No.:	350.1		

Major Anomalies:

No samples were rejected.

Minor Anomalies:

Several analytes were qualified as estimated (J) and non-detect (U). These samples are listed below.

Field IDs:

SA-Q-6-WS-16'	SA-Q-6-SS-0.5'	SA-Q-6-SB-6
SA-Q-7-SS-1	SA-Q-7-SB-5	SA-Q-7-SB-5-D
SA-Q-5-SS-1.5	SA-Q-5-SB-6	AT-Q-31-SB-6
AT-Q-31-WS-12	AT-Q-23-SB-6	AT-Q-23-SS-0.5
AT-Q-31-SS-0.5		

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		x	

Note:

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ℃), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time.) If yes, J(+)/UJ(-).		x	
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
3.1	Is a Method Blank Summary form present for each batch?	x		
3.2	Do any method blanks have positive results?	x		
3.3	Do any field/rinse/equipment blanks have positive results?		x	
	Action: Positive sample results <5X the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
3.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note: Qualifications due to blank contamination are listed below.

Field ID	Analyte	Qualification	Code	New RL
SA-Q-7-SB-5	Ammonia	U	Z	-
SA-Q-7-SB-5-D	Ammonia	U	Z	-
AT-Q-23-SS-0.5	Ammonia	U	Z	0.27

4.0 Initial Calibration (Code C)

		Yes	No	NA
4.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
4.2	Are correlation coefficients stable (>0.995) over the concentration range of the instrument?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
4.3	If Level IV, recalculate the correlation coefficient to verify correct calculations are being made.			x

Note:

5.0 Continuing Calibration (Code R)

		Yes	No	NA
5.1	Are Continuing Calibration Summary forms present and complete?			x
5.2	Has a continuing calibration standard been analyzed every 10 samples?			x
5.3	Do any analytes have a %R outside QC limits (80-120%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %R < 50%, flag R.			
5.4	If Level IV, calculate a sample of %Rs.			x

Note:

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Code M - recovery, Code D - RPD)

		Yes	No	NA
6.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
6.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?	x		
6.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix*. Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Sample SA-Q-5-SB-6 was spiked and analyzed for ammonia with the recoveries being outside QC limits. The qualifications are listed below.

Field ID	Analyte	MS/MSD Recovery	RPD	MS/MSD/RPD Limits
SA-Q-5-SB-6	Ammonia	143/172	4	75-125/30

Field ID	Analyte	Qualification	Code
SA-Q-5-SB-6	Ammonia	J	M

7.0 Laboratory Control Sample (LCS/LCSD) (Code L - LCS recovery Code E - RPD)

		Yes	No	NA
7.1	Is an LCS recovery form present?	x		
7.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
7.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
7.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note:

8.0 Analyte Identification

		Yes	No	NA
8.1	Is the relative retention time (RRT) of each reported compound (if applicable) within 0.06 RRT units of the standard RRT in the continuing calibration?			x

Note:

9.0 Analyte Quantitation and Reported Detection limits

		Yes	No	NA
9.1	Are RLs used consistent with those specified in the QAPP?			x
9.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
9.3	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
9.4	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

10.0 Field Duplicate Samples (Code F)

		Yes	No	NA
10.1	Were any field duplicates submitted?	x		
10.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?	x		
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Sample SA-Q-7-SB-5 was the parent sample to SA-Q-7-SB-5-D.

11.0 Laboratory Duplicates (Code K)

		Yes	No	NA
11.1	Were Laboratory duplicates prepared and analyzed at the correct frequency (one per 20 samples, per batch, per matrix and per level)? Action: If no, J(+), with professional judgment, analytes not associated with duplicate results.		x	
11.2	Was a field blank used for the duplicate analysis? Action: If yes, J(+) with professional judgment. Note in worksheet.			x
11.3	Are all analyte duplicate results within control? (RPD values < 20% or difference < ± PQL for aqueous, and RPD < 35% or difference < ± 2 X PQL for solids?) Action: If no, J(+). Note: RPD criteria is used when both sample and duplicate results are > 5 X IDL.			x

Note:

12.0 Data Completeness

			Yes	No	NA
12.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
12.2	Number of samples:	13			
12.3	Number of target compounds in each analysis:	1			
12.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((12.1 x 12.2) - 12.3) / (12.1 x 12.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
VOLATILE ORGANIC ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/11/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS 003
		Review Level:	Level III

Major Anomalies:

No data was rejected.

Minor Anomalies:

No qualification of data was required.

Field IDs:

AA-P-5-34	AA-P-8-122	AA-P-8-122-D
AA-P-7-72	AA-P-7-92	TB-3
SA-Q-2-FB	AA-P-6-70	AA-P-6-70-D
AA-P-6-90	AA-P-6-110	AA-SLAY-3-50
AA-SLAY-3-70	AA-SLAY-3-70-D	AA-P-7-110
AA-P-5-54	AA-P-5-74	AA-P-5-94
AA-P-5-114	AA-P-6-30	AA-P-6-50
TB-4	TB-5	

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The case narrative reported that the LCS had recoveries outside the QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If sample preservation and/or temperature was inappropriate (i.e., <2° >6°C, etc.), comment in report. If unpreserved or temperature is outside the range 0° (but not frozen) to 10° flag all positive results with a "J" and all non-detects "UJ". If temperature exceeds 10°, flag positive detections "J" and non-detects "R".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? If yes, J(+)/UJ(-).		x	
	Matrix / Preserved / Aromatic / All others			
	Aqueous / No / 7 days / 14 days			
	Yes / 14 days / 14 days			
	Soil/Sediment / 4 ^{o}C ± 2 ^{o}C / 14 days / 14 days			
2.3	Have any technical holding times been grossly (twice the holding time) exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 GC/MS Instrument Performance Check (Code T)

		Yes	No	NA
3.1	Are GC/MS Tuning and Mass Calibration forms present for bromofluorobenzene (BFB)?			x
3.2	Have all samples been analyzed within twelve hours of the BFB tune? If no, flag R.			x
3.3	Have ion abundance criteria for BFB been met for each instrument used? If no, flag R.			x

Note:

4.0 Blanks (Method Blanks, Field Blanks and Trip Blanks)

(Code X - Field Blank Contamination, Code Y - Trip blank contamination, Code Z - Method blank contamination)

		Yes	No	NA
4.1	Is a Method Blank Summary form present for each batch?	x		
4.2	Do any method blanks have positive VOA results (TCL and/or TIC)?		x	
4.3	Do any field/trip rinse/equipment blanks have positive VOA results (TCL and/or TIC)?	x		
	Action: Positive sample results <5X (or 10X for common volatile lab contaminants- methylene chloride, acetone, and 2-butanone) the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
4.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note: The Field Blank had detections of toluene above the MDL. Toluene was reported as non-detect in all associated samples; therefore, no qualification of data was required.

5.0 GC/MS Initial Calibration (Code C)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are CCCs linear applying either %RSD 30% and all other compounds <15% or >0.990?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	Do any SPCC compounds have an RRF less than specification or any other compounds < 0.05 (use 0.01 for poor responders like ketones or alcohols)? If yes, J(+)/R(-).			x
5.4	Is the lowest standard at the same concentration, or lower, as the RL reported? If not, elevate RL.			x
5.5	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Have all SPCCs and CCCs met method specifications? If not, comment in report, proceed to 6.4.			x
6.4	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration RRF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.5	Do any compounds have an RRF < 0.05 (use 0.01 for poor responders)? If yes, J(+)/R(-).			x
6.6	If Level IV, calculate a sample of RFs and %Ds from each RF to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?	x		
7.3	If No in Section 7.2, were these sample(s) or method blank(s) reanalyzed?			x
7.4	If No in Section 7.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)			x
	Note: If SMC recoveries do not meet acceptance criteria in samples chosen for the MS/MSD or diluted samples, then no reanalysis is required.			
	> UCL 10% to LCL < 10%			
	Positive J J J			
	Non-detect None UJ R			

Note: All surrogate recoveries are within evaluation criteria.

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Recovery - Code M, RPD - Code D)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
8.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?	x		
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?	x		
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix.* Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note:

9.0 Laboratory Control Sample (LCS/LCSD) (Recovery - Code L, RPD - Code E)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is an LCS analyzed at the required frequency of one per twenty field samples for each matrix?	x		
9.3	Are all LCS %Rs and RPDs within acceptance criteria specified in the QAPP?		x	
9.4	If Level IV, verify the % recoveries are calculated correctly.			x
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			

Note: Chloroethane was recovered above the QC limits. Chloroethane was reported as non-detect in all associate samples; therefore, no qualification of data was required.

10.0 Internal Standards (Code I)

					Yes	No	NA
10.1	Are internal standard areas for every sample and blank within upper and lower QC limits?				x		
		Area > +100%	Area < -50%	Area < -10%			
	Positive	J	J	J			
	Non-detect	None	UJ	R			
Note:	The method specification is for the continuing calibration to be compared to the mid-point initial calibration, not sample to continuing calibration. Thus, if all other QC specifications are met for a given sample, using informed professional judgment, the reviewer may choose not to flag individual samples in this case.						
10.2	Are retention times of internal standards within 30 seconds of the associated calibration standard?				x		
	Action: The chromatogram must be examined to determine if any false positives or negatives exist. For shift of a large magnitude, the reviewer may consider partial or total rejection of the data for non-detects in that sample/fraction.						

Note: All internal standard area counts and retention times are within evaluation criteria.

11.0 TCL Identification (Code W)

		Yes	No	NA
11.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x
11.2	Are the three ions of greatest intensity present in the standard mass spectrum also present in the sample mass spectrum; and do sample and standard relative ion intensities agree within 30%?			x

Note:

12.0 TCL/TIC Quantitation and Reported Detection limits (Code K)

		Yes	No	NA
12.1	Are RLs used consistent with those specified in the QAPP?			x
12.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
12.3	Are TIC ions greater than ten percent in the reference spectrum also present in the sample spectrum?			x
12.4	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
12.5	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note: TICs were not reported.

13.0 Field Duplicate Samples (Code F)

		Yes	No	NA
13.1	Were any field duplicates submitted for VOC analysis?	x		
13.2	Were all RPD or absolute difference values within the control limits outlined in the QAPP?	x		
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Samples AA-SLAY-3-70, AA-P-8-122, and AA-P-6-70 are parent samples for field duplicates AA-SLAY-3-70-D, AA-P-8-122-D, and AA-P-6-70-D.

14.0 Data Completeness

			Yes	No	NA
14.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
14.2	Number of samples:	23			
14.3	Number of target compounds in each analysis:	33			
14.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((14.1 x 14.2) - 14.3) / (14.1 x 14.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
SEMIVOLATILE ORGANIC ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/12/2005	**Project Number:**	21561510.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS003
		Review Level:	Level III

Major Anomalies:

Reanalysis results of several samples were qualified rejected due to missed holding times.

Minor Anomalies:

Several samples were qualified estimated due to surrogate recoveries outside QC limits.

Field IDs:

AA-P-5-34	AA-P-8-122	AA-P-8-122-D
AA-P-7-72	AA-P-7-92	AA-P-6-50
SA-Q-2-FB	AA-P-6-70	AA-P-6-70-D
AA-P-6-90	AA-P-6-110	AA-SLAY-3-50
AA-SLAY-3-70	AA-SLAY-3-70-D	AA-P-7-110
AA-P-5-54	AA-P-5-74	AA-P-5-94
AA-P-5-114	AA-P-6-30	

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The laboratory case narrative indicated MS/MSD and the surrogate recoveries were outside the QC limits.
Several samples were re-extracted and reanalyzed outside holding times.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{O}C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time.) If yes, J(+)/UJ(-).	x		
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).	x		

Note: Several samples were re-extracted 23 days outside the holding time and those results were qualified rejected.

Field ID	Analyte	Qualification	Code
AA-P-5-34RE	All SVOC analytes	R	H
AA-P-6-70RE	All SVOC analytes	R	H
AA-P-6-70-DRE	All SVOC analytes	R	H
AA-P-8-122RE	All SVOC analytes	R	H

3.0 GC/MS Instrument Performance Check (Code T)

		Yes	No	NA
3.1	Are GC/MS Tuning and Mass Calibration forms present for DFTPP?			x
3.2	Have all samples been analyzed within twelve hours of the tune?			x
	If no, the data for the affected standards, blanks, field samples or QC samples are rejected "R".			
3.3	Have ion abundance criteria for DFTPP been met for each instrument used?			x
	If no, all standards, blanks, field samples and QC samples are rejected "R".			

Note:

4.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
4.1	Is a Method Blank Summary form present for each batch?	x		
4.2	Do any method/instrument/reagent blanks have positive results (TCL, and/or TIC)?		x	
4.3	Do any field equipment blanks have positive results (TCL, and/or TIC)?		x	
	Action: Positive sample results <5X (or 10X for phthalate contaminants) the blank concentration should be qualified "U" and the detection limit elevated to the RL for estimate concentrations.			
4.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

5.0 GC/MS Initial Calibration (Code C)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are CCCs linear applying either %RSD 30% and all other compounds <15% or >0.990?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	Do any SPCC compounds have an RRF les than specification or any other compounds < 0.05 (use 0.01 for poor responders like amines and phenols)? If yes, J(+)/R(-).			x
5.4	Is the lowest standard at the same concentration, or lower, as the RL reported? If not, elevate RL.			x
5.5	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Have all SPCCs and CCCs met method specifications? If not, comment in report, proceed to 6.4.			x
6.4	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration RRF outside QC limits (%D < 20%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R.			
6.5	Do any compounds have an RRF < 0.05 (use 0.01 for poor responders)? If yes, J(+)/R(-).			x
6.6	If Level IV, calculate a sample of RFs and %Ds from each RF to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples and method blanks?		x	
7.3	Are more than one of either fraction outside the acceptance criteria?	x		
7.4	If Yes in Section 7.3, are these sample(s) or method blank(s) reanalyzed?	x		
7.5	If Yes in Section 7.3, is any sample dilution factor greater than 10?		x	
	Note: If SMC recoveries display unacceptable recoveries in the MS and/ or diluted samples, then no reanalysis is required and acids and base/ neutrals are assessed separately.			
	> UCL 10% to LCL < 10%			
	Positive J J J			
	Non-detect None UJ R			

Note: Several samples had surrogate recoveries outside QC limits.

Field ID	Analyte	Surrogate Recoveries	Surrogates	Surrogate Limits	Quals	Code
AA-P-5-34	all acid/fraction	23 / 14 / 64 / 64 / 77 / 76	2FP / PHL / NBZ / FBP / TBP / TPH	56-100 / 55-104 / 60-102 / 59-103 / 55-126 / 10-154	UJ	S
AA-P-6-70	all acid/fraction	36 / 21 / 80 / 78 / 92 / 71	2FP / PHL / NBZ / FBP / TBP / TPH	56-100 / 55-104 / 60-102 / 59-103 / 55-126 / 10-154	UJ	S
AA-P-6-70-D	All SVOC analytes	19 / 11 / 58 / 55 / 66 / 54	2FP / PHL / NBZ / FBP / TBP / TPH	56-100 / 55-104 / 60-102 / 59-103 / 55-126 / 10-154	UJ	S
AA-P-8-122	all acid/fraction	29 / 18 / 70 / 69 / 75 / 58	2FP / PHL / NBZ / FBP / TBP / TPH	56-100 / 55-104 / 60-102 / 59-103 / 55-126 / 10-154	UJ	S

2FP = 2-Fluorophenol, PHL = Phenol-d5, NBZ = Nitorbenzene-d5, FBP = 2-Fluorobiphenyl, TBP = 2,4,6-Tribromophenol, TPH = Terphenyl-d14.

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Recovery - Code M, RPD - Code D)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?	x		
8.2	Are MS/MSDs analyzed at the required frequency not to exceed twenty field samples for each matrix?	x		
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria provided by the laboratory?		x	
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix*. Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: Several MS/MSD analytes were outside QC limits; however, the LCS was within QC limits. No qualification of data was required.

9.0 Laboratory Control Sample (LCS/LCSD) (Recovery - Code L, RPD - Code E)

		Yes	No	NA
9.1	Is an LCS recovery form present?	x		
9.2	Is LCS analyzed at the required frequency for each matrix?	x		
9.3	Are all LCS %Rs (and RPDs) within acceptance criteria?	x		
	Action for specific compound outside the acceptance criteria: %R>UCL, J(+) only; <LCL, J(+)/UJ(-); <10% J(+)/R(-). RPD failures should be flagged "J" (+ only).			
9.4	If Level IV, verify the % recoveries are calculated correctly.	x		

Note:

10.0 Internal Standards (Code I)

					Yes	No	NA
10.1	Are internal standard area of every sample and blank within upper and lower QC limits for each continuing calibration?				x		
		Area > +100%	Area < -50%	Area < -10%			
	Positive	J	J	J			
	Non-detect	None	UJ	R			
Note:	The method specification is for the continuing calibration to be compared to the mid-point initial calibration, not sample to continuing calibration. Thus, if all other QC specifications are met for a given sample, using informed professional judgment, the reviewer may choose not to flag individual samples in this case.						
10.2	Are retention times of internal standards within 30 seconds of the associated calibration standard?				x		
	Action: The chromatogram must be examined to determine if any false positives or negatives exist. For shift of a large magnitude, the reviewer may consider partial or total rejection of the data for non-detects in that sample/fraction.						

Note:

11.0 TCL Identification

		Yes	No	NA
11.1	Is the relative retention time (RRT) of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?			x
11.2	Are the three ions of greatest intensity present in the standard mass spectrum also present in the sample mass spectrum; and do sample and standard relative ion intensities agree within 30%?			x

Note:

12.0 TCL/TIC Quantitation and Reported Detection limits

		Yes	No	NA
12.1	Are RLs used consistent with those specified in the QAPP?			x
12.2	Are these limits adjusted to reflect dilutions and/ or percent solids as required?			x
12.3	Are TIC ions greater than ten percent in the reference spectrum also present in the sample spectrum?			x
12.4	Are any positives reported that exceed the linear range of the instrument? If yes, than flag "J".			x
12.5	If Level IV, calculate a sample of positive results to verify correct calculations.			x

Note:

13.0 Field Duplicate Samples (Code F)

		Yes	No	NA
13.1	Were any field duplicates submitted for SVOC analysis?	x		
13.2	Were all RPD or absolute difference values within the control limits?	x		
	Action for specific compound outside the acceptance criteria: %R>50 (water), %R>100 (soil). J(+) only.			

Note: Samples AA-SLAY-3-70, AA-P-8-122, and AA-P-6-70 are parent samples for field duplicates AA-SLAY-3-70-D, AA-P-8-122-D, and AA-P-6-70-D.

14.0 Data Completeness

			Yes	No	NA
14.1	Is % completeness within the control limits? (Control limit: Check QAPP or use 95% for aqueous sample, 90% for soil sample.)		x		
14.2	Number of samples:	20			
14.3	Number of target compounds in each analysis:	65			
14.4	Number of results rejected and not reported:	0			
	% Completeness = 100 x ((14.1 x 14.2) - 14.3) / (14.1 x 14.2)				
	% Completeness	**100**			

Note:

DATA VALIDATION WORKSHEET
PESTICIDES/PCBs ANALYSIS

Reviewer:	Bart Brandenburg	**Project Name:**	Sauget - Area 2
Date:	7/12/2005	**Project Number:**	21561511.60011
Laboratory	Severn Trent Laboratory - Savannah	**SDG No.:**	SAS003
		Review Level:	Level III

Major Anomalies:

No samples were rejected.

Minor Anomalies:

No qualifications were required in this SDG.

Field IDs: SA-Q-2-FB

1.0 Chain of Custody/Sample Condition

		Yes	No	NA
1.1	Do Chain-of-Custody forms list all samples analyzed?	x		
1.2	Are all Chain-of-Custody forms signed, indicating sample chain-of-custody was maintained?	x		
1.3	Do the Traffic Reports, Chain-of-Custody, and lab narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	x		

Note: The laboratory case narrative indicated that the LCS recovery was outside QC limits.

2.0 Holding Time/ Preservation (Code H)

		Yes	No	NA
2.1	Do sample preservation, collection and storage condition meet method requirements?	x		
	If samples were not on ice or the ice was melted upon arrival at the laboratory and the temperature of the cooler was elevated (> 10 ^{O}C), then flag all positive results with a "J" and all non-detects "UJ".			
2.2	Have any technical holding times, determined from sampling to date of analysis, been exceeded? (See attached Holding Time Table for sample holding time.) If yes, J(+)/UJ(-).		x	
	Extraction: Soil/Sediment 14 days - aqueous 7 days Analysis: 40 days			
2.3	Have any technical holding times grossly (twice the holding time) been exceeded? If yes, J(+)/R(-).		x	

Note:

3.0 Blanks (Method Blanks and Field Blanks) (Code X - Field Blank Contamination, Code Z - Method blank contamination)

		Yes	No	NA
3.1	Is a Method Blank Summary form present for each batch?	x		
3.2	Do any method blanks have positive results (TCL)?		x	
3.3	Do any field/rinse/equipment blanks have positive results (TCL)?		x	
	Action: Positive sample results <5X the blank concentration should be qualified "U". The result should be elevated to the RL for estimate (laboratory "J" flagged) concentrations.			
3.4	If Level IV, review raw data and verify all detections for blanks were reported.			x

Note:

4.0 GC/ECD Instrument Performance Check (Code B)

		Yes	No	NA
4.1	Are Endrin and 4,4'-DDT breakdown forms present?			x
4.2	Have all samples been analyzed within twelve hours of the performance check sample?			x
	If no, the data for the affected standards, blanks, field samples or QC samples are rejected "R".			
4.3	Have percent breakdown criteria (15%) for endrin and 4,4'-DDT been met?			x
	If no, all standards, blanks, field samples and QC samples are rejected "R".			

Note:

5.0 Initial Calibration (Code R)

		Yes	No	NA
5.1	Are Initial Calibration summary forms present and complete for each instrument used?			x
5.2	Are response factors stable (%RSD values < 20% or >0.995) over the concentration range of the instrument?			x
	If not, J(+)/ UJ(-). In extreme cases, the reviewer may flag non-detects "R".			
5.3	If Level IV, recalculate a sample of RRFs and %RSDs to verify correct calculations are being made.			x

Note:

6.0 Continuing Calibration (Code C)

		Yes	No	NA
6.1	Are Continuing Calibration Summary forms present and complete?			x
6.2	Has a continuing calibration standard been analyzed every 12 hours?			x
6.3	Do any compounds have a % difference (or % drift for quantitation from a curve) (%D) between initial and continuing calibration CF outside QC limits (%D < 15%)?			x
	If yes, a marginal increase in response >20% then J(+) only; a decrease in response then J(+)/ UJ(-). For %D > 50%, flag R			
6.4	If Level IV, calculate a sample of CFs and %Ds to verify correct calculations.			x

Note:

7.0 Surrogate Recovery (Code S)

		Yes	No	NA
7.1	Are all samples listed on the appropriate Surrogate Recovery Summary Form?	x		
7.2	Are surrogate recoveries within acceptance criteria specified in the QAPP for all samples?	x		
7.3	If No in Section 7.2, were these sample(s) or method blank(s) reanalyzed?			x
7.4	If No in Section 7.3, is any sample dilution factor greater than 10? (Surrogate recoveries may be diluted out.)			x
	> UCL / 10% to LCL / < 10%			
	Positive: J / J / J			
	Non-detect: None / UJ / R			

Note:

8.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) or one MS with a Sample Duplicate (Code M - recovery, Code D - RPD)

		Yes	No	NA
8.1	Is a Matrix Spike/Matrix Spike Duplicate recovery form present?		x	
8.2	Are MS/MSDs analyzed at the required frequency of one matrix spike per ten samples and a duplicate per twenty for each matrix?			x
8.3	Are all MS/MSD %Rs and RPDs within acceptance criteria specified in the QAPP?			x
	Using informed professional judgment, the data reviewer should use the MS and MSD results in conjunction with other QC criteria and determine the need for qualification of the data for samples *from the same site/matrix* . Recoveries <10% may require rejection. RPD failures may be flagged "J" (+ only).			

Note: