Williams Petroleum Services, LLC
One Williams Center
P.O. Box 3483
Tulsa, OK 74101-3483
918/573-2600

April 19, 2012

Mr. Kenneth Herstowski, P.E.
Environmental Protection Agency, Region 7
901 N. Fifth Street
Kansas City, Kansas 66101

Re: Quarterly Update – 1st Quarter 2012
Former Augusta Refinery (FAR) RCRA Facility Investigation (RFI)
Williams Petroleum Services (WPS), LLC
Augusta, Kansas – KSD007235138

Dear Mr. Herstowski:

This letter is offered as the report of investigation activities at the Former Augusta Refinery in accordance with Section X, "Reporting," of the Administrative Order on Consent dated October 24, 2003, Docket No. RCRA-07-2004-0009. This report addresses activities occurring during the period of January 1 through March 31, 2012.

Description of Activities

On March 1, 2012, Shaw submitted the 2011 Groundwater Monitoring Report to EPA.

On March 15, 2012, Shaw initiated planning efforts for surface water monitoring of the Walnut River. Activities included preparation of a river access point.

Summary of All Findings

Hexavalent Chromium Sampling

During the prior quarter, the hexavalent chromium sampling activities outlined in the November 9, 2011 sampling and analysis plan (SAP) were completed. This work was performed to confirm or deny the presence of Chromium VI (CR VI) in surface soil at selected areas associated with former operations of cooling towers at the FAR. The data will be used to estimate the potential human health risks based on the ratio of Cr VI to total chromium and to update the Baseline Human Health Risk Assessment (HHRA). Thirty-two surface soil samples were collected for analysis of total and Cr VI from areas potentially associated with former operations of cooling towers at the FAR. A site map showing the surface soil sampling locations is included as **Figure A-1** in Attachment A. All surface soil samples were collected from 0 to 1 foot, with the exception of surface soil samples collected from land farms SWMUs 3 and 4. At the request of the EPA, surface soil samples collected from the land farms were collected at alternating depths of 0 to 1 foot and 1 to 2 foot.

The total and Cr VI analytical results for the surface soil sampling are included in **Tables A-1** through **A-3** (Attachment A). *Total chromium* results in the surface soil samples collected ranged from 14.0 mg/kg to 46.5 mg/kg. *Hexavalent chromium* was detected in 19 of the 32 surface soil samples with only 6 of the detections above reporting limit (13 results reported at concentrations between the MDL and RL). The maximum Cr VI concentration reported was 6.6 mg/kg from the surface soil sample collected from AOC01-03 located in the drainage ditch west of Process Area 1. This was the only sample (of the 32 samples) with a concentration exceeding the EPA Regional Screening Level for hexavalent chromium of 5.6 mg/kg for industrial workers. With the exception of one sample, AOC01-03, the calculated ratio of Cr VI to total Cr ranged from 0.01 to 0.05, with an average ratio of 0.03. These results are being evaluated for potential exposure area modifications in the Human Health Risk Assessment.

Kansas Military Museum Sampling

During the prior quarter, the Kansas Military Museum property sampling activities outlined in the November 9, 2011 SAP were completed. Eight soil samples (four surface and four subsurface) were collected on the Museum property. A site map showing the locations of the soil boring locations (MSB-01 through MSB-04) and two shallow monitor wells (FAR11-02S and FAR11-03S) is included on the attached **Figure B-1**. Well logs for the two new shallow monitor wells installed during sampling at the Museum property are also included in Attachment B.

The lithologic description of the screened interval of the wells consisted of a clayey silt. Petroleum staining and odors were noted in the soils during installation of both monitor wells. Depth to water is approximately 6 to 8 feet below ground surface in both wells. A trace amount of LNAPL was detected in the far south monitor well FAR11-02 immediately after completion on December 14, 2011. Both of these wells were gauged again on December 20, 2011 and January 31, 2012. No LNAPL was detected in either of the monitor wells on December 20, 2011, but during the January 31, 2012 gauging 0.14 feet of LNAPL was measured in FAR11-02 and no LNAPL measured in FAR11-03.

A summary of the soil analytical organic and metal results for the soil sampling at the Museum property are included as **Table B-1** and **B-2** (Attachment B), respectively. Various constituents were detected in the soil samples analyzed. When compared to the EPA Regional Resident Soil Screening Level (RSL):

- Naphthalene was detected above the RSL at 5.57 mg/kg in the subsurface sample from MSB-02 and 17.1 mg/kg in the subsurface soil sample from MSB-03.
- Benzene was detected above the RSL at 1.66 mg/kg in the subsurface soil sample from MSB-03.
- Arsenic results in all soil samples exceeded the RSL of 0.39 mg/kg. Surface soil samples collected from MSB-03 and MSB-04 exceeded the 95 percent upper confidence level for background surface soil of 6.05 mg/kg with arsenic results of 10.3 mg/kg and 40.9 mg/kg, respectively.
- Organic lead was detected above the tetraethyl lead RSL in the surface soil samples collected from MSB-03 and MSB-04 with organic lead results of 87 µg/kg and 1,000 µg/kg,

respectively, and at 9.0 µg/kg in the subsurface sample from MSB-03.

- All other soil analytical results were below their respective RSL.

These results are being evaluated for potential exposure area modifications in the Human Health Risk Assessment.

Well Sampling

Monitor Well FAR11-01S

On December 6, 2011, a sentinel groundwater monitoring well (FAR11-01S) was installed to the north/northwest of the Phelps Property (see **Figure C-1**, Attachment C). After completion, the water was very slow to recharge. Water within the well was surged and bailed several times prior to sampling on December 20, 2011. Groundwater samples were submitted for analysis of VOCs and total metals. The limited sample volume collected at the time of sampling prevented analysis for SVOCs. Laboratory analytical results for VOCs were all below the laboratory detection limit. Total arsenic in groundwater was reported at 11.4 µg/l, just above the maximum contaminant level (MCL) for arsenic in drinking water of 10 µg/l. All other total metal results were below their respective MCLs, as shown in **Table C-1**. A copy of the laboratory report of analysis is included in Attachment C.

The ground level elevation at FAR11-01S was measured at 1218.30. FAR11-01S was constructed of two-inch diameter PVC casing and well screen. A 15-foot length of 0.010-inch slotted well screen was set at a total depth of 30 feet below ground surface and the solid PVC casing threaded to the well screen and extended to surface. The well was completed in above ground protective well cover with protective bumper posts. The specific boring log and monitor well completion diagram is included in Attachment C. The lithologic description of the screened interval of the well consisted of a silty clay.

North Phelps Lawn and Garden Well

The north Phelps Lawn and Garden well was purged and sampled. Top of casing and ground elevations were obtained for the north Phelps well with a survey level by Shaw prior to installation of FAR11-01S. FAR11-01S was then constructed to similar depths of the north Phelps well. The north Phelps well is located in a below grade pump vault. The ground level elevation is 1223.4 feet above mean sea level (msl) and the top of the concrete well cover is 1217.7 feet. The well is approximately four feet in diameter with a total depth measured at 28.5 feet below the concrete well cover. Depth to water in the well was measured at 20.32 feet below the concrete well cover on December 2, 2011. A site map showing the locations of the well is shown on **Figure C-1** in Attachment C.

The existing submersible pump in the north Phelps well was non-operational at the time of sampling. On December 14, 2011, Shaw utilized a 4-inch submersible pump, set near the bottom of the well, to purge approximately 750 gallons of water from the well. Water level measurements collected prior to and after purging were 20.32 feet and 27.0 feet, respectively. The well was allowed to recharge prior to groundwater samples being collected the following day. Laboratory analytical results for VOCs and SVOCs were all below the laboratory detection limits. Laboratory

analytical results for total metals in groundwater were all below their respective MCLs. The laboratory analytical results for the well are presented in Attachment C.

Monitor Wells FAR09-01S and FAR09-02S

On March 12, 2012, Shaw checked depth to groundwater in monitor wells FAR09-01S, FAR09-02S, and FAR09-03S. A site map showing the locations of these wells is shown on **Figure C-1** in Attachment C. These three wells did not have sufficient water to be sampled during the 2011 groundwater sampling event and are located on the off-site areas that include Warren (FAR09-01S), City of Augusta POTW (FAR09-2S), and Phelps Tree Farm (FAR09-03S). Groundwater elevations have recently increased to provide sufficient volume of water in FAR09-01S and FAR09-02S to be sampled. FAR09-3S still had an insufficient amount of water to be sampled.

On March 15, 2012, Shaw purged monitor wells FAR09-1S and FAR09-2S and allowed them to recharge prior to groundwater samples being collected. Groundwater samples were submitted for analysis of VOCs, SVOCs, and total metals. Laboratory analytical results above their respective MCLs included benzene (147 µg/l) and total arsenic (34.3 µg/l) in groundwater collected from FAR09-01S, and benzene (18.5 µg/l) and total arsenic (50.4 µg/l) in groundwater collected from FAR09-02S.

The last time that monitor wells FAR09-01S, FAR09-02S, and FAR09-03S were sampled was immediately after installation in May 2009. Results from the May 2009 sampling event are compared to the most recent results in **Table C-1** (Attachment C). Most notable are the reported changes in benzene concentrations. In FAR09-02S, benzene concentrations were reported at 249 µg/l in May 2009 and at 18.5 µg/l in March 2012. In FAR09-01S, benzene was reported at <0.46 µg/l in May 2009 and at 147 µg/l in March 2012.

Confirmation groundwater samples will be collected from FAR09-01S and FAR09-02S during this quarter to confirm the recent groundwater sampling results from these wells. An attempt to sample FAR09-03S will also be made.

Summaries of All EPA Approved Changes

None.

Summaries of All Contacts

On March 1, 2012, Shaw submitted the 2011 Groundwater Monitoring Report to EPA.

Summaries of Problems Encountered

None.

Actions to Rectify Problems

None.

Changes in Key Project Entities

None

Projected Work for the Next Reporting Period

The following activities will be performed or initiated during the next reporting period:

- Coordinate a project review/update meeting with EPA to present the conclusions of the RFIs and HHRA.
- Confirmation groundwater samples will be collected from FAR09-01S and FAR09-02S during this quarter to confirm the recent groundwater sampling results from these wells. An attempt to sample FAR09-03S will also be made.
- Initiate the Walnut River surface water sampling.
- Submit a proposed conceptual plan for the Interim Corrective Measure for the Walnut River Area of Interest.

Other Relevant Documentation

None

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this submittal is true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with the procedures designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please provide all written correspondence regarding this Quarterly Update directly to Mr. Phil Roberts with Williams Petroleum Services, LLC. If you have any questions, do not hesitate to contact Mr. Roberts at (918) 573-0757.

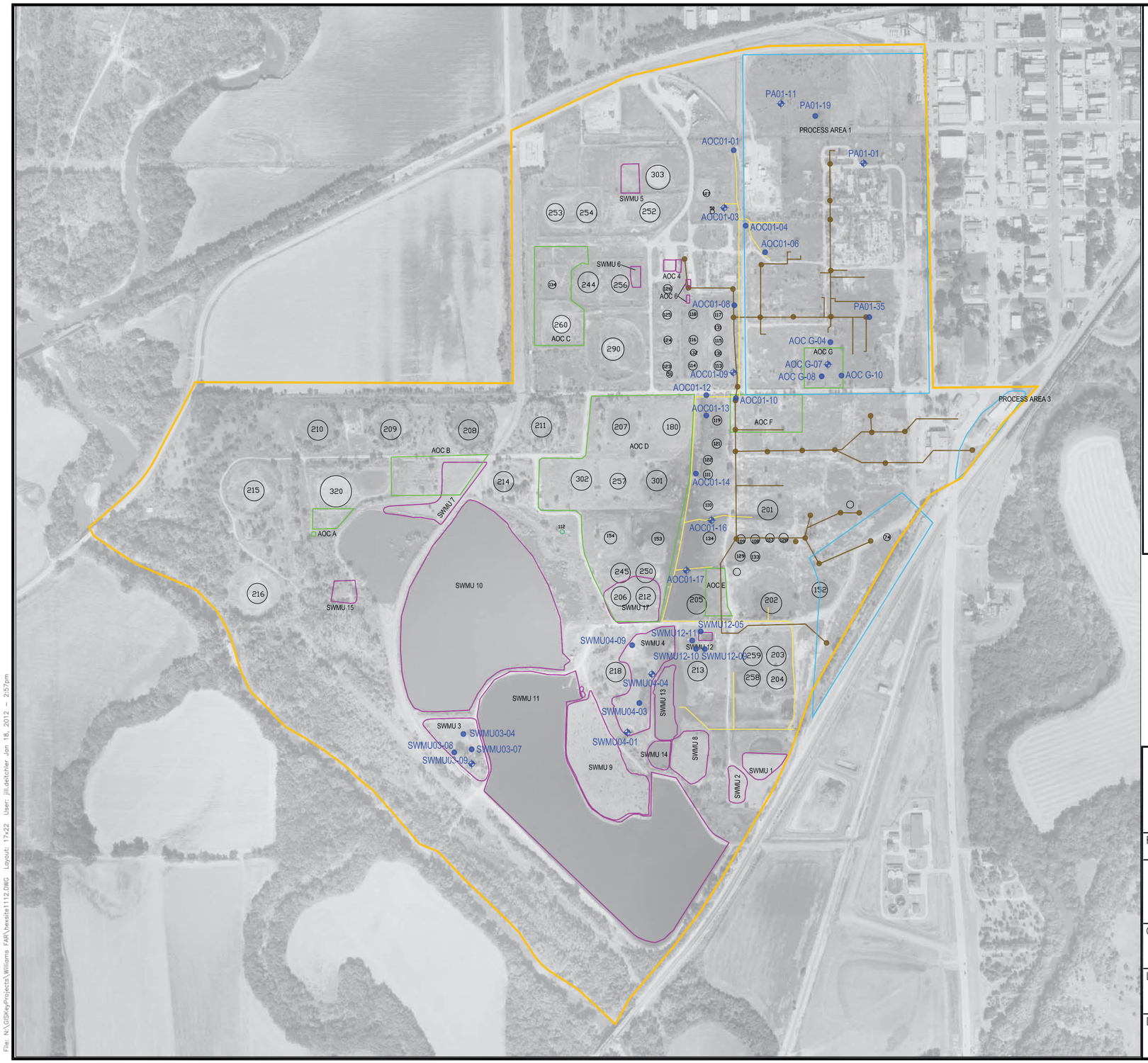
Sincerely,
Williams Petroleum Services, LLC

Rebecca Brown

Rebecca Brown
Interim Director
Williams EH&S

cc: David Way, Shaw Environmental, Inc.
Ryan Pfeiffer, KDHE BER
John Cook, KDHE BER

Attachment A – Hexavalent Chromium Sampling Results



LEGEND

- FACILITY BOUNDARY
- PROCESS AREA
- AOC/SWMU
- AOCs A–G
- AOC 1 – SURFACE WATER DRAINAGE DITCH
- SWMU 16 – OILY WATER SEWER SYSTEM
- SEWER SEAL
- AOC 5 TANK
- SURFACE SOIL SAMPLING LOCATION

SCALE: N 0 400 800 FEET

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(316) 943-3444

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	01/18/12	hexsite1112

HEXAVALENT CHROMIUM SURFACE SOIL SAMPLING LOCATIONS MAP

CLIENT:	PM:
WILLIAMS PETROLEUM SERVICES	
LOCATION:	PE/RG:
FORMER AUGUSTA REFINERY	

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
JRD	JRD	112293	A-1

Table A-1
Williams FAR
Hexavalent Chromium Sampling Results - AOCs

Unit ID	Exposure Area	Sample Number	Sample Depth, ft	Chromium (total) results, mg/kg	Qualifier	RL	MDL	Chromium VI results, mg/kg	Qualifier	CrVI result greater than RSL?	RL	MDL	CrVI/Cr ratio	Notes
AOC-1	AOC 1 Sec A	AOC01-01	0-1	31.6		1.4	0.088	1.6	B	Yes	2.3	1.3	0.051	CrVI DF=4
AOC-1	AOC 1 Sec A	AOC01-03	0-1	29.9		1.4	0.085	6.6		Yes	2.1	1.2	0.22	CrVI DF=4
AOC-1	AOC 1 Sec C & D	AOC01-08	0-1	27.4		1.4	0.086	0.46	B	Yes	0.56	0.30	0.017	
AOC-1	AOC 1 Sec C & D	AOC01-08 Dup	0-1	29.7		1.2	0.073	0.27	U	No	0.51	0.27	N/A	
AOC-1	AOC 1 Sec C & D	AOC01-09	0-1	19.9		1.1	0.070	0.53	U	Yes	0.99	0.53	N/A	CrVI DF=2
AOC-1	AOC 1 Sec C & D	AOC01-12	0-1	28.1		1.3	0.080	0.85	B	Yes	1.0	0.55	0.030	CrVI DF=2
AOC-1	AOC 1 Sec E	AOC01-13	0-1	25.8		1.4	0.086	0.28	U	No	0.52	0.28	N/A	
AOC-1	AOC 1 Sec E	AOC01-14	0-1	28.6		1.3	0.082	0.30	B	Yes	0.55	0.30	0.010	
AOC-1	AOC 1 Sec E	AOC01-16	0-1	23.4		1.3	0.080	0.67	B	Yes	1.1	0.58	0.029	CrVI DF=2
AOC-1	AOC 1 Sec E	AOC01-17	0-1	22.6		1.2	0.076	0.29	U	No	0.53	0.29	N/A	
AOC-1	AOC F	AOC01-10	0-1	17.8		1.1	0.066	0.50	U	Yes	0.92	0.50	N/A	CrVI DF=2
AOC-G	AOC G	AOCG-04	0-1	25.5		1.1	0.071	0.58	B	Yes	0.95	0.51	0.023	CrVI DF=2
AOC-G	AOC G	AOCG-07	0-1	22.1		1.3	0.079	0.53	U	Yes	0.98	0.53	0.024	CrVI DF=2
AOC-G	AOC G	AOCG-08	0-1	24.6		1.1	0.069	0.57	U	Yes	1.1	0.57	N/A	CrVI DF=2
AOC-G	AOC G	AOCG-10	0-1	19.5		1.3	0.078	0.56	U	Yes	1.0	0.56	N/A	CrVI DF=2

DF = Dilution Factor
RL = Reporting Limit
MDL = Method Detection Limit
B = result >= MDL but < RL
U = result < MDL
Hexavalent Chromium residential RSL = 0.29 mg/kg
Hexavalent Chromium industrial RSL = 5.6 mg/kg

Table A-2
Williams FAR
Hexavalent Chromium Sampling Results - PA-1

Unit ID	Exposure Area	Sample Number	Sample Depth, ft	Chromium (total) results, mg/kg	Qualifier	RL	MDL	Chromium VI results, mg/kg	Qualifier	CrVI result greater than RSL?	RL	MDL	CrVI/Cr ratio	Notes
AOC-1	PA-1	AOC01-04	0-1	20.9		1.2	0.074	0.69	B	Yes	0.95	0.51	0.033	CrVI DF=2
AOC-1	PA-1	AOC01-06	0-1	35.1		1.3	0.078	0.85	B	Yes	1.0	0.56	0.024	CrVI DF=2
PA-1	PA-1	PA01-01	0-1	14		6.0	0.37	0.52		Yes	0.46	0.25	0.037	Cr total elevated DL due to dilution required for high interfering element. Cr total DF=5
PA-1	PA-1	PA01-35	0-1	19.5		1.2	0.077	0.57	B	Yes	1.0	0.54	0.029	CrVI DF=2
PA-1	PA-1	PA01-11	0-1	19.1		1.2	0.077	0.52	U	Yes	0.97	0.52	N/A	CrVI DF=2
PA-1	PA-1	PA01-19	0-1	25.6		1.3	0.078	1.3	B	Yes	2.1	1.1	0.051	CrVI DF=4

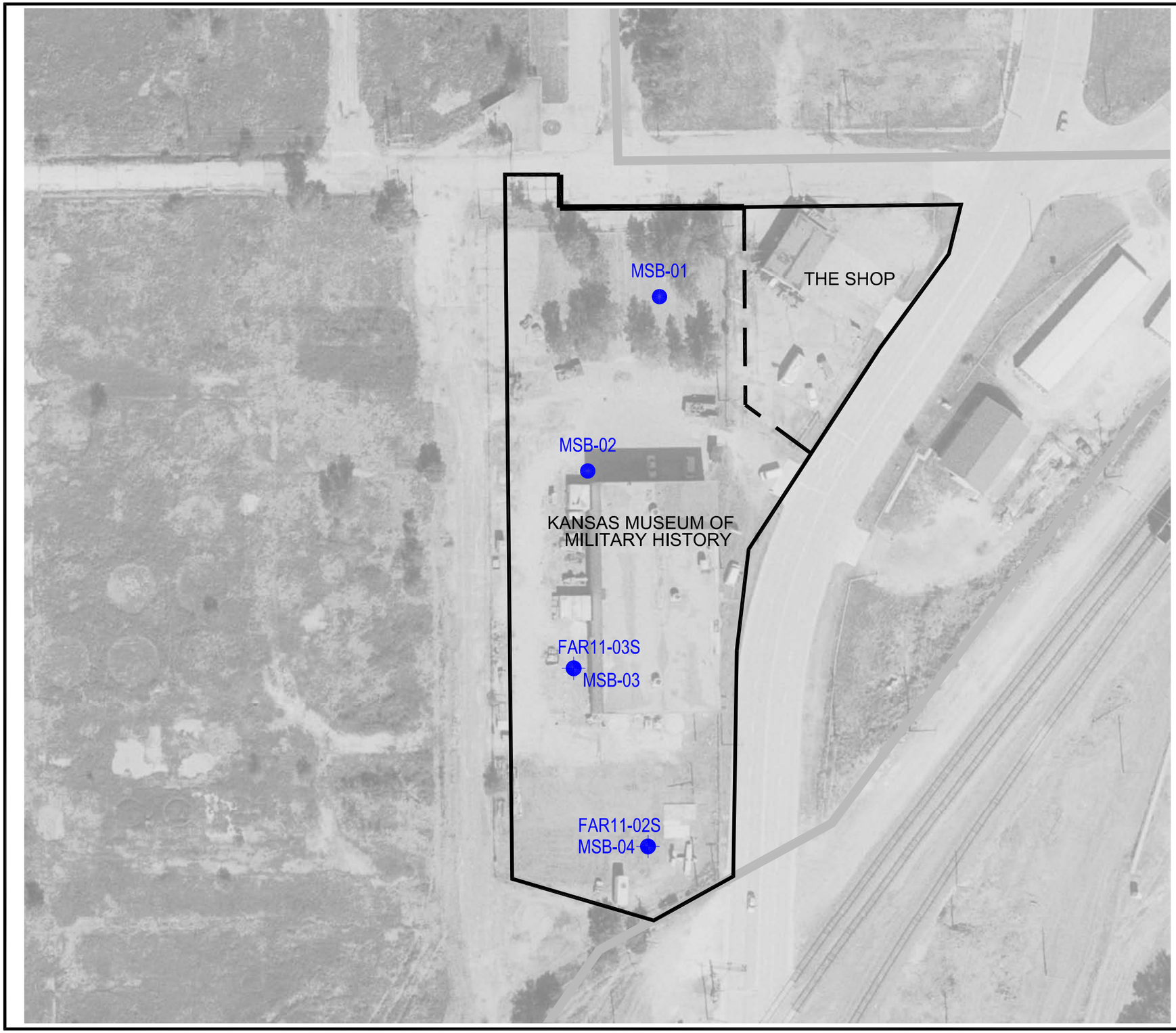
DF = Dilution Factor
RL = Reporting Limit
MDL = Method Detection Limit
B = result >= MDL but < RL
U = result < MDL
Hexavalent Chromium residential RSL = 0.29 mg/kg
Hexavalent Chromium industrial RSL = 5.6 mg/kg

Table A-3
Williams FAR
Hexavalent Chromium Sampling Results - SWMUs

Unit ID	Exposure Area	Sample Number	Sample Depth, ft	Chromium (total) results, mg/kg	Qualifier	RL	MDL	Chromium VI results, mg/kg	Qualifier	CrVI result greater than RSL?	RL	MDL	CrVI/Cr ratio	Notes
SWMU3	SWMU3	SWMU03-04	1-2	26.5		1.1	0.067	0.71	B	Yes	0.88	0.48	0.027	CrVI DF=2
SWMU3	SWMU3	SWMU03-07	1-2	18		1.2	0.072	0.52		Yes	0.47	0.25	0.029	
SWMU3	SWMU3	SWMU03-08	0-1	31.9		1.2	0.072	1.1		Yes	0.45	0.24	0.034	
SWMU3	SWMU3	SWMU03-09	0-1	44.9		1.1	0.070	1.4		Yes	0.45	0.24	0.031	
SWMU4	SWMU4	SWMU04-01	0-1	34.7		1.2	0.075	1.2		Yes	0.45	0.24	0.035	
SWMU4	SWMU4	SWMU04-03	0-1	46.5		1.3	0.080	0.76	B	Yes	0.95	0.51	0.016	CrVI DF=2
SWMU4	SWMU4	SWMU04-04	1-2	27.6		1.3	0.081	0.27	U	No	0.50	0.27	N/A	
SWMU4	SWMU4	Duplicate B		23.4		1.3	0.084	0.55	U	Yes	1.0	0.55	N/A	CrVI DF=2
SWMU4	SWMU4	SWMU04-09	0-1	18.4		1.3	0.079	1.1	U	Yes	2.0	1.1	N/A	CrVI DF=4
SWMU12	SWMU12	SWMU12-09	0-1	18.0		1.1	0.071	0.98	U	Yes	1.8	0.98	N/A	CrVI DF=4
SWMU12	SWMU12	SWMU12-10	0-1	23.5		1.1	0.070	0.98	U	Yes	1.8	0.98	N/A	CrVI DF=4
SWMU12	SWMU12	SWMU12-11	0-1	18.3		1.2	0.073	0.28	B	No	0.45	0.25	0.015	
SWMU12	SWMU12	SWMU12-05	0-1	15.0		5.5	0.34	0.23	U	No	0.43	0.23	N/A	Cr total elevated DL due to dilution required for high interfering element. Cr total DF=5

DF = Dilution Factor
RL = Reporting Limit
MDL = Method Detection Limit
B = result >= MDL but < RL
U = result < MDL
Hexavalent Chromium residential RSL = 0.29 mg/kg
Hexavalent Chromium industrial RSL = 5.6 mg/kg

Attachment B – Kansas Military Museum Sampling Results



LEGEND

FACILITY BOUNDARY

EXPOSURE AREA FOR THE HUMAN HEALTH RISK ASSESSMENT

SOIL BORING LOCATION

SCALE: N 0 40 80 FEET

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WICHITA, KANSAS 67209
(316) 943-3444

REV. NO.:	DRAWING DATE:	ACAD FILE:
	01/19/12	ksmuseumsite

KANSAS MUSEUM OF MILITARY HISTORY SOIL BORING LOCATION MAP

CLIENT:			PM:
WILLIAMS PETROLEUM SERVICES			
LOCATION:			PE/RG:
FORMER AUGUSTA REFINERY			
DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
JRD	JRD	112293	B-1

Table B-1
Kansas Military History Museum
Summary of Soil Analytical Organic Results
Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 12/13/2011 thru 01/31/2012 - Inclusive
SAMPLE TYPE: Soil

SITE	DATE	DEPTH	Starting Depth (feet)	Ending Depth (feet)	1,1,1-trichloro ethane (mg/kg)	1,1-Dichloro ethane (mg/kg)	1,1-Dichloro ethylene (mg/kg)	Acetone (mg/kg)
EPA Regional Screening Level-Residential Soil					8700	3.3	240	61000
MSB-01	12/13/2011	9.00	9.00	9.00	<0.056	<0.044	<0.052	<0.65
MSB-01	12/20/2011	0.00	0.00	1.00	<0.00090	<0.00071	<0.00084	<0.010
MSB-01	01/31/2012	0.00	0.00	1.00	---	---	---	---
MSB-01	01/31/2012	5.50	5.50	6.50	---	---	---	---
MSB-02	12/13/2011	7.00	7.00	7.00	<0.057	<0.045	<0.053	<0.65
MSB-02	12/20/2011	0.00	0.00	1.00	<0.00084	<0.00066	<0.00078	<0.0097
MSB-02	01/31/2012	0.00	0.00	1.00	---	---	---	---
MSB-02	01/31/2012	5.50	5.50	6.50	---	---	---	---
MSB-03	12/13/2011	7.00	7.00	7.00	<0.059	<0.046	<0.054	<0.68
MSB-03	12/20/2011	0.00	0.00	1.00	<0.00090	<0.00071	<0.00083	<0.010
MSB-03	01/31/2012	0.00	0.00	1.00	---	---	---	---
MSB-03	01/31/2012	6.00	6.00	7.00	---	---	---	---
MSB-04	12/13/2011	7.00	7.00	7.00	<0.061	<0.048	<0.056	<0.70
MSB-04	12/20/2011	0.00	0.00	1.00	<0.0011	<0.00086	<0.0010	<0.013
MSB-04	01/31/2012	0.00	0.00	1.00	---	---	---	---
MSB-04	01/31/2012	6.00	6.00	7.00	---	---	---	---

G=Estimated due to MS/MSD low % recovery
Q=Estimated due to surrogate recovery outside of limits
---=Not analyzed

Table B-1
Kansas Military History Museum
Summary of Soil Analytical Organic Results
Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 12/13/2011 thru 01/31/2012 - Inclusive
SAMPLE TYPE: Soil

SITE	DATE	DEPTH	Benzene (mg/kg)	Carbon disulfide (mg/kg)	Chlorobenzene (mg/kg)	Ethylbenzene (mg/kg)	Methylene chloride (mg/kg)	Methyl tert-butyl ether (mg/kg)
EPA Regional Screening Level-Residential Soil			1.1	820	290	5.4	11	43
MSB-01	12/13/2011	9.00	<0.034	<0.045	<0.031	<0.045	<0.16	<0.043
MSB-01	12/20/2011	0.00	<0.00055	<0.00073	<0.00050	<0.00073	<0.0026	<0.00070
MSB-01	01/31/2012	0.00	---	---	---	---	---	---
MSB-01	01/31/2012	5.50	---	---	---	---	---	---
MSB-02	12/13/2011	7.00	[0.105]	<0.046	<0.031	[0.114]	<0.16	<0.044
MSB-02	12/20/2011	0.00	<0.00051	<0.00067	<0.00046	<0.00067	<0.0024	<0.00065
MSB-02	01/31/2012	0.00	---	---	---	---	---	---
MSB-02	01/31/2012	5.50	---	---	---	---	---	---
MSB-03	12/13/2011	7.00	**1.66Q**	<0.047	<0.033	0.718Q	<0.17	<0.045
MSB-03	12/20/2011	0.00	<0.00055	<0.00072	<0.00050	<0.00072	<0.0026	<0.00070
MSB-03	01/31/2012	0.00	---	---	---	---	---	---
MSB-03	01/31/2012	6.00	---	---	---	---	---	---
MSB-04	12/13/2011	7.00	<0.037	[0.0966]	<0.034	<0.049	[0.682]G	<0.047
MSB-04	12/20/2011	0.00	<0.00067	<0.00088	<0.00061	<0.00088	<0.0032	<0.00085
MSB-04	01/31/2012	0.00	---	---	---	---	---	---
MSB-04	01/31/2012	6.00	---	---	---	---	---	---

G=Estimated due to MS/MSD low % recovery
Q=Estimated due to surrogate recovery outside of limits

[x]=Less than Reporting Limit **x**=Greater than Action Level ---=Not analyzed

Table B-1
Kansas Military History Museum
Summary of Soil Analytical Organic Results
Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 12/13/2011 thru 01/31/2012 - Inclusive
SAMPLE TYPE: Soil

SITE	DATE	DEPTH	Tetrachloro ethylene (mg/kg)	Toluene (mg/kg)	Vinyl chloride (mg/kg)	Xylene (total) (mg/kg)	2-Methyl naphthalene (mg/kg)	Benzoic acid (mg/kg)
EPA Regional Screening Level-Residential Soil			0.55	5000	0.06	630	310	240000
MSB-01	12/13/2011	9.00	<0.060	<0.045	<0.071	<0.088	0.0223	<0.080
MSB-01	12/20/2011	0.00	<0.00097	<0.00073	<0.0011	<0.0014	<0.0013	<0.072G
MSB-01	01/31/2012	0.00	---	---	---	---	---	---
MSB-01	01/31/2012	5.50	---	---	---	---	---	---
MSB-02	12/13/2011	7.00	<0.061	<0.046	<0.072	[0.176]	38.5	<0.080
MSB-02	12/20/2011	0.00	<0.00090	<0.00067	<0.0011	<0.0013	[0.0489]	<0.72
MSB-02	01/31/2012	0.00	---	---	---	---	---	---
MSB-02	01/31/2012	5.50	---	---	---	---	---	---
MSB-03	12/13/2011	7.00	<0.063	<0.047	<0.074	1.60Q	98.9	<0.079
MSB-03	12/20/2011	0.00	<0.00096	<0.00072	<0.0011	<0.0014	[0.0051]	<0.073
MSB-03	01/31/2012	0.00	---	---	---	---	---	---
MSB-03	01/31/2012	6.00	---	---	---	---	---	---
MSB-04	12/13/2011	7.00	<0.065	<0.049	<0.077	[0.123]	0.210	<0.080G
MSB-04	12/20/2011	0.00	<0.0012	<0.00088	<0.0014	<0.0017	[0.0102]	<0.16
MSB-04	01/31/2012	0.00	---	---	---	---	---	---
MSB-04	01/31/2012	6.00	---	---	---	---	---	---

G=Estimated due to MS/MSD low % recovery
Q=Estimated due to surrogate recovery outside of limits
[x]=Less than Reporting Limit ---=Not analyzed

Table B-1
Kansas Military History Museum
Summary of Soil Analytical Organic Results
Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 12/13/2011 thru 01/31/2012 - Inclusive
SAMPLE TYPE: Soil

SITE	DATE	DEPTH	Bis(2-ethyl hexyl)phthalate (BEHP) (mg/kg)	Chrysene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	Organic lead (ug/kg)
EPA Regional Screening Level-Residential Soil			35	15	3.6		1700	6.1
MSB-01	12/13/2011	9.00	<0.090	<0.0021	[0.0068]	0.0134	<0.0029	---
MSB-01	12/20/2011	0.00	<0.081G	<0.0019	<0.0012	<0.0011	<0.0026	---
MSB-01	01/31/2012	0.00	---	---	---	---	---	0.098
MSB-01	01/31/2012	5.50	---	---	---	---	---	<0.025
MSB-02	12/13/2011	7.00	<0.090	0.0934	**5.57**	1.23	0.263	---
MSB-02	12/20/2011	0.00	<0.81	[0.0646]	[0.0228]	[0.0198]	[0.0384]	---
MSB-02	01/31/2012	0.00	---	---	---	---	---	5.3
MSB-02	01/31/2012	5.50	---	---	---	---	---	<0.025
MSB-03	12/13/2011	7.00	<0.090	0.244	**17.1**	4.67	0.810	---
MSB-03	12/20/2011	0.00	<0.082	0.0317	[0.0015]	0.0111	0.0229	---
MSB-03	01/31/2012	0.00	---	---	---	---	---	**87**
MSB-03	01/31/2012	**6.00**	---	---	---	---	---	**9.0**
MSB-04	12/13/2011	**7.00**	<0.091G	0.171	0.227	0.938	0.341	---
MSB-04	12/20/2011	0.00	<0.18	0.0801	[0.0036]	0.0152	0.0511	---
MSB-04	01/31/2012	0.00	---	---	---	---	---	**1000**
MSB-04	01/31/2012	**6.00**	---	---	---	---	---	1.6

G=Estimated due to MS/MSD low % recovery
Q=Estimated due to surrogate recovery outside of limits

[x]=Less than Reporting Limit **x**=Greater than Action Level ---=Not analyzed

Table B-2
Kansas Military History Museum
Summary of Soil Analytical Metals Results
Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

Date: 02/14/2012

PERIOD: From 12/13/2011 thru 12/20/2011 - Inclusive
SAMPLE TYPE: Soil

SITE	DATE	DEPTH	Starting Depth (feet)	Ending Depth (feet)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
MSB-01	12/13/2011	9.00	9.00	9.00	4.6	186	[0.15]	27.4
MSB-01	12/20/2011	0.00	0.00	1.00	4.8C	101	0.36	11.5
MSB-02	12/13/2011	7.00	7.00	7.00	3.7	128	[0.046]	19.9
MSB-02	12/20/2011	0.00	0.00	1.00	10.3	208	1.3	19.0
MSB-03	12/13/2011	7.00	7.00	7.00	3.7	103	[0.084]	14.4
MSB-03	12/20/2011	0.00	0.00	1.00	3.2	103	[0.22]	12.7
MSB-04	12/13/2011	7.00	7.00	7.00	3.2C	130CG	[0.073]CG	18.2CG
MSB-04	12/20/2011	0.00	0.00	1.00	40.9	213	0.91	24.9

C=Estimated based on serial dilution
G=Estimated due to MS/MSD low % recovery
[x]=Less than Reporting Limit

Table B-2
Kansas Military History Museum
Summary of Soil Analytical Metals Results
Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 12/13/2011 thru 12/20/2011 - Inclusive
SAMPLE TYPE: Soil

SITE	DATE	DEPTH	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
MSB-01	12/13/2011	9.00	18.0	<0.0082	<0.20	[0.34]
MSB-01	12/20/2011	0.00	17.8	[0.013]	[0.40]	<0.067
MSB-02	12/13/2011	7.00	10.1	[0.010]	[0.46]	[0.25]
MSB-02	12/20/2011	0.00	190	9.7	0.69	[0.13]
MSB-03	12/13/2011	7.00	10.9	[0.0081]	[0.23]	[0.21]
MSB-03	12/20/2011	0.00	32.8	0.93	[0.25]	<0.076
MSB-04	12/13/2011	7.00	12.7G	[0.011]	[0.29]CG	[0.20]CG
MSB-04	12/20/2011	0.00	104	2.1	[0.42]	[0.15]

C=Estimated based on serial dilution
G=Estimated due to MS/MSD low % recovery
[x]=Less than Reporting Limit

7330 W. 33rd St. N., Ste. 106
WICHITA, KANSAS 67205
(316) 220-8020
Shaw Environmental, Inc.

Site Id: FAR11-02S

Date Started: 12/13/11

Project Name: Williams FAR	Coordinate X: 1751860.00
Project Number: 112293	Coordinate Y: 1681483.00
Location:	Static Water Level: 5.57'
Logged By: Doug Lane	Measuring Point: 0.00'
Contractor: BGS	Total Depth: 16.00'
Drilling Method: HSA	Borehole Dia.: 8.25in

Remarks: SB-04

Blank Casing:
type: PVC dia: 2.00in
fm: 0.0' to: 6.00'

Screens:
type: Slotted size: 0.010in dia: 2.00in
fm: 6.00' to: 16.00'

Annular Fill:
type: Bentonite fm: 0.00' to: 4.00'
type: Sand Pack fm: 4.00' to: 16.00'

Completed Depth: 16.00'

Depth	Well Construction	Water Level	% Recovery	PID	Sample No.	USCS Code	Graphic Log	Material Description
0				0.0 ppm		FL		0-4' Fill: sand, clay, gravel, concrete slab, & brick
				240 ppm				4-16' Clayey Silt: medium brown, soft, very moist to wet from 4-5', petroleum stained/odor/LNAPL below ~6', very soft
5		▼						
10						ML		
15								Total Boring Depth 16'
20								

7330 W. 33rd St. N., Ste. 106
WICHITA, KANSAS 67205
(316) 220-8020
Shaw Environmental, Inc.

Site Id: FAR11-03S

Date Started: 12/13/11

Project Name: Williams FAR	Coordinate X: 1751802.00
Project Number: 112293	Coordinate Y: 1681622.00
Location:	Static Water Level: 7.94'
Logged By: Doug Lane	Measuring Point: 0.00'
Contractor: BGS	Total Depth: 15.00'
Drilling Method: HSA	Borehole Dia.: 8.25in

Remarks: SB-03

Blank Casing:
type: PVC dia: 2.00in
fm: 0.0' to: 5.00'

Screens:
type: Slotted size: 0.010in dia: 2.00in
fm: 5.00' to: 15.00'

Annular Fill:
type: Bentonite fm: 0.00' to: 4.00'
type: Sand Pack fm: 4.00' to: 15.00'

Completed Depth: 15.00'

Depth	Well Construction	Water Level	% Recovery	PID	Sample No.	USCS Code	Graphic Log	Material Description
5				436 ppm		FL		0-3' Fill: sand, gravel & clay: light yellow brown, hard
10				178 ppm		ML		3-7' Clayey Silt: dark gray-black, with petroleum stain and odor, soft, very moist to wet
15						CL		7-15' Silty Clay: dark gray-black, petroleum stain and odor, saturated with product, very soft below 8'
20								Total Boring Depth 15'

Williams Petroleum Services, LLC

Attachment C – FAR11-01S, Phelps North Lawn and Garden Well, FAR09-01S, and FAR09-02S Sampling Results

LEGEND

FACILITY BOUNDARY

MONITOR WELL

LAWN AND GARDEN WELL

SCALE: N 0 150 300 FEET

Shaw®
Shaw Environmental, Inc.
7330 W. 33RD ST. N., STE. 106
WICHITA, KANSAS 67205
(316) 220-8020

REV. NO.:	DRAWING DATE: 04/19/12	ACAD FILE: mwloc0412

WELL LOCATION MAP

CLIENT: WILLIAMS PETROLEUM SERVICES			PM:
LOCATION: FORMER AUGUSTA REFINERY			PE/RG:
DESIGNED: JRD	DETAILED: JRD	PROJECT NO.: 112293	FIGURE: C-1

7330 W. 33rd St. N., Ste. 106
WICHITA, KANSAS 67205
(316) 220-8020
Shaw Environmental, Inc.

Site Id: FAR11-01S

Date Started: 12/06/11

Project Name: Williams FAR	Coordinate X: 0.00
Project Number: 112293	Coordinate Y: 0.00
Location: Adjacent N. of Phelps Property	Static Water Level:
Logged By: Doug Lane	Measuring Point: 0.00'
Contractor: Pratt Well	Total Depth: 30.00'
Drilling Method: HSA	Borehole Dia.: 8.25in

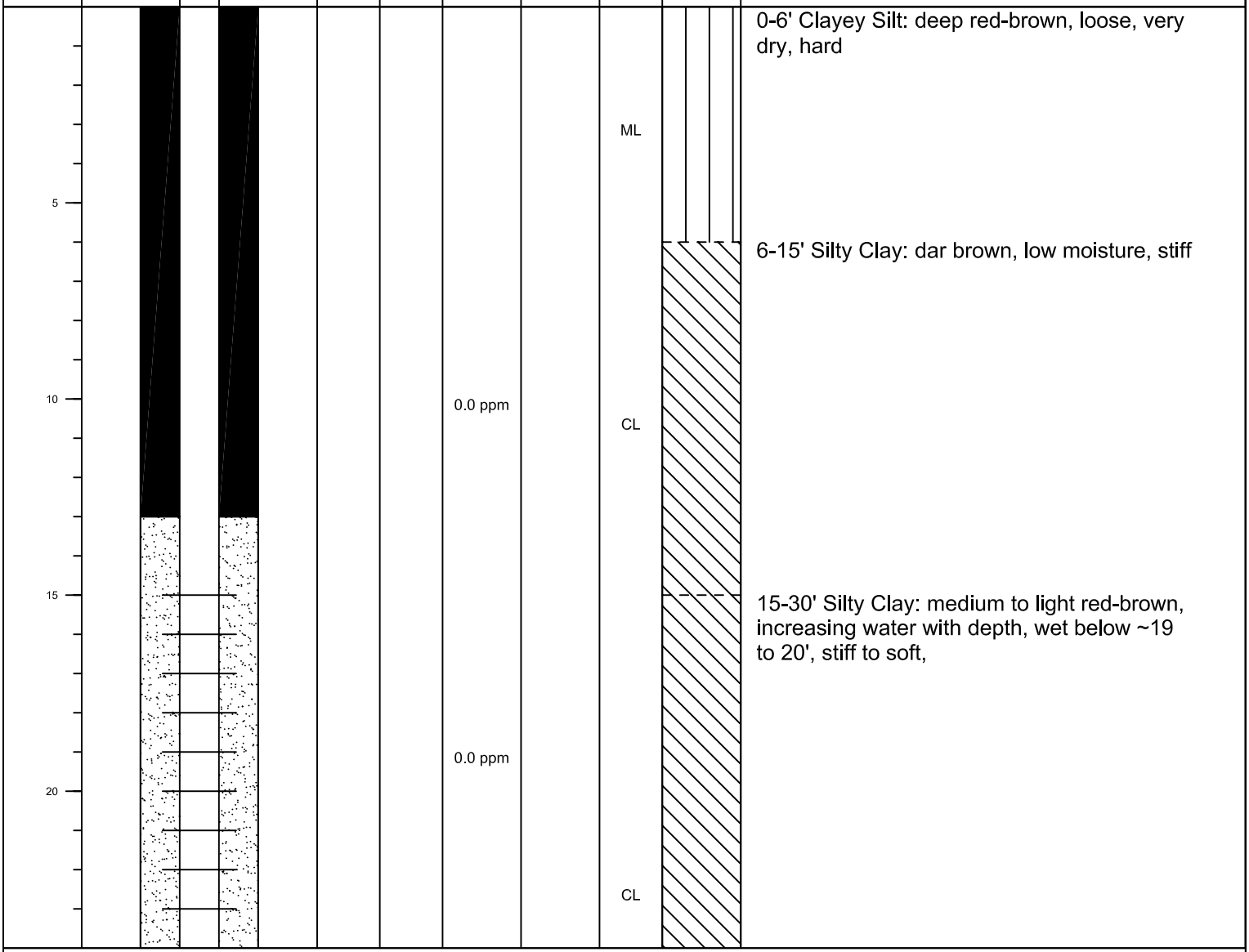
Remarks: Soil log developed from auger cuttings.
Very slow recharge.

Blank Casing:
type: PVC dia: 2.00in
fm: -2.1' to: 15.00'

Screens:
type: Slotted size: 0.010in dia: 2.00in
fm: 15.00' to: 30.00'

Annular Fill:
type: Bentonite fm: 0.00' to: 13.00'
type: Sand Pack fm: 13.00' to: 30.00'

Completed Depth: 30.00'



7330 W. 33rd St. N., Ste. 106
WICHITA, KANSAS 67205
(316) 220-8020
Shaw Environmental, Inc.

Site Id: FAR11-01S
Date Started: 12/06/11

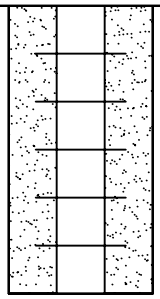
Depth	Well Construction	Water Level	% Recovery	PID	Sample No.	USCS Code	Graphic Log	Material Description
25								
30								Total Boring Depth 30'
35								
40								
45								
50								
55								

Table C-1

Summary of Groundwater Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 05/26/2009 thru 03/15/2012 - Inclusive
SAMPLE TYPE: Water

SITE	DATE	1,1,1-trichloro ethane (ug/l)	1,1-Dichloro ethane (ug/l)	1,1-Dichloro ethylene (ug/l)	Acetone (ug/l)	Benzene (ug/l)	Carbon disulfide (ug/l)	Chlorobenzene (ug/l)
Maximum Contaminant Level		200		7		5		100
FAR09-01S	05/26/2009	<0.47	<0.41	<0.48	<2.6	<0.46	<0.51	<0.42
FAR09-01S	03/15/2012	<0.31	<0.29	<0.40	[23.8]	**147**	<0.36	<0.22
FAR09-02S	05/26/2009	<0.47	<0.41	<0.48	<2.6	**249**	<0.51	<0.42
FAR09-02S	03/15/2012	<0.31	<0.29	<0.40	<10	**18.5G**	<0.36	<0.22
FAR09-03S	05/26/2009	<0.47	<0.41	<0.48	6.6	<0.46	<0.51	<0.42
FAR11-01S	12/20/2011	<0.31	<0.29	<0.40	<10	<0.25	<0.36	<0.22
PHELPS-N	11/23/2009	<0.62	<0.52	<0.50	<4.7	<0.50	<0.53	<0.56
PHELPS-N	12/15/2011	<0.31	<0.29	<0.40	<10	<0.25	<0.36	<0.22

Maximum Contaminant Level = EAP Primary Drinking Water Standard, May 2010

[x]=Less than Reporting Limit **x**=Greater than Action Level

G=Estimated due to MS/MSD % recovery outside of limits

Table C-1

Summary of Groundwater Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 05/26/2009 thru 03/15/2012 - Inclusive
SAMPLE TYPE: Water

SITE	DATE	Ethylbenzene (ug/l)	MTBE (ug/l)	Methylene chloride (ug/l)	Tetrachloro ethylene (ug/l)	Toluene (ug/l)	Vinyl chloride (ug/l)	Xylene (total) (ug/l)
Maximum Contaminant Level		700		5	5	1000	2	10000
FAR09-01S	05/26/2009	<0.45	<0.26	<0.41	<0.50	<0.48	<0.42	<1.4
FAR09-01S	03/15/2012	2.2	<0.28	<1.0	<0.33	4.2	<0.40	[1.5]
FAR09-02S	05/26/2009	0.90	<0.26	<0.41	1.9	6.5	<0.42	<1.4
FAR09-02S	03/15/2012	[0.29]	<0.28	<1.0	<0.33	1.3	<0.40	[1.0]
FAR09-03S	05/26/2009	<0.45	<0.26	<0.41	<0.50	<0.48	<0.42	<1.4
FAR11-01S	12/20/2011	<0.25	<0.28	<1.0	<0.33	<0.26	<0.40	<0.71
PHELPS-N	11/23/2009	<0.55	<0.73	<0.41	<0.91	<0.43	<1.0	<1.7
PHELPS-N	12/15/2011	<0.25	<0.28	<1.0	<0.33	<0.26	<0.40	<0.71

Maximum Contaminant Level = EAP Primary Drinking Water Standard, May 2010

[x]=Less than Reporting Limit

G=Estimated due to MS/MSD % recovery outside of limits

Table C-1

Summary of Groundwater Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 05/26/2009 thru 03/15/2012 - Inclusive
SAMPLE TYPE: Water

SITE	DATE	2-Methyl naphthalene (ug/l)	Benzoic acid (ug/l)	Bis(2-ethyl hexyl)phthalate (BEHP) (ug/l)	Chrysene (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Pyrene (ug/l)
Maximum Contaminant Level				6				
FAR09-01S	05/26/2009	<2.2	<0.61	<1.6	<1.4	<1.5	<1.7	<1.2
FAR09-01S	03/15/2012	10.7	<26	<2.3	<1.3	23.8	<1.3	<2.2
FAR09-02S	05/26/2009	<2.1	<0.59	<1.5	<1.3	<1.5	<1.6	<1.2
FAR09-02S	03/15/2012	<1.4	<22	<2.0	<1.1	<1.3	<1.1	<1.9
FAR09-03S	05/26/2009	<2.2	<0.63	<1.6	<1.4	<1.6	<1.7	<1.2
FAR11-01S	12/20/2011	---	---	---	---	---	---	---
PHELPS-N	11/23/2009	<1.3	<5.0	<1.8	<0.98	<1.1	<0.97	<1.7
PHELPS-N	12/15/2011	<1.3	<5.1	<1.8	<1.0	<1.2	<0.99	<1.7

Maximum Contaminant Level = EAP Primary Drinking Water Standard, May 2010

---=Not analyzed

G=Estimated due to MS/MSD % recovery outside of limits

Table C-1

Summary of Groundwater Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 05/26/2009 thru 03/15/2012 - Inclusive
SAMPLE TYPE: Water

SITE	DATE	Arsenic (ug/l)	Dissolved Arsenic (ug/l)	Barium (ug/l)	Dissolved Barium (ug/l)	Cadmium (ug/l)	Dissolved Cadmium (ug/l)	Chromium (ug/l)
Maximum Contaminant Level		10	10	2000	2000	5	5	100
FAR09-01S	05/26/2009	<1.3	1.9	124	130	<0.30	<0.30	<1.9
FAR09-01S	03/15/2012	**34.3**	---	317	---	[0.43]	---	[2.8]
FAR09-02S	05/26/2009	**42.4**	8.6	589	508	<0.30	<0.30	2.4
FAR09-02S	03/15/2012	**50.4**	---	241	---	[2.8]	---	[3.6]
FAR09-03S	05/26/2009	2.8	1.3	380	356	<0.30	<0.30	<1.9
FAR11-01S	12/20/2011	**11.4**	---	346	---	[0.91]	---	[4.9]
PHELPS-N	11/23/2009	[1.2]	[1.1]	276	289	<0.30	<0.30	<1.9
PHELPS-N	12/15/2011	4.0	---	431	---	0.30	---	[0.69]

Maximum Contaminant Level = EAP Primary Drinking Water Standard, May 2010

[x]=Less than Reporting Limit **x**=Greater than Action Level ---=Not analyzed

G=Estimated due to MS/MSD % recovery outside of limits

Table C-1

Summary of Groundwater Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 05/26/2009 thru 03/15/2012 - Inclusive
SAMPLE TYPE: Water

SITE	DATE	Dissolved Chromium (ug/l)	Lead (ug/l)	Dissolved Lead (ug/l)	Mercury (ug/l)	Dissolved Mercury (ug/l)	Selenium (ug/l)	Dissolved Selenium (ug/l)
Maximum Contaminant Level		100			2	2	50	50
FAR09-01S	05/26/2009	<1.9	<1.7	1.9	<0.094	<0.094	7.2	7.1
FAR09-01S	03/15/2012	---	10.4	---	<0.050	---	[4.7]	---
FAR09-02S	05/26/2009	<1.9	3.8	2.5	<0.094	0.74	<3.2	<3.2
FAR09-02S	03/15/2012	---	12.0	---	<0.050	---	[2.0]	---
FAR09-03S	05/26/2009	<1.9	1.7	1.9	<0.094	<0.094	3.2	<3.2
FAR11-01S	12/20/2011	---	12.8	---	<0.050	---	[1.6]	---
PHELPS-N	11/23/2009	<1.9	<1.7	<1.7	<0.094	<0.094	<3.2	<3.2
PHELPS-N	12/15/2011	---	6.4	---	<0.050	---	[2.4]	---

Maximum Contaminant Level = EAP Primary Drinking Water Standard, May 2010

[x]=Less than Reporting Limit ---=Not analyzed

G=Estimated due to MS/MSD % recovery outside of limits

Table C-1

Summary of Groundwater Analytical Results

Former Augusta Refinery, Augusta, KS
Williams Petroleum Services, LLC

PERIOD: From 05/26/2009 thru 03/15/2012 - Inclusive
SAMPLE TYPE: Water

SITE	DATE	Silver (ug/l)	Dissolved Silver (ug/l)
Maximum Contaminant Level			
FAR09-01S	05/26/2009	<0.80	<0.80
FAR09-01S	03/15/2012	[0.63]	---
FAR09-02S	05/26/2009	<0.80	<0.80
FAR09-02S	03/15/2012	[0.97]	---
FAR09-03S	05/26/2009	<0.80	<0.80
FAR11-01S	12/20/2011	<0.24	---
PHELPS-N	11/23/2009	<0.80	<0.80
PHELPS-N	12/15/2011	<0.24	---

Maximum Contaminant Level = EAP Primary Drinking Water Standard, May 2010

[x]=Less than Reporting Limit ---=Not analyzed

G=Estimated due to MS/MSD % recovery outside of limits