

March 8, 2012

Mr. Mark Riggle
Project Manager
Voluntary Cleanup Section
Texas Commission on Environmental Quality
Mail Code 221
12118 North IH 35, Building D
Austin, Texas 78753

Project No. 0137833

Subject: Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility, Houston, Texas
VCP No. 221



Dear Mr. Riggle:

On behalf of Cameron International Corporation (Cameron), Environmental Resources Management (ERM) is providing the Second Half 2011 Data Transmittal for the Former Cameron Iron Works Facility (the Facility) in Houston, Texas to the Texas Commission on Environmental Quality (TCEQ) for review and consideration. This report presents a summary of the ground water monitoring results during the Second Half of 2011. A summary table (Table 1, Attachment 1) has been created to convey this information, as well as the current response action for each area.

The semiannual ground water and surface water sampling event was completed in November 2011. A total of 114 ground water monitor wells were gauged and 109 were sampled during this event. A total of six surface water locations were sampled in accordance with the Response Action Plan (RAP) and RAP Addenda. Based on a review of these results, the concentration trends were consistent with those reported in previous submittals in 2011.

Evaluation of Plume Movement

Cameron has taken action to address elevated concentrations of constituents of concern (COCs) at selected well locations where upward trends were previously identified. In October 2011, new information regarding the I-610/I-10 Interchange dewatering system was received. This dewatering feature was first described in the *First Half 2011 Monitoring Data Transmittal*, dated August 15, 2011. The additional information, along with recent drought data, is being incorporated into the assessment of the changes in ground water flow direction and affected ground water movement at the Facility. ERM continues to evaluate the adequacy of the monitor well network to capture the full extent of affected ground water and has made the appropriate notifications consistent with TCEQ requirements.

A complete evaluation and assessment of the affected ground water plume at the Facility will be presented in the *2011 Annual Ground Water Monitoring Report and Field Activities Summary*. This evaluation and continued data collection efforts are underway to monitor and help design modifications to the response action. The details of these design efforts will be provided in a Revised RAP.

Evaluation of Analytical Results from the Second Half 2011

The ground water analytical results collected during the Second Half of 2011 were compared with the response action obligations outlined in the RAP. The boundary wells are referred to as "trigger wells" because of their position on the plume boundary and purpose to detect the potential for plume movement. Table 1 indicates which trigger wells require a response action and the proposed response action for each. The ground water analytical results for the trigger wells are presented in Table 2, and the analytical results for the non-trigger wells are presented in Table 3.

The reported surface water concentrations, summarized on Table 4, are below both the critical PCLs and 80% of the critical PCLs as established in the *Human Health and Ecological Risk Assessment for Surface Water and Sediment*, dated June 19, 2003.

The laboratory reports and data usability summaries will be provided in the 2011 Annual Ground Water Monitoring Report and Field Activities Summary.

Concentration Trends in Select (Trigger) Monitor Wells

Figure 1 in Attachment 2 illustrates the locations of the monitor wells for reference purposes. Construction activities near MW-59 prohibited sample collection during the Second Half of 2011. This monitor well is within the capture zone of the facility's ground water treatment system and will remain on the quarterly sampling schedule.

The concentration of 1,1-DCE at MW-74 has been reported slightly above and below the PCL over the past six sampling events. This monitor well is influenced by the dewatering project and will remain on the quarterly sampling schedule.

The increasing concentrations of COCs above their PCLs in MW-84 were reported since 2009 and prompted an expansion of the treatment system in this area. The most-recent data show COC concentrations appear to have remained stable. Cameron is monitoring this location for the presence of permanganate. Treatments will continue in this area to address the elevated concentrations at MW-84 and this well will remain on the quarterly sampling schedule.

The concentrations of trichloroethene (TCE) are above the PCL in MW-122. Upward trends are apparent for both TCE and 1,1-DCE. MW-122 is located in an area of historically elevated concentrations and the upward trends may represent shifts in ground water flow conditions associated with the drought or the dewatering project. MW-122 will remain on the quarterly sampling schedule.

The concentrations of PCE in MW-125 have remained generally stable. Permanganate treatment in both up and downgradient wells was conducted in July 2011. This area will continue to be monitored for the presence of permanganate and MW-125 will remain on the quarterly sampling schedule.

The reported concentrations of 1,1-DCE in MW-134 have remained generally stable over the past four sampling events at levels slightly above its PCL. Prior to this, the concentrations fluctuated above and below its PCL. The concentrations at MW-134 are influenced by the dewatering project. MW-134 will remain on the quarterly sampling schedule.

The concentrations of 1,1-DCE at MW-171 have been below the PCL, but above the MQL since August 2008. Cameron proposes semi-annual monitoring for MW-171.

The concentrations of 1,1-DCE were reported above the PCL in MW-173 prior to the installation of the remediation system in June 2010. Since then, concentrations of 1,1-DCE have been reported below its PCL and all COCs have been reported as *Not Detected* since October 2010. The response action addressed the affected ground water in this area and MW-173 will be monitored quarterly to assess the effectiveness of the remediation system even though the concentrations are below the remedial objectives.

The concentrations of 1,1-DCE remained above the PCL in MW-174. A permanganate treatment was conducted up gradient of MW-174 just prior to this sampling event. This area will continue to be monitored for the presence of permanganate and MW-174 will remain on the quarterly sampling schedule.

Conclusions

Ground water concentrations were monitored at more than 109 monitor wells in the second half of 2011 to assess the effectiveness of the remedy at controlling affected ground water. The drought and dewatering project at the I-610/I-10 Interchange are influencing concentration trends in some areas of the off-site plume. Continued data collection activities are underway to monitor and help design modifications to the response action. The details of these efforts will be provided in a Revised RAP.

In other areas of the plume, remedial effects are making significant progress. The ground water treatment system in the Stablewood Subdivision has reduced concentrations and the extent of affected ground water significantly. At the former facility (on-site area), a total of three wells located near the southern boundary of the former facility (MW-15R, MW-111, and MW-67) all reported COCs below PCLs during 2011.

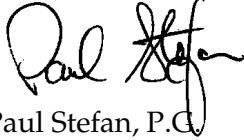
The next scheduled ground water monitoring event was the first quarter sampling event in February 2012, when select trigger wells were sampled as outlined in the RAP. These data will be accumulated and reported in April 2012.

March 8, 2012
Mr. Mark Riggle
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Please contact Mr. Ted Fasting of Cameron International Corporation at (713) 513-3325 or me at (281) 600-1023 with any questions or comments.

Sincerely,

Environmental Resources Management

A handwritten signature in black ink, appearing to read "Paul Stefan". The signature is fluid and cursive, with the first name "Paul" written in a larger, more prominent script than the last name "Stefan".

Paul Stefan, P.C.

PAS/skd
Attachment

cc: Marsha Hill, Texas Commission on Environmental Quality, Region X II
Ted Fasting, Cameron International Corporation
Bruce Himmelreich, Cameron International Corporation, (without attachment)

Tables
Attachment 1

March 8, 2012
Project No. 0137833

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084
(281) 600-1000

TABLE 1

Summary of Response Action Plan Implementation

Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility
Houston, Texas

Well	COCs elevated above MQL	COCs elevated above PCL	Need for Additional Notification (Yes or No)	In-situ Treatment (Yes or No)	Sampling Frequency
MW-59 (1)					Quarterly
MW-74	1,1-dichloroethene		no (a)	no	Quarterly
MW-84	1,1-dichloroethane		no (a)	yes (c)	Quarterly
MW-84	1,1-dichloroethene	1,1-dichloroethene	no (a)	yes (c)	Quarterly
MW-84	1,2-dichloroethane		no (a)	yes (c)	Quarterly
MW-84	cis-1,2-dichloroethene		no (a)	yes (c)	Quarterly
MW-84	tetrachloroethene		no (a)	yes (c)	Quarterly
MW-84	trichloroethene		no (a)	yes (c)	Quarterly
MW-84	Vinyl chloride	Vinyl chloride	no (a)	yes (c)	Quarterly
MW-122	1,1-dichloroethene		no (a)	yes (c)	Quarterly
MW-122	cis-1,2-dichloroethene		no (a)	yes (c)	Quarterly
MW-122	Trichloroethene	Trichloroethene	no (a)	yes (c)	Quarterly
MW-125	Tetrachloroethene	Tetrachloroethene	no (a)	yes (c)	Quarterly
MW-134	1,1-dichloroethane		no (a)	yes (c)	Quarterly
MW-134	1,1-dichloroethene	1,1-dichloroethene	no (a)	yes (c)	Quarterly
MW-171	1,1-dichloroethane		no (a)	no	move to semiannual
MW-171	1,1-dichloroethene		no (a)	no	move to semiannual
MW-171	cis-1,2-dichloroethene		no (a)	no	move to semiannual
MW-173			no (a)	no	Quarterly
MW-174	1,1-dichloroethane		no (a)	yes (c)	Quarterly
MW-174	1,1-dichloroethene	1,1-dichloroethene	no (c)	yes (c)	Quarterly

NOTES:

COCs = Chemicals of Concern

MQL = Method Quantitation Limit

PCL = Protective Concentration Level

(1) MW-59 was not sampled during the Second Half of 2011 due to construction activities near the well.

(a) Properties in the vicinity of the affected ground water have been previously notified.

(b) MW-59 is within the capture zone of EW-1.

(c) Injection wells located in this area were injected with sodium permanganate in July 2011. This area is being monitored for the presence of permanganate. Additional permanganate will be injected as needed to reduce concentration levels to the PCL.

TABLE 2

Summary of Monitor Well Ground Water Data for Trigger Wells

Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility
Houston, Texas

Constituent	MQL	Critical PCLs (a)	Location:	MW-17R	MW-59 (d)	MW-71	MW-72	MW-74	MW-77	MW-80	MW-81	MW-84
			Depth: (b)	26		27	26.5	27	32	32.5	35	33
			Date:	10/18/2021	NS	10/18/2011	10/19/2011	10/20/2011	10/18/2011	10/18/2011	10/17/2011	10/18/2011
1,1-Dichloroethane	0.0050	4.9		ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	0.0049 J	ND (0.00050)	0.012	ND (0.00050)	0.065
1,1-Dichloroethene	0.0050	0.0070		ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	0.0080	ND (0.00050)	0.11	ND (0.00050)	0.34
1,2-Dichloroethane	0.0050	0.0050		ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0013 J
cis-1,2-Dichloroethene	0.0050	0.070		ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	0.00080 J	0.00092 J	0.00076 J	ND (0.00050)	0.0030 J
Tetrachloroethene	0.0050	0.0050		ND (0.00060)	NS	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	0.0012 J
Trichloroethene	0.0050	0.0050		ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0018 J
Vinyl Chloride	0.0020	0.0020		ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00081 J	ND (0.00050)	0.0076

Constituent	MQL	Critical PCLs (a)	Location:	MW-85R	MW-86	MW-97	MW-98	MW-99	MW-117	MW-119	MW-122	MW-123
			Depth: (b)	30	33.5	BAILED	BAILED	34	25	29	29	29.5
			Date:	10/19/2011	10/19/2011	10/21/2011	10/21/2011	10/19/2011	10/18/2011	10/19/2011	10/19/2011	10/17/2011
1,1-Dichloroethane	0.0050	4.9		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
1,1-Dichloroethene	0.0050	0.0070		ND (0.00050)	ND (0.00050)	0.0087	ND (0.00050)	0.0018 J	ND (0.00050)	ND (0.00050)	0.0048 J	ND (0.00050)
1,2-Dichloroethane	0.0050	0.0050		ND (0.00050)	0.00067 J	ND (0.00050)	ND (0.00050)	0.0011 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.0050	0.070		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0025 J	ND (0.00050)
Tetrachloroethene	0.0050	0.0050		ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)
Trichloroethene	0.0050	0.0050		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.013	ND (0.00050)
Vinyl Chloride	0.0020	0.0020		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)

Constituent	MQL	Critical PCLs (a)	Location:	MW-125	MW-131	MW-134	MW-139	MW-146	MW-168	MW-171	MW-173	MW-174
			Depth: (b)	BAILED	26	27	25	30	35	24	BAILED	34
			Date:	11/1/2011	10/17/2011	10/18/2011	10/21/2011	10/19/2011	10/20/2011	10/19/2011	10/20/2011	10/18/2011
1,1-Dichloroethane	0.0050	4.9		ND (0.00050)	ND (0.00050)	0.0020 J	0.019	ND (0.00050)	ND (0.00050)	0.0023 J	ND (0.00050)	0.00055 J
1,1-Dichloroethene	0.0050	0.0070		ND (0.00050)	ND (0.00050)	0.014	0.023	ND (0.00050)	ND (0.00050)	0.0028 J	ND (0.00050)	0.044
1,2-Dichloroethane	0.0050	0.0050		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.0050	0.070		ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0038 J	ND (0.00050)	ND (0.00050)	0.0011 J	ND (0.00050)	ND (0.00050)
Tetrachloroethene	0.0050	0.0050		0.014	ND (0.00060)	ND (0.00060)	0.0011 J	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)
Trichloroethene	0.0050	0.0050		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Vinyl Chloride	0.0020	0.0020		ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00053 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)

NOTES:

The reported concentrations are in mg/L.

0.0088 = exceedance of TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Ground Water critical PCLs.

Bold values exceed the MQL.

ND (0.00050) = *Not Detected* at the sample detection limit (SDL) given in parentheses.

MQL = Method Quantitation Limit.

(a) TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Ground Water PCLs, Table 3, table for TRRP Rule dated April 2008.

(b) The sample depths are reported in feet below ground surface.

(c) Not sampled due to permanganate in well.

(d) Monitor well was inaccessible and not sampled. was covered with construction debris and not sampled in the Second Half of 2010.

J = Estimated data, the reported sample concentration is approximated due to exceedance of QC requirements.

L = Biased Low.

U = Not detected, the SQL is estimated

NS = Not sampled.

TABLE 3

Summary of Monitor Well Ground Water Data

Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility
Houston, Texas

Constituent	Critical PCLs (a)	Location:	KMW-01	KMW-07	KMW-13	KMW-14	MW-01	MW-02(C)	MW-02(S)	MW-03(S)	MW-02R	MW-07R
		Depth: (b)	22	23.5	26	21	23	24	23	24.5	23	29
		Date:	10/20/2011	10/21/2011	10/21/2011	10/21/2011	10/20/2011	10/20/2011	10/20/2011	11/1/2011	10/18/2011	11/19/2011
1,1-Dichloroethane	4.9		NA	NA	NA	NA	NA	NA	ND (0.00050)	0.0026 J	NA	NA
1,1-Dichloroethene	0.0070		0.0025 J	ND (0.00050)	ND (0.00050)	0.027	ND (0.00050)	0.00075 J	ND (0.00050)	ND (0.00050)	0.0098	0.00089 J
1,2-Dichloroethane	0.0050		NA	NA	NA	NA	NA	NA	ND (0.00050)	ND (0.00050)	NA	NA
cis-1,2-Dichloroethene	0.070		ND (0.00050)	ND (0.00050)	ND (0.00050)	0.012	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Tetrachloroethene	0.0050		ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)
Trichloroethene	0.0050		ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0033 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Vinyl Chloride	0.0020		ND (0.00050)	0.0037	ND (0.00050)	0.0096	ND (0.00050)	0.00068 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)

Constituent	Critical PCLs (a)	Location:	MW-15R	MW-16R (d)	MW-43R	MW-50R	MW-52	MW-54	MW-56	MW-58	MW-60	MW-61	
		Depth: (b)	25		25	23	25	25	25	30	25	36	25
		Date:	10/18/2021	NS	10/18/2011	10/18/2021	10/19/2011	10/21/2011	10/21/2011	10/21/2011	10/21/2011	10/20/2011	10/20/2011
1,1-Dichloroethane	4.9		0.00055 J	NS	NA	NA	NA	NA	NA	NA	ND (0.00050)	ND (0.00050)	
1,1-Dichloroethene	0.0070		0.00078 J	NS	0.015	0.016	0.027	0.37	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	
1,2-Dichloroethane	0.0050		ND (0.00050)	NS	NA	NA	NA	NA	NA	NA	ND (0.00050)	ND (0.00050)	
cis-1,2-Dichloroethene	0.070		ND (0.00050)	NS	ND (0.00050)	0.0021 J	ND (0.00050)	6.4	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	
Tetrachloroethene	0.0050		ND (0.00060)	NS	ND (0.00060)	ND (0.00060)	ND (0.00060)	0.19	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	
Trichloroethene	0.0050		ND (0.00050)	NS	ND (0.00050)	0.00089 J	ND (0.00050)	1.2	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	
Vinyl Chloride	0.0020		ND (0.00050)	NS	0.00050 J	0.030	0.0022	0.13	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	

Constituent	Critical PCLs (a)	Location:	MW-62	MW-63	MW-64	MW-65	MW-66	MW-67	MW-70	MW-73	MW-75R	MW-76
		Depth: (b)	26	25	27	26	28	27	25	25	34.5	33
		Date:	10/21/2011	10/21/2011	10/19/2011	10/19/2011	10/19/2011	10/21/2011	10/18/2011	10/17/2011	10/17/2011	10/19/2011
1,1-Dichloroethane	4.9		NA	NA	NA	NA	NA	ND (0.00050)	0.025	0.0044 J	0.0078	0.0036 J
1,1-Dichloroethene	0.0070		ND (0.00050)	0.71	ND (0.00050)	0.0015 J	0.19	ND (0.00050)	0.071	0.022	0.0086	0.011
1,2-Dichloroethane	0.0050		NA	NA	NA	NA	NA	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.070		ND (0.00050)	0.049	ND (0.00050)	0.0022 J	0.24	ND (0.00050)	0.078	ND (0.00050)	ND (0.00050)	0.0011 J
Tetrachloroethene	0.0050		ND (0.00060)	0.39	ND (0.00060)	ND (0.00060)	0.048	ND (0.00060)	0.0031 J	ND (0.00060)	ND (0.00060)	0.00080 J
Trichloroethene	0.0050		ND (0.00050)	0.036	ND (0.00050)	ND (0.00050)	0.0065	ND (0.00050)	0.048	0.0012 J	ND (0.00050)	ND (0.00050)
Vinyl Chloride	0.0020		ND (0.00050)	0.0019 J	ND (0.00050)	0.0019 J	0.062	ND (0.00050)	0.0053	ND (0.00050)	ND (0.00050)	ND (0.00050)

NOTES:

The reported concentrations are in mg/L.

0.028 = exceedance of TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Groundwater critical PCLs.

NA = Not Analyzed.

NS = Not Sampled.

ND (0.00050) = Not Detected at the sample detection limit (SDL) given in parentheses.

(a) TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Ground Water PCLs, Table 3, table for TRRP Rule dated March 25, 2009.

(b) The sample depths are reported in feet below ground surface.

(c) Not sampled due to permanganate in well.

(d) Monitor well was inaccessible.

J = Estimated data, the reported sample concentration is approximated due to exceedance of QC requirements.

L = Biased Low.

U = Not detected, the SQL is estimated

TABLE 3 (Cont'd)

Summary of Monitor Well Ground Water Data

Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility
Houston, Texas

Constituent	Critical PCLs (a)	Location:	MW-78	MW-79	MW-82	MW-83	MW-87	MW-88 (c)	MW-89	MW-90	MW-91	MW-92
		Depth: (b)	27	33	32.5	31.5	34		BAILED	BAILED	BAILED	BAILED
		Date:	10/18/2011	10/18/2011	10/19/2011	10/18/2011	10/19/2011	NS	11/1/2011	11/1/2011	11/1/2011	11/1/2011
1,1-Dichloroethane	4.9		0.0045 J	0.022	0.034	0.020	0.0057	NS	0.0058	0.0028 J	0.0021 J	ND (0.00050)
1,1-Dichloroethene	0.0070		0.0068	0.073	0.13	0.038	0.046	NS	0.017	0.011	0.0063	0.0047 J
1,2-Dichloroethane	0.0050		ND (0.00050)	0.00055 J	ND (0.00050)	ND (0.00050)	0.00080 J	NS	ND (0.00050)	0.0010 J	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.070		0.014	0.0024 J	0.017	0.0085	ND (0.00050)	NS	ND (0.00050)	0.0060	0.0051	ND (0.00050)
Tetrachloroethene	0.0050		0.088	0.0020 J	0.12	0.076	ND (0.00060)	NS	ND (0.00060)	0.32	0.31	0.19
Trichloroethene	0.0050		0.029	0.0014 J	0.019	0.018	0.00096 J	NS	0.012	0.027	0.026	0.005
Vinyl Chloride	0.0020		0.0018 J	0.0047	0.0030	0.0048	ND (0.00050)	NS	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)

Constituent	Critical PCLs (a)	Location:	MW-93 (c)	MW-94	MW-95	MW-96R	MW-100	MW-101	MW-102	MW-106	MW-107	MW-108
		Depth: (b)		27	26	35	31	32	BAILED	BAILED	BAILED	28
		Date:	NS	10/20/2011	10/17/2011	10/20/2011	10/18/2011	10/17/2011	11/1/2011	11/1/2011	11/1/2011	10/19/2011
1,1-Dichloroethane	4.9		NS	ND (0.00050)	ND (0.00050)	0.047	0.0013 J	0.0066	ND (0.00050)	ND (0.00050)	0.0015 J	NA
1,1-Dichloroethene	0.0070		NS	ND (0.00050)	ND (0.00050)	0.13	0.00091 J	0.023	ND (0.00050)	ND (0.00050)	0.013	1.3
1,2-Dichloroethane	0.0050		NS	ND (0.00050)	ND (0.00050)	0.0019 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0030 J	0.0030 J	NA
cis-1,2-Dichloroethene	0.070		NS	ND (0.00050)	ND (0.00050)	0.00055 J	0.00053 J	0.0032 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.015
Tetrachloroethene	0.0050		NS	ND (0.00060)	ND (0.00060)	ND (0.00060)	0.0052	0.034	0.10	0.30	0.12	0.017
Trichloroethene	0.0050		NS	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00080 J	0.0076	ND (0.00050)	0.0034 J	0.0039 J	0.028
Vinyl Chloride	0.0020		NS	ND (0.00050)	ND (0.00050)	0.00090 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.068

Constituent	Critical PCLs (a)	Location:	MW-109	MW-110	MW-111	MW-112	MW-113	MW-114	MW-115	MW-116	MW-118	MW-120
		Depth: (b)	28	28	28	27	28	34	36	30	29.5	25
		Date:	10/19/2011	10/19/2011	10/19/2011	10/19/2011	10/19/2011	10/18/2011	11/1/2011	10/18/2000	10/19/2011	10/18/2011
1,1-Dichloroethane	4.9		NA	NA	NA	NA	NA	0.0086	ND (0.00050)	0.0016 J	0.020	0.0028 J
1,1-Dichloroethene	0.0070		0.039	0.034	ND (0.00050)	0.051	0.0036 J	0.040	0.28	0.017	0.12	0.0045 J
1,2-Dichloroethane	0.0050		NA	NA	NA	NA	NA	0.0031 J	0.0068	ND (0.00050)	0.00094 J	ND (0.00050)
cis-1,2-Dichloroethene	0.070		0.082	0.022	ND (0.00050)	0.067	ND (0.00050)	0.016	ND (0.00050)	0.0041 J	0.010	0.0031 J
Tetrachloroethene	0.0050		0.0093	0.0025 J	ND (0.00060)	ND (0.00060)	ND (0.00060)	0.12	ND (0.00060)	ND (0.00060)	0.019	0.018
Trichloroethene	0.0050		0.0097	0.0041 J	ND (0.00050)	0.0029 J	ND (0.00050)	0.036	0.0046 J	0.011	0.019	0.0024 J
Vinyl Chloride	0.0020		0.0070	0.011	ND (0.00050)	ND (0.00050)	0.0016 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0015 J

NOTES:

The reported concentrations are in mg/L.

0.028 = exceedance of TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Groundwater critical PCLs.

NA = Not Analyzed.

NS = Not Sampled.

ND (0.00050) = Not Detected at the sample detection limit (SDL) given in parentheses.

(a) TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Ground Water PCLs, Table 3, table for TRRP Rule dated March 25, 2009.

(b) The sample depths are reported in feet below ground surface.

(c) Not sampled due to permanganate in well.

(d) Monitor well was inaccessible.

J = Estimated data, the reported sample concentration is approximated due to exceedance of QC requirements.

L = Biased Low.

U = Not detected, the SQL is estimated

TABLE 3 (Cont'd)

Summary of Monitor Well Ground Water Data

Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility
Houston, Texas

Constituent	Critical PCLs (a)	Location:	MW-121	MW-124	MW-126	MW-127	MW-128	MW-129	MW-130	MW-132	MW-133	MW-135
		Depth: (b)	29.5	29	26	35	BAILED	BAILED	27	27	27	25
		Date:	10/19/2011	10/18/2011	10/20/2011	10/17/2011	11/1/2011	11/1/2011	11/1/2011	10/18/2011	10/18/2011	10/21/2011
1,1-Dichloroethane	4.9		ND (0.00050)	0.0067	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.015	ND (0.00050)	ND (0.00050)	0.0025 J	ND (0.00050)
1,1-Dichloroethene	0.0070		0.025	0.032	ND (0.00050)	ND (0.00050)	0.0020 J	0.054	ND (0.00050)	ND (0.00050)	0.0097	ND (0.00050)
1,2-Dichloroethane	0.0050		ND (0.00050)	0.0023 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.070		ND (0.00050)	0.033	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00069 J	ND (0.00050)
Tetrachloroethene	0.0050		ND (0.00060)	0.32	ND (0.00060)	ND (0.00060)	ND (0.00060)	0.017	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)
Trichloroethene	0.0050		ND (0.00050)	0.049	ND (0.00050)	ND (0.00050)	0.0053	0.0048 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Vinyl Chloride	0.0020		ND (0.00050)	0.0040	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)

Constituent	Critical PCLs (a)	Location:	MW-140	MW-141	MW-142	MW-143	MW-144	MW-145	MW-147	MW-149	MW-166	MW-167
		Depth: (b)		30	33	24	25	28	31	28	BAILED	BAILED
		Date:	10/21/2011	10/21/2011	10/21/2011	10/21/2011	10/21/2011	10/21/2011	10/18/2011	10/18/2011	10/20/2011	10/20/2011
1,1-Dichloroethane	4.9		0.0025 J	0.0074	0.0074	ND (0.00050)	0.010	0.0053 J	ND (0.00050)	0.0051	0.00076 J	ND (0.00050)
1,1-Dichloroethene	0.0070		ND (0.00050)	0.015	0.033	0.0038 J	0.086	0.0026 J	ND (0.00050)	0.0051	0.0041	0.0043 J
1,2-Dichloroethane	0.0050		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.070		ND (0.00050)	0.0022 J	0.0011 J	ND (0.00050)	0.00065 J	0.0016 J	ND (0.00050)	0.0038 J	ND (0.00050)	ND (0.00050)
Tetrachloroethene	0.0050		ND (0.00060)	0.014	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	ND (0.00060)	0.0072	ND (0.00060)	ND (0.00060)
Trichloroethene	0.0050		ND (0.00050)	0.0033 J	0.0012 J	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0020 J	ND (0.00050)	ND (0.00050)
Vinyl Chloride	0.0020		ND (0.00050)	0.0015 J	0.0016 J	ND (0.00050)	0.0015 J	ND (0.00050)	ND (0.00050)	0.0011 J	ND (0.00050)	ND (0.00050)

Constituent	Critical PCLs (a)	Location:	MW-169	MW-170	MW-172	MW-177
		Depth: (b)	35	25	25	BAILED
		Date:	10/20/2011	10/19/2011	10/18/2011	10/20/2011
1,1-Dichloroethane	4.9		ND (0.00050)	0.013	0.00084 J	ND (0.00050)
1,1-Dichloroethene	0.0070		0.0024 J	0.087	0.00072 J	ND (0.00050)
1,2-Dichloroethane	0.0050		ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
cis-1,2-Dichloroethene	0.070		ND (0.00050)	0.0099	ND (0.00050)	ND (0.00050)
Tetrachloroethene	0.0050		ND (0.00060)	0.0049 J	ND (0.00060)	ND (0.00060)
Trichloroethene	0.0050		ND (0.00050)	0.015	ND (0.00050)	ND (0.00050)
Vinyl Chloride	0.0020		ND (0.00050)	0.00090 J	ND (0.00050)	ND (0.00050)

NOTES:

The reported concentrations are in mg/L.

0.028 = exceedance of TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Groundwater critical PCLs.

NA = Not Analyzed.

NS = Not Sampled.

ND (0.00050) = Not Detected at the sample detection limit (SDL) given in parentheses.

(a) TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Residential Class 2 Ground Water PCLs, Table 3, table for TRRP Rule dated March 25, 2009.

(b) The sample depths are reported in feet below ground surface.

(c) Not sampled due to permanganate in well.

(d) Monitor well was inaccessible.

J = Estimated data, the reported sample concentration is approximated due to exceedance of QC requirements.

L = Biased Low.

U = Not detected, the SQL is estimated.

TABLE 4

Summary of Surface Water Data

Second Half 2011 Monitoring Data Transmittal
Former Cameron Iron Works Facility
Houston, Texas

Constituent	Critical	80% Critical	Location:	SWD-12	SWD-14	SWD-15
	PCLs (a)	PCL (a)		Date:	11/23/2011	11/23/2011
1,1-Dichloroethane	5.13	4.10		ND (0.0050)	ND (0.0050)	ND (0.0050)
1,1-Dichloroethene	0.06	0.05		ND (0.0050)	0.0024 J	0.023
1,2-Dichloroethane	0.554	0.443		ND (0.0050)	ND (0.0050)	ND (0.0050)
cis-1,2-Dichloroethene	9.36	7.49		ND (0.0050)	ND (0.0050)	ND (0.0050)
Tetrachloroethene	0.790	0.632		ND (0.0050)	ND (0.0050)	ND (0.0050)
Trichloroethene	1.110	0.888		ND (0.0050)	0.0023 J	0.0021 J
Vinyl Chloride	0.0336	0.0269		ND (0.0020)	ND (0.0020)	ND (0.0020)

Constituent	Critical	80% Critical	Location:	SWD-17	SWD-18	SWD-20
	PCLs (a)	PCL (a)		Date:	11/23/2011	11/23/2011
1,1-Dichloroethane	5.13	4.10		ND (0.0050)	ND (0.0050)	ND (0.0050)
1,1-Dichloroethene	0.06	0.05		0.016	0.0057	ND (0.0050)
1,2-Dichloroethane	0.554	0.443		ND (0.0050)	ND (0.0050)	ND (0.0050)
cis-1,2-Dichloroethene	9.36	7.49		ND (0.0050)	ND (0.0050)	ND (0.0050)
Tetrachloroethene	0.790	0.632		0.0037 J	0.0085	ND (0.0050)
Trichloroethene	1.110	0.888		ND (0.0050)	ND (0.0050)	ND (0.0050)
Vinyl Chloride	0.0336	0.0269		ND (0.0020)	ND (0.0020)	ND (0.0020)

NOTES:

The reported concentrations are in mg/L.

ND (0.0050) = *Not Detected* at the Reporting Limit given in parentheses.

J = Estimated data, the reported sample concentration is approximated due to exceedance of QC requirements.

L = Biased Low.

U = Not detected, the SQL is estimated

(a) Taken from the critical PCLs calculated in the *Human Health Ecological Risk Assessment for Surface Water and Sediment*, dated June 2003.

SWD = Surface Water Harris County Flood Control Ditch.

Figure
Attachment 2

March 8, 2012
Project No. 0137833

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